

Superior Clamping and Gripping

SCHUNK®

Linear Modules

The world's largest Range of Linear Modules and Drive Types

Linear Modules

The world's largest Range of Linear Modules and Drive Types

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schunk.com

youtube.com/schunkhq
twitter.com/schunk_hq
facebook.com/schunk.hq





Superior Clamping and Gripping

Jens Lehmann stands for safe, precise gripping and holding. As a brand ambassador of the SCHUNK team, the No. 1 goalkeeper represents our global competence leadership for gripping systems and clamping technology. The top performance of SCHUNK and Jens Lehmann are characterized by dynamics, precision, and reliability.

For more information visit our website:
schunk.com/lehmann

J. Lehmann
Jens Lehmann



Henrik A. Schunk, Kristina I. Schunk, brand ambassador Jens Lehmann, and Heinz-Dieter Schunk

Top Performance in the Team

SCHUNK is the world's No. 1 for gripping systems and clamping technology – from the smallest parallel gripper to the largest chuck jaw program.

In order to boost efficiency, SCHUNK customers have bought more than 2,000,000 precision toolholders, 1,000,000 SCHUNK grippers, and 100,000 lathe chucks and stationary workholding systems so far.

This makes us proud and motivates us to attain new top performances.

As a competence leader, we recognize and develop standards with a large potential for the future, which will drive the rapid progress in many industries.

Our customers profit from the expert knowledge, the experience, and the team spirit of more than 2,700 employees in our innovative family-owned company.

The Schunk family wishes you improved end results with our quality products.

Heinz-Dieter Schunk Henrik A. Schunk Kristina I. Schunk

Superior Clamping and Gripping

It's time to use your machine's

With superior components, find potentials in your machine where you would least expect to find them.

Make full use of your machine's potential – with the extensive product portfolio from SCHUNK.

SCHUNK, the competence leader for gripping systems and clamping technology, can now open up the full potential of your processing machines and production processes. Reduce costs by combining accurate, flexible workpiece machining with dynamic production automation.

SCHUNK Synergy – when everything fits together.

With SCHUNK Synergy, you benefit from superior components from our innovative family-owned company and the result of a perfectly harmonized interplay of gripping systems and clamping technology. The more SCHUNK, the more efficient it is.

SCHUNK®

full potential!



"Gripping systems and clamping technology – the perfectly adjusted interplay makes you a champion in terms of productivity. We call it SCHUNK Synergy.

Let's have a look where the potentials in your machines are hidden."

Jens Lehmann

SCHUNK No. 1 Products for higher Productivity ...

Discover new potential now:

schunk.com/machine-potential

And order the SCHUNK Synergy poster by telephone +49-7133-103-2256



up to 20 tons load handling

MAGNOS **magnetic lifting technology**

... in your Lathe



60 seconds jaw change

Lathe chucks ROTA-S plus 2.0 and ROTA THW plus



300% better surface quality

TENDOTURN – innovative **hydraulic expansion toolholders,** for lathes and turning/milling centers

1,200 standard chuck jaws

The world's largest **chuck jaw program** for every chuck type



... for your Automated Machine Loading

4,000 Nm moment load

Robot coupling NSR-A

for pallet handling – space-saving and extremely flexible



… in your Automated Handling System



No. 1 unique
The **new PGN-plus-P,** the world-proven gripper on the market – Now NEW with permanent lubrication in the multi-tooth guidance



more than 500 standard combinations
for **line and room gantries** from the modular system

100% cycle increase
Universal rotary module SRU-plus 20-S, the new benchmark in top performance



90% faster gripper change
Quick-change system SWS – fully automatic gripper change within seconds



… for your Automated Machine Loading



… in your Machining Center



90% less set-up costs
with **VERO-S**, due to set-up during processing time

100% control
TANDEM clamping force block KSP plus with jaw monitoring





30% more productivity
Automated machine loading with the **new SCHUNK gripper PGN-plus-P** with **spindle interface GSW**



20 mm height
VERO-S NSE *mini* – the pneumatic **quick-change pallet system** in a very flat design

... in your Automated Handling System

... in your Machining Center

... in your Automated Asse



75,000 customized solutions
Hydraulic expansion technology for tool or workpiece clamping



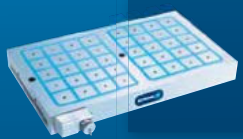
0.3 mm shank diameter
TRIBOS mini sets a benchmark in micro machining



100% encapsulated
KONTEC centric clamping vise KSK fully functional in harsh environments



less than **3** µ run-out accuracy
TRIBOS-SVL super-slim tool extension optimized interfering contours



5-sided workpiece machining
in one set-up – **MAGNOS magnetic clamping technology**



up to **85,000** RPM
TRIBOS-S predestined for high-speed cutting

... in your Automated Assembly



180% better gripping force – mass ratio

EGP – The powerful electronic **gripper for small components** with integrated electronics



∞ combination options

SCHUNK modular assembly system



25% greater gripping force

MPG-plus – The most powerful pneumatic **miniature gripper** in the market



110 picks per minute

PPU-E – The fastest pick & place unit in the market, **PPU-P** with 90 picks/min



... in your Service Robotics Application

Future handling





6 degrees of freedom

Powerball lightweight arm LWA 4P

The lightweight arm with the world's most compact performance. Used on mobile platforms



less than 3 µ run-out accuracy

TRIBOS-R with unique patented **polygonal clamping technology**



100% suitable for all SCHUNK toolholders

TENDO-SVL tool extension – optimized interfering contours and super-slim



up to **80** bar coolant-proof or peripheral coolant

Versatile clamping range with **intermediate sleeves GZB-S**



more than **35** years of experience in **TENDO hydraulic expansion technology.** TENDO, the original. With 29 interfaces, versatile, with 3 µ run-out accuracy



2,000 Nm torque with Ø 32 mm

TENDO E compact for large volume cutting, boring, reaming, and threads



0 µ permanent run-out accuracy

TENDO zero, perfect vibration damping, resulting in up to 50% longer service life

SCHUNK Gripping Technology

From the standard Component to the customized Gripping System

More than 30 years of gripping expertise is the basis for the world's largest standardized gripping technology product range, with more than 4,000 components and an average of 2,000 standard and customized gripping systems per year.

Components

Standard Components


SCHUNK Grippers


Rotary Modules


Linear Modules


Robot Accessories


Pick & Place Units


Gripping Hands


Lightweight Arms

Customized Components

From standard components further developed in accordance with customer requirements to exclusive customized new developments.

Examples:



Wafer Grippers

made of laser-forming material with SCHUNK LGP gripper



Compact Vises

for sheet metal machining, pneumatically actuated



Packaging Grippers

High-speed grippers according to legal, hygienic, and production specifications

Gripping Systems

Standard Gripping Systems


Modular Assembly Automation


Line and Room Gantries


Solution composed of several SCHUNK standard components for robots and gantries

Customized Gripping Systems

Solution composed of several SCHUNK components, of which at least one is further developed or newly developed specifically for the customer.

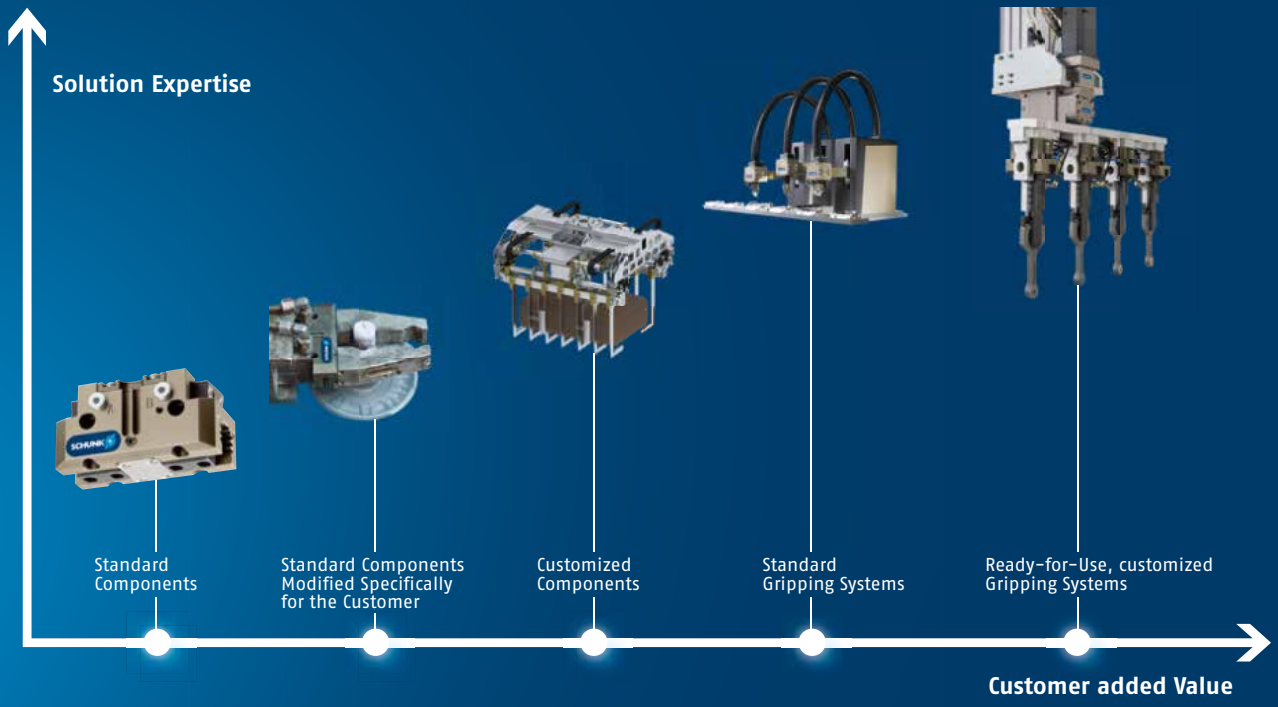
Examples:


Connecting Rod Handling


Aluminum Foil Handling


Modular and Mobile Gripping Systems

From the standard Component to the customized Gripping System



Just 1 Expert Contact Person for a Solution from one Source

For smooth communications, a personal contact person is available to you from the start of the project until completion. Your contact person is the interface between you and the individuals involved in the project and ensures that information is exchanged smoothly.

From planning to continued support after the conclusion of the project, SCHUNK guarantees that your project will be handled cooperatively and efficiently.

Your Advantage

- Over 30 years of experience in gripping technology
- Over 12,000 implemented gripping systems for a wide range of industries
- Modular design with perfectly coordinated standard components
- Complete accuracy of fit due to standardized interfaces
- Shorter project lead times due to standardized systems
- Reliable implementation processes and planning security without extra project costs
- Functional assemblies fitted on request or ready for use
- Time savings due to the perfect solution from a single source

All inclusive!

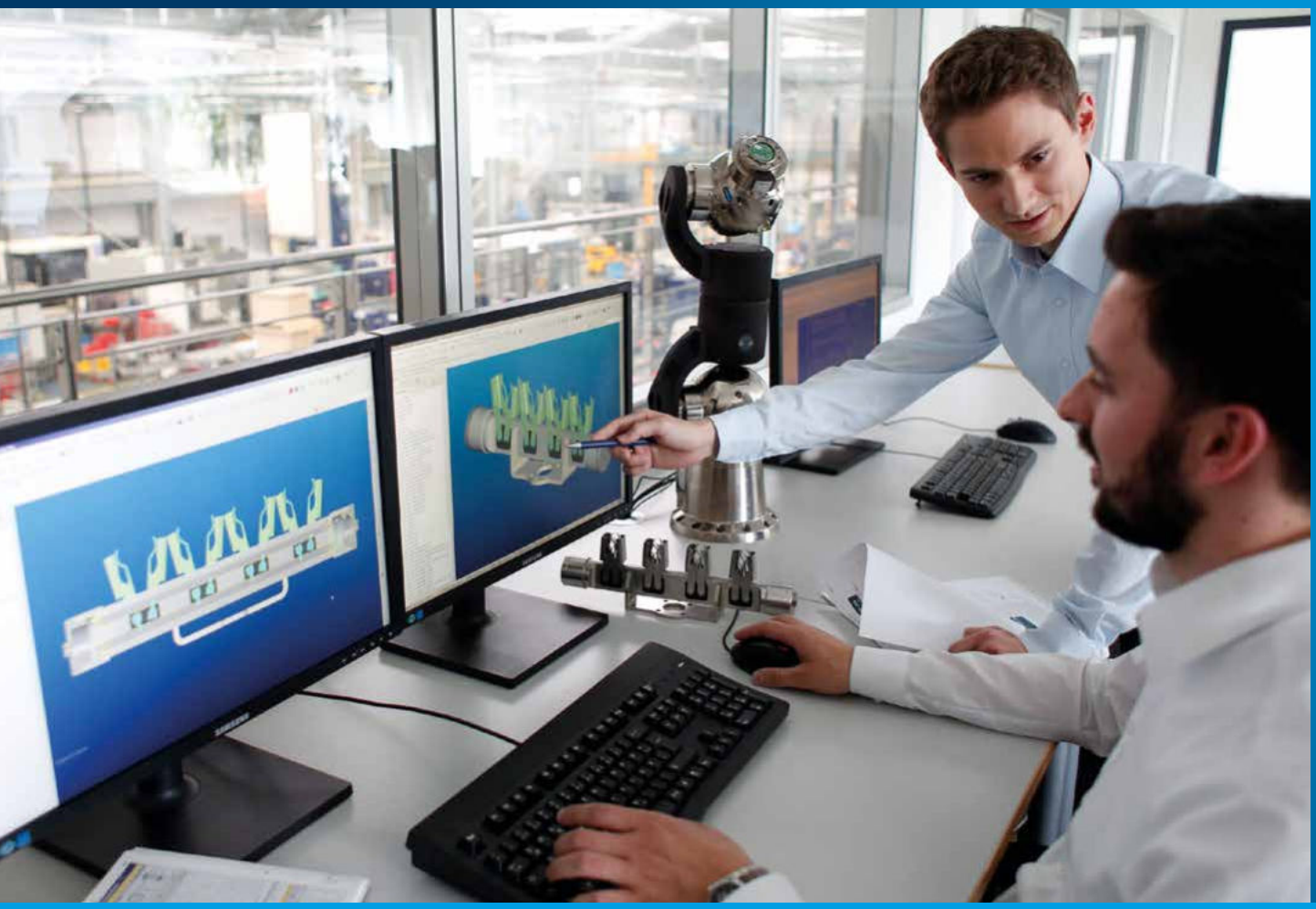
SCHUNK customized Gripping Systems. Take Advantage of our Experience.

More than 12,000 implemented solutions speak for themselves.

Consistent and comprehensive project management is an important part of the SCHUNK philosophy. Our approach is systematic and individually adapted to your project; each step is traceable and documented.

The analysis of complex processes and the comprehensive analysis of parts and products of our customers leads SCHUNK to develop effective and customized gripping systems. The visualization of automated processes requires maximum precision – we use state-of-the art technology for 2D and 3D visualizations and 3D simulations. Our components and configurations contain decisive performance potential for the cost effectiveness of your process chain. We exhaust this potential. Entirely for your benefit.

Consulting → **Project planning** → **Engineering** → **Imple-mentation** → **Service**



Automated Handling of Conrods



Task
Move conrods using a transfer system.

SCHUNK solution
8 SCHUNK lifting/rotary and gripping units are mounted on a horizontal SCHUNK linear axis with 8 slides to move the workpieces on in a cycle.

SCHUNK products



X-axis (horizontal) 2 x B140-ZSS
Toothed belt drive
Linear module



Z-axis (vertical) 8 x SLE 32-125
Pneumatic lifting unit
Linear module lifting unit



SRU-plus
Swivel unit



PZN-plus
Centric gripper

Handling of ground Parts in the Machining Process



Task
Wear parts must be loaded, unloaded and transported.

SCHUNK solution
SCHUNK linear modules type HSB in combination with SCHUNK universal grippers PGN-plus with a jaw quick-change system BSWS remove a fully ground part from the toolholder and then loads the clamping device with a rough part. Finish-machined parts are placed on a pallet, raw parts are gripped from the pallet.

SCHUNK products



X-axis (Horizontal) D240-ZSS
Toothed belt axis
Linear module



Z-axis (vertical) B180-SSS
Spindle axis
Linear module



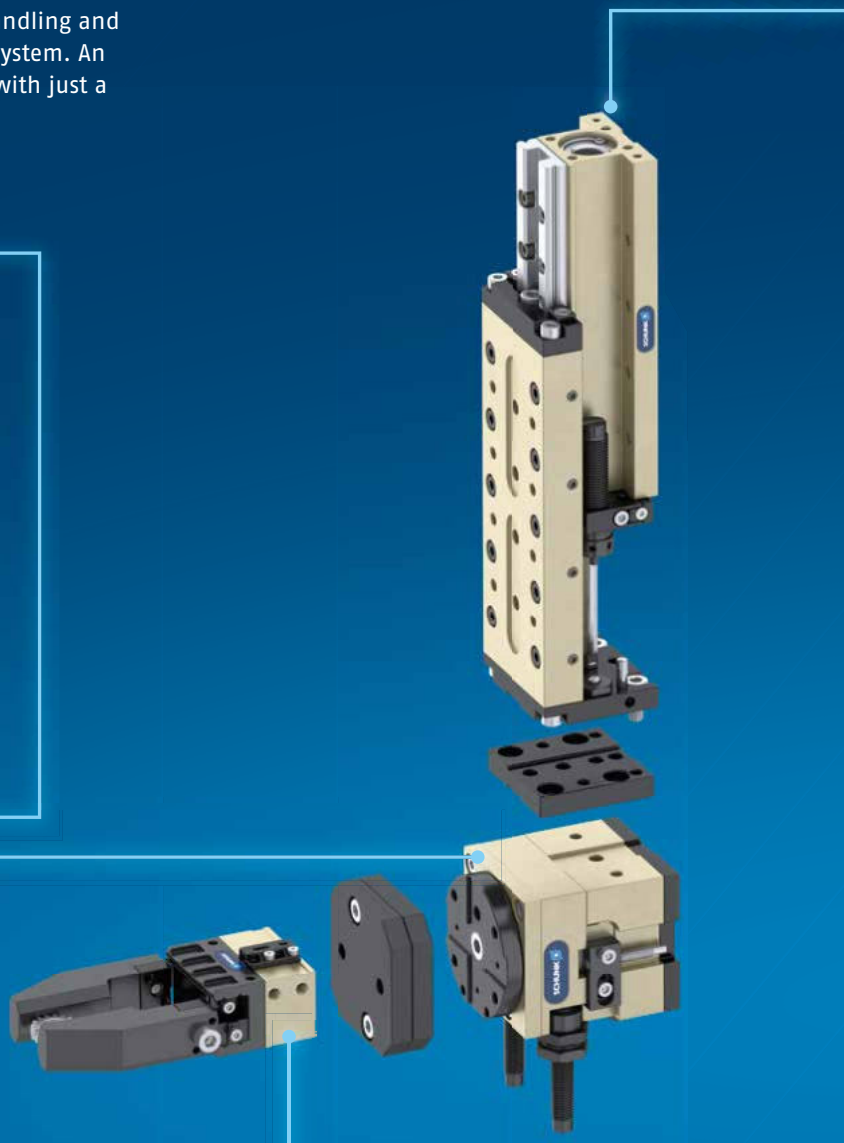
BSWS
Jaw quick-change system



PGN-plus
Universal gripper

100% Flexibility from the Modular System.

Design an infinite number of applications for micro part handling and assembly automation with the SCHUNK modular assembly system. An incredible variety of automation solutions can be realized with just a few standard modules from the SCHUNK modular system.



Rotary Modules

Cutting edge technology for rotary movements.

More than **600** available components.

Variable from **180° to infinite rotation**.



RM-F



RM-W



RST-D



ERD



ERS

ⓘ For further product information please visit schunk.com/rotary-modules

SCHUNK Grippers

The most extensive gripper portfolio in the world with over **2,550** pneumatic and electric components.



MPG-plus



MPG



KGG

NEW



PGN-plus-P



MPZ



PZN-plus



SWG



PWG-plus



GAP



EGP

NEW



PGN-plus-E

ⓘ For further product information please visit schunk.com/schunk-grippers



Linear Modules

More than **450** pneumatic and electric components with up to **7,000 mm** stroke. The most comprehensive program on the market.


LM


CLM


KLM

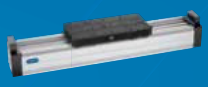

HLM


NEW
ELP


ELB


ELM


ELS


PMP


Beta


Delta

ⓘ For further product information please visit schunk.com/linear-modules

SCHUNK Pillar Assembly System

100% flexible. Achieves a virtually infinite number of possibilities for combining components. Pillars up to **1,000 mm** long.


Media feed-through


VEH


SOE


AMEH/AMDH


AMEV/AMDV


APEH/APDH


STG/STR

ⓘ For further product information please visit schunk.com/pillar-assembly-system

SCHUNK ELP Linear Module

The new benchmark innovation in production automation. With integrated electronics and 24 V Linear Direct Drive.

Easy!

The SCHUNK ELP is the **easiest** electric linear module on the market to adjust, and therefore the new technological benchmark for use in production automation.

- **Ready for operation in only two work steps!**
  Adjust end positions mechanically with a screw and the speed of extension and retraction using rotary switches on the side. ... and you're done!
- Automatic adjustment of speed depending on extension weight.
- No shock absorber adjustment is necessary – the drive automatically regulates the brake process.
- Simple control via binary signals such as pneumatic valves, meaning no mechatronics expertise is necessary.

Long service life!

The SCHUNK ELP is **practically wear-free** and is therefore robust, with a long service life.

- No shock absorbers to be damaged or require replacing.
- Plannable maintenance cycles.

Compact and convenient!

The control and power electronics are directly integrated into the module.

- Less space required in the control cabinet.
- The ELP module can be decentrally controlled via a **fieldbus distributor** or directly via digital signals.

Alternative
Adaptable
Intelligent
MECHATRONIK3



Step 1:
Mechanical end position adjustment

Step 2:
Adjustment of speed of extension and retraction using rotary switch

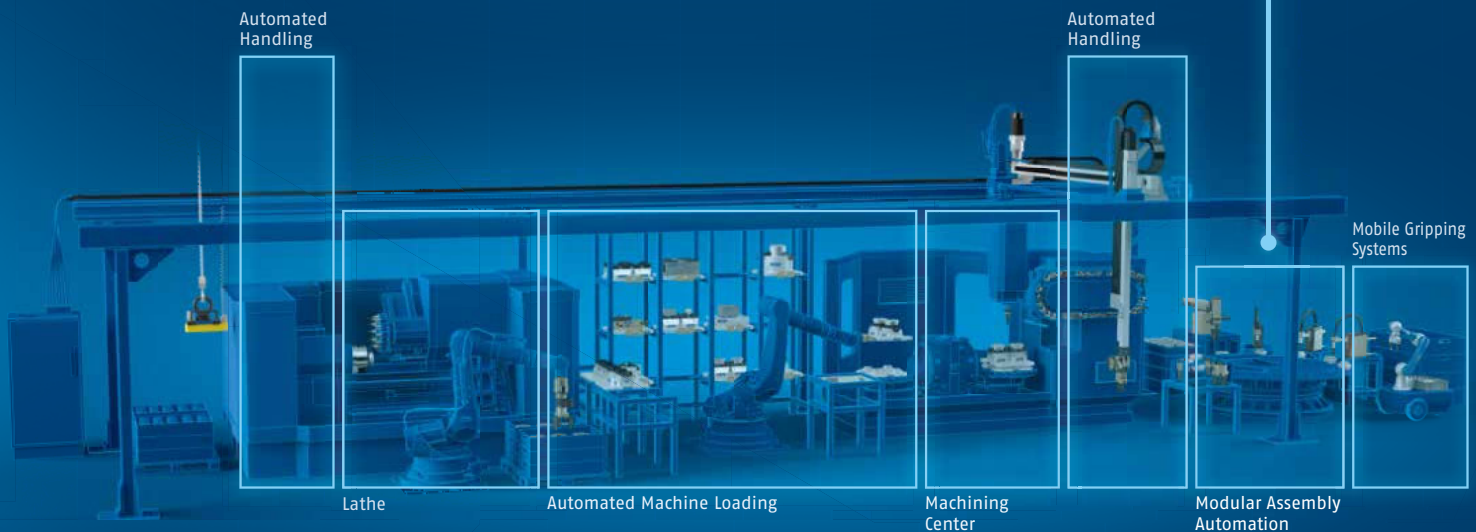
Unique auto-learn function!
Speed adjustment in 2 – 5 strokes.

Further information on SCHUNK ELP:

schunk.com/ELP



Ready for operation in only 2 work steps!



Superior Clamping and Gripping – It's time to use your machine's full potential!

With superior components, find potentials in your machine, where you would least expect to find them. SCHUNK Synergy – the perfectly harmonized interplay of gripping systems and clamping technology turns our customers into productivity champions.

The world's largest Range of Linear Modules and Drive Types

The diversity of the linear modules from SCHUNK provides the most extensive range of linear technology for high-speed assembly automation from one source, as well as for any kind of process automation handling. Designed as compact modular systems, all sorts of modules can be combined into a complete system. Whether you need individual components, pick & place units, or fully pre-assembled multi-axis systems, SCHUNK offers the complete portfolio. This cutting-edge technology "Made by SCHUNK" is only possible through our continuous innovative strength and decades of experience derived from individual customer applications.

Reasons to use SCHUNK linear modules:

- Simple commissioning and system integration
- High-speed modules for high-performance assembly
- Highest precision and outstanding repeat accuracy
- Economic gantry solutions from the modular system
- Compact pick & place units for high-speed use
- The world's most extensive pneumatic and electric program.



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Pneumatic Components | Page 29



Pneumatic Components | Page 32

HLM Stroke Module

- 25 mm up to 150 mm effective stroke
- Up to 482 N driving force
- 4 sizes 25 to 200
- Optionally available with rod lock



Pneumatic Components | Page 54

CLM Compact Slide

- 14 mm to 150 mm effective stroke
- Up to 482 N driving force
- 6 sizes 8 to 200
- Optionally available with rod lock



Pneumatic Components | Page 86

LM Universal Linear Module

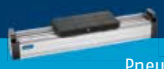
- 25 mm to 450 mm effective stroke
- Up to 753 N driving force
- 5 sizes 25 to 300
- Optionally available with up to 2 intermediate positions and with rod lock



Pneumatic Components | Page 126

KLM Linear Module

- 25 mm to 300 mm effective stroke
- Up to 753 N driving force
- 4 sizes 25 to 300
- Optionally available with intermediate position, dust cover, and rod lock



Pneumatic Components | Page 158

PMP Gantry Axis

- Up to 3,700 mm effective stroke
- Up to 250 N driving force
- 2 sizes 16 and 25
- Optionally available with bellow for increasing the degree of protection

Electric Components | Page 173



Electric Components | Page 182

ELP Compact Linear Module

- Up to 200 mm effective stroke
- Unique auto-learn function
- Direct replacement of a pneumatic version with digital control
- Commissioning in just 2 steps
- Maintenance-free



Electric Components | Page 198

ELM Compact Linear Module

- Up to 260 mm effective stroke
- Up to 100 N driving force
- 0.05 mm repeat accuracy
- 2 sizes 23 and 37
- Optionally available with rod lock and weight compensation



Electric Components | Page 214

ELB Compact Linear Module

- Up to 125 mm effective stroke
- 140 N driving force
- 0.01 mm repeat accuracy
- Absolute path measuring system
- Optionally available with rod lock and weight compensation



Electric Components | Page 226

LDH Short-stroke Module

- Up to 200 mm effective stroke
- Up to maximum 52 N driving force
- 0.01 mm repeat accuracy
- Absolute path measuring system
- Optionally available with parking brake or supported version



Electric Components | Page 238

LDK Stroke Module

- Up to 400 mm effective stroke
- Up to 185 N driving force
- 0.01 mm repeat accuracy
- Absolute path measuring system
- Optionally available with parking break



Electric Components | Page 250

LDN Universal Linear Module

- Up to 2,700 mm effective stroke
- Up to 205 N driving force
- 0.01 mm repeat accuracy
- Absolute path measuring system
- Optionally with parking break, in a supported version, and with long slides

Electric Components | Page 173



Electric Components | Page 264

LDM Universal Linear Module

- Up to 2,700 mm effective stroke
- Up to 370 N driving force
- 0.01 mm repeat accuracy
- Absolute path measuring system
- Optionally available with parking break, as a supported version, and with long slides



Electric Components | Page 278

LDT Universal Linear Module

- Up to 2,700 mm effective stroke
- Up to 500 N driving force
- 0.01 mm repeat accuracy
- Absolute path measuring system
- Optionally with parking break, as a supported version, and with long slides



Electric Components | Page 292

LDL Flat Linear Module

- Up to 3,800 mm effective stroke
- Up to 180 N driving force
- 0.01 mm repeat accuracy
- Absolute path measuring system
- Optionally available with parking break



Electric Components | Page 304

ELS Compact Linear Module

- Up to 260 mm effective stroke
- Up to 150 N driving force
- 0.02 mm repeat accuracy
- Flexible: various motors are adaptable



Electric Components | Page 316

Alpha Linear Table

- Up to 2,540 mm effective stroke
- Up to 18,000 N driving force
- ±0.03 mm repeat accuracy
- With bellows cover



Electric Components | Page 340

Beta Universal Linear Module

- Up to 7,720 mm effective stroke
- Up to 18,000 N driving force
- ±0.03 mm to ±0.08 mm repeat accuracy
- Modular system with various guiding and drive variations



Electric Components | Page 436

Delta Flat Linear Module

- Up to 7,700 mm effective stroke
- Up to 12,000 N driving force
- ±0.03 mm to ±0.08 mm repeat accuracy
- Toothed belt or spindle drive



Electric Components | Page 474

Gamma Universal Linear Module

- Up to 7,685 mm effective stroke
- Up to 4,000 N driving force
- ±0.03 mm to ±0.08 mm repeat accuracy
- Toothed belt or rack and pinion drive

Pick & Place Units | Page 511



Pick & Place Units | Page 512

DRL Lift/Turn Unit

- Swivel angle of 90°/180°
- Implement and turning in one unit
- 2 sizes 20 and 25
- Optionally available with rod lock or center position



Pick & Place Units | Page 526

PPU-P Pick & Place Unit

- Up to 60 mm vertical stroke
- Up to 210 mm horizontal stroke
- Up to 3 kg payload
- 2 sizes 10 and 30



Pick & Place Units | Page 542

PPU-E Pick & Place Unit

- Up to 150 mm vertical stroke
- Up to 280 mm horizontal stroke
- Up to 5 kg payload
- 3 sizes 15 to 50

Gantry Solutions | Page 572



Gantry Solutions | Page 574

LPP Line Gantry

- Up to 225 mm vertical stroke
- Up to 1,500 mm horizontal stroke
- Up to 5 kg payload
- ±0.01 mm vertical repeat accuracy
- ±0.01 mm horizontal repeat accuracy



Gantry Solutions | Page 584

LPE Line Gantry

- Up to 500 mm vertical stroke
- Up to 1,500 mm horizontal stroke
- Up to 20 kg payload
- ±0.03 mm vertical repeat accuracy
- ±0.08 mm horizontal repeat accuracy



Gantry Solutions | Page 596

RPE Room Gantry

- Up to 500 mm vertical stroke
- Up to 1,500 mm horizontal stroke per axial direction
- Up to 20 kg payload
- ±0.03 mm vertical repeat accuracy
- ±0.08 mm horizontal repeat accuracy

Check-lists | Page 608

Accessories | Page 618



Accessories | Page 624

Pillar Assembly System

- Precise shape and positional tolerances
- Steel pillars for a high rigidity
- Various pillar diameters
- Many clamping elements and media feed-throughs
- Assembly and centering holes



Accessories | Page 646

Sensor Systems

- Flexible positioning sensors
- Inductive, magnetic reed switch
- Programmable



Accessories | Page 676

Sensor System Accessories

- Testing sensors
- Fastening connectors
- Adjusting sensors



Accessories | Page 684

Cable, Connectors and Distributers

- Numerous versions
- Various plug connectors
- Pre-assembled



Accessories | Page 718

Fastening Elements

- Absolutely precise
- Suitable for every SCHUNK product
- Easy to install



Accessories | Page 726

Valves and Fittings

- Elbow, swivel and banjo fittings
- Safety valves
- For numerous pneumatic SCHUNK components

Linear Modules

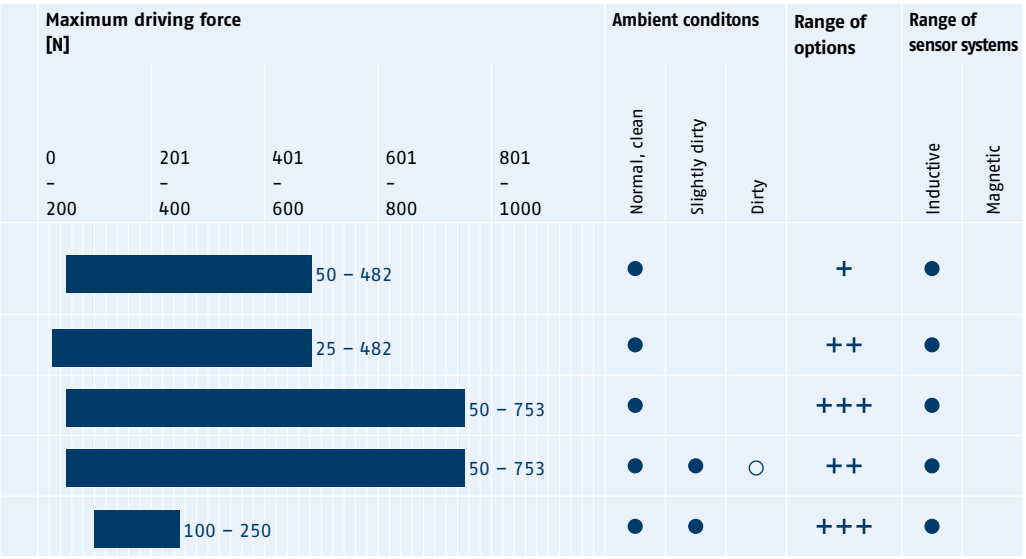
Product Quickfinder

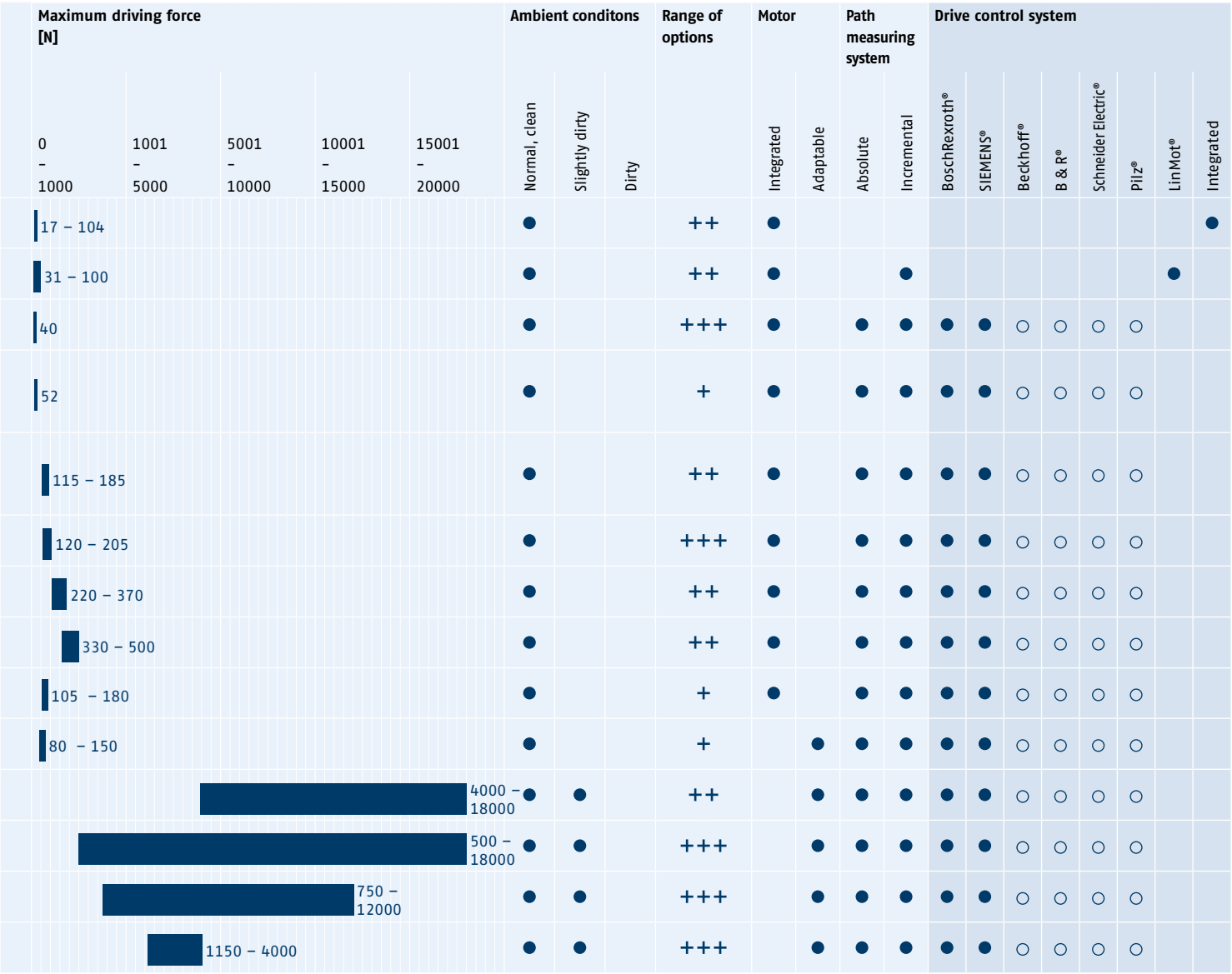
Pneumatic SCHUNK Components

	Page		Drive type: Piston rod cylinder	Drive type: Rodless cylinder	Effective stroke [mm]: 0 – 1000	Effective stroke [mm]: 1001 – 5000	Effective stroke [mm]: 5001 – 10000
HLM Stroke Module	32		●		0 – 150		
CLM Compact Slide	54		●		0 – 150		
LM Universal Linear Module	86		●		0 – 450		
KLM Linear Module	126		●		0 – 300		
PMP Gantry Axis	158			●	0 – 3700		

Electric SCHUNK Components

	Page		Drive type: Spindle drive	Drive type: Toothed belt drive	Drive type: Rack and pinion drive	Drive type: Direct drive (linear motor)	Effective stroke [mm]: 0 – 1000	Effective stroke [mm]: 1001 – 5000	Effective stroke [mm]: 5001 – 10000
ELP Compact Linear Module	182					●	0 – 200		
ELM Compact Linear module	198					●	0 – 260		
ELB Linear Module	214					●	0 – 125		
LDH Short-stroke Module	226					●	0 – 200		
LDK Stroke Module	238					●	0 – 400		
LDN Universal Linear Module	250					●	0 – 2700		
LDM Universal Linear Module	264					●	0 – 2700		
LDT Universal Linear Module	278					●	0 – 2700		
LDL Flat Linear Module	292					●	0 – 3800		
ELS Compact Linear Module	304		●				0 – 260		
Alpha Linear Table	316		●				0 – 2540		
Beta Universal Linear Module	340		●	●			0 – 7720		
Delta Flat Linear Module	436		●	●			0 – 7700		
Gamma Universal Linear Module	474			●	●		0 – 7685		





● = fully supported ○ = technically feasible + = medium-sized product range ++ = large product range +++ = very large product range

Linear Modules

Product Quickfinder

SCHUNK Pick & Place Units

	Page		Drive type		Horizontal stroke [mm]	Swivel angle [°]	Vertical stroke [mm]	Payload [kg]
			Pneumatic	Direct drive (linear motor)	0 – 300	0 – 200	0 – 150	0 – 5
DRL Lift/Turn Unit	512		●		–	90 – 180	33 – 40	1 – 3
PPU-P Pick & Place Unit	526		●		145 – 210	–	45 – 60	1 – 3
PPU-E Pick & Place Unit	542			●	150 – 280	–	60 – 150	1.5 – 5

SCHUNK Gantry Solutions

	Page		Drive type			Horizontal stroke [mm]	Vertical stroke [mm]	Payload [kg]
			Pneumatic	Spindle drive	Toothed belt drive			
LPP Line Gantry	574		●			300 – 1500	50 – 225	5
LPE Line Gantry	584			●	●	1500	500	20
RPE Room Gantry	596			●	●	1500 x 1500	500	20

Ambient conditons			Range of options	Range of sensors		Motor		Path measuring system		Drive control system						
Normal, clean	Slightly dirty	Dirty		Inductive	Magnetic	Integrated	Adaptable	Absolute	Incremental	BoschRexroth®	SIEMENS®	Beckhoff®	B & R®	Schneider Electric®	Pilz®	LinMot®
●			+	●	●											
●			+	●	●											
●			++			●		●	●	●	●	○	○	○	○	

Ambient conditons			Range of options	Range of sensors		Motor		Path measuring system		Drive control system						
Normal, clean	Slightly dirty	Dirty		Inductive	Magnetic	Integrated	Adaptable	Absolute	Incremental	BoschRexroth®	SIEMENS®	Beckhoff®	B & R®	Schneider Electric®	Pilz®	LinMot®
●			+	●												
●	●		+				●	●	●	●	●	○	○	○	○	
●	●		+				●	●	●	●	●	○	○	○	○	

● = fully supported ○ = technically feasible + = medium-sized product range ++ = large product range +++ = very large product range

Pneumatic Linear Modules from SCHUNK are characterized by a high Rigidity, Lifetime, and Reliability. Another Benefit is their great Variety and compact Design for minimum Space Requirement in every System.



Pneumatic Components



HLM Stroke Module

Series	Size	Page
HLM		12
HLM	25	16
HLM	50	20

Series	Size	Page
HLM	100	24
HLM	200	30



CLM Compact Slide

Series	Size	Page
CLM		34
CLM	08	38
CLM	10	42
CLM	25	46

Series	Size	Page
CLM	50	50
CLM	100	56
CLM	200	62



LM Universal Linear Module

Series	Size	Page
LM		66
LM	25	70
LM	50	76

Series	Size	Page
LM	100	82
LM	200	90
LM	300	98



KLM Linear Module

Series	Size	Page
KLM		106
KLM	25	110
KLM	50	116

Series	Size	Page
KLM	100	124
KLM	300	132



PMP Gantry Axis

Series	Size	Page
PMP		138
PMP	16	144
PMP	25	150

Example Arrangement for Multi-axis Systems



Surface gantry: Two-axes gantry for pick & place applications



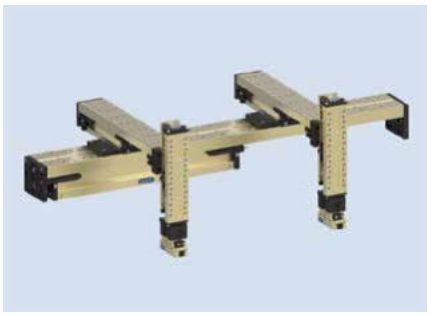
Surface gantry: Two-axis module for compact and dynamic motion sequences, e.g. pick & place applications



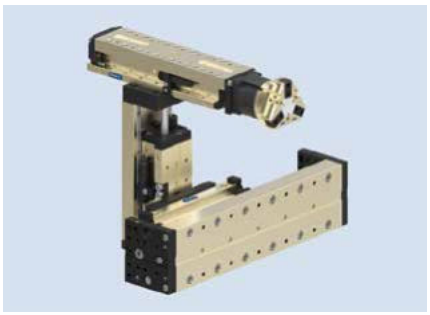
Stroke/rotary module: For pick & place applications with simultaneous reorientation



Line gantry: Line gantry with three independently travelling Z-axes for works in overlapping working areas



4-axes gantry: Double three-axes gantry with superimposed working areas for high throughputs



Planar surface gantry: Three-axes gantry for the use in confined spaces



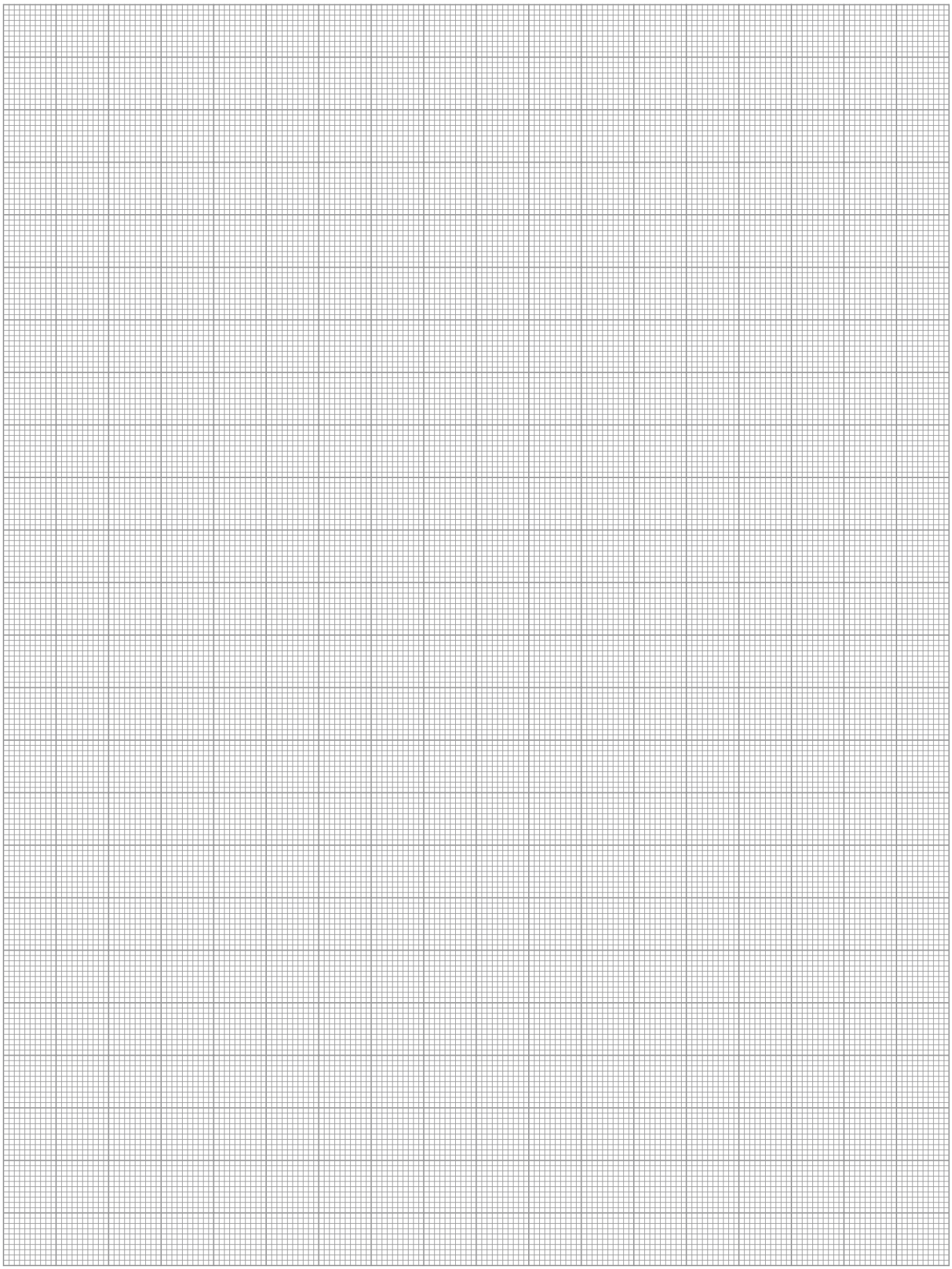
Line gantry: Two-axes system with double profile rail guide for great horizontal movements



Planar surface gantry: Compact three-axes system for works in the three-dimensional room



Stroke/rotary module: For works in confined spaces



Modular. Compact. Loadable.

HLM Stroke Module

Linear module with optimized overall length, pneumatic drive and scope-free pretensioned junction rollers.

Field of Application

For lifting of workpieces in clean environments, such as assembly, testing, laboratory and pharmaceutical industry



Advantages – Your benefits

Crossed roller guide design and solid design ensured high load bearing capacities and end position accuracy in all installation positions

Pretensioned junction rollers that means absolutely scope-free

High basic load ratings in all load directions

Standardized fixing bores and connection dimensions identical for LM series for numerous combinations with other components from the modular system

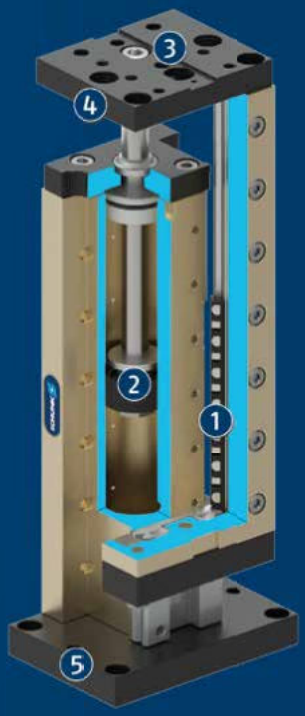
Shock absorbers and proximity switches integrated in the projecting surfaces for vibration-free movements and end position monitoring

Rod lock by means of clamping cartridge for safety in case of emergency stops

Sizes	Weight	Driving force	Stroke	Repeat accuracy
Quantity: 4	0.5 .. 5.64 kg	67 .. 482 N	25 .. 150 mm	0.01 .. 0.02 mm

Functional Description

The linear sliding movement is facilitated by a drive piston that is actuated with compressed air.



① **Cross roller guidance**
Pretensioned and scope-free

② **Drive**
Powerful piston rod cylinders

③ **Mounting pattern**
Completely integrated in the module system

④ **Damping adjustment**
Adjustment of the damping characteristics

⑤ **Module fastening**
Comfortable mounting from the top

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Housing material: Aluminum alloy, anodized

Guidance: Scope-free, pretensioned junction rollers

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Scope of delivery: incl. shock absorbers

Warranty: 24 months

Repeat accuracy: is defined as the distribution of the end positions for 100 consecutive cycles.

Travel times: are pure movement times of the slide or the base body. Valve switching times, hose filling times, or PLC reaction times are not a part of this and are to be considered when cycle times are calculated.

Stroke: is the maximum nominal stroke of the unit. This can be shortened on both sides by the shock absorbers.

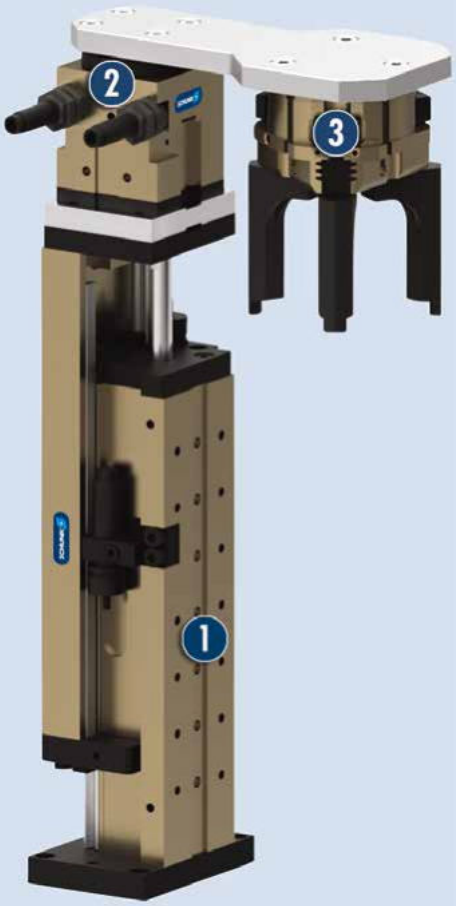
Layout or control calculation: For layout or sizing of the modules, we recommend using our software TOOLBOX, which can be downloaded online. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Application Example

Pneumatic lift/turn loader for loading rotary indexing tables.

1. HLM Stroke Module
2. RM Vane Swivel Unit
3. PZN-plus 3-Finger Centric Gripper



SCHUNK offers more ...

The following components make the product HLM even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Fittings



Rod Lock



SDV-P Pressure Maintenance Valve



Inductive Proximity Switches



SAS Pillar Assembly System



Adapter Plates



Centering Strips



Sensor Cables



RM-W Swivel Vane



SRU-mini Swivel Unit



MPG-plus Pneumatic Small Parts Gripper



PGN-plus Universal Gripper

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

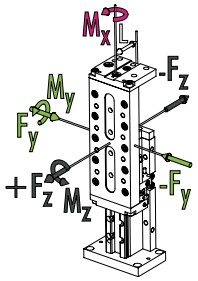
Options and special Information

Version rod lock: Prevents the structure from falling in the event of a sudden loss of energy. This module can be combined as standard with many elements from the modular system. We can assist you with questions.

HLM 25



Forces and moments



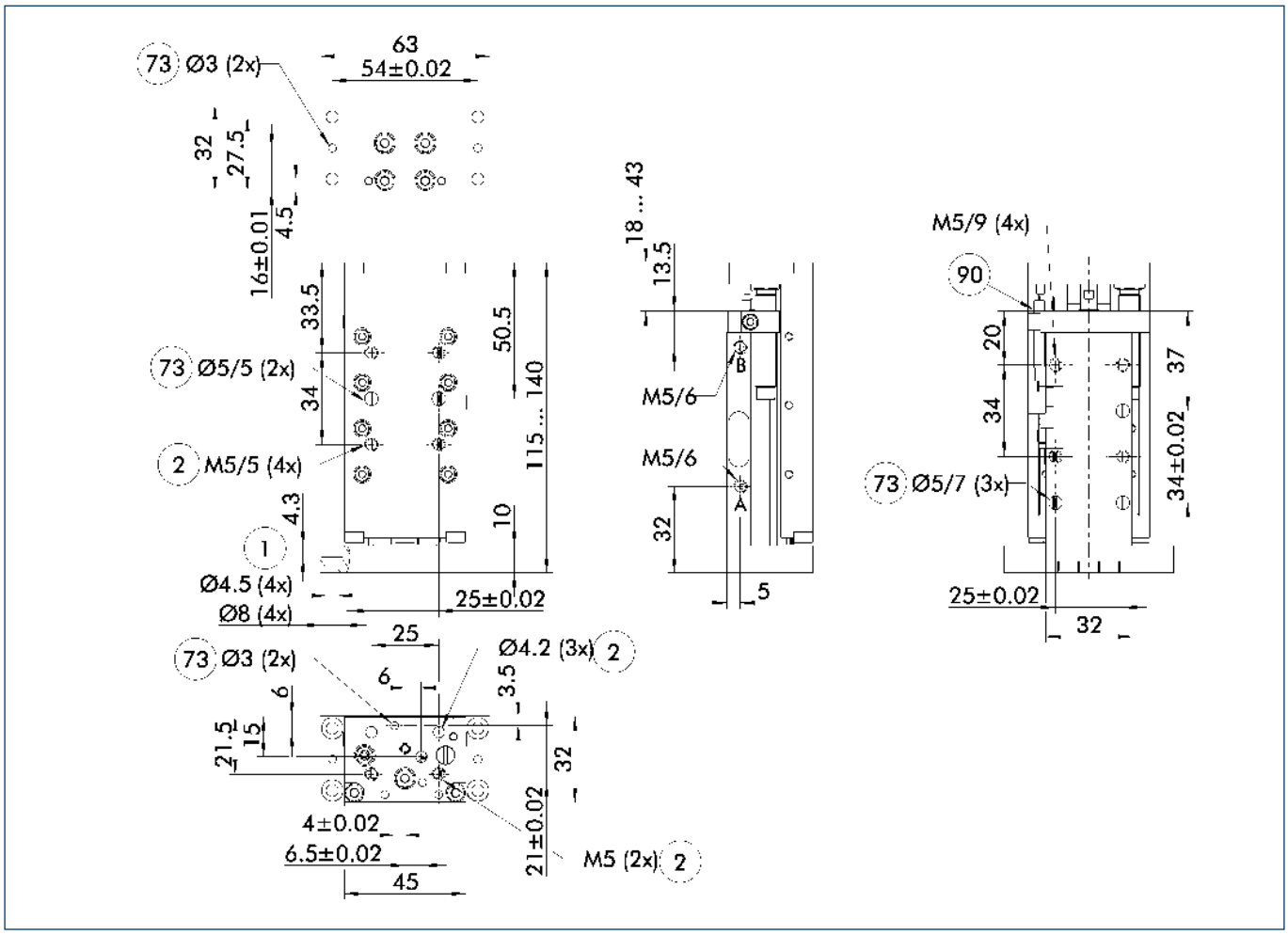
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		HLM 25-H025	HLM 25-H042	HLM 25-H059
ID		0314580	0314581	0314582
Stroke	[mm]	25	42	59
Extend force	[N]	67	67	67
Retracted force	[N]	50	50	50
Repeat accuracy	[mm]	0.01	0.01	0.01
Piston diameter	[mm]	12	12	12
Bar diameter	[mm]	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	1.13	1.13	1.13
Overall length	[mm]	115	140	165
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	0.5	0.58	0.66
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	23	23	23
Moments M_x max./M_y max./M_z max.	[Nm]	6.1/4.7/2.35	7.3/5.7/2.85	8.5/6.7/3.35
Forces F_z max.	[N]	179	162	152

Main view HLM 25-H025



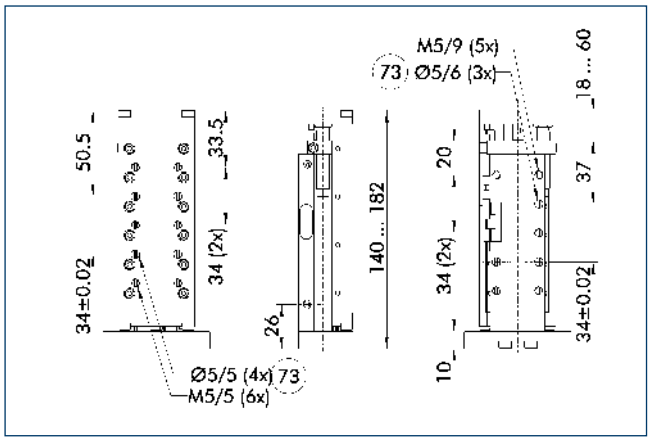
The drawing shows the stroke module with the slide retracted without the options described below.

A Main connection – linear unit extended

B Main connection – linear unit retracted

(1) Connection linear unit
(2) Attachment connection
(73) Fit for centering pins
(90) Inductive proximity switches

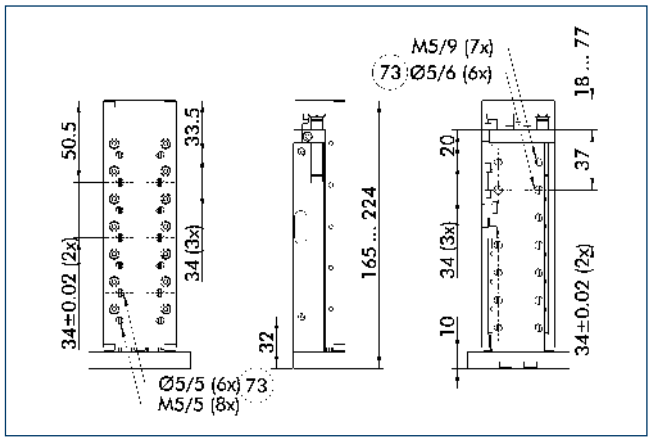
Variant HLM 25-H042



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

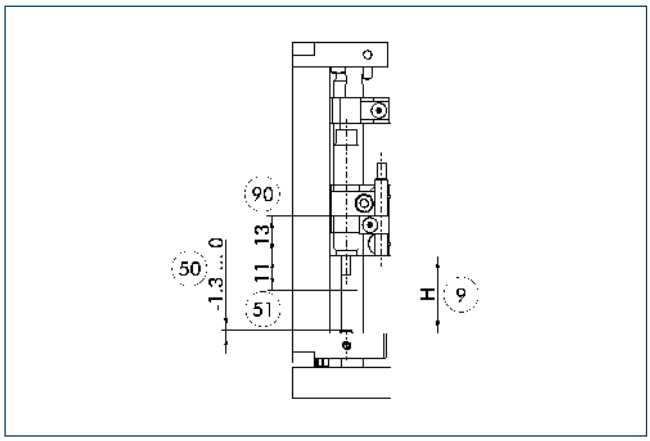
Variant HLM 25-H059



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

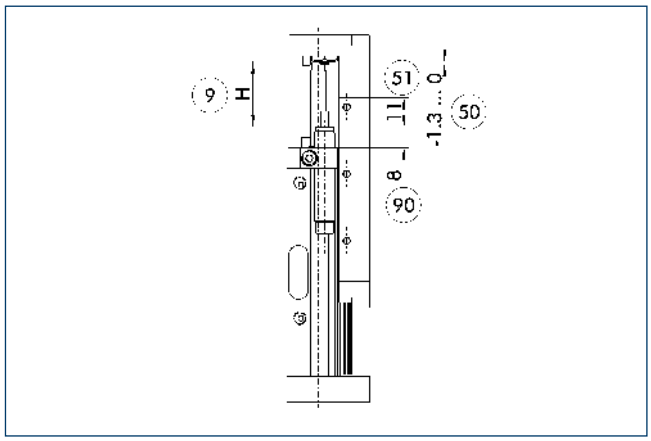
Fine adjustment, on the piston side



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

This illustration shows the possible fine adjustment of the extended position.

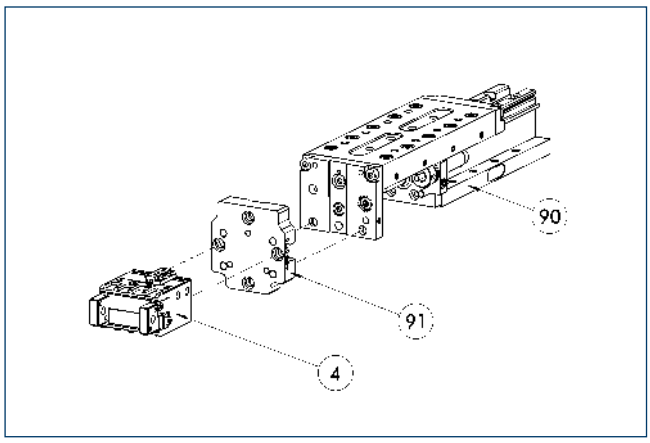
Fine adjustment, on the piston rod side



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

This illustration shows the possible fine adjustment of the retracted position.

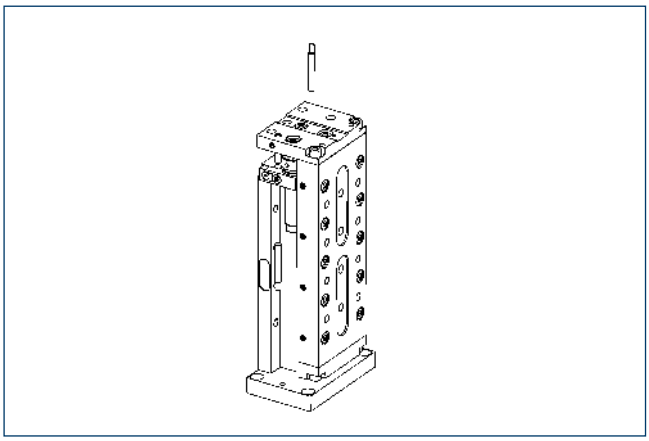
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



Directly mounted end position monitoring.

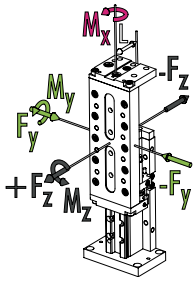
Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

HLM 50



Forces and moments



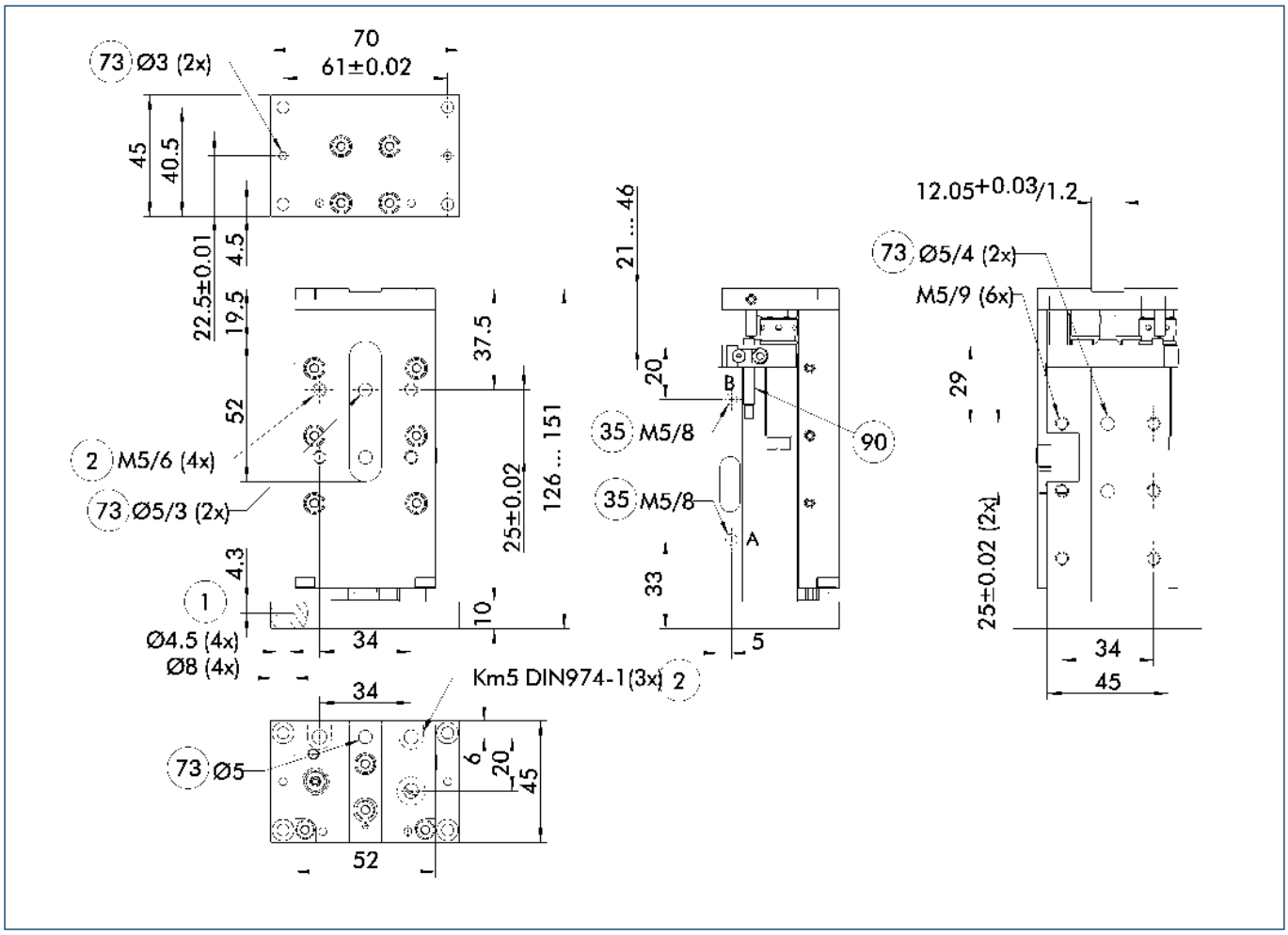
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		HLM 50-H025	HLM 50-H050	HLM 50-H075	HLM 50-H100
ID		0314583	0314584	0314586	0314574
Stroke	[mm]	25	50	75	100
Extend force	[N]	120	120	120	120
Retracted force	[N]	103	103	103	103
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Piston diameter	[mm]	16	16	16	16
Bar diameter	[mm]	6	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	2	2	2	2
Overall length	[mm]	126	166	201	241
Protection class IP		40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Weight	[kg]	0.85	1.07	1.25	1.36
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	34	34	34	34
Moments M_x max./M_y max./M_z max.	[Nm]	14/11.6/5.8	17/15.1/7.55	20/18.6/9.3	23/22.1/11.05
Forces F_z max.	[N]	407	372	338	328
Options and their characteristics					
Rod lock version			HLM 50-H050-ASP	HLM 50-H075-ASP	HLM 50-H100-ASP
ID			0314585	0314587	0314577
Stroke loss of nominal stroke (on the rod side)	[mm]		10	10	10
Weight	[kg]		1.1	1.28	1.39
Static holding force	[N]		180	180	180
Max. axial backlash of the clamping	[mm]		0.2	0.2	0.2
Min. release air pressure	[bar]		3	3	3

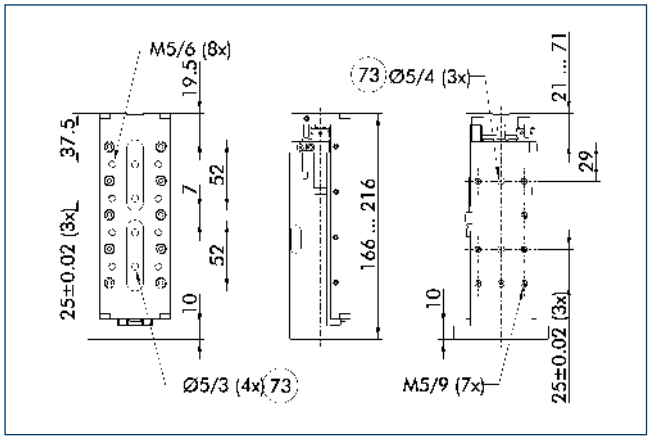
Main view HLM 50-H025



The drawing shows the stroke module with the slide retracted without the options described below.

A Main connection – linear unit extended
B Main connection – linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(35) Back side
(73) Fit for centering pins
(90) Inductive proximity switches

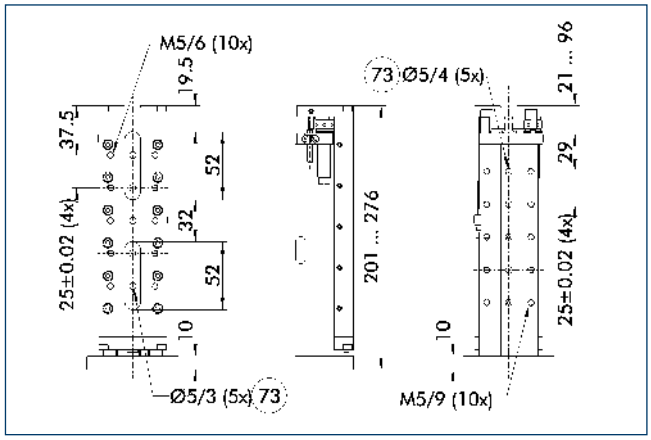
Variant HLM 50-H050



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

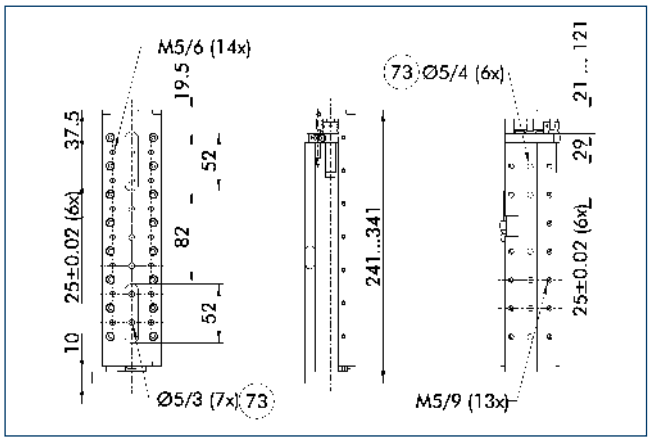
Variant HLM 50-H075



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

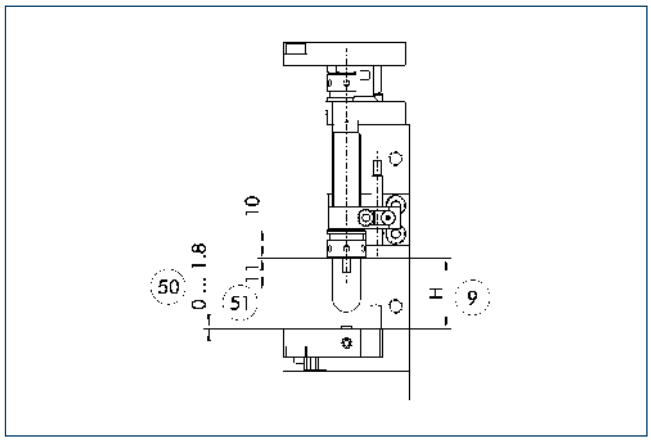
Variant HLM 50-H100



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

Fine adjustment, on the piston side



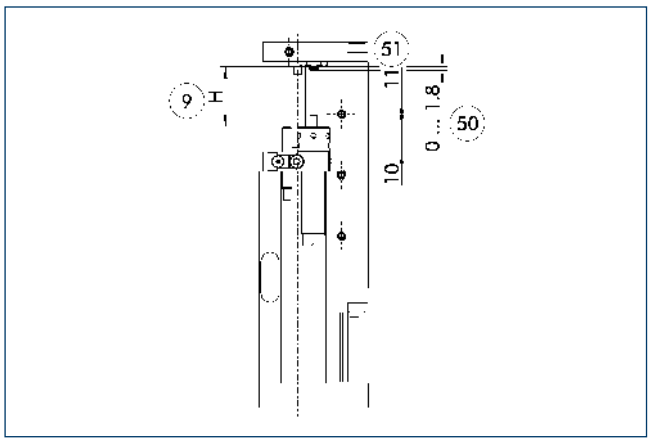
(9) Effective stroke

(50) Damping stroke adjustment range

(51) Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

Fine adjustment, on the piston rod side



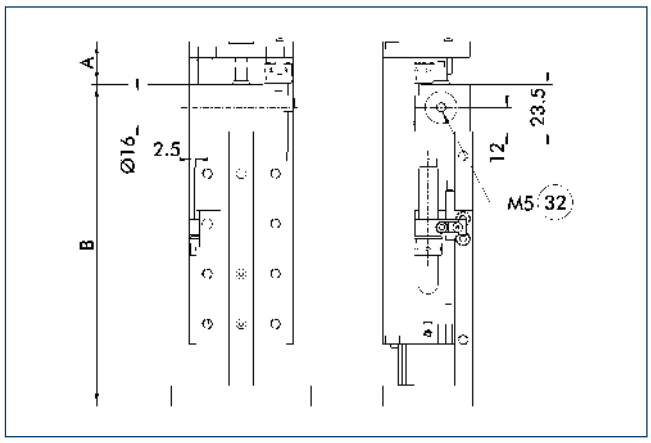
(9) Effective stroke

(50) Damping stroke adjustment range

(51) Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

Rod lock

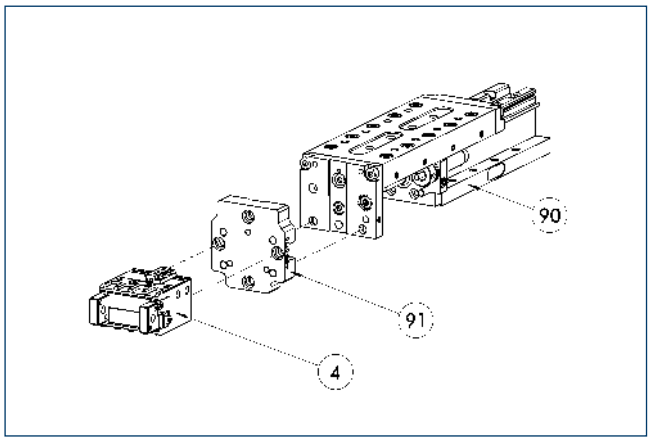


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A	B	
	[mm]	[mm]	
HLM 50-H050-ASP	15.5	160.5	
HLM 50-H075-ASP	15.5	195.5	
HLM 50-H100-ASP	15.5	235.5	

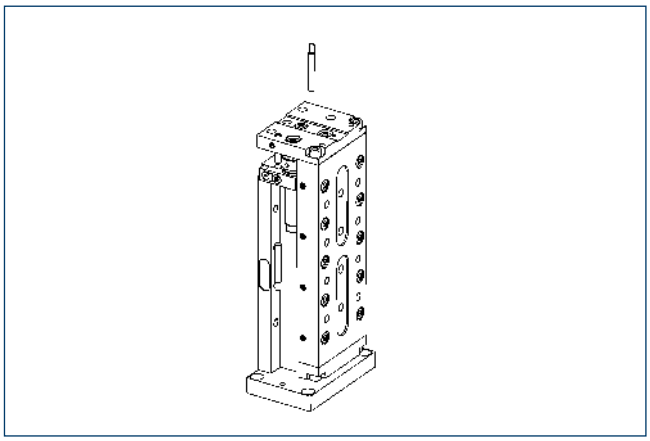
Modular assembly automation



(4) Grippers
(91) ASG adapter plate
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



Directly mounted end position monitoring.

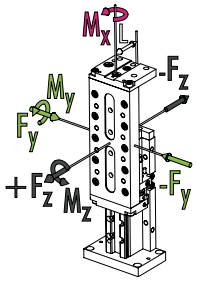
Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

HLM 100



Forces and moments



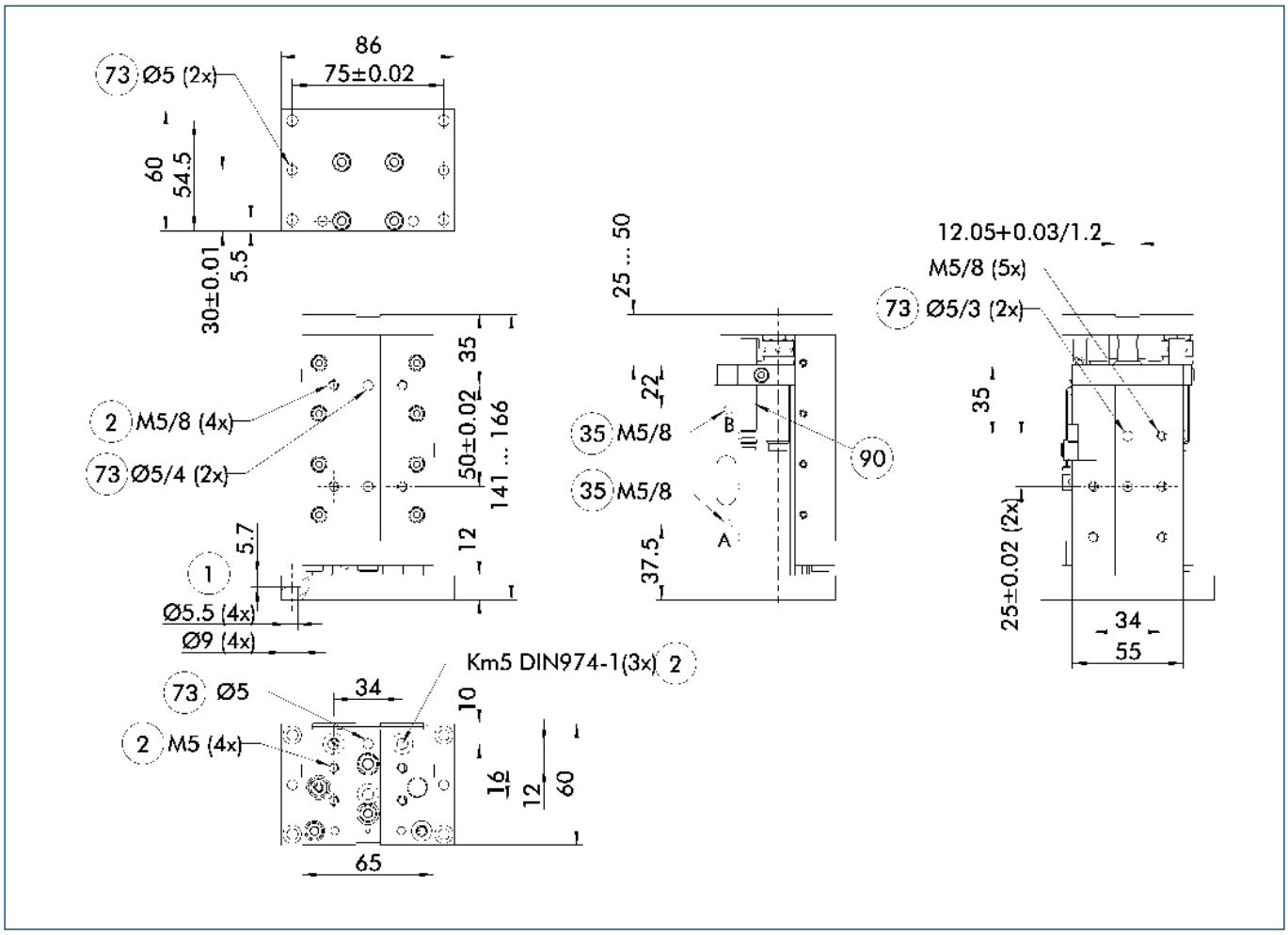
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		HLM 100-H025	HLM 100-H050	HLM 100-H075	HLM 100-H100	HLM 100-H125	HLM 100-H150
ID		0314588	0314589	0314591	0314593	0314575	0314576
Stroke	[mm]	25	50	75	100	125	150
Extend force	[N]	294	294	294	294	294	294
Retracted force	[N]	247	247	247	247	247	247
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	25	25	25	25	25	25
Bar diameter	[mm]	10	10	10	10	10	10
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	4.9	4.9	4.9	4.9	4.9	4.9
Overall length	[mm]	141	179	216	254	329	329
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	1.62	1.92	2.27	2.57	3.17	3.17
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	44	44	44	44	44	44
Moments M_x max./M_y max./M_z max.	[Nm]	30/26.4/13.2	37/33.1/16.55	44/39.7/19.85	51/46.3/23.15	58/52.9/26.45	65/59.6/29.8
Forces F_z max.	[N]	835	750	695	665	645	630
Options and their characteristics							
Rod lock version			HLM 100-H050-ASP	HLM 100-H075-ASP	HLM 100-H100-ASP	HLM 100-H125-ASP	HLM 100-H150-ASP
ID			0314590	0314592	0314594	0314578	0314579
Stroke loss of nominal stroke (on the rod side)	[mm]		12	12	12	12	12
Weight	[kg]		1.99	2.34	2.64	3.24	3.24
Static holding force	[N]		350	350	350	350	350
Max. axial backlash of the clamping	[mm]		0.25	0.25	0.25	0.25	0.25
Min. release air pressure	[bar]		3	3	3	3	3

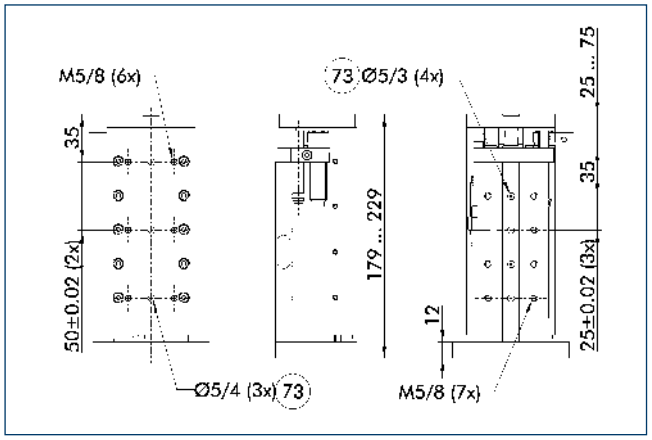
Main view HLM 100-H025



The drawing shows the stroke module with the slide retracted without the options described below.

A Main connection – linear unit extended
B Main connection – linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(35) Back side
(73) Fit for centering pins
(90) Inductive proximity switches

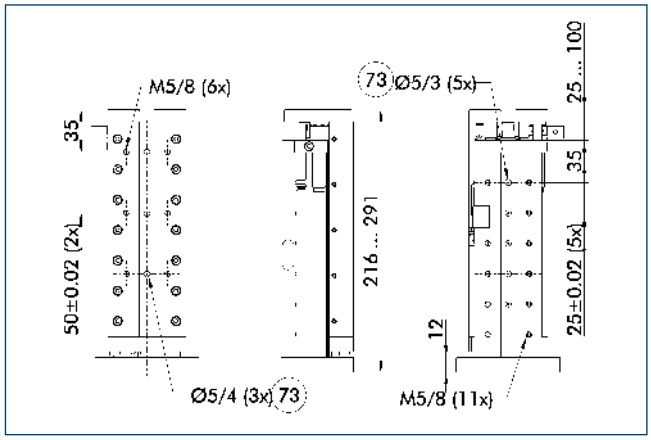
Variant HLM 100-H050



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

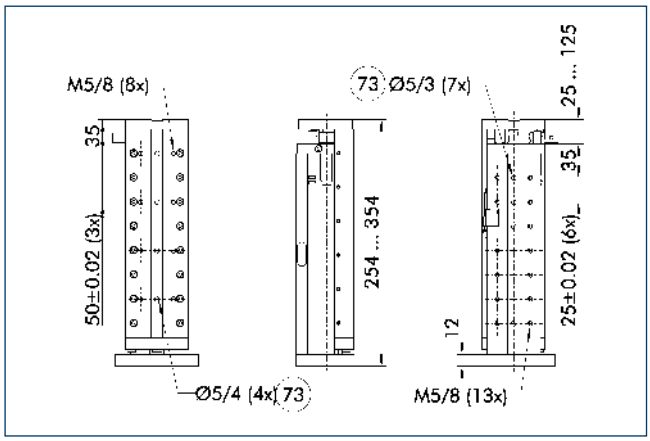
Variant HLM 100-H075



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

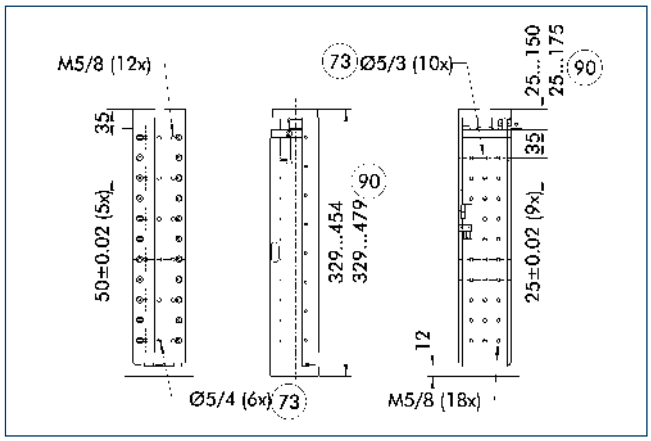
Variant HLM 100-H100



73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

Variant HLM 100-H125/150

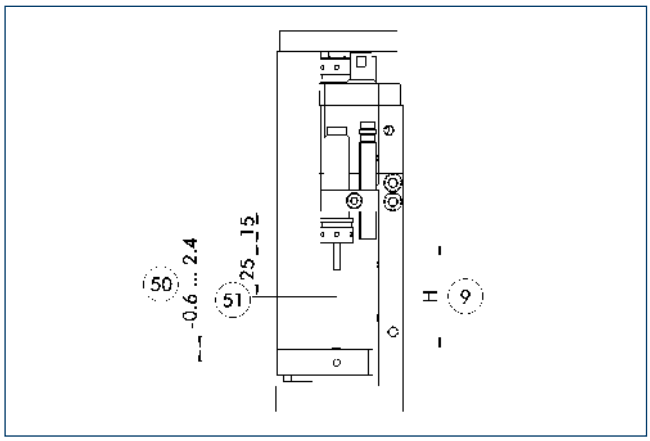


73 Fit for centering pins

90 Applicable stroke variant H150

Not all dimensions shown can be seen in the main view.

Fine adjustment, on the piston side



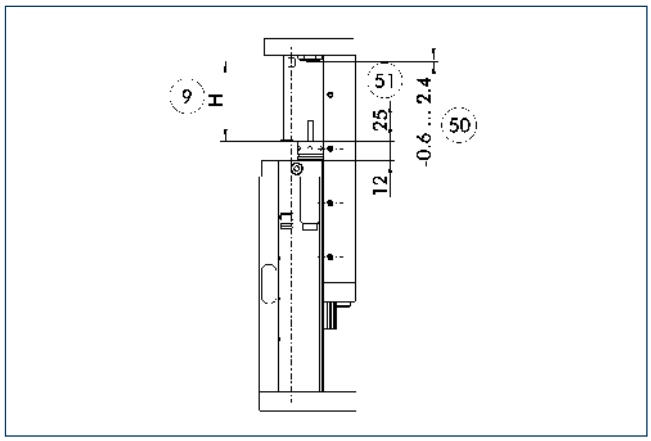
9 Effective stroke

51 Stroke adjustment range

50 Damping stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

Fine adjustment, on the piston rod side



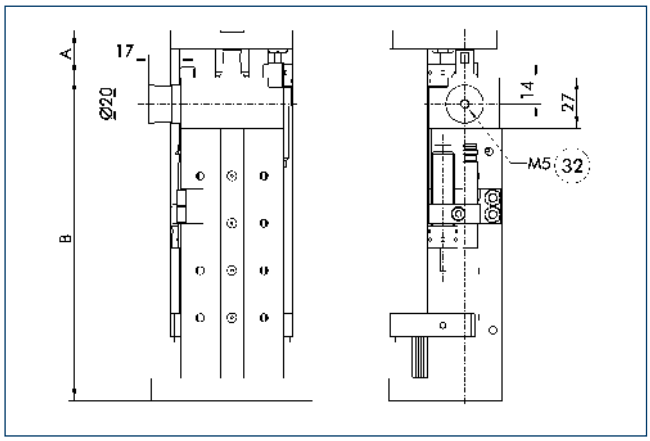
9 Effective stroke

51 Stroke adjustment range

50 Damping stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

Rod lock

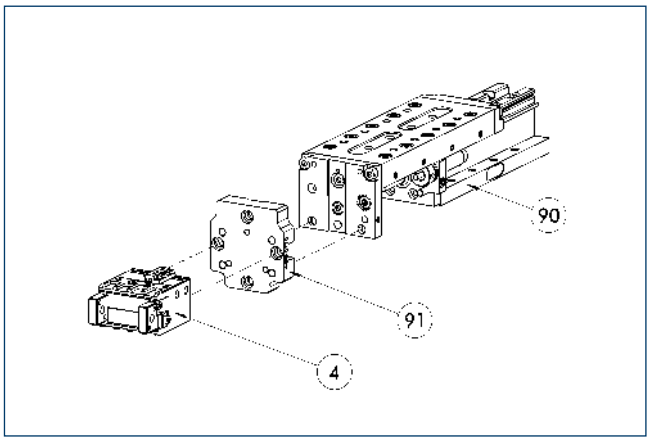


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A	B	
	[mm]	[mm]	
HLM 100-H050-ASP	20	159	
HLM 100-H075-ASP	20	208	
HLM 100-H100-ASP	20	246	
HLM 100-H125-ASP	20	321	
HLM 100-H150-ASP	20	321	

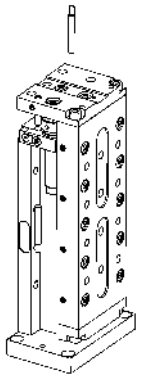
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

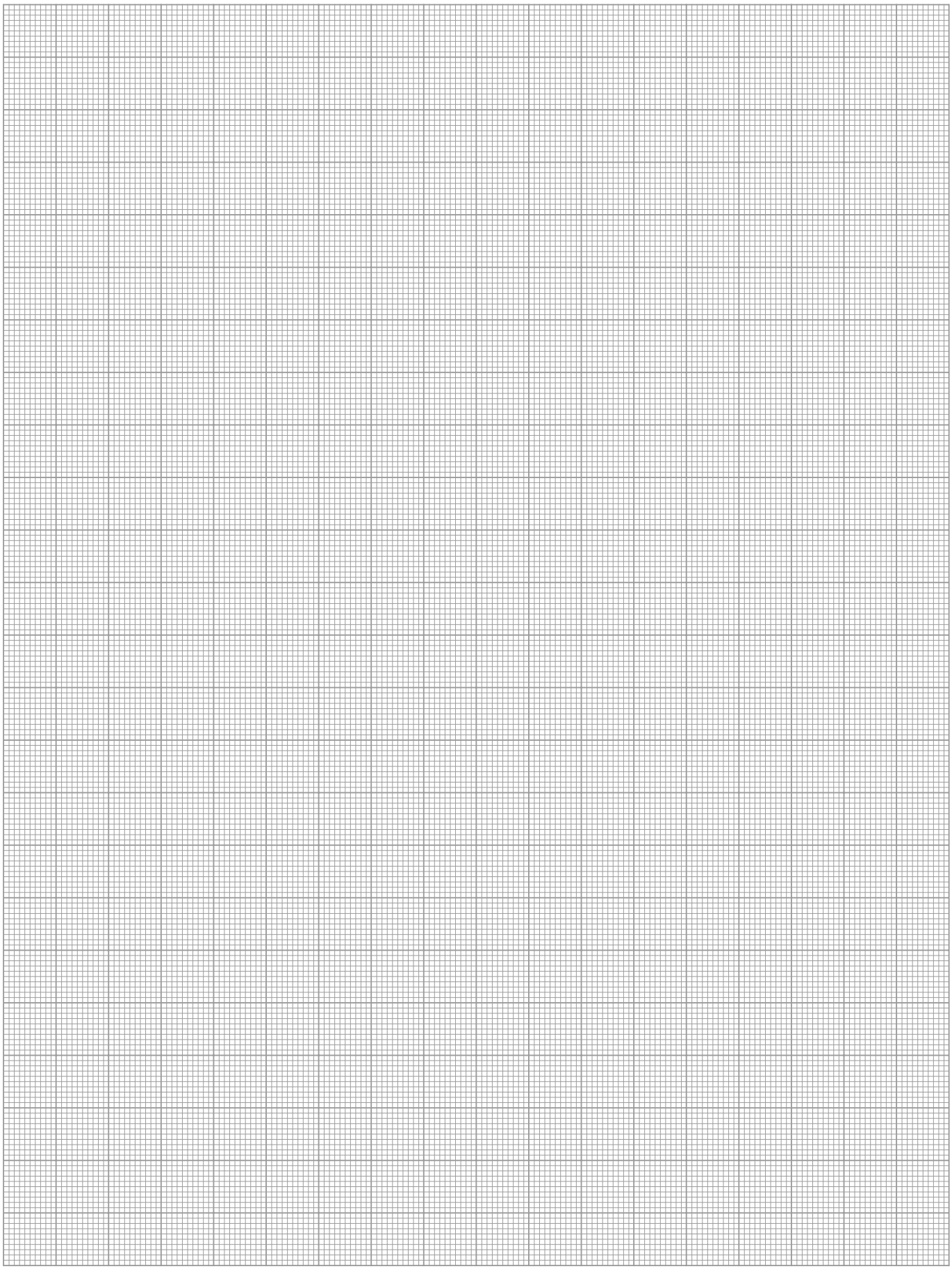
Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
NI 32	0313425	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

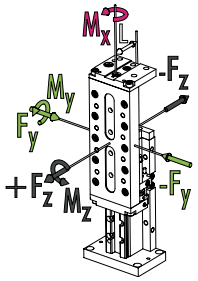


HLM 200

Pneumatic Components | Stroke Module



Forces and moments



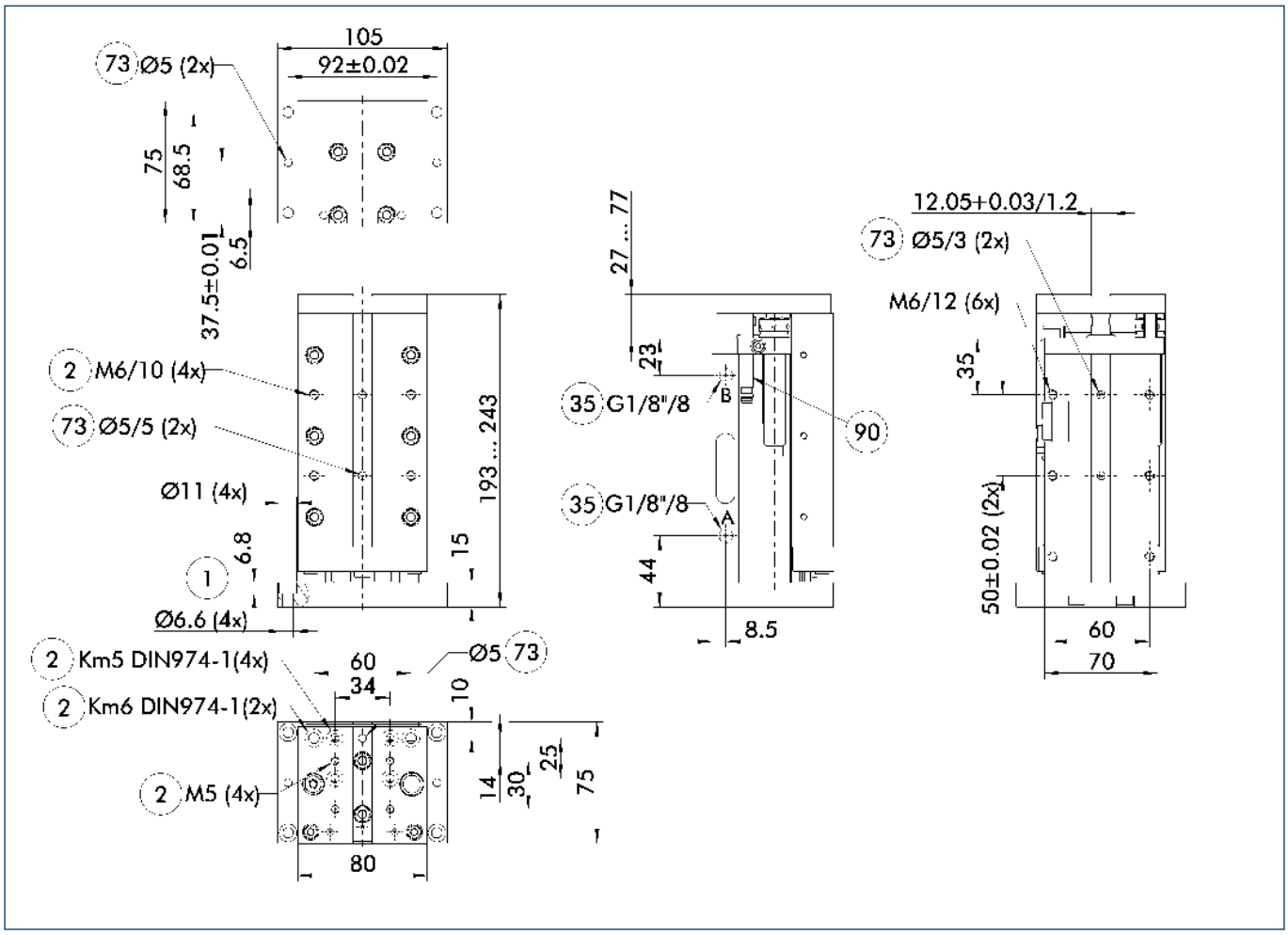
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		HLM 200-H050	HLM 200-H100	HLM 200-H150
ID		0314595	0314596	0314598
Stroke	[mm]	50	100	150
Extend force	[N]	482	482	482
Retracted force	[N]	415	415	415
Repeat accuracy	[mm]	0.02	0.02	0.02
Piston diameter	[mm]	32	32	32
Bar diameter	[mm]	12	12	12
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	8.04	8.04	8.04
Overall length	[mm]	193	267	343
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	3.42	4.47	5.57
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	56.5	56.5	56.5
Moments M_x max./M_y max./M_z max.	[Nm]	50/63/31.5	72/90/45	94/117/58.5
Forces F_z max.	[N]	1250	1185	1160
Options and their characteristics				
Rod lock version			HLM 200-H100-ASP	HLM 200-H150-ASP
ID			0314597	0314599
Stroke loss of nominal stroke (on the rod side)	[mm]		15	15
Weight	[kg]		4.54	5.64
Static holding force	[N]		600	600
Max. axial backlash of the clamping	[mm]		0.25	0.25
Min. release air pressure	[bar]		3	3

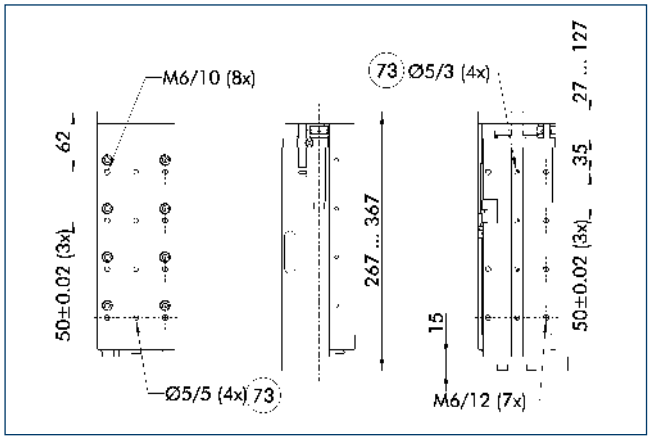
Main view HLM 200-H050



The drawing shows the stroke module with the slide retracted without the options described below.

A Main connection – linear unit extended
B Main connection – linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(35) Back side
(73) Fit for centering pins
(90) Inductive proximity switches

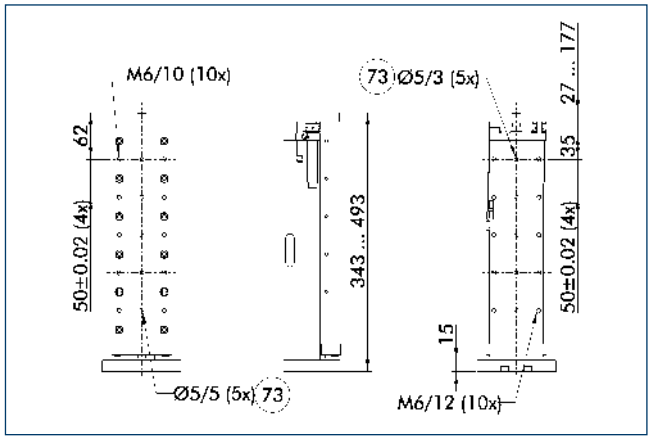
Variant HLM 200-H100



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

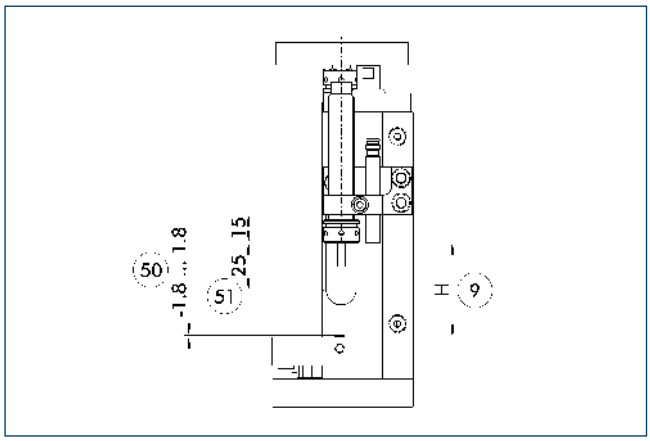
Variant HLM 200-H150



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

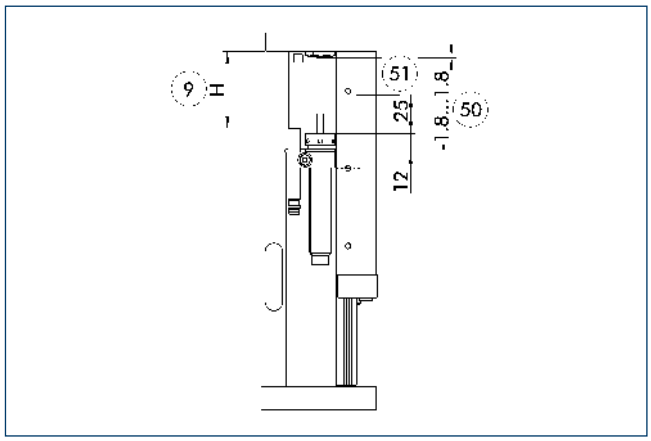
Fine adjustment, on the piston side



(9) Effective stroke
(51) Stroke adjustment range
(50) Damping stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

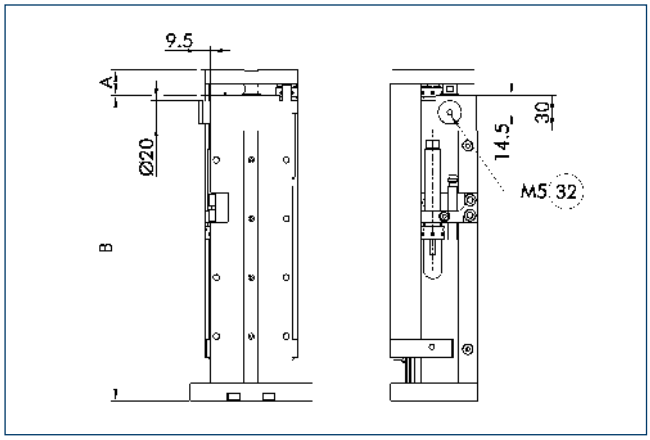
Fine adjustment, on the piston rod side



(9) Effective stroke
(51) Stroke adjustment range
(50) Damping stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

Rod lock

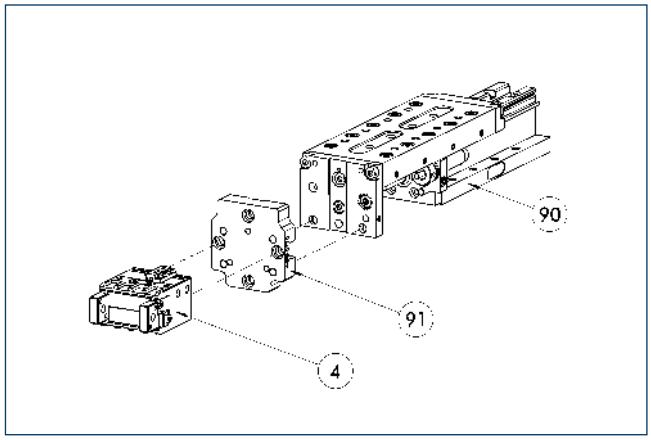


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A	B	
	[mm]	[mm]	
HLM 200-H100-ASP	22	260	
HLM 200-H150-ASP	22	336	

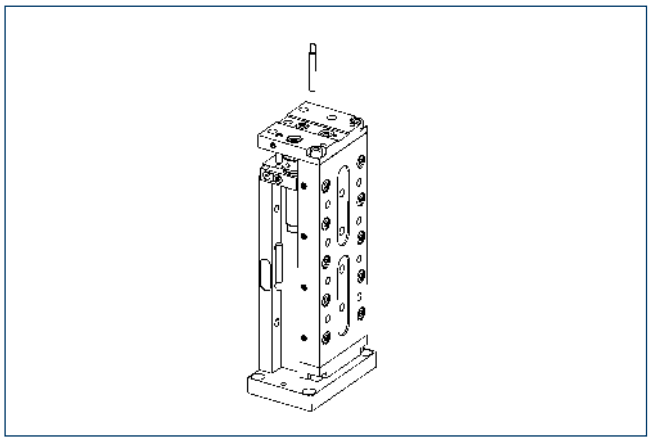
Modular assembly automation



(4) Grippers
(91) ASG adapter plate
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Precise. Modular. Compact.

CLM Compact Slides

Optimized length, with pneumatic drive and pre-loaded crossed roller bearings, free from play.

Field of Application

For use in assembly automation; e.g. as pick & place solutions.



Advantages – Your benefits

Crossed roller guide design and solid design ensured high load bearing capacities and end position accuracy in all installation positions

Pretensioned junction rollers that means absolutely scope-free

High basic load ratings in all load directions

Standardized fixing bores and connection dimensions identical for LM series for numerous combinations with other components from the modular system

Shock absorbers and proximity switches integrated in the projecting surfaces for vibration-free movements and end position monitoring

Rod lock by means of clamping cartridge for safety in case of emergency stops

Mounting pattern on the rear side (from CLM 25) this means it can also be used as a stroke unit

Sizes	Weight	Driving force	Stroke	Repeat accuracy
Quantity: 6	0.07 .. 5.32 kg	30 .. 482 N	14 .. 150 mm	0.01 .. 0.04 mm

Functional Description

The upper part of the slide linearly moves out and in.
The drive is a compressed air driven piston.



① **Cross roller guidance**
Pretensioned and scope-free

② **Drive**
Powerful piston rod cylinders

③ **Modular mounting pattern**
Completely integrated in the module system

④ **Damping adjustment**
Adjustment of the damping characteristics

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Housing material: Aluminum alloy, anodized

Guidance: Scope-free, pretensioned junction rollers

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Scope of delivery: incl. shock absorbers respectively stop screws (CLM 08)

Warranty: 24 months

Repeat accuracy: is defined as the distribution of the end positions for 100 consecutive cycles.

Travel times: are pure movement times of the slide or the base body. Valve switching times, hose filling times, or PLC reaction times are not a part of this and are to be considered when cycle times are calculated.

Stroke: is the maximum nominal stroke of the unit. This can be shortened on both sides by the shock absorbers.

Layout or control calculation: For layout or sizing of the modules, we recommend using our software TOOLBOX, which can be downloaded online. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Application Example

Pneumatic Pick & Place unit for small components.

1. SOE Single Base Support
2. SLH Hollow Pillar
3. APEH Single Mounting Plate
4. CLM Linear Module
5. APL Adapter Plate
6. CLM Linear Module
7. ASG Adapter
8. MPG 2-Finger Small Components Gripper



SCHUNK offers more ...

The following components make the product CLM even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Fittings



Rod Lock



SDV-P Pressure Maintenance Valve



Inductive Proximity Switches



SAS Pillar Assembly System



Adapter Plates



Centering Strips



Sensor Cables



LM Universal Linear Module



RM-W Swivel Vane



RM-F Swivel Unit



MPG-plus Pneumatic Small Parts Gripper

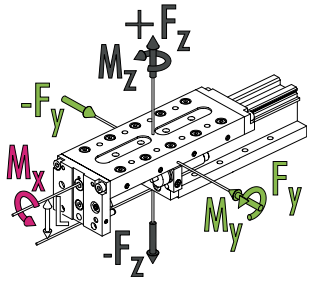
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Version rod lock: Prevents the structure from falling in the event of a sudden loss of energy. This module can be combined as standard with many elements from the modular system. We can assist you with questions.



Forces and moments



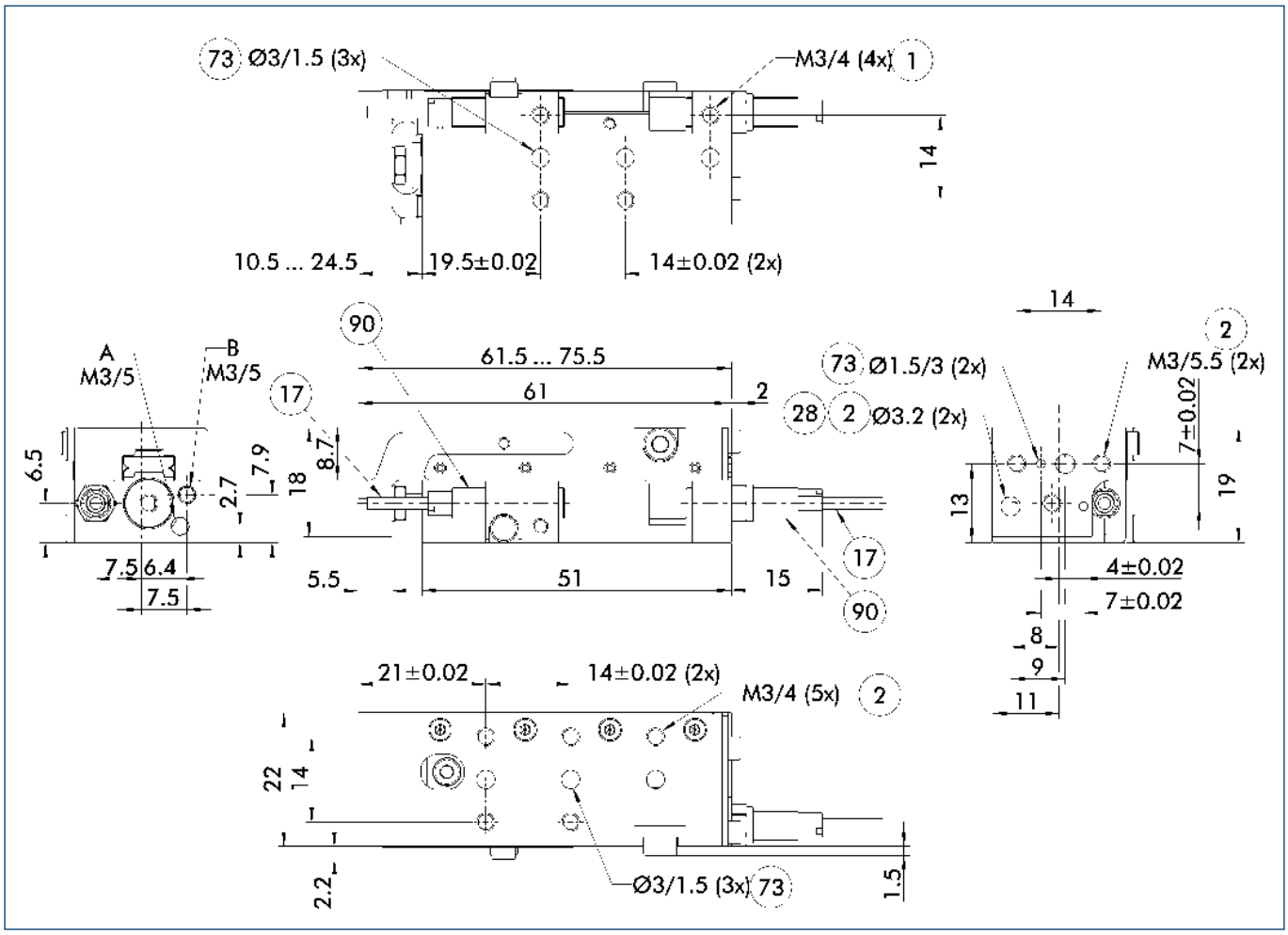
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		CLM 08-H014	CLM 08-H028	CLM 08-H042
ID		0314000	0314001	0314002
Stroke	[mm]	14	28	42
Extend force	[N]	30	30	30
Retracted force	[N]	25	25	25
Repeat accuracy	[mm]	0.04	0.04	0.04
Piston diameter	[mm]	8	8	8
Bar diameter	[mm]	3	3	3
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	0.5	0.5	0.5
Overall length	[mm]	61.5	78.5	95.5
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	0.07	0.086	0.103
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	12.3	12.3	12.3
Moments M_x max./M_y max./M_z max.	[Nm]	1.59/2.09/1.05	1.73/2.3/1.15	1.87/2.51/1.26
Forces F_z max.	[N]	119	93	79

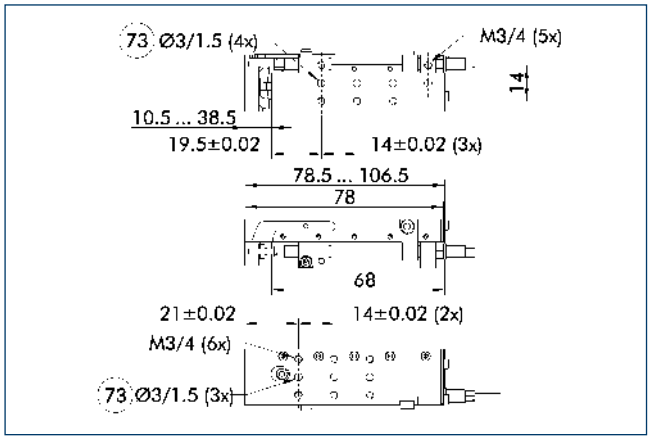
Main view CLM 08-H014



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection - linear unit extended
B Main connection - linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(17) Cable outlet
(28) Through-hole
(73) Fit for centering pins

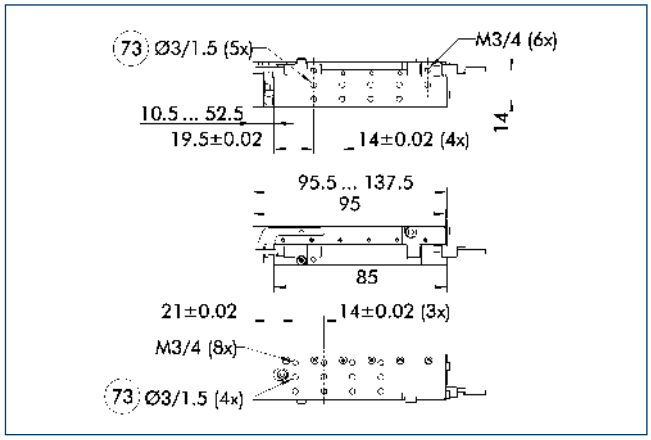
Variant CLM 08-H028



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

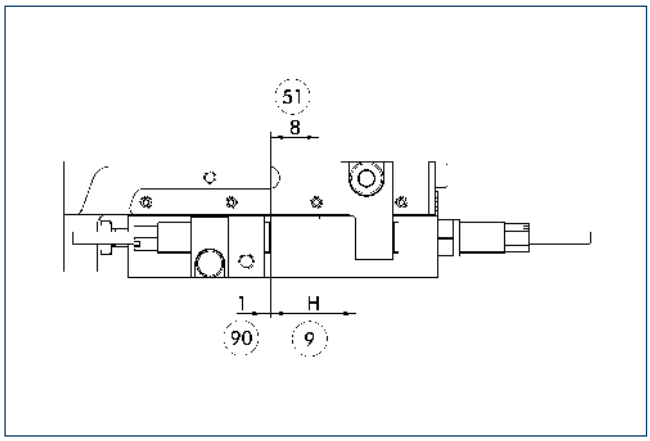
Variant CLM 08-H042



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

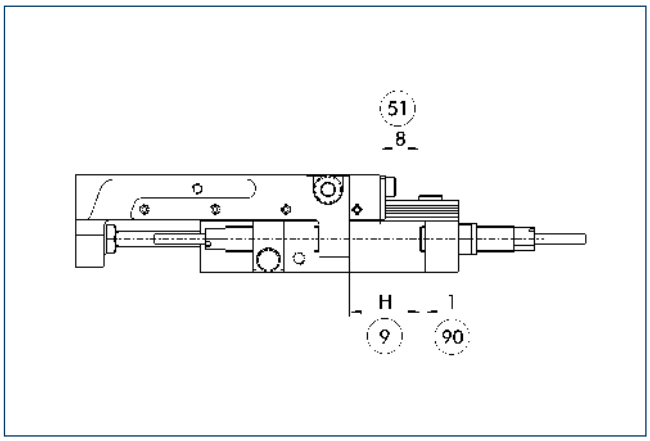
Fine adjustment, on the piston side



(9) Effective stroke
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

To operate the unit, stops or stop sensors are needed. The illustration shows the use of the stop sensors and the possibility of stroke fine adjustment. The stops are part of the scope of delivery. The stop sensors have to be ordered separately.

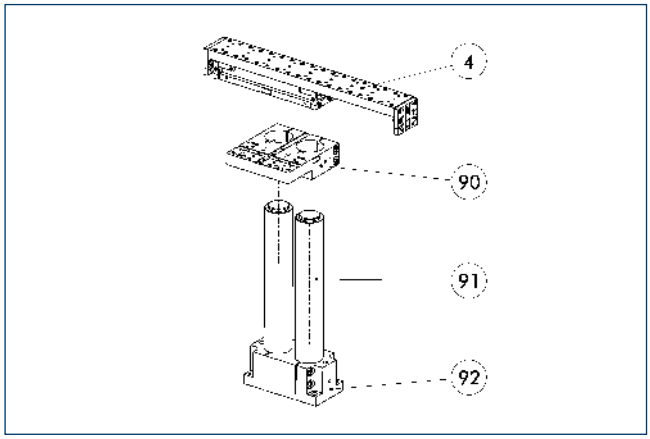
Fine adjustment, on the piston rod side



(9) Effective stroke
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

To operate the unit, stops or stop sensors are needed. The illustration shows the use of the stop sensors and the possibility of stroke fine adjustment. The stops are part of the scope of delivery. The stop sensors have to be ordered separately.

Attachment to a pillar assembly system

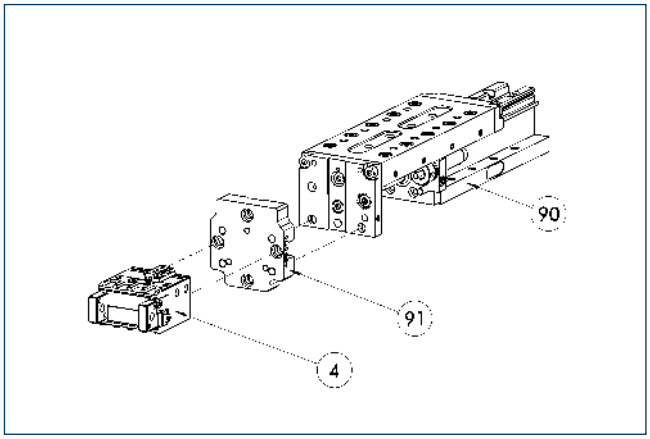


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 20	0313614	20	Aluminum
APDV 20	0313616	20	Aluminum
APEH 20	0313613	20	Aluminum
APEV 20	0313615	20	Aluminum

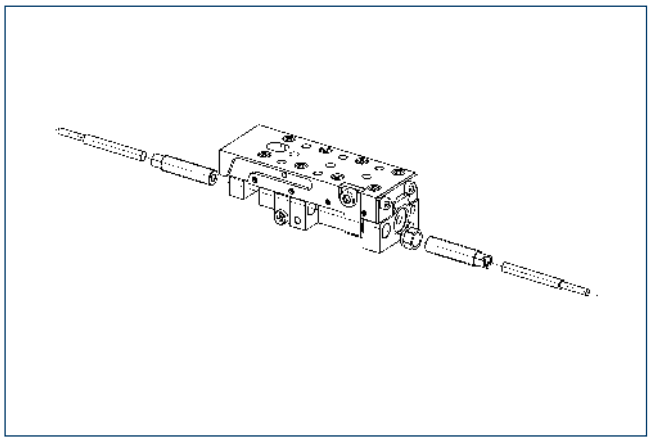
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



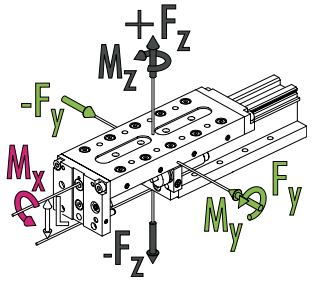
Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NIA 50-KT	0313422	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



Forces and moments



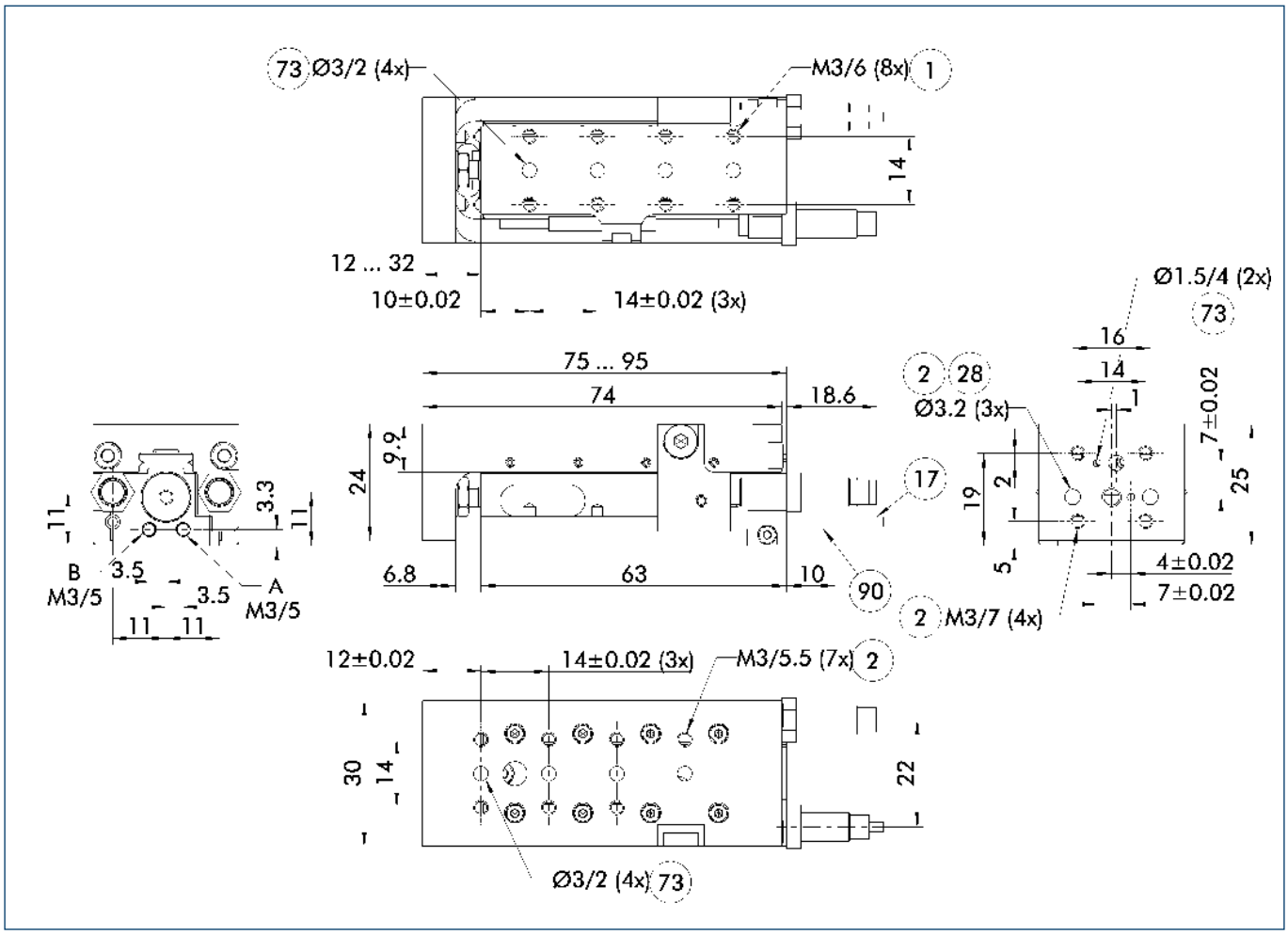
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		CLM 10-H020	CLM 10-H034	CLM 10-H048
ID		0314005	0314006	0314007
Stroke	[mm]	20	34	48
Extend force	[N]	47	47	47
Retracted force	[N]	39	39	39
Repeat accuracy	[mm]	0.01	0.01	0.01
Piston diameter	[mm]	10	10	10
Bar diameter	[mm]	4	4	4
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	0.78	0.78	0.78
Overall length	[mm]	75	95	115
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	0.135	0.165	0.195
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	17.1	17.1	17.1
Moments M_x max./M_y max./M_z max.	[Nm]	1.82/2.09/1.05	2.18/2.51/1.25	2.54/2.93/1.47
Forces F_z max.	[N]	111	91	89

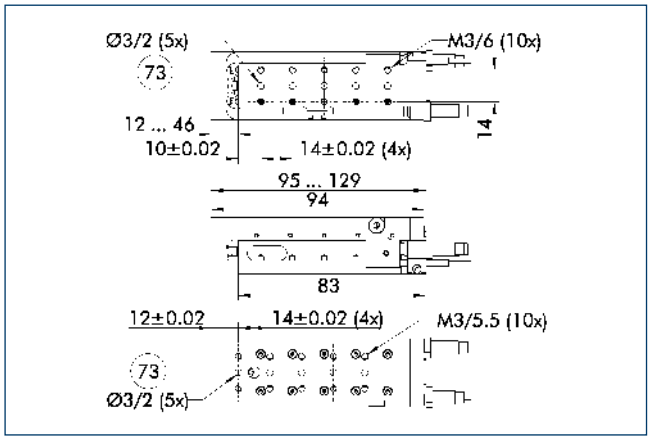
Main view CLM 10-H020



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection - linear unit extended
B Main connection - linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(17) Cable outlet
(28) Through-hole
(73) Fit for centering pins
(90) Inductive proximity switches

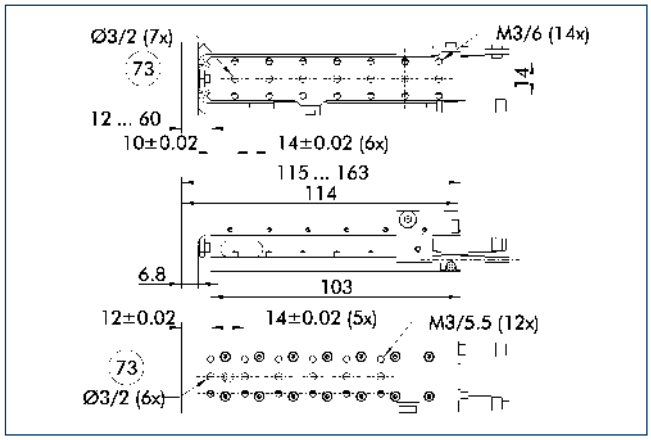
Variant CLM 10-H034



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

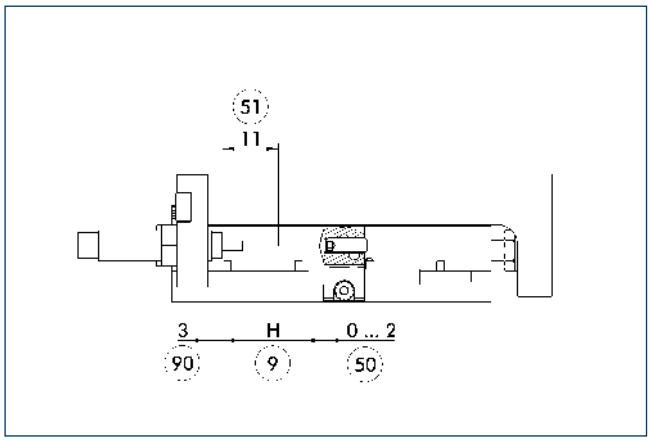
Variant CLM 10-H048



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

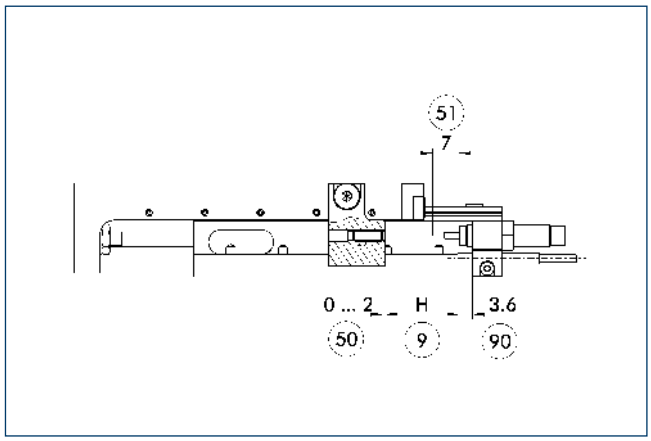
Fine adjustment, on the piston side



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

This illustration shows the possible fine adjustment of the extended position.

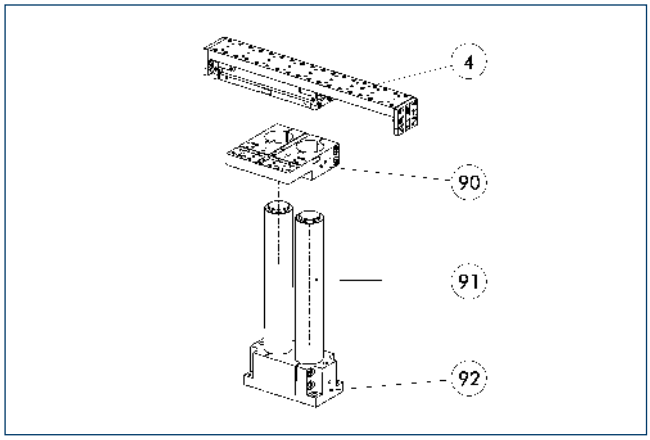
Fine adjustment, on the piston rod side



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

This illustration shows the possible fine adjustment of the retracted position.

Attachment to a pillar assembly system

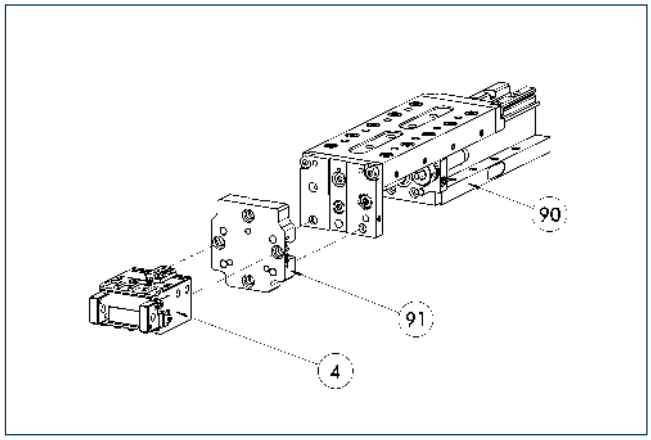


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 20	0313614	20	Aluminum
APDV 20	0313616	20	Aluminum
APEH 20	0313613	20	Aluminum
APEV 20	0313615	20	Aluminum

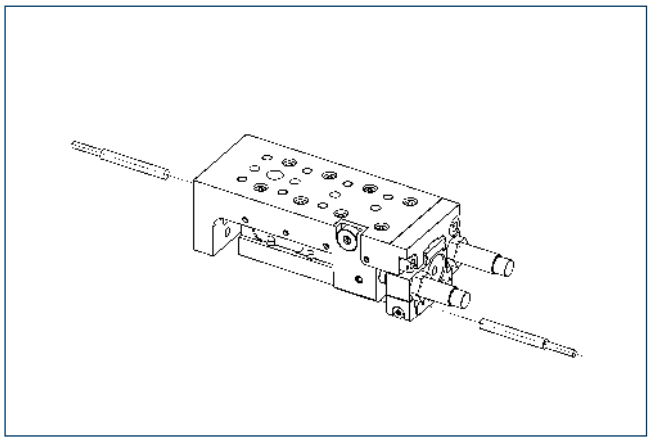
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



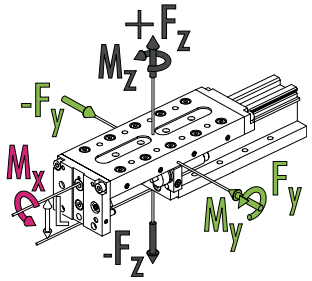
Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 03	0313426	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



Forces and moments



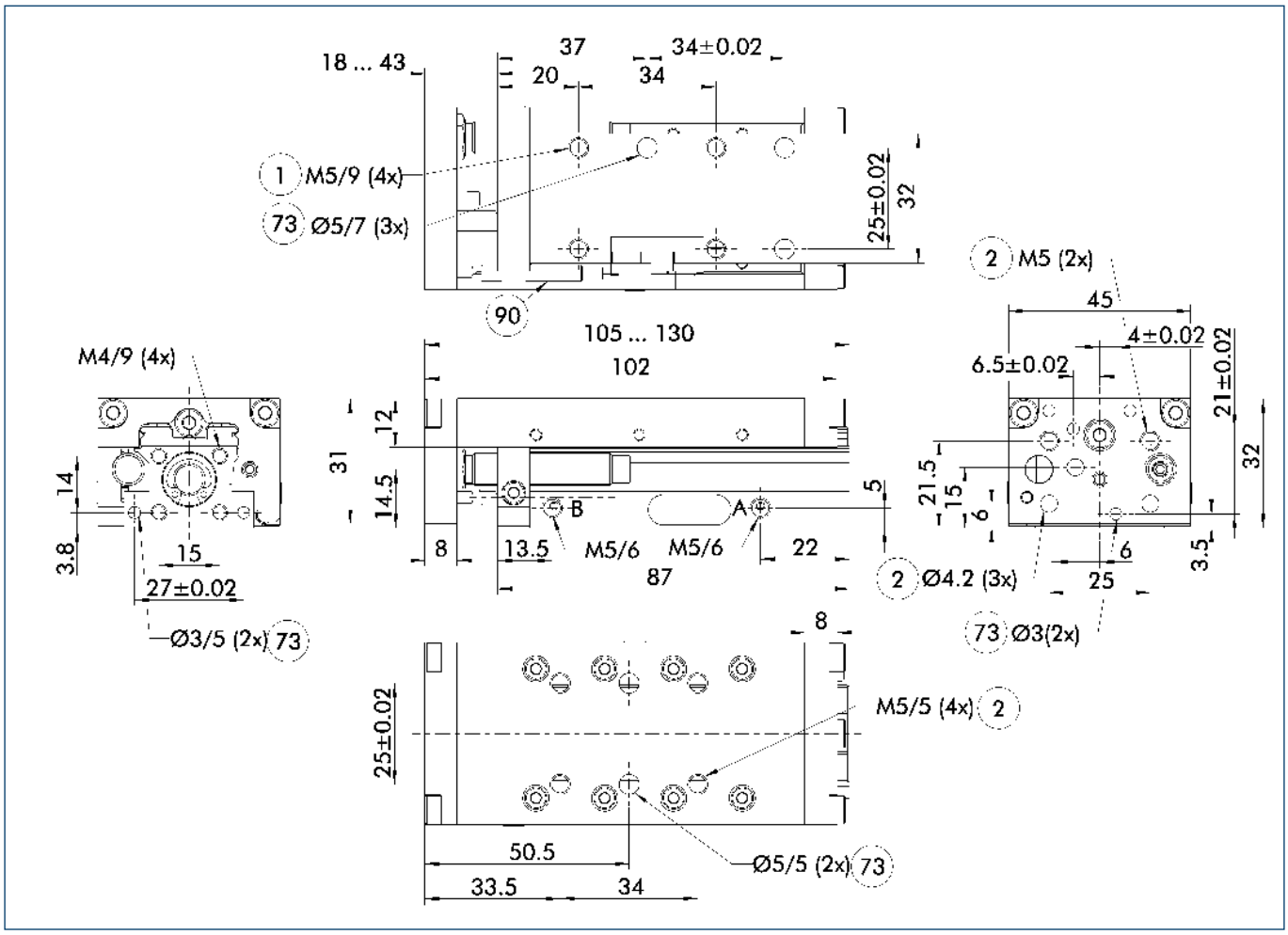
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		CLM 25-H025	CLM 25-H042	CLM 25-H059
ID		0314035	0314036	0314037
Stroke	[mm]	25	42	59
Extend force	[N]	67	67	67
Retracted force	[N]	50	50	50
Repeat accuracy	[mm]	0.01	0.01	0.01
Piston diameter	[mm]	12	12	12
Bar diameter	[mm]	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	1.13	1.13	1.13
Overall length	[mm]	105	130	155
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	0.44	0.52	0.6
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	23	23	23
Moments M_x max./M_y max./M_z max.	[Nm]	6.1/4.7/2.35	7.3/5.7/2.85	8.5/6.7/3.35
Forces F_z max.	[N]	179	162	152

Main view CLM 25-H025



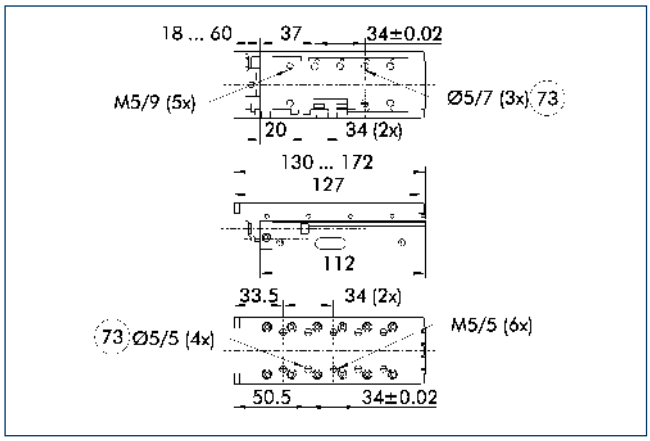
The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection - linear unit extended

B Main connection - linear unit retracted

1 Connection linear unit
2 Attachment connection
73 Fit for centering pins
90 Inductive proximity switches

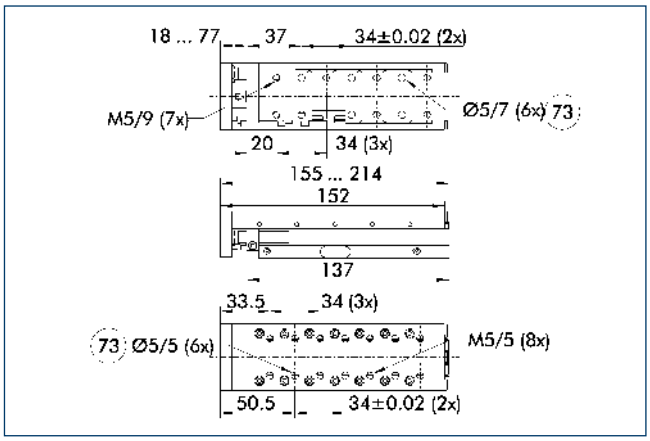
Variant CLM 25-H042



73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

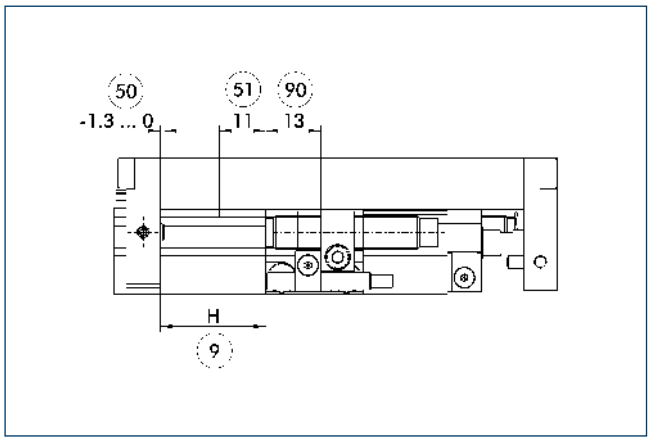
Variant CLM 25-H059



73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

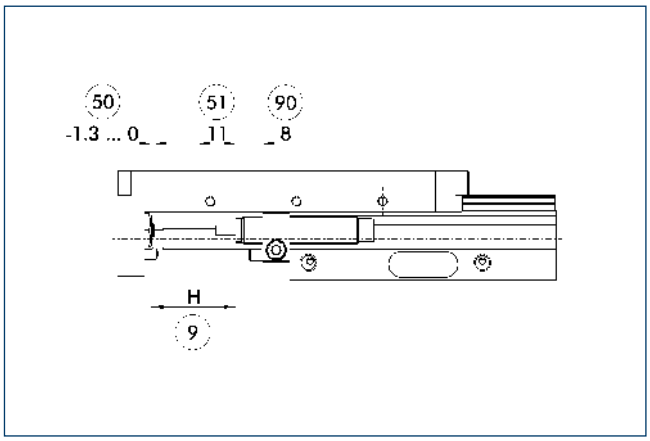
Fine adjustment, on the piston side



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

This illustration shows the possible fine adjustment of the extended position.

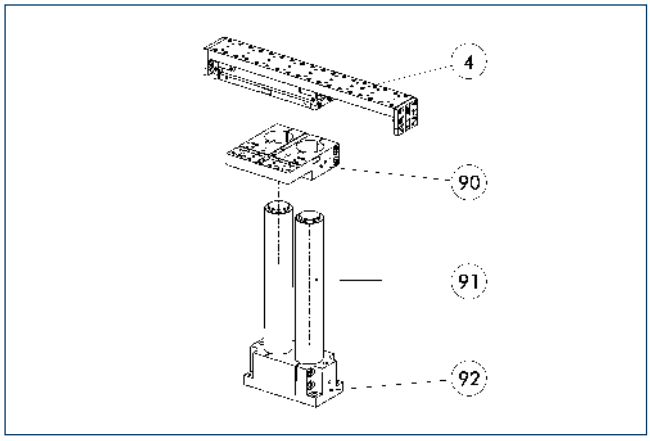
Fine adjustment, on the piston rod side



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

This illustration shows the possible fine adjustment of the retracted position.

Attachment to a pillar assembly system

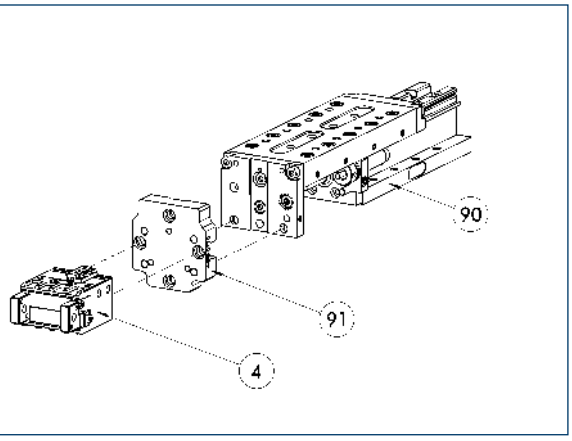


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 20	0313614	20	Aluminum
APDH 35	0313894	35	Aluminum
APDV 20	0313616	20	Aluminum
APDV 35	0313896	35	Aluminum
APEH 20	0313613	20	Aluminum
APEH 35	0313893	35	Aluminum
APEV 20	0313615	20	Aluminum
APEV 35	0313895	35	Aluminum

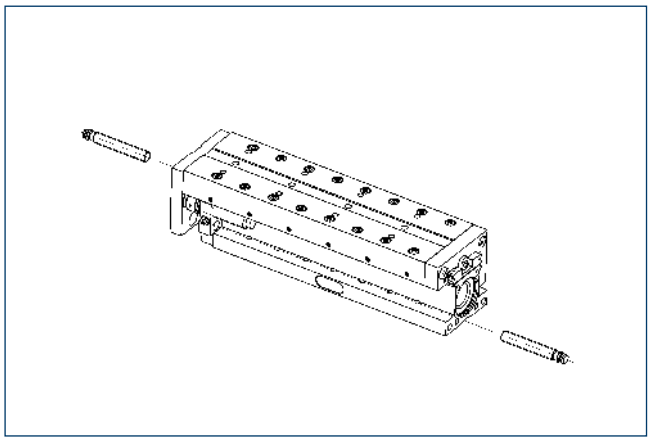
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



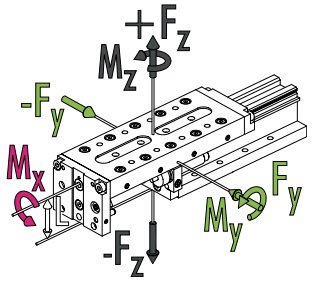
Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



Forces and moments



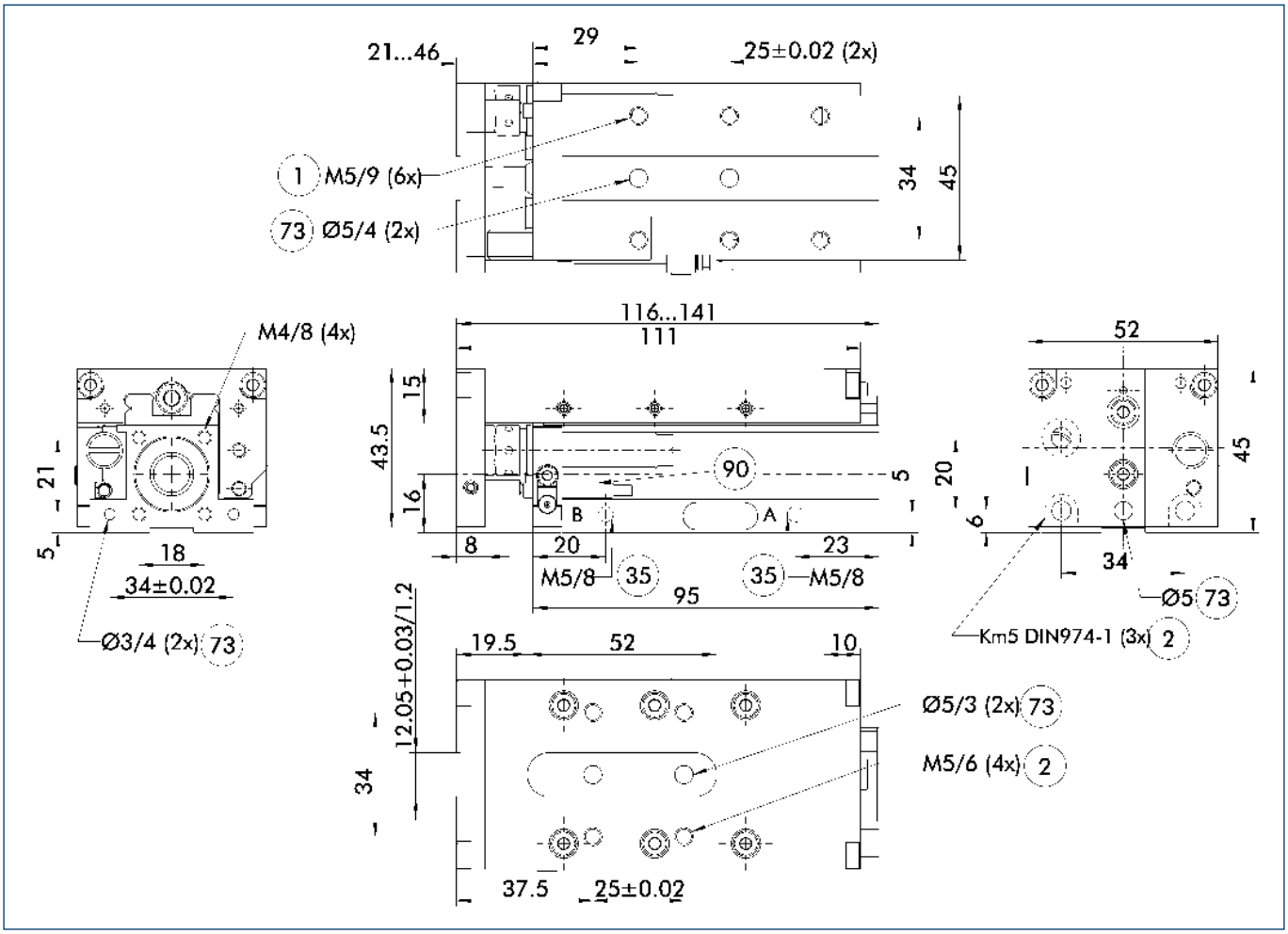
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		CLM 50-H025	CLM 50-H050	CLM 50-H075	CLM 50-H100
ID		0314038	0314039	0314040	0314502
Stroke	[mm]	25	50	75	100
Extend force	[N]	120	120	120	120
Retracted force	[N]	103	103	103	103
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Piston diameter	[mm]	16	16	16	16
Bar diameter	[mm]	6	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	2	2	2	2
Overall length	[mm]	116	156	191	231
Protection class IP		40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Weight	[kg]	0.76	0.98	1.16	1.36
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	34	34	34	34
Moments M_x max./M_y max./M_z max.	[Nm]	14/11.6/5.8	17/15.1/7.55	20/18.6/9.3	23/22.1/11.05
Forces F_z max.	[N]	407	372	338	328
Options and their characteristics					
Rod lock version			CLM 50-H050-ASP	CLM 50-H075-ASP	CLM 50-H100-ASP
ID			0314439	0314440	0314505
Stroke loss of nominal stroke (on the rod side)	[mm]		10	10	10
Weight	[kg]		1.01	1.19	1.39
Static holding force	[N]		180	180	180
Max. axial backlash of the clamping	[mm]		0.2	0.2	0.2
Min. release air pressure	[bar]		3	3	3

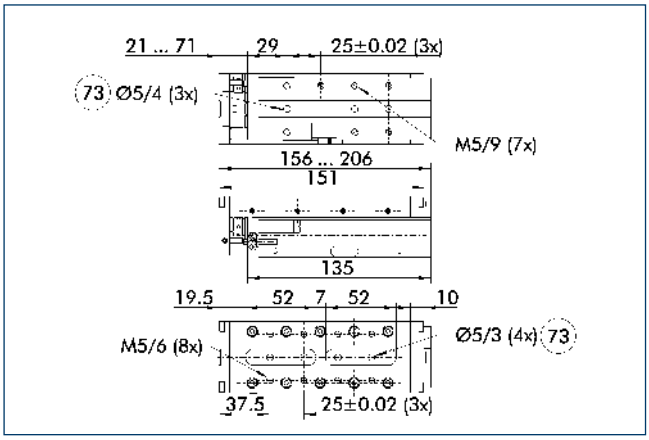
Main view CLM 50-H025



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection - linear unit extended
B Main connection - linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(35) Back side
(73) Fit for centering pins
(90) Inductive proximity switches

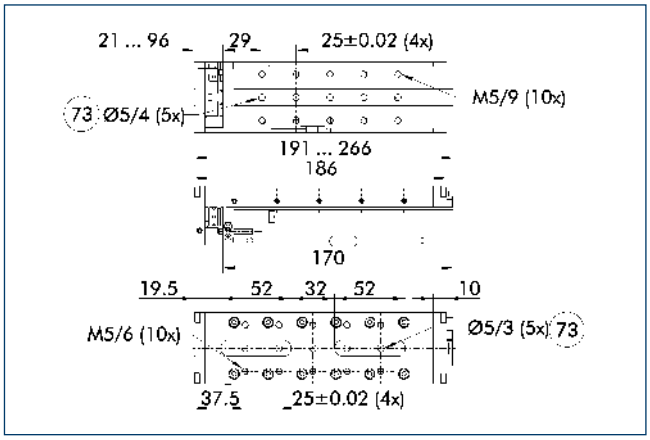
Variant CLM 50-H050



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

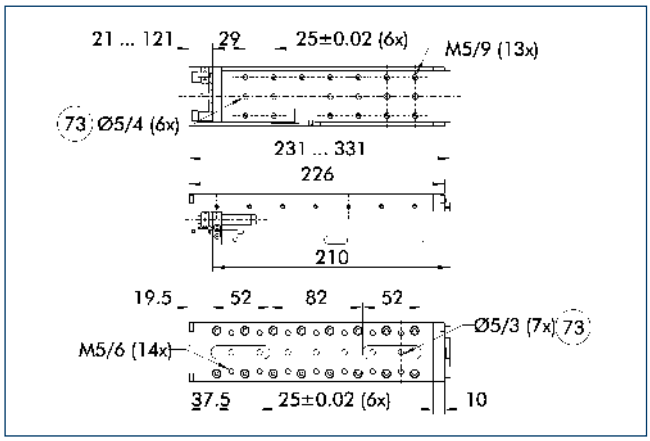
Variant CLM 50-H075



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

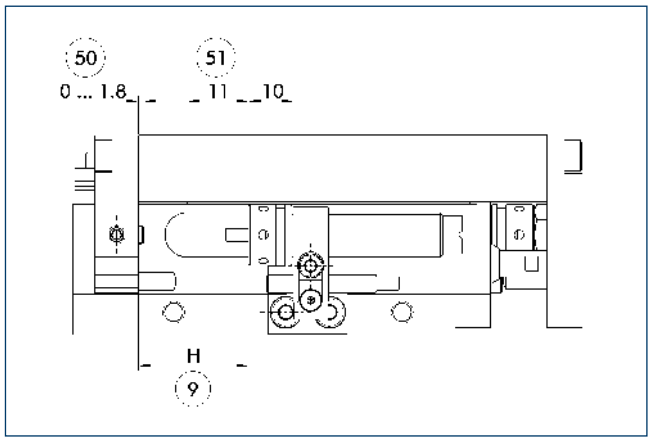
Variant CLM 50-H100



73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

Fine adjustment, on the piston side



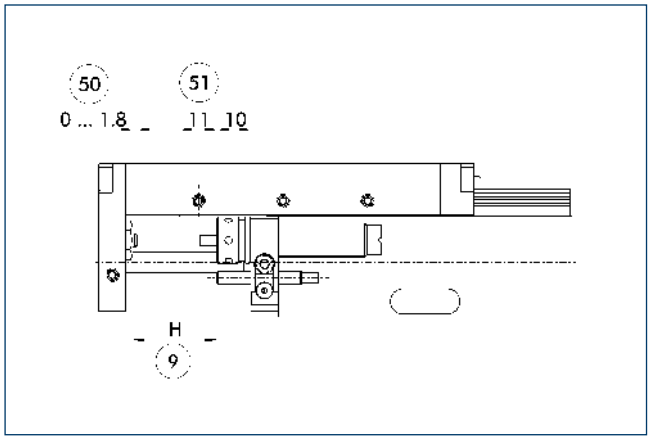
9 Effective stroke

50 Damping stroke adjustment range

51 Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

Fine adjustment, on the piston rod side



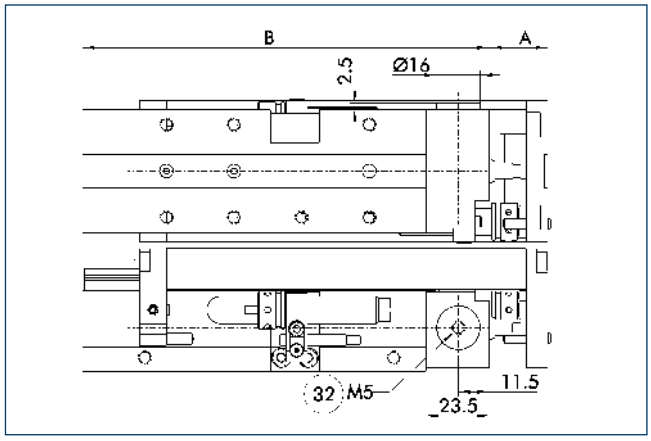
9 Effective stroke

50 Damping stroke adjustment range

51 Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

Rod lock

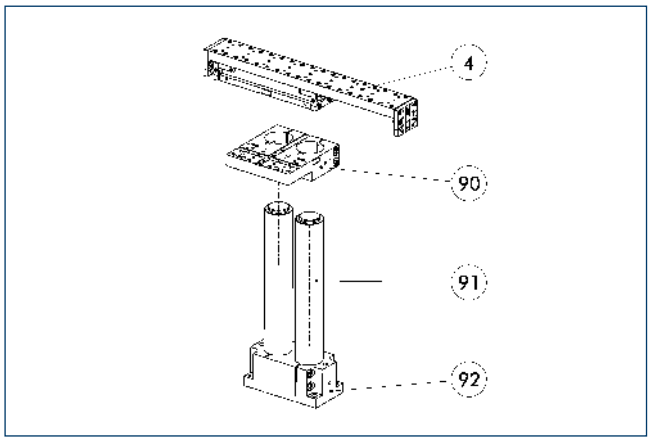


32 Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A	B	
	[mm]	[mm]	
CLM 50-H050-ASP	15.5	150.5	
CLM 50-H075-ASP	15.5	185.5	
CLM 50-H100-ASP	15.5	225.5	

Attachment to a pillar assembly system

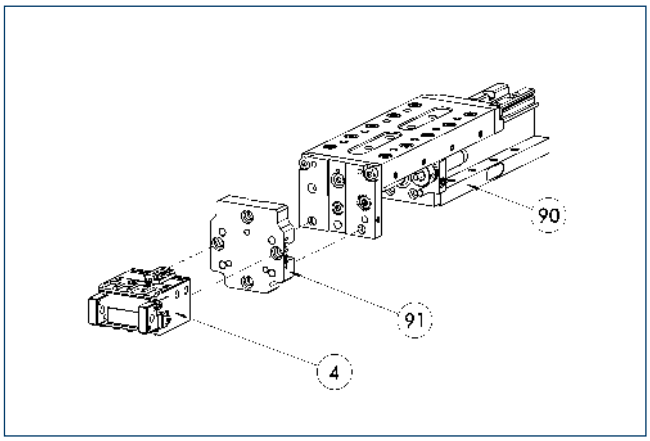


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system media feed-through			
SPL 50	0313692		
Pillar assembly system mounting plates			
APDH 35	0313894	35	Aluminum
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 35	0313893	35	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

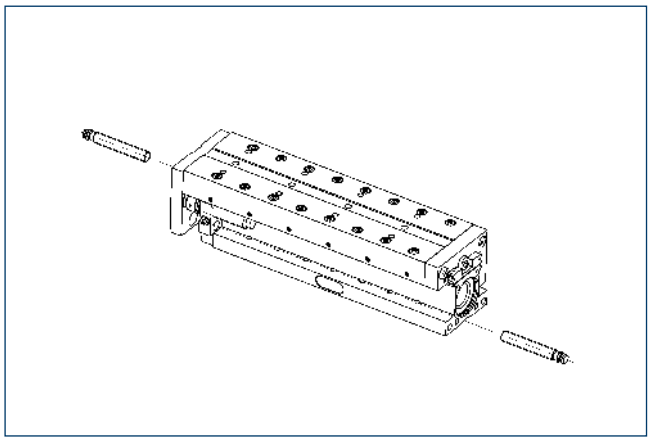
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

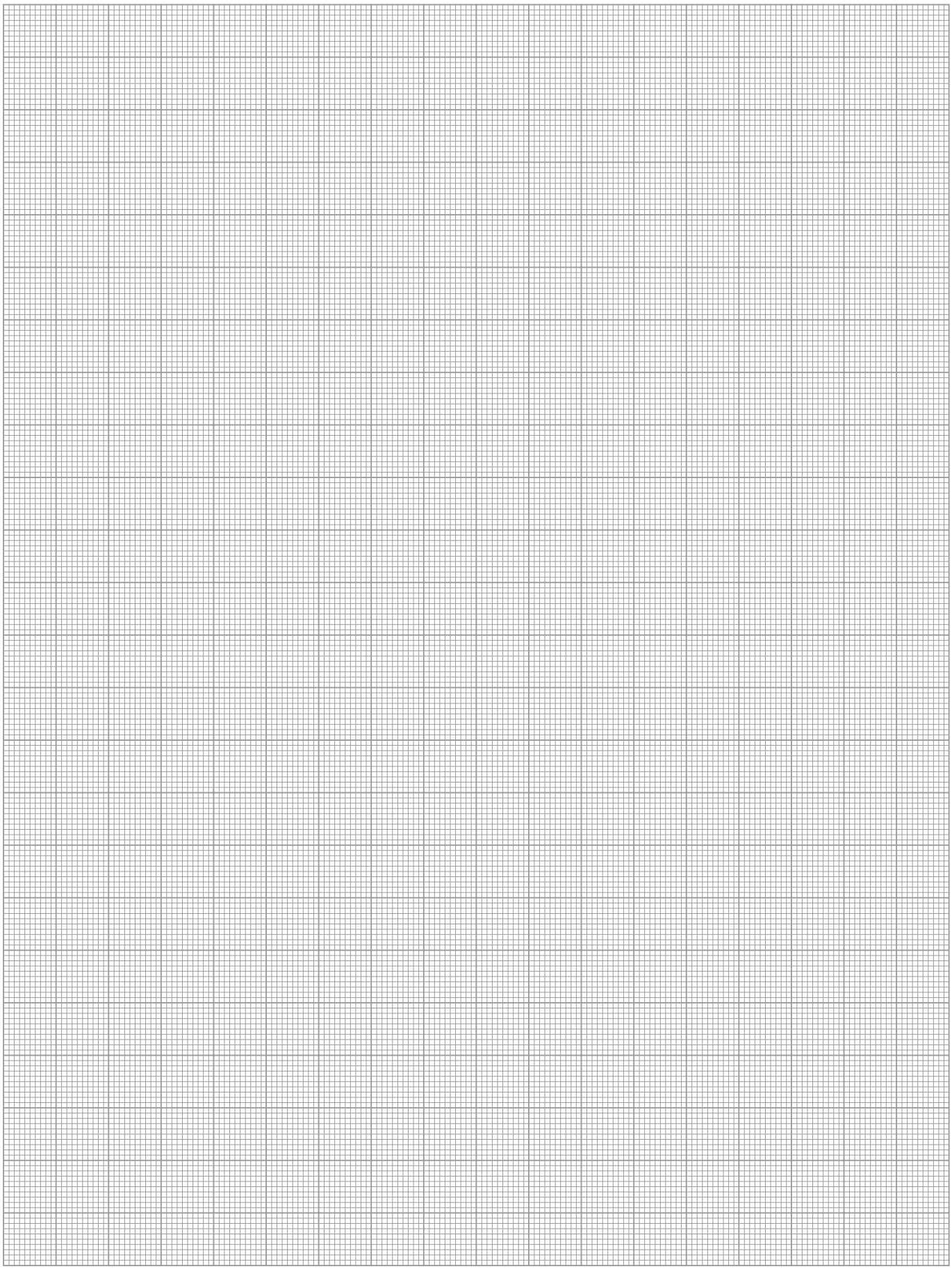
Inductive proximity switches



Directly mounted end position monitoring.

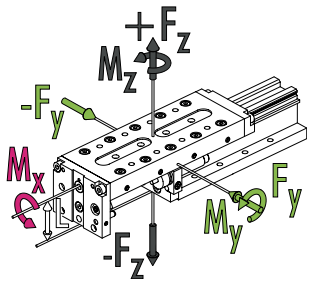
Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.





Forces and moments



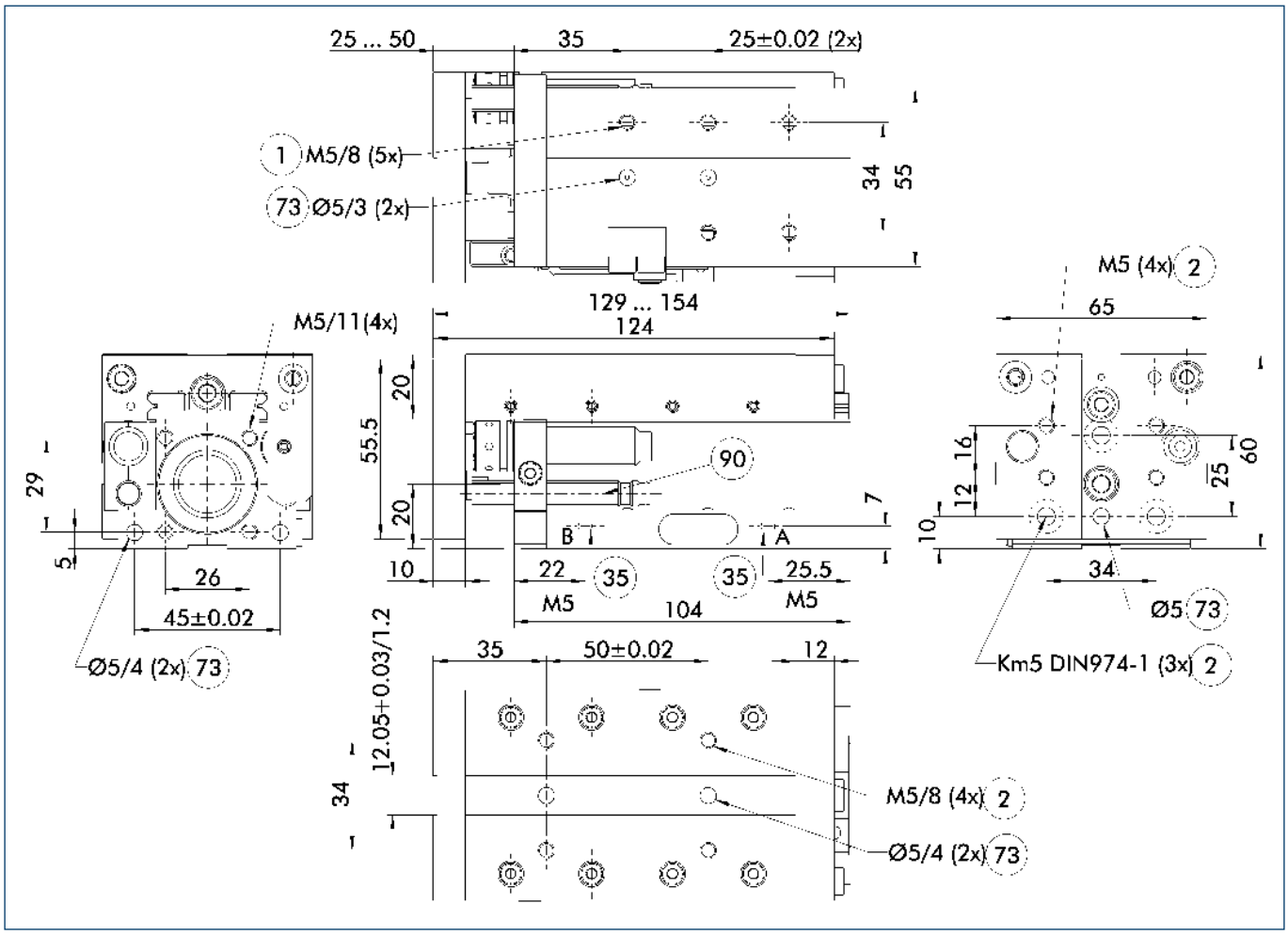
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		CLM 100-H025	CLM 100-H050	CLM 100-H075	CLM 100-H100	CLM 100-H125	CLM 100-H150
ID		0314041	0314042	0314043	0314044	0314503	0314504
Stroke	[mm]	25	50	75	100	125	150
Extend force	[N]	294	294	294	294	294	294
Retracted force	[N]	247	247	247	247	247	247
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	25	25	25	25	25	25
Bar diameter	[mm]	10	10	10	10	10	10
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	4.9	4.9	4.9	4.9	4.9	4.9
Overall length	[mm]	129	167	204	242	317	317
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	1.45	1.75	2.1	2.4	3	3
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	44	44	44	44	44	44
Moments M_x max./M_y max./M_z max.	[Nm]	30/26.4/13.2	37/33.1/16.55	44/39.7/19.85	51/46.3/23.15	58/52.9/26.45	65/59.6/29.8
Forces F_z max.	[N]	835	750	695	665	645	630
Options and their characteristics							
Rod lock version			CLM 100-H050-ASP	CLM 100-H075-ASP	CLM 100-H100-ASP	CLM 100-H125-ASP	CLM 100-H150-ASP
ID			0314442	0314443	0314444	0314506	0314507
Stroke loss of nominal stroke (on the rod side)	[mm]		12	12	12	12	12
Weight	[kg]		1.82	2.17	2.47	3.07	3.07
Static holding force	[N]		350	350	350	350	350
Max. axial backlash of the clamping	[mm]		0.25	0.25	0.25	0.25	0.25
Min. release air pressure	[bar]		3	3	3	3	3

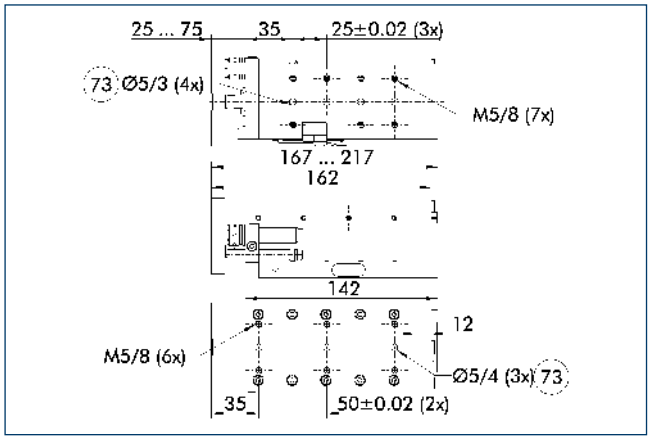
Main view CLM 100-H025



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection - linear unit extended
B Main connection - linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(35) Back side
(73) Fit for centering pins
(90) Inductive proximity switches

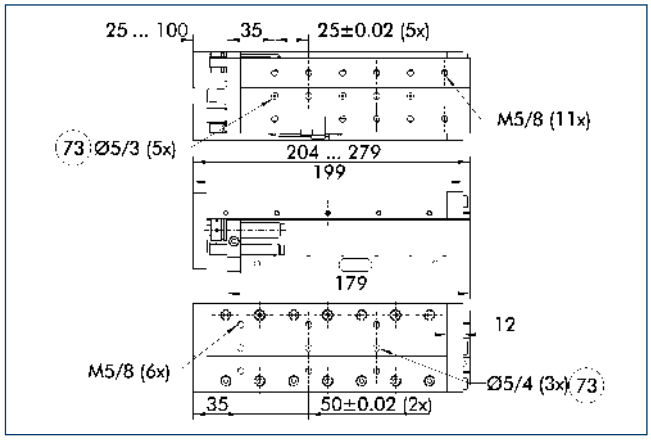
Variant CLM 100-H050



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

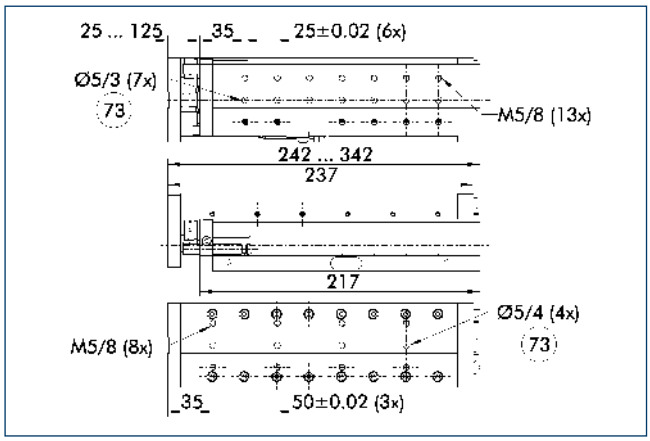
Variant CLM 100-H075



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

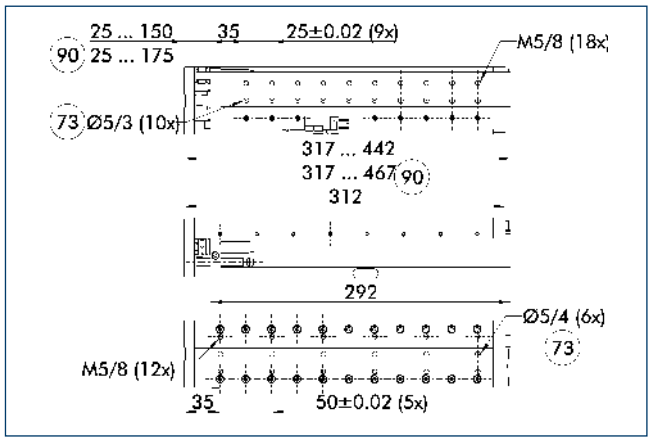
Variant CLM 100-H100



73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

Variant CLM 100-H125/150

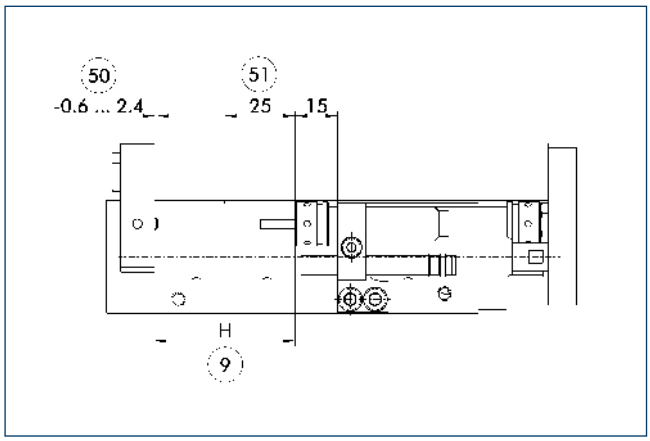


73 Fit for centering pins

90 Applicable stroke variant H150

Not all dimensions shown can be seen in the main view.

Fine adjustment, on the piston side



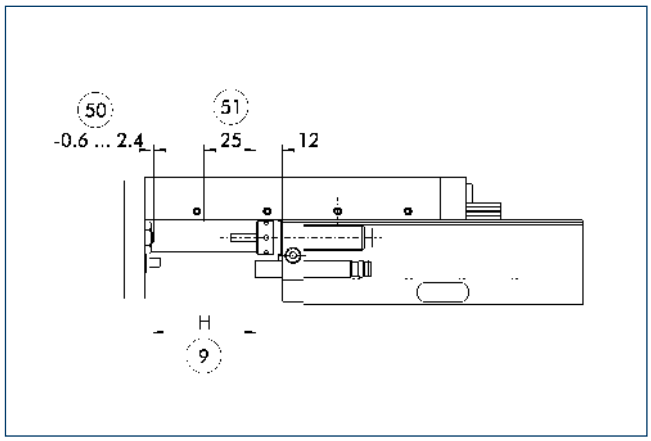
9 Effective stroke

51 Stroke adjustment range

50 Damping stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

Fine adjustment, on the piston rod side



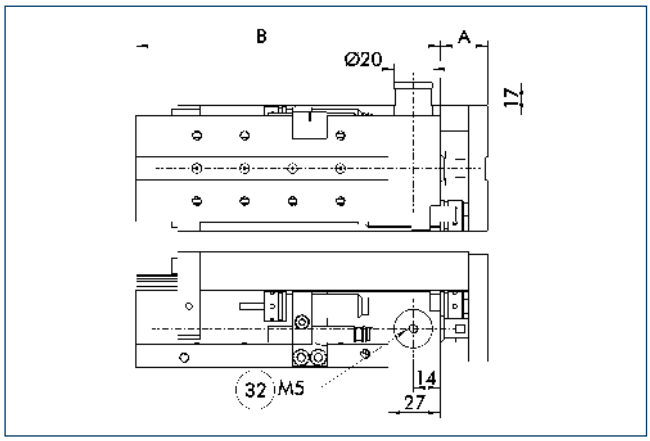
9 Effective stroke

51 Stroke adjustment range

50 Damping stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

Rod lock

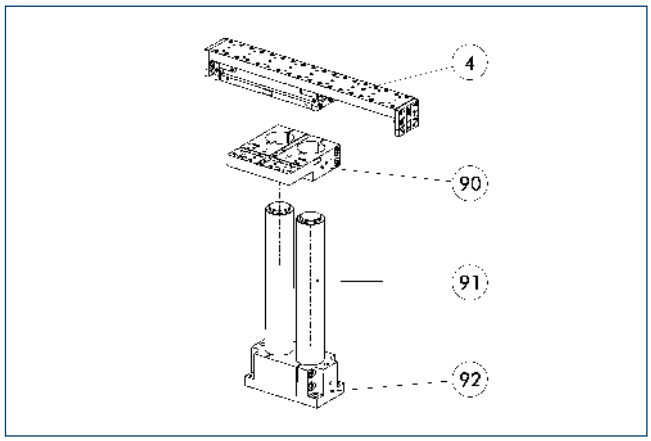


32 Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A	B	
	[mm]	[mm]	
CLM 100-H050-ASP	20	159	
CLM 100-H075-ASP	20	196	
CLM 100-H100-ASP	20	234	
CLM 100-H125-ASP	20	309	
CLM 100-H150-ASP	20	309	

Attachment to a pillar assembly system

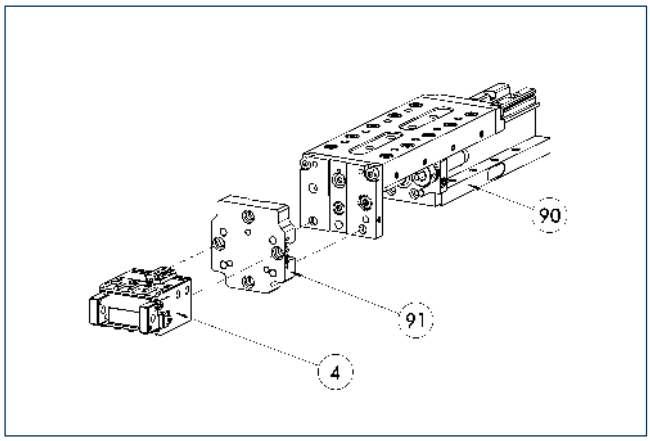


4 Linear unit
90 APDH double mounting plate
91 Pillars, hard-chromium plated, ground
92 SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system media feed-through			
SPL 50	0313692		
Pillar assembly system mounting plates			
APDH 35	0313894	35	Aluminum
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 35	0313893	35	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

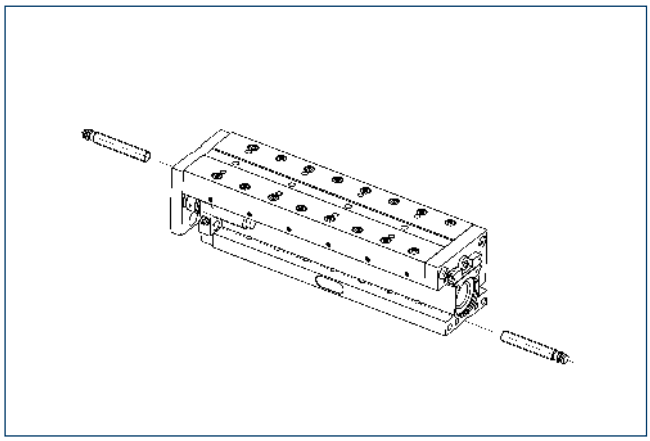
Modular assembly automation



4 Grippers
90 CLM/KLM/LM/ELM/ELS/HLM linear modules
91 ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

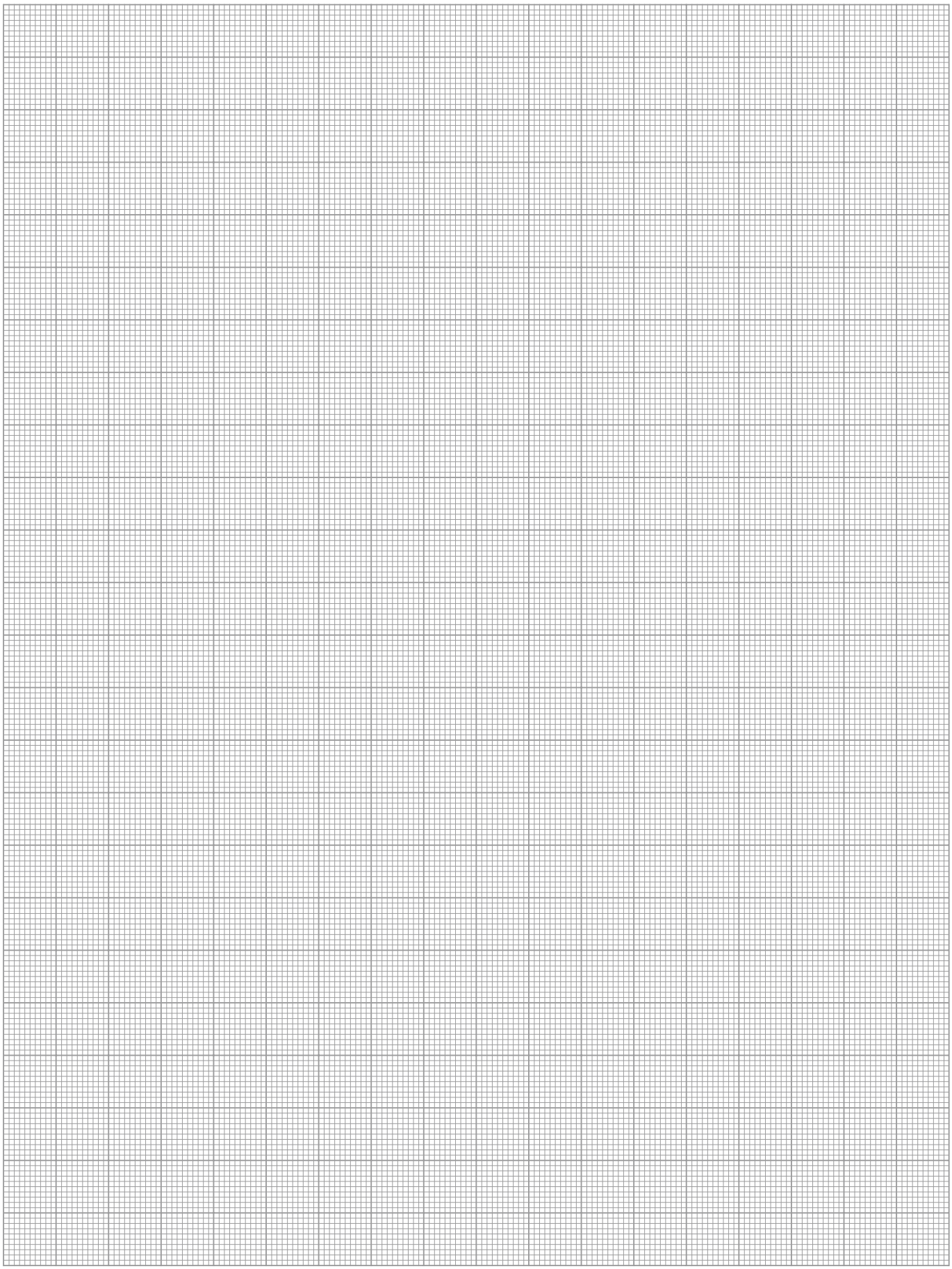
Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
NI 32	0313425	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

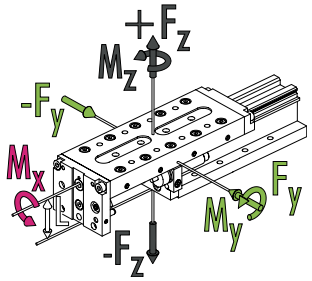
ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



CLM 200



Forces and moments



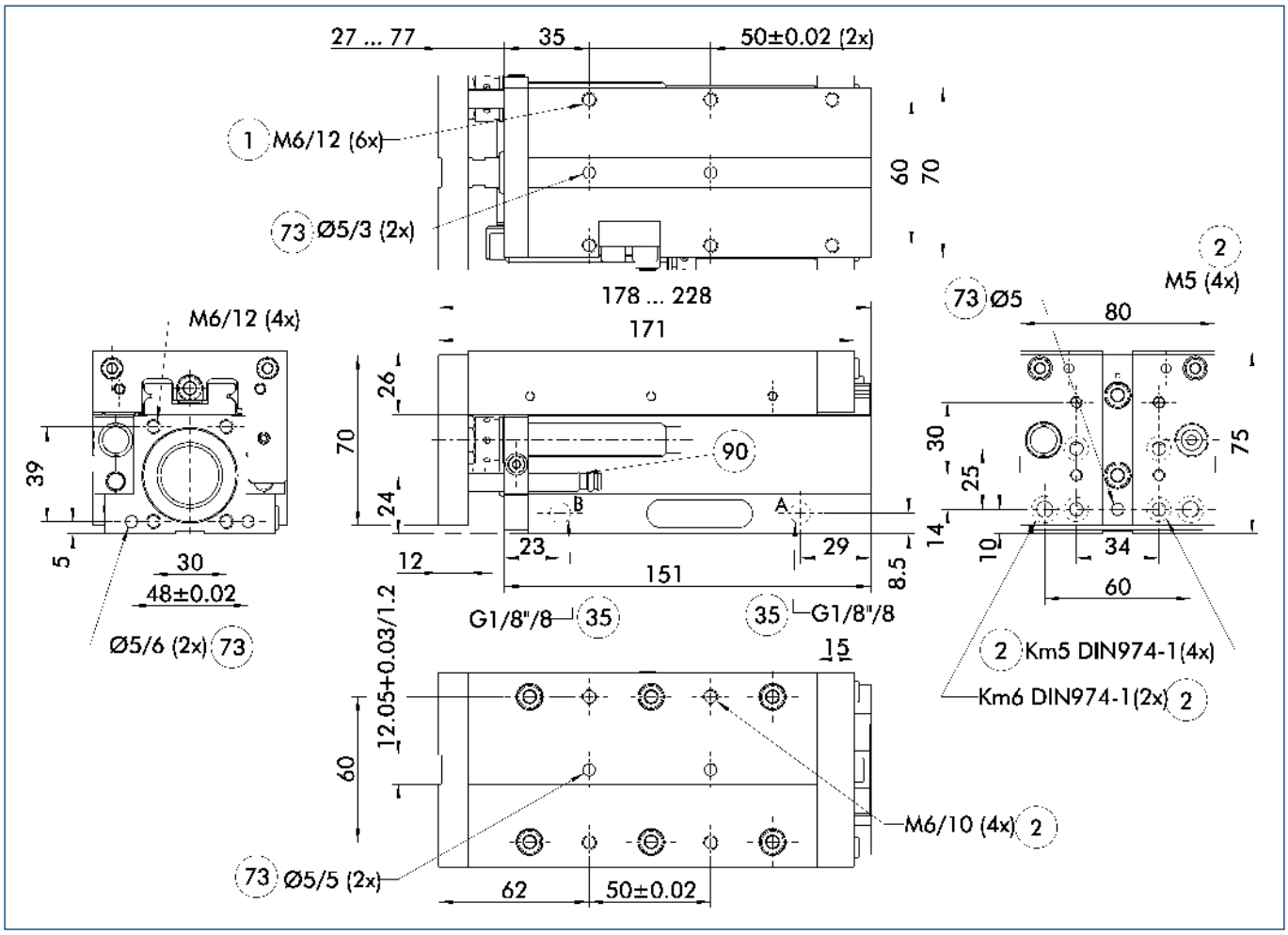
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		CLM 200-H050	CLM 200-H100	CLM 200-H150
ID		0314045	0314046	0314047
Stroke	[mm]	50	100	150
Extend force	[N]	482	482	482
Retracted force	[N]	415	415	415
Repeat accuracy	[mm]	0.02	0.02	0.02
Piston diameter	[mm]	32	32	32
Bar diameter	[mm]	12	12	12
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	8.04	8.04	8.04
Overall length	[mm]	178	252	328
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	3.1	4.15	5.25
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	56.5	56.5	56.5
Moments M_x max./M_y max./M_z max.	[Nm]	50/63/31.5	72/90/45	94/117/58.5
Forces F_z max.	[N]	1250	1185	1160
Options and their characteristics				
Rod lock version			CLM 200-H100-ASP	CLM 200-H150-ASP
ID			0314446	0314447
Stroke loss of nominal stroke (on the rod side)	[mm]		15	15
Weight	[kg]		4.22	5.32
Static holding force	[N]		600	600
Max. axial backlash of the clamping	[mm]		0.25	0.25
Min. release air pressure	[bar]		3	3

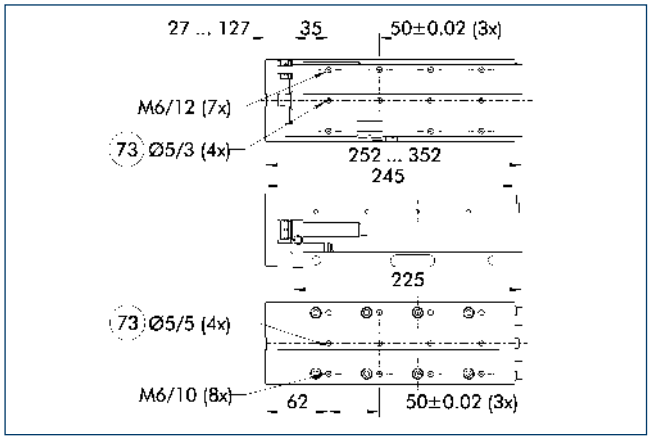
Main view CLM 200-H050



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection - linear unit extended
B Main connection - linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(35) Back side
(73) Fit for centering pins
(90) Inductive proximity switches

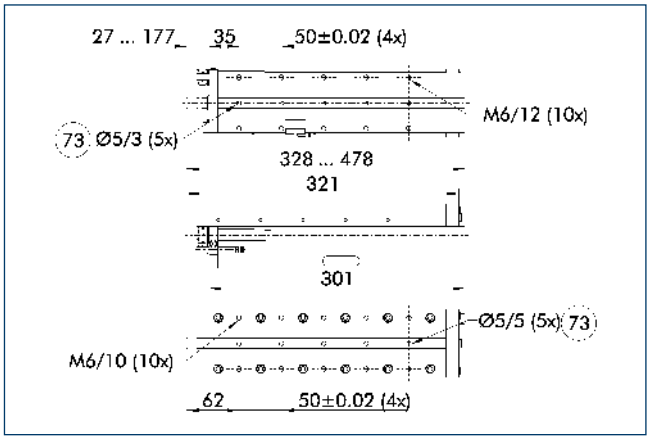
Variant CLM 200-H100



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

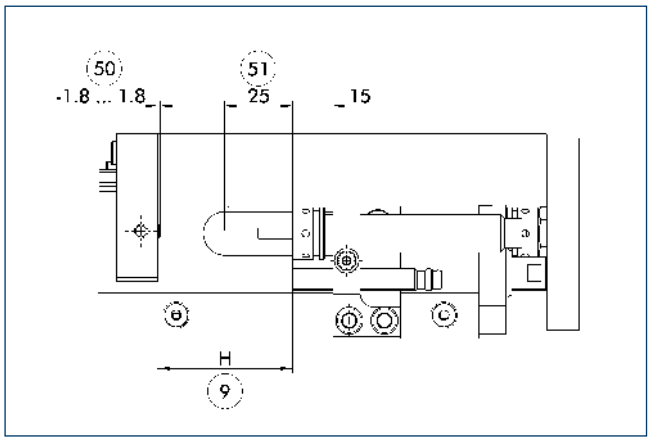
Variant CLM 200-H150



(73) Fit for centering pins

Not all dimensions shown can be seen in the main view.

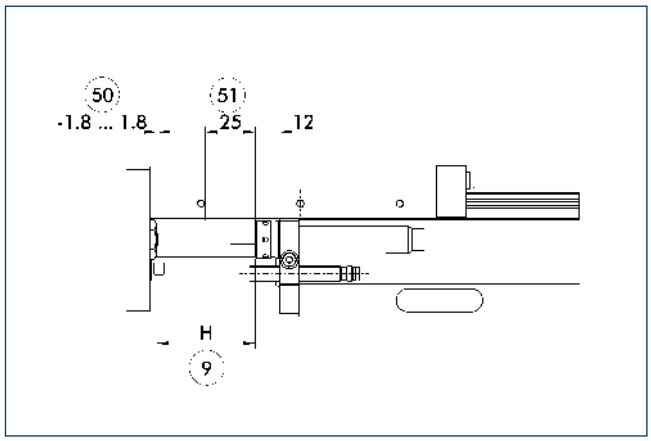
Fine adjustment, on the piston side



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

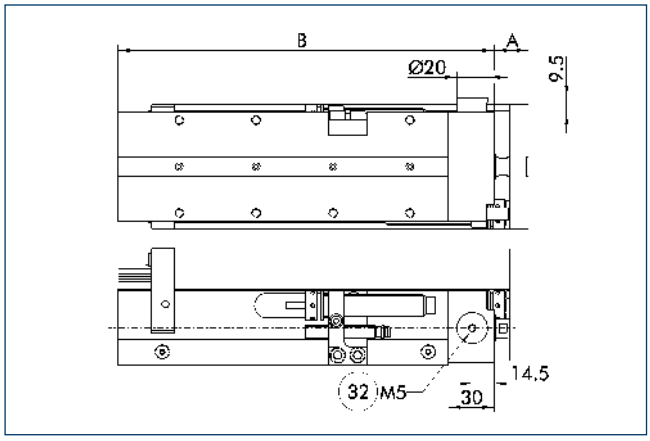
Fine adjustment, on the piston rod side



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

Rod lock

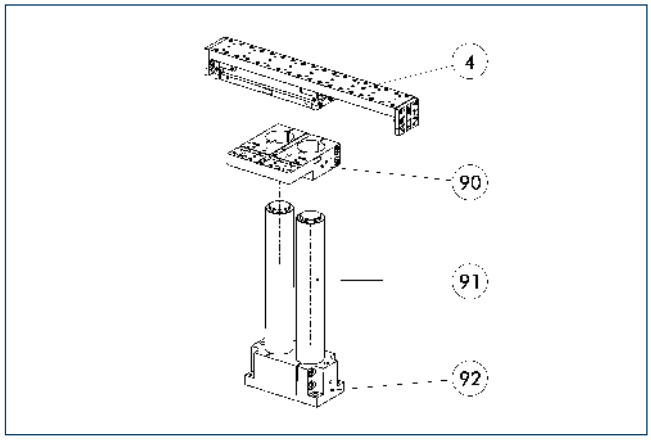


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A	B	
	[mm]	[mm]	
CLM 200-H100-ASP	22	245	
CLM 200-H150-ASP	22	321	

Attachment to a pillar assembly system

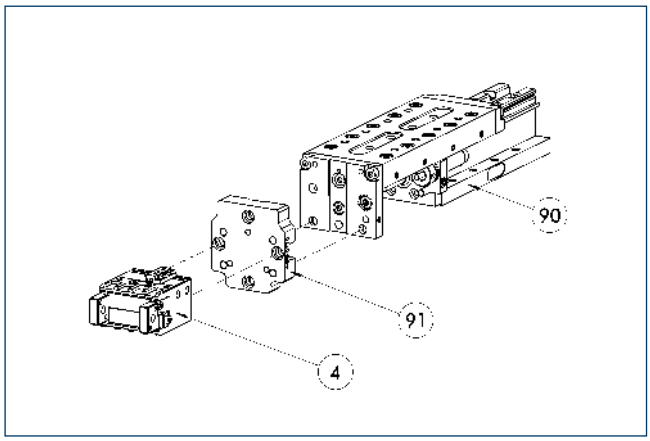


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system media feed-through			
SPL 200	0313693		
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 85	0313416	55	Aluminum
APEH 85	0313413	55	Aluminum
APEV 85	0313415	55	Aluminum

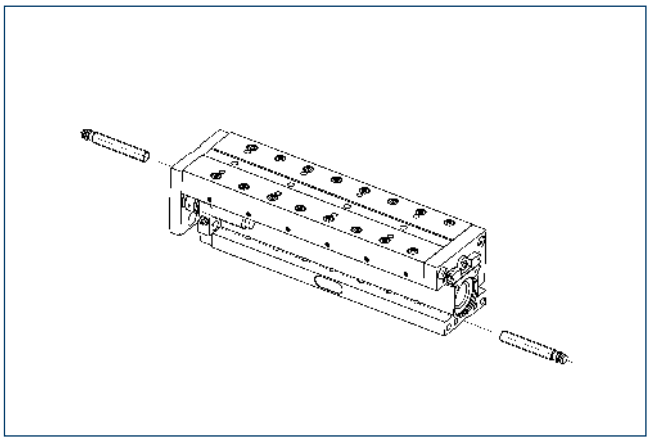
Modular assembly automation



(4) Grippers
(91) ASG adapter plate
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Reliable. Precise. Modular.

LM Universal Linear Module

With pneumatic drive and scope-free pretensioned crossed roller bearings, guided in prism rails.

Field of Application

For use in clean environments, such as assembly and testing systems. Optimum standard solution for high-precision applications.



Advantages – Your benefits

Closed slide construction for high rigidity

Shock absorbers and proximity switches integrated in the projecting surfaces for vibration-free movements and end position monitoring

Compact dimensions for minimum interfering contours of the entire system

Pretensioned junction rollers that means absolutely scope-free

High basic load ratings in all load directions

Several intermediate positions possible for maximum flexibility in applications

Standardized mounting bores for numerous combinations with other components from the modular system

Rod lock by means of clamping cartridge for safety in case of emergency stops

Sizes	Weight	Driving force	Stroke	Repeat accuracy
Quantity: 5	0.44 .. 15.81 kg	67 .. 753 N	13 .. 450 mm	0.01 .. 0.02 mm

Functional Description

The slide is guided with pretensioned crossed rollers at the base body and driven with a double-acting pneumatic cylinder which is integrated in the base body.



① **Cross roller guidance**
Pretensioned and scope-free

② **Drive**
Powerful piston rod cylinders

③ **Mounting pattern**
Completely integrated in the module system

④ **Damping adjustment**
Adjustment of the damping characteristics

⑤ **End position adjustability**
Convenient adjustment using the shock absorber threads

⑥ **Sensor system**
with sensor driver for convenient adjustment

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Housing material: Aluminum alloy, anodized

Guidance: Scope-free, pretensioned junction rollers

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Scope of delivery: Shock absorber and driver for proximity switch

Warranty: 24 months

Repeat accuracy: is defined as the distribution of the end positions for 100 consecutive cycles.

Travel times: are pure movement times of the slide or the base body. Valve switching times, hose filling times, or PLC reaction times are not a part of this and are to be considered when cycle times are calculated.

Stroke: is the maximum nominal stroke of the unit. This can be shortened on both sides by the shock absorbers.

Layout or control calculation: For layout or sizing of the modules, we recommend using our software TOOLBOX, which can be downloaded online. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Application Example

Pneumatic three-axis handling unit with third vertical position and gripper.

1. SOE Single Base Support
2. SLH Hollow Pillar
3. APEH Single Mounting Plate
4. LM Linear Module
5. APL Adapter Plate
6. Linear Modules with Intermediate Stop
7. ASG Adapter
8. PGN-plus Universal Gripper



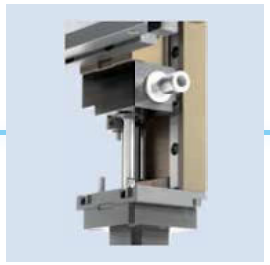
SCHUNK offers more ...

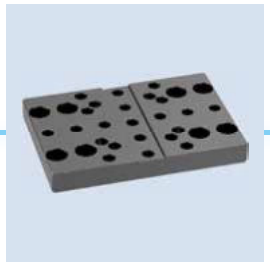
The following components make the product LM even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.




ZZA Intermediate Stop


LMZAW Intermediate Stop


Rod Lock


Adapter Plates


SAS Pillar Assembly System


NI Proximity Switches


Sensor Cables


Fittings


SDV-P Pressure Maintenance Valve


LMZL Centering Strip

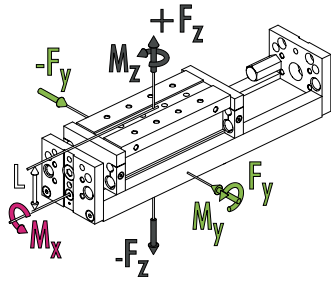
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Version rod lock: Prevents the structure from falling in the event of a sudden loss of energy. This module can be combined as standard with many elements from the modular system. We can assist you with questions.



Forces and moments



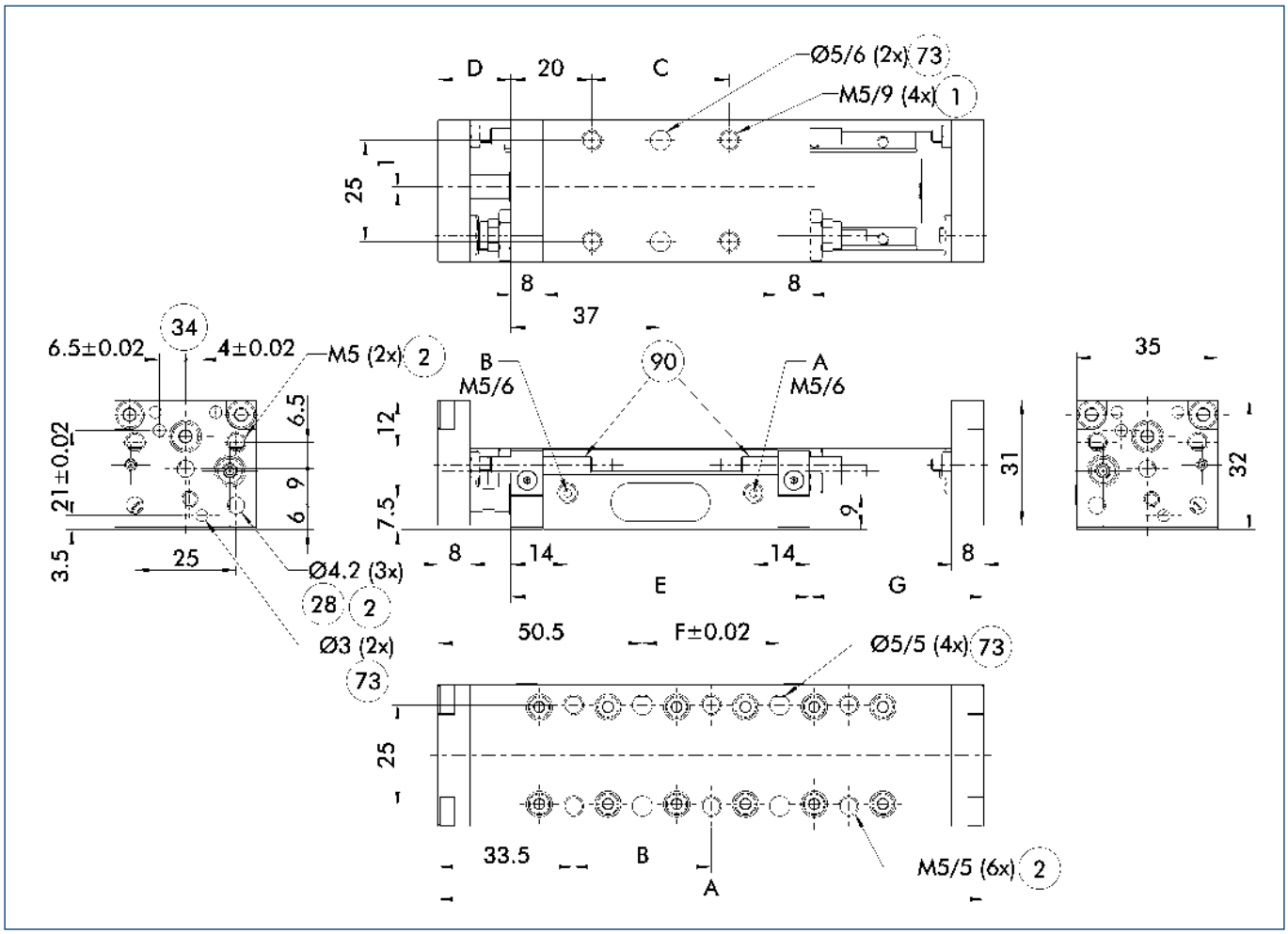
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		LM 25-H025	LM 25-H042	LM 25-H059
ID		0314050	0314051	0314052
Stroke	[mm]	25	42	59
Extend force	[N]	67	67	67
Retracted force	[N]	50	50	50
Repeat accuracy	[mm]	0.01	0.01	0.01
Piston diameter	[mm]	12	12	12
Bar diameter	[mm]	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	1.13	1.13	1.13
Overall length	[mm]	135	169	203
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	0.44	0.52	0.6
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	23	23	23
Moments M_x max./M_y max./M_z max.	[Nm]	4.4/4.7/2.35	5.25/5.7/2.85	6.1/6.7/3.35
Forces F_z max.	[N]	348	322	305

Main view



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection – linear unit extended

B Main connection – linear unit retracted

(1) Connection linear unit

(2) Attachment connection

(28) Through-hole

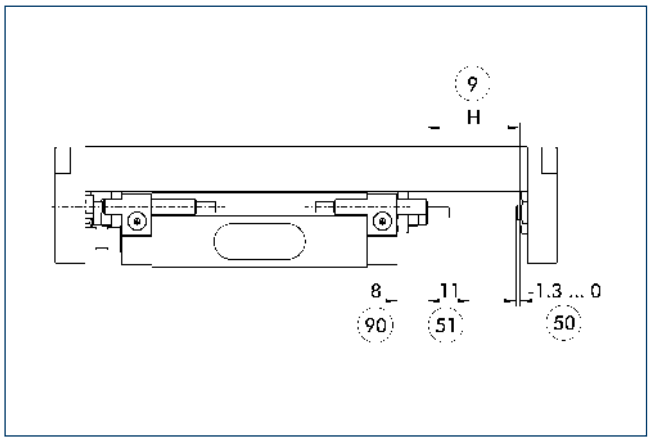
(34) On both sides

(73) Fit for centering pins

(90) Inductive proximity switches

Description	A	B	Quantity B	C	Quantity C	D	E	F	Quantity F	G
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]		[mm]
LM 25-H025	135	34	2	34	1	18	74	34	1	43
LM 25-H042	169	34	3	34	1	18	91	34	2	60
LM 25-H059	203	34	4	34	2	18	108	34	3	77

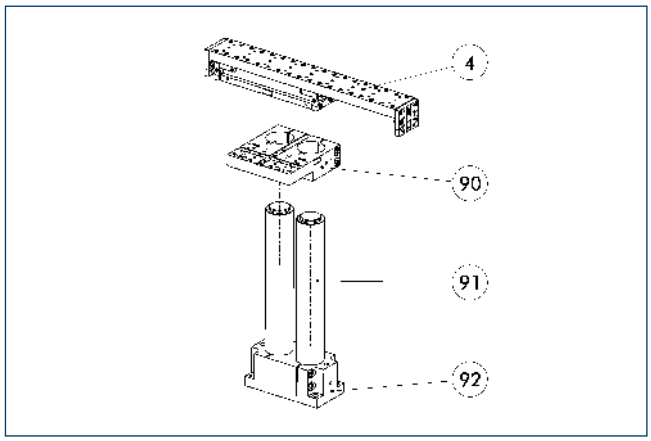
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

This illustration shows the possible fine adjustment of the stroke.

Attachment to a pillar assembly system

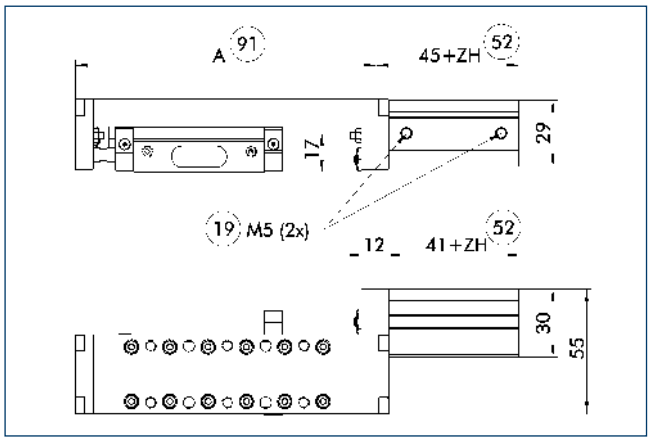


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 20	0313614	20	Aluminum
APDH 35	0313894	35	Aluminum
APDV 20	0313616	20	Aluminum
APDV 35	0313896	35	Aluminum
APEH 20	0313613	20	Aluminum
APEH 35	0313893	35	Aluminum
APEV 20	0313615	20	Aluminum
APEV 35	0313895	35	Aluminum

ZZA intermediate stop on the piston side



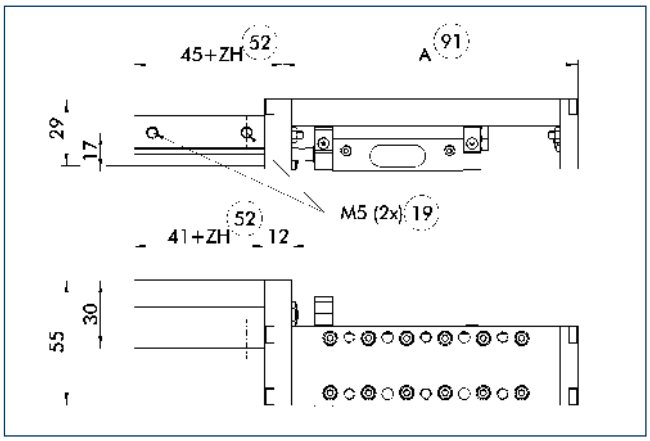
19 Air connection
52 Intermediate stroke
91 Overall length “A”, the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 26	54	0.2	0.002

ⓘ Sample order LM 25-H059-ZZA026-H15

ZZA intermediate stop on the piston rod side



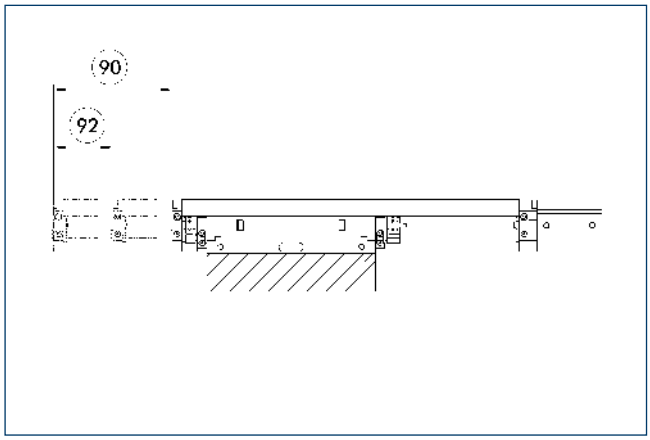
19 Air connection
52 Intermediate stroke
91 Overall length “A”, the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 27	54	0.2	0.002

ⓘ Sample order LM 25-H059-ZZA027-H15

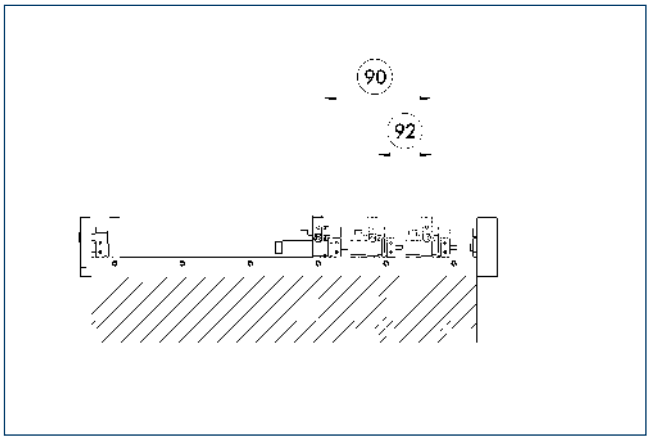
Design – variant 1



90 Nominal stroke
92 Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

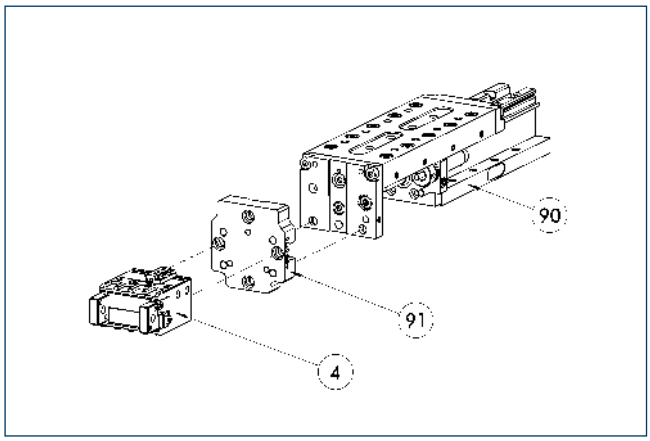
Design – variant 2



90 Nominal stroke
92 Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

Modular assembly automation



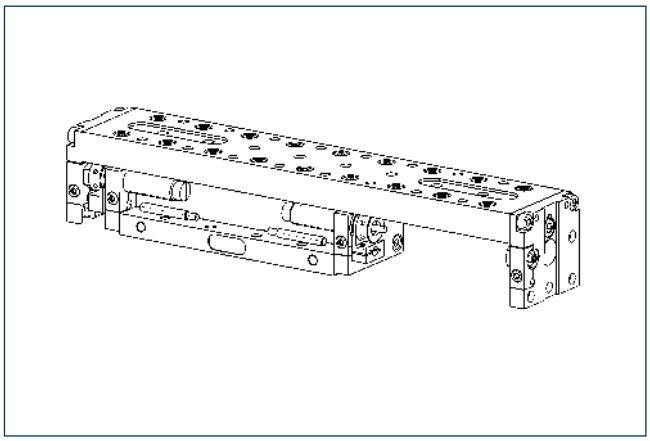
(4) Grippers

(91) ASG adapter plate

(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



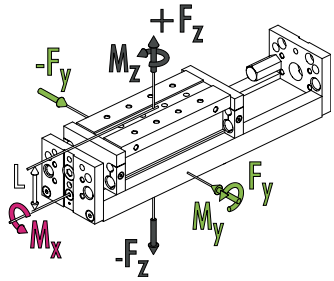
Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



Forces and moments



For values see technical data table

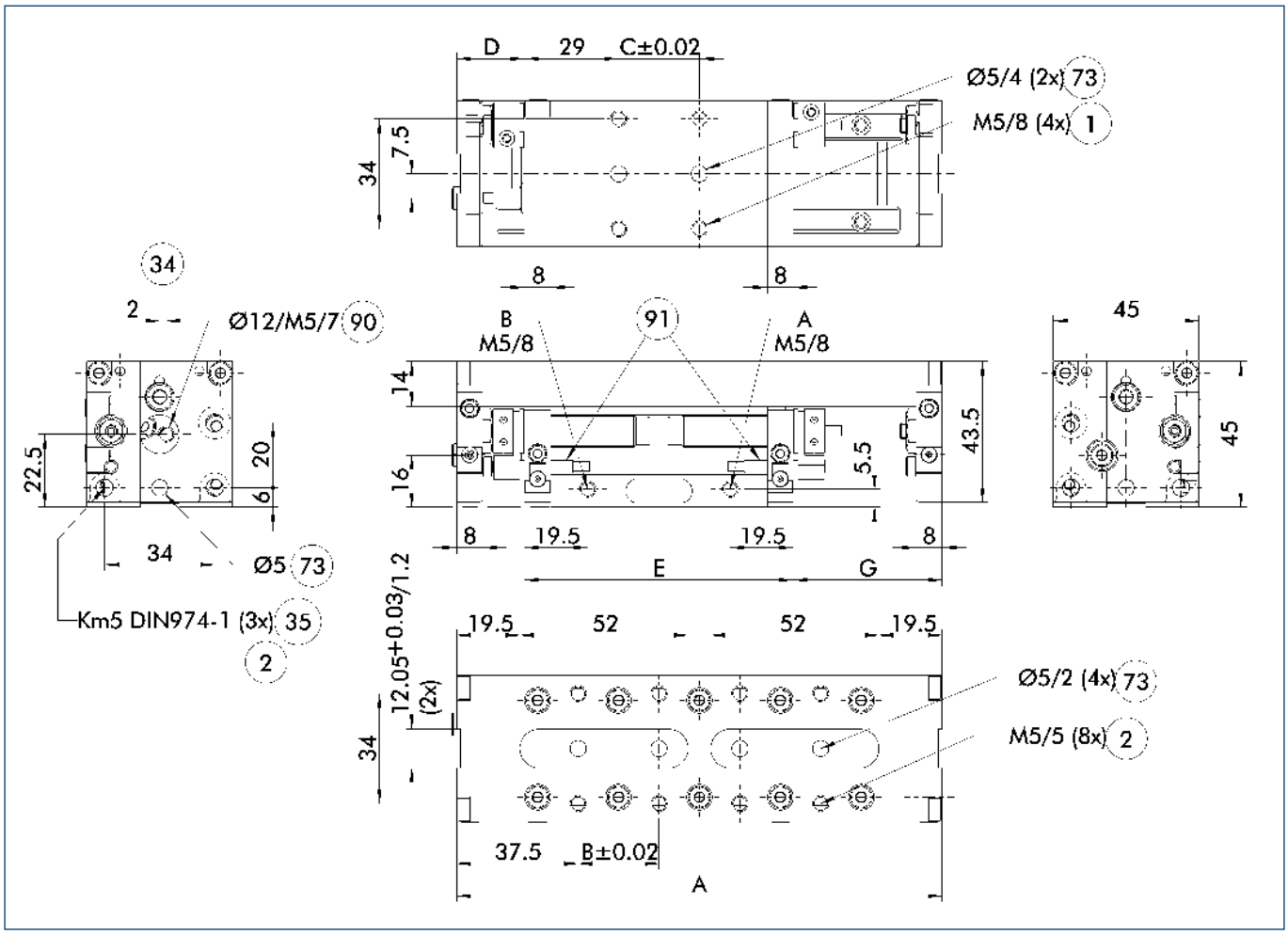
ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		LM 50-H013	LM 50-H025	LM 50-H038	LM 50-H050	LM 50-H063	LM 50-H075
ID		0314053	0314054	0314055	0314056	0314057	0314058
Stroke	[mm]	13	25	38	50	63	75
Extend force	[N]	120	120	120	120	120	120
Retracted force	[N]	103	103	103	103	103	103
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	16	16	16	16	16	16
Bar diameter	[mm]	6	6	6	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	2	2	2	2	2	2
Overall length	[mm]	150	150	200	200	250	250
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	0.88	0.88	1.06	1.06	1.24	1.24
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	35	35	35	35	35	35
Moments M_x max./M_y max./M_z max.	[Nm]	10.5/11.6/5.8	10.5/11.6/5.8	13/15.1/7.55	13/15.1/7.55	15.5/18.6/9.3	15.5/18.6/9.3
Forces F_z max.	[N]	806	806	705	705	656	656
Options and their characteristics							
Rod lock version			LM 50-H025-ASP	LM 50-H038-ASP	LM 50-H050-ASP	LM 50-H063-ASP	LM 50-H075-ASP
ID			0314454	0314455	0314456	0314457	0314458
Stroke loss of nominal stroke (on the rod side)	[mm]		10	10	10	10	10
Weight	[kg]		0.91	1.09	1.09	1.27	1.27
Static holding force	[N]		180	180	180	180	180
Max. axial backlash of the clamping	[mm]		0.2	0.2	0.2	0.2	0.2
Min. release air pressure	[bar]		3	3	3	3	3

Description		LM 50-H088	LM 50-H100
ID		0314059	0314060
Stroke	[mm]	88	100
Extend force	[N]	120	120
Retracted force	[N]	103	103
Repeat accuracy	[mm]	0.02	0.02
Piston diameter	[mm]	16	16
Bar diameter	[mm]	6	6
Min./max. operating pressure	[bar]	3/8	3/8
Nominal operating pressure	[bar]	6	6
Fluid consumption/10 mm stroke	[cm³]	2	2
Overall length	[mm]	300	300
Protection class IP		40	40
Min./max. ambient temperature	[°C]	5/60	5/60
Weight	[kg]	1.42	1.42
Drive concept		Piston rod cylinders	Piston rod cylinders
Length L	[mm]	35	35
Moments M_x max./M_y max./M_z max.	[Nm]	18/22/11	18/22/11
Forces F_z max.	[N]	627	627
Options and their characteristics			
Rod lock version		LM 50-H088-ASP	LM 50-H100-ASP
ID		0314459	0314460
Stroke loss of nominal stroke (on the rod side)	[mm]	10	10
Weight	[kg]	1.45	1.45
Static holding force	[N]	180	180
Max. axial backlash of the clamping	[mm]	0.2	0.2
Min. release air pressure	[bar]	3	3

Main view



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection – linear unit extended

B Main connection – linear unit retracted

(1) Connection linear unit

(2) Attachment connection

(34) On both sides

(35) Back side

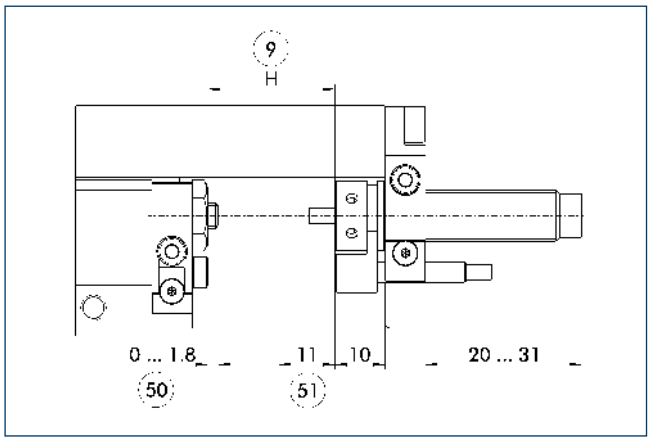
(73) Fit for centering pins

(90) Through-holes in the face plate and thread in the base body (only single sided)

(91) Inductive proximity switches

Description	A	B	Quantity B	C	Quantity C	D	E	G
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]
LM 50-H013	150	25	3	25	1	21	83	46
LM 50-H025	150	25	3	25	1	21	83	46
LM 50-H038	200	25	5	25	2	21	108	71
LM 50-H050	200	25	5	25	2	21	108	71
LM 50-H063	250	25	7	25	3	21	133	96
LM 50-H075	250	25	7	25	3	21	133	96
LM 50-H088	300	25	9	25	4	21	158	121
LM 50-H100	300	25	9	25	4	21	158	121

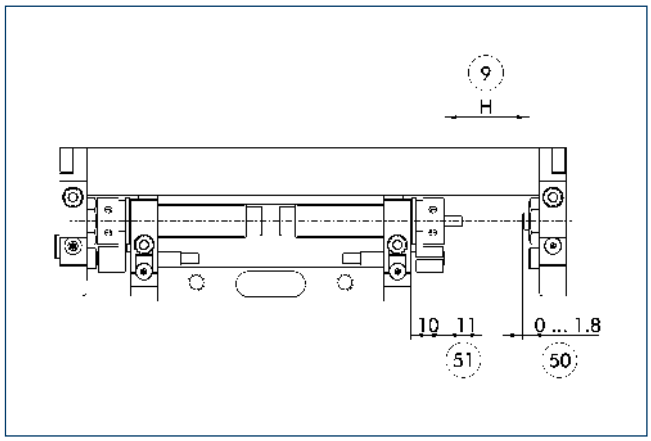
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the slide. This illustration shows the mounting on the slide and the possibility of stroke fine adjustment.

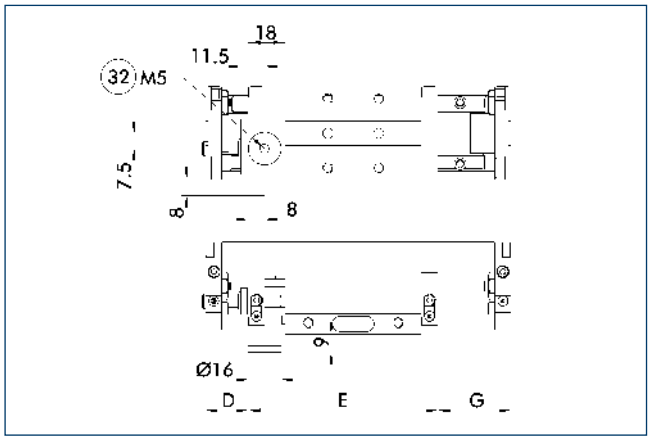
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the slide. This illustration shows the mounting on the base body and the possibility of stroke fine adjustment.

Rod lock

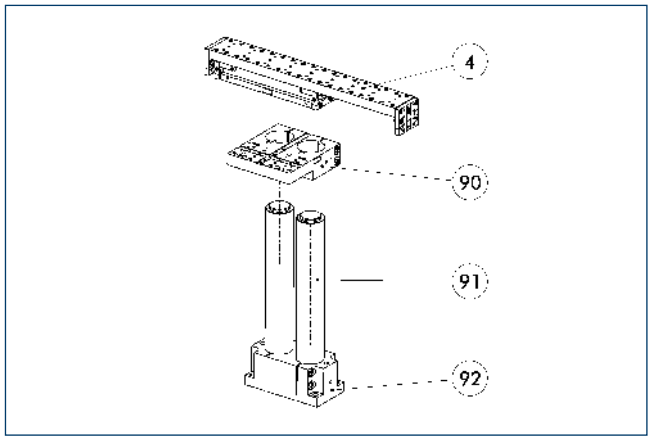


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop situations. The rod lock can also be retrofitted, but this will reduce the effective stroke.

Description	D	E	G
	[mm]	[mm]	[mm]
LM 50-H025-ASP	21	93	36
LM 50-H038-ASP	21	118	61
LM 50-H050-ASP	21	118	61
LM 50-H063-ASP	21	143	86
LM 50-H075-ASP	21	143	86
LM 50-H088-ASP	21	168	111
LM 50-H100-ASP	21	168	111

Attachment to a pillar assembly system

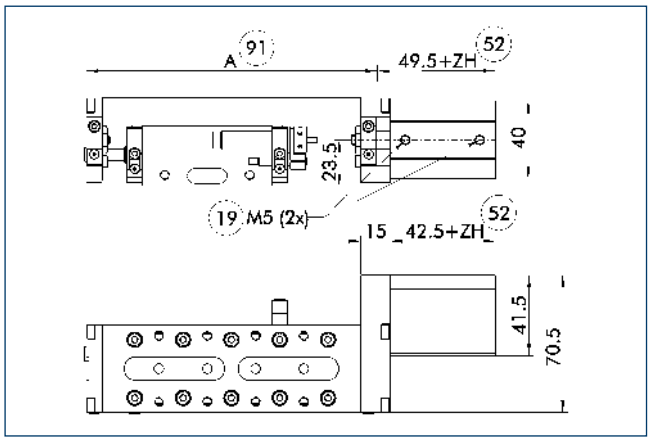


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system media feed-through			
SPL 50	0313692		
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 35	0313893	35	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

ZZA intermediate stop on the piston side



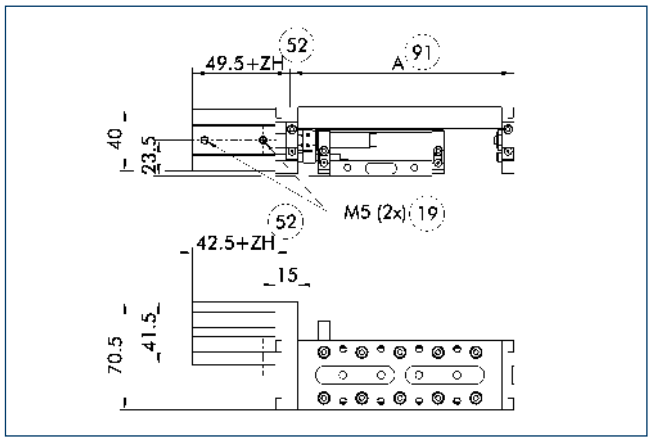
19 Air connection
52 Intermediate stroke
91 Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 51	175	0.35	0.003

ⓘ Sample order LM 50-H100-ZZA051-H30

ZZA intermediate stop on the piston rod side



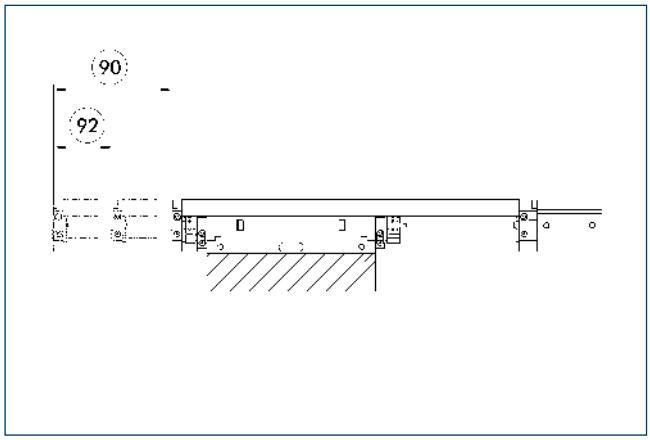
19 Air connection
52 Intermediate stroke
91 Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 52	175	0.35	0.003

ⓘ Sample order LM 50-H100-ZZA052-H30

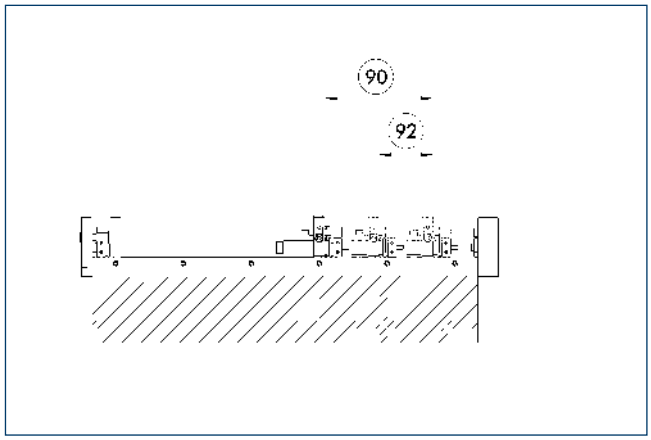
Design – variant 1



90 Nominal stroke
92 Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

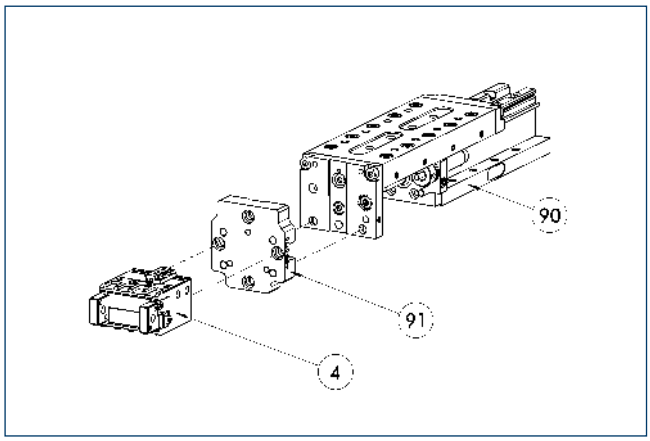
Design – variant 2



90 Nominal stroke
92 Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

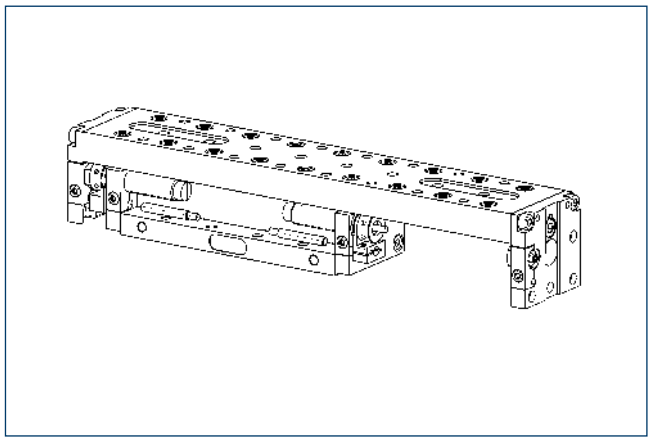
Modular assembly automation



(4) Grippers
(91) ASG adapter plate
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



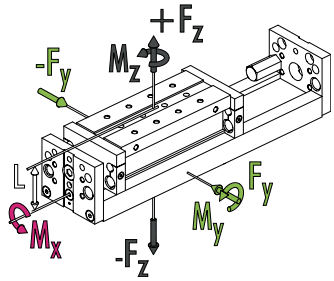
Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



Forces and moments



For values see technical data table

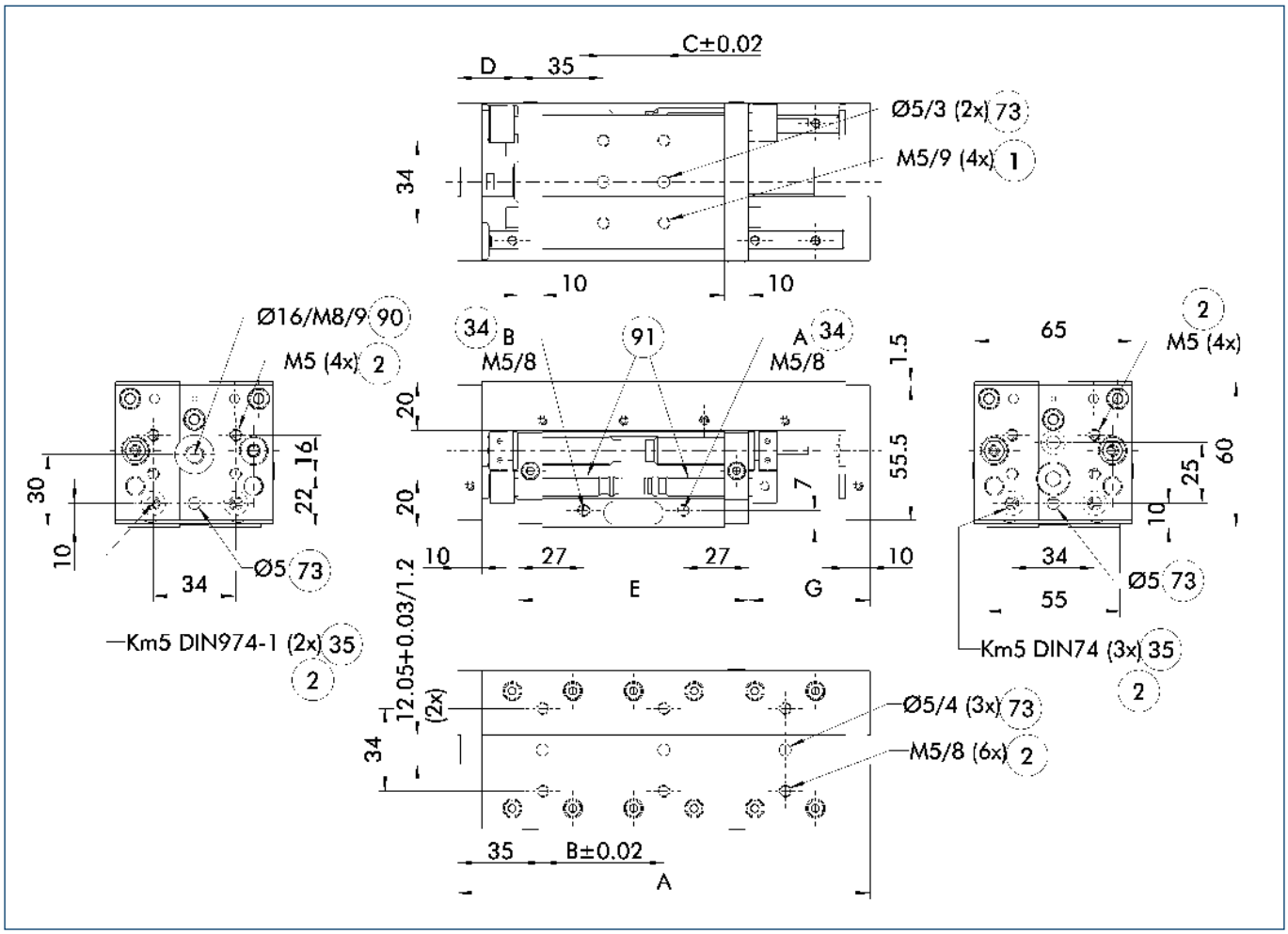
ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		LM 100-H025	LM 100-H050	LM 100-H075	LM 100-H100	LM 100-H125	LM 100-H150
ID		0314061	0314062	0314063	0314064	0314065	0314066
Stroke	[mm]	25	50	75	100	125	150
Extend force	[N]	294	294	294	294	294	294
Retracted force	[N]	226	226	226	226	226	226
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	25	25	25	25	25	25
Bar diameter	[mm]	12	12	12	12	12	12
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	4.9	4.9	4.9	4.9	4.9	4.9
Overall length	[mm]	170	270	270	370	370	470
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	1.9	2.6	2.6	3.3	3.3	4
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	44	44	44	44	44	44
Moments M_x max./M_y max./M_z max.	[Nm]	36/29.8/14.9	50/43/21.5	50/43/21.5	64/56.3/28.15	64/56.3/28.15	78/69.5/34.75
Forces F_z max.	[N]	1570	1352	1352	1264	1264	1216
Options and their characteristics							
Rod lock version		LM 100-H025-ASP	LM 100-H050-ASP	LM 100-H075-ASP	LM 100-H100-ASP	LM 100-H125-ASP	LM 100-H150-ASP
ID		0314461	0314462	0314463	0314464	0314465	0314466
Stroke loss of nominal stroke (on the rod side)	[mm]	12	12	12	12	12	12
Weight	[kg]	1.98	2.68	2.68	3.38	3.38	4.08
Static holding force	[N]	600	600	600	600	600	600
Max. axial backlash of the clamping	[mm]	0.25	0.25	0.25	0.25	0.25	0.25
Min. release air pressure	[bar]	3	3	3	3	3	3

Description		LM 100-H175	LM 100-H200	LM 100-H225
ID		0314067	0314068	0314069
Stroke	[mm]	175	200	225
Extend force	[N]	294	294	294
Retracted force	[N]	226	226	226
Repeat accuracy	[mm]	0.02	0.02	0.02
Piston diameter	[mm]	25	25	25
Bar diameter	[mm]	12	12	12
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	4.9	4.9	4.9
Overall length	[mm]	470	570	570
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	4	4.7	4.7
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	44	44	44
Moments M_x max./M_y max./M_z max.	[Nm]	78/69.5/34.75	92/82.8/41.4	92/82.8/41.4
Forces F_z max.	[N]	1216	1187	1187
Options and their characteristics				
Rod lock version		LM 100-H175-ASP	LM 100-H200-ASP	LM 100-H225-ASP
ID		0314467	0314468	0314469
Stroke loss of nominal stroke (on the rod side)	[mm]	12	12	12
Weight	[kg]	4.08	4.78	4.78
Static holding force	[N]	600	600	600
Max. axial backlash of the clamping	[mm]	0.25	0.25	0.25
Min. release air pressure	[bar]	3	3	3

Main view



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection – linear unit extended

B Main connection – linear unit retracted

(1) Connection linear unit

(2) Attachment connection

(34) On both sides

(35) Back side

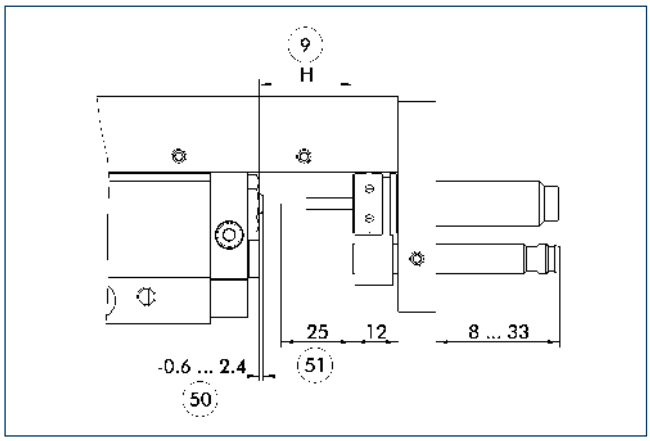
(73) Fit for centering pins

(90) Through-holes in the face plate and thread in the base body (only single sided)

(91) Inductive proximity switches

Description	A	B	Quantity B	C	Quantity C	D	E	G
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]
LM 100-H025	170	50	2	25	1	25	95	50
LM 100-H050	270	50	4	25	3	25	145	100
LM 100-H075	270	50	4	25	3	25	145	100
LM 100-H100	370	50	6	25	5	25	195	150
LM 100-H125	370	50	6	25	5	25	195	150
LM 100-H150	470	50	8	25	7	25	245	200
LM 100-H175	470	50	8	25	7	25	245	200
LM 100-H200	570	50	10	25	9	25	295	250
LM 100-H225	570	50	10	25	9	25	295	250

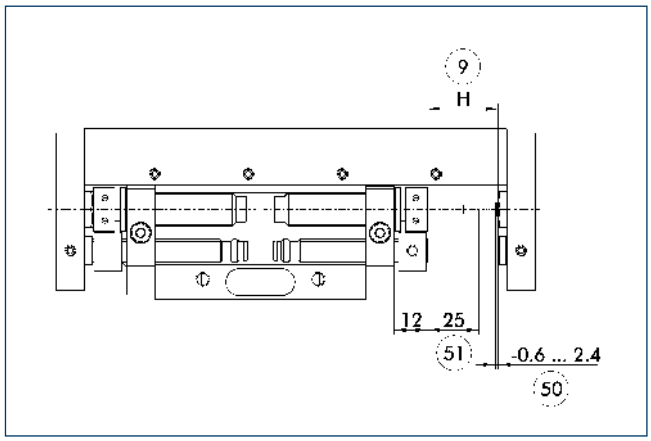
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the slide. This illustration shows the mounting on the slide and the possibility of stroke fine adjustment.

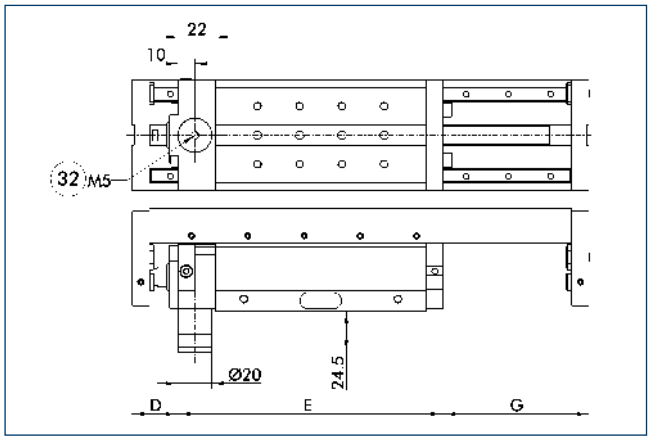
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the slide. This illustration shows the mounting on the base body and the possibility of stroke fine adjustment.

Rod lock

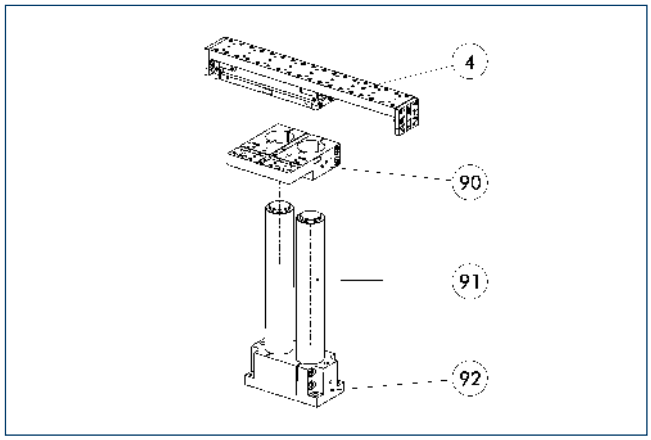


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop situations. The rod lock can also be retrofitted, but this will reduce the effective stroke.

Description	D	E	G
	[mm]	[mm]	[mm]
LM 100-H025-ASP	25	107	38
LM 100-H050-ASP	25	157	88
LM 100-H075-ASP	25	157	88
LM 100-H100-ASP	25	207	138
LM 100-H125-ASP	25	207	138
LM 100-H150-ASP	25	257	188
LM 100-H175-ASP	25	257	188
LM 100-H200-ASP	25	307	238
LM 100-H225-ASP	25	307	238

Attachment to a pillar assembly system

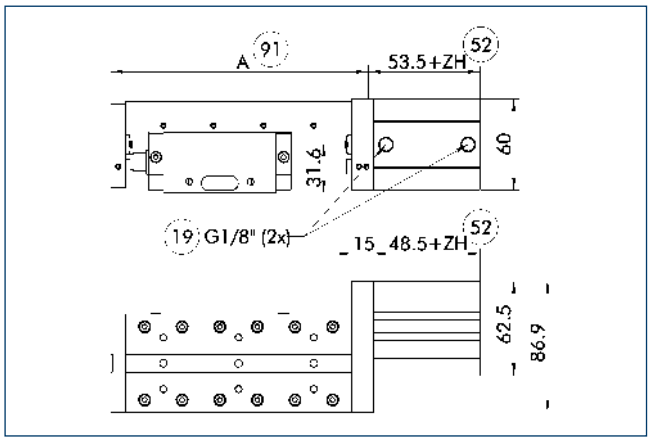


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system media feed-through			
SPL 50	0313692		
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 35	0313893	35	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

ZZA intermediate stop on the piston side



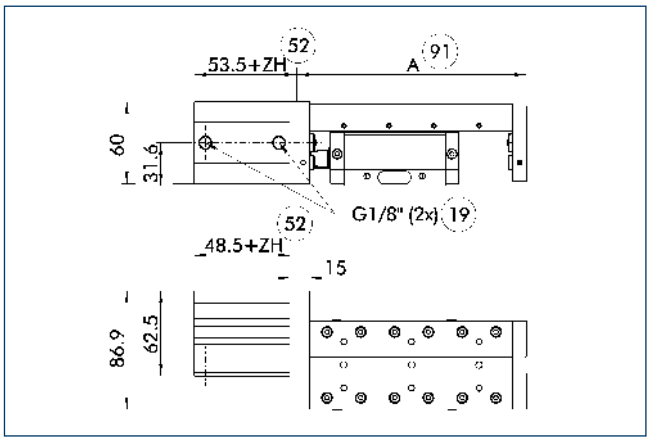
19 Air connection
52 Intermediate stroke
91 Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 101	460	0.75	0.006

ⓘ Sample order LM 100-H100-ZZA101-H30

ZZA intermediate stop on the piston rod side



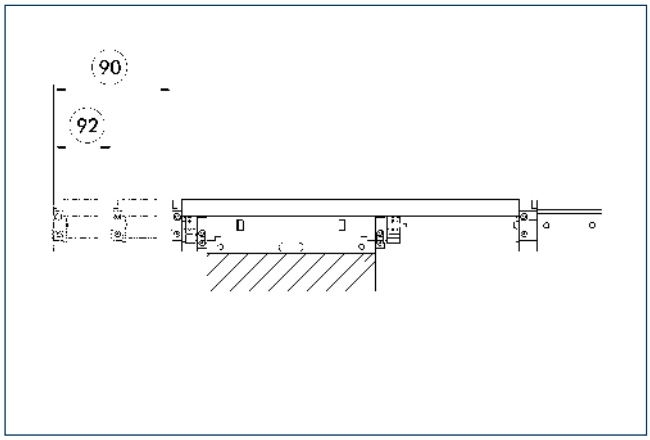
19 Air connection
52 Intermediate stroke
91 Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 102	460	0.75	0.006

ⓘ Sample order LM 100-H100-ZZA102-H30

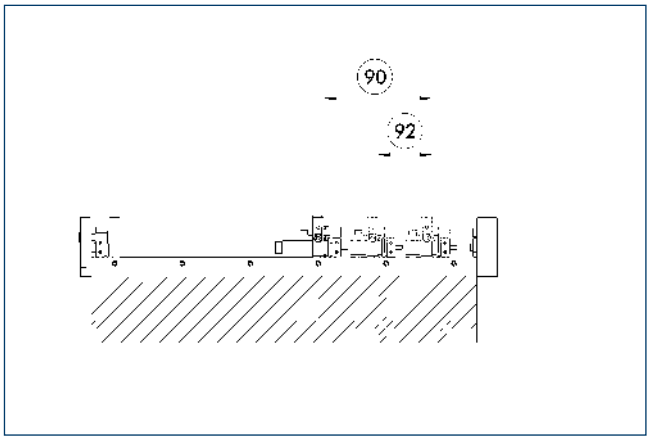
Design – variant 1



90 Nominal stroke
92 Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

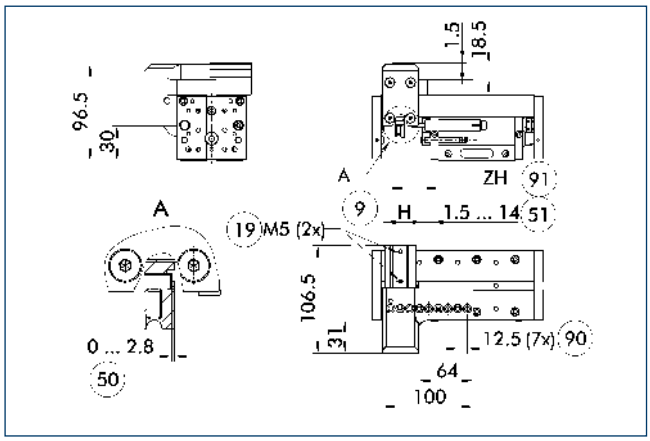
Design – variant 2



90 Nominal stroke
92 Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

LMZAW intermediate stop

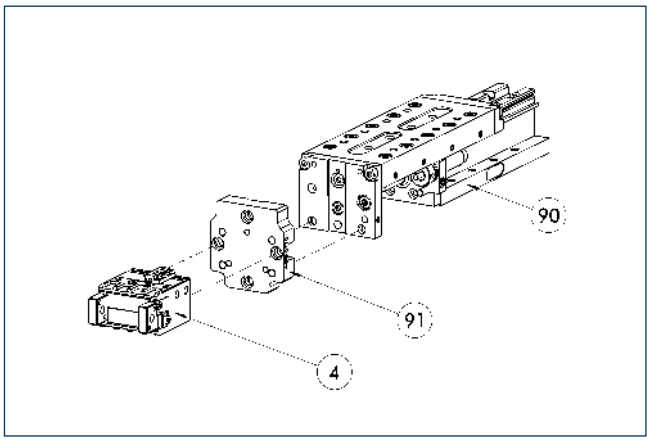


(9) Effective stroke
(19) Air connection
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) Grid dimension, stroke adjustment
(91) Intermediate stroke (min. 12.5 mm/max. effective stroke H-4 mm)

Depending on the application, the end position can be approached without a repeat stroke. The possible operating cycles can be obtained from the operating manual

Description	ID	Weight
		[kg]
Intermediate stop		
LMZAW 100	0314115	0.98

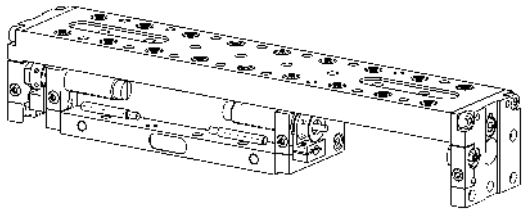
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

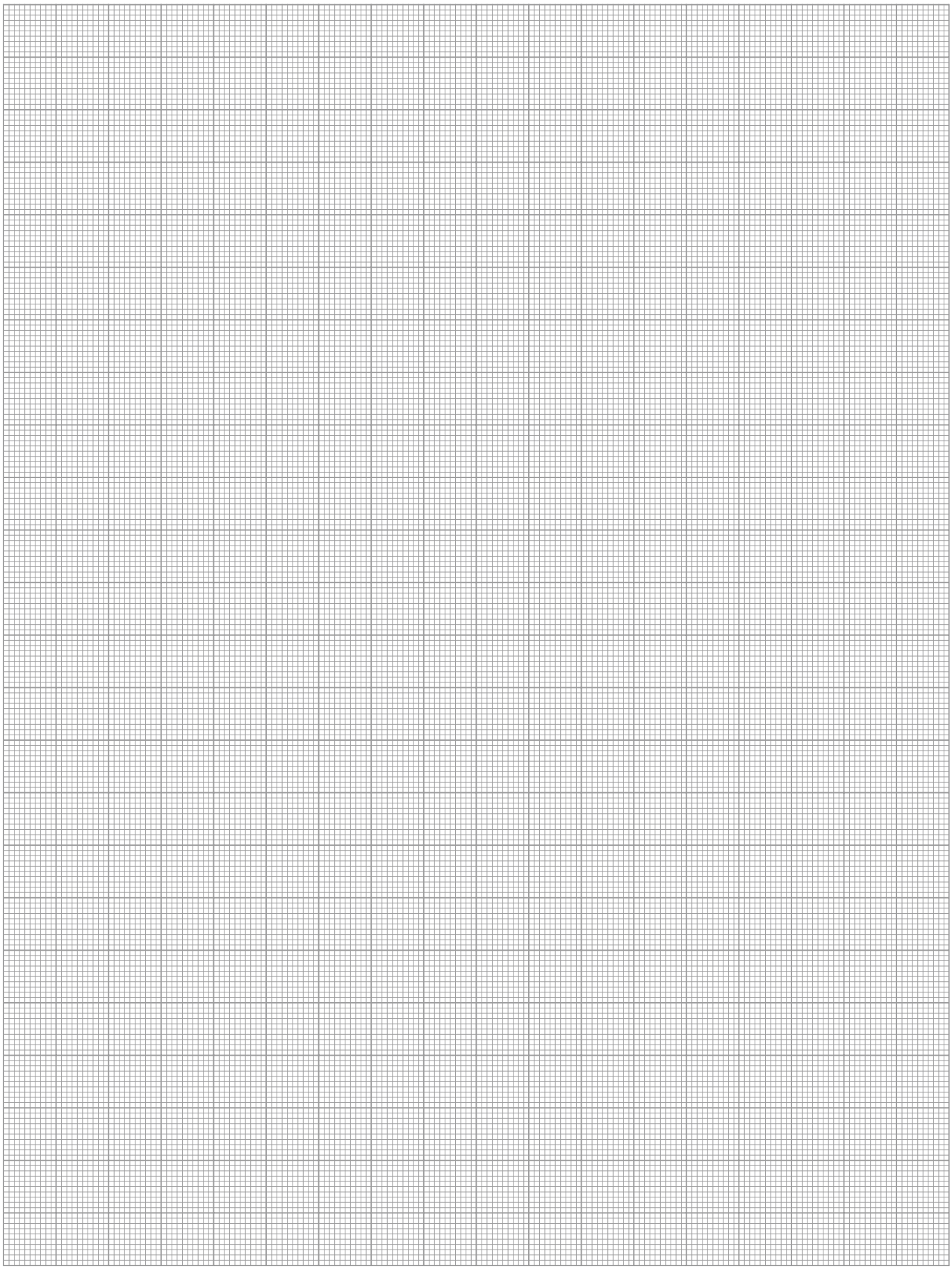
Inductive proximity switches



Directly mounted end position monitoring.

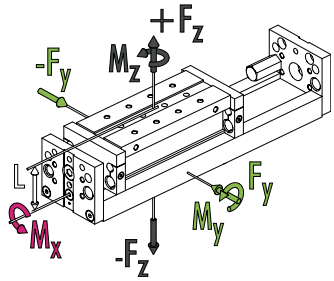
Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.





Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

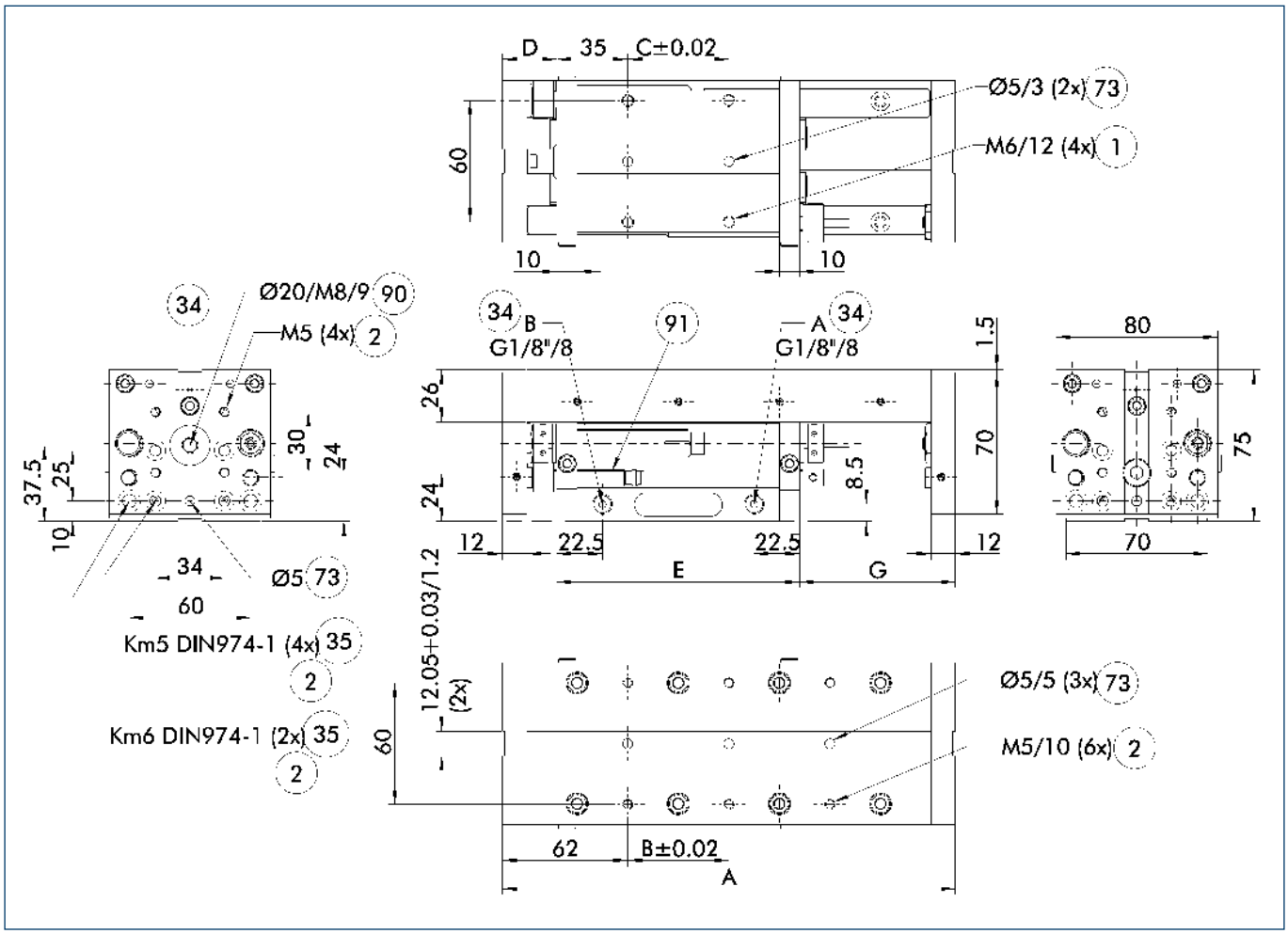
Technical data

Description		LM 200-H025	LM 200-H050	LM 200-H075	LM 200-H100	LM 200-H125	LM 200-H150
ID		0314070	0314071	0314072	0314073	0314074	0314075
Stroke	[mm]	25	50	75	100	125	150
Extend force	[N]	482	482	482	482	482	482
Retracted force	[N]	415	415	415	415	415	415
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	32	32	32	32	32	32
Bar diameter	[mm]	12	12	12	12	12	12
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	8.04	8.04	8.04	8.04	8.04	8.04
Overall length	[mm]	224	224	324	324	424	424
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	3.9	3.9	5	5	6.1	6.1
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	56.5	56.5	56.5	56.5	56.5	56.5
Moments M_x max./M_y max./M_z max.	[Nm]	50/63/31.5	50/63/31.5	72/90/45	72/90/45	94/117/58.5	94/117/58.5
Forces F_z max.	[N]	2190	2190	2170	2170	2150	2150
Options and their characteristics							
Rod lock version		LM 200-H025-ASP	LM 200-H050-ASP	LM 200-H075-ASP	LM 200-H100-ASP	LM 200-H125-ASP	LM 200-H150-ASP
ID		0314470	0314471	0314472	0314473	0314474	0314475
Stroke loss of nominal stroke (on the rod side)	[mm]	12	12	12	12	12	12
Weight	[kg]	3.99	3.99	5.09	5.09	6.19	6.19
Static holding force	[N]	600	600	600	600	600	600
Max. axial backlash of the clamping	[mm]	0.25	0.25	0.25	0.25	0.25	0.25
Min. release air pressure	[bar]	3	3	3	3	3	3

Description		LM 200-H175	LM 200-H200	LM 200-H225	LM 200-H250	LM 200-H275	LM 200-H300
ID		0314076	0314077	0314078	0314079	0314080	0314081
Stroke	[mm]	175	200	225	250	275	300
Extend force	[N]	482	482	482	482	482	482
Retracted force	[N]	415	415	415	415	415	415
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	32	32	32	32	32	32
Bar diameter	[mm]	12	12	12	12	12	12
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	8.04	8.04	8.04	8.04	8.04	8.04
Overall length	[mm]	524	524	624	624	724	724
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	7.2	7.2	8.3	8.3	9.4	9.4
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	56.5	56.5	56.5	56.5	56.5	56.5
Moments M_x max./M_y max./M_z max.	[Nm]	116/144/72	116/144/72	138/171/85.5	138/171/85.5	160/198/99	160/198/99
Forces F_z max.	[N]	2145	2145	2140	2140	2135	2135
Options and their characteristics							
Rod lock version		LM 200-H175-ASP	LM 200-H200-ASP	LM 200-H225-ASP	LM 200-H250-ASP	LM 200-H275-ASP	LM 200-H300-ASP
ID		0314476	0314477	0314478	0314479	0314480	0314481
Stroke loss of nominal stroke (on the rod side)	[mm]	12	12	12	12	12	12
Weight	[kg]	7.29	7.29	8.39	8.39	9.49	9.49
Static holding force	[N]	600	600	600	600	600	600
Max. axial backlash of the clamping	[mm]	0.25	0.25	0.25	0.25	0.25	0.25
Min. release air pressure	[bar]	3	3	3	3	3	3

Description		LM 200-H325	LM 200-H350
ID		0314082	0314083
Stroke	[mm]	325	350
Extend force	[N]	482	482
Retracted force	[N]	415	415
Repeat accuracy	[mm]	0.02	0.02
Piston diameter	[mm]	32	32
Bar diameter	[mm]	12	12
Min./max. operating pressure	[bar]	3/8	3/8
Nominal operating pressure	[bar]	6	6
Fluid consumption/10 mm stroke	[cm³]	8.04	8.04
Overall length	[mm]	824	824
Protection class IP		40	40
Min./max. ambient temperature	[°C]	5/60	5/60
Weight	[kg]	10.5	10.5
Drive concept		Piston rod cylinders	Piston rod cylinders
Length L	[mm]	56.5	56.5
Moments M_x max./M_y max./M_z max.	[Nm]	182/225/112.5	182/225/112.5
Forces F_z max.	[N]	2130	2130
Options and their characteristics			
Rod lock version		LM 200-H325-ASP	LM 200-H350-ASP
ID		0314482	0314483
Stroke loss of nominal stroke (on the rod side)	[mm]	12	12
Weight	[kg]	10.59	10.59
Static holding force	[N]	600	600
Max. axial backlash of the clamping	[mm]	0.25	0.25
Min. release air pressure	[bar]	3	3

Main view



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection – linear unit extended

B Main connection – linear unit retracted

(1) Connection linear unit

(2) Attachment connection

(34) On both sides

(35) Back side

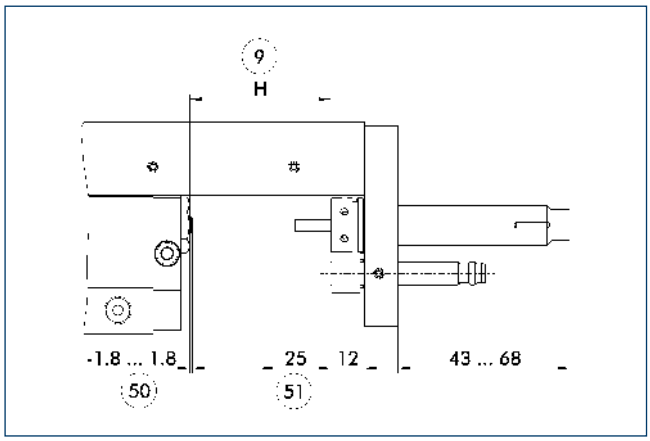
(73) Fit for centering pins

(90) Through-holes in the face plate and thread in the base body (only single sided)

(91) Inductive proximity switches

Description	A	B	Quantity B	C	Quantity C	D	E	G
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]
LM 200-H025	224	50	2	50	1	27	120	77
LM 200-H050	224	50	2	50	1	27	120	77
LM 200-H075	324	50	4	50	2	27	170	127
LM 200-H100	324	50	4	50	2	27	170	127
LM 200-H125	424	50	6	50	3	27	220	177
LM 200-H150	424	50	6	50	3	27	220	177
LM 200-H175	524	50	8	50	4	27	270	227
LM 200-H200	524	50	8	50	4	27	270	227
LM 200-H225	624	50	10	50	5	27	320	277
LM 200-H250	624	50	10	50	5	27	320	277
LM 200-H275	724	50	12	50	6	27	370	327
LM 200-H300	724	50	12	50	6	27	370	327
LM 200-H325	824	50	14	50	7	27	420	377
LM 200-H350	824	50	14	50	7	27	420	377

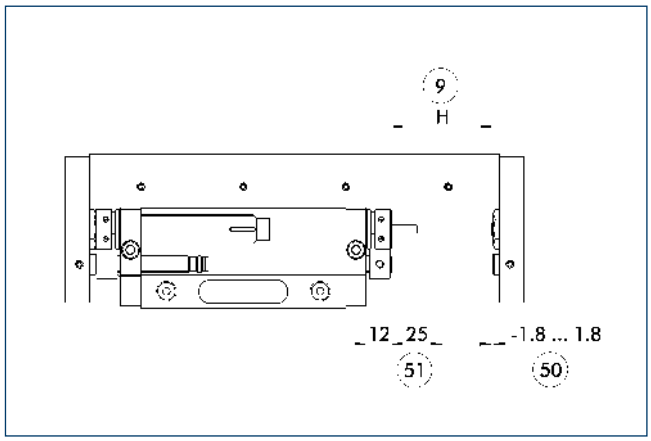
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the slide. This illustration shows the mounting on the slide and the possibility of stroke fine adjustment.

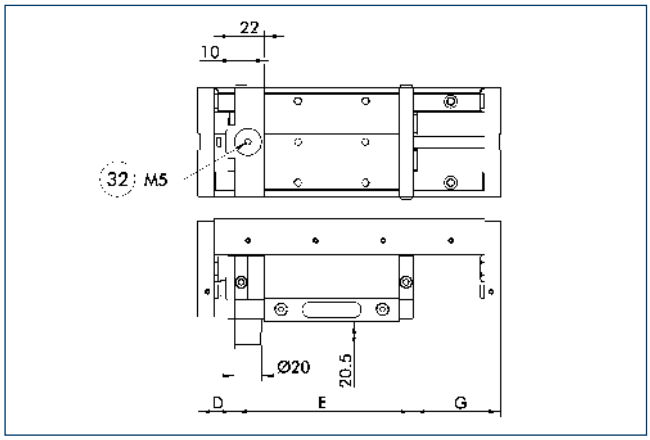
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the slide. This illustration shows the mounting on the base body and the possibility of stroke fine adjustment.

Rod lock

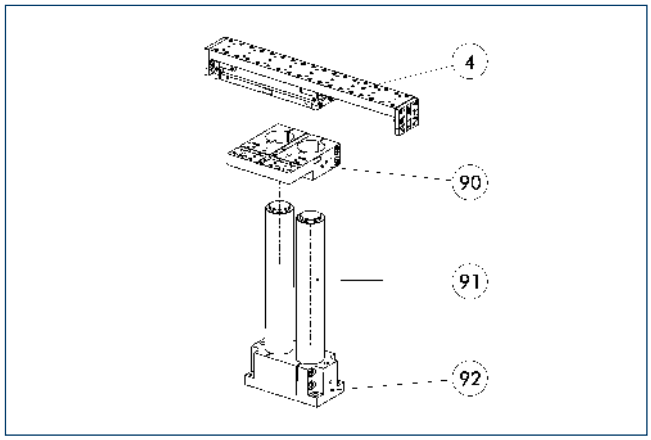


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop situations. The rod lock can also be retrofitted, but this will reduce the effective stroke.

Description	D	E	G
	[mm]	[mm]	[mm]
LM 200-H025-ASP	27	132	65
LM 200-H050-ASP	27	132	65
LM 200-H075-ASP	27	182	115
LM 200-H100-ASP	27	182	115
LM 200-H125-ASP	27	232	165
LM 200-H150-ASP	27	232	165
LM 200-H175-ASP	27	282	215
LM 200-H200-ASP	27	282	215
LM 200-H225-ASP	27	332	265
LM 200-H250-ASP	27	332	265
LM 200-H275-ASP	27	382	315
LM 200-H300-ASP	27	382	315
LM 200-H325-ASP	27	432	365
LM 200-H350-ASP	27	432	365

Attachment to a pillar assembly system

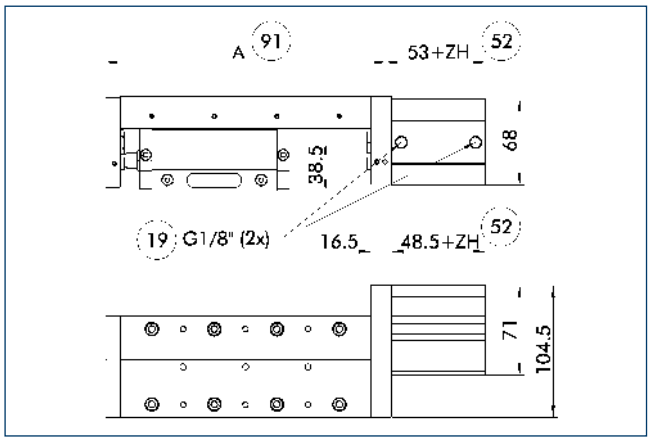


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system media feed-through			
SPL 200	0313693		
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 85	0313416	55	Aluminum
APEH 85	0313413	55	Aluminum
APEV 85	0313415	55	Aluminum

ZZA intermediate stop on the piston side



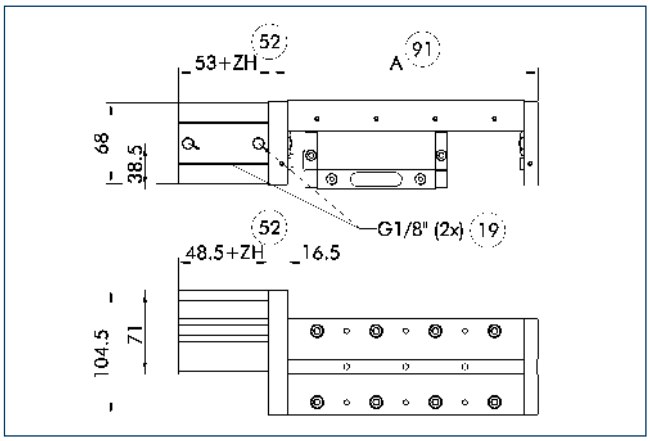
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 201	696	0.9	0.008

ⓘ Sample order LM 200-H100-ZZA201-H30

ZZA intermediate stop on the piston rod side



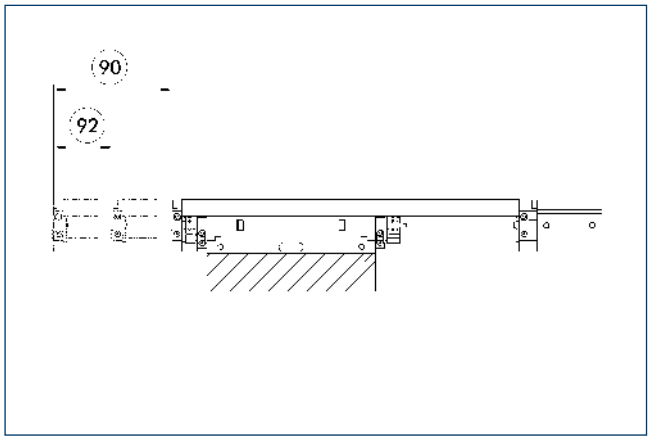
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 202	696	0.9	0.008

ⓘ Sample order LM 200-H100-ZZA202-H30

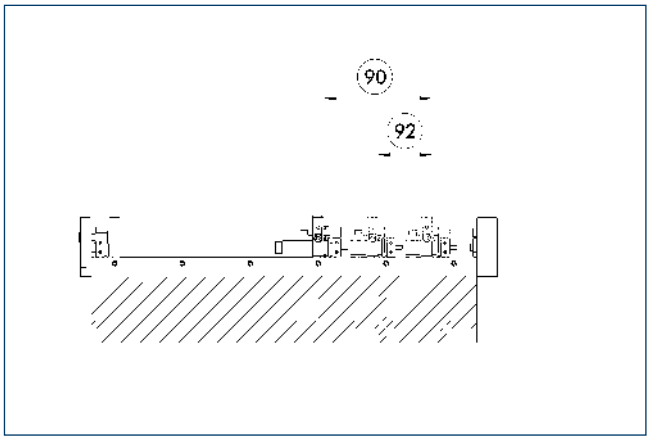
Design – variant 1



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

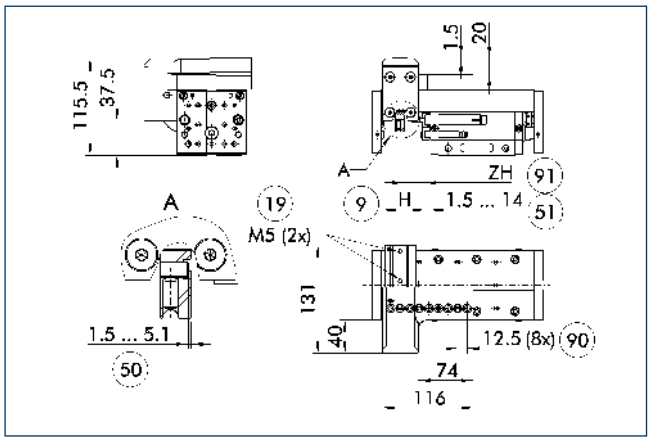
Design – variant 2



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

LMZAW intermediate stop

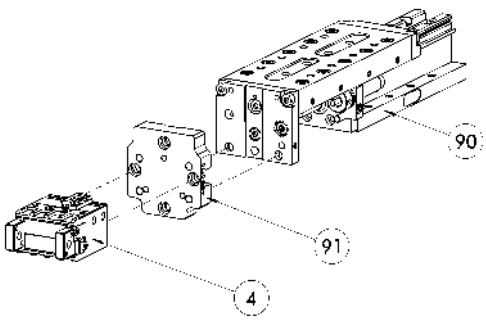


(9) Effective stroke
(19) Air connection
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) Grid dimension, stroke adjustment
(91) Intermediate stroke (min. 12.5 mm/max. effective stroke H-4 mm)

Depending on the application, the end position can be approached without a repeat stroke. The possible operating cycles can be obtained from the operating manual

Description	ID	Weight
		[kg]
Intermediate stop		
LMZAW 200	0314116	1.4

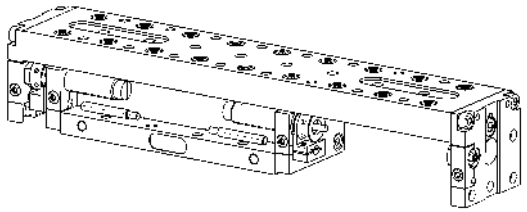
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

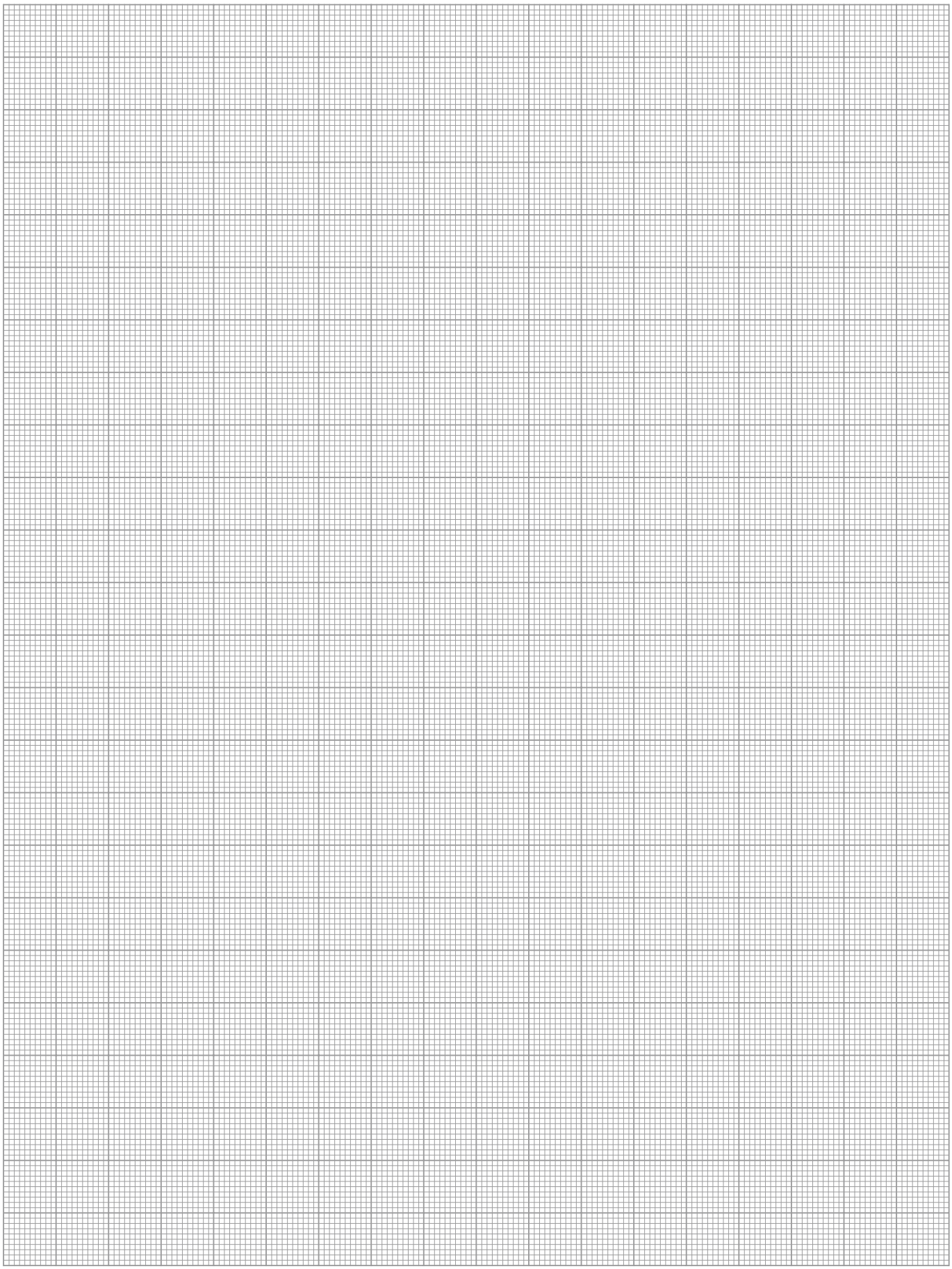
Inductive proximity switches



Directly mounted end position monitoring.

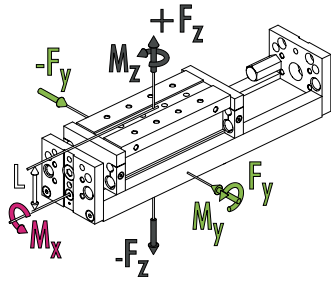
Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.





Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

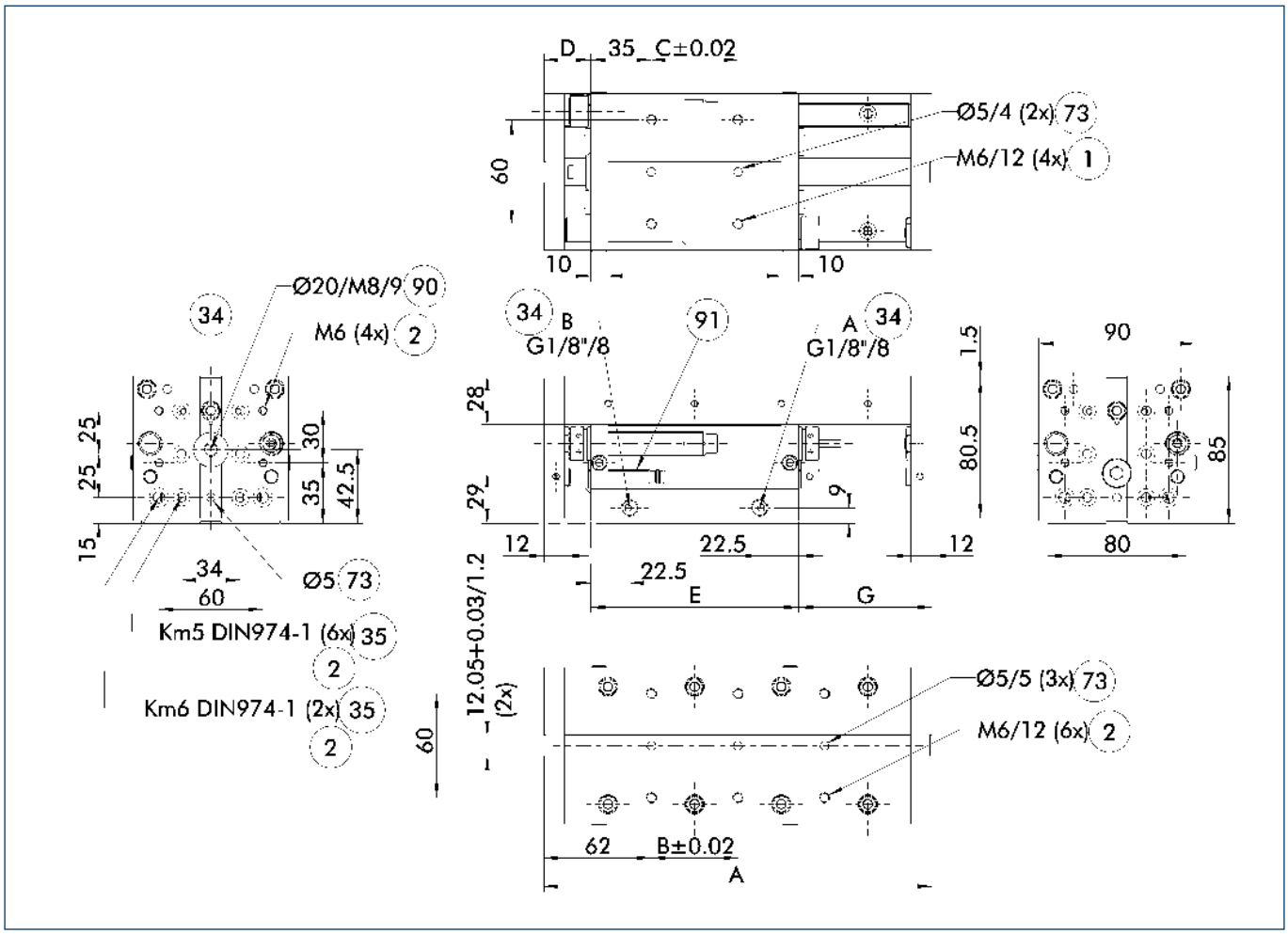
Technical data

Description		LM 300-H025	LM 300-H050	LM 300-H075	LM 300-H100	LM 300-H125	LM 300-H150
ID		0314084	0314085	0314086	0314087	0314088	0314089
Stroke	[mm]	25	50	75	100	125	150
Extend force	[N]	753	753	753	753	753	753
Retracted force	[N]	633	633	633	633	633	633
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	40	40	40	40	40	40
Bar diameter	[mm]	16	16	16	16	16	16
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	12.57	12.57	12.57	12.57	12.57	12.57
Overall length	[mm]	224	224	324	324	424	424
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	4.85	4.85	6.2	6.2	7.55	7.55
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	64.5	64.5	64.5	64.5	64.5	64.5
Moments M_x max./M_y max./M_z max.	[Nm]	70/63/31.5	70/63/31.5	92/90/45	92/90/45	114/117/58.5	114/117/58.5
Forces F_z max.	[N]	2190	2190	2170	2170	2150	2150
Options and their characteristics							
Rod lock version		LM 300-H025-ASP	LM 300-H050-ASP	LM 300-H075-ASP	LM 300-H100-ASP	LM 300-H125-ASP	LM 300-H150-ASP
ID		0314484	0314485	0314486	0314487	0314488	0314489
Stroke loss of nominal stroke (on the rod side)	[mm]	18	18	18	18	18	18
Weight	[kg]	5.01	5.01	6.36	6.36	7.71	7.71
Static holding force	[N]	1000	1000	1000	1000	1000	1000
Max. axial backlash of the clamping	[mm]	0.3	0.3	0.3	0.3	0.3	0.3
Min. release air pressure	[bar]	3	3	3	3	3	3

Description		LM 300-H175	LM 300-H200	LM 300-H225	LM 300-H250	LM 300-H275	LM 300-H300
ID		0314090	0314091	0314092	0314093	0314094	0314095
Stroke	[mm]	175	200	225	250	275	300
Extend force	[N]	753	753	753	753	753	753
Retracted force	[N]	633	633	633	633	633	633
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	40	40	40	40	40	40
Bar diameter	[mm]	16	16	16	16	16	16
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	12.57	12.57	12.57	12.57	12.57	12.57
Overall length	[mm]	524	524	624	624	724	724
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	8.9	8.9	10.25	10.25	11.6	11.6
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	64.5	64.5	64.5	64.5	64.5	64.5
Moments M_x max./M_y max./M_z max.	[Nm]	136/144/72	136/144/72	158/171/85.5	158/171/85.5	180/198/99	180/198/99
Forces F_z max.	[N]	2145	2145	2140	2140	2135	2135
Options and their characteristics							
Rod lock version		LM 300-H175-ASP	LM 300-H200-ASP	LM 300-H225-ASP	LM 300-H250-ASP	LM 300-H275-ASP	LM 300-H300-ASP
ID		0314490	0314491	0314492	0314493	0314494	0314495
Stroke loss of nominal stroke (on the rod side)	[mm]	18	18	18	18	18	18
Weight	[kg]	9.06	9.06	10.41	10.41	11.76	11.76
Static holding force	[N]	1000	1000	1000	1000	1000	1000
Max. axial backlash of the clamping	[mm]	0.3	0.3	0.3	0.3	0.3	0.3
Min. release air pressure	[bar]	3	3	3	3	3	3

Description		LM 300-H325	LM 300-H350	LM 300-H375	LM 300-H400	LM 300-H425	LM 300-H450
ID		0314096	0314097	0314098	0314099	0314100	0314101
Stroke	[mm]	325	350	375	400	425	450
Extend force	[N]	753	753	753	753	753	753
Retracted force	[N]	633	633	633	633	633	633
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	40	40	40	40	40	40
Bar diameter	[mm]	16	16	16	16	16	16
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	12.57	12.57	12.57	12.57	12.57	12.57
Overall length	[mm]	824	824	924	924	1024	1024
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	12.95	12.95	14.3	14.3	15.65	15.65
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	64.5	64.5	64.5	64.5	64.5	64.5
Moments M_x max./M_y max./M_z max.	[Nm]	202/225/112.5	202/225/112.5	224/252/126	224/252/126	246/279/139.5	246/279/139.5
Forces F_z max.	[N]	2130	2130	2125	2125	2125	2125
Options and their characteristics							
Rod lock version		LM 300-H325-ASP	LM 300-H350-ASP	LM 300-H375-ASP	LM 300-H400-ASP	LM 300-H425-ASP	LM 300-H450-ASP
ID		0314496	0314497	0314498	0314499	0314500	0314501
Stroke loss of nominal stroke (on the rod side)	[mm]	18	18	18	18	18	18
Weight	[kg]	13.11	13.11	14.46	14.46	15.81	15.81
Static holding force	[N]	1000	1000	1000	1000	1000	1000
Max. axial backlash of the clamping	[mm]	0.3	0.3	0.3	0.3	0.3	0.3
Min. release air pressure	[bar]	3	3	3	3	3	3

Main view



The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

A Main connection – linear unit extended

B Main connection – linear unit retracted

(1) Connection linear unit

(2) Attachment connection

(34) On both sides

(35) Back side

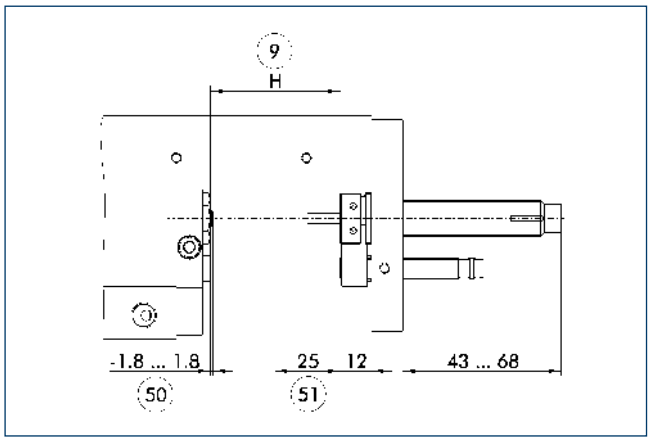
(73) Fit for centering pins

(90) Through-holes in the face plate and thread in the base body (only single sided)

(91) Inductive proximity switches

Description	A	B	Quantity B	C	Quantity C	D	E	G
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]
LM 300-H025	224	50	2	50	1	27	120	77
LM 300-H050	224	50	2	50	1	27	120	77
LM 300-H075	324	50	4	50	2	27	170	127
LM 300-H100	324	50	4	50	2	27	170	127
LM 300-H125	424	50	6	50	3	27	220	177
LM 300-H150	424	50	6	50	3	27	220	177
LM 300-H175	524	50	8	50	4	27	270	227
LM 300-H200	524	50	8	50	4	27	270	227
LM 300-H225	624	50	10	50	5	27	320	277
LM 300-H250	624	50	10	50	5	27	320	277
LM 300-H275	724	50	12	50	6	27	370	327
LM 300-H300	724	50	12	50	6	27	370	327
LM 300-H325	824	50	14	50	7	27	420	377
LM 300-H350	824	50	14	50	7	27	420	377
LM 300-H375	924	50	16	50	8	27	470	427
LM 300-H400	924	50	16	50	8	27	470	427
LM 300-H425	1024	50	18	50	9	27	520	477
LM 300-H450	1024	50	18	50	9	27	520	477

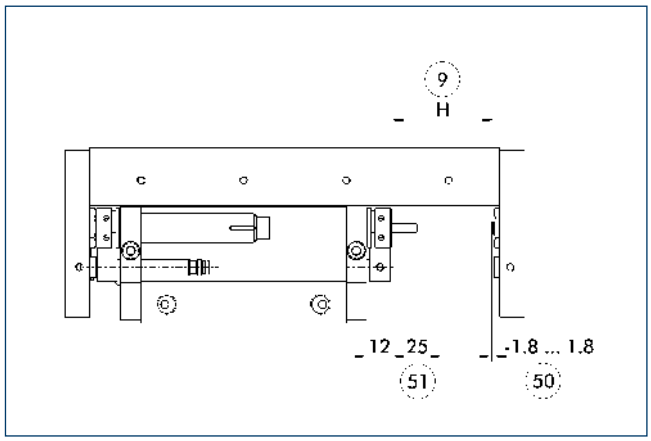
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the slide. This illustration shows the mounting on the slide and the possibility of stroke fine adjustment.

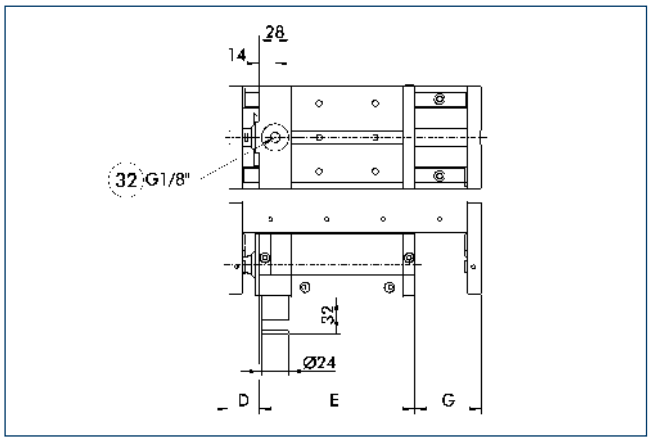
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the slide. This illustration shows the mounting on the base body and the possibility of stroke fine adjustment.

Rod lock

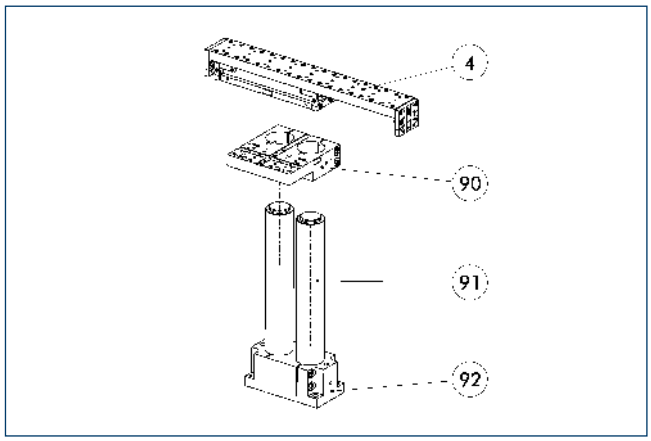


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop situations. The rod lock can also be retrofitted, but this will reduce the effective stroke.

Description	D	E	G
	[mm]	[mm]	[mm]
LM 300-H025-ASP	27	138	59
LM 300-H050-ASP	27	138	59
LM 300-H075-ASP	27	188	109
LM 300-H100-ASP	27	188	109
LM 300-H125-ASP	27	238	159
LM 300-H150-ASP	27	238	159
LM 300-H175-ASP	27	288	209
LM 300-H200-ASP	27	288	209
LM 300-H225-ASP	27	338	259
LM 300-H250-ASP	27	338	259
LM 300-H275-ASP	27	388	309
LM 300-H300-ASP	27	388	309
LM 300-H325-ASP	27	438	359
LM 300-H350-ASP	27	438	359
LM 300-H375-ASP	27	488	409
LM 300-H400-ASP	27	488	409
LM 300-H425-ASP	27	538	459
LM 300-H450-ASP	27	538	459

Attachment to a pillar assembly system

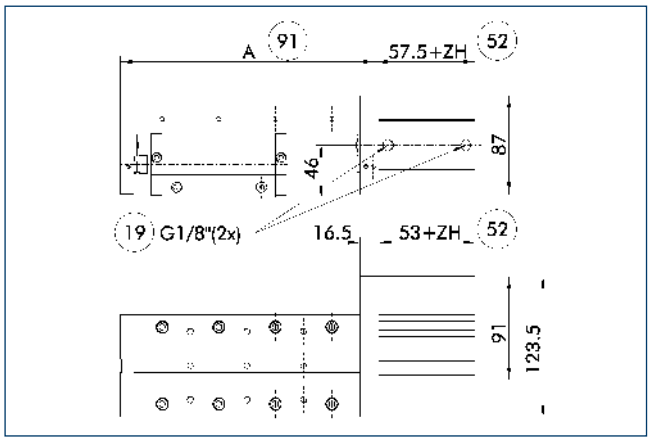


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system media feed-through			
SPL 200	0313693		
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 85	0313416	55	Aluminum
APEH 85	0313413	55	Aluminum
APEV 85	0313415	55	Aluminum

ZZA intermediate stop on the piston side



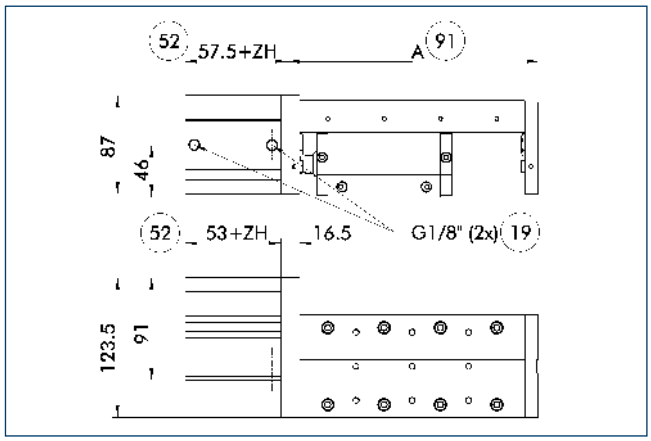
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 301	1117	1.7	0.011

ⓘ Sample order LM 300-H100-ZZA301-H30

ZZA intermediate stop on the piston rod side



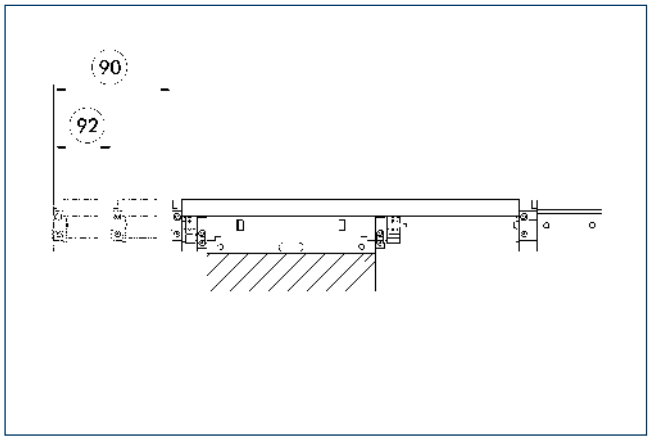
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 302	1117	1.7	0.011

ⓘ Sample order LM 300-H100-ZZA302-H30

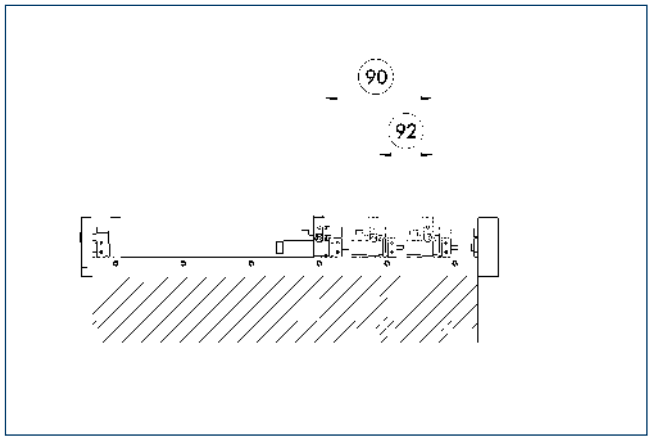
Design – variant 1



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

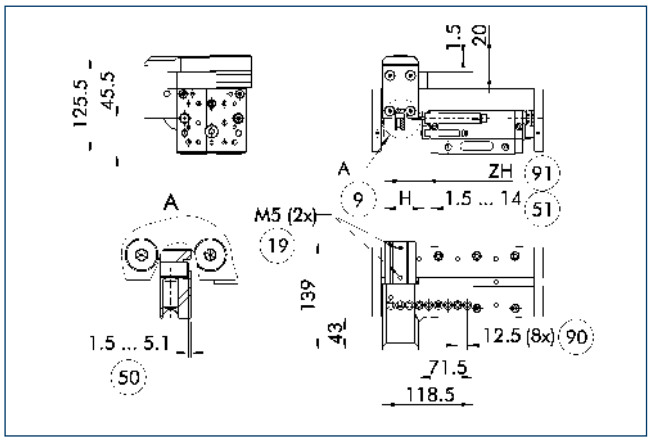
Design – variant 2



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

LMZAW intermediate stop

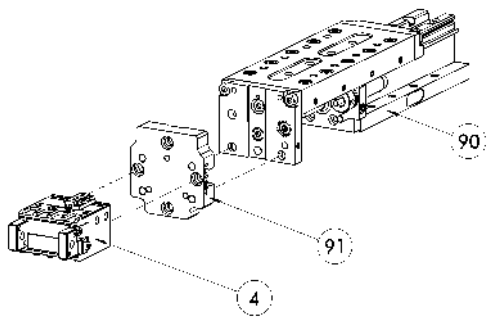


(9) Effective stroke
(19) Air connection
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) Grid dimension, stroke adjustment
(91) Intermediate stroke (min. 18.5 mm/max. effective stroke H–5 mm)

Depending on the application, the end position can be approached without a repeat stroke. The possible operating cycles can be obtained from the operating manual

Description	ID	Weight
		[kg]
Intermediate stop		
LMZAW 300	0314117	1.6

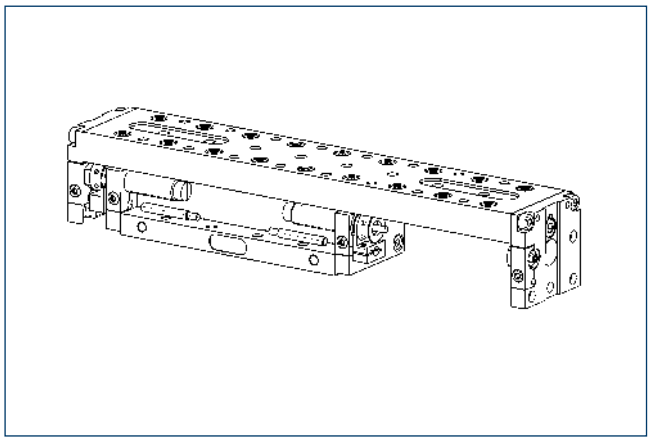
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Modular. Robust. Reliable.

KLM Linear Module

With pneumatic drive and ball bushing guide.

Field of Application

For use in clean and slightly polluted environments.
Simple economic linear movements or, in combination, as multi-axis positioning systems for assembly and handling technology.



Advantages – Your benefits

Double bearing of the guide shafts in the ball bushing for high load bearing capacity and repeat accuracy < 0.015 mm

Shock absorbers and proximity switches integrated in the projecting surfaces for vibration-free movements and end position monitoring

Strongly dimensioned guide shafts for high rigidity

High basic load ratings in all load directions

Standardized mounting bores for numerous combinations with other components from the modular system

Several intermediate positions possible for maximum flexibility in applications

Rod lock by means of clamping cartridge for safety in case of emergency stops

Sizes	Weight	Driving force	Stroke	Repeat accuracy
Quantity: 4	0.5 .. 13.2 kg	67 .. 753 N	13 .. 300 mm	0.02 .. 0.03 mm

Functional Description

The linear module is driven via a double-acting pneumatic cylinder which is integrated in the base body, and guided by two opposing guide rods.



① **Ball bushing guide**
Scope-free at a low friction

② **Drive**
Powerful piston rod cylinders

③ **Mounting pattern**
Completely integrated in the module system

④ **Damping adjustment**
Adjustment of the damping characteristics

⑤ **End position adjustability**
Convenient adjustment using the shock absorber threads

⑥ **Sensor system**
with sensor driver for convenient adjustment

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Housing material: Aluminum alloy, anodized

Guidance: Ball bushing guide

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Scope of delivery: Shock absorber and driver for proximity switch

Warranty: 24 months

Repeat accuracy: is defined as the distribution of the end positions for 100 consecutive cycles.

Travel times: are pure movement times of the slide or the base body. Valve switching times, hose filling times, or PLC reaction times are not a part of this and are to be considered when cycle times are calculated.

Stroke: is the maximum nominal stroke of the unit. This can be shortened on both sides by the shock absorbers.

Layout or control calculation: For layout or sizing of the modules, we recommend using our software TOOLBOX, which can be downloaded online. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Application Example

Pneumatic two-axis system with pillar assembly and gripper for assembly processes.

1. SOE Single Base Support
2. SLH Hollow Pillar
3. APEV Single Mounting Plate
4. KLM Linear Module
5. APL Adapter Plate
6. KLM Linear Module
7. ASG Adapter
8. KGG 2-Finger Small Components Gripper



SCHUNK offers more ...

The following components make the product KLM even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.

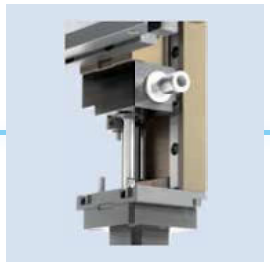




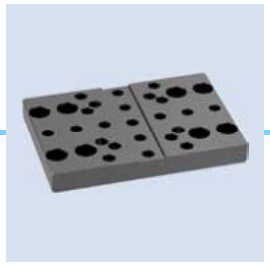
ZZA Intermediate Stop



Fittings



Rod Lock



Adapter Plates



Pillar Assembly System SAS



Inductive Proximity Switches



Sensor Cables



Centering Strips



SDV-P Pressure Maintenance Valve

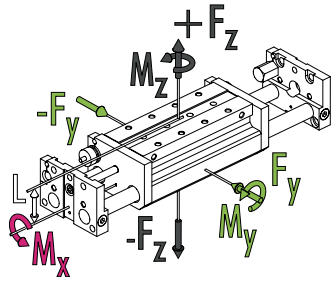
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Version rod lock: prevents the structure from falling in the event of a sudden loss of energy. This module can be combined as standard with many elements from the modular system. We can assist you with questions.



Forces and moments



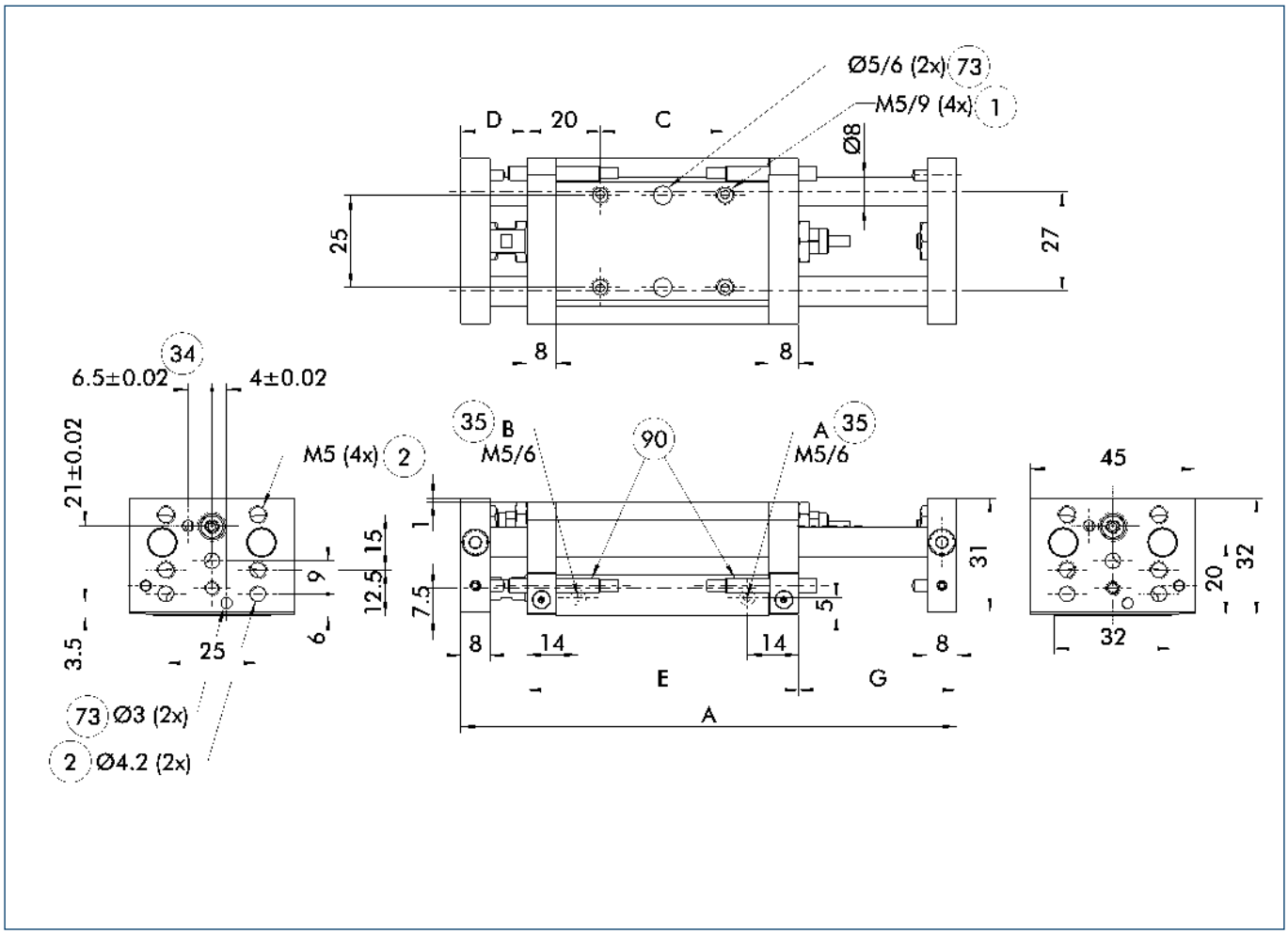
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		KLM 25-H025	KLM 25-H042	KLM 25-H059
ID		0314010	0314011	0314012
Stroke	[mm]	25	42	59
Extend force	[N]	67	67	67
Retracted force	[N]	50	50	50
Repeat accuracy	[mm]	0.02	0.02	0.02
Piston diameter	[mm]	12	12	12
Bar diameter	[mm]	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	1.13	1.13	1.13
Overall length	[mm]	135	169	203
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	0.5	0.58	0.66
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	20	20	20
Moments M_x max./M_y max./M_z max.	[Nm]	3/10.5/10.5	1.9/9.5/9.5	1.3/8.5/8.5
Forces F_z max.	[N]	223	142	97

Main view

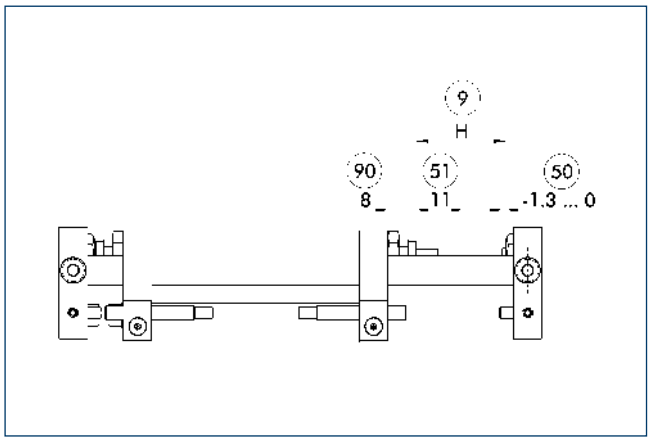


The linear module can be fastened either to the base body or the face plates. The structure can also optionally be fastened to either the face plates or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the face plates.

A Main connection – linear unit extended
B Main connection – linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(34) On both sides
(35) Back side
(73) Fit for centering pins
(90) Inductive proximity switches

Description	A	C	Quantity C	D	E	G
	[mm]	[mm]		[mm]	[mm]	[mm]
KLM 25-H025	135	34	1	18	74	43
KLM 25-H042	169	34	1	18	91	60
KLM 25-H059	203	34	2	18	108	77

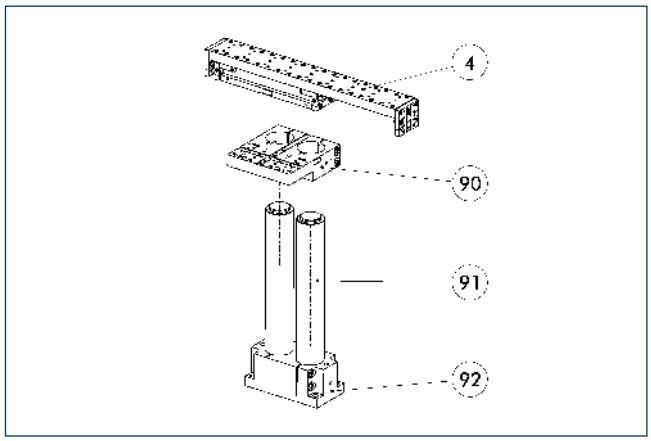
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range
(90) This dimension may not drop below this minimum value.

This illustration shows the possible fine adjustment of the stroke.

Attachment to a pillar assembly system

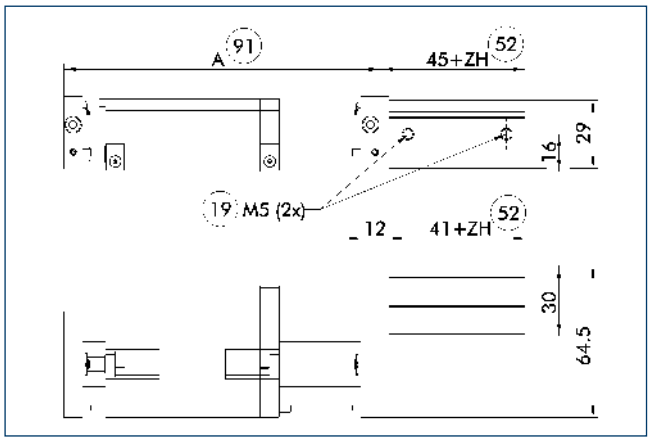


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 20	0313614	20	Aluminum
APDV 20	0313616	20	Aluminum
APDV 35	0313896	35	Aluminum
APEH 20	0313613	20	Aluminum
APEH 35	0313893	35	Aluminum
APEV 20	0313615	20	Aluminum
APEV 35	0313895	35	Aluminum

ZZA intermediate stop on the piston side



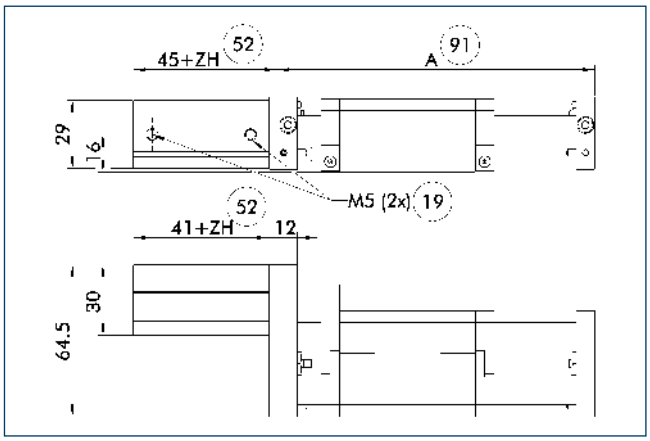
19 Air connection
52 Intermediate stroke
91 Overall length “A”, the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 28	54	0.2	0.002

ⓘ Sample order KLM 25-H059-ZZA028-H15

ZZA intermediate stop on the piston rod side



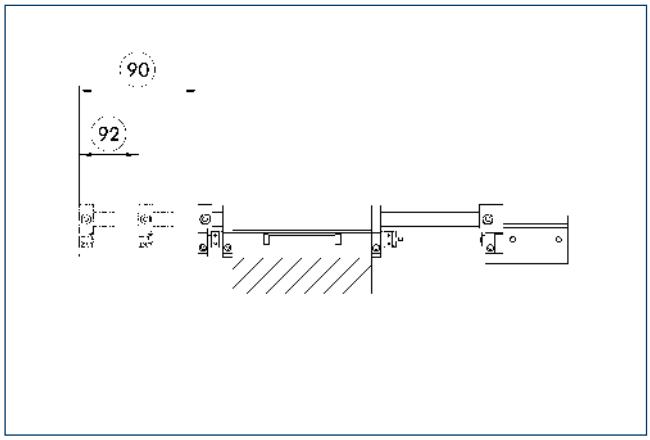
19 Air connection
52 Intermediate stroke
91 Overall length “A”, the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 29	54	0.2	0.002

ⓘ Sample order KLM 25-H059-ZZA029-H15

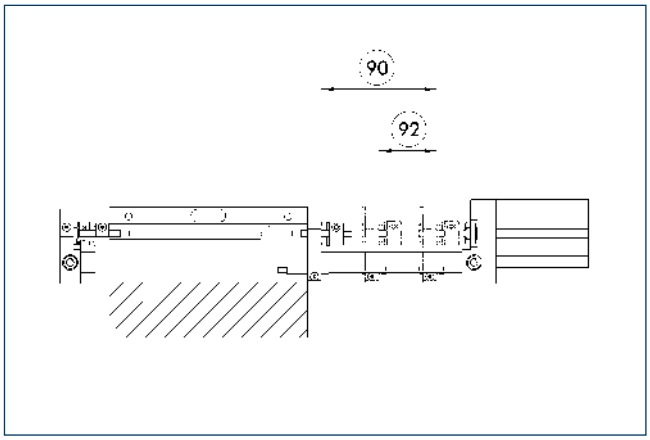
Design – variant 1



90 Nominal stroke
92 Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

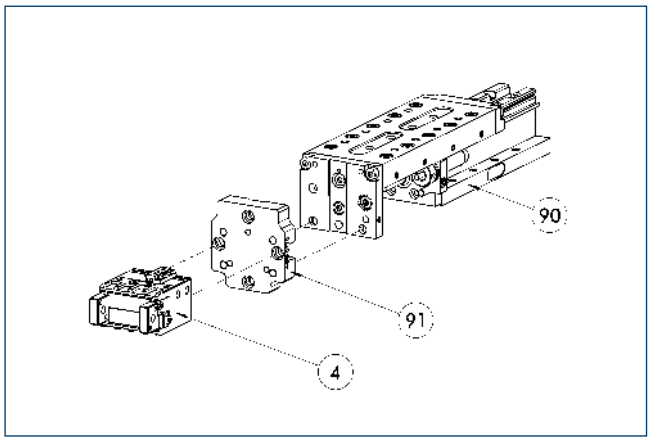
Design – variant 2



90 Nominal stroke
92 Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

Modular assembly automation



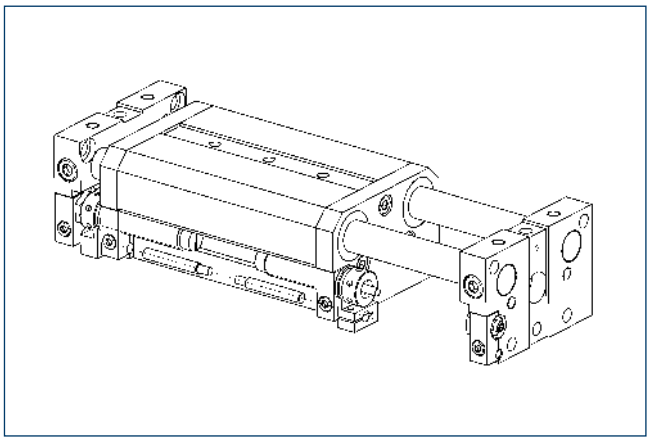
(4) Grippers

(91) ASG adapter plate

(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Inductive proximity switches



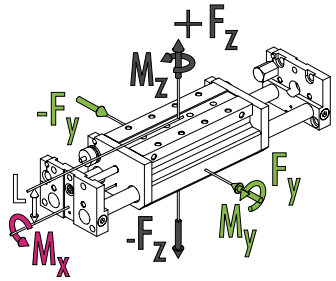
Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



Forces and moments



For values see technical data table

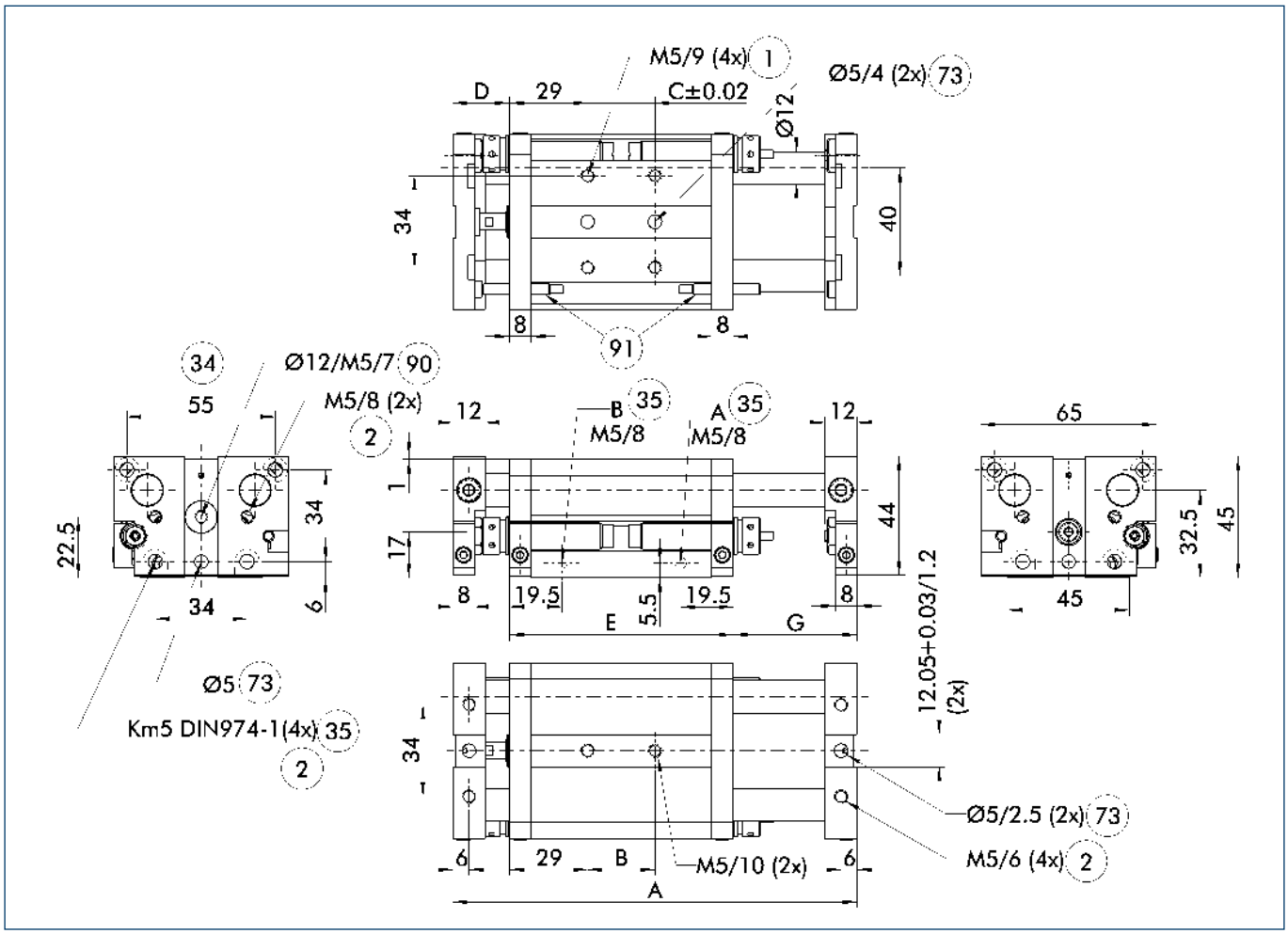
ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		KLM 50-H013	KLM 50-H025	KLM 50-H038	KLM 50-H050	KLM 50-H063	KLM 50-H075
ID		0314013	0314014	0314015	0314016	0314017	0314018
Stroke	[mm]	13	25	38	50	63	75
Extend force	[N]	120	120	120	120	120	120
Retracted force	[N]	103	103	103	103	103	103
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	16	16	16	16	16	16
Bar diameter	[mm]	6	6	6	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	2	2	2	2	2	2
Overall length	[mm]	150	150	200	200	250	250
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	1.3	1.3	1.5	1.5	1.7	1.7
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	32.5	32.5	32.5	32.5	32.5	32.5
Moments M_x max./M_y max./M_z max.	[Nm]	11.4/23/23	11.4/23/23	9.2/30.5/30.5	9.2/30.5/30.5	6.5/29/29	6.5/29/29
Forces F_z max.	[N]	569	569	461	461	324	324
Options and their characteristics							
Dust-tight version		KLM 50-H013-SD	KLM 50-H025-SD	KLM 50-H038-SD	KLM 50-H050-SD	KLM 50-H063-SD	KLM 50-H075-SD
ID		0314640	0314641	0314642	0314643	0314644	0314645
Protection class IP		50	50	50	50	50	50
Rod lock version			KLM 50-H025-ASP	KLM 50-H038-ASP	KLM 50-H050-ASP	KLM 50-H063-ASP	KLM 50-H075-ASP
ID			0314414	0314415	0314416	0314417	0314418
Stroke loss of nominal stroke (on the rod side)	[mm]		10	10	10	10	10
Weight	[kg]		1.34	1.54	1.54	1.74	1.74
Static holding force	[N]		180	180	180	180	180
Max. axial backlash of the clamping	[mm]		0.2	0.2	0.2	0.2	0.2
Min. release air pressure	[bar]		3	3	3	3	3

Description		KLM 50-H088	KLM 50-H100	KLM 50-H113	KLM 50-H125
ID		0314019	0314020	0314021	0314022
Stroke	[mm]	88	100	113	125
Extend force	[N]	120	120	120	120
Retracted force	[N]	103	103	103	103
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Piston diameter	[mm]	16	16	16	16
Bar diameter	[mm]	6	6	6	6
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	2	2	2	2
Overall length	[mm]	300	300	350	350
Protection class IP		40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Weight	[kg]	1.9	1.9	2.1	2.1
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	32.5	32.5	32.5	32.5
Moments M_x max./M_y max./M_z max.	[Nm]	4.5/26.5/26.5	4.5/26.5/26.5	3.2/23.5/23.5	3.2/23.5/23.5
Forces F_z max.	[N]	224	224	164	164
Options and their characteristics					
Dust-tight version		KLM 50-H088-SD	KLM 50-H100-SD	KLM 50-H113-SD	KLM 50-H125-SD
ID		0314646	0314647	0314648	0314649
Protection class IP		50	50	50	50
Rod lock version		KLM 50-H088-ASP	KLM 50-H100-ASP	KLM 50-H113-ASP	KLM 50-H125-ASP
ID		0314419	0314420	0314421	0314422
Stroke loss of nominal stroke (on the rod side)	[mm]	10	10	10	10
Weight	[kg]	1.94	1.94	2.14	2.14
Static holding force	[N]	180	180	180	180
Max. axial backlash of the clamping	[mm]	0.2	0.2	0.2	0.2
Min. release air pressure	[bar]	3	3	3	3

Main view

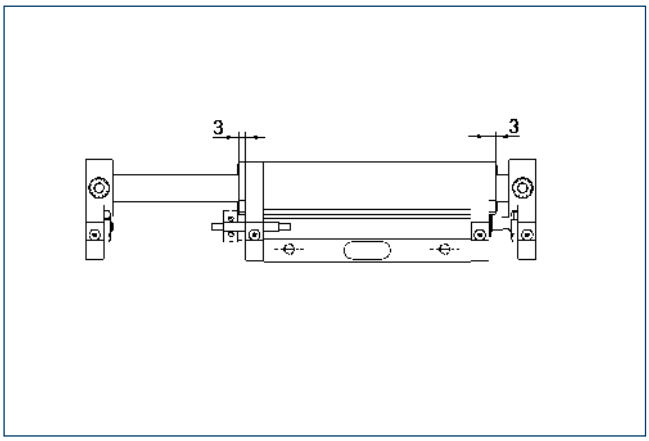


The linear module can be fastened either to the base body or the face plates. The structure can also optionally be fastened to either the face plates or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the face plates.

- A Main connection – linear unit extended
- B Main connection – linear unit retracted
- (1) Connection linear unit
- (2) Attachment connection
- (34) On both sides
- (35) Back side
- (73) Fit for centering pins
- (90) Through-holes in the face plate and thread in the base body (only single sided)
- (91) Inductive proximity switches

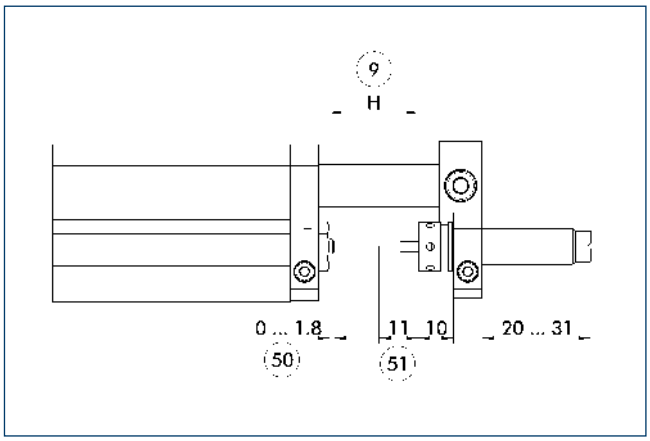
Description	A	B	Quantity B	C	Quantity C	D	E	G
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]
KLM 50-H013	150	25	1	25	1	21	83	46
KLM 50-H025	150	25	1	25	1	21	83	46
KLM 50-H038	200	25	2	25	2	21	108	71
KLM 50-H050	200	25	2	25	2	21	108	71
KLM 50-H063	250	25	3	25	3	21	133	96
KLM 50-H075	250	25	3	25	3	21	133	96
KLM 50-H088	300	25	4	25	4	21	158	121
KLM 50-H100	300	25	4	25	4	21	158	121
KLM 50-H113	350	25	5	25	5	21	183	146
KLM 50-H125	350	25	5	25	5	21	183	146

Dust-tight version



The dust cover option increases the protection against external particles.

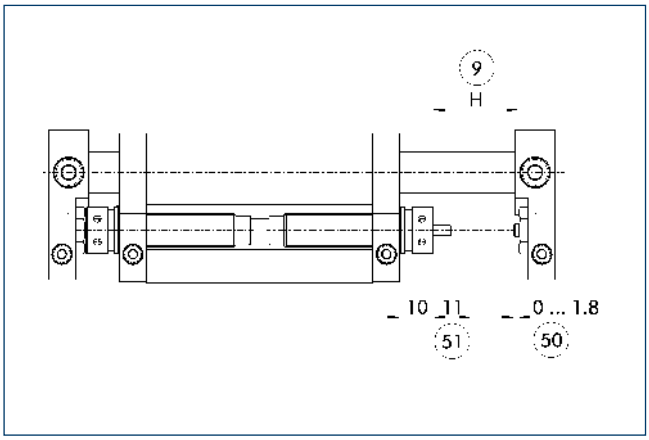
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the face plates. This illustration shows the mounting on the face plates and the possibility of stroke fine adjustment.

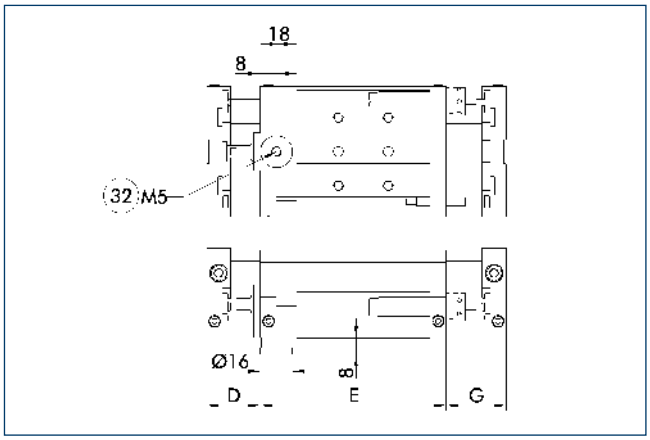
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the face plates. This illustration shows the mounting on the base body and the possibility of stroke fine adjustment.

Rod lock

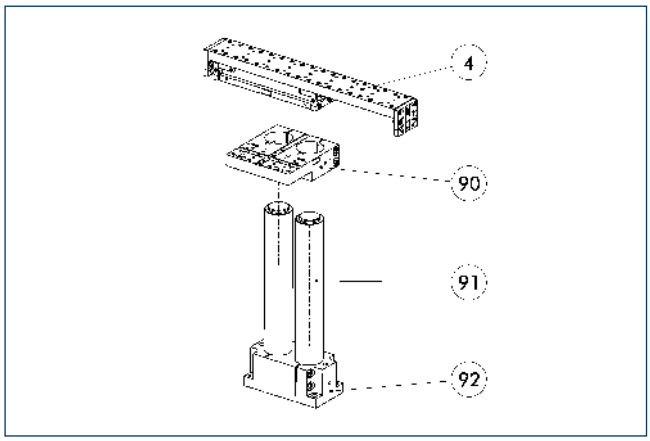


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop situations. The rod lock can also be retrofitted, but this will reduce the effective stroke.

Description	D	E	G
	[mm]	[mm]	[mm]
KLM 50-H025-ASP	21	103	36
KLM 50-H038-ASP	21	118	61
KLM 50-H050-ASP	21	118	61
KLM 50-H063-ASP	21	143	86
KLM 50-H075-ASP	21	143	86
KLM 50-H088-ASP	21	168	111
KLM 50-H100-ASP	21	168	111
KLM 50-H113-ASP	21	193	136
KLM 50-H125-ASP	21	193	136

Attachment to a pillar assembly system

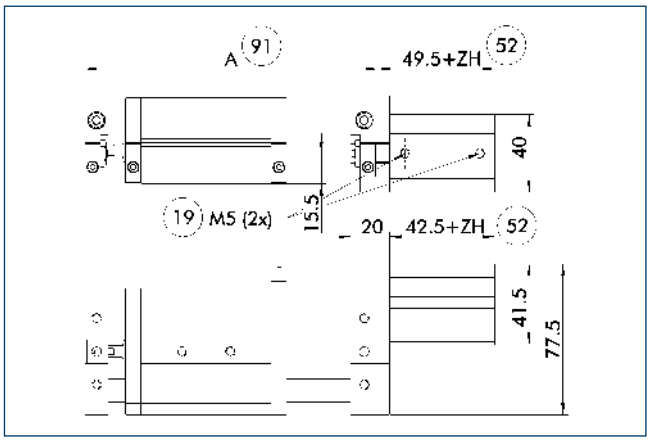


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 35	0313893	35	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

ZZA intermediate stop on the piston side



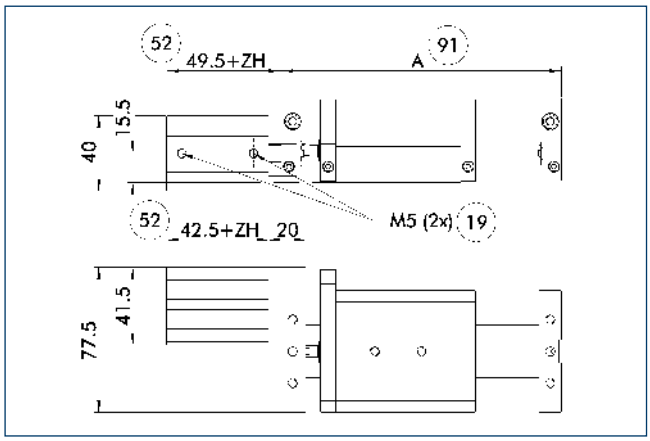
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 55	175	0.35	0.003

ⓘ Sample order KLM 50-H100-ZZA055-H30

ZZA intermediate stop on the piston rod side



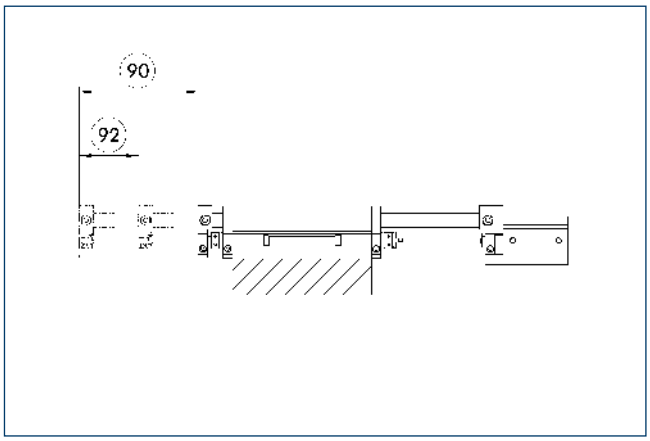
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 56	175	0.35	0.003

ⓘ Sample order KLM 50-H100-ZZA056-H30

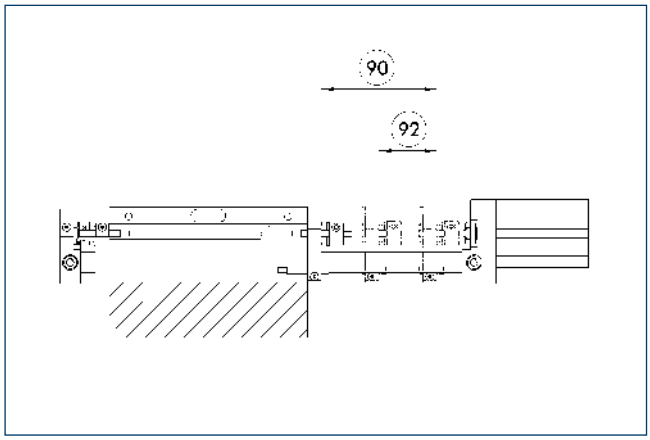
Design – variant 1



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

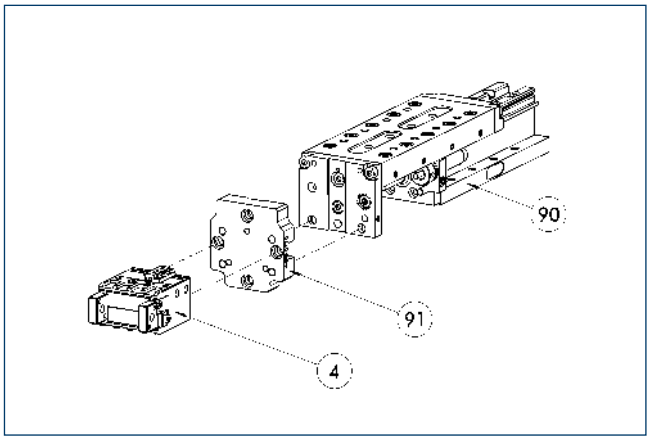
Design – variant 2



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

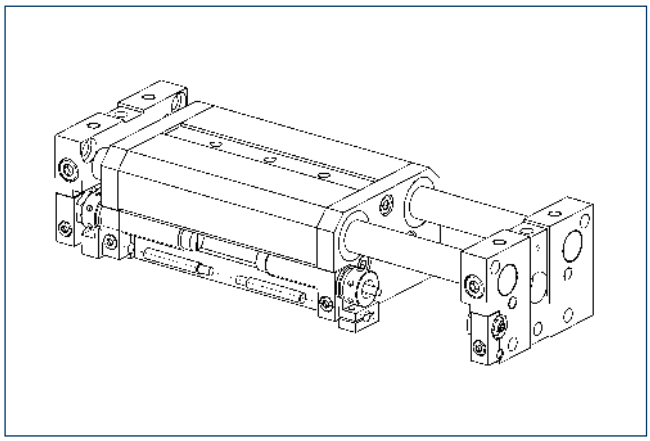
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog "Modular Assembly Automation".

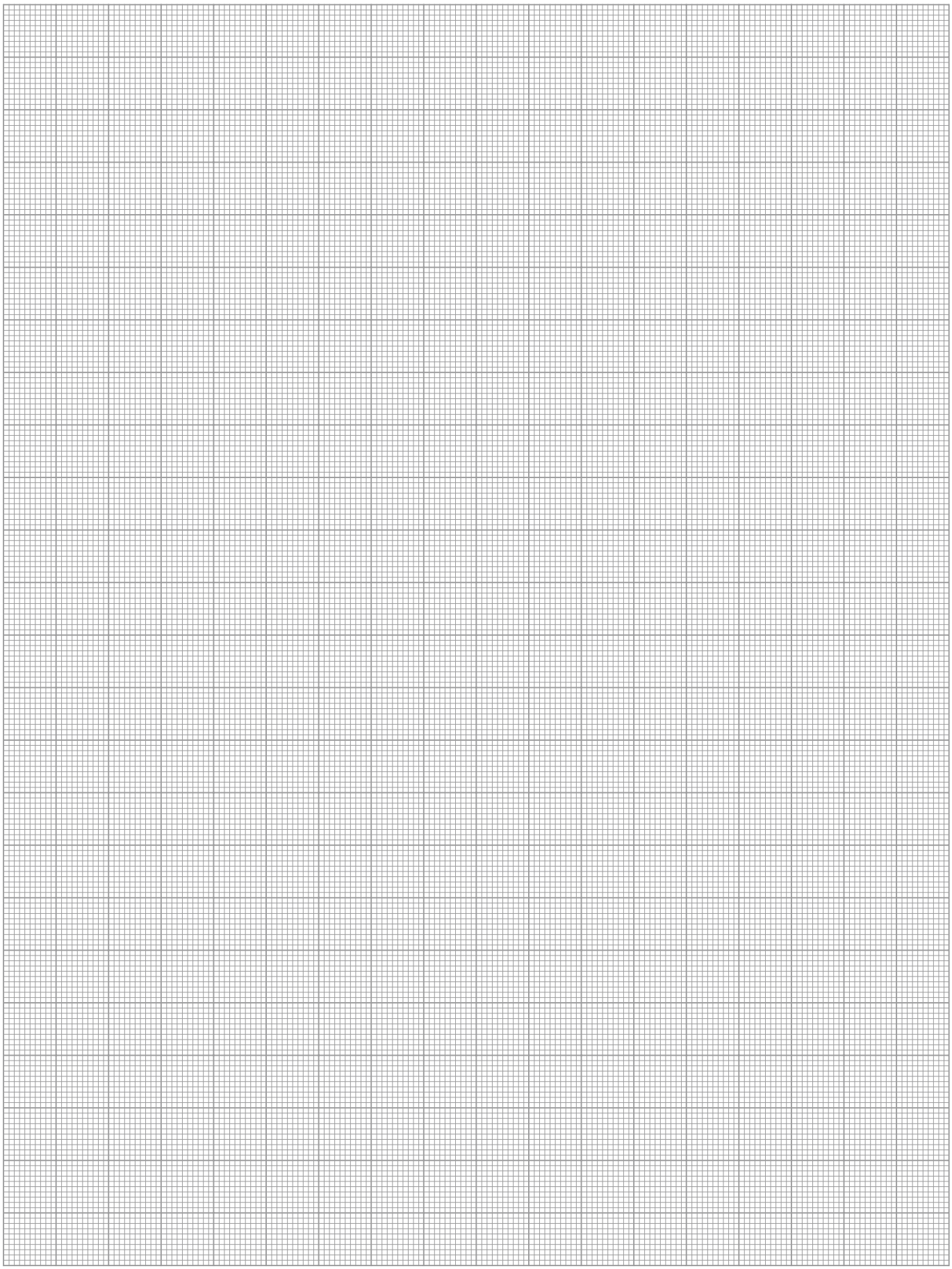
Inductive proximity switches



Directly mounted end position monitoring.

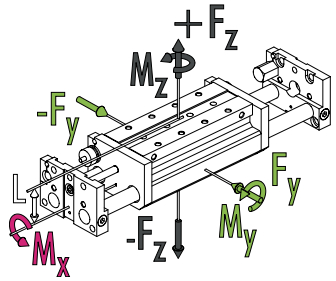
Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.





Forces and moments



For values see technical data table

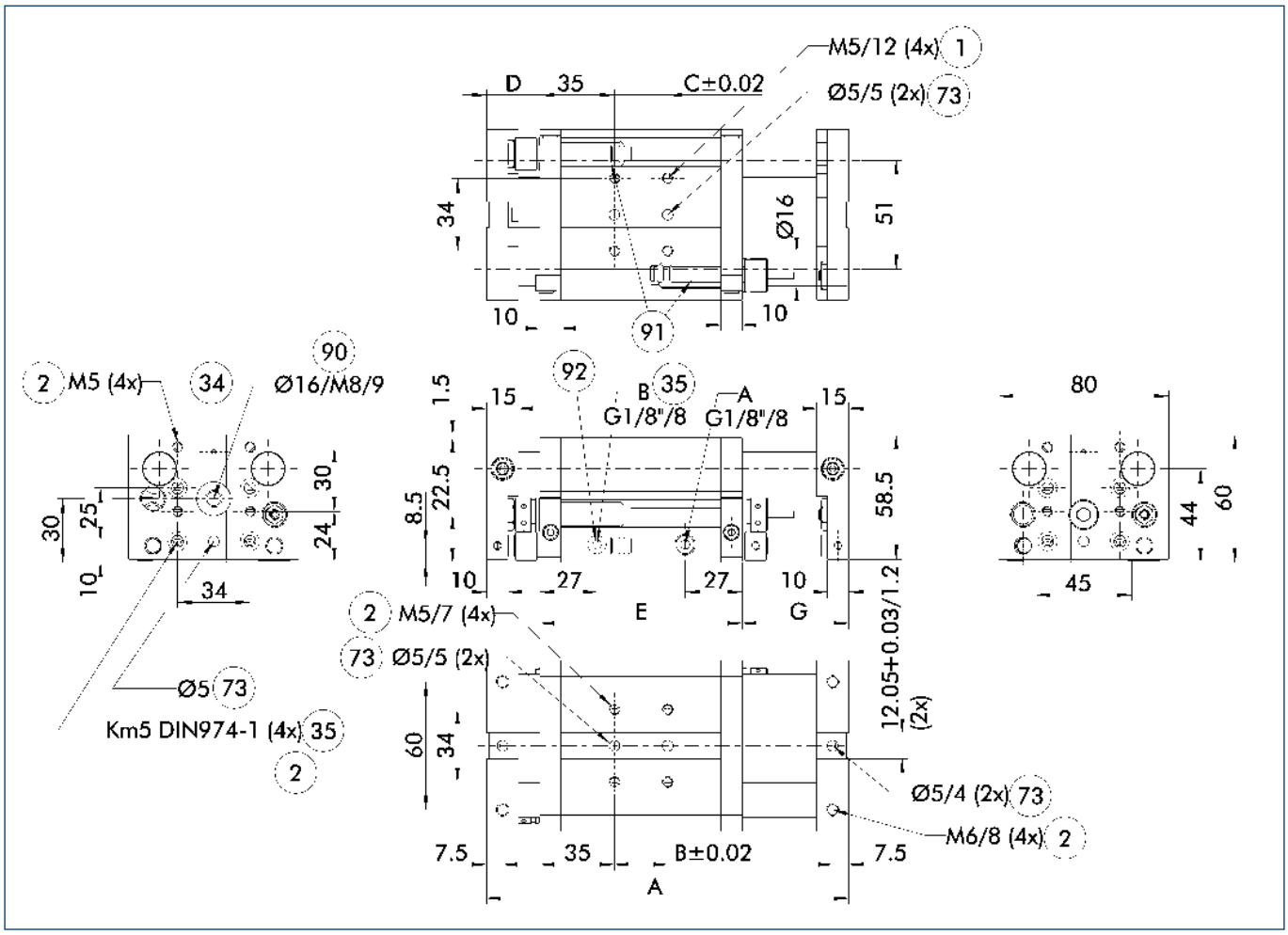
ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		KLM 100-H025	KLM 100-H050	KLM 100-H075	KLM 100-H100	KLM 100-H125	KLM 100-H150
ID		0314023	0314024	0314025	0314026	0314027	0314028
Stroke	[mm]	25	50	75	100	125	150
Extend force	[N]	294	294	294	294	294	294
Retracted force	[N]	226	226	226	226	226	226
Repeat accuracy	[mm]	0.03	0.03	0.03	0.03	0.03	0.03
Piston diameter	[mm]	25	25	25	25	25	25
Bar diameter	[mm]	12	12	12	12	12	12
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	4.9	4.9	4.9	4.9	4.9	4.9
Overall length	[mm]	170	270	270	370	370	470
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	2.3	3	3	3.7	3.7	4.4
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	44	44	44	44	44	44
Moments M_x max./M_y max./M_z max.	[Nm]	25.5/32.5/32.5	13.5/57.5/57.5	13.5/57.5/57.5	11.5/58.5/58.5	11.5/58.5/58.5	7.3/52/52
Forces F_z max.	[N]	999	529	592	449	449	284
Options and their characteristics							
Dust-tight version		KLM 100-H025-SD	KLM 100-H050-SD	KLM 100-H075-SD	KLM 100-H100-SD	KLM 100-H125-SD	KLM 100-H150-SD
ID		0314790	0314791	0314792	0314793	0314794	0314795
Protection class IP		50	50	50	50	50	50
Rod lock version			KLM 100-H050-ASP	KLM 100-H075-ASP	KLM 100-H100-ASP	KLM 100-H125-ASP	KLM 100-H150-ASP
ID			0314424	0314425	0314426	0314427	0314428
Stroke loss of nominal stroke (on the rod side)	[mm]		12	12	12	12	12
Weight	[kg]		3.08	3.08	3.78	3.78	4.48
Static holding force	[N]		600	600	600	600	600
Max. axial backlash of the clamping	[mm]		0.3	0.3	0.3	0.3	0.3
Min. release air pressure	[bar]		3	3	3	3	3

Description		KLM 100-H175	KLM 100-H200	KLM 100-H225
ID		0314029	0314030	0314031
Stroke	[mm]	175	200	225
Extend force	[N]	294	294	294
Retracted force	[N]	226	226	226
Repeat accuracy	[mm]	0.03	0.03	0.03
Piston diameter	[mm]	25	25	25
Bar diameter	[mm]	12	12	12
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Fluid consumption/10 mm stroke	[cm³]	4.9	4.9	4.9
Overall length	[mm]	470	570	570
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	4.4	5.1	5.1
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	44	44	44
Moments M_x max./M_y max./M_z max.	[Nm]	7.3/52/52	5/44.5/44.5	5/44.5/44.5
Forces F_z max.	[N]	284	194	194
Options and their characteristics				
Dust-tight version		KLM 100-H175-SD	KLM 100-H200-SD	KLM 100-H225-SD
ID		0314796	0314797	0314798
Protection class IP		50	50	50
Rod lock version		KLM 100-H175-ASP	KLM 100-H200-ASP	KLM 100-H225-ASP
ID		0314429	0314430	0314431
Stroke loss of nominal stroke (on the rod side)	[mm]	12	12	12
Weight	[kg]	4.48	5.18	5.18
Static holding force	[N]	600	600	600
Max. axial backlash of the clamping	[mm]	0.3	0.3	0.3
Min. release air pressure	[bar]	3	3	3

Main view



The linear module can be fastened either to the base body or the face plates. The structure can also optionally be fastened to either the face plates or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the face plates.

A Main connection – linear unit extended

B Main connection – linear unit retracted

(1) Connection linear unit

(2) Attachment connection

(34) On both sides

(35) Back side

(73) Fit for centering pins

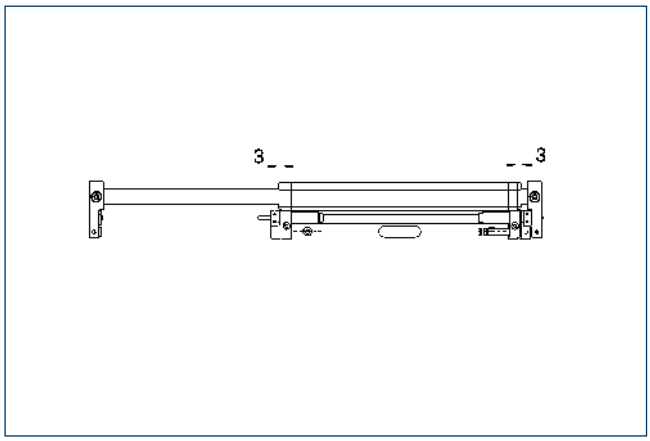
(90) Through-holes in the face plate and thread in the base body (only single sided)

(91) Inductive proximity switches

(92) Air connection "B" only for stroke 025 at the rear

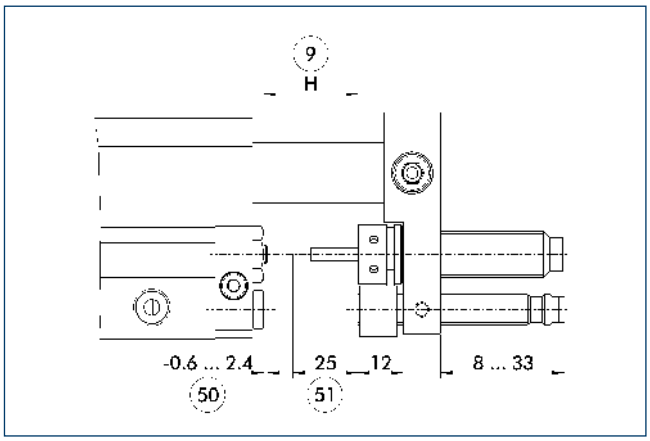
Description	A	B	Quantity B	C	Quantity C	D	E	G
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]
KLM 100-H025	170	25	1	25	1	25	95	50
KLM 100-H050	270	25	3	25	3	25	145	100
KLM 100-H075	270	25	3	25	3	25	145	100
KLM 100-H100	370	25	5	25	5	25	195	150
KLM 100-H125	370	25	5	25	5	25	195	150
KLM 100-H150	470	25	7	25	7	25	245	200
KLM 100-H175	470	25	7	25	7	25	245	200
KLM 100-H200	570	25	9	25	9	25	295	250
KLM 100-H225	570	25	9	25	9	25	295	250

Dust-tight version



The dust cover option increases the protection against external particles.

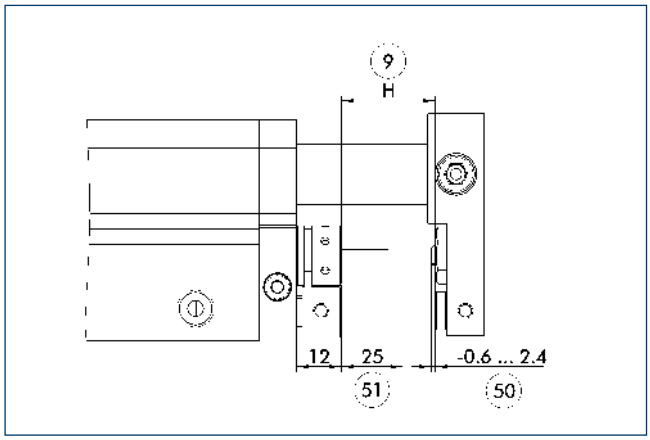
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the face plates. This illustration shows the mounting on the face plates and the possibility of stroke fine adjustment.

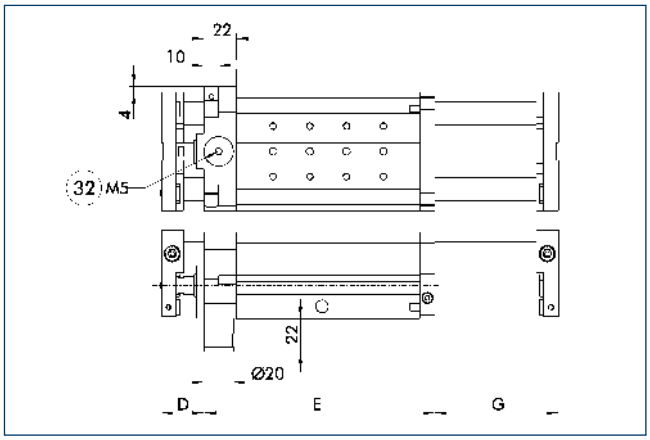
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the face plates. This illustration shows the mounting on the base body and the possibility of stroke fine adjustment.

Rod lock

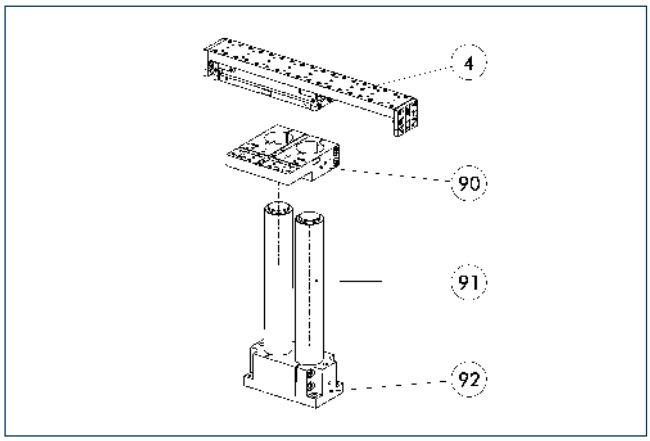


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop situations. The rod lock can also be retrofitted, but this will reduce the effective stroke.

Description	D	E	G
	[mm]	[mm]	[mm]
KLM 100-H050-ASP	25	157	88
KLM 100-H075-ASP	25	157	88
KLM 100-H100-ASP	25	207	138
KLM 100-H125-ASP	25	207	138
KLM 100-H150-ASP	25	257	198
KLM 100-H175-ASP	25	257	198
KLM 100-H200-ASP	25	307	238
KLM 100-H225-ASP	25	307	238

Attachment to a pillar assembly system

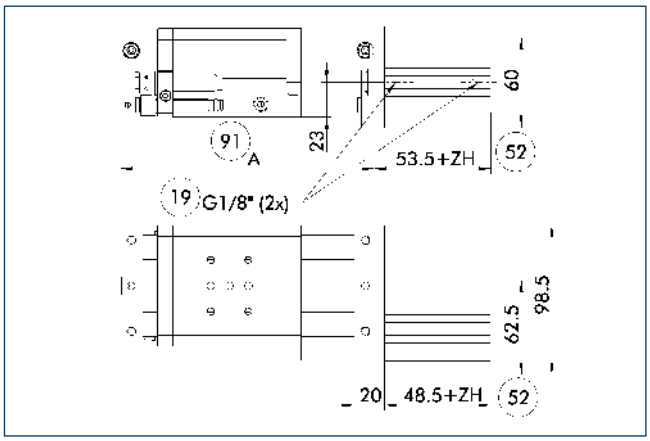


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 35	0313893	35	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

ZZA intermediate stop on the piston side



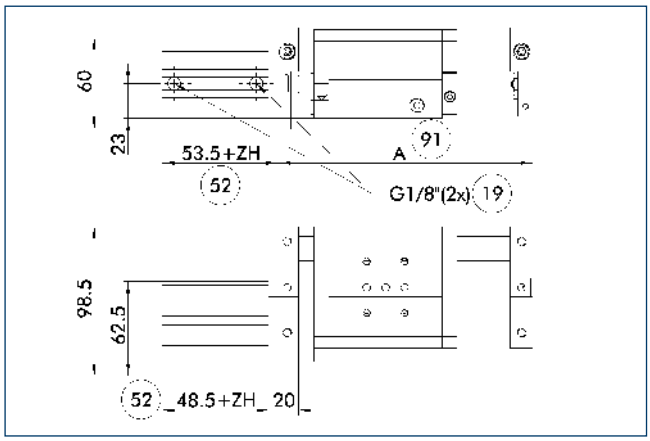
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA105	460	0.75	0.006

ⓘ Sample order KLM 100-H100-ZZA105-H30

ZZA intermediate stop on the piston rod side



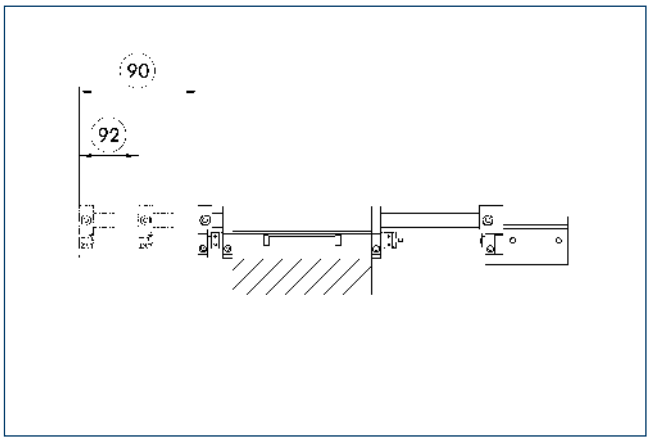
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 106	460	0.75	0.006

ⓘ Sample order KLM 100-H100-ZZA106-H30

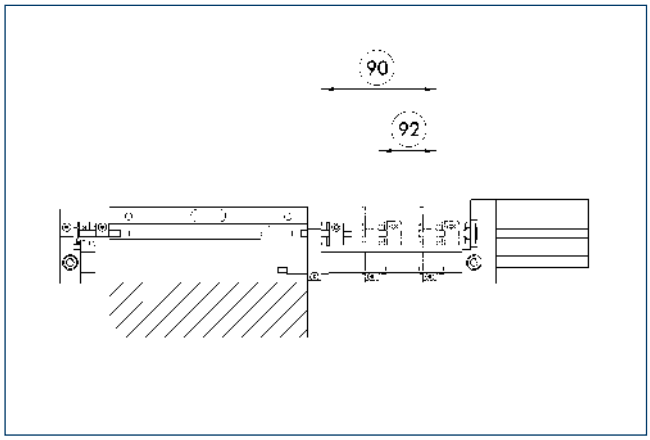
Design – variant 1



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

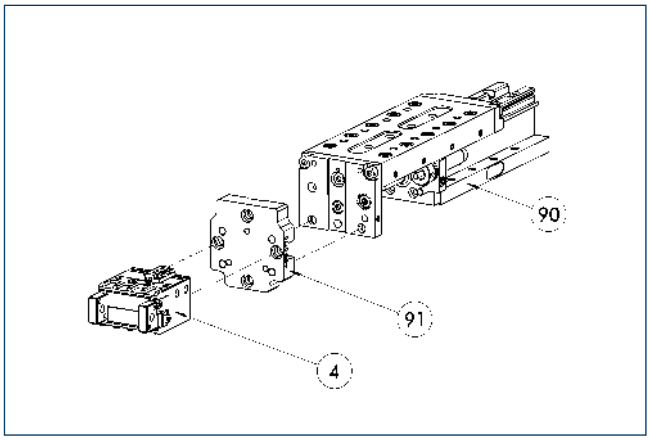
Design – variant 2



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

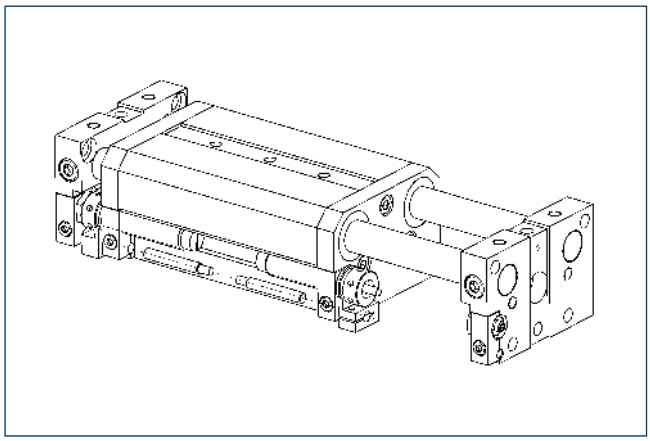
Modular assembly automation



(4) Grippers
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules
(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog "Modular Assembly Automation".

Inductive proximity switches



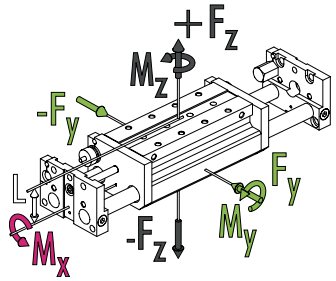
Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



Forces and moments



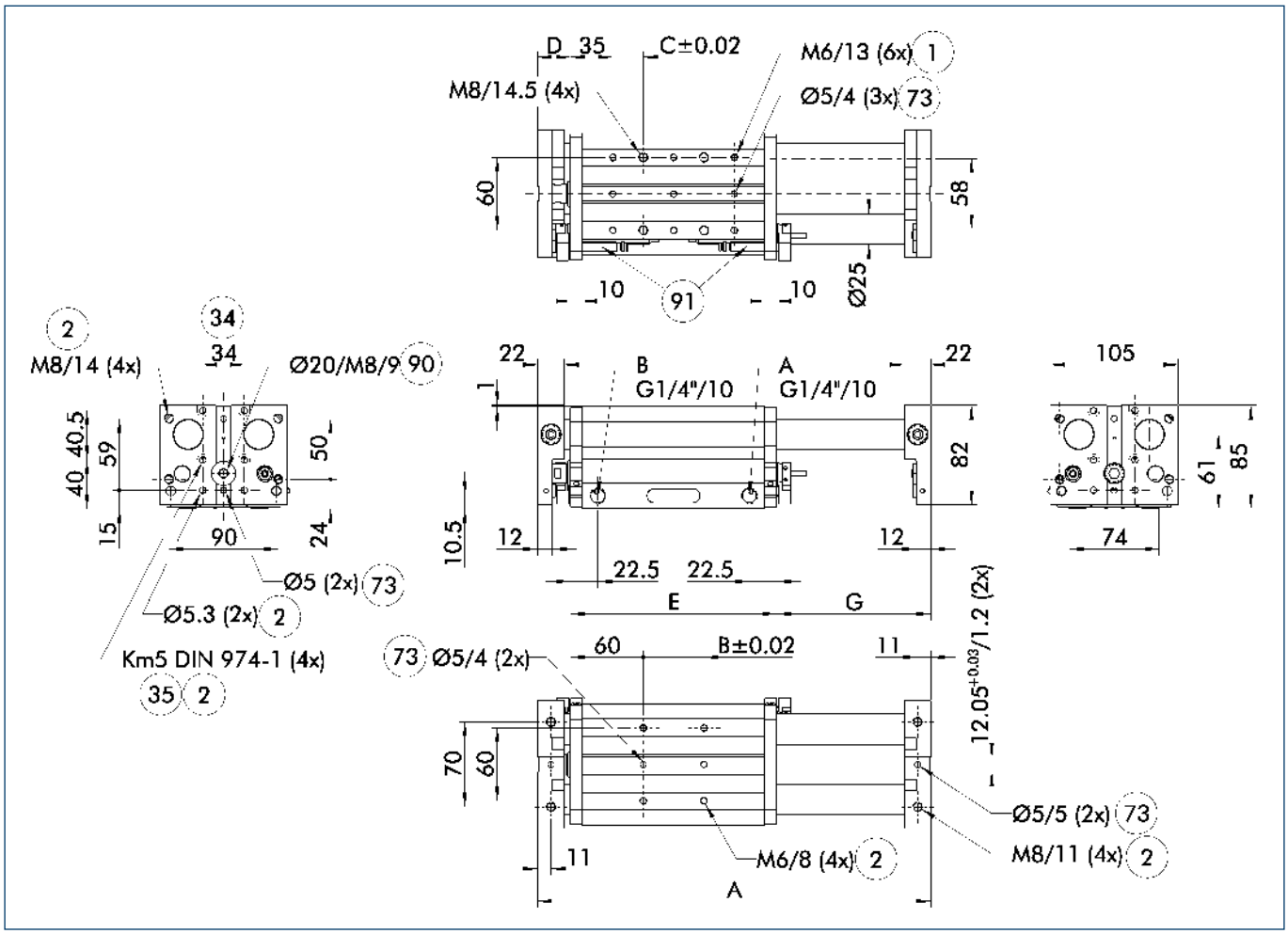
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If more than one force and/or moment occurs simultaneously, the case of application can be calculated by the TOOLBOX. The force F_y can just be calculated by the TOOLBOX.

Technical data

Description		KLM 300-H050	KLM 300-H100	KLM 300-H150	KLM 300-H200	KLM 300-H250	KLM 300-H300
ID		0314550	0314554	0314558	0314562	0314566	0314570
Stroke	[mm]	50	100	150	200	250	300
Extend force	[N]	753	753	753	753	753	753
Retracted force	[N]	633	633	633	633	633	633
Repeat accuracy	[mm]	0.03	0.03	0.03	0.03	0.03	0.03
Piston diameter	[mm]	40	40	40	40	40	40
Bar diameter	[mm]	16	16	16	16	16	16
Min./max. operating pressure	[bar]	3/8	3/8	3/8	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6	6	6	6
Fluid consumption/10 mm stroke	[cm³]	12.57	12.57	12.57	12.57	12.57	12.57
Overall length	[mm]	324	324	524	524	724	724
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	6.9	6.8	9.8	9.7	12.7	12.6
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Length L	[mm]	61	61	61	61	61	61
Moments M_x max./M_y max./M_z max.	[Nm]	90/200/200	90/200/200	72/350/350	72/350/350	54/415/415	54/415/415
Forces F_z max.	[N]	3120	3120	2490	2490	1870	1870
Options and their characteristics							
Dust-tight version		KLM 300-H050-SD	KLM 300-H100-SD	KLM 300-H150-SD	KLM 300-H200-SD	KLM 300-H250-SD	KLM 300-H300-SD
ID		0314552	0314556	0314560	0314564	0314568	0314572
Protection class IP		50	50	50	50	50	50
Rod lock version		KLM 300-H050-ASP	KLM 300-H100-ASP	KLM 300-H150-ASP	KLM 300-H200-ASP	KLM 300-H250-ASP	KLM 300-H300-ASP
ID		0314551	0314555	0314559	0314563	0314567	0314571
Stroke loss of nominal stroke (on the rod side)	[mm]	22	22	22	22	22	22
Weight	[kg]	7.4	7.3	10.3	10.2	13.2	13.1
Static holding force	[N]	1000	1000	1000	1000	1000	1000
Max. axial backlash of the clamping	[mm]	0.25	0.25	0.25	0.25	0.25	0.25
Min. release air pressure	[bar]	3	3	3	3	3	3

Main view

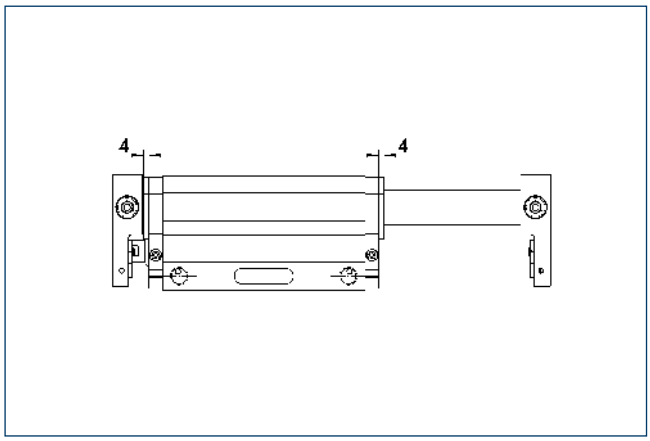


The linear module can be fastened either to the base body or the face plates. The structure can also optionally be fastened to either the face plates or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the face plates.

A Main connection – linear unit extended
B Main connection – linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(34) On both sides
(35) Back side
(73) Fit for centering pins
(90) Through-holes in the face plate and thread in the base body (only single sided)
(91) Inductive proximity switches

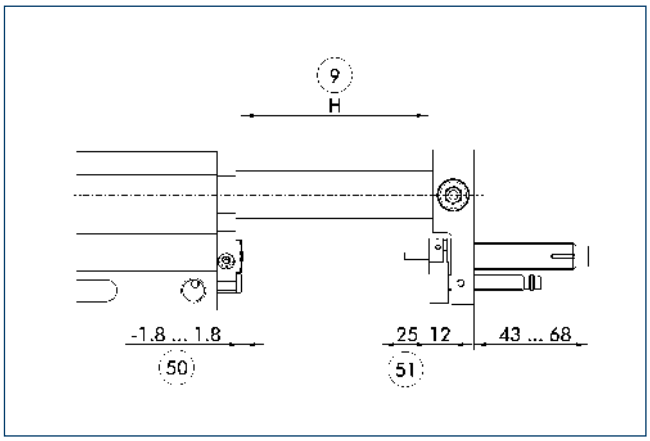
Description	A	B	Quantity B	C	Quantity C	D	E	G
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]
KLM 300-H050	324	50	1	25	4	27	170	127
KLM 300-H100	324	50	1	25	4	27	170	127
KLM 300-H150	524	50	3	25	8	27	270	227
KLM 300-H200	524	50	3	25	8	27	270	227
KLM 300-H250	724	50	5	25	12	27	370	327
KLM 300-H300	724	50	5	25	12	27	370	327

SD dust-tight version



The dust cover option increases the protection against external particles.

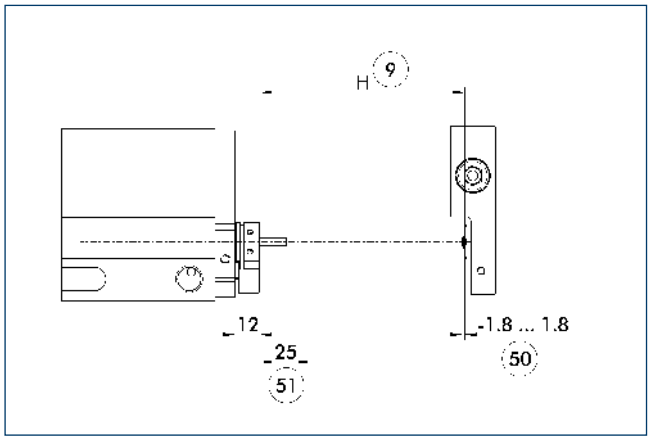
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the face plates. This illustration shows the mounting on the face plates and the possibility of stroke fine adjustment.

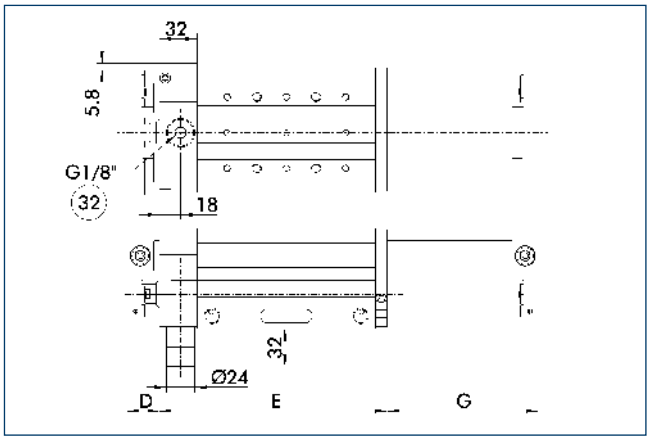
Fine adjustment



(9) Effective stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

Shock absorbers can be mounted either on the base body or on the face plates. This illustration shows the mounting on the base body and the possibility of stroke fine adjustment.

Rod lock

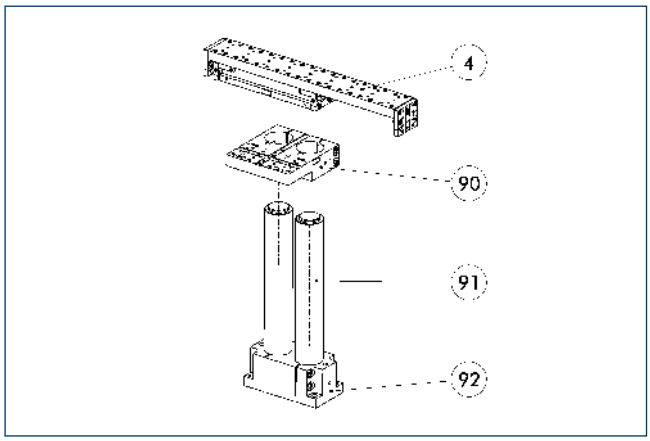


(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop situations. The rod lock can also be retrofitted, but this will reduce the effective stroke.

Description	D	E	G
	[mm]	[mm]	[mm]
KLM 300-H050-ASP	27	192	105
KLM 300-H100-ASP	27	192	105
KLM 300-H150-ASP	27	292	205
KLM 300-H200-ASP	27	292	205
KLM 300-H250-ASP	27	392	305
KLM 300-H300-ASP	27	392	305

Attachment to a pillar assembly system

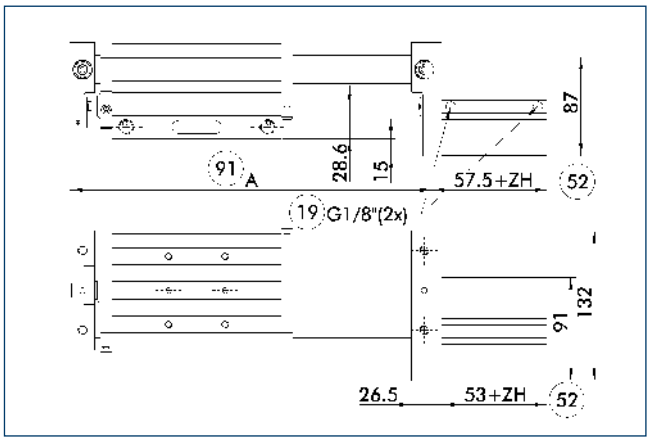


(4) Linear unit
(90) APDH double mounting plate
(91) Pillars, hard-chromium plated, ground
(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 85	0313416	55	Aluminum
APEH 85	0313413	55	Aluminum
APEV 85	0313415	55	Aluminum

ZZA intermediate stop on the piston side

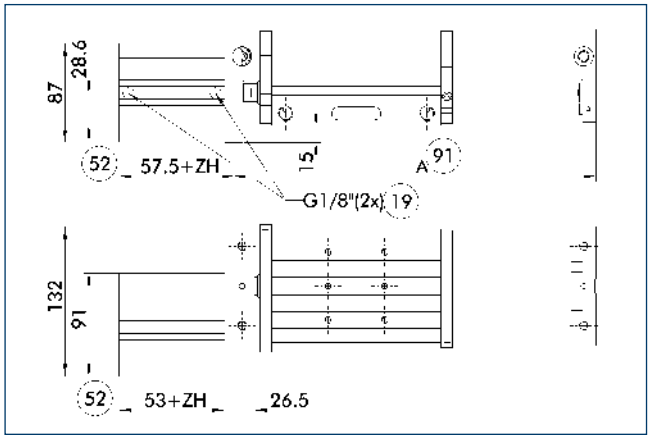


(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 305	1117	2.1	0.011

ZZA intermediate stop on the piston rod side



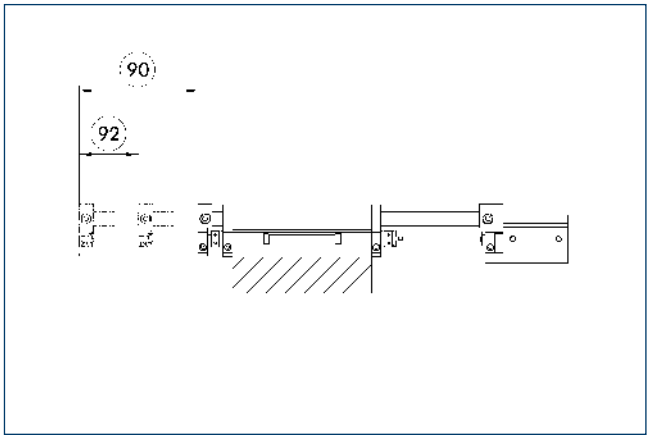
(19) Air connection
(52) Intermediate stroke
(91) Overall length "A", the variant without intermediate stroke (see measurement chart of stroke variants)

The intermediate position is measured from the respective end position. The intermediate position can be approached from both sides and can proceed in the original stroke direction. The holding force is the piston force of the intermediate stop less the piston force of the linear module.

Description	Holding force	With with 0 mm stroke	Weight per mm stroke
	[N]	[kg]	[kg]
Intermediate stop			
ZZA 306	1117	2.1	0.011

ⓘ Sample order KLM 300-H100-ZZA306-H100

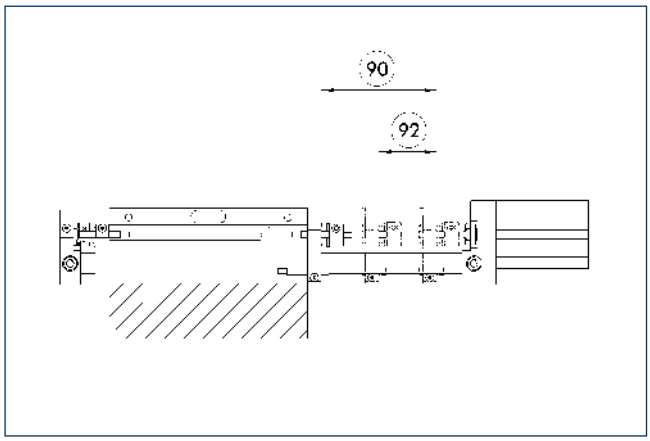
Design – variant 1



(90) Nominal stroke
(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

Design – variant 2

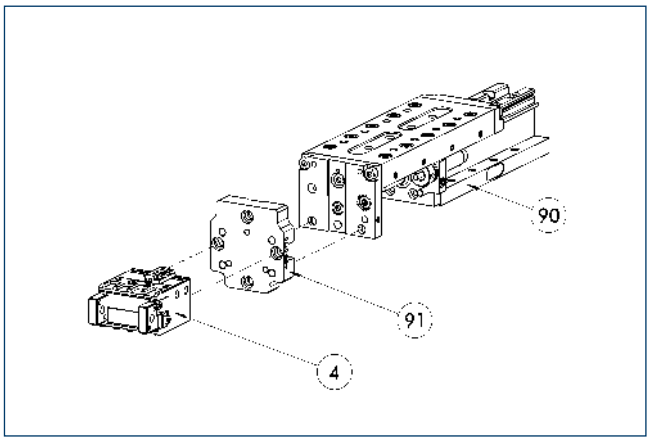


(90) Nominal stroke

(92) Intermediate stroke

The corresponding intermediate stroke (ZH) is calculated by subtracting the intermediate stop cylinder stroke from the nominal stroke of the module. The intermediate stroke adjustment is ±3 mm.

Modular assembly automation



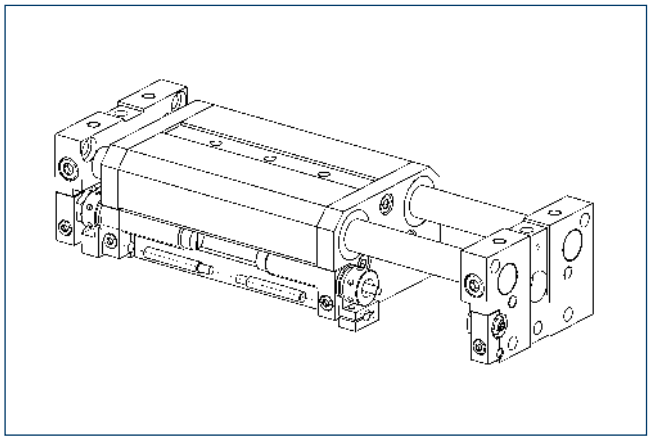
(4) Grippers

(91) ASG adapter plate

(90) CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog "Modular Assembly Automation".

Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Loadable. Modular. Precise.

PMP Gantry Axis

With integrated pneumatic drive cylinder and scope-free, pretensioned recirculating ball-bearing guides.

Field of Application

For economic, robust, and precise gantry systems with long stroke range. Use in dirty environments is also possible due to the "bellow" option. Standardized connecting elements permit numerous combinations with other system components of modular assembly automation.



Advantages – Your benefits

High moment load capacity due to the use of high-performance profiled rail guides

High degree of rigidity due to special extruded profile geometry

High precision through machined locating surfaces for the guide

Efficient complete solutions due to numerous axis combination possibilities

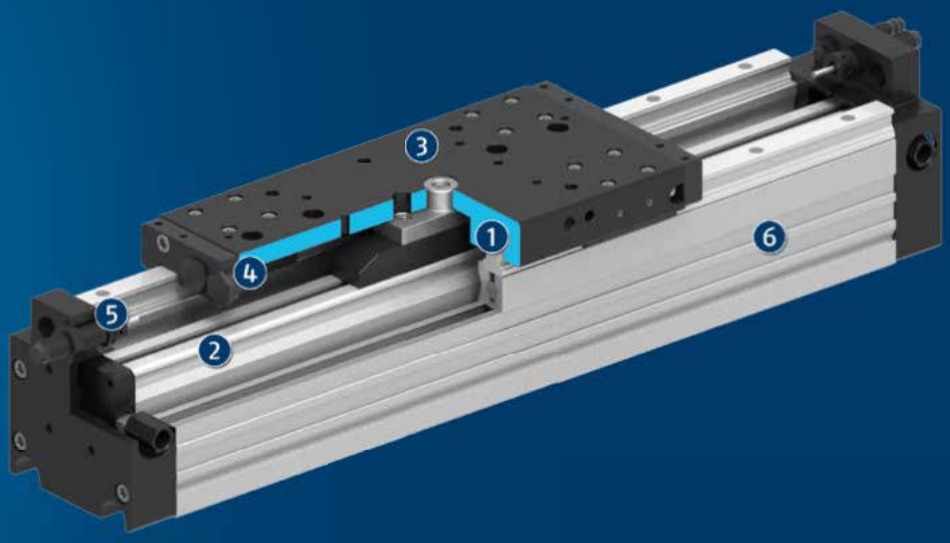
Manifold options (cable drag chain, bellow, intermediate position, etc.) for special optimization to fit your particular application

Standardized mounting bores for numerous combinations with other components from the modular system

Sizes	Effective stroke	Driving force	Moment loading	Repeat accuracy
Quantity: 2	800 .. 3700 mm	100 .. 250 N	300 .. 500 Nm	0.04 mm

Functional Description

The axis carriage is driven by a rodless pneumatic cylinder and precisely guided profiled rail guides.



① **Profiled rail guide**
for maximum positioning accuracy and moment loads

② **Drive**
Rodless cylinder; easy and yet reliable

③ **Mounting pattern**
Completely integrated in the module system

④ **Damping adjustment**
Adjustment of the damping characteristics

⑤ **End position adjustability**
Convenient adjustment using the shock absorber threads

⑥ **Profile**
Self-supporting and robust

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Housing material: Extruded aluminum profile; hardened steel functional components

Guidance: Ball bearing guide

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Repeat accuracy: is defined as the distribution of the end positions for 100 consecutive cycles.

Stroke: is the maximum nominal stroke of the unit. This can be shortened on both sides by the shock absorbers.

Layout or control calculation: For layout or sizing of the modules, we recommend using our software TOOLBOX, which can be downloaded online. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result.

Ambient conditions: The modules are particularly designed for the use in clean ambient conditions. If other ambient conditions should be given, SCHUNK offers various options to protect the units. Please contact us for assistance.

Application Example

Pneumatic cross gantry with intermediate position for converting medium-sized components.

1. SOE Single Base Support
2. SLH Hollow Pillar
3. APEV Single Mounting Plate
4. APPM Adapter Plate
5. PMP Gantry Module
6. APL Adapter Plate
7. LM Linear Module
8. ASG Adapter
9. PZN-plus 3-Finger Universal Gripper



SCHUNK offers more ...

The following components make the product PMP even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Intermediate Stop



Fittings



T-Nuts



Adapter Plate



Drag Chain



SAS Pillar Assembly System



Sensor Cables



Inductive Proximity Switches



SDV-P Pressure Maintenance Valve



Bellows Cover

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Bellow version: Increased degree of protection against penetrating materials; for use in dirty environments. This module can be combined as standard with many elements from the modular system. We can assist you with questions.

Sample Order

PMP – S – 25 – 0600 – 0 – 0 – 00 – 000

Bellow
S = without
F = with

Size
16
25

Useful stroke

Shock absorber
0 = without shock absorber
1 = with 1 shock absorber per end position
2 = with 2 shock absorbers per end position (only size 25)

Number of proximity switches

Cable track
0 = without cable track
1 = KSV, vertical slide
2 = KSH, horizontal slide

Attachment variant, cable track
1 = Variant 1

Intermediate position
0 = without intermediate position
1 = with AS 25-1 stop slide
2 = with AS 25-2 stop slide

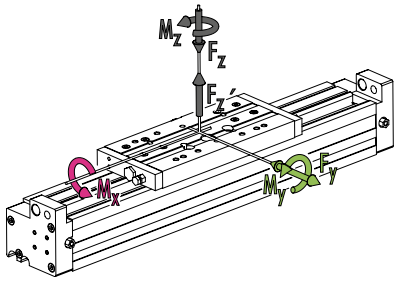
Attachment, stop slide
1 = on the air-connection side (only size 25)
2 = opposite the air connection
3 = on both sides (only size 25)

Number of intermediate stops

ⓘ Not all combinations of options are possible. Please contact us to find the right combination for your application.



Moment loading



- M_x max. 80 Nm
- F_y max. 3000 N
- M_y max. 300 Nm
- F_z max. 3000 N
- M_z max. 300 Nm

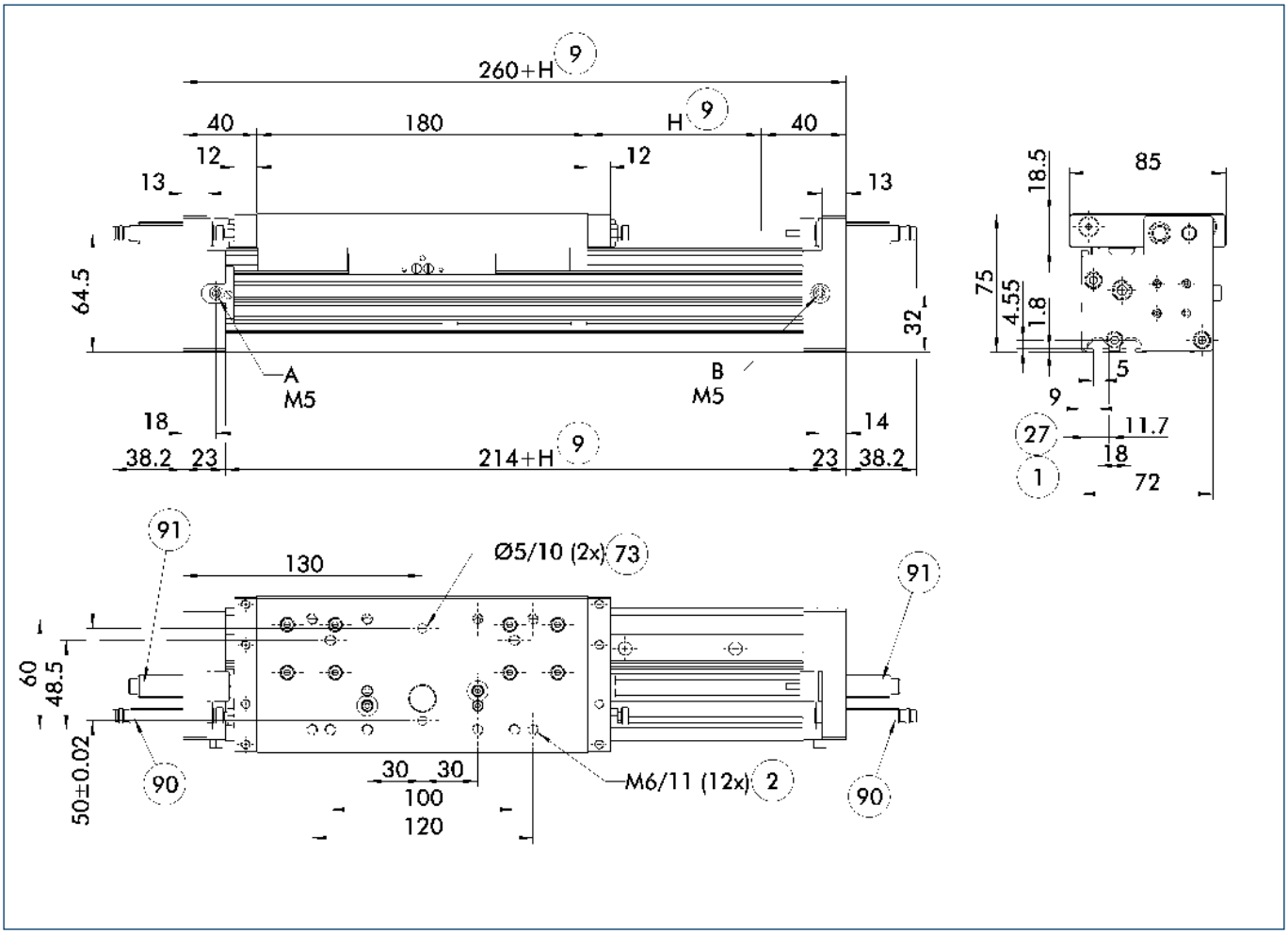
ⓘ Moments and forces may occur simultaneously.

Technical data

Description		PMP-S-16	PMP-F-16
Max. stroke	[mm]	3700	800
Max. driving force	[N]	100	100
Repeat accuracy	[mm]	0.04	0.04
Piston diameter	[mm]	16	16
Min./max. operating pressure	[bar]	3/8	3/8
Nominal operating pressure	[bar]	6	6
Fluid consumption/10 mm stroke	[cm³]	2	2
Min./max. ambient temperature	[°C]	5/60	5/60
Weight	[kg]	3	4
Weight per 1 mm stroke	[kg]	0.0065	0.0085
Drive concept		Cylinder without piston rod	Cylinder without piston rod

ⓘ The specified weight arises at 0 mm stroke. The weight of the module increases by the value specified in the table for each 1 mm stroke.

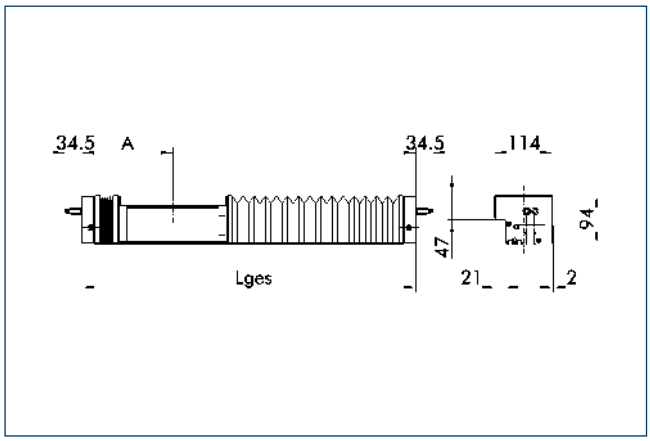
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

A Main connection – linear unit extended
B Main connection – linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(9) Effective stroke
(27) Fastening groove for T-nuts
(73) Fit for centering pins
(90) NI 30-KT
(91) LMST 101-KT

Bellow



The "Bellow" option increases the degree of protection against penetrating materials. The variable dimensions are calculated as follows:

ⓘ F_z = nominal stroke x 0.0375 [rounded to the nearest whole number];
FBB = F_z x 3.3 [rounded to nearest whole number];
L_{ges} = 278 + nominal stroke + 2 x FBB; A = 139 + FBB

KSH cable track, horizontal slide

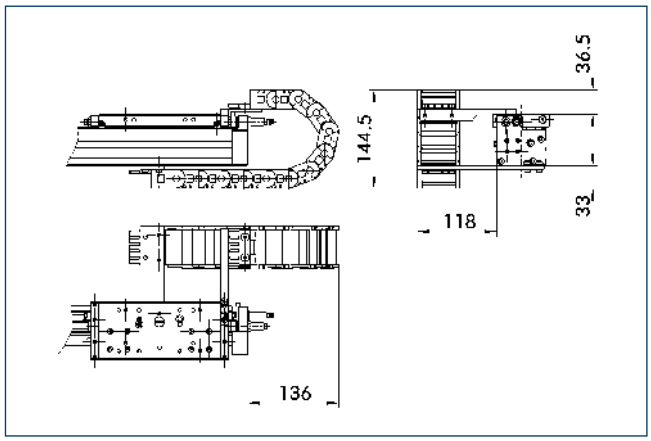


Illustration: Attachment variant 1. Other attachment variants are possible as standard. Please contact us for assistance.

KSV cable track, vertical slide

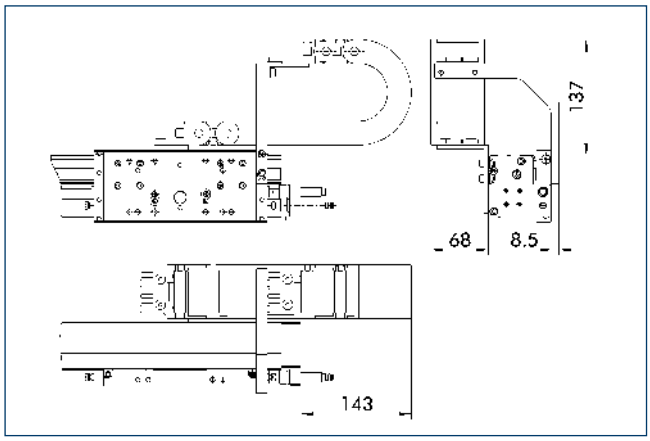
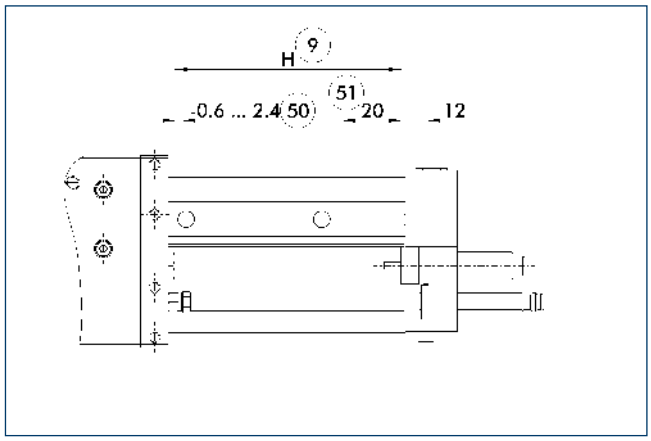


Illustration: Attachment variant 1. Other attachment variants are possible as standard. Please contact us for assistance.

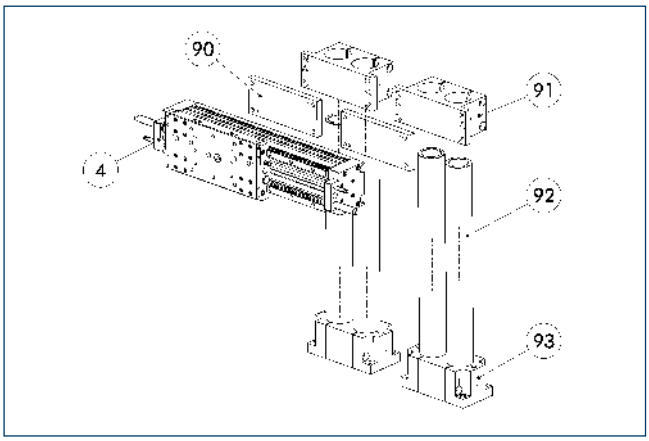
Stroke adjustment



(9) Nominal stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

The nominal stroke for each end position can be finely adjusted by screwing out the shock absorber.

Attachment to a pillar assembly system

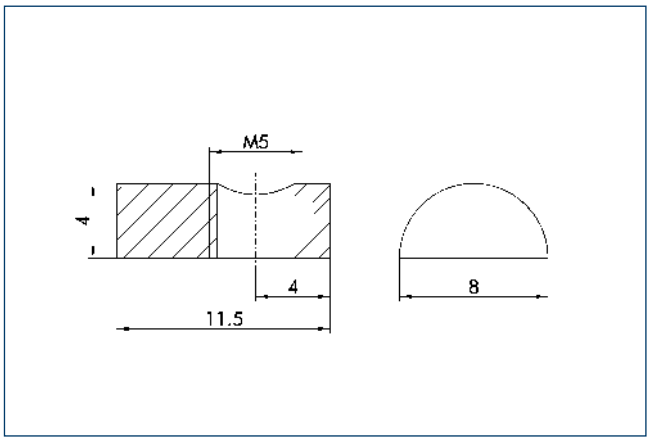


(4) Linear unit
(90) AGH adapter plate
(91) ADV mounting plate
(92) Pillars, hard-chromium plated, ground
(93) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

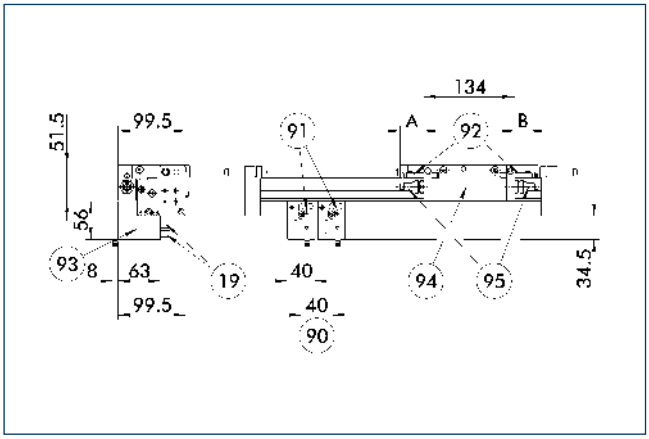
Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
AEV 55	0313516	55	Aluminum

Mounting



Description	ID	
T-Nuts		
NT-M5	0313607	

Stop slide

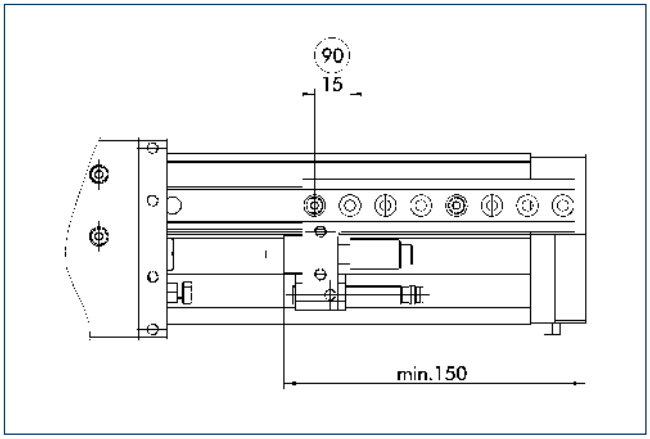


(19) Air connection
(90) ZA minimum distance between the intermediate stops
(91) NI 40
(92) NI 30-KT
(93) ZA 16
(94) AS 16
(95) STD 1200

By assembling AS and ZA, several intermediate positions can be achieved. For the AS 16-1 stop slide, the intermediate position can only be approached from one side. For the AS 16-2 stop slide, the intermediate position can be approached from both sides. The first intermediate position minimum 30 mm after the start position.

Description	ID	A	B	Number of hydraulic shock absorbers
		[mm]	[mm]	
Intermediate stop				
ZA 16	0314143			
Stop slide				
AS 16-1	0314145	5	35	1
AS 16-2	0314146	35	35	2

Variable end stop



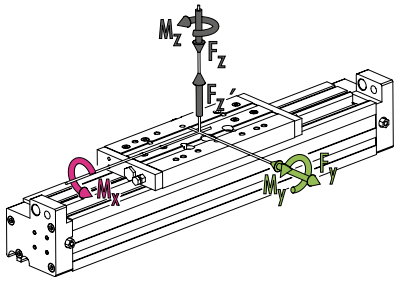
(90) Grid dimension, stroke adjustment

With the variable end stop, the end positions can be continuously adjusted over the whole length of the stroke, for example, for arranging the profile lengths independent from the actual used stroke. Additional carrier profiles are then no more needed.

Description	ID	
Variable end stop		
VEP-F 16	0313604	
VEP-S 16	0313603	



Moment loading



M_x max. 250 Nm
F_y max. 4200 N
M_y max. 500 Nm
F_z max. 4200 N
M_z max. 500 Nm

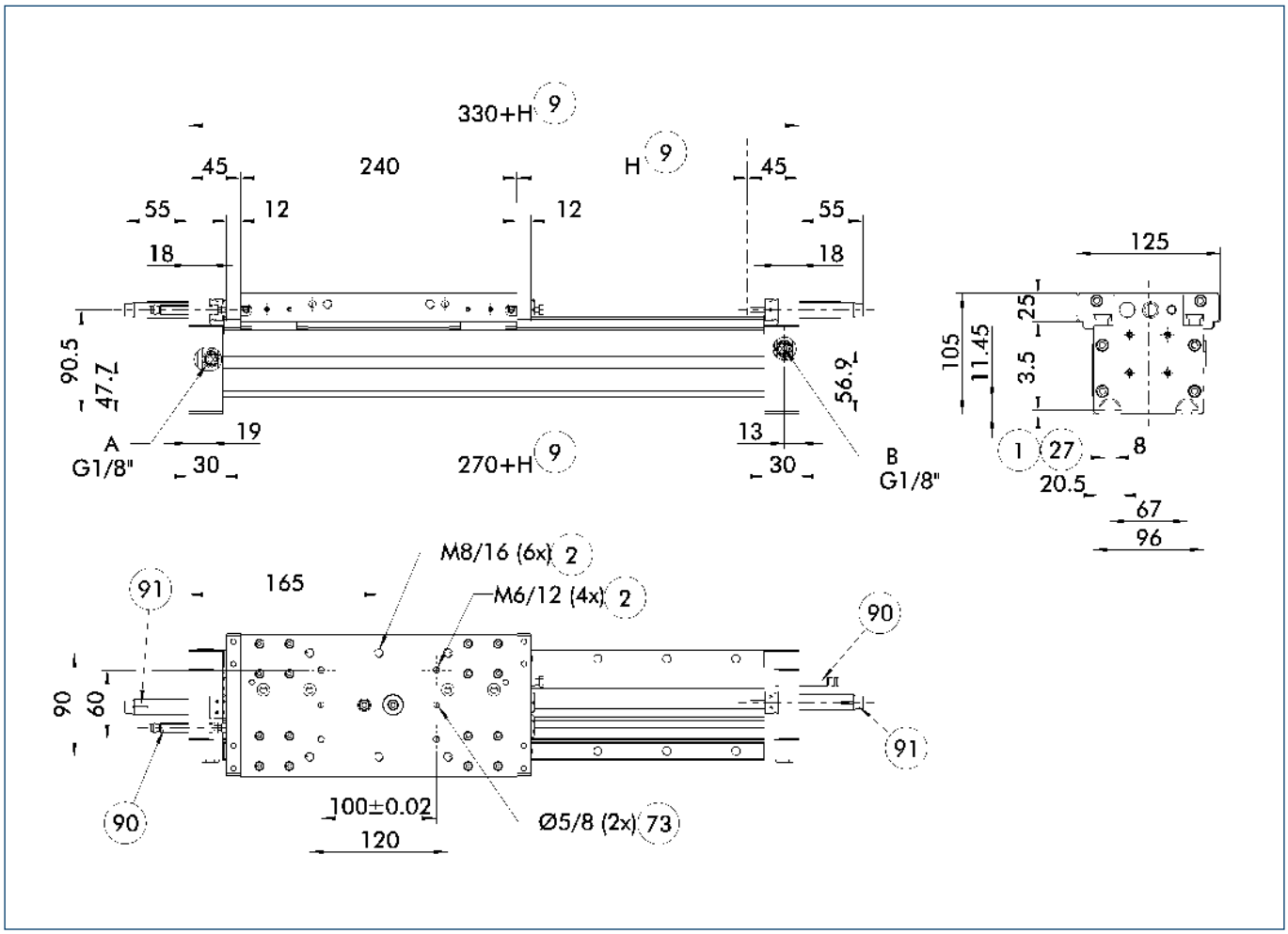
ⓘ Moments and forces may occur simultaneously.

Technical data

Description		PMP-S-25	PMP-F-25
Max. stroke	[mm]	3700	1000
Max. driving force	[N]	250	250
Repeat accuracy	[mm]	0.04	0.04
Piston diameter	[mm]	25	25
Min./max. operating pressure	[bar]	3/8	3/8
Nominal operating pressure	[bar]	6	6
Fluid consumption/10 mm stroke	[cm³]	4.9	4.9
Min./max. ambient temperature	[°C]	5/60	5/60
Weight	[kg]	6.8	8.8
Weight per 1 mm stroke	[kg]	0.0103	0.0134
Drive concept		Cylinder without piston rod	Cylinder without piston rod

ⓘ The specified weight arises at 0 mm stroke. The weight of the module increases by the value specified in the table for each 1 mm stroke.

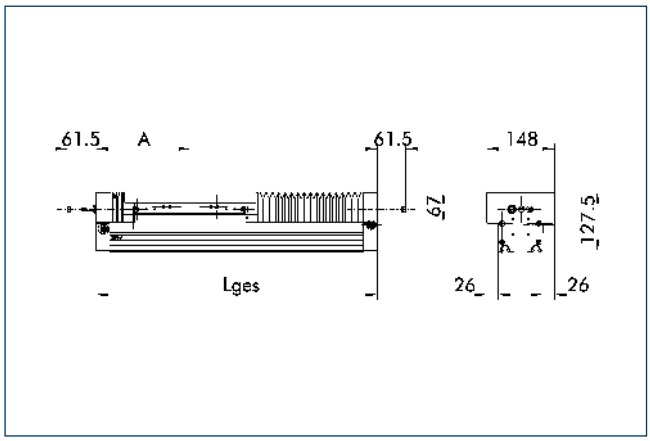
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

A Main connection – linear unit extended
B Main connection – linear unit retracted
(1) Connection linear unit
(2) Attachment connection
(9) Effective stroke
(27) Fastening groove for T-nuts
(73) Fit for centering pins
(90) NI 30-KT
(91) LMST 200-KT

Bellow



The "Bellow" option increases the degree of protection against penetrating materials. The variable dimensions are calculated as follows:

ⓘ F_z = nominal stroke x 0.0288 [rounded to nearest whole number];
FBB = F_z x 3.3 [rounded to nearest whole number];
L_{ges} = 370 + nominal stroke + 2 x FBB; A = 185 + FBB

KSH cable track, horizontal slide

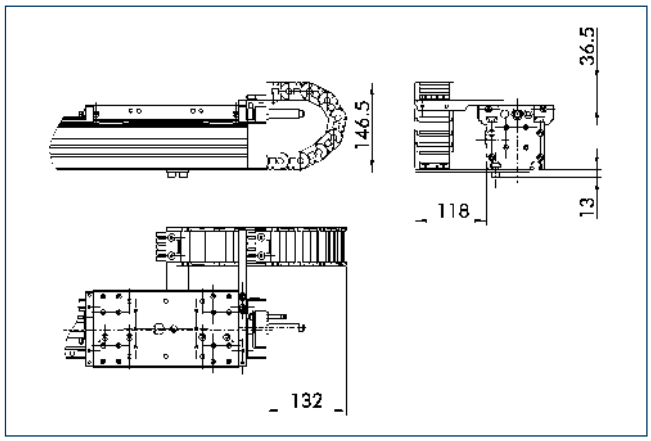


Illustration: Attachment variant 1. Other attachment variants are possible as standard. Please contact us for assistance.

KSV cable track, vertical slide

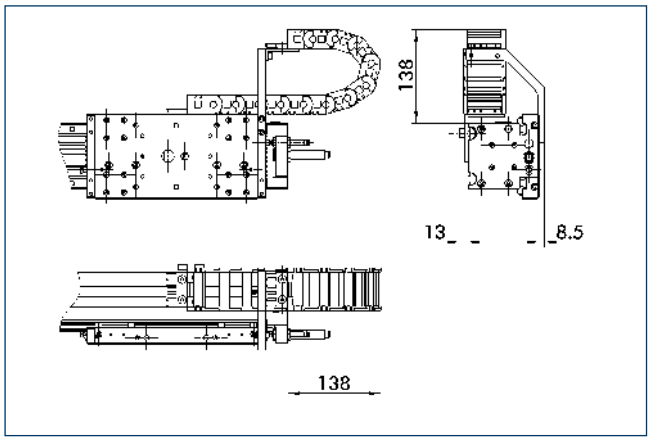
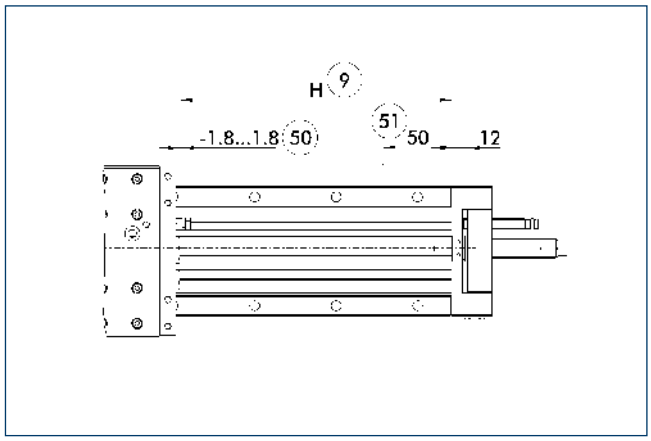


Illustration: Attachment variant 1. Other attachment variants are possible as standard. Please contact us for assistance.

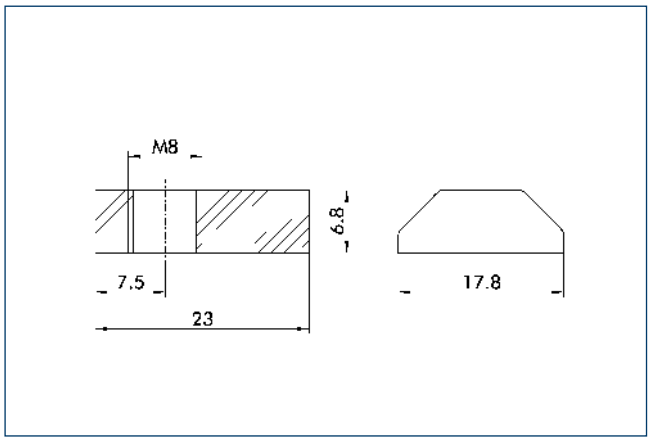
Stroke adjustment



(9) Nominal stroke
(50) Damping stroke adjustment range
(51) Stroke adjustment range

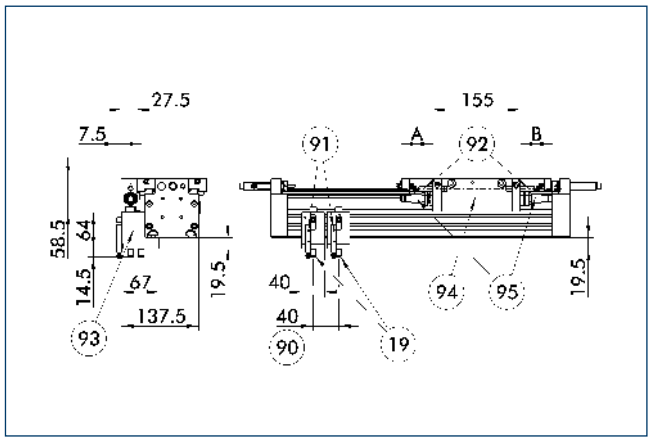
The nominal stroke for each end position can be finely adjusted by screwing out the shock absorber.

Mounting



Description	ID	
T-Nuts		
NT-M8	0313608	

Stop slide

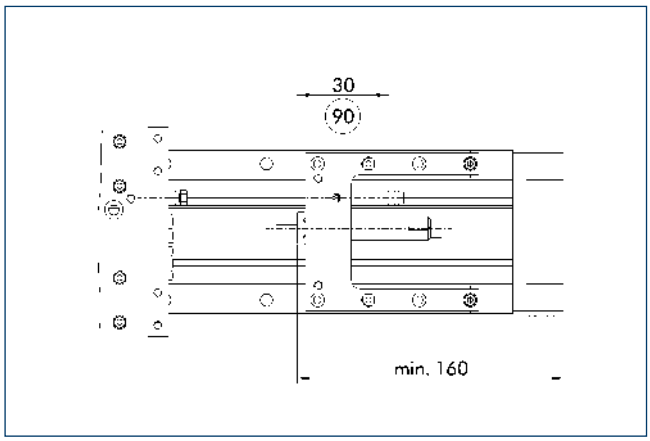


19 Air connection
90 Minimum distance between the intermediate stops, ZA
91 NI 40
92 NI 30-KT
93 ZA 25
94 AS 25
95 STD 1403

By assembling AS and ZA, several intermediate positions can be achieved. For the AS 25-1 stop slide, the intermediate position can only be approached from one side. For the AS 25-2 stop slide, the intermediate position can be approached from both sides. It is also possible to attach two stop slides to the main slide. The first intermediate position minimum 30 mm after the start position.

Description	ID	A	B	Number of hydraulic shock absorbers
		[mm]	[mm]	
Intermediate stop				
ZA 25	0314144			
Stop slide				
AS 25-1	0314147	6	57	1
AS 25-2	0314148	57	57	2

Variable end stop



90 Grid dimension, stroke adjustment

With the variable end stop, the end positions can be continuously adjusted over the whole length of the stroke, for example, for arranging the profile lengths independent from the actual used stroke. Additional carrier profiles are then no more needed.

Description	ID	
Variable end stop		
VEP-F 25	0313606	
VEP-S 25	0313605	

Electric high-precision Linear Modules from SCHUNK are excellently suitable for the use in handling and automated solutions. High speed for short cycle times at highest repeat accuracy.



Electric Components



ELP Compact Linear Module

Series	Size	Page
ELP		182
ELP	25	186
ELP	50	190

Series	Size	Page
ELP	100	194



ELM Compact Linear Module

Series	Size	Page
ELM		198
ELM	23	202
ELM	37	208



ELB Compact Linear Module

Series	Size	Page
ELB		214
ELB	70	218



LDH Short Stroke Module

Series	Size	Page
LDH		226
LDH	H	232



LDK Stroke Module

Series	Size	Page
LDK		238
LDK	K	244



LDN Universal Linear Module

Series	Size	Page
LDN		250
LDN	N	256

Linear Modules



LDM Universal Linear Module

Series	Size	Page
LDM		264
LDM	M	270



LDT Universal Linear Module

Series	Size	Page
LDT		278
LDT	T	284



LDL Flat Linear Module

Series	Size	Page
LDL		292
LDL	L	298



ELS Compact Linear Module

Series	Size	Page
ELS		304
ELS	23	308
ELS	37	312



Alpha Linear Table

Series	Size	Page
Alpha		316
Alpha	15	324
Alpha	20	328

Series	Size	Page
Alpha	30	332
Alpha	35	336



Beta Universal Linear Module

Series	Size	Page
Beta		340
Beta	40	348
Beta	50	354
Beta	60	362
Beta	70	368
Beta	80	376

Series	Size	Page
Beta	100	384
Beta	110	394
Beta	120	402
Beta	140	412
Beta	165	422
Beta	180	428



Delta Flat Linear Module

Series	Size	Page
Delta		436
Delta	90	444
Delta	110	450

Series	Size	Page
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Delta	200	462
Delta	240	468



Gamma Universal Linear Module

Series	Size	Page
Gamma		474
Gamma	90	482
Gamma	120	492

Series	Size	Page
Gamma	160	502

Quick Overview for electric Linear Modules Range

Linear motor drive									
Description	Max. stroke [mm]	Max. driving force [N]	Force F_y max. [N]	Force F_z max. [N]	Force $-F_z$ max. [N]	Moment M_x max. [Nm]	Moment M_y max. [Nm]	Moment M_z max. [Nm]	Repeat accuracy [mm]
ELP 025-H030	30	17	1140	1140	1140	9	16	16	±0.01
ELP 025-H050	50	17	1140	1140	1140	9	16	16	±0.01
ELP 025-H080	80	17	1140	1140	1140	9	16	16	±0.01
ELP 050-H040	40	45	1740	1740	1740	26	32	32	±0.01
ELP 050-H060	60	45	1740	1740	1740	26	32	32	±0.01
ELP 050-H100	100	45	1740	1740	1740	26	32	32	±0.01
ELP 100-H080	80	104	3880	3880	3880	83	107	107	±0.01
ELP 100-H120	120	104	3880	3880	3880	83	107	107	±0.01
ELP 100-H200	200	104	3880	3880	3880	83	107	107	±0.01
ELM 23-H070	70	60	2000	2000	2000	20	100	100	±0.05
ELM 23-H070-HP	70	137	2000	2000	2000	20	100	100	±0.05
ELM 37-H160	160	160	3000	3000	3000	40	250	250	±0.05
ELM 37-H260	260	160	3000	3000	3000	40	250	250	±0.05
ELB 70-H050	50	150	3835	3835	3835	162	170	170	±0.01
ELB 70-H075	75	150	3835	3835	3835	162	170	170	±0.01
ELB 70-H125	125	150	4853	4853	4853	206	211	211	±0.01
LDH-ES-0050	200	125	1312	1312	1312	18	37.25	37.25	±0.01
LDH-US-0050	200	125	1312	1312	1312	18	37.25	37.25	±0.01
LDK-ES-0100	400	250	1310	1310	1310	47	37	37	±0.01
LDK-US-0100	400	250	1310	1310	1310	47	37	37	±0.01
LDK-EL-0200	300	500	1700	1700	1700	62	125	125	±0.01
LDK-UL-0200	300	500	1700	1700	1700	62	125	125	±0.01
LDN-ES-0100	2700	250	4950	4950	4950	108	285	285	±0.01
LDN-US-0100	2700	250	4950	4950	4950	108	285	285	±0.01
LDN-EL-0200	2600	500	4950	4950	4950	108	532	532	±0.01
LDN-UL-0200	2600	500	4950	4950	4950	108	532	532	±0.01
LDM-ES-0200	2700	500	7637	7637	7637	469	481	481	±0.01
LDM-US-0200	2700	500	7637	7637	7637	469	481	481	±0.01
LDM-EL-0400	2600	1000	7637	7637	7637	469	863	863	±0.01
LDM-UL-0400	2600	1000	7637	7637	7637	469	863	863	±0.01
LDT-ES-0300	2700	750	7637	7637	7637	774	424	424	±0.01
LDT-US-0300	2700	750	7637	7637	7637	774	481	481	±0.01
LDT-EL-0600	2600	1500	7637	7637	7637	774	863	863	±0.01
LDT-UL-0600	2600	1500	7637	7637	7637	774	863	863	±0.01
LDL-US-0100	3800	250	6350	6350	6350	406	340	340	±0.01
LDL-UL-0200	3700	500	6350	6350	6350	406	657	657	±0.01

Toothed belt drive									
Description	Max. stroke [mm]	Max. driving force [N]	Force F_y max. [N]	Force F_z max. [N]	Force $-F_z$ max. [N]	Moment M_x max. [Nm]	Moment M_y max. [Nm]	Moment M_z max. [Nm]	Repeat accuracy [mm]
B 40-ZSS	850	500	500	600	300	12	30	30	±0.08
B 50-C-ZRS	7710	700	300	600	400	30	50	50	±0.08
B 50-C-ARS	7710	700	300	600	400	30	50	50	±0.08
B 60-ZSS	7620	850	500	1400	800	50	160	100	±0.08
B 70-C-ZSS	6840	1100	600	1800	1200	60	180	120	±0.08
B 70-C-ZRS	7640	1100	300	1000	400	35	120	50	±0.08
B 70-C-ASS	7640	900	600	1800	1200	60	180	120	±0.08
B 70-C-ARS	7640	900	300	1000	400	35	120	50	±0.08
B 80-C-ZSS	7600	2200	1600	4000	3000	300	500	500	±0.08
B 80-C-ZRS	7600	2200	1600	4000	3000	300	500	500	±0.08
B 80-ASS	7590	1000	800	3000	2000	100	250	250	±0.08
B 80-ARS	7590	1000	500	1500	800	50	180	100	±0.08
B 100-ZSS	7420	2800	1000	3000	2000	200	300	300	±0.08
B 100-D-ZSS	7720	1500	1800	4000	3000	350	750	750	±0.08
B 100-ZRS	7420	2800	1000	2500	1200	200	250	200	±0.08
B 100-D-ASS	7680	2200	1800	4000	3000	350	950	950	±0.08
B 110-ZSS	7520	4000	3000	8000	4000	400	800	600	±0.08
B 110-ZRS	7520	4000	2000	5000	2500	300	600	450	±0.08
B 110-ASS	7440	2000	3000	8000	4000	400	800	600	±0.08
B 110-ARS	7440	2000	2000	5000	2500	300	600	450	±0.08
B 120-C-ZSS	7520	4800	4000	12000	6000	600	1500	1000	±0.08
B 120-ZRS	7520	4000	2500	6000	3000	350	700	500	±0.08
B 140-C-ZSS	7470	4000	3200	7500	5000	600	1200	1200	±0.08
B 140-ZRS	7540	4000	2500	5000	3000	350	700	500	±0.08
B 140-C-ASS	7470	2500	3200	7500	5000	600	1200	1200	±0.08

Quick Overview for electric Linear Modules Range

Toothed belt drive

Description	Max. stroke [mm]	Max. driving force [N]	Force F_y max. [N]	Force F_z max. [N]	Force $-F_z$ max. [N]	Moment M_x max. [Nm]	Moment M_y max. [Nm]	Moment M_z max. [Nm]	Repeat accuracy [mm]
B 140-ARS	7470	2500	2500	5000	3000	350	600	600	±0.08
B 165-ZSS	6920	10000	5000	15000	8000	700	1400	1100	±0.08
B 180-C-ZSS	5500	6000	8000	15000	8000	1800	3600	1800	±0.08
B 180-C-ASS	5470	3500	8000	15000	8000	1800	3600	1800	±0.08
D 90-ZRS	3720	800	500	1000	1000	60	80	80	±0.08
D 110-ZSS	1020	750	1200	3000	1500	500	650	650	±0.08
D 145-C-ZSS	7700	2000	2500	5000	3000	800	1000	1000	±0.08
D 200-ZSS	1520	6000	5000	8000	5000	3500	4300	3200	±0.08
D 240-C-ZSS	7340	3800	6000	12000	8000	4500	6000	4500	±0.08
G 90-ZSS	7650	2300	2500	3000	3000	500	1200	1000	±0.08
G 90-ZSSD	7560	1150	2500	3000	500	500	800	700	±0.08
G 90-ASH	7560	2300	2500	3000	3000	500	2300	1900	±0.08
G 120-ZSS	7685	2800	6000	8000	8000	1200	3000	2500	±0.08
G 120-ZSSD	7638	1800	6000	8000	8000	1200	1300	1100	±0.08
G 120-ASH	7450	3200	6000	8000	8000	1200	5000	4200	±0.08
G 160-ZSS	7580	4000	10000	16000	16000	1800	5000	4000	±0.08
G 160-ZSSD	7240	2200	10000	16000	16000	1800	5000	4000	±0.08
G 160-ASH	7350	4000	10000	16000	16000	1800	8000	7000	±0.08

Spindle drive

Description	Max. stroke [mm]	Max. driving force [N]	Force F_y max. [N]	Force F_z max. [N]	Force $-F_z$ max. [N]	Moment M_x max. [Nm]	Moment M_y max. [Nm]	Moment M_z max. [Nm]	Repeat accuracy [mm]
ELS 23-H070	70	80	2000	2000	2000	20	100	100	±0.01
ELS 37-H160	160	150	3000	3000	3000	40	250	250	±0.01
ELS 37-H260	260	150	3000	3000	3000	40	250	250	±0.01
A 15-B-155	1235	4000	2000	20000	15000	1000	900	400	±0.03
A 20-B-225	1645	6000	5000	58000	40000	4000	3000	1200	±0.03
A 30-B-325	2540	12000	11000	95000	63000	6300	7500	3750	±0.03
A 35-B-445	2420	18000	14000	120000	80000	12000	10000	5000	±0.03
B 40-SSS	890	1000	500	600	300	12	30	30	±0.03
B 50-C-SRS	860	1000	300	600	400	30	50	50	±0.03
B 60-SSS	5220	4000	600	1800	1200	60	180	120	±0.03
B 70-C-SSS	3725	2000	600	1800	1200	60	180	120	±0.03
B 70-C-SRS	3725	2000	300	1000	400	35	120	60	±0.03
B 80-SSS	5020	4000	800	3000	2000	100	250	250	±0.03
B 80-SRS	5020	4000	500	1500	800	50	180	100	±0.03
B 100-D-SSS	5260	4000	1800	4000	3000	350	750	750	±0.03
B 110-SSS	5120	6000	3000	8000	4000	400	800	600	±0.03
B 110-SRS	5120	6000	2000	5000	2500	300	600	450	±0.03
B 120-C-SSS	5120	12000	4000	12000	6000	600	1500	1000	±0.03
B 140-C-SSS	5120	6000	3200	7500	5000	600	1200	1200	±0.03
B 140-SRS	4920	6000	2500	5000	3000	350	700	700	±0.03
B 165-SSS	5010	18000	5000	15000	8000	800	1800	1400	±0.03
B 180-C-SSS	5030	12000	8000	15000	8000	1800	3600	1800	±0.03
D 90-SRS	1185	1000	500	1000	1000	60	80	80	±0.03
D 110-SSS	1070	2000	1200	3000	1500	500	650	650	±0.03
D 145-C-SSS	5275	4000	2500	5000	3000	800	1000	1000	±0.03
D 200-SSS	1620	10000	5000	8000	5000	3500	4300	3200	±0.03
D 240-C-SSS	5400	12000	6000	12000	8000	4500	6000	4500	±0.03

Rack and pinion drive

Description	Max. stroke [mm]	Max. driving force [N]	Force F_y max. [N]	Force F_z max. [N]	Force $-F_z$ max. [N]	Moment M_x max. [Nm]	Moment M_y max. [Nm]	Moment M_z max. [Nm]	Repeat accuracy [mm]
G 90-AZSS	7600	1800	3000	3000	3000	600	1800	1800	±0.05
G 90-AZSH	7600	1800	3000	3000	3000	600	1800	1800	±0.05
G 120-AZSS	7470	2200	8000	8000	8000	1500	4000	4000	±0.05
G 120-AZSH	7470	2200	8000	8000	8000	1500	4000	4000	±0.05
G 160-AZSS-D75	7370	2200	12000	12000	12000	2500	7000	7000	±0.05
G 160-AZSH-D90	7370	4000	12000	12000	12000	2500	7000	7000	±0.05

Control Concepts

Electric Components

Standard mechatronic SCHUNK components offer the greatest flexibility when it comes to connecting customized servo controlled concepts.
A number of versions are available, depending on your requirements:

- **Direct pneumatic replacement** and **actuation**
- Modular SCHUNK components with **external drive** and **external drive controller**
- Modular SCHUNK components with **integrated drive** and **external drive controller**
- Modular SCHUNK components with **integrated drive** and **drive controller**

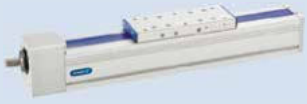
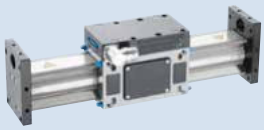
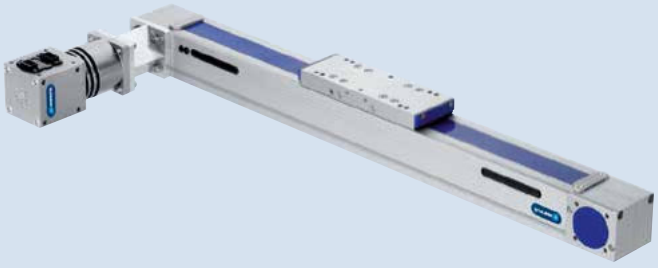
Customer controller	Optionally available from SCHUNK: Communication interface**	Drive controller	Standard cable set	Transducer interface*
The controller serves as the interface with the application and is specified by the customer. SIEMENS® Rexroth® BECKHOFF® B&R® Schneider Electric® Lenze More on request	D I/O			
	Profibus® CAN Profinet® EtherCAT® DeviceNet SERCOS interface EtherNet/IP	SCHUNK SIEMENS® Rexroth® BECKHOFF® B&R® Schneider Electric® Lenze More on request	Power cable Encoder cable I/O cable	HIPERFACE SSI DRIVE-CLiQ EnDat 2.2
				HIPERFACE SSI DRIVE-CLiQ (on request) 1Vss
	Profibus® CAN	Modular SCHUNK components with **integrated** drive and drive controller		

* Dependent on drive

** Dependent on drive controller

Matching cables are also optionally available.
A variety of transducer and fieldbus interfaces make the concepts compatible with any controller.

Alternative
Adaptable
Intelligent
MECHATRONIK3

Drive	Mechatronic SCHUNK components	
	  **Direct** pneumatic replacement and actuation	**Alternative** Direct replacement without a change in power
Standard servomotors	Modular SCHUNK components with **external** drive and **external** drive controller   	**Adaptable** Driven by conventional motors.
	Modular SCHUNK components with **integrated** drive and **external** drive controller    	**Intelligent** Controller external, motor integrated
		**Intelligent** Motor and controller fully integrated

Example Arrangement for Multiple Systems



Linear cantilever: Two-axes module for compact and dynamic motion sequences, e.g. pick & place applications



Surface gantry: The classic for large, three-dimensional machining areas



Line gantry: Two-axis system for larger horizontal strokes and short vertical movements



Four-axes gantry: Compact 2x three-axis system with superimposed machining areas for high throughputs



Cross gantry: Three-axis system for use when the available space is limited



Surface cantilever: Compact three-axis system for confined spaces in a three-dimensional space



Cross table: Cross system for use in spaces with height restrictions



Line gantry: Line gantry with two independently moving Z-axis



Surface cantilever: Three-axis system for compact three-dimensional machining areas

Example Arrangement for Multiple Systems



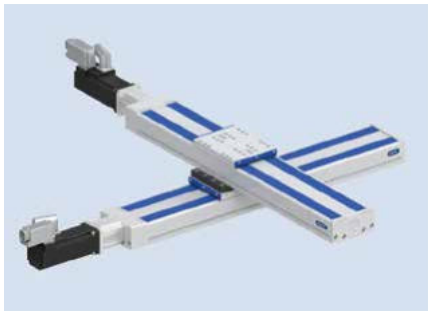
X-gantry: Two toothed belt axes with mechanically coupled drive with a connection shaft



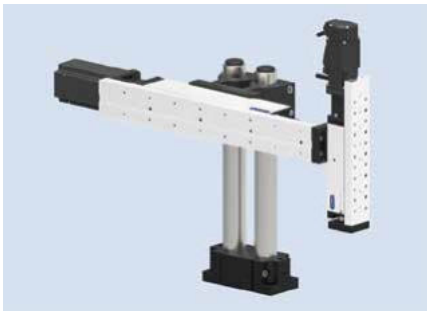
X-gantry: Two spindle powered axes with mechanically coupled drive each with a bevel gear and a connection shaft



Line gantry: Spindle driven cantilever axis on a toothed belt axis with double rail guide



Cross gantry: Flat spindle-driven cross gantry based on Delta series



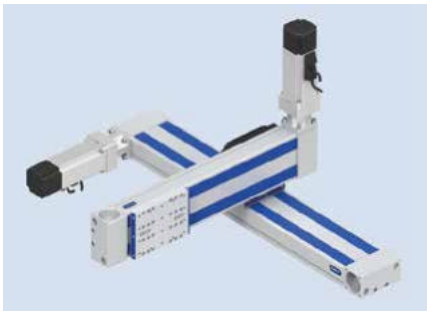
Pick & place unit: constructed using two spindle cantilever axes



Room gantry: electric toothed belt axes in horizontal directions and an electric spindle axis in a vertical direction



Line gantry: a horizontal, electric belt drive axis, and a vertical, electric spindle axis



Compact axes cross table:
one toothed belt axis on top of another toothed belt axis



Line gantry: Two independently moving Z-axes, Y-axes with toothed belt drive, Z-axes with rack and pinion drive

Easy. Fast. Reliable.

ELP compact Linear Module

Electric linear module with direct drive and integrated controller, scope-free guided using pre-loaded roller guide.

Field of Application

For use in clean environments, such as assembly and testing systems. Optimal standard solution for high-precision applications.



Advantages – Your benefits

Control via digital I/O for easy commissioning and rapid integration into existing systems

10 independent extension and retraction speeds for high flexibility in cycle times

Linear direct drive for almost wear-free use and a long service life

Robust bearing guidance for high load capacities and end-position accuracy in all installation positions

Maintenance-free for high machine uptime and low operating costs

Compact dimensions for less interfering contours

Standardized mounting bores for numerous combinations with other components from the modular system

Sizes	Weight	max. driving force	max. stroke	Repeat accuracy
Quantity: 3	1.8 .. 8.3 kg	17 .. 104 N	30 .. 200 mm	±0.01 mm

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Roller guide**
for maximum positioning accuracy and moment loads

② **Drive**
Linear direct drive

③ **Control electronics**
Adaptive control technology with integrated control and power electronics

④ **End position adjustability**
Mechanical adjustment of end positions via stop screws

⑤ **Connection plug**
standard connectors for quick connection to sensor and power distributors

⑥ **Mounting pattern**
Completely integrated in the module system

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Housing material: Aluminum alloy, coated

Guidance: Backlash-free, pre-loaded roller guides

Drive: Linear direct drive

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Stroke: is the maximum nominal stroke of the unit. It can be reduced on both sides by end stops.

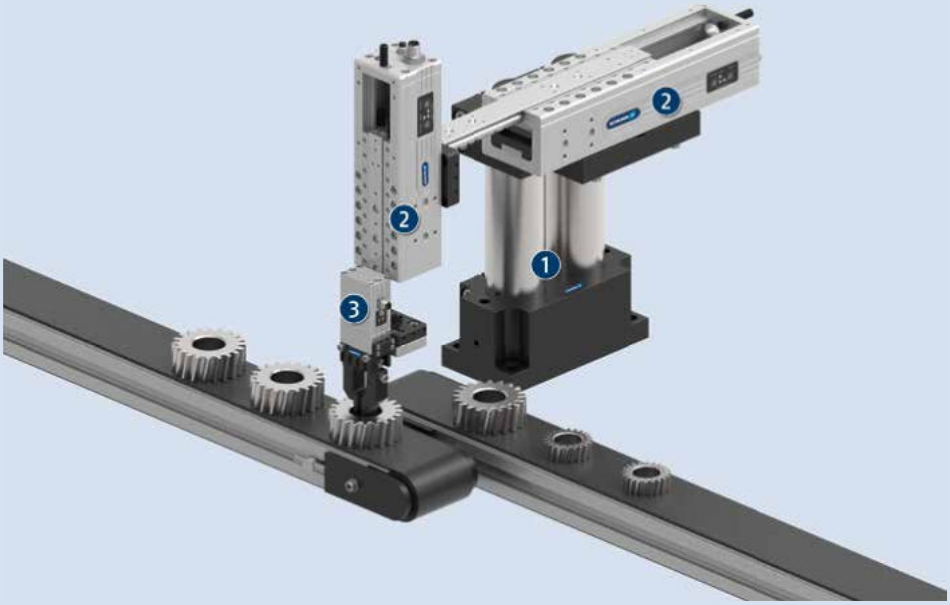
Repeat accuracy: is defined as the distribution of the end positions for 100 consecutive cycles.

Travel times: are pure movement times of the slide. PLC reaction times are not included and have to be considered when the cycle times are determined.

Payload: Is the weight of the total weight which is attached to the cantilever arm. Please consider that service life will shorten if the maximum payload is exceeded. SCHUNK cannot assume any warranty for this.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.



Application Example

Linear direct driven pick & place unit for dynamic movements.

1. Pillar Assembly System
2. ELP Electric Linear Module
3. EGP Electric 2-Finger Parallel Gripper

SCHUNK offers more ...

The following components make the product ELP even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Connection Cables



Sensor Distributor



Inductive Proximity Switch



Magnetic Switch



EGP Electric 2-Finger Parallel Gripper



Centering Sleeves



Adapter Plates



Pillar Assembly Systems



EGS Electric Gripper Swivel Module

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

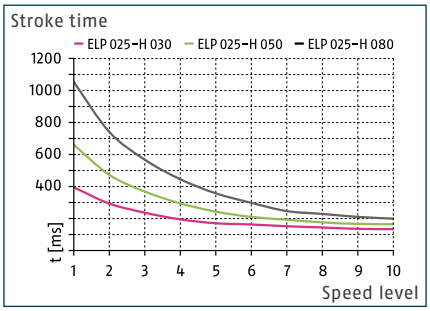
Manually adjustable speed: The extension and retraction speeds can be adjusted independently using two integrated rotary switches.
Load compensation: A load compensation device can be mounted parallel to the module. This is implemented via a MagSpring®. The magnetic spring compensates the weight of the payload during vertical movements. This can be applied to prevent the payload from sinking when the linear module is turned off.

ELP 25

Electric Components | Compact Linear Module

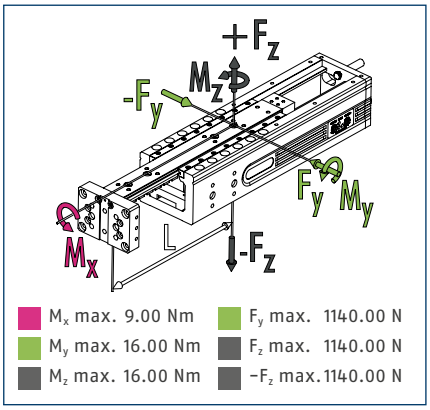


Travel time (horizontal)



ⓘ The diagram shows the average stroke time in horizontal installation position, with maximum stroke, and constant maximum payload. We will gladly support you in designing further applications.

Forces and moments

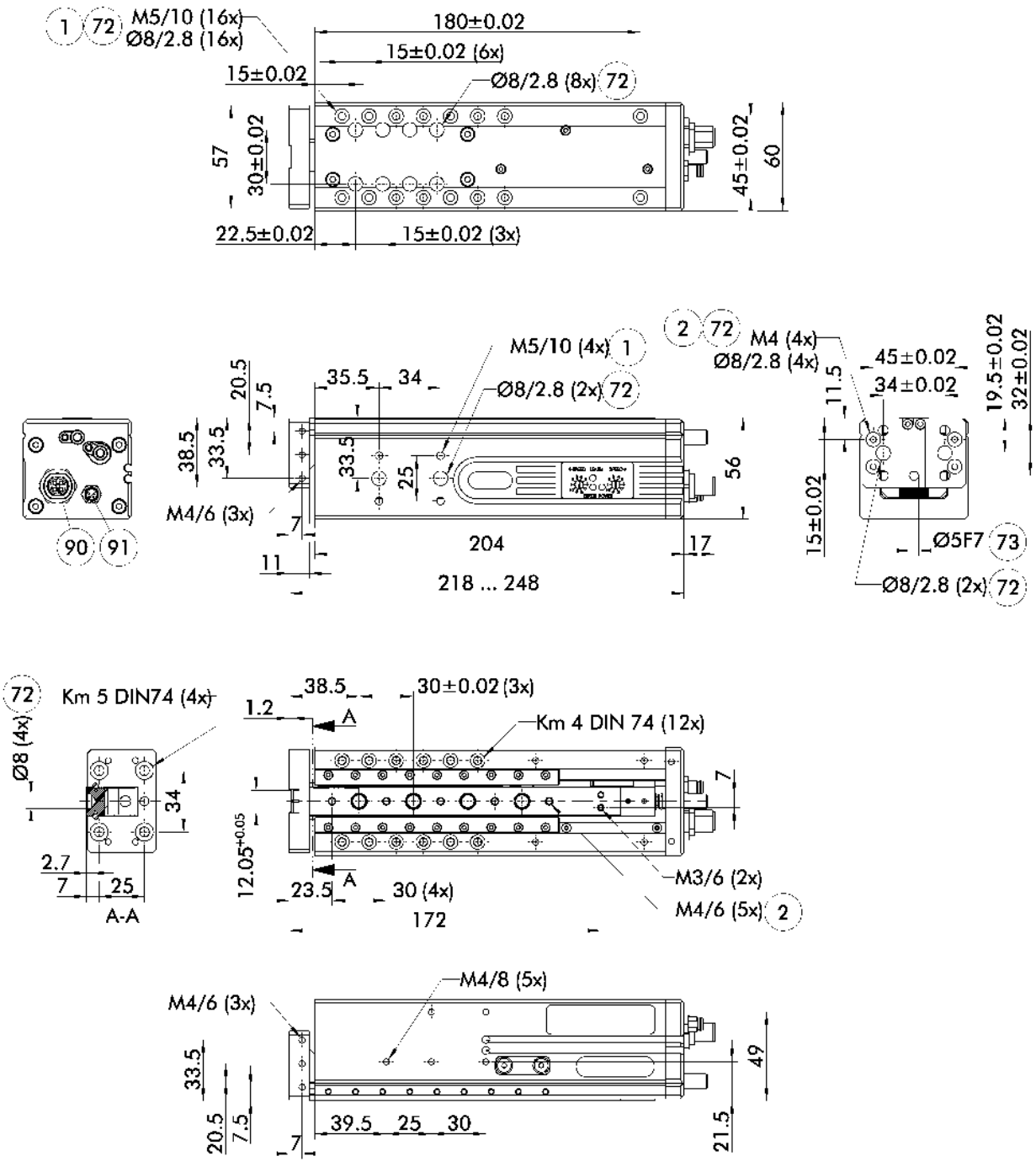


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		ELP 025-H030	ELP 025-H050	ELP 025-H080
ID		0315700	0315708	0315716
General operating data				
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
Max. stroke	[mm]	30	50	80
Nominal force	[N]	17	17	17
Max. payload (horizontal)	[kg]	0.7	0.7	0.7
Max. payload (vertical)	[kg]	0.5	0.5	0.5
Repeat accuracy	[mm]	±0.01	±0.01	±0.01
Weight	[kg]	1.8	1.8	2
Weight of slide	[kg]	0.3	0.3	0.34
Min./max. ambient temperature	[°C]	5/55	5/55	5/55
Protection class IP		20	20	20
Noise emission	[dB(A)]	52	52	52
L (for moment load)	[mm]	89	109	139
Electric operating data				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	0.64	0.64	0.64
Max. current	[A]	2	2	2
Controller electronics		integrated	integrated	integrated
Communication interface		Digital Inputs	Digital Inputs	Digital Inputs
Number of digital inputs/outputs		2/-	2/-	2/-
Max. current logic	[A]	0.04	0.04	0.04

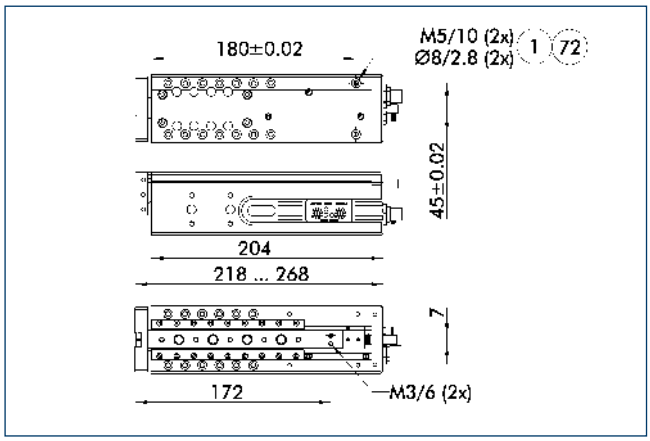
Main view ELP 025-H030



The drawing shows the basic version of the linear module with retracted slide and without dimensional consideration of the options described below.

(1) Connection linear unit
(2) Attachment connection
(72) Fit for centering sleeves
(73) Fit for centering pins
(90) M12 T-coded (power supply)
(91) M8, 4-pole (control)

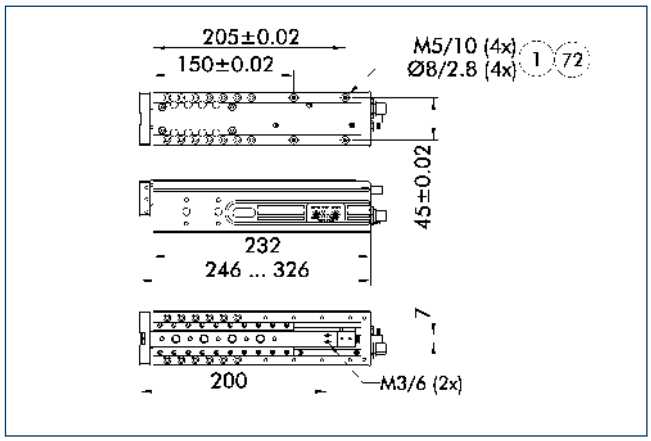
Stroke variant ELP 025-H050



(1) Connection linear unit (72) Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

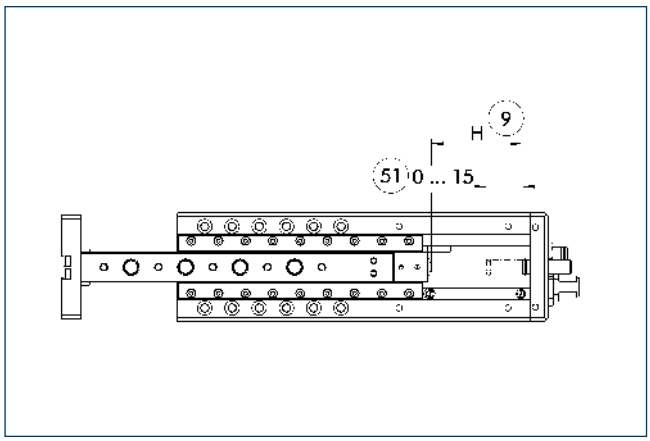
Stroke variant ELP 025-H080



(1) Connection linear unit (72) Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

"Retract" fine adjustment

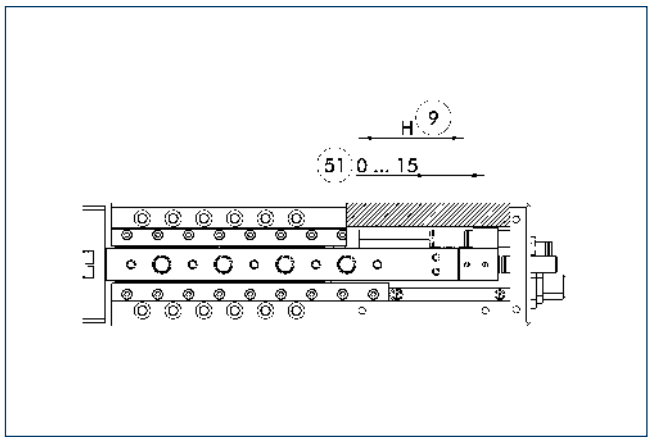


(9) Effective stroke (51) Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

ⓘ Please note that a minimum stroke of 5 mm has to be observed.

"Extend" fine adjustment

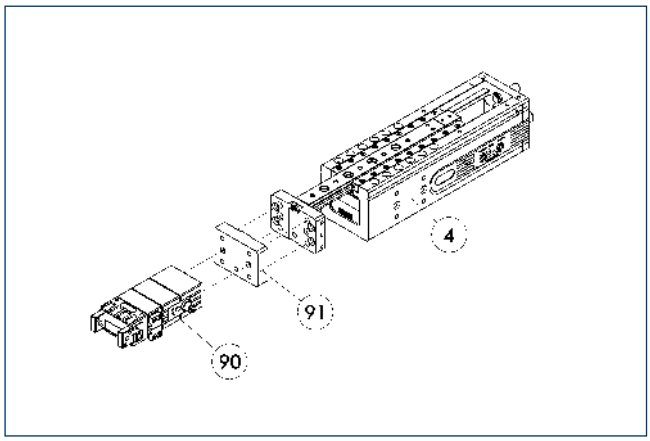


(9) Effective stroke (51) Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

ⓘ Please note that a minimum stroke of 5 mm has to be observed.

Modular assembly automation



(4) Linear unit
(91) ASG adapter plate
(90) Grippers

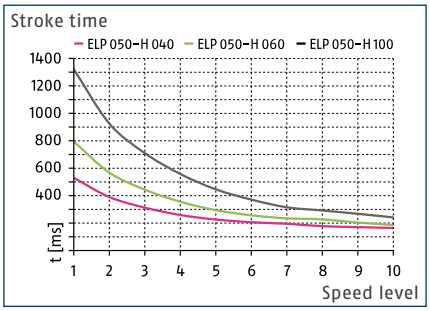
Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

ELP 50

Electric Components | Compact Linear Module

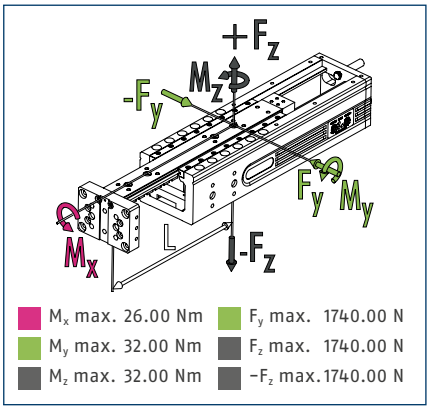


Travel time (horizontal)



ⓘ The diagram shows the average stroke time in horizontal installation position, with maximum stroke, and constant maximum payload. We will gladly support you in designing further applications.

Forces and moments

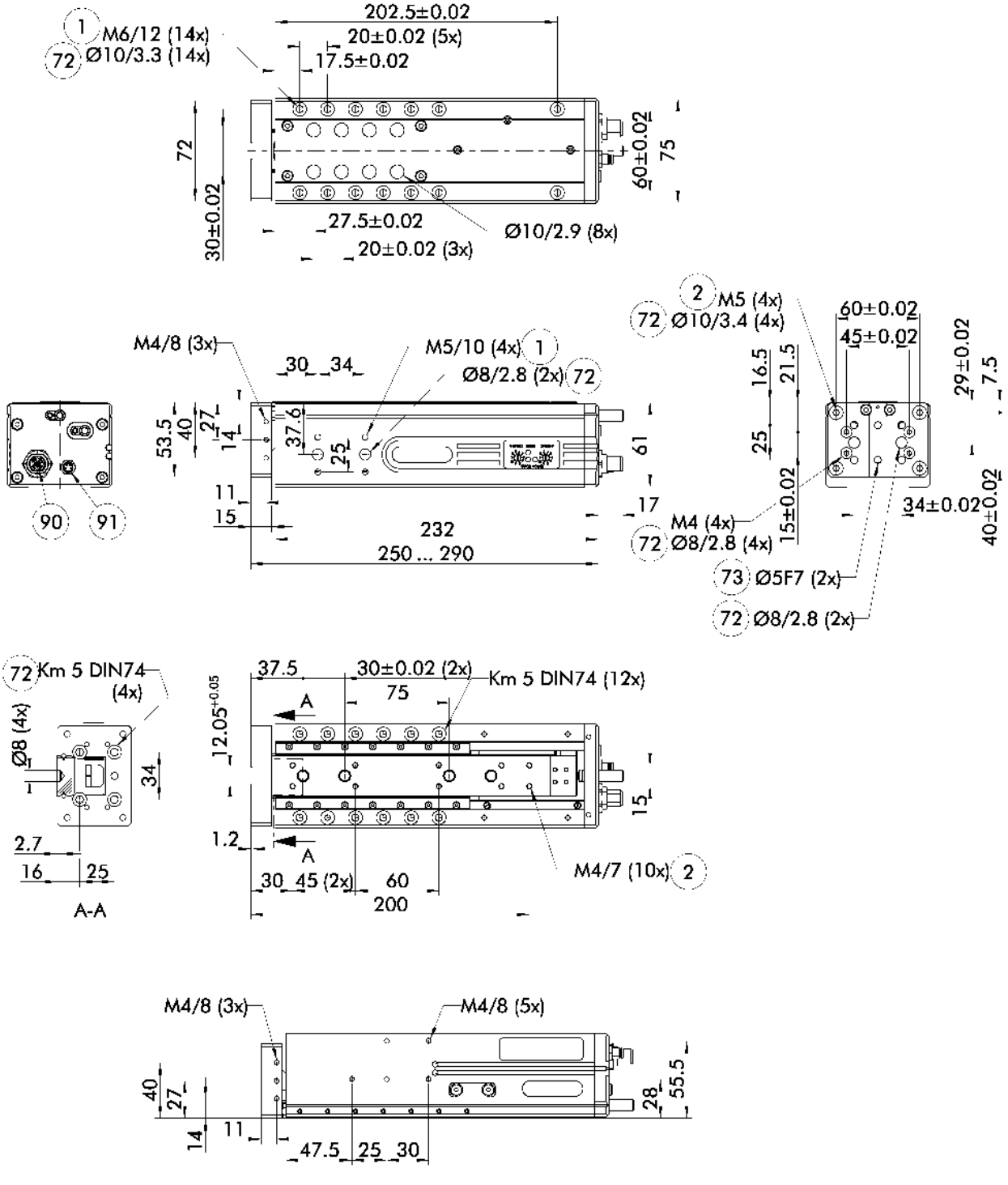


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		ELP 050-H040	ELP 050-H060	ELP 050-H100
ID		0315724	0315732	0315740
General operating data				
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
Max. stroke	[mm]	40	60	100
Nominal force	[N]	45	45	45
Max. payload (horizontal)	[kg]	3	3	3
Max. payload (vertical)	[kg]	1.5	1.5	1.5
Repeat accuracy	[mm]	±0.01	±0.01	±0.01
Weight	[kg]	3	3	3.4
Weight of slide	[kg]	0.7	0.7	0.82
Min./max. ambient temperature	[°C]	5/55	5/55	5/55
Protection class IP		20	20	20
Noise emission	[dB(A)]	58	58	58
L (for moment load)	[mm]	106	126	166
Electric operating data				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	1	1	1
Max. current	[A]	2.1	2.1	2.1
Controller electronics		integrated	integrated	integrated
Communication interface		Digital Inputs	Digital Inputs	Digital Inputs
Number of digital inputs/outputs		2/-	2/-	2/-
Max. current logic	[A]	0.04	0.04	0.04

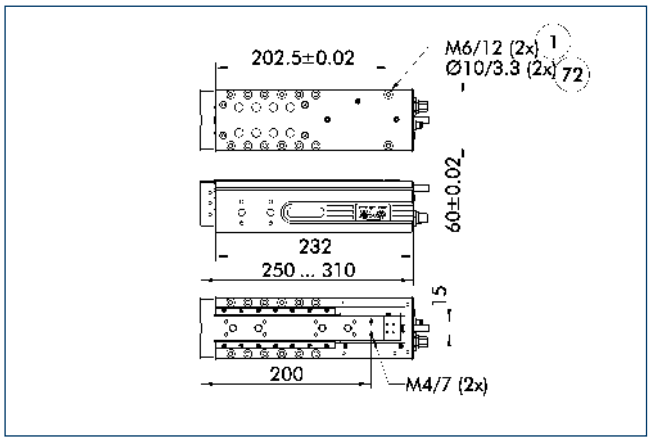
Main view ELP 050-H040



The drawing shows the basic version of the linear module with retracted slide and without dimensional consideration of the options described below.

1 Connection linear unit
2 Attachment connection
72 Fit for centering sleeves
73 Fit for centering pins
90 M12 T-coded (power supply)
91 M8, 4-pole (control)

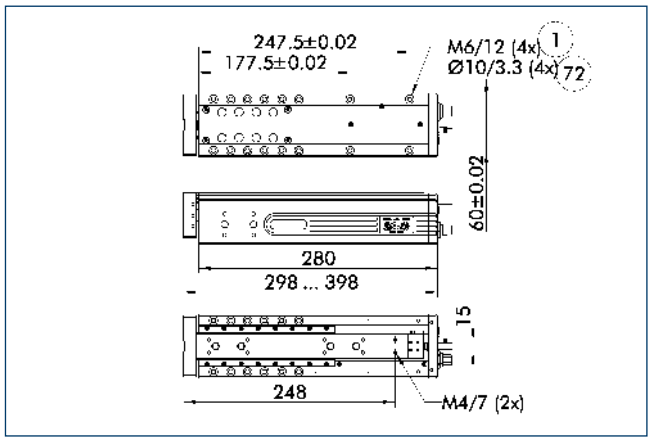
Stroke variant ELP 050-H060



(1) Connection linear unit (72) Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

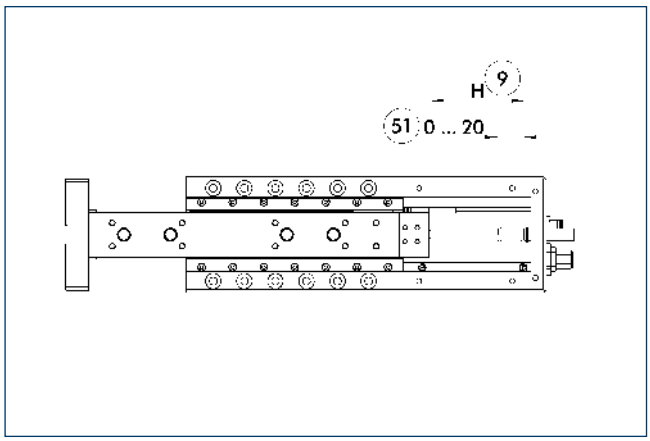
Stroke variant ELP 050-H100



(1) Connection linear unit (72) Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

"Retract" fine adjustment

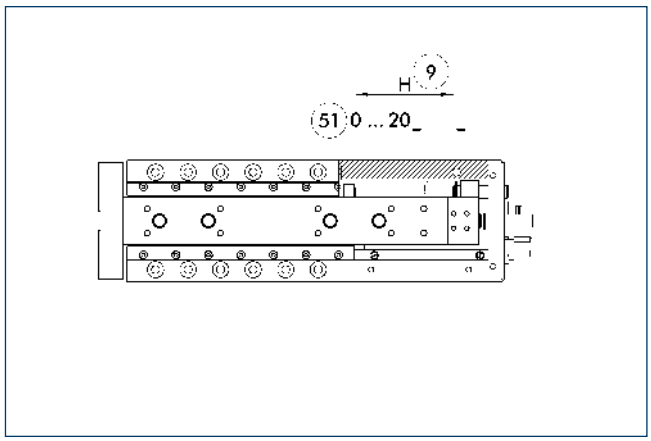


(9) Effective stroke (51) Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

ⓘ Please note that a minimum stroke of 5 mm has to be observed.

"Extend" fine adjustment

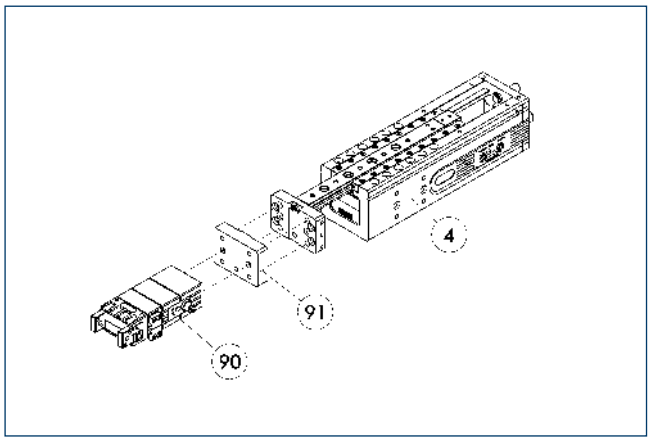


(9) Effective stroke (51) Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

ⓘ Please note that a minimum stroke of 5 mm has to be observed.

Modular assembly automation



(4) Linear unit
(91) ASG adapter plate
(90) Grippers

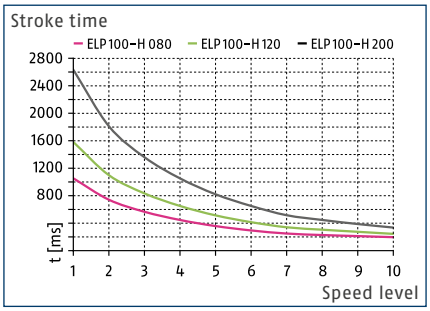
Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

ELP 100

Electric Components | Compact Linear Module

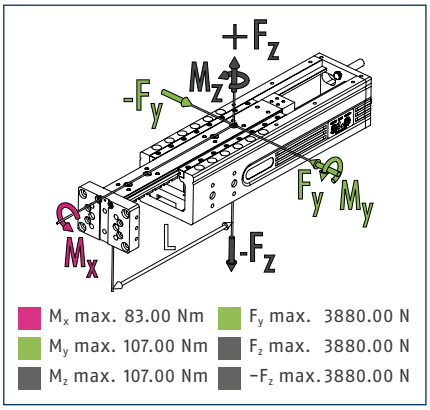


Travel time (horizontal)



ⓘ The diagram shows the average stroke time in horizontal installation position, with maximum stroke, and constant maximum payload. We will gladly support you in designing further applications.

Forces and moments

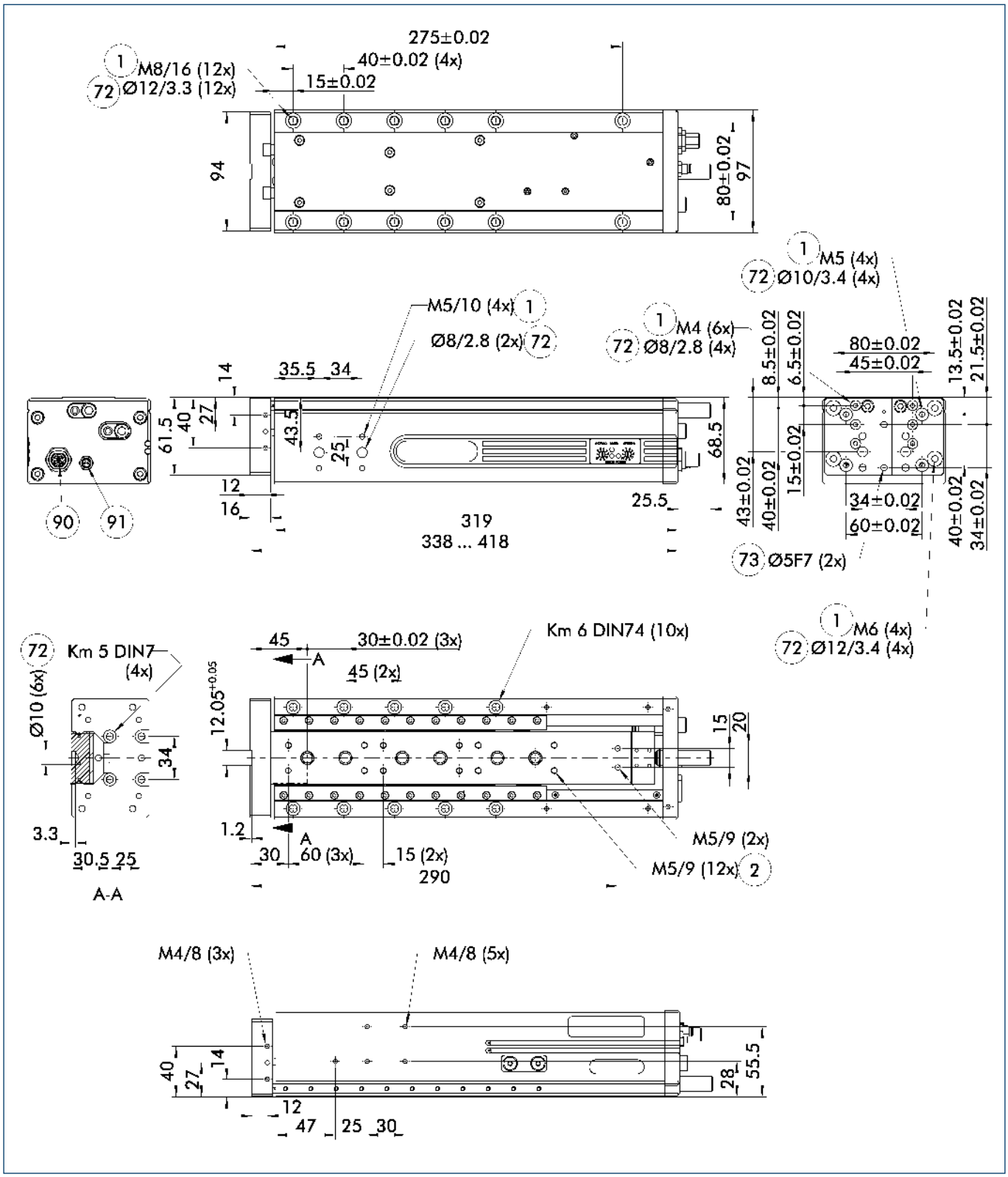


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technische Daten

Description		ELP 100-H080	ELP 100-H120	ELP 100-H200
ID		0315748	0315756	0315764
General operating data				
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
Max. stroke	[mm]	80	120	200
Nominal force	[N]	104	104	104
Max. payload (horizontal)	[kg]	4	4	4
Max. payload (vertical)	[kg]	4	4	4
Repeat accuracy	[mm]	±0.01	±0.01	±0.01
Weight	[kg]	6.6	7.2	8.3
Weight of slide	[kg]	1.78	1.98	2.4
Min./max. ambient temperature	[°C]	5/55	5/55	5/55
Protection class IP		20	20	20
Noise emission	[dB(A)]	68	68	68
L (for moment load)	[mm]	179	219	299
Electric operating data				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	1.6	1.6	1.6
Max. current	[A]	5.9	5.9	5.9
Controller electronics		integrated	integrated	integrated
Communication interface		Digital Inputs	Digital Inputs	Digital Inputs
Number of digital inputs/outputs		2/-	2/-	2/-
Max. current logic	[A]	0.06	0.06	0.06

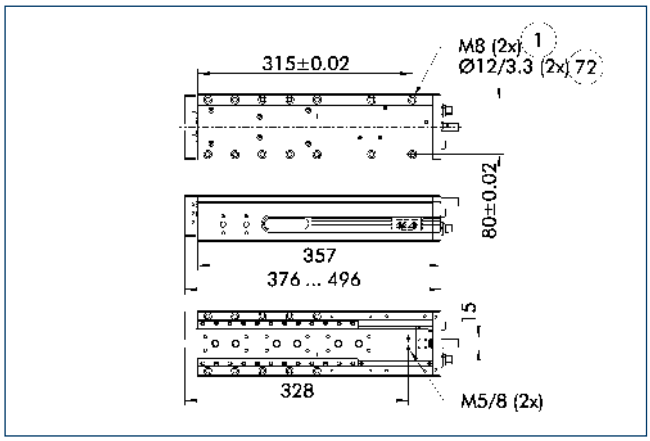
Main view ELP 100-H080



The drawing shows the basic version of the linear module with retracted slide and without dimensional consideration of the options described below.

1 Connection linear unit
2 Attachment connection
72 Fit for centering sleeves
73 Fit for centering pins
90 M12 T-coded (power supply)
91 M8, 4-pole (control)

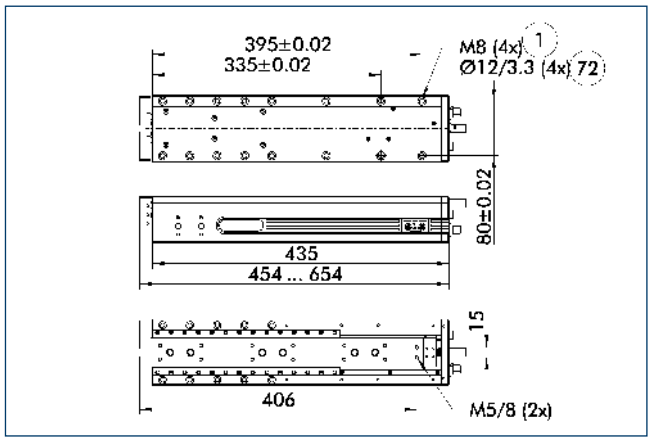
Stroke variant ELP 100-H120



(1) Connection linear unit (72) Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

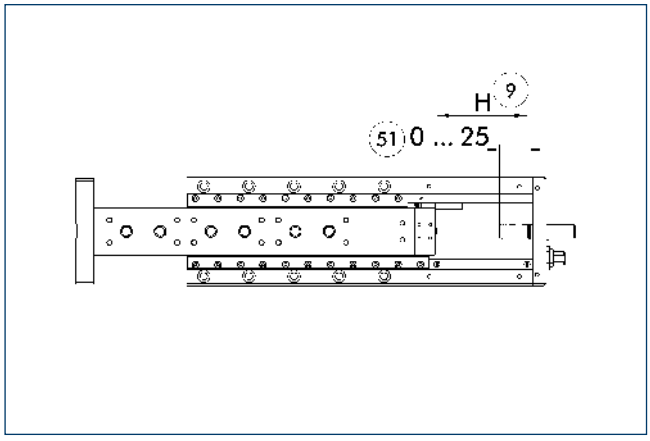
Stroke variant ELP 100-H200



(1) Connection linear unit (72) Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

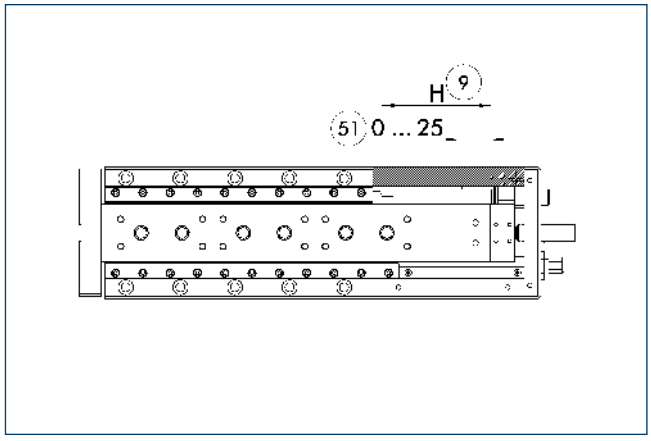
"Retract" fine adjustment



(9) Effective stroke (51) Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

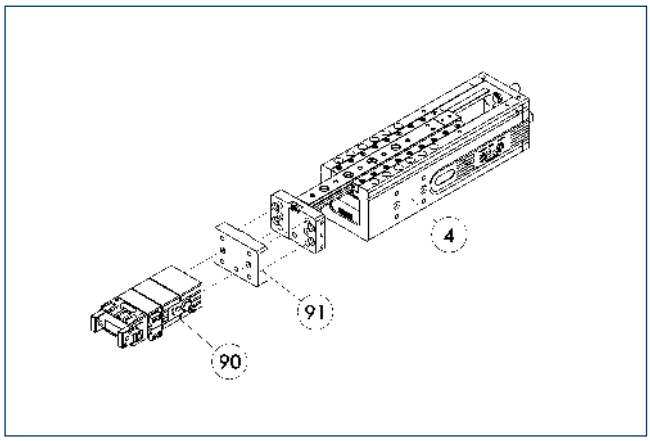
"Extend" fine adjustment



(9) Effective stroke (51) Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

Modular assembly automation



(4) Linear unit
(91) ASG adapter plate
(90) Grippers

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Flexible. Fast. Reliable.

ELM Compact Linear Module

With linear direct drive and profiled rail guide with integrated measuring system for position detection and temperature monitoring.

Field of Application

For versatile and highly dynamic positioning tasks that are beyond what pneumatic drives can do; for example:

- Handling and assembly technology
- Measuring and testing technology
- Component marking and identification
- Component assembly and final inspection in microelectronics
- Medical technology



Advantages – Your benefits

Integrated motor in the axis for minimal interfering contours

Low oscillations and high holding force for the shortest positioning times and process stability

Almost no wear parts for long service life and reliability of the system

Different controllers with optional interfaces: Profinet®, Ethernet/IP, EtherCAT®, and many others

Option – pneumatic weight compensation for compensation of weight and fast cycle times in a vertical installation position

Option – cooling using fans or compressed air for applications with an increased need for constant force

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 2	70 .. 260 mm	60 .. 160 N	±0.05 mm	1.4 .. 1.5 m/s

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Profiled rail guide**
for maximum positioning accuracy and moment loads

② **Drive**
Highly dynamic, wear-resistant linear direct drive

③ **Mounting pattern**
Completely integrated in the modular system

④ **Runner**
with permanent magnets

⑤ **Base body**
for connection of further options such as fan cooling

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Housing material: Aluminum alloy, coated

Drive: Linear direct drive

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Drive controller: LinMot® drive controllers are used as standard.

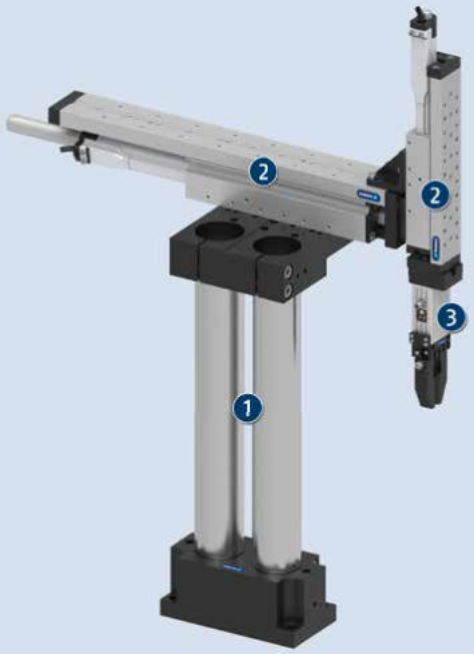
Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: of the selected unit is absolutely necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Linear direct driven pick & place unit for dynamic movements.

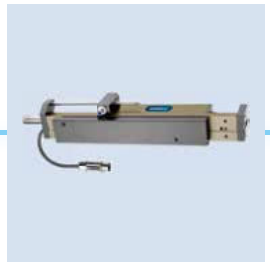
1. Pillar Assembly System
2. ELM Electric Linear Module
3. EGP Electric 2-Finger Parallel Gripper

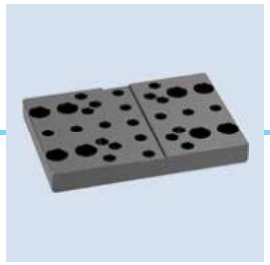
SCHUNK offers more ...

The following components make the product ELM even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



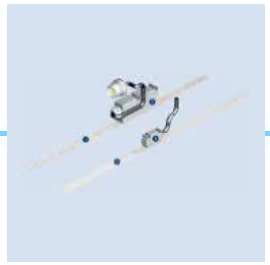

Power Supply


Rod Lock


Adapter Plates


Centering Strip

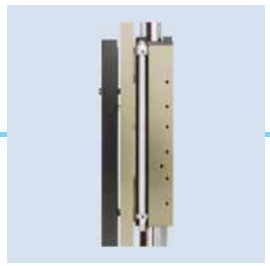

Safety Damper


Path Measuring System


Drive Controller


Cable Set


Fan Cooling


Weight Compensation


Pillar Assembly System

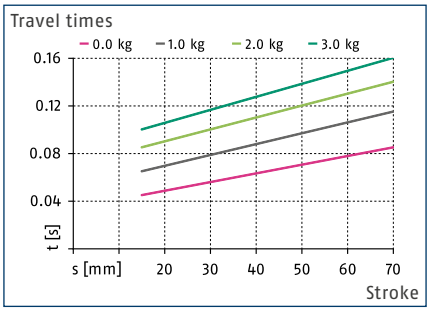
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

The modular principle: As standard, this module can be combined with numerous components from the modular system. We would be happy to assist you.
Rod lock version: The fall protection version allows the linear axis to be locked in the end position. This is used e.g. for position retention (with activated lock) when shutting down the system.
Fan cooling: The dynamics, and thus the performance, of the axis can be increased when using the cooling system. Alternatively to cooling with a fan, it is also possible to cool with compressed air (approximately 0.5 bar) via a connection which is provided for this.

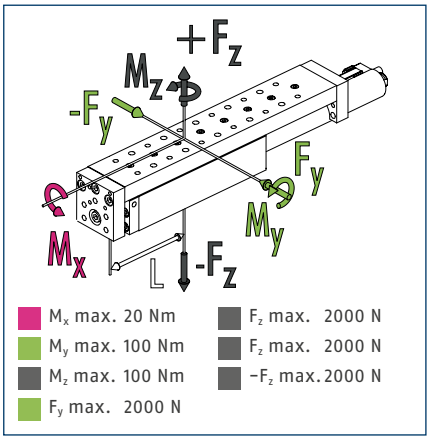


Travel times



ⓘ The diagram is valid for horizontal installation and with sufficient rest periods. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Forces and moments



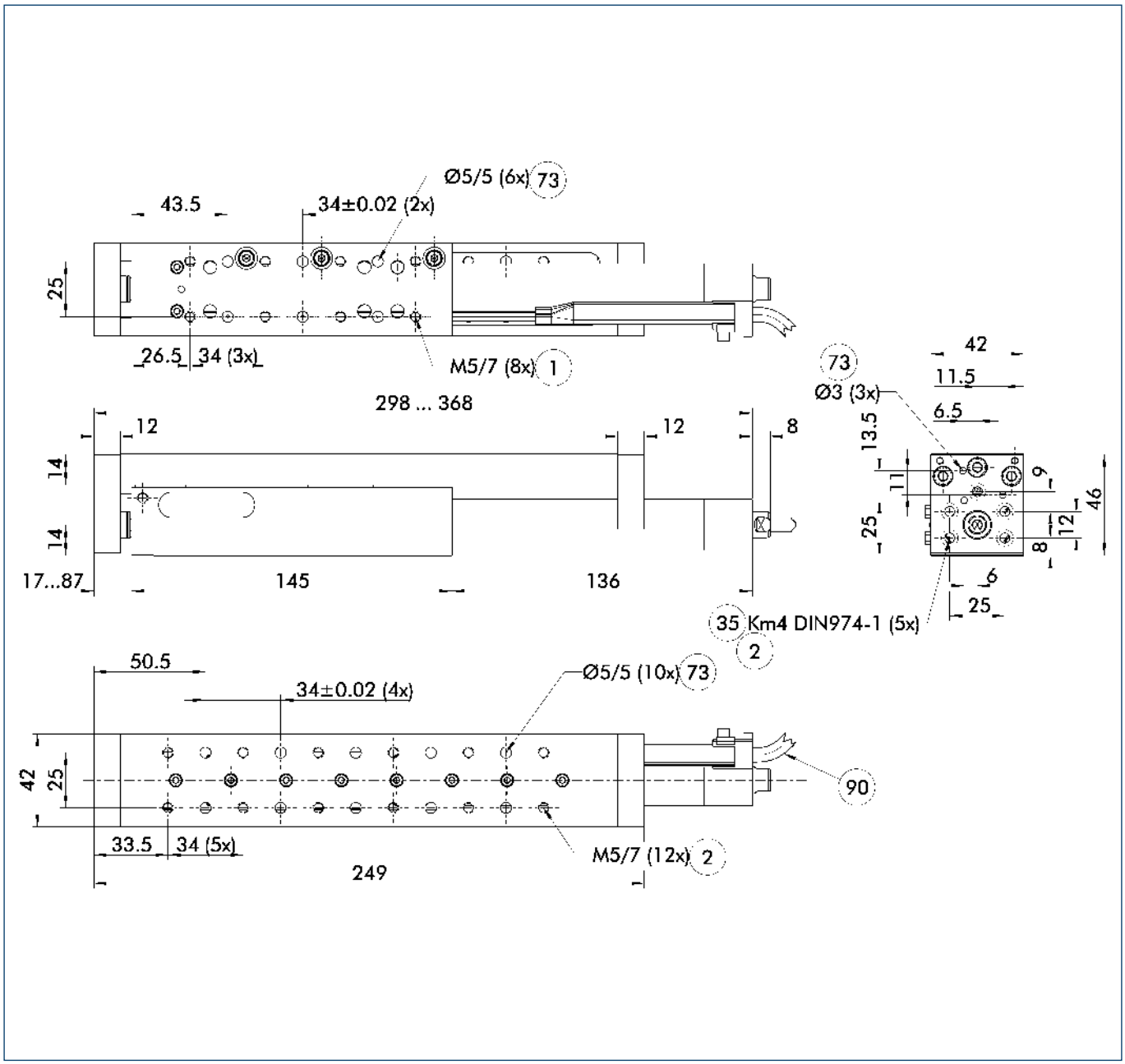
ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		ELM 23-H070	ELM 23-H070-HP
ID		0314365	0314380
Drive concept		Linear direct drive	Linear direct drive
Max. stroke	[mm]	70	70
Max. driving force	[N]	60	137
Nominal force	[N]	31	48
Max. payload (horizontal)	[kg]	3	3
Repeat accuracy	[mm]	±0.05	±0.05
Max. speed	[m/s]	1.5	1.5
Max. acceleration	[m/s²]	40	40
Max. current	[A]	2.8	11
Nominal current	[A]	1.4	3.8
Min./max. ambient temperature	[°C]	10/40	10/40
Weight	[kg]	1.5	1.5
Overall length	[mm]	306	306
Clearance L (for moment load)	[mm]	70.5	70.5
Options and their characteristics			
Rod lock version		ELM 23-H070-ASP	ELM 23-H070-HP-ASP
ID		0314366	0314381
Weight	[kg]	1.61	1.61
Clamping actuation		pneumatic	pneumatic
Static holding force	[N]	180	180
Max. axial backlash of the clamping	[mm]	0.2	0.2

ⓘ All the forces specified in the technical data table assume that the axis is being used with a cooling system, such as a fan.

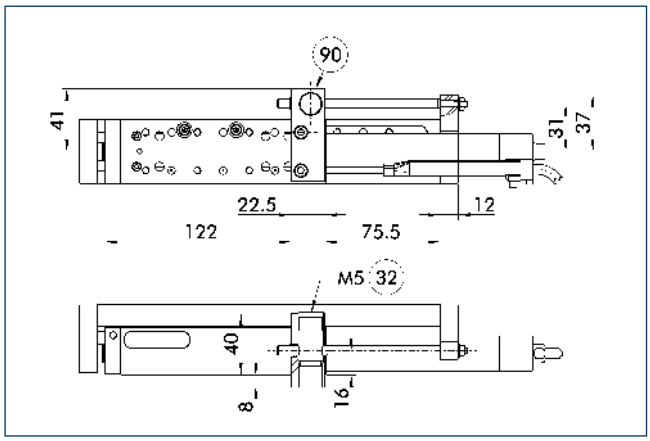
Main view



The recommended method to attached the linear module is on the base body and the payload on the slide. For reverse installation, the bending radius of the cable always has to be taken into consideration.

(1) Connection linear unit
(2) Attachment connection
(35) Back side
(73) Fit for centering pins
(90) Cable exit with 20 cm cables and M17 plug connectors

Rod lock

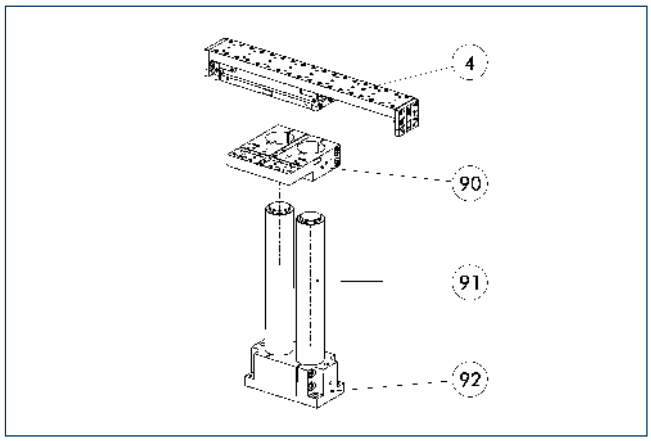


(32) Pneumatic connection for holding brake

(90) ASPE 23

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Attachment to a pillar assembly system



(4) Linear unit

(90) APDH double mounting plate

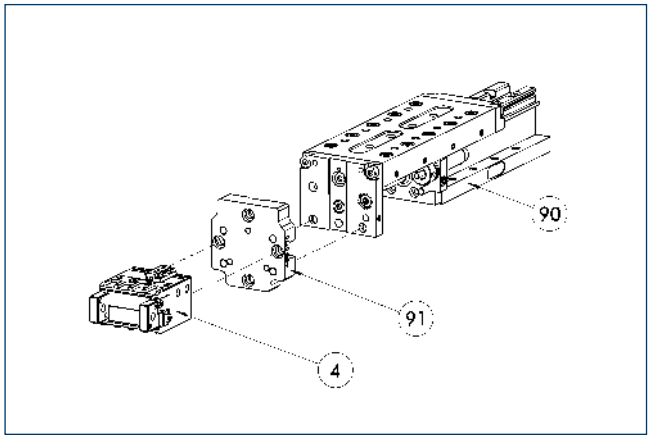
(91) Pillars, hard-chromium plated, ground

(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 35	0313894	35	Aluminum
APDV 35	0313896	35	Aluminum
APEH 35	0313893	35	Aluminum
APEV 35	0313895	35	Aluminum

Modular assembly automation



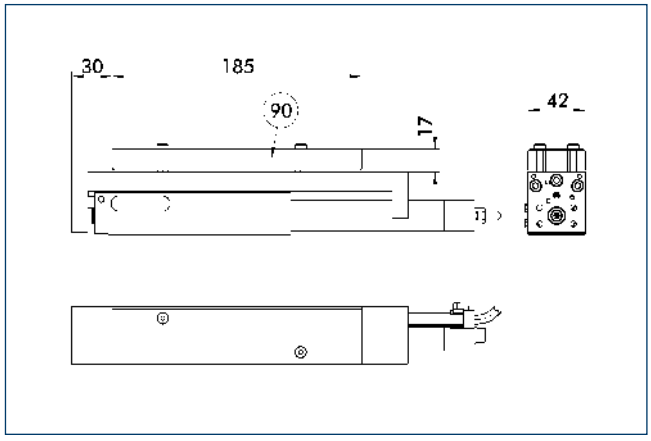
(4) Grippers

(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Cover

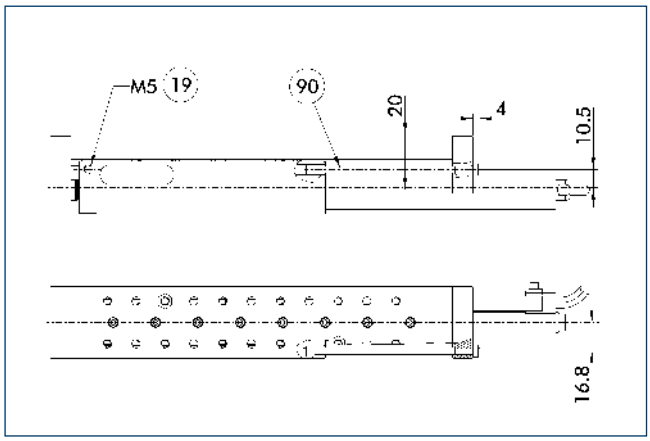


(90) MA 23

For guiding electric and pneumatic lines, a cover can be mounted.

Description	ID	
Cover		
MA 23-70	0314238	

Weight compensation

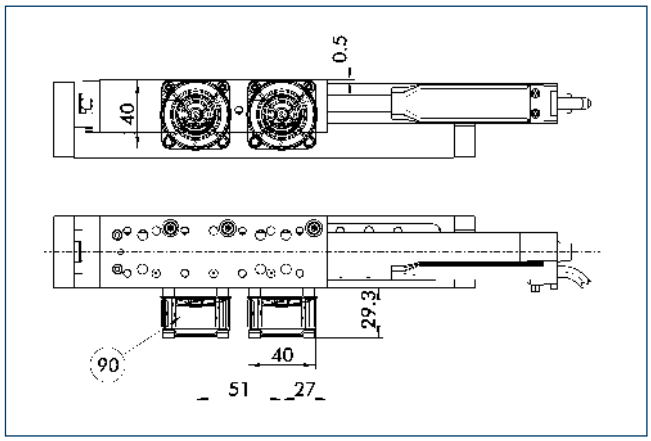


(19) Air connection (90) GA 23

For vertical use of the linear module, a pneumatic weight compensation device can be integrated to compensate for the slide weight and the additional weight in the linear module.

Description	ID	
Weight compensation		
GA 23-70	0314235	

Fan cooling

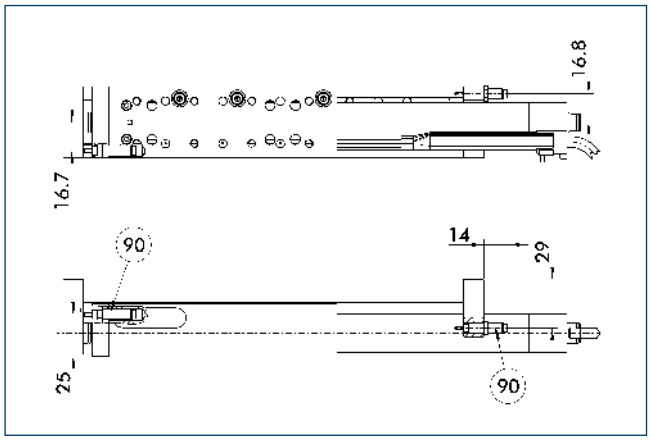


(90) MK 23

The dynamics, and thus the performance, of the axis can be increased when using the cooling system. Alternatively to cooling with a fan, it is also possible to cool with compressed air (approximately 0.5 bar) via a connection which is provided for this.

Description	ID	
Fan cooling		
MK 23	0314241	

Safety damper

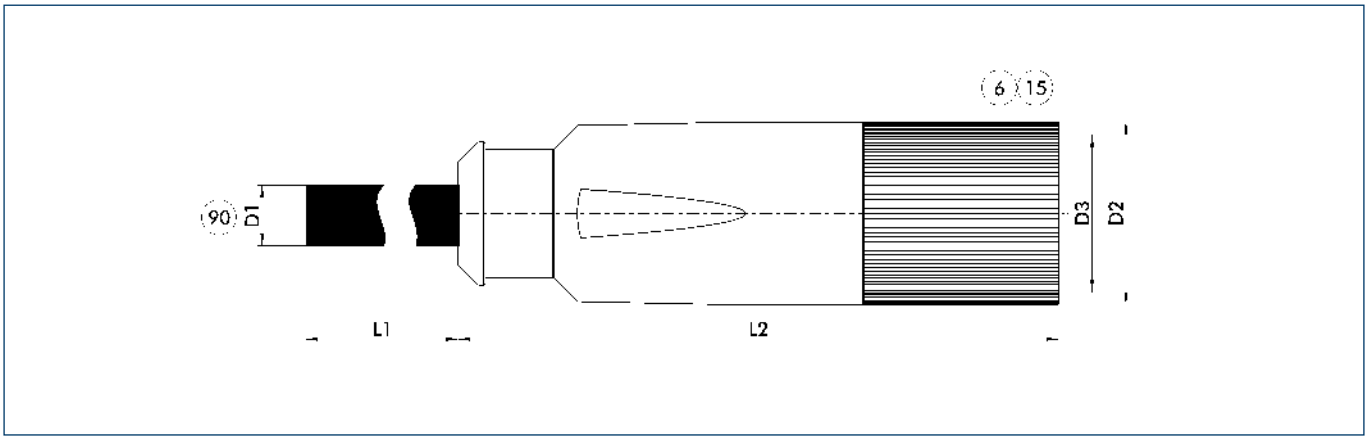


(90) SD 23

To prevent any mechanical malfunctions due to a malfunction, the modules can be equipped with hydraulic shock absorbers.

Description	ID	
Safety damper		
SD 23	0314262	

Power cable



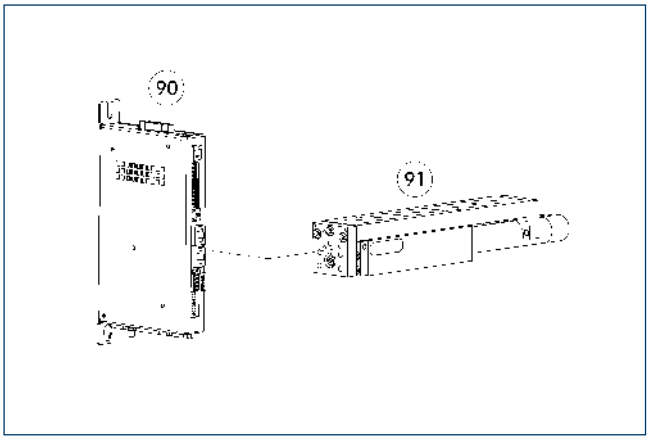
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Motor cable for ELM and C1250 controller						
KS05-Y/R-4	0314911	4	10.8	52	21	M17
KS05-Y/R-6	0314912	6	10.8	52	21	M17
KS05-Y/R-8	0314913	8	10.8	52	21	M17

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

LinMot® C1250 controller

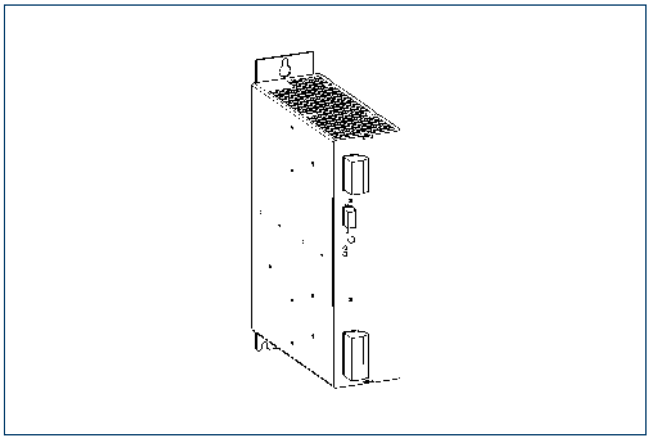


(90) C1250 drive controller
(91) Electric ELM linear module

The controller is absolutely essential for operating the ELM linear module. We will be happy to help you select one.

Description	ID	Maximum current	Communication type
		[A]	
Controller			
C1250-EC-XC	0314920	25	EtherCAT®
C1250-IP-XC	0314921	25	Ethernet IP
C1250-PN-XC	0314922	25	Profinet®
Connector package for LinMot® controller			
DC01-C1X00-0S/X1/X4	0314904		

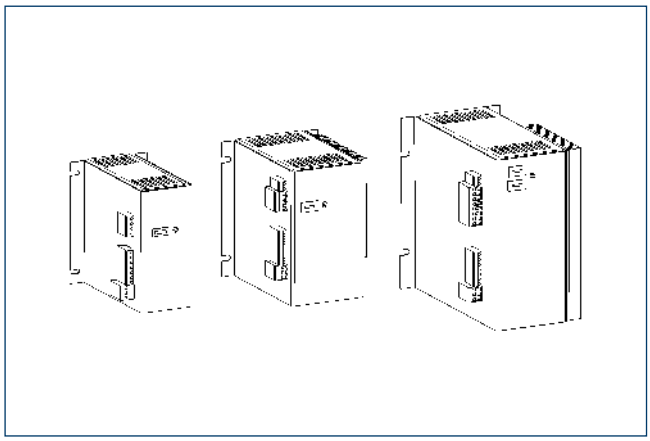
S01-72 switching power supply unit



The power pack with an output voltage of 72 V is adjusted to the power supply of the LinMot® controller. We gladly support you in choosing the right unit.

Description	ID	Power
		[W]
Power supply unit		
S01-72/1000	0314960	1000

T01-72 transformer power supply unit

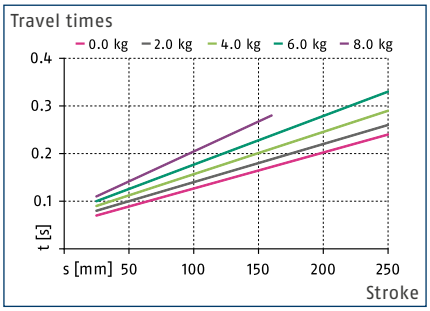


The power supply unit is matched to the power supply of the LinMot® controller. The power supply unit with an output voltage of 72 V is available in different performance classes. We will be happy to help you select one.

Description	ID	Power
		[W]
Power supply unit		
T01-72/1500-Multi	0314364	1500
T01-72/420-Multi	0314549	420
T01-72/900-Multi	0314344	900

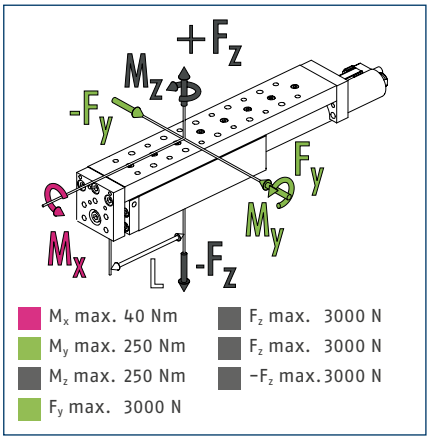


Travel times



ⓘ The diagram is valid for horizontal installation and with sufficient rest periods. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Forces and moments



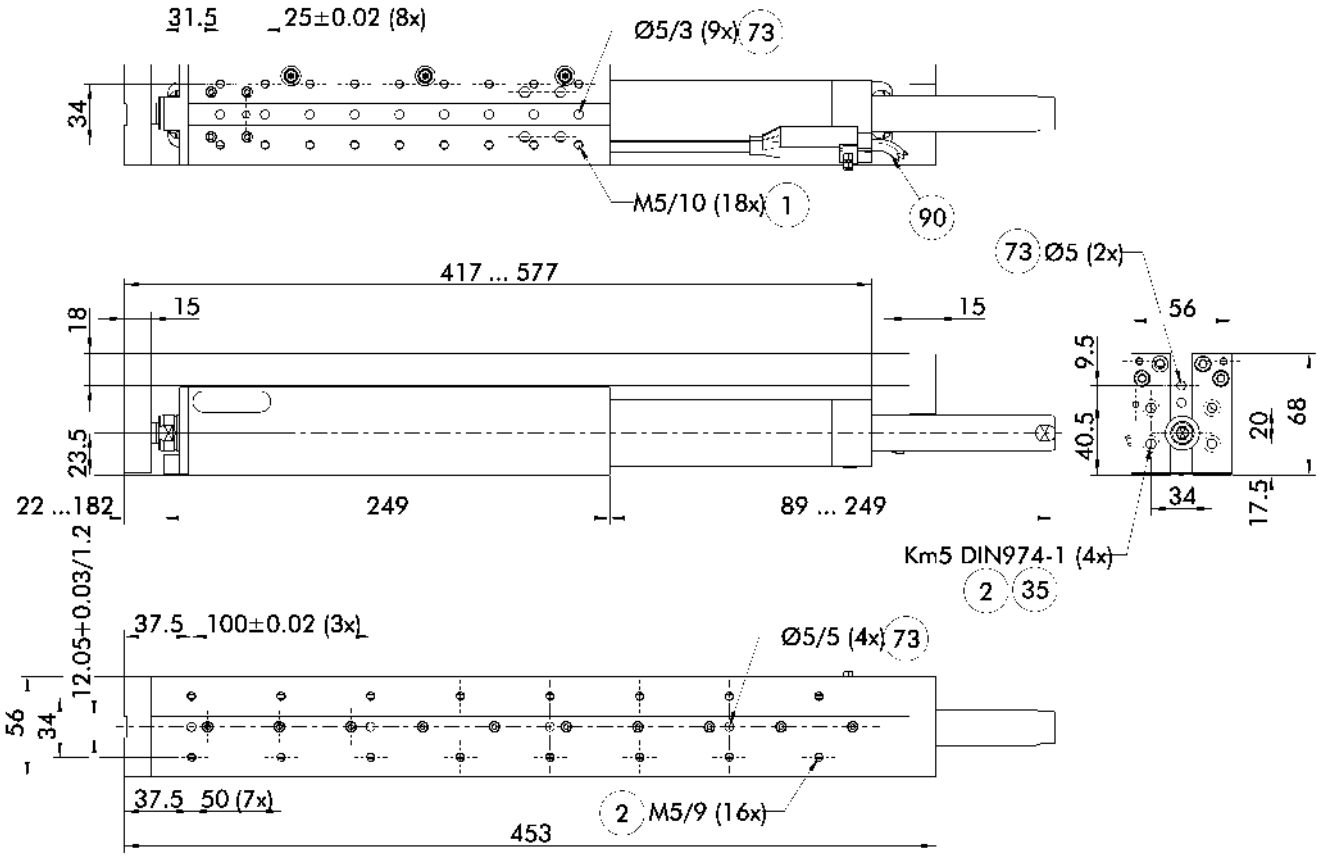
ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		ELM 37-H160	ELM 37-H260
ID		0314367	0314371
Drive concept		Linear direct drive	Linear direct drive
Max. stroke	[mm]	160	260
Max. driving force	[N]	160	160
Nominal force	[N]	100	100
Max. payload (horizontal)	[kg]	8	6
Repeat accuracy	[mm]	±0.05	±0.05
Max. speed	[m/s]	1.4	1.4
Max. acceleration	[m/s²]	35	35
Max. current	[A]	5	5
Nominal current	[A]	2.4	2.4
Min./max. ambient temperature	[°C]	10/40	10/40
Weight	[kg]	4.95	5.5
Overall length	[mm]	520	620
Clearance L (for moment load)	[mm]	124	124
Options and their characteristics			
Rod lock version		ELM 37-H160-ASP	ELM 37-H260-ASP
ID		0314369	0314373
Weight	[kg]	5.25	5.83
Clamping actuation		pneumatic	pneumatic
Static holding force	[N]	350	350
Max. axial backlash of the clamping	[mm]	0.25	0.25

ⓘ All the forces specified in the technical data table assume that the axis is being used with a cooling system, such as a fan.

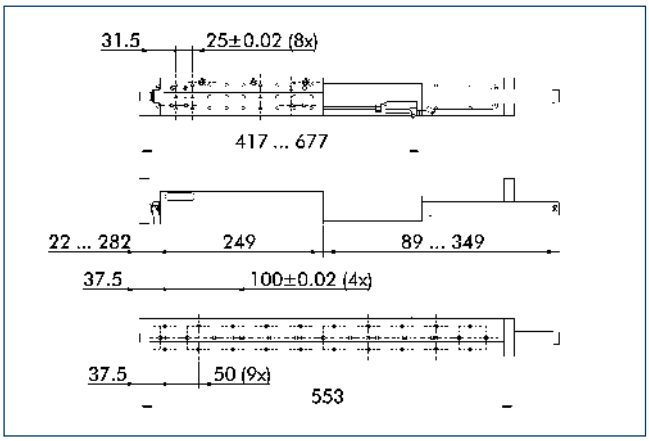
Main view ELM 37-H160



The recommended method to attached the linear module is on the base body and the payload on the slide. For reverse installation, the bending radius of the cable always has to be taken into consideration.

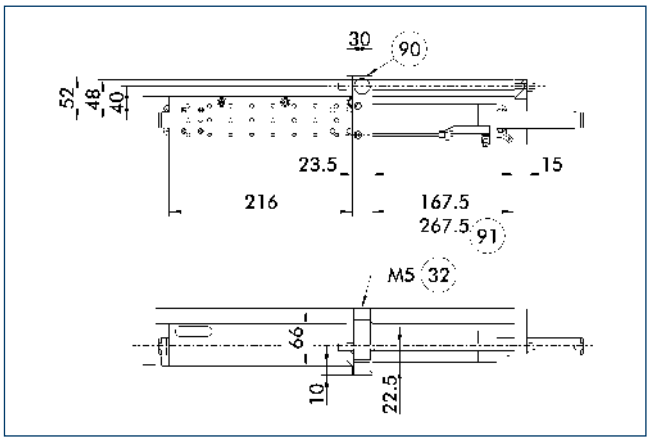
1 Connection linear unit
2 Attachment connection
35 Back side
73 Fit for centering pins
90 Cable exit with 20 cm cables and M17 plug connectors

Variant ELM 37-H260



The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

Rod lock



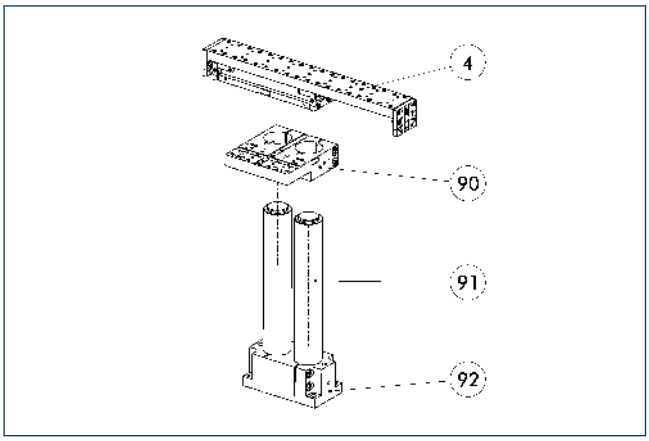
(32) Pneumatic connection for holding brake

(90) ASPE 37

(91) At a stroke of 260 mm

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Attachment to a pillar assembly system



(4) Linear unit

(90) APDH double mounting plate

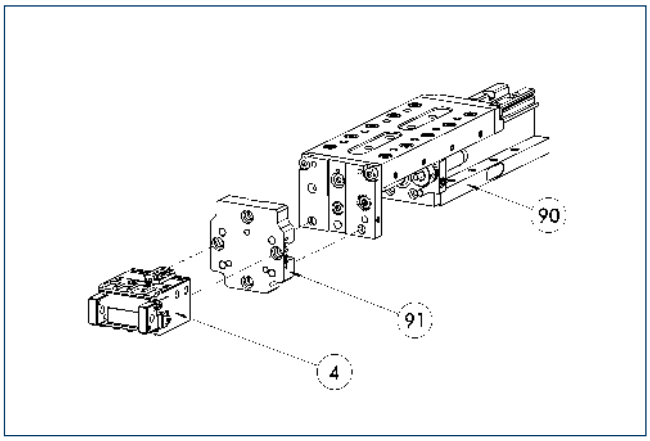
(91) Pillars, hard-chromium plated, ground

(92) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 35	0313894	35	Aluminum
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 35	0313893	35	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

Modular assembly automation



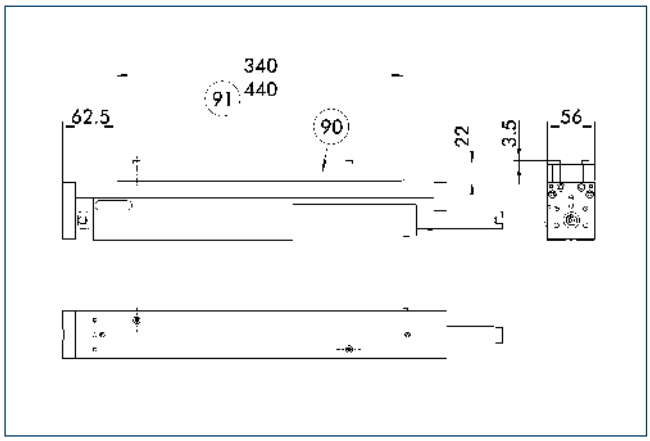
(4) Grippers

(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Cover

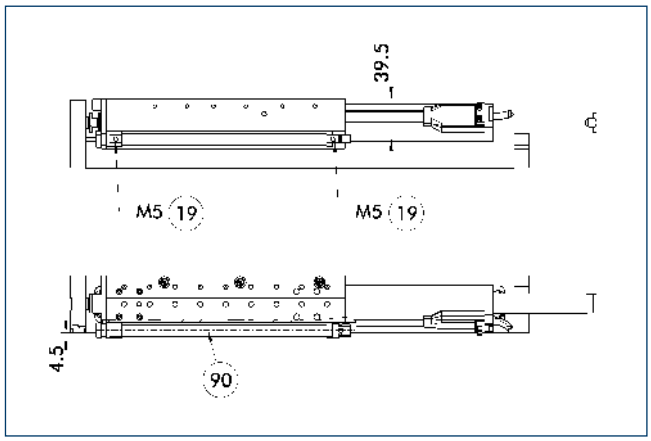


(90) MA 37 (91) At a stroke of 260 mm

For guiding electric and pneumatic lines, a cover can be mounted.

Description	ID	
Cover		
MA 37-160	0314239	
MA 37-260	0314240	

Weight compensation

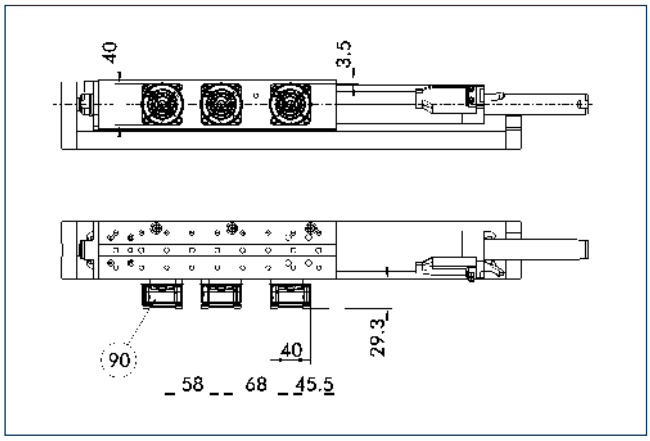


(19) Air connection (90) GA 37

For vertical use of the linear module, a pneumatic weight compensation device can be integrated to compensate for the slide weight and the additional weight in the linear module.

Description	ID	
Weight compensation		
GA 37-160	0314236	
GA 37-260	0314237	

Fan cooling

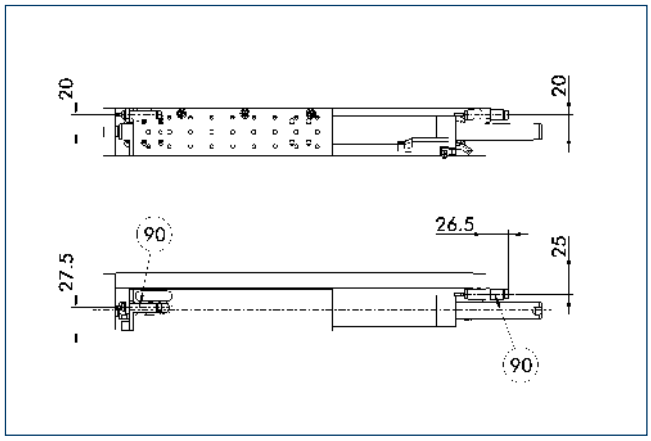


(90) MK 37

The dynamics, and thus the performance, of the axis can be increased when using the cooling system. Alternatively to cooling with a fan, it is also possible to cool with compressed air (approximately 0.5 bar) via a connection which is provided for this.

Description	ID	
Fan cooling		
MK 37	0314242	

Safety damper

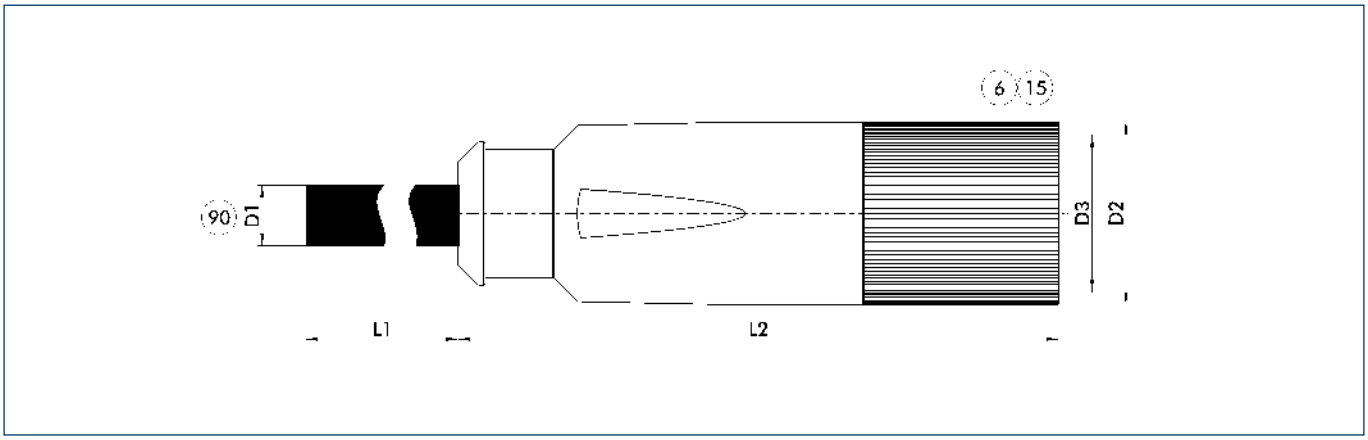


(90) SD 37

To prevent any mechanical malfunctions due to a malfunction, the modules can be equipped with hydraulic shock absorbers.

Description	ID	
Safety damper		
SD 37	0314263	

Power cable



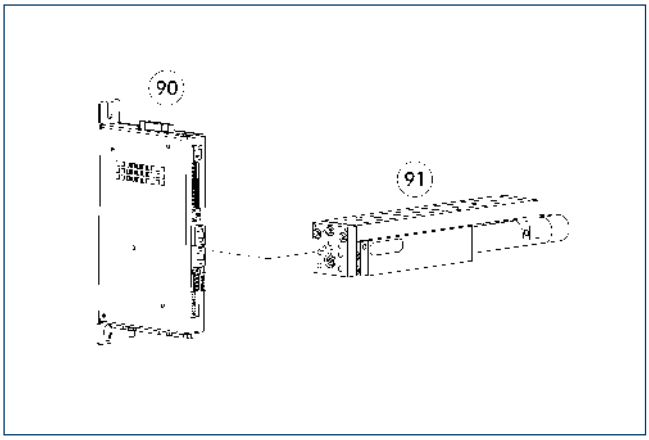
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

6 Connection module side
15 Socket
90 Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Motor cable for ELM and C1250 controller						
KS05-Y/C-4	0314914	4	10.8	64	28	M17
KS05-Y/C-6	0314915	6	10.8	64	28	M17
KS05-Y/C-8	0314916	8	10.8	64	28	M17

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

LinMot® C1250 controller

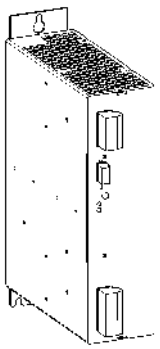


90 C1250 drive controller
91 Electric ELM linear module

The controller is absolutely essential for operating the ELM linear module. We will be happy to help you select one.

Description	ID	Maximum current	Communication type
		[A]	
Controller			
C1250-EC-XC	0314920	25	EtherCAT®
C1250-IP-XC	0314921	25	Ethernet IP
C1250-PN-XC	0314922	25	Profinet®
Connector package for LinMot® controller			
DC01-C1X00-0S/X1/X4	0314904		

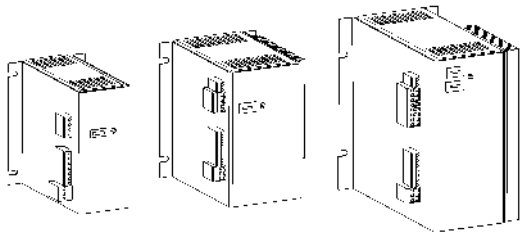
S01-72 switching power supply unit



The power pack with an output voltage of 72 V is adjusted to the power supply of the LinMot® controller. We gladly support you in choosing the right unit.

Description	ID	Power
		[W]
Power supply unit		
S01-72/1000	0314960	1000

T01-72 transformer power supply unit



The power supply unit is matched to the power supply of the LinMot® controller. The power supply unit with an output voltage of 72 V is available in different performance classes. We will be happy to help you select one.

Description	ID	Power
		[W]
Power supply unit		
T01-72/1500-Multi	0314364	1500
T01-72/420-Multi	0314549	420
T01-72/900-Multi	0314344	900

Simple. Fast. Reliable.

ELB Compact Linear Module

Electric linear module with direct drive and integrated control, guided backlash-free with pretensioned roller guides.

Field of Application

For the use in clean environments such as assembly and inspection stations. Optimum standard solution for high-precision applications.



Advantages – Your benefits

Control via digital I/O for simple commissioning and fast connection to existing systems

10-stages adjustable extension and retraction speed for highly flexible cycle times

Linear direct drive for an almost wear-free use ensuring a high service life

Robust roller guides for mounting high loads and an end position accuracy in every installation position

Maintenance-free for a high machine availability and low operating costs

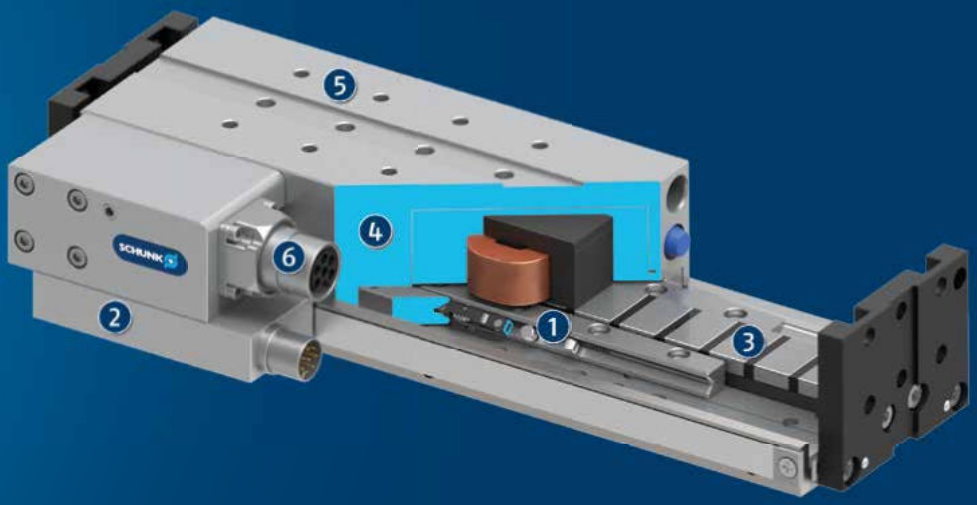
Compact dimensions for less interfering contours

Standardized mounting bores for numerous combinations with other components from the modular system

Sizes	Weight	max. driving force	max stroke	Repeat accuracy
Quantity: 1	2 .. 3.12 kg	150 N	30 .. 200 mm	±0.01 mm

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude are controlled by the applied electric current. This sets the profile, which is fitted with magnets, in motion.



① **Roller guides**
for maximum positioning accuracy and moment loads

② **Drive**
Linear direct drive

③ **Control electronics**
Adaptive control technology with integrated control and power electronics

④ **Adjustability of the end positions**
Mechanical adjustment of the end positions via stop screws

⑤ **Connector**
Standard connector for more convenient connection to the sensor and power distributors

⑥ **Modular hole pattern**
Completely integrated in the modular system

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous linear motor

Path measuring system: Contactless, magnetic, measuring system with incremental and absolute variants; with Hiperface, SSI, 1Vss and DRIVE-CLiQ interfaces (on request).

Profile: Aluminum profile with pre-loaded junction roller guide that is free from play

Slide: Aluminum slide, primary part and measuring system reading head directly integrated

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Drive controller: Bosch Rexroth IndraDrive® and SIEMENS® SINAMICS drive control units supported as standard; matching parameters supplied on DVD, other manufacturers available on request.

Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.

Payload: Is the weight of the total weight which is attached to the cantilever arm. Please consider that service life will shorten if the maximum payload is exceeded. SCHUNK cannot assume any warranty for this.



Application Example

Linear direct driven pick & place unit for dynamic movements.

1. Pillar Assembly System
2. ELB Electric Linear Module
3. EGP Electric 2-Finger Parallel Gripper

SCHUNK offers more ...

The following components make the product ELB even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drive Controller (e.g. BOSCH Rexroth IndraDrive®)



KA Power and Encoder Cables



ERD Electric Rotary Unit



ERS Electric Rotary Unit



Connection Cable for Sensor System



ZH Centering Sleeves



MPG-plus Pneumatic Small Parts Gripper



EGP Electric 2-Finger Parallel Gripper



V Sensor Distributor

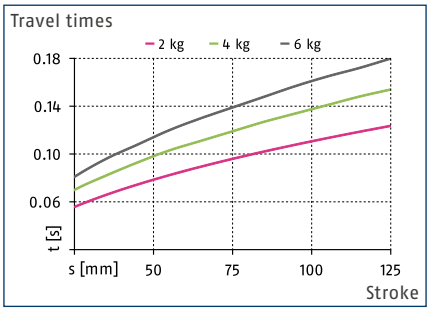
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

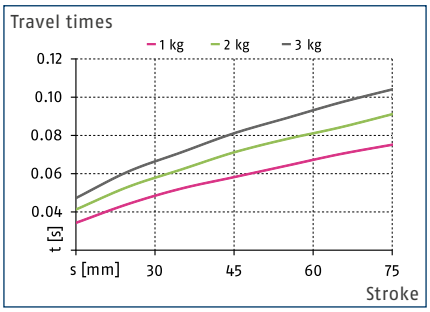
Modular transducer system: The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).
Pneumatic holding brake: The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.
On option, the linear module can be supplied with a load compensation device, located in parallel to the motor. This takes the form of a MagSpring®. For this, the magnetic spring compensates a part of the weight forces during the vertical movement of the linear motor. This can lead to a higher dynamic in application cases.



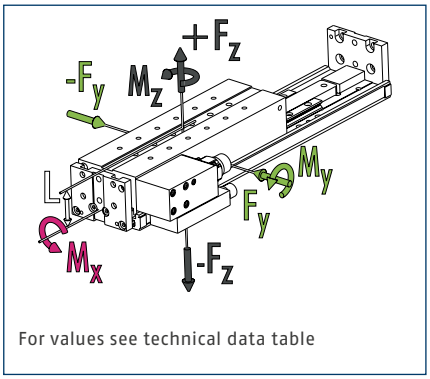
Travel times for 125 mm stroke



Travel times for 50/75 mm stroke



Moment loading



For values see technical data table

ⓘ The forces and torques shown here are maximum values for static loading.

ELB without pneumatic brake technical data

Description		ELB 70-H050-H-N-N	ELB 70-H075-H-N-N	ELB 70-H125-H-N-N	ELB 70-H050-H-N-L	ELB 70-H075-H-N-L	ELB 70-H125-H-N-L
ID		0315400	0315420	0315440	0315403	0315423	0315443
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
Stroke	[mm]	50	75	125	50	75	125
Max. driving force	[N]	150	150	150	150	150	150
Nominal force	[N]	40	40	40	40	40	40
Max. payload (horizontal)	[kg]	3	3	6	3	3	6
Repeat accuracy	[mm]	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01
Max. speed	[m/s]	4	4	4	4	4	4
Max. acceleration	[m/s²]	100	100	100	100	100	100
Max. current	[A]	10	10	10	10	10	10
Max. current at standstill	[A]	2.6	2.6	2.6	2.6	2.6	2.6
Min./max. ambient temperature	[°C]	10/40	10/40	10/40	10/40	10/40	10/40
Weight	[kg]	2	2.24	2.72	2.3	2.64	3.12
L (for moment load)	[mm]	34.1	34.1	34.1	34.1	34.1	34.1
Path measuring system interface		Hiperface	Hiperface	Hiperface	Hiperface	Hiperface	Hiperface
Load compensation implementation					MagSpring®	MagSpring®	MagSpring®
Load compensation constant force	[N]				22	22	22
Moments M_x max./M_y max./M_z max.	[Nm]	162/170/170	162/170/170	206/211/211	162/170/170	162/170/170	206/211/211
Forces F_y max./F_z max./-F_z max.	[N]	3835/3835/3835	3835/3835/3835	4853/4853/4853	3835/3835/3835	3835/3835/3835	4853/4853/4853
Options and their characteristics							
Description		ELB 70-H050-I-N-N	ELB 70-H075-I-N-N	ELB 70-H125-I-N-N	ELB 70-H050-I-N-L	ELB 70-H075-I-N-L	ELB 70-H125-I-N-L
ID		0315404	0315424	0315444	0315407	0315427	0315447
Path measuring system interface		Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss
Description		ELB 70-H050-S-N-N	ELB 70-H075-S-N-N	ELB 70-H125-S-N-N	ELB 70-H050-S-N-L	ELB 70-H075-S-N-L	ELB 70-H125-S-N-L
ID		0315408	0315428	0315448	0315411	0315431	0315451
Path measuring system interface		SSI	SSI	SSI	SSI	SSI	SSI

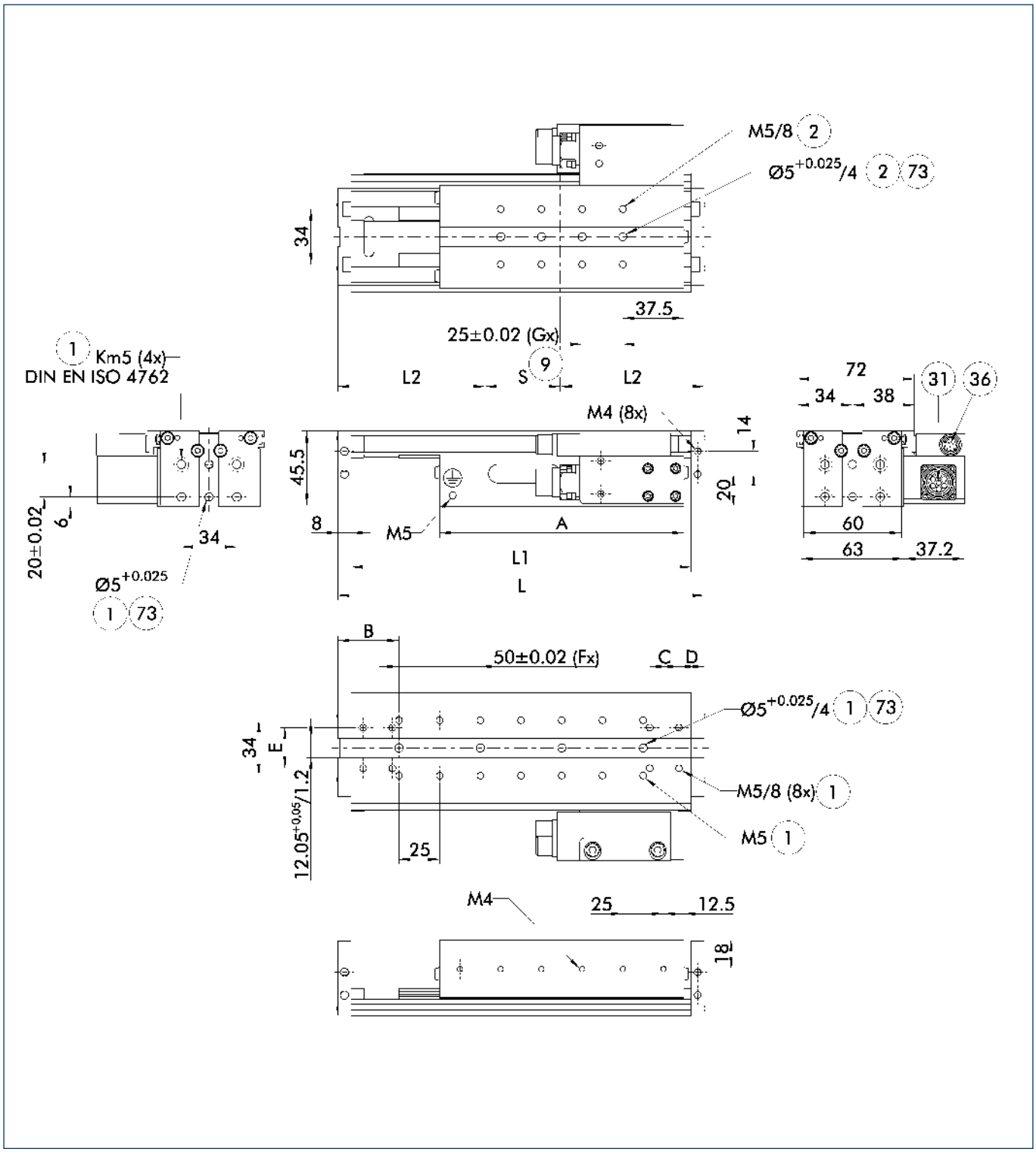
The diagrams are valid for horizontal installation and with sufficient rest periods. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

ELB with pneumatic brake technical data

Description		ELB 70-H050-H-B-N	ELB 70-H075-H-B-N	ELB 70-H125-H-B-N
ID		0315401	0315421	0315441
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
Stroke	[mm]	50	75	125
Max. driving force	[N]	150	150	150
Nominal force	[N]	40	40	40
Max. payload (horizontal)	[kg]	3	3	6
Repeat accuracy	[mm]	±0.01	±0.01	±0.01
Max. speed	[m/s]	4	4	4
Max. acceleration	[m/s²]	100	100	100
Max. current	[A]	10	10	10
Max. current at standstill	[A]	2.6	2.6	2.6
Min./max. ambient temperature	[°C]	10/40	10/40	10/40
Weight	[kg]	2.28	2.46	2.96
L (for moment load)	[mm]	34.1	34.1	34.1
Path measuring system interface		Hiperface	Hiperface	Hiperface
Actuation holding brake		pneumatic	pneumatic	pneumatic
Static holding force break	[N]	350	350	350
Axial play, brake	[mm]	0.3	0.3	0.3
Moments M_x max./M_y max./M_z max.	[Nm]	162/170/170	162/170/170	206/211/211
Forces F_y max./F_z max./-F_z max.	[N]	3835/3835/3835	3835/3835/3835	4853/4853/4853
Options and their characteristics				
Description		ELB 70-H050-I-B-N	ELB 70-H075-I-B-N	ELB 70-H125-I-B-N
ID		0315405	0315425	0315445
Path measuring system interface		Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss
Description		ELB 70-H050-S-B-N	ELB 70-H075-S-B-N	ELB 70-H125-S-B-N
ID		0315409	0315429	0315449
Path measuring system interface		SSI	SSI	SSI

The diagrams are valid for horizontal installation and with sufficient rest periods. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Main view

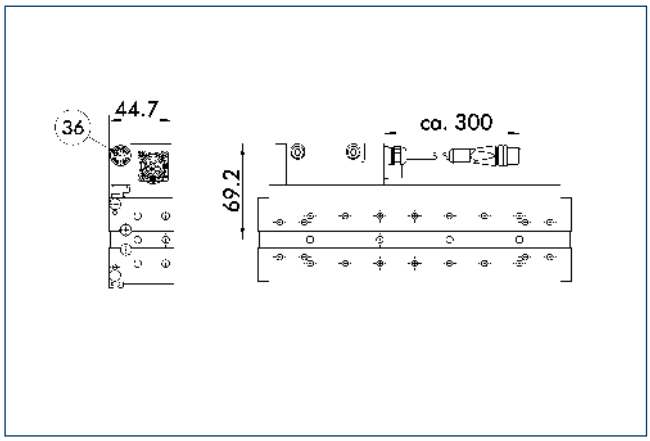


The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

(1) Connection linear unit
(2) Attachment connection
(9) Effective stroke
(31) Motor plug
(36) Connection plug for the path measuring system
(73) Fit for centering pins

Description	A	B	Quantity F	C	Quantity G	D	E	L	L1	L2
	[mm]	[mm]		[mm]		[mm]	[mm]	[mm]	[mm]	[mm]
ELB 70-H050-I-N-N	150	37.5	3	18	3	15.5	25	225	209	87.5
ELB 70-H075-I-N-N	150	25	4	0	3	0	0	250	234	87.5
ELB 70-H125-I-N-N	200	25	6	0	5	0	0	350	334	112.5

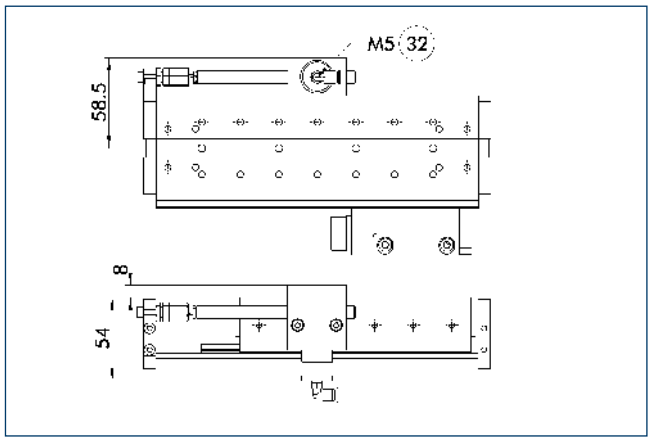
Absolute encoder with Hiperface interface



36 Connection plug for the path measuring system

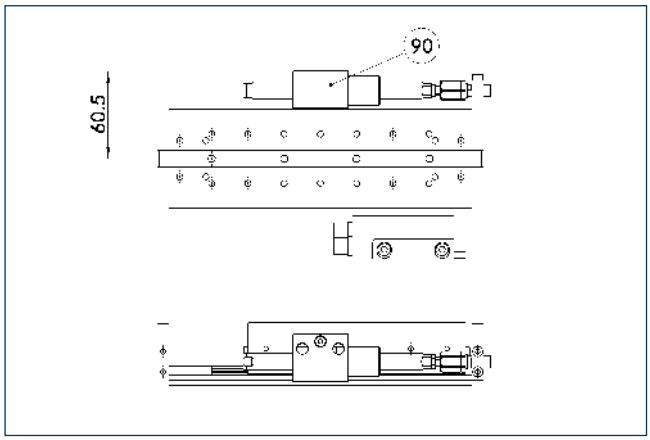
The absolute measuring system with Hiperface interface has a 30 cm cable outlet and a cast-on M12 plug.

Pneumatic holding brake



32 Pneumatic connection for holding brake

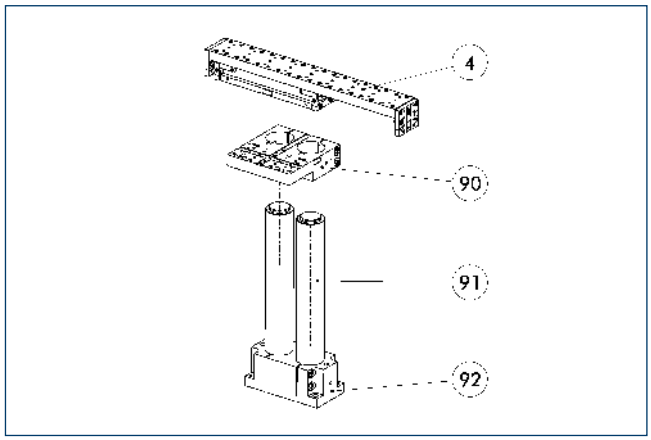
The holding brake holds the slide in a particular position even without energy supply. The holding brake is pneumatically actuated.



90 MagSpring®

With its constant force over the complete stroke, the MagSpring® is the perfect load compensation. It ideally supports the linear motor in vertical applications.

Attachment to a pillar assembly system

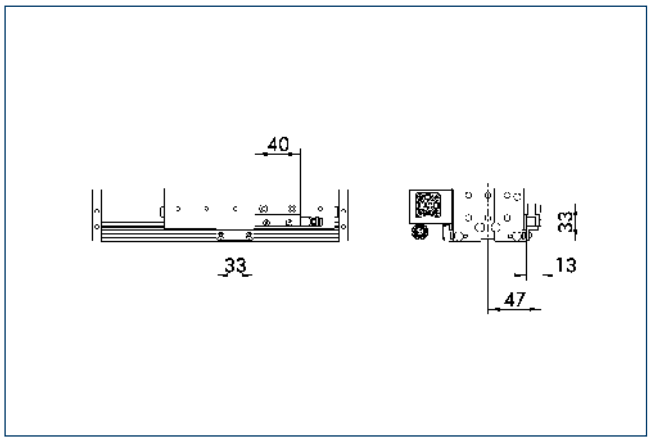


4 Linear unit
90 APDH double mounting plate
91 Pillars, hard-chromium plated, ground
92 SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

Attachment kit for IN 41 proximity switch

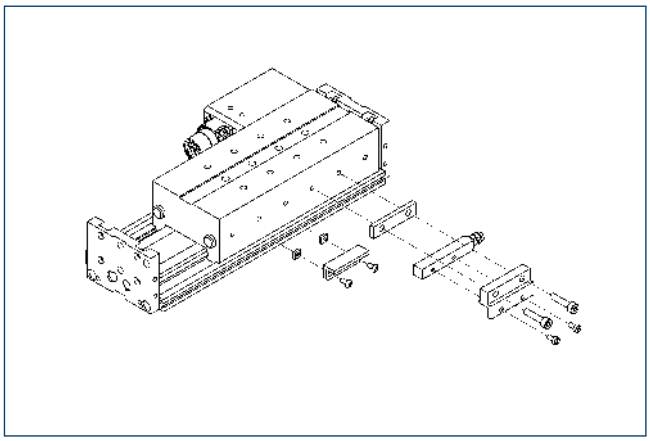


The attachment kit is used to mount the optional IN 41 proximity switches on the linear module, and is available as an optional accessory.

Description	ID	
Attachment kit for proximity switch		
AS-ELB 70	0315490	

ⓘ One attachment kit is required for each proximity switch.

Limit and reference switch

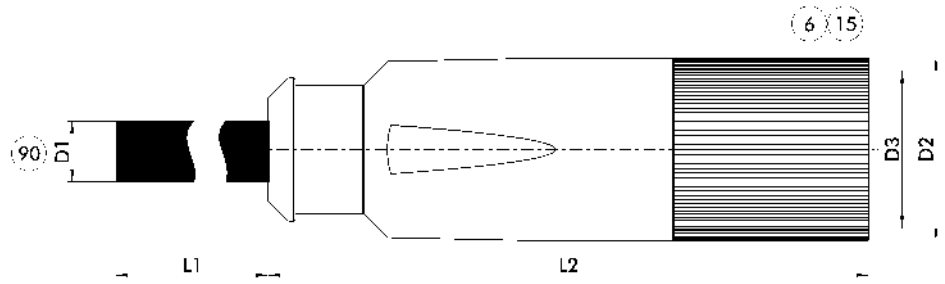


The limit and reference switches are not mandatory for operating of the linear module.

Description	ID	
Attachment kit for proximity switch		
AS-ELB 70	0315490	
Inductive proximity switches		
NI 41-O	0315495	
NI 41-S	0315496	

ⓘ One attachment kit is required for each proximity switch.

Power cable



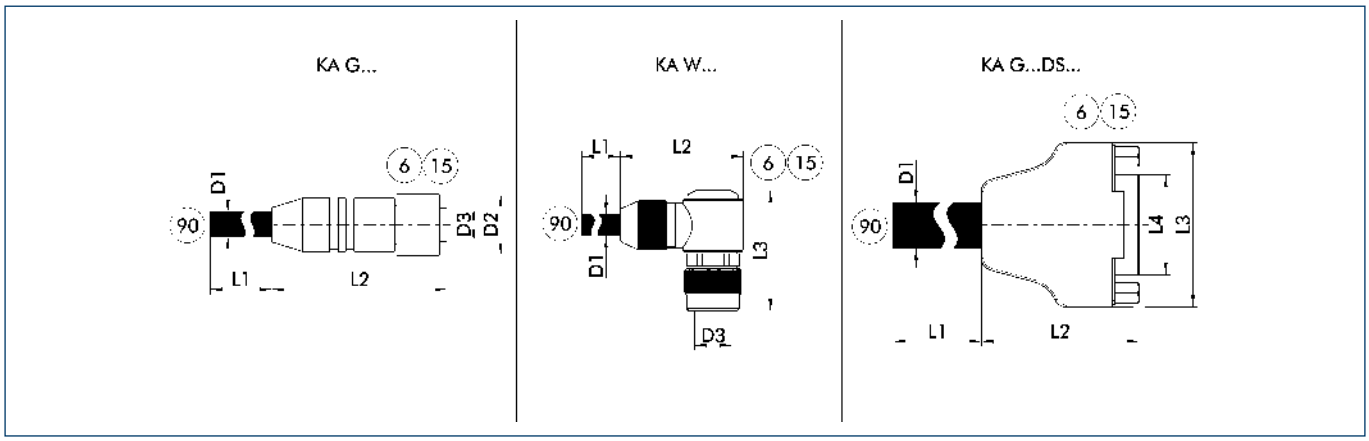
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

6 Connection module side
15 Socket
90 Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for BOSCH Rexroth IndraDrive® A/B						
KA GLT1706-LK-00500-W	0349560	5	8.5	71	21.2	M17
KA GLT1706-LK-01000-W	0349561	10	8.5	71	21.2	M17
KA GLT1706-LK-01500-W	0349562	15	8.5	71	21.2	M17
KA GLT1706-LK-02000-W	0349563	20	8.5	71	21.2	M17
Power cable for BOSCH Rexroth IndraDrive® Cs						
KA GLT1706-LK-00500-1	0349104	5	8.5	71	21.2	M17
KA GLT1706-LK-01000-1	0349105	10	8.5	71	21.2	M17
KA GLT1706-LK-01500-1	0349106	15	8.5	71	21.2	M17
KA GLT1706-LK-02000-1	0349107	20	8.5	71	21.2	M17
Power cable for SIEMENS® Sinamics						
KA GGT1706-LK-00100-6	0349129	1	8.5	71	21.2	M17
KA GGT1706-LK-00200-6	0349130	2	8.5	71	21.2	M17
KA GGT1706-LK-00300-6	0349131	3	8.5	71	21.2	M17

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G...	Encoder cable with straight plug
KA W...	Encoder cable with angeled plug
KA G...DS...	Sub D encoder cable

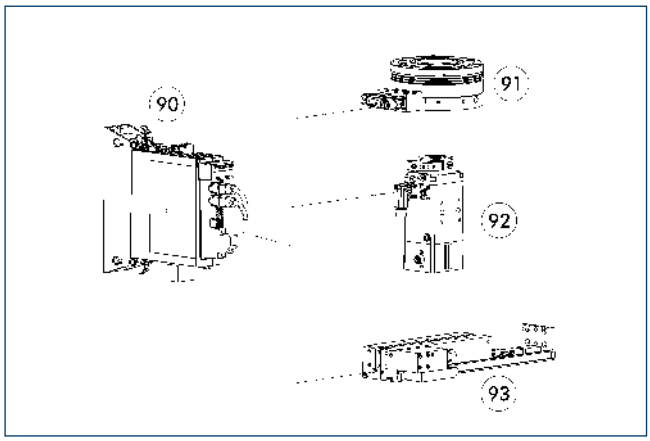
(6) Connection module side
(15) Socket
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Encoder cable for SIEMENS® Sinamcis and SSI encoder interface						
KA GGN1210-GK-00100-Q	0349135	1	6	46	14.65	M12
KA GGN1210-GK-00200-Q	0349136	2	6	46	14.65	M12
KA GGN1210-GK-00300-Q	0349137	3	6	46	14.65	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B/Cs and Hiperface encoder interface						
KA GWN1208-GK-00500-K	0349125	5	6	50	14.9	M12
KA GWN1208-GK-01000-K	0349126	10	6	50	14.9	M12
KA GWN1208-GK-01500-K	0349127	15	6	50	14.9	M12
KA GWN1208-GK-02000-K	0349128	20	6	50	14.9	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface						
KA GWN1208-GK-00500-R	0349138	5	7.3	50	14.65	M12
KA GWN1208-GK-01000-R	0349139	10	7.3	50	14.65	M12
KA GWN1208-GK-01500-R	0349140	15	7.3	50	14.65	M12
KA GWN1208-GK-02000-R	0349141	20	7.3	50	14.65	M12
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface						
KA GWN1208-GK-00500-T	0349146	5	7.3	50	14.65	M12
KA GWN1208-GK-01000-T	0349147	10	7.3	50	14.65	M12
KA GWN1208-GK-01500-T	0349148	15	7.3	50	14.65	M12
KA GWN1208-GK-02000-T	0349149	20	7.3	50	14.65	M12
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface						
KA GGN1208-GK-00100-U	0349597	1	7.3	50	14.65	M12
KA GGN1208-GK-00200-U	0349598	2	7.3	50	14.65	M12
KA GGN1208-GK-00300-U	0349599	3	7.3	50	14.65	M12

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

BOSCH Rexroth IndraDrive® Cs



90 Controller
91 ERS electric rotary module
92 ERD electric rotary module
93 ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8

Rapid. Flexible. Powerful.

LDH Short Stroke Module

Compact Z-axis with linear motor and roller guidance.

Field of Application

For use in clean and slightly polluted environment. For faster and precise moving or controlled press-in operation of workpieces in the high-speed assembly, measurement and testing technology, microelectronics or in the medical technology.



Advantages – Your benefits

Almost no wear parts for long service life and reliability of the system

No mechanical play between the drive components for flexible response behavior and high positioning accuracy

Low oscillations and high holding force for the shortest positioning times and process stability

Integrated motor and measuring system in the axis minimizes interfering contours and space requirements

Can be fitted with absolute path measuring system less programming effort and time saving when commissioning and in operation

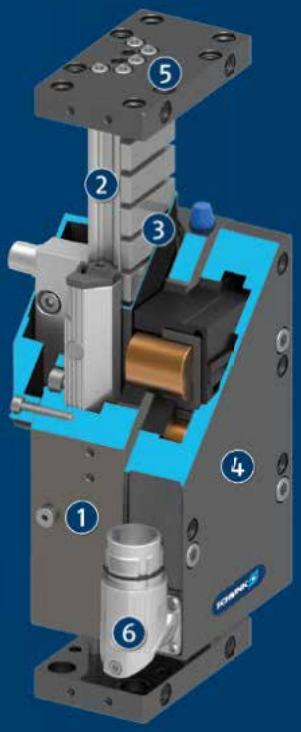
High dynamics for shorter cycle times therefore a high productivity is achieved

Optionally pneumatic holding brake used as rod lock for process reliability during system downtime

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 1	200 mm	125 N	±0.01 mm	4 m/s

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Pneumatic holding brake**
for maintaining the position in downtime

② **High-precision, hardened and ground steel guide rails**
for optimum guidance properties and speeds

③ **Integrated secondary parts**
with high performance magnets

④ **Compact primary part slide**
with mounting surfaces, scope-free adjusted rollers and integrated measuring system

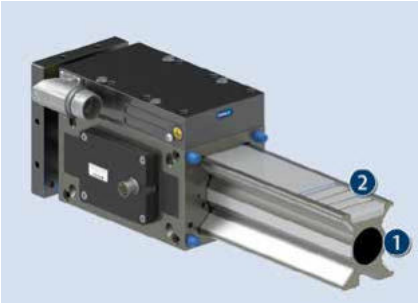
⑤ **End plates**
for mounting sensors, shock absorbers, and additional attachments

⑥ **Motor plug**
Position right/left can be selected

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

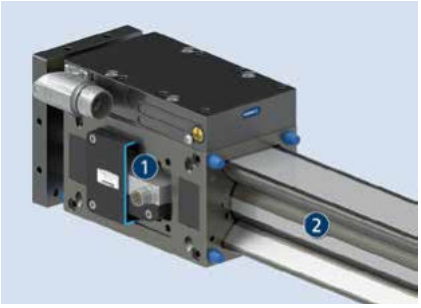
Design of the linear direct axis



The LDx linear direct axes comprise a motor slide with integrated primary part and measuring system. The secondary part is made up of permanent magnets and is countersunk into the axis profile of the linear axis.

1. Axis profile (e.g. steel guide rail or aluminum profile)
2. Permanent magnets with dirt cover

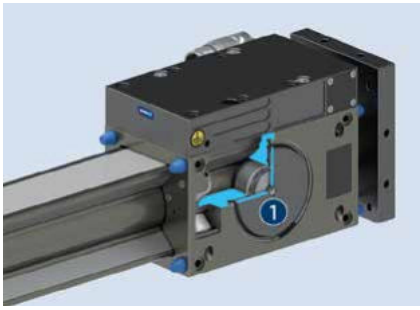
Modular transducer system



The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).

1. Measuring system reading head, fixed on the motor slide
2. Measuring system tape measure, fixed on the aluminum profile

Pneumatic holding brake



The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.

1. Holding brake, operated pneumatically

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

1. Drag chain

Sample Order

LDN – EL – 0100 – 1 – 0270 – 0500 – LXBV – 111A – SB03 – 0132

Axis version
LDH = Linear direct drive with narrow short-stroke profile
LDK = Linear direct drive with short-stroke profile
LDN = Linear direct drive with single X-profile
LDM = Linear direct drive with double X-profile
LDT = Linear direct drive with triple X-profile
LDL = Linear direct drive with flat profile

Guide and motor versions
E = Non-supported version
U = Supported version

Slide length
S = Standard slide
L = Long slide

Size

Number of active slides

Useful stroke

Total axis length

Option block 1
Number 1: Motor option
Number 2: Additional passive slides option
Number 3: Holding brake in active slide option
Number 4: Valve option

Option block 2
Number 1: Reference switch option
Number 2: Limit switch option
Number 3: Cable track option
Number 4: Wipers option

Option block 3
Number 1: Shock absorbers option
Numbers 2–4: Mounting strips

Option block 4, measuring system
Number 1: Path measuring system
Number 2: Path measuring system type
Number of 3: Length of cable
Number 4: Controller interface

General Notes on the Series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous linear motor

Path measuring system: Contactless, magnetic, measuring system with incremental and absolute variants; with Hiperface, SSI, 1Vss and DRIVE-CLiQ interfaces (on request).

Profile: Steel guide rail

Slide: Aluminum slide, primary part and measuring system reading head directly integrated

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Drive controller: Bosch Rexroth IndraDrive® and SIEMENS® SINAMICS drive control units supported as standard; matching parameters supplied on DVD, other manufacturers available on request.

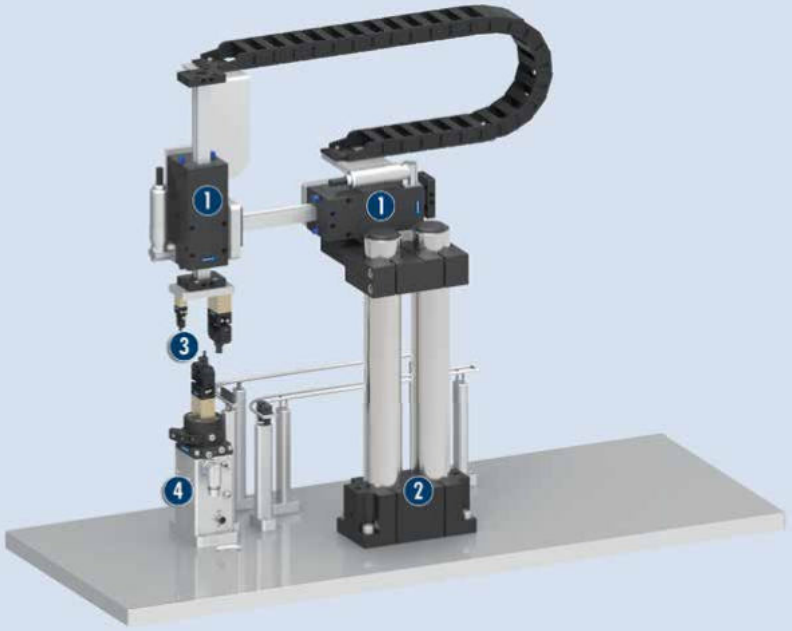
Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Compact pick & place system for transfer of the smallest of workpiece, with additional swivel station.

1. LDH Short Stroke Module
2. Assembly System
3. MPG-plus 2-Finger Parallel Gripper
4. ERD Miniature Rotary Module

SCHUNK offers more ...

The following components make the product LDH even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drive Controller (e.g. BOSCH Rexroth IndraDrive®)



KA Power and Encoder Cables



ERD Electric Rotary Unit



ERS Electric Rotary Unit



EGP Electric Parallel Gripper



MV Micro Valves



MPG-plus Pneumatic Small Parts Gripper



Drag Chain



Connection Cable for Sensor System



V Sensor Distributor



ZH Centering Sleeves

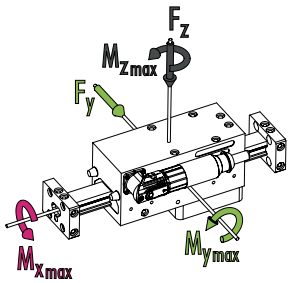
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Modular transducer system: The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).
Pneumatic holding brake: The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.
Supported axis version: The axis profile can also be given additional support. When using high payloads, this keeps bending to a minimum, and provides another option for mounting.



Moment loading



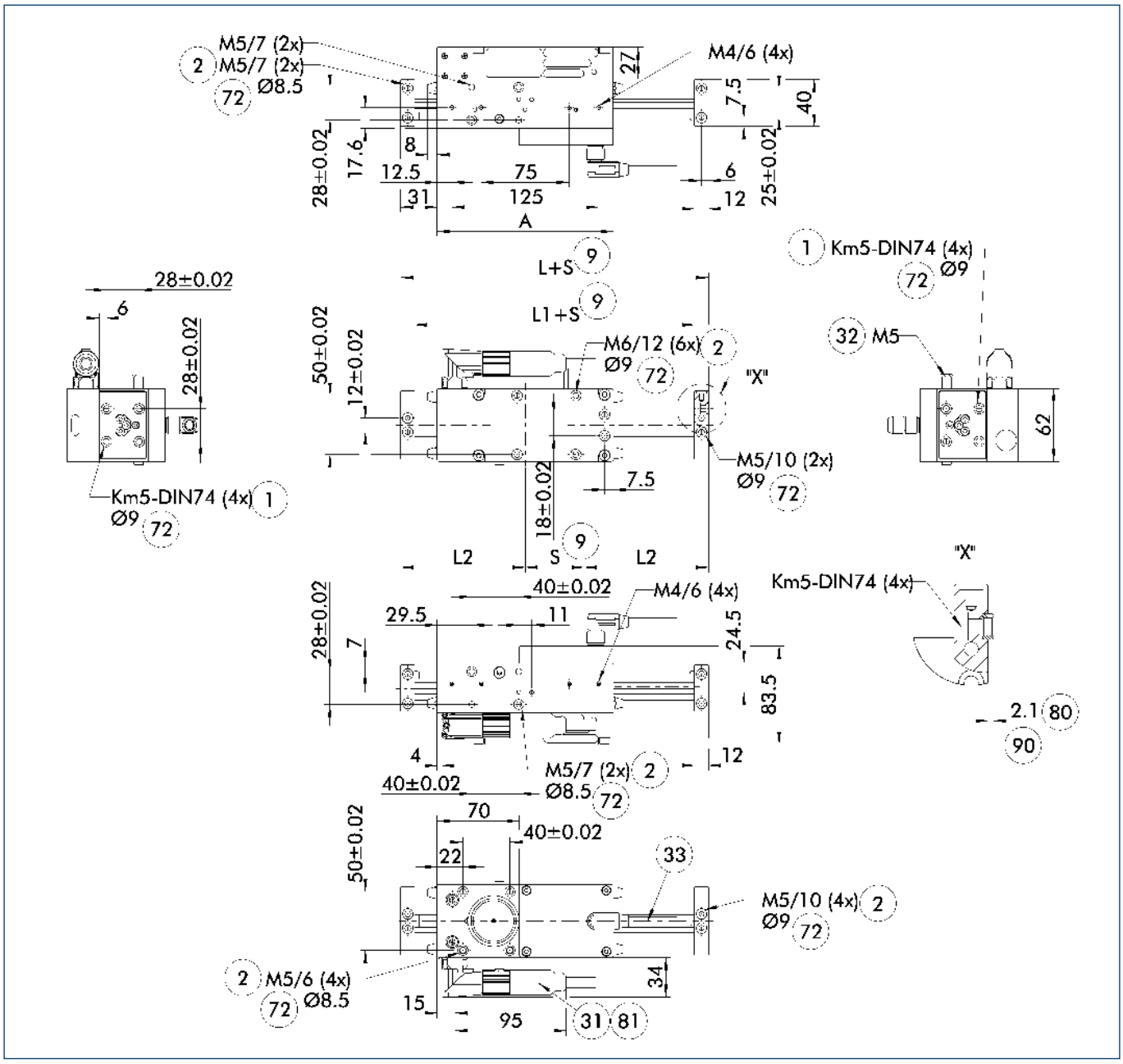
M_x max. 18 Nm	F_z max. 1312 N
M_y max. 37.25 Nm	F_z max. 1312 N
M_z max. 37.25 Nm	$-F_z$ max. 1312 N
F_y max. 1312 N	

ⓘ The forces and torques shown here are maximum values for static loading.

Technical data

Description		LDH-ES-0050
Drive concept		Linear direct drive
Max. stroke	[mm]	200
Max. driving force	[N]	125
Nominal force	[N]	52
Max. payload (vertical)	[kg]	1
Repeat accuracy	[mm]	±0.01
Max. speed	[m/s]	4
Max. acceleration	[m/s²]	40
Max. current	[A]	9.5
Max. current at standstill	[A]	1.86
Min./max. ambient temperature	[°C]	5/40
Weight of slide/motor	[kg]	0.7/1.056
Weight of end plates	[kg]	0.12
Profile weight per 100 mm of length	[kg]	0.2
Options and their characteristics		
Supported version		LDH-US-0050
Max. stroke	[mm]	200
Weight of slide/motor	[kg]	0.7/1.056
Profile weight per 100 mm of length	[kg]	0.31
Weight of end plates	[kg]	0.19

Main view

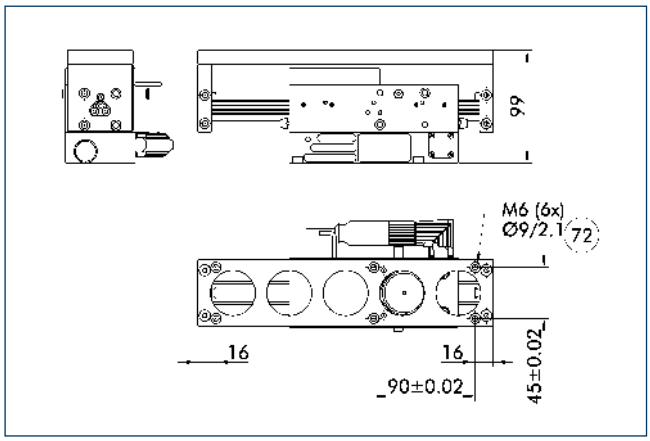


The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

1. Connection linear unit
2. Attachment connection
9. Effective stroke
31. Motor plug
32. Pneumatic connection for holding brake
33. Cable for path measuring system
72. Fit for centering sleeves
80. Depth of the centering sleeve hole in the counter part
81. Not included in the scope of delivery
90. Applies to all centering sleeves

Description	A	L	L1	L2
	[mm]	[mm]	[mm]	[mm]
LDH-ES-0050	150	212	188	106

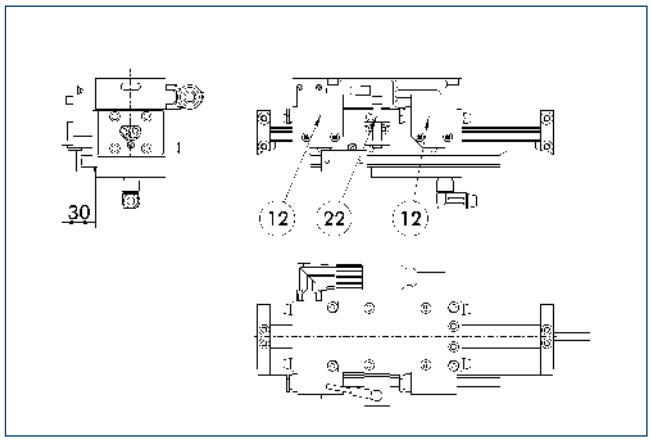
Supported version



72 Fit for centering sleeves

The support reduces bending and permits an additional type of mounting.

Limit and reference switch

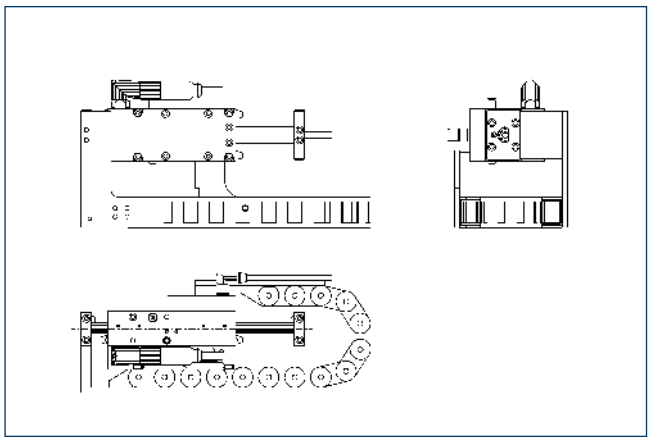


12 Mechanical limit switches

22 Inductive reference switch

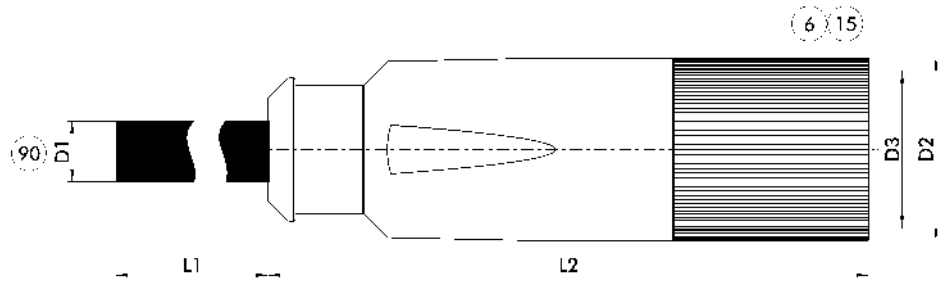
The limit and reference switches are not mandatory for operating of the linear module.

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

Power cable



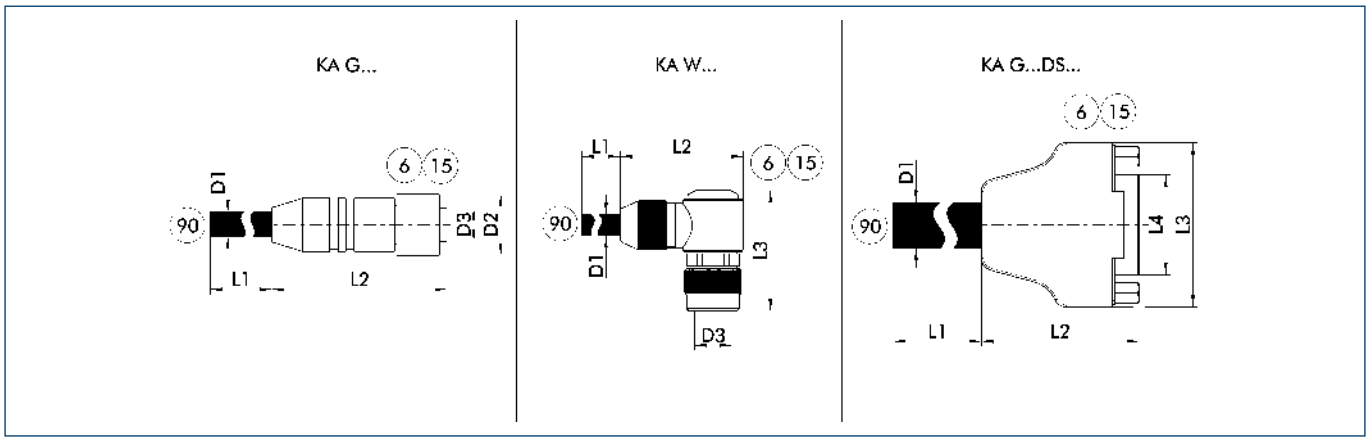
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for BOSCH Rexroth IndraDrive® A/B						
KA GLT1706-LK-00500-W	0349560	5	8.5	71	21.2	M17
KA GLT1706-LK-01000-W	0349561	10	8.5	71	21.2	M17
KA GLT1706-LK-01500-W	0349562	15	8.5	71	21.2	M17
KA GLT1706-LK-02000-W	0349563	20	8.5	71	21.2	M17
Power cable for BOSCH Rexroth IndraDrive® Cs						
KA GLT1706-LK-00500-1	0349104	5	8.5	71	21.2	M17
KA GLT1706-LK-01000-1	0349105	10	8.5	71	21.2	M17
KA GLT1706-LK-01500-1	0349106	15	8.5	71	21.2	M17
KA GLT1706-LK-02000-1	0349107	20	8.5	71	21.2	M17
Power cable for SIEMENS® Sinamics						
KA GGT1706-LK-00100-6	0349129	1	8.5	71	21.2	M17
KA GGT1706-LK-00200-6	0349130	2	8.5	71	21.2	M17
KA GGT1706-LK-00300-6	0349131	3	8.5	71	21.2	M17

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G...	Encoder cable with straight plug
KA W...	Encoder cable with angeled plug
KA G...DS...	Sub D encoder cable

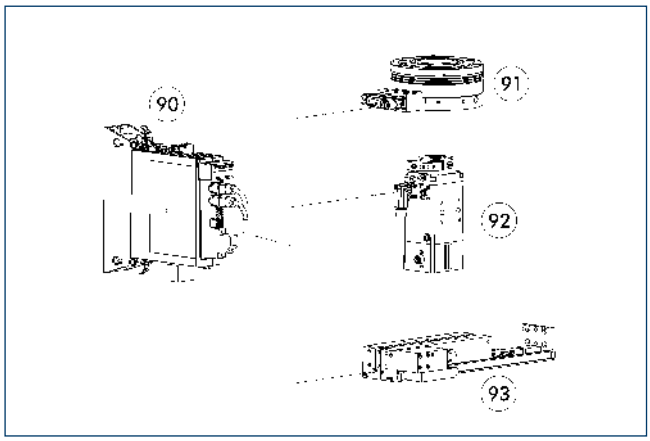
(6) Connection module side
(15) Socket
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Encoder cable for SIEMENS® Sinamcis and SSI encoder interface							
KA WGN1210-GK-00100-0	0349155	1	6	46	14.65	28.9	M12
KA WGN1210-GK-00200-0	0349156	2	6	46	14.65	28.9	M12
KA WGN1210-GK-00300-0	0349157	3	6	46	14.65	28.9	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B/Cs and Hiperface encoder interface							
KA WWN1208-GK-00500-K	0349544	5	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01000-K	0349545	10	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01500-K	0349546	15	6	37.5	14.9	30.8	M12
KA WWN1208-GK-02000-K	0349547	20	6	37.5	14.9	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface							
KA WWN1208-GK-00500-X	0349150	5	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01000-X	0349151	10	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01500-X	0349152	15	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-02000-X	0349153	20	7.3	37.5	14.65	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface							
KA WWN1208-GK-00500-Y	0349142	5	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01000-Y	0349143	10	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01500-Y	0349144	15	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-02000-Y	0349145	20	7.3	37.5	14.56	30.8	M12
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface							
KA WGN1208-GK-00100-Z	0349604	1	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00200-Z	0349605	2	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00300-Z	0349606	3	7.3	37.5	14.65	30.8	M12

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

BOSCH Rexroth IndraDrive® Cs



90 Controller
91 ERS electric rotary module
92 ERD electric rotary module
93 ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8

Flexible. Reliable. Fast.

LDK Stroke Module

Compact short stroke axis with linear motor and roller guidance.

Field of Application

For use in clean and slightly polluted environment. For faster and precise moving or controlled press-in operation of workpieces in the high-speed assembly, measurement and testing technology, microelectronics or in the medical technology.



Advantages – Your benefits

Almost no wear parts for long service life and reliability of the system

No mechanical play between the drive components for flexible response behavior and high positioning accuracy

Low oscillations and high holding force for the shortest positioning times and process stability

Integrated motor and measuring system in the axis minimizes interfering contours and space requirements

Can be fitted with absolute path measuring system less programming effort and time saving when commissioning and in operation

High dynamics for shorter cycle times therefore a high productivity is achieved

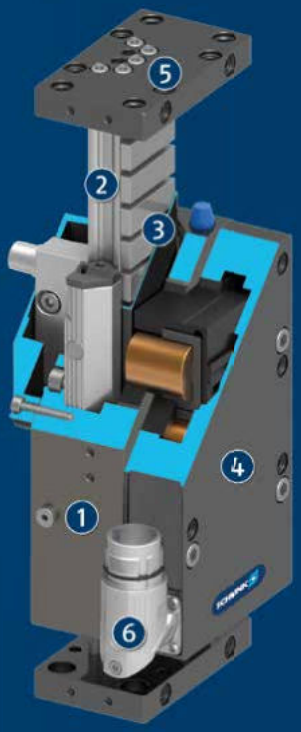
Many different variants possible e.g. long slides for special optimization on exactly your application

Optionally pneumatic holding brake used as rod lock for process reliability during system downtime

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 1	300 .. 400 mm	250 .. 500 N	±0.01 mm	4 m/s

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Pneumatic holding brake**
for maintaining the position in downtime

② **High-precision, hardened and ground steel guide rails**
for optimum guidance properties and speeds

③ **Integrated secondary parts**
with high performance magnets

④ **Compact primary part slide**
with mounting surfaces, scope-free adjusted rollers and integrated measuring system

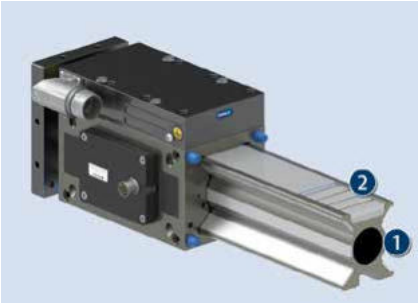
⑤ **End plates**
for mounting sensors, shock absorbers, and additional attachments

⑥ **Motor plug**
Position right/left can be selected

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

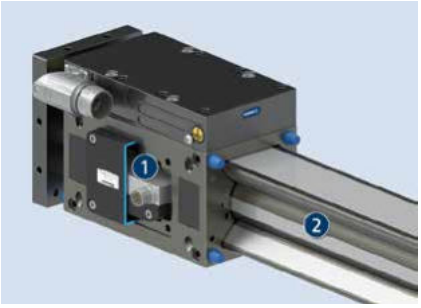
Design of the linear direct axis



The LDx linear direct axes comprise a motor slide with integrated primary part and measuring system. The secondary part is made up of permanent magnets and is countersunk into the axis profile of the linear axis.

1. Axis profile (e.g. steel guide rail or aluminum profile)
2. Permanent magnets with dirt cover

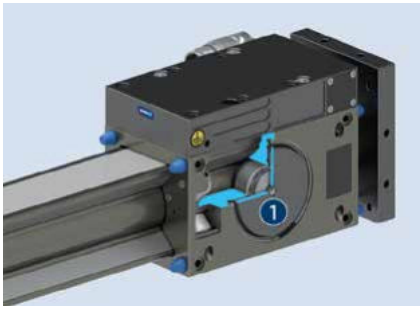
Modular transducer system



The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).

1. Measuring system reading head, fixed on the motor slide
2. Measuring system tape measure, fixed on the aluminum profile

Pneumatic holding brake



The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.

1. Holding brake, operated pneumatically

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

1. Drag chain

Sample Order

LDN – EL – 0100 – 1 – 0270 – 0500 – LXBV – 111A – SB03 – 0132

Axis version
LDH = Linear direct drive with narrow short-stroke profile
LDK = Linear direct drive with short-stroke profile
LDN = Linear direct drive with single X-profile
LDM = Linear direct drive with double X-profile
LDT = Linear direct drive with triple X-profile
LDL = Linear direct drive with flat profile

Guide and motor versions
E = Non-supported version
U = Supported version

Slide length
S = Standard slide
L = Long slide

Size

Number of active slides

Useful stroke

Total axis length

Option block 1
Number 1: Motor option
Number 2: Additional passive slides option
Number 3: Holding brake in active slide option
Number 4: Valve option

Option block 2
Number 1: Reference switch option
Number 2: Limit switch option
Number 3: Cable track option
Number 4: Wipers option

Option block 3
Number 1: Shock absorbers option
Numbers 2–4: Mounting strips

Option block 4, measuring system
Number 1: Path measuring system
Number 2: Path measuring system type
Number of 3: Length of cable
Number 4: Controller interface

General Notes on the Series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous linear motor

Path measuring system: Contactless, magnetic, measuring system with incremental and absolute variants; with Hiperface, SSI, 1Vss and DRIVE-CLiQ interfaces (on request).

Profile: Width of steel guide rail

Slide: Aluminum slide, primary part and measuring system reading head directly integrated

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Drive controller: Bosch Rexroth IndraDrive® and SIEMENS® SINAMICS drive control units supported as standard; matching parameters supplied on DVD, other manufacturers available on request.

Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Linear gripper rotary unit for dynamic movement of small components.

1. ERD Miniature Rotary Module
2. LDK Stroke Module
3. MPG-plus 2-Finger Parallel Gripper

SCHUNK offers more ...

The following components make the product LDK even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drive Controller (e.g. BOSCH Rexroth IndraDrive®)



KA Power and Encoder Cables



ERD Electric Rotary Unit



ERS Electric Rotary Unit



EGP Electric Parallel Gripper



MV Micro Valves



MPG-plus Pneumatic Small Parts Gripper



Drag Chain



Connection Cable for Sensor System



V Sensor Distributor



ZH Centering Sleeves

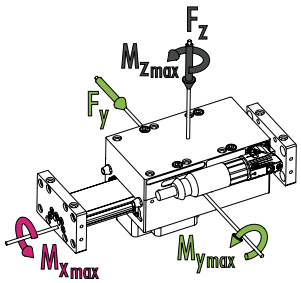
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Modular transducer system: The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).
Pneumatic holding brake: The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.
Supported axis version: The axis profile can also be given additional support. When using high payloads, this keeps bending to a minimum, and provides another option for mounting.



Moment loading



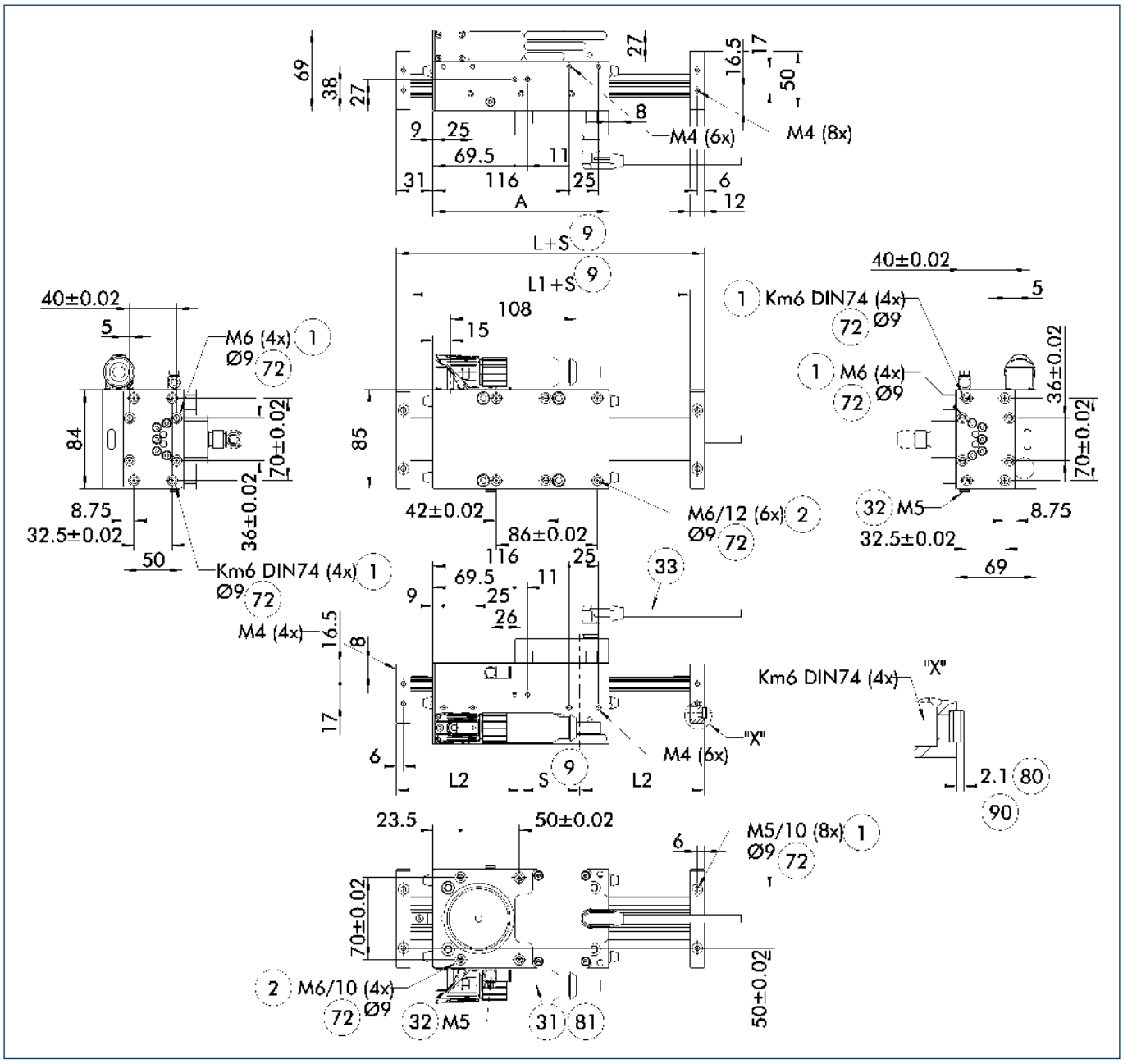
For values see technical data table

ⓘ The forces and torques shown here are maximum values for static loading.

Technical data

Description		LDK-ES-0100	LDK-EL-0200
Drive concept		Linear direct drive	Linear direct drive
Max. stroke	[mm]	400	300
Max. driving force	[N]	250	500
Nominal force	[N]	115	185
Max. payload (vertical)	[kg]	3	6
Repeat accuracy	[mm]	±0.01	±0.01
Max. speed	[m/s]	4	4
Max. acceleration	[m/s²]	40	40
Max. current	[A]	7.5	15
Max. current at standstill	[A]	1.98	3.19
Min./max. ambient temperature	[°C]	5/40	5/40
Weight of slide/motor	[kg]	0.8/1.62	1.18/2.8
Weight of end plates	[kg]	0.23	0.23
Profile weight per 100 mm of length	[kg]	0.34	0.34
Moments M_x max./M_y max./M_z max.	[Nm]	47/37/37	62/125/125
Forces F_y max./F_z max./F_z max./-F_z max.	[N]	1310/1310/1312/1310	1700/1700/1700/1700
Options and their characteristics			
Supported version		LDK-US-0100	LDK-UL-0200
Max. stroke	[mm]	400	300
Weight of slide/motor	[kg]	0.8/1.62	1.18/2.8
Profile weight per 100 mm of length	[kg]	0.47	0.47
Weight of end plates	[kg]	0.36	0.36

Main view

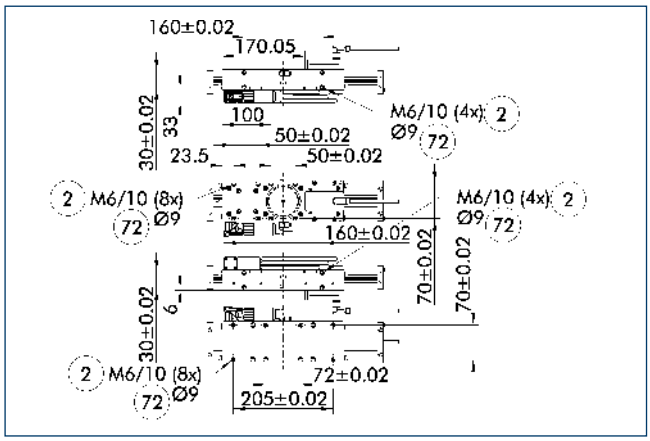


The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

1. Connection linear unit
2. Attachment connection
9. Effective stroke
31. Motor plug
32. Pneumatic connection for holding brake
33. Cable for path measuring system
72. Fit for centering sleeves
80. Depth of the centering sleeve hole in the counter part
81. Not included in the scope of delivery
90. Applies to all centering sleeves

Description	A	L	L1	L2
	[mm]	[mm]	[mm]	[mm]
LDK-ES-0100	150	212	188	106
LDK-EL-0200	250	312	288	156

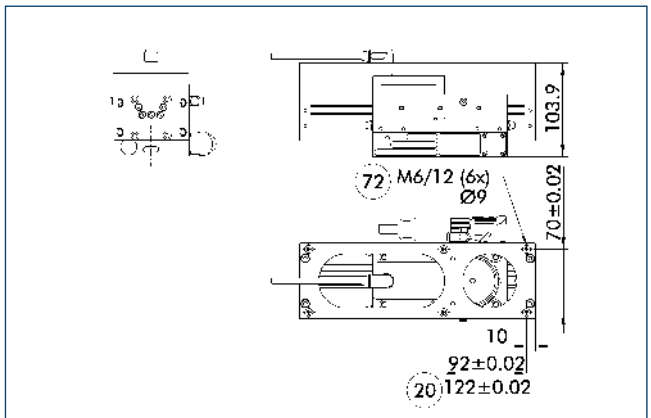
Version with long slide



(2) Attachment connection (72) Fit for centering sleeves

The side view shows the dimensional changes when using a long slide.

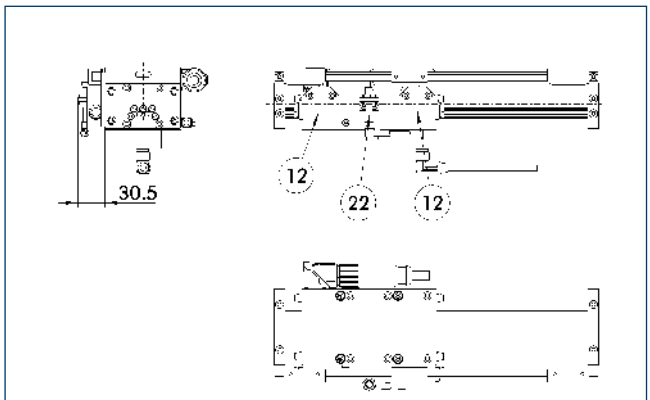
Supported version



(20) With long slide plate (72) Fit for centering sleeves

The support reduces bending and permits an additional type of mounting.

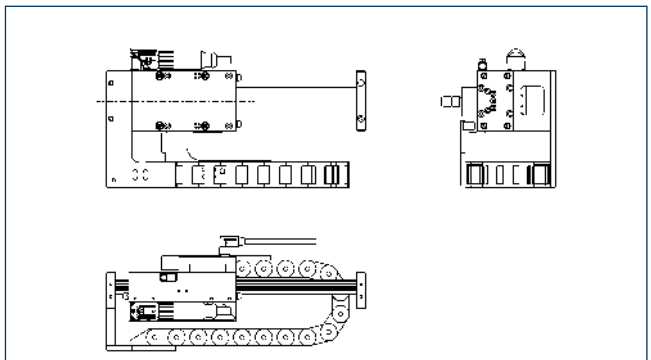
Limit and reference switch



(12) Mechanical limit switches (22) Inductive reference switch
(20) With long slide plate

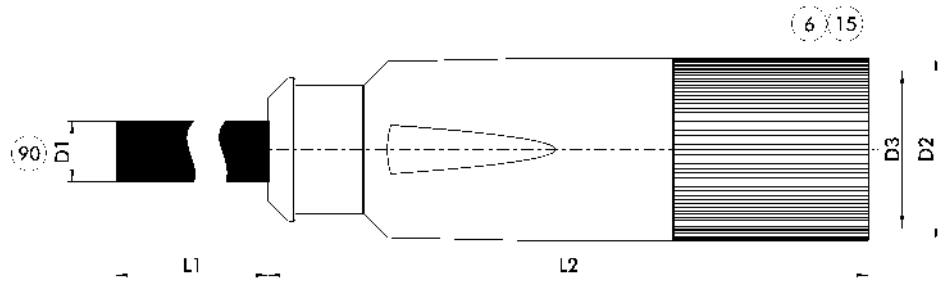
The limit and reference switches are not mandatory for operating of the linear module.

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

Power cable



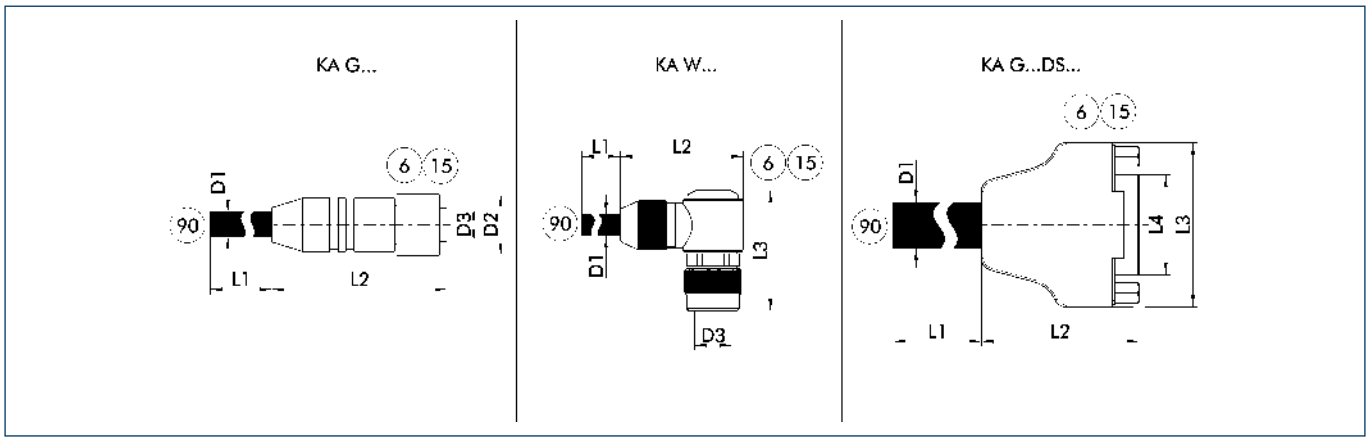
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-X	0349564	5	10	78.5	27	M23
KA GLT2306-LK-01000-X	0349565	10	10	78.5	27	M23
KA GLT2306-LK-01500-X	0349566	15	10	78.5	27	M23
KA GLT2306-LK-02000-X	0349567	20	10	78.5	27	M23
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® CS						
KA GLT2306-LK-00500-2	0349515	5	10	78.5	27	M23
KA GLT2306-LK-01000-2	0349516	10	10	78.5	27	M23
KA GLT2306-LK-01500-2	0349517	15	10	78.5	27	M23
KA GLT2306-LK-02000-2	0349518	20	10	78.5	27	M23
Power cable for LDx 100-300 at SIEMENS® Sinamics						
KA GGT2306-LK-00100-4	0349111	1	10	78.5	27	M23
KA GGT2306-LK-00200-4	0349112	2	10	78.5	27	M23
KA GGT2306-LK-00300-4	0349113	3	10	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G...	Encoder cable with straight plug
KA W...	Encoder cable with angeled plug
KA G...DS...	Sub D encoder cable

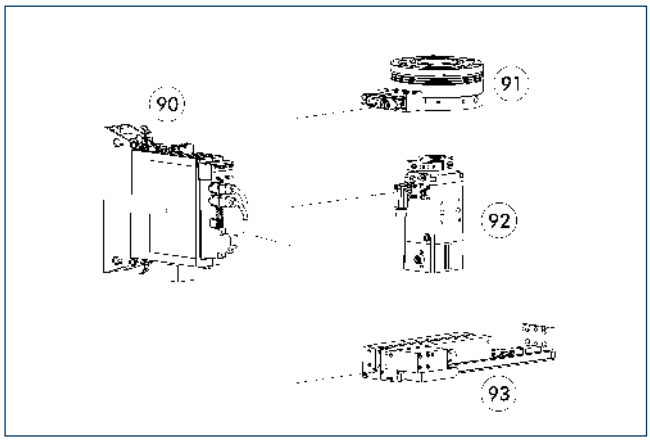
(6) Connection module side
(15) Socket
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Encoder cable for SIEMENS® Sinamcis and SSI encoder interface							
KA WGN1210-GK-00100-0	0349155	1	6	46	14.65	28.9	M12
KA WGN1210-GK-00200-0	0349156	2	6	46	14.65	28.9	M12
KA WGN1210-GK-00300-0	0349157	3	6	46	14.65	28.9	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B/Cs and Hiperface encoder interface							
KA WWN1208-GK-00500-K	0349544	5	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01000-K	0349545	10	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01500-K	0349546	15	6	37.5	14.9	30.8	M12
KA WWN1208-GK-02000-K	0349547	20	6	37.5	14.9	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface							
KA WWN1208-GK-00500-X	0349150	5	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01000-X	0349151	10	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01500-X	0349152	15	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-02000-X	0349153	20	7.3	37.5	14.65	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface							
KA WWN1208-GK-00500-Y	0349142	5	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01000-Y	0349143	10	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01500-Y	0349144	15	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-02000-Y	0349145	20	7.3	37.5	14.56	30.8	M12
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface							
KA WGN1208-GK-00100-Z	0349604	1	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00200-Z	0349605	2	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00300-Z	0349606	3	7.3	37.5	14.65	30.8	M12

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

BOSCH Rexroth IndraDrive® Cs



90 Controller
91 ERS electric rotary module
92 ERD electric rotary module
93 ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8

Fast. Reliable. Precise.

LDN Universal Linear Module

Universal linear axis with X-profile, linear motor, and roller guidance.

Field of Application

For use in clean and slightly polluted environment. For faster and precise moving or controlled press-in operation of workpieces in the high-speed assembly, measurement and testing technology, microelectronics or in the medical technology.



Advantages – Your benefits

Almost no wear parts for long service life and reliability of the system

No mechanical play between the drive components for flexible response behavior and high positioning accuracy

Low oscillations and high holding force for the shortest positioning times and process stability

Integrated motor and measuring system in the axis minimizes interfering contours and space requirements

Can be fitted with absolute path measuring system less programming effort and time saving when commissioning and in operation

High dynamics for shorter cycle times therefore a high productivity is achieved

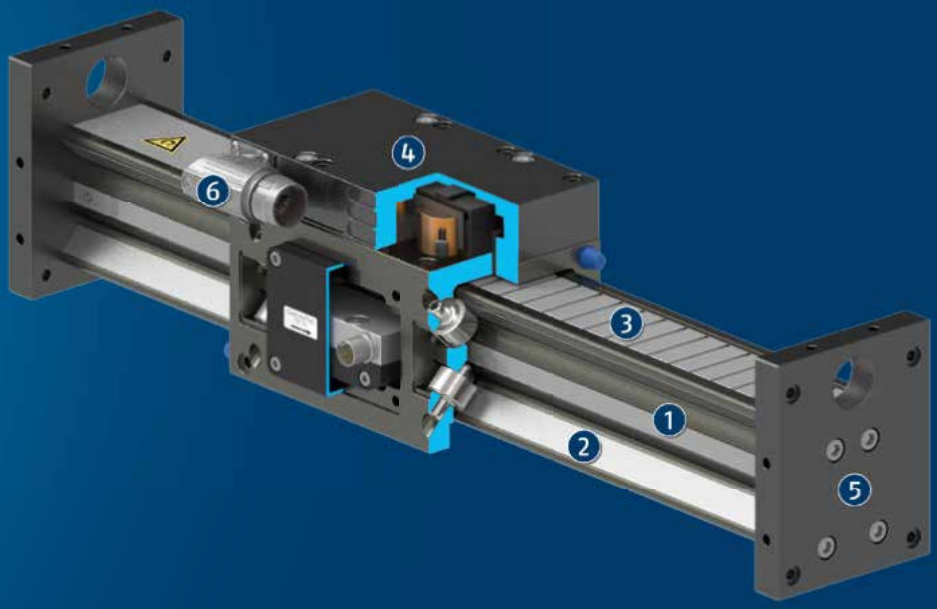
Many different variants possible e.g. long slides for special optimization on exactly your application

Optionally pneumatic holding brake used as rod lock for process reliability during system downtime

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 1	2600 .. 2700 mm	250 .. 500 N	±0.01 mm	4 m/s

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Elongated X-shaped aluminum press-drawn section**
with high geometrical moment of inertia for maximum moment and shearing force load

② **High-precision, hardened and ground steel guide rails**
for optimum guidance properties and speeds

③ **Integrated secondary parts**
with high performance magnets

④ **Compact primary part slide**
with mounting surfaces, scope-free adjusted rollers and integrated measuring system

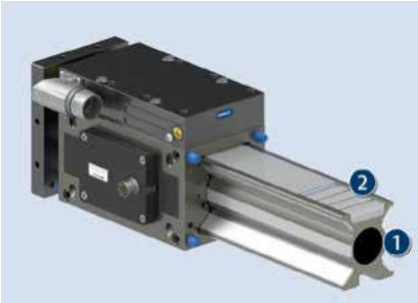
⑤ **End plates**
for mounting sensors, shock absorbers, and additional attachments

⑥ **Motor plug**
Position right/left can be selected

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

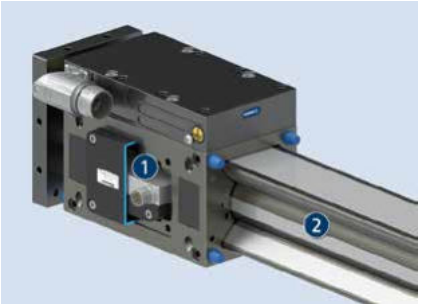
Design of the linear direct axis



The LDx linear direct axes comprise a motor slide with integrated primary part and measuring system. The secondary part is made up of permanent magnets and is countersunk into the axis profile of the linear axis.

1. Axis profile (e.g. steel guide rail or aluminum profile)
2. Permanent magnets with dirt cover

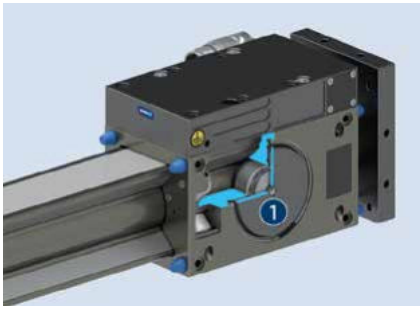
Modular transducer system



The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).

1. Measuring system reading head, fixed on the motor slide
2. Measuring system tape measure, fixed on the aluminum profile

Pneumatic holding brake



The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.

1. Holding brake, operated pneumatically

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

1. Drag chain

Sample Order

LDN - EL - 0100 - 1 - 0270 - 0500 - LXBV - 111A - SB03 - 0132

Axis version
LDH = Linear direct drive with narrow short-stroke profile
LDK = Linear direct drive with short-stroke profile
LDN = Linear direct drive with single X-profile
LDM = Linear direct drive with double X-profile
LDT = Linear direct drive with triple X-profile
LDL = Linear direct drive with flat profile

Guide and motor versions
E = Non-supported version
U = Supported version

Slide length
S = Standard slide
L = Long slide

Size

Number of active slides

Useful stroke

Total axis length

Option block 1
Number 1: Motor option
Number 2: Additional passive slides option
Number 3: Holding brake in active slide option
Number 4: Valve option

Option block 2
Number 1: Reference switch option
Number 2: Limit switch option
Number 3: Cable track option
Number 4: Wipers option

Option block 3
Number 1: Shock absorbers option
Numbers 2-4: Mounting strips

Option block 4, measuring system
Number 1: Path measuring system
Number 2: Path measuring system type
Number of 3: Length of cable
Number 4: Controller interface

General Notes on the Series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous linear motor

Path measuring system: Contactless, magnetic, measuring system with incremental and absolute variants; with Hiperface, SSI, 1Vss and DRIVE-CLiQ interfaces (on request).

Profile: Aluminum press-drawn section with ground steel guide strips

Slide: Aluminum slide, primary part and measuring system reading head directly integrated

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Drive controller: Bosch Rexroth IndraDrive® and SIEMENS® SINAMICS drive control units supported as standard; matching parameters supplied on DVD, other manufacturers available on request.

Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Compact double three-axis system with superimposed machining areas for high throughput rates.

1. LDM Universal Linear Module
2. LDT Universal Linear Module
3. LDN Universal Linear Module
4. EGL Electric Parallel Gripper with workpiece-specific gripper fingers

SCHUNK offers more ...

The following components make the product LDN even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drive Controller (e.g. BOSCH Rexroth IndraDrive®)



KA Power and Encoder Cables



ERD Electric Rotary Unit



ERS Electric Rotary Unit



EGP Electric Parallel Gripper



MV Micro Valves



MPG-plus Pneumatic Small Parts Gripper



Drag Chain



Connection Cable for Sensor System



V Sensor Distributor



ZH Centering Sleeves

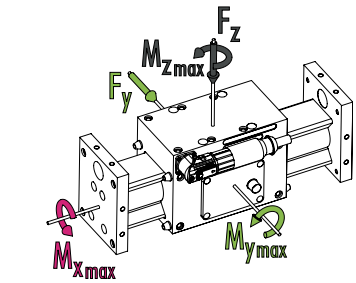
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Modular transducer system: The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).
Pneumatic holding brake: The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.
Supported axis version: The axis profile can also be given additional support. When using high payloads, this keeps bending to a minimum, and provides another option for mounting.
Further motor slides: The linear axis can be equipped with multiple active motor slides. This allows special designs and customized axis solutions.



Moment loading



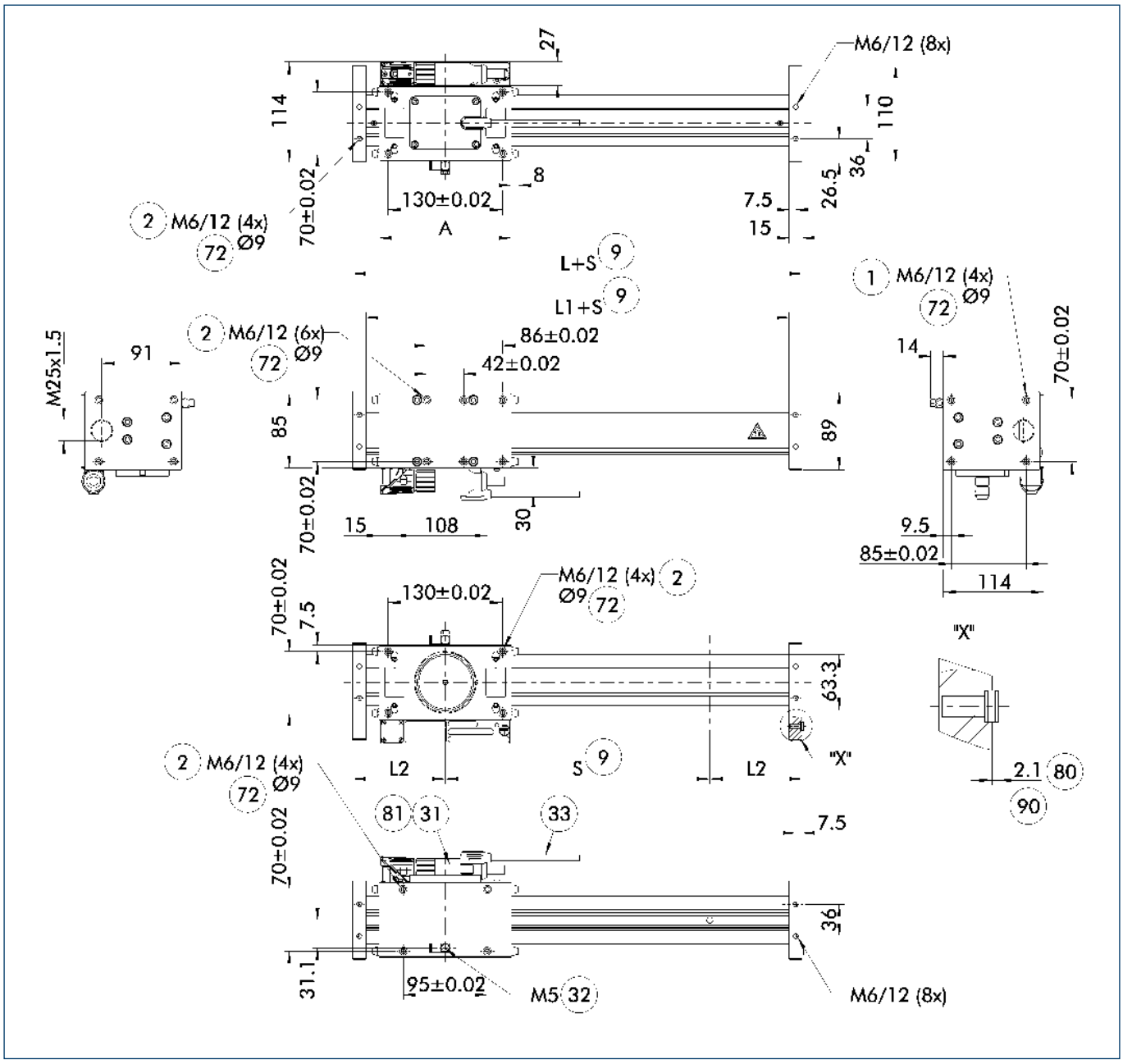
M_x max. 108 Nm
F_z max. 4950 N
F_y max. 4950 N
$-F_z$ max. 4950 N
F_z max. 4950 N

ⓘ The forces and torques shown here are maximum values for static loading.

Technical data

Description		LDN-ES-0100	LDN-EL-0200
Drive concept		Linear direct drive	Linear direct drive
Max. stroke	[mm]	2700	2600
Max. driving force	[N]	250	500
Nominal force	[N]	120	205
Max. payload (horizontal)	[kg]	15	25
Repeat accuracy	[mm]	±0.01	±0.01
Max. speed	[m/s]	4	4
Max. acceleration	[m/s²]	40	40
Max. current	[A]	7.5	15
Max. current at standstill	[A]	2.07	3.53
Min./max. ambient temperature	[°C]	5/40	5/40
Weight of slide/motor	[kg]	1.39/1.62	2/2.8
Weight of end plates	[kg]	0.75	0.75
Profile weight per 100 mm of length	[kg]	0.63	0.63
Moments M_y max./M_z max.	[Nm]	285/285	532/532
Options and their characteristics			
Supported version		LDN-US-0100	LDN-UL-0200
Max. stroke	[mm]	2700	2600
Weight of slide/motor	[kg]	2.25/1.62	2.77/2.8
Profile weight per 100 mm of length	[kg]	0.97	0.97
Weight of end plates	[kg]	0.84	0.84

Main view

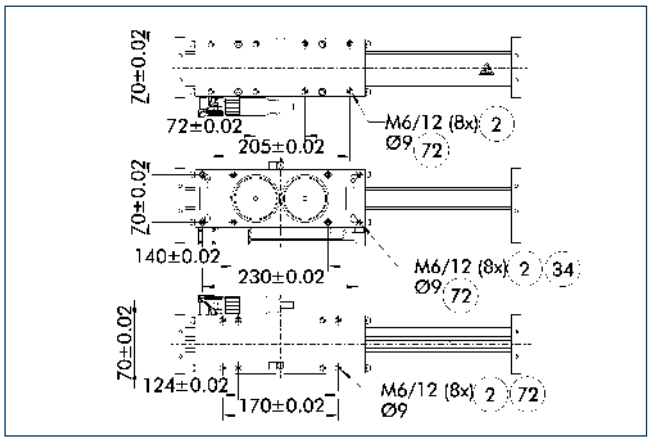


The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

- (1) Connection linear unit
- (2) Attachment connection
- (9) Effective stroke
- (31) Motor plug
- (32) Pneumatic connection for holding brake
- (33) Cable for path measuring system
- (72) Fit for centering sleeves
- (80) Depth of the centering sleeve hole in the counter part
- (81) Not included in the scope of delivery
- (90) Applies to all centering sleeves

Description	A	L	L1	L2
	[mm]	[mm]	[mm]	[mm]
LDN-ES-0100	150	210	180	105
LDN-EL-0200	250	310	280	155

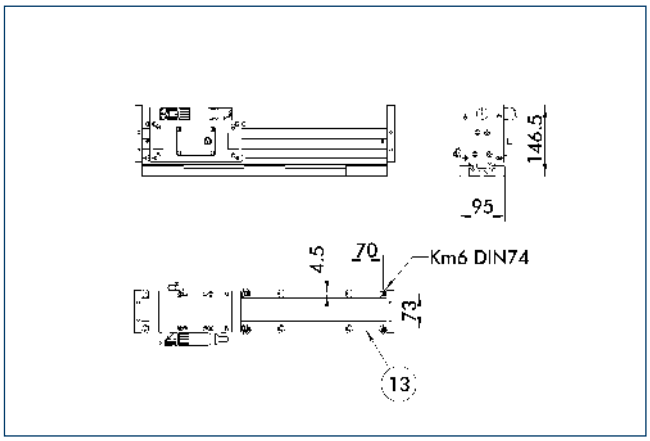
Version with long slide



(2) Attachment connection
(72) Fit for centering sleeves
(34) On both sides

The side view shows the dimensional changes when using a long slide.

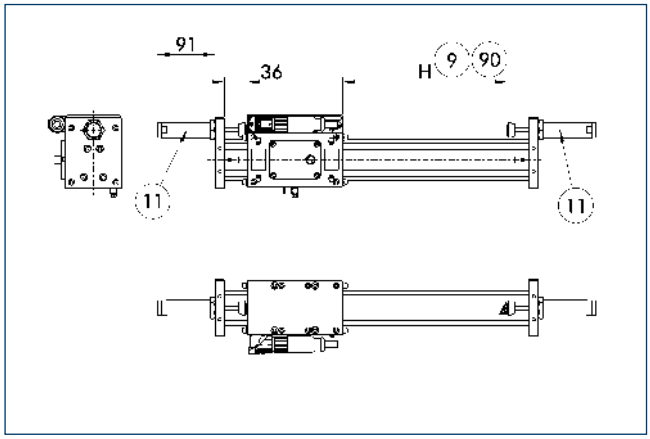
Supported version



(13) Mounting strip

The support reduces bending and permits an additional type of mounting.

Version with shock absorbers

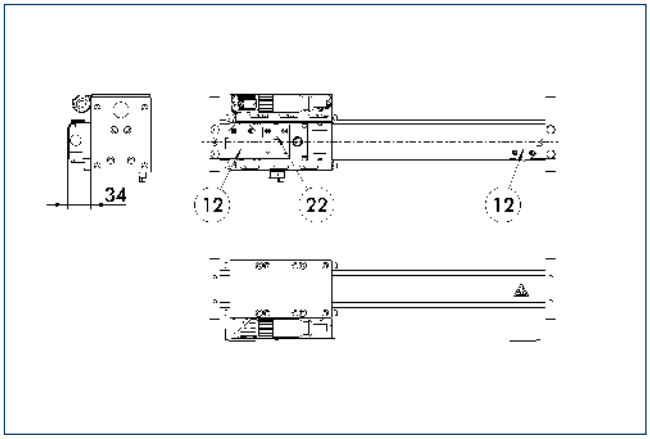


(9) Effective stroke
(11) Shock absorber
(90) Shock absorbers reduce the effective stroke by 42 mm

To prevent any mechanical malfunctions due to a malfunction, the modules can be equipped with hydraulic shock absorbers.

ⓘ When retrofitted, the nominal stroke reduces.

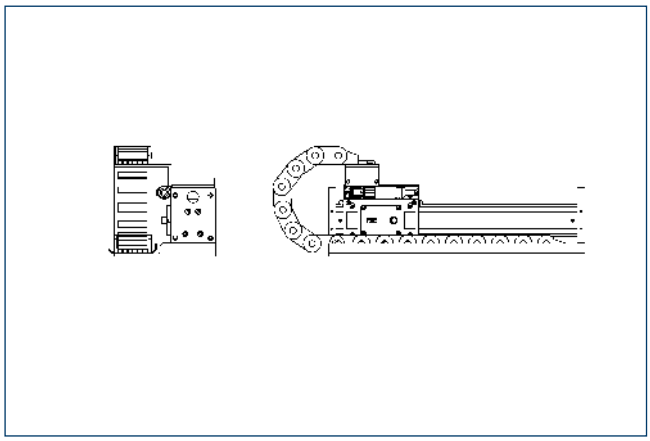
Limit and reference switch



(12) Mechanical limit switches
(22) Inductive reference switch

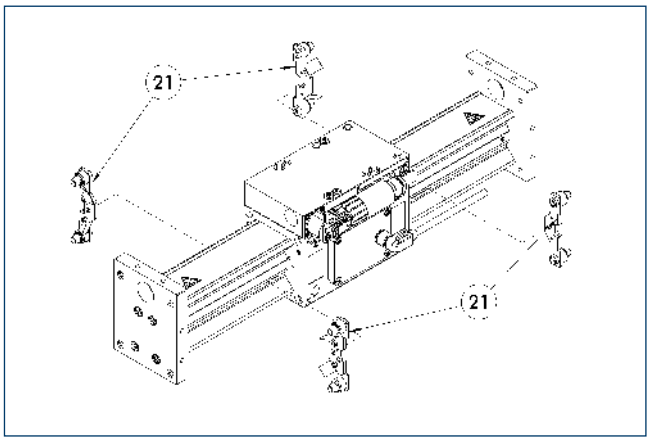
The limit and reference switches are not mandatory for operating of the linear module.

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

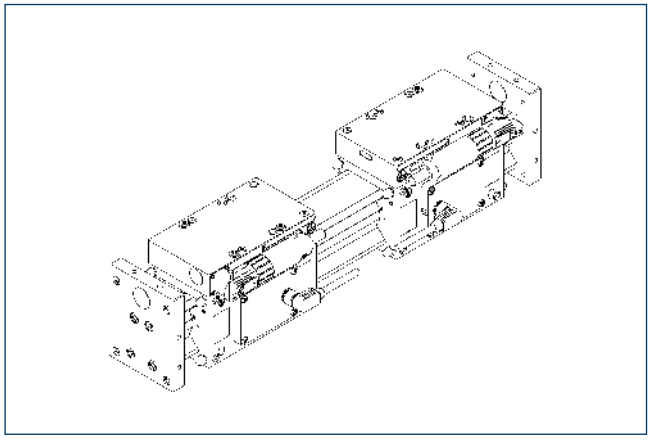
Wipers



(21) Wipers

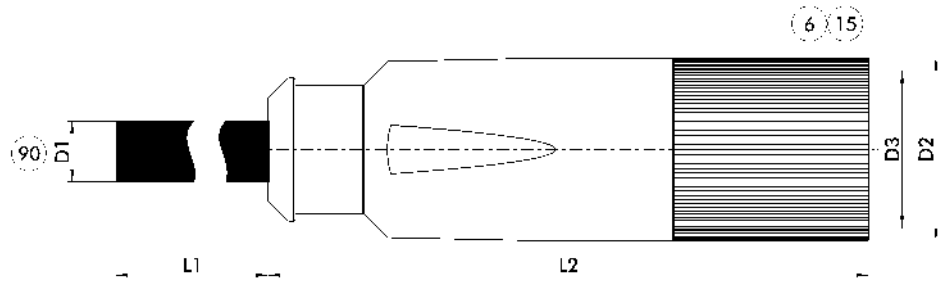
The wipers protect the guidance from ingress of coarse dirt.

Second slide



The linear module can be optionally equipped with several active slides. Please contact us for assistance.

Power cable



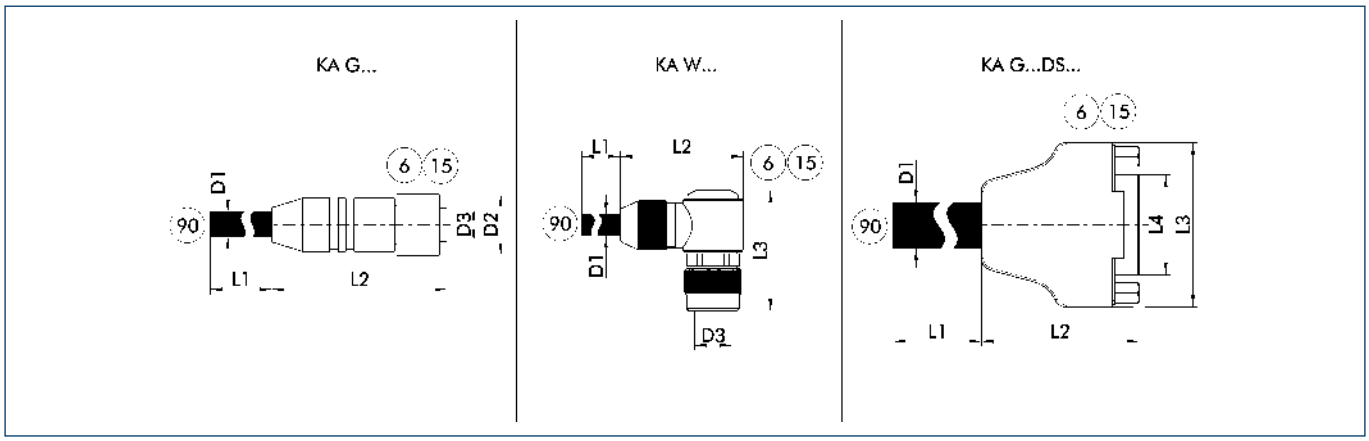
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-X	0349564	5	10	78.5	27	M23
KA GLT2306-LK-01000-X	0349565	10	10	78.5	27	M23
KA GLT2306-LK-01500-X	0349566	15	10	78.5	27	M23
KA GLT2306-LK-02000-X	0349567	20	10	78.5	27	M23
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® CS						
KA GLT2306-LK-00500-2	0349515	5	10	78.5	27	M23
KA GLT2306-LK-01000-2	0349516	10	10	78.5	27	M23
KA GLT2306-LK-01500-2	0349517	15	10	78.5	27	M23
KA GLT2306-LK-02000-2	0349518	20	10	78.5	27	M23
Power cable for LDx 100-300 at SIEMENS® Sinamics						
KA GGT2306-LK-00100-4	0349111	1	10	78.5	27	M23
KA GGT2306-LK-00200-4	0349112	2	10	78.5	27	M23
KA GGT2306-LK-00300-4	0349113	3	10	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... Encoder cable with straight plug
KA W... Encoder cable with angeled plug
KA G...DS... Sub D encoder cable

(6) Connection module side
(15) Socket

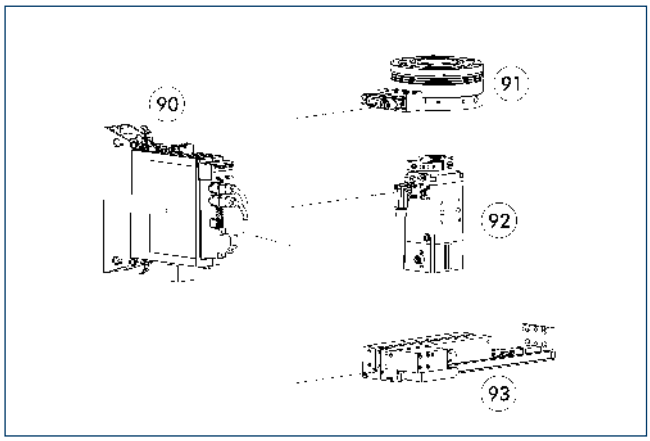
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Encoder cable for SIEMENS® Sinamcis and SSI encoder interface							
KA WGN1210-GK-00100-0	0349155	1	6	46	14.65	28.9	M12
KA WGN1210-GK-00200-0	0349156	2	6	46	14.65	28.9	M12
KA WGN1210-GK-00300-0	0349157	3	6	46	14.65	28.9	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B/Cs and Hiperface encoder interface							
KA WWN1208-GK-00500-K	0349544	5	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01000-K	0349545	10	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01500-K	0349546	15	6	37.5	14.9	30.8	M12
KA WWN1208-GK-02000-K	0349547	20	6	37.5	14.9	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface							
KA WWN1208-GK-00500-X	0349150	5	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01000-X	0349151	10	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01500-X	0349152	15	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-02000-X	0349153	20	7.3	37.5	14.65	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface							
KA WWN1208-GK-00500-Y	0349142	5	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01000-Y	0349143	10	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01500-Y	0349144	15	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-02000-Y	0349145	20	7.3	37.5	14.56	30.8	M12
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface							
KA WGN1208-GK-00100-Z	0349604	1	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00200-Z	0349605	2	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00300-Z	0349606	3	7.3	37.5	14.65	30.8	M12

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

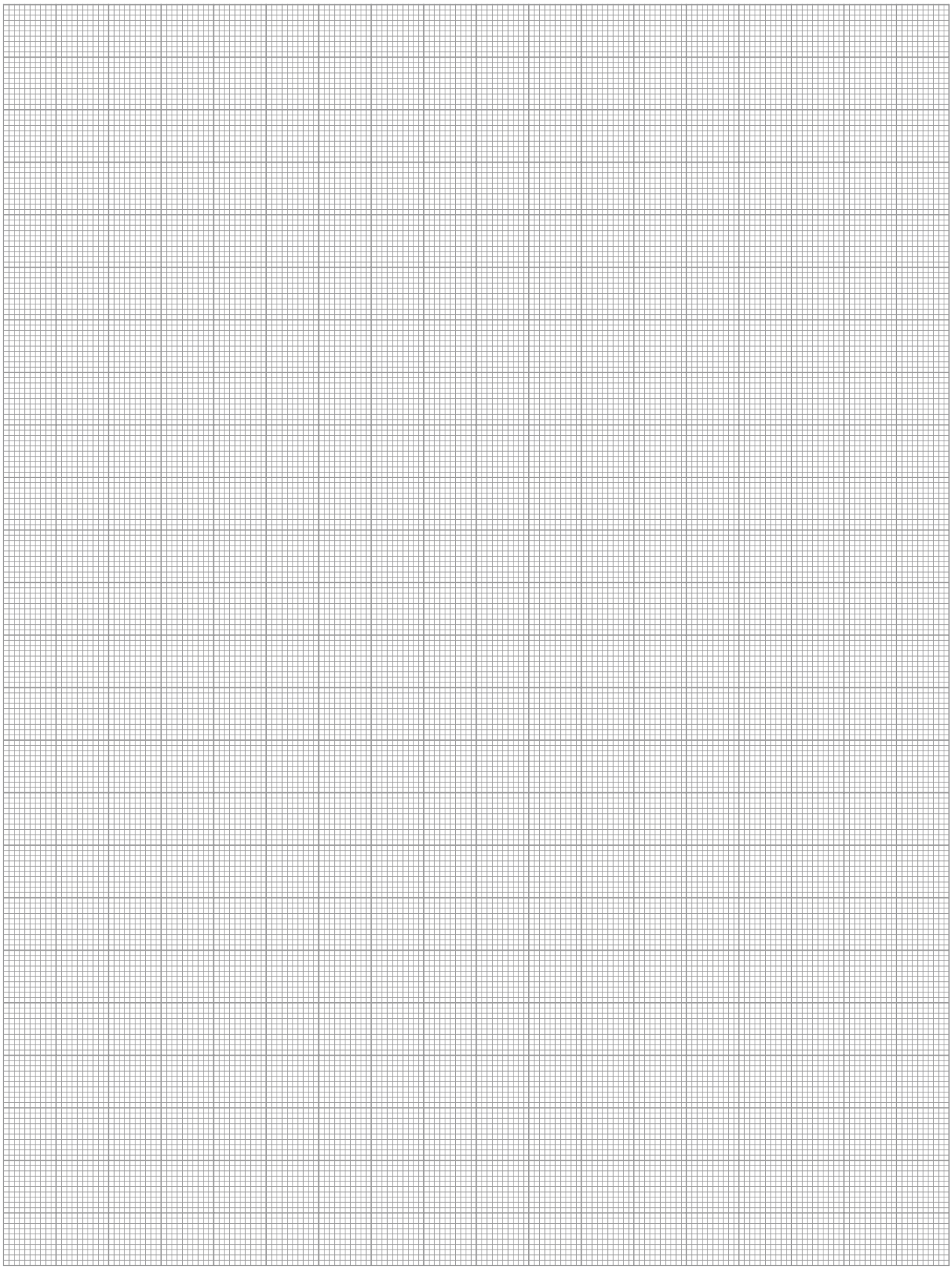
BOSCH Rexroth IndraDrive® Cs



90 Controller
91 ERS electric rotary module
92 ERD electric rotary module
93 ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8
HCS01.1E-W0018	7.6	18



Rapid. Productive. Flexible.

LDM Universal Linear Module

Universal linear axis with double X-profile, linear motor, and roller guidance.

Field of Application

For use in clean and slightly polluted environment. For faster and precise moving or controlled press-in operation of workpieces in the high-speed assembly, measurement and testing technology, microelectronics or in the medical technology.



Advantages – Your benefits

Almost no wear parts for long service life and reliability of the system

No mechanical play between the drive components for flexible response behavior and high positioning accuracy

Low oscillations and high holding force for the shortest positioning times and process stability

Integrated motor and measuring system in the axis minimizes interfering contours and space requirements

Can be fitted with absolute path measuring system less programming effort and time saving when commissioning and in operation

High dynamics for shorter cycle times therefore a high productivity is achieved

Many different variants possible e.g. long slides for special optimization on exactly your application

Optionally pneumatic holding brake used as rod lock for process reliability during system downtime

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 1	2600 .. 2700 mm	500 .. 1000 N	±0.01 mm	4 m/s

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Elongated double-X-shaped aluminum press-drawn section**
with high geometrical moment of inertia for maximum moment and shearing force load

② **High-precision, hardened and ground steel guide rails**
for optimum guidance properties and speeds

③ **Integrated secondary parts**
with high performance magnets

④ **Compact primary part slide**
with mounting surfaces, scope-free adjusted rollers and integrated measuring system

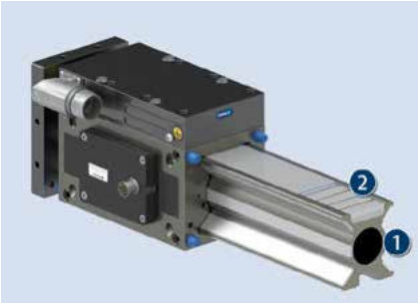
⑤ **End plates**
for mounting sensors, shock absorbers, and additional attachments

⑥ **Motor plug**
Position right/left can be selected

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

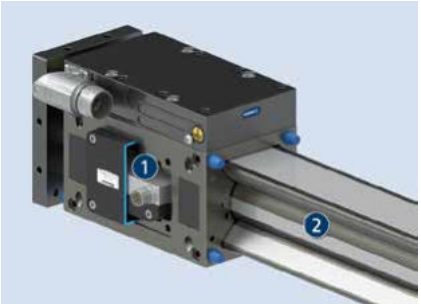
Design of the linear direct axis



The LDx linear direct axes comprise a motor slide with integrated primary part and measuring system. The secondary part is made up of permanent magnets and is countersunk into the axis profile of the linear axis.

1. Axis profile (e.g. steel guide rail or aluminum profile)
2. Permanent magnets with dirt cover

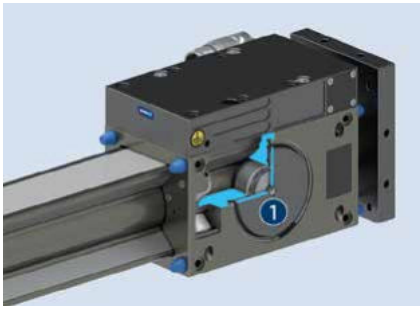
Modular transducer system



The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).

1. Measuring system reading head, fixed on the motor slide
2. Measuring system tape measure, fixed on the aluminum profile

Pneumatic holding brake



The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.

1. Holding brake, operated pneumatically

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

1. Drag chain

Sample Order

LDN – EL – 0100 – 1 – 0270 – 0500 – LXBV – 111A – SB03 – 0132

Axis version
LDH = Linear direct drive with narrow short-stroke profile
LDK = Linear direct drive with short-stroke profile
LDN = Linear direct drive with single X-profile
LDM = Linear direct drive with double X-profile
LDT = Linear direct drive with triple X-profile
LDL = Linear direct drive with flat profile

Guide and motor versions
E = Non-supported version
U = Supported version

Slide length
S = Standard slide
L = Long slide

Size

Number of active slides

Useful stroke

Total axis length

Option block 1
Number 1: Motor option
Number 2: Additional passive slides option
Number 3: Holding brake in active slide option
Number 4: Valve option

Option block 2
Number 1: Reference switch option
Number 2: Limit switch option
Number 3: Cable track option
Number 4: Wipers option

Option block 3
Number 1: Shock absorbers option
Numbers 2–4: Mounting strips

Option block 4, measuring system
Number 1: Path measuring system
Number 2: Path measuring system type
Number of 3: Length of cable
Number 4: Controller interface

General Notes on the Series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous linear motor

Path measuring system: Contactless, magnetic, measuring system with incremental and absolute variants; with Hiperface, SSI, 1Vss and DRIVE-CLiQ interfaces (on request).

Profile: Aluminum press-drawn section with ground steel guide strips

Slide: Aluminum slide, primary part and measuring system reading head directly integrated

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Drive controller: Bosch Rexroth IndraDrive® and SIEMENS® SINAMICS drive control units supported as standard; matching parameters supplied on DVD, other manufacturers available on request.

Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Stroke-gripper unit for controlled press-in operation of cubic workpieces.

1 LDM Universal Linear Module

2 PHL 2-Finger Long-stroke Gripper

SCHUNK offers more ...

The following components make the product LDM even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drive Controller (e.g. BOSCH Rexroth IndraDrive®)



KA Power and Encoder Cables



ERD Electric Rotary Unit



ERS Electric Rotary Unit



EGP Electric Parallel Gripper



MV Micro Valves



MPG-plus Pneumatic Small Parts Gripper



Drag Chain



Connection Cable for Sensor System



V Sensor Distributor



ZH Centering Sleeves

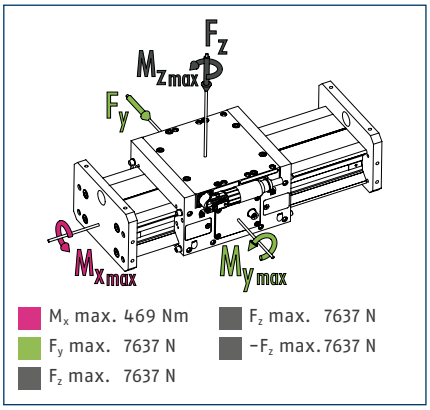
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Modular transducer system: The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).
Pneumatic holding brake: The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.
Supported axis version: The axis profile can also be given additional support. When using high payloads, this keeps bending to a minimum, and provides another option for mounting.
Further motor slides: The linear axis can be equipped with multiple active motor slides. This allows special designs and customized axis solutions.



Moment loading

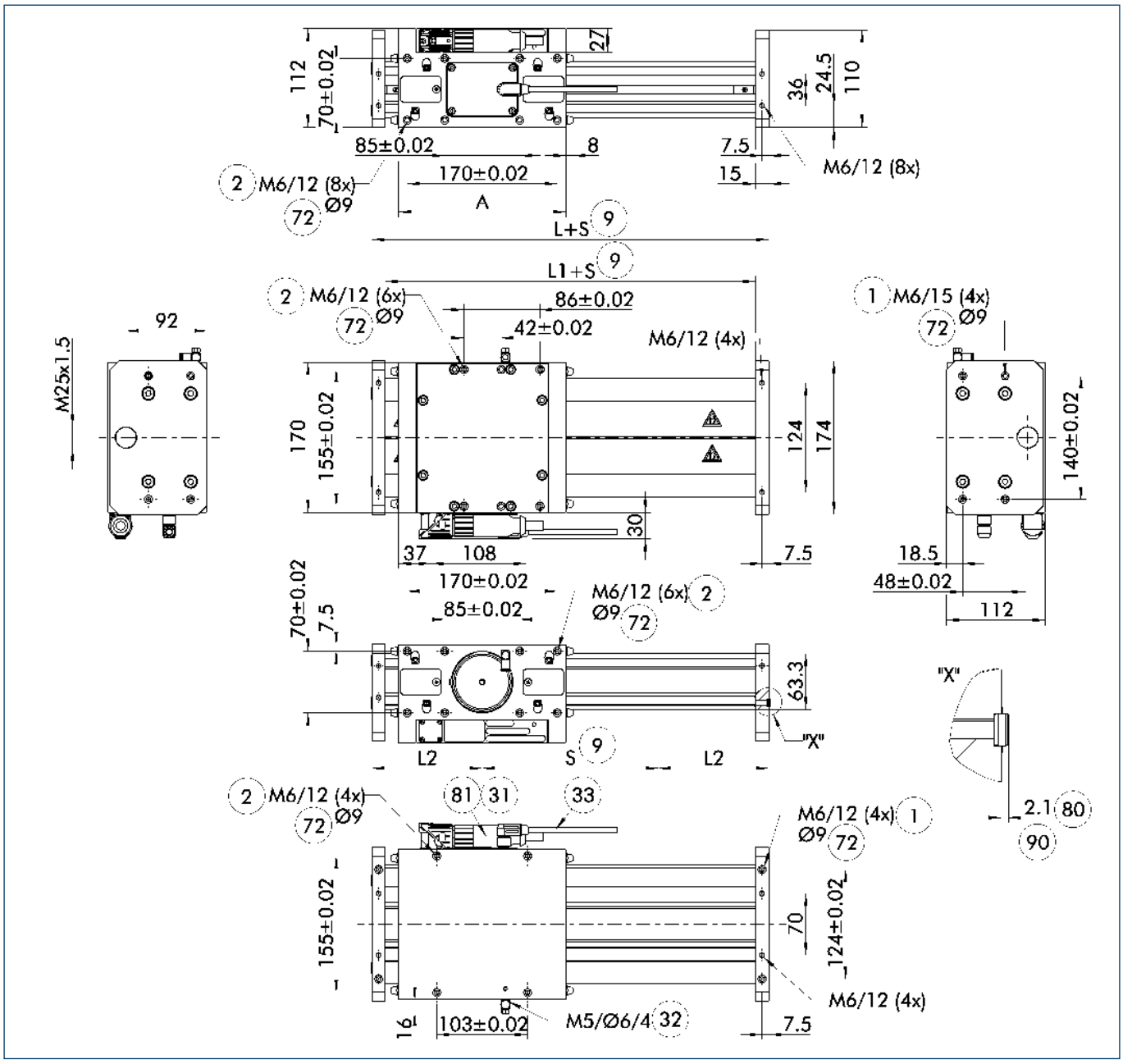


ⓘ The forces and torques shown here are maximum values for static loading.

Technical data

Description		LDM-ES-0200	LDM-EL-0400
Drive concept		Linear direct drive	Linear direct drive
Max. stroke	[mm]	2700	2600
Max. driving force	[N]	500	1000
Nominal force	[N]	220	370
Max. payload (horizontal)	[kg]	20	40
Repeat accuracy	[mm]	±0.01	±0.01
Max. speed	[m/s]	4	4
Max. acceleration	[m/s²]	40	40
Max. current	[A]	15	30
Max. current at standstill	[A]	4	6.73
Min./max. ambient temperature	[°C]	5/40	5/40
Weight of slide/motor	[kg]	3.12/2.88	4.47/5.13
Weight of end plates	[kg]	1.45	1.45
Profile weight per 100 mm of length	[kg]	1.16	1.16
Moments M_y max./M_z max.	[Nm]	481/481	863/863
Options and their characteristics			
Supported version		LDM-US-0200	LDM-UL-0400
Max. stroke	[mm]	2700	2600
Weight of slide/motor	[kg]	2.3/3	3.26/5.13
Profile weight per 100 mm of length	[kg]	1.99	1.99
Weight of end plates	[kg]	1.45	1.45

Main view

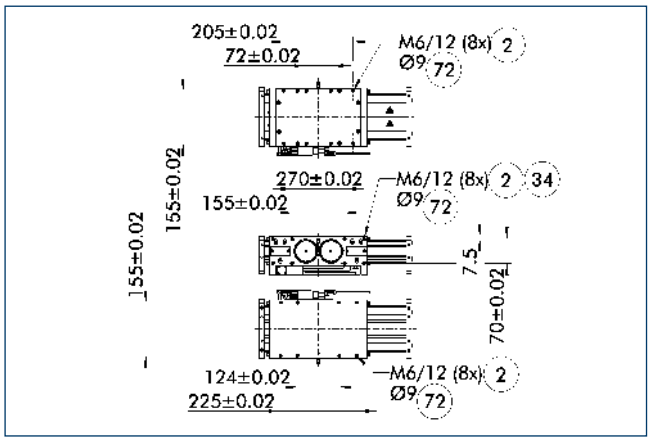


The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

1. Connection linear unit
2. Attachment connection
9. Effective stroke
31. Motor plug
32. Pneumatic connection for holding brake
33. Cable for path measuring system
72. Fit for centering sleeves
80. Depth of the centering sleeve hole in the counter part
81. Not included in the scope of delivery
90. Applies to all centering sleeves

Description	A	L	L1	L2
	[mm]	[mm]	[mm]	[mm]
LDM-ES-0200	190	250	220	125
LDM-EL-0400	290	350	320	175

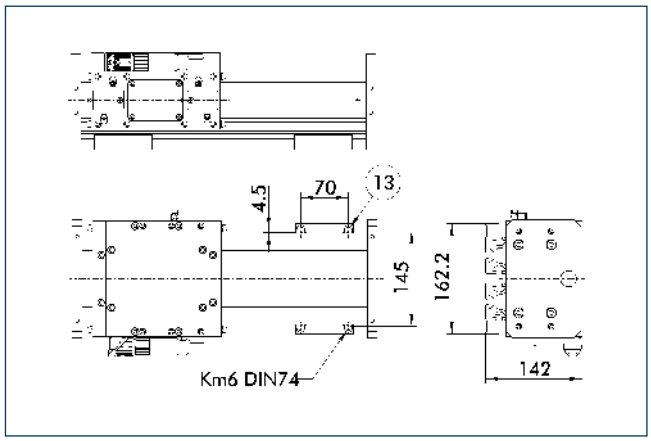
Version with long slide



(2) Attachment connection
(72) Fit for centering sleeves
(34) On both sides

The side view shows the dimensional changes when using a long slide.

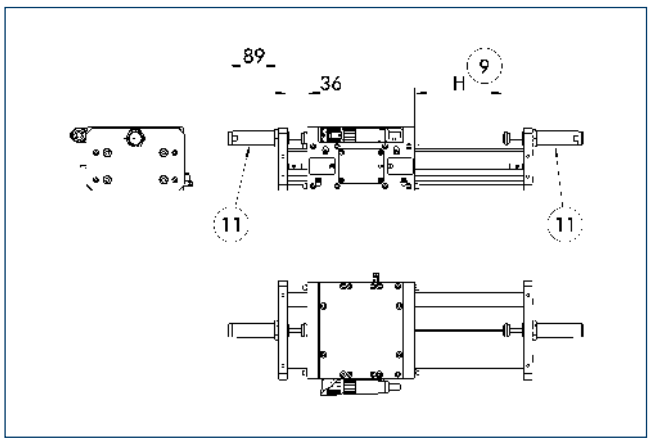
Supported version



(13) Mounting strip

The support reduces bending and permits an additional type of mounting.

Version with shock absorbers

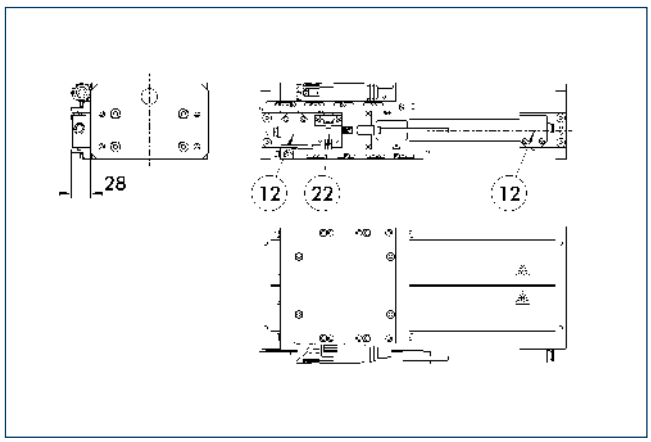


(9) Effective stroke
(11) Shock absorber

To prevent any mechanical malfunctions due to a malfunction, the modules can be equipped with hydraulic shock absorbers.

ⓘ When retrofitted, the nominal stroke reduces.

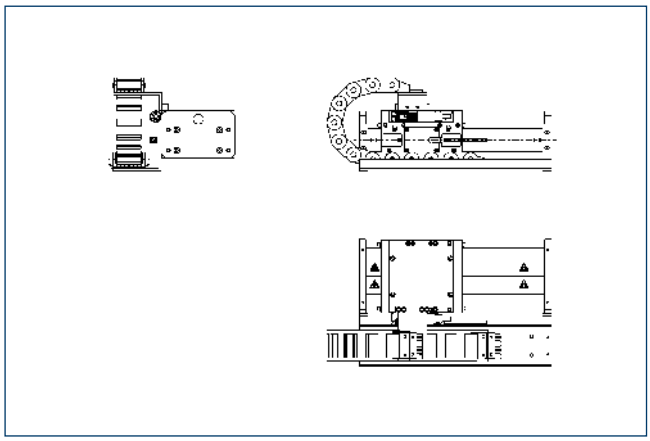
Limit and reference switch



(12) Mechanical limit switches
(22) Inductive reference switch

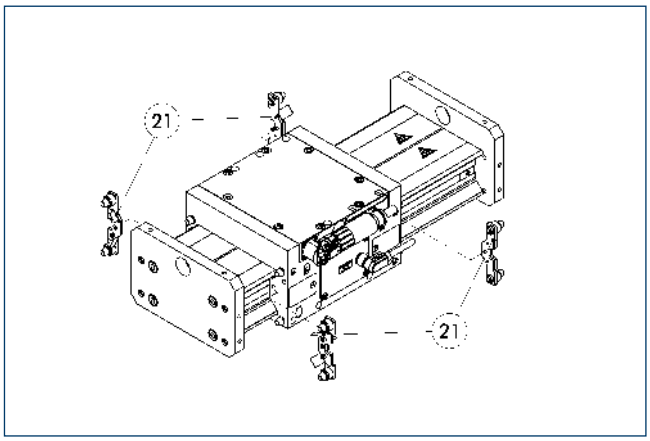
The limit and reference switches are not mandatory for operating of the linear module.

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

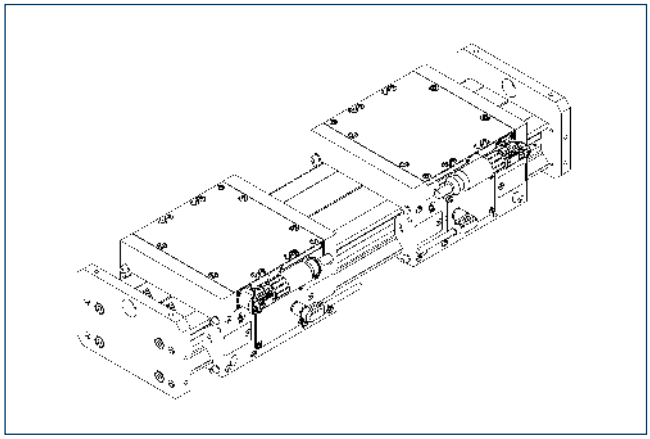
Wipers



(21) Wipers

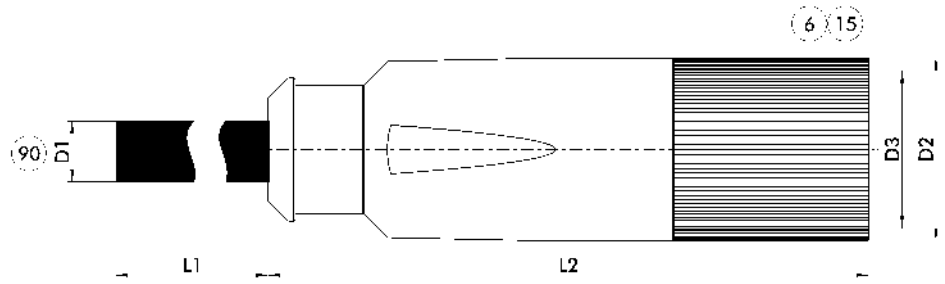
The wipers protect the guidance from ingress of coarse dirt.

Second slide



The linear module can be optionally equipped with several active slides. Please contact us for assistance.

Power cable



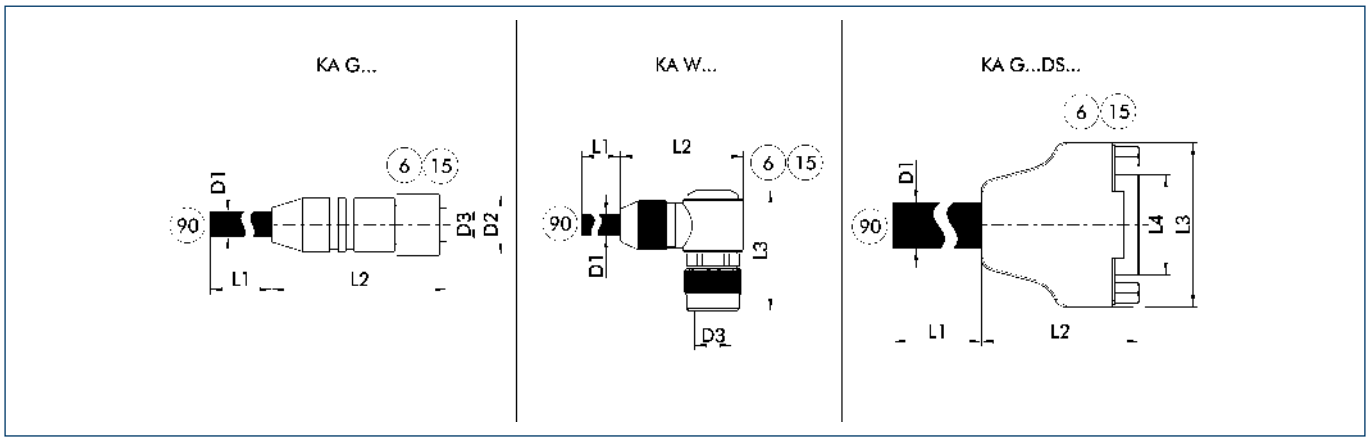
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

6 Connection module side
15 Socket
90 Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-X	0349564	5	10	78.5	27	M23
KA GLT2306-LK-01000-X	0349565	10	10	78.5	27	M23
KA GLT2306-LK-01500-X	0349566	15	10	78.5	27	M23
KA GLT2306-LK-02000-X	0349567	20	10	78.5	27	M23
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® CS						
KA GLT2306-LK-00500-2	0349515	5	10	78.5	27	M23
KA GLT2306-LK-01000-2	0349516	10	10	78.5	27	M23
KA GLT2306-LK-01500-2	0349517	15	10	78.5	27	M23
KA GLT2306-LK-02000-2	0349518	20	10	78.5	27	M23
Power cable for LDx 100-300 at SIEMENS® Sinamics						
KA GGT2306-LK-00100-4	0349111	1	10	78.5	27	M23
KA GGT2306-LK-00200-4	0349112	2	10	78.5	27	M23
KA GGT2306-LK-00300-4	0349113	3	10	78.5	27	M23
Power cable for LDx 400-600 at BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-Y	0349568	5	13.2	78.5	27	M23
KA GLT2306-LK-01000-Y	0349569	10	13.2	78.5	27	M23
KA GLT2306-LK-01500-Y	0349570	15	13.2	78.5	27	M23
KA GLT2306-LK-02000-Y	0349571	20	13.2	78.5	27	M23
Power cable for LDx 400-600 at BOSCH Rexroth IndraDrive® CS						
KA GLT2306-LK-00500-3	0349540	5	13.2	78.5	27	M23
KA GLT2306-LK-01000-3	0349541	10	13.2	78.5	27	M23
KA GLT2306-LK-01500-3	0349542	15	13.2	78.5	27	M23
KA GLT2306-LK-02000-3	0349543	20	13.2	78.5	27	M23
Power cable for LDx 400-600 at SIEMENS® Sinamics						
KA GGT2306-LK-00100-5	0349114	1	13.2	78.5	27	M23
KA GGT2306-LK-00200-5	0349115	2	13.2	78.5	27	M23
KA GGT2306-LK-00300-5	0349116	3	13.2	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... Encoder cable with straight plug
KA W... Encoder cable with angeled plug
KA G...DS... Sub D encoder cable

(6) Connection module side
(15) Socket

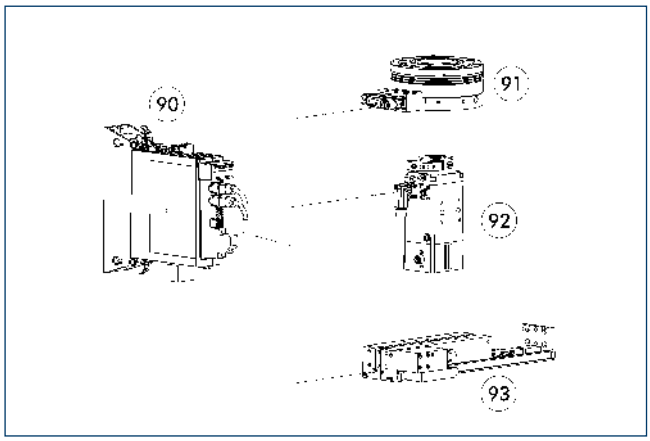
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Encoder cable for SIEMENS® Sinamcis and SSI encoder interface							
KA WGN1210-GK-00100-0	0349155	1	6	46	14.65	28.9	M12
KA WGN1210-GK-00200-0	0349156	2	6	46	14.65	28.9	M12
KA WGN1210-GK-00300-0	0349157	3	6	46	14.65	28.9	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B/Cs and Hiperface encoder interface							
KA WWN1208-GK-00500-K	0349544	5	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01000-K	0349545	10	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01500-K	0349546	15	6	37.5	14.9	30.8	M12
KA WWN1208-GK-02000-K	0349547	20	6	37.5	14.9	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface							
KA WWN1208-GK-00500-X	0349150	5	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01000-X	0349151	10	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01500-X	0349152	15	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-02000-X	0349153	20	7.3	37.5	14.65	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface							
KA WWN1208-GK-00500-Y	0349142	5	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01000-Y	0349143	10	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01500-Y	0349144	15	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-02000-Y	0349145	20	7.3	37.5	14.56	30.8	M12
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface							
KA WGN1208-GK-00100-Z	0349604	1	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00200-Z	0349605	2	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00300-Z	0349606	3	7.3	37.5	14.65	30.8	M12

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

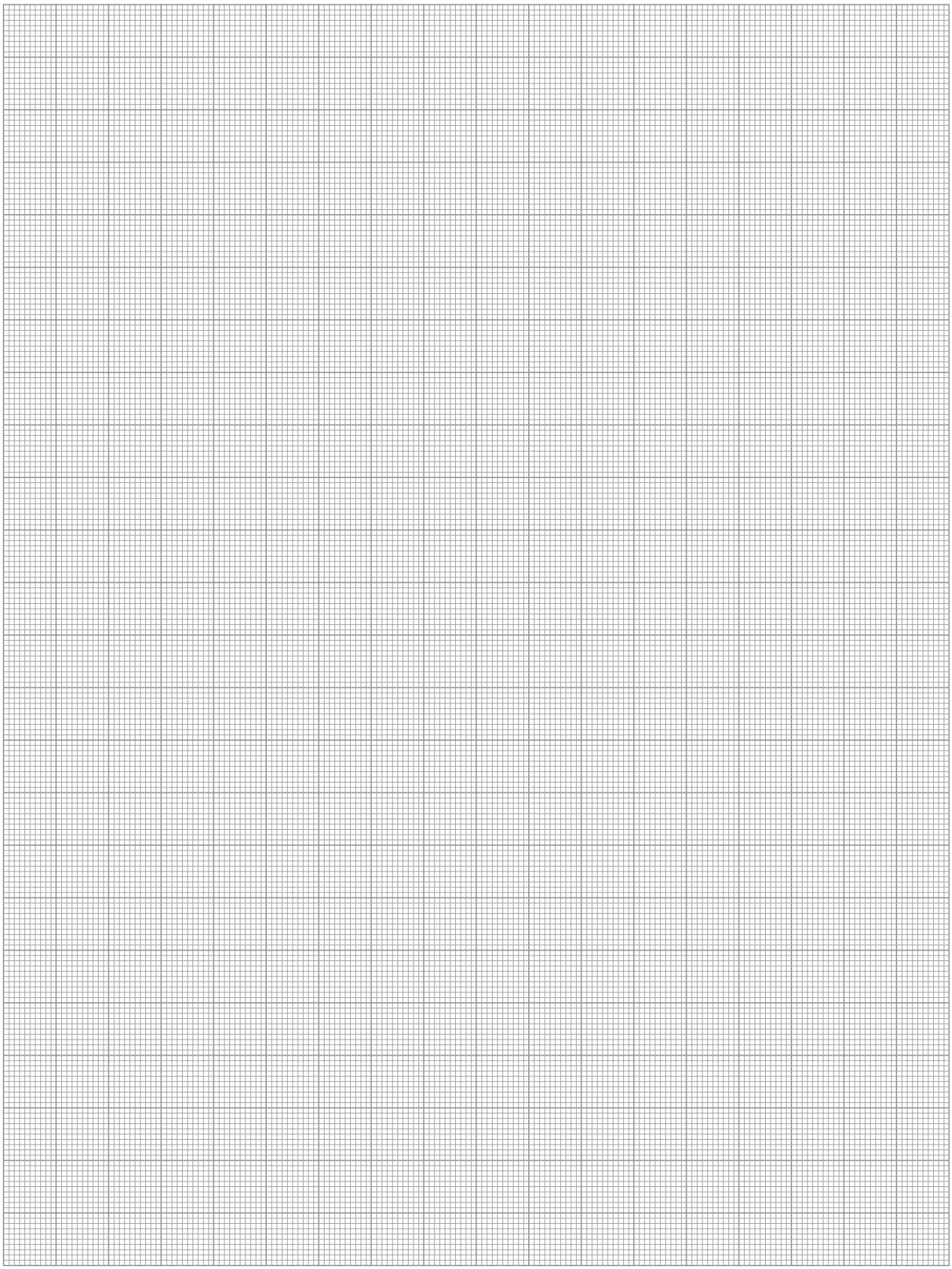
BOSCH Rexroth IndraDrive® Cs



90 Controller
91 ERS electric rotary module
92 ERD electric rotary module
93 ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8
HCS01.1E-W0018	7.6	18



Powerful. Flexible. Energy-efficient.

LDT Universal Linear Module

Universal linear axis with triple X-profile, linear motor, and roller guidance.

Field of Application

For use in clean and slightly polluted environment. For faster and precise moving or controlled press-in operation of workpieces in the high-speed assembly, measurement and testing technology, microelectronics or in the medical technology.



Advantages – Your benefits

Almost no wear parts for long service life and reliability of the system

No mechanical play between the drive components for flexible response behavior and high positioning accuracy

Low oscillations and high holding force for the shortest positioning times and process stability

Integrated motor and measuring system in the axis minimizes interfering contours and space requirements

Can be fitted with absolute path measuring system less programming effort and time saving when commissioning and in operation

High dynamics for shorter cycle times therefore a high productivity is achieved

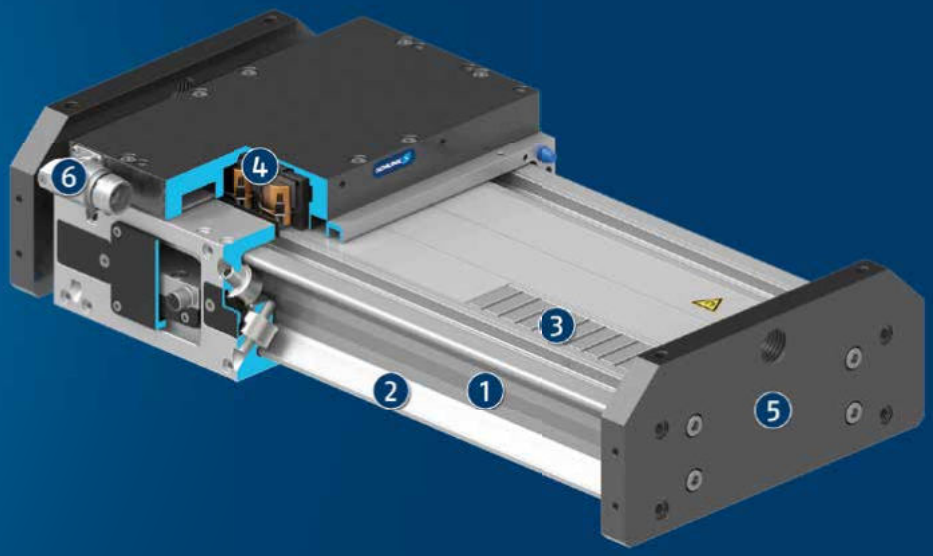
Many different variants possible e.g. long slides for special optimization on exactly your application

Optionally pneumatic holding brake used as rod lock for process reliability during system downtime

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 1	2600 .. 2700 mm	750 .. 1500 N	±0.01 mm	4 m/s

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Elongated triple-X-shaped aluminum press-drawn section**
with high geometrical moment of inertia for maximum moment and shearing force load

② **High-precision, hardened and ground steel guide rails**
for optimum guidance properties and speeds

③ **Integrated secondary parts**
with high performance magnets

④ **Compact primary part slide**
with mounting surfaces, scope-free adjusted rollers and integrated measuring system

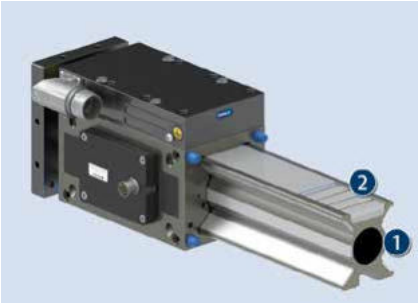
⑤ **End plates**
for mounting sensors, shock absorbers, and additional attachments

⑥ **Motor plug**
Position right/left can be selected

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

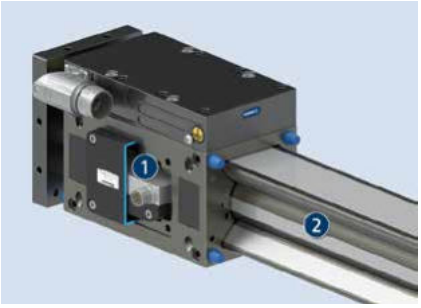
Design of the linear direct axis



The LDx linear direct axes comprise a motor slide with integrated primary part and measuring system. The secondary part is made up of permanent magnets and is countersunk into the axis profile of the linear axis.

1. Axis profile (e.g. steel guide rail or aluminum profile)
2. Permanent magnets with dirt cover

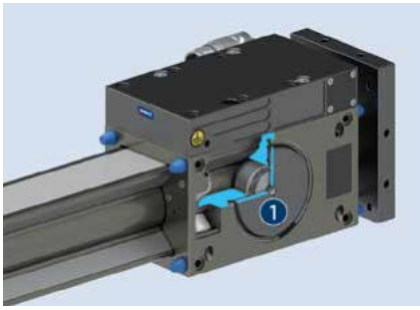
Modular transducer system



The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).

1. Measuring system reading head, fixed on the motor slide
2. Measuring system tape measure, fixed on the aluminum profile

Pneumatic holding brake



The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.

1. Holding brake, operated pneumatically

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

1. Drag chain

Sample Order

LDN – EL – 0100 – 1 – 0270 – 0500 – LXBV – 111A – SB03 – 0132

Axis version
LDH = Linear direct drive with narrow short-stroke profile
LDK = Linear direct drive with short-stroke profile
LDN = Linear direct drive with single X-profile
LDM = Linear direct drive with double X-profile
LDT = Linear direct drive with triple X-profile
LDL = Linear direct drive with flat profile

Guide and motor versions
E = Non-supported version
U = Supported version

Slide length
S = Standard slide
L = Long slide

Size

Number of active slides

Useful stroke

Total axis length

Option block 1
Number 1: Motor option
Number 2: Additional passive slides option
Number 3: Holding brake in active slide option
Number 4: Valve option

Option block 2
Number 1: Reference switch option
Number 2: Limit switch option
Number 3: Cable track option
Number 4: Wipers option

Option block 3
Number 1: Shock absorbers option
Numbers 2–4: Mounting strips

Option block 4, measuring system
Number 1: Path measuring system
Number 2: Path measuring system type
Number of 3: Length of cable
Number 4: Controller interface

General Notes on the Series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous linear motor

Path measuring system: Contactless, magnetic, measuring system with incremental and absolute variants; with Hiperface, SSI, 1Vss and DRIVE-CLiQ interfaces (on request).

Profile: Aluminum press-drawn section with ground steel guide strips

Slide: Aluminum slide, primary part and measuring system reading head directly integrated

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Drive controller: Bosch Rexroth IndraDrive® and SIEMENS® SINAMICS drive control units supported as standard; matching parameters supplied on DVD, other manufacturers available on request.

Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



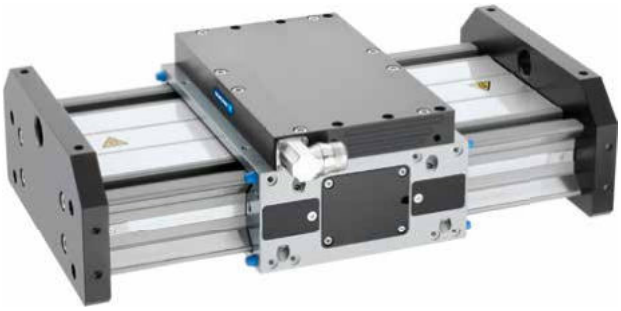
Application Example

Compact double three-axis system with superimposed machining areas for high throughputs.

1. LDM Universal Linear Module
2. LDT Universal Linear Module
3. LDN Universal Linear Module
4. EGL Electric Parallel Gripper with workpiece-specific gripper fingers

SCHUNK offers more ...

The following components make the product LDT even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drive Controller (e.g. BOSCH Rexroth IndraDrive®)



KA Power and Encoder Cables



ERD Electric Rotary Unit



ERS Electric Rotary Unit



EGP Electric Parallel Gripper



MV Micro Valves



MPG-plus Pneumatic Small Parts Gripper



Drag Chain



Connection Cable for Sensor System



V Sensor Distributor



ZHCentering sleeves

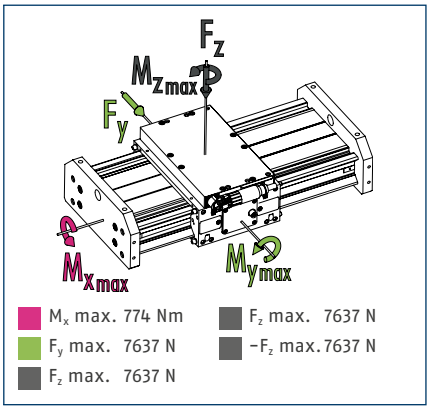
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Modular transducer system: The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).
Pneumatic holding brake: The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.
Supported axis version: The axis profile can also be given additional support. When using high payloads, this keeps bending to a minimum, and provides another option for mounting.
Further motor slides: The linear axis can be equipped with multiple active motor slides. This allows special designs and customized axis solutions.



Moment loading

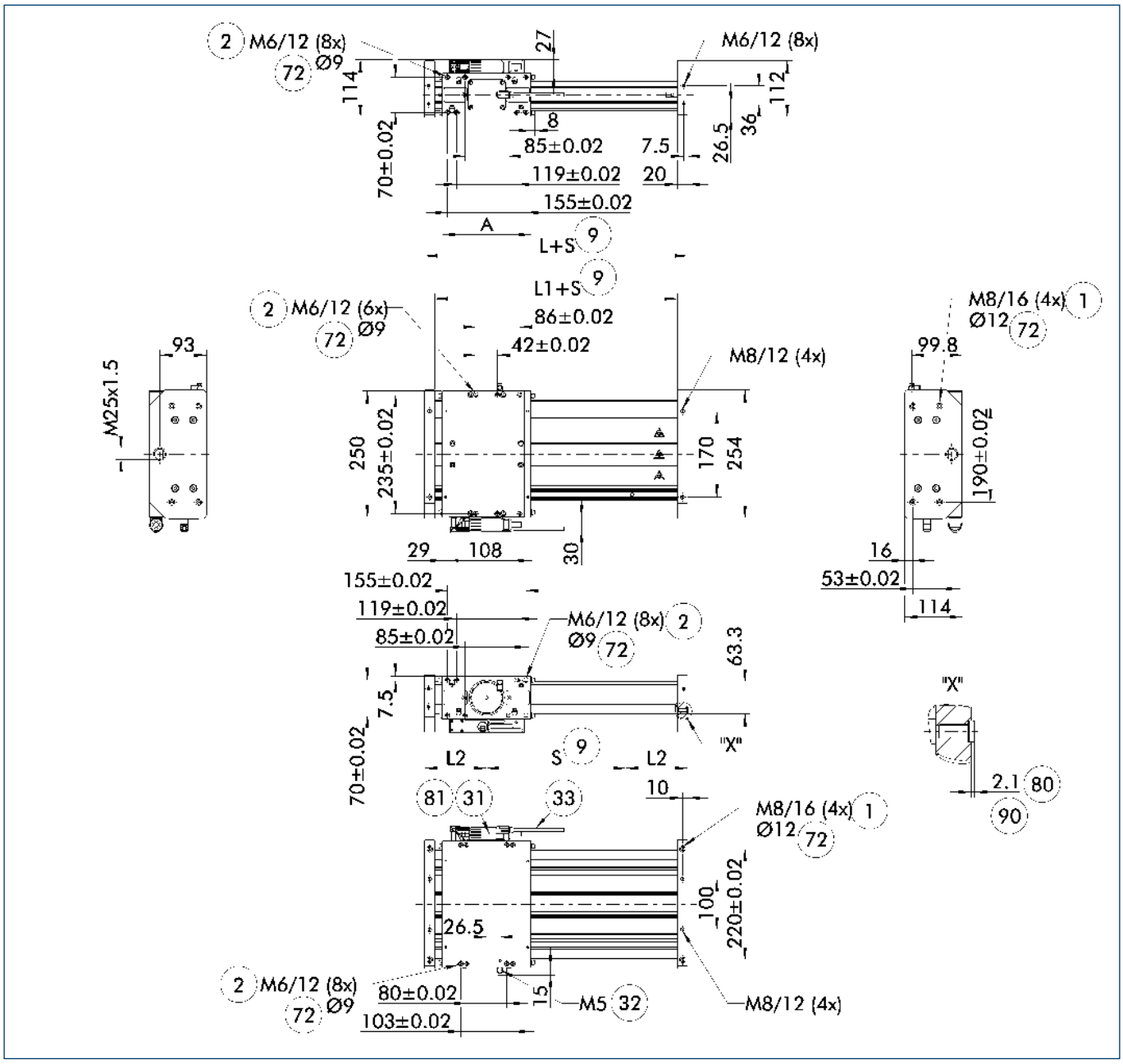


ⓘ The forces and torques shown here are maximum values for static loading.

Technical data

Description		LDT-ES-0300	LDT-EL-0600
Drive concept		Linear direct drive	Linear direct drive
Max. stroke	[mm]	2700	2600
Max. driving force	[N]	750	1500
Nominal force	[N]	330	500
Max. payload (horizontal)	[kg]	25	50
Repeat accuracy	[mm]	±0.01	±0.01
Max. speed	[m/s]	4	4
Max. acceleration	[m/s²]	40	40
Max. current	[A]	14	28
Max. current at standstill	[A]	4.02	6.1
Min./max. ambient temperature	[°C]	5/40	5/40
Weight of slide/motor	[kg]	2.94/4.154	4.8/7.47
Weight of end plates	[kg]	2.98	2.98
Profile weight per 100 mm of length	[kg]	1.96	1.96
Moments M_y max./M_z max.	[Nm]	424/424	863/863
Options and their characteristics			
Supported version		LDT-US-0300	LDT-UL-0600
Max. stroke	[mm]	2700	2600
Weight of slide/motor	[kg]	2.85/4.16	3.9/7.47
Profile weight per 100 mm of length	[kg]	2.81	2.81
Weight of end plates	[kg]	2.98	2.98

Main view

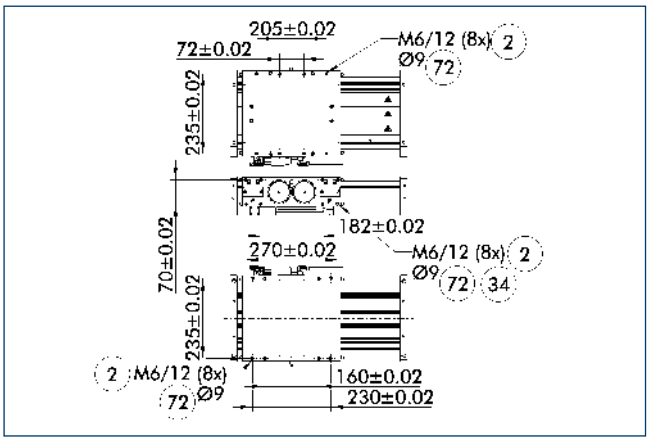


The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

1. Connection linear unit
2. Attachment connection
9. Effective stroke
31. Motor plug
32. Pneumatic connection for holding brake
33. Cable for path measuring system
72. Fit for centering sleeves
80. Depth of the centering sleeve hole in the counter part
81. Not included in the scope of delivery
90. Applies to all centering sleeves

Description	A	L	L1	L2
	[mm]	[mm]	[mm]	[mm]
LDT-ES-0300	175	245	205	122.5
LDT-EL-0600	290	360	320	180

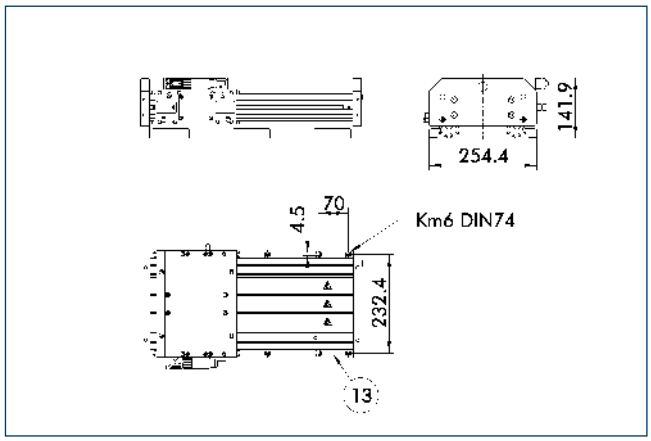
Version with long slide



(2) Attachment connection
(72) Fit for centering sleeves
(34) On both sides

The side view shows the dimensional changes when using a long slide.

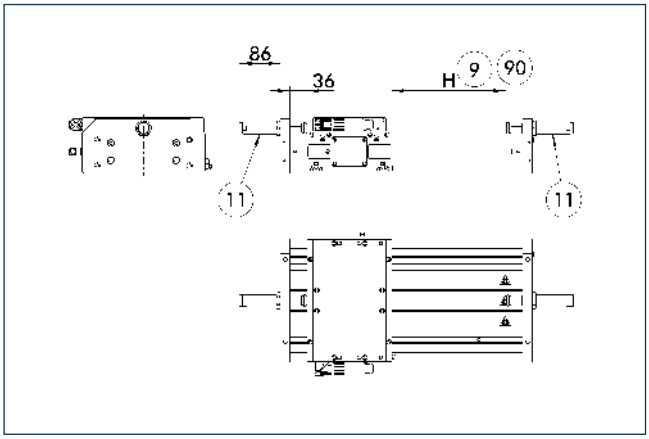
Supported version



(13) Mounting strip

The support reduces bending and permits an additional type of mounting.

Version with shock absorbers

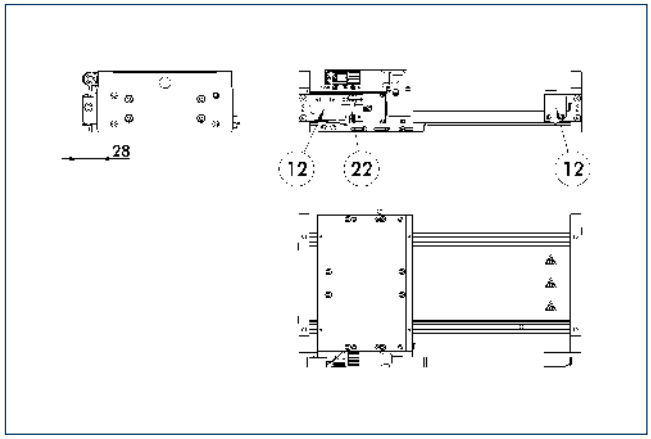


(9) Effective stroke
(11) Shock absorber
(90) Shock absorbers reduce the effective stroke by 42 mm

To prevent any mechanical malfunctions due to a malfunction, the modules can be equipped with hydraulic shock absorbers.

ⓘ When retrofitted, the nominal stroke reduces.

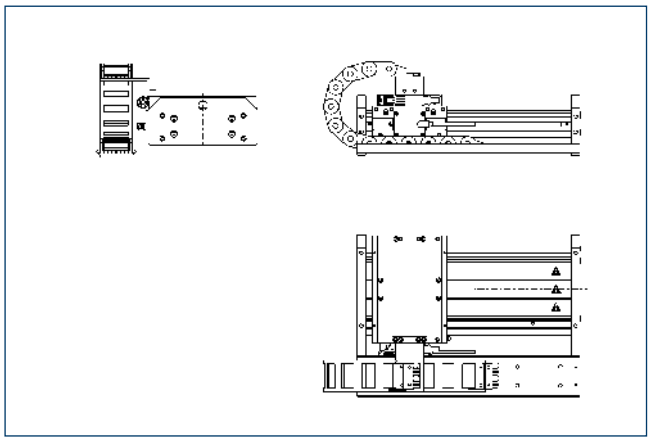
Limit and reference switch



(12) Mechanical limit switches
(22) Inductive reference switch

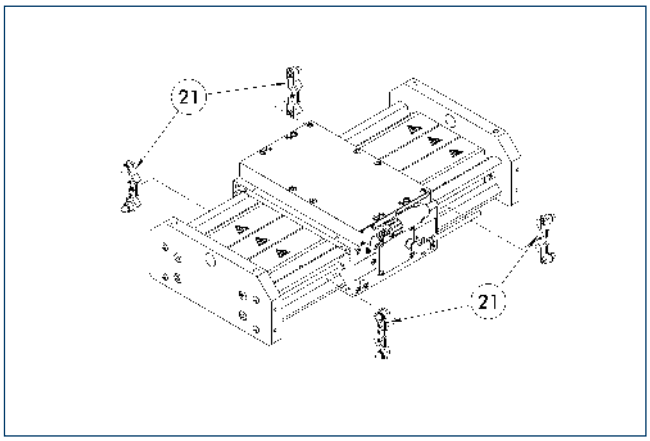
The limit and reference switches are not mandatory for operating of the linear module.

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

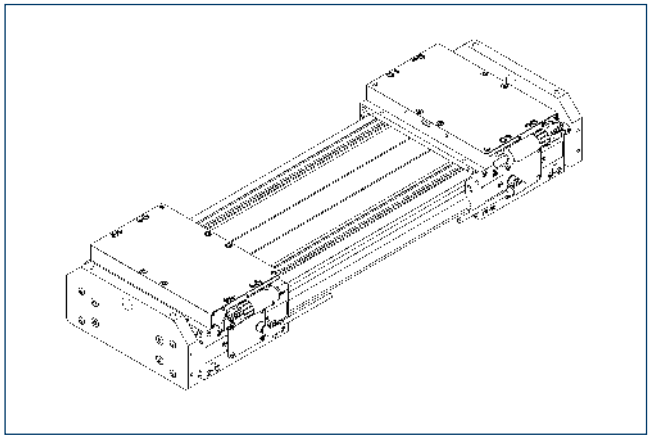
Wipers



(21) Wipers

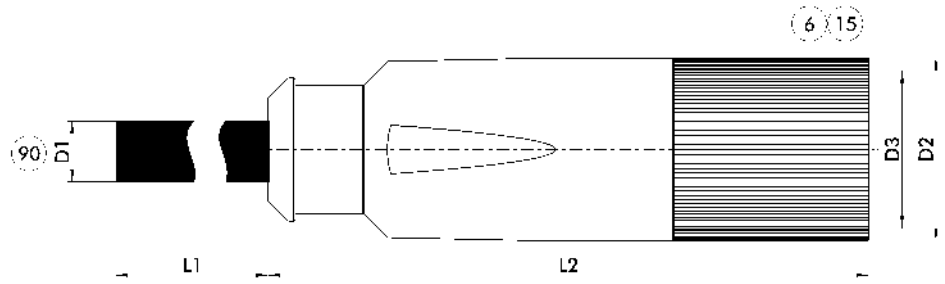
The wipers protect the guidance from ingress of coarse dirt.

Second slide



The linear module can be optionally equipped with several active slides. Please contact us for assistance.

Power cable



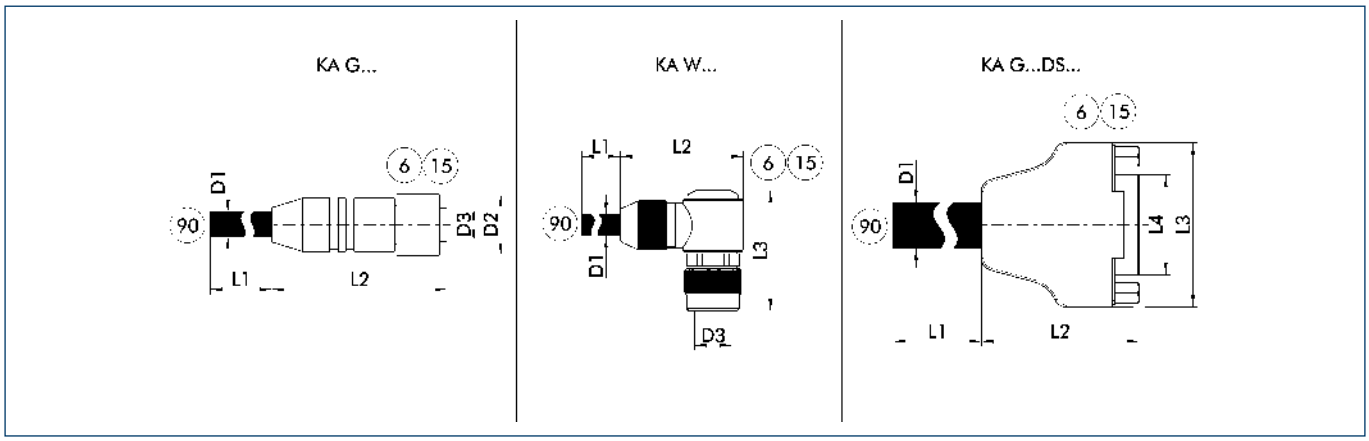
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

6 Connection module side
15 Socket
90 Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-X	0349564	5	10	78.5	27	M23
KA GLT2306-LK-01000-X	0349565	10	10	78.5	27	M23
KA GLT2306-LK-01500-X	0349566	15	10	78.5	27	M23
KA GLT2306-LK-02000-X	0349567	20	10	78.5	27	M23
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® CS						
KA GLT2306-LK-00500-2	0349515	5	10	78.5	27	M23
KA GLT2306-LK-01000-2	0349516	10	10	78.5	27	M23
KA GLT2306-LK-01500-2	0349517	15	10	78.5	27	M23
KA GLT2306-LK-02000-2	0349518	20	10	78.5	27	M23
Power cable for LDx 100-300 at SIEMENS® Sinamics						
KA GGT2306-LK-00100-4	0349111	1	10	78.5	27	M23
KA GGT2306-LK-00200-4	0349112	2	10	78.5	27	M23
KA GGT2306-LK-00300-4	0349113	3	10	78.5	27	M23
Power cable for LDx 400-600 at BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-Y	0349568	5	13.2	78.5	27	M23
KA GLT2306-LK-01000-Y	0349569	10	13.2	78.5	27	M23
KA GLT2306-LK-01500-Y	0349570	15	13.2	78.5	27	M23
KA GLT2306-LK-02000-Y	0349571	20	13.2	78.5	27	M23
Power cable for LDx 400-600 at BOSCH Rexroth IndraDrive® CS						
KA GLT2306-LK-00500-3	0349540	5	13.2	78.5	27	M23
KA GLT2306-LK-01000-3	0349541	10	13.2	78.5	27	M23
KA GLT2306-LK-01500-3	0349542	15	13.2	78.5	27	M23
KA GLT2306-LK-02000-3	0349543	20	13.2	78.5	27	M23
Power cable for LDx 400-600 at SIEMENS® Sinamics						
KA GGT2306-LK-00100-5	0349114	1	13.2	78.5	27	M23
KA GGT2306-LK-00200-5	0349115	2	13.2	78.5	27	M23
KA GGT2306-LK-00300-5	0349116	3	13.2	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... Encoder cable with straight plug
KA W... Encoder cable with angeled plug
KA G...DS... Sub D encoder cable

(6) Connection module side
(15) Socket

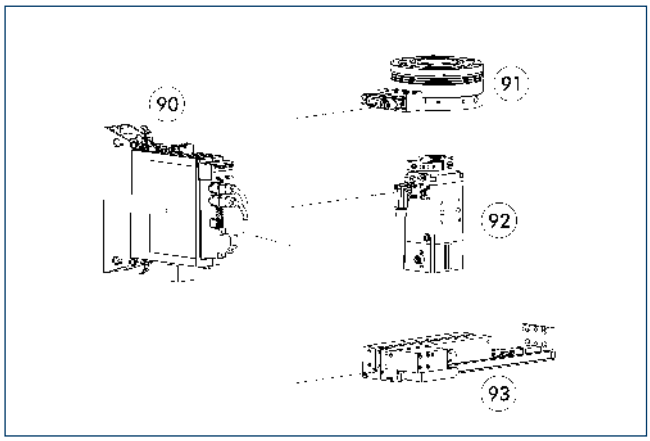
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Encoder cable for SIEMENS® Sinamcis and SSI encoder interface							
KA WGN1210-GK-00100-0	0349155	1	6	46	14.65	28.9	M12
KA WGN1210-GK-00200-0	0349156	2	6	46	14.65	28.9	M12
KA WGN1210-GK-00300-0	0349157	3	6	46	14.65	28.9	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B/Cs and Hiperface encoder interface							
KA WWN1208-GK-00500-K	0349544	5	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01000-K	0349545	10	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01500-K	0349546	15	6	37.5	14.9	30.8	M12
KA WWN1208-GK-02000-K	0349547	20	6	37.5	14.9	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface							
KA WWN1208-GK-00500-X	0349150	5	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01000-X	0349151	10	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01500-X	0349152	15	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-02000-X	0349153	20	7.3	37.5	14.65	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface							
KA WWN1208-GK-00500-Y	0349142	5	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01000-Y	0349143	10	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01500-Y	0349144	15	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-02000-Y	0349145	20	7.3	37.5	14.56	30.8	M12
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface							
KA WGN1208-GK-00100-Z	0349604	1	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00200-Z	0349605	2	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00300-Z	0349606	3	7.3	37.5	14.65	30.8	M12

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

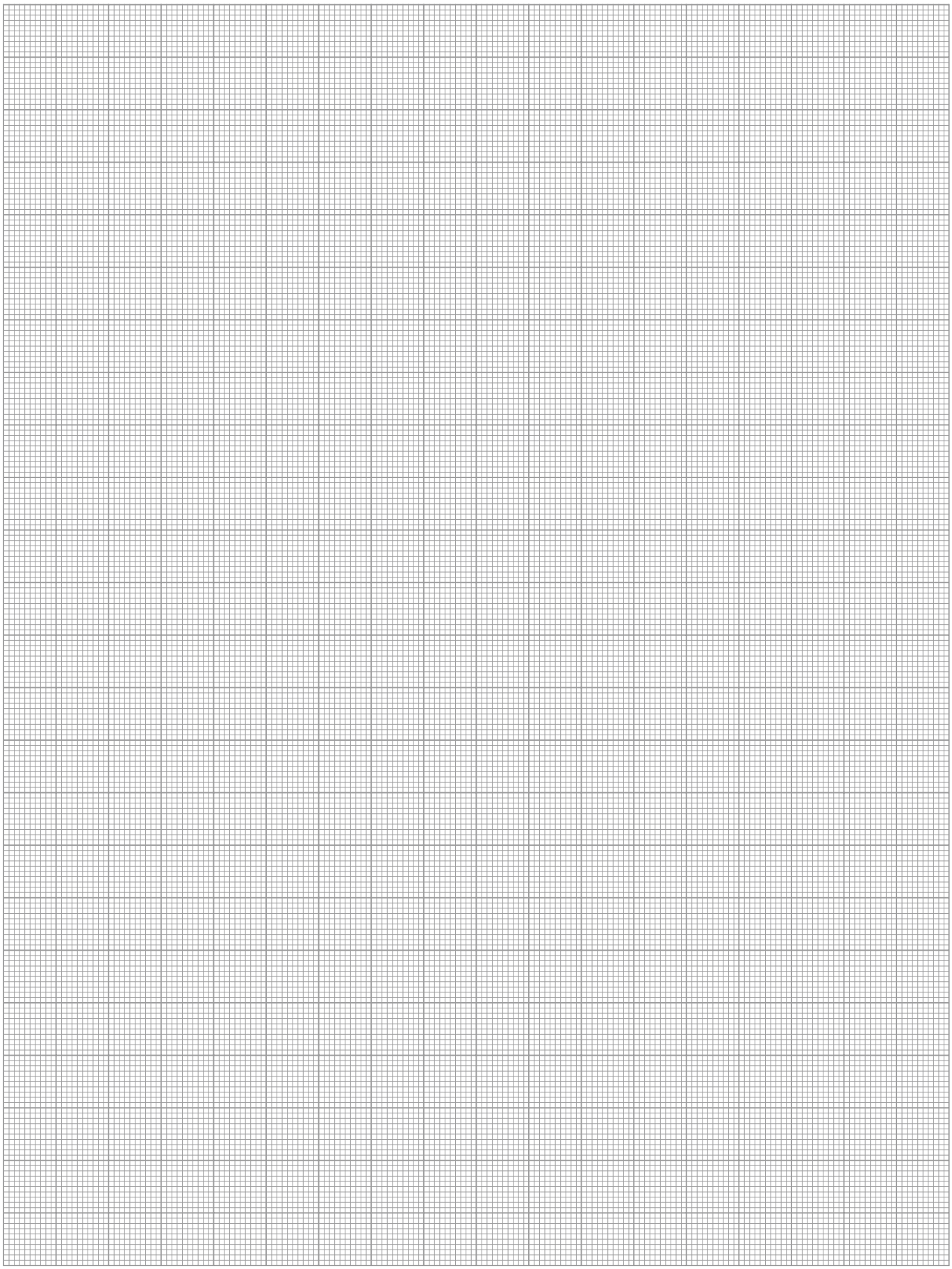
BOSCH Rexroth IndraDrive® Cs



(90) Controller
(91) ERS electric rotary module
(92) ERD electric rotary module
(93) ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8
HCS01.1E-W0018	7.6	18



Flat. Fast. Reliable.

LDL Flat Linear Module

Flat linear axis with linear motor and profile rail guidance.

Field of Application

For use in clean and slightly polluted environment. For faster and precise moving or controlled press-in operation of workpieces in the high-speed assembly, measurement and testing technology, microelectronics or in the medical technology.



Advantages – Your benefits

Almost no wear parts for long service life and reliability of the system

No mechanical play between the drive components for flexible response behavior and high positioning accuracy

Low oscillations and high holding force for the shortest positioning times and process stability

Integrated motor and measuring system in the axis minimizes interfering contours and space requirements

Can be fitted with absolute path measuring system less programming effort and time saving when commissioning and in operation

High dynamics for shorter cycle times therefore a high productivity is achieved

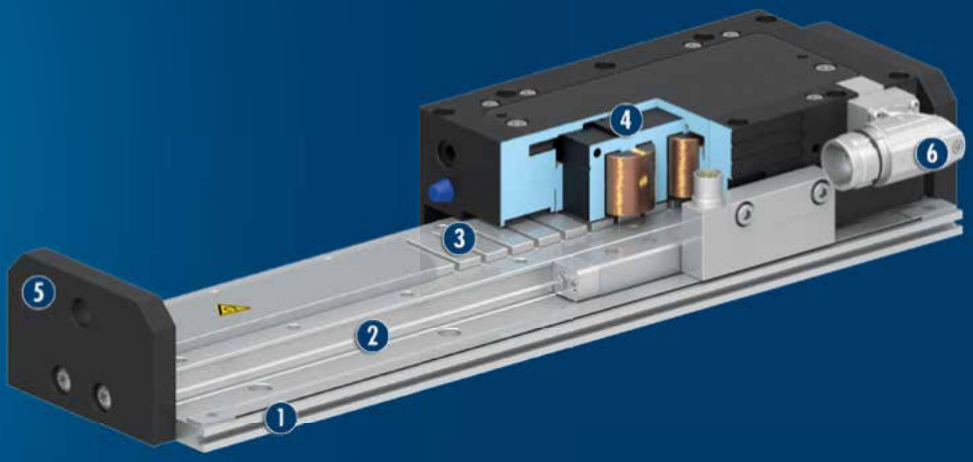
Many different variants possible e.g. long slides for special optimization on exactly your application

Optionally pneumatic holding brake used as rod lock for process reliability during system downtime

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 1	3700 .. 3800 mm	250 .. 500 N	±0.01 mm	4 m/s

Functional Description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Aluminum profile**
Flat and weight-optimized

② **Pre-loaded profiled rail guide with recirculating ball bearings**
for optimum guidance properties and speeds

③ **Integrated secondary parts**
with high performance magnets

④ **Compact primary part slide**
with mounting surfaces, guidance adjusted without play and integrated measuring system

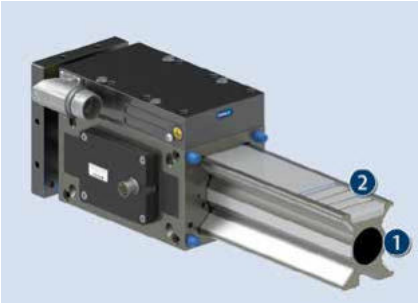
⑤ **End plates**
for mounting sensors, shock absorbers, and additional attachments

⑥ **Motor plug**
Position right/left can be selected

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

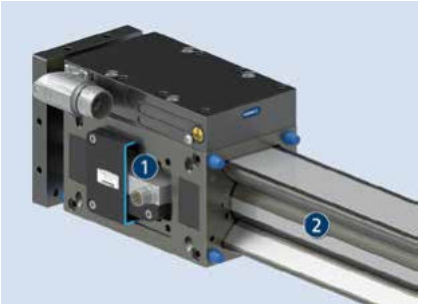
Design of the linear direct axis



The LDx linear direct axes comprise a motor slide with integrated primary part and measuring system. The secondary part is made up of permanent magnets and is countersunk into the axis profile of the linear axis.

1. Axis profile (e.g. steel guide rail or aluminum profile)
2. Permanent magnets with dirt cover

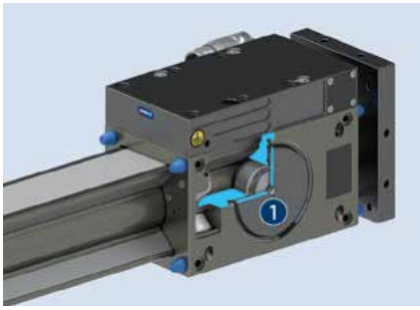
Modular transducer system



The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).

1. Measuring system reading head, fixed on the motor slide
2. Measuring system tape measure, fixed on the aluminum profile

Pneumatic holding brake



The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.

1. Holding brake, operated pneumatically

Drag chain



Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

1. Drag chain

Sample Order

LDN - EL - 0100 - 1 - 0270 - 0500 - LXBV - 111A - SB03 - 0132

Axis version
LDH = Linear direct drive with narrow short-stroke profile
LDK = Linear direct drive with short-stroke profile
LDN = Linear direct drive with single X-profile
LDM = Linear direct drive with double X-profile
LDT = Linear direct drive with triple X-profile
LDL = Linear direct drive with flat profile

Guide and motor versions
E = Non-supported version
U = Supported version

Slide length
S = Standard slide
L = Long slide

Size

Number of active slides

Useful stroke

Total axis length

Option block 1
Number 1: Motor option
Number 2: Additional passive slides option
Number 3: Holding brake in active slide option
Number 4: Valve option

Option block 2
Number 1: Reference switch option
Number 2: Limit switch option
Number 3: Cable track option
Number 4: Wipers option

Option block 3
Number 1: Shock absorbers option
Numbers 2-4: Mounting strips

Option block 4, measuring system
Number 1: Path measuring system
Number 2: Path measuring system type
Number of 3: Length of cable
Number 4: Controller interface

General Notes on the Series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous linear motor

Path measuring system: Contactless, magnetic, measuring system with incremental and absolute variants; with Hiperface, SSI, 1Vss and DRIVE-CLiQ interfaces (on request).

Profile: Aluminum profile with ground profiled rail guide

Slide: Aluminum slide, primary part and measuring system reading head directly integrated

Scope of delivery: Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

Drive controller: Bosch Rexroth IndraDrive® and SIEMENS® SINAMICS drive control units supported as standard; matching parameters supplied on DVD, other manufacturers available on request.

Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

X-Y cross table for palletizing medicines.

1. LDL Flat Linear Module with a short slide
2. LDL Flat Linear Module with a long slide

SCHUNK offers more ...

The following components make the product LDL even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drive Controller (e.g. BOSCH Rexroth IndraDrive®)



KA Power and Encoder Cables



ERD Electric Rotary Unit



ERS Electric Rotary Unit



EGP Electric Parallel Gripper



MV Micro Valves



MPG-plus Pneumatic Small Parts Gripper



Drag Chain



Connection Cable for Sensor System



V Sensor Distributor



ZH Centering Sleeves

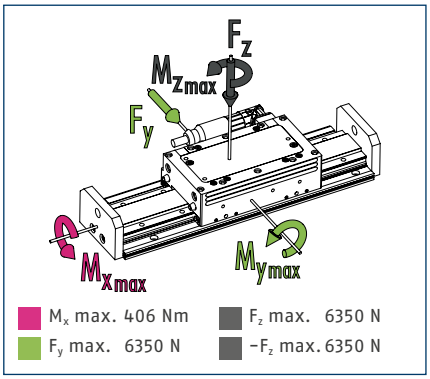
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Modular transducer system: The linear module can be supplied with four different path measuring systems. The incremental path measuring system has a 1Vss interface. The absolute path measuring systems come with a choice of interfaces: Hiperface, SSI or DRIVE-CLiQ (on request).
Pneumatic holding brake: The linear module is optionally equipped with a holding brake. This holding brake is pneumatically operated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless state.
Further motor slides: The linear axis can be equipped with multiple active motor slides. This allows special designs and customized axis solutions.



Moment loading

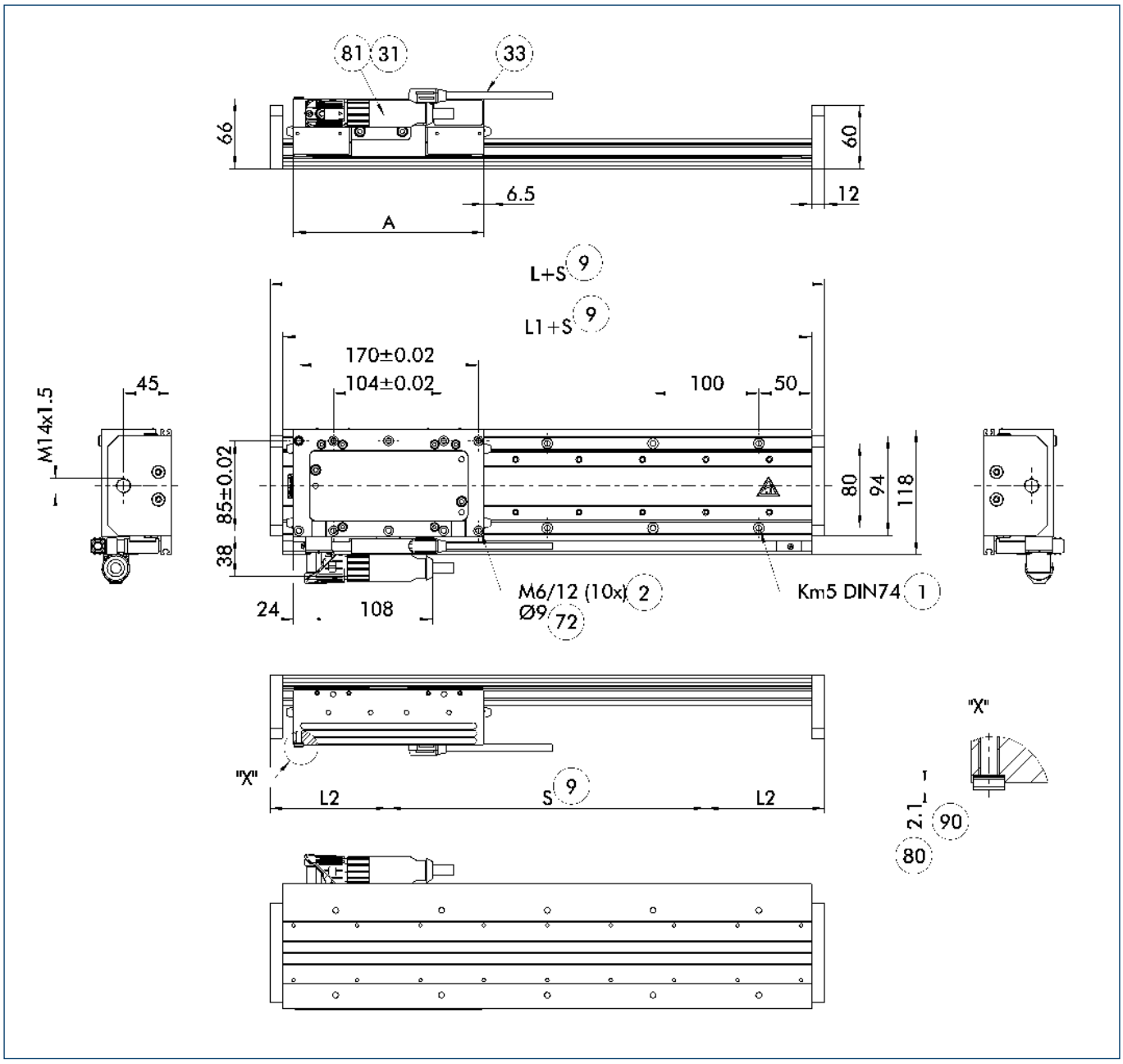


ⓘ The forces and torques shown here are maximum values for static loading.

Technical data

Description		LDL-US-0100	LDL-UL-0200
Drive concept		Linear direct drive	Linear direct drive
Max. stroke	[mm]	3800	3700
Max. driving force	[N]	250	500
Nominal force	[N]	105	180
Max. payload (horizontal)	[kg]	10	20
Repeat accuracy	[mm]	±0.01	±0.01
Max. speed	[m/s]	4	4
Max. acceleration	[m/s²]	40	40
Max. current	[A]	7.5	15
Max. current at standstill	[A]	1.8	3.1
Min./max. ambient temperature	[°C]	5/40	5/40
Weight of slide/motor	[kg]	1.3/1.43	1.72/2.5
Weight of end plates	[kg]	0.34	0.34
Profile weight per 100 mm of length	[kg]	0.88	0.88
Moments M_y max./M_z max.	[Nm]	340/340	657/657

Main view

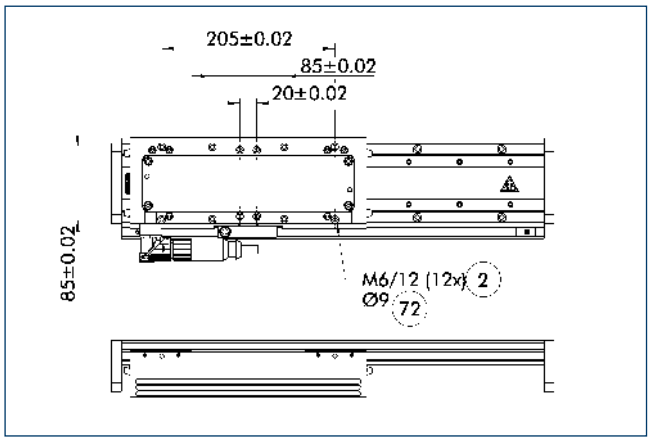


The linear module can be fastened either to the base body or the slide. The structure can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

1 Connection linear unit
2 Attachment connection
9 Effective stroke
31 Motor plug
33 Cable for path measuring system
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
81 Not included in the scope of delivery
90 Applies to all centering sleeves

Description	A	L	L1	L2
	[mm]	[mm]	[mm]	[mm]
LDL-US-0100	180	224	200	112
LDL-UL-0200	280	324	300	162

Version with long slide

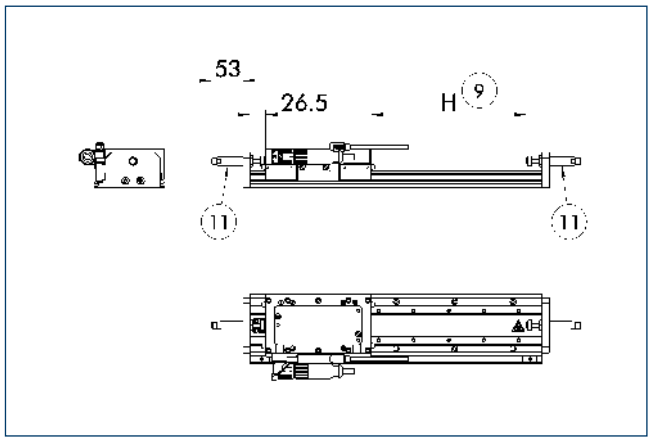


(2) Attachment connection

(72) Fit for centering sleeves

The side view shows the dimensional changes when using a long slide.

Version with shock absorbers



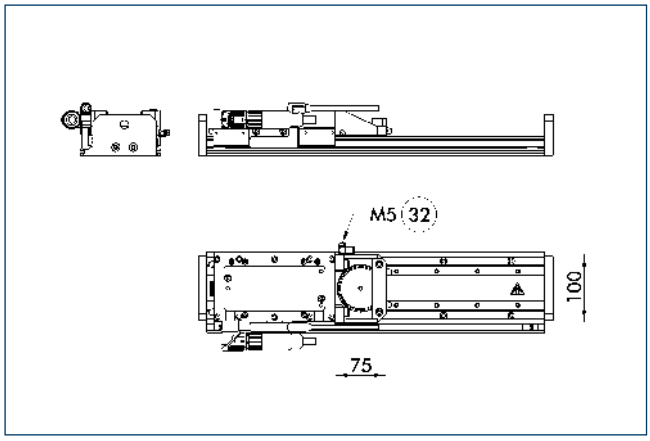
(9) Effective stroke

(11) Shock absorber

To prevent any mechanical malfunctions due to a malfunction, the modules can be equipped with hydraulic shock absorbers.

ⓘ When retrofitted, the nominal stroke reduces.

Pneumatic holding brake

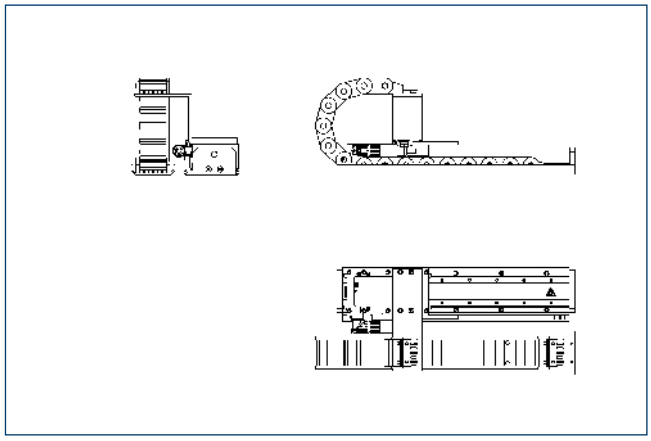


(32) Pneumatic connection for holding brake

The holding brake holds the slide in a particular position even without energy supply. The holding brake is pneumatically actuated.

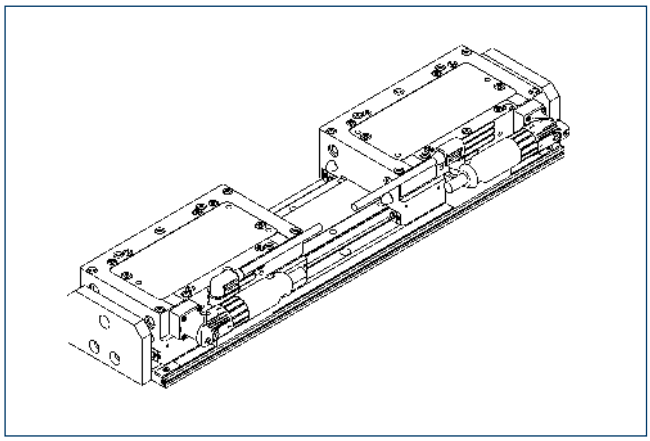
ⓘ When retrofitted, the nominal stroke reduces.

Drag chain



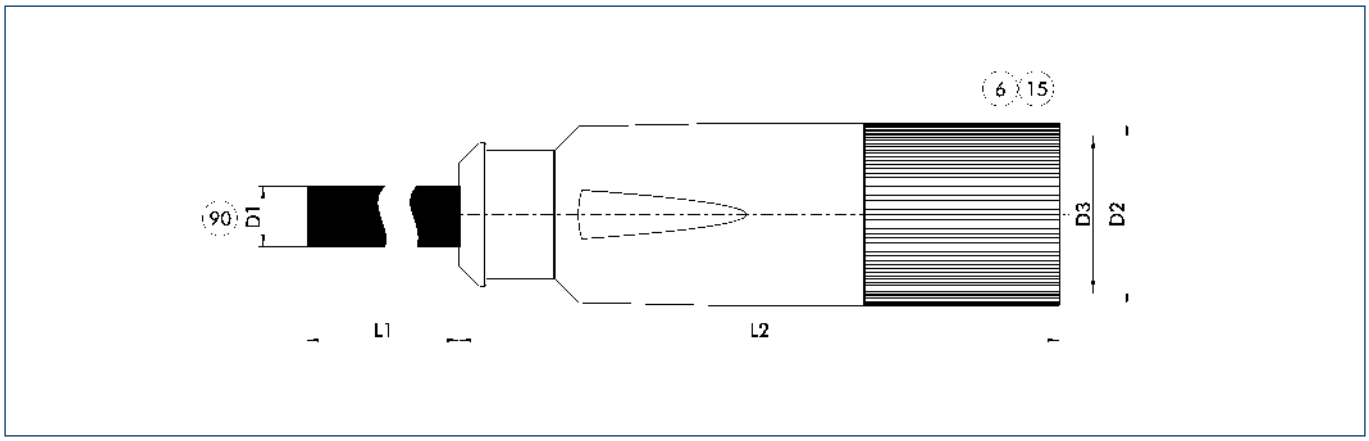
Matching cable tracks are available as accessories for the linear axes. These are tailored to the specific effective stroke of the axis in question, and are supplied incl. mounting material (pre-mounted if necessary).

Second slide



The linear module can be optionally equipped with several active slides.
Please contact us for assistance.

Power cable



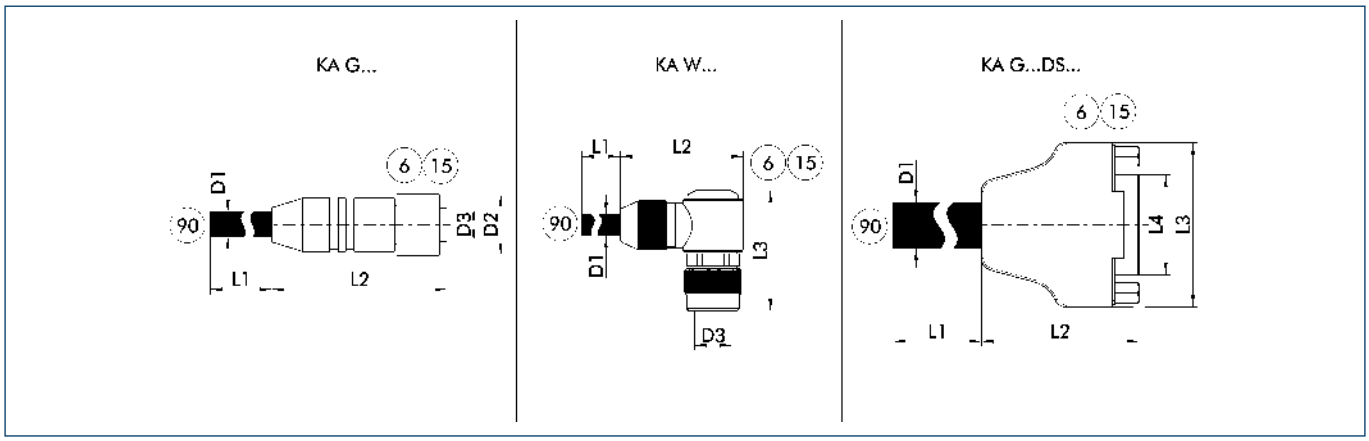
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-X	0349564	5	10	78.5	27	M23
KA GLT2306-LK-01000-X	0349565	10	10	78.5	27	M23
KA GLT2306-LK-01500-X	0349566	15	10	78.5	27	M23
KA GLT2306-LK-02000-X	0349567	20	10	78.5	27	M23
Power cable for LDx 100-300 at BOSCH Rexroth IndraDrive® CS						
KA GLT2306-LK-00500-2	0349515	5	10	78.5	27	M23
KA GLT2306-LK-01000-2	0349516	10	10	78.5	27	M23
KA GLT2306-LK-01500-2	0349517	15	10	78.5	27	M23
KA GLT2306-LK-02000-2	0349518	20	10	78.5	27	M23
Power cable for LDx 100-300 at SIEMENS® Sinamics						
KA GGT2306-LK-00100-4	0349111	1	10	78.5	27	M23
KA GGT2306-LK-00200-4	0349112	2	10	78.5	27	M23
KA GGT2306-LK-00300-4	0349113	3	10	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... Encoder cable with straight plug
KA W... Encoder cable with angeled plug
KA G...DS... Sub D encoder cable

(6) Connection module side
(15) Socket

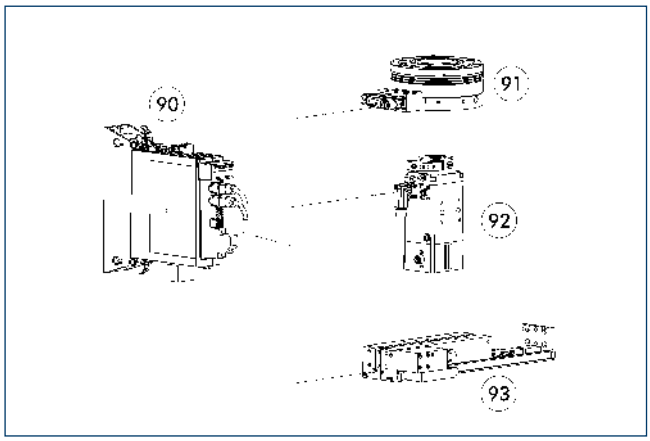
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Encoder cable for SIEMENS® Sinamcis and SSI encoder interface							
KA WGN1210-GK-00100-0	0349155	1	6	46	14.65	28.9	M12
KA WGN1210-GK-00200-0	0349156	2	6	46	14.65	28.9	M12
KA WGN1210-GK-00300-0	0349157	3	6	46	14.65	28.9	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B/Cs and Hiperface encoder interface							
KA WWN1208-GK-00500-K	0349544	5	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01000-K	0349545	10	6	37.5	14.9	30.8	M12
KA WWN1208-GK-01500-K	0349546	15	6	37.5	14.9	30.8	M12
KA WWN1208-GK-02000-K	0349547	20	6	37.5	14.9	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface							
KA WWN1208-GK-00500-X	0349150	5	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01000-X	0349151	10	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-01500-X	0349152	15	7.3	37.5	14.65	30.8	M12
KA WWN1208-GK-02000-X	0349153	20	7.3	37.5	14.65	30.8	M12
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface							
KA WWN1208-GK-00500-Y	0349142	5	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01000-Y	0349143	10	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-01500-Y	0349144	15	7.3	37.5	14.56	30.8	M12
KA WWN1208-GK-02000-Y	0349145	20	7.3	37.5	14.56	30.8	M12
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface							
KA WGN1208-GK-00100-Z	0349604	1	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00200-Z	0349605	2	7.3	37.5	14.65	30.8	M12
KA WGN1208-GK-00300-Z	0349606	3	7.3	37.5	14.65	30.8	M12

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

BOSCH Rexroth IndraDrive® Cs



90 Controller
91 ERS electric rotary module
92 ERD electric rotary module
93 ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8
HCS01.1E-W0018	7.6	18

Modular. Compact. Precise.

ELS Compact Linear Module

Compact linear module with spindle drive and profiled rail guide.

Field of Application

For use in clean and slightly polluted environments.
Simple economic linear movements or, in combination, as multi-axis positioning systems for assembly and handling technology



Advantages – Your benefits

Adaptable drive motor for versatile approach and easy integration into existing control concepts

Spindle drive for high requirements on precision given a high drive force

Profiled rail guide for high force and moment loads

Compact dimensions for less interfering contours

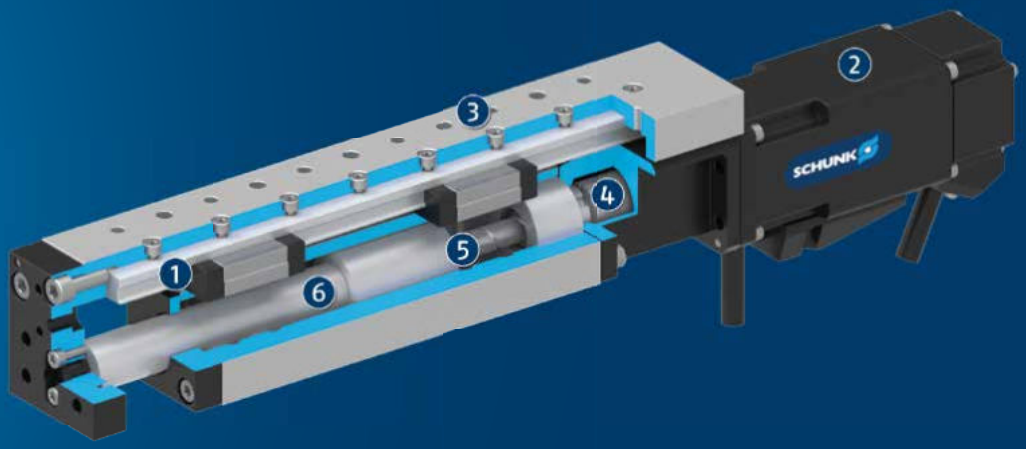
Spindle cover for versatility and a long tool life

Standardized mounting bores for numerous combinations with other components from the modular system

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 2	70 .. 260 mm	80 .. 150 N	±0.01 mm	0.8 .. 1 m/s

Functional Description

The slide is driven by a ball screw spindle and precisely guided by a profiled rail guide. The servomotor is connected to the drive shaft by a flange and a coupling.



① **Profiled rail guide**
for maximum positioning accuracy and moment loads

② **Drive**
Different servomotors can be adapted

③ **Mounting pattern**
Completely integrated in the module system

④ **Motor bell**
for connecting a suitable drive

⑤ **Spindle**
Transforms the rotational movement into a linear movement

⑥ **Cover tube**
to protect the spindle

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Housing material: Aluminum alloy, coated

Guidance: Profiled rail guide

Drive: servomotors of different providers can be trouble-free adapted

Scope of delivery: Assembly and operating manual with declaration of incorporation

Warranty: 24 months

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Acceleration and speed: The values specified are the maximum values of the units without loading. The actual accelerations and speeds for your application must be designed separately and can deviate from the maximum values.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Electric line gantry to center or reposition small components.

1. ELS Compact Linear Module
2. GAP 2-Finger Angular Parallel Gripper
3. Delta Flat Linear Module with toothed-belt drive

SCHUNK offers more ...

The following components make the product ELS even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





MSK Drives



Cable Sets



Drive Controller



Adapter Plates



EGP Electric Parallel Gripper



MPG-plus Pneumatic Small Parts Gripper



PGN-plus Universal Gripper



Pillar Assembly Systems

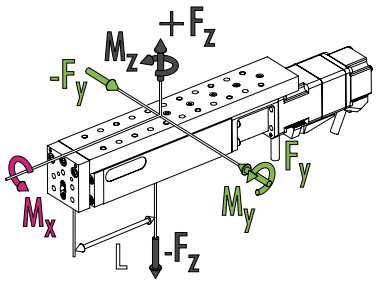
ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Flexible in motor and controller selection: The electrical control is carried out via an adaptable servo drive using common standard controller like Bosch® or SIEMENS®
Easy integration: The easy integration into the control system is ensured by the possibility of attaching a common servomotor.
Complete solutions: On request, SCHUNK can supply complete drive solutions including motor, gears, controller, and cables.



Forces and moments



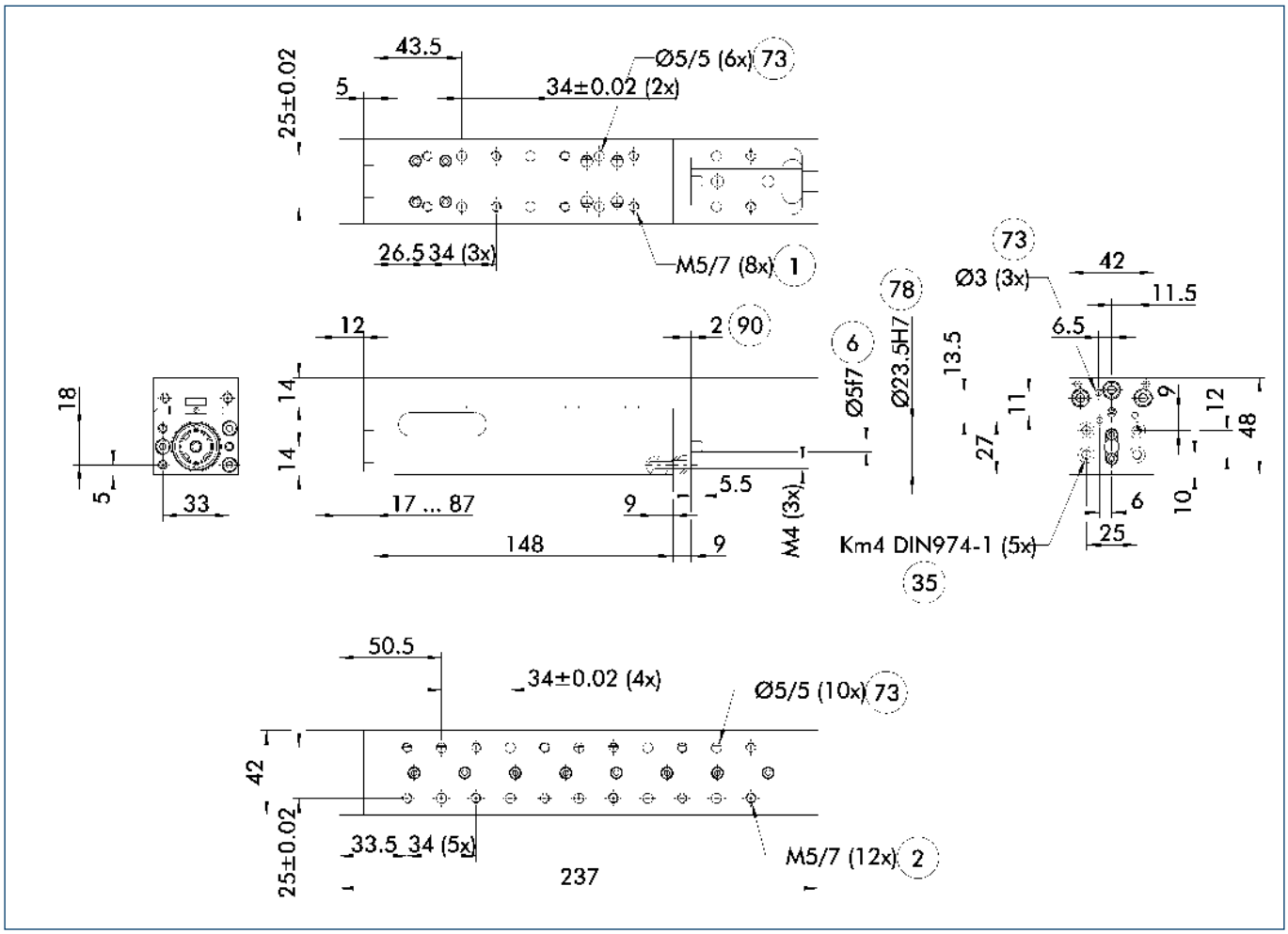
M_x max. 20 Nm	F_y max. 2000 N
M_y max. 100 Nm	F_z max. 2000 N
M_z max. 100 Nm	$-F_z$ max. 2000 N

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		ELS 23-H070-0
ID		0314800
Max. stroke	[mm]	70
Max. driving force	[N]	80
Repeat accuracy	[mm]	±0.01
Max. speed	[m/s]	0.8
Max. acceleration	[m/s²]	8.5
Min./max. ambient temperature	[°C]	5/80
Max. payload	[kg]	3
Weight	[kg]	1.2
Drive concept		Spindle drive
Idle torque	[Nm]	0.02
Moment of inertia	[kgm²]	0.0005
Spindle diameter	[mm]	8
Spindle pitch	[mm]	12
Max. spindle speed	[1/min]	4000
Options and their characteristics		
Motor version "-M"		ELS 23-H070-M
ID		0314801
Drive type		Bosch Rexroth® MSM019A
Weight	[kg]	1.6

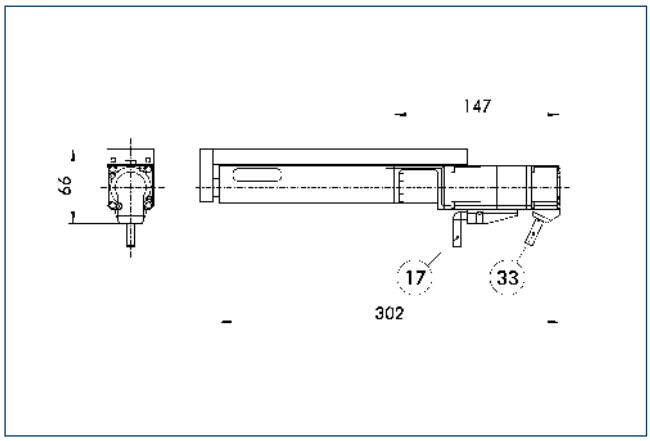
Main view



The recommended method to attached the linear module is on the base body and the payload on the slide. For reverse installation, the bending radius of the cable always has to be taken into consideration.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(35) Back side
(73) Fit for centering pins
(78) Fit for centering
(90) Motor bell recess

Version with motor -M



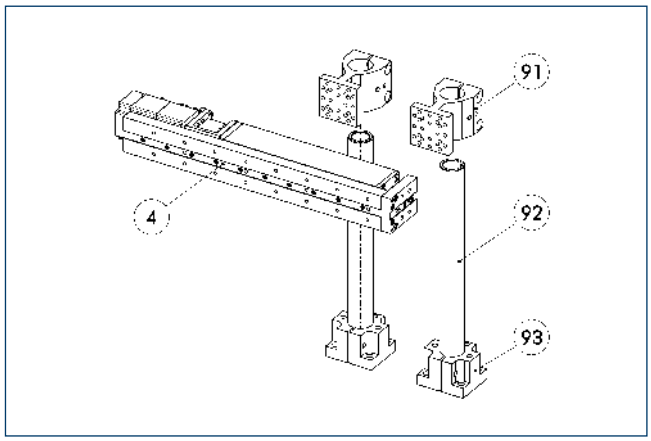
(17) Cable outlet

(33) Cable for path measuring system

The drawing shows the changes in dimension of the variants with integrated motors, motor bell and coupling, compared with the variant shown in the main view.

ⓘ To operate the unit, power and sensor cables and drive controllers by Bosch Rexroth® are required. They are not included in the scope of delivery and have to be ordered separately. Please contact us for assistance.

Attachment to a pillar assembly system



(4) Linear unit

(91) APEV single mounting plate

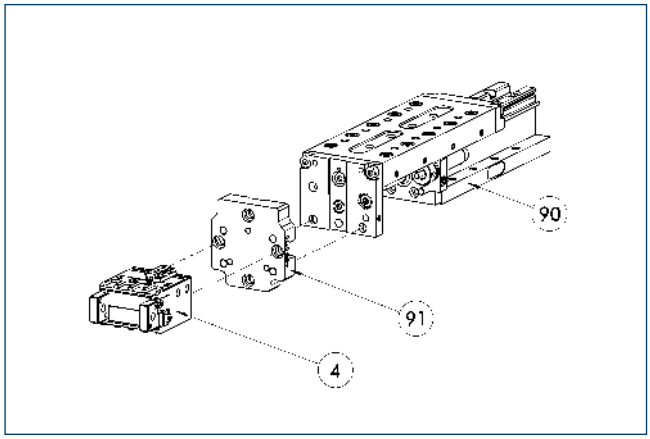
(92) Pillars, hard-chromium plated, ground

(93) SOE single base support

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 35	0313894	35	Aluminum
APDV 35	0313896	35	Aluminum
APEH 35	0313893	35	Aluminum
APEV 35	0313895	35	Aluminum

Modular assembly automation

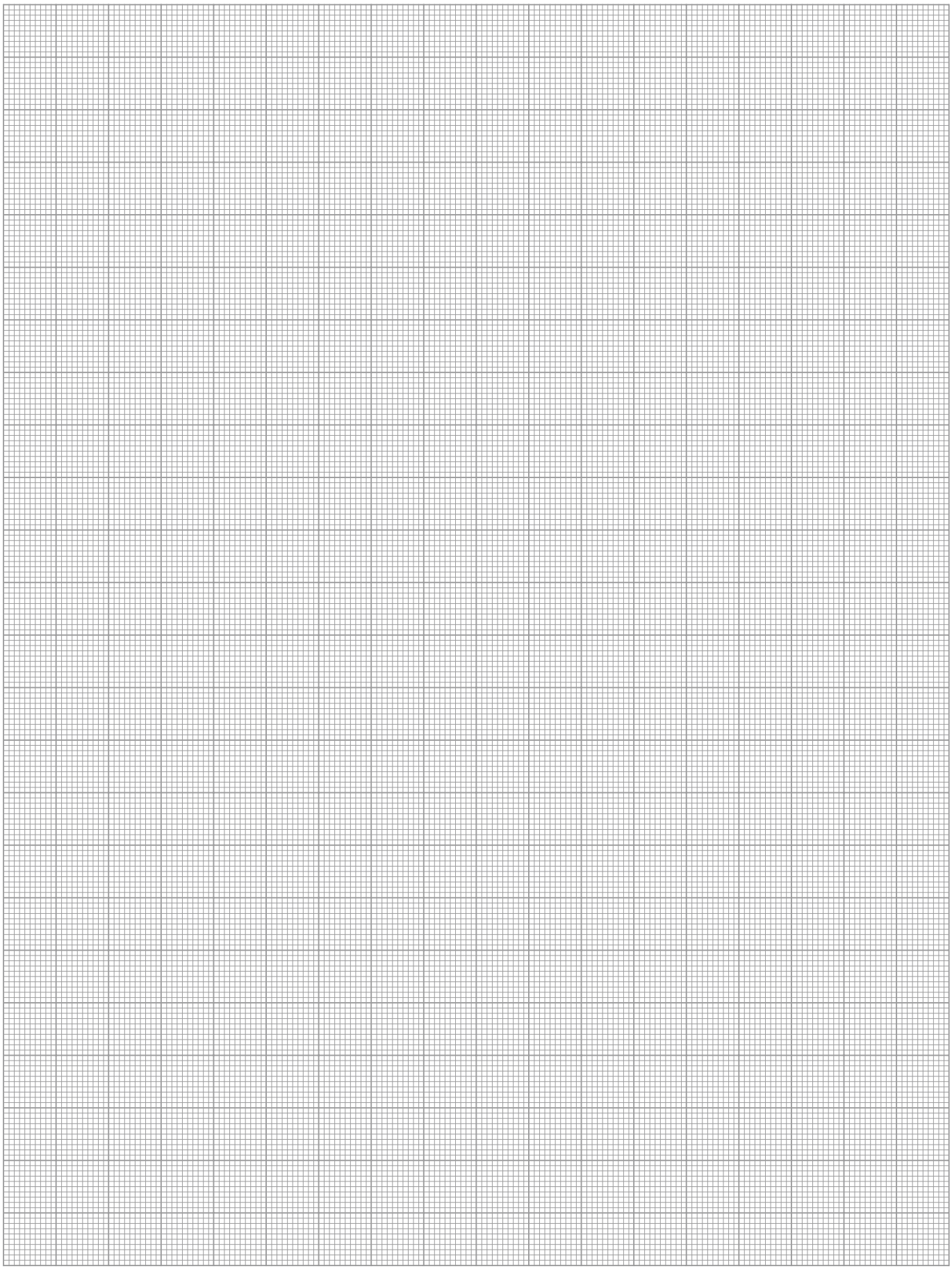


(4) Grippers

(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

(91) ASG adapter plate

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

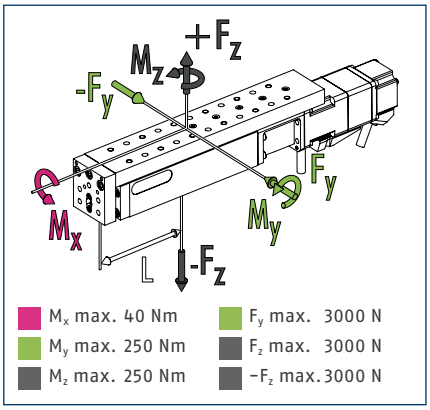


ELS 37

Electric Components | Compact Linear Module



Forces and moments



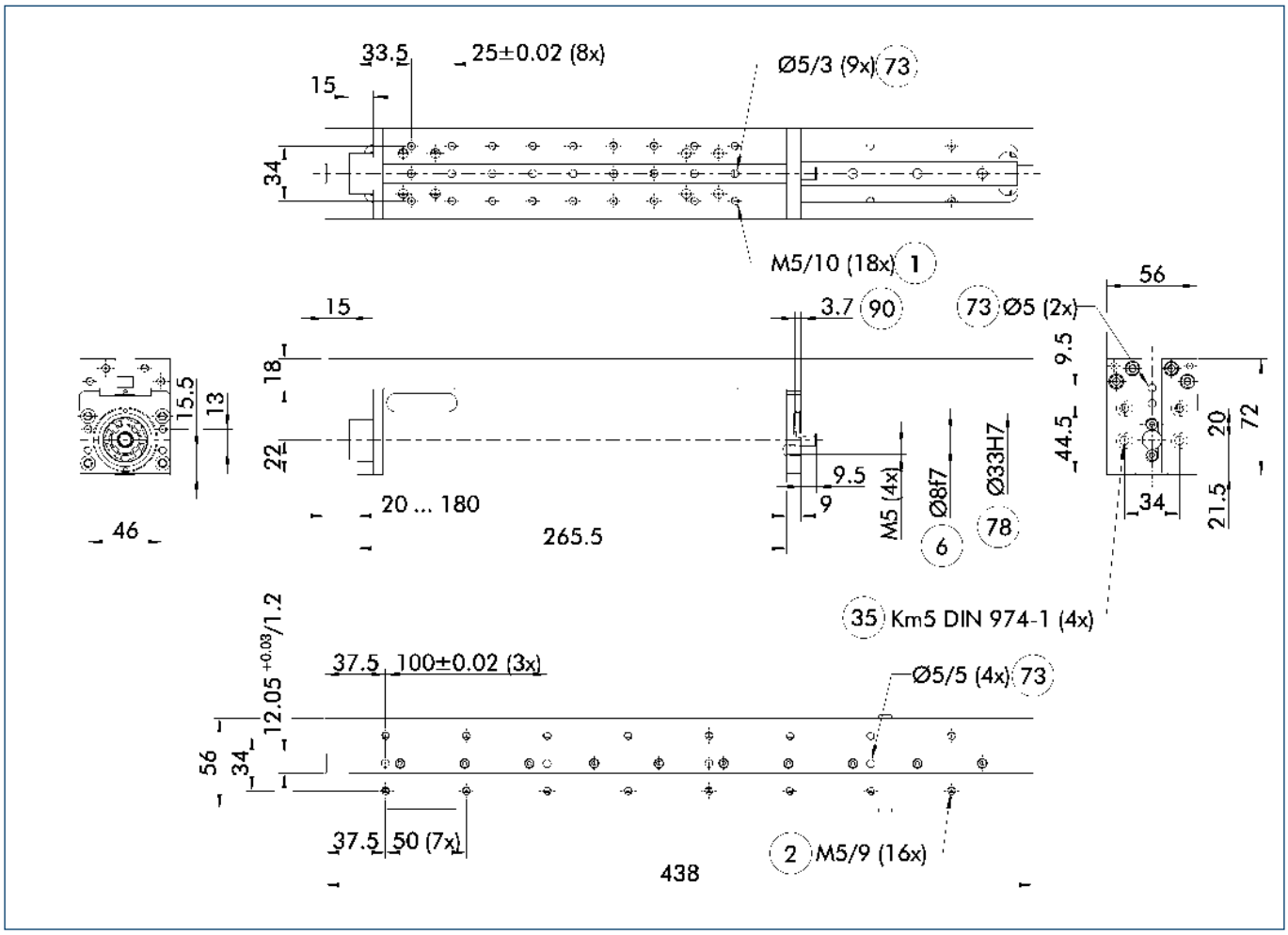
M_x max. 40 Nm	F_y max. 3000 N
M_y max. 250 Nm	F_z max. 3000 N
M_z max. 250 Nm	$-F_z$ max. 3000 N

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		ELS 37-H160-0	ELS 37-H260-0
ID		0314802	0314804
Max. stroke	[mm]	160	260
Max. driving force	[N]	150	150
Repeat accuracy	[mm]	±0.01	±0.01
Max. speed	[m/s]	1	1
Max. acceleration	[m/s²]	8.5	8.5
Min./max. ambient temperature	[°C]	5/80	5/80
Max. payload	[kg]	8	6
Weight	[kg]	3.8	4.7
Drive concept		Spindle drive	Spindle drive
Idle torque	[Nm]	0.06	0.1
Moment of inertia	[kgm²]	0.005	0.007
Spindle diameter	[mm]	12.5	12.5
Spindle pitch	[mm]	25.4	25.4
Max. spindle speed	[1/min]	2360	2360
Options and their characteristics			
Motor version "-M"		ELS 37-H160-M	ELS 37-H260-M
ID		0314803	0314805
Drive type		Bosch Rexroth® MSM031B	Bosch Rexroth® MSM031B
Weight	[kg]	4.7	5.6
Motor version "-K"		ELS 37-H160-K	ELS 37-H260-K
ID		0314806	0314807
Drive type		Bosch Rexroth® MSK030C-0900	Bosch Rexroth® MSK030C-0900
Weight	[kg]	5.5	6.4

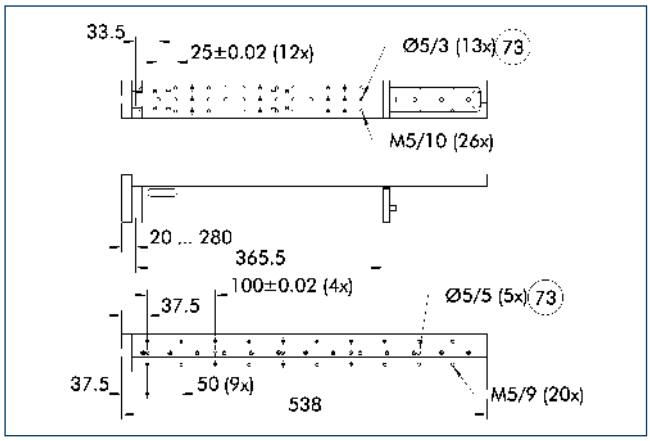
Main view ELS 37-H160



The recommended method to attached the linear module is on the base body and the payload on the slide. For reverse installation, the bending radius of the cable always has to be taken into consideration.

1 Connection linear unit
2 Attachment connection
6 Drive connection
35 Back side
73 Fit for centering pins
78 Fit for centering
90 Motor bell recess

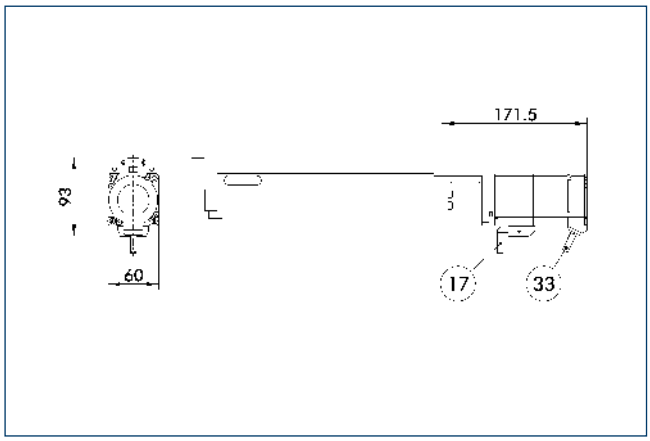
Variant ELS 37-H260



73 Fit for centering pins

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

Version with motor -M



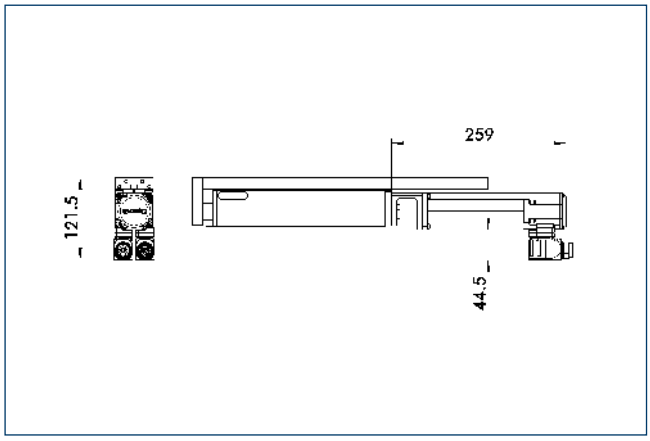
(17) Cable outlet

(33) Cable for path measuring system

The drawing shows the changes in dimension of the variants with integrated motors, motor bell and coupling, compared with the variant shown in the main view.

ⓘ To operate the unit, power and sensor cables and drive controllers by Bosch Rexroth® are required. They are not included in the scope of delivery and have to be ordered separately. Please contact us for assistance.

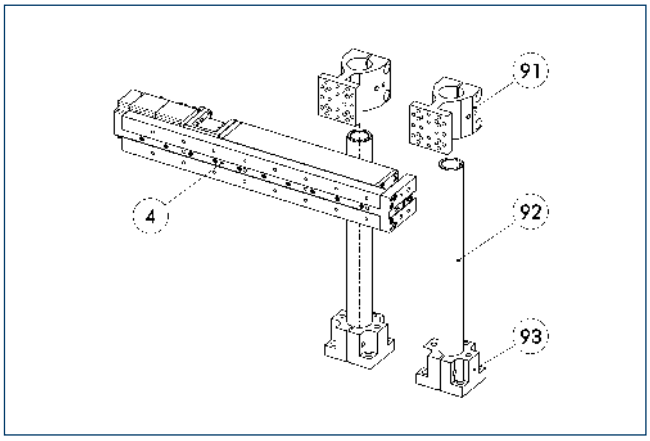
Version with motor -K



The drawing shows the changes in dimension of the variants with integrated motors, motor bell and coupling, compared with the variant shown in the main view.

ⓘ To operate the unit, power and sensor cables and drive controllers by Bosch Rexroth® are required. They are not included in the scope of delivery and have to be ordered separately. Please contact us for assistance.

Attachment to a pillar assembly system



(4) Linear unit

(91) APEV single mounting plate

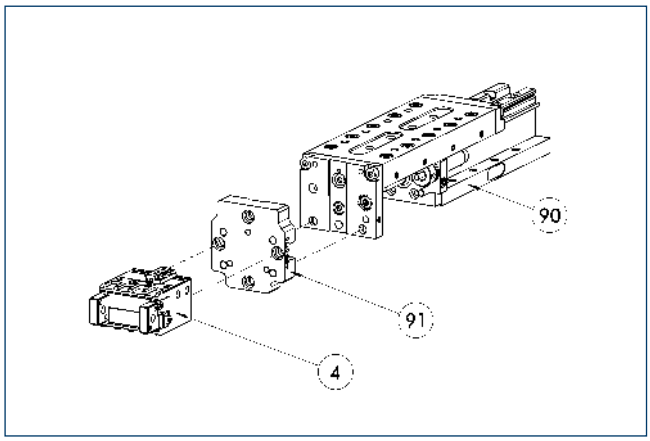
(92) Pillars, hard-chromium plated, ground

(93) SOE single base support

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 35	0313894	35	Aluminum
APDH 85	0313414	55	Aluminum
APDV 35	0313896	35	Aluminum
APDV 85	0313416	55	Aluminum
APEH 35	0313893	35	Aluminum
APEH 85	0313413	55	Aluminum
APEV 35	0313895	35	Aluminum
APEV 85	0313415	55	Aluminum

Modular assembly automation



(4) Grippers
(91) ASG adapter plate
(90) CLM/KLM/LM/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with the standard modular system for modular assembly automation. For more information see our main catalog “Modular Assembly Automation”.

Flat. Loadable. Precise.

Alpha Linear Table

Flat linear table with spindle drive and double-profiled rail guide.

Field of Application

Universal linear module with spindle drive for precise positioning at a high drive force.



Advantages – Your benefits

Adaptable drive motor for versatile approach and easy integration into existing control concepts

Double-profiled rail guide for very high force and moment loads

Extremely flat design for minimal interfering contours

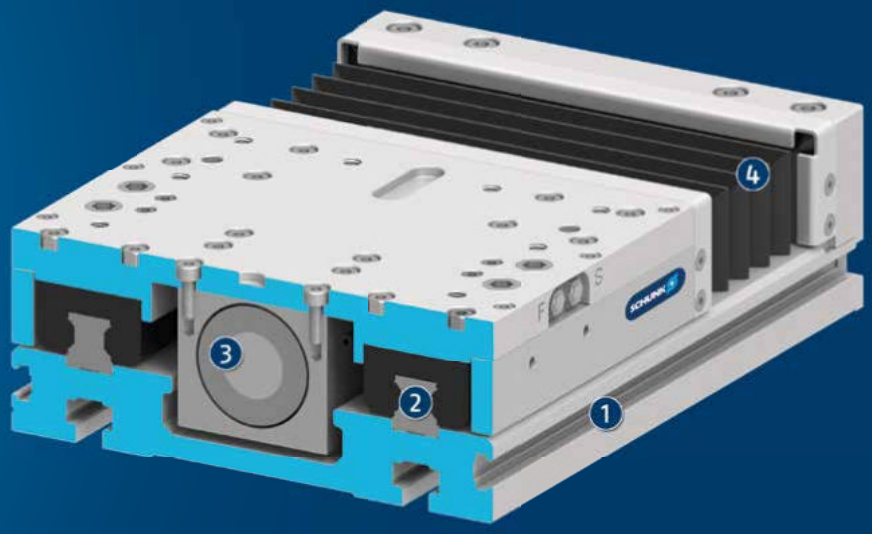
Integrated bellows cover for versatility and a long tool life

Machined stop edge for precise alignment and fastening

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 4	1235 .. 2540 mm	4000 .. 18000 N	±0.03 mm	2 .. 2.5 m/s

Functional Description

The slide is driven by a ball screw spindle and precisely guided by a double profiled rail guide. The bellows cover the spindle and the guidance. The servomotor is connected to the profile via the drive shaft.



① **Aluminum profile**
Particularly suitable for table assembly

② **Profiled rail guide**
for maximum positioning accuracy and moment loads

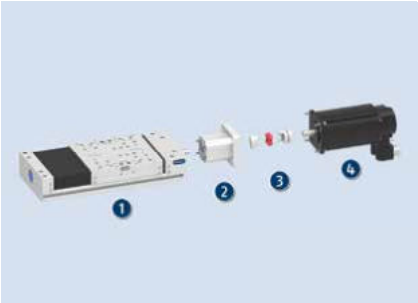
③ **Spindle**
Transforms the rotational movement into a linear movement

④ **Bellows cover**
in order to protect the guidance form dirt

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

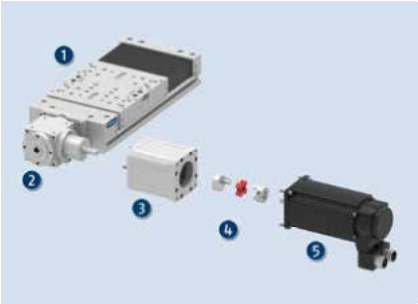
Spindle axis with axially mounted motor



This illustration shows how to mount a motor axially to a spindle axis using an engine cone and a coupling.

1. Spindle axis
2. Motor bell
3. Coupling
4. Servomotor

Spindle axis with right-angular mounted motor



The motor can also be mounted at a right angle on a spindle axis using a bevel gear.

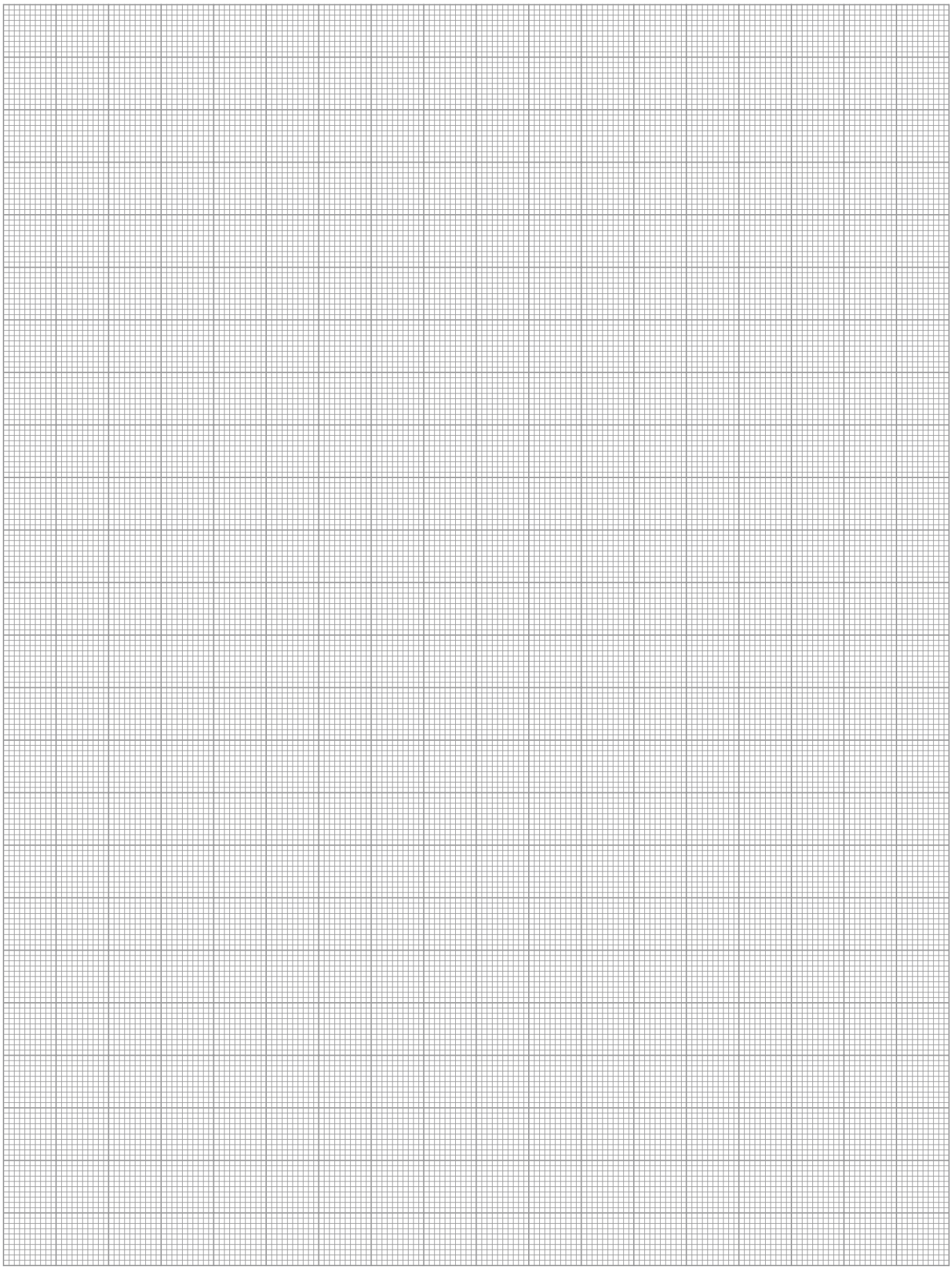
1. Spindle axis
2. Bevel gear
3. Motor bell
4. Coupling
5. Servomotor

Spindle axis with parallel-mounted motor



In order to save space, the motor can be mounted parallel to the spindle axis using an angle belt drive.

1. Spindle axis
2. Angle belt drive
3. Servomotor



General Notes on the Series

Guidance: Profiled rail guide

Drive: servomotors of different providers can be trouble-free adapted

Profile: Extruded aluminum profile

Slide: Aluminum slide with bellows

Scope of delivery: Assembly and operating manual with declaration of incorporation

Warranty: 24 months

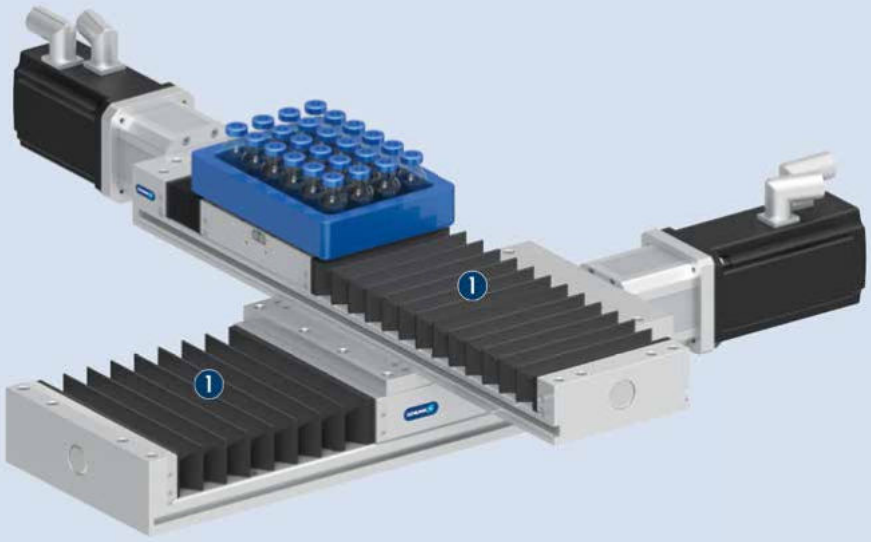
Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Stroke reserve: is the additional stroke beyond the effective stroke to stop the linear unit in time before it passes the limit switches.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Acceleration and speed: The values specified are the maximum values of the units without loading. The actual accelerations and speeds for your application must be designed separately and can deviate from the maximum values.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Motorized X/Y table for palletizing small packaging units.

1 Alpha Linear Table

SCHUNK offers more ...

The following components make the product Alpha even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.




T-nut


Motor Bell


Diversion Drive


Bevel Gear


ERM Electrical Rotary Module


Drive Controller


Cable Set


MSK Drives


SRU-plus Universal Swivel Actuator


EGA Electric Long-stroke Gripper


PGN-plus Universal Gripper


PZN-plus Universal Gripper

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Flexible in motor and controller selection: The electrical control is carried out via an adaptable servo drive using common standard controller like Bosch® or SIEMENS®
Easy integration: The easy integration into the control system is ensured by the possibility of attaching a common servomotor.
Complete solutions: On request, SCHUNK can supply complete drive solutions including motor, gears, controller, and cables.

How to Order – Linear Table

A – 20-B-225 – SSS – M – 2505 – 1000 – 1660 – FB – 2EMS – 0

Product series A = Alpha

Size (version)

Drive

S = Spindle

Guidance system

S = Rail guide

Design version

S = Standard

Drive type

M = Single nut (ball screw)
MM = Double nut (ball screw)

Drive version

Diameter and pitch (ball screw)

Traverse path

Overall length

Cover

FB = Bellow

Accessories

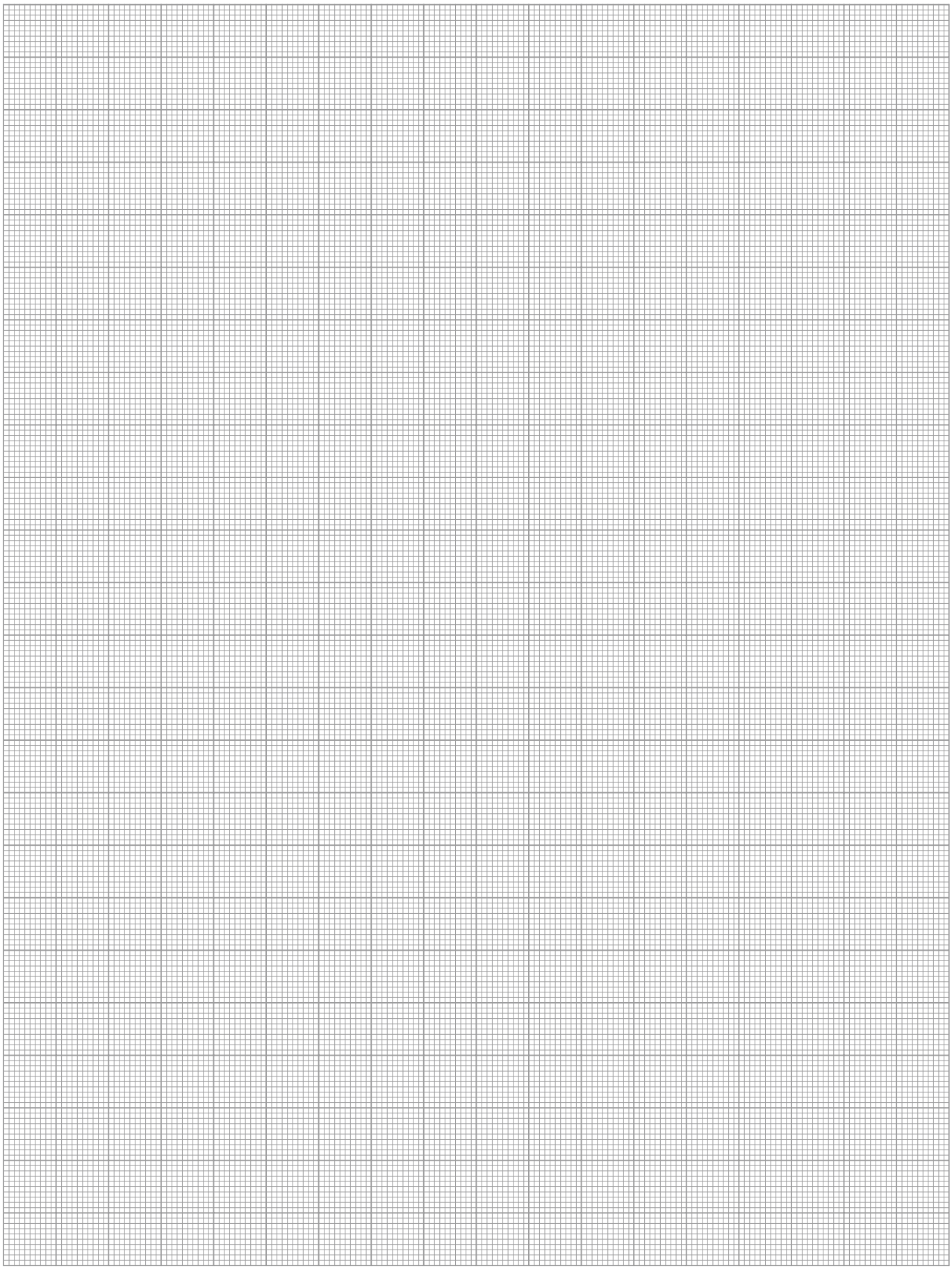
EMS / EMB = Mechanical limit switch (S = Siemens, B = Balluff) attached
E02 / E010 = Inductive limit switch, opener with 2 m / 10 m cable attached
ES2 / ES10 = Inductive limit switch, closer with 2 m / 10 m cable attached
NS = T-nut

Special design

0 = Standard
1 = Special (specification in plain text)

Additional accessories (separate item)

MGK = Engine cone and coupling (from dimension sheet)
URT = Angle belt drive (from dimension sheet)

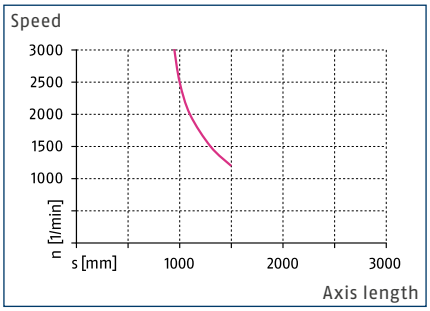


Alpha 15

Electric Components | Linear Table

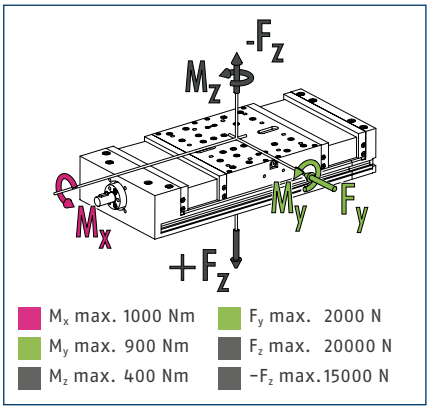


Max. spindle speed



ⓘ The diagram shows the maximum spindle speed depending on the overall length of the unit.

Forces and moments

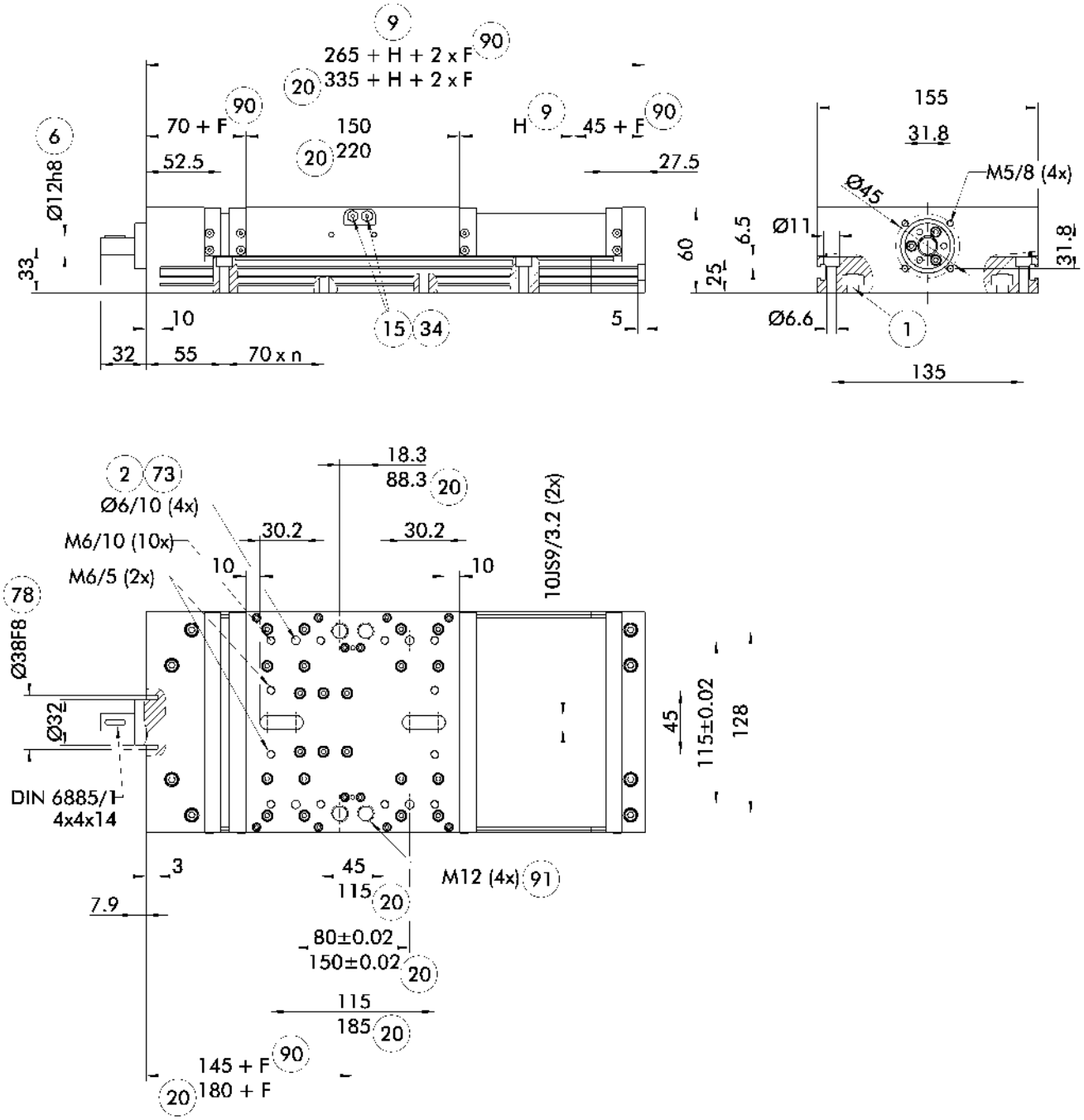


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		A 15-B-155
Max. stroke	[mm]	1235
Max. driving force	[N]	4000
Repeat accuracy	[mm]	±0.03
Max. total length	[mm]	1500
Max. speed	[m/s]	2.5
Max. acceleration	[m/s²]	20
Base weight per 0 mm of stroke	[kg]	7.8
Weight per 100 mm of stroke	[kg]	0.95
Slide weight	[kg]	2.8
Slide weight, long	[kg]	4.1
Drive concept		Spindle drive
Idle torque	[Nm]	0.35
Moment of inertia	[kgm²]	0.000085
Spindle diameter	[mm]	20
Spindle pitch	[mm]	5/10/20/50
Max. spindle speed	[1/min]	3000

Main view

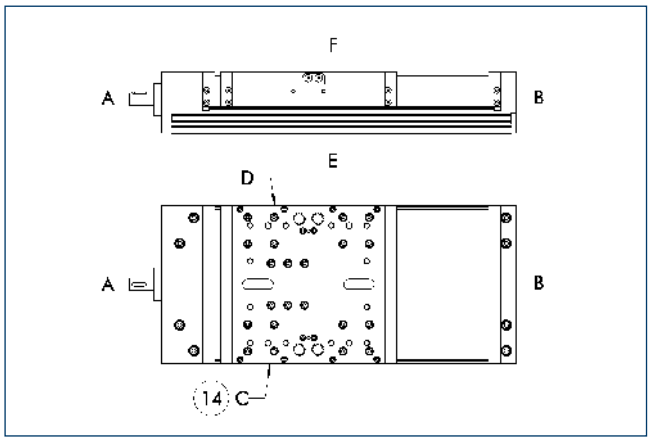


The drawing shows the unit in standard design, without considering any dimensions of the options described below.

ⓘ F_z = (effective stroke + 17)/19 [rounded off to the nearest whole number];
F = (F_z x 3.8) – 17 [rounded off to the nearest whole number]

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering
(90) Bellow block length
(91) Passage for internal mounting holes for short strokes

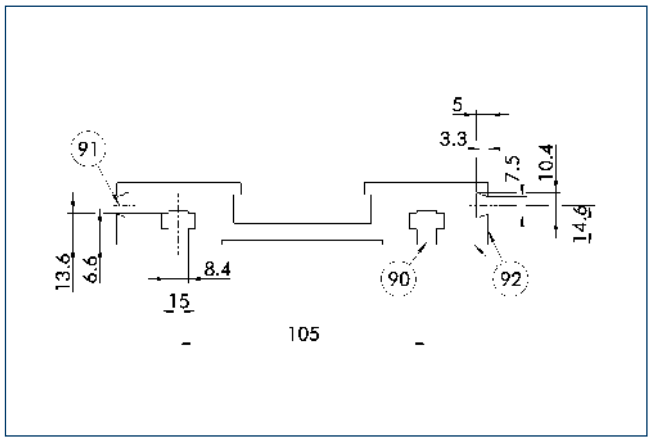
Side definition



14 Limit switch standard position

This drawing indicates the definition for the sides. This serves as the basis for all attachments.

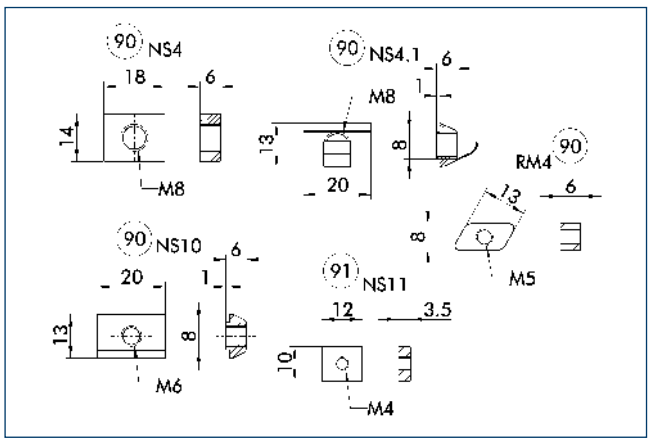
Mounting



90 T-nut at the bottom side
91 Lateral T-nut
92 Stop edge for alignment of axis

The profile can be secured using T-nuts.

Fastening elements

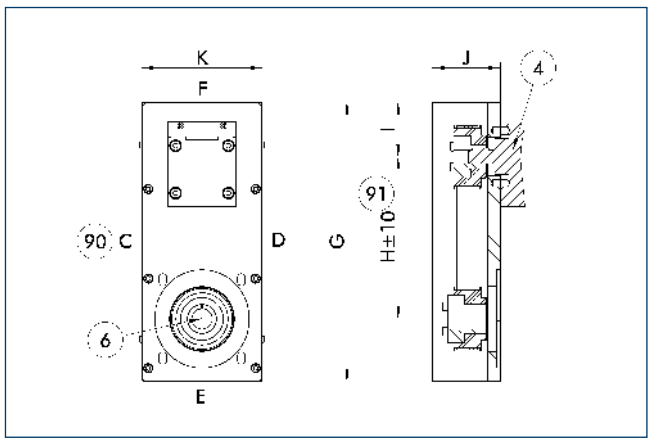


90 T-nut at the bottom side
91 Lateral T-nut

The unit can be fixed in place using T-nuts. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
T-Nuts		
NS 10-M6-6	0331422	
NS 11-M4	0331429	
NS 4.1-M8-6	0331430	
NS 4-M8-6	0331407	
RM4-M5	0331426	

Angle belt drive



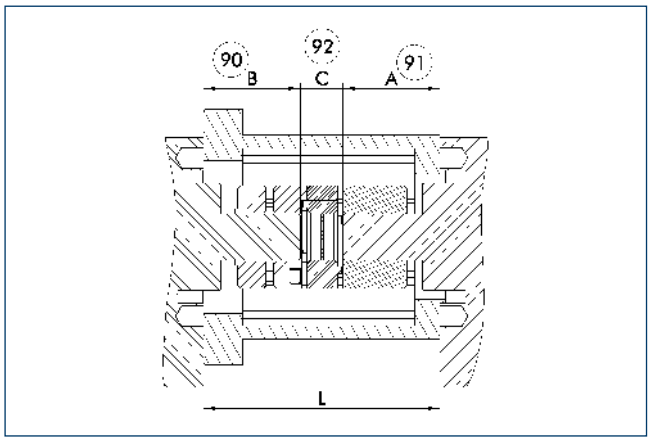
4 Linear unit
6 Drive connection
90 Attachment direction of angle belt drive
91 Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
A 15-B-155	238	120	46	52	102

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

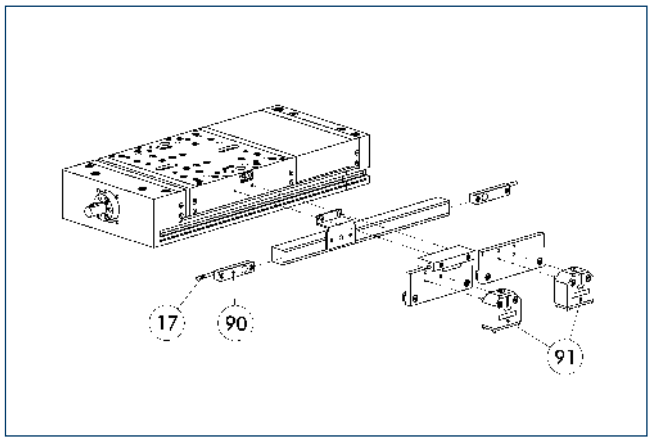
Motor bell schematic diagram



(90) Length of drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet
(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

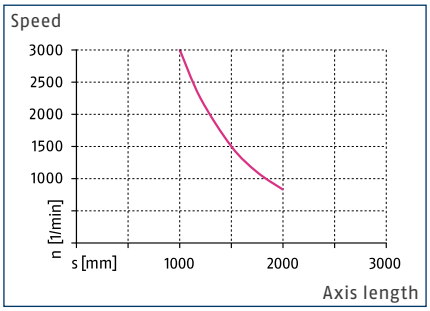
Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Alpha 20

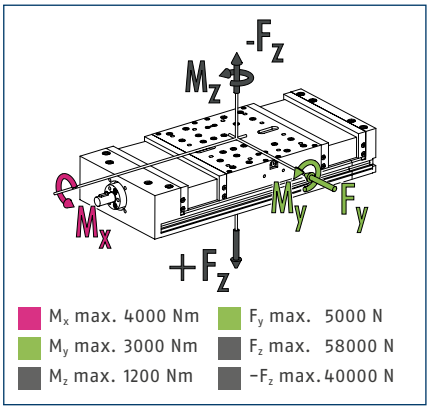


Max. spindle speed



ⓘ The diagram shows the maximum spindle speed depending on the overall length of the unit.

Forces and moments

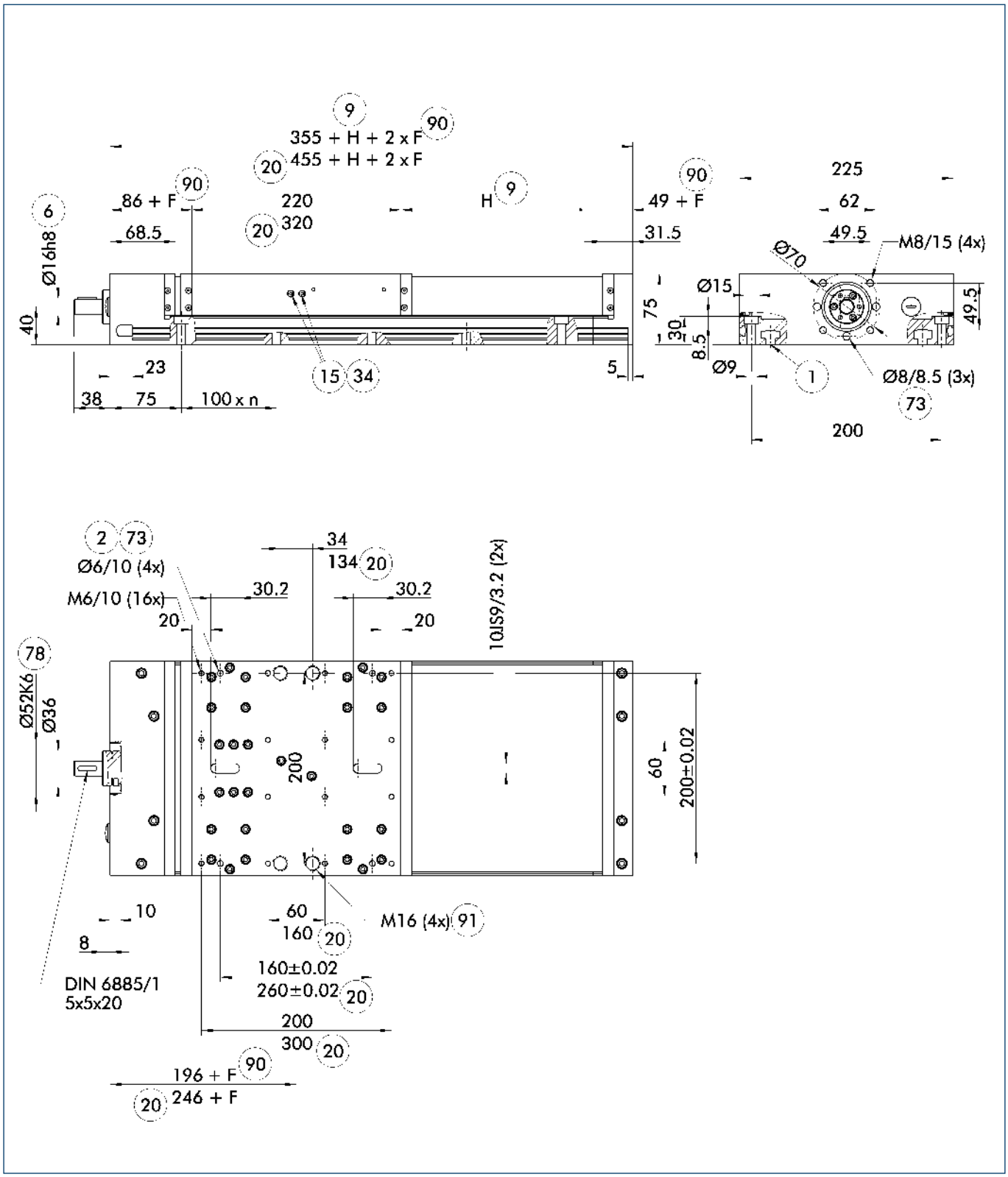


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		A 20-B-225
Max. stroke	[mm]	1645
Max. driving force	[N]	6000
Repeat accuracy	[mm]	±0.03
Max. total length	[mm]	2000
Max. speed	[m/s]	2.5
Max. acceleration	[m/s²]	20
Base weight per 0 mm of stroke	[kg]	17.6
Weight per 100 mm of stroke	[kg]	2.7
Slide weight	[kg]	6.2
Slide weight, long	[kg]	9
Drive concept		Spindle drive
Idle torque	[Nm]	1.2
Moment of inertia	[kgm²]	0.000225
Spindle diameter	[mm]	25
Spindle pitch	[mm]	5/10/25/50
Max. spindle speed	[1/min]	3000

Main view

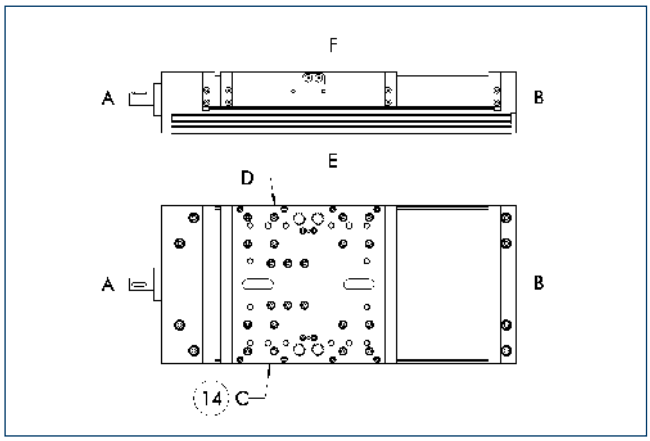


The drawing shows the unit in standard design, without considering any dimensions of the options described below.

ⓘ F_z = (effective stroke + 17)/28 [rounded off to the nearest whole number]; for stroke > 250 mm, F = (F_z x 4) – 17 [rounded off to the nearest whole number]; for stroke < 250 mm, F = (F_z x 4) – 10 [rounded off to the nearest whole number]

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering
(90) Bellow block length
(91) Passage for internal mounting holes for short strokes

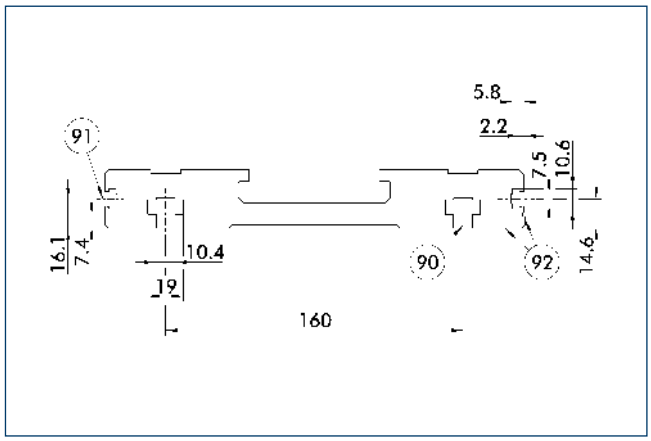
Side definition



14 Limit switch standard position

This drawing indicates the definition for the sides. This serves as the basis for all attachments.

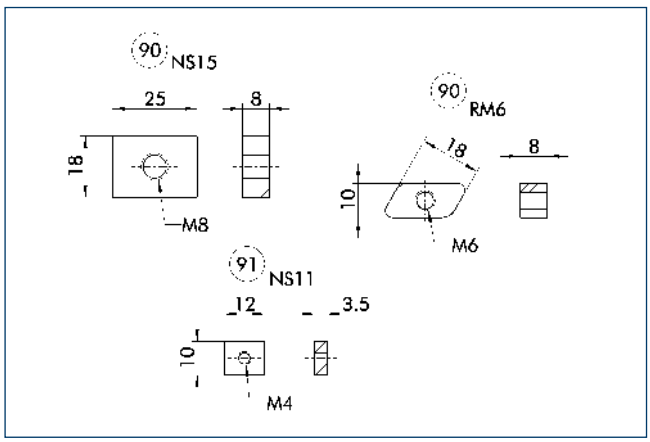
Mounting



90 T-nut at the bottom side
91 Lateral T-nut
92 Stop edge for alignment of axis

The profile can be secured using T-nuts.

Fastening elements

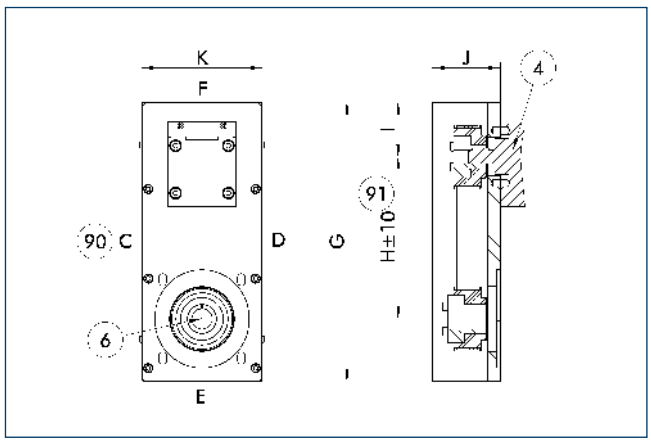


90 T-nut at the bottom side
91 Lateral T-nut

The unit can be fixed in place using T-nuts. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
T-Nuts		
NS 11-M4	0331429	
NS 15-M8	0331433	
RM6-M6	0331427	

Angle belt drive



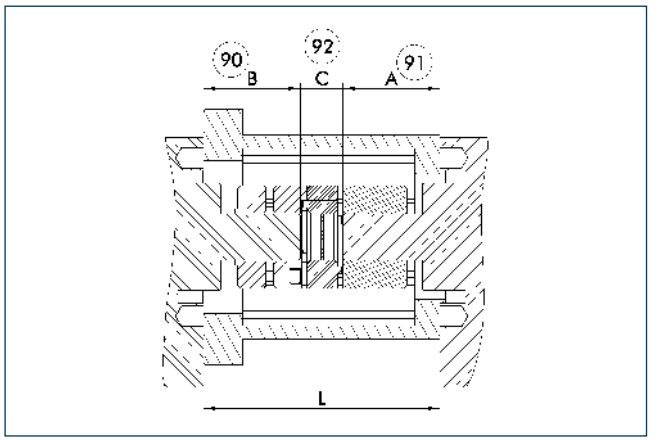
4 Linear unit
6 Drive connection
90 Attachment direction of angle belt drive
91 Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
A 20-B-225	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

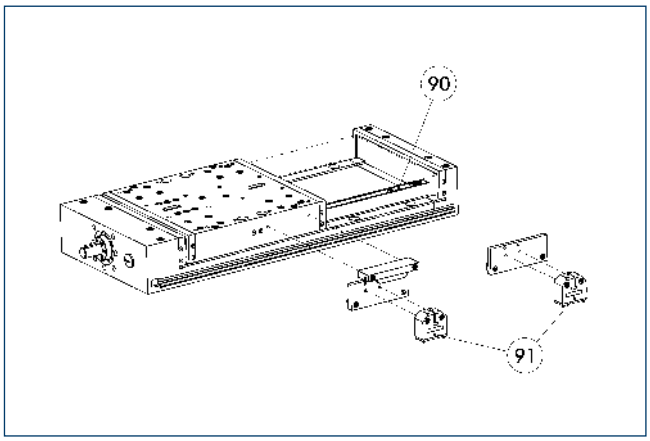
Motor bell schematic diagram



(90) Length of drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive

Limit and reference switch



(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

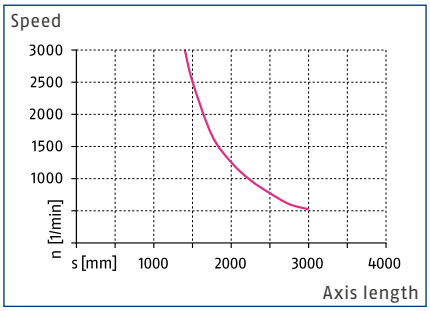
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Alpha 30

Electric Components | Linear Table

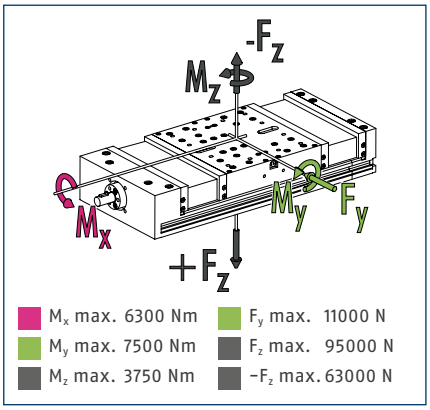


Max. spindle speed



ⓘ The diagram shows the maximum spindle speed depending on the overall length of the unit.

Forces and moments

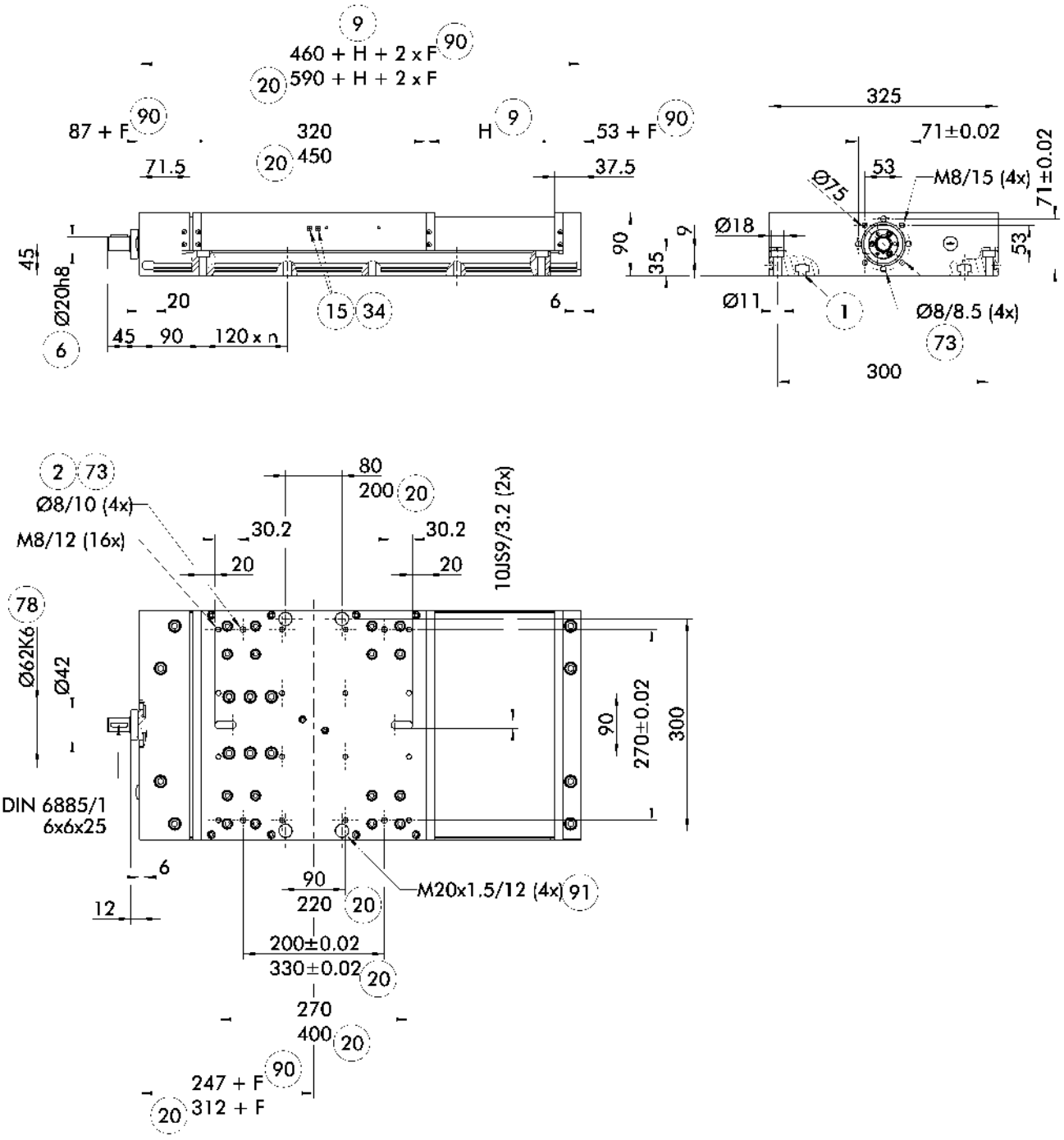


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		A 30-B-325
Max. stroke	[mm]	2540
Max. driving force	[N]	12000
Repeat accuracy	[mm]	±0.03
Max. total length	[mm]	3000
Max. speed	[m/s]	2
Max. acceleration	[m/s²]	20
Base weight per 0 mm of stroke	[kg]	37
Weight per 100 mm of stroke	[kg]	3.8
Slide weight	[kg]	13.4
Slide weight, long	[kg]	18.8
Drive concept		Spindle drive
Idle torque	[Nm]	1.6
Moment of inertia	[kgm²]	0.000645
Spindle diameter	[mm]	32
Spindle pitch	[mm]	5/10/20/40
Max. spindle speed	[1/min]	3000

Main view

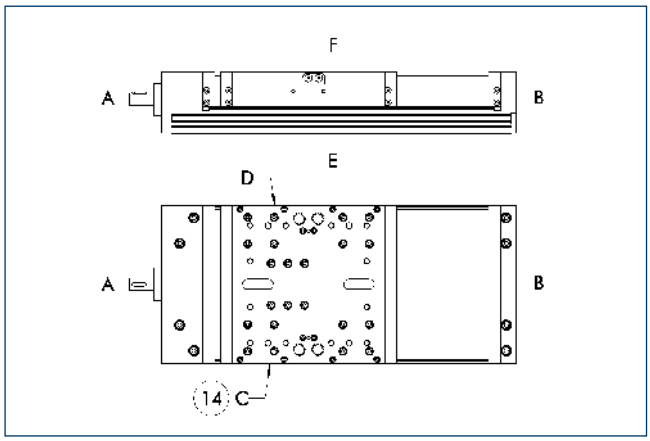


The drawing shows the unit in standard design, without considering any dimensions of the options described below.

ⓘ F_z = (effective stroke + 15)/33 [rounded off to the nearest whole number];
F = (F_z x 4.8) – 15 [rounded off to the nearest whole number]

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering
(90) Bellow block length
(91) Passage for internal mounting holes for short strokes

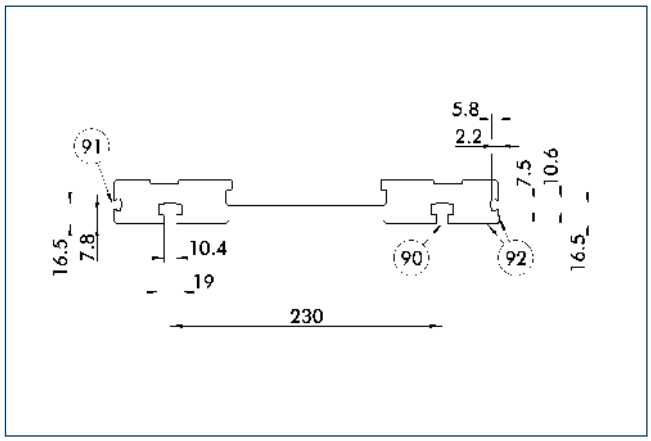
Side definition



14 Limit switch standard position

This drawing indicates the definition for the sides. This serves as the basis for all attachments.

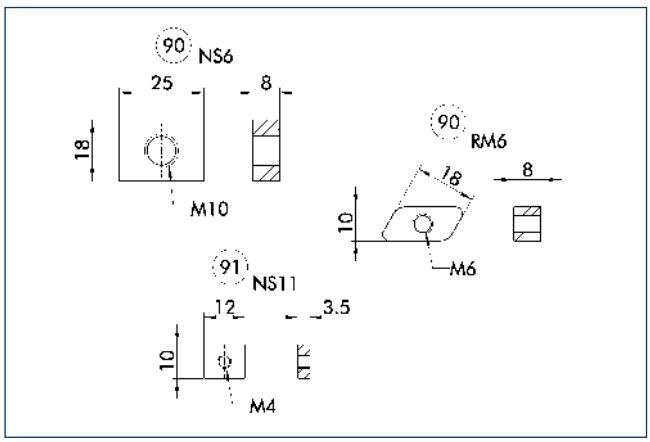
Mounting



90 T-nut at the bottom side
91 Lateral T-nut
92 Stop edge for alignment of axis

The profile can be secured using T-nuts.

Fastening elements

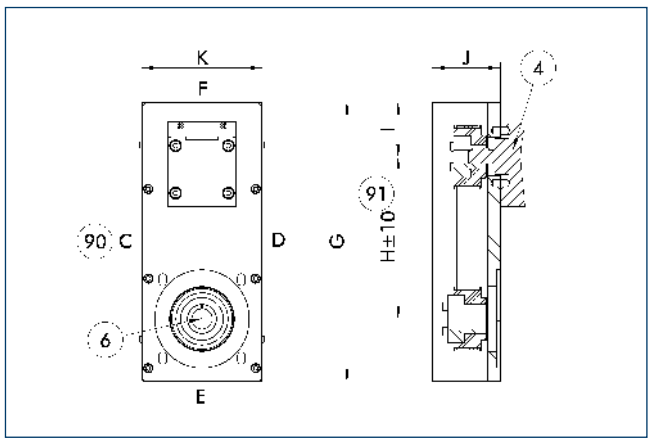


90 T-nut at the bottom side
91 Lateral T-nut

The unit can be fixed in place using T-nuts. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
T-Nuts		
NS 11-M4	0331429	
NS 6-M10	0331409	
RM6-M6	0331427	

Angle belt drive



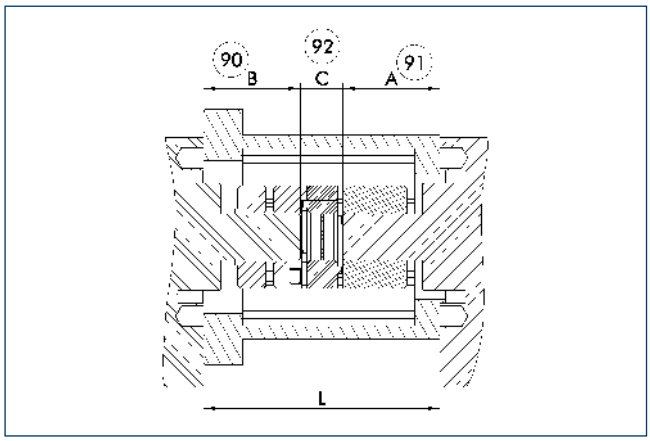
4 Linear unit
6 Drive connection
90 Attachment direction of angle belt drive
91 Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
A 30-B-325	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

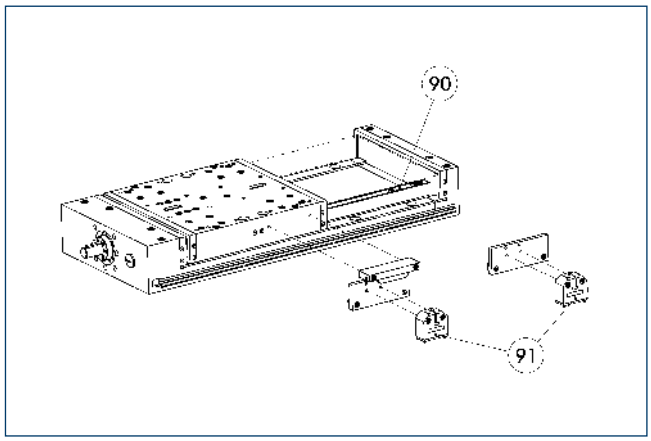
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of the linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

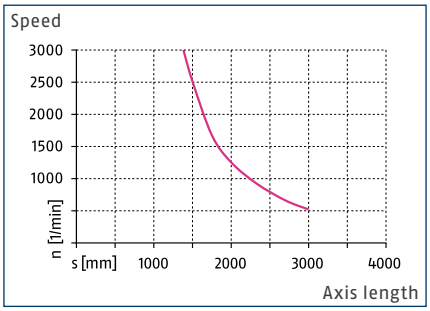
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Alpha 35

Electric Components | Linear Table

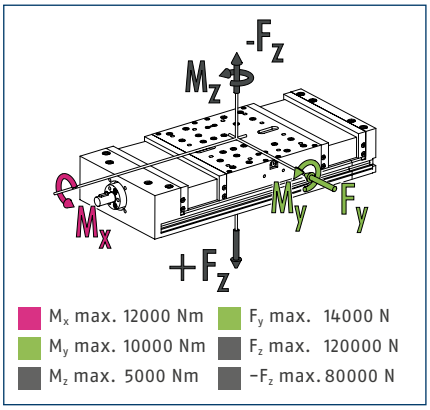


Max. spindle speed



ⓘ The diagram shows the maximum spindle speed depending on the overall length of the unit.

Forces and moments

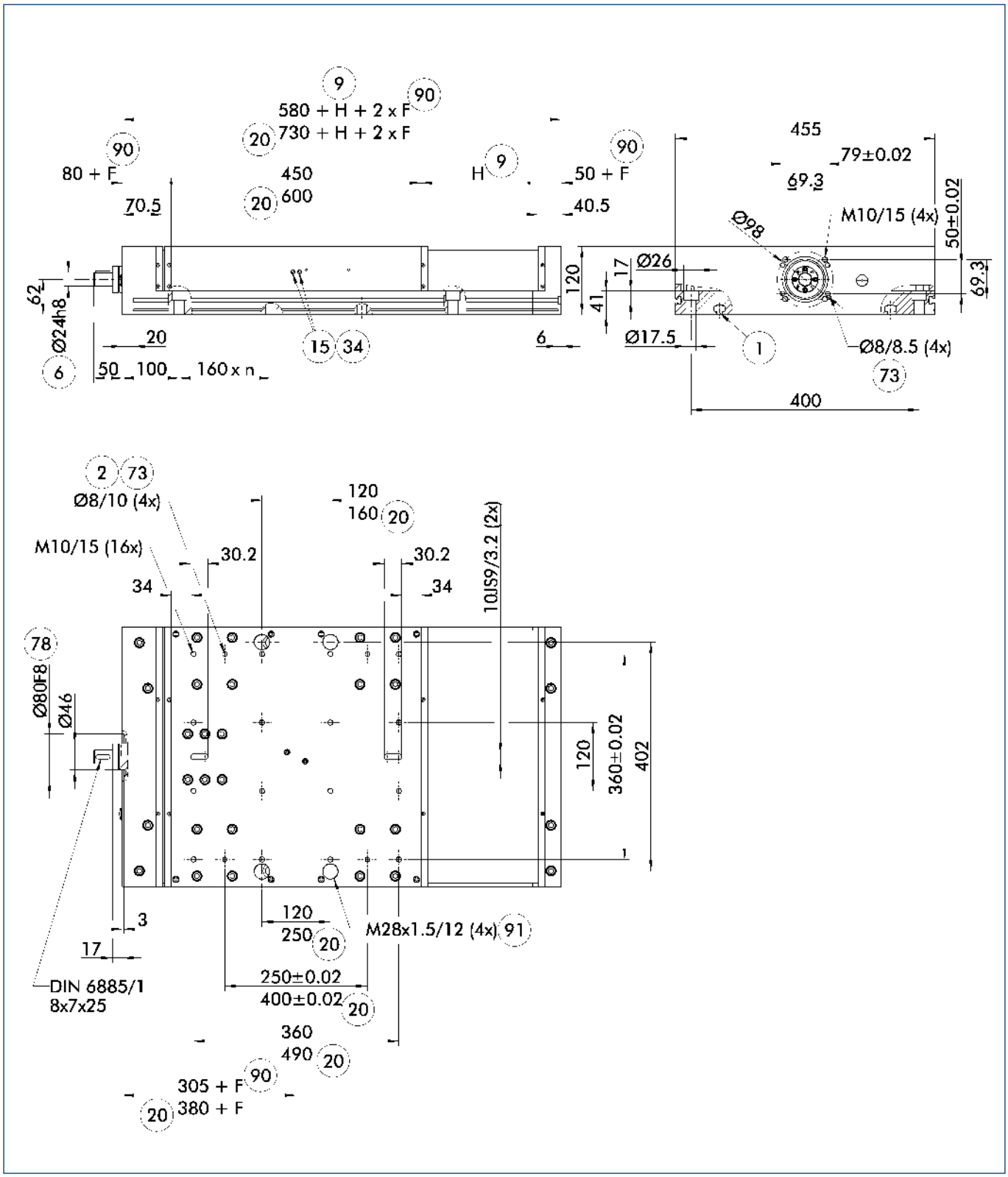


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		A 35-B-445
Max. stroke	[mm]	2420
Max. driving force	[N]	18000
Repeat accuracy	[mm]	±0.03
Max. total length	[mm]	3000
Max. speed	[m/s]	2
Max. acceleration	[m/s²]	20
Base weight per 0 mm of stroke	[kg]	65.2
Weight per 100 mm of stroke	[kg]	5.2
Slide weight	[kg]	26.2
Slide weight, long	[kg]	33.8
Drive concept		Spindle drive
Idle torque	[Nm]	2.5
Moment of inertia	[kgm²]	0.00165
Spindle diameter	[mm]	40
Spindle pitch	[mm]	5/10/20/40
Max. spindle speed	[1/min]	3000

Main view

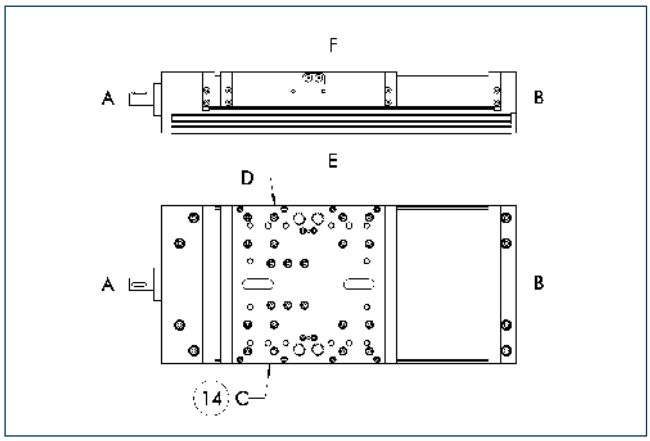


The drawing shows the unit in standard design, without considering any dimensions of the options described below.

ⓘ F_z = (effective stroke + 15)/47 [rounded off to the nearest whole number];
F = (F_z x 5.5) – 15 [rounded off to the nearest whole number]

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering
(90) Bellow block length
(91) Passage for internal mounting holes for short strokes

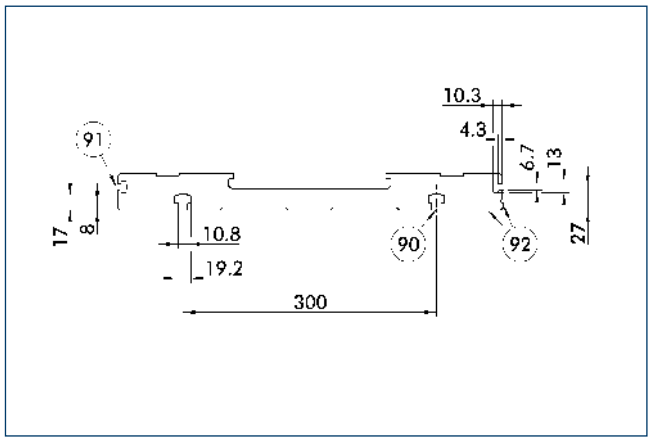
Side definition



14 Limit switch standard position

This drawing indicates the definition for the sides. This serves as the basis for all attachments.

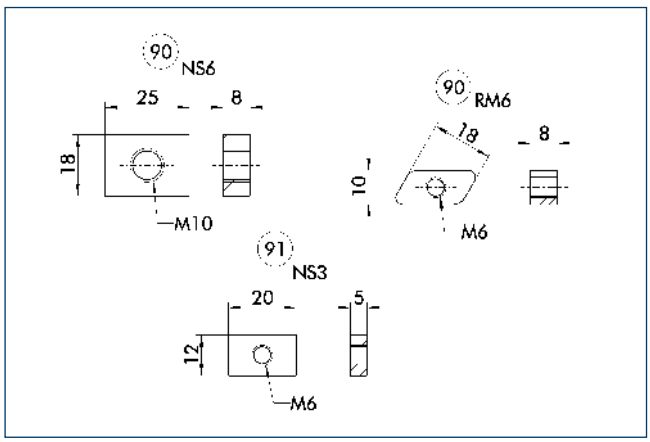
Mounting



90 T-nut at the bottom side
91 Lateral T-nut
92 Stop edge for alignment of axis

The profile can be secured using T-nuts.

Fastening elements

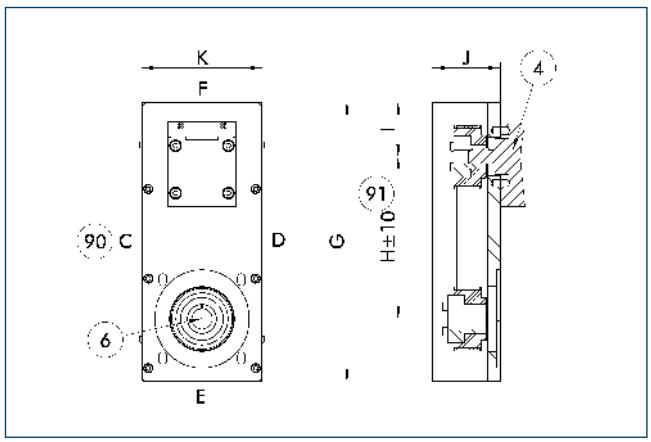


90 T-nut at the bottom side
91 Lateral T-nut

The unit can be fixed in place using T-nuts. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
T-Nuts		
NS 3-M6	0331406	
NS 6-M10	0331409	
RM6-M6	0331427	

Angle belt drive



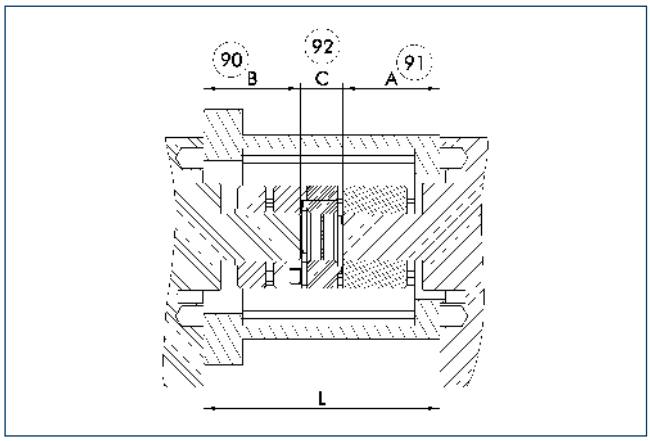
4 Linear unit
6 Drive connection
90 Attachment direction of angle belt drive
91 Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
A 35-B-445	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

Motor bell schematic diagram



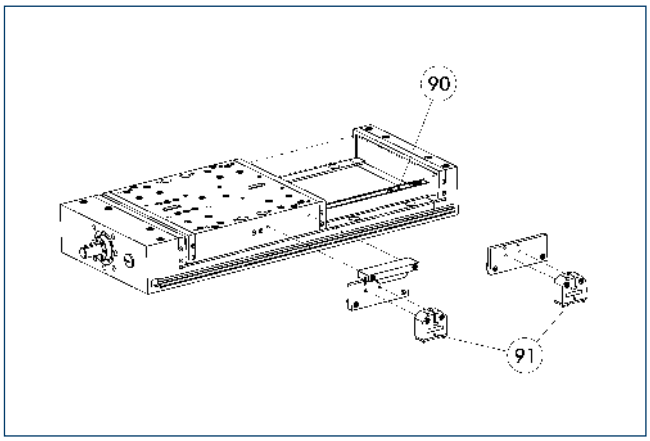
(90) Length of the drive shaft of the motor/gear

(91) Length of linear unit's drive journal

(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(90) Inductive limit and reference switches

(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Flexible. Modular. Compact.

Beta Universal Linear Module

Universal linear module with optional toothed belt or spindle drive and various guiding options.

Field of Application

Universal linear module with optional toothed belt drive for high acceleration and speed or spindle drive for precise positioning given high drive forces.



Advantages – Your benefits

Adaptable drive motor for versatile approach and easy integration into existing control concepts

Optional belt or spindle driven for the optimum drive for your application

Various guiding options for optimum adaption to your application

Compact dimensions for less interfering contours

Integrated cover tape for versatility and a long tool life

Fixing via T-nuts or slot nut possible for flexibility in the integration

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 11	850 .. 7720 mm	500 .. 18000 N	±0.03 .. 0.08 mm	0.25 .. 8 m/s

Functional Description

The slide is driven by a toothed belt or a ball screw spindle and precisely guided by a (double) profiled rail guide or roller guide. The cover band runs through the slide and covers the drive and guidance. The servomotor is usually connected to the profile via the drive shaft.



① **Aluminum profile**
Self-supporting and robust

② **Profiled rail guide**
for maximum positioning accuracy and moment loads

③ **Cover strip made of plastic**
along the whole guidance length against coarse dirt

④ **Toothed belt**
Transforms the rotational movement into a linear movement

⑤ **Ball screw spindle**
Transforms the rotational movement into a linear movement

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

Toothed belt axis with right-angle-mounted motor



This illustration shows how to mount a motor at a right-angle on a toothed belt axis using a engine cone, a coupling and a transmission.

1. Toothed belt drive
2. Motor Bell
3. Coupling
4. Gear
5. Servomotor

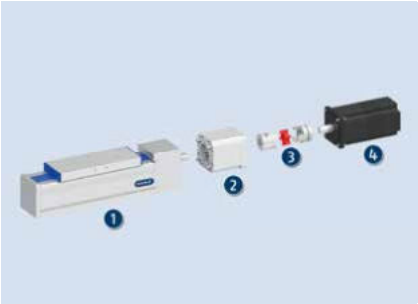
Synchronized toothed belt axes with connection shafts



A second toothed belt axis can be driven using a connection shaft.

1. Toothed belt drive
2. Connection shaft
3. Motor Bell
4. Coupling
5. Gear
6. Servomotor

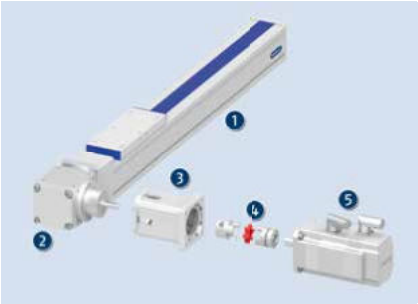
Spindle axis with axially mounted motor



This illustration shows how to mount a motor axially to a spindle axis using an engine cone and a coupling.

1. Spindle axis
2. Motor Bell
3. Coupling
4. Servomotor

Spindle axis with right angular mounted motor



The motor can also be mounted at a right angle on a spindle axis using a bevel gear.

1. Spindle axis
2. Bevel gear
3. motor bell
4. Coupling
5. Servomotor

Spindle axis with parallel-mounted motor



In order to save space, the motor can be mounted parallel to the spindle axis using an angle belt drive.

1. Spindle axis
2. Angle belt drive
3. Servomotor

General Notes on the Series

Operating principle: Choice of toothed belt or ball screw spindle drive

Guidance: Profiled rail guide or roller guide

Drive: servomotors of different providers can be trouble-free adapted

Profile: Extruded aluminum profile with plastic cover strip

Slide: Aluminum slide with a brush seal

Scope of delivery: Assembly and operating manual with declaration of incorporation

Warranty: 24 months

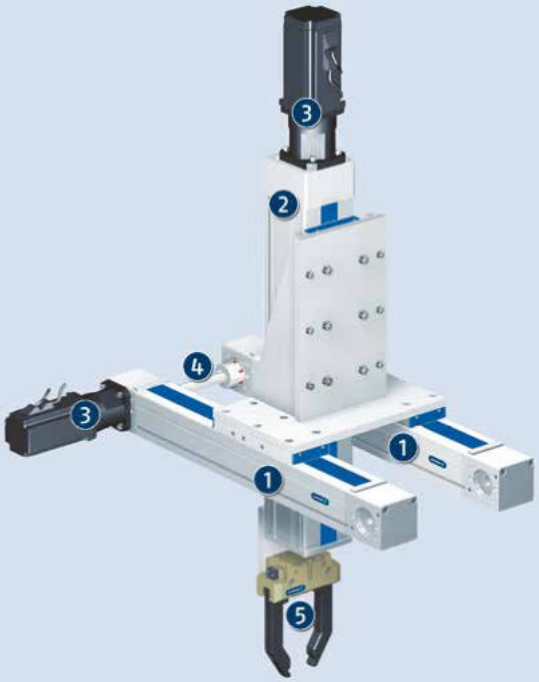
Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Stroke reserve: is the additional stroke beyond the effective stroke to stop the linear unit in time before it passes the limit switches.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Acceleration and speed: The values specified are the maximum values of the units without loading. The actual accelerations and speeds for your application must be designed separately and can deviate from the maximum values.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Loading gantry for automatic tool loading.

1. Beta Universal Linear Module with toothed belt drive
2. Beta Universal Linear Module with spindle drive
3. Servomotor
4. Connection Shaft with claw coupling for synchronization
5. PGN-plus 2-Finger Parallel Gripper

SCHUNK offers more ...

The following components make the product Beta even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.




T-nut


Mounting Strip


Motor Bell


Angle Belt Drive


Drive Controller


Cable Set


MSK Drives


Bevel Gear


ERM Electrical Rotary Module


SRU-plus Universal Swivel Unit


EGA Electric Long-stroke Gripper


PGN-plus Universal Gripper

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Spindle supports: Spindle supports allow higher moving speeds for longer stroke lengths
Driven slide: In this version, the servomotor is fastened to the slide and the profile is vertically moved.
Flexible in motor and controller selection: The electrical control is carried out via an adaptable servo drive using common standard controller like Bosch® or SIEMENS®
Easy integration: The easy integration into the control system is ensured by the possibility of attaching a common servomotor.
Complete solutions: On request, SCHUNK can supply complete drive solutions including motor, gears, controller, and cables.

How to Order – Toothed Belt Drive

B – 80-C – ZRS – 32AT5-E – 220 – 1000 – 1420 – AK – AZ1 – 1

Product series B = Beta

Size (version)

Drive

Z = Toothed belt drive
A = Driven slide

Guidance system

R = Roller guide
S = Rail guide

Design version

S = Standard

Drive version

Toothed belt width and tooth pitch

Stroke per rotation

Traverse path

Overall length

Cover

AK= Cover strip

Accessories

BL = Mounting strip
EMS / EMB = Mechanical limit switch (S = Siemens®, B = Balluff) attached
E02 / E010 = Inductive limit switch, opener with 2 m / 10 m cable attached
ES2 / ES10 = Inductive limit switch, closer with 2 m / 10 m cable attached
NS = T-nut
RM = T-nut
AZ = Drive shaft

Special design

0 = Standard
1 = Special (specification in plain text)

Additional accessories (separate item)

MGK = Motor bell and coupling (from dimension sheet)
URT = Angle belt drive (from dimension sheet)

How to Order – Ball Screw Spindle Drive

B – 80 – SRS – M – 2020 – 1000 – 1430 – 2SA – 2ES2 – 0

Product series B = Beta

Size (version)

Drive

S = Spindle

Guidance system

R = Roller guide
S = Rail guide

Design version

S = Standard

Drive type

M = Single nut (ball screw)
MM = Double nut (ball screw)

Drive version

Diameter and pitch (ball screw)

Traverse path

Overall length

Spindle supports (SA)

(Number)

Accessories

BL = Mounting strip
EMS / EMB = Mechanical limit switch (S = Siemens®, B = Balluff) attached
E02 / E010 = Inductive limit switch, opener with 2 m / 10 m cable attached
ES2 / ES10 = Inductive limit switch, closer with 2 m / 10 m cable attached
NS = T-nut
RM = T-nut

Special design

0 = Standard
1 = Special (specification in plain text)

Additional accessories (separate item)

MGK = Motor bell and coupling (from dimension sheet)
URT = Angle belt drive (from dimension sheet)
KRG = Directly attached bevel gears

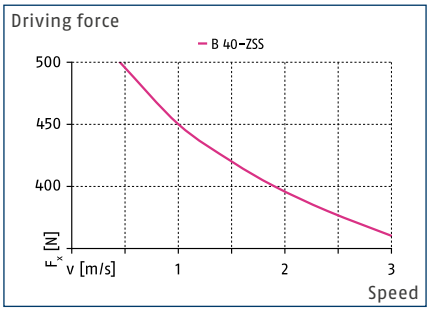
Cover tape is standard for ball screw spindle drive.

Beta 40

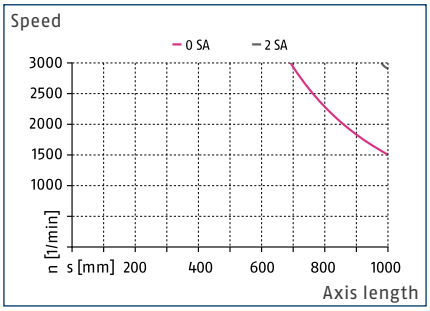
Electric Components | Universal Linear Module



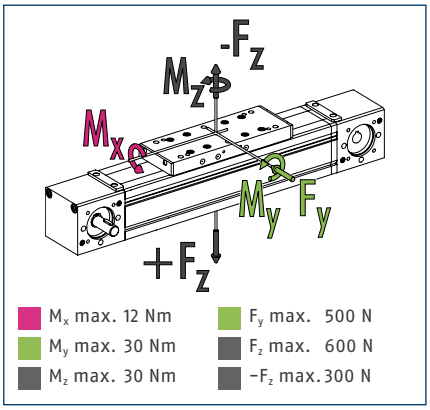
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

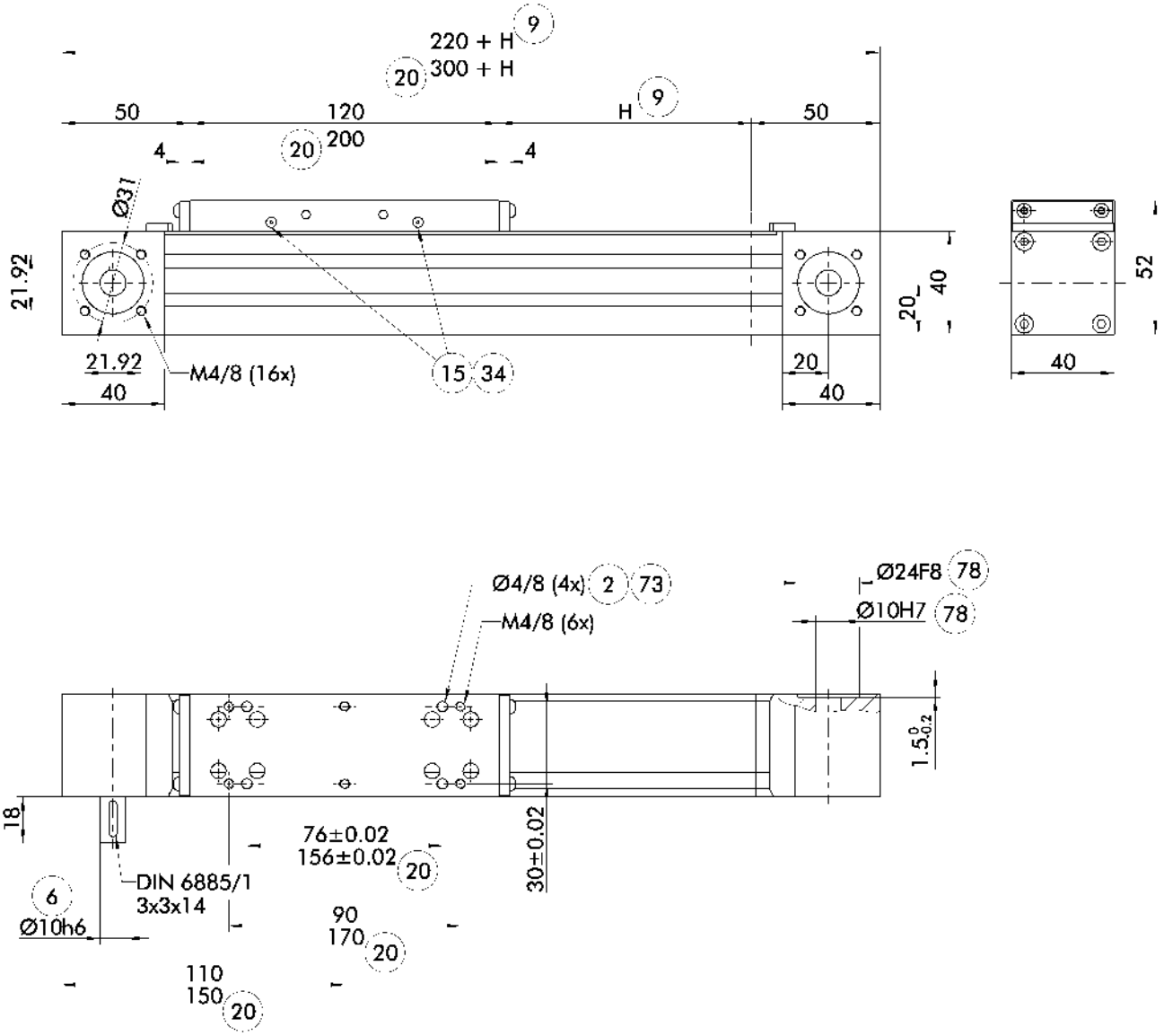
Technical data

Description		B 40-ZSS	B 40-SSS
Max. stroke	[mm]	850	890
Max. driving force	[N]	500	1000
Repeat accuracy	[mm]	±0.08	±0.03
Max. total length	[mm]	2070	2040
Max. speed	[m/s]	3	0.5
Max. acceleration	[m/s²]	30	20
Base weight per 0 mm of stroke	[kg]	1.7	1.7
Weight per 100 mm of stroke	[kg]	0.3	0.4
Slide weight	[kg]	0.3	0.4
Slide weight, long	[kg]	0.5	0.65
Drive concept		Belt drive	Spindle drive
Idle torque	[Nm]	0.3	0.4
Moment of inertia	[kgm²]	0.0002	0.000012
Toothed belt type		16 AT 5-E	
Traverse path per revolution	[mm]	100	
Spindle diameter	[mm]		12
Spindle pitch	[mm]		5/10
Max. spindle speed	[1/min]		3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

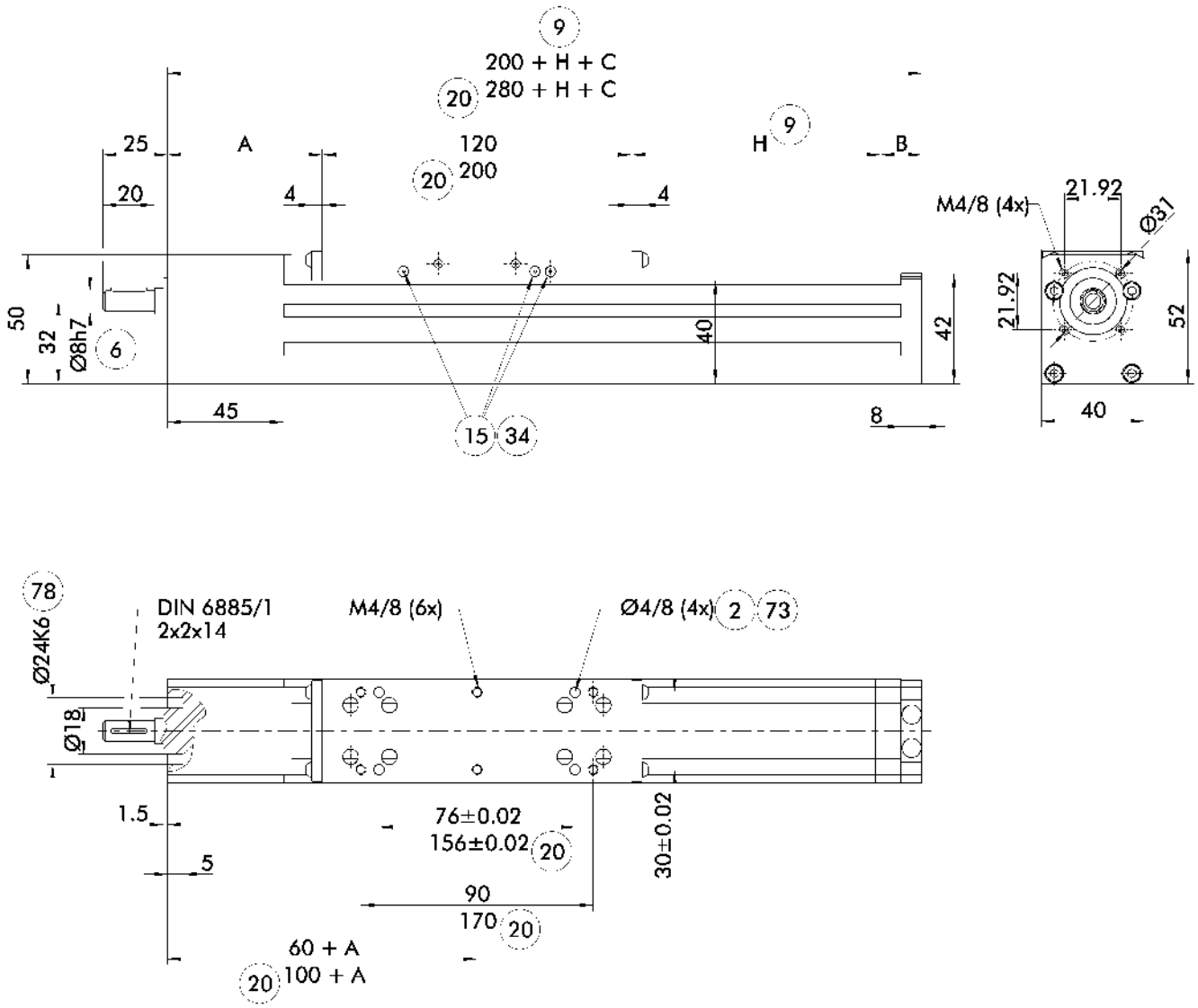
Main view ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

Main view SSS



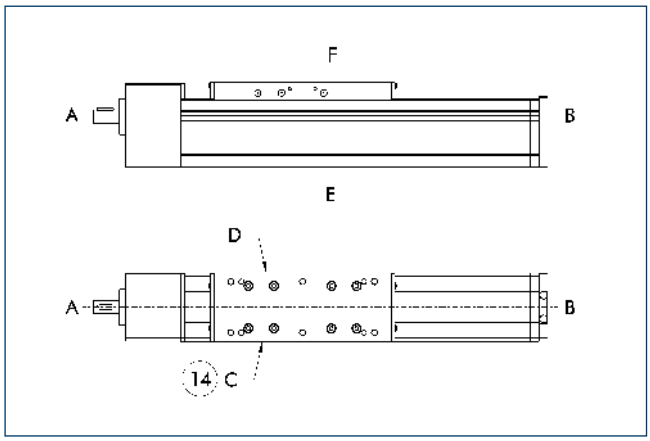
7

SA	A	B	C
0x	60	20	0
2x	80	40	40

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

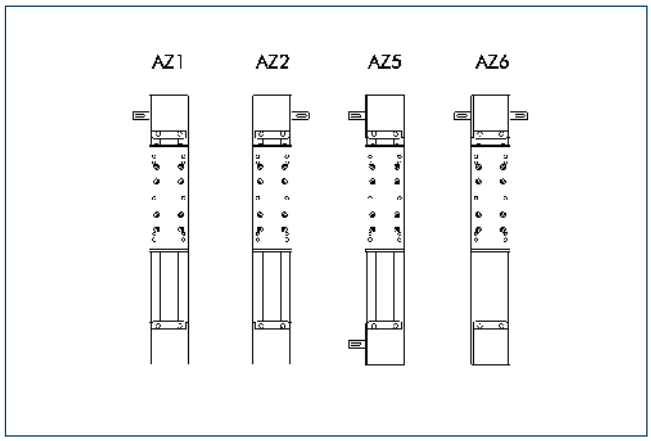
Side definition



(14) Limit switch standard position

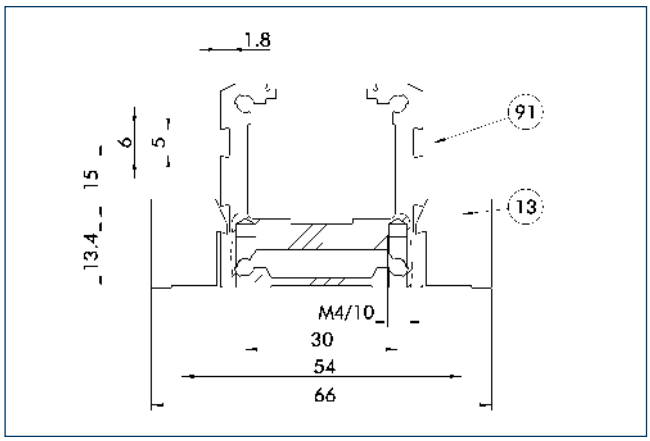
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

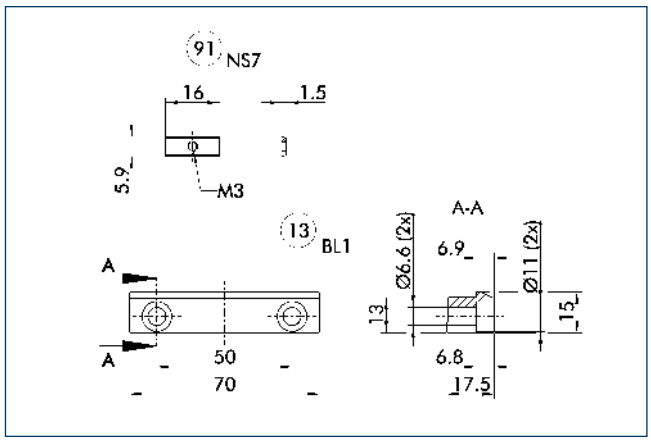
Mounting



(13) Mounting strip (91) Lateral T-nut

The drawing shows the position of the mounting options.

Fastening elements

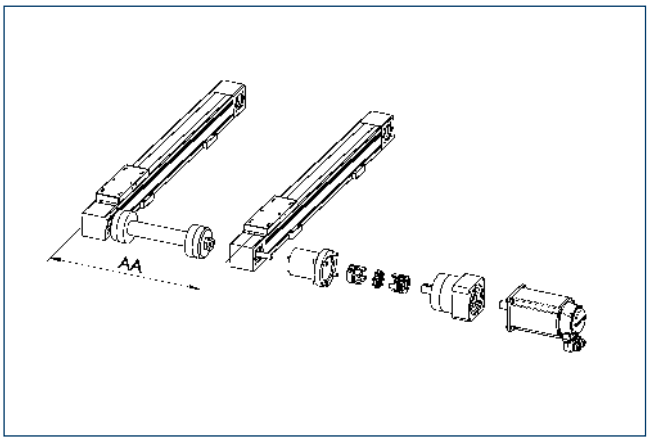


(13) Mounting strip (91) Lateral T-nut

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

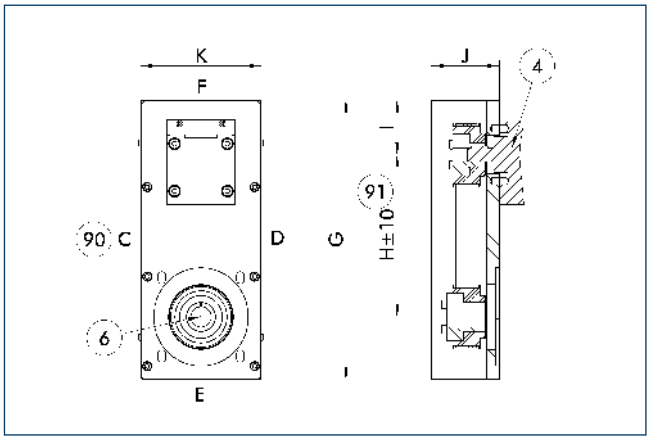
Description	ID	
Mounting strip		
BL1-70x15x17.5-01	0331400	
T-Nuts		
NS 7-M3	0331423	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 40-ZSS	GX1	170

Angle belt drive



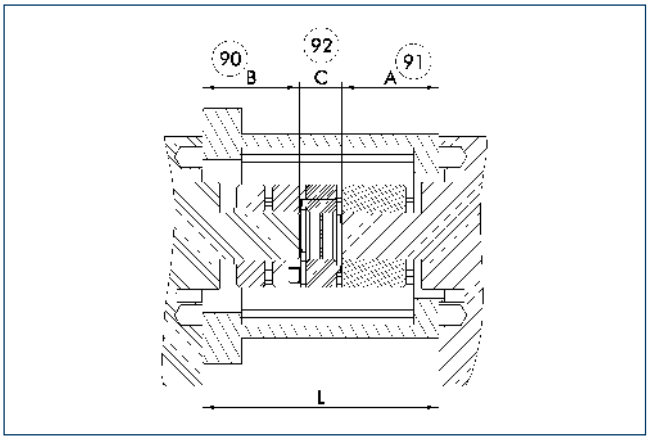
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 40-SSS	195	105	41	45	90

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

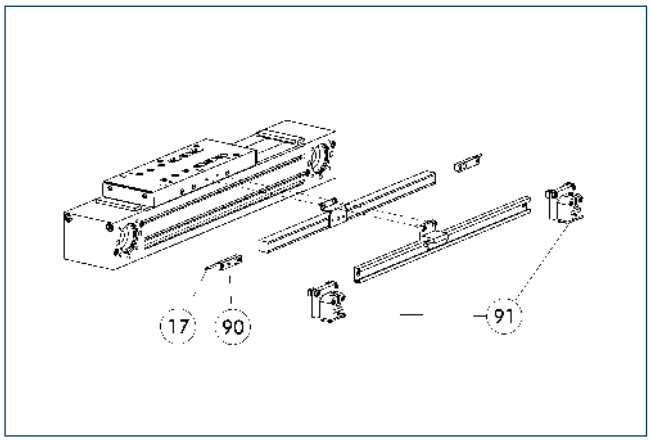
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet
(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

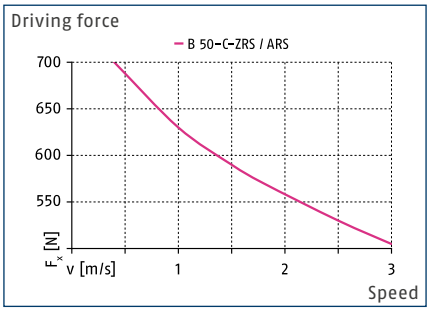
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Beta 50

Electric Components | Universal Linear Module

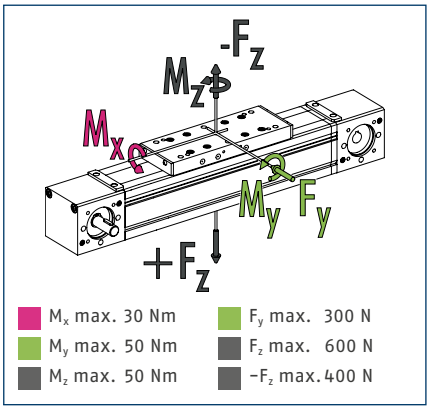


Max. driving force (toothed belt)*



*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

Forces and moments

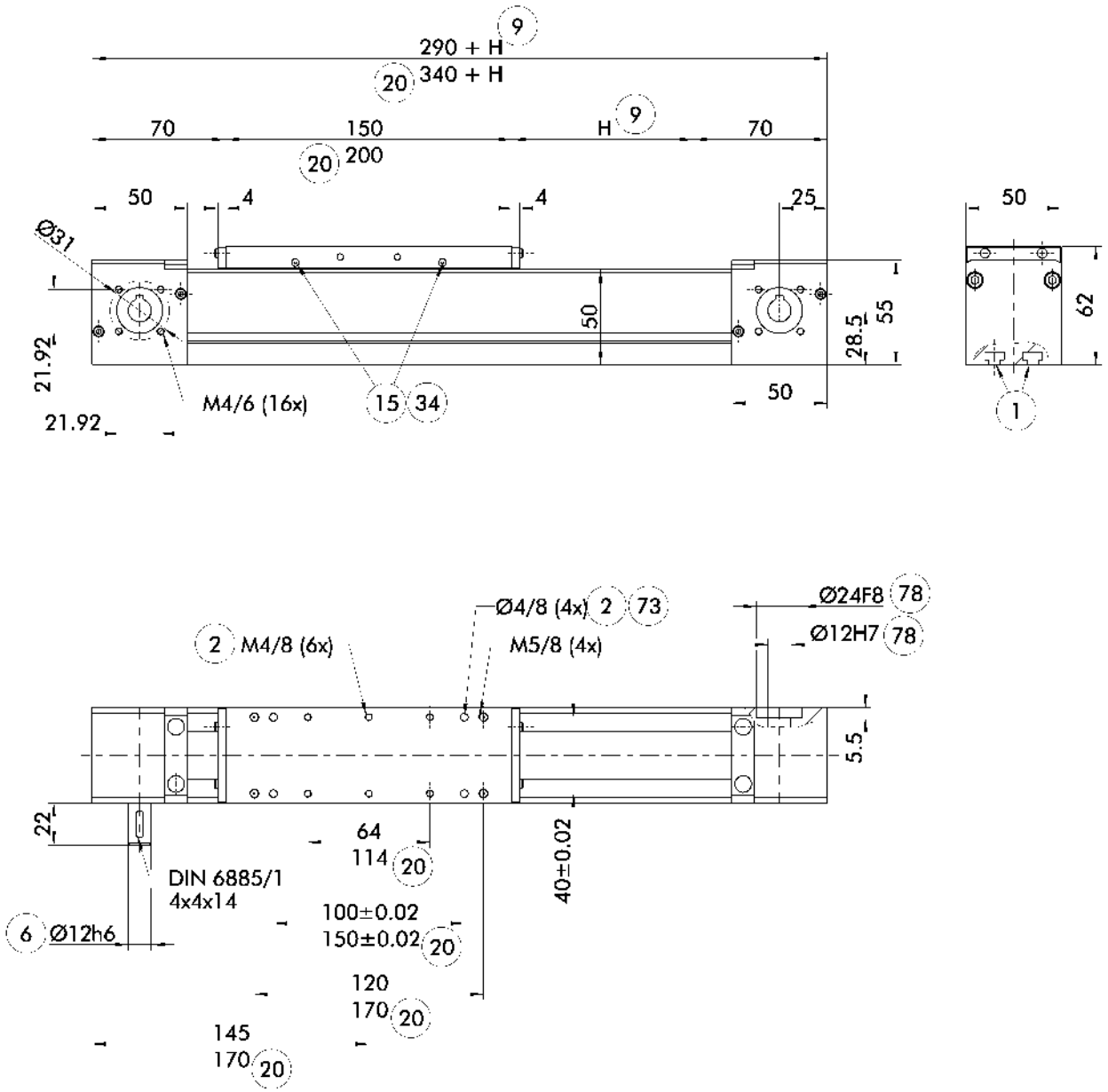


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		B 50-C-ZRS	B 50-C-ARS	B 50-C-SRS
Max. stroke	[mm]	7710	7710	860
Max. driving force	[N]	700	700	1000
Repeat accuracy	[mm]	±0.08	±0.08	±0.03
Max. total length	[mm]	8000	8000	1090
Max. speed	[m/s]	3	3	0.25
Max. acceleration	[m/s²]	30	30	20
Base weight per 0 mm of stroke	[kg]	1.45	3.1	1.5
Weight per 100 mm of stroke	[kg]	0.35	0.3	0.4
Slide weight	[kg]	0.45		0.45
Slide weight, long	[kg]	0.6		0.6
Drive concept		Belt drive	Belt drive	Spindle drive
Idle torque	[Nm]	0.4	1.5	0.3
Moment of inertia	[kgm²]	0.0003	0.0003	0.000012
Toothed belt type		20 AT 5-E	20 AT 5-E	
Traverse path per revolution	[mm]	110	110	
Spindle diameter	[mm]			12
Spindle pitch	[mm]			5/10
Max. spindle speed	[1/min]			3000

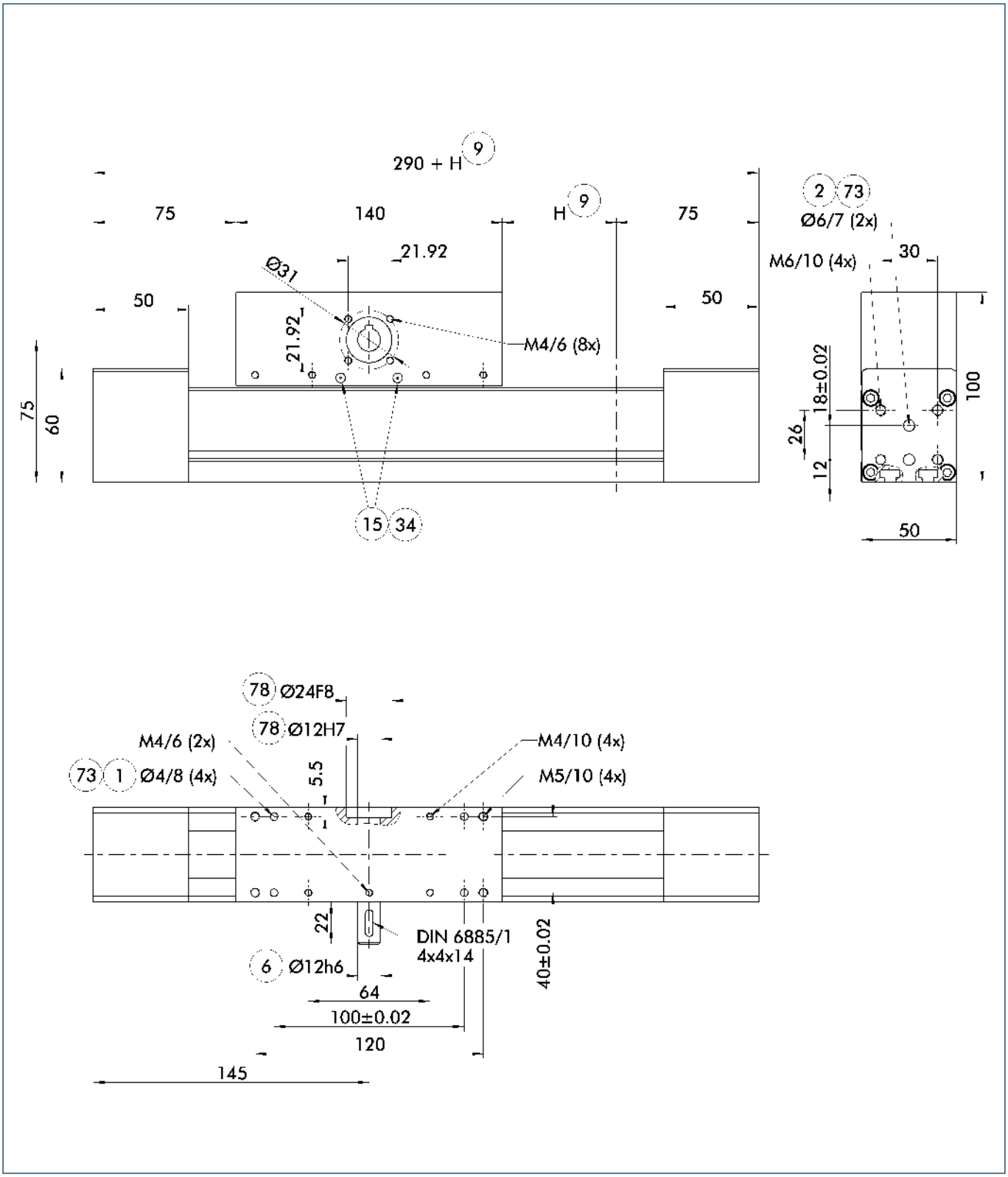
Main view C-ZRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

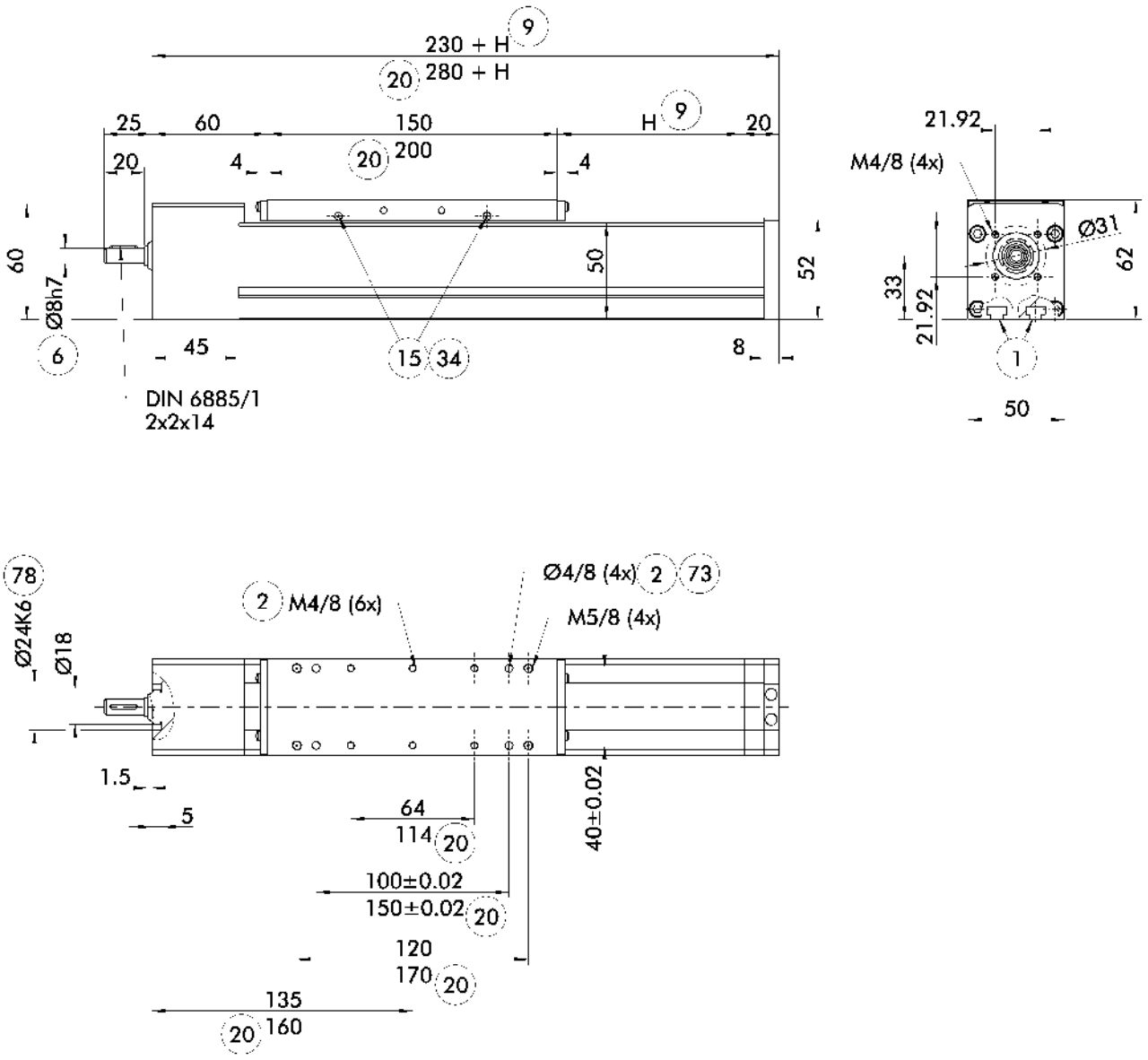
Main view C-ARS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
34. On both sides
73. Fit for centering pins
78. Fit for centering

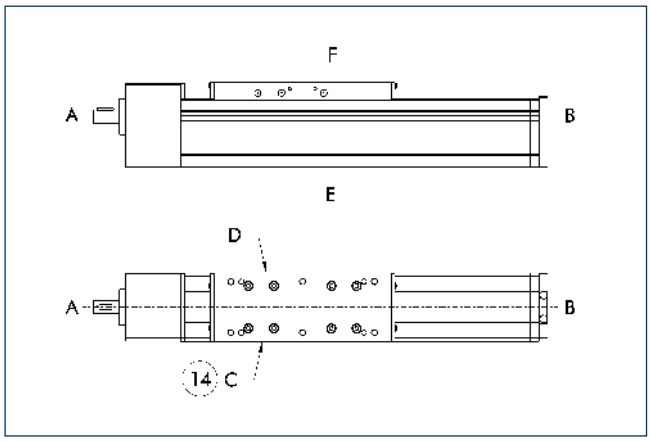
Main view C-SRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

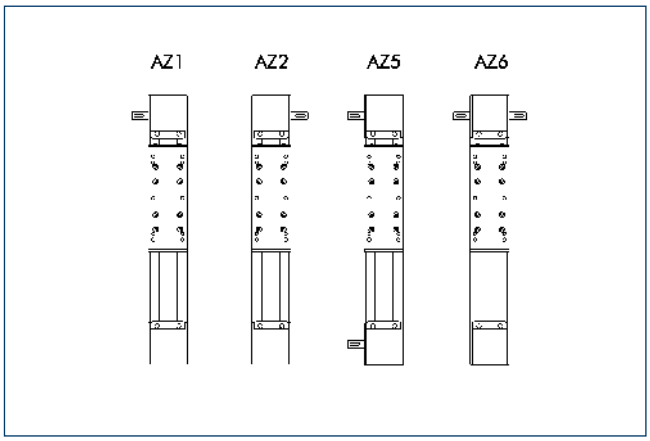
Side definition



(14) Limit switch standard position

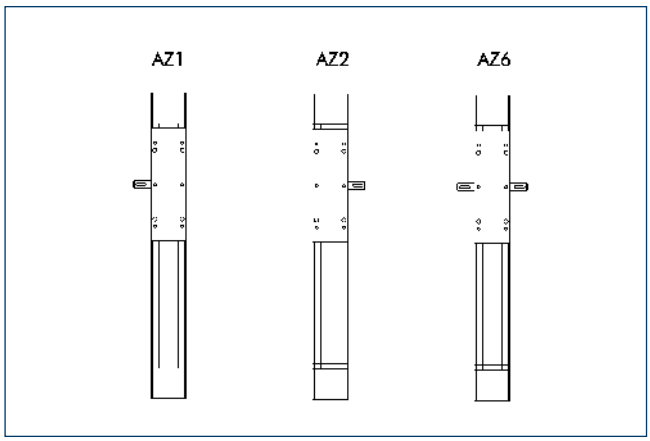
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



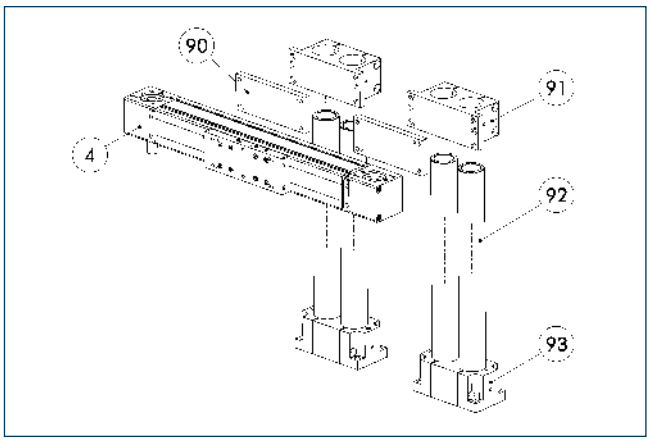
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Attachment to a pillar assembly system

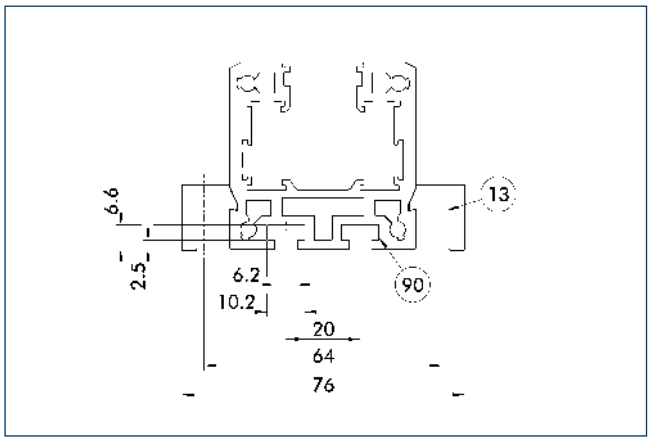


(4) Linear unit
(90) AGH adapter plate
(91) ADV mounting plate
(92) Pillars, hard-chromium plated, ground
(93) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
AEV 55	0313516	55	Aluminum
APDH 85	0313414	55	Aluminum
APEH 85	0313413	55	Aluminum

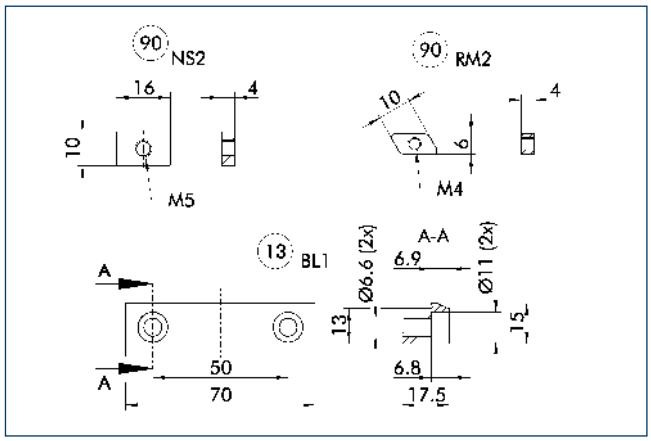
Mounting



(13) Mounting strip
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

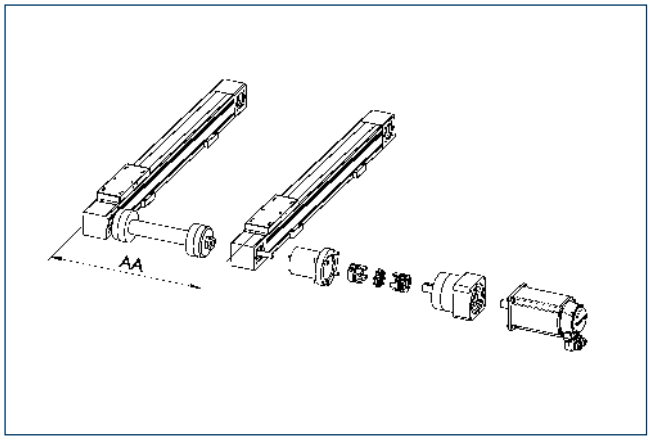


(13) Mounting strip
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

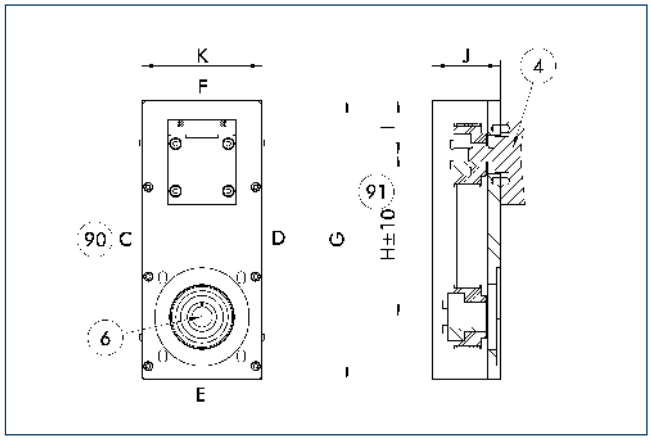
Description	ID	
Mounting strip		
BL1-70x15x17.5-01	0331400	
T-Nuts		
NS 2-M5	0331405	
RM2-M4	0331425	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 50-C-ZRS	GX1	190

Angle belt drive



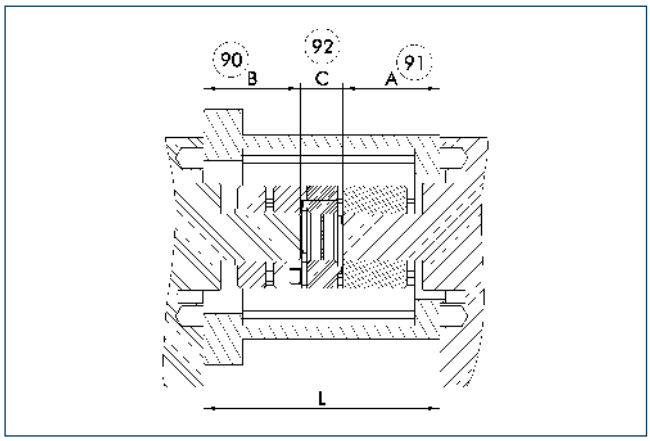
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 50-C-SRS	195	105	41	45	90

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

Motor bell schematic diagram



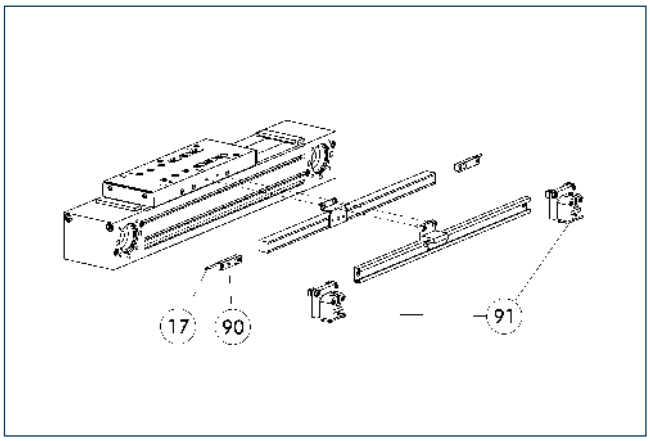
(90) Length of the drive shaft of the motor/gear

(91) Length of linear unit's drive journal

(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet

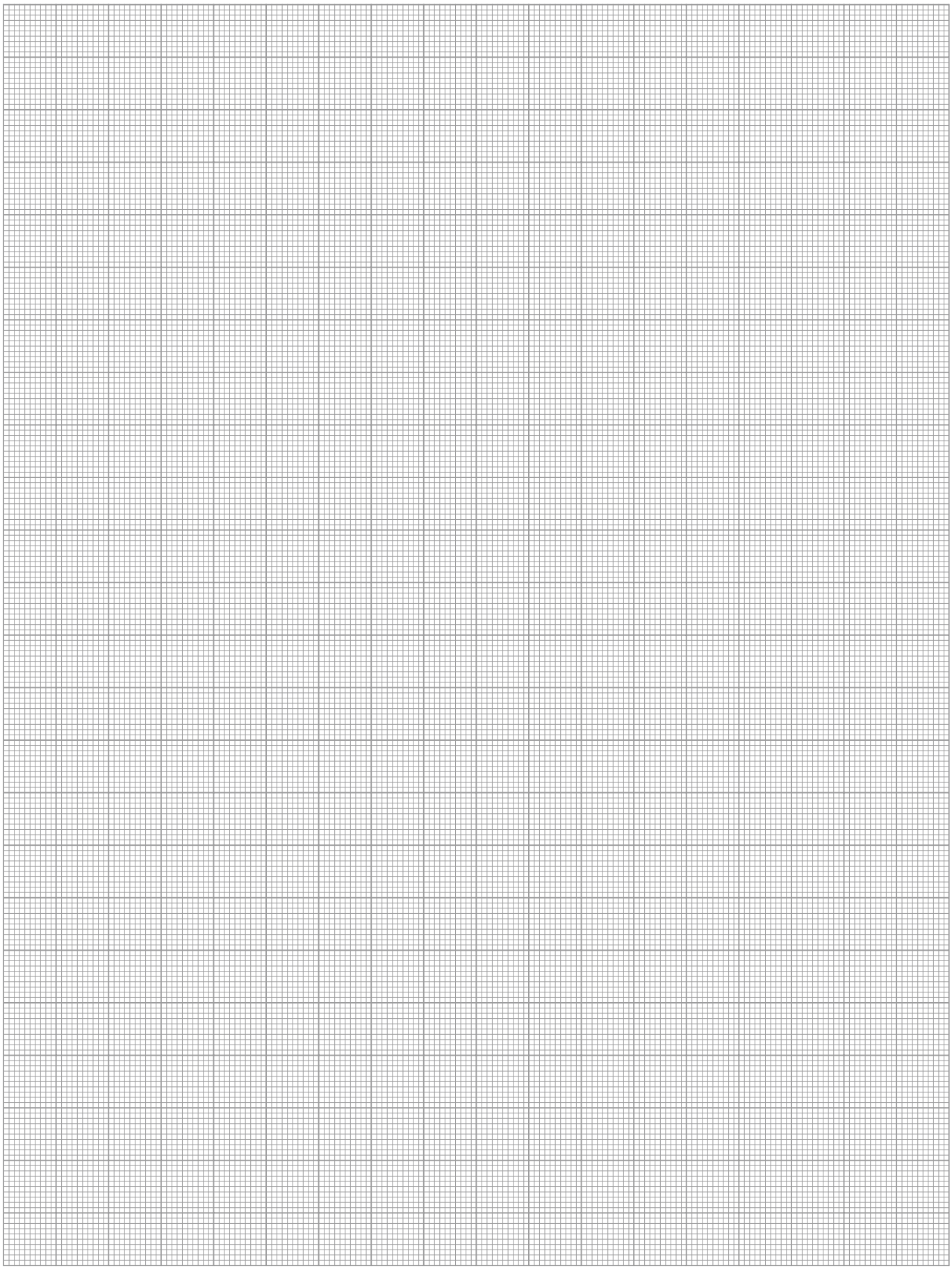
(90) Inductive limit and reference switches

(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

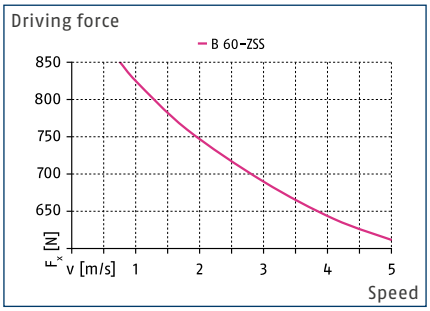


Beta 60

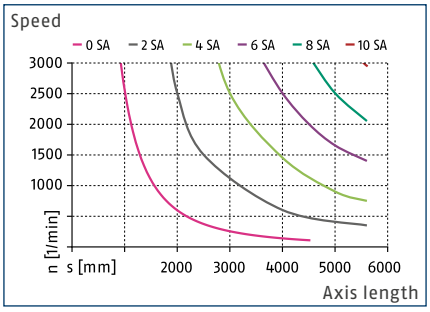
Electric Components | Universal Linear Module



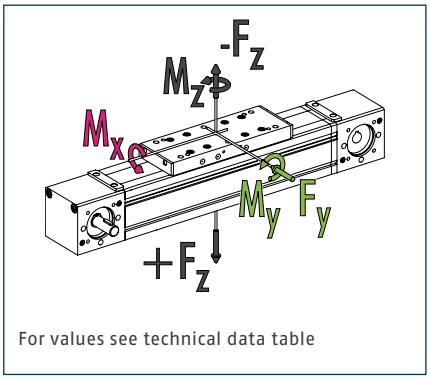
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

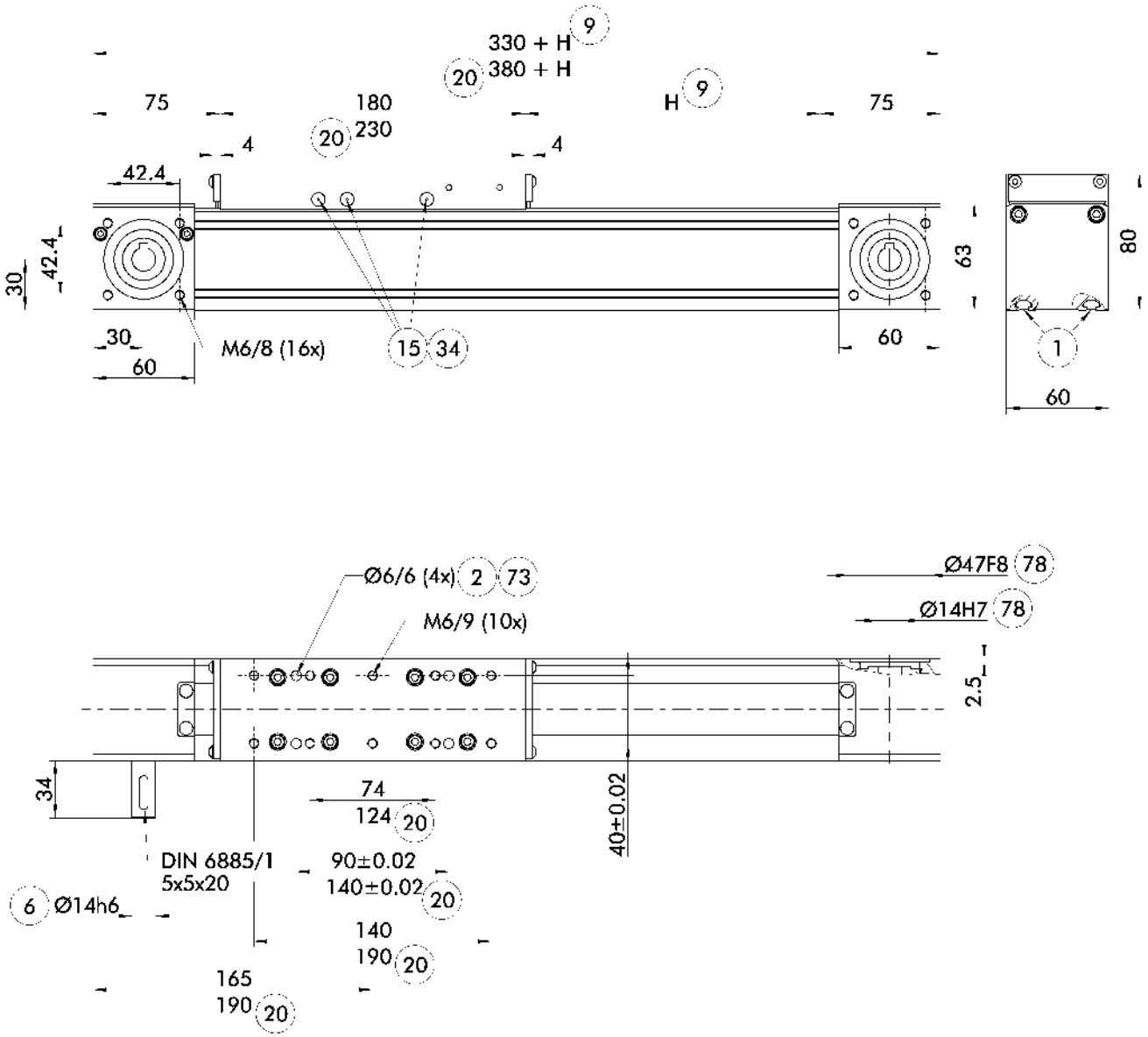
Technical data

Description		B 60-ZSS	B 60-SSS
Max. stroke	[mm]	7620	5220
Max. driving force	[N]	850	4000
Repeat accuracy	[mm]	±0.08	±0.03
Max. total length	[mm]	8000	5500
Max. speed	[m/s]	5	2.5
Max. acceleration	[m/s²]	30	20
Base weight per 0 mm of stroke	[kg]	4.55	4.3
Weight per 100 mm of stroke	[kg]	0.59	0.8
Slide weight	[kg]	1.22	1.5
Slide weight, long	[kg]	1.72	1.8
Drive concept		Belt drive	Spindle drive
Idle torque	[Nm]	1.1	0.7
Moment of inertia	[kgm²]	0.0002	0.000085
Toothed belt type		25 AT 5-E	
Traverse path per revolution	[mm]	160	
Spindle diameter	[mm]		20
Spindle pitch	[mm]		5/10/20/50
Max. spindle speed	[1/min]		3000
Moments M_x max./M_y max./M_z max.	[Nm]	50/160/100	60/180/120
Forces F_y max./F_z max./-F_z max.	[N]	500/1400/800	600/1800/1200

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

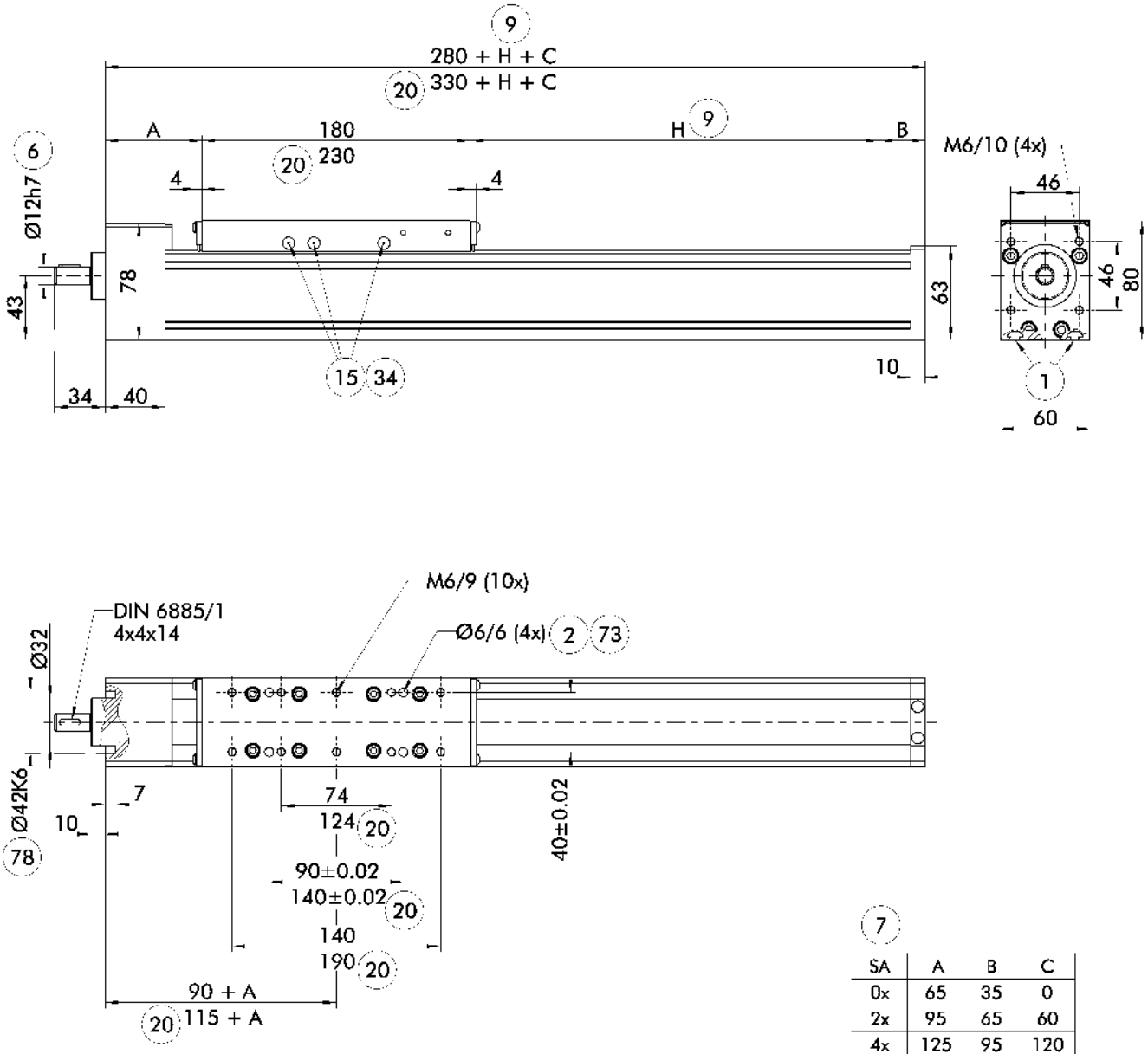
Main view ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

Main view SSS



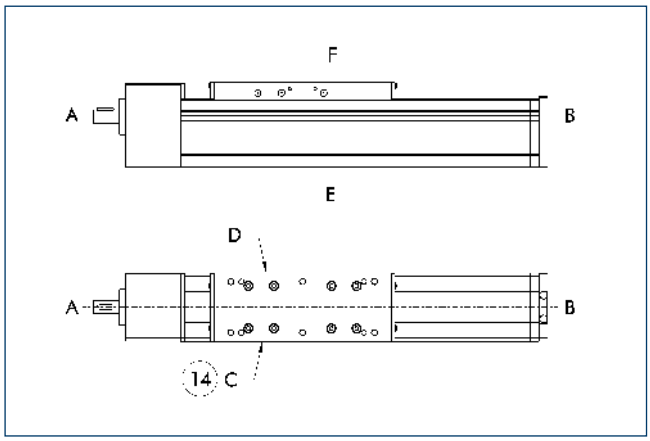
7

SA	A	B	C
0x	65	35	0
2x	95	65	60
4x	125	95	120
6x	155	125	180
8x	185	155	240

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

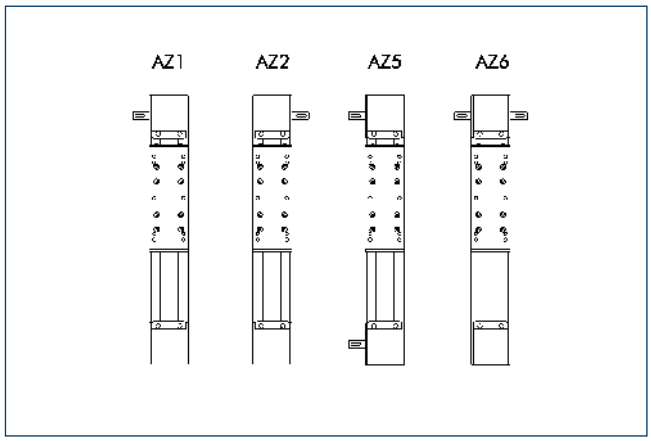
Side definition



(14) Limit switch standard position

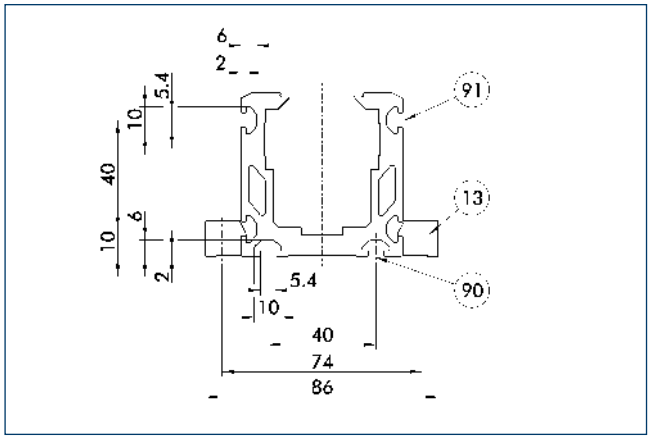
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

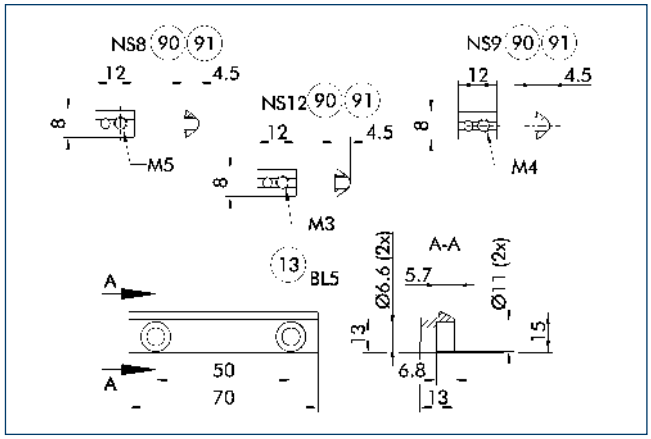
Mounting



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

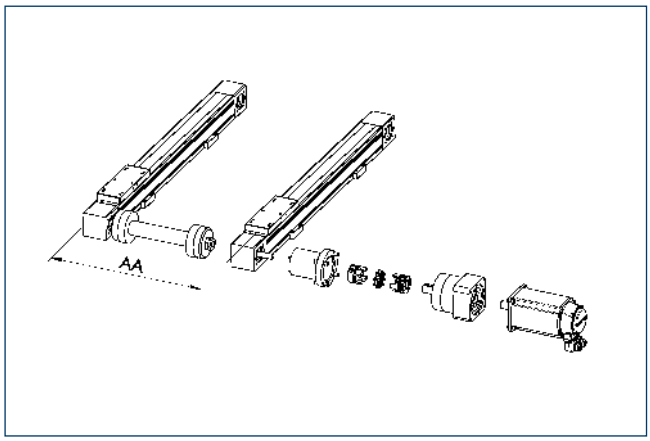


(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

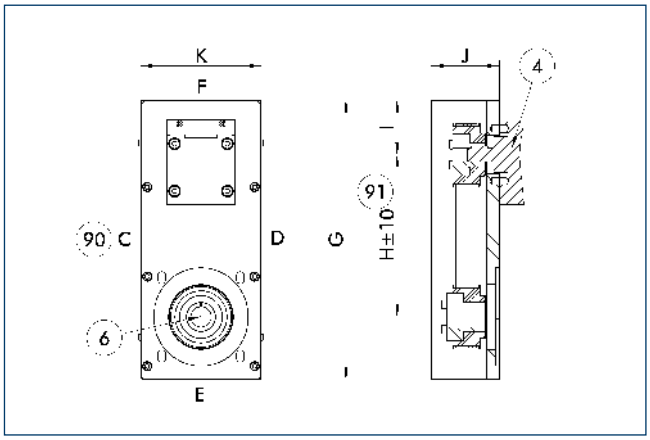
Description	ID	
Mounting strip		
BL5-70x15x13-01	0331419	
T-Nuts		
NS 12-M3	0331424	
NS 8-M5	0331420	
NS 9-M4	0331421	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 60-ZSS	GX2	205
B 60-SSS	GX2	320

Angle belt drive



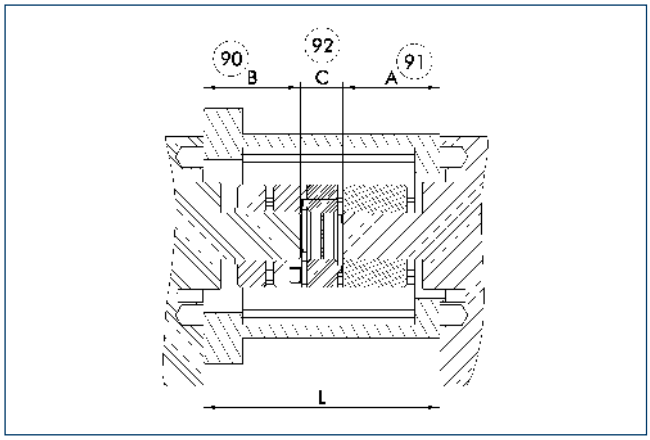
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 60-SSS	238	120	46	52	102

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

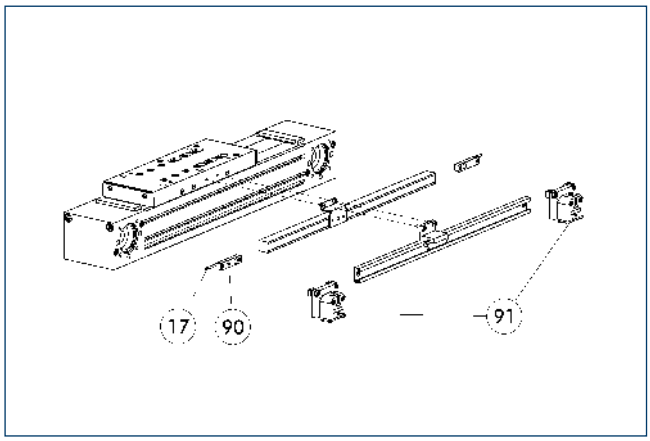
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet
(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

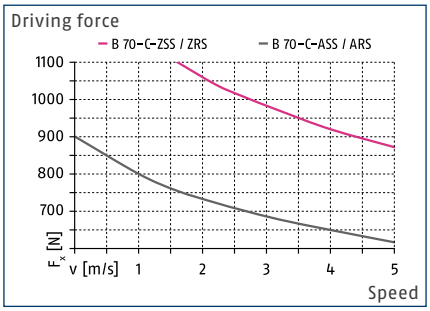
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Beta 70

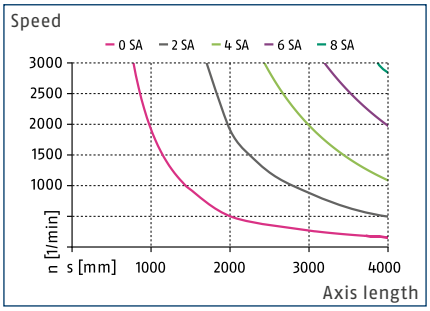
Electric Components | Universal Linear Module



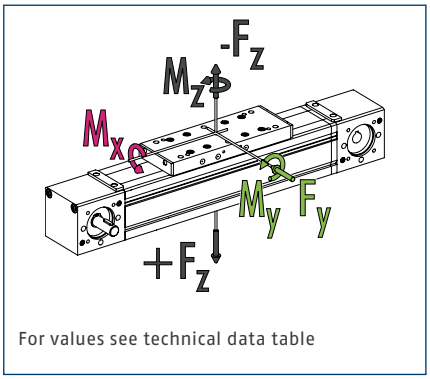
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

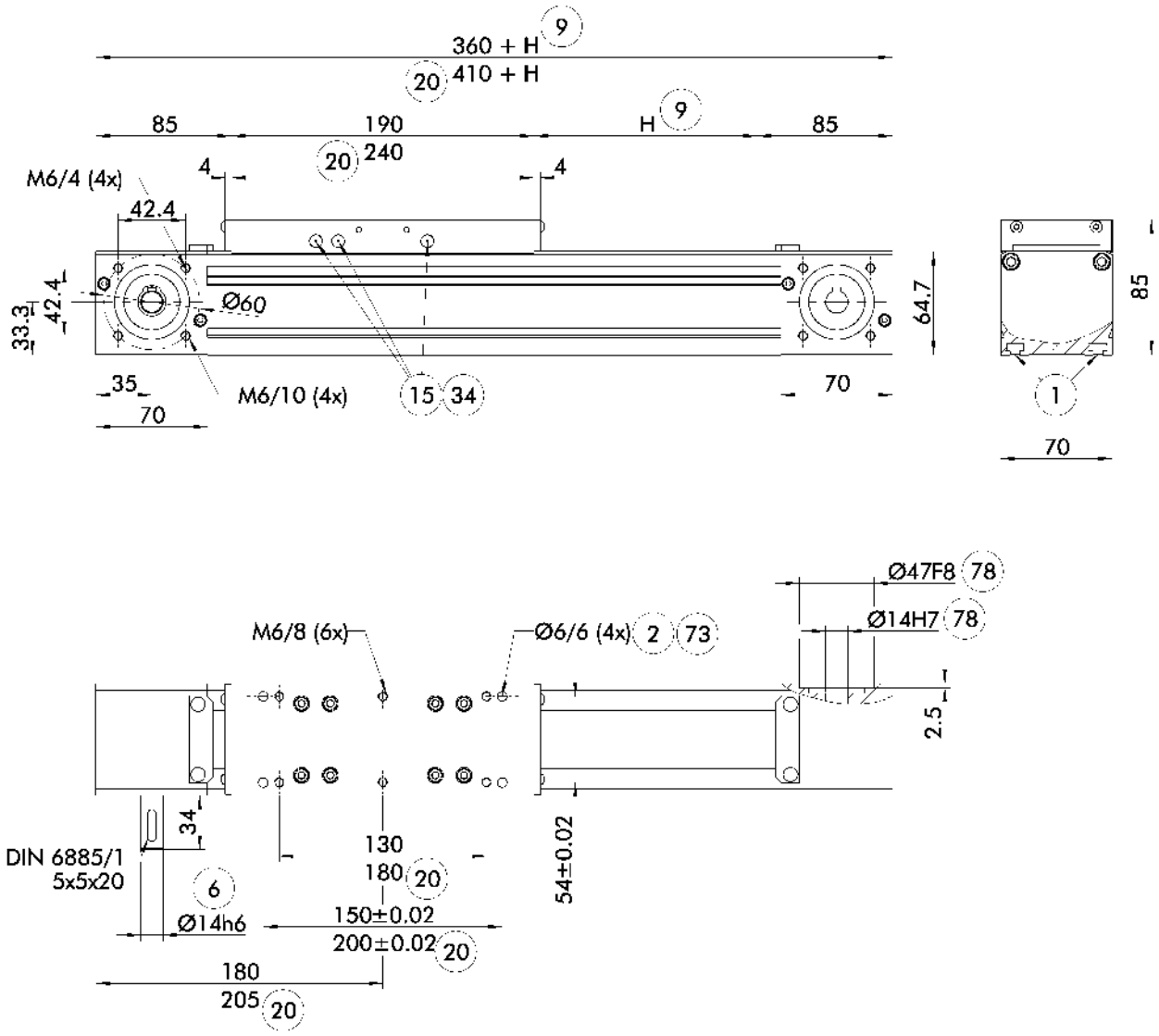
Technical data

Description		B 70-C-ZSS	B 70-C-ZRS	B 70-C-ASS	B 70-C-ARS	B 70-C-SSS	B 70-C-SRS
Max. stroke	[mm]	6840	7640	7640	7640	3725	3725
Max. driving force	[N]	1100	1100	900	900	2000	2000
Repeat accuracy	[mm]	±0.08	±0.08	±0.08	±0.08	±0.03	±0.03
Max. total length	[mm]	7200	8000	8000	8000	4000	4000
Max. speed	[m/s]	5	8	5	5	2	2
Max. acceleration	[m/s²]	30	30	30	30	20	20
Base weight per 0 mm of stroke	[kg]	3.4	3.1	7.9	7.5	3.5	3.65
Weight per 100 mm of stroke	[kg]	0.38	0.59	0.6	0.38	0.6	0.45
Slide weight	[kg]	1.65	1.3			1.25	1.6
Slide weight, long	[kg]	2.1	1.65			1.6	2.02
Drive concept		Belt drive	Belt drive	Belt drive	Belt drive	Spindle drive	Spindle drive
Idle torque	[Nm]	1.2	1.2	1	1	0.4	0.35
Moment of inertia	[kgm²]	0.0002	0.0004	0.0061	0.0061	0.0000325	0.0000325
Toothed belt type		32 AT 5-E	32 AT 5-E	32 AT 5-E	32 AT 5-E		
Traverse path per revolution	[mm]	175	175	220	220		
Spindle diameter	[mm]					16	16
Spindle pitch	[mm]					5/10/20/40	5/10/20/40
Max. spindle speed	[1/min]					3000	3000
Moments M_x max./M_y max./M_z max.	[Nm]	60/180/120	35/120/50	60/180/120	35/120/50	60/180/120	35/120/60
Forces F_y max./F_z max./-F_z max.	[N]	600/1800/1200	300/1000/400	600/1800/1200	300/1000/400	600/1800/1200	300/1000/400

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

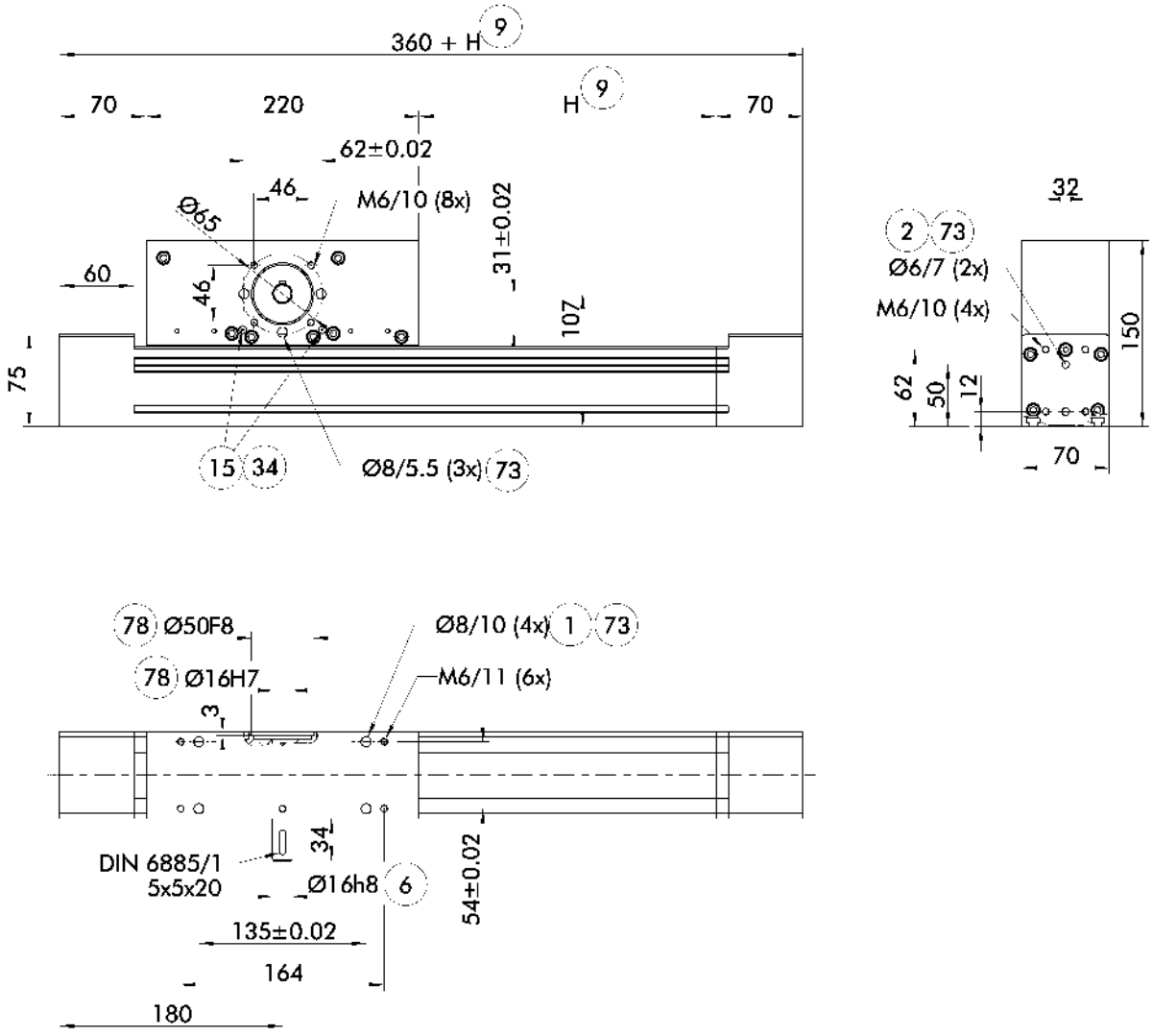
Main view C-ZSS/ZRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering

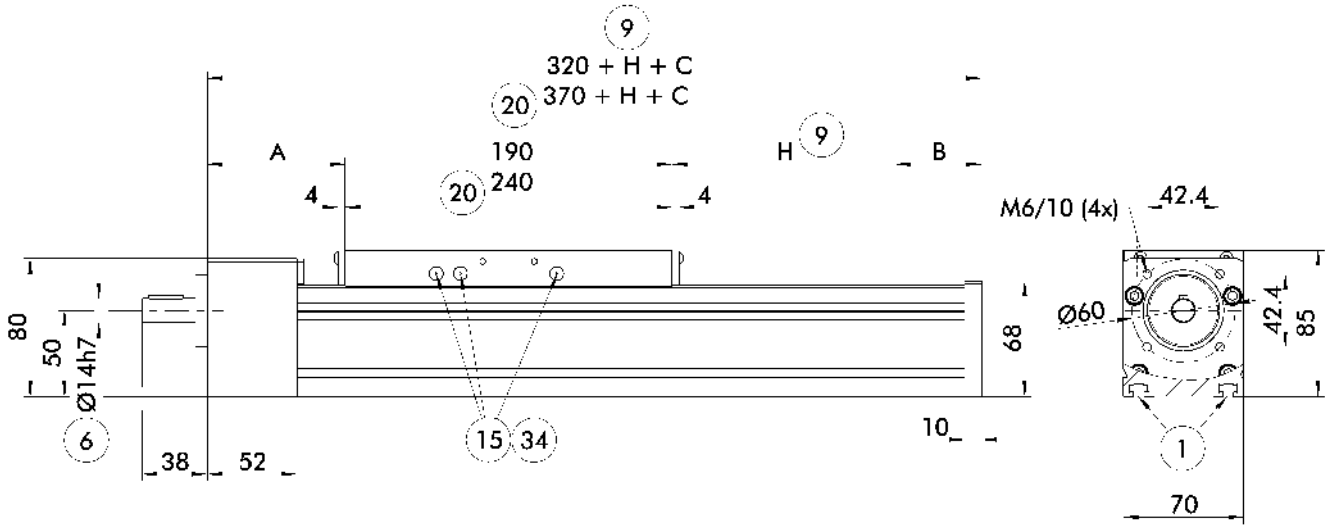
Main view C-ASS/ARS

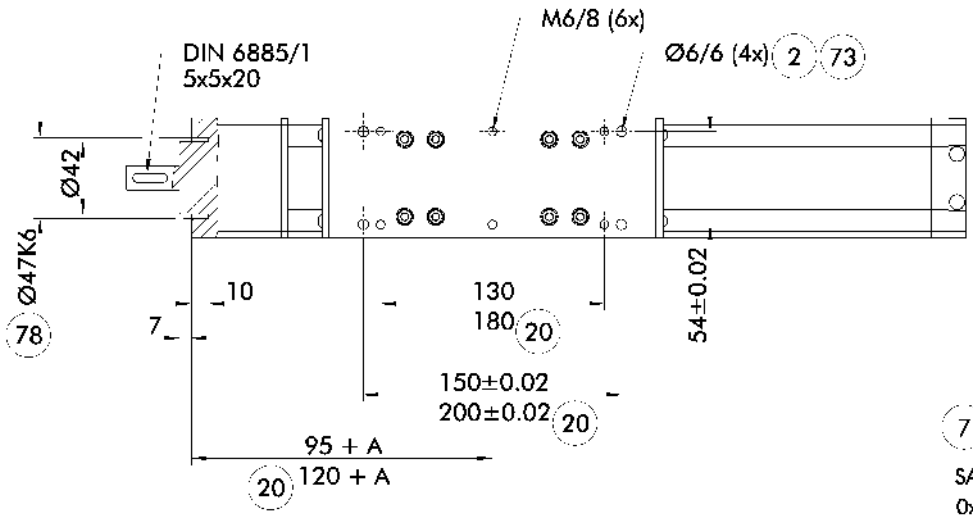


The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

Main view C-SSS/SRS





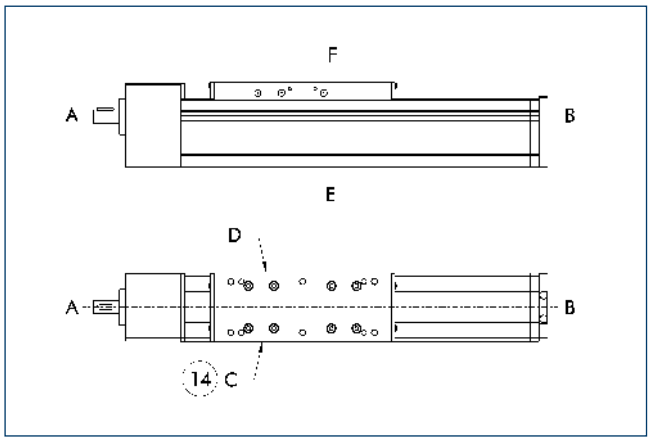
7

SA	A	B	C
0x	80	50	0
2x	100	70	40
4x	120	90	80
6x	140	110	120
8x	160	130	160

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

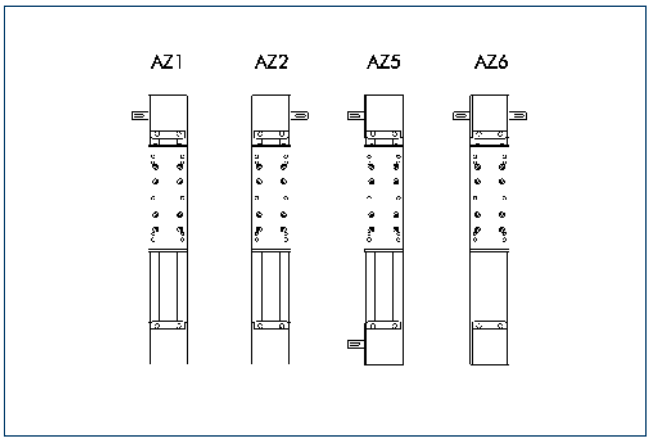
Side definition



(14) Limit switch standard position

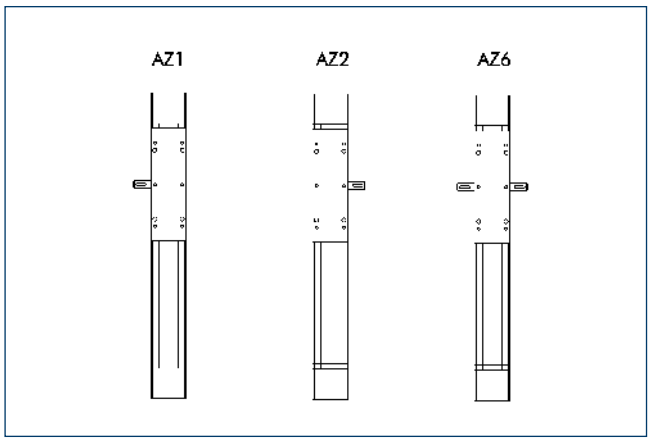
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



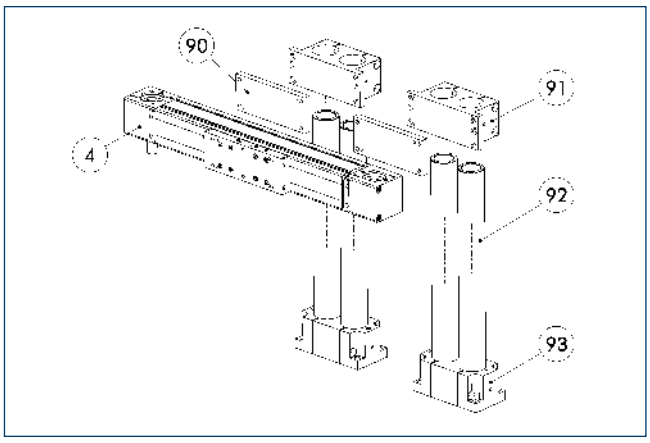
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Attachment to a pillar assembly system

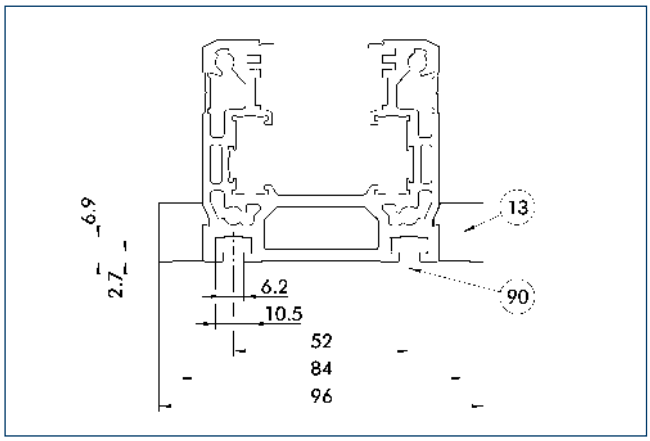


(4) Linear unit
(90) AGH adapter plate
(91) ADV mounting plate
(92) Pillars, hard-chromium plated, ground
(93) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
AEV 55	0313516	55	Aluminum
APDH 85	0313414	55	Aluminum
APEH 85	0313413	55	Aluminum

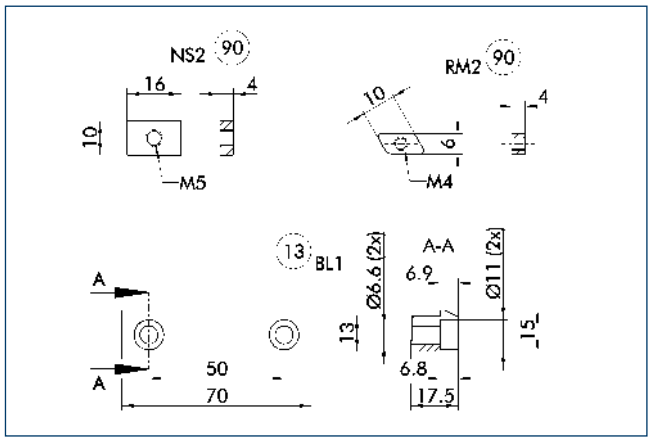
Mounting



(13) Mounting strip
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

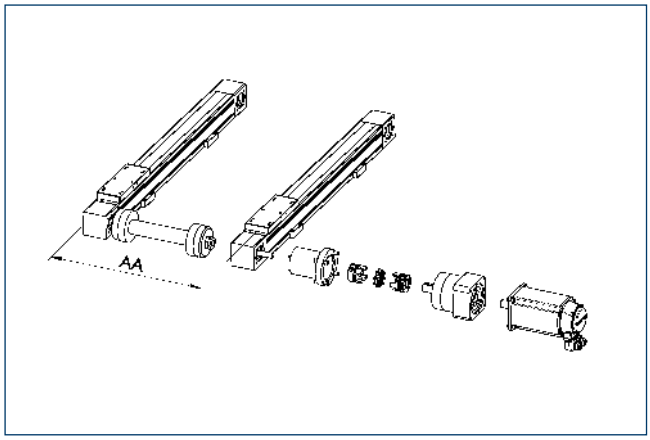


(13) Mounting strip
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

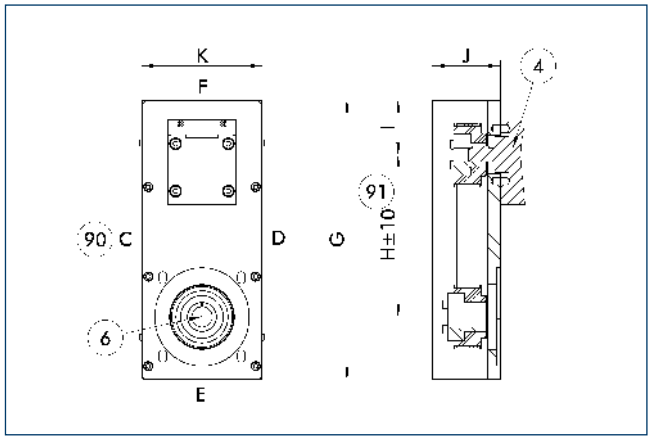
Description	ID	
Mounting strip		
BL1-70x15x17.5-01	0331400	
T-Nuts		
NS 2-M5	0331405	
RM2-M4	0331425	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 70-C-ZSS	GX2	215
B 70-C-ZRS	GX2	215
B 70-C-SSS	GX2	330
B 70-C-SRS	GX2	330

Angle belt drive



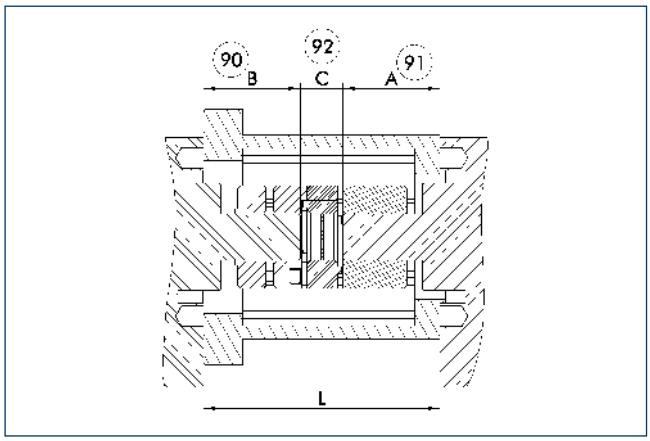
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 70-C-SSS	238	120	46	52	102
B 70-C-SRS	238	120	46	52	102

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

Motor bell schematic diagram



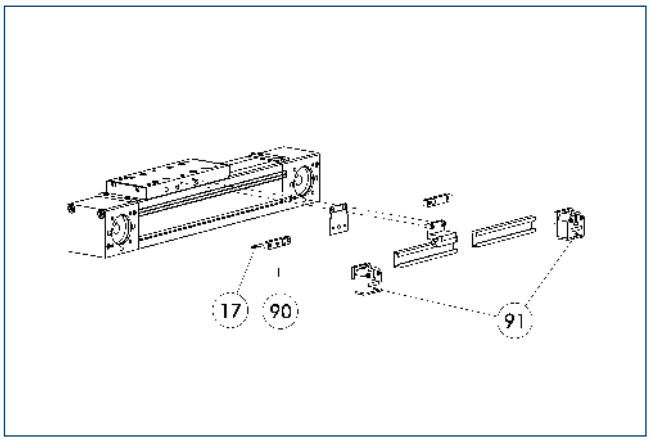
(90) Length of the drive shaft of the motor/gear

(91) Length of linear unit's drive journal

(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet

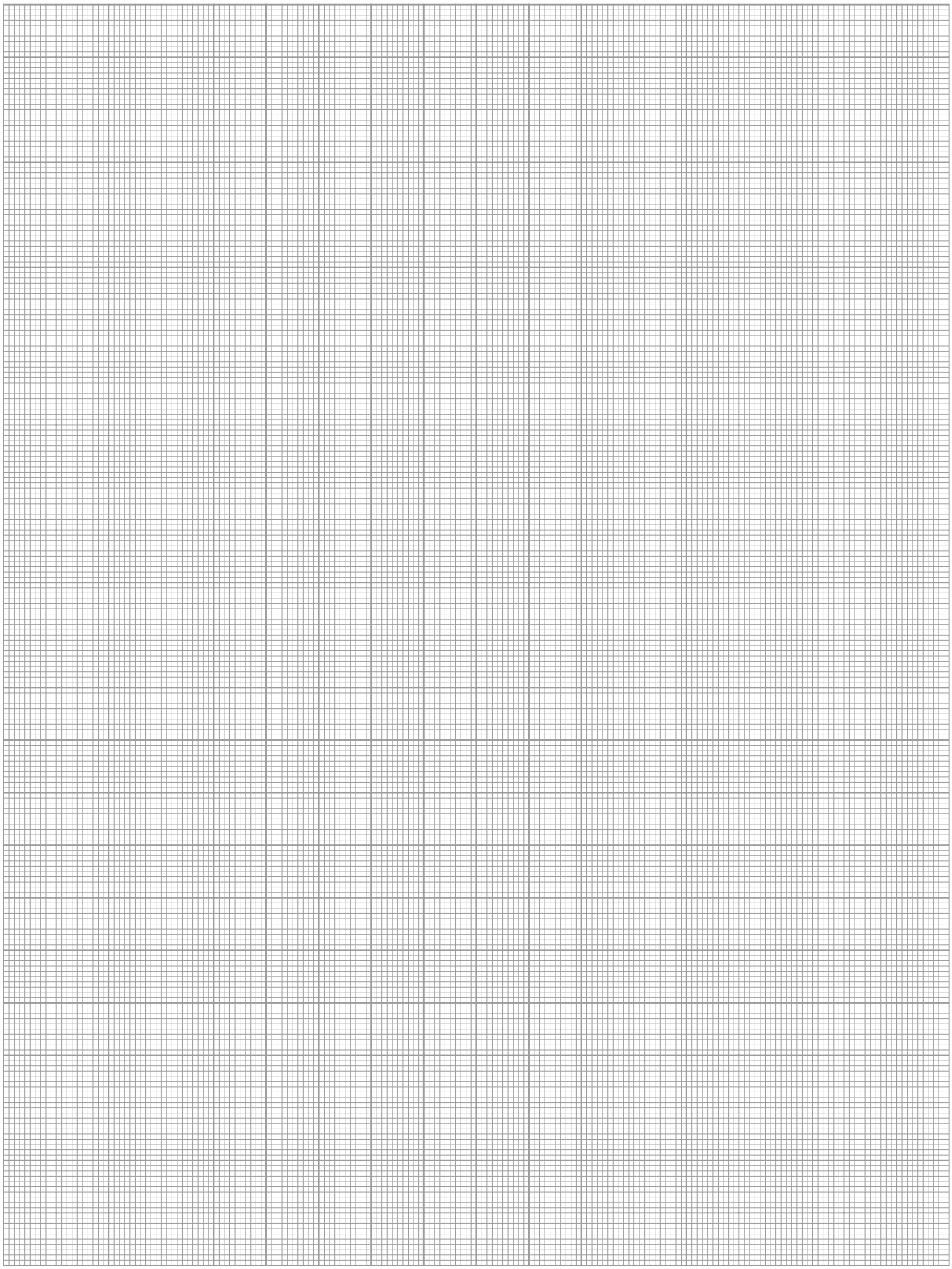
(90) Inductive limit and reference switches

(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

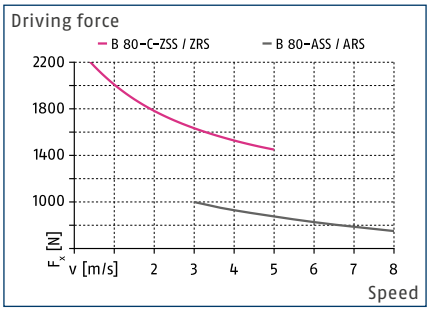


Beta 80

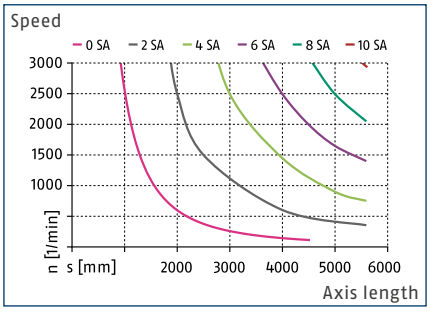
Electric Components | Universal Linear Module



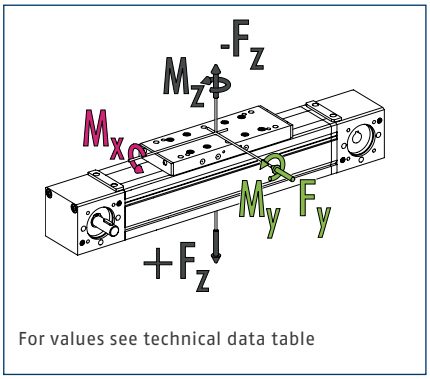
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

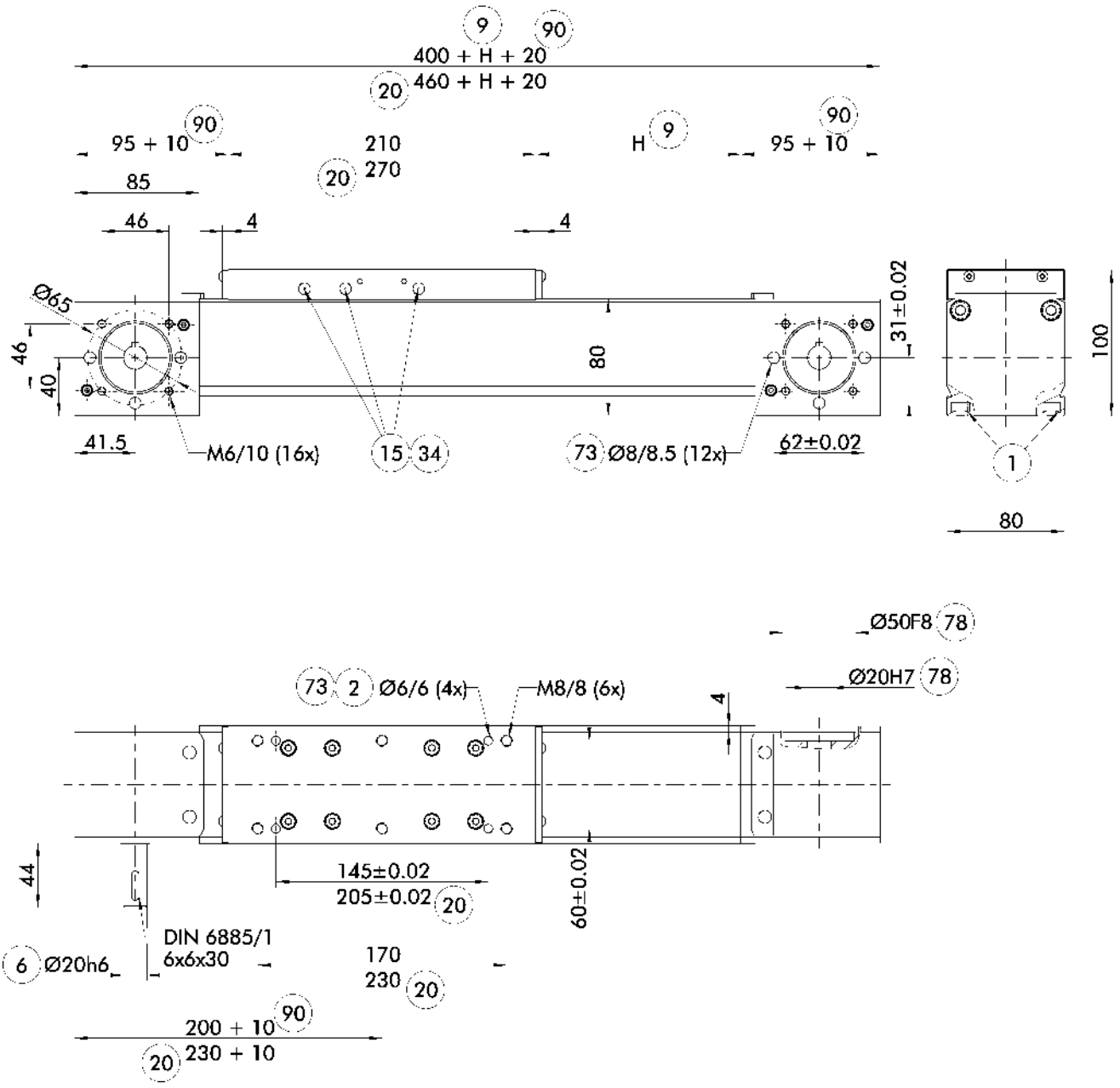
Technical data

Description		B 80-C-ZSS	B 80-C-ZRS	B 80-ASS	B 80-ARS	B 80-SSS	B 80-SRS
Max. stroke	[mm]	7600	7600	7590	7590	5020	5020
Max. driving force	[N]	2200	2200	1000	1000	4000	4000
Repeat accuracy	[mm]	±0.08	±0.08	±0.08	±0.08	±0.03	±0.03
Max. total length	[mm]	8000	8000	8000	8000	5600	5600
Max. speed	[m/s]	5	5	5	8	2.5	2.5
Max. acceleration	[m/s²]	40	40	40	40	20	20
Base weight per 0 mm of stroke	[kg]	7.8	7.8	11.5	10.5	6.2	5.4
Weight per 100 mm of stroke	[kg]	0.98	0.98	0.85	0.6	1.1	0.7
Slide weight	[kg]	2.75	2.75	7	7.5	1.9	2.2
Slide weight, long	[kg]	3.25	3.25			2.4	2.8
Drive concept		Belt drive	Belt drive	Belt drive	Belt drive	Spindle drive	Spindle drive
Idle torque	[Nm]	1.8	1.8	1.5	1.5	0.8	0.6
Moment of inertia	[kgm²]	0.004	0.004	0.0086	0.0092	0.000085	0.000085
Toothed belt type		32 AT 10	32 AT 10	32 AT 10	32 AT 10		
Traverse path per revolution	[mm]	210	210	220	220		
Spindle diameter	[mm]					20	20
Spindle pitch	[mm]					5/10/20/50	5/10/20/50
Max. spindle speed	[1/min]					3000	3000
Moments M_x max./M_y max./M_z max.	[Nm]	300/500/500	300/500/500	100/250/250	50/180/100	100/250/250	50/180/100
Forces F_y max./F_z max./-F_z max.	[N]	1600/4000/3000	1600/4000/3000	800/3000/2000	500/1500/800	800/3000/2000	500/1500/800

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

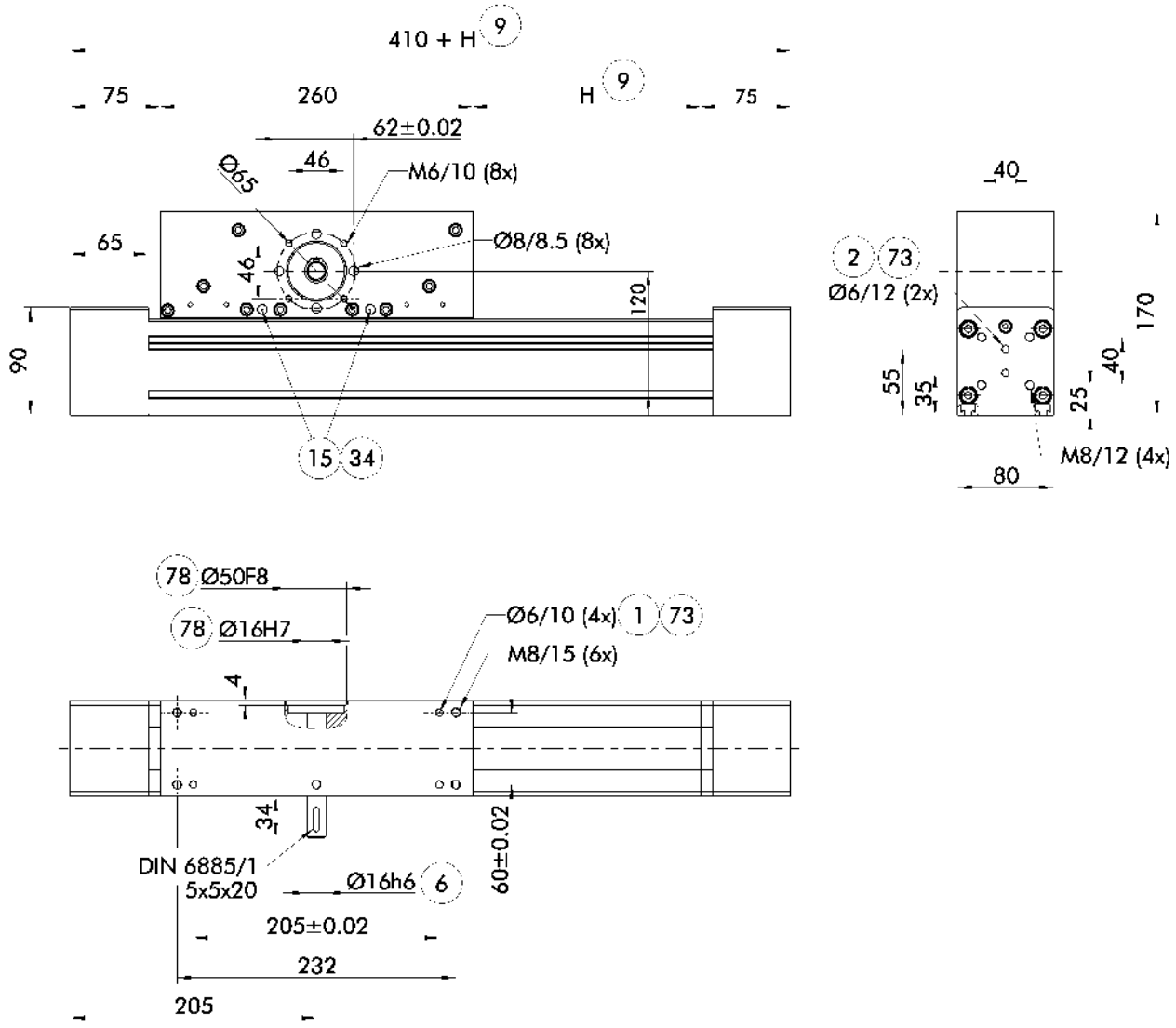
Main view C-ZSS/ZRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering
90 Change of dimension with optional cover tape

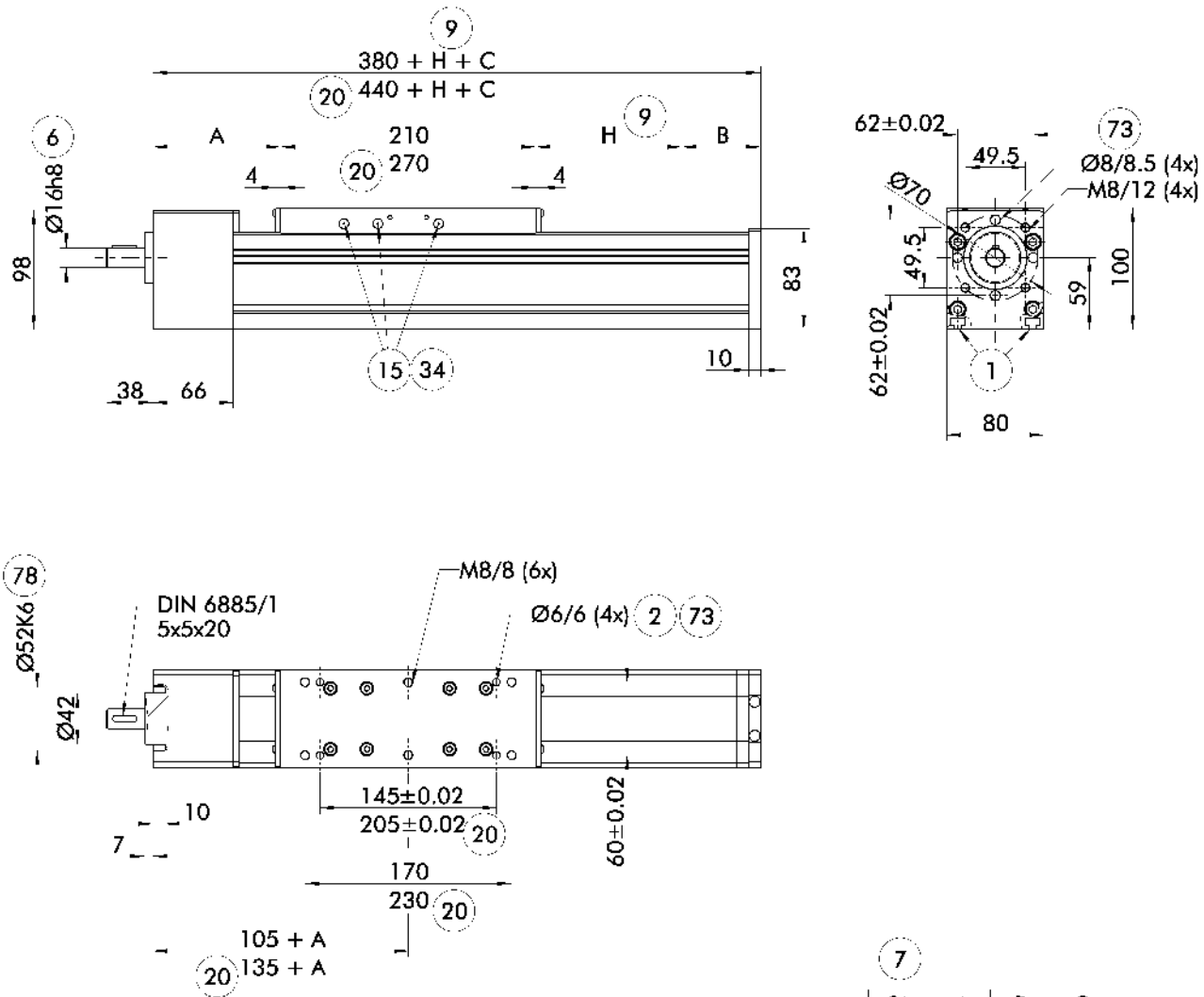
Main view ASS/ARS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
34. On both sides
73. Fit for centering pins
78. Fit for centering

Main view SSS/SRS



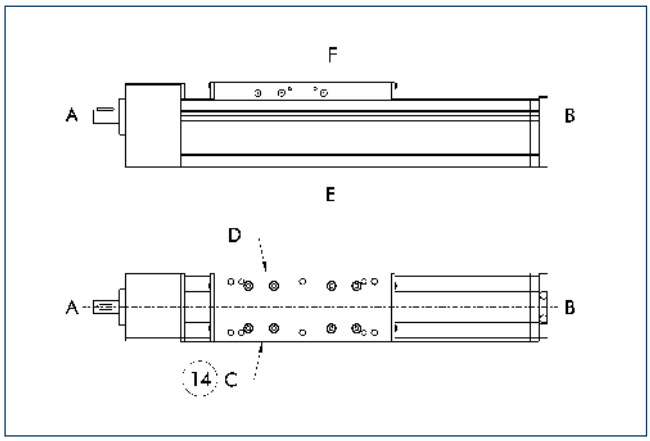
7

SA	A	B	C
0x	105	65	0
2x	130	90	50
4x	155	115	100
6x	180	140	150
8x	205	165	200

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
7. Number of spindle supports
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering

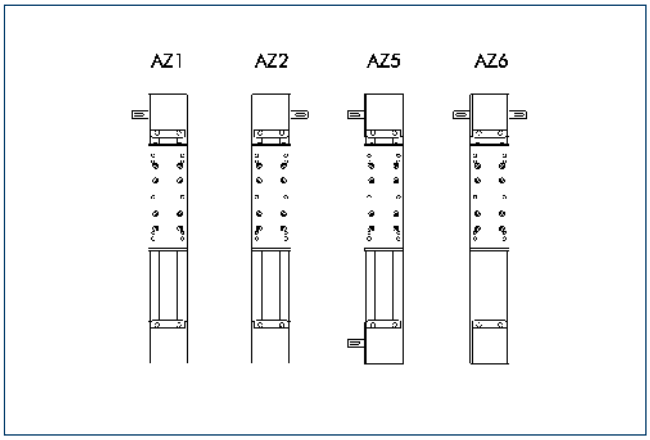
Side definition



(14) Limit switch standard position

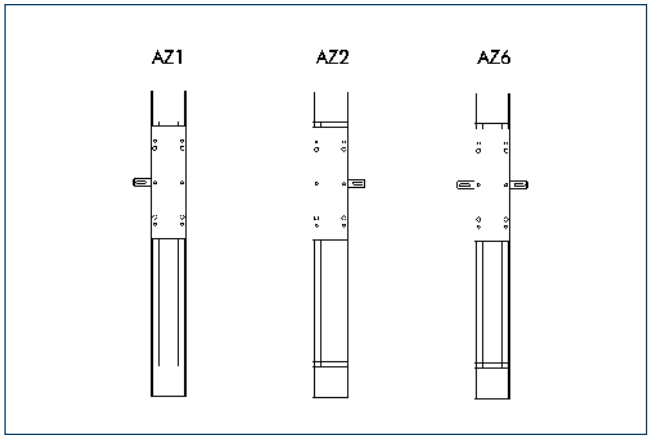
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



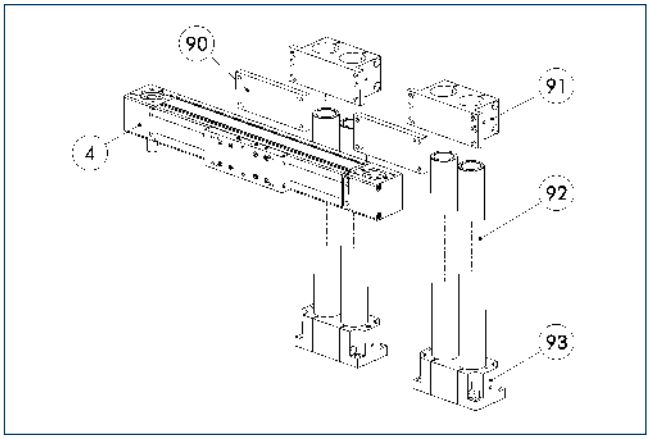
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Attachment to a pillar assembly system

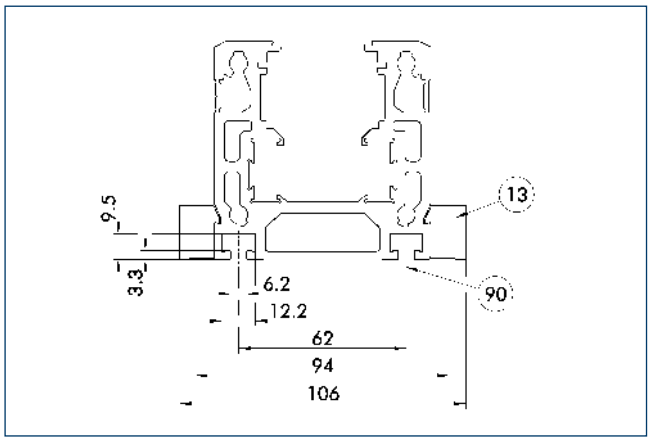


(4) Linear unit
(90) AGH adapter plate
(91) ADV mounting plate
(92) Pillars, hard-chromium plated, ground
(93) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
AEV 55	0313516	55	Aluminum
APDH 85	0313414	55	Aluminum
APEH 85	0313413	55	Aluminum

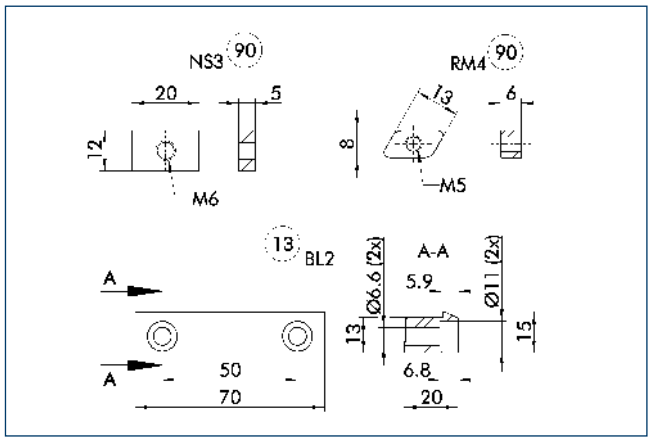
Mounting



(13) Mounting strip
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

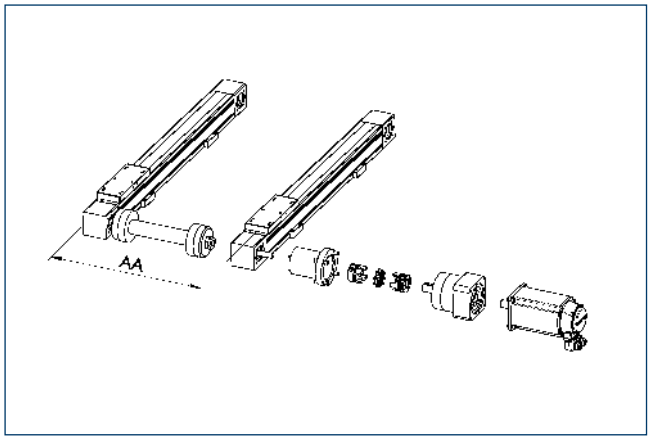


(13) Mounting strip
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

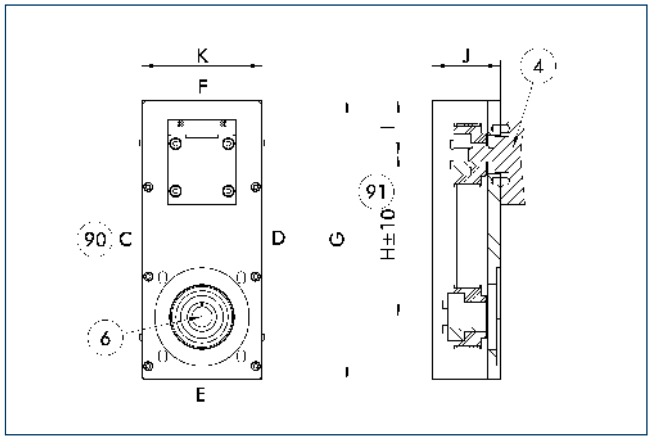
Description	ID	
Mounting strip		
BL2-70x15x20-01	0331401	
T-Nuts		
NS 3-M6	0331406	
RM4-M5	0331426	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 80-C-ZSS	GX4	270
B 80-C-ZRS	GX4	270
B 80-SSS	GX2	330
B 80-SRS	GX2	330

Angle belt drive



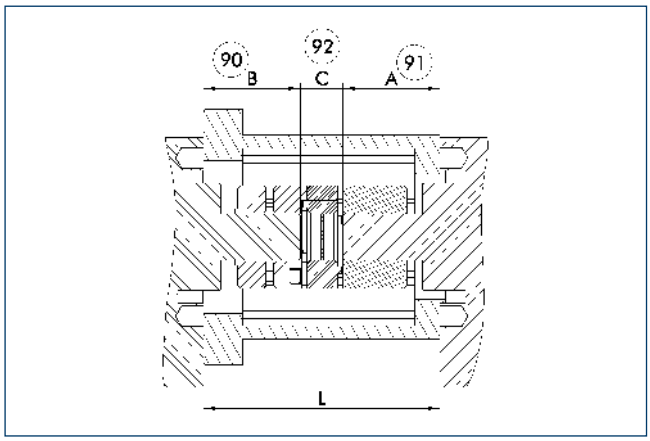
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 80-SSS	328	190	64	80	142
B 80-SRS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

Motor bell schematic diagram



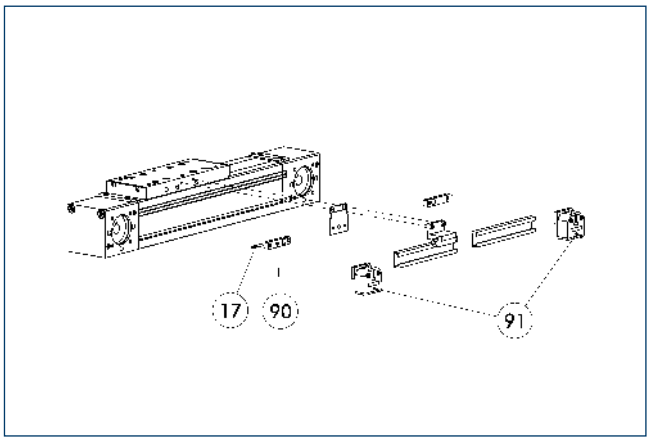
(90) Length of the drive shaft of the motor/gear

(91) Length of linear unit's drive journal

(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet

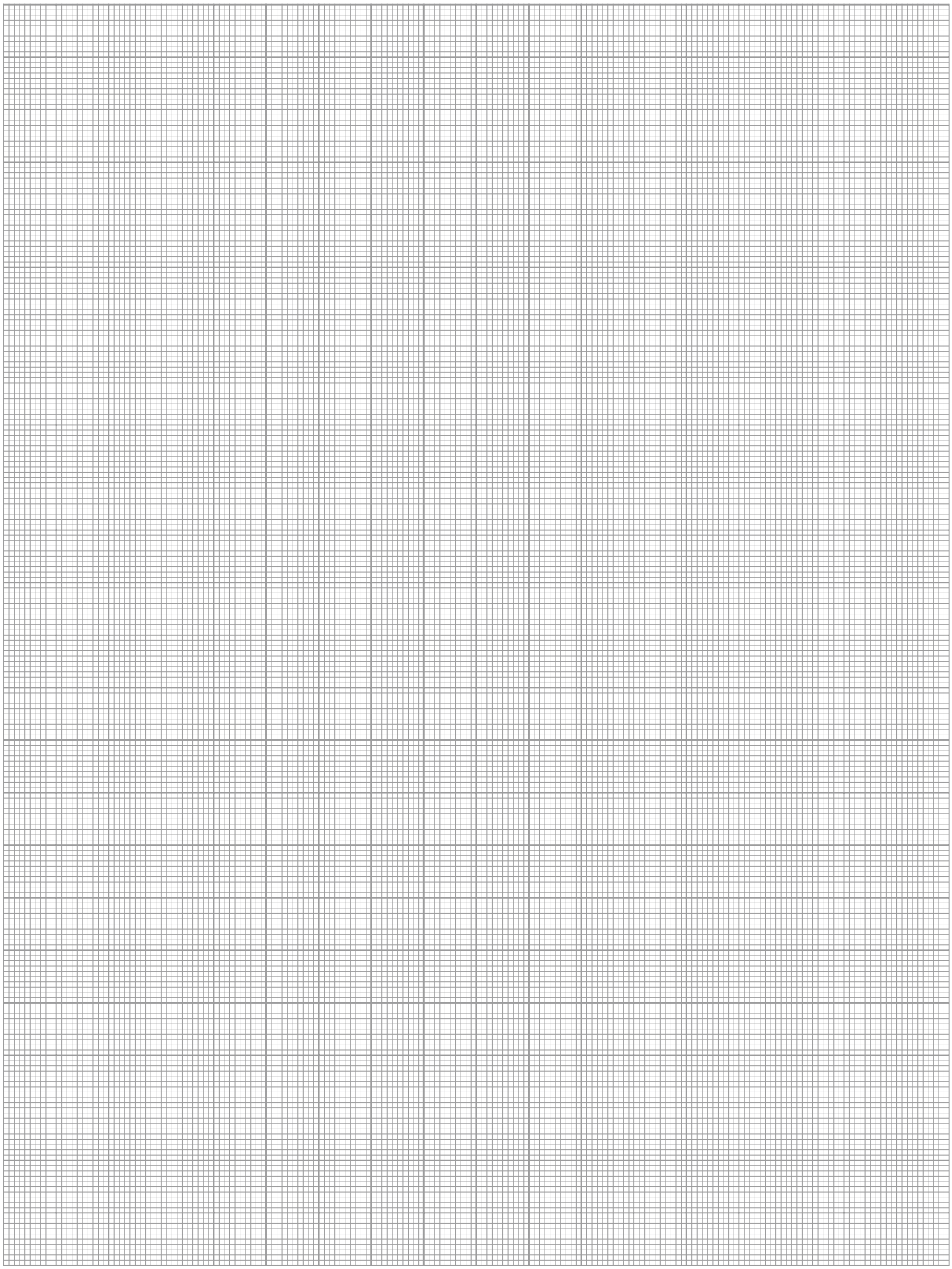
(90) Inductive limit and reference switches

(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

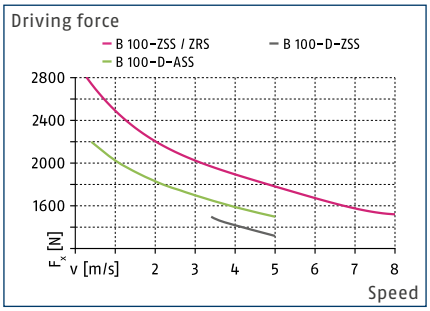


Beta 100

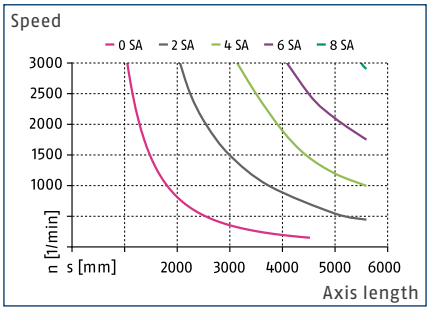
Electric Components | Universal Linear Module



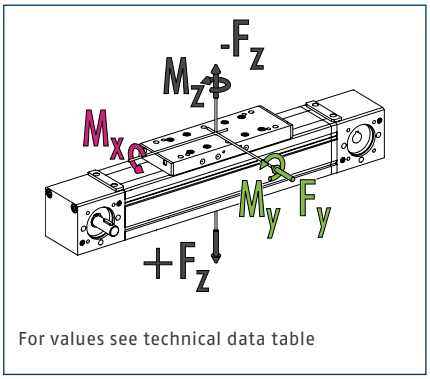
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

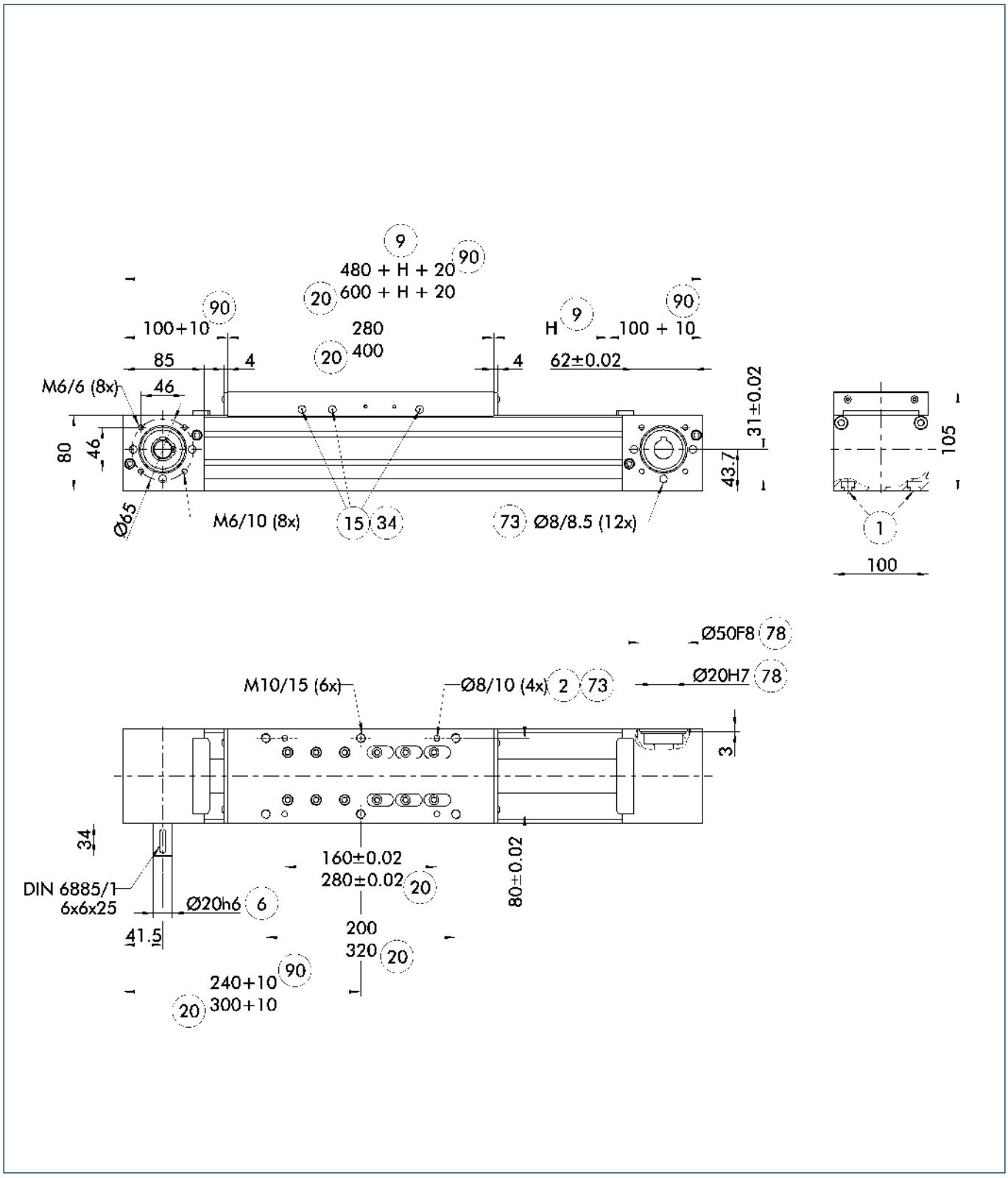
Technical data

Description		B 100-ZSS	B 100-D-ZSS	B 100-ZRS	B 100-D-ASS	B 100-D-SSS
Max. stroke	[mm]	7420	7720	7420	7680	5260
Max. driving force	[N]	2800	1500	2800	2200	4000
Repeat accuracy	[mm]	±0.08	±0.08	±0.08	±0.08	±0.03
Max. total length	[mm]	7900	8100	7900	8100	5600
Max. speed	[m/s]	5	5	8	5	2.5
Max. acceleration	[m/s²]	40	60	40	60	20
Base weight per 0 mm of stroke	[kg]	9.1	6.8	9.5	14	6.2
Weight per 100 mm of stroke	[kg]	1.45	0.75	1.1	0.9	0.75
Slide weight	[kg]	3.8	3.5	4.1		3.4
Slide weight, long	[kg]	5.43	4.1	5.85		4
Drive concept		Belt drive	Belt drive	Belt drive	Belt drive	Spindle drive
Idle torque	[Nm]	2.5	5	2.5	2.5	1.3
Moment of inertia	[kgm²]	0.0126	0.0028	0.013	0.012	0.000085
Toothed belt type		40 AT 10	40 AT 10-E	40 AT 10	40 AT 10-E	
Traverse path per revolution	[mm]	200	160	200	240	
Spindle diameter	[mm]					20
Spindle pitch	[mm]					5/10/20/50
Max. spindle speed	[1/min]					3000
Moments M_x max./M_y max./M_z max.	[Nm]	200/300/300	350/750/750	200/250/200	350/950/950	350/750/750
Forces F_y max./F_z max./-F_z max.	[N]	1000/3000/2000	1800/4000/3000	1000/2500/1200	1800/4000/3000	1800/4000/3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

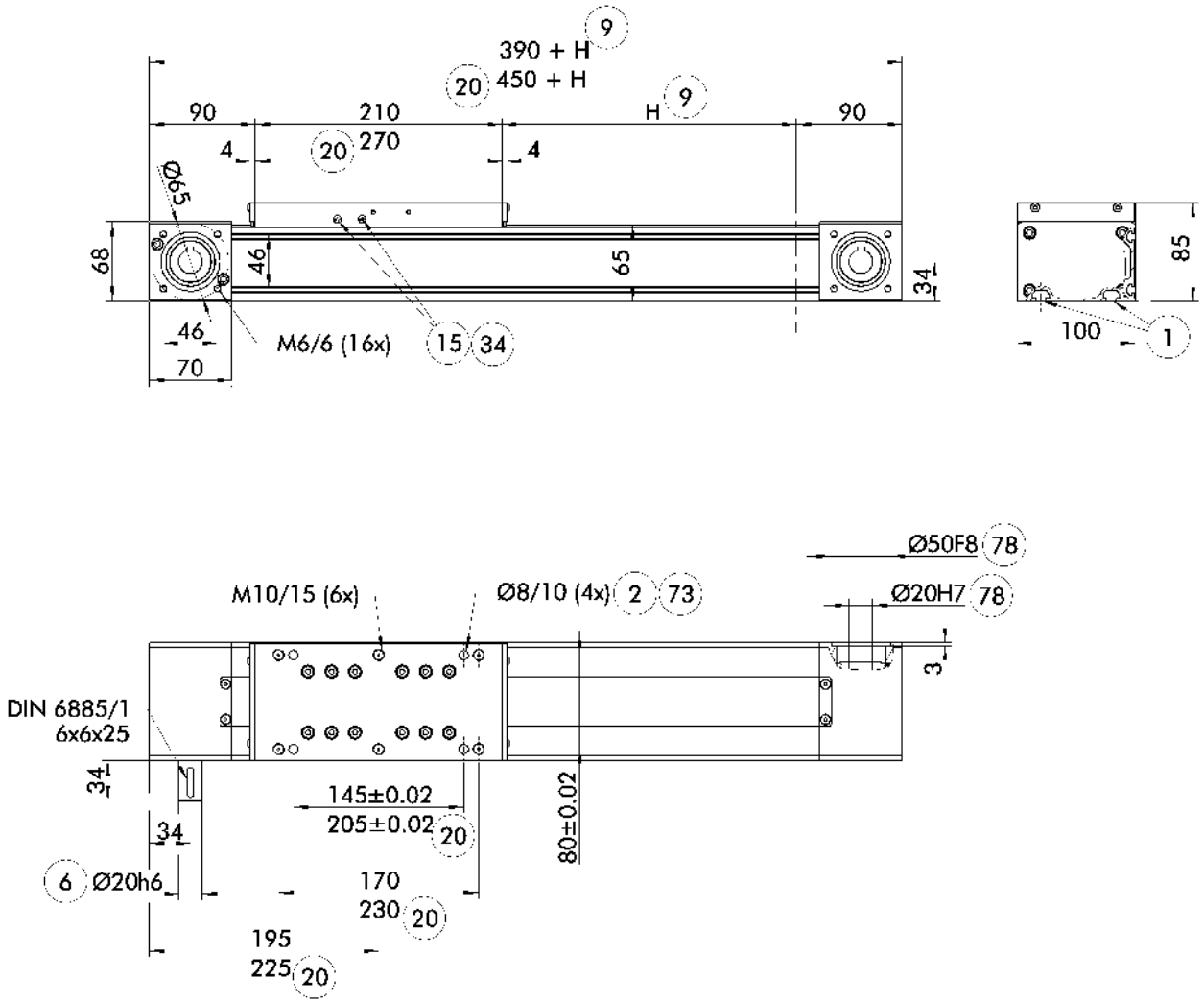
Main view ZSS/ZRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering
90. Change of dimension with optional cover tape

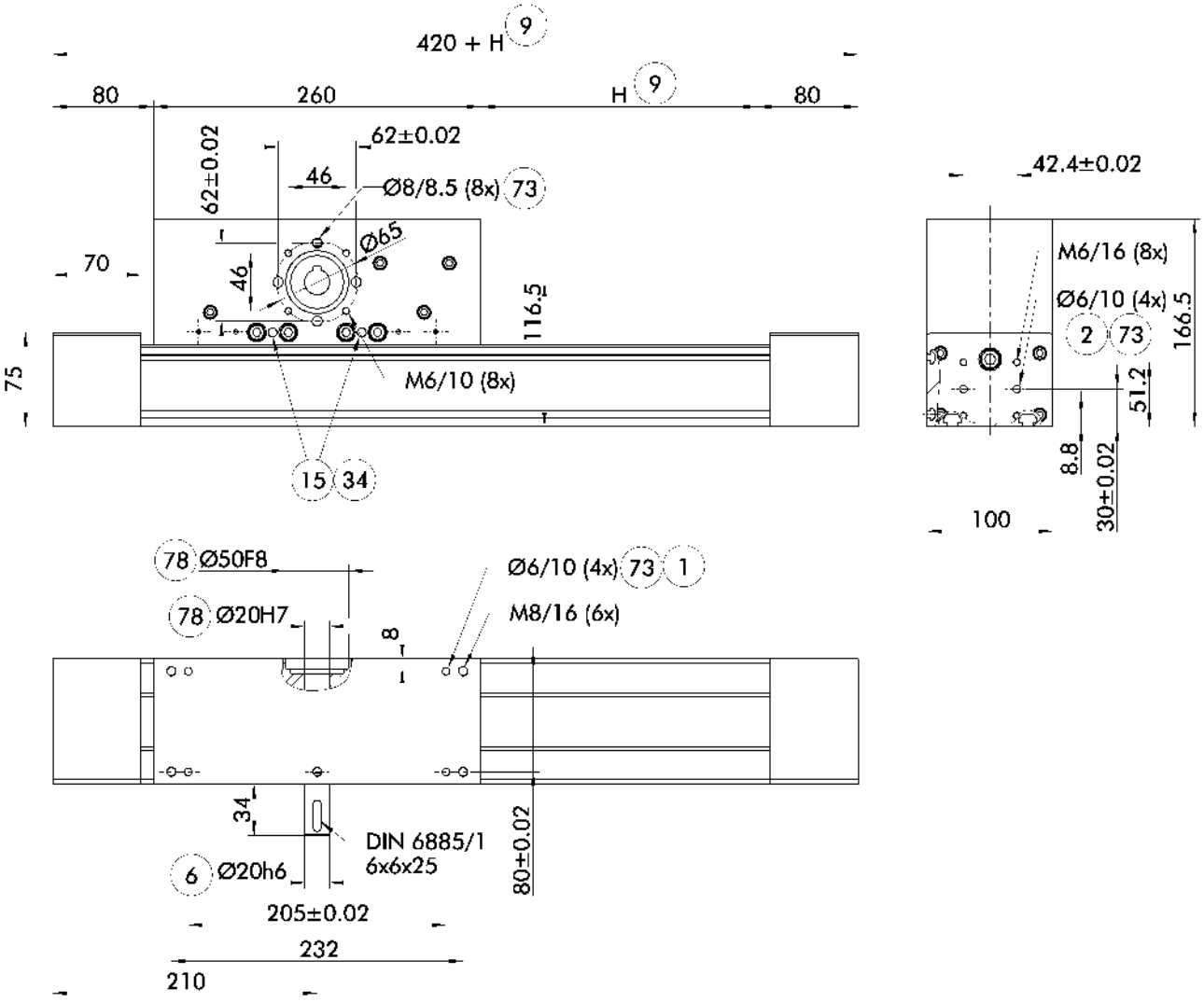
Main view D-ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering

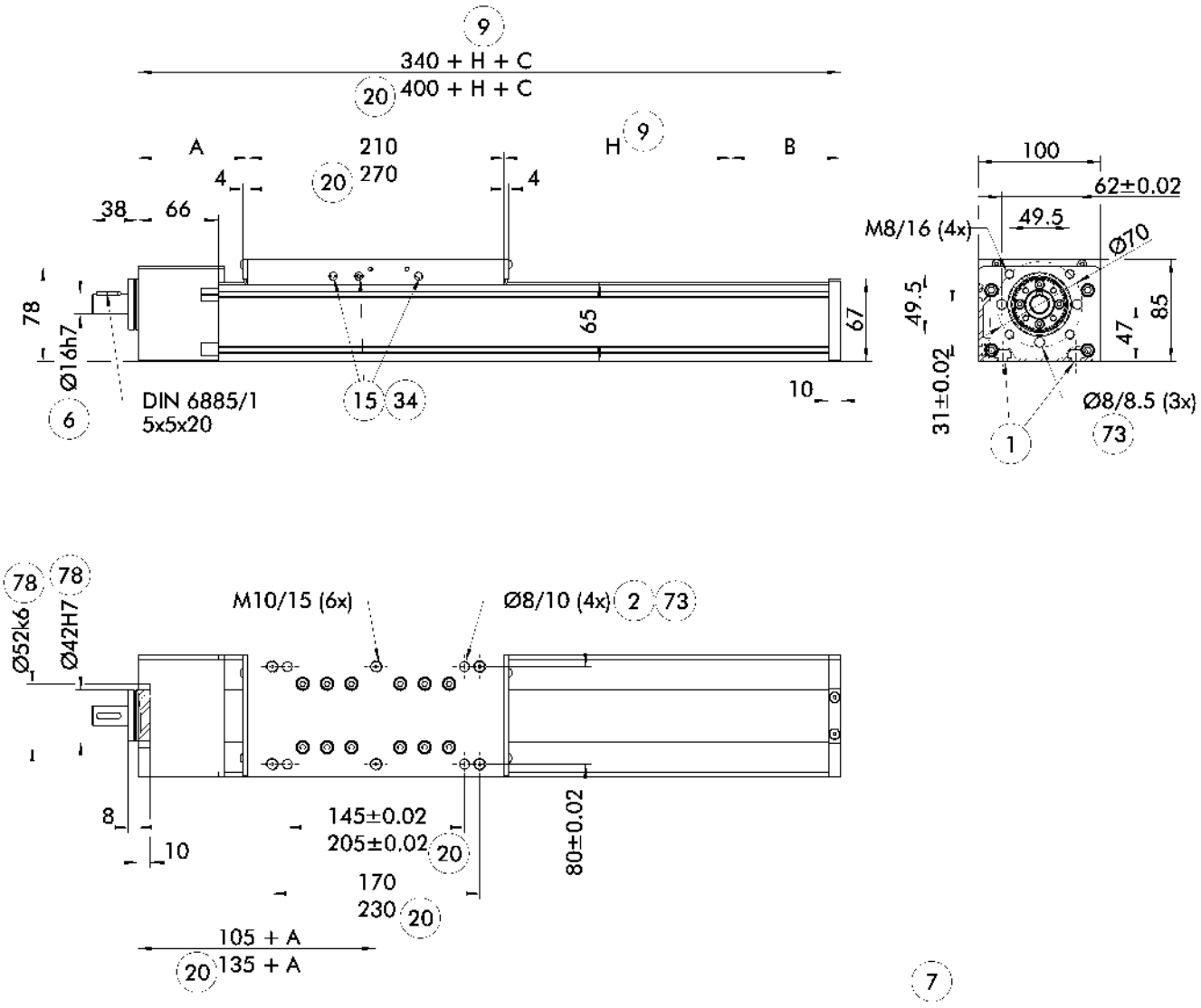
Main view D-ASS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
34 On both sides
73 Fit for centering pins
78 Fit for centering

Main view D-SSS



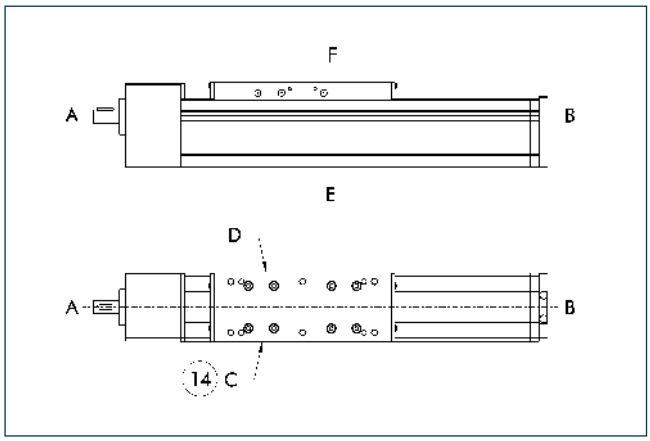
7

SA	A	B	C
0x	90	40	0
2x	120	70	60
4x	150	100	120
6x	180	130	180
8x	210	160	240

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

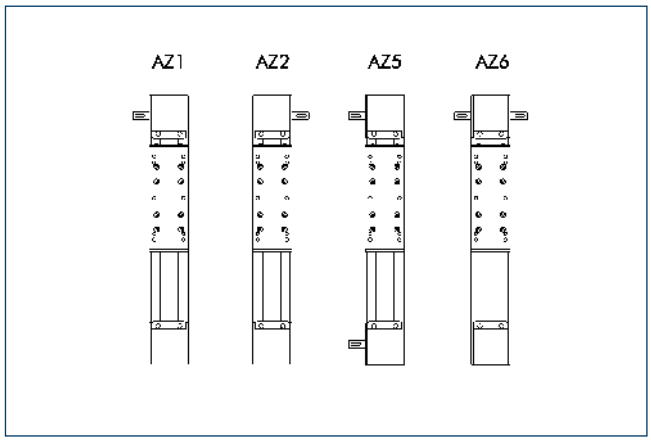
Side definition



(14) Limit switch standard position

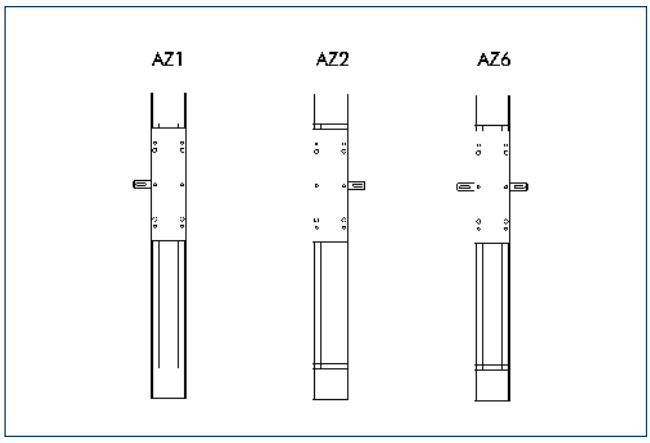
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



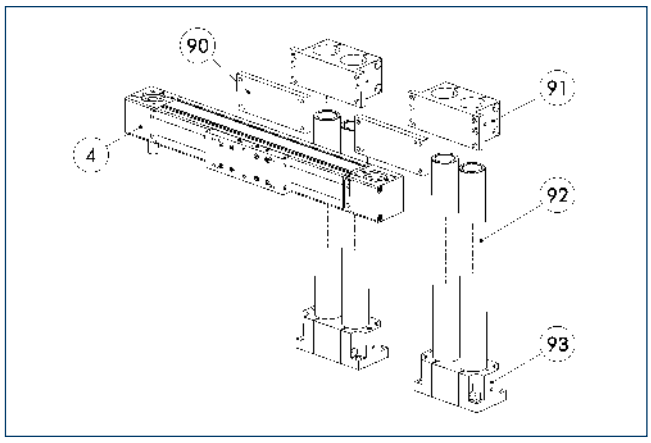
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Attachment to a pillar assembly system

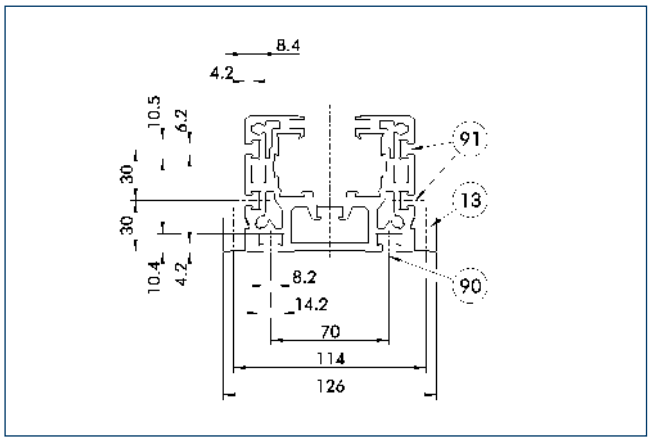


(4) Linear unit
(90) AGH adapter plate
(91) ADV mounting plate
(92) Pillars, hard-chromium plated, ground
(93) SOD double socket

This unit can be attached to the pillar assembly system as standard. See the SCHUNK Kombibox software, which can be found online, for the right arrangement for your application.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system mounting plates			
APDH 85	0313414	55	Aluminum
APDV 85	0313416	55	Aluminum
APEH 85	0313413	55	Aluminum
APEV 85	0313415	55	Aluminum

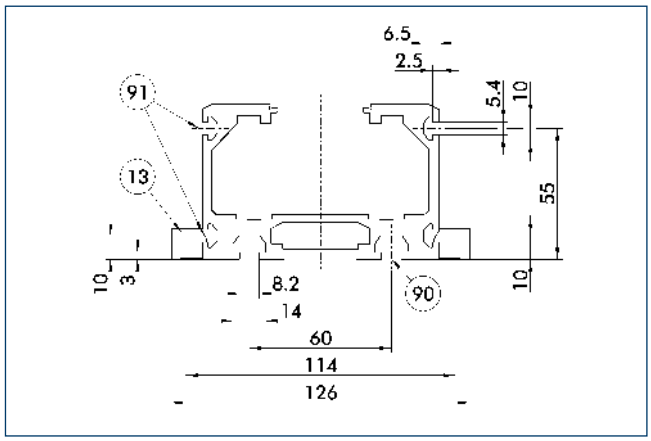
Mounting



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

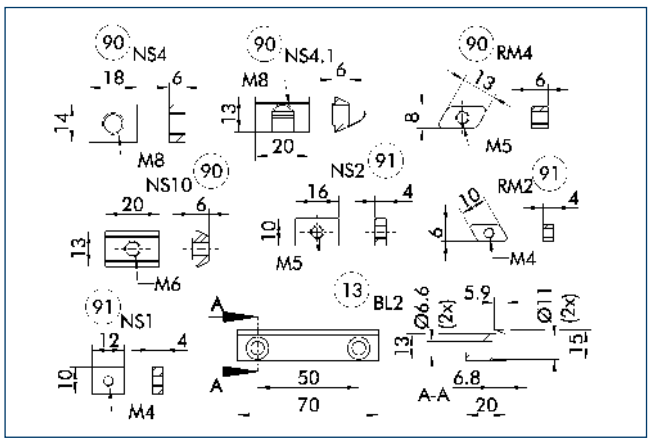
D-version attachment



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

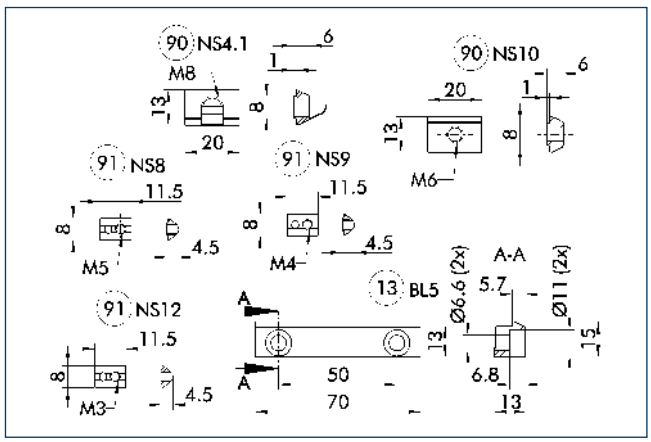


(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
Mounting strip		
BL2-70x15x20-01	0331401	
T-Nuts		
NS 10-M6-6	0331422	
NS 1-M4	0331404	
NS 2-M5	0331405	
NS 4.1-M8-6	0331430	
NS 4-M8-6	0331407	
RM2-M4	0331425	
RM4-M5	0331426	

D-version mounting elements

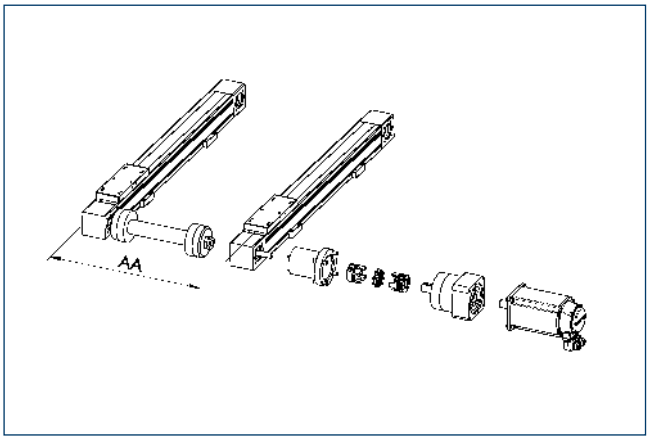


(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

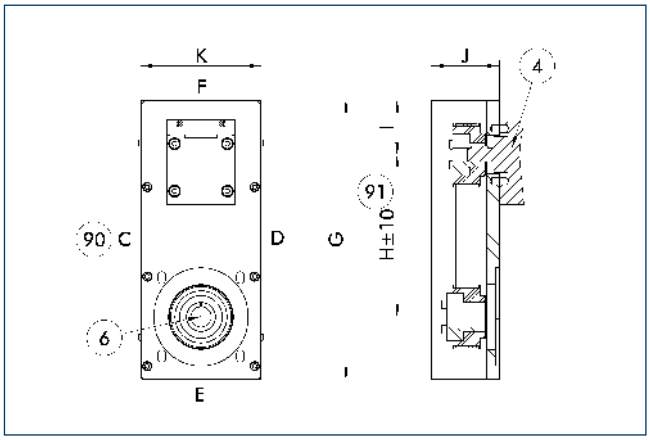
Description	ID	
Mounting strip		
BL5-70x15x13-01	0331419	
T-Nuts		
NS 10-M6-6	0331422	
NS 12-M3	0331424	
NS 4.1-M8-6	0331430	
NS 8-M5	0331420	
NS 9-M4	0331421	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 100-ZSS	GX4	270
B 100-D-ZSS	GX4	270
B 100-ZRS	GX4	270
B 100-D-SSS	GX4	290

Angle belt drive



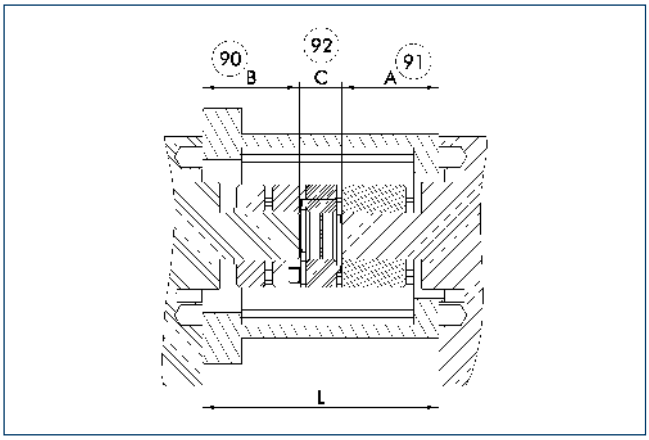
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 100-D-SSS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

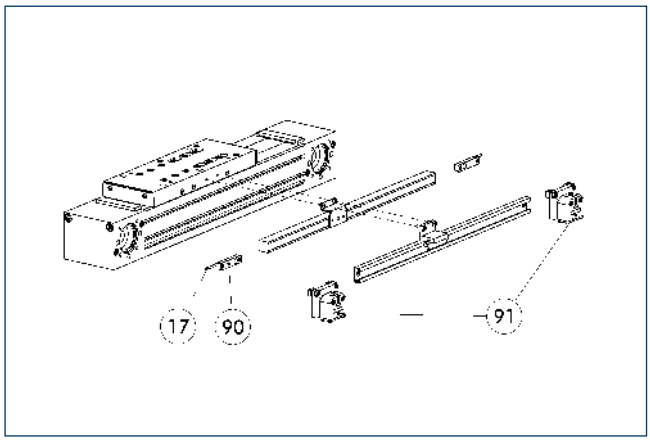
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



17 Cable outlet

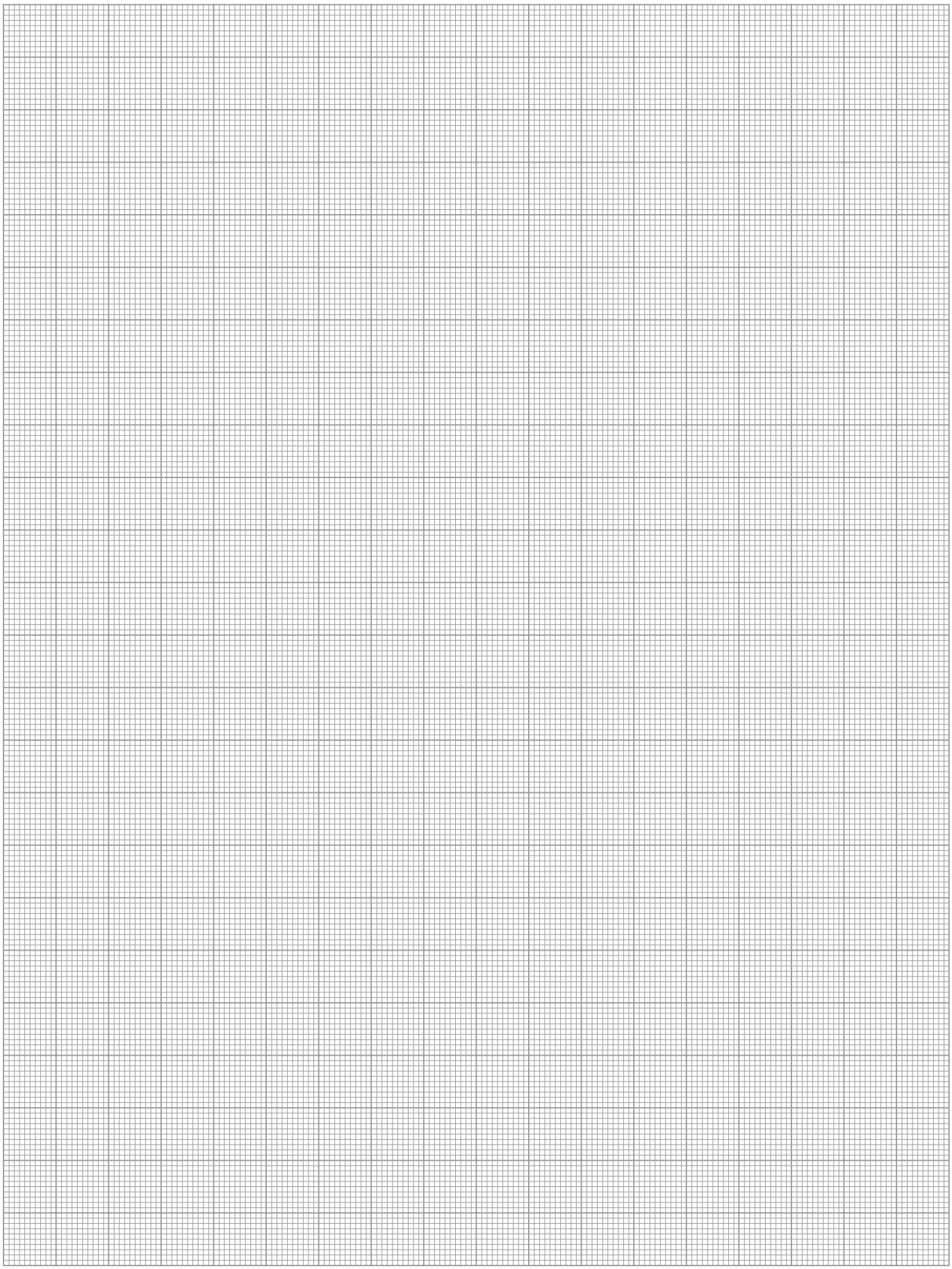
90 Inductive limit and reference switches

91 Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

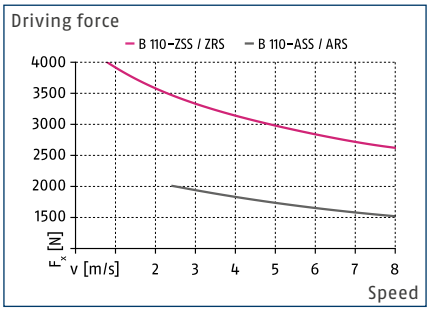


Beta 110

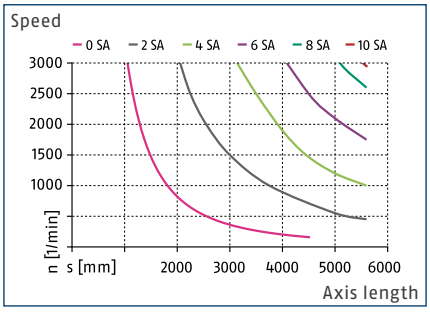
Electric Components | Universal Linear Module



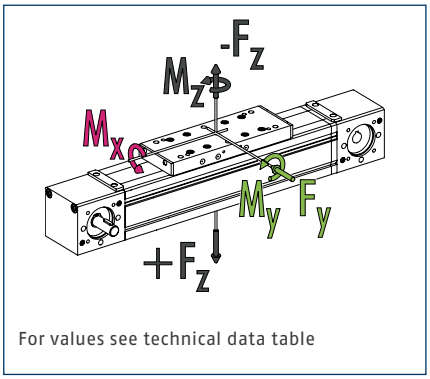
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

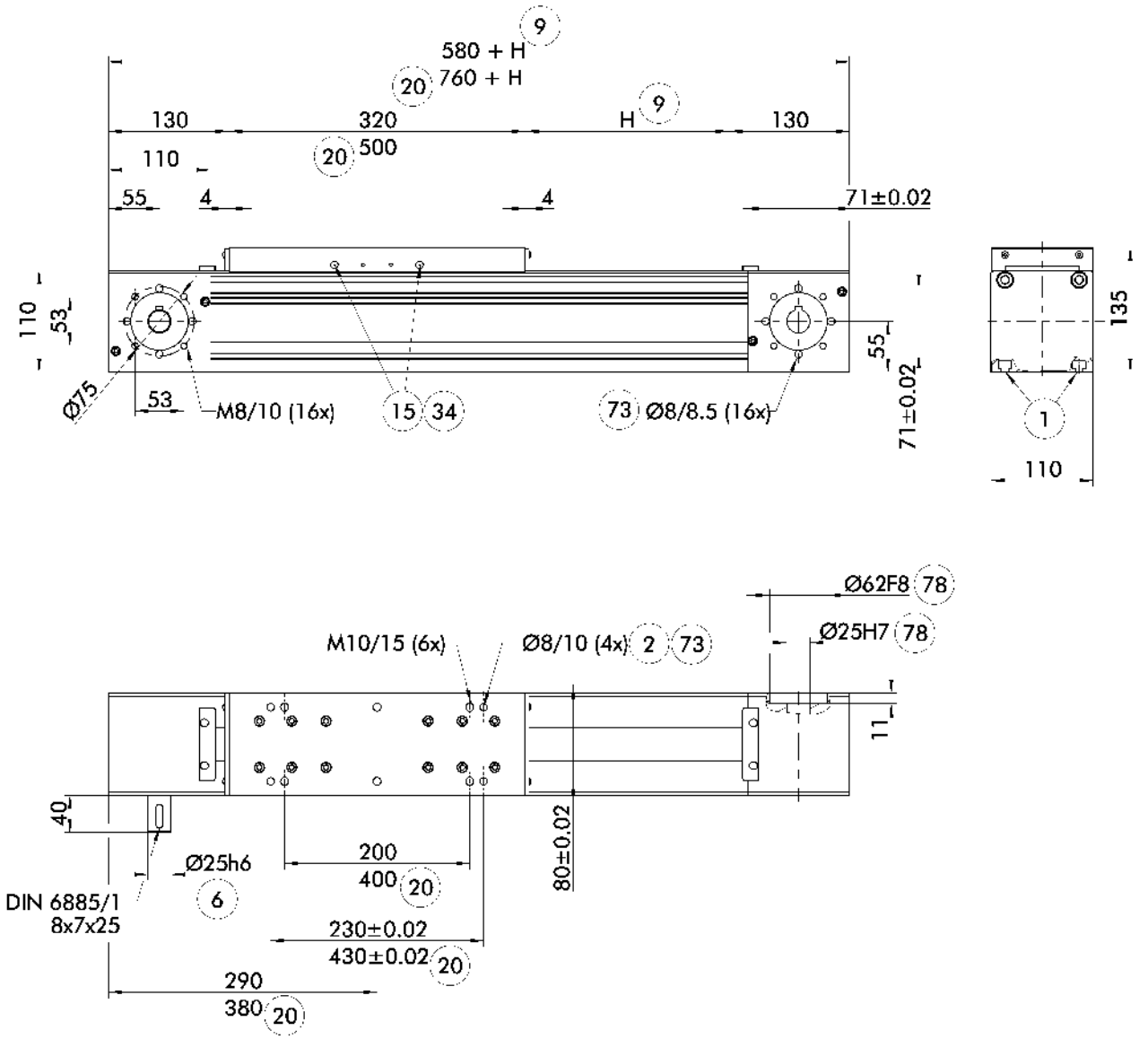
Technical data

Description		B 110-ZSS	B 110-ZRS	B 110-ASS	B 110-ARS	B 110-SSS	B 110-SRS
Max. stroke	[mm]	7520	7520	7440	7440	5120	5120
Max. driving force	[N]	4000	4000	2000	2000	6000	6000
Repeat accuracy	[mm]	±0.08	±0.08	±0.08	±0.08	±0.03	±0.03
Max. total length	[mm]	8100	8100	8100	8100	5600	5600
Max. speed	[m/s]	5	8	5	8	2.5	2.5
Max. acceleration	[m/s²]	60	60	60	60	20	20
Base weight per 0 mm of stroke	[kg]	18	15.7	29	27	13.5	12.5
Weight per 100 mm of stroke	[kg]	2.1	1.5	1.4	1.2	1.7	1.4
Slide weight	[kg]	5.2	4.8			5.3	5.8
Slide weight, long	[kg]	8.2	7.5			8.3	9.1
Drive concept		Belt drive	Belt drive	Belt drive	Belt drive	Spindle drive	Spindle drive
Idle torque	[Nm]	3.5	3.5	3.5	3.5	1.5	1
Moment of inertia	[kgm²]	0.016	0.018	0.037	0.035	0.000225	0.000225
Toothed belt type		50 ATL 10	50 ATL 10	50 ATL 10	50 ATL 10		
Traverse path per revolution	[mm]	300	300	300	300		
Spindle diameter	[mm]					25	25
Spindle pitch	[mm]					5/10/25/50	5/10/25/50
Max. spindle speed	[1/min]					3000	3000
Moments M_x max./M_y max./M_z max.	[Nm]	400/800/600	300/600/450	400/800/600	300/600/450	400/800/600	300/600/450
Forces F_y max./F_z max./-F_z max.	[N]	3000/8000/4000	2000/5000/2500	3000/8000/4000	2000/5000/2500	3000/8000/4000	2000/5000/2500

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

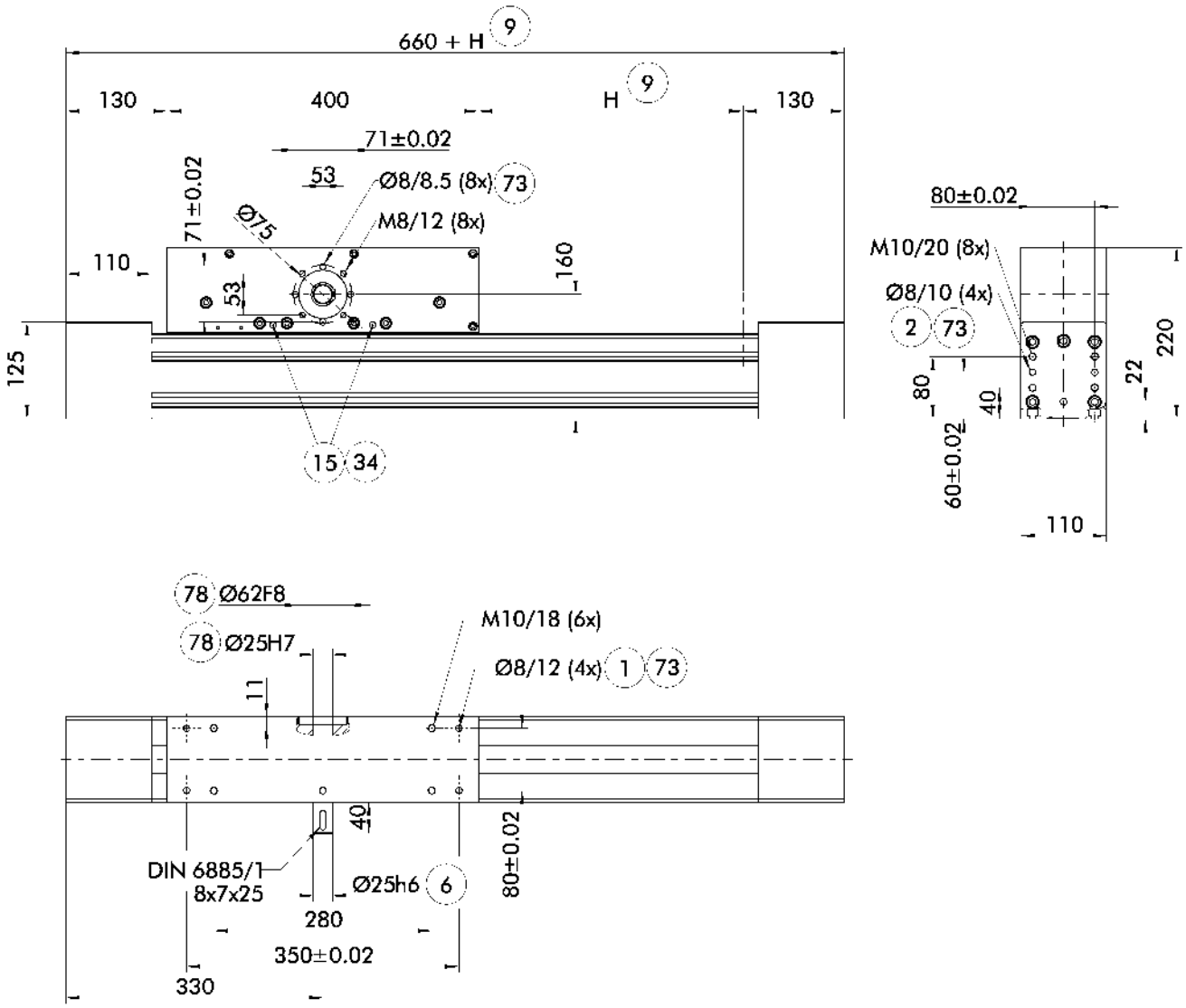
Main view ZSS/ZRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering

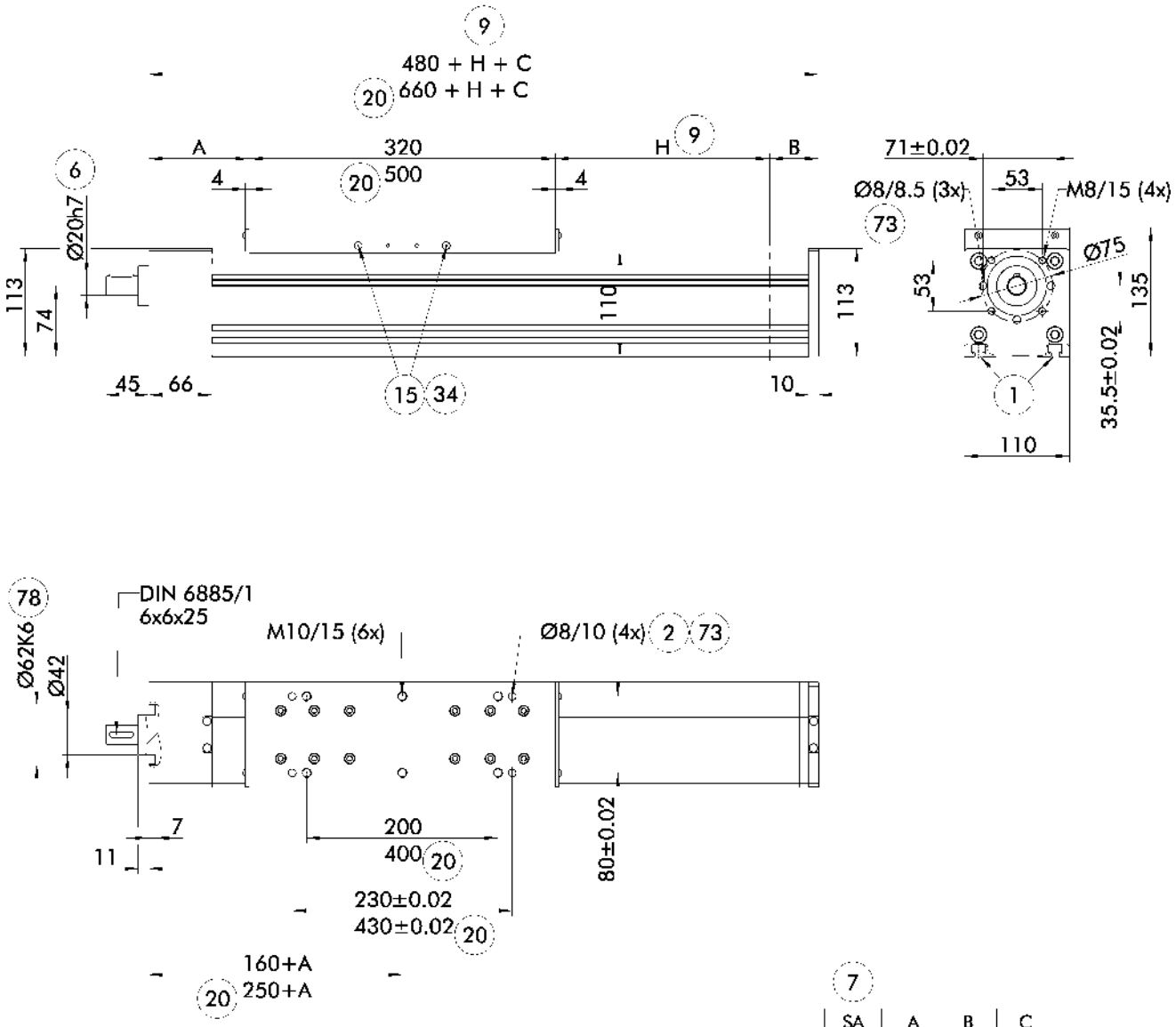
Main view ASS/ARS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
34. On both sides
73. Fit for centering pins
78. Fit for centering

Main view SSS/SRS



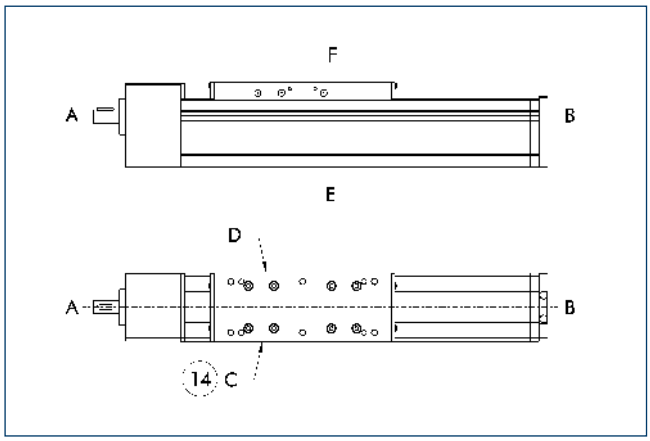
7

SA	A	B	C
0x	105	55	0
2x	135	85	60
4x	165	115	120
6x	195	145	180
8x	225	175	240
10x	255	205	300

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

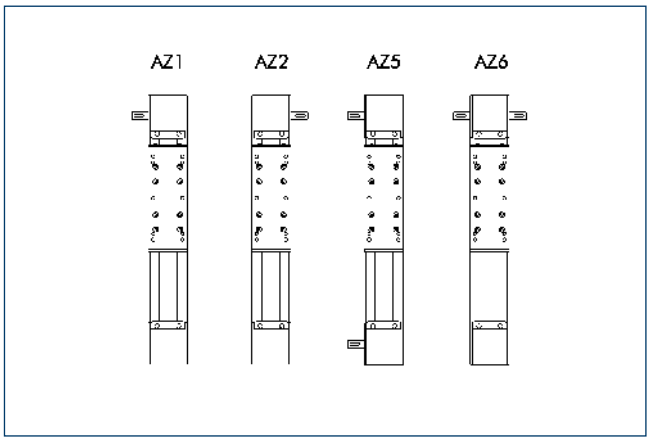
Side definition



(14) Limit switch standard position

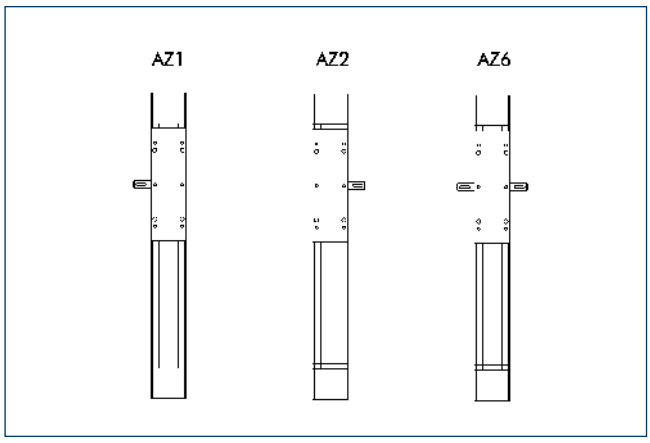
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



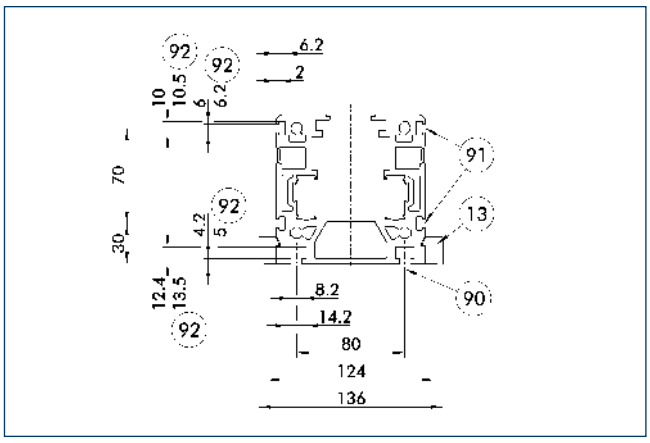
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

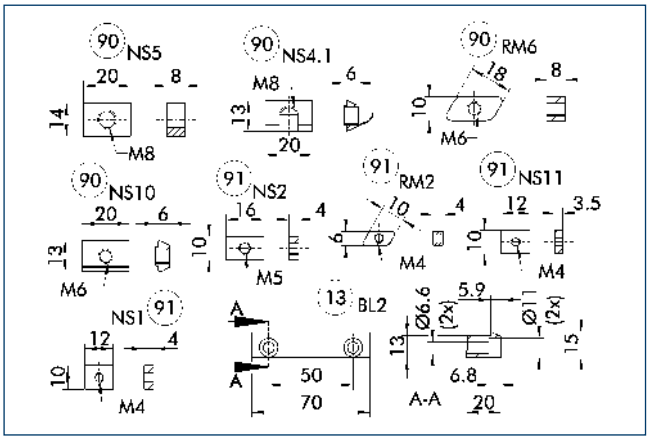
Mounting



(13) Mounting strip
(90) T-nut at the bottom side
(91) Lateral T-nut
(92) Applicable for B110-ZSS-SSS/110-C-SGV

The drawing shows the position of the mounting options.

Fastening elements

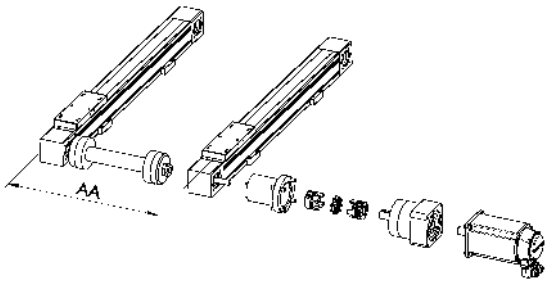


(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

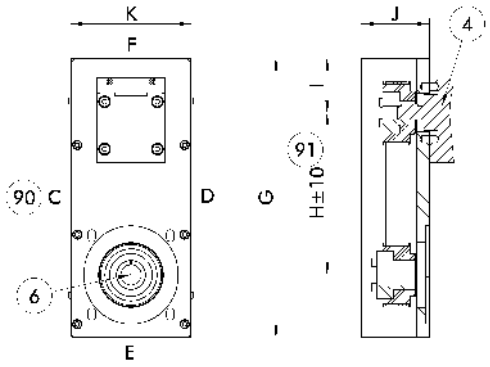
Description	ID	
Mounting strip		
BL2-70x15x20-01	0331401	
T-Nuts		
NS 10-M6-6	0331422	
NS 11-M4	0331429	
NS 1-M4	0331404	
NS 2-M5	0331405	
NS 4.1-M8-6	0331430	
NS 5-M8-8	0331408	
RM2-M4	0331425	
RM6-M6	0331427	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 110-ZSS	GX4/GX8	320
B 110-ZRS	GX4/GX8	320
B 110-SSS	GX4	350
B 110-SRS	GX4	350

Angle belt drive



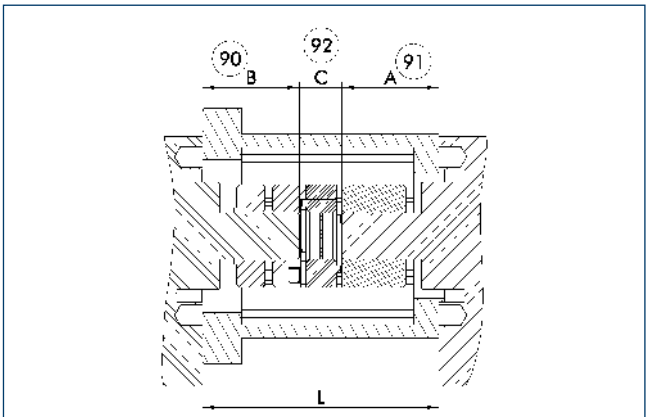
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 110-SSS	328	190	64	80	142
B 110-SRS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

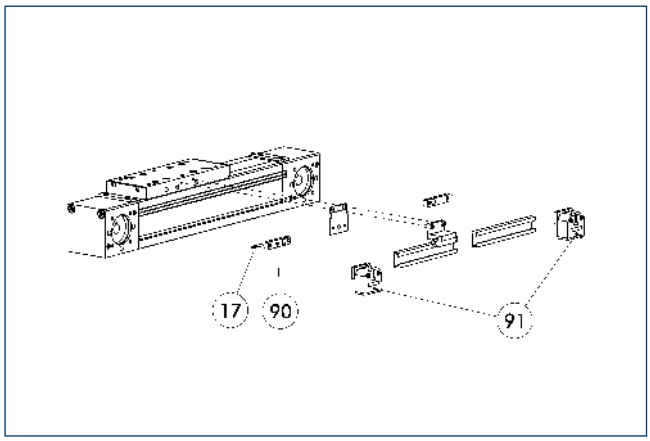
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



17 Cable outlet
90 Inductive limit and reference switches
91 Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

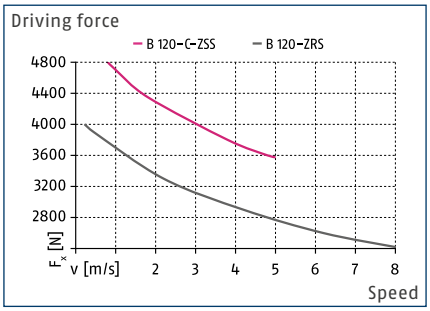
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Beta 120

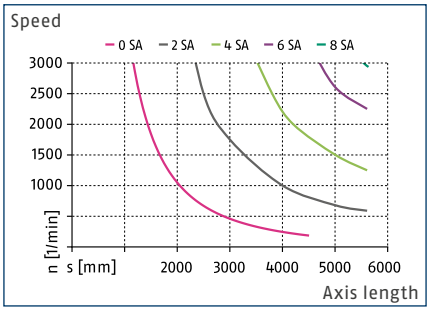
Electric Components | Universal Linear Module



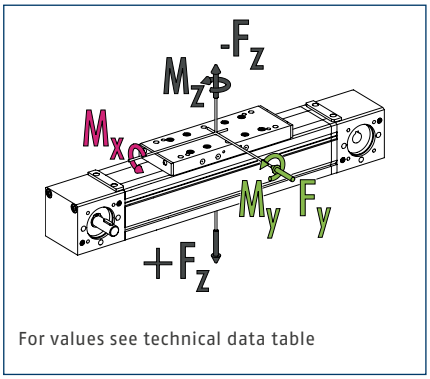
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

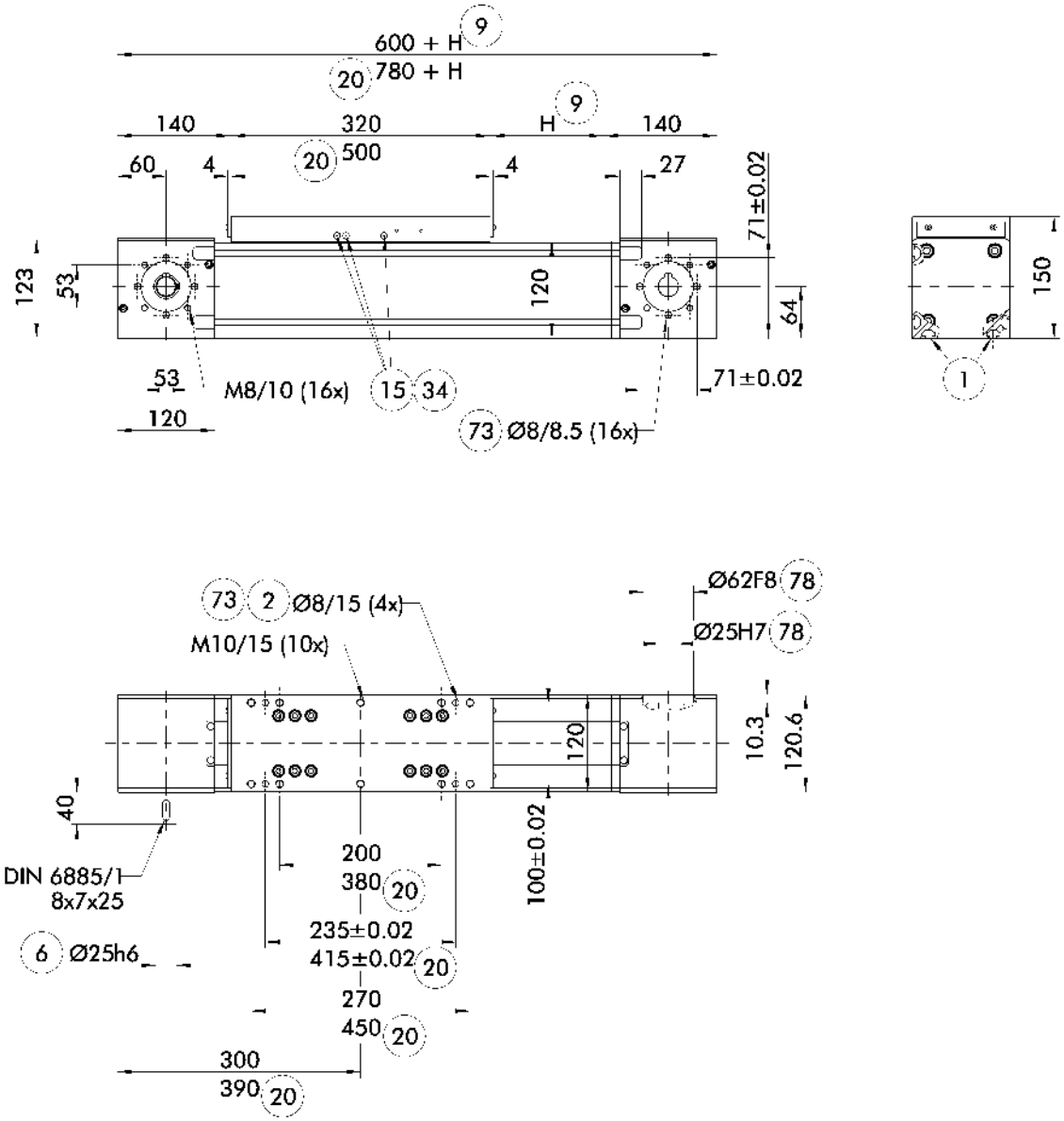
Technical data

Description		B 120-C-ZSS	B 120-ZRS	B 120-C-SSS
Max. stroke	[mm]	7520	7520	5120
Max. driving force	[N]	4800	4000	12000
Repeat accuracy	[mm]	±0.08	±0.08	±0.03
Max. total length	[mm]	8100	8100	5600
Max. speed	[m/s]	5	8	3
Max. acceleration	[m/s²]	60	60	20
Base weight per 0 mm of stroke	[kg]	21	12.5	22
Weight per 100 mm of stroke	[kg]	2.4	1.3	2.7
Slide weight	[kg]	8	6	8
Slide weight, long	[kg]	12	9.4	12
Drive concept		Belt drive	Belt drive	Spindle drive
Idle torque	[Nm]	4.5	3.2	2
Moment of inertia	[kgm²]	0.021	0.015	0.000645
Toothed belt type		60 ATL 10	50 ATL 10	
Traverse path per revolution	[mm]	300	240	
Spindle diameter	[mm]			32
Spindle pitch	[mm]			5/10/20/40/60
Max. spindle speed	[1/min]			3000
Moments M_x max./M_y max./M_z max.	[Nm]	600/1500/1000	350/700/500	600/1500/1000
Forces F_y max./F_z max./-F_z max.	[N]	4000/12000/6000	2500/6000/3000	4000/12000/6000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

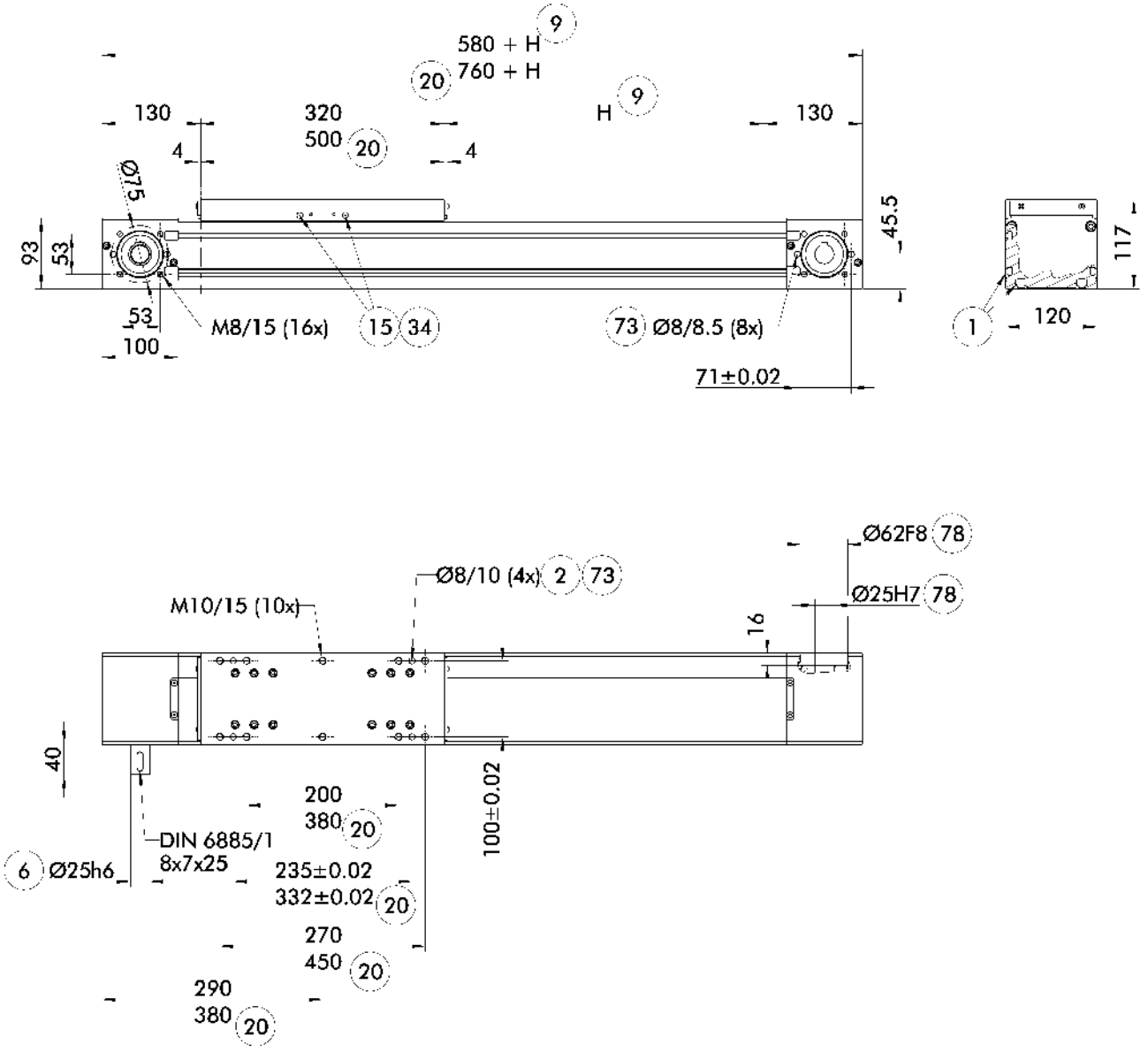
Main view C-ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

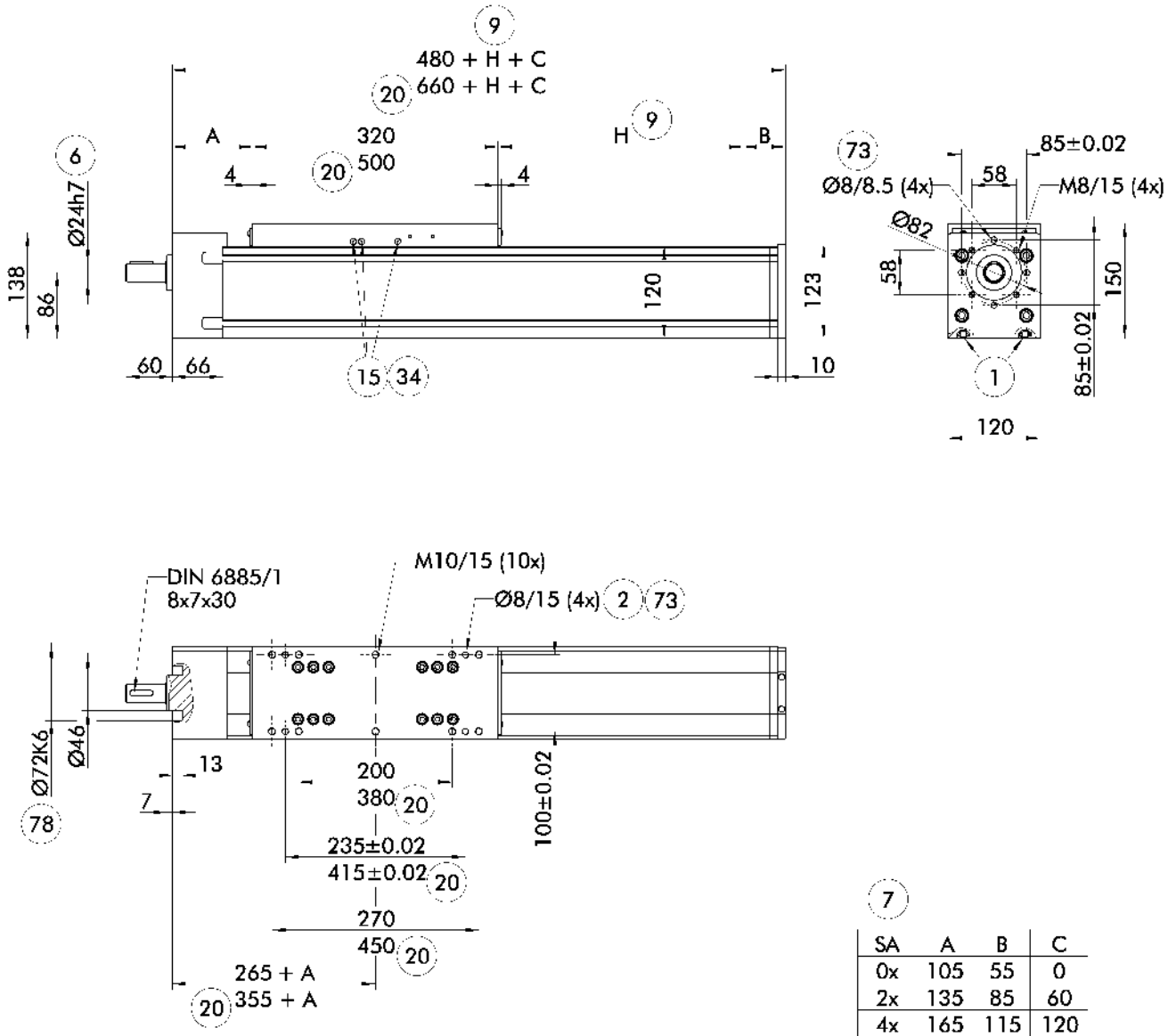
Main view ZRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering

Main view C-SSS



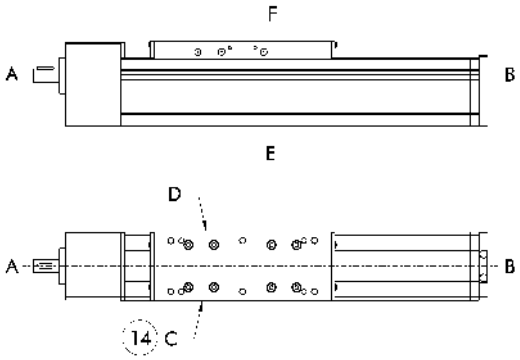
7

SA	A	B	C
0x	105	55	0
2x	135	85	60
4x	165	115	120
6x	195	145	180
8x	225	175	240
10x	255	205	300

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

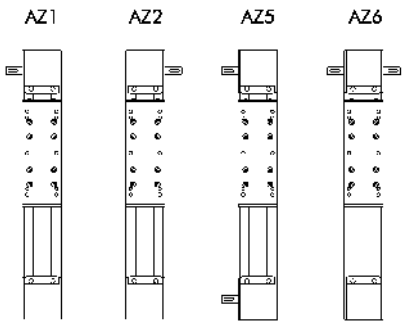
Side definition



(14) Limit switch standard position

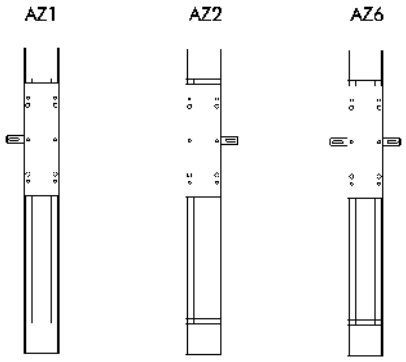
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



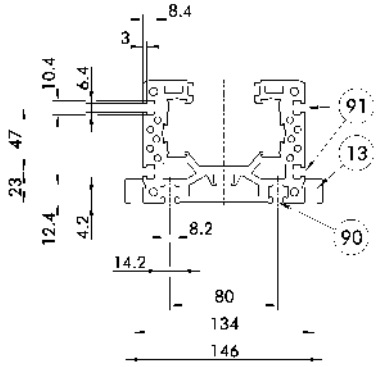
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

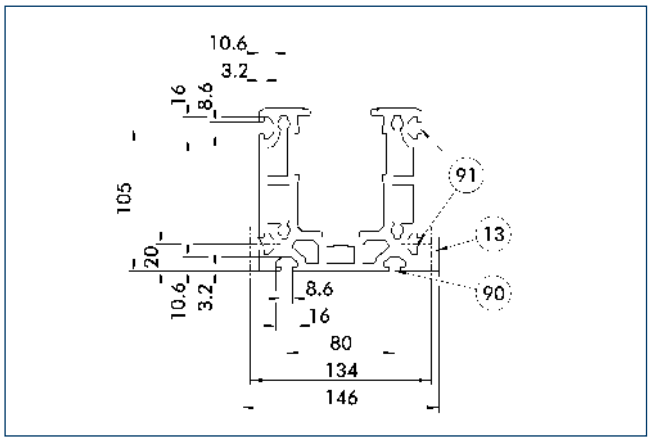
Mounting



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

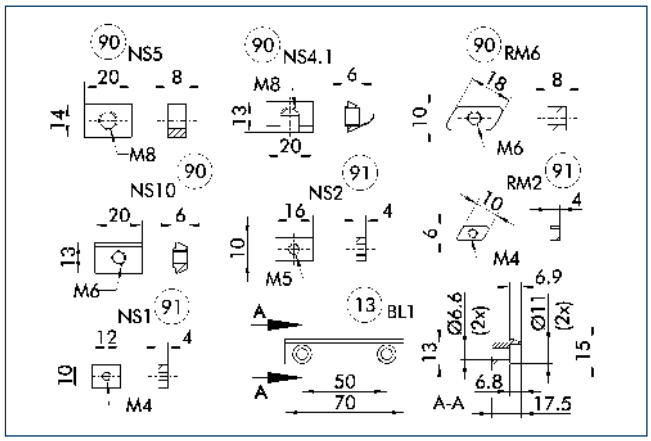
C-version attachment



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

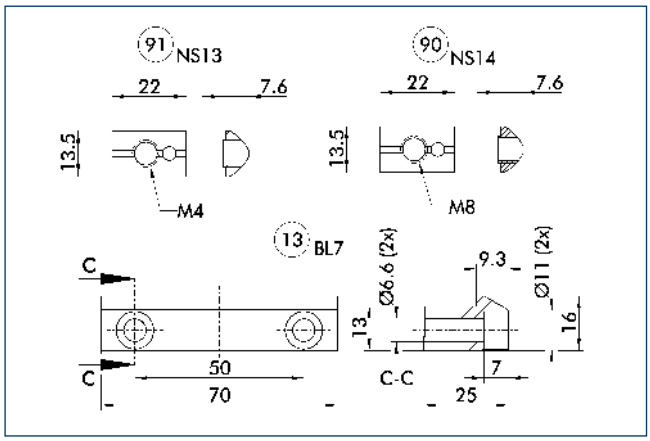


(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
Mounting strip		
BL1-70x15x17.5-01	0331400	
T-Nuts		
NS 10-M6-6	0331422	
NS 1-M4	0331404	
NS 2-M5	0331405	
NS 4.1-M8-6	0331430	
NS 5-M8-8	0331408	
RM2-M4	0331425	
RM6-M6	0331427	

C-version mounting elements



(13) Mounting strip

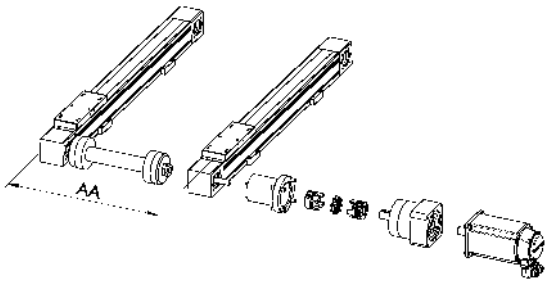
(91) Lateral T-nut

(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

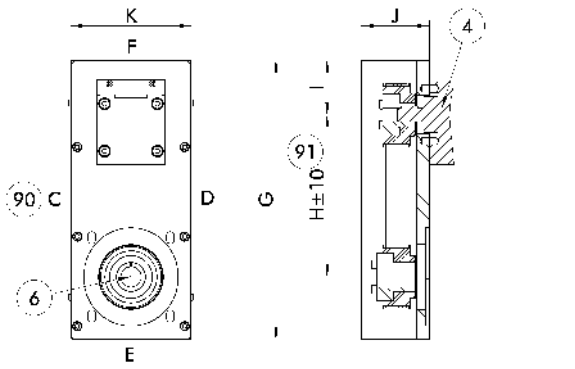
Description	ID	
Mounting strip		
BL7	0331435	
T-Nuts		
NS 13-M4	0331431	
NS 14-M8	0331432	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 120-C-ZSS	GX4/GX8	300
B 120-ZRS	GX4/GX8	300
B 120-C-SSS	GX4	350

Angle belt drive



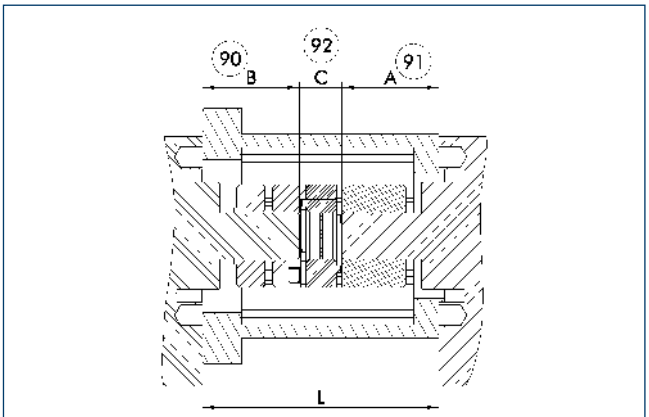
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 120-C-SSS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

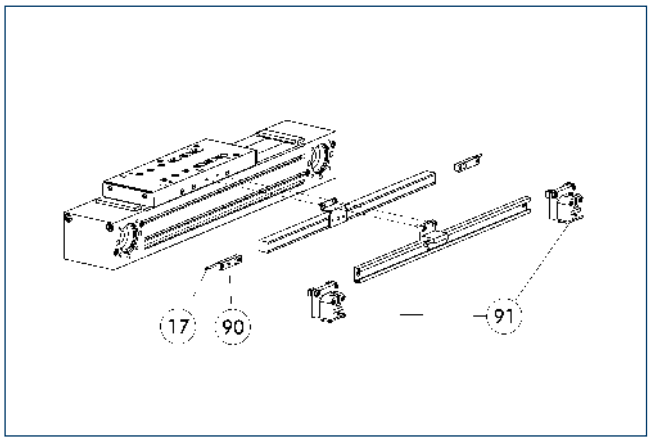
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



17 Cable outlet

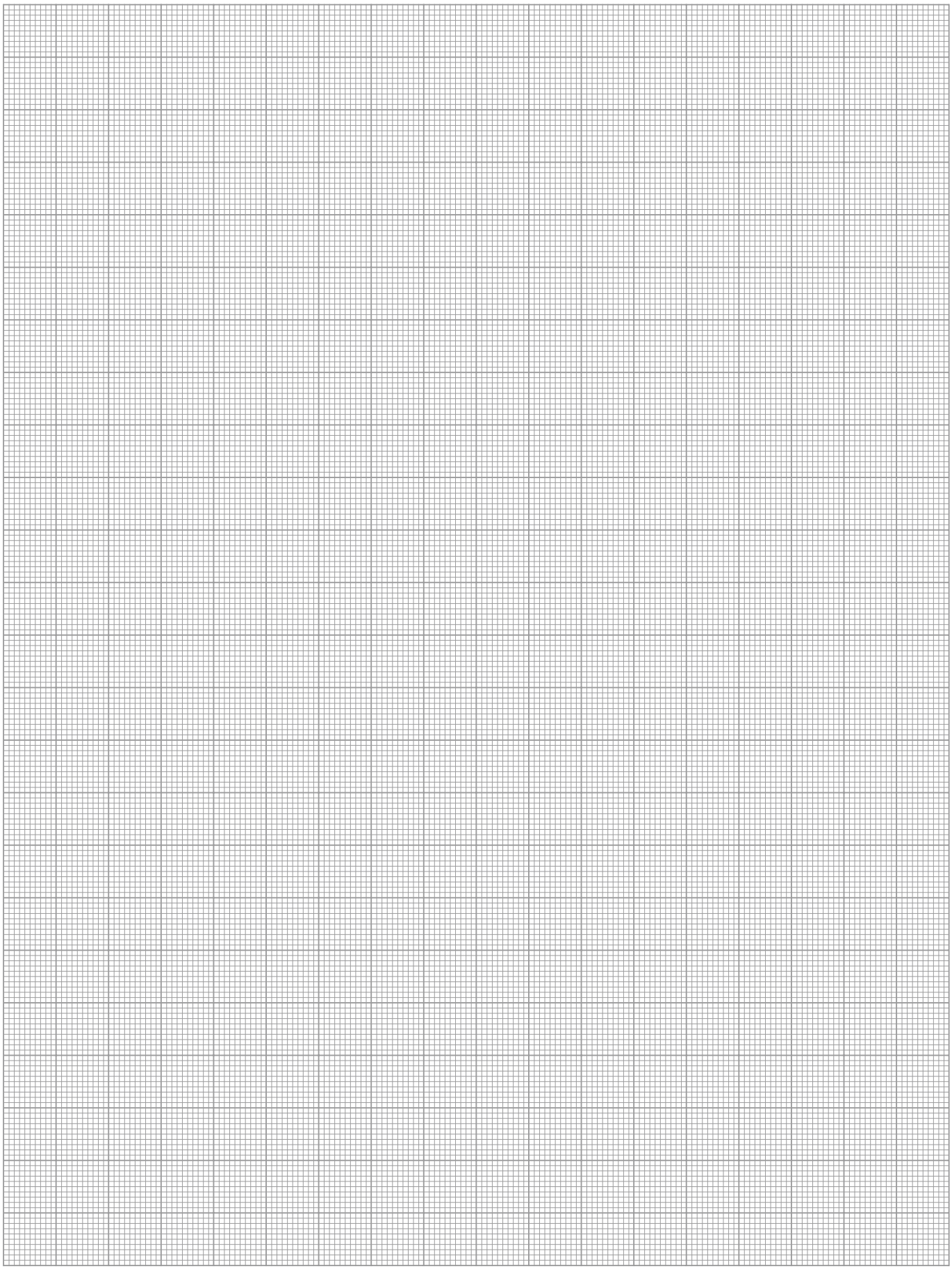
90 Inductive limit and reference switches

91 Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

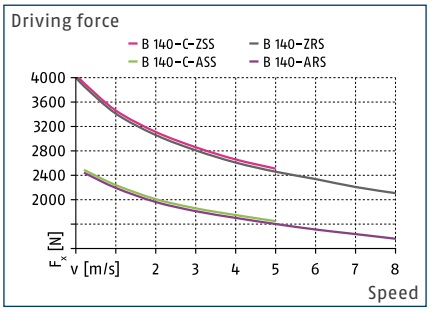


Beta 140

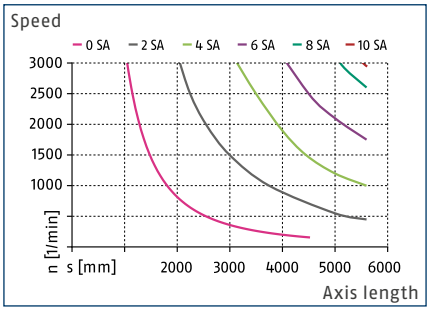
Electric Components | Universal Linear Module



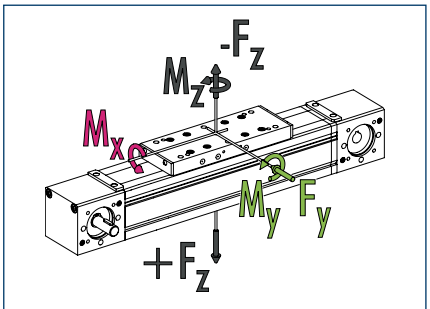
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

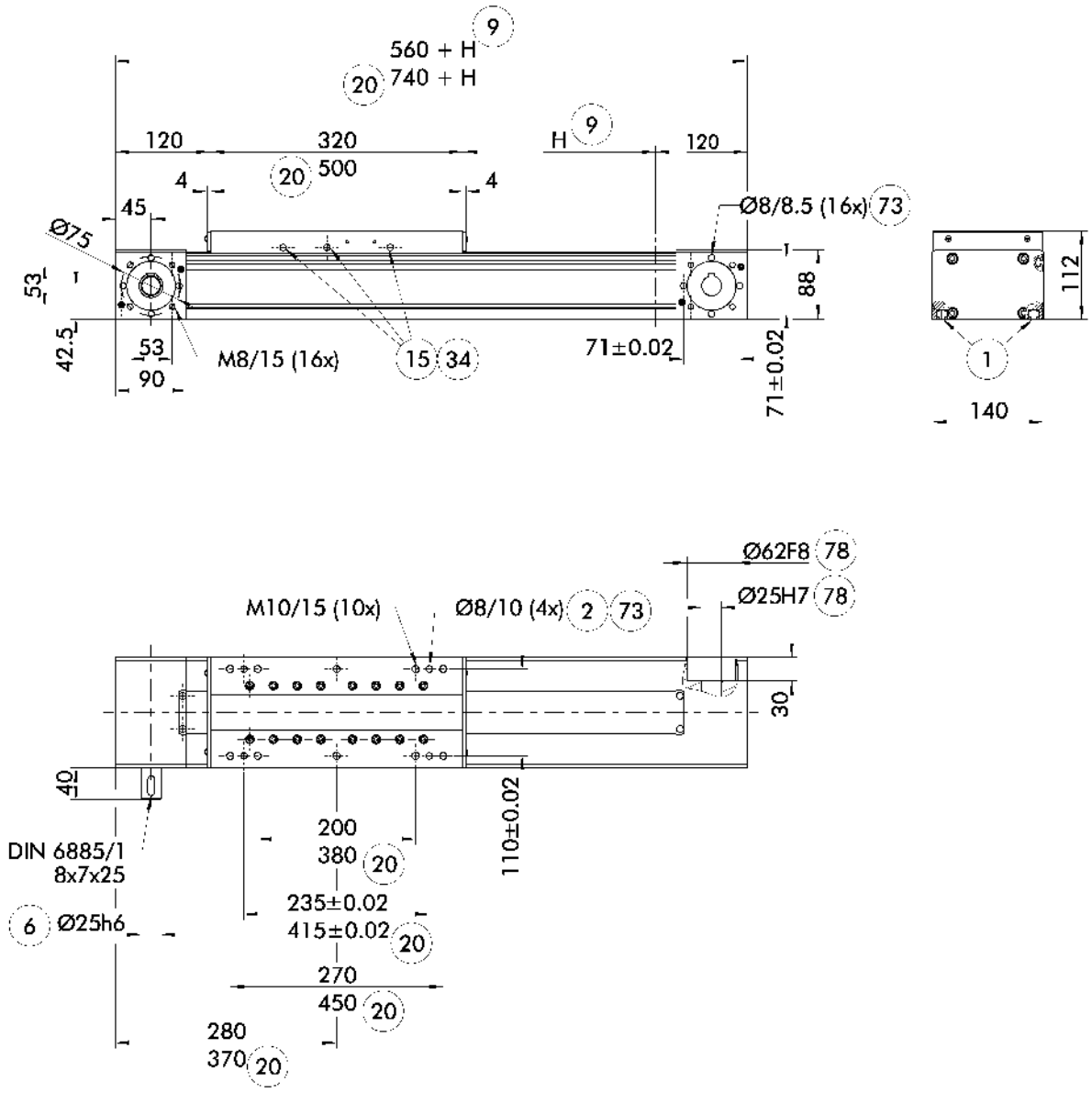
Technical data

Description		B 140-C-ZSS	B 140-ZRS	B 140-C-ASS	B 140-ARS	B 140-C-SSS	B 140-SRS
Max. stroke	[mm]	7470	7540	7470	7470	5120	4920
Max. driving force	[N]	4000	4000	2500	2500	6000	6000
Repeat accuracy	[mm]	±0.08	±0.08	±0.08	±0.08	±0.03	±0.03
Max. total length	[mm]	8100	8100	8100	8100	5600	5400
Max. speed	[m/s]	5	8	5	8	2.5	2.5
Max. acceleration	[m/s²]	60	60	60	60	20	20
Base weight per 0 mm of stroke	[kg]	15	13.5	30	28	15	14
Weight per 100 mm of stroke	[kg]	1.7	1.3	1.5	1.2	1.9	1.4
Slide weight	[kg]	7.5	7			7	6.2
Slide weight, long	[kg]	11.7	11			10.9	9.7
Drive concept		Belt drive	Belt drive	Belt drive	Belt drive	Spindle drive	Spindle drive
Idle torque	[Nm]	3.5	3.5	3.5	3.5	1.5	1
Moment of inertia	[kgm²]	0.02	0.019	0.037	0.035	0.000225	0.000225
Toothed belt type		50 AT 10-E	50 AT 10-E	50 AT 10-E	50 AT 10-E		
Traverse path per revolution	[mm]	220	220	240	240		
Spindle diameter	[mm]					25	25
Spindle pitch	[mm]					5/10/25/50	5/10/25/50
Max. spindle speed	[1/min]					3000	3000
Moments M_x max./M_y max./M_z max.	[Nm]	600/1200/1200	350/700/500	600/1200/1200	350/600/600	600/1200/1200	350/700/700
Forces F_y max./F_z max./-F_z max.	[N]	3200/7500/5000	2500/5000/3000	3200/7500/5000	2500/5000/3000	3200/7500/5000	2500/5000/3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

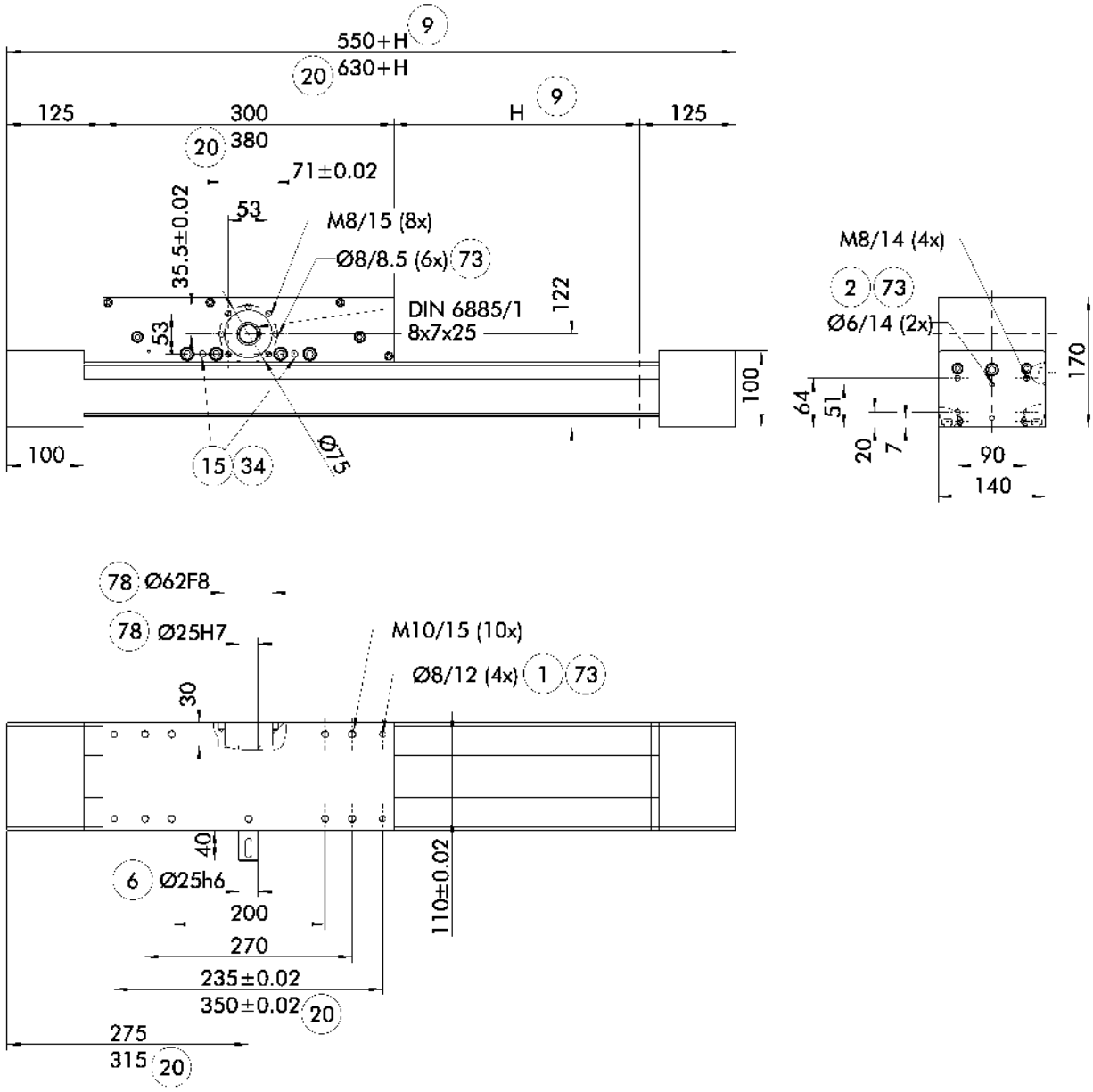
Main view C-ZSS and ZRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

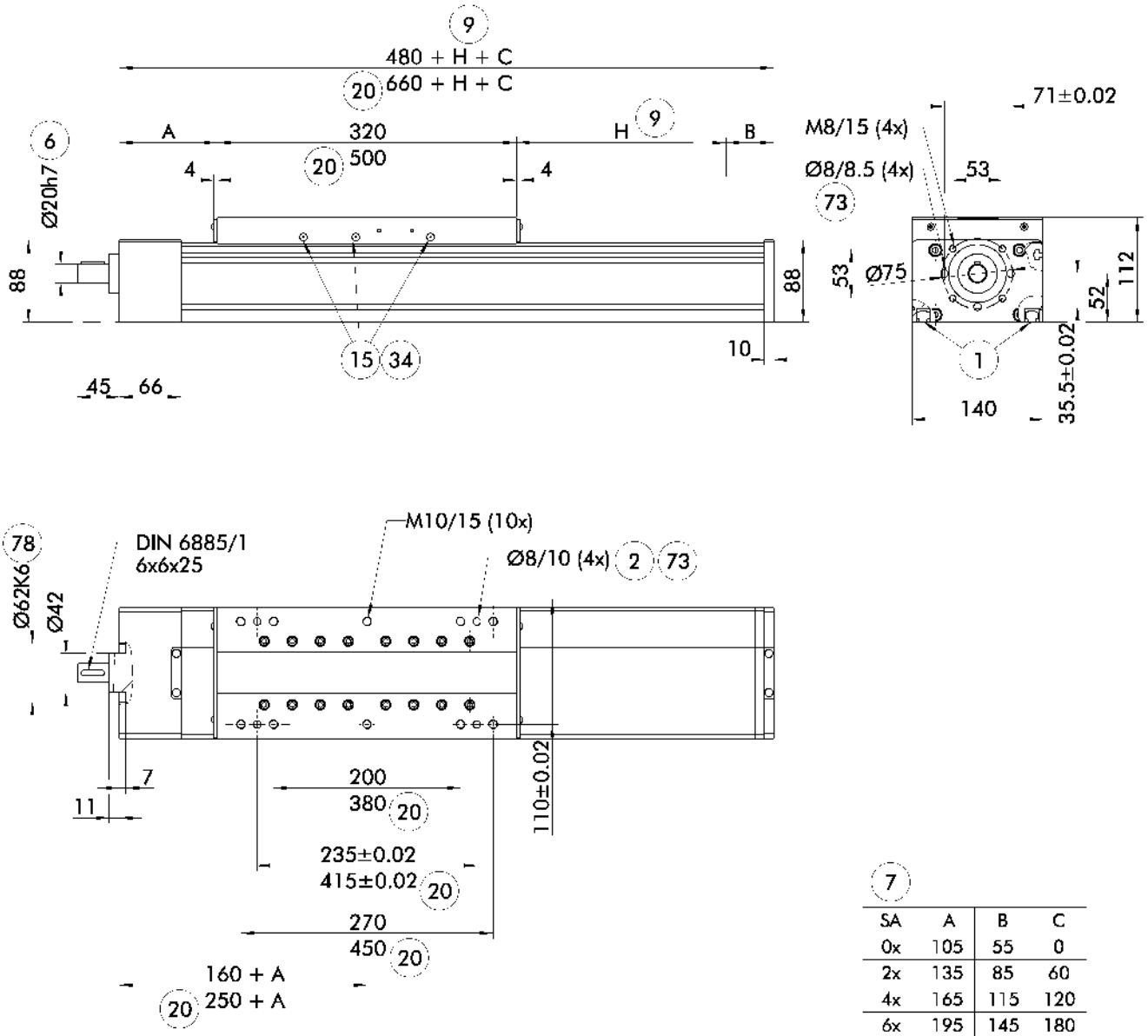
Main view C-ASS and ARS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering

Main view C-SSS and SRS



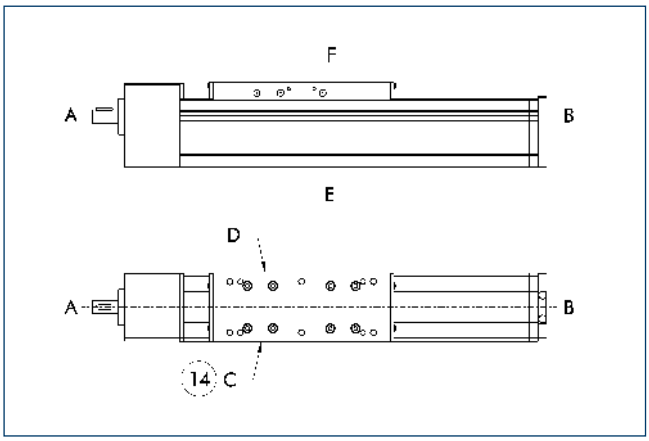
7

SA	A	B	C
0x	105	55	0
2x	135	85	60
4x	165	115	120
6x	195	145	180
8x	225	175	240
10x	255	205	300

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
7 Number of spindle supports
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

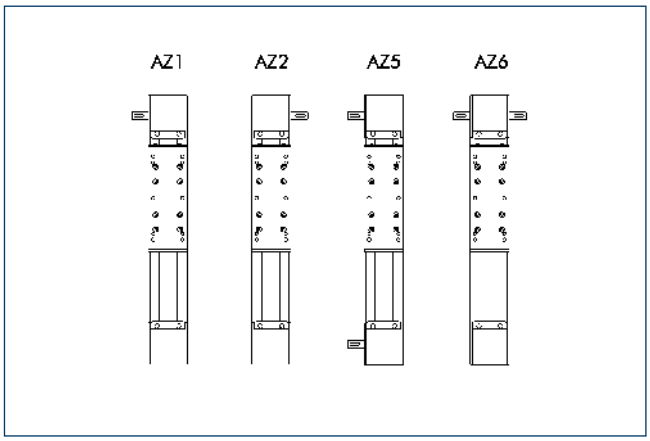
Side definition



(14) Limit switch standard position

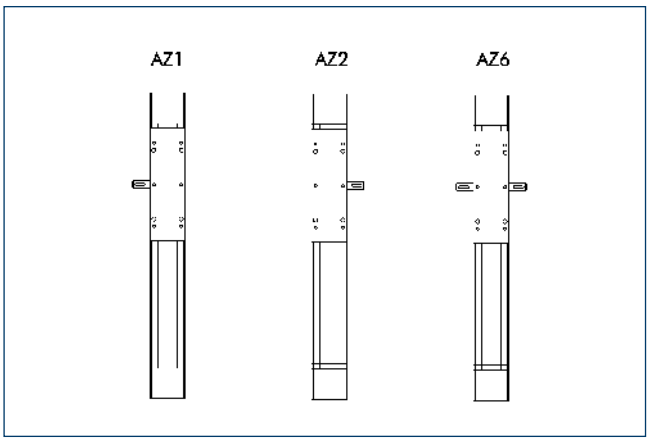
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



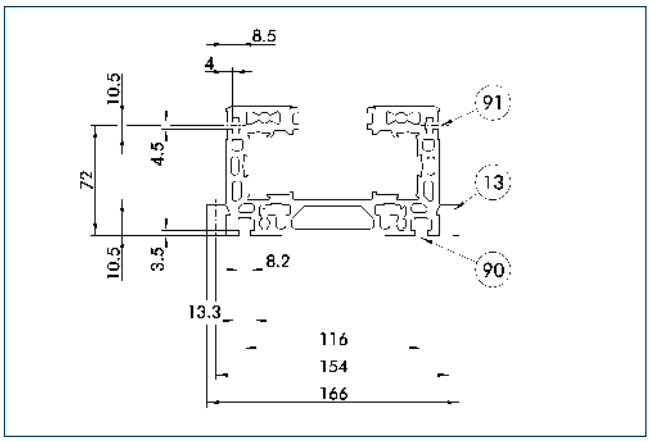
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

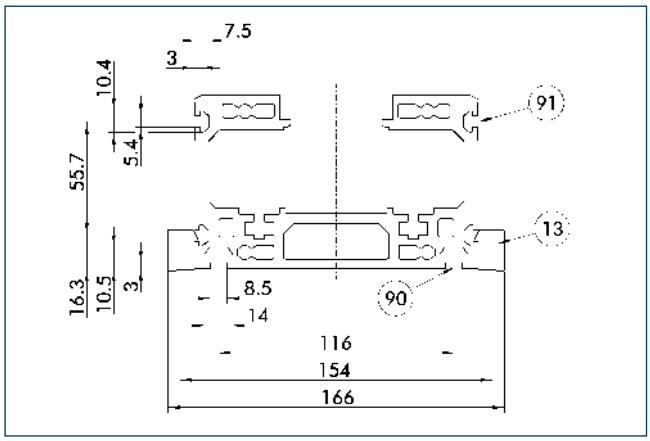
Mounting



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

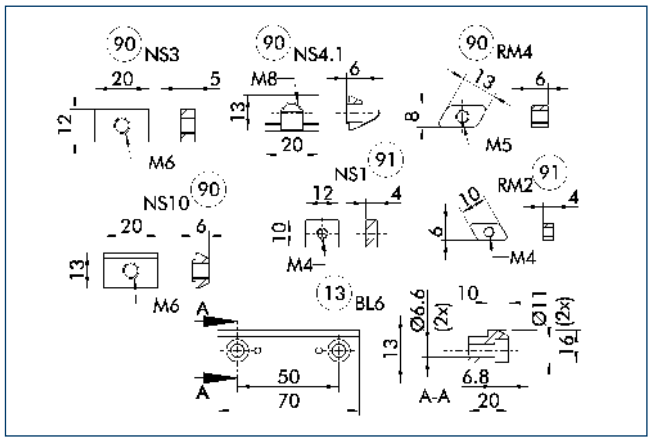
C-version attachment



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

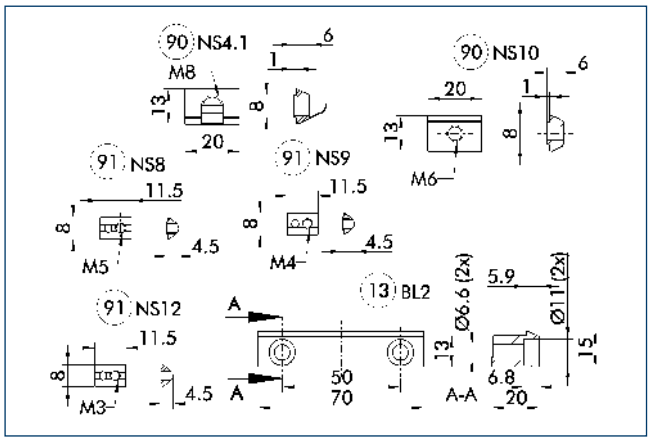


(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
Mounting strip		
BL6-70x15x20-01	0331428	
T-Nuts		
NS 10-M6-6	0331422	
NS 1-M4	0331404	
NS 3-M6	0331406	
NS 4.1-M8-6	0331430	
RM2-M4	0331425	
RM4-M5	0331426	

C-version mounting elements



(13) Mounting strip

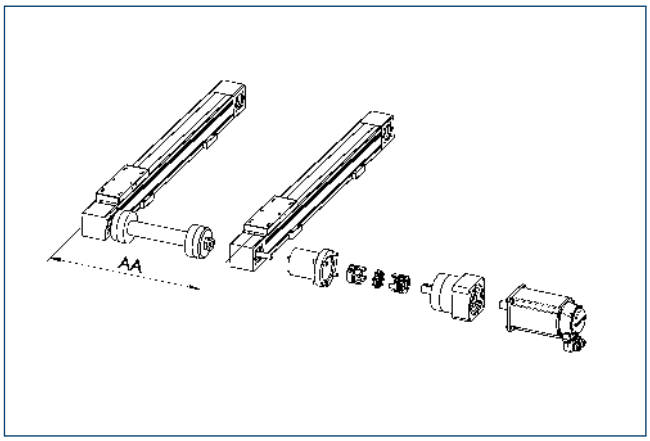
(91) Lateral T-nut

(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

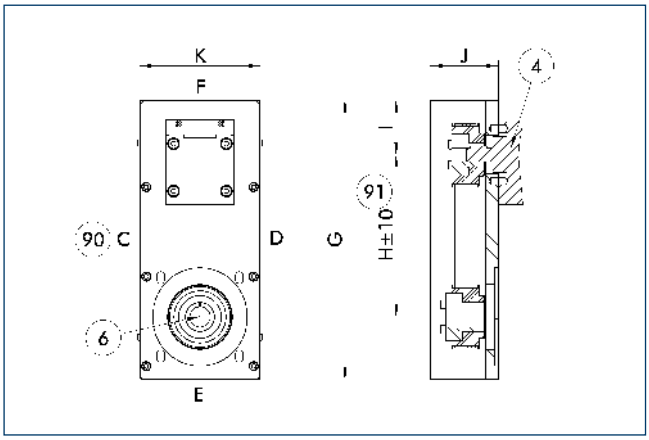
Description	ID	
Mounting strip		
BL2-70x15x20-01	0331401	
T-Nuts		
NS 10-M6-6	0331422	
NS 12-M3	0331424	
NS 4.1-M8-6	0331430	
NS 8-M5	0331420	
NS 9-M4	0331421	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 140-C-ZSS	GX4/GX8	310
B 140-ZRS	GX4/GX8	310
B 140-C-SSS	GX4	350
B 140-SRS	GX4	350

Angle belt drive



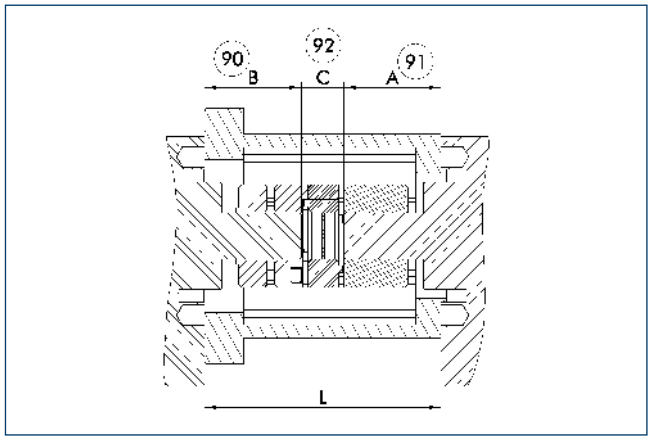
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 140-C-SSS	328	190	64	80	142
B 140-SRS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

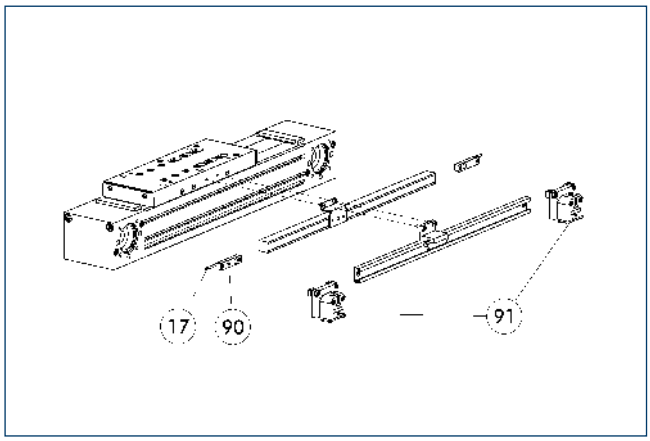
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



17 Cable outlet

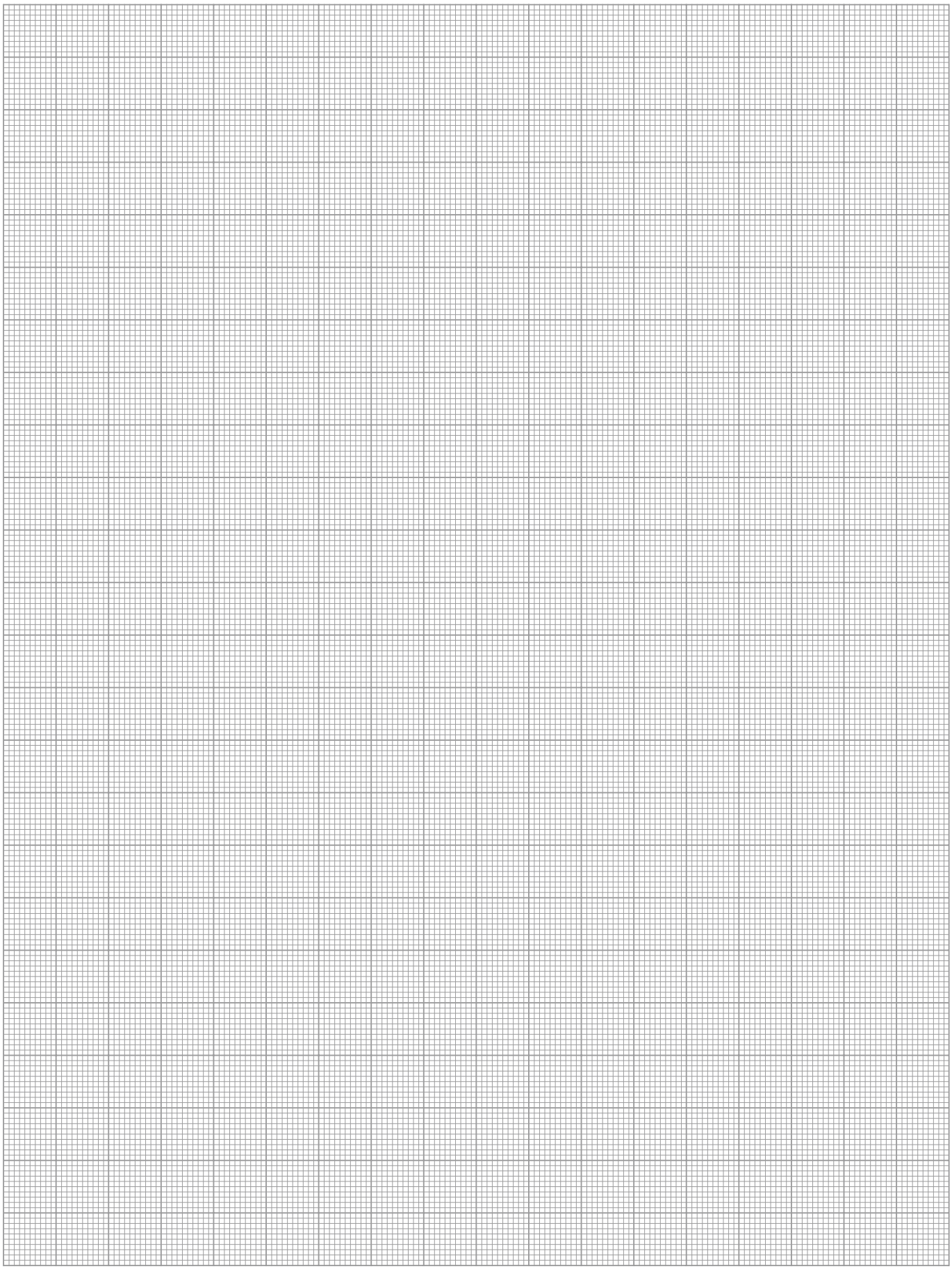
90 Inductive limit and reference switches

91 Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

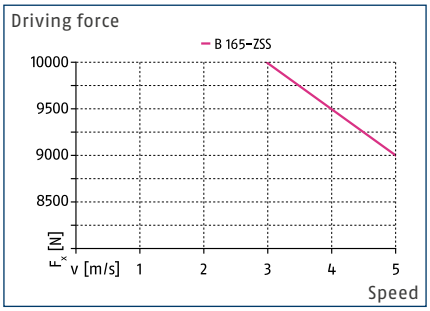


Beta 165

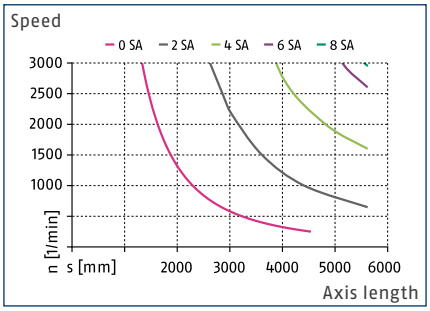
Electric Components | Universal Linear Module



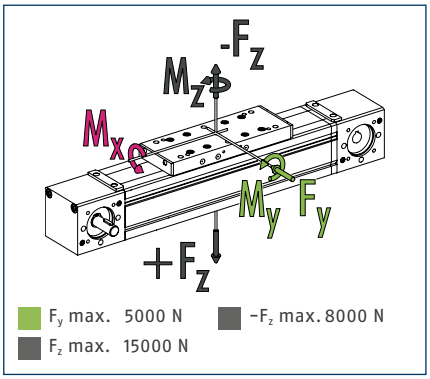
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

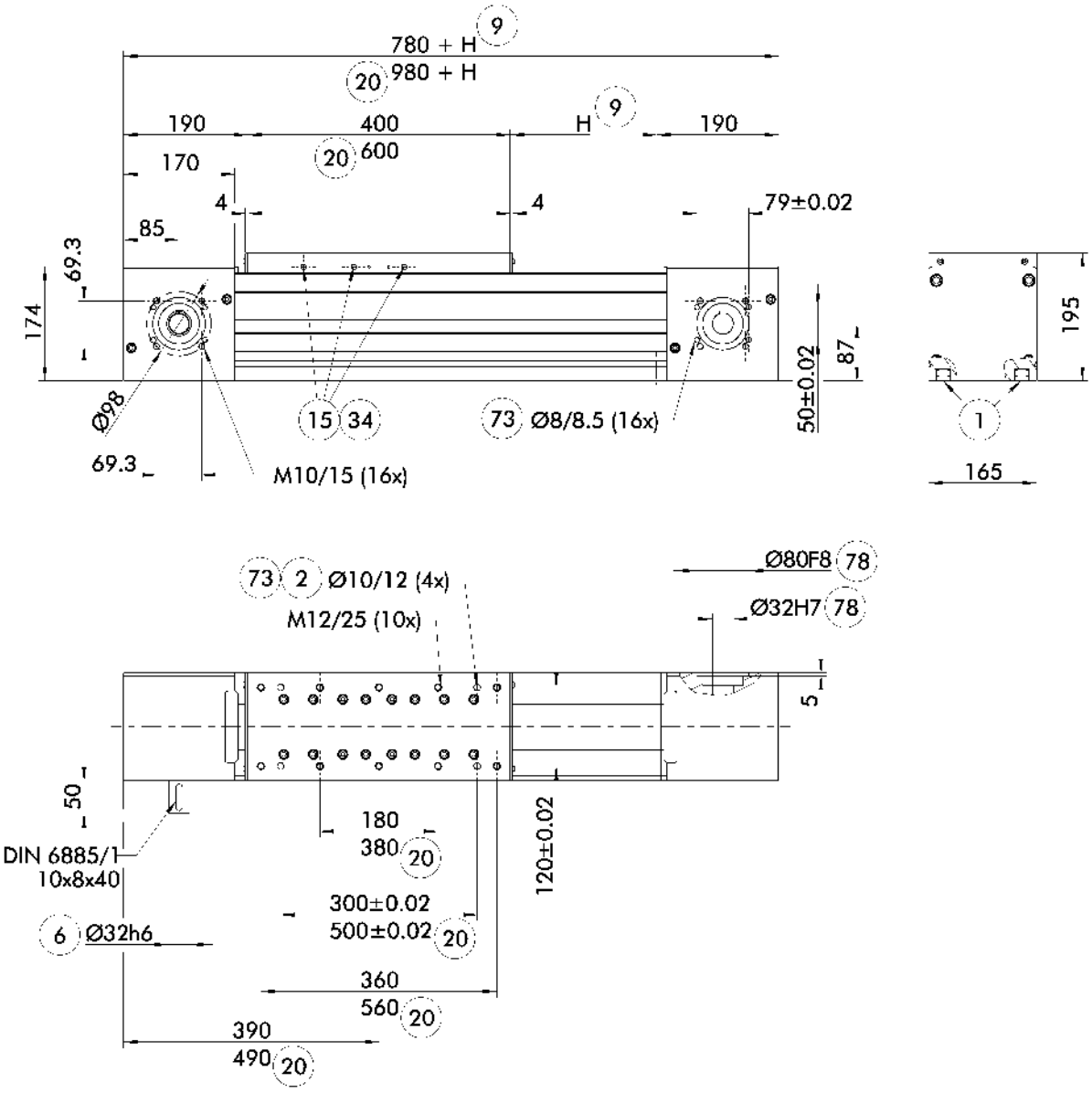
Technical data

Description		B 165-ZSS	B 165-SSS
Max. stroke	[mm]	6920	5010
Max. driving force	[N]	10000	18000
Repeat accuracy	[mm]	±0.08	±0.03
Max. total length	[mm]	7700	5600
Max. speed	[m/s]	5	2
Max. acceleration	[m/s²]	60	20
Base weight per 0 mm of stroke	[kg]	38.4	33.9
Weight per 100 mm of stroke	[kg]	3	3.7
Slide weight	[kg]	11.9	11.5
Slide weight, long	[kg]	17.9	17.25
Drive concept		Belt drive	Spindle drive
Idle torque	[Nm]	12	3
Moment of inertia	[kgm²]	0.085	0.00165
Toothed belt type		75 ATS 15	
Traverse path per revolution	[mm]	450	
Spindle diameter	[mm]		40
Spindle pitch	[mm]		5/10/20/40
Max. spindle speed	[1/min]		3000
Moments M_x max./M_y max./M_z max.	[Nm]	700/1400/1100	800/1800/1400

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

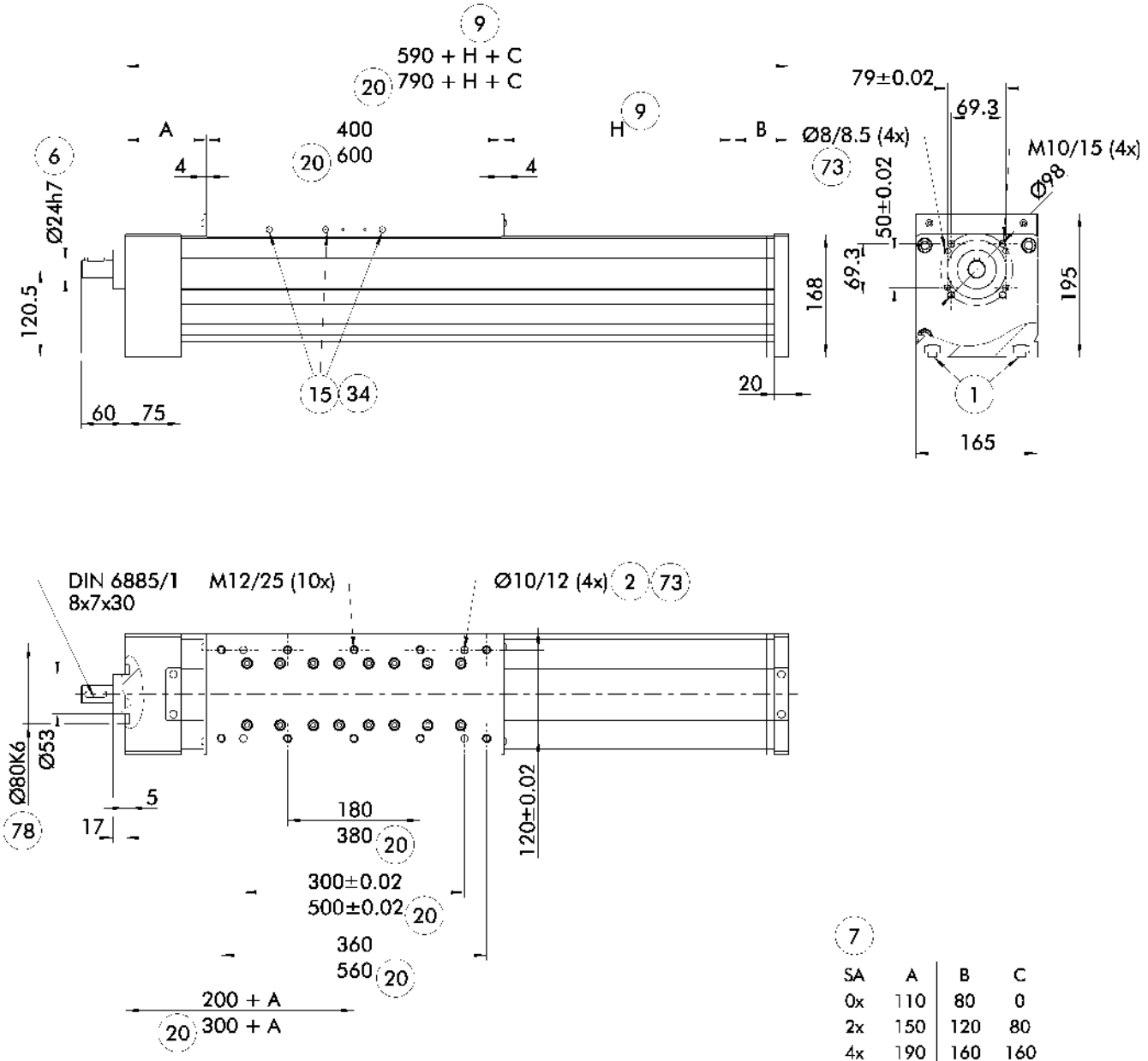
Main view ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

Main view SSS



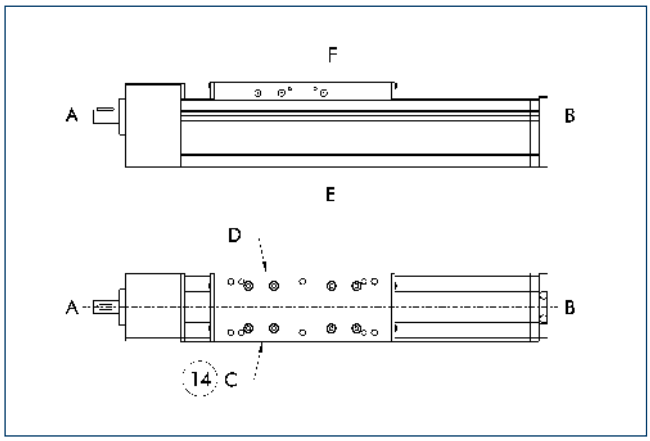
7

SA	A	B	C
0x	110	80	0
2x	150	120	80
4x	190	160	160
6x	230	200	240
8x	270	240	320

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

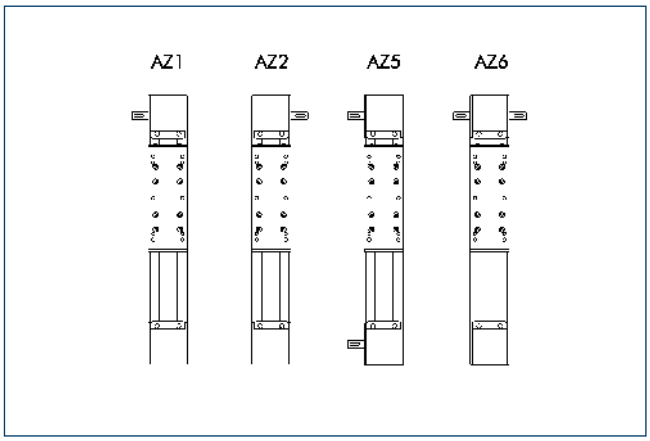
Side definition



(14) Limit switch standard position

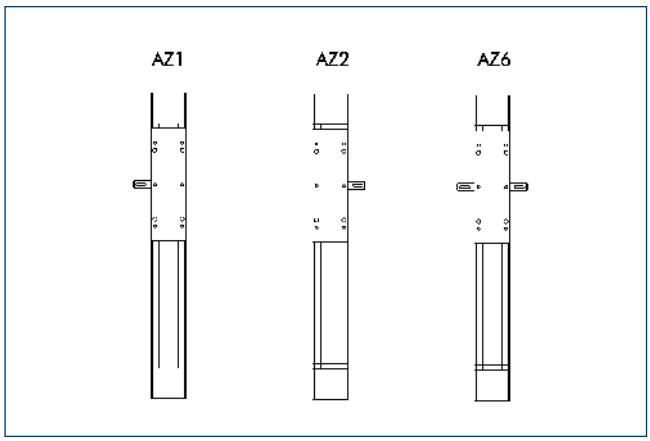
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



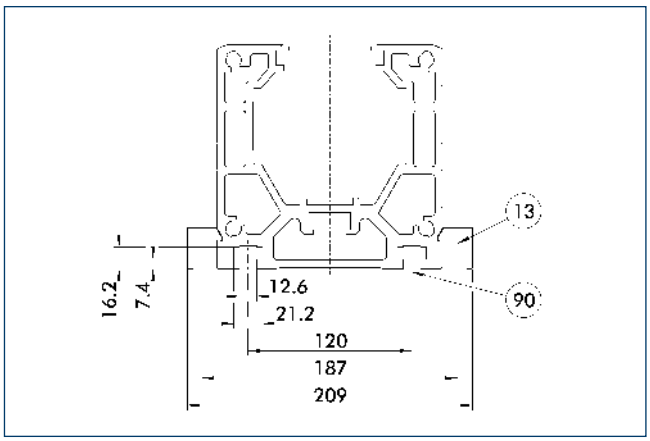
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Mounting

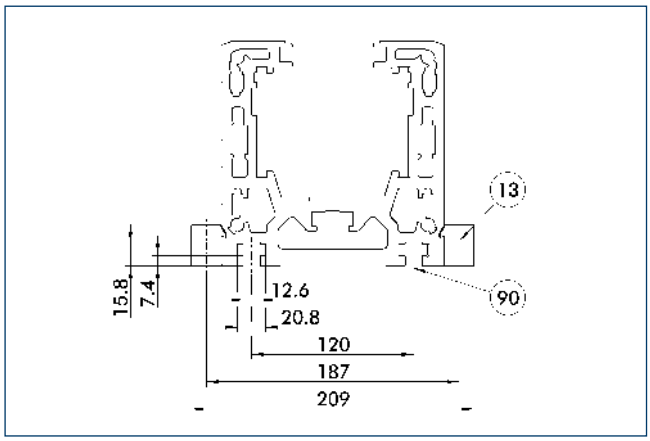


(13) Mounting strip

(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

S-version attachment



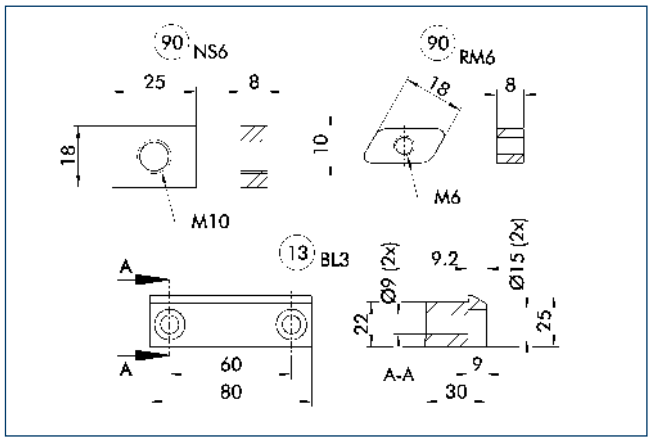
(13) Mounting strip

(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

ⓘ The S-version of the attachment is used on toothed belt drives as of an overall length of 5,840 mm.

Fastening elements



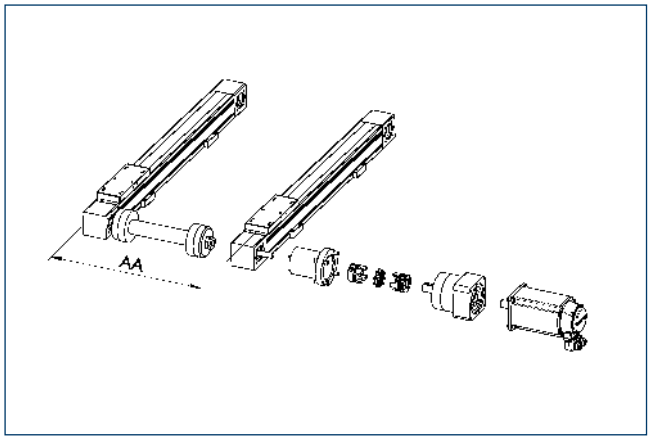
(13) Mounting strip

(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

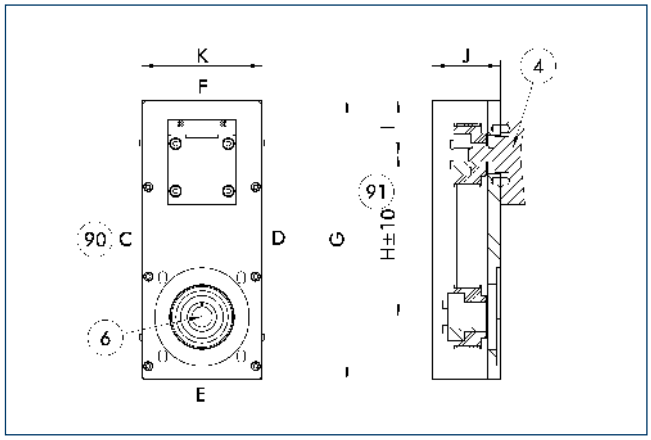
Description	ID	
Mounting strip		
BL3-80x25x30-01	0331402	
T-Nuts		
NS 6-M10	0331409	
RM6-M6	0331427	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 165-ZSS	GX16	350
B 165-SSS	GX8	430

Angle belt drive



(4) Linear unit

(6) Drive connection

(90) Attachment direction of angle belt drive

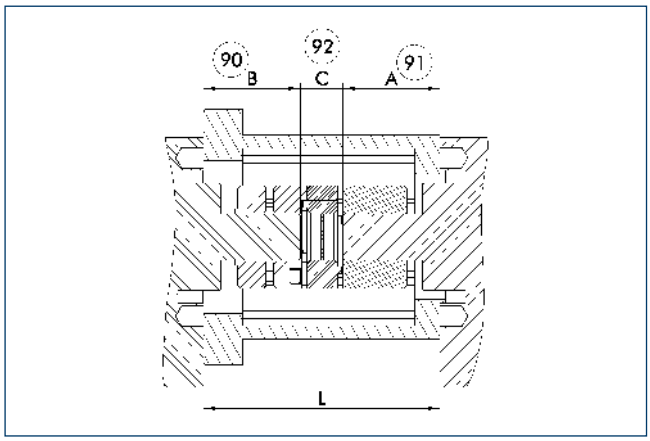
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 165-SSS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

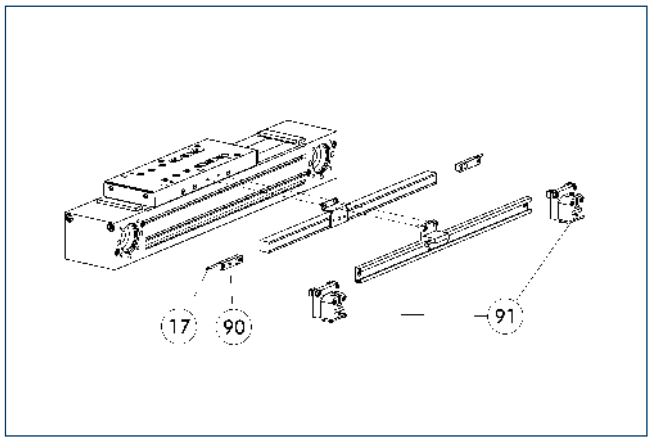
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet
(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

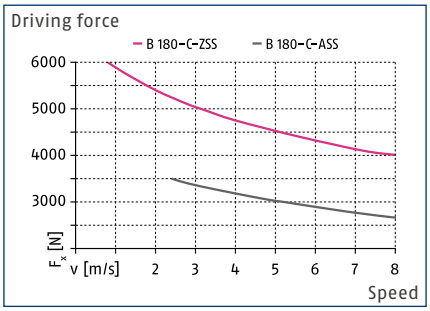
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Beta 180

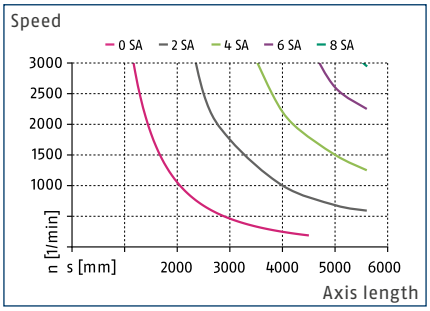
Electric Components | Universal Linear Module



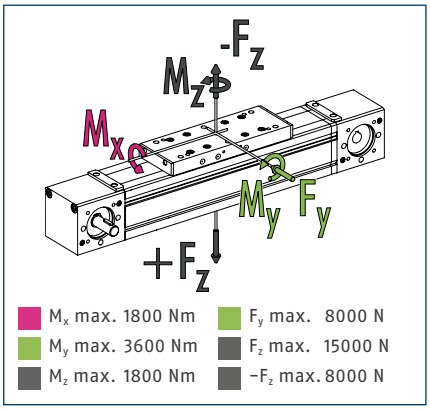
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

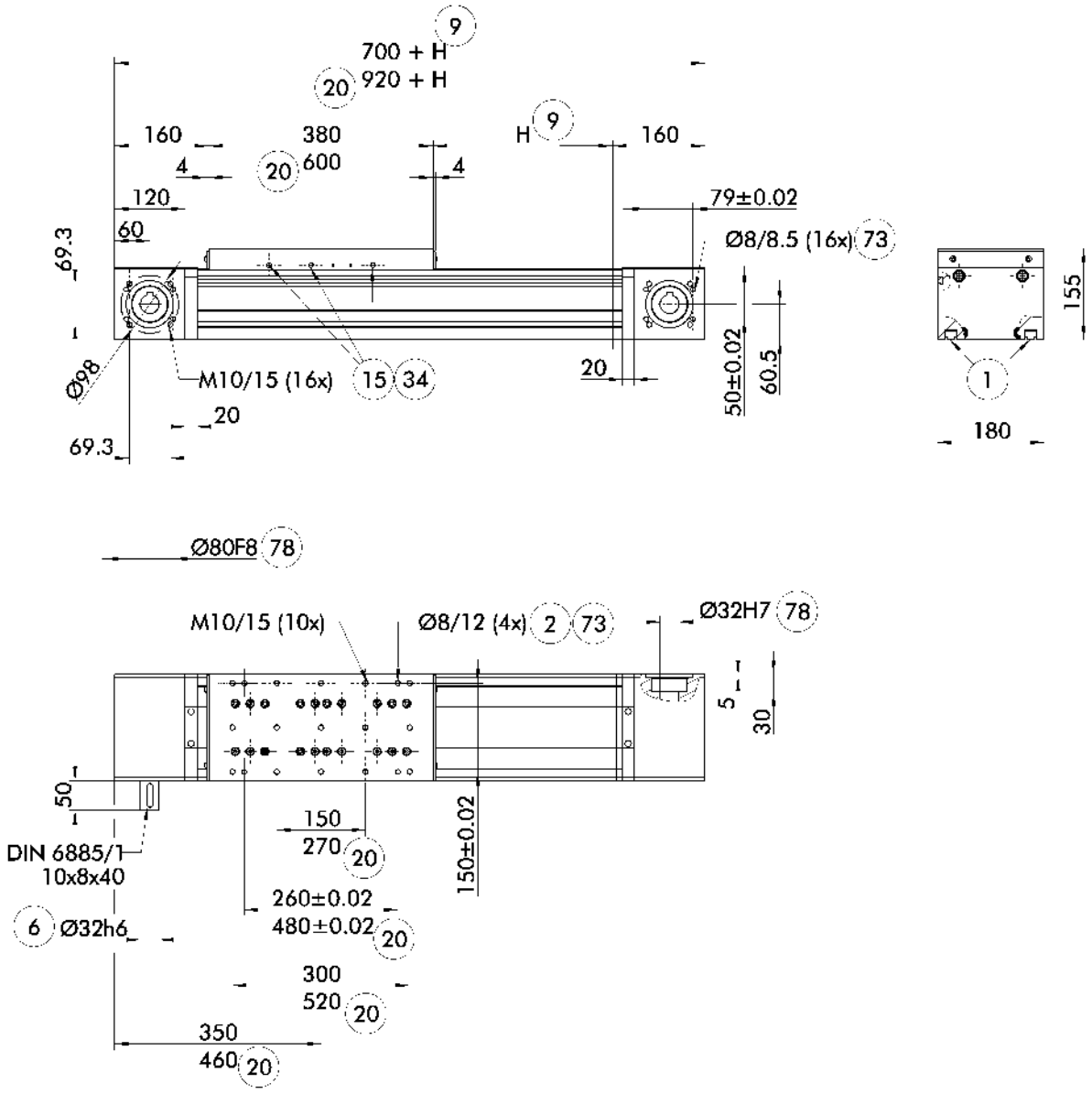
Technical data

Description		B 180-C-ZSS	B 180-C-ASS	B 180-C-SSS
Max. stroke	[mm]	5500	5470	5030
Max. driving force	[N]	6000	3500	12000
Repeat accuracy	[mm]	±0.08	±0.08	±0.03
Max. total length	[mm]	6200	6200	5600
Max. speed	[m/s]	5	5	3
Max. acceleration	[m/s²]	60	60	20
Base weight per 0 mm of stroke	[kg]	39.7	51.5	37
Weight per 100 mm of stroke	[kg]	2.6	3.6	3
Slide weight	[kg]	14.65		14.3
Slide weight, long	[kg]	15.75		15.4
Drive concept		Belt drive	Belt drive	Spindle drive
Idle torque	[Nm]	8	8	2.5
Moment of inertia	[kgm²]	0.0465	0.0775	0.000645
Toothed belt type		75 AT 10	75 AT 10	
Traverse path per revolution	[mm]	320	320	
Spindle diameter	[mm]			32
Spindle pitch	[mm]			5/10/20/40/60
Max. spindle speed	[1/min]			3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

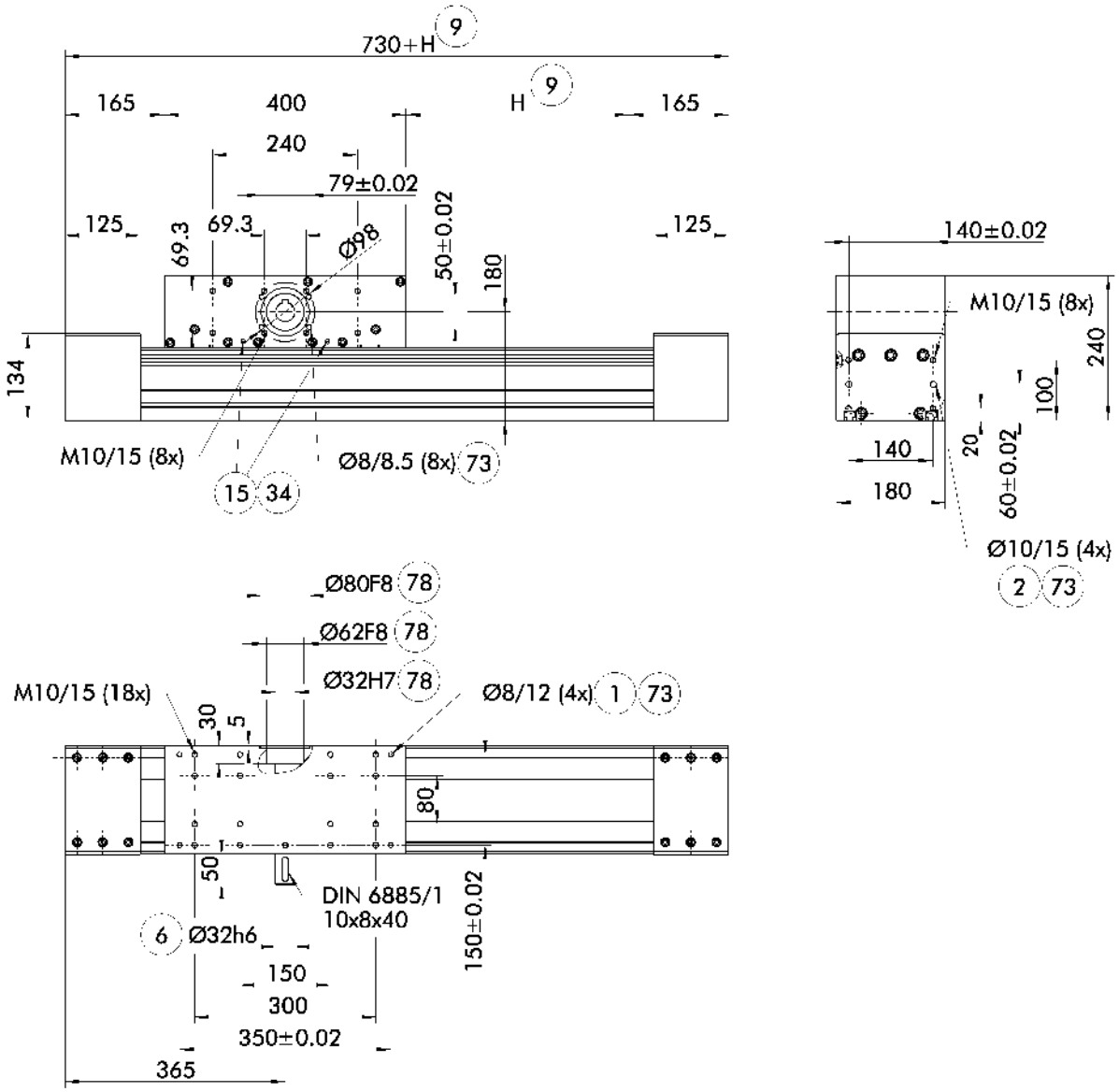
Main view C-ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

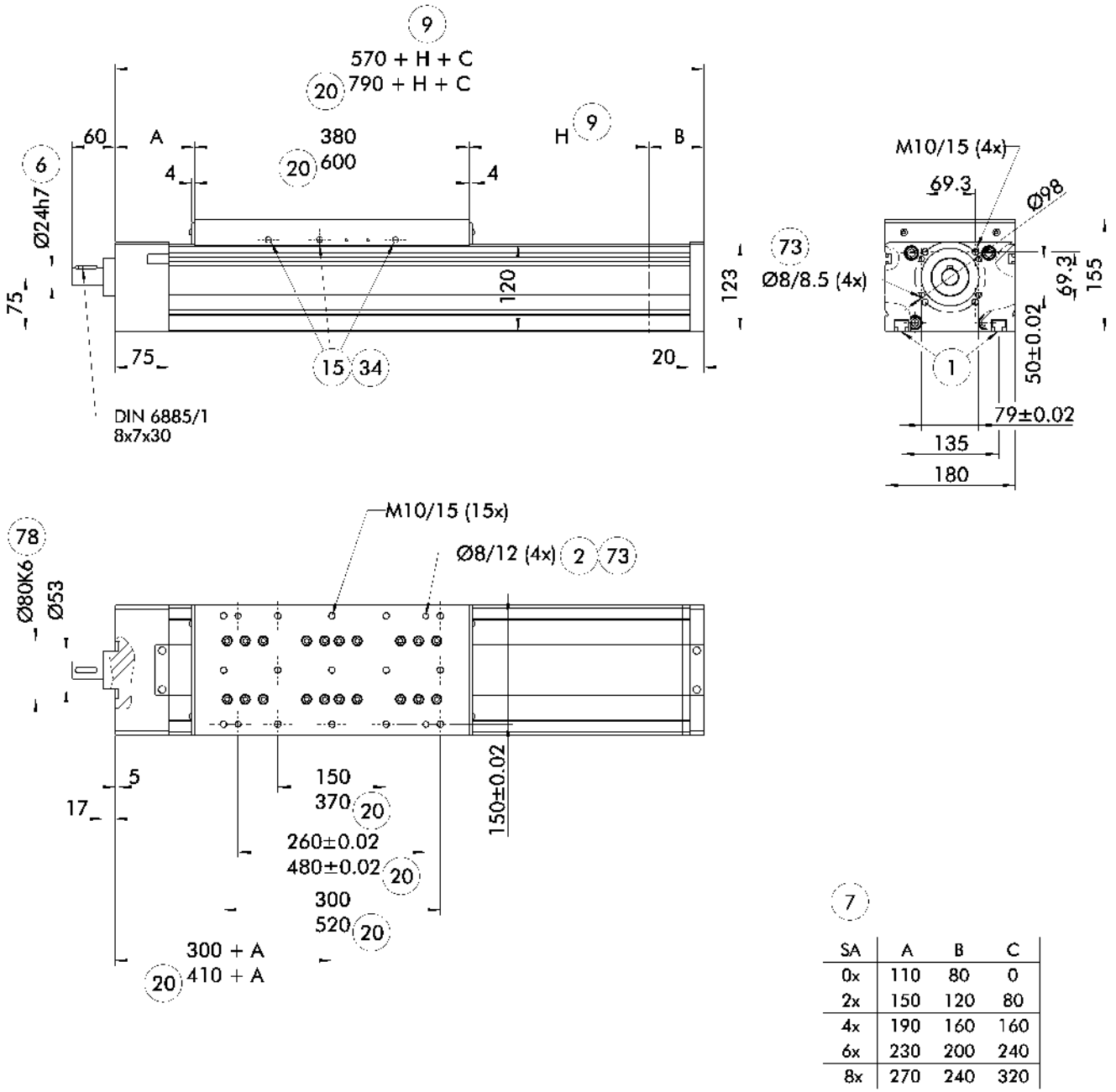
Main view C-ASS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
34. On both sides
73. Fit for centering pins
78. Fit for centering

Main view C-SSS



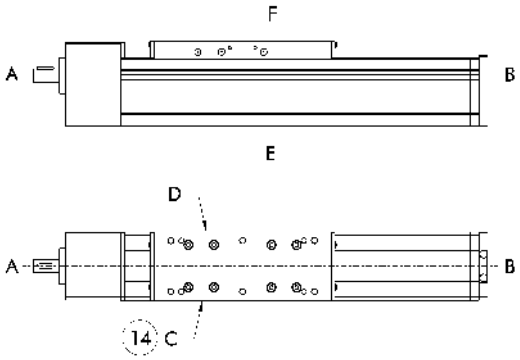
7

SA	A	B	C
0x	110	80	0
2x	150	120	80
4x	190	160	160
6x	230	200	240
8x	270	240	320

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

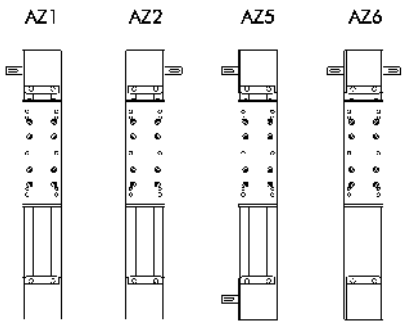
Side definition



(14) Limit switch standard position

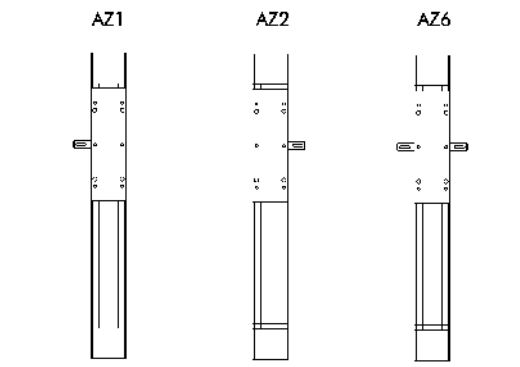
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



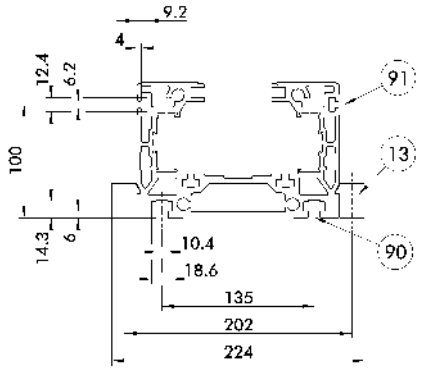
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts in slide (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

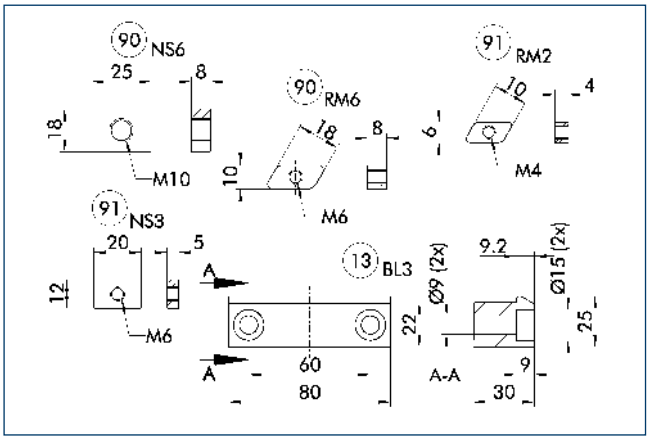
Mounting



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

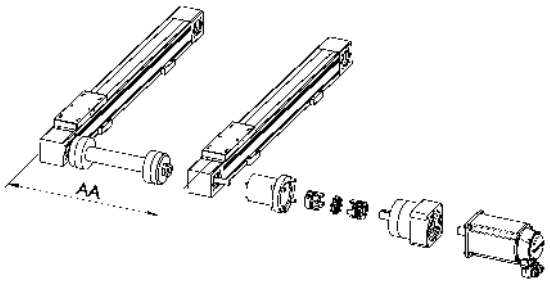


13 Mounting strip
90 T-nut at the bottom side
91 Lateral T-nut

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

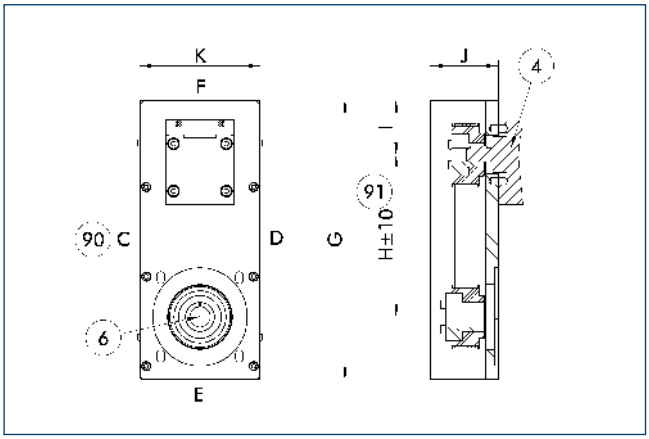
Description	ID	
Mounting strip		
BL3-80x25x30-01	0331402	
T-Nuts		
NS 3-M6	0331406	
NS 6-M10	0331409	
RM2-M4	0331425	
RM6-M6	0331427	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
B 180-C-ZSS	GX8/GX16	370
B 180-C-SSS	GX8	430

Angle belt drive



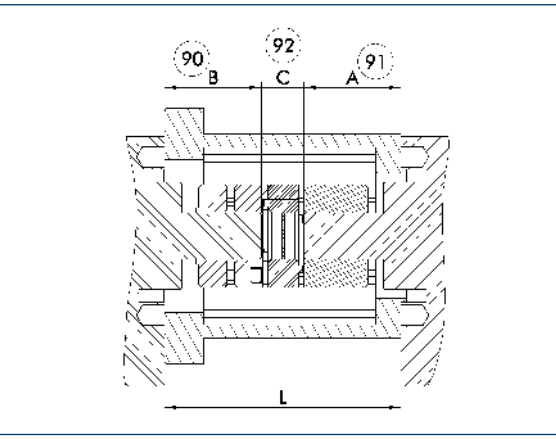
4 Linear unit
6 Drive connection
90 Attachment direction of angle belt drive
91 Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
B 180-C-SSS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

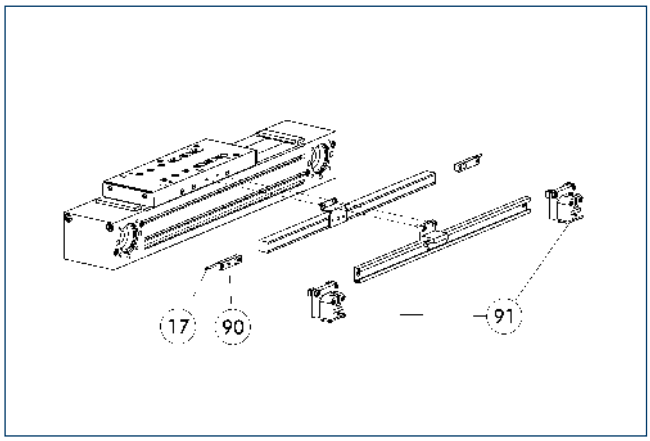
Motor bell schematic diagram



90 Length of the drive shaft of the motor/gear
91 Length of linear unit's drive journal
92 Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet

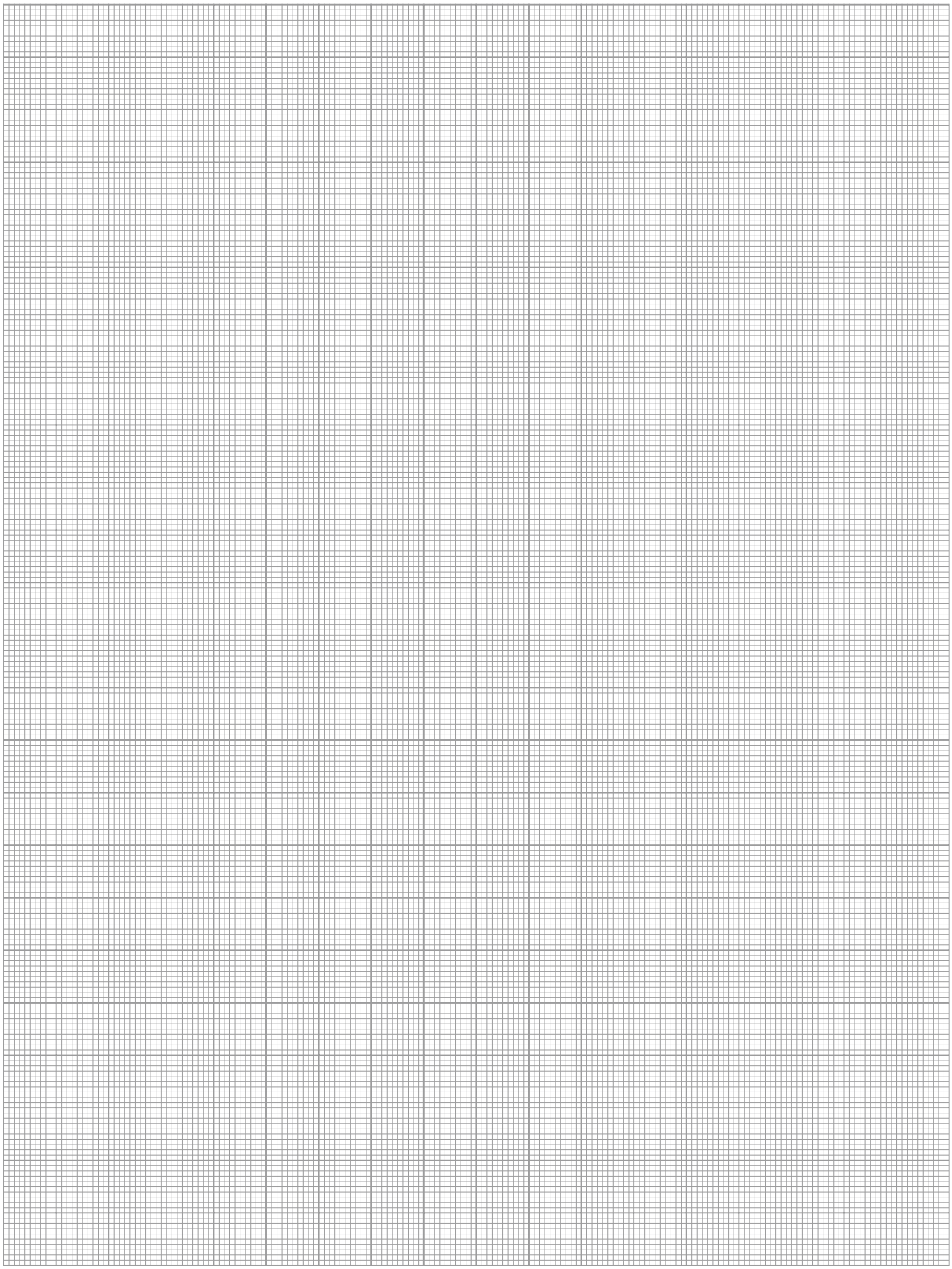
(90) Inductive limit and reference switches

(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.



Flat. Modular. Loadable.

Delta Flat Linear Module

Flat linear module with either toothed belt drive or spindle drive.

Field of Application

Universal linear module with optional toothed belt drive for high acceleration and speed or spindle drive for precise positioning given high drive forces.



Advantages – Your benefits

Adaptable drive motor for versatile approach and easy integration into existing control concepts

Optional belt or spindle driven for the optimum drive for your application

Extremely flat design for minimal interfering contours

Integrated cover tape for versatility and a long tool life

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 5	1020 .. 7700 mm	750 .. 12000 N	±0.03 .. 0.08 mm	0.5 .. 5 m/s

Functional Description

The slide is driven by a toothed belt or a ball screw spindle and is precisely guided by a roller or (double) profiled rail guide. The cover band runs through the slide and covers the drive and guidance. The servomotor is connected to the profile via the drive shaft.



① **Aluminum profile**
Self-supporting and robust

② **Profiled rail guide**
for maximum positioning accuracy and moment loads

③ **Cover strip made of plastic**
along the whole guidance length against coarse dirt

④ **Toothed belt**
Transforms the rotational movement into a linear movement

⑤ **Spindle**
Transforms the rotational movement into a linear movement

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

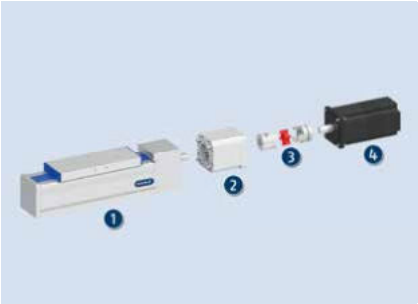
Toothed belt axis with right-angle-mounted motor



This illustration shows how to mount a motor at a right-angle on a toothed belt axis using a engine cone, a coupling and a transmission.

1. Toothed belt drive
2. Motor Bell
3. Coupling
4. Gear
5. Servomotor

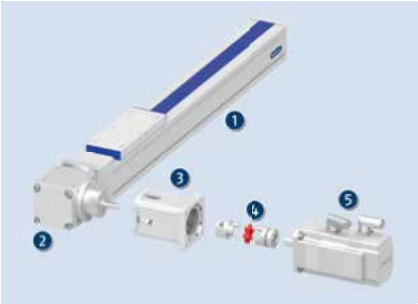
Spindle axis with axially mounted motor



This illustration shows how to mount a motor axially to a spindle axis using an engine cone and a coupling.

1. Spindle axis
2. Motor Bell
3. Coupling
4. Servomotor

Spindle axis with right angular mounted motor



The motor can also be mounted at a right angle on a spindle axis using a bevel gear.

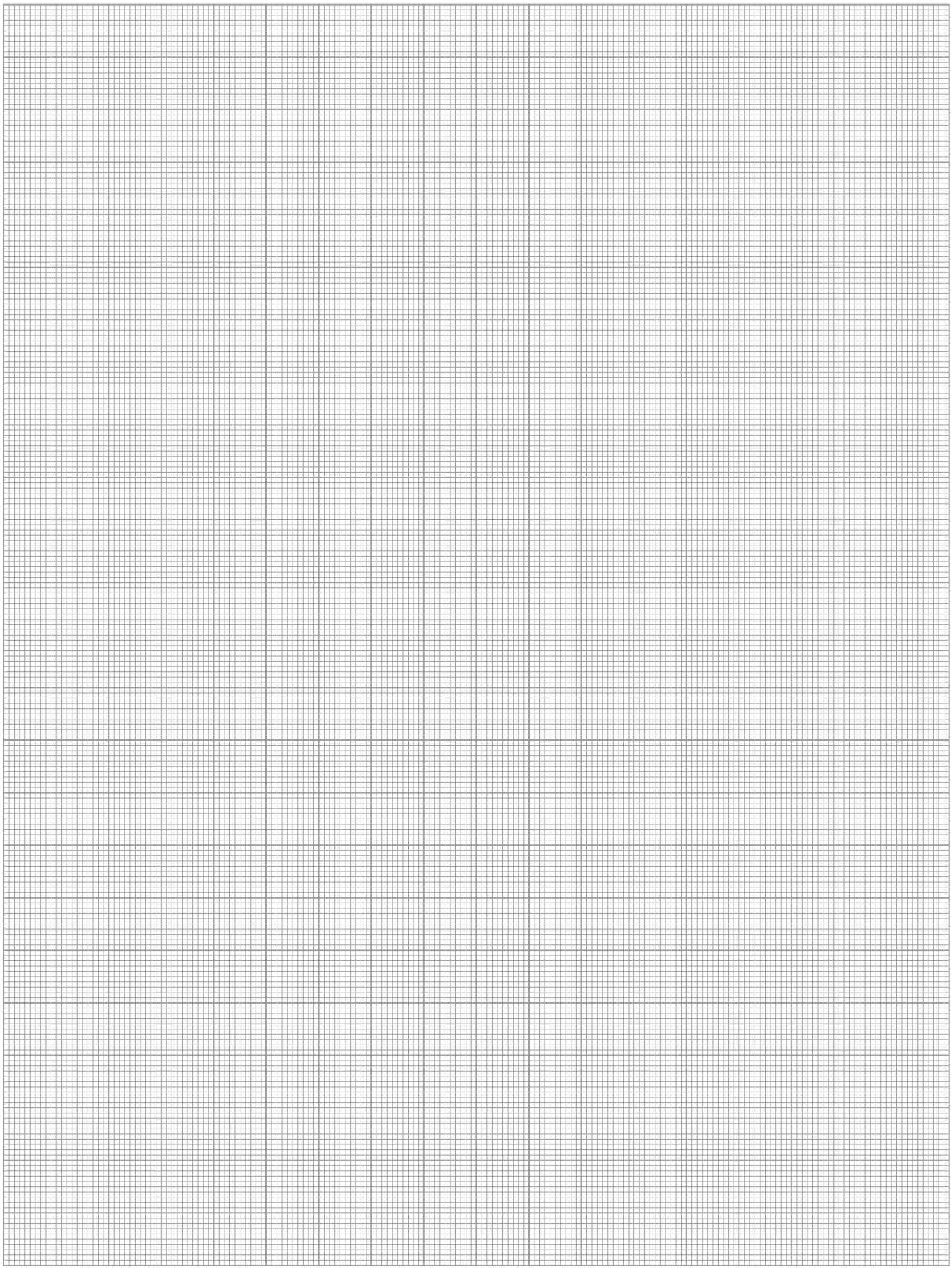
1. Spindle axis
2. Bevel gear
3. Motor Bell
4. Coupling
5. Servomotor

Spindle axis with parallel-mounted motor



In order to save space, the motor can be mounted parallel to the spindle axis using an angle belt drive.

1. Spindle axis
2. Angle belt drive
3. Servomotor



General Notes on the Series

Operating principle: Choice of toothed belt or ball screw spindle drive

Guidance: Profiled rail guide

Drive: servomotors of different providers can be trouble-free adapted

Profile: Extruded aluminum profile with plastic cover strip

Slide: Aluminum slide with a brush seal

Scope of delivery: Assembly and operating manual with declaration of incorporation

Warranty: 24 months

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Stroke reserve: is the additional stroke beyond the effective stroke to stop the linear unit in time before it passes the limit switches.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Acceleration and speed: The values specified are the maximum values of the units without loading. The actual accelerations and speeds for your application must be designed separately and can deviate from the maximum values.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Electric linear gantry to center or reposition small components.

❶ ELS Compact Linear Module

❷ GAP 2-Finger Angular Parallel Gripper

❸ Delta Flat Linear Module with toothed-belt drive

SCHUNK offers more ...

The following components make the product Delta even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.




T-nut


Mounting Strip


Motor Bell


Angle Belt Drive


Drive Controller


Cable Set


MSK Drives


Bevel Gear


ERM Electrical Rotary Module


SRU-plus Universal Rotary Actuator


EGA Electric Long-stroke Gripper


PGN-plus Universal Gripper

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Spindle supports: Spindle supports allow higher moving speeds for longer stroke lengths
Flexible in motor and controller selection: The electrical control is carried out via an adaptable servo drive using common standard controller like Bosch® or SIEMENS®
Easy integration: The easy integration into the control system is ensured by the possibility of attaching a common servomotor.
Complete solutions: On request, SCHUNK can supply complete drive solutions including motor, gears, controller, and cables.

How to Order – Toothed Belt Drive

D – 145-C – ZSS – 50AT5-E – 110 – 1000 – 1340 – AK – AZ1 – 1

Product series D = Delta

Size (version)

Drive

Z = Toothed belt drive

Guidance system

R = Roller guide
S = Rail guide

Design version

S = Standard

Drive version

Toothed belt width and tooth pitch

Stroke per rotation

Traverse path

Overall length

Cover

AK = Cover strip

Accessories

BL = Mounting strip
EMS / EMB = Mechanical limit switch (S = Siemens®, B = Balluff) attached
E02 / E010 = Inductive limit switch, opener with 2 m / 10 m cable attached
ES2 / ES10 = Inductive limit switch, closer with 2 m / 10 m cable attached
NS = T-nut
RM = T-nut
AZ = Drive shaft

Special design

0 = Standard
1 = Special (specification in plain text)

Additional accessories (separate item)

MGK = Motor bell and coupling (from dimension sheet)
URT = Angle belt drive (from dimension sheet)

How to Order – Ball Screw Spindle Drive

D – 145-C – SSS – M – 2510 – 1000 – 1360 – 2SA – 2ES2 – 0

Product series D = Delta

Size (version)

Drive

S = Spindle

Guidance system

R = Roller guide
S = Rail guide

Design version

S = Standard

Drive type

M = Single nut (ball screw)
MM = Double nut (ball screw)

Drive version

Diameter and pitch (ball screw)

Traverse path

Overall length

Spindle supports (SA)

(Number)

Accessories

BL = Mounting strip
EMS / EMB = Mechanical limit switch (S = Siemens®, B = Balluff) attached
E02 / E010 = Inductive limit switch, opener with 2 m / 10 m cable attached
ES2 / ES10 = Inductive limit switch, closer with 2 m / 10 m cable attached
NS = T-nut
RM = T-nut

Special design

0 = Standard
1 = Special (specification in plain text)

Additional accessories (separate item)

MGK = Motor bell and coupling (from dimension sheet)
URT = Angle belt drive (from dimension sheet)

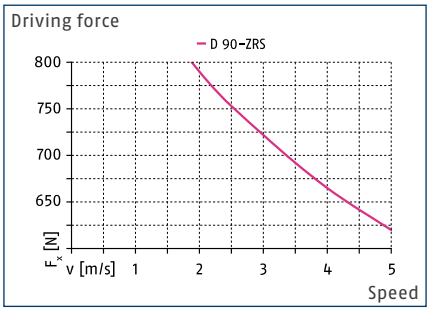
Cover tape is standard for ball screw spindle drive.

Delta 90

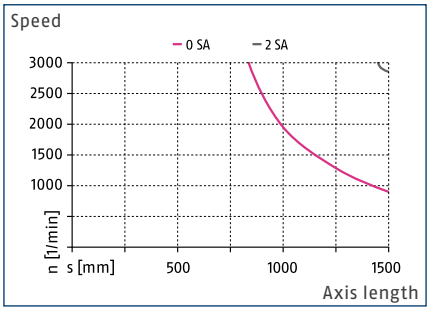
Electric Components | Flat Linear Module



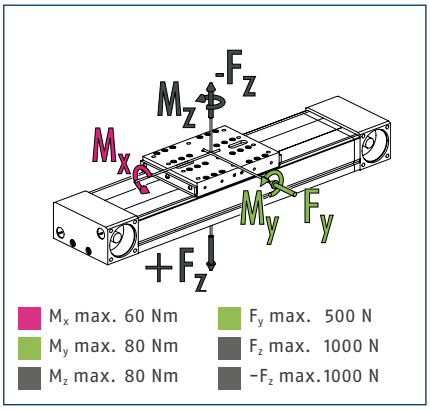
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

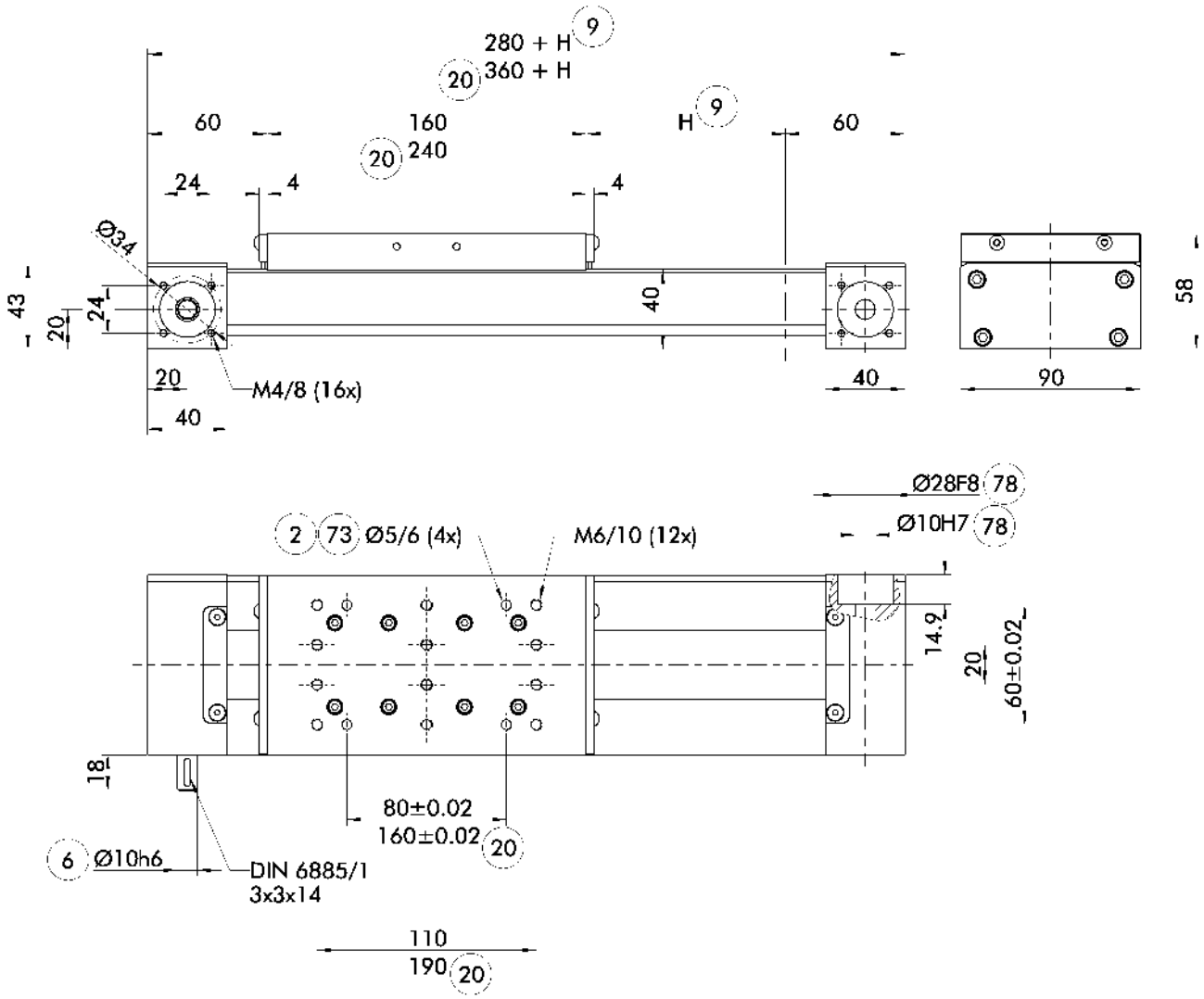
Technical data

Description		D 90-ZRS	D 90-SRS
Max. stroke	[mm]	3720	1185
Max. driving force	[N]	800	1000
Repeat accuracy	[mm]	±0.08	±0.03
Max. total length	[mm]	4000	1500
Max. speed	[m/s]	5	0.5
Max. acceleration	[m/s²]	30	20
Base weight per 0 mm of stroke	[kg]	2.95	3.25
Weight per 100 mm of stroke	[kg]	0.42	0.47
Slide weight	[kg]	1.3	1.3
Slide weight, long	[kg]	1.85	1.85
Drive concept		Belt drive	Spindle drive
Idle torque	[Nm]	2	0.3
Moment of inertia	[kgm²]	0.000465	0.000012
Toothed belt type		32 AT 5-E	
Traverse path per revolution	[mm]	100	
Spindle diameter	[mm]		12
Spindle pitch	[mm]		5/10
Max. spindle speed	[1/min]		3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

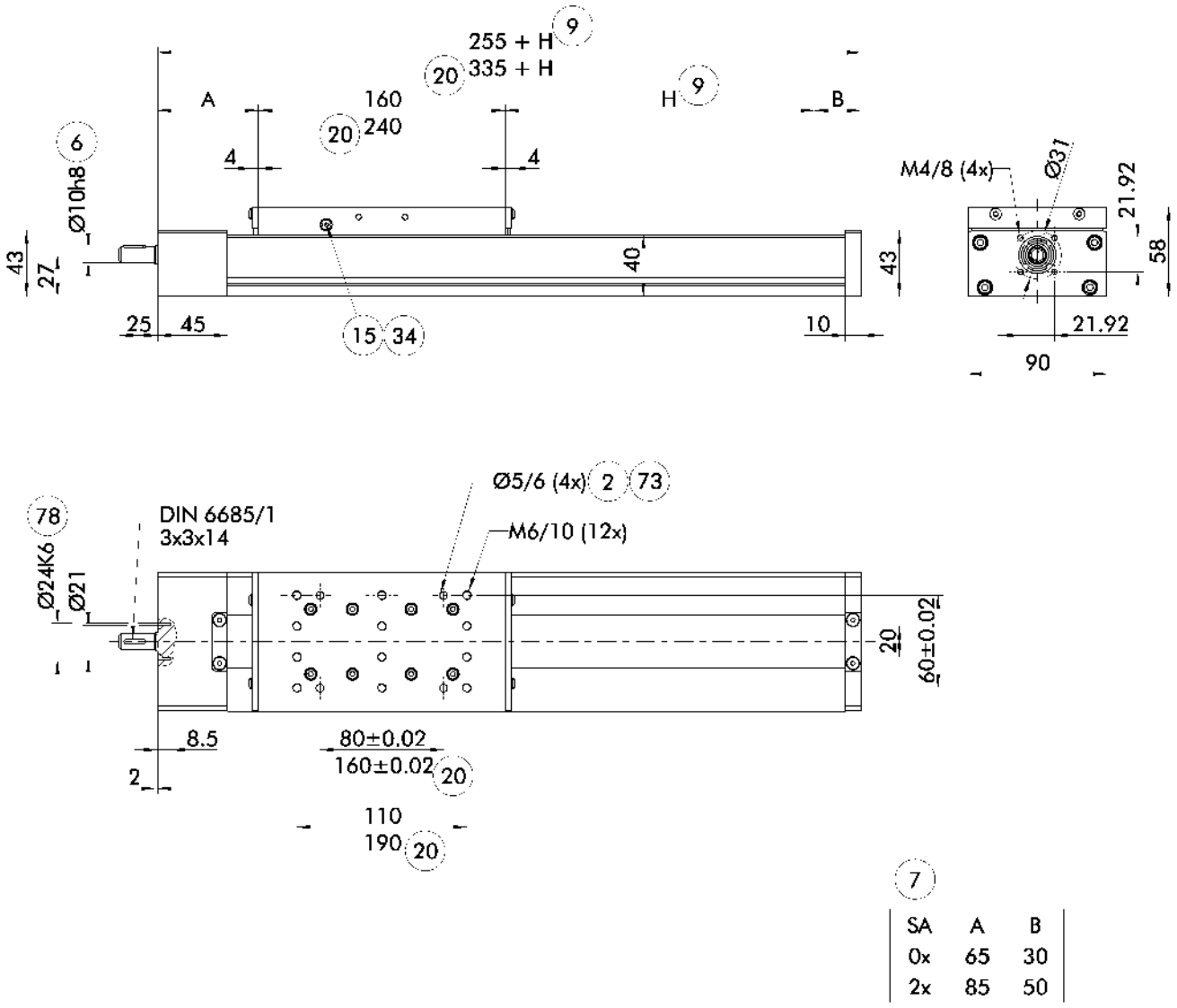
Main view ZRS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(20) With long slide plate
(73) Fit for centering pins
(78) Fit for centering

Main view SRS



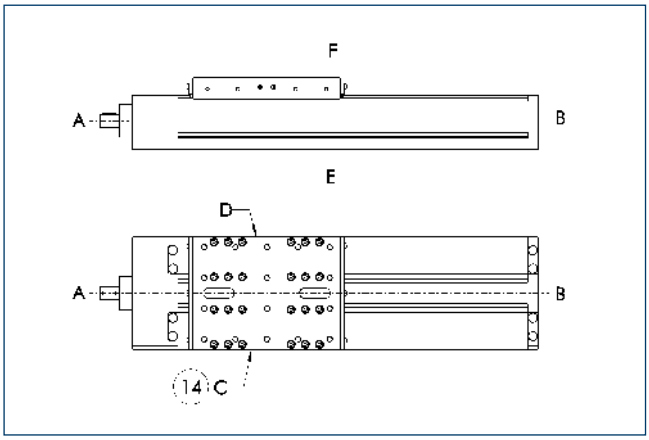
7

SA	A	B
0x	65	30
2x	85	50

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

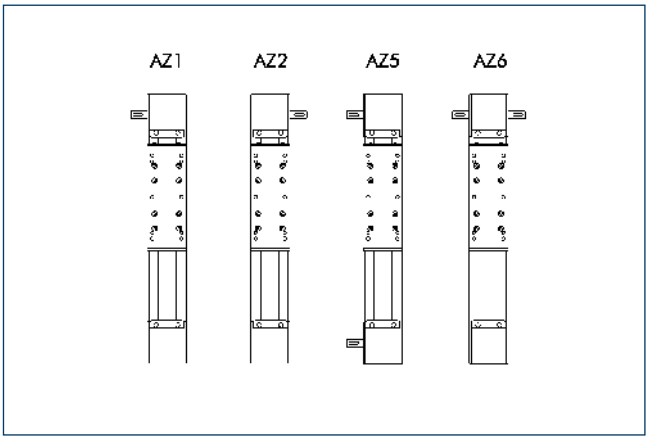
Side definition



14 Limit switch standard position

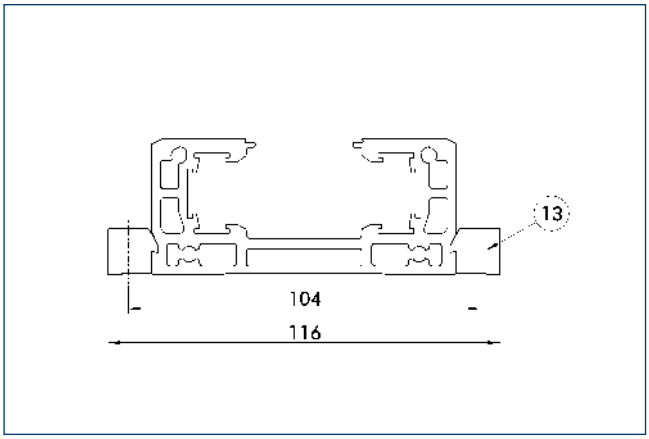
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

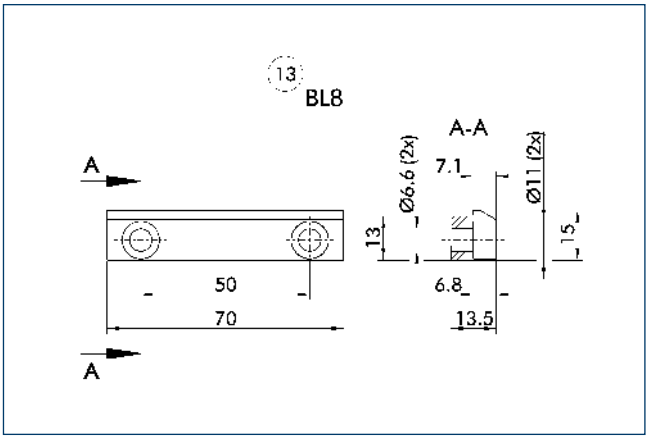
Mounting



13 Mounting strip

The drawing shows the position of the mounting options.

Fastening elements

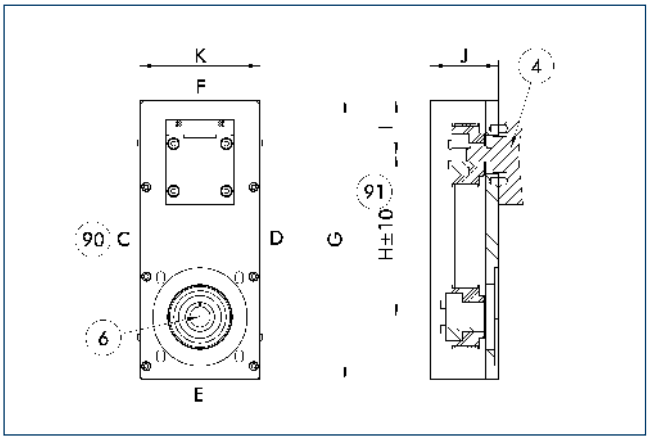


13 Mounting strip

The unit can be secured by mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
Mounting strip		
BL8	0331436	

Angle belt drive



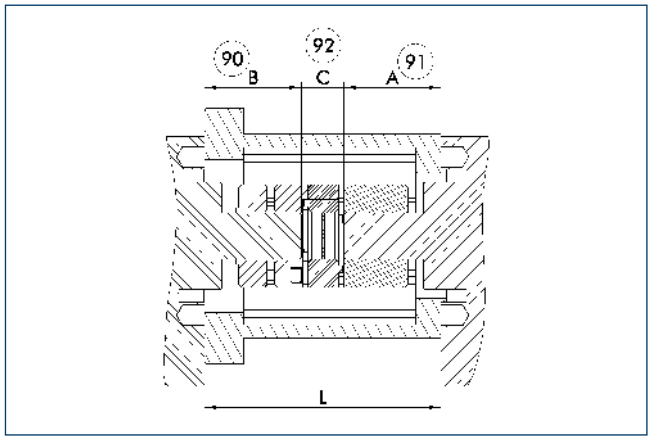
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
D 90-SRS	195	105	41	45	90

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

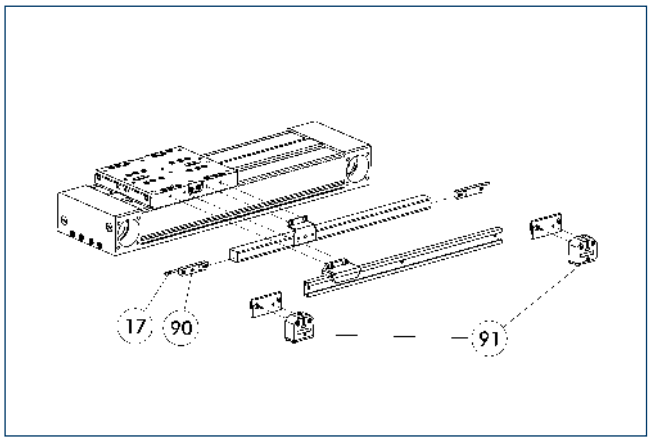
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



17 Cable outlet
90 Inductive limit and reference switches
91 Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

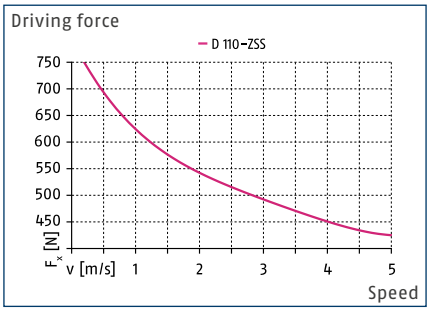
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Delta 110

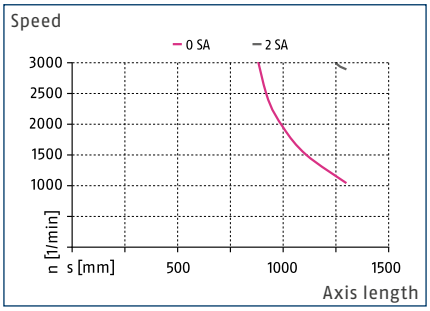
Electric Components | Flat Linear Module



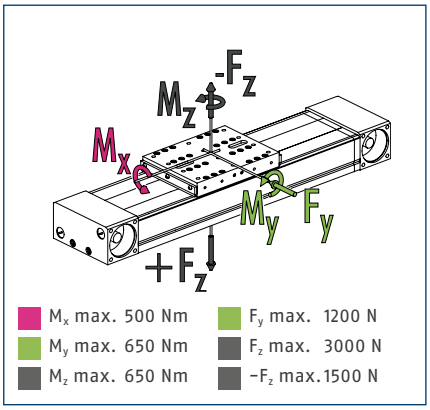
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

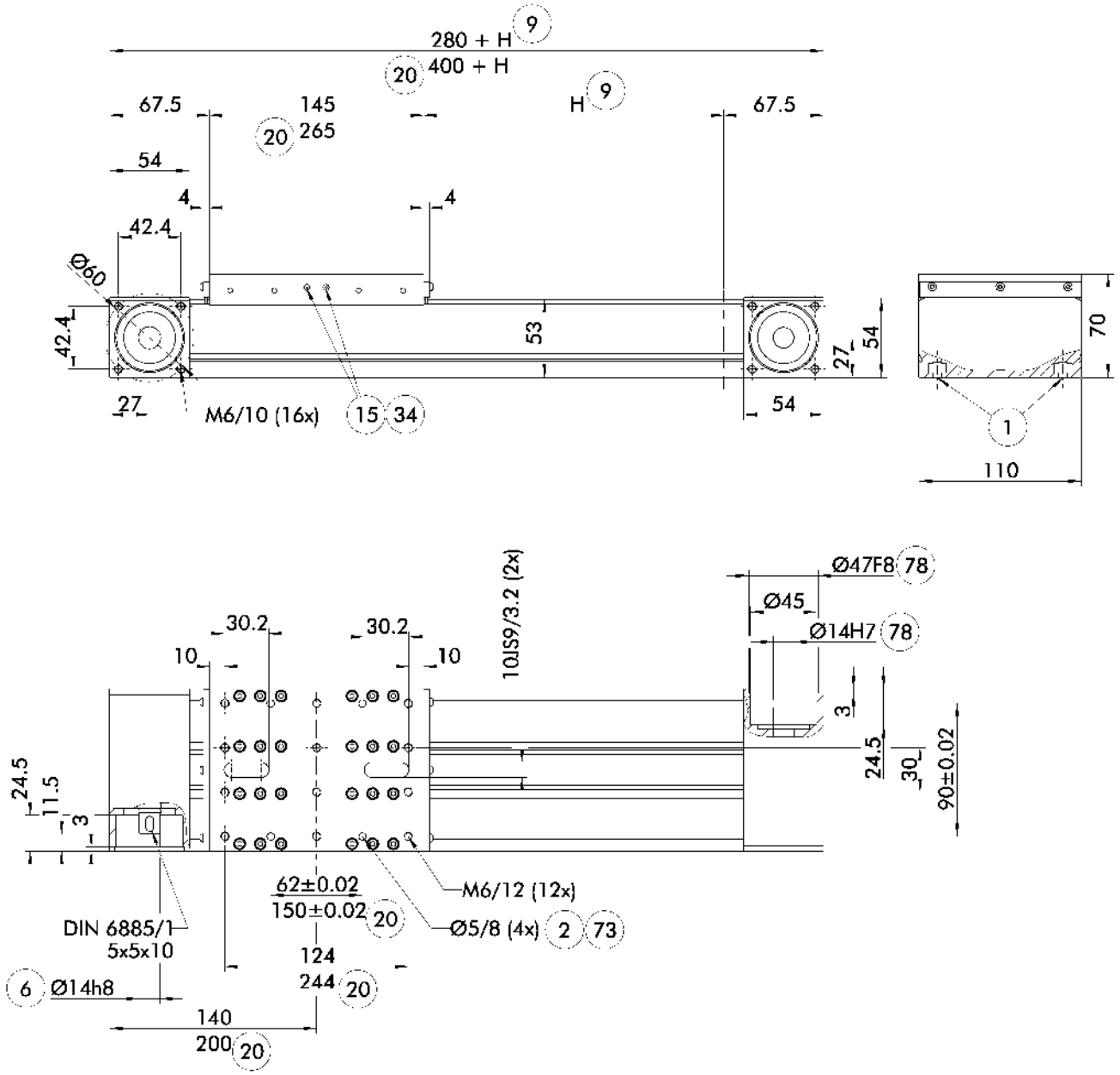
Technical data

Description		D 110-ZSS	D 110-SSS
Max. stroke	[mm]	1020	1070
Max. driving force	[N]	750	2000
Repeat accuracy	[mm]	±0.08	±0.03
Max. total length	[mm]	1300	1300
Max. speed	[m/s]	5	2
Max. acceleration	[m/s²]	40	20
Base weight per 0 mm of stroke	[kg]	6.8	6.2
Weight per 100 mm of stroke	[kg]	1	0.75
Slide weight	[kg]	2.8	3.2
Slide weight, long	[kg]	5.1	5.85
Drive concept		Belt drive	Spindle drive
Idle torque	[Nm]	1.6	0.9
Moment of inertia	[kgm²]	0.0003	0.0000325
Toothed belt type		25 AT 5-E	
Traverse path per revolution	[mm]	90	
Spindle diameter	[mm]		16
Spindle pitch	[mm]		5/10/20/40
Max. spindle speed	[1/min]		3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

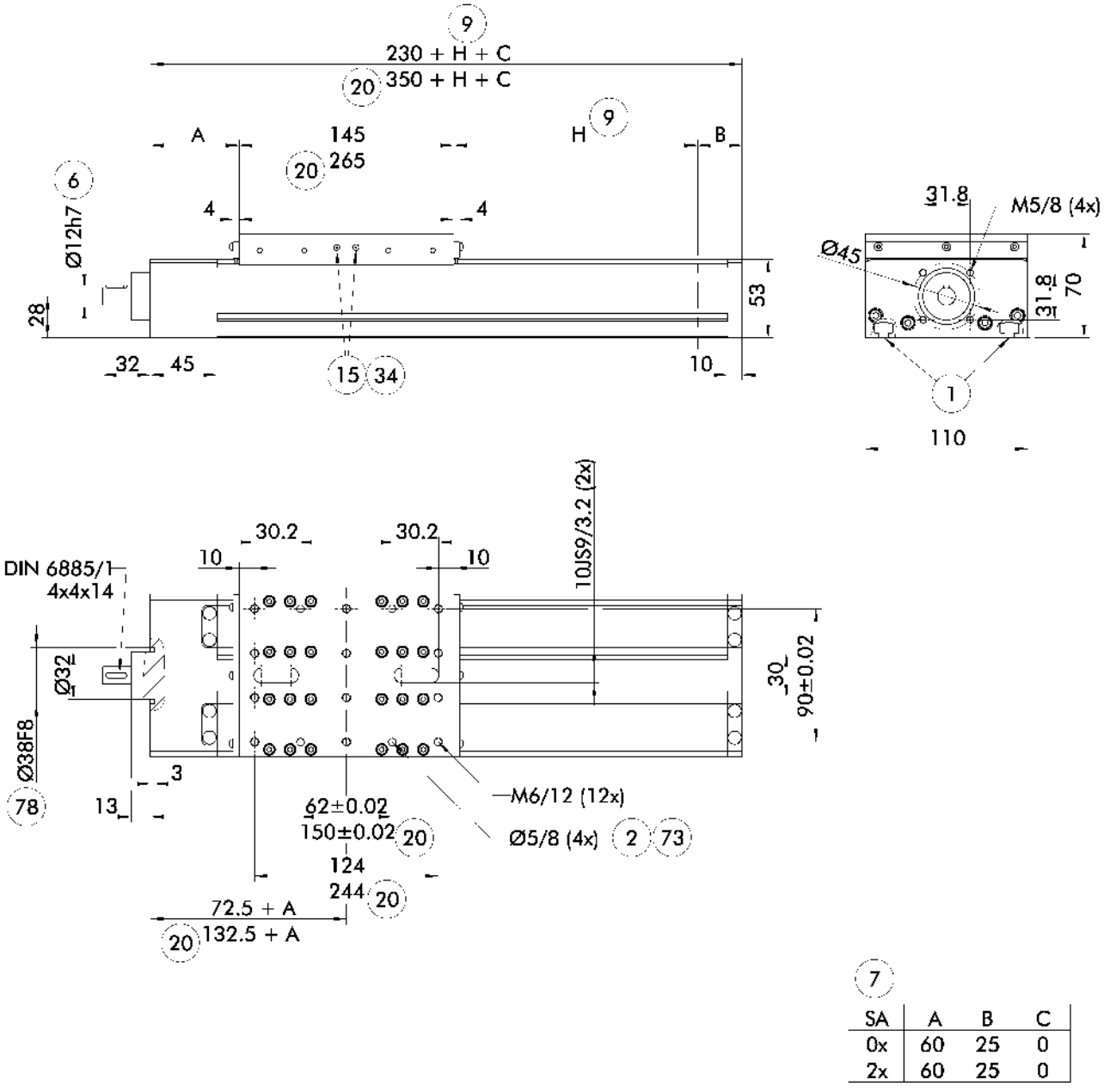
Main view ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

Main view SSS



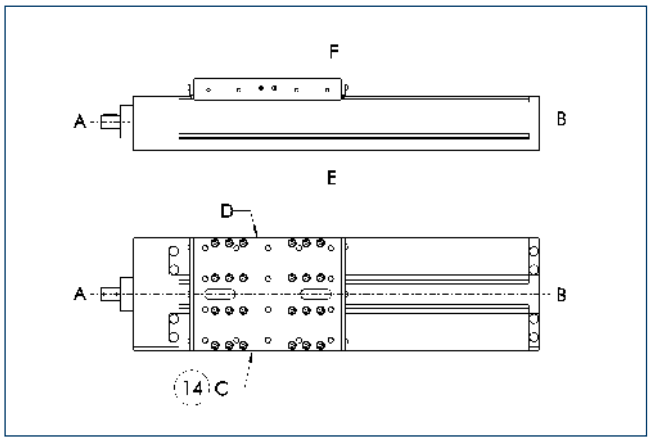
7

SA	A	B	C
0x	60	25	0
2x	60	25	0

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering

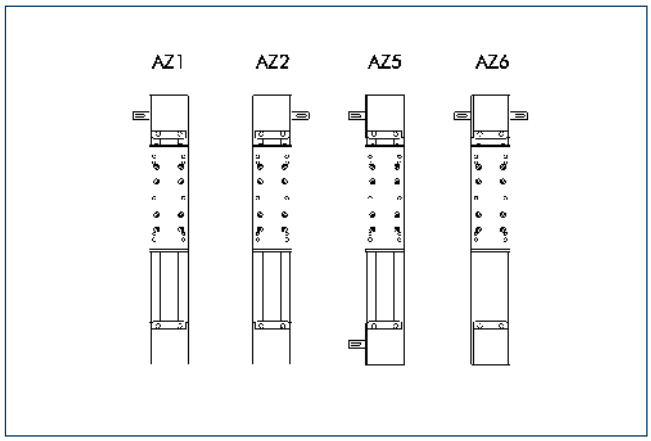
Side definition



(14) Limit switch standard position

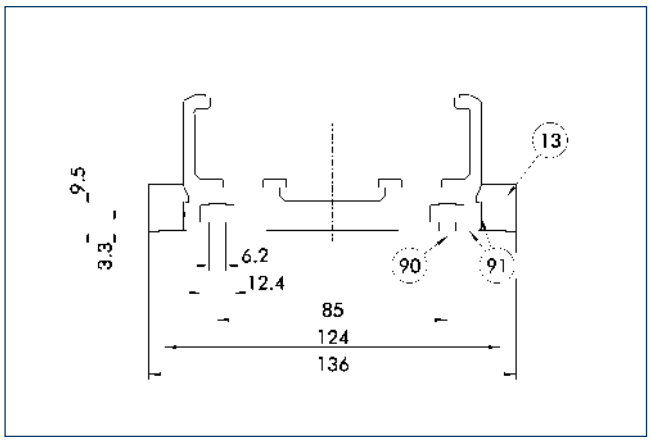
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

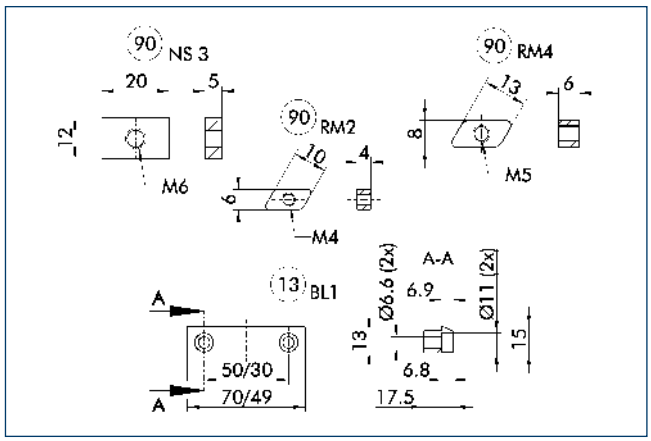
Mounting



(13) Mounting strip
(91) Stop edge for alignment of axis
(90) T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

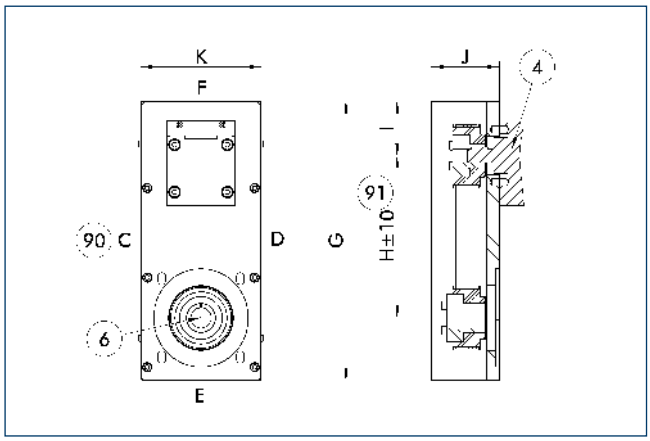


(13) Mounting strip
(90) T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
Mounting strip		
BL1-70x15x17.5-01	0331400	
T-Nuts		
NS 3-M6	0331406	
RM2-M4	0331425	
RM4-M5	0331426	

Angle belt drive



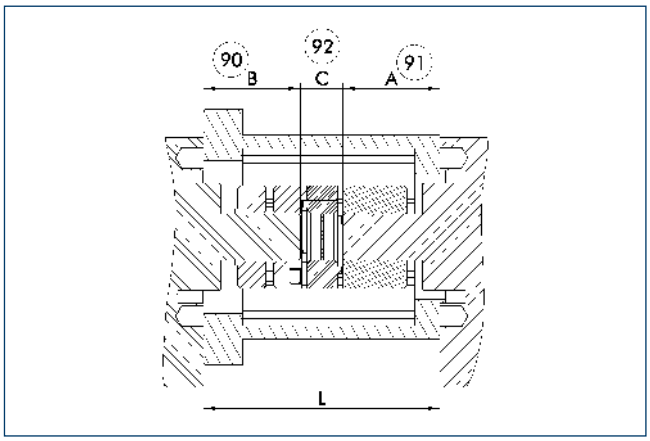
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
D 110-SSS	195	105	41	45	90

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

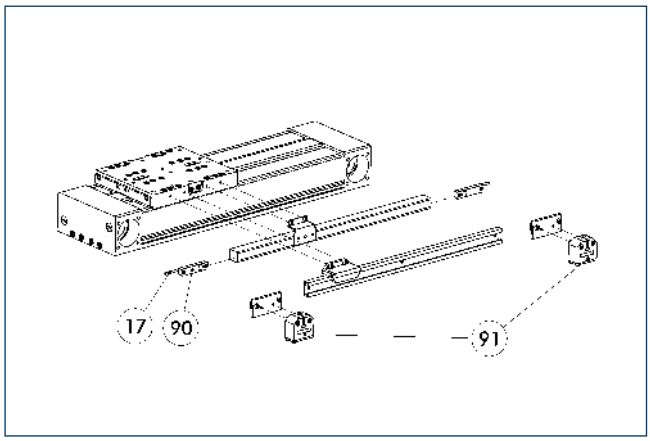
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



17 Cable outlet
90 Inductive limit and reference switches
91 Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

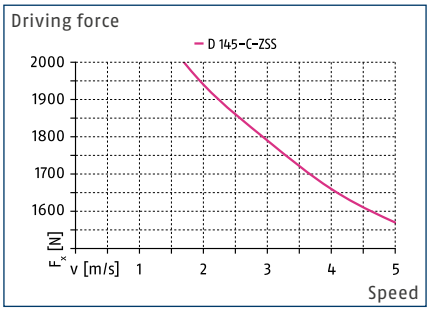
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Delta 145

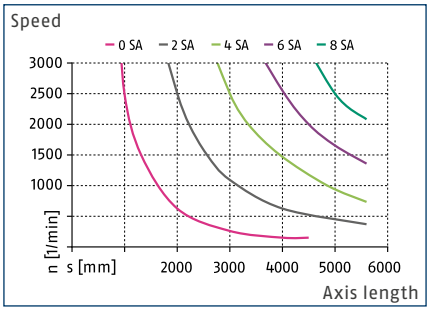
Electric Components | Flat Linear Module



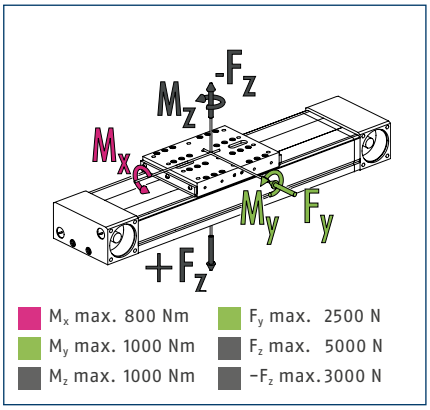
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

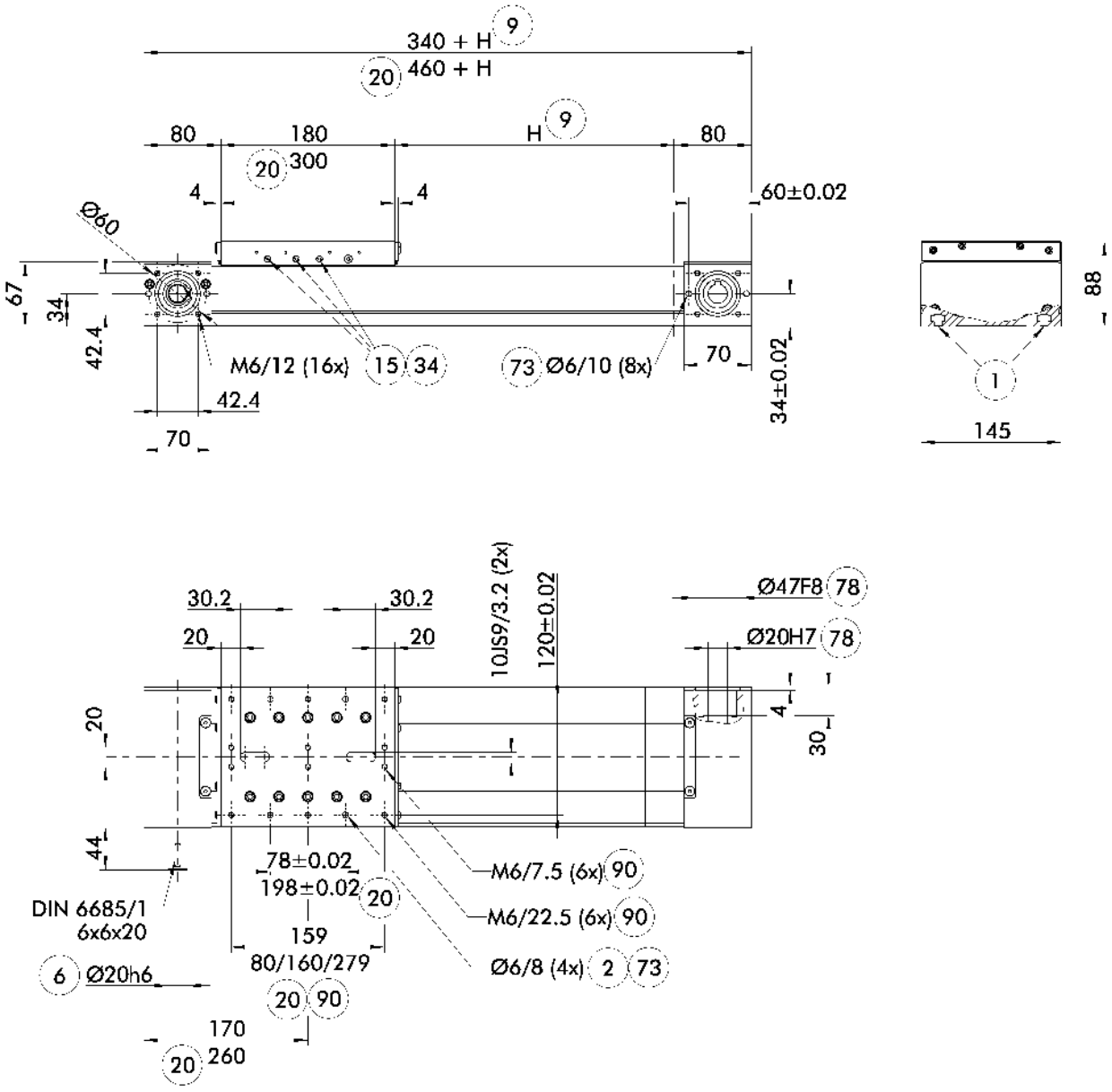
Technical data

Description		D 145-C-ZSS	D 145-C-SSS
Max. stroke	[mm]	7700	5275
Max. driving force	[N]	2000	4000
Repeat accuracy	[mm]	±0.08	±0.03
Max. total length	[mm]	8100	5600
Max. speed	[m/s]	5	2.5
Max. acceleration	[m/s²]	40	20
Base weight per 0 mm of stroke	[kg]	13.8	10.5
Weight per 100 mm of stroke	[kg]	1.3	1.5
Slide weight	[kg]	4.5	4.9
Slide weight, long	[kg]	6.1	6.5
Drive concept		Belt drive	Spindle drive
Idle torque	[Nm]	3	1
Moment of inertia	[kgm²]	0.00285	0.000085
Toothed belt type		60 AT 5-E	
Traverse path per revolution	[mm]	150	
Spindle diameter	[mm]		20
Spindle pitch	[mm]		5/10/20/50
Max. spindle speed	[1/min]		3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

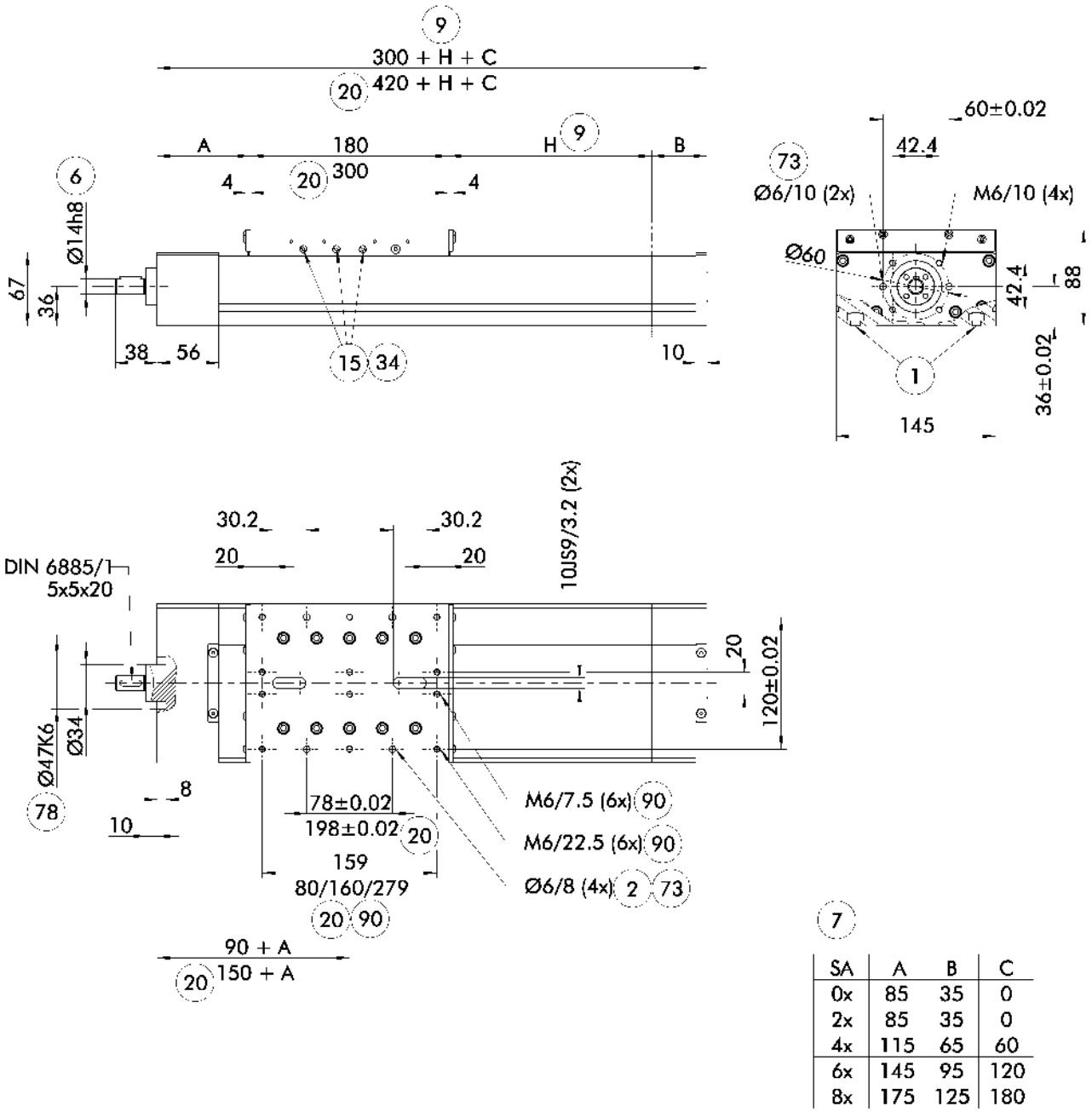
Main view C-ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering
90. Additional screw threads in the case of a long slide plate

Main view C-SSS

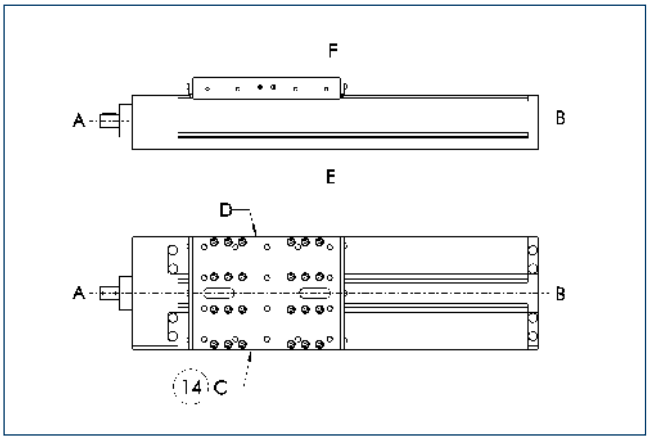


SA	A	B	C
0x	85	35	0
2x	85	35	0
4x	115	65	60
6x	145	95	120
8x	175	125	180

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(7) Number of spindle supports
(9) Effective stroke
(15) Lubricant connection
(20) With long slide plate
(34) On both sides
(73) Fit for centering pins
(78) Fit for centering
(90) Additional screw threads in the case of a long slide plate

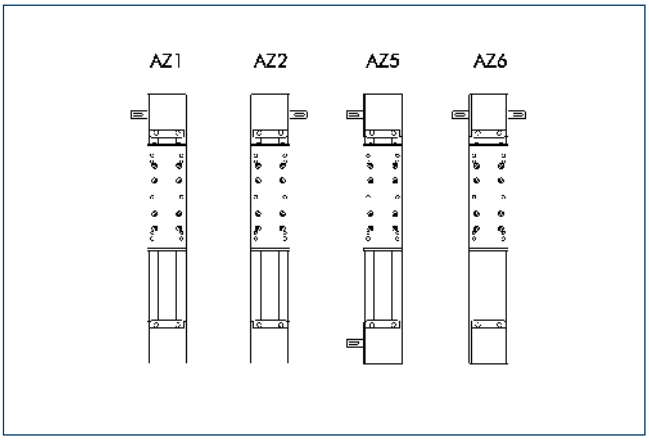
Side definition



14 Limit switch standard position

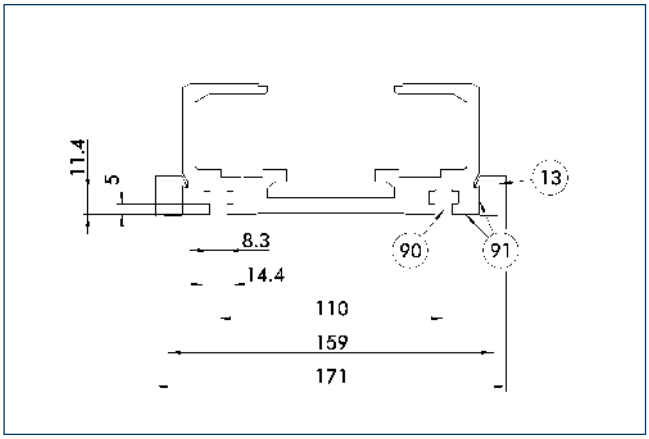
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

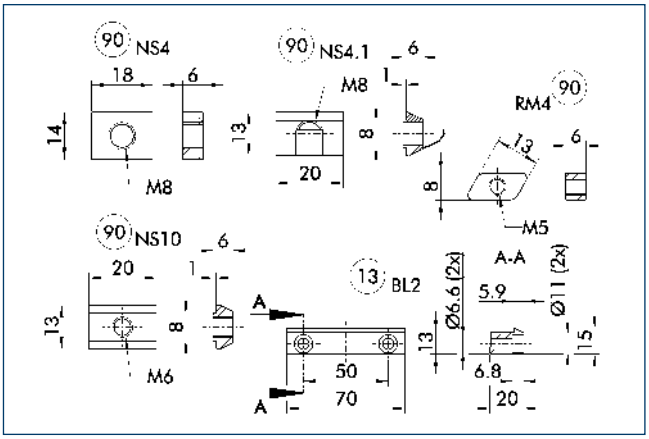
Mounting



13 Mounting strip
91 Stop edge for alignment of axis
90 T-nut at the bottom side

The drawing shows the position of the mounting options.

Fastening elements

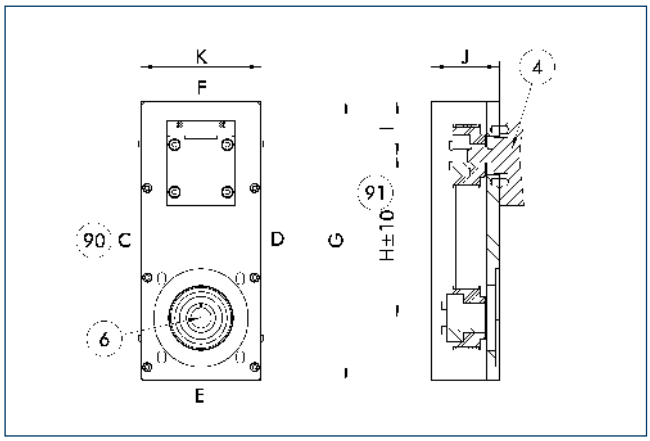


13 Mounting strip
90 T-nut at the bottom side

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
Mounting strip		
BL2-70x15x20-01	0331401	
T-Nuts		
NS 10-M6-6	0331422	
NS 4.1-M8-6	0331430	
NS 4-M8-6	0331407	
RM4-M5	0331426	

Angle belt drive



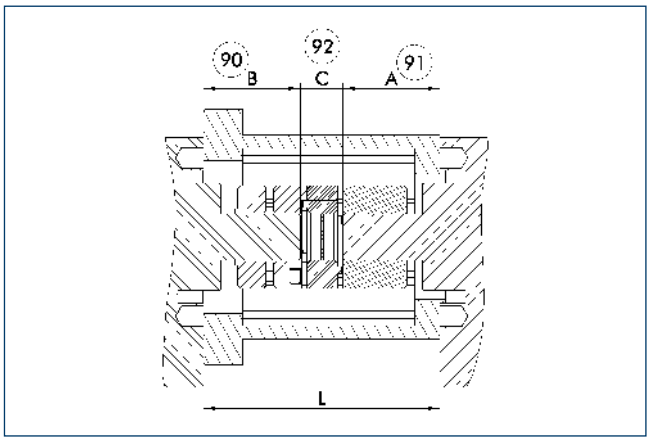
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
D 145-C-SSS	238	120	46	52	102

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

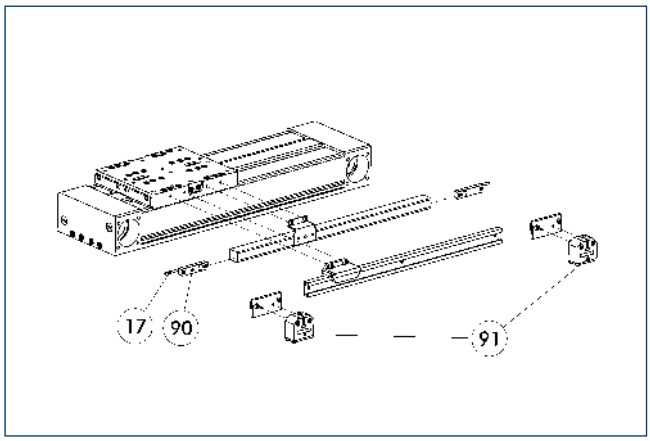
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet
(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

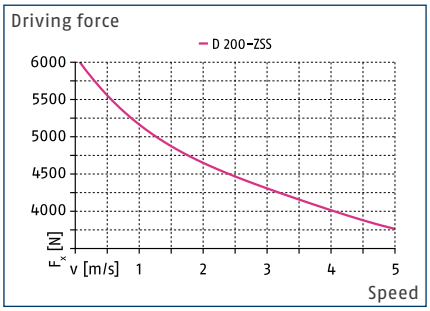
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Delta 200

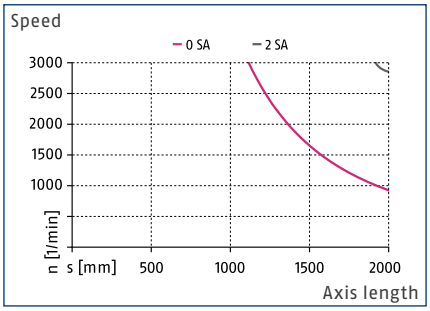
Electric Components | Flat Linear Module



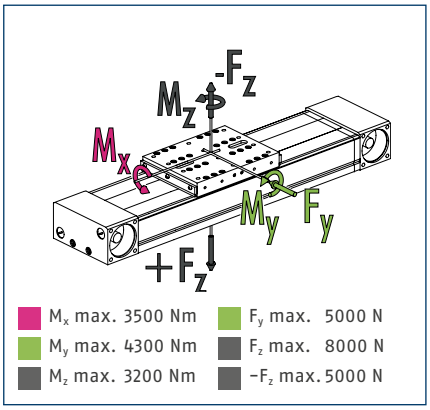
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

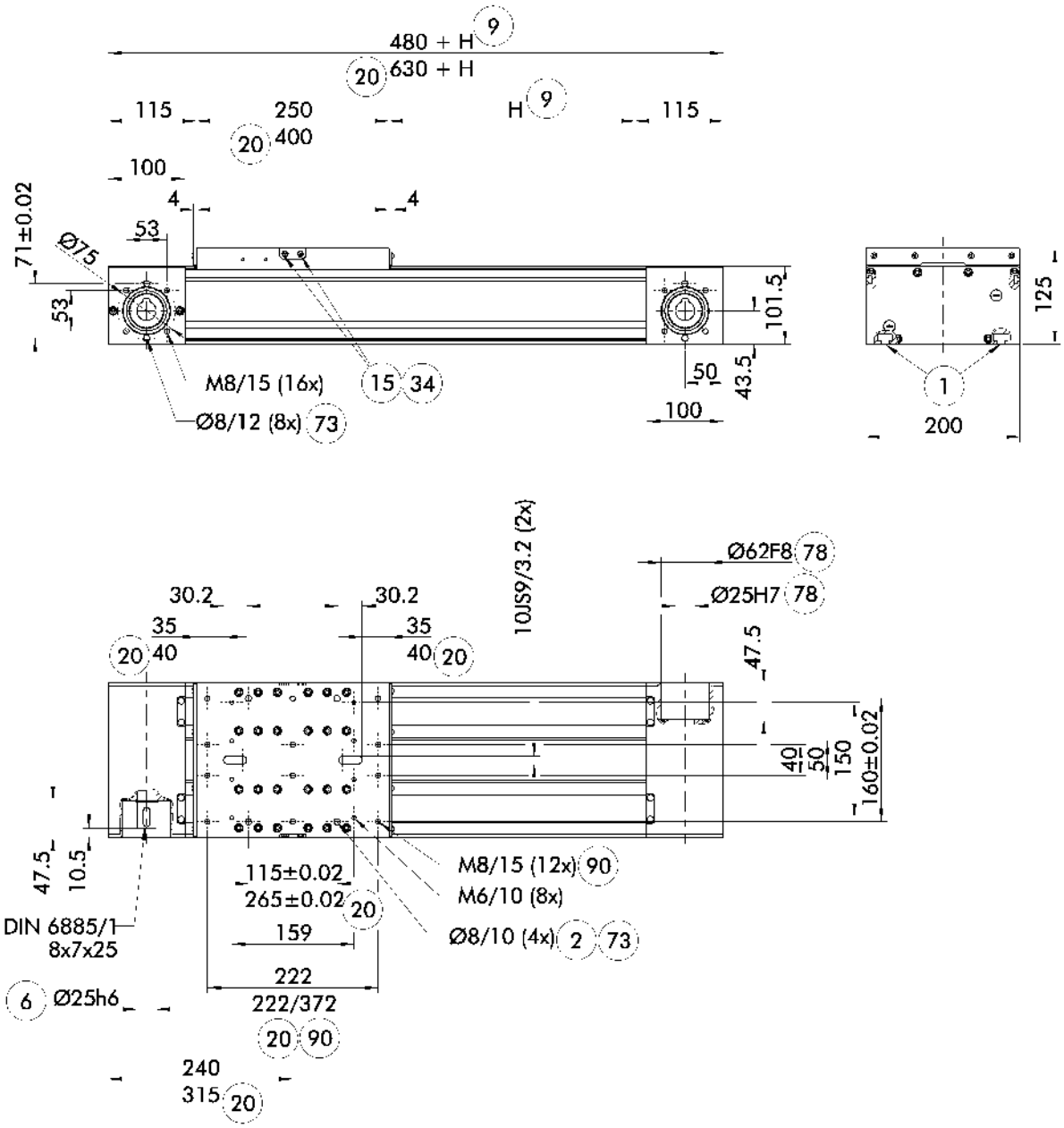
Technical data

Description		D 200-ZSS	D 200-SSS
Max. stroke	[mm]	1520	1620
Max. driving force	[N]	6000	10000
Repeat accuracy	[mm]	±0.08	±0.03
Max. total length	[mm]	2000	2000
Max. speed	[m/s]	5	3
Max. acceleration	[m/s²]	60	20
Base weight per 0 mm of stroke	[kg]	25	22
Weight per 100 mm of stroke	[kg]	2	2.6
Slide weight	[kg]	8.2	8.4
Slide weight, long	[kg]	10.5	11
Drive concept		Belt drive	Spindle drive
Idle torque	[Nm]	3.8	2.8
Moment of inertia	[kgm²]	0.012	0.000645
Toothed belt type		75 AT 10	
Traverse path per revolution	[mm]	220	
Spindle diameter	[mm]		32
Spindle pitch	[mm]		5/10/20/40/60
Max. spindle speed	[1/min]		3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

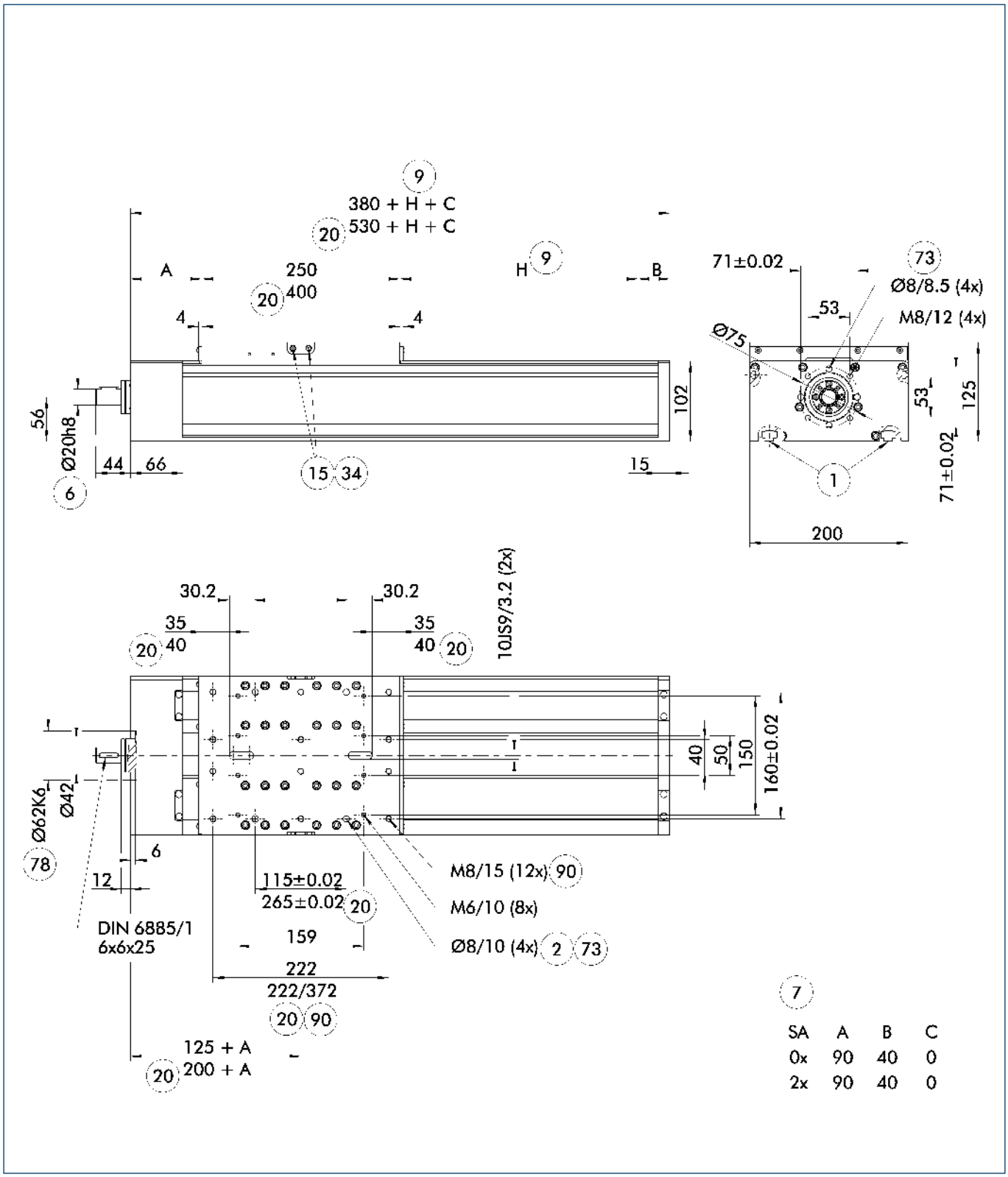
Main view ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering
90. Additional screw threads in the case of a long slide plate

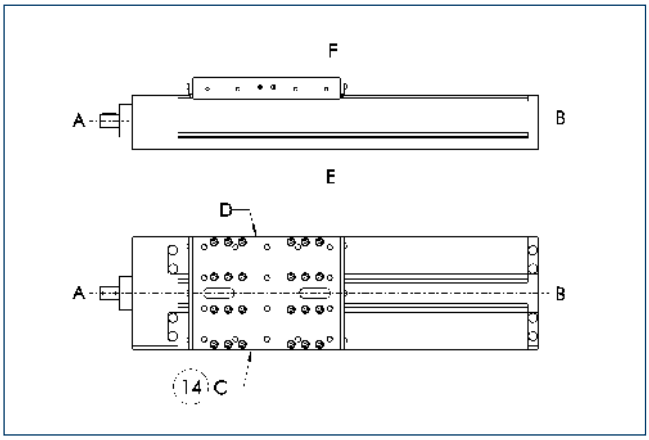
Main view SSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
7. Number of spindle supports
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering
90. Additional screw threads in the case of a long slide plate

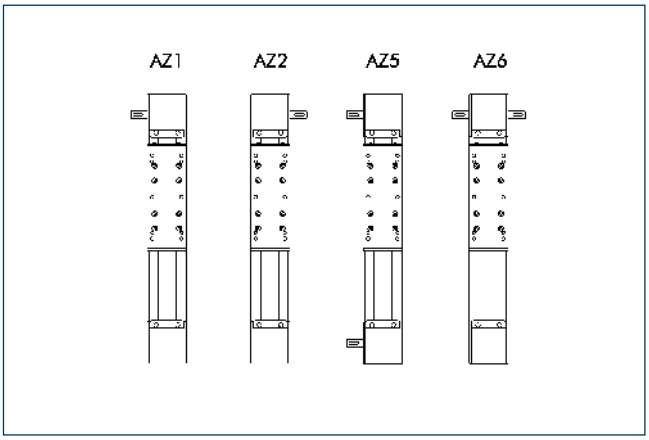
Side definition



(14) Limit switch standard position

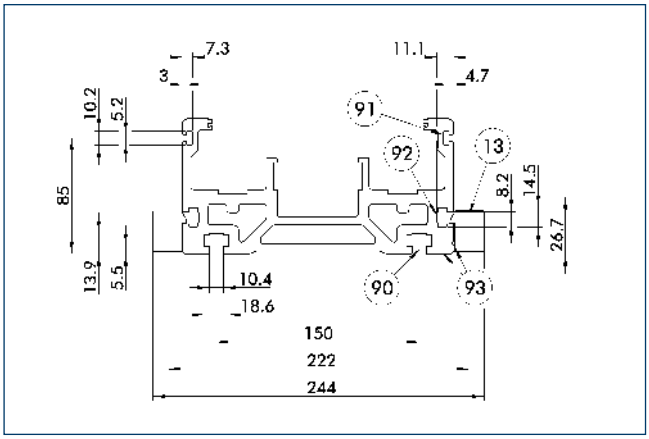
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

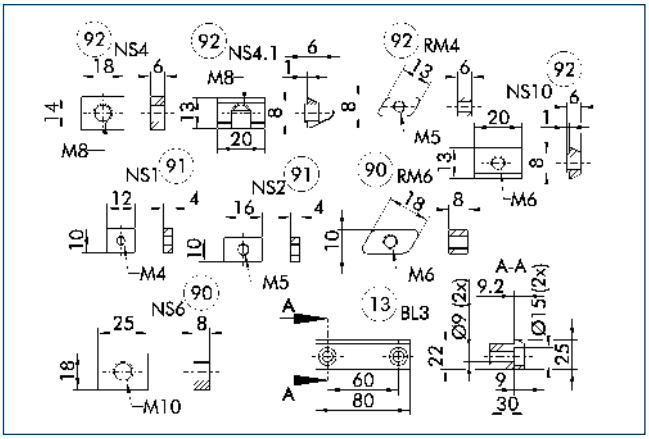
Mounting



(13) Mounting strip
(90) T-nut at the bottom side
(91) T-nut, laterally on top
(92) T-nut, laterally at the bottom
(93) Stop edge for alignment of axis

The drawing shows the position of the mounting options.

Fastening elements

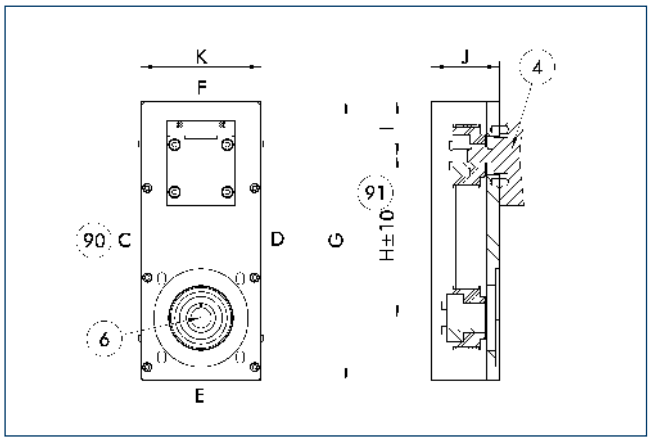


(13) Mounting strip
(90) T-nut at the bottom side
(91) T-nut, laterally at the bottom
(92) T-nut, laterally on top

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
Mounting strip		
BL3-80x25x30-01	0331402	
T-Nuts		
NS 10-M6-6	0331422	
NS 1-M4	0331404	
NS 2-M5	0331405	
NS 4.1-M8-6	0331430	
NS 4-M8-6	0331407	
NS 6-M10	0331409	
RM4-M5	0331426	
RM6-M6	0331427	

Angle belt drive



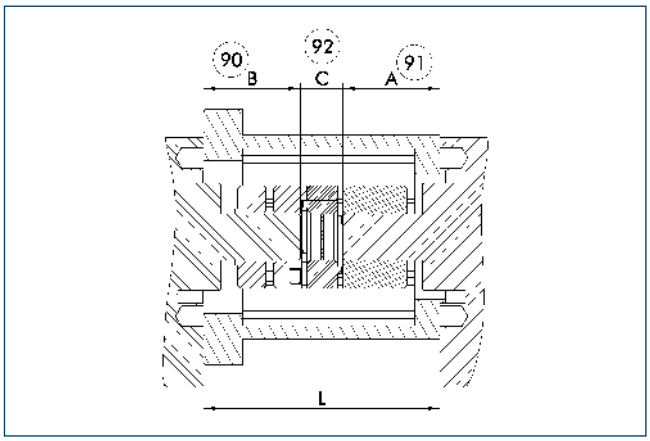
(4) Linear unit
(6) Drive connection
(90) Attachment direction of angle belt drive
(91) Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
D 200-SSS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

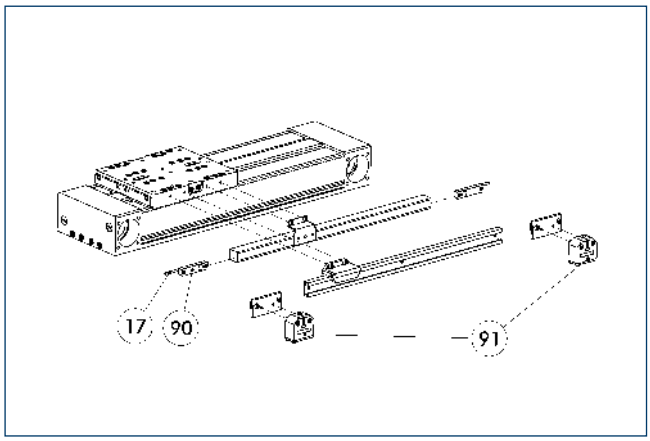
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet
(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

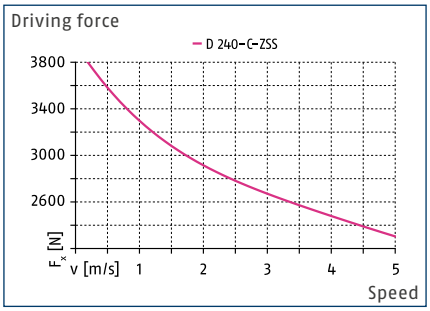
ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Delta 240

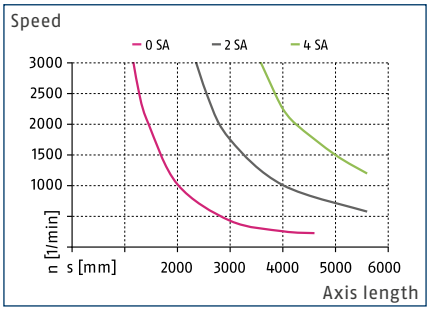
Electric Components | Flat Linear Module



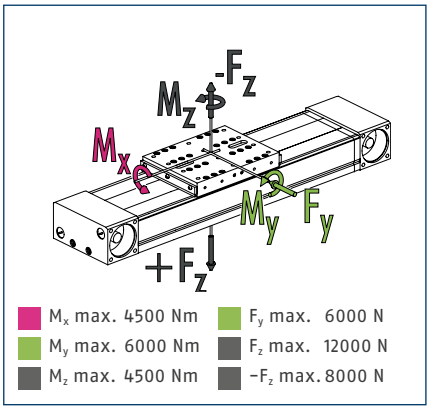
Max. driving force (toothed belt)*



Spindle supports**



Forces and moments



ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

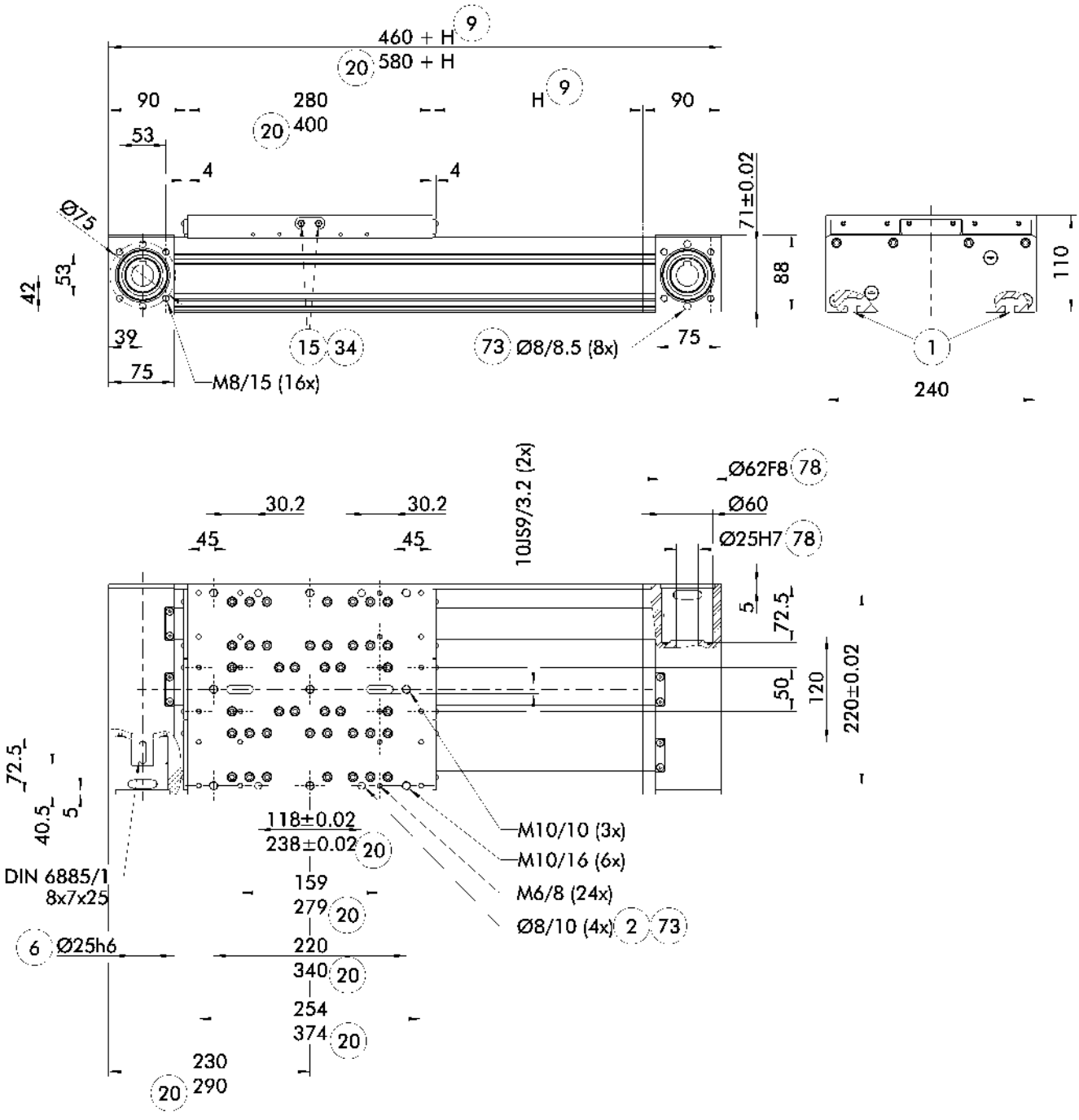
Technical data

Description		D 240-C-ZSS	D 240-C-SSS
Max. stroke	[mm]	7340	5400
Max. driving force	[N]	3800	12000
Repeat accuracy	[mm]	±0.08	±0.03
Max. total length	[mm]	8000	5800
Max. speed	[m/s]	5	3
Max. acceleration	[m/s²]	60	20
Base weight per 0 mm of stroke	[kg]	25.5	24.2
Weight per 100 mm of stroke	[kg]	2.75	3.25
Slide weight	[kg]	9.8	10.2
Slide weight, long	[kg]	14	14.6
Drive concept		Belt drive	Spindle drive
Idle torque	[Nm]	5.5	2.8
Moment of inertia	[kgm²]	0.026	0.000645
Toothed belt type		60 ATL 10	
Traverse path per revolution	[mm]	180	
Spindle diameter	[mm]		32
Spindle pitch	[mm]		5/10/20/40/60
Max. spindle speed	[1/min]		3000

*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

**The diagram shows the maximum spindle speed depending on the speed of the spindle supports (SA) and the overall length of the unit.

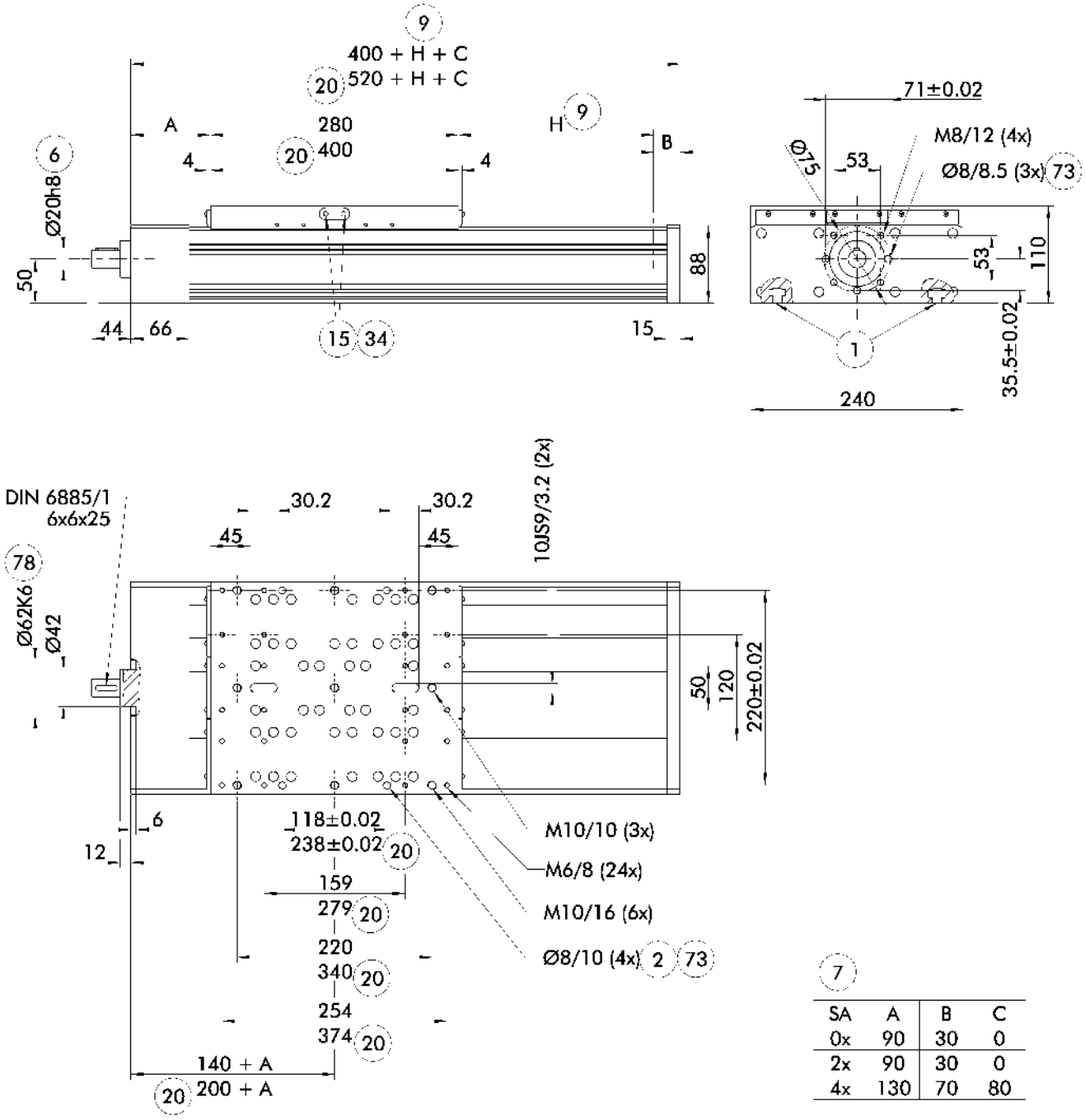
Main view C-ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

Main view C-SSS



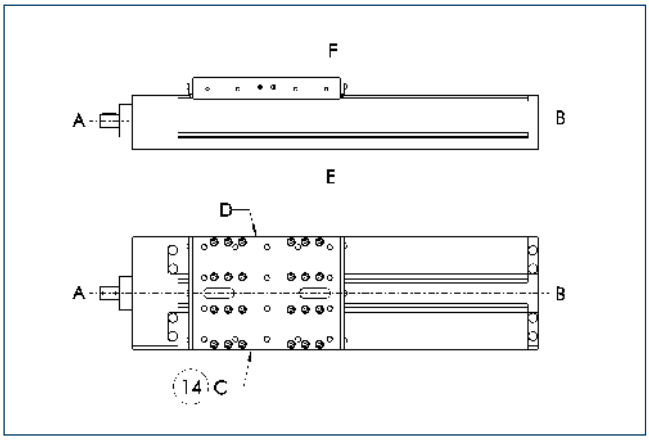
7

SA	A	B	C
0x	90	30	0
2x	90	30	0
4x	130	70	80

The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
7. Number of spindle supports
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering

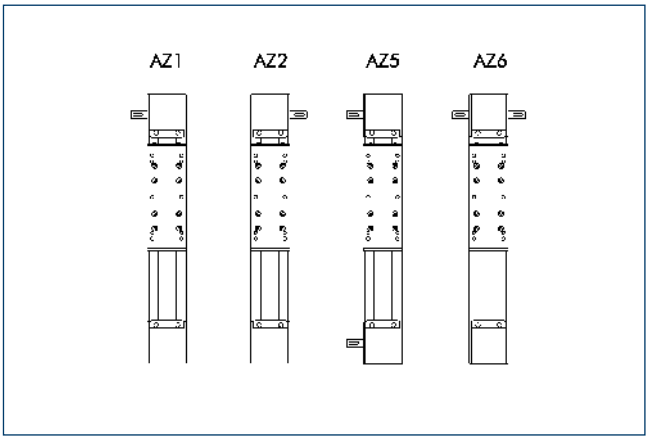
Side definition



14 Limit switch standard position

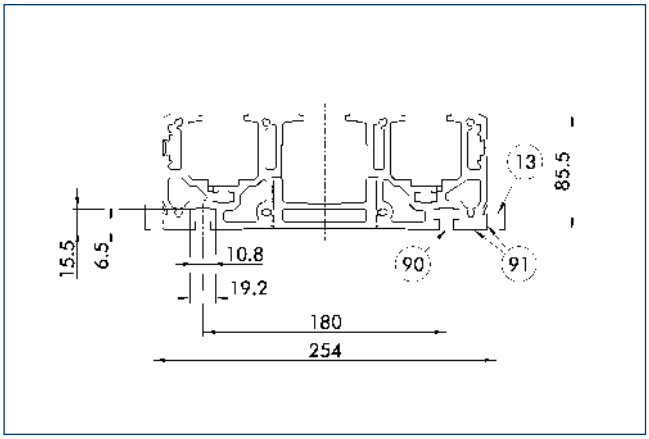
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

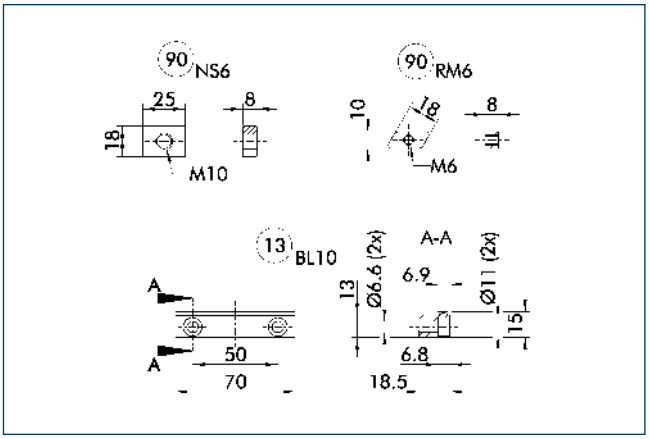
Mounting



13 Mounting strip
90 T-nut at the bottom side
91 Stop edge for alignment of axis

The drawing shows the position of the mounting options.

C-version mounting elements

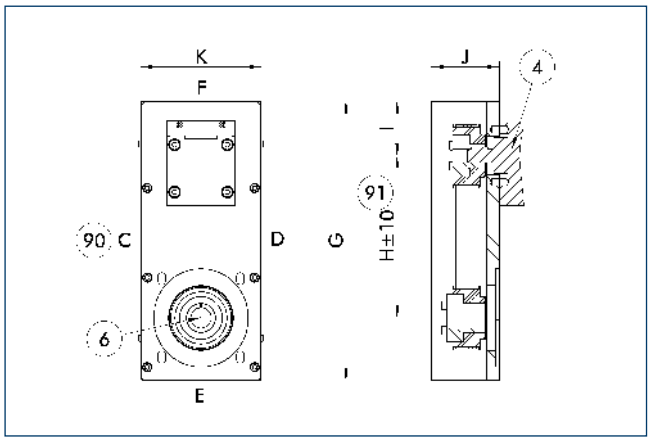


13 Mounting strip
90 T-nut at the bottom side
91 Lateral T-nut

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

Description	ID	
Mounting strip		
BL10	0331399	
T-Nuts		
NS 6-M10	0331409	
RM6-M6	0331427	

Angle belt drive



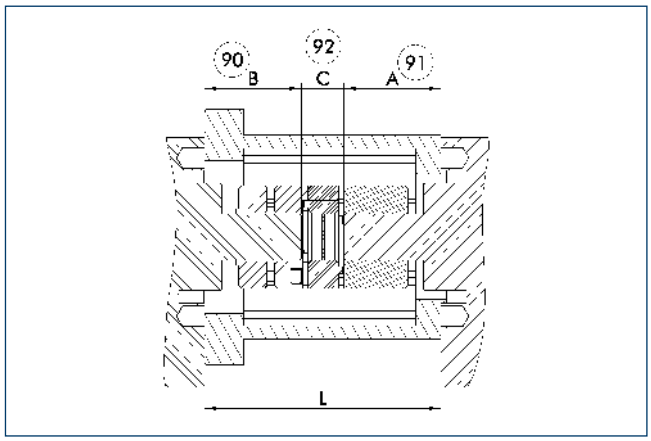
4 Linear unit
6 Drive connection
90 Attachment direction of angle belt drive
91 Dependent on transmission ratio and toothed belt design

The angle belt drive allows to achieve various drive solutions in confined spaces. SCHUNK offers the suitable angle gear for your drive.

Description	G	H	I	J	K
	[mm]	[mm]	[mm]	[mm]	[mm]
D 240-C-SSS	328	190	64	80	142

ⓘ Possible transmission ratios: i = 1 : 1, i = 2 : 1 and i = 3 : 1

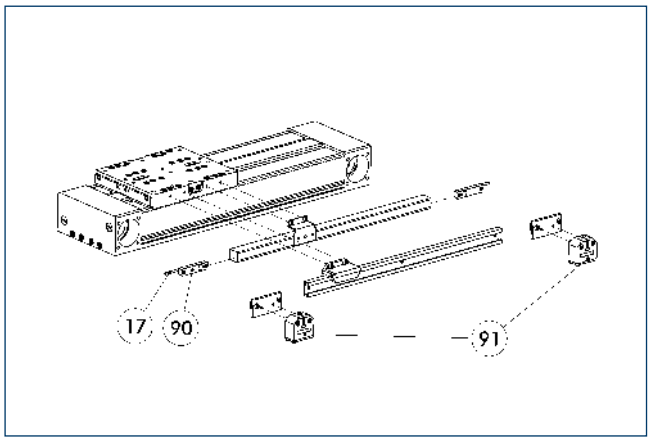
Motor bell schematic diagram



90 Length of the drive shaft of the motor/gear
91 Length of linear unit's drive journal
92 Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet
(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

Loadable. High Performance. Robust.

Gamma Universal Linear Module

Toothed belt or rack and pinion driven universal linear module with closed profile and double profiled rail guide.

Field of Application

Universal linear module with closed profile for high requirements on rigidity, optionally with toothed belt drive for high acceleration and speed or rack and pinion drive for high repeat accuracy for large strokes.



Advantages – Your benefits

Adaptable drive motor for versatile approach and easy integration into existing control concepts

Choice of toothed belt or rack and pinion drive for the optimum drive for your application

Double-profiled rail guide for very high force and moment loads

Can choose between single and double slides for more flexibility and throughput

Closed basic profile for a high stiffness in all load directions

Compact dimensions for less interfering contours

Sizes	max. stroke	max. driving force	Repeat accuracy	Maximum speed
Quantity: 3	7240 .. 7685 mm	1150 .. 4000 N	±0.05 .. 0.08 mm	3.2 .. 5 m/s

Functional Description

The slide is driven by a toothed belt or a gear rack and is precisely guided by a double profiled rail guide. The servomotor is usually connected with the drive shaft on the profile for a toothed belt drive and with the drive shaft on the slide for a rack and pinion drive.



① **Aluminum profile**
Self-supporting, closed profile

② **Profiled rail guide**
for maximum positioning accuracy and moment loads

③ **Aluminum slides**
for attaching the parts to be moved

④ **Toothed belt**
Transforms the rotational movement into a linear movement

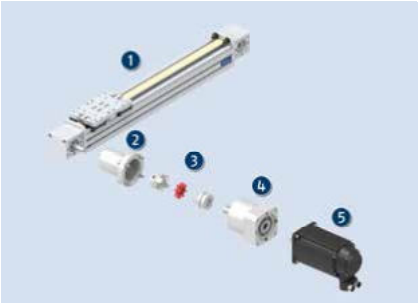
⑤ **Drive connection**
Flanged-on servomotor

⑥ **Rack**
Transforms the rotational movement into a linear movement

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

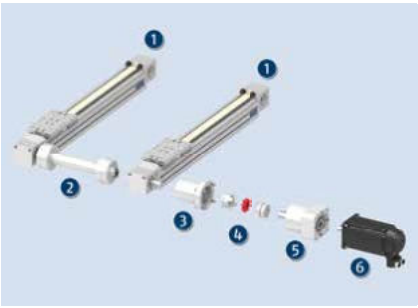
Toothed belt axis with right-angle-mounted motor



This illustration shows how to mount a motor at a right-angle on a toothed belt axis using a engine cone, a coupling and a transmission.

1. Toothed belt drive
2. Motor Bell
3. Coupling
4. Gear
5. Servomotor

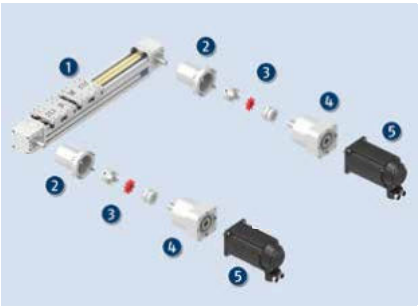
Synchronized toothed belt axes with connection shafts



A second toothed belt axis can be driven using a connection shaft.

1. Toothed belt drive
2. Connection shaft
3. Motor Bell
4. Coupling
5. Gear
6. Servomotor

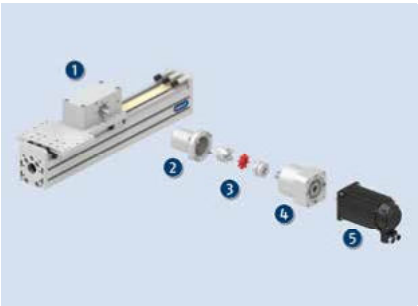
Rack and pinion axis with double slides



This illustration shows a toothed belt axis with two independently moving slides.

1. Toothed belt drive
2. Motor Bell
3. Coupling
4. Gear
5. Servomotor

Toothed belt axes with driven slides



This illustration shows how to mount a motor at a right-angle on a slide of a toothed belt axis using an engine cone and a coupling.

1. Toothed belt drive
2. motor bell
3. Coupling
4. Gear
5. Servomotor

Rack and pinion axis with right-angle-mounted motor on slide



This illustration shows how to mount a motor at a right-angle on a toothed belt axis with a transmission using a motor bell and a coupling.

1. Toothed rack axis
2. Gear
3. Motor Bell
4. Coupling
5. Servomotor

Rack and pinion axis with double slides



This illustration shows a rack and pinion axis with two independently moving slides.

1. Toothed rack axis
2. Gear
3. Motor Bell
4. Coupling
5. Servomotor

General Notes on the Series

Guidance: Profiled rail guide

Drive: servomotors of different providers can be trouble-free adapted

Profile: Extruded aluminum profile

Slide: Aluminum slides

Scope of delivery: Assembly and operating manual with declaration of incorporation

Warranty: 24 months

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Stroke reserve: is the additional stroke beyond the effective stroke to stop the linear unit in time before it passes the limit switches.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Acceleration and speed: The values specified are the maximum values of the units without loading. The actual accelerations and speeds for your application must be designed separately and can deviate from the maximum values.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.



Application Example

Line gantry based on a horizontal toothed belt axis with two independently moving slides for work in a joint machining area.

1. Gamma Linear Module with toothed-belt drive
2. Gamma Linear Module with Rack and Pinion Drive
3. EGA Electric Long-stroke Gripper
4. Drive Motor

SCHUNK offers more ...

The following components make the product Gamma even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





T-nut



Motor Bell



MSK Drives



Cable Set



ERM Electrical Rotary Module



Beta Electrical Linear Module



LM Pneumatic Linear Module



Drive Controller



SRU-plus Universal Rotary Swivel Unit



EGA Electric Long-stroke Gripper



PGN-plus Universal Gripper

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Stroke axis with driven slides: In this version, the servomotor is fastened to the slide and the profile is moved vertically.
Flexible in motor and controller selection: The electrical control is carried out via an adaptable servo drive using common standard controller like Bosch® or SIEMENS®
Easy integration: The easy integration into the control system is ensured by the possibility of attaching a common servomotor.
Complete solutions: On request, SCHUNK can supply complete drive solutions including motor, gears, controller, and cables.

How to Order – Toothed Belt Drive

G – 160 – ZSS – 50ATL10 – 240 – 1000 – 1620 – AZ1 – 1

Product series G = Gamma

Size

Drive

Z = Toothed belt drive
A = Driven slide

Guidance system

S = Rail guide

Design version

S = Standard (horizontal)
SD = Standard double (horizontal)
H = Stroke axis (vertical)

Drive version

Toothed belt width and tooth pitch

Stroke per rotation

Traverse path

Overall length

Accessories

EMS / EMB = Mechanical limit switch (S = Siemens®, B = Balluff) attached
E02 / E010 = Inductive limit switch, opener with 2 m / 10 m cable attached
ES2 / ES10 = Inductive limit switch, closer with 2 m / 10 m cable attached
NS = T-nut
AZ = Drive shaft

Special design

0 = Standard
1 = Special (specification in plain text)

Additional accessories (separate item)

MGK = Motor bell and coupling (from dimension sheet)

How to Order – Rack and Pinion Drive

G – 160 – AZSS – M2 – 200 – 1000 – 1630 – NS – 1

Product series G = Gamma

Size

Drive

AZ = Rack and pinion drive

Guidance system

S = Rail guide

Design version

S = Standard (horizontal)
H = Stroke axis (vertical)

Drive version

Drive wheel module (M2 / M3)

Stroke per revolution

Traverse path

Overall length

Accessories

EMS / EMB = Mechanical limit switch (S = Siemens®, B = Balluff) attached
E02 / E010 = Inductive limit switch, opener with 2 m / 10 m cable attached
ES2 / ES10 = Inductive limit switch, closer with 2 m / 10 m cable attached
NS = T-nut

Special design

0 = Standard
1 = Special (specification in plain text)

Additional information

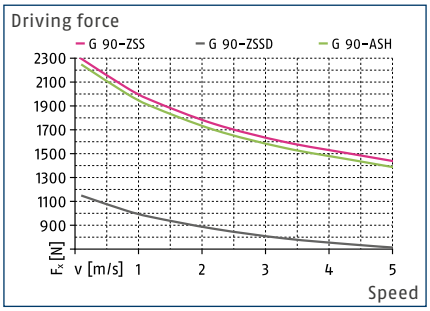
Gear size and ratio (D55 to D115 / i = 5 to i = 15)
Gear attachment (e.g. BXD)

Gamma 90

Electric Components | Universal Linear Module

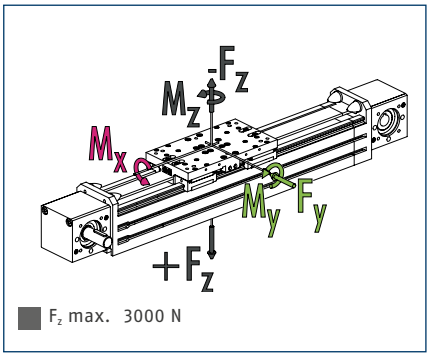


Max. driving force (toothed belt)*



*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

Forces and moments

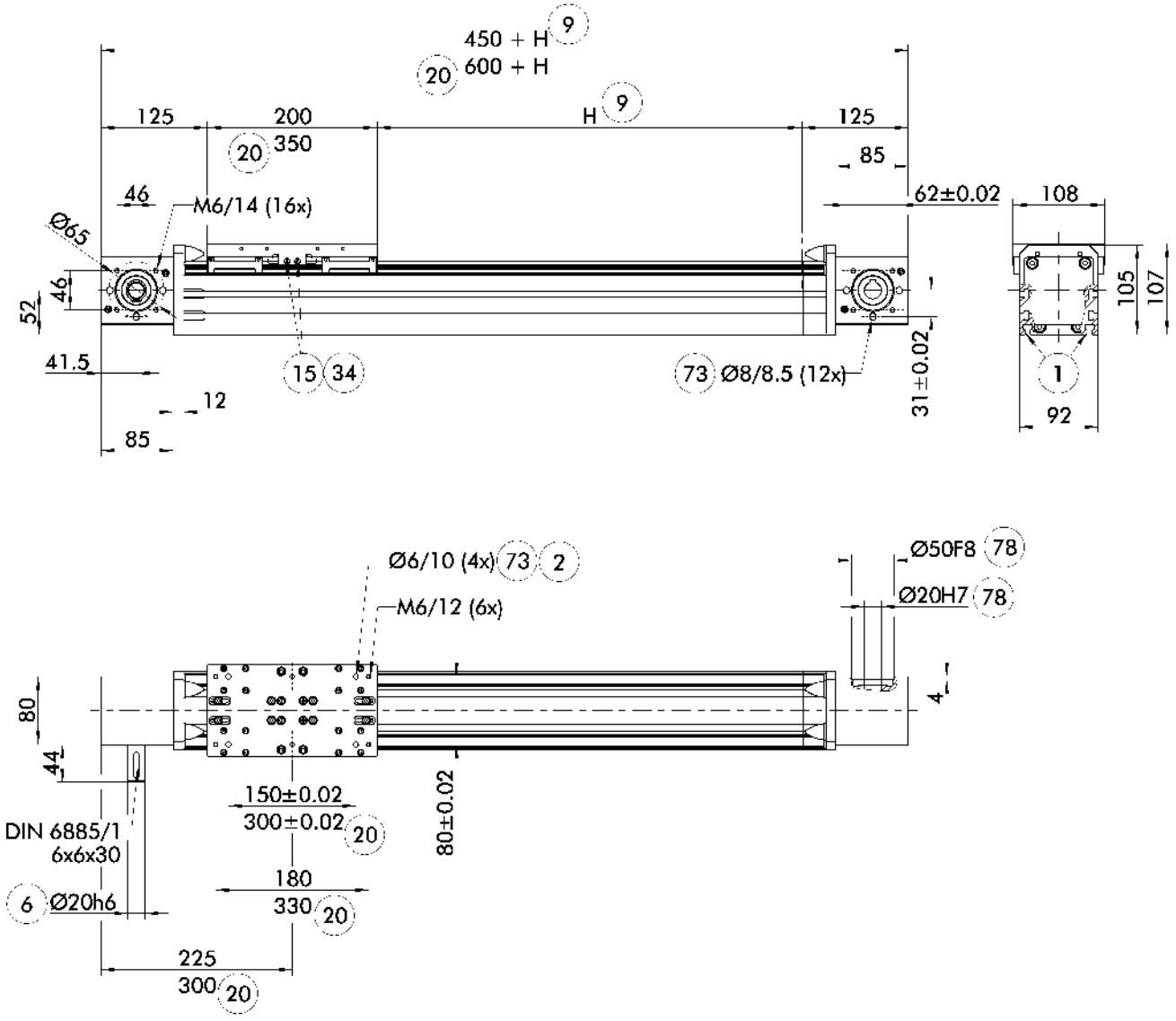


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		G 90-ZSS	G 90-ZSSD	G 90-ASH	G 90-AZSS	G 90-AZSH
Max. stroke	[mm]	7650	7560	7560	7600	7600
Max. driving force	[N]	2300	1150	2300	1800	1800
Repeat accuracy	[mm]	±0.08	±0.08	±0.08	±0.05	±0.05
Max. total length	[mm]	8100	8100	8000	8000	8000
Max. speed	[m/s]	5	5	5	3.2	3.2
Max. acceleration	[m/s²]	60	60	60	20	20
Base weight per 0 mm of stroke	[kg]	10.9	11.5	11	14.85	15
Weight per 100 mm of stroke	[kg]	1	1	1	1.3	1.3
Slide weight	[kg]	2.3	1.9	6.55	4.2	4.35
Slide weight, long	[kg]	3				
Weight of gear	[kg]				3.7	3.7
Drive concept		Belt drive	Belt drive	Belt drive	Rack and pinion drive	Rack and pinion drive
Idle torque	[Nm]	3.2	2.9	3.2	2.5	2.5
Moment of inertia	[kgm²]	0.0031	0.0022	0.0077		
Toothed belt type		32 AT 10	16 AT 10	32 AT 10		
Transmission					5/10/15	5/10/15
Serration					Module 2, angled serration	Module 2, angled serration
Number of teeth of pinion					18	18
Traverse path per revolution	[mm]	210	200	210	120	120
Gear ratio					5/10/15	5/10/15
Moments M_x max./M_y max./M_z max.	[Nm]	500/1200/1000	500/800/700	500/2300/1900	600/1800/1800	600/1800/1800
Forces F_y max./-F_z max.	[N]	2500/3000	2500/500	2500/3000	3000/3000	3000/3000

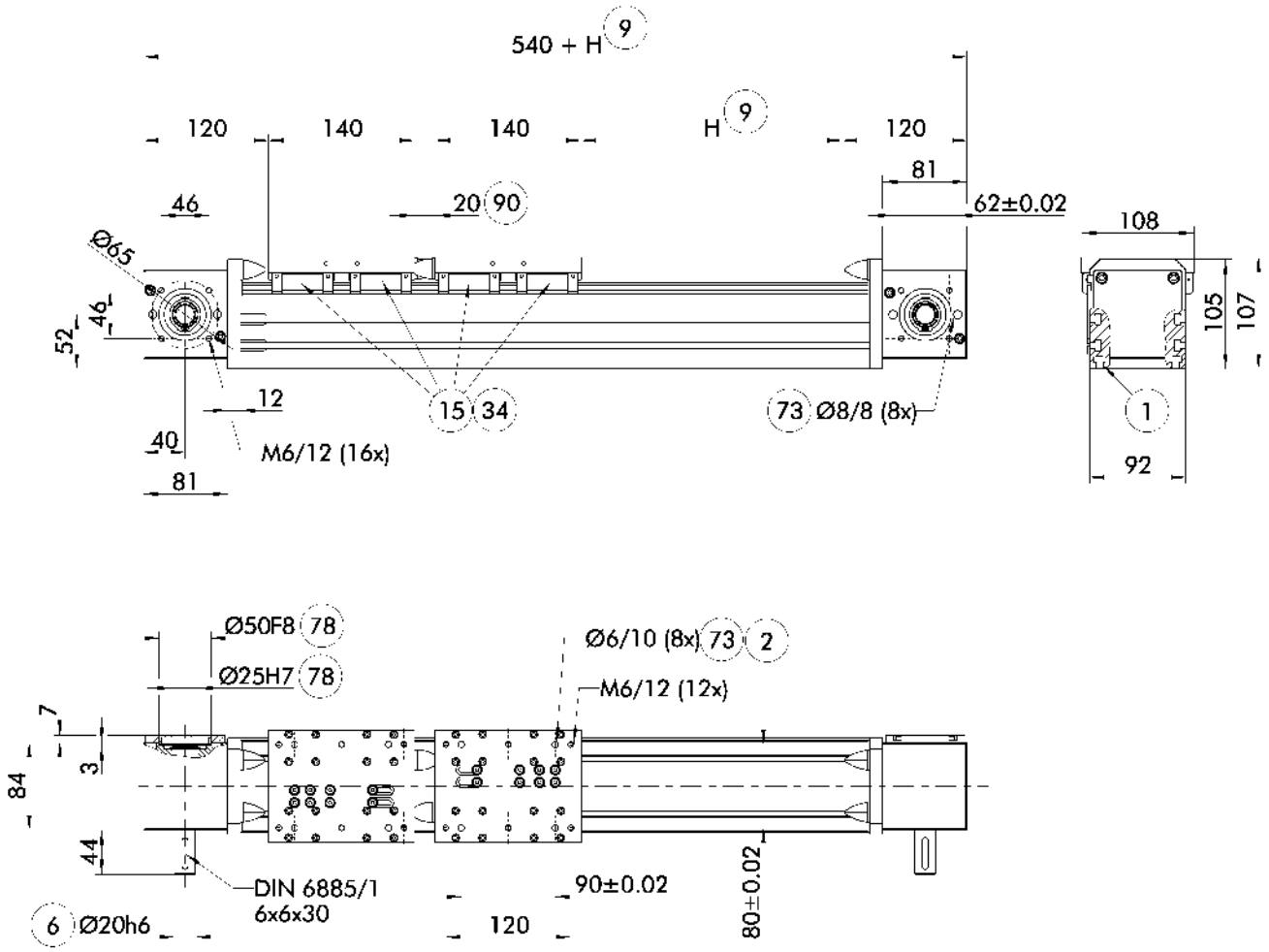
Main view ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

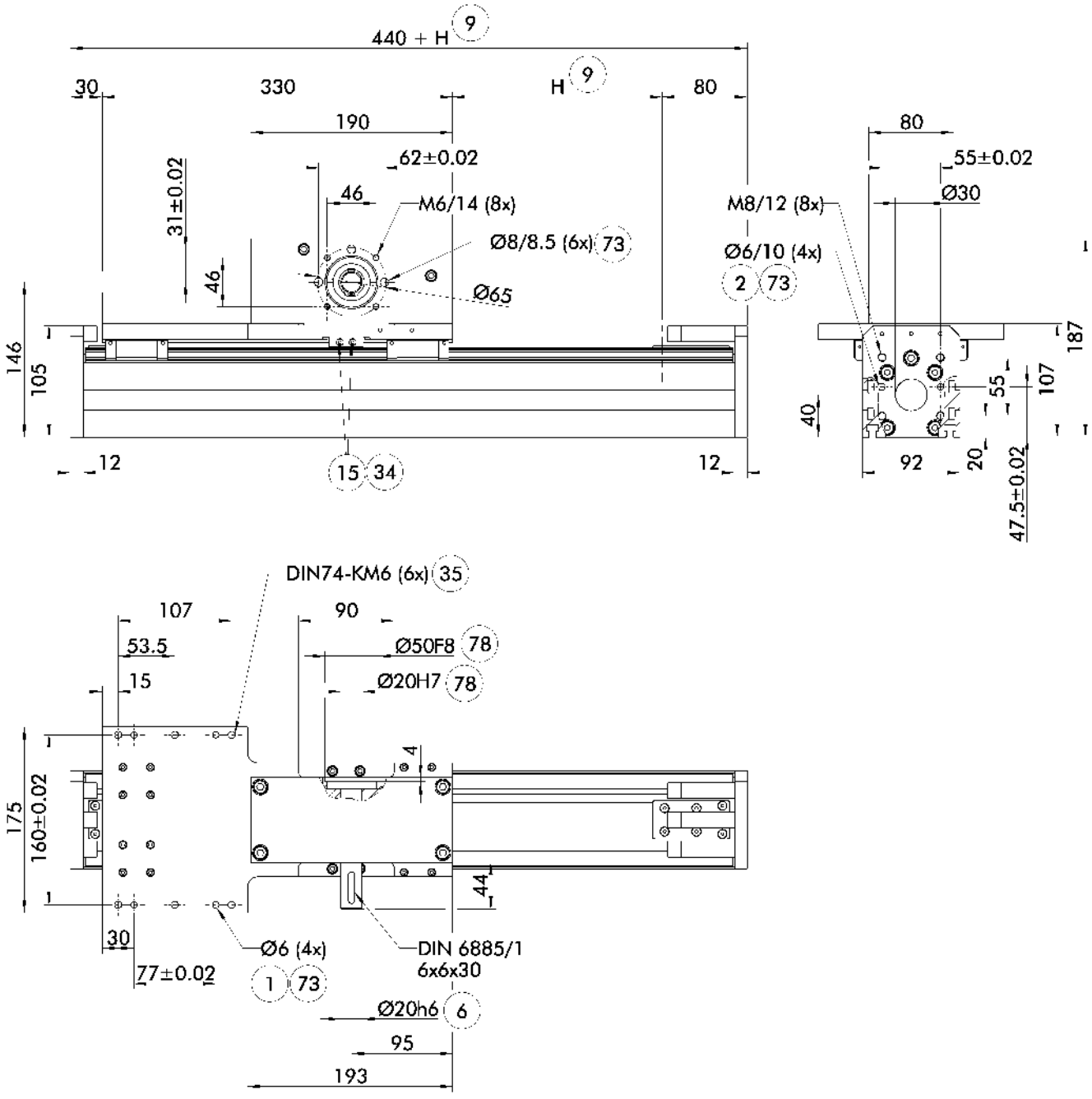
Main view ZSSD



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
34. On both sides
73. Fit for centering pins
78. Fit for centering
90. Min. distance

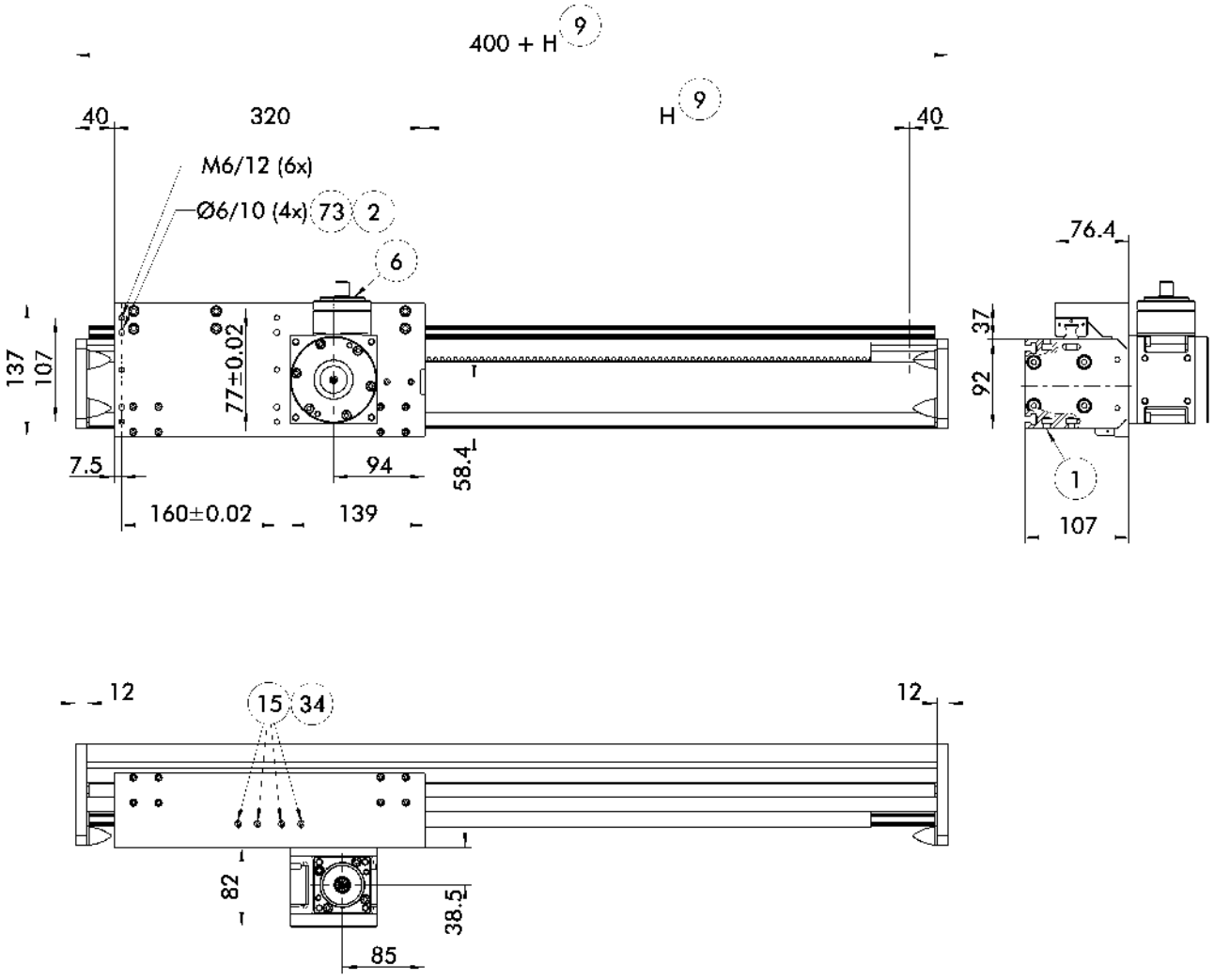
Main view ASH



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
34 On both sides
35 Back side
73 Fit for centering pins
78 Fit for centering

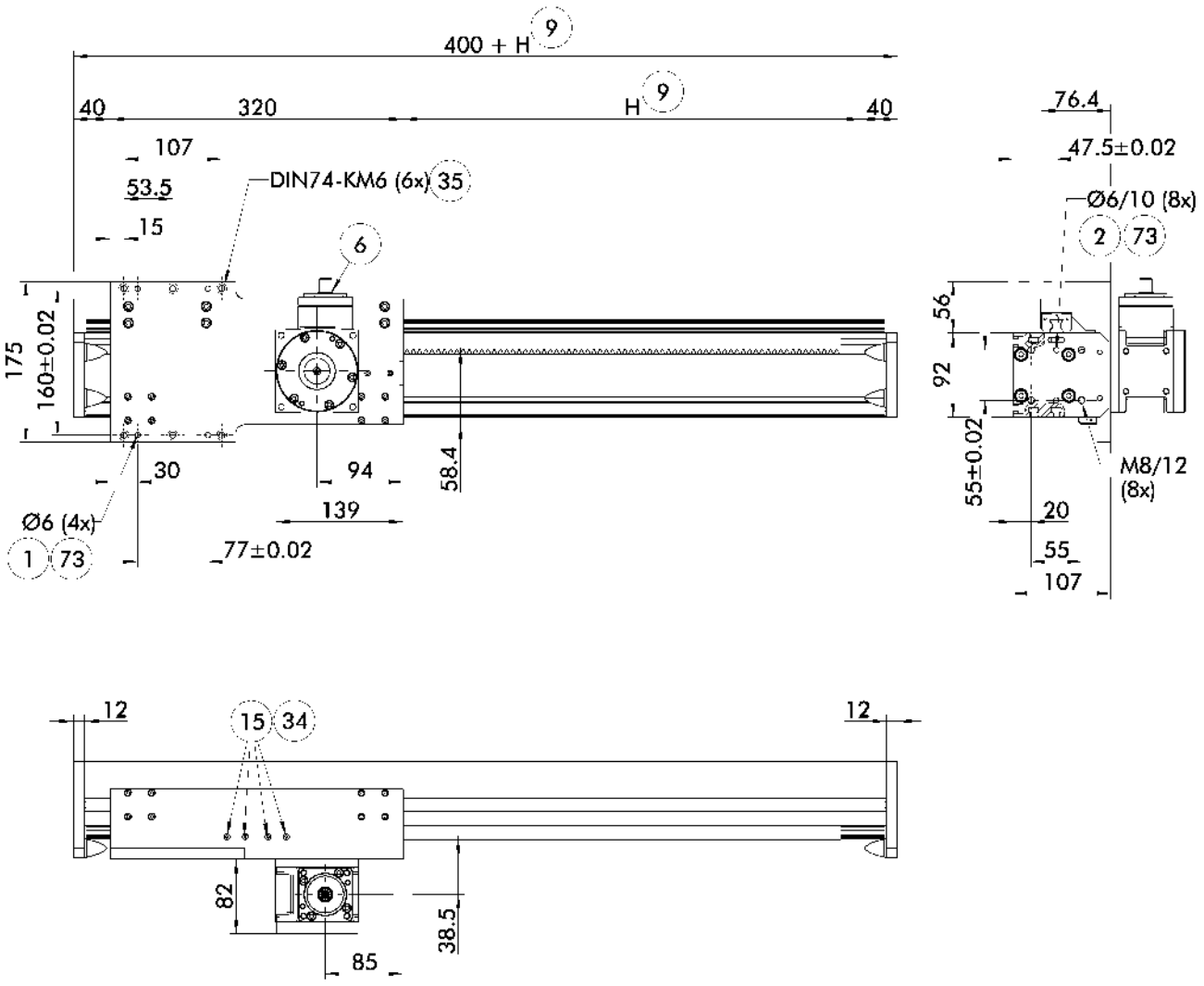
Main view AZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
34. On both sides
73. Fit for centering pins

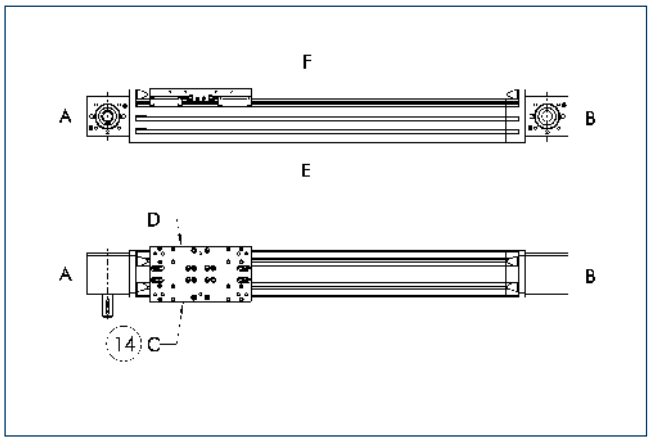
Main view AZSH



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(34) On both sides
(35) Back side
(73) Fit for centering pins

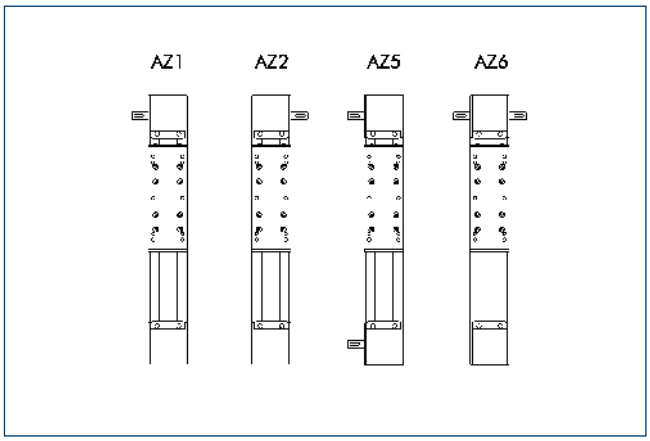
Side definition



14 Limit switch standard position

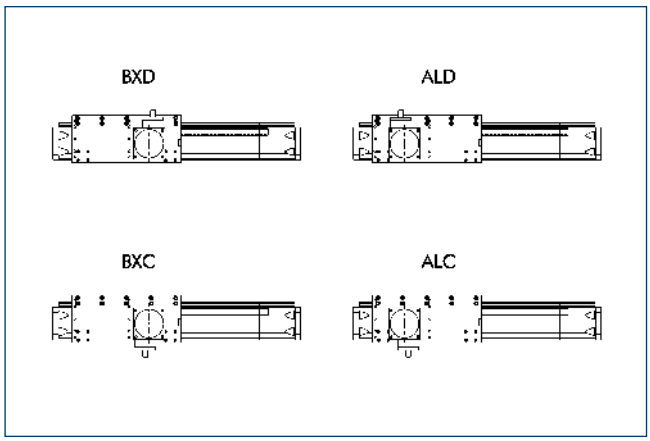
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



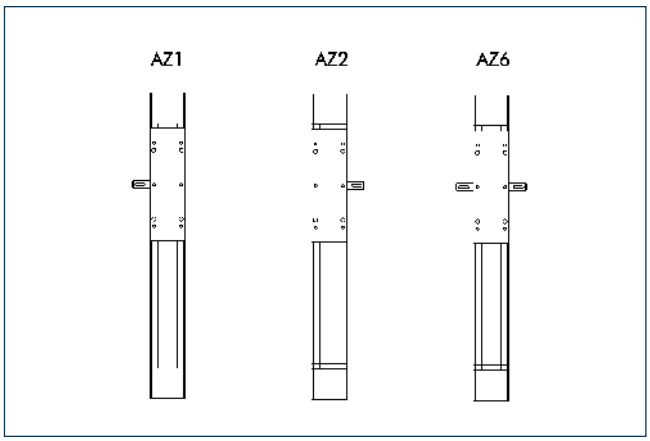
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts at the slide (rack and pinion drive)



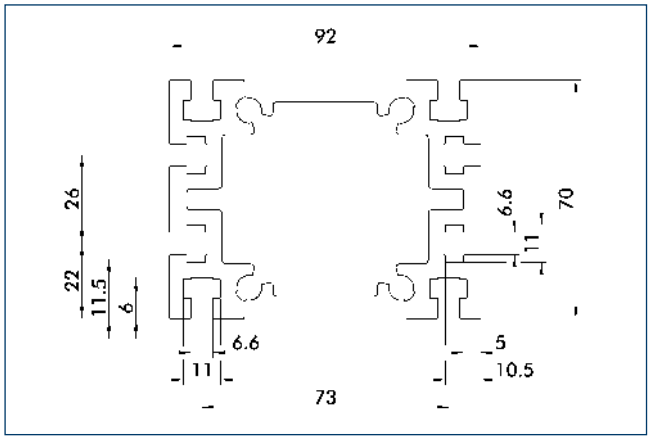
Depending on the axis application, the seat of the drive shaft of the gear has to be defined in the order text.

Drive shafts in slide (rack and pinion drive)



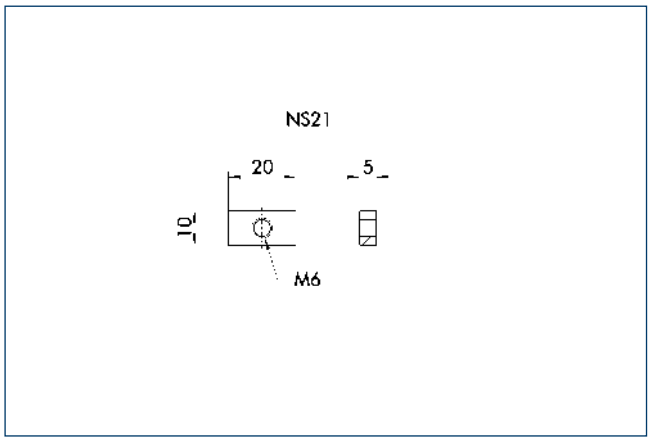
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Mounting



The drawing shows the position of the mounting options.

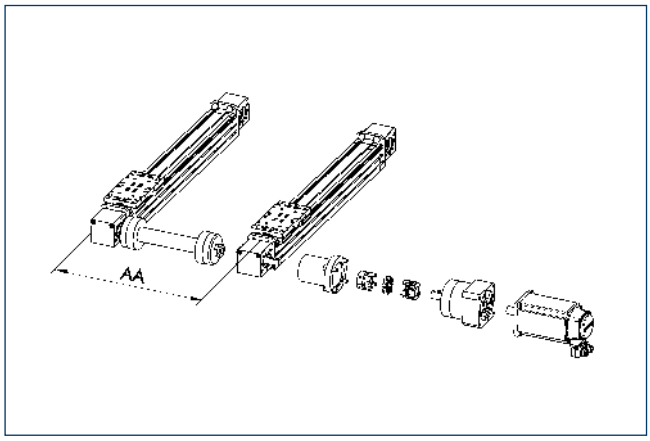
Fastening elements



The unit can be fixed in place using T-nuts. The exact mounting position is indicated on the adjacent attachment illustration.

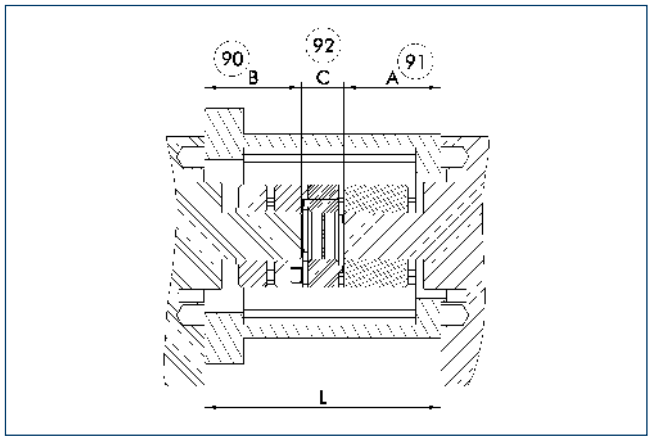
Description	ID	
T-Nuts		
NS 21-M6	0331441	

Connection shaft



Description	Connection shaft	min. AA
		[mm]
G 90-ZSS	GX4	250
G 90-ZSSD	GX2	240

Motor bell schematic diagram



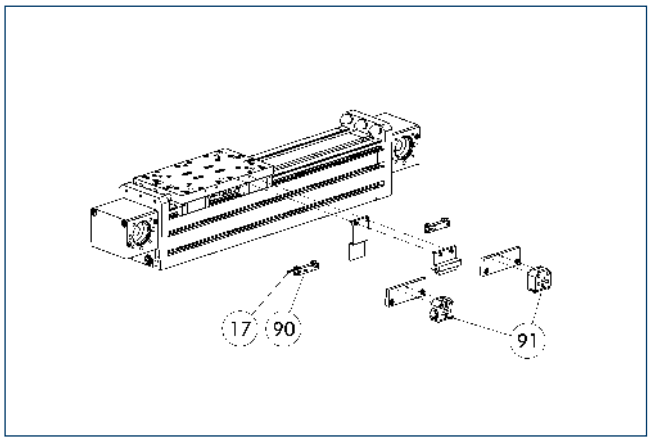
(90) Length of the drive shaft of the motor/gear

(91) Length of linear unit's drive journal

(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



17 Cable outlet

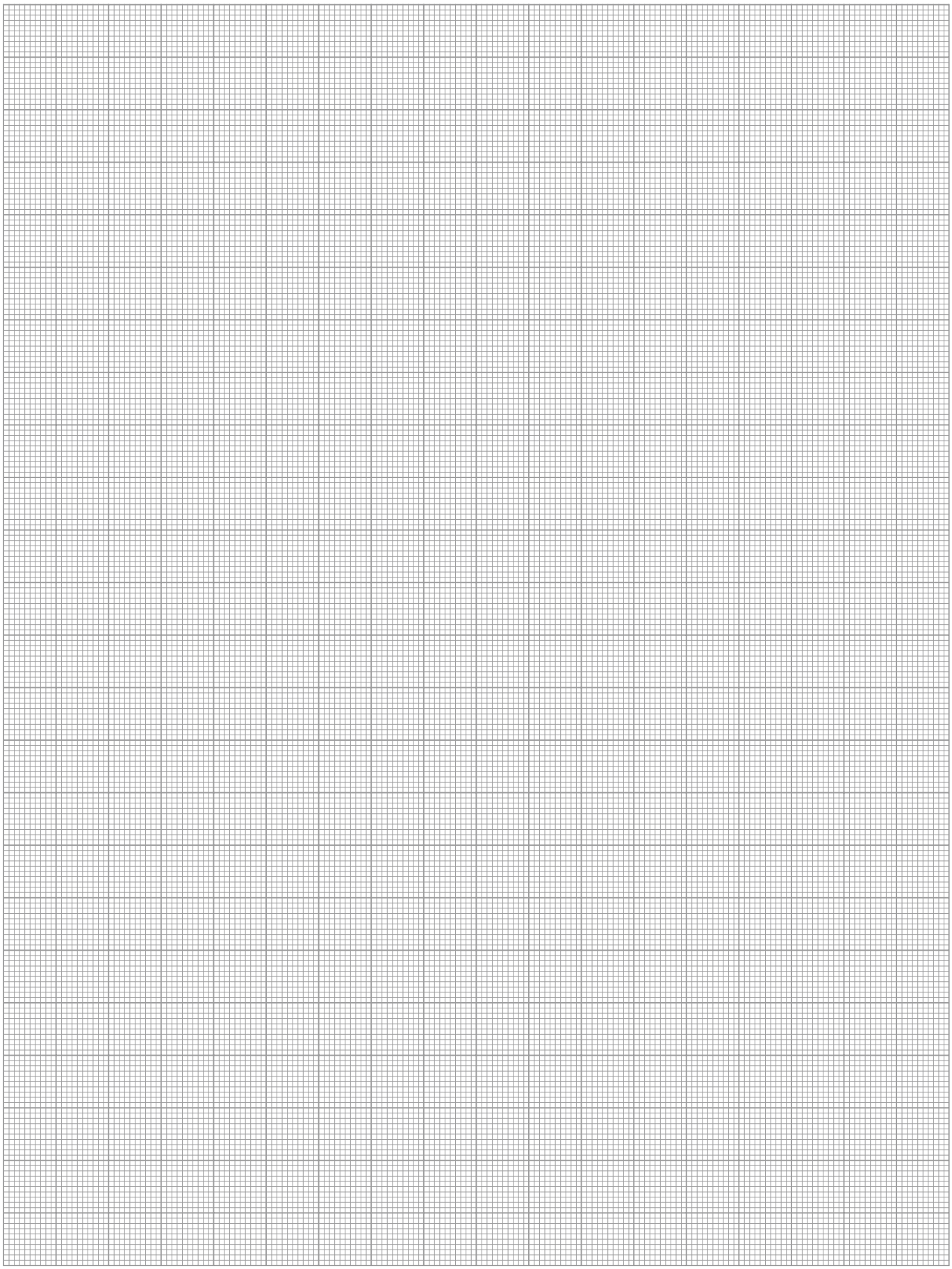
90 Inductive limit and reference switches

91 Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

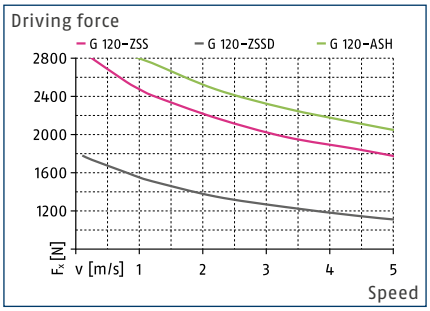


Gamma 120

Electric Components | Universal Linear Module

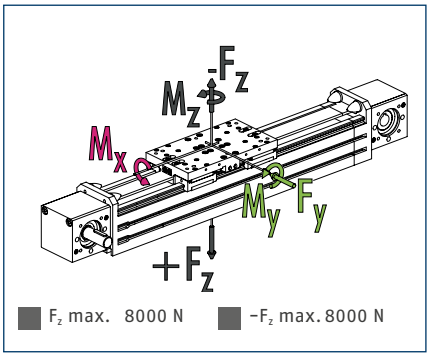


Max. driving force (toothed belt)*



*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

Forces and moments

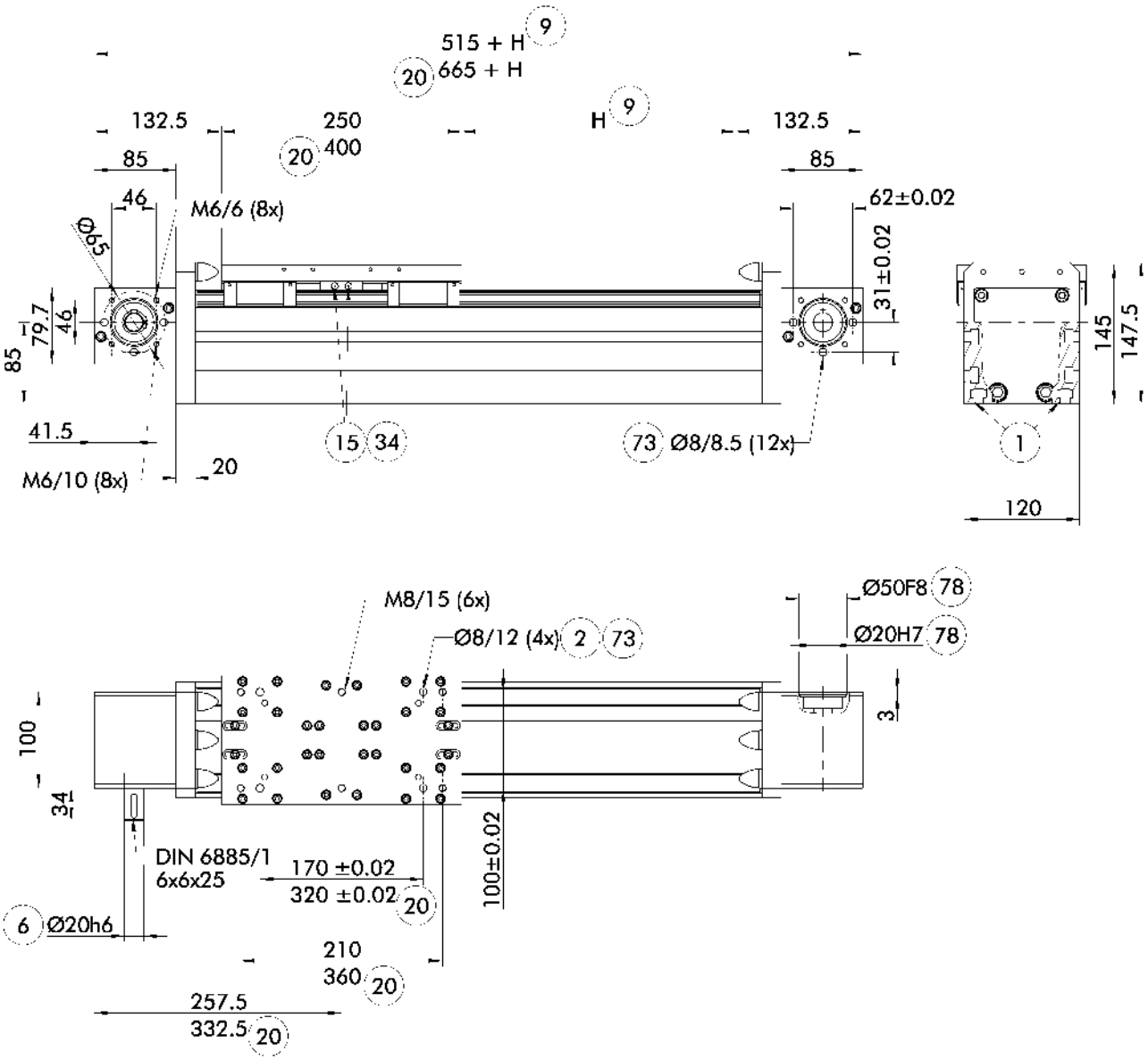


ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		G 120-ZSS	G 120-ZSSD	G 120-ASH	G 120-AZSS	G 120-AZSH
Max. stroke	[mm]	7685	7638	7450	7470	7470
Max. driving force	[N]	2800	1800	3200	2200	2200
Repeat accuracy	[mm]	±0.08	±0.08	±0.08	±0.05	±0.05
Max. total length	[mm]	8200	8200	8000	8000	8000
Max. speed	[m/s]	5	5	5	5	5
Max. acceleration	[m/s²]	60	60	60	20	20
Base weight per 0 mm of stroke	[kg]	19.35	19.4	21.35	25.85	26.1
Weight per 100 mm of stroke	[kg]	1.65	1.9	1.65	2.1	2.1
Slide weight	[kg]	4.25	3.4	10.25	8.2	8.45
Slide weight, long	[kg]	5.25				
Weight of gear	[kg]				6.3	6.3
Drive concept		Belt drive	Belt drive	Belt drive	Rack and pinion drive	Rack and pinion drive
Idle torque	[Nm]	3	3	3.6	4.8	4.8
Moment of inertia	[kgm²]	0.0049	0.0039	0.0157		
Toothed belt type		40 AT 10-E	25 ATL 10	40 AT 10-E		
Transmission					5/10/15	5/10/15
Serration					Module 2, angled serration	Module 2, angled serration
Number of teeth of pinion					30	30
Traverse path per revolution	[mm]	200	200	240	200	200
Gear ratio					5/10/15	5/10/15
Moments M_x max./M_y max./M_z max.	[Nm]	1200/3000/2500	1200/1300/1100	1200/5000/4200	1500/4000/4000	1500/4000/4000
Forces F_y max.	[N]	6000	6000	6000	8000	8000

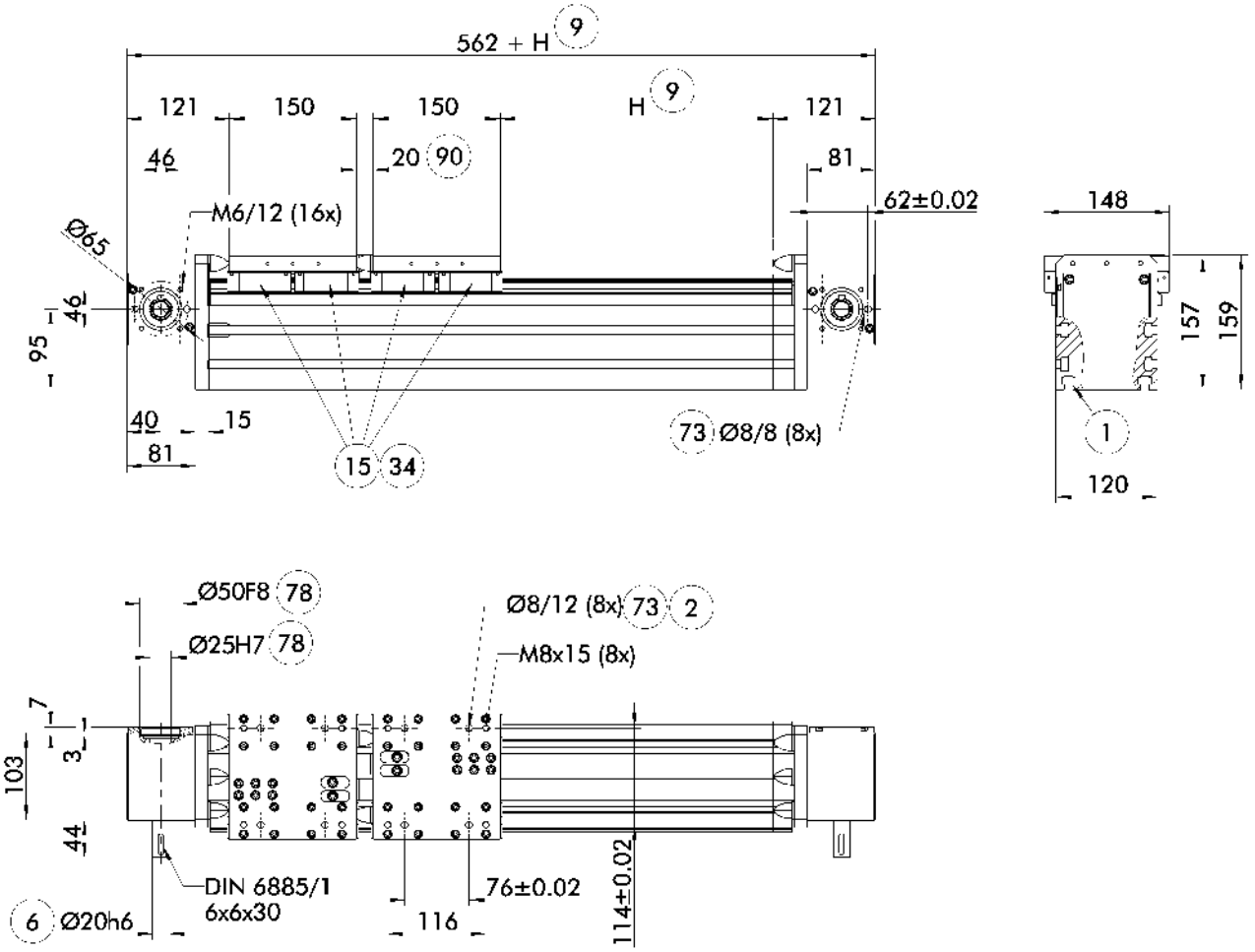
Main view ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering

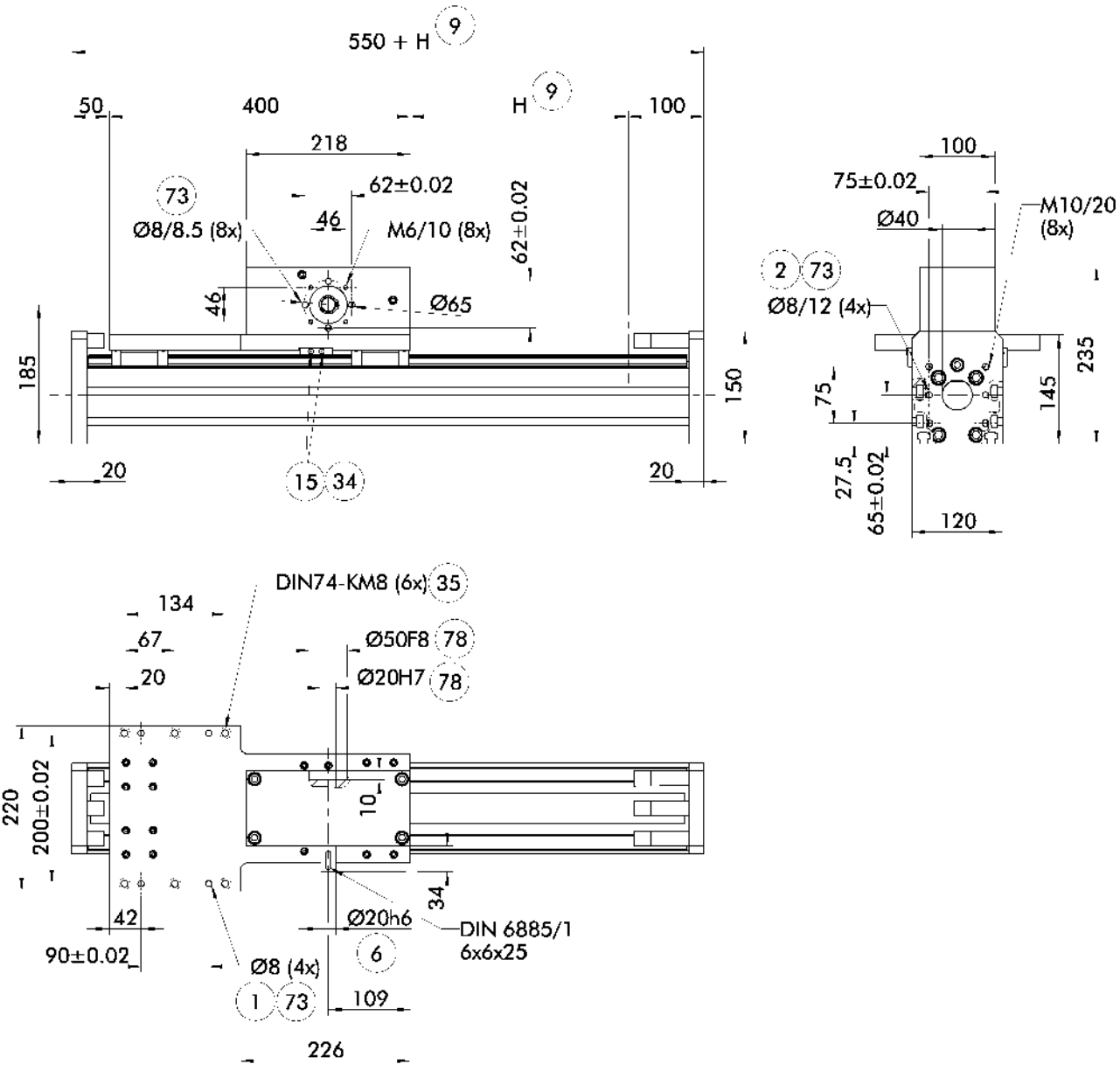
Main view ZSSD



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
34 On both sides
73 Fit for centering pins
78 Fit for centering
90 Min. distance

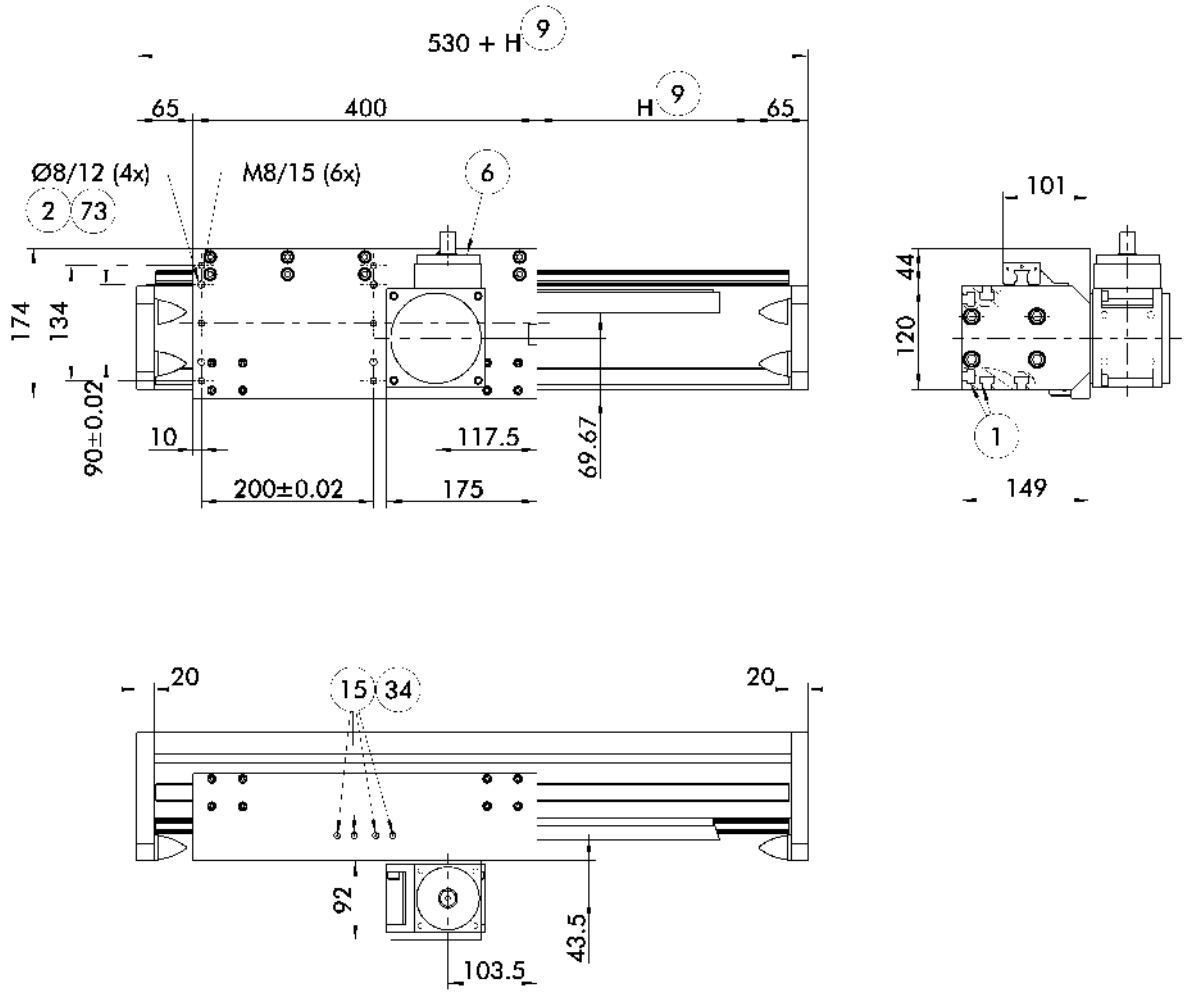
Main view ASH



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
34 On both sides
35 Back side
73 Fit for centering pins
78 Fit for centering

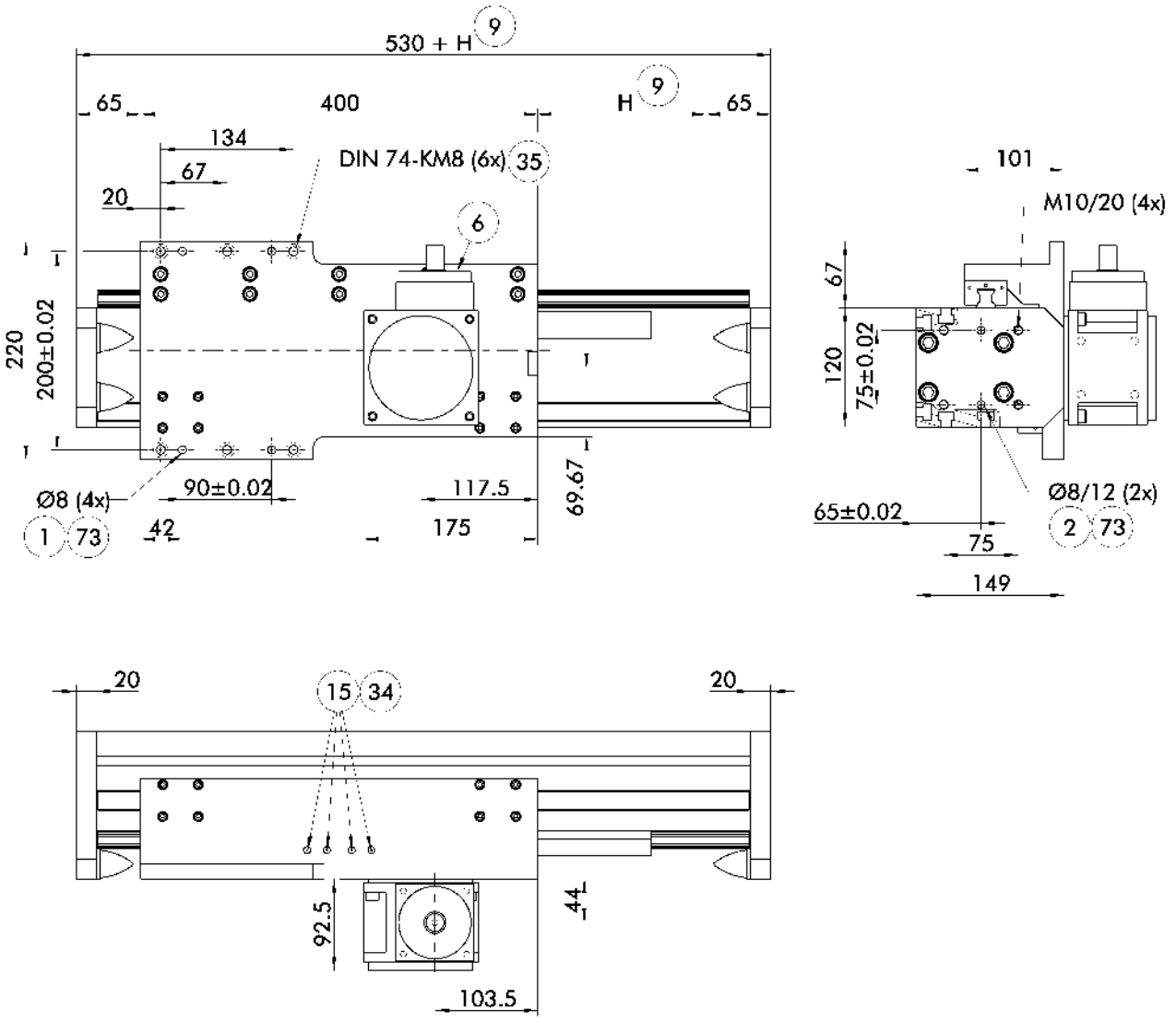
Main view AZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
34 On both sides
73 Fit for centering pins

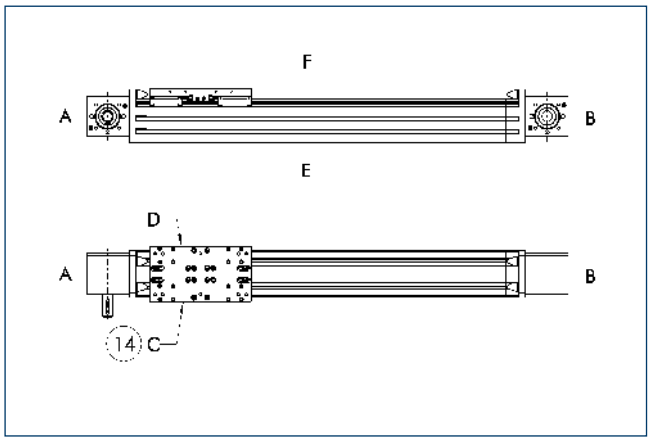
Main view AZSH



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(34) On both sides
(35) Back side
(73) Fit for centering pins

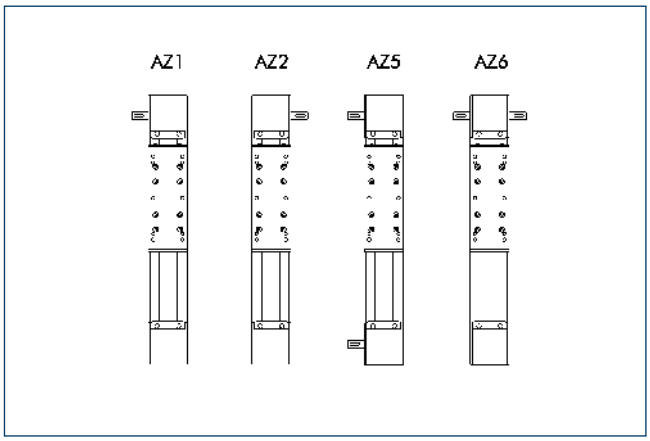
Side definition



14 Limit switch standard position

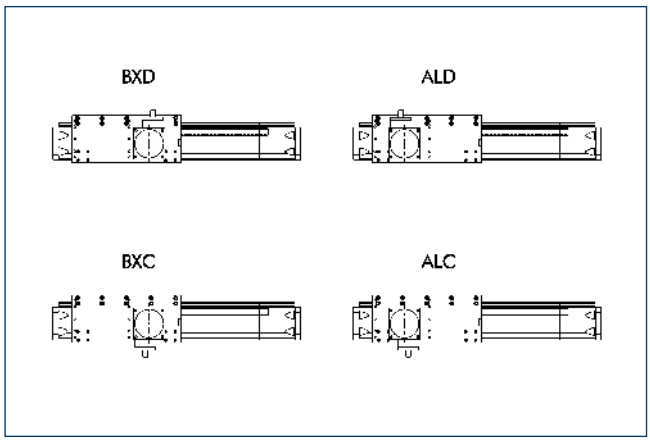
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



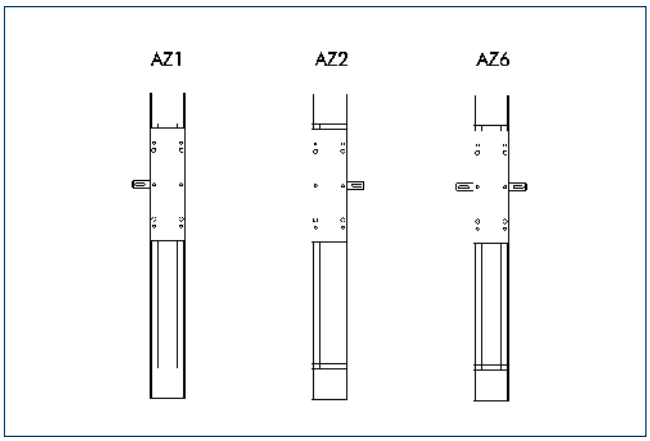
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts at the slide (rack and pinion drive)



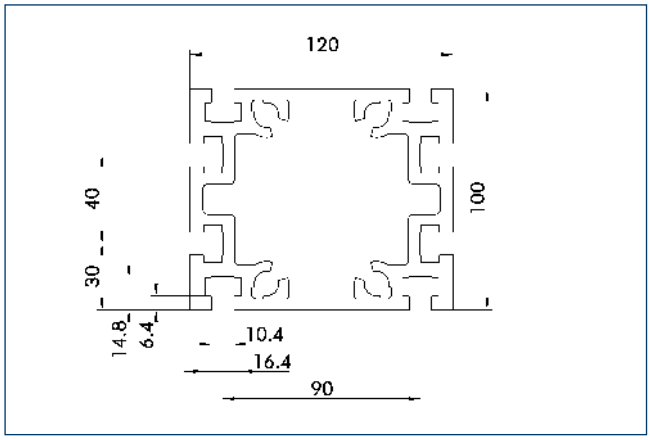
Depending on the axis application, the seat of the drive shaft of the gear has to be defined in the order text.

Drive shafts in slide (rack and pinion drive)



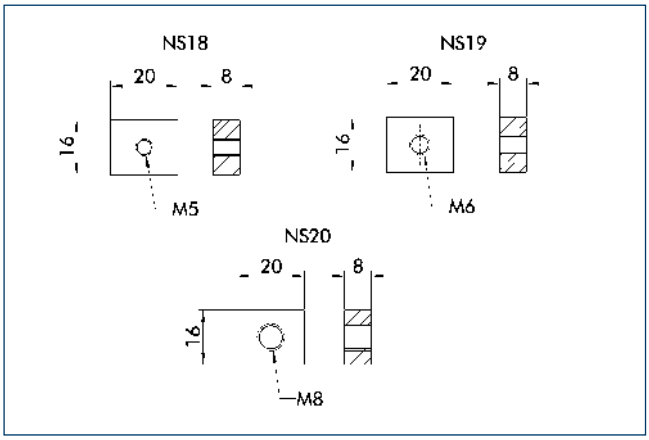
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Mounting



The drawing shows the position of the mounting options.

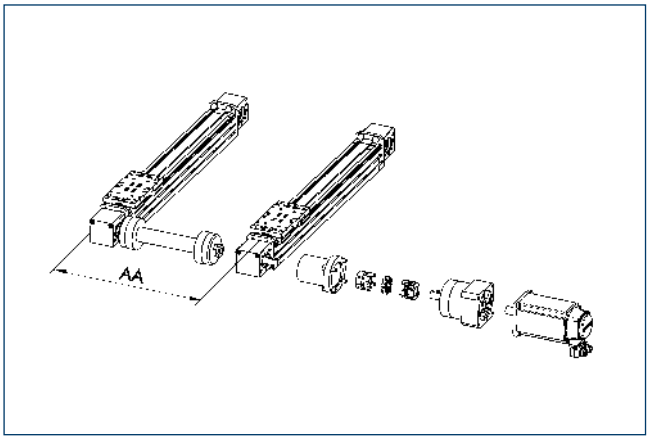
Fastening elements



The unit can be fixed in place using T-nuts. The exact mounting position is indicated on the adjacent attachment illustration.

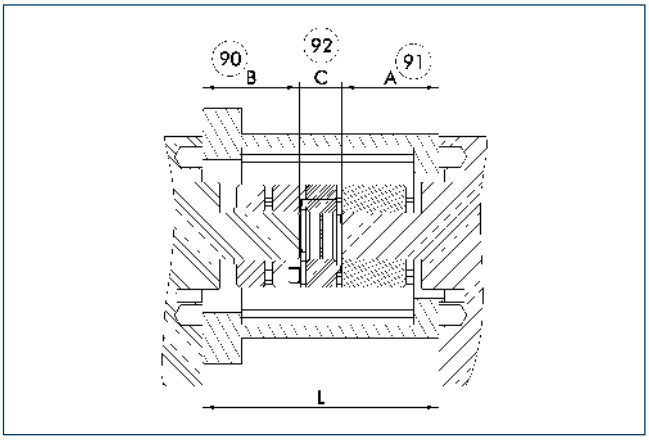
Description	ID	
T-Nuts		
NS 18-M5	0331438	
NS 19-M6	0331439	
NS 20-M8	0331440	

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
G 120-ZSS	GX4	280
G 120-ZSSD	GX4	280

Motor bell schematic diagram



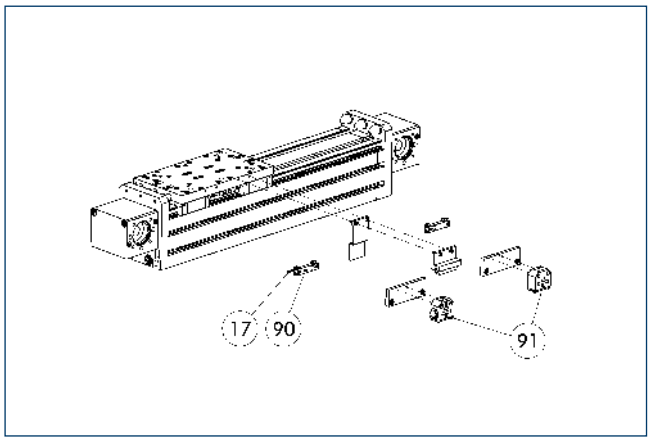
(90) Length of the drive shaft of the motor/gear

(91) Length of linear unit's drive journal

(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet

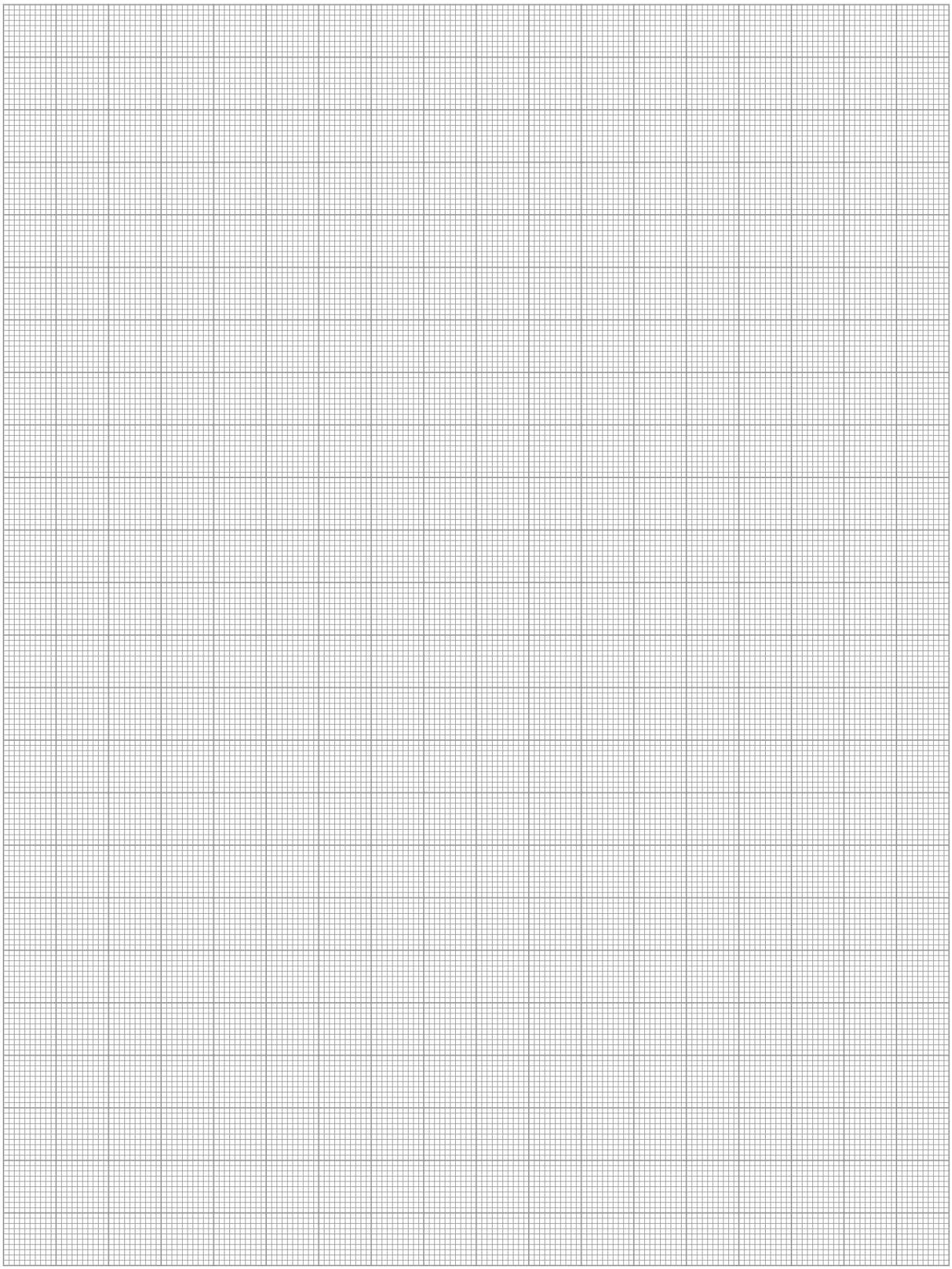
(90) Inductive limit and reference switches

(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
INK 8-S	9700052	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

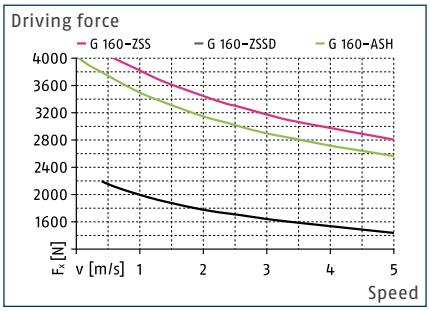


Gamma 160

Electric Components | Universal Linear Module

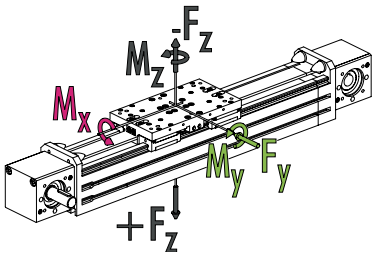


Max. driving force (toothed belt)*



*The specified driving forces are maximum values for modules with toothed-belt drives at a given speed.

Forces and moments



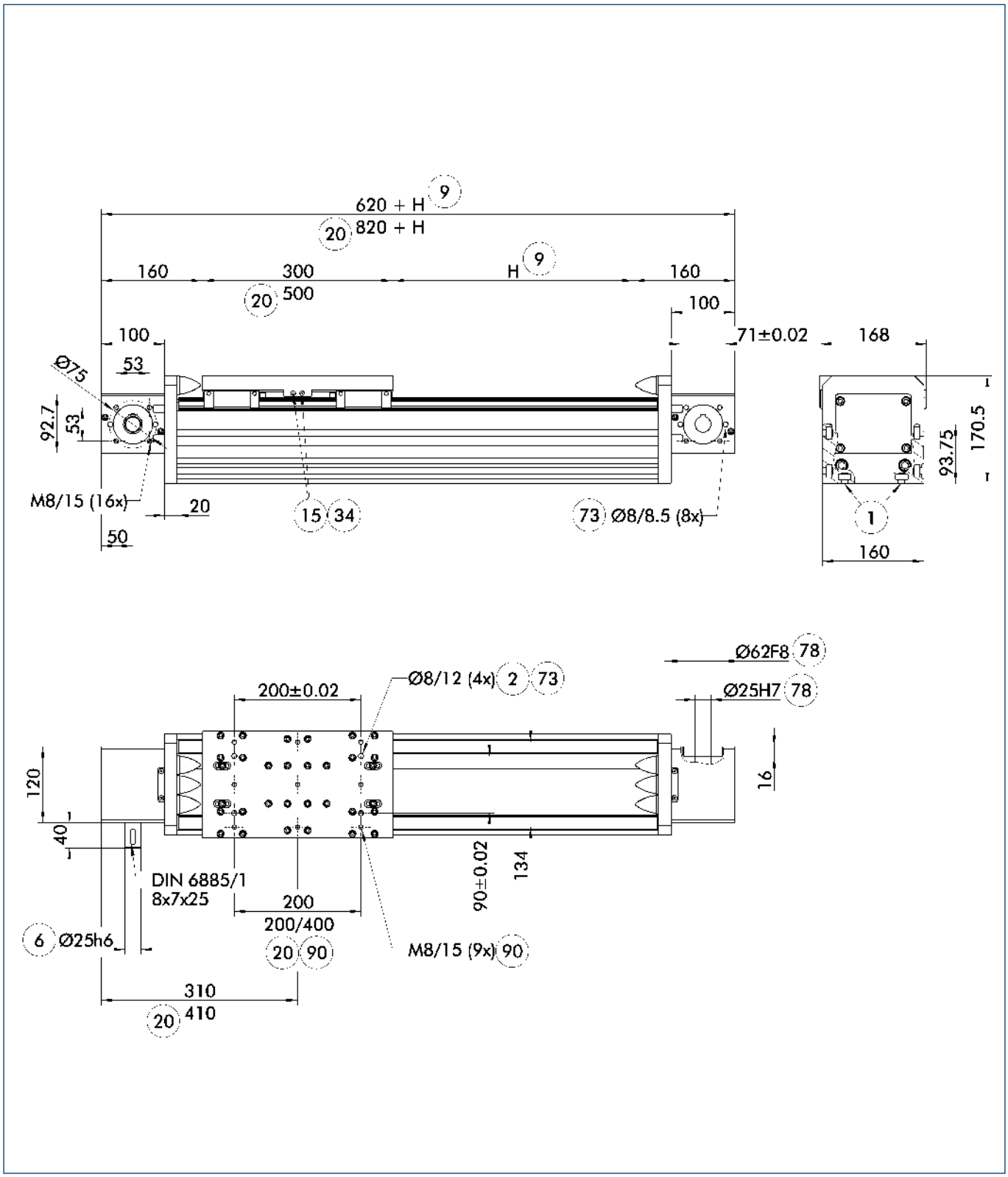
For values see technical data table

ⓘ The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permitted individual values will be lower.

Technical data

Description		G 160-ZSS	G 160-ZSSD	G 160-ASH	G 160-AZSS-D75	G 160-AZSH-D90
Max. stroke	[mm]	7580	7240	7350	7370	7370
Max. driving force	[N]	4000	2200	4000	2200	4000
Repeat accuracy	[mm]	±0.08	±0.08	±0.08	±0.05	±0.05
Max. total length	[mm]	8200	8200	8000	8000	8000
Max. speed	[m/s]	5	5	5	5	4.5
Max. acceleration	[m/s²]	60	60	60	20	20
Base weight per 0 mm of stroke	[kg]	26.5	39.8	36.5	33.25	34.05
Weight per 100 mm of stroke	[kg]	2.42	2.5	2.42	3	3
Slide weight	[kg]	7.6	7	16.6	13.9	14.7
Slide weight, long	[kg]	9.8	9.2			
Weight of gear	[kg]				6.3	10.5
Drive concept		Belt drive	Belt drive	Belt drive	Rack and pinion drive	Rack and pinion drive
Idle torque	[Nm]	4	4	4	5.8	5.8
Moment of inertia	[kgm²]	0.018	0.0087	0.0257		
Toothed belt type		50 ATL 10	32 AT 10	50 AT 10-E		
Transmission					5/10/15	5/10/15
Serration					Module 2, angled serration	Module 2, angled serration
Number of teeth of pinion					30	30
Traverse path per revolution	[mm]	240	210	240	200	200
Gear ratio					5/10/15	5/10/15
Moments M_x max./M_y max./M_z max.	[Nm]	1800/5000/4000	1800/5000/4000	1800/8000/7000	2500/7000/7000	2500/7000/7000
Forces F_y max./F_z max./-F_z max.	[N]	10000/16000/16000	10000/16000/16000	10000/16000/16000	12000/12000/12000	12000/12000/12000

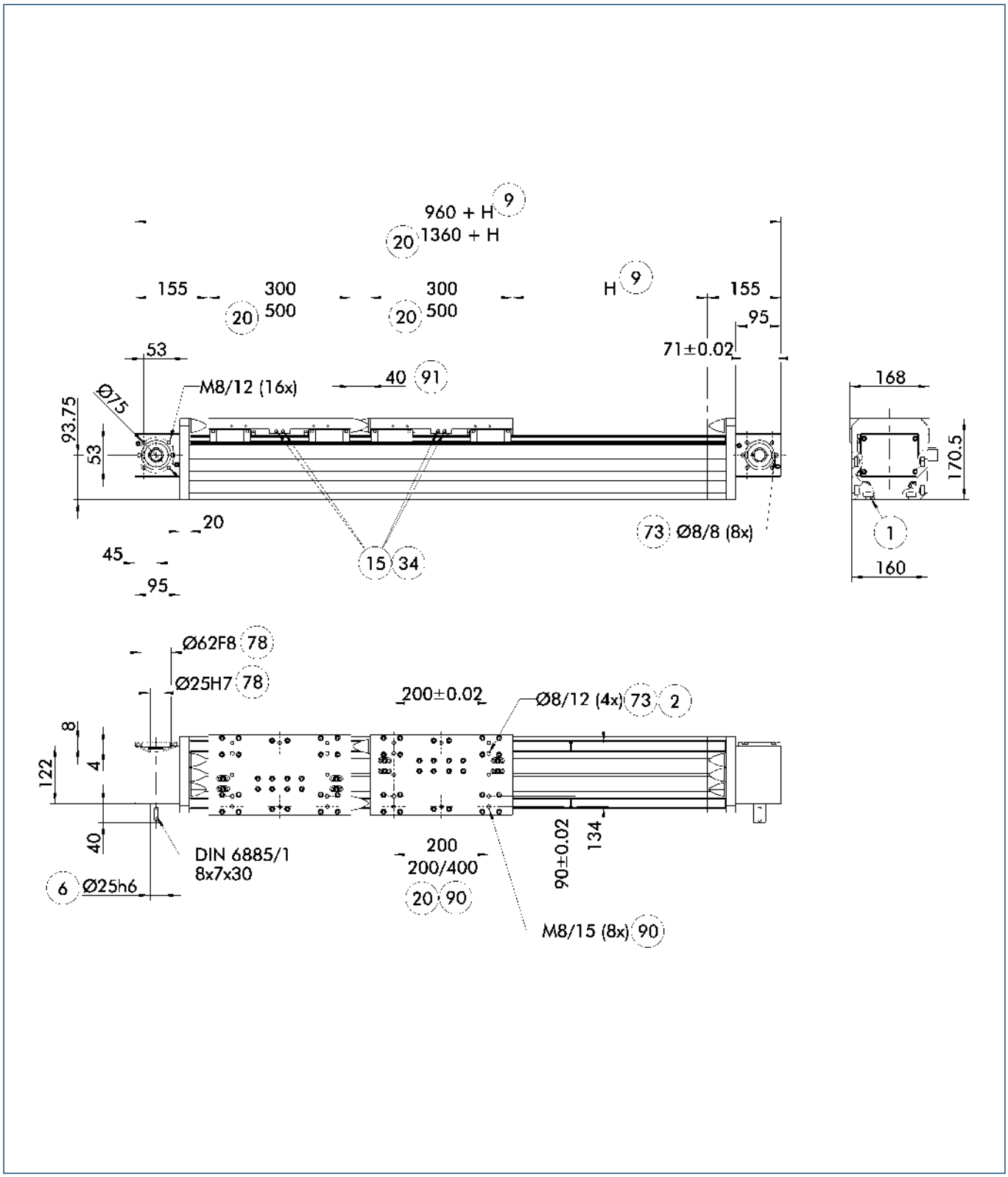
Main view ZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
20 With long slide plate
34 On both sides
73 Fit for centering pins
78 Fit for centering
90 Additional screw threads in the case of a long slide plate

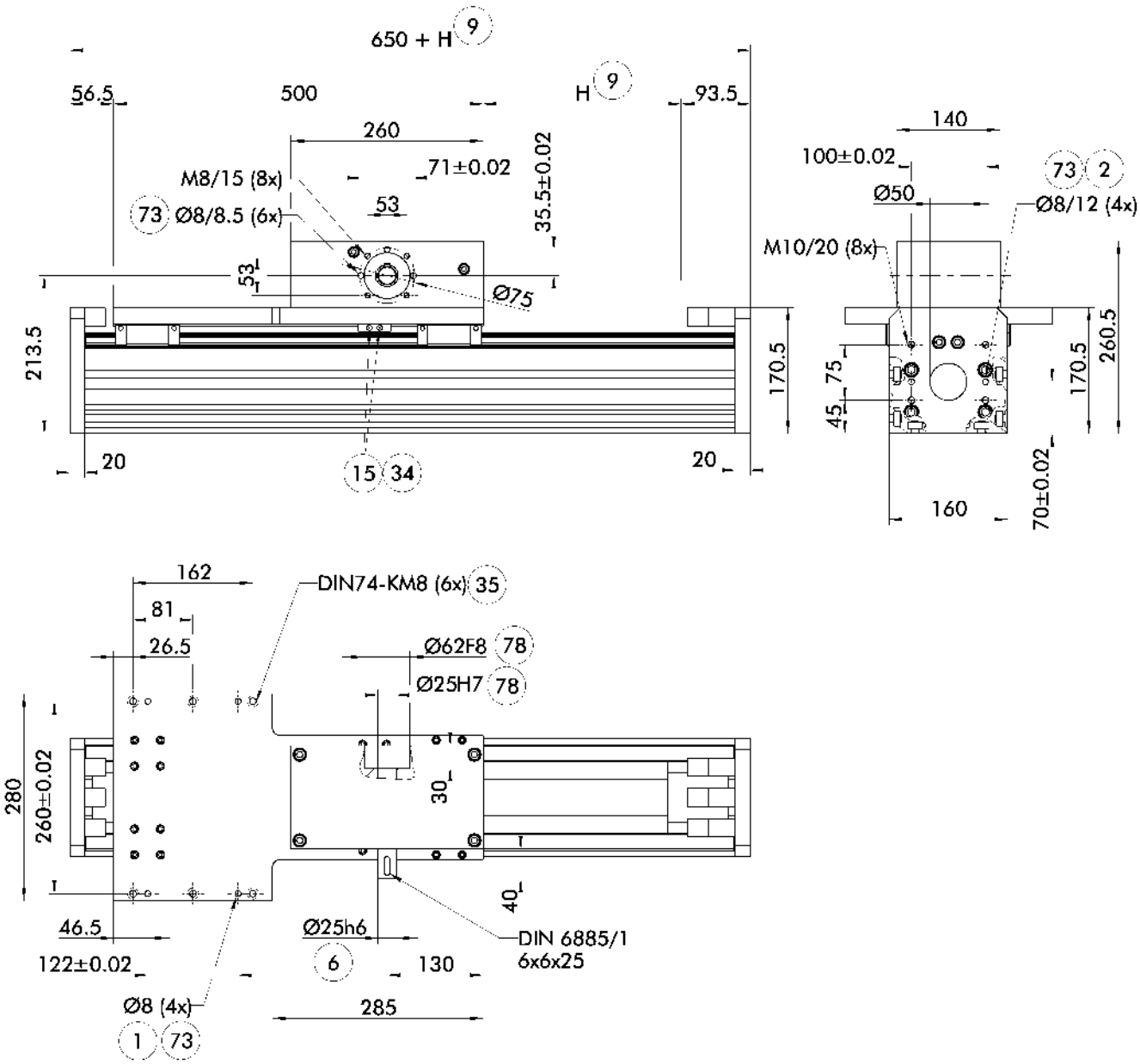
Main view ZSSD



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
20. With long slide plate
34. On both sides
73. Fit for centering pins
78. Fit for centering
90. Additional screw threads in the case of a long slide plate
91. Min. distance

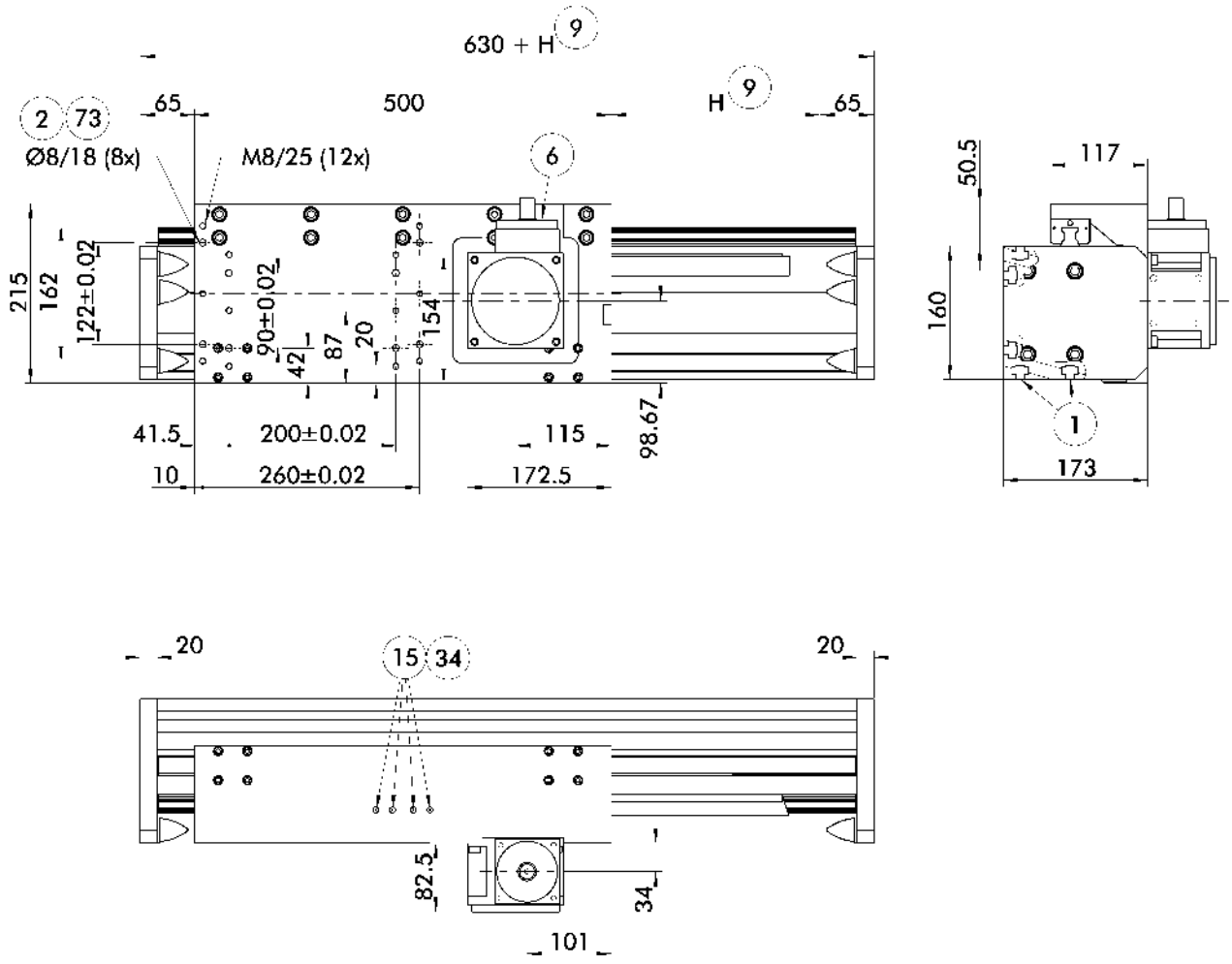
Main view ASH



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection linear unit
2 Attachment connection
6 Drive connection
9 Effective stroke
15 Lubricant connection
34 On both sides
35 Back side
73 Fit for centering pins
78 Fit for centering

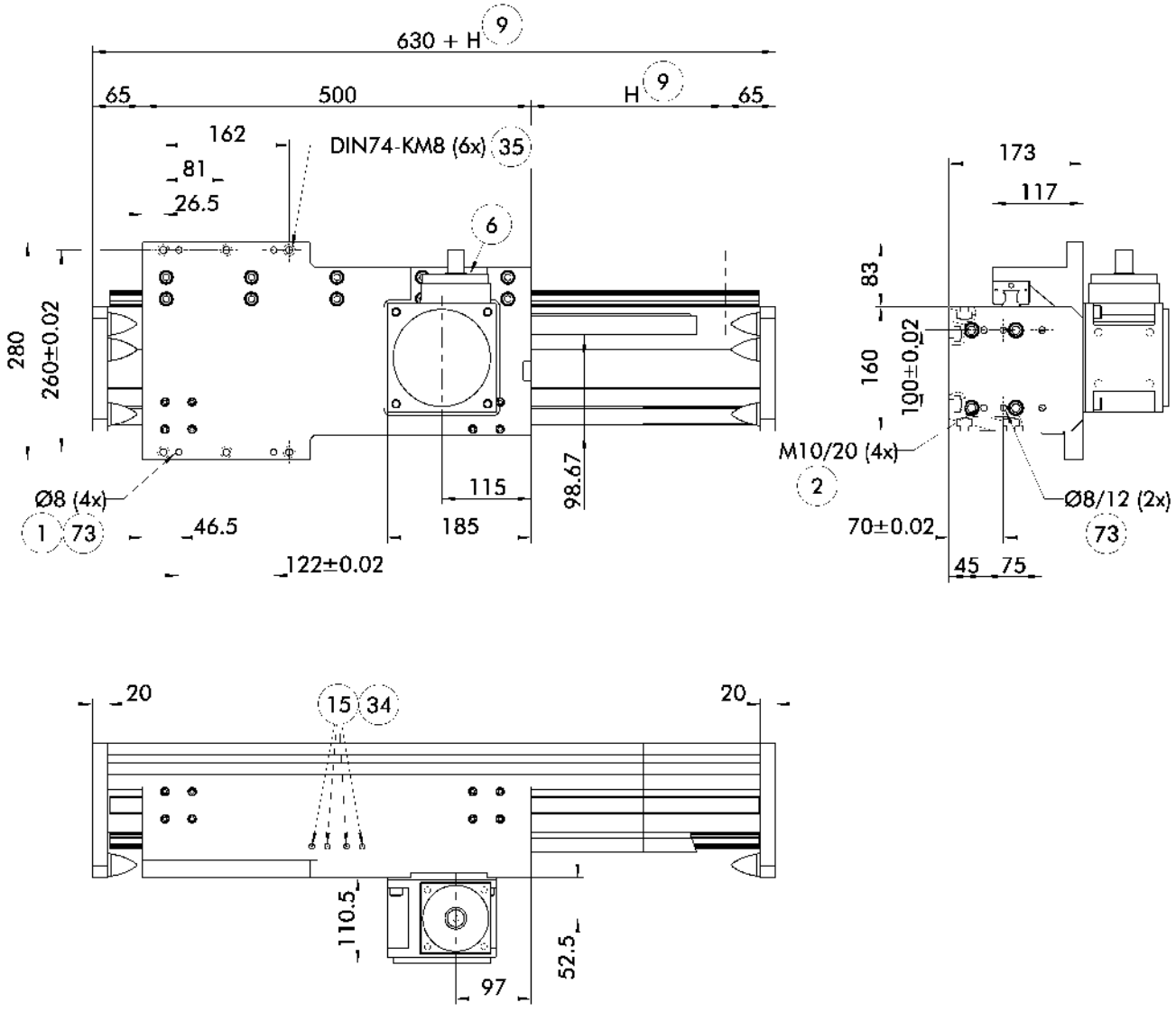
Main view AZSS



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection linear unit
2. Attachment connection
6. Drive connection
9. Effective stroke
15. Lubricant connection
34. On both sides
73. Fit for centering pins

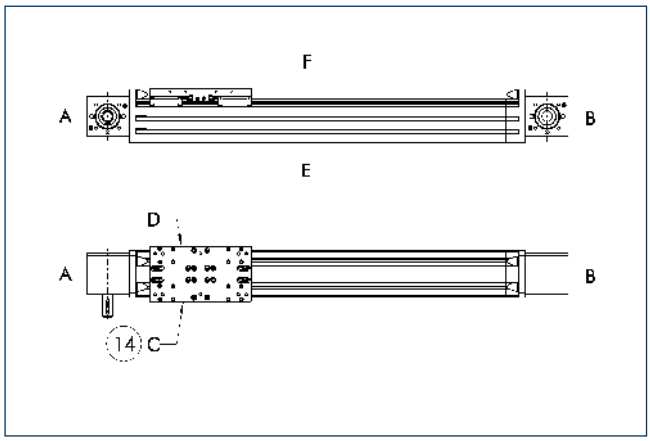
Main view AZSH



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection linear unit
(2) Attachment connection
(6) Drive connection
(9) Effective stroke
(15) Lubricant connection
(34) On both sides
(35) Back side
(73) Fit for centering pins

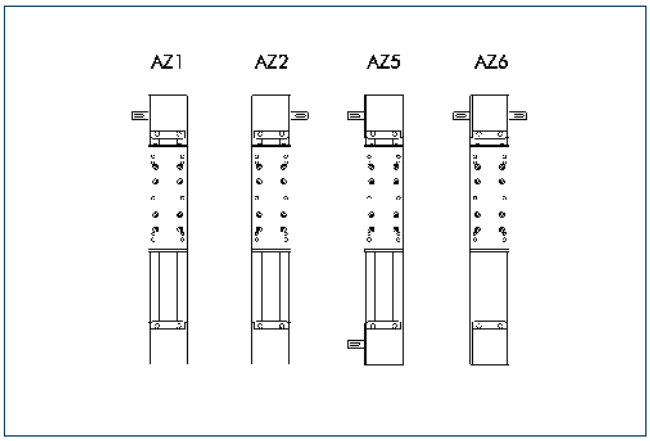
Side definition



14 Limit switch standard position

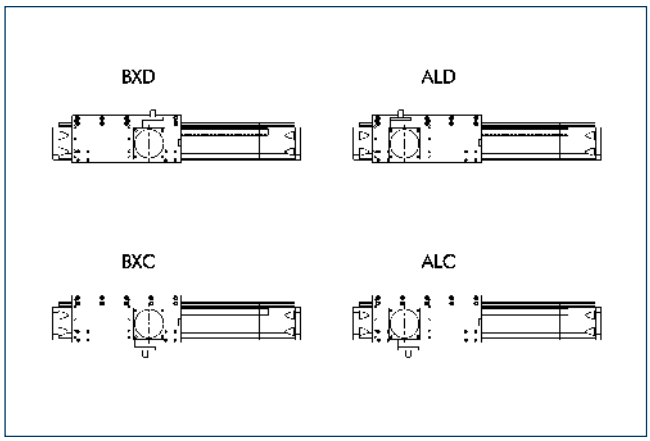
This drawing indicates the definition for the sides. This serves as the basis for all attachments.

Drive shafts in profile (rack and pinion drive)



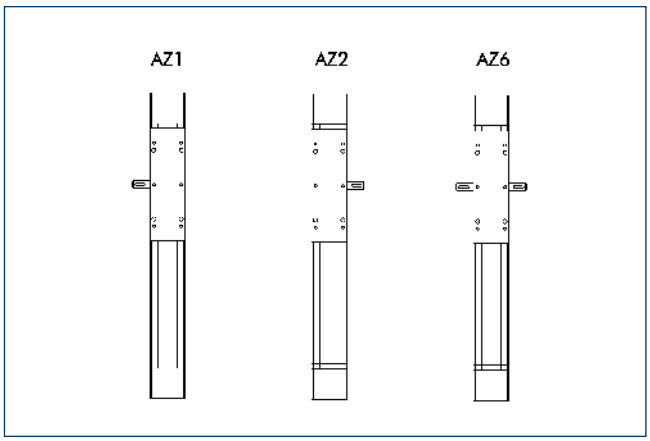
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Drive shafts at the slide (rack and pinion drive)



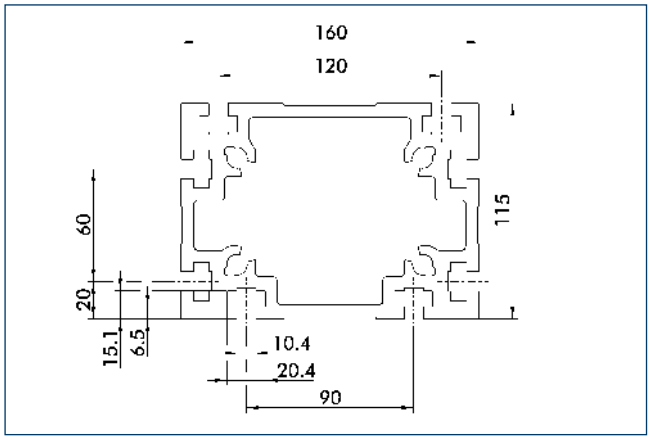
Depending on the axis application, the seat of the drive shaft of the gear has to be defined in the order text.

Drive shafts in slide (rack and pinion drive)



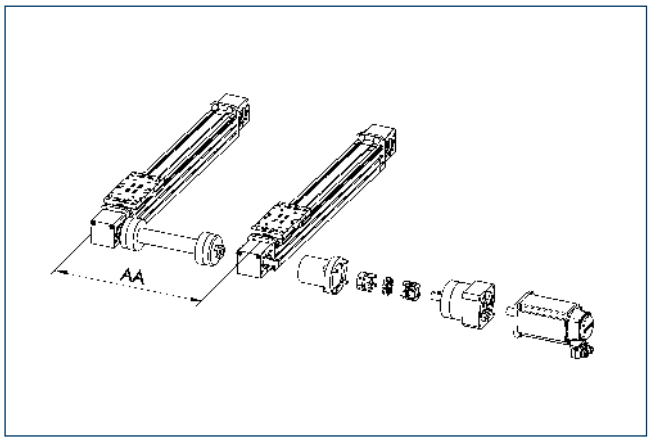
Depending on the axis application, the seat of the drive shaft has to be defined in the order text. Particularly with axis combinations and mechanical synchronization, several drive shafts are required.

Mounting



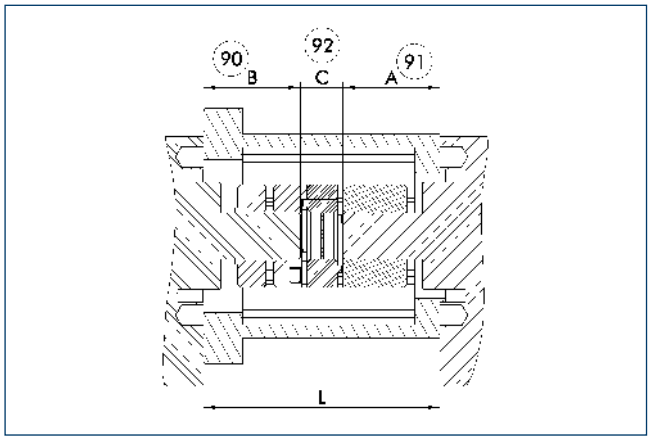
The drawing shows the position of the mounting options.

Connection shaft



Description	Connection shaft	Min. AA
		[mm]
G 160-ZSS	GX4/GX8	300
G 160-ZSSD	GX4	300

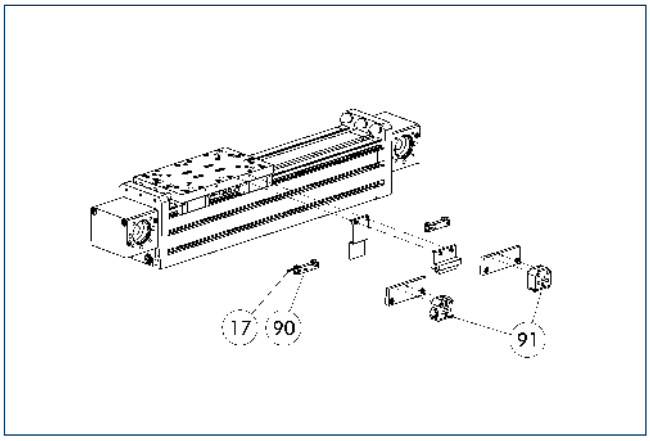
Motor bell schematic diagram



(90) Length of the drive shaft of the motor/gear
(91) Length of linear unit's drive journal
(92) Coupling length

Different drive solutions can be attached to our axes. SCHUNK offers you the suitable motor bell and coupling for your drive.

Limit and reference switch



(17) Cable outlet
(90) Inductive limit and reference switches
(91) Mechanical limit switches

Generally two E0-02 switches are used as limit switches and one ES-02 is used as reference switch.

Description	ID	Often combined
Inductive proximity switches		
E0-02	0331410	●
E0-10	0331412	
ES-02	0331411	●
ES-10	0331413	
Mechanical limit switches		
EMB	0331415	●
EMS	0331414	

ⓘ The positions and dimensions of limit switches, switching lugs, and mounting components may vary depending on the application and the selected limit switches. Please contact us for assistance.

SCHUNK Pick & Place Units are the perfect Driving Force with up to 110 Picks per minute at highest Requirements on Precision and Efficiency in Assembly Automation.



Pick & Place Units



DRL Lift/Swivel Unit

Series	Size	Page
DRL		512
DRL	20	516
DRL	25	520



PPU-P Pick & Place Unit

Series	Size	Page
PPU-P		526
PPU-P	10	530
PPU-P	30	536



PPU-E Pick & Place Unit

Series	Size	Page
PPU-E		542
PPU-E	15	548
PPU-E	30	556
PPU-E	50	564

Compact. Fast. Productive.

DRL Lift/Swivel Unit

Compact lift/swivel unit consisting of a strong short-stroke cylinder and a rack pinion swivel drive.

Field of Application

For use in clean and slightly polluted environment. For quick transfer and simultaneous turning of workpieces in high-speed assembly.

Advantages – Your benefits

Short cycle time therefore a high productivity is achieved

Handling and turning in one unit no need for additional rotary modules in pick & place units

Adjustable swivel angle and vertical stroke for compensating the set-up tolerances

Height of the front and rearward end position can be adjusted independent from each other to be used for various pick up and storage heights

Two waiting positions can be actuated with the control unit for maximum flexibility in applications

Compact dimensions for minimum interfering contours in handling

Rod lock by means of clamping cartridge for process reliability during system downtime

Adapter from the modular system for numerous standard combinations with products of the modular assembly automation



Sizes	max. swivel angle	Vertical stroke	Stroke force	Torque
Quantity: 2	90 .. 180°	33 .. 40 mm	245 .. 321 N	2.26 .. 3.7 Nm

Functional Description

The lift/swivel unit is driven via a double-acting pneumatic cylinder and a swivel unit. The two movements are smoothed by a cam roller that is positively driven in a curve.



① **Housing**
Weight-optimized due to the use of high-strength aluminum alloy

② **Vertical drive**
Double-acting pneumatic cylinder

③ **Rotary drive**
Pneumatic, rack and pinion principle

④ **Attachment connection**
for attaching the parts to be moved

⑤ **Curved roller**
Lubricated for life. Is positively driven in the hardened cam plates.

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Guidance: Z-axis: robust guidance, with roller bearings in cam plate

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Scope of delivery: Shock absorber, sensors, centering bushing, assembly and operating manual with declaration of incorporation

Warranty: 24 months

Repeat accuracy: Is defined as the spread of the target position after 100 consecutive positioning cycles.

Cycle times: The cycle times refer to a typical pick & place movement of the lift/swivel unit. Please note that the actual cycle time is influenced by the hose length and/or hose diameter and valve switching or PLC response times.

Stroke: The stroke is the maximum nominal stroke per axis direction. It can be shortened for each side.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Nominal load or mass moment of inertia: The values refer to the total load attached to the flange. Please note that the life time of the modules is shortened if the maximum values are exceeded and that SCHUNK cannot provide any warranty in such cases.



Application Example

Pneumatically driven, two axis pick and place unit with simultaneous rotation of the workpieces.

1 DRL Pneumatic Lift/Swivel Unit

2 MPG-plus 2-Finger Parallel Gripper

SCHUNK offers more ...

The following components make the product DRL even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Sensor System



Sensor Cables



Sensor Distributor



Adapter Plates



Micro Valves



Energy Hose



MPZ 3-Finger Centric Gripper



MPG-plus 2-Finger Parallel Gripper



Centering Sleeves



Fittings

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

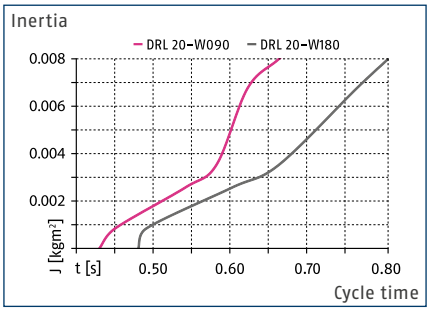
Version rod lock: prevents the structure from falling in the event of a sudden loss of energy.
SCHUNK modular system: This module can be combined as standard with many elements from the modular system.
Center position version: The optional center position is delivered completely mounted on the DRL. This is only possible for version DRL-W180. The option allows the DRL 25-W180 to approach a center position at 90°. This position cannot be adjusted.
PLC program module: PLC functional modules are available for the DRL and PPU-P pick & place modules. They contain a program sequence and are used for easier control and commissioning of products.
Please contact us for further information.

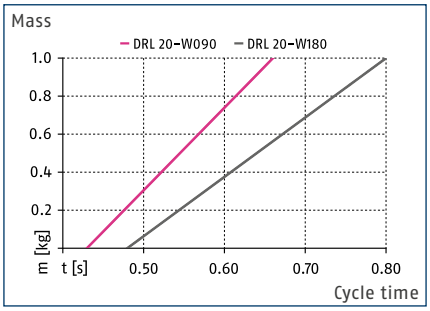
DRL 20

Pick & Place Units | Compact Lift/Swivel Unit

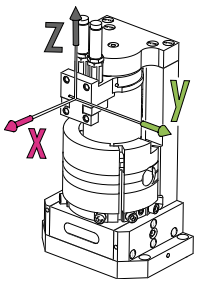


Cycle time





Axis definitions



For values see technical data table

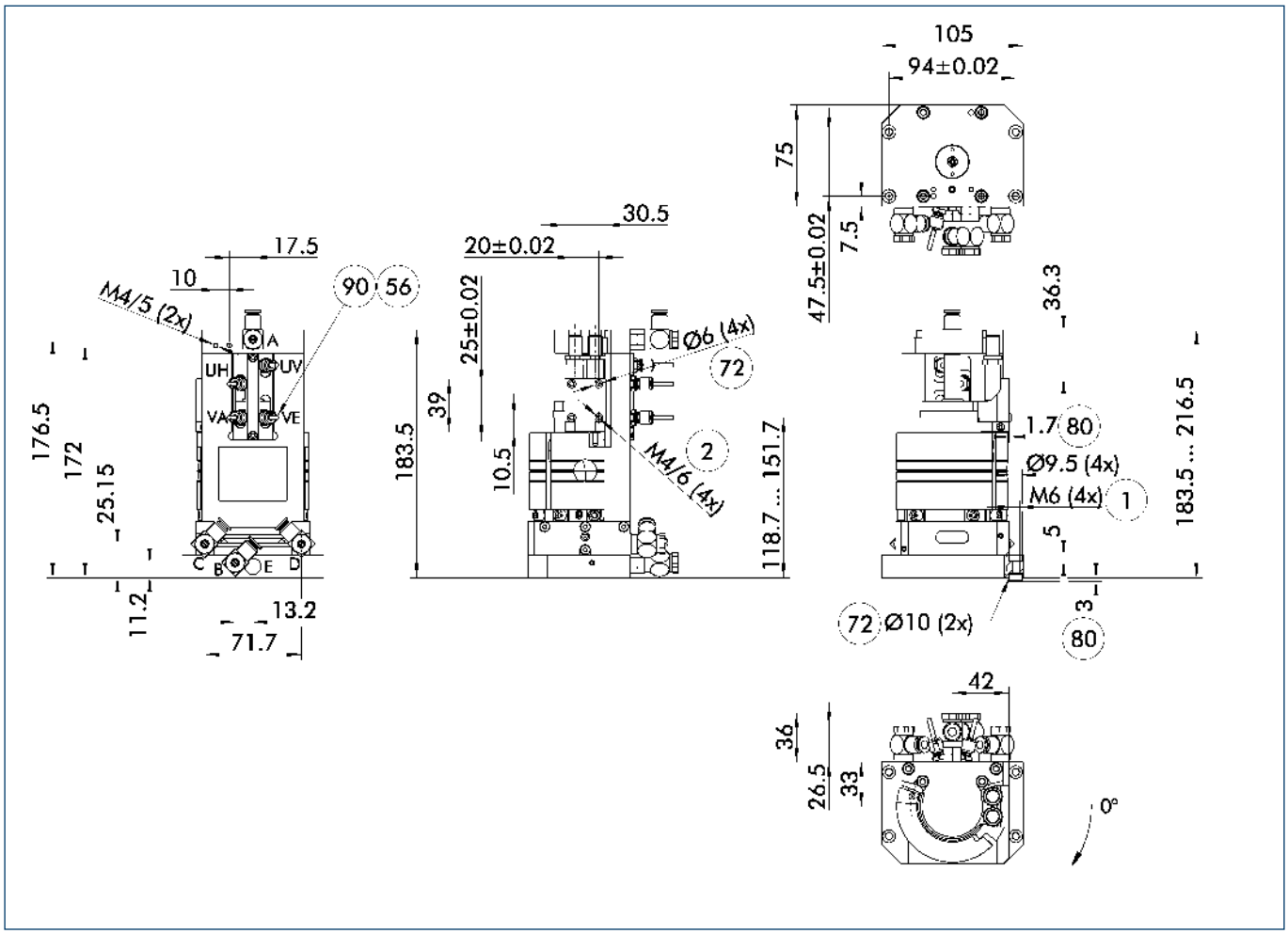
ⓘ No further loads above and beyond the loads due to handling the structure may arise.

Technical data

Description		DRL 20-W090	DRL 20-W180
ID		0314772	0314782
Angle of rotation	[°]	90	180
Angular setting per side	[°]	2	2
Stroke vertical [Z-axis]	[mm]	33	33
Stroke vertical linear [Z-axis]	[mm]	18	18
Stroke adjustment vertical per side [Z-axis]	[mm]	10	10
Max. difference in height between the end positions	[mm]	10	10
Torque	[Nm]	2.26	2.26
Force lifting/lowering	[N]	245/220	245/220
Repeat accuracy [Z-axis]	[mm]	±0.01	±0.01
Repeat accuracy, rotary	[°]	0.02	0.02
Min./max. operating pressure	[bar]	3/6	3/6
Nominal operating pressure	[bar]	6	6
Fluid consumption per cycle	[cm³]	75	99
Min./max. ambient temperature	[°C]	5/60	5/60
Max. payload	[kg]	1	1
Maximum admissible cycle time per minute	[1/min]	63	63
Weight	[kg]	2.7	2.7
Options and their characteristics			
Rod lock version		DRL 20-W090-ASP	DRL 20-W180-ASP
ID		0314773	0314783
Weight	[kg]	2.7	2.7
Static holding force	[N]	80	80
Max. axial backlash of the clamping	[mm]	0.2	0.2

ⓘ To determine the permissible cycle time, the time for the existing mass moment of inertia and the existing mass must be determined using the diagrams. The higher value of the determined cycle time is decisive. The times must be observed via throttling, otherwise the life span can decrease. We will be happy to help you design other applications.

Main view



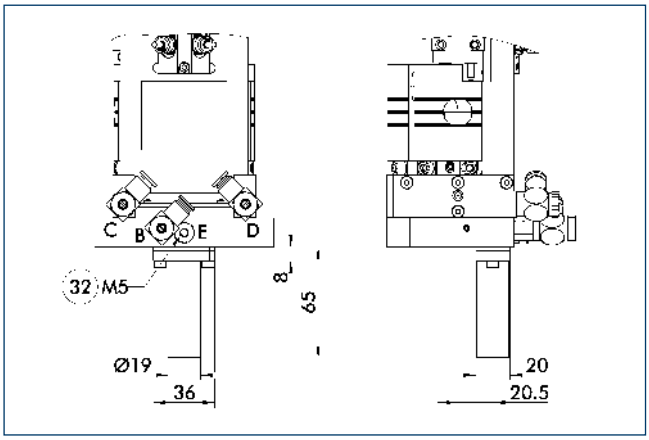
The drawing shows the unit in standard design, without considering any dimensions of the options described below.

ⓘ VE: Sensor for right end position, VA: Sensor for left end position, UH: Switching point for horizontal drive, UV: Switching point for vertical drive, MA: Center position counter-clockwise rotation inactive MB: Center position counter-clockwise rotation active, MC: Center position clockwise rotation inactive (not shown), MD: Center position clockwise rotation active (not shown)

A, a Lift air connection pick & place unit
B, b Lower air connection pick & place unit
C, c Retracted air connection pick & place unit
D, d Extended air connection pick & place unit
E, e Air connection, rod lock

(1) Connection pick & place unit
(2) Attachment connection
(56) Included in the scope of delivery
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Inductive sensor with cable outlet

Rod lock



B, b Lower air connection pick & place unit

C, c Retracted air connection pick & place unit

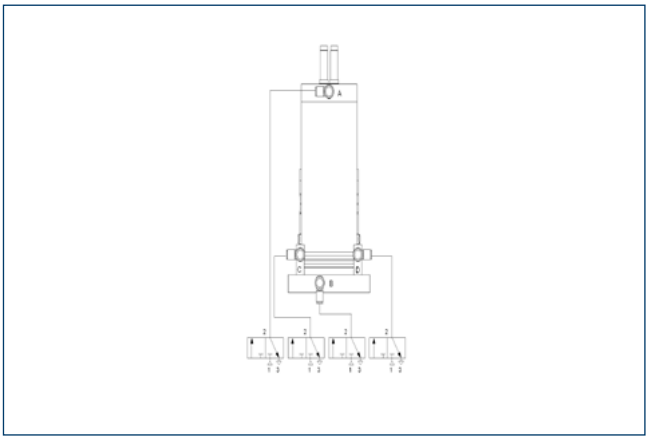
D, d Extended air connection pick & place unit

E, e Air connection, rod lock

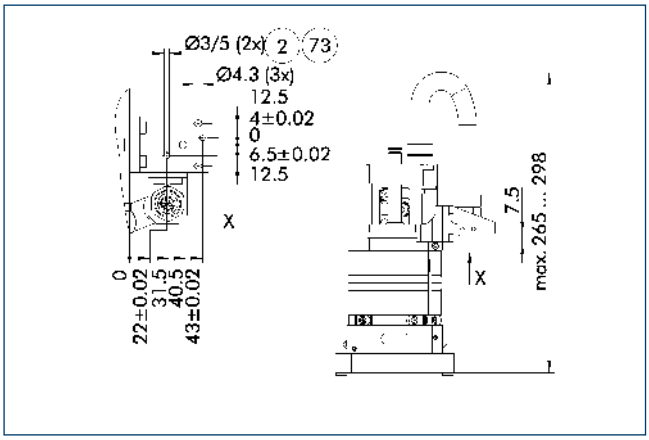
(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Wiring diagram



Energy hose



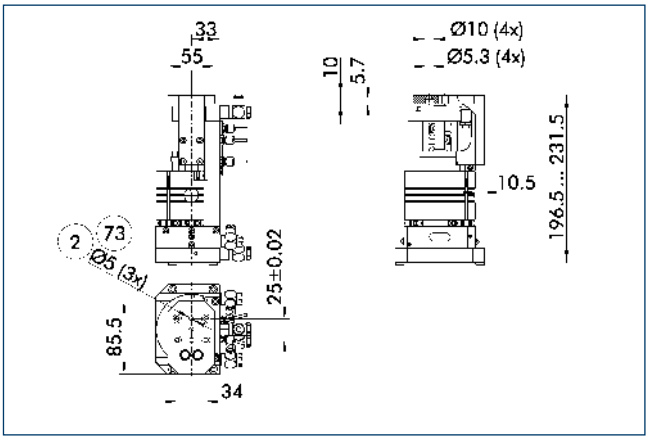
(2) Attachment connection

(73) Fit for centering pins

The energy hose allows hose or cable guidance to the handling component (e.g. gripper).

Description	ID	
Energy hose		
AS-DRL 20-ES	0314765	

Angle adapter



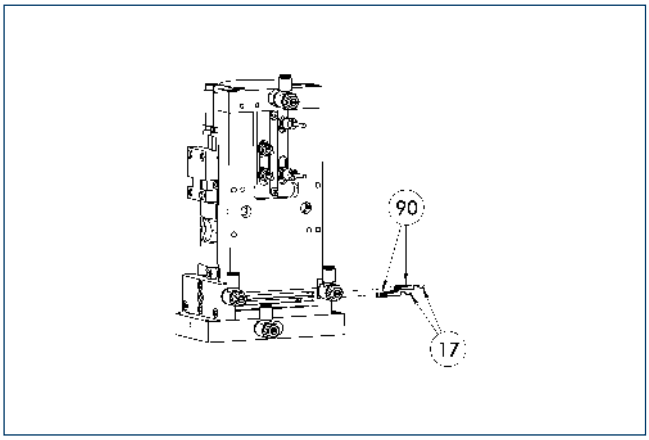
(2) Attachment connection

(73) Fit for centering pins

The angle adapter moves the screw-in component for handling the swivel axis.

Description	ID	
Adapter plate		
AS-DRL 20-WA	0314766	

Electronic magnetic switches MMS

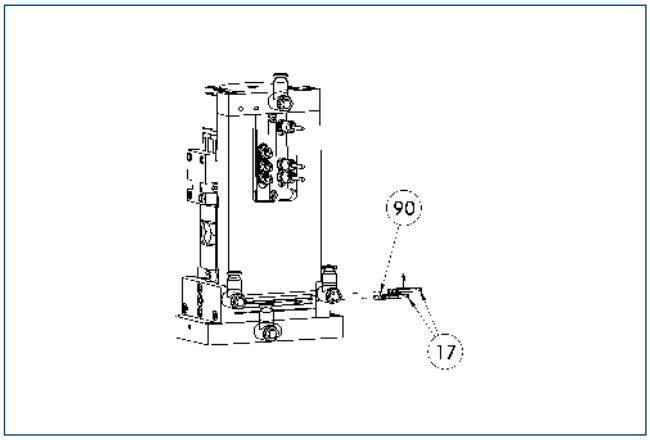


(17) Cable outlet (90) Sensor MMS 22..

The unit can be efficiently monitored by the provided sensors. To determine the actual position of the module, it is recommended to query the rotational end positions by additional MMS sensors.

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

Programmable magnetic switches MMS PI1



(17) Cable outlet (90) Sensor MMS 22..

The unit can be efficiently monitored by the provided sensors. To determine the actual position of the module, it is recommended to query the rotational end positions by additional MMS sensors.

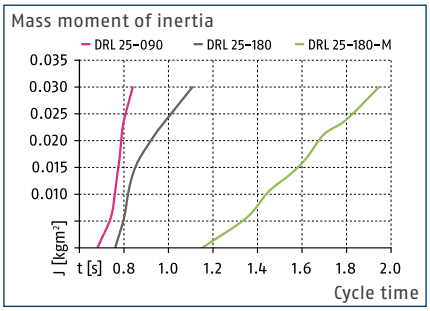
Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

DRL 25

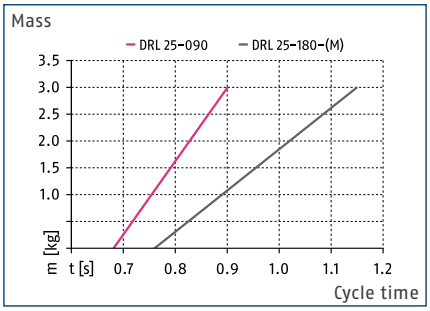
Pick & Place Units | Compact Lift/Swivel Unit



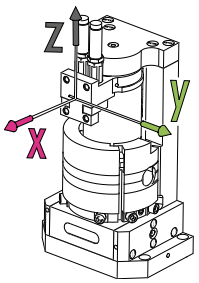
Cycle time



Cycle time



Axis definitions



For values see technical data table

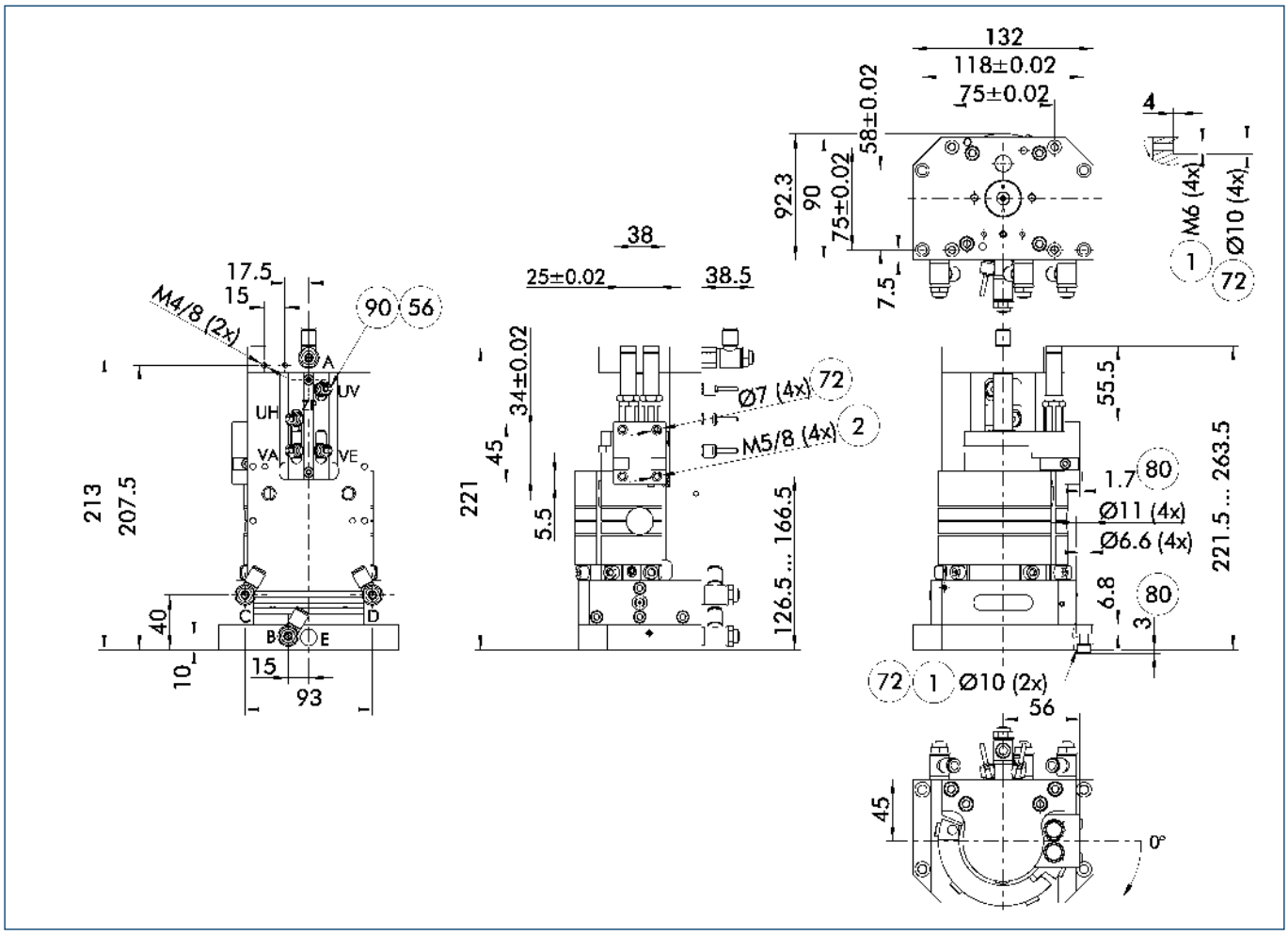
ⓘ No further loads above and beyond the loads due to handling the structure may arise.

Technical data

Description		DRL 25-W090	DRL 25-W180
ID		0314770	0314780
Angle of rotation	[°]	90	180
Angular setting per side	[°]	2	2
Stroke vertical [Z-axis]	[mm]	40	40
Stroke vertical linear [Z-axis]	[mm]	20	20
Stroke adjustment vertical per side [Z-axis]	[mm]	10	10
Max. difference in height between the end positions	[mm]	10	10
Torque	[Nm]	3.7	3.7
Force lifting/lowering	[N]	321/298	321/298
Repeat accuracy [Z-axis]	[mm]	±0.01	±0.01
Repeat accuracy, rotary	[°]	0.02	0.02
Min./max. operating pressure	[bar]	3/5	3/5
Nominal operating pressure	[bar]	5	5
Fluid consumption per cycle	[cm³]	176	200
Min./max. ambient temperature	[°C]	5/60	5/60
Max. payload	[kg]	3	3
Maximum admissible cycle time per minute	[1/min]	63	63
Weight	[kg]	5	5
Options and their characteristics			
Rod lock version		DRL 25-W090-ASP	DRL 25-W180-ASP
ID		0314771	0314781
Weight	[kg]	5	5
Static holding force	[N]	80	80
Max. axial backlash of the clamping	[mm]	0.2	0.2
Version with center position			DRL 25-W180-M
ID			0314784
Angle of rotation at center position	[°]		90
Repeat accuracy, center position	[°]		±2

ⓘ To determine the permissible cycle time, the time for the existing mass moment of inertia and the existing mass must be determined using the diagrams. The higher value of the determined cycle time is decisive. The times must be observed via throttling, otherwise the life span can decrease. We will be happy to help you design other applications.

Main view



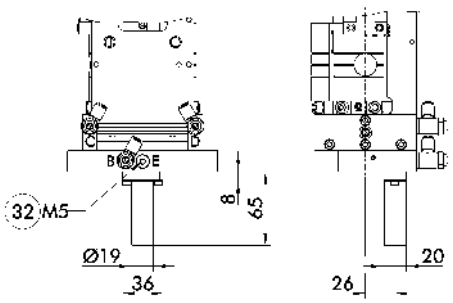
The drawing shows the unit in standard design, without considering any dimensions of the options described below.

ⓘ VE: Sensor for right end position, VA: Sensor for left end position, UH: Switching point for horizontal drive, UV: Switching point for vertical drive, MA: Center position counter-clockwise rotation inactive, MB: Center position counter-clockwise rotation active, MC: Center position clockwise rotation inactive (not shown), MD: Center position clockwise rotation active (not shown)

A, a Lift air connection pick & place unit
B, b Lower air connection pick & place unit
C, c Retracted air connection pick & place unit
D, d Extended air connection pick & place unit
E, e Air connection, rod lock

(1) Connection pick & place unit
(2) Attachment connection
(56) Included in the scope of delivery
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Inductive sensor with cable outlet

Rod lock



B, b Lower air connection pick & place unit

C, c Retracted air connection pick & place unit

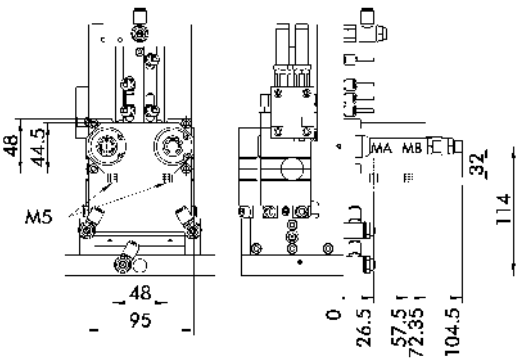
D, d Extended air connection pick & place unit

E, e Air connection, rod lock

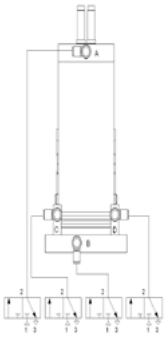
(32) Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

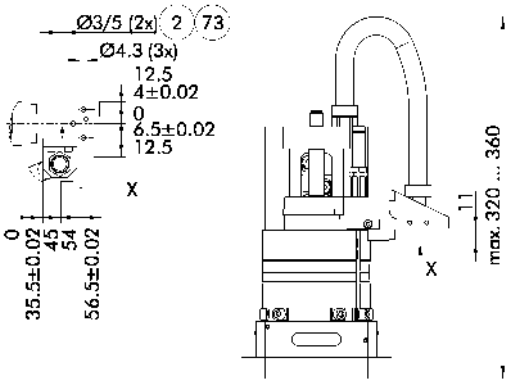
Middle position



Wiring diagram



Energy hose



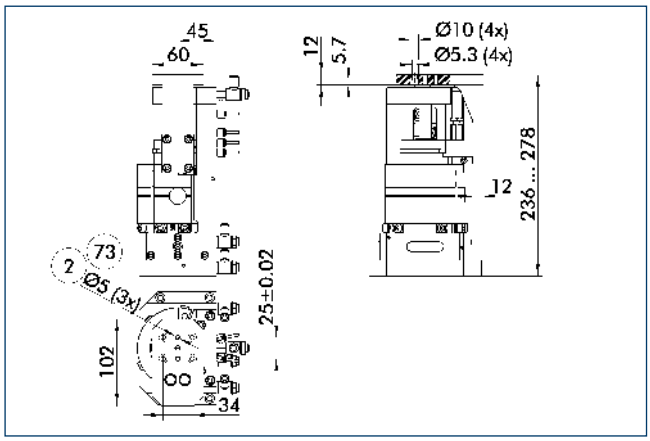
(2) Attachment connection

(73) Fit for centering pins

The energy hose allows hose or cable guidance to the handling component (e.g. gripper).

Description	ID	
Energy hose		
AS-DRL 25-ES	0314762	

Angle adapter

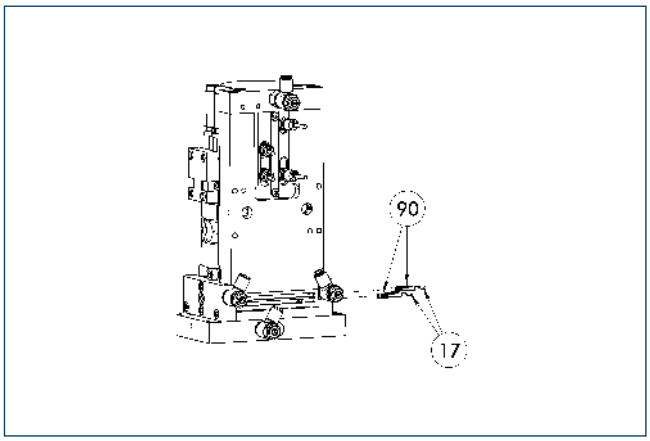


(2) Attachment connection (73) Fit for centering pins

The angle adapter moves the screw-in component for handling the swivel axis.

Description	ID
Adapter plate	
AS-DRL 25-WA	0314763

MMS electronic magnetic switches

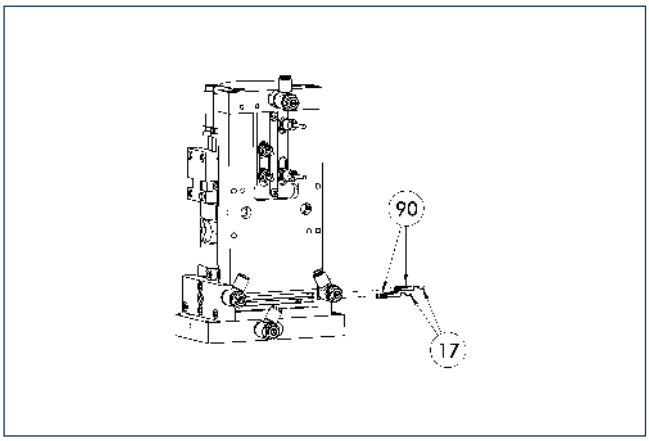


(17) Cable outlet (90) Sensor MMS 22..

The unit can be efficiently monitored by the provided sensors. To determine the actual position of the module, it is recommended to query the rotational end positions by additional MMS sensors.

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

Programmable magnetic switches MMS PI1

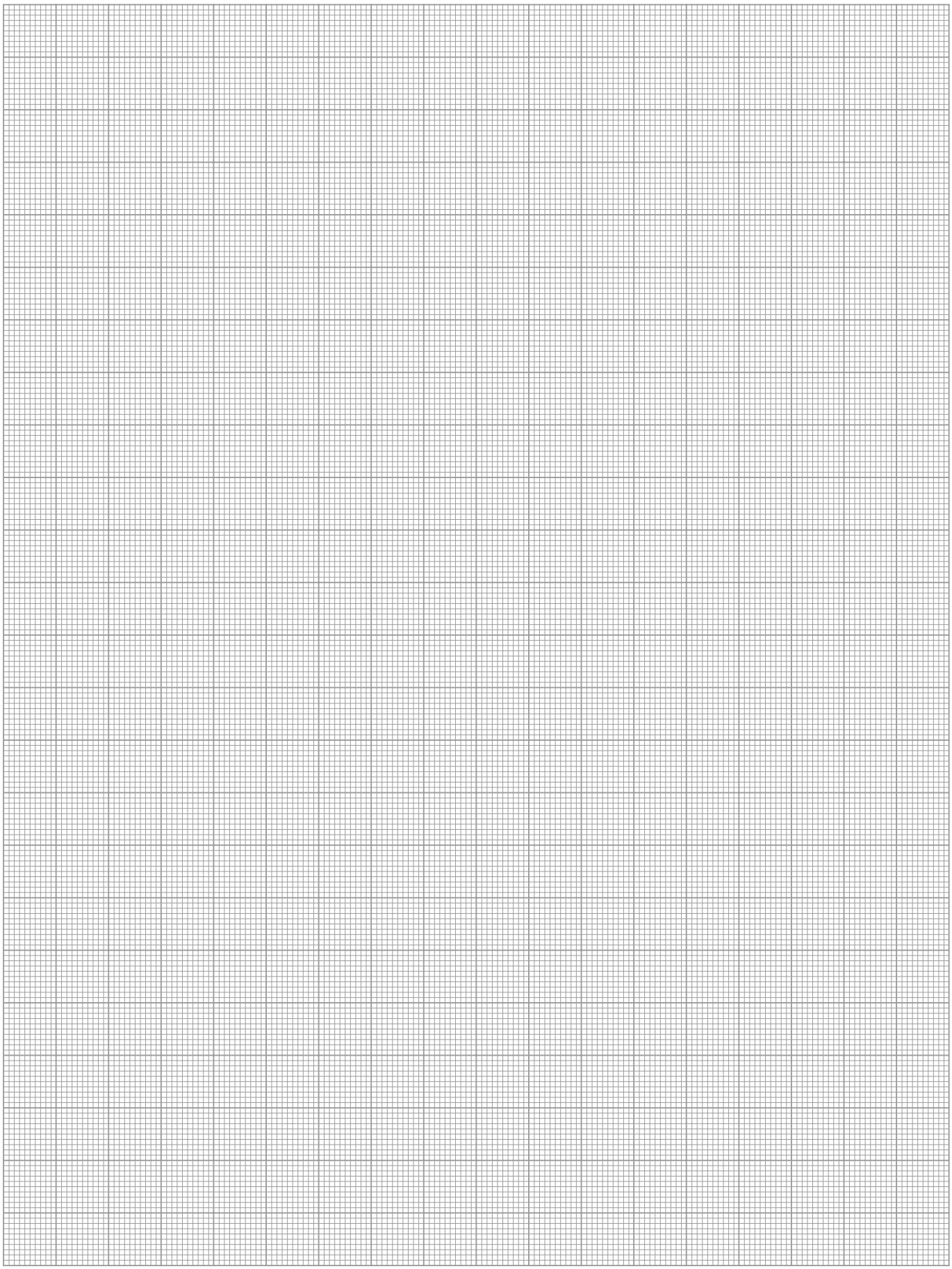


(17) Cable outlet

(90) Sensor MMS 22..

The unit can be efficiently monitored by the provided sensors. To determine the actual position of the module, it is recommended to query the rotational end positions by additional MMS sensors.

Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	



Rapid. Productive. Modular.

PPU-P Pick & Place Unit

Compact 2-axis unit for a faster run of a typical pick & place motion.

Field of Application

For use in clean and slightly polluted environment. For a faster and precise shifting or controlled press-in operation of workpieces in the high-speed assembly



Advantages – Your benefits

Short cycle time therefore a high productivity is achieved

Pretensioned junction rollers that means absolutely scope-free

Adjustable horizontal and vertical stroke for compensating the set-up tolerances

Height of the front and rearward stop position can be adjusted independent from each other to be used for various pick up and deposit heights

Two waiting positions can be actuated with the control unit for maximum flexibility in applications

Compact dimensions for minimal interfering contours in handling

Rod lock by means of clamping cartridge for process reliability during system downtime

Adapter from the modular system for numerous standard combinations with products of the modular assembly automation

Sizes	Horizontal stroke	Vertical stroke	Repeat accuracy	Max. payload
Quantity: 2	145 .. 210 mm	45 .. 60 mm	±0.01 .. 0.02 mm	1 .. 3 kg

Functional Description

The pick & place module is actuated via two double-acting pneumatic cylinders which are integrated in the slide. The cylinders are 90° alinged to each other. The two movements are smoothed by a cam roller that is positively driven in a curve.



① **Curved roller**
Lubricated for life. Is positively driven in the hardened cam plates.

② **Cross roller guidance**
Pretensioned and scope-free

③ **End position adjustment horizontally**
by shifting the cam plates to each other

④ **End position adjustment vertically**
Comfortable adjustment via a fine thread

⑤ **Driving cylinder vertical**
Double-acting pneumatic cylinder

⑥ **Driving cylinder horizontal**
Double-acting pneumatic cylinder

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Guidance: Backlash-free, pre-loaded cross roller guide

Housing material: Aluminum

Material cover: Aluminum sheet, powder-coated

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Scope of delivery: Shock absorber, sensors, centering bushing, assembly and operating manual with declaration of incorporation

Warranty: 24 months

Repeat accuracy: is defined as the spread of the end position during 100 consecutive strokes.

Cycle times: refer to a typical pick & place motion. Please note that the actual cycle time is influenced by the hose length or hose diameter as well as valve switching or PLC response times.

Stroke: is the maximum nominal stroke per axis direction. It can be shortened for each side.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Payload: is the weight of the total weight which is attached to the cantilever arm. Please consider if the maximum payload is exceeded, and if the area of payload is not respected, service live will shorten, and SCHUNK cannot assume any warranty for this.



Application Example

Pneumatically driven, dual axis placement machine for small components.

1. RST-P Ring Indexing Table
2. MPG 2-Finger Parallel Gripper
3. PPU-P Pick & Place Unit
4. VCU Valve Control Unit

SCHUNK offers more ...

The following components make the product PPU-P even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Sensor System



Sensor Cables



Sensor Distributor



Adapter Plates



Micro Valves



Energy Hose



MPZ 3-Finger Centric Gripper



MPG-plus 2-Finger Parallel Gripper



Centering Sleeves



Fittings

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

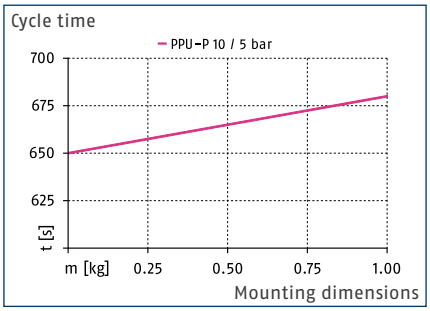
Options and special Information

Version rod lock: Prevents the structure from falling in the event of a sudden loss of energy.
SCHUNK modular system: This module can be combined as standard with many elements from the modular system. Please contact us for further information.

PPU-P 10

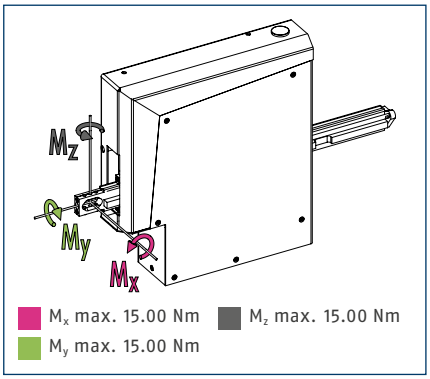


Cycle time



ⓘ The diagram is valid for table-mounting. A cycle consists of two horizontal movements (H), four vertical movements (V) and 2 x 60 ms gripping time. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Moment loading

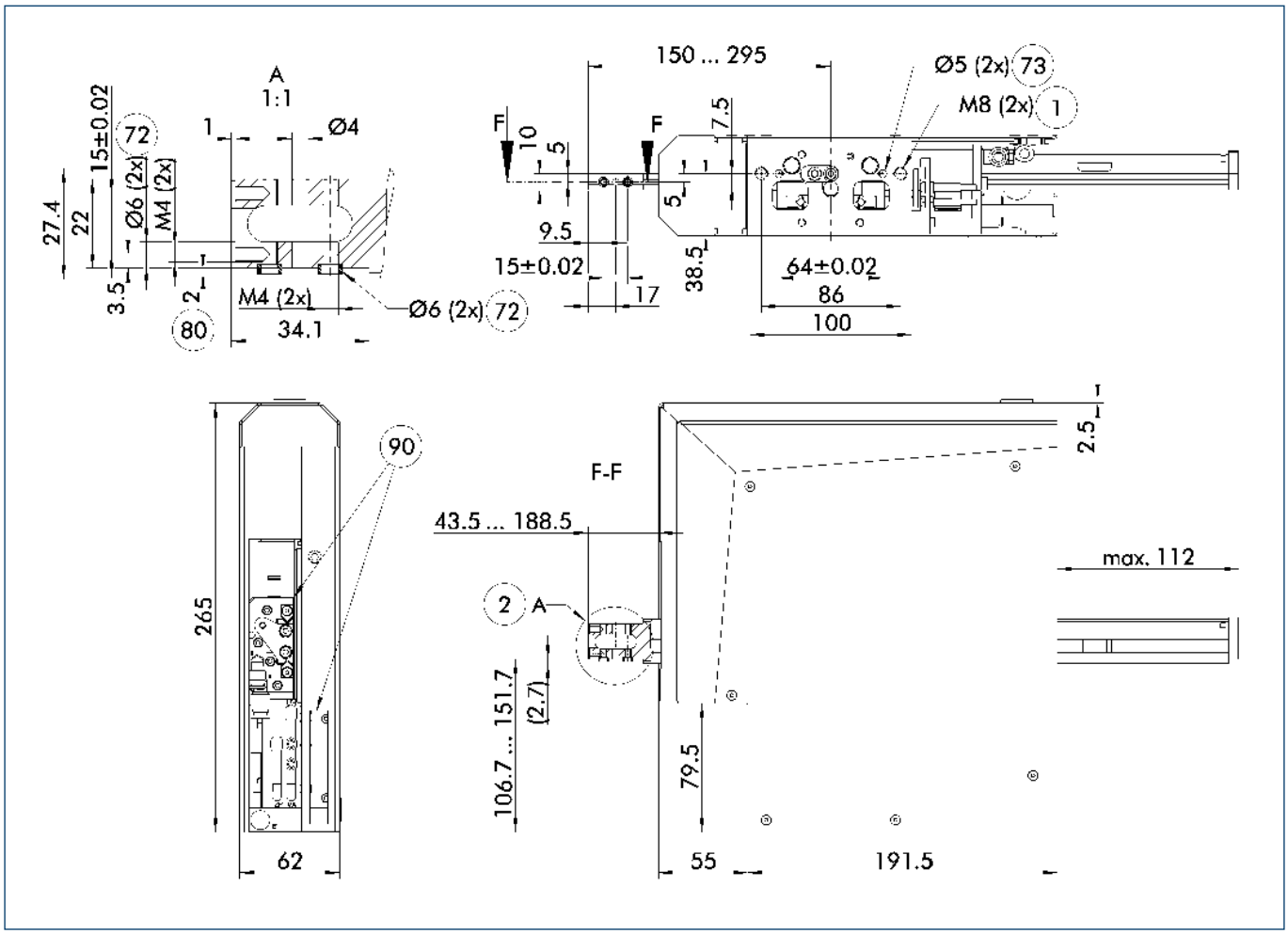


ⓘ The indicated moments are maximum values and may only occur statically. For determining the dynamic payload please consider the area of the load's center of gravity.

Technical data

Description		PPU-P 10-H145-V045
ID		0314710
Stroke horizontal [Y-axis]	[mm]	145
Stroke horizontal adjustment per side [Y-axis]	[mm]	12
Stroke vertical [Z-axis]	[mm]	45
Stroke vertical linear [Z-axis]	[mm]	20
Stroke adjustment vertical per side [Z-axis]	[mm]	15
Max. difference in height between the end positions	[mm]	8
Force extended/rectracted	[N]	47/57
Force lifting/lowering	[N]	100/86
Repeat accuracy per axis	[mm]	±0.01
Piston diameter [Y-axis]	[mm]	12
Piston diameter [Z-axis]	[mm]	16
Min./max. operating pressure	[bar]	4/5
Nominal operating pressure	[bar]	5
Fluid consumption per cycle	[cm³]	63.6
Min./max. ambient temperature	[°C]	5/60
Max. payload	[kg]	1
Maximum admissible cycle time per minute	[1/min]	95
Weight	[kg]	4.5
Options and their characteristics		
Rod lock version		PPU-P 10-H145-V045-ASP
ID		0314711
Weight	[kg]	4.5
Static holding force	[N]	80
Max. axial backlash of the clamping	[mm]	0.2
Min. release air pressure	[bar]	3

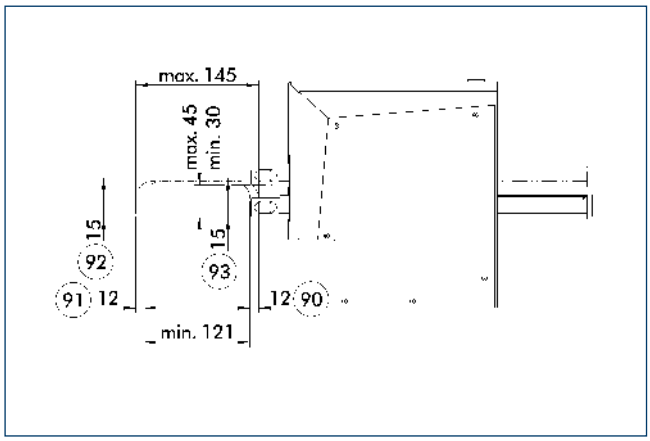
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Connection pick & place unit
(2) Attachment connection
(72) Fit for centering sleeves
(73) Fit for centering pins
(80) Depth of the centering sleeve hole in the counter part
(90) Opening for all air hoses and sensor system

Stroke adjustment



(90) Stroke adjustment range of the end position – horizontally retracted

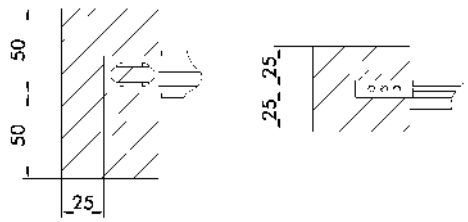
(91) Stroke adjustment range of the end position – horizontally extended

(92) Stroke adjustment range of the end position – vertically extended

(93) Stroke adjustment range of the end position – vertically retracted

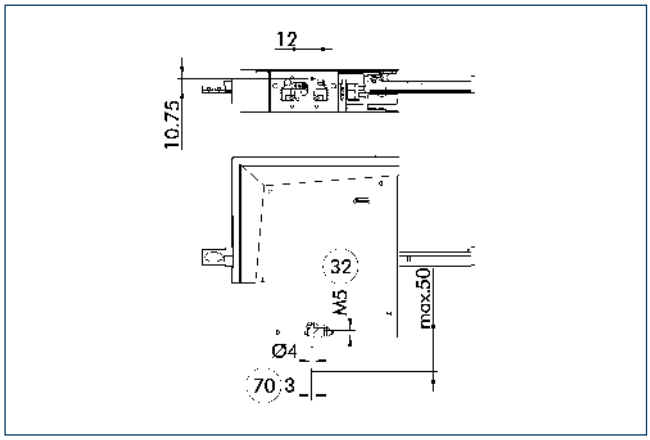
ⓘ The maximum difference in height of the end positions (vertical) should not exceed 8 mm.

Load center area



The center of mass of the attached payloads have to be located in the indicated areas only.

Rod lock

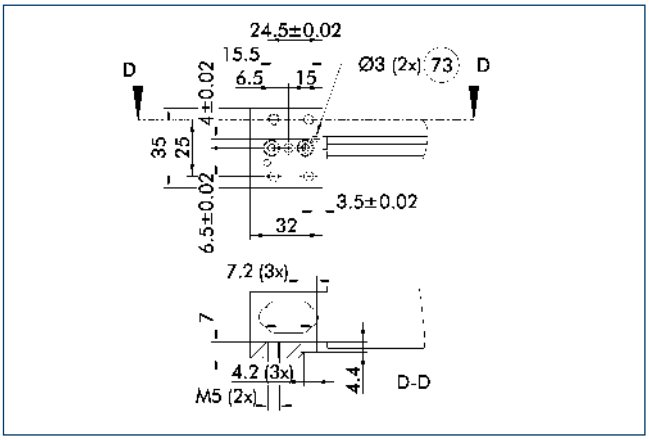


(32) Pneumatic connection for holding brake

(70) Wrench size

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Adapter plate

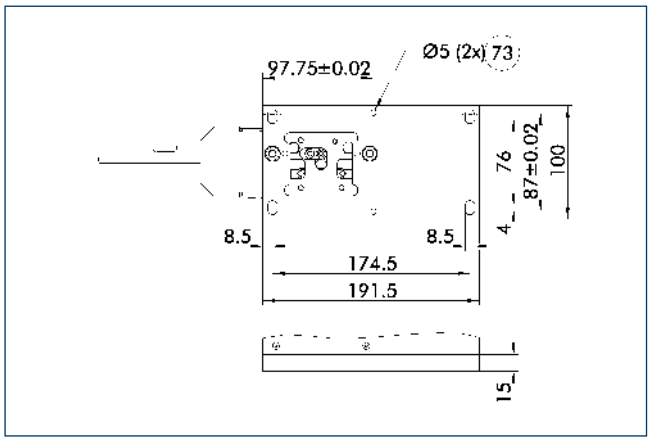


(73) Fit for centering pins

By using adapter plates, grippers, rotary modules, and gripper swivel modules from the modular system for modular assembly automation can be attached by default.

Description	ID	
Adapter plate		
AS-PPU-P 10-APL	0314701	

Base plate

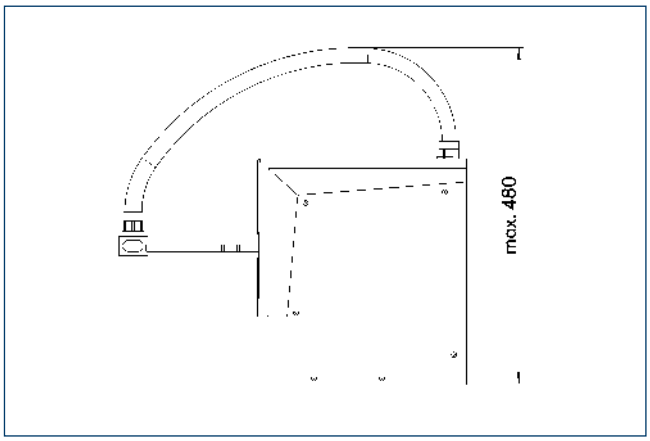


(73) Fit for centering pins

By using the base plate, the unit can be comfortably screw-connected from the top.

Description	ID	
Base plate		
AS-PPU-P 10-GPL	0314702	

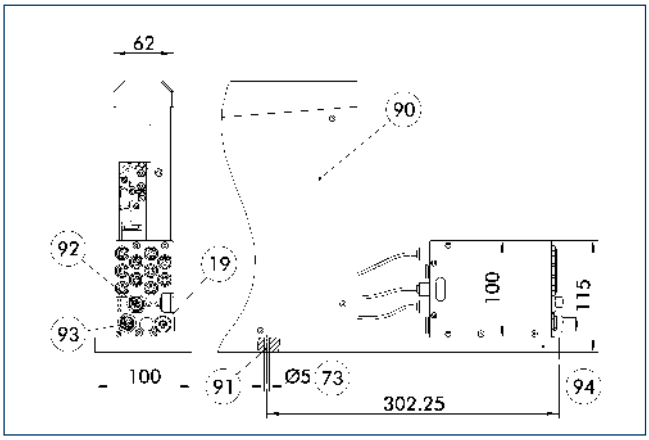
Energy hose



The energy hose allows hose or cable guidance to the handling component (e.g. gripper).

Description	ID	
Energy hose		
AS-PPU-P 10-ES	0314700	

VCU valve control unit

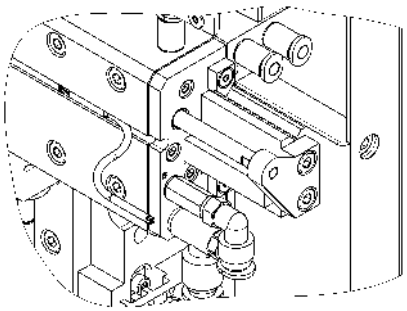


(19) Air connection
(73) Fit for centering pins
(90) PPU-P pick & place unit
(91) The position of the center bore is the same as on the base plate; AS-PPU-P 10, GPl
(92) Connection field bus
(93) Connection performance and I/Os
(94) AS-PPU-P 10 base plate, VCU

With the VCU valve control unit, the PPU-P can be directly driven, optionally including grippers or rotary gripper modules. For this, the sequence programs are already stored on the VCU and can be accessed via a simple command.

Description	ID	
Base plate		
AS-PPU-P 10-GPL-VCU	0314704	
Valve control unit		
VCU 025-04-CN-P	0314756	
VCU 025-04-PB-P	0314750	
VCU 025-05-CN-P	0314757	
VCU 025-05-PB-P	0314751	
VCU 025-06-CN-P	0314758	
VCU 025-06-PB-P	0314752	
VCU 025-07-CN-P	0314759	
VCU 025-07-PB-P	0314753	
VCU 025-08-CN-P	0314760	
VCU 025-08-PB-P	0314754	
VCU 025-09-CN-P	0314761	
VCU 025-09-PB-P	0314755	

MMS electronic magnetic switches

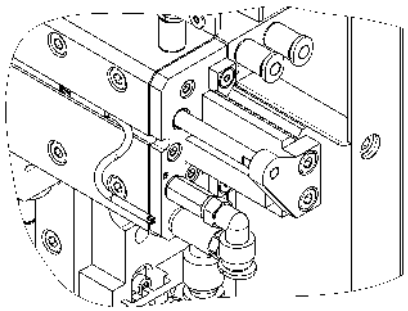


The supplied sensors provide sufficient monitoring for the unit. When the pick up and deposit height are the same, the horizontal axis can also be monitored in order to allow clear monitoring results.

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

MMS PI1 programmable magnetic switches



Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

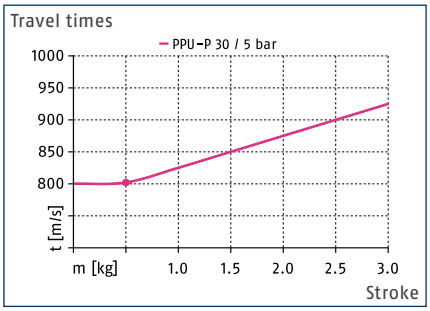
Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm. For connection cable, cable extensions, as well as sensor distributor see table for MMS 22.

PPU-P 30

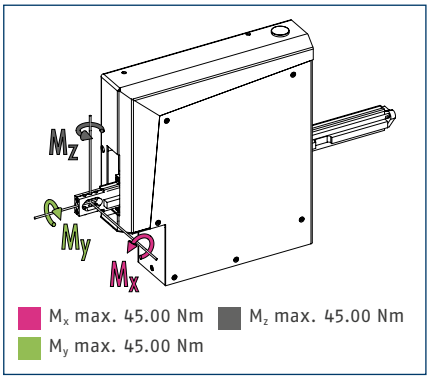


Cycle time



ⓘ The diagram is valid for table-mounting. A cycle consists of two horizontal movements (H), four vertical movements (V) and 2 x 60 ms gripping time. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Moment loading

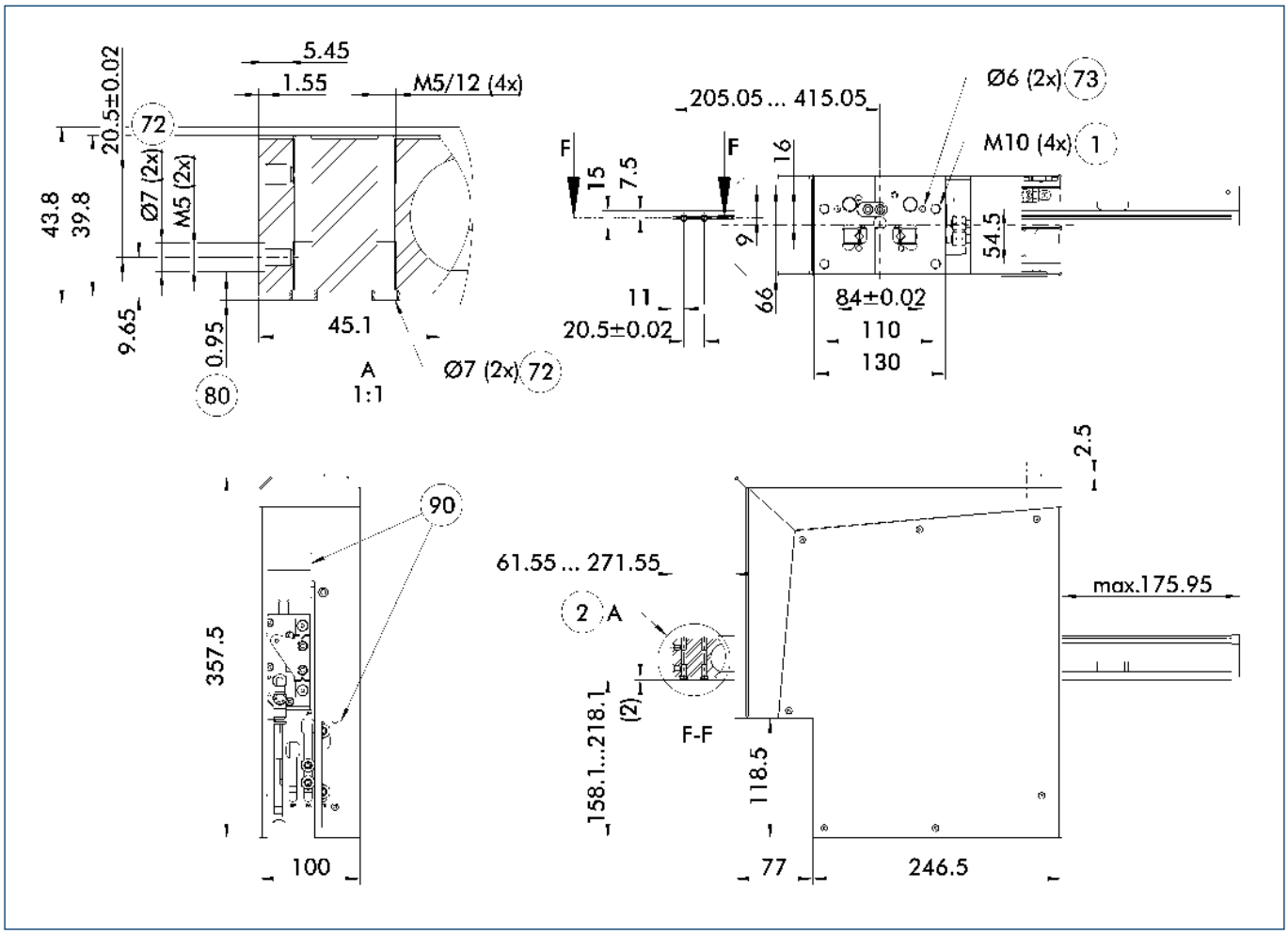


ⓘ The indicated moments are maximum values and may only occur statically. For determining the dynamic payload please consider the area of the load's center of gravity.

Technical data

Description		PPU-P 30-H210-V060
ID		0314730
Stroke horizontal [Y-axis]	[mm]	210
Stroke horizontal adjustment per side [Y-axis]	[mm]	18
Stroke vertical [Z-axis]	[mm]	60
Stroke vertical linear [Z-axis]	[mm]	30
Stroke adjustment vertical per side [Z-axis]	[mm]	20
Max. difference in height between the end positions	[mm]	10
Force extended/rectracted	[N]	86/100
Force lifting/lowering	[N]	245/188
Repeat accuracy per axis	[mm]	±0.02
Piston diameter [Y-axis]	[mm]	16
Piston diameter [Z-axis]	[mm]	25
Min./max. operating pressure	[bar]	4/5
Nominal operating pressure	[bar]	5
Fluid consumption per cycle	[cm³]	184.56
Min./max. ambient temperature	[°C]	5/60
Max. payload	[kg]	3
Maximum admissible cycle time per minute	[1/min]	75
Weight	[kg]	15.5
Options and their characteristics		
Rod lock version		PPU-P 30-H210-V060-ASP
ID		0314731
Weight	[kg]	15.5
Static holding force	[kN]	180
Max. axial backlash of the clamping	[mm]	0.2
Min. release air pressure	[bar]	3

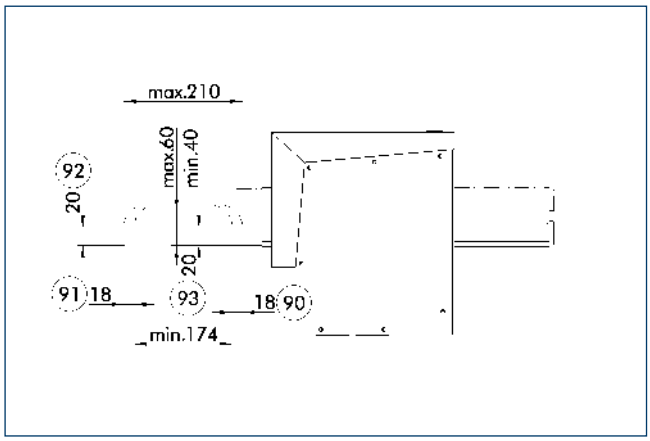
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection pick & place unit
2. Attachment connection
72. Fit for centering sleeves
73. Fit for centering pins
80. Depth of the centering sleeve hole in the counter part
90. Opening for all air hoses and sensor system

Stroke adjustment



(90) Stroke adjustment range of the end position – horizontally retracted

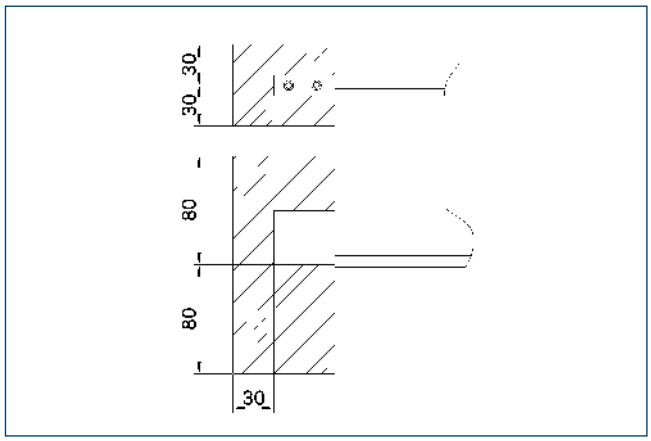
(91) Stroke adjustment range of the end position – horizontally extended

(92) Stroke adjustment range of the end position – vertically extended

(93) Stroke adjustment range of the end position – vertically retracted

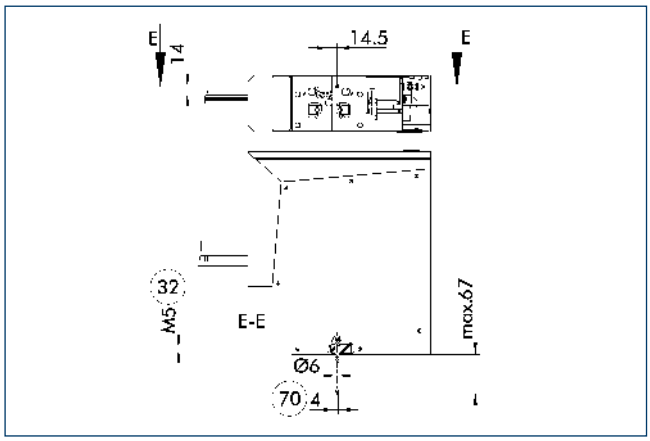
The height difference between the vertical end positions can be a maximum of 10 mm

Load center area



The center of mass of the attached payloads have to be located in the indicated areas only.

Rod lock

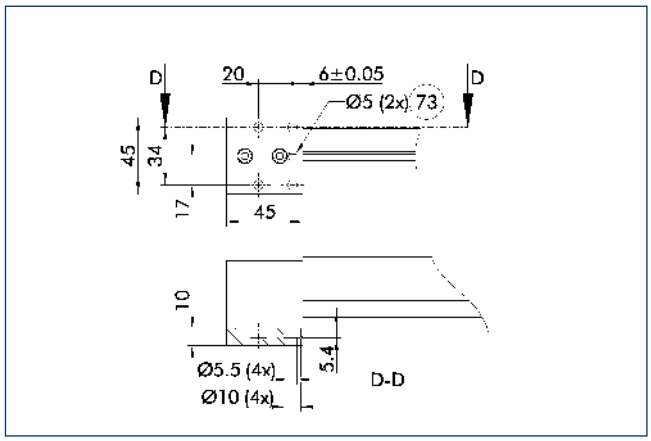


(32) Pneumatic connection for holding brake

(70) Wrench size

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Adapter plate

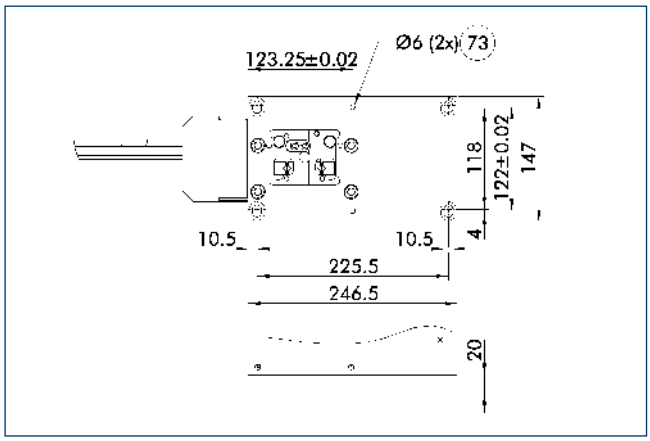


(73) Fit for centering pins

By using adapter plates, grippers, rotary modules, and gripper swivel modules from the modular system for modular assembly automation can be attached by default.

Description	ID	
Adapter plate		
AS-PPU-P 30-APL	0314706	

Base plate

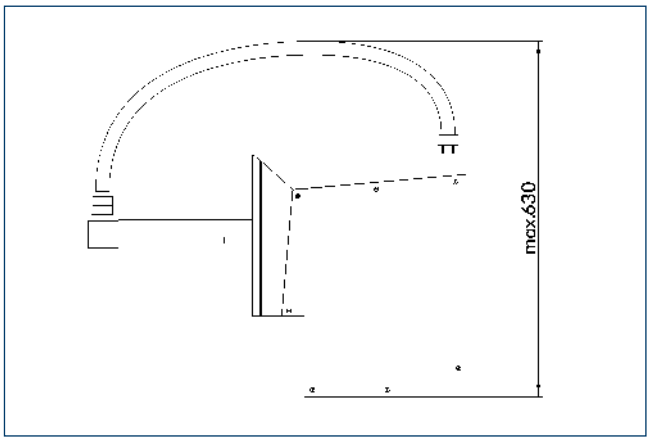


(73) Fit for centering pins

By using the base plate, the unit can be comfortably screw-connected from the top.

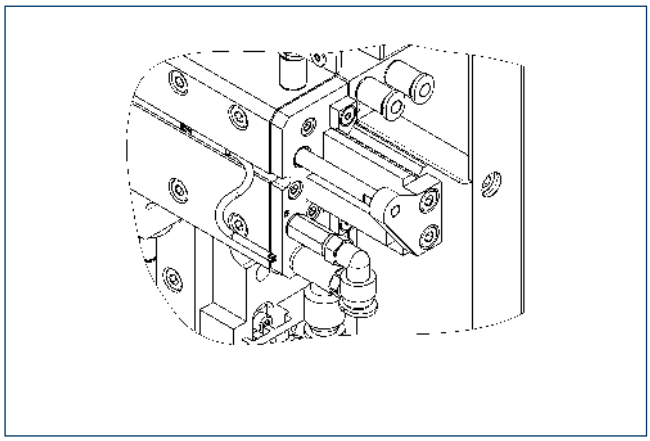
Description	ID	
Base plate		
AS-PPU-P 30-GPL	0314707	

Energy hose



Description	ID	
Energy hose		
AS-PPU-P 30-ES	0314705	

MMS electronic magnetic switches

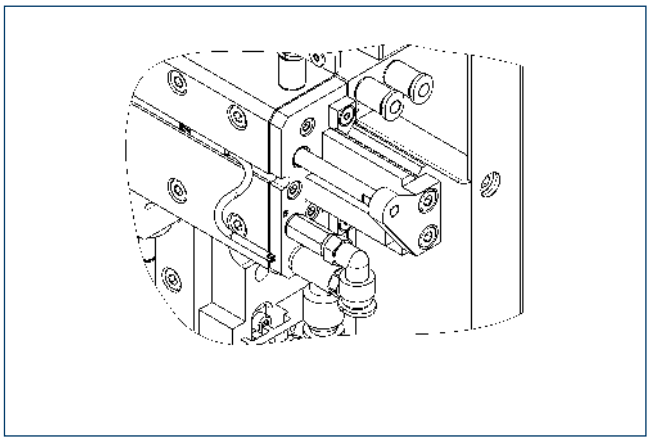


The supplied sensors provide sufficient monitoring for the unit. When the pick up and deposit height are the same, the horizontal axis can also be monitored in order to allow clear monitoring results.

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

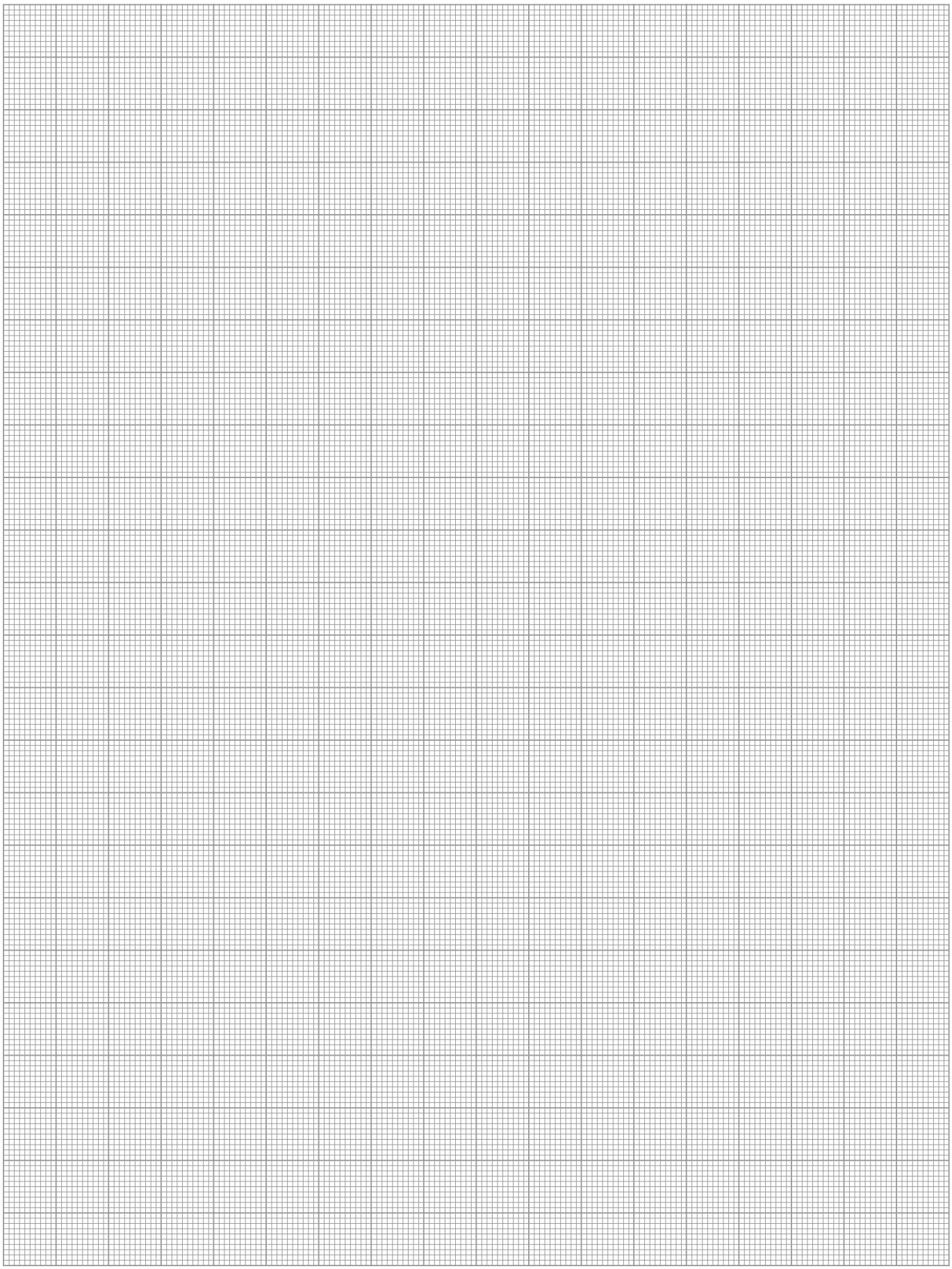
MMS PI1 programmable magnetic switches



Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm. For connection cable, cable extensions, as well as sensor distributor see table for MMS 22.



Flexible. Fast. Precise.

PPU-E Pick & Place Unit

Compact 2-axis unit for a faster, flexible running of any curve on one plane.

Field of Application

For use in clean and slightly polluted environment. For a faster and precise shifting or controlled press-in operation of workpieces in the field of high-speed assembly.



Advantages – Your benefits

No moving motors – no moving motor cables – no cable break high reliability and life time of the system

Short cycle time therefore a high productivity is achieved

Both axes can be controlled and adjusted independently from each other for maximum flexibility in applications

Integration of micro valves possible at a low assembly and installation work

Manifold options for perfect optimization to your case of application (integrated valves, C-axis)

Additionally with electrical C-axis for one more degree of freedom at each application

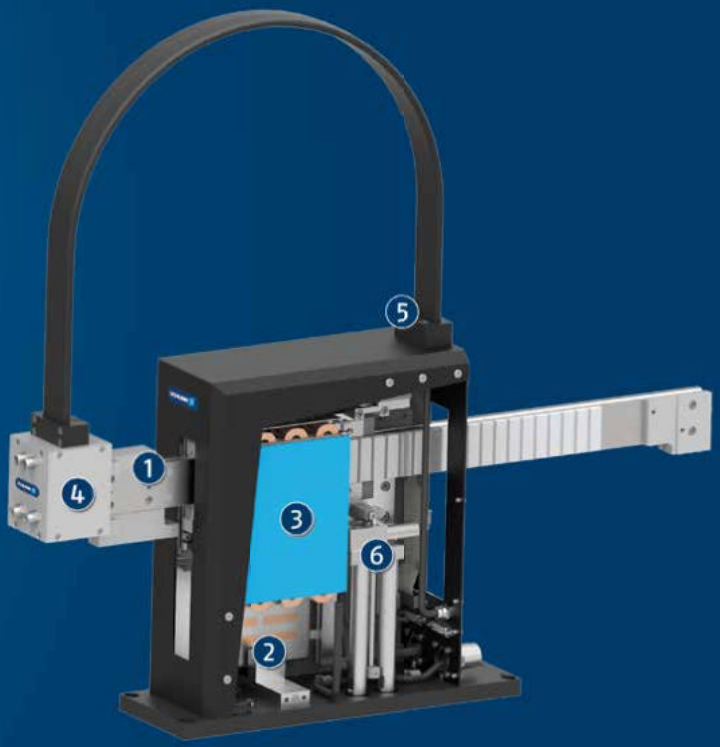
Adapter from the modular system for numerous standard combinations with products of the modular assembly automation

All the connections can be reached via the backpanel for comfortable commissioning and maintenance

Sizes	Maximum working plane	Repeat accuracy	Maximum speed	Max. payload
Quantity: 3	280 x 150 mm	0.01 mm	4 m/s	1.5 .. 5 kg

Functional Description

The pick & place module is actuated via two fixed linear motors (primary parts). The secondary parts (magnets) are fixed for the Z-axis on the slide, and for the Y-axis on the cantilever arm. Both axes can be actuated and controlled independently of one another.



① **Cantilever arm**
with precise pre-loaded profiled rail guide with recirculating ball bearing (PPU-E 30 & PPU-E 50 only)

② **Linear motor for vertical axis**
Fixed primary part

③ **Linear motor for horizontal axis**
Fixed primary part

④ **Distributor box**
for connection of air and sensor lines of the actuator

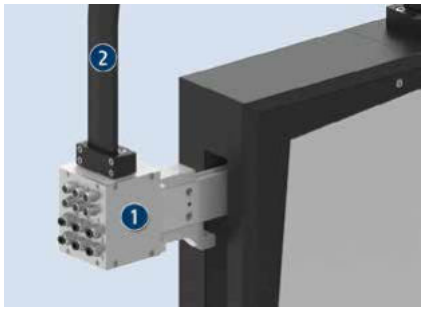
⑤ **Hybrid cable**
with integrated air hoses and electrical lines

⑥ **Pneumatic holding brake**
pneumatically actuated in the Z-axis

CAD data, operating manuals and other current product documents are available at **schunk.com**

Detailed Functional Description

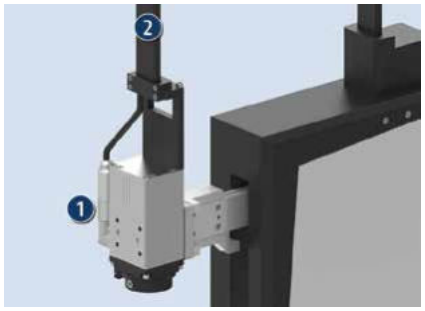
Variant with PF2, PF4 or PF6 distributor box



The PF2, PF4 and PF6 variants offer a media feed-through from the connection area right up to the cantilever arm. The pneumatic lines and sensor cables for mounting can be connected directly to the distribution box. The distribution box is connected to the PPU-E using a hybrid cable, which is adapted perfectly to the uses and movements of a pick & place application.

1. Distribution box for PF6 variant
2. Hybrid cable

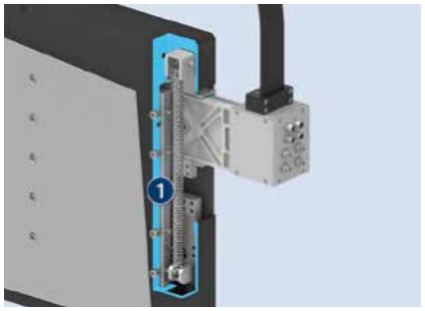
Variant with an additional C-axis



PPU-variants with the additional C-axis have a SCHUNK electric rotary module fitted to their cantilever arms. This can be supplied on option with an incremental or absolute measuring system. Power is supplied via a hybrid cable.

1. C-axis with ERD rotary module
2. Hybrid cable

Variant with spring force compensation



The PPU-E comes with the option of a load compensation system. This takes the form of a spring. The spring compensates for part of the weight forces generated during the vertical movement of the linear motor. In addition, it also serves to partially raise the sword when switching off the power supply.

1. Spring force compensation

Variant with holding brake



The PPU-E can be fitted with a pneumatically operated holding brake as an option. The holding brake holds the Z-axis in a defined position, even when the power supply to the motor is cut off.

1. Holding brake, operated pneumatically

How to Order – PPU-E Pick & Place Unit

PPU – E – 30 – H270 – V100 – 03 – PF2 – MS1 – FA – A02 – NNN

Direct electrical drive

PPU-E-15 = Electrical PPU-E size 15
PPU-E-30 = Electrical PPU-E size 30
PPU-E-50 = Electrical PPU-E size 50

Stroke

H150-V 60 = Electrical PPU-E size 15 (stroke in mm)
H270-V 100 = Electrical PPU-E size 30 (stroke in mm)
H280-V 150 = Electrical PPU-E size 50 (stroke in mm)
Other strokes on request

Version number

Configuration

NNN = Without attachment, without power supply
PF2 = Version with 2 integrated valves and 2 sensor connections, hybrid cable
PF4 = Version with 4 integrated valves and 4 sensor connections, hybrid cable
PF6 = Version with 6 integrated valves and 6 sensor connections, hybrid cable
D04 = Version for additional C-axis: MRD-S 04, hybrid cable
D08 = Version for additional C-axis: MRD-S 08, hybrid cable
D12 = Version for additional C-axis: MRD-S 12, hybrid cable
F04 = Version for additional C-axis: ERD 04, hybrid cable
F08 = Version for additional C-axis: ERD 08, hybrid cable
F12 = Version for additional C-axis: ERD 12, hybrid cable
x99 = Special version

Path measuring system

MS1 = Measuring system type 1, LE100 (PPU-E 15 only)
MS2 = Measuring system type 2, LE200 (PPU-E 30 and 50 only)
MS4 = Measuring system type 3, TTK70 (PPU-E 15 only)
MS7 = Measuring system type 7, SSI (PPU-E 15 only)

Z-axis load compensation

FA = Spring-loaded compensation for Z-axis
BV = Holding brake and brake valve for Z-axis
NN = Without stop function for Z-axis

Mechanical interface

A01 = Attachment variant 01 Modular system interface, modular assembly automation
A02 = Attachment variant 02 Basic interface with external hose connections (preferred version)
A99 = Attachment variant 99 Special solutions
NNN = Without (only with configuration NNN)

Sensor version

NNN = Sensor connections n x 3-pin (preferred version), 1 x 4-pin with additional C-axis
SP1 = Sensor connections 1 x 4-pin, all others 3-pin, not with additional C-axis
SP2 = Sensor connections 2 x 4-pin, all others 3-pin, not with additional C-axis

General Notes on the Series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous linear motor

Path measuring system: Contactless, magnetic, incremental measuring system; PPU-E 15 also available in absolute design with Hiperface, SSI and DRIVE-CLiQ interfaces (on request).

Housing material: Aluminum

Cantilever arm: Steel guide rails with glued, permanent magnets

Scope of delivery: Assembly and operating manual with declaration of incorporation

Drive controller: Bosch Rexroth IndraDrive® and SIEMENS® SINAMICS drive control units supported as standard; matching parameters supplied on DVD, other manufacturers available on request.

Warranty: 24 months

Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.

Payload: Is the weight of the total weight which is attached to the cantilever arm. Please consider that service life will shorten if the maximum payload is exceeded. SCHUNK cannot assume any warranty for this.



Application Example

High-speed pick & place unit with additional C-axis for fast repositioning of small components.

1. PPU-E Pick & Place Unit
2. ERD Miniature Rotary Module
3. PGN-plus 2-Finger Parallel Gripper

SCHUNK offers more ...

The following components make the product PPU-E even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drive Controller (e.g. BOSCH Rexroth IndraDrive®)



KA Power and Encoder Cables



ERD Electrical Rotary Module



SRU-mini Pneumatic Swivel Module



Sensor System



Micro Valves



MPG-plus Pneumatic Small Parts Gripper



EGP Electric Parallel Gripper



Connection Cable for Sensor System



Adapter Plates



Centering Sleeves

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

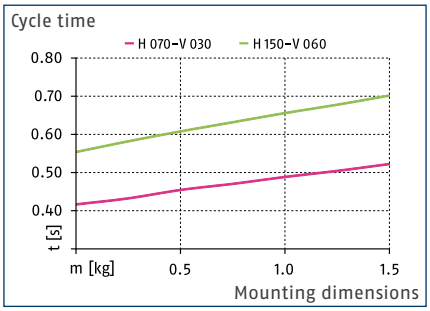
Modular transducer system: The PPU-E is available with three different path measuring systems. The incremental measuring system has a 1Vss interface. The absolute path measuring systems are optionally available with a Hiperface or SSI interface.
Mechanical interface of the distributor box: The mechanical interface of the distributor box is optionally available in two versions. In attachment variant 01 the interface has the hole pattern for the modular system "Modular Assembly Automation". Modules from the modular system can thus be mounted directly without an additional adapter plate. In attachment variant 02 various modules can be mounted onto the distributor box via an adapter plate.
Sensor version of the distributor box: The sensor connections on the distributor box are optionally available with three-pin or four-pin M8 connectors. Various sensors can then be used depending on the specifications.
Versions with a pneumatic brake and spring force compensation are optionally available.

PPU-E 15

Pick & Place Units | Linear Pick & Place Unit

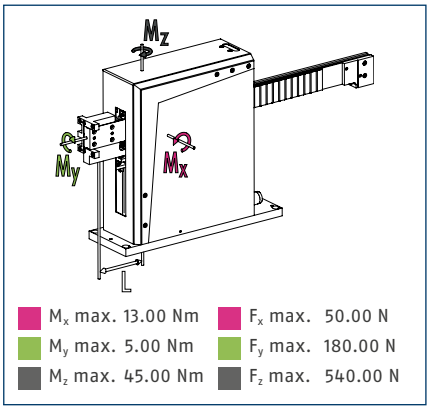


Cycle time



ⓘ The diagram is valid for table-mounting. A cycle consists of two horizontal movements (H), four vertical movements (V) and 2 x 60 ms gripping time. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Moment loading

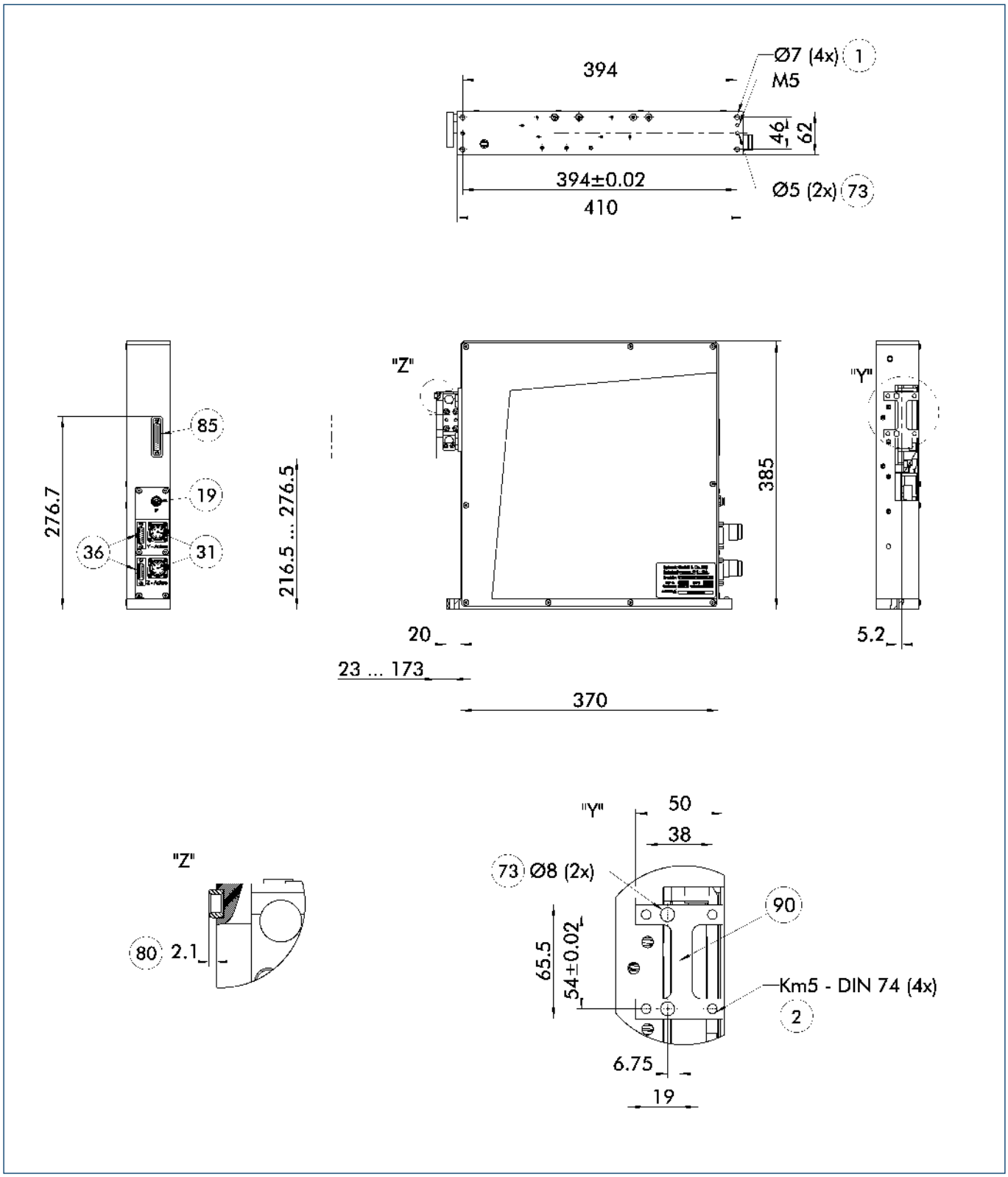


ⓘ The indicated moments and forces are statical values and should not appear simultaneously

Technical data

Description		PPU-E 15-H150-V060-01-NNN	PPU-E 15-H150-V060-01-PF2	PPU-E 15-H150-V060-01-D04	PPU-E 15-H15-V060-01-F04
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
Stroke horizontal [Y-axis]	[mm]	150	150	150	150
Stroke vertical [Z-axis]	[mm]	60	60	60	60
Max. driving force [Y-/Z-axis]	[N]	180/540	180/540	180/540	180/540
Nominal force [Y-/Z-axis]	[N]	65/200	65/200	65/200	65/200
	[kg]	1.5	1.5	1.5	1.5
Repeat accuracy [Y-/Z-axis]	[mm]	0.01/0.01	0.01/0.01	0.01/0.01	0.01/0.01
Max. current [Y-/Z-axis]	[A]	8/16	8/16	8/16	8/16
Current at standstill [Y-/Z-axis]	[A]	2.36/4.84	2.36/4.84	2.36/4.84	2.36/4.84
Min./max. ambient temperature	[°C]	10/40	10/40	10/40	10/40
Weight	[kg]	17	18	19.2	20
Path measuring system interface		Hiperface, SSI, Sin/Cos 1Vss	Hiperface, SSI, Sin/Cos 1Vss	Hiperface, SSI, Sin/Cos 1Vss	Hiperface, SSI, Sin/Cos 1Vss
No. of fluid feed-throughs			2		
Number of E-fittings on the output end			2		
Prepared for C-axis				MRD-S 04	ERD 04
No. of fluid feed-throughs				2	2
Number of E-fittings on the output end				1	1
Clearance L (for moment load)	[mm]	70	70	70	70
Options and their characteristics					
Description			PPU-E 15-H150-V060-01-PF4		
No. of fluid feed-throughs			4		
Number of E-fittings on the output end			4		
Description			PPU-E 15-H150-V060-01-PF6		
No. of fluid feed-throughs			6		
Number of E-fittings on the output end			6		

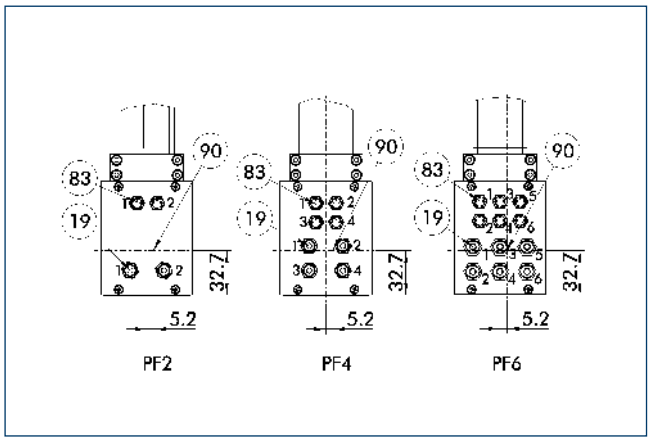
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection pick & place unit
2. Attachment connection
19. Air connection
31. Motor plug
36. Connection plug for the path measuring system
73. Fit for centering pins
80. Depth of the centering sleeve hole in the counter part
85. Sensor feed-through output
90. Reference point for the following side views

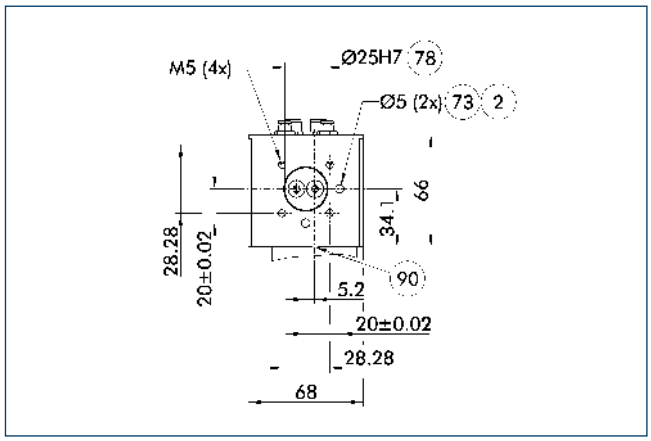
Version PF2, PF4 and PF6 with basic interface



(19) Air connection
(83) Input for 3 pole sensor feed-through
(90) Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical base interface for the version with integrated valves.

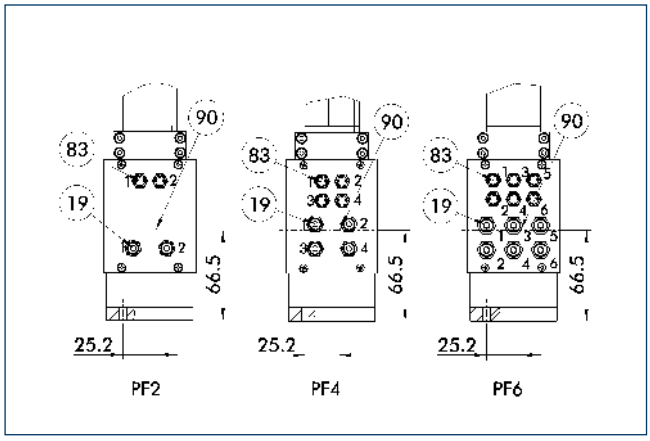
Version PF2, PF4 and PF6 with basic interface



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and basic interfaces.

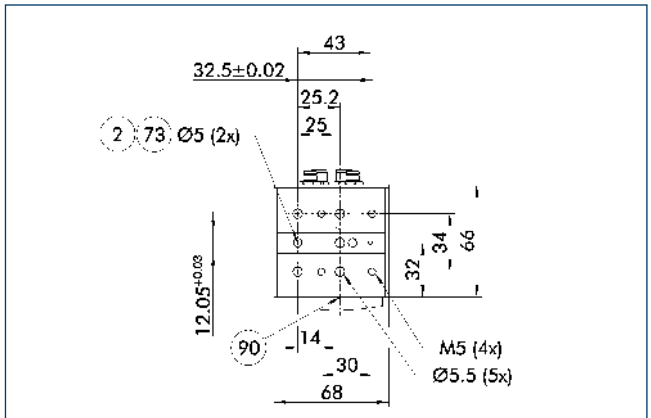
Version PF2, PF4 and PF6 with modular interface



(19) Air connection
(83) Input for 3 pole sensor feed-through
(90) Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical interface for the modular version with integrated valves.

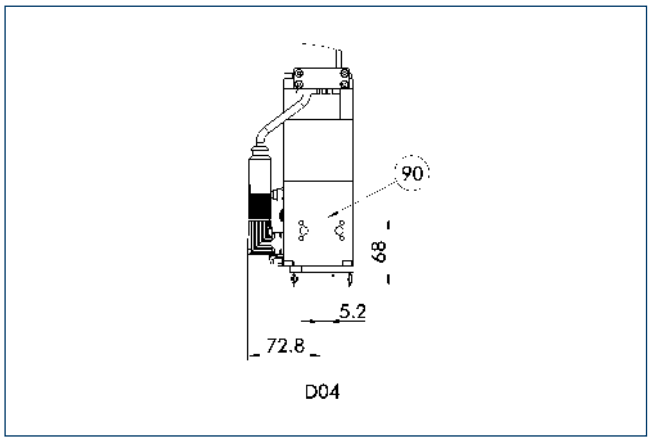
Version PF2, PF4 and PF6 with modular interface



(2) Attachment connection
(73) Fit for centering pins
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and interfaces for the modular system.

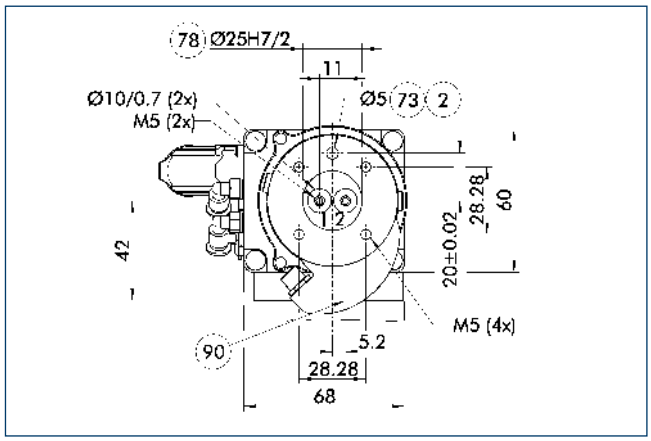
D04 variant



(90) Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

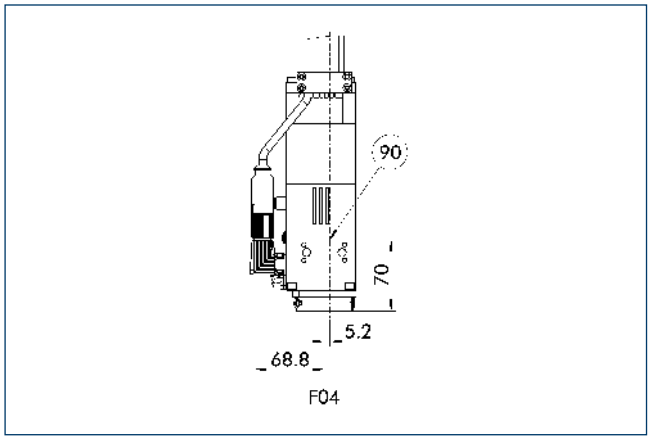
D04 variant



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C-axis.

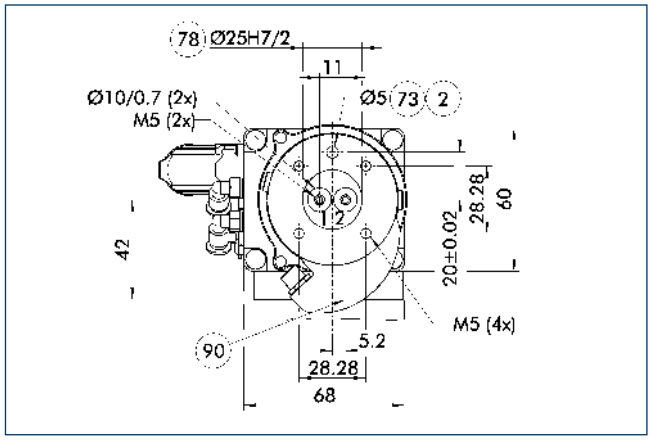
F04 variant



(90) Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

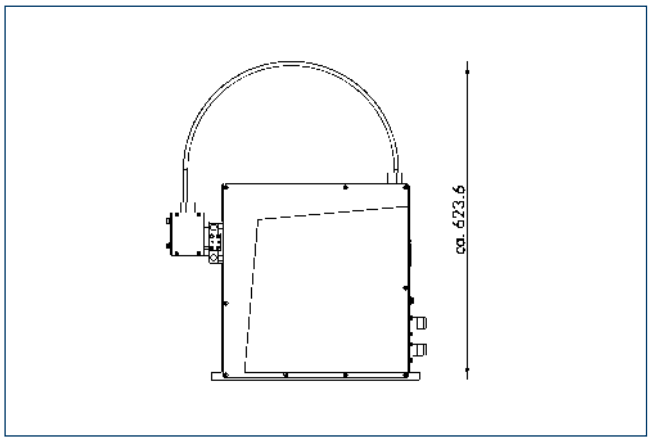
F04 variant



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

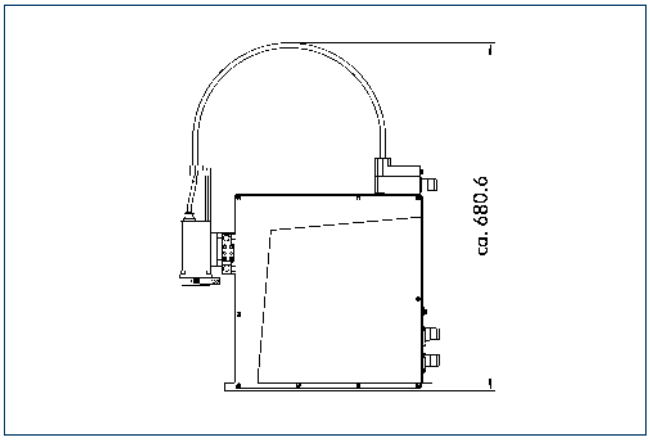
The illustration shows the mechanical mounting surface for variants with an additional C-axis.

Hybrid cable for additional distributor box



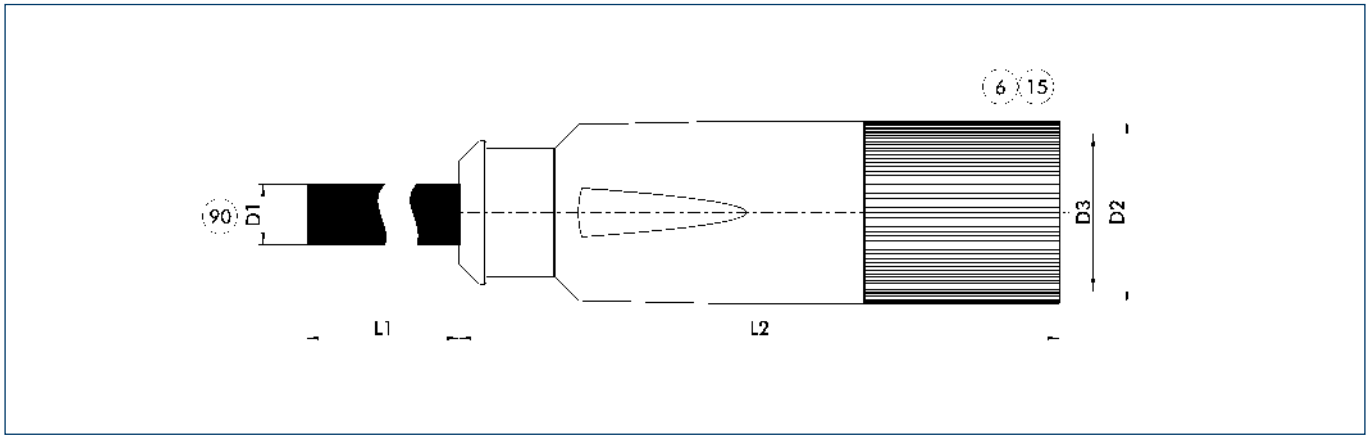
The hybrid cable has integrated air and sensor cables. It is included as standard with the PF2, PF4 and PF6 versions.

Hybrid cable for additional C-axis



The hybrid cable comes with the lines for the C-axis, air lines and sensor cable already integrated. It is included as standard with the D04 and F04 versions.

Power cable



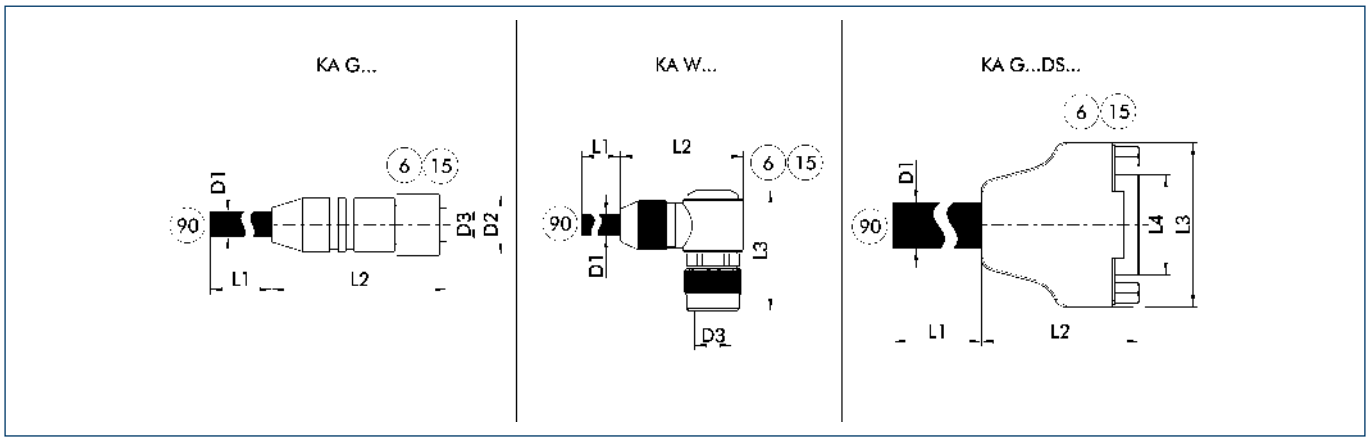
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-Q	0349588	5	10	78.5	27	M23
KA GLT2306-LK-01000-Q	0349589	10	10	78.5	27	M23
KA GLT2306-LK-01500-Q	0349590	15	10	78.5	27	M23
KA GLT2306-LK-02000-Q	0349591	20	10	78.5	27	M23
Power cable for BOSCH Rexroth IndraDrive® Cs						
KA GLT2306-LK-00500-R	0349592	5	10	78.5	27	M23
KA GLT2306-LK-01000-R	0349593	10	10	78.5	27	M23
KA GLT2306-LK-01500-R	0349594	15	10	78.5	27	M23
KA GLT2306-LK-02000-R	0349595	20	10	78.5	27	M23
Power cable for SIEMENS® Sinamics						
KA GGT2306-LK-00100-N	0349890	1	10	78.5	27	M23
KA GGT2306-LK-00200-N	0349891	2	10	78.5	27	M23
KA GGT2306-LK-00300-N	0349892	3	10	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... Encoder cable with straight plug
KA W... Encoder cable with angeled plug
KA G...DS... Sub D encoder cable

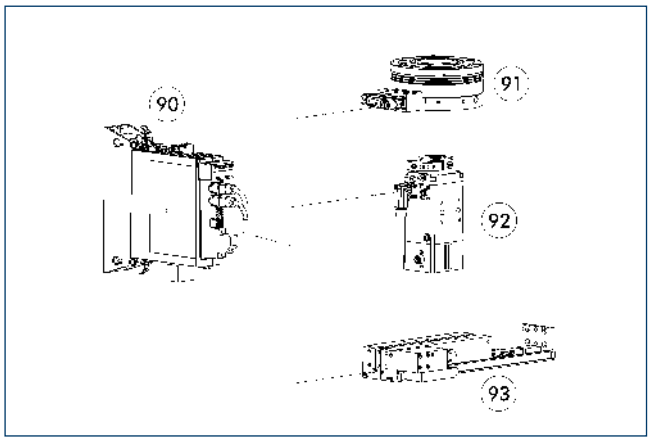
(6) Connection module side
(15) Socket
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	L3
		[m]	[mm]	[mm]	[mm]
Encoder cable for SIEMENS® Sinamcis and SSI encoder interface					
KA GGNDS10-GK-00100-P	0349132	1	6	39	40
KA GGNDS10-GK-00200-P	0349133	2	6	39	40
KA GGNDS10-GK-00300-P	0349134	3	6	39	40
Encoder cable for BOSCH® A/B/Cs and Hiperface encoder interface					
KA GGNDS08-GK-00500-N	0349121		5.9	38.8	40
KA GGNDS08-GK-01000-N	0349122	10	5.9	38.8	40
KA GGNDS08-GK-01500-N	0349123	15	5.9	38.8	40
KA GGNDS08-GK-02000-N	0349124	20	5.9	38.8	40
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface					
KA GWNDS15-GK-00500-G	0349521	5	7.3	38.8	40
KA GWNDS15-GK-01000-G	0349522	10	7.3	38.8	40
KA GWNDS15-GK-01500-G	0349523	15	7.3	38.8	40
KA GWNDS15-GK-02000-G	0349524	20	7.3	38.8	40
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface					
KA GWNDS15-GK-00500-J	0349525	5	7.3	38.8	40
KA GWNDS15-GK-01000-J	0349526	10	7.3	38.8	40
KA GWNDS15-GK-01500-J	0349527	15	7.3	38.8	40
KA GWNDS15-GK-02000-J	0349528	20	7.3	38.8	40
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface					
KA GGNDS15-GK-00100-L	0349537	1	7.3	38.8	40
KA GGNDS15-GK-00200-L	0349538	2	7.3	38.8	40
KA GGNDS15-GK-00300-L	0349539	3	7.3	38.8	40

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

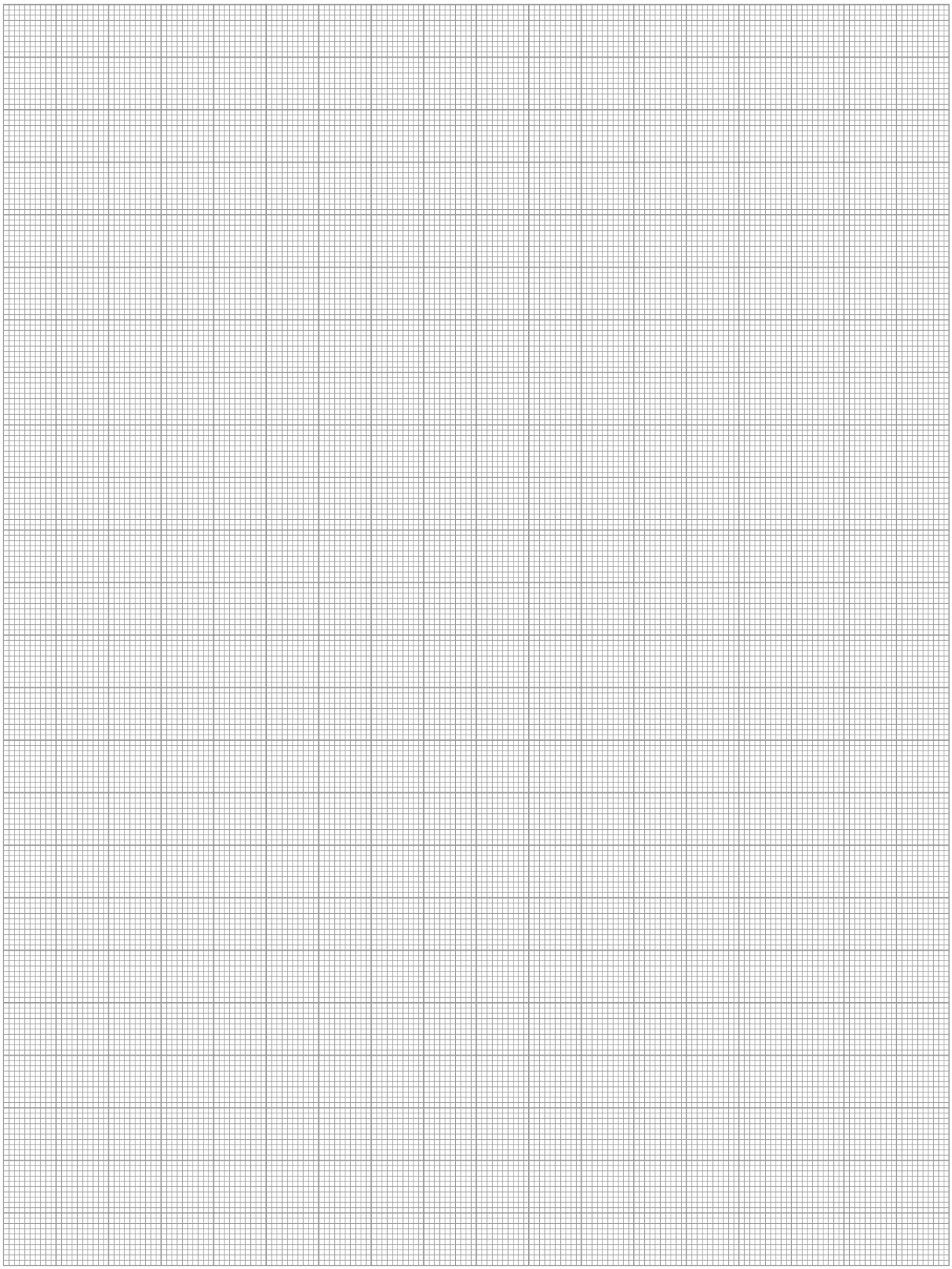
BOSCH Rexroth IndraDrive® Cs



(90) Controller
(91) ERS electric rotary module
(92) ERD electric rotary module
(93) ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8
HCS01.1E-W0018	7.6	18

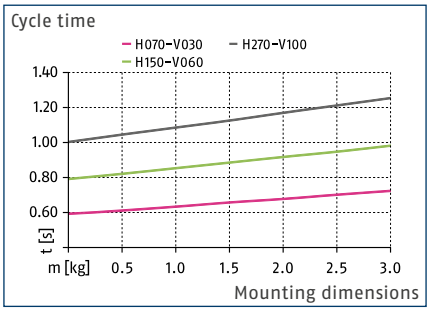


PPU-E 30

Pick & Place Units | Linear Pick & Place Unit

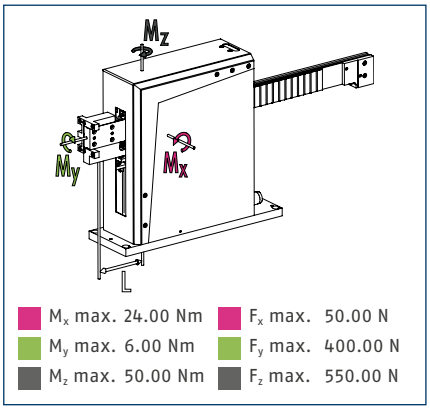


Cycle time



ⓘ The diagram is valid for table-mounting. A cycle consists of two horizontal movements (H), four vertical movements (V) and 2 x 60 ms gripping time. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Moment loading

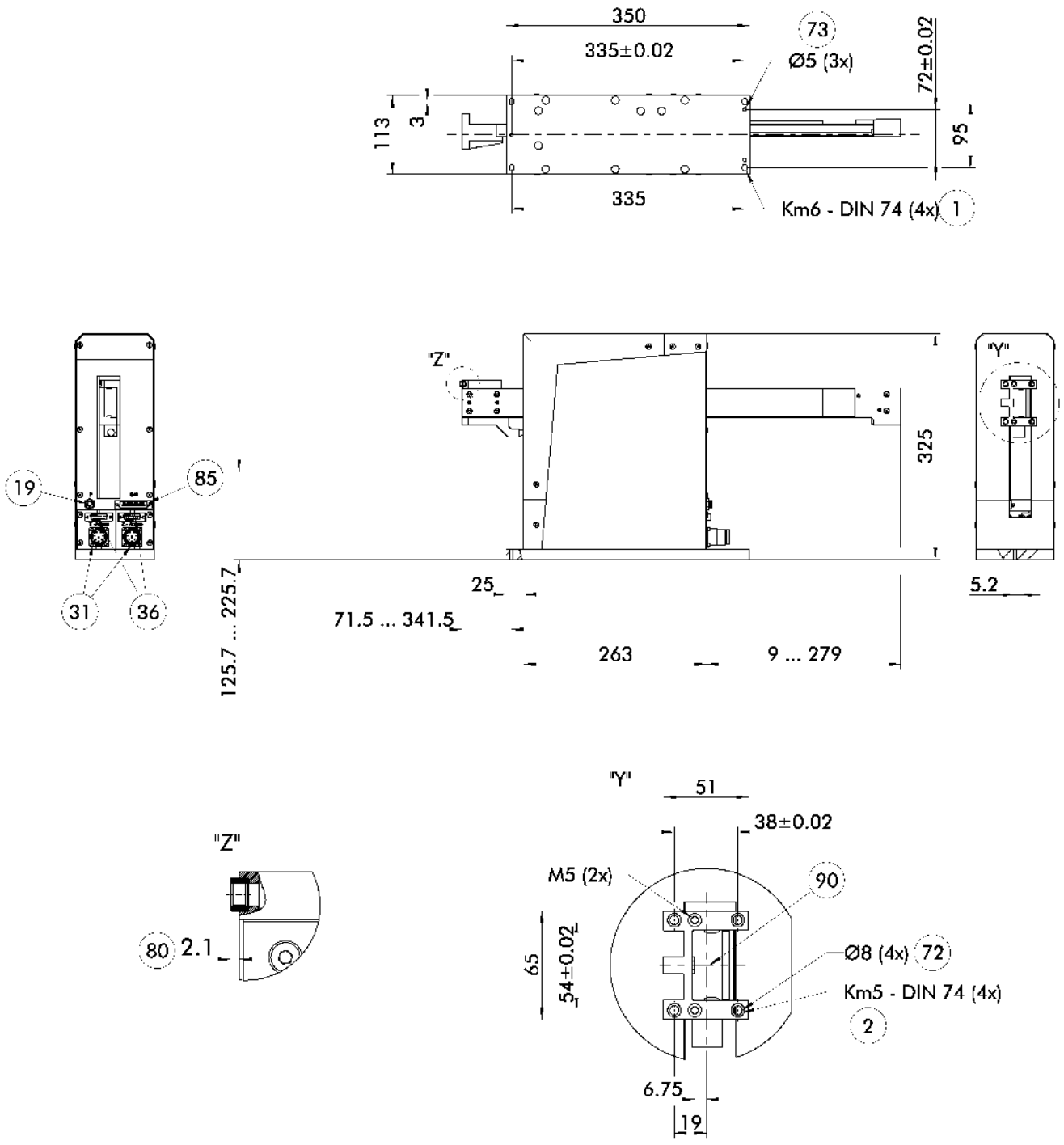


ⓘ The indicated moments and forces are statical values and should not appear simultaneously

Technical data

Description		PPU-E 30-H270-V100-01-NNN	PPU-E 30-H270-V100-01-PF2	PPU-E 30-H270-V100-01-D04	PPU-E 30-H270-V100-01-F04
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
Stroke horizontal [Y-axis]	[mm]	270	270	270	270
Stroke vertical [Z-axis]	[mm]	100	100	100	100
Max. driving force [Y-/Z-axis]	[N]	400/550	400/550	400/550	400/550
Nominal force [Y-/Z-axis]	[N]	150/195	150/195	150/195	150/195
Max. payload	[kg]	3	3	3	3
Repeat accuracy [Y-/Z-axis]	[mm]	0.01/0.01	0.01/0.01	0.01/0.01	0.01/0.01
Max. current [Y-/Z-axis]	[A]	8/12	8/12	8/12	8/12
Current at standstill [Y-/Z-axis]	[A]	1.8/3.2	1.8/3.2	1.8/3.2	1.8/3.2
Min./max. ambient temperature	[°C]	10/40	10/40	10/40	10/40
Weight	[kg]	22	23	24.2	26.9
Path measuring system interface		Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss
No. of fluid feed-throughs			2		
Number of E-fittings on the output end			2		
Prepared for C-axis				MRD-S 04	ERD 04
No. of fluid feed-throughs				2	2
Number of E-fittings on the output end				1	1
Clearance L (for moment load)	[mm]	73	73	73	73
Options and their characteristics					
Description			PPU-E 30-H270-V100-01-PF4		
No. of fluid feed-throughs			4		
Number of E-fittings on the output end			4		
Description			PPU-E 30-H270-V100-01-PF6		
No. of fluid feed-throughs			6		
Number of E-fittings on the output end			6		
Description				PPU-E 30-H270-V100-01-D08	PPU-E 30-H270-V100-01-F08
Prepared for C-axis				MRD-S 08	ERD 08
Description				PPU-E 30-H270-V100-01-D12	PPU-E 30-H270-V100-01-F12
Prepared for C-axis				MRD-S 12	ERD 12

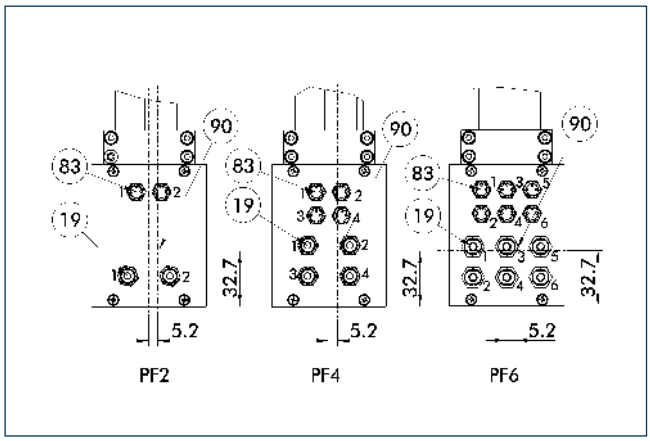
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1. Connection pick & place unit
2. Attachment connection
19. Air connection
31. Motor plug
36. Connection plug for the path measuring system
72. Fit for centering sleeves
73. Fit for centering pins
80. Depth of the centering sleeve hole in the counter part
85. Sensor feed-through output
90. Reference point for the following side views

Version PF2, PF4 and PF6 with basic interface

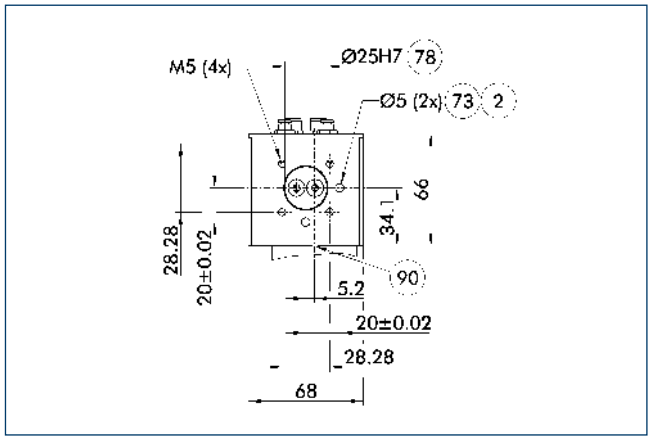


(19) Air connection
(83) Input for 3 pole sensor feed-through
(90) Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical base interface for the version with integrated valves.

ⓘ Standard interface for the PF2, PF4, and PF6 versions.

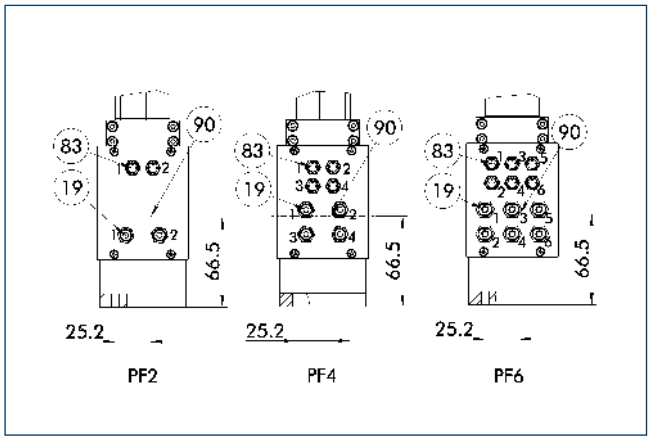
Version PF2, PF4 and PF6 with basic interface



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and basic interfaces.

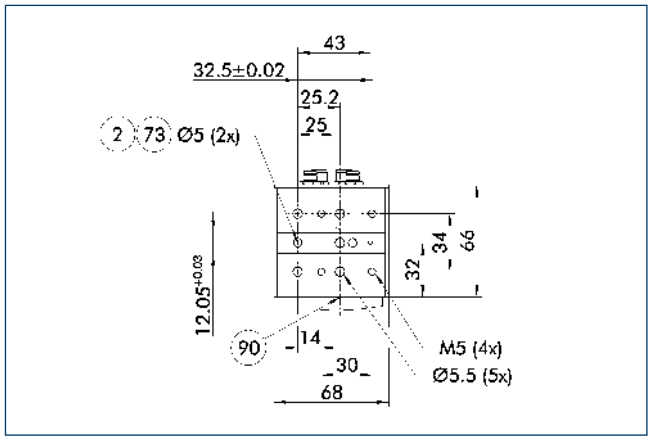
Version PF2, PF4 and PF6 with modular interface



(19) Air connection
(83) Input for 3 pole sensor feed-through
(90) Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical interface for the modular version with integrated valves.

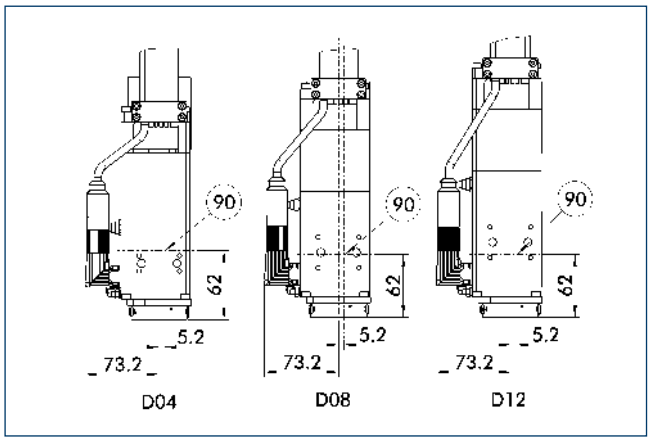
Version PF2, PF4 and PF6 with modular interface



(2) Attachment connection
(73) Fit for centering pins
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and interfaces for the modular system.

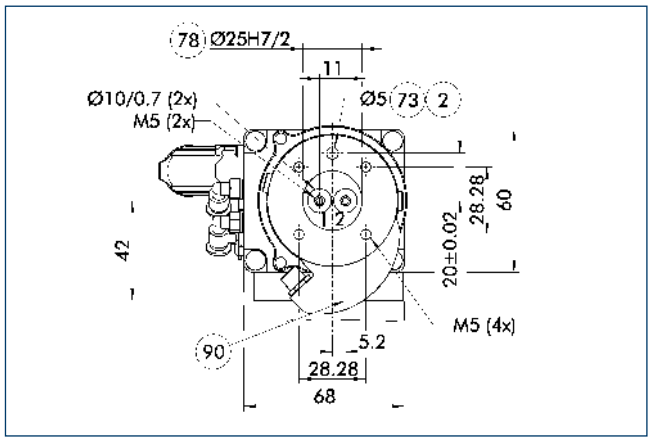
D04, D08 and D12 variants



(90) Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

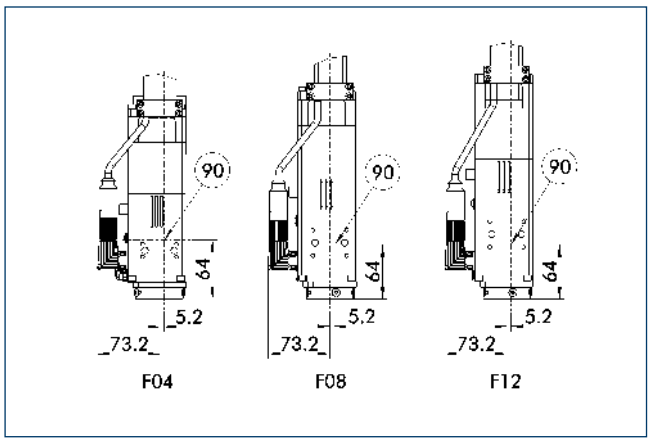
D04, D08 and D12 variants



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C-axis.

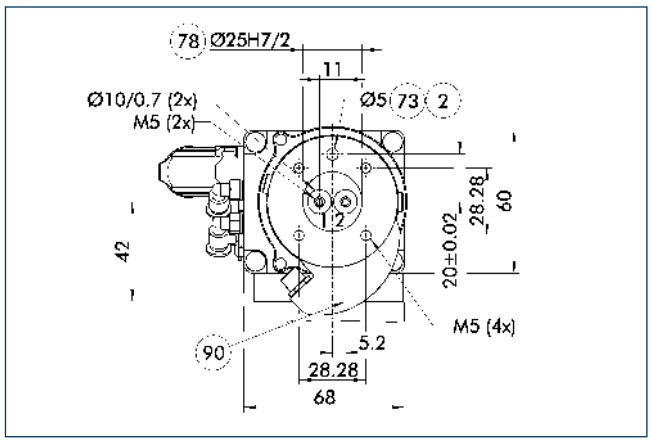
F04, F08 and F12 variants



(90) Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

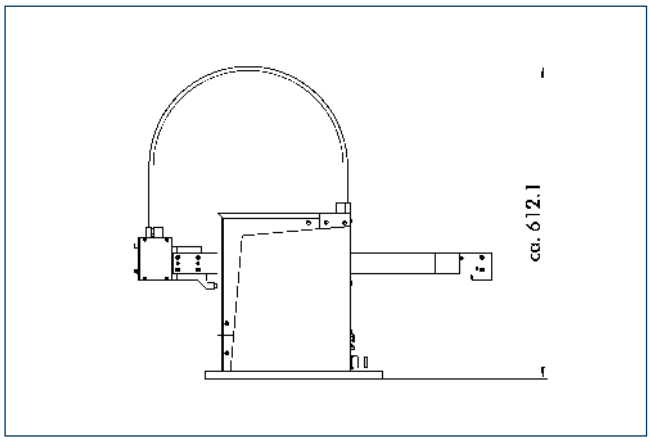
F04, F08 and F12 variants



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

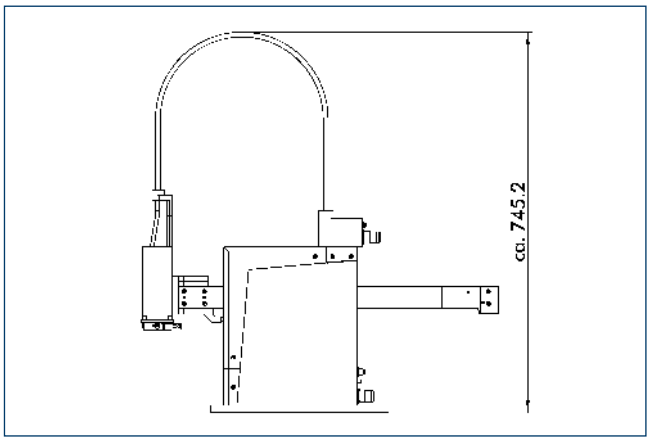
The illustration shows the mechanical mounting surface for variants with an additional C-axis.

Hybrid cable for additional distributor box



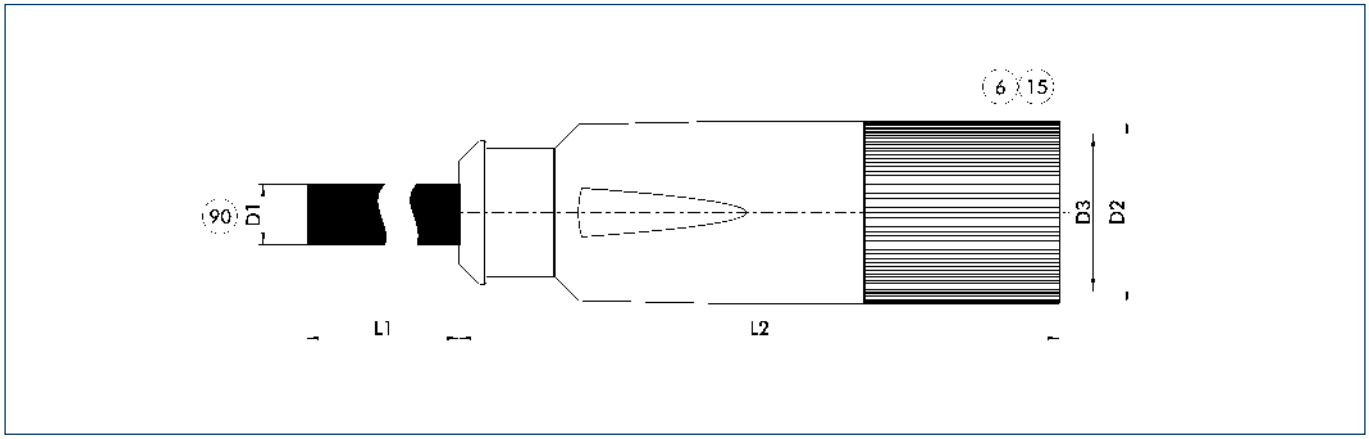
The hybrid cable has integrated air and sensor cables. It is included as standard with the PF2, PF4 and PF6 versions.

Hybrid cable for additional C-axis



The hybrid cable comes with the lines for the C-axis, air lines and sensor cable already built in. It is included as standard with the D04, D08, D12, F04, F08 and F12 versions.

Power cable



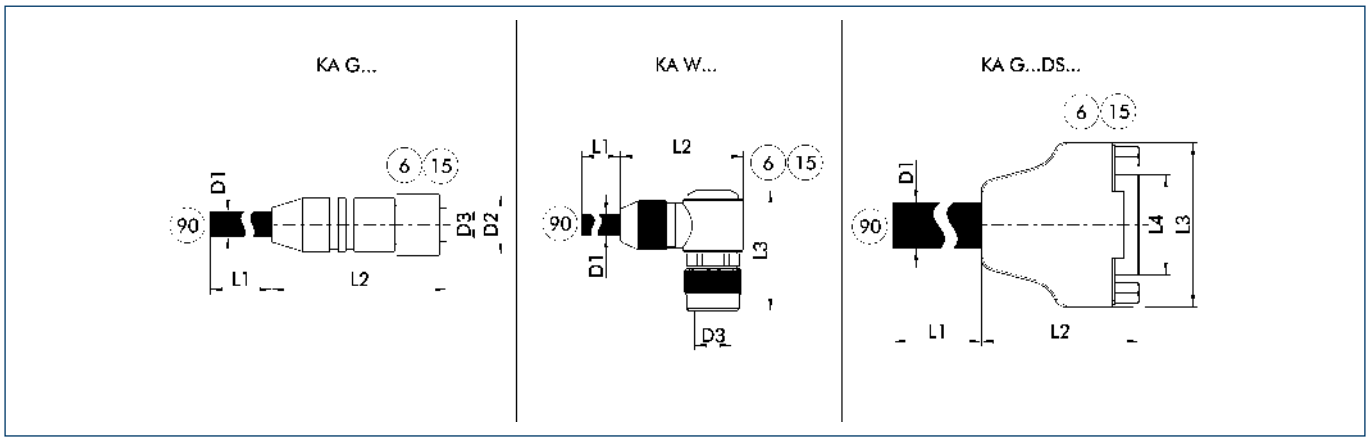
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-Q	0349588	5	10	78.5	27	M23
KA GLT2306-LK-01000-Q	0349589	10	10	78.5	27	M23
KA GLT2306-LK-01500-Q	0349590	15	10	78.5	27	M23
KA GLT2306-LK-02000-Q	0349591	20	10	78.5	27	M23
Power cable for BOSCH Rexroth IndraDrive® Cs						
KA GLT2306-LK-00500-R	0349592	5	10	78.5	27	M23
KA GLT2306-LK-01000-R	0349593	10	10	78.5	27	M23
KA GLT2306-LK-01500-R	0349594	15	10	78.5	27	M23
KA GLT2306-LK-02000-R	0349595	20	10	78.5	27	M23
Power cable for SIEMENS® Sinamics						
KA GGT2306-LK-00100-N	0349890	1	10	78.5	27	M23
KA GGT2306-LK-00200-N	0349891	2	10	78.5	27	M23
KA GGT2306-LK-00300-N	0349892	3	10	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... Encoder cable with straight plug
KA W... Encoder cable with angeled plug
KA G...DS... Sub D encoder cable

(6) Connection module side
(15) Socket

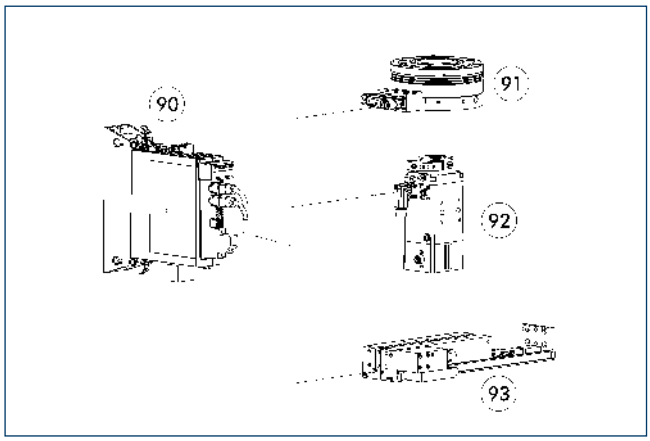
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	L3
		[m]	[mm]	[mm]	[mm]
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface					
KA GWNDS15-GK-00500-G	0349521	5	7.3	38.8	40
KA GWNDS15-GK-01000-G	0349522	10	7.3	38.8	40
KA GWNDS15-GK-01500-G	0349523	15	7.3	38.8	40
KA GWNDS15-GK-02000-G	0349524	20	7.3	38.8	40
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface					
KA GWNDS15-GK-00500-J	0349525	5	7.3	38.8	40
KA GWNDS15-GK-01000-J	0349526	10	7.3	38.8	40
KA GWNDS15-GK-01500-J	0349527	15	7.3	38.8	40
KA GWNDS15-GK-02000-J	0349528	20	7.3	38.8	40
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface					
KA GGNDS15-GK-00100-L	0349537	1	7.3	38.8	40
KA GGNDS15-GK-00200-L	0349538	2	7.3	38.8	40
KA GGNDS15-GK-00300-L	0349539	3	7.3	38.8	40

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

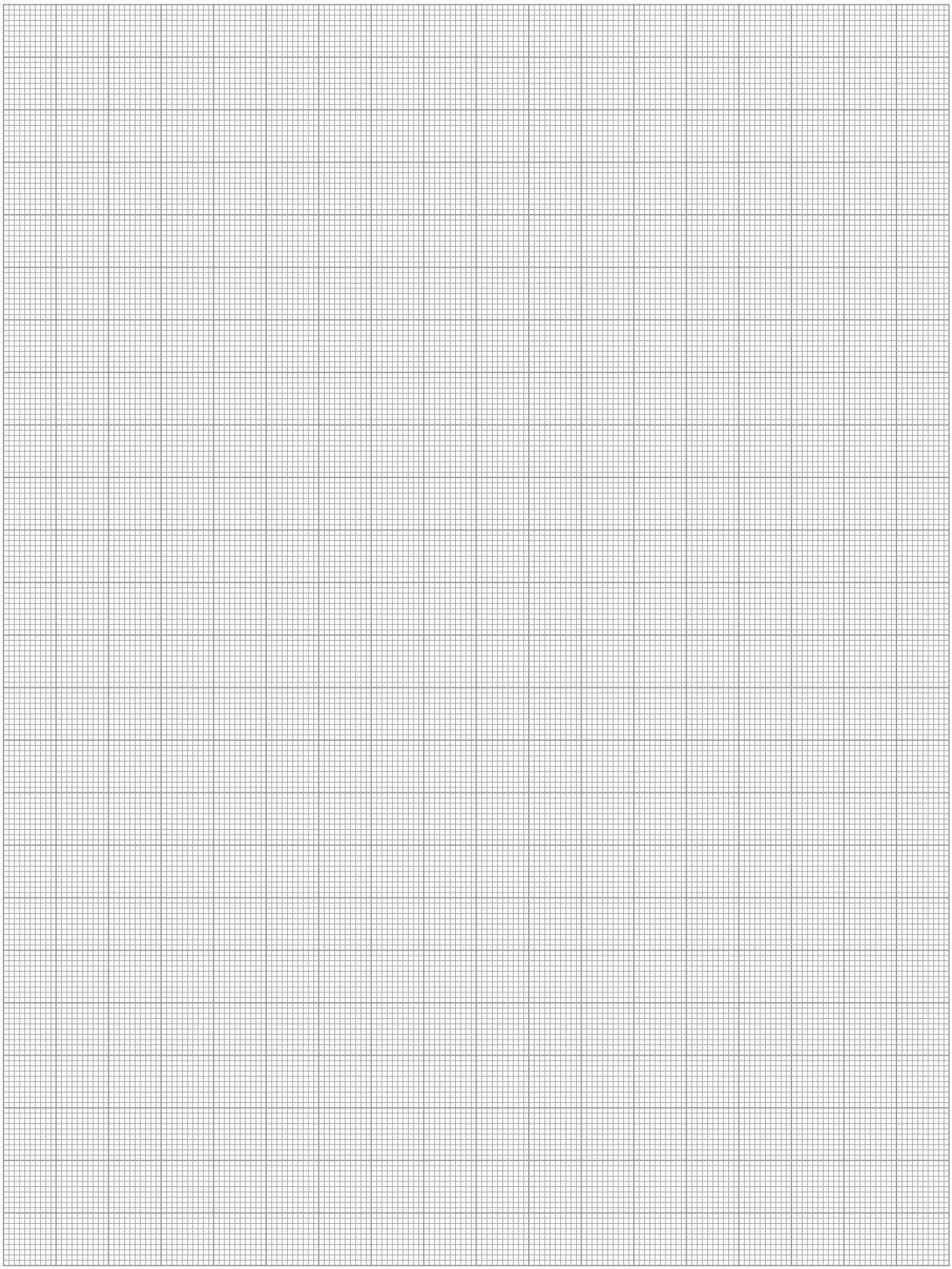
BOSCH Rexroth IndraDrive® Cs



90 Controller
91 ERS rotary unit
92 ERD rotary unit
93 ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8
HCS01.1E-W0018	7.6	18

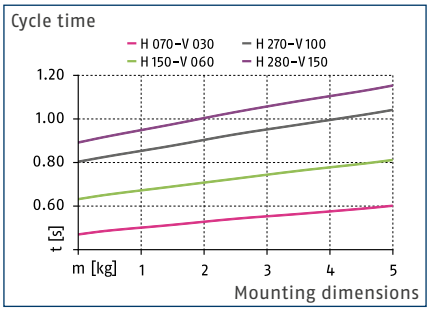


PPU-E 50

Pick & Place Units | Linear Pick & Place Unit

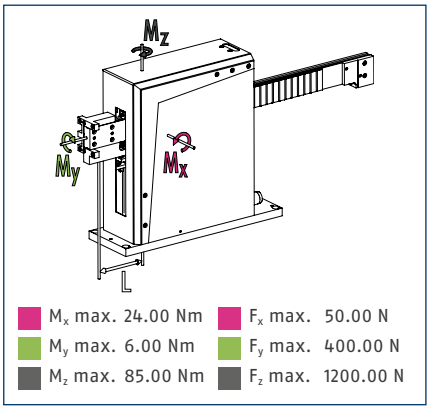


Cycle time



ⓘ The diagram is valid for table-mounting. A cycle consists of two horizontal movements (H), four vertical movements (V) and 2 x 60 ms gripping time. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Moment loading

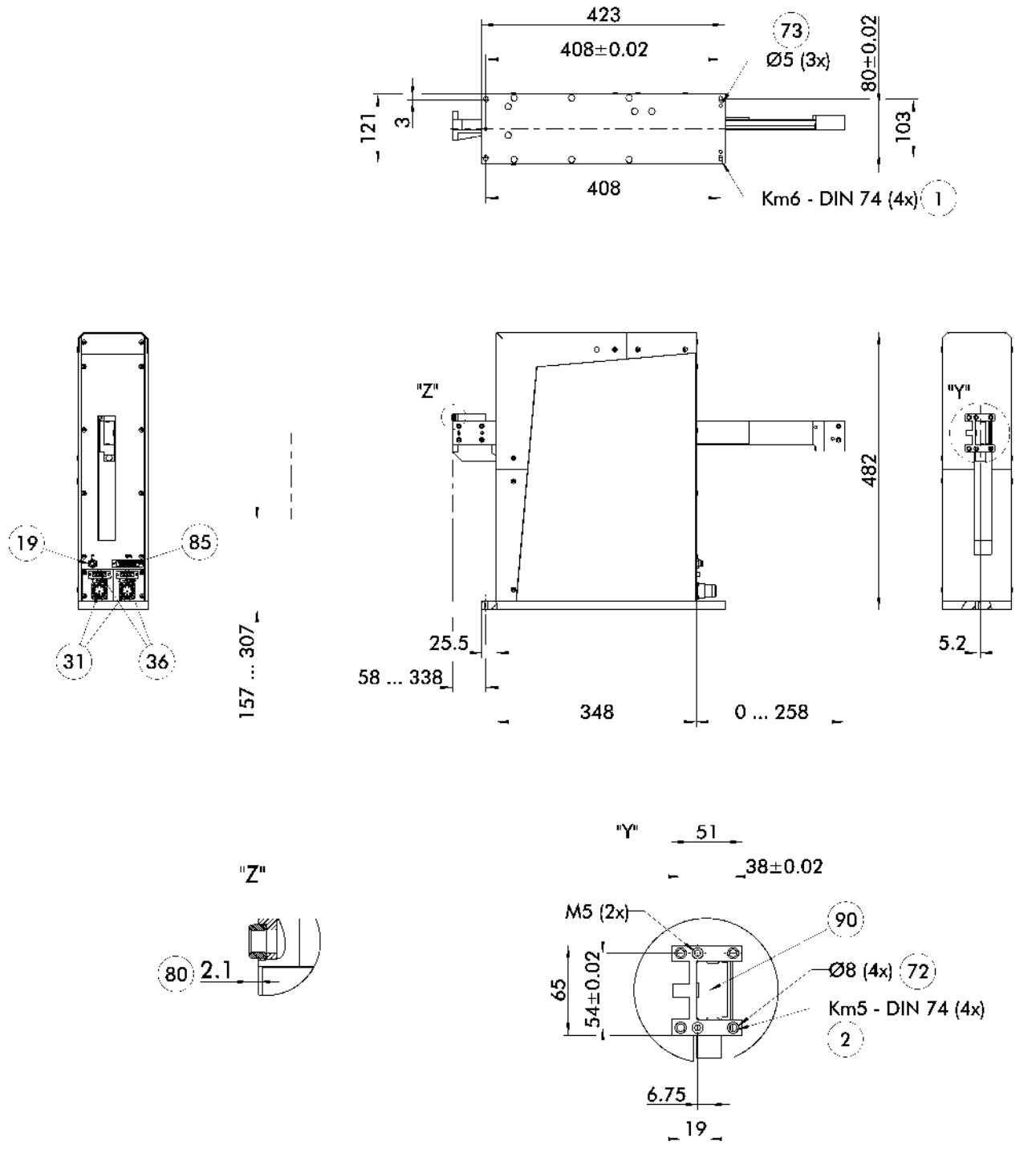


ⓘ The indicated moments and forces are statical values and should not appear simultaneously

Technical data

Description		PPU-E 50-H280-V150-01-NNN	PPU-E 50-H280-V150-01-PF2	PPU-E 50-H280-V150-01-D04	PPU-E 50-H280-V150-F04
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
Stroke horizontal [Y-axis]	[mm]	280	280	280	280
Stroke vertical [Z-axis]	[mm]	150	150	150	150
Max. driving force [Y-/Z-axis]	[N]	400/1200	400/1200	400/1200	400/1200
Nominal force [Y-/Z-axis]	[N]	160/525	160/525	160/525	160/525
Max. payload	[kg]	5	5	5	5
Repeat accuracy [Y-/Z-axis]	[mm]	0.01/0.01	0.01/0.01	0.01/0.01	0.01/0.01
Max. current [Y-/Z-axis]	[A]	8/17	8/17	8/17	8/17
Current at standstill [Y-/Z-axis]	[A]	1.95/4.68	1.95/4.68	1.95/4.68	1.95/4.68
Min./max. ambient temperature	[°C]	10/40	10/40	10/40	10/40
Weight	[kg]	35	36	37.2	38.2
Path measuring system interface		Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss
No. of fluid feed-throughs			2		
Number of E-fittings on the output end			2		
Prepared for C-axis				MRD-S 04	ERD 04
No. of fluid feed-throughs				2	2
Number of E-fittings on the output end				1	1
Clearance L (for moment load)	[mm]	72	72	72	72
Options and their characteristics					
Description			PPU-E 50-H280-V150-01-PF4		
No. of fluid feed-throughs			4		
Number of E-fittings on the output end			4		
Description			PPU-E 50-H280-V150-01-PF6		
No. of fluid feed-throughs			6		
Number of E-fittings on the output end			6		
Description				PPU-E 50-H280-V150-01-D08	PPU-E 50-H280-V150-F08
Prepared for C-axis				MRD-S 08	ERD 08
Description				PPU-E 50-H280-V150-01-D12	PPU-E 50-H280-V150-F12
Prepared for C-axis				MRD-S 12	ERD 12

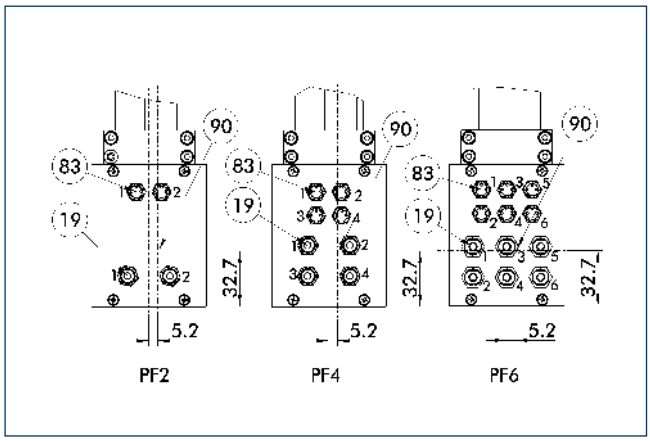
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

1 Connection pick & place unit
2 Attachment connection
19 Air connection
31 Motor plug
36 Connection plug for the path measuring system
72 Fit for centering sleeves
73 Fit for centering pins
80 Depth of the centering sleeve hole in the counter part
85 Sensor feed-through output
90 Reference point for the following side views

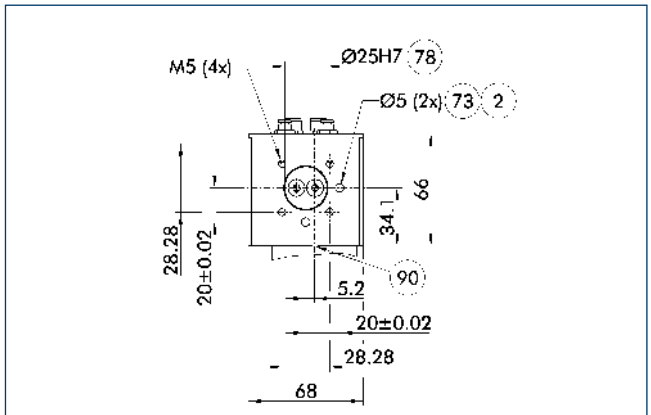
Version PF2, PF4 and PF6 with basic interface



(19) Air connection
(83) Input for 3 pole sensor feed-through
(90) Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical base interface for the version with integrated valves.

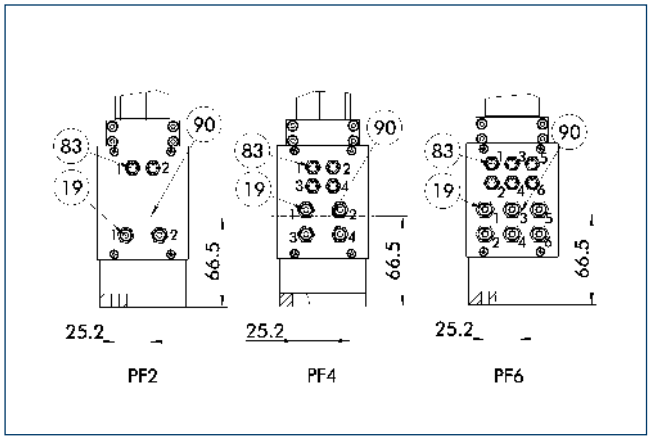
Version PF2, PF4 and PF6 with basic interface



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and basic interfaces.

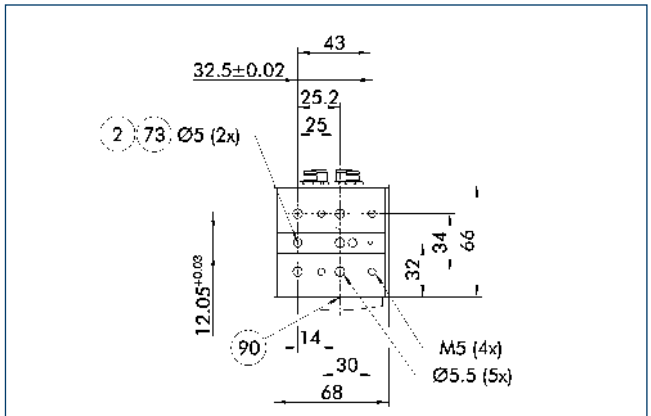
Version PF2, PF4 and PF6 with modular interface



(19) Air connection
(83) Input for 3 pole sensor feed-through
(90) Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical interface for the modular version with integrated valves.

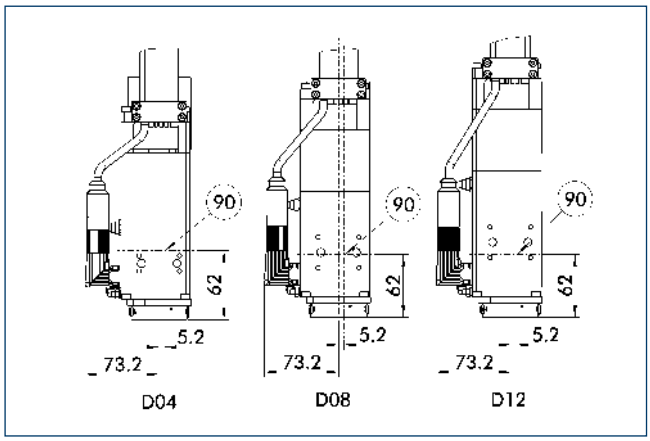
Version PF2, PF4 and PF6 with modular interface



(2) Attachment connection
(73) Fit for centering pins
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and interfaces for the modular system.

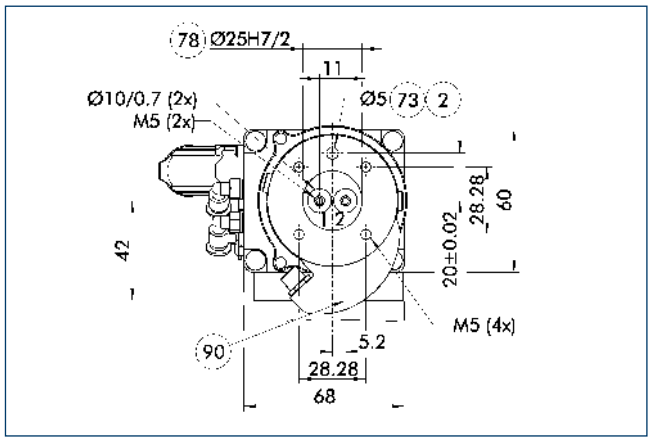
D04, D08 and D12 variants



(90) Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

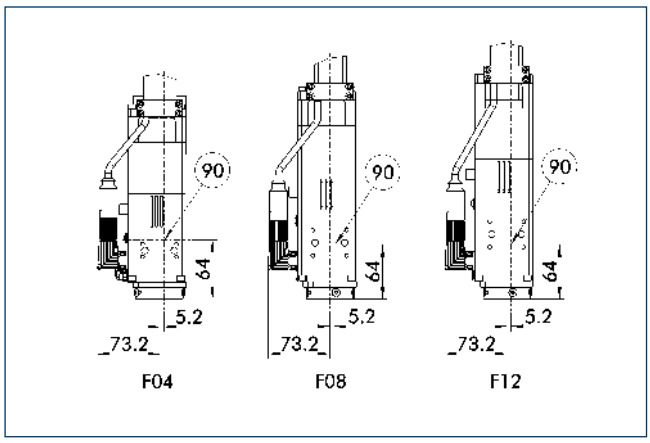
D04, D08 and D12 variants



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C-axis.

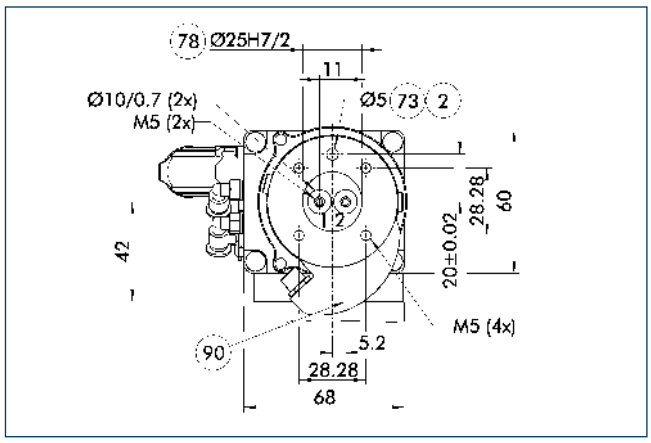
F04, F08 and F12 variants



(90) Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

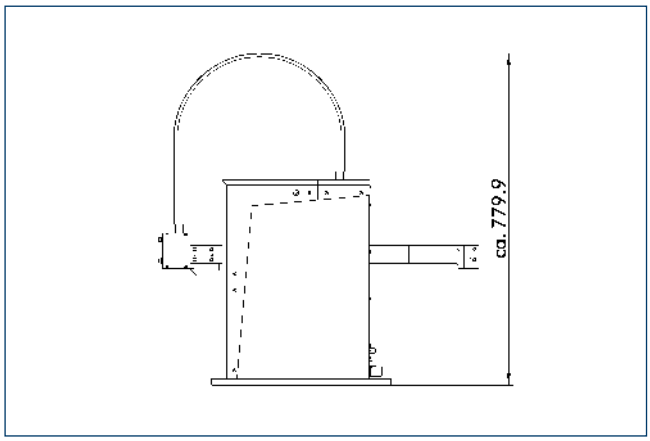
F04, F08 and F12 variants



(2) Attachment connection
(73) Fit for centering pins
(78) Fit for centering
(90) Reference point from main view

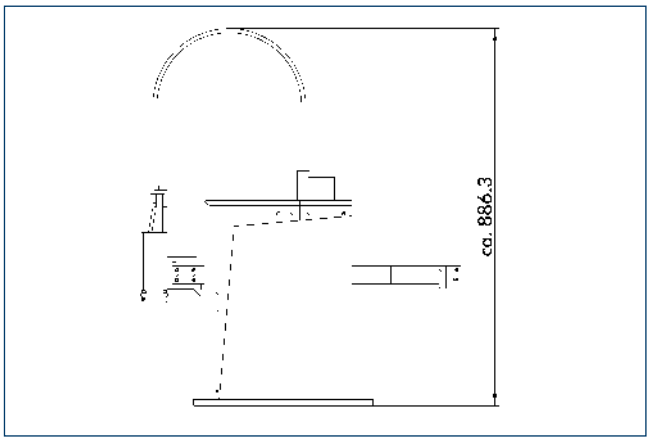
The illustration shows the mechanical mounting surface for variants with an additional C-axis.

Hybrid cable for additional distributor box



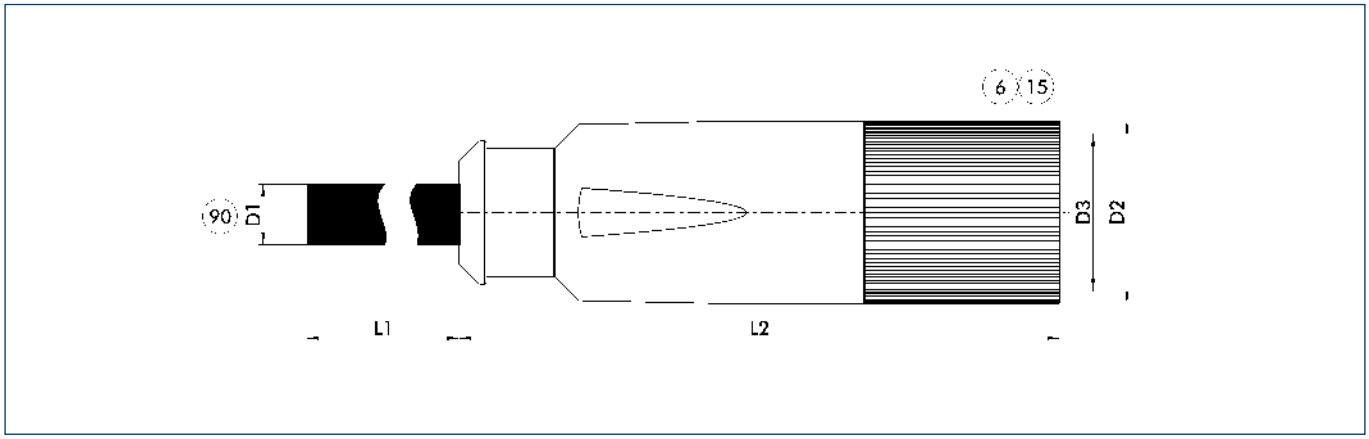
The hybrid cable has integrated air and sensor cables. It is included as standard with the PF2, PF4 and PF6 versions.

Hybrid cable for additional C-axis



The hybrid cable comes with the lines for the C-axis, air lines and sensor cable already built in. It is included as standard with the D04, D08, D12, F04, F08 and F12 versions.

Power cable



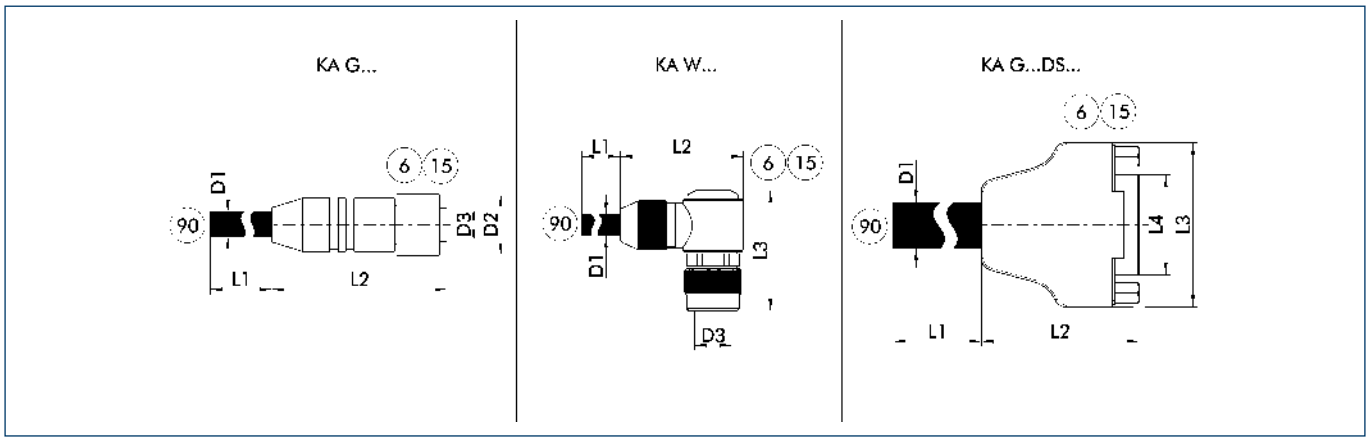
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for BOSCH Rexroth IndraDrive® A/B						
KA GLT2306-LK-00500-Q	0349588	5	10	78.5	27	M23
KA GLT2306-LK-01000-Q	0349589	10	10	78.5	27	M23
KA GLT2306-LK-01500-Q	0349590	15	10	78.5	27	M23
KA GLT2306-LK-02000-Q	0349591	20	10	78.5	27	M23
Power cable for BOSCH Rexroth IndraDrive® Cs						
KA GLT2306-LK-00500-R	0349592	5	10	78.5	27	M23
KA GLT2306-LK-01000-R	0349593	10	10	78.5	27	M23
KA GLT2306-LK-01500-R	0349594	15	10	78.5	27	M23
KA GLT2306-LK-02000-R	0349595	20	10	78.5	27	M23
Power cable for SIEMENS® Sinamics						
KA GGT2306-LK-00100-N	0349890	1	10	78.5	27	M23
KA GGT2306-LK-00200-N	0349891	2	10	78.5	27	M23
KA GGT2306-LK-00300-N	0349892	3	10	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G...	Encoder cable with straight plug
KA W...	Encoder cable with angeled plug
KA G...DS...	Sub D encoder cable

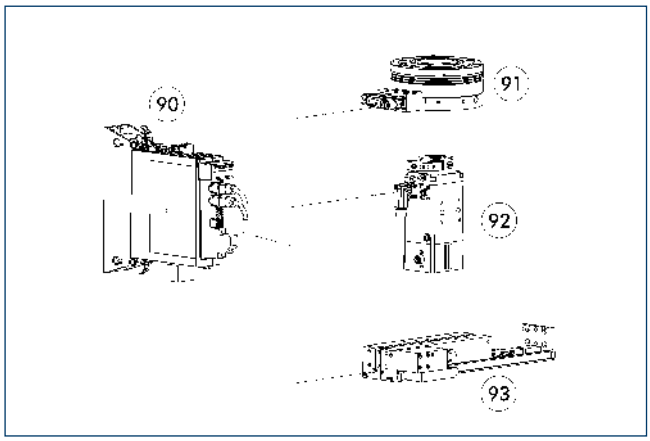
(6) Connection module side
(15) Socket
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	L3
		[m]	[mm]	[mm]	[mm]
Encoder cable for BOSCH Rexroth IndraDrive® A/B and 1Vss encoder interface					
KA GWNDS15-GK-00500-G	0349521	5	7.3	38.8	40
KA GWNDS15-GK-01000-G	0349522	10	7.3	38.8	40
KA GWNDS15-GK-01500-G	0349523	15	7.3	38.8	40
KA GWNDS15-GK-02000-G	0349524	20	7.3	38.8	40
Encoder cable for BOSCH Rexroth IndraDrive® Cs and 1Vss encoder interface					
KA GWNDS15-GK-00500-J	0349525	5	7.3	38.8	40
KA GWNDS15-GK-01000-J	0349526	10	7.3	38.8	40
KA GWNDS15-GK-01500-J	0349527	15	7.3	38.8	40
KA GWNDS15-GK-02000-J	0349528	20	7.3	38.8	40
Encoder cable for SIEMENS® Sinamcis and 1Vss encoder interface					
KA GGNDS15-GK-00100-L	0349537	1	7.3	38.8	40
KA GGNDS15-GK-00200-L	0349538	2	7.3	38.8	40
KA GGNDS15-GK-00300-L	0349539	3	7.3	38.8	40

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

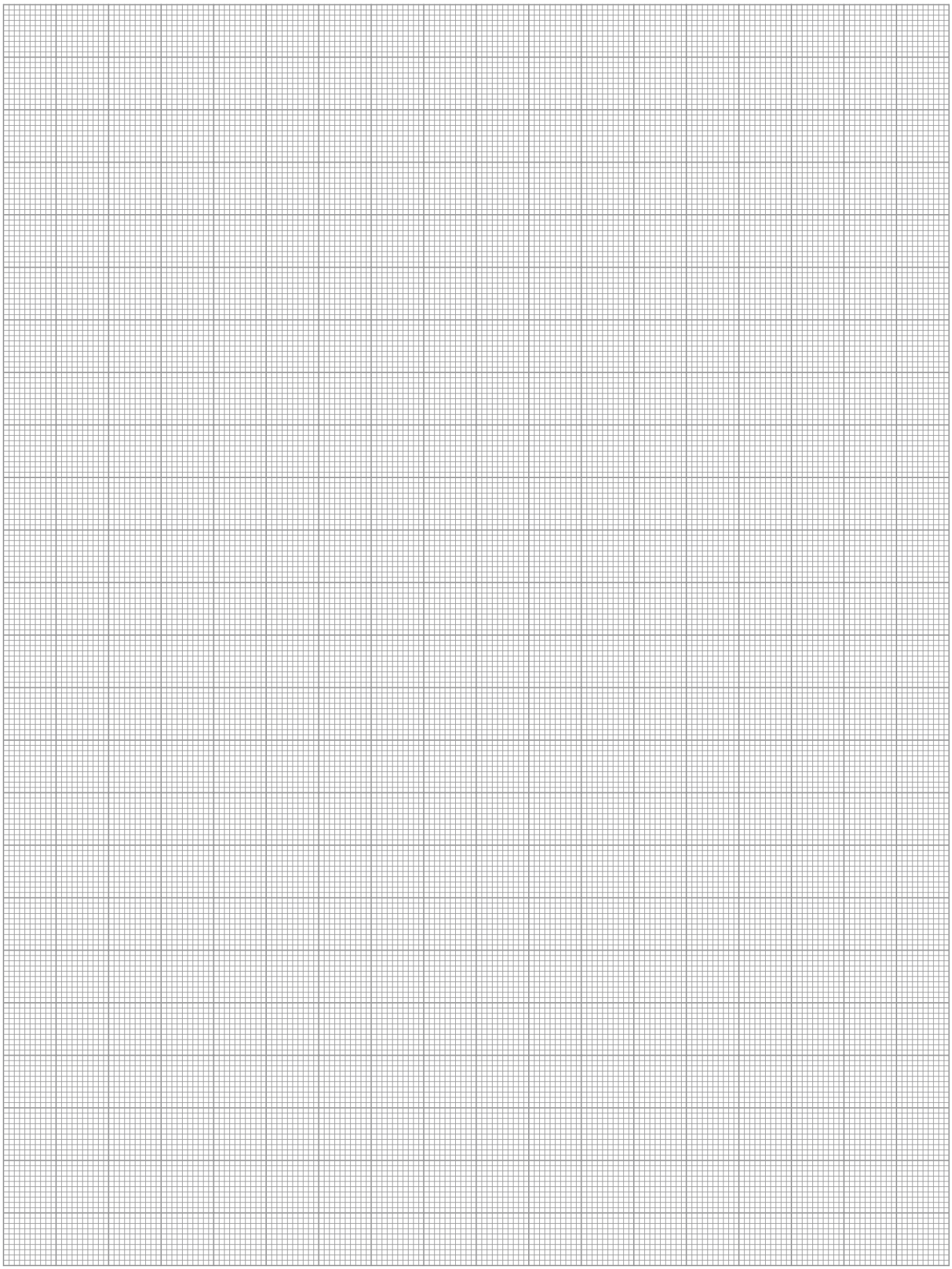
BOSCH Rexroth IndraDrive® Cs



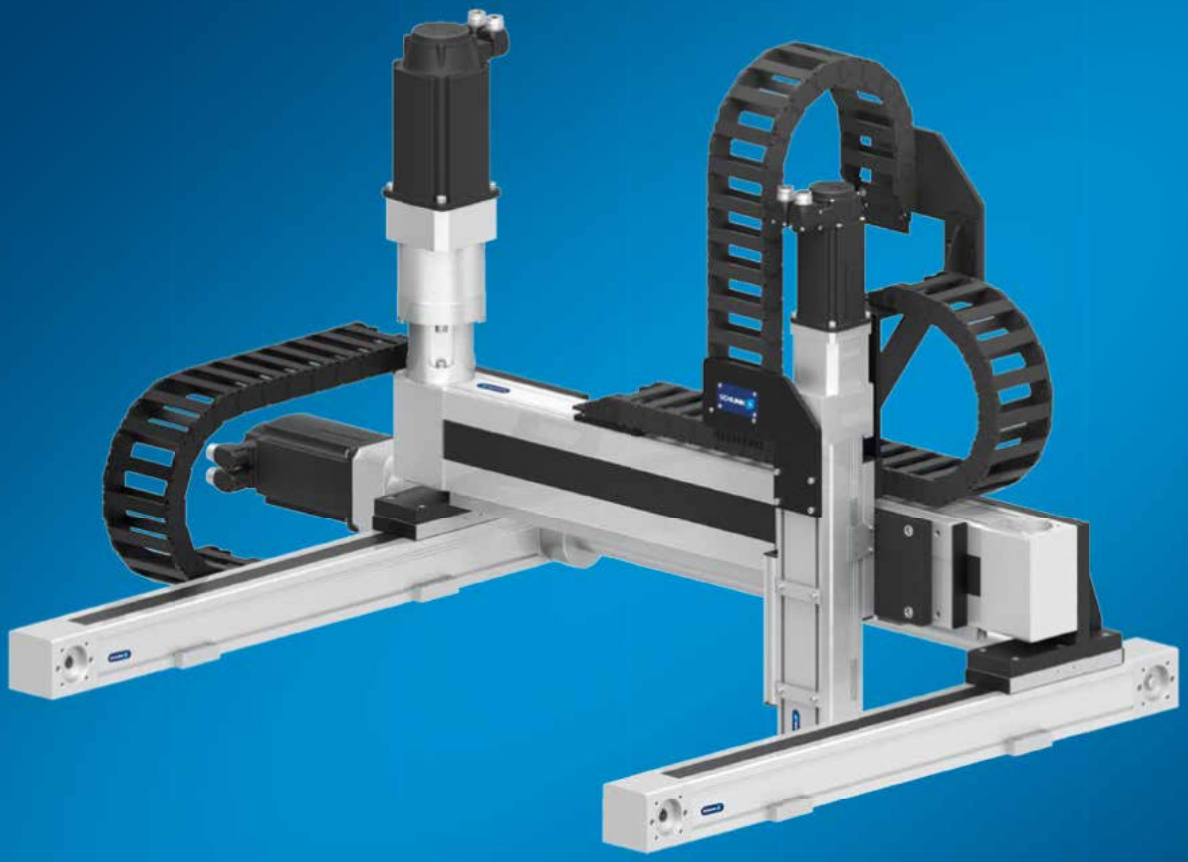
90 Controller
91 ERS electric rotary module
92 ERD electric rotary module
93 ELB compact linear module

The controller can be used for operation of the ERS 560-V and ERD rotary modules, as well as for SCHUNK linear drive axes.

Description	Nominal current	Maximum current
	[A]	[A]
Controller		
HCS01.1E-W0008	2.7	8
HCS01.1E-W0018	7.6	18



Quickly available, ready for assembly, and practice-oriented. The SCHUNK Modular System consisting of standard Line and Room Gantries covers the whole range of Automation Requirements.



Gantry Solutions



LPP Line Gantry

Series	Size	Page
LPP		574



LPE Line Gantry

Series	Size	Page
LPE		584



RPE Room Gantry

Series	Size	Page
RPE		596

Cost-Effective. Modular. Precise.

LPP Line Gantry

Line gantry with a horizontal, pneumatic gantry axis, and a vertical, pneumatic linear module.

Field of Application

Wide range of handling tasks for small parts, particularly for loading and unloading, and in the field of assembly automation.



Advantages – Your benefits

Hole pattern of the modular system is integrated for direct mounting of further handling components

Use of profiled rail guides or crossed rollers for highest rigidity and precision in the application

The stroke can be continuously adjusted due to a fine adjustment, and additonal fine adjustment for an exact adjustment to your application

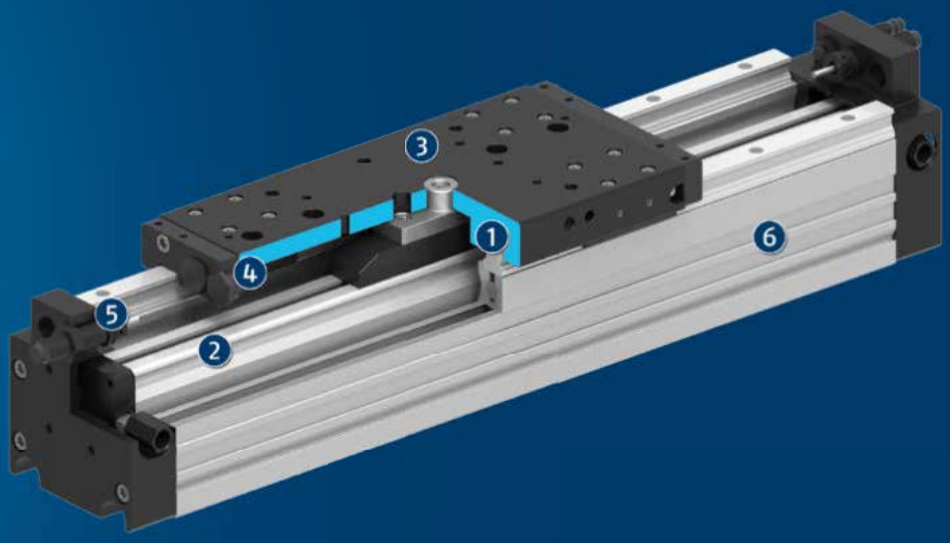
Pre-assembled units for minimum assembly work and immediate commissioning

Use of standard units from the modular system for an economic, complete solution

Size	Horizontal stroke	Vertical stroke	Max. payload
Quantity: 1	300 .. 1500 mm	50 .. 225 mm	5 kg

Functional Description

The upper part of the slide linearly moves out and in. The drive is a compressed air driven piston.



① **Profiled rail guide**
for maximum positioning accuracy and moment loads

② **Drive**
Rodless cylinder, easy and yet reliable

③ **Mounting pattern**
Completely integrated in the module system

④ **Damping adjustment**
Adjustment of the damping characteristics

⑤ **End position adjustability**
Convenient adjustment using the shock absorber threads

⑥ **Profile**
Self-supporting and robust

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Scope of delivery: Fully assembled, incl. power supply and assembly and operating manual with declaration of incorporation

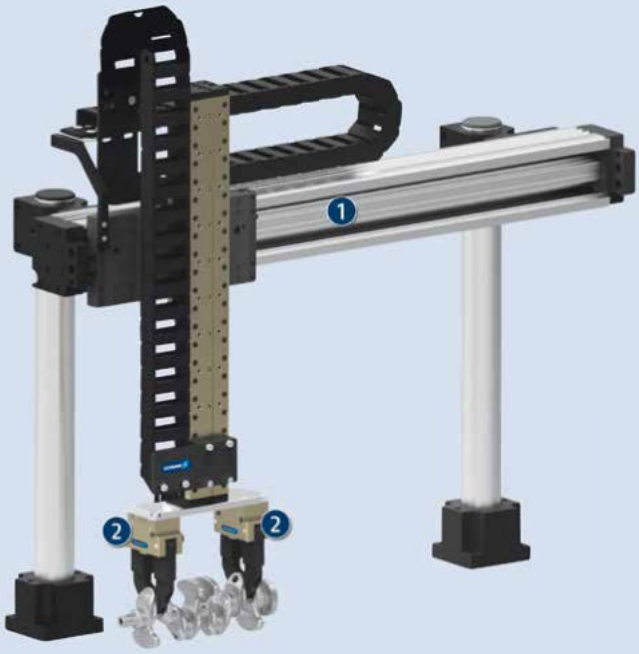
Warranty: 24 months

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Acceleration and speed: The values specified are the maximum values of the units with loading.

Payload: Is the weight of the total weight which is attached to the cantilever arm. Please consider that service life will shorten if the maximum payload is exceeded. SCHUNK cannot assume any warranty for this.



Application Example

Pick & place unit for lightweight to middleweight components.

1. LPP Line Gantry, pneumatic
2. PWG-plus 2-Finger Angular Gripper

SCHUNK offers more ...

The following components make the product LPP even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Sensor System



Sensor Cables



Sensor Distributor



Adapter Plates



PGN-plus Universal Gripper



Centering Sleeves



CWS Compact Changing System



SRU-plus Universal Swivel Unit



Fittings



MPG-plus Pneumatic Small Parts Gripper

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

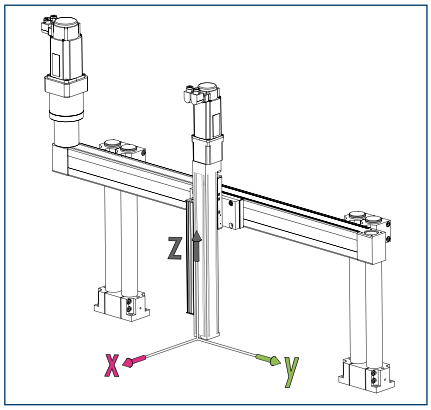
Energy supply: Integrated as standard for a typical number of hoses and cables.
Pillar assembly system: If the assembly system is used, the complete solution can be mounted onto the table top.

LPP

Gantry Solutions | Line Gantry



Axis definition

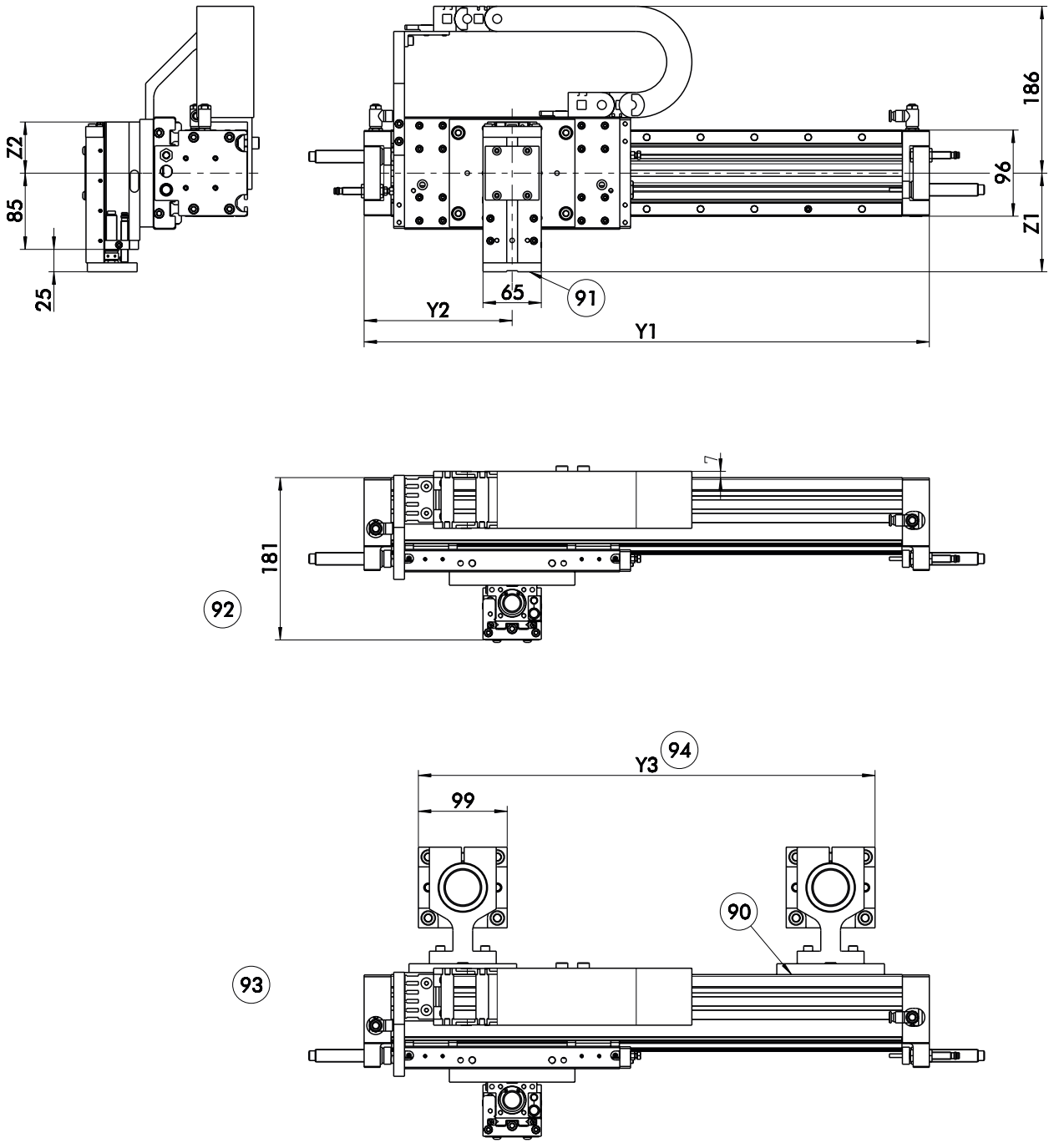


ⓘ If the payload protrudes too far, the maximum permissible forces and torques for the individual axis must be observed. These can be taken off the respective axis. If these values are exceeded, the service life of the axis may suffer.

Technical data

Description	Unit	LPP 050-...-...-...
Sample order		LPP 050-S400-Y1000-Z100
Useful load	[kg]	5
Pillar length	[mm]	400, 600
Y-axis		
Useful stroke	[mm]	300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500
Stroke setting per side	[mm]	50
Repeat accuracy	[mm]	+/- 0.01
Axis type		PMP-S 25
Z-axis up to 100 mm stroke		
Useful stroke	[mm]	50, 75, 100
Stroke setting per side	[mm]	25
Repeat accuracy	[mm]	+/- 0.01
Axis type		CLM 100
Z-axis starting from 125 mm stroke		
Useful stroke	[mm]	125, 175, 225
Stroke setting per side	[mm]	25
Repeat accuracy	[mm]	+/- 0.01
Axis type		LM 100

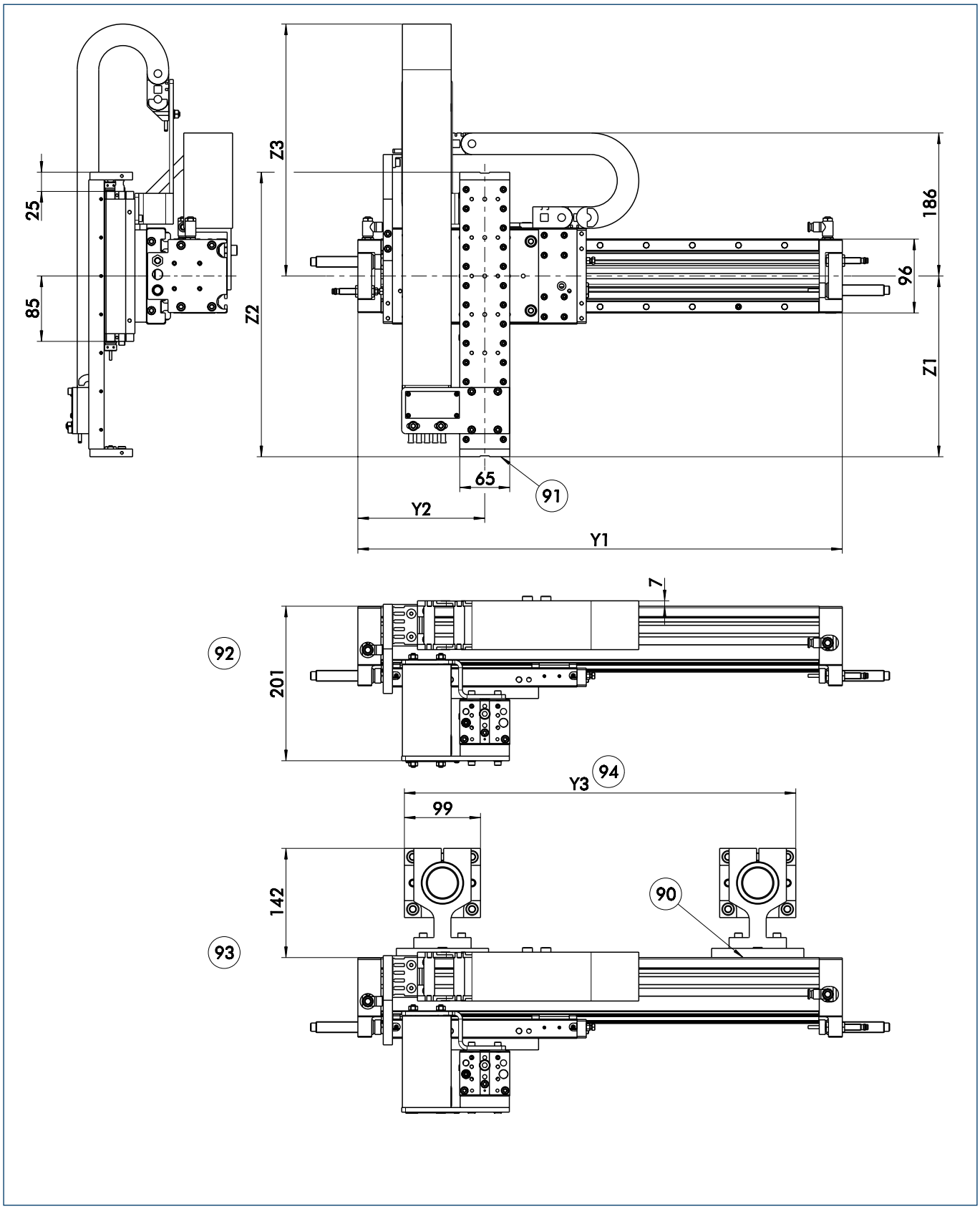
Main view of the Z-axis version up to 100 mm stroke



The drawing shows the unit in the basic version.
The options are described in the following drawings.

90 Gantry connection
91 Assembly connection
92 View without pillar assembly system
93 View with pillar assembly system
94 Maximum value – continuously adjustable

Main view of the Z-axis version up to 100 mm stroke



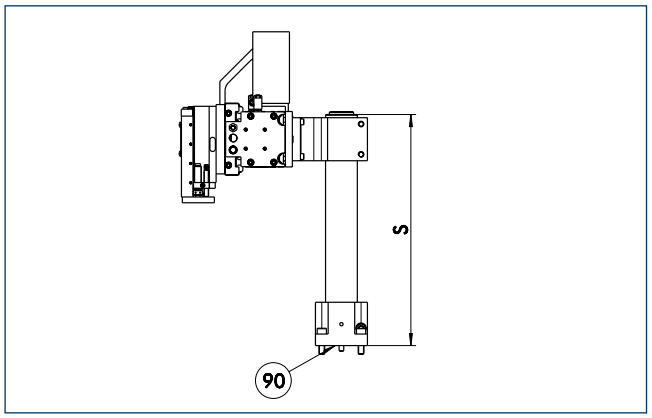
The drawing shows the unit in the basic version.
The options are described in the following drawings.

90 Gantry connection
91 Assembly connection
92 View without pillar assembly system
93 View with pillar assembly system
94 Maximum value – continuously adjustable

Variable dimensions

		Stroke				Stroke			
Pillar length [mm]	S [mm]	Y-axis [mm]	Y_1 [mm]	Y_2 [mm]	Y_3 [mm]	Z-axis [mm]	Z_1 [mm]	Z_2 [mm]	Z_3 [mm]
0	0	300	630	165	484.5	50	110	57	-
400	400	400	730	165	584.5	75	110	94	-
600	600	500	830	165	684.5	100	110	132	-
		600	930	165	784.5	125	235	370	327.7
		700	1030	165	884.5	175	285	470	327.8
		800	1130	165	984.5	225	335	570	327.9
		900	1230	165	1084.5				
		1000	1330	165	1184.5				
		1100	1430	165	1284.5				
		1200	1530	165	1384.5				
		1300	1630	165	1484.5				
		1400	1730	165	1584.5				
		1500	1830	165	1684.5				

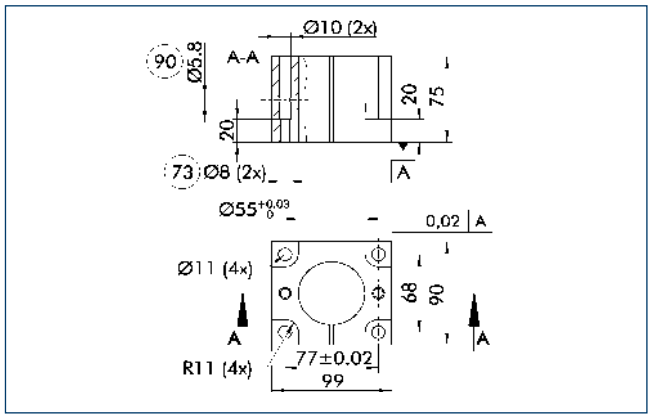
Pillar assembly system



(90) Base connection

This drawing shows the height of the pillar assembly system. The gantry can be continuously moved along the system.

Base

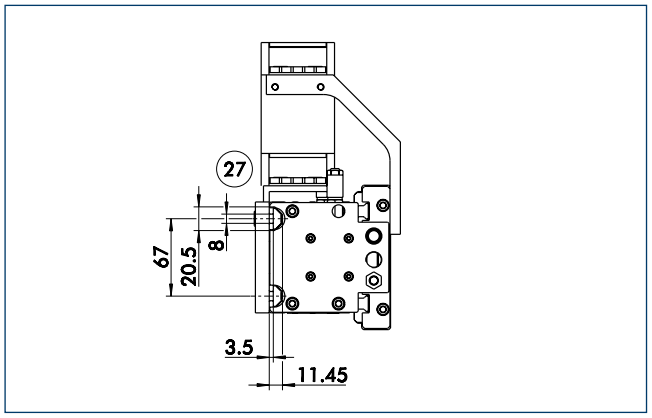


(73) Fit for centering pins

(90) Auxiliary bore holes for centering the pillars

This drawing shows the detailed view of the base when using the option with pillar assembly system.

Gantry connection

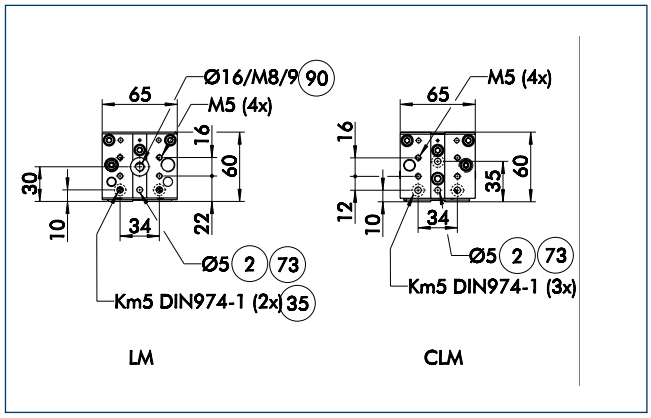


(27) Fastening groove for T-nuts

This drawing shows the connection of the gantry or the horizontal axis with T-nuts.

Description	ID
NT-M8 T-nuts	0313608

Assembly connection



(2) Assembly connection

(35) Back

(73) Fit for centering pins

(90) Gantry connection

This drawing shows the assembly connection at the vertical CLM axis (up to 100 mm stroke) or LM (starting from 125 mm stroke).

Overview of order numbers

S = 0 mm

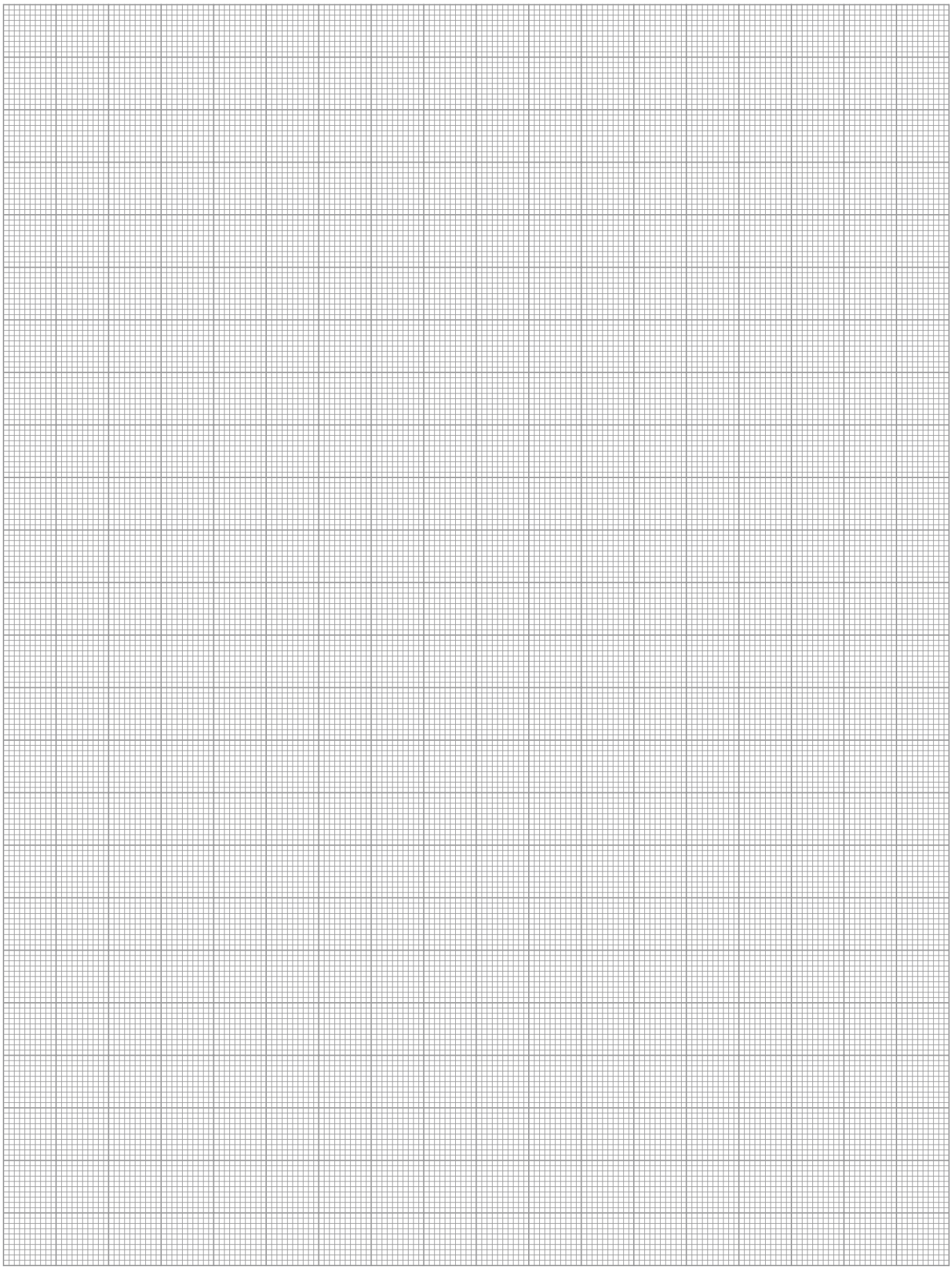
Stroke Y-axis [mm]	Stroke Z-axis [mm]					
	50	75	100	125	175	225
300	0381156	0381157	0381158	0381159	0381160	0381161
400	0381162	0381163	0381164	0381165	0381166	0381167
500	0381168	0381169	0381170	0381171	0381172	0381173
600	0381174	0381175	0381176	0381177	0381178	0381179
700	0381180	0381181	0381182	0381183	0381184	0381185
800	0381186	0381187	0381188	0381189	0381190	0381191
900	0381192	0381193	0381194	0381195	0381196	0381197
1000	0381198	0381199	0381200	0381201	0381202	0381203
1100	0381204	0381205	0381206	0381207	0381208	0381209
1200	0381210	0381211	0381212	0381213	0381214	0381215
1300	0381216	0381217	0381218	0381219	0381220	0381221
1400	0381222	0381223	0381224	0381225	0381226	0381227
1500	0381228	0381229	0381230	0381231	0381232	0381233

S = 400 mm

Stroke Y-axis [mm]	Stroke Z-axis [mm]					
	50	75	100	125	175	225
300	0381000	0381001	0381002	0381003	0381004	0381005
400	0381006	0381007	0381008	0381009	0381010	0381011
500	0381012	0381013	0381014	0381015	0381016	0381017
600	0381018	0381019	0381020	0381021	0381022	0381023
700	0381024	0381025	0381026	0381027	0381028	0381029
800	0381030	0381031	0381032	0381033	0381034	0381035
900	0381036	0381037	0381038	0381039	0381040	0381041
1000	0381042	0381043	0381044	0381045	0381046	0381047
1100	0381048	0381049	0381050	0381051	0381052	0381053
1200	0381054	0381055	0381056	0381057	0381058	0381059
1300	0381060	0381061	0381062	0381063	0381064	0381065
1400	0381066	0381067	0381068	0381069	0381070	0381071
1500	0381072	0381073	0381074	0381075	0381076	0381077

S = 600 mm

Stroke Y-axis [mm]	Stroke Z-axis [mm]					
	50	75	100	125	175	225
300	0381078	0381079	0381080	0381081	0381082	0381083
400	0381084	0381085	0381086	0381087	0381088	0381089
500	0381090	0381091	0381092	0381093	0381094	0381095
600	0381096	0381097	0381098	0381099	0381100	0381101
700	0381102	0381103	0381104	0381105	0381106	0381107
800	0381108	0381109	0381110	0381111	0381112	0381113
900	0381114	0381115	0381116	0381117	0381118	0381119
1000	0381120	0381121	0381122	0381123	0381124	0381125
1100	0381126	0381127	0381128	0381129	0381130	0381131
1200	0381132	0381133	0381134	0381135	0381136	0381137
1300	0381138	0381139	0381140	0381141	0381142	0381143
1400	0381144	0381145	0381146	0381147	0381148	0381149
1500	0381150	0381151	0381152	0381153	0381154	0381155



Flexible. Cost-Effective. Modular.

LPE Line Gantry

Line gantry with a horizontal, pneumatic belt drive axis, and a vertical, electric spindle axis.

Field of Application

Universal application for two dimensional areas, particularly in handling and assembly technology, measurement and testing technology, microelectronics, and in the medical technology



Advantages – Your benefits

Freely programmable in 2 directions for highest flexibility of your application

Optimum running smoothness due to the use of high-quality linear axes with precision profiled rail guides

Easy product selection due to pre-defined parameters for a fast selection during the project planning

Pre-assembled units for minimum assembly work and immediate commissioning

Various payload categories for an exact adjustment to your application

High controller interface compatibility therefore easy process integration

Sizes	Horizontal stroke	Vertical stroke	Max. payload
Quantity: 2	500 .. 1500 mm	100 .. 500 mm	10 .. 20 kg

Functional Description

The slide is driven by a toothed belt or a ball screw spindle and is precisely guided by a (double) profiled rail guide. The cover band runs through the slide and covers the drive and guidance. The servomotor is usually connected to the profile via the drive shaft.



① **Aluminum profile**
Self-supporting and robust

② **Profiled rail guide**
for maximum positioning accuracy and moment loads

③ **Cover strip made of plastic**
along the whole guidance length against coarse dirt

④ **Toothed belt**
Transforms the rotational movement into a linear movement

⑤ **Ball screw spindle**
Transforms the rotational movement into a linear movement

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Guidance: Profiled rail guide

Drive: servomotors of different providers can be trouble-free adapted

Profile: Extruded aluminum profile with plastic cover strip

Slide: Aluminum slide with a brush seal

Scope of delivery: Fully assembled, incl. power supply and assembly and operating manual with declaration of incorporation

Warranty: 24 months

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Acceleration and speed: The values specified are the maximum values of the units with loading.

Payload: Is the weight of the total weight which is attached to the cantilever arm. Please consider that service life will shorten if the maximum payload is exceeded. SCHUNK cannot assume any warranty for this.



Application Example

Completely electrically actuated line gantry for loading and unloading pallets with various greatly differing components.

1. LPE Line Gantry, electric
2. EGA Electric Long-stroke Gripper

SCHUNK offers more ...

The following components make the product LPE even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





Drives



Drive Controller



EGA Electric Long-stroke Gripper



PGN-plus Universal Gripper



ERM Electrical Rotary Module



Connection Cable for Sensor Cable



EGM Electrical Magnetic Gripper



ERS Universal Rotary Module



Sensor Distributor



Adapter Plates



Centering Sleeves



SRU-plus Universal Swivel Unit

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

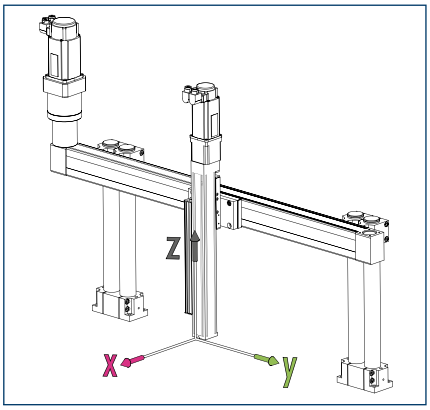
Drives: All required drives are designed and assembled for maximum admissible requirements.
Drive packages: The suitable drive packages can be supplied with various controller interfaces.
Pillar assembly system: If the assembly system is used, the complete solution can be mounted onto the table top.

LPE

Gantry Solutions | Line Gantry



Axis definition

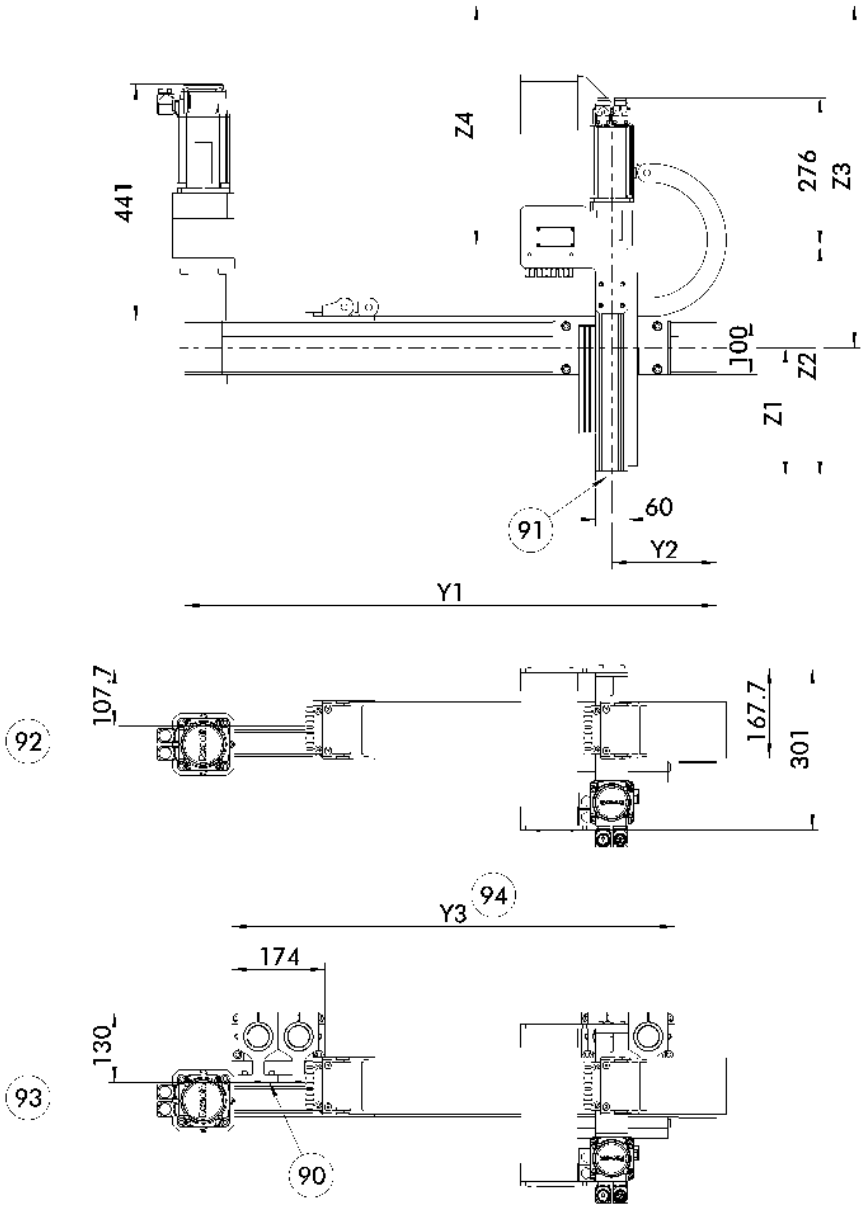


ⓘ If the payload protrudes too far, the maximum permissible forces and torques for the individual axis must be observed. These can be taken off the respective axis. If these values are exceeded, the service life of the axis may suffer.

Technical data

Description	Unit	LPE 100-...-...-...-.
Sample order		LPE 100-S800-Y1000-Z100-M
Useful load	[kg]	10
Pillar length	[mm]	400, 600, 800
Y-axis		
Useful stroke	[mm]	500, 800, 1000, 1200, 1500
Acceleration	[m/s²]	5
Speed	[m/s]	1
Repeat accuracy	[mm]	+/- 0.08
Axis type		B 100D-ZSS
Drive option		
Drive type		Bosch Rexroth MSK050B
Gear type		Bosch Rexroth GTE120
Z-axis		
Useful stroke	[mm]	100, 300, 500
Acceleration	[m/s²]	2
Speed	[m/s]	0.25
Repeat accuracy	[mm]	+/- 0.03
Axis type		B 60-SSS
Drive option		
Drive type		Bosch Rexroth MSK040B
Gear type		Bosch Rexroth GTE120

Main view



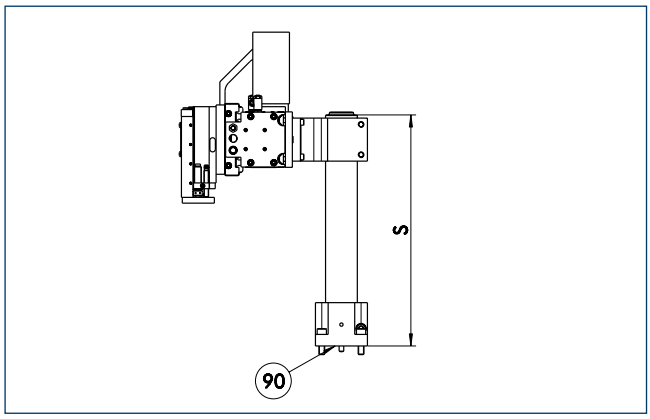
The drawing shows the unit in the basic version.
The options are described in the following drawings.

(90) Gantry connection
(91) Assembly connection
(92) View without pillar assembly system
(93) View with pillar assembly system
(94) Maximum value – continuously adjustable

Variable dimensions

		Stroke				Stroke				
Pillar length [mm]	S [mm]	Y-axis [mm]	Y_1 [mm]	Y_2 [mm]	Y_3 [mm]	Z-axis [mm]	Z_1 [mm]	Z_2 [mm]	Z_3 [mm]	Z_4 [mm]
0	0	500	990	195	950	100	240	430	638.5	448.5
400	400	800	1290	195	1250	300	440	630	633.5	443.5
600	600	1000	1490	195	1450	500	640	830	633.5	443.5
800	800	1200	1690	195	1650					
		1500	1990	195	1950					

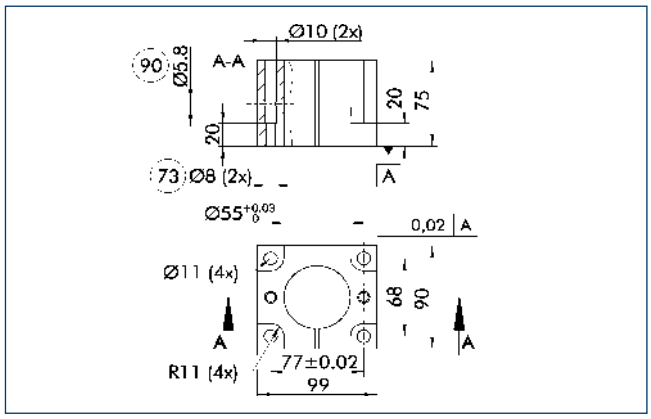
Pillar assembly system



(90) Base connection

This drawing shows the height of the pillar assembly system. The gantry can be continuously moved along the system.

Base

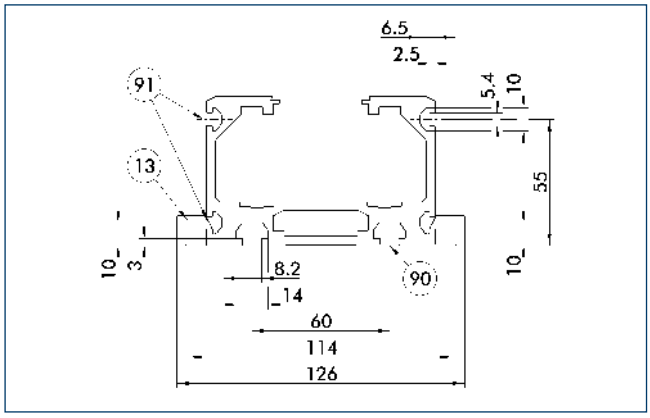


(73) Fit for centering pins

(90) Auxiliary bore holes for centering the pillars

This drawing shows the detailed view of the base when using the option with pillar assembly system.

Fastening of the horizontal axis



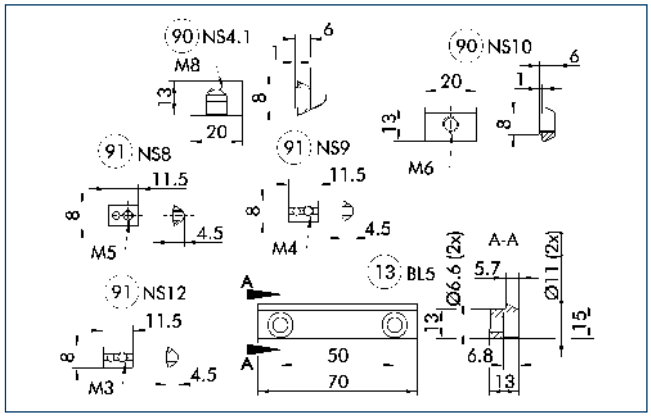
(13) Mounting strip

(91) Side T-nut

(90) T-nut on base side

This drawing shows the position of the mounting options.

Horizontal axis fastening elements



(13) Mounting strip

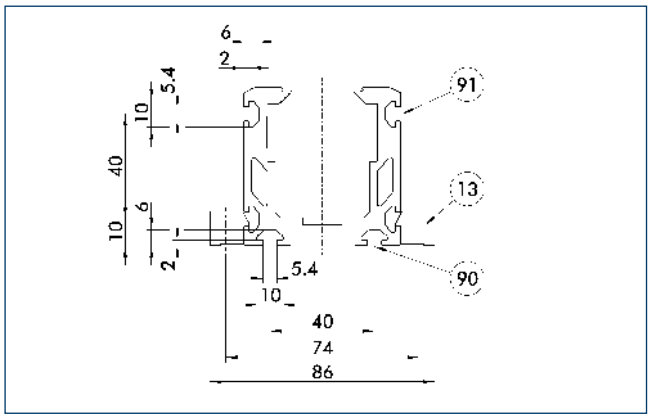
(91) Side T-nut

(90) T-nut on base side

This unit can be secured either by using T-nuts or mounting strips.

Description	ID
Mounting strip	
BL2-70x15x20-01	0331401
T-Nuts	
NS 1-M4	0331404
NS 2-M5	0331405
NS 4-M8-6	0331407
NS 10-M6-6	0331422
RM2-M4	0331425
RM4-M5	0331426
NS 4.1-M8-6	0331430

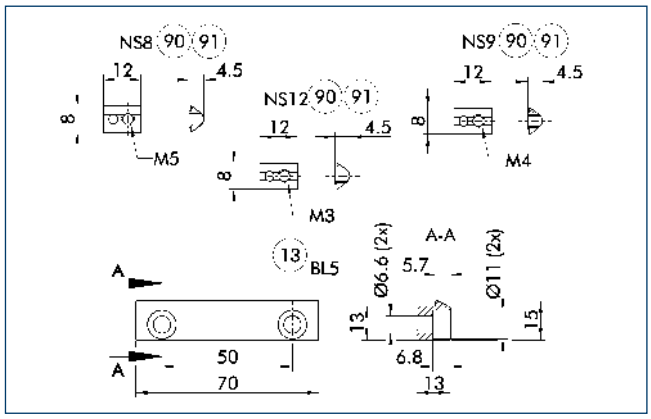
Fastening the vertical axis



(13) Mounting strip
(91) Side T-nut
(90) T-nut on base side

This drawing shows the position of the mounting options.

Vertical axis fastening elements



(13) Mounting strip
(91) Side T-nut
(90) T-nut on base side

This unit can be secured either by using T-nuts or mounting strips.

Description	ID
Mounting strip	
BL5-70x15x13-01	0331419
T-Nuts	
NS 8-M5	0331420
NS 9-M4	0331421
NS 12-M3	0331424

Overview of order numbers

Z = 100 mm -M with motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381270	0381240	0381245	0381255
800	0381273	0381241	0381247	0381258
1000	0381276	0381242	0381249	0381261
1200	0381279	0381243	0381251	0381264
1500	0381282	0381244	0381253	0381267

Z = 100 mm -0 without motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381530	0381500	0381505	0381515
800	0381533	0381501	0381507	0381518
1000	0381536	0381502	0381509	0381521
1200	0381539	0381503	0381511	0381524
1500	0381542	0381504	0381513	0381527

Z = 300 mm -M with motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381271	–	0381246	0381256
800	0381274	–	0381248	0381259
1000	0381277	–	0381250	0381262
1200	0381280	–	0381252	0381265
1500	0381283	–	0381254	0381268

Z = 300 mm -0 without motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381531	–	0381506	0381516
800	0381534	–	0381508	0381519
1000	0381537	–	0381510	0381522
1200	0381540	–	0381512	0381525
1500	0381543	–	0381514	0381528

Z = 500 mm -M with motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381272	–	–	0381257
800	0381275	–	–	0381260
1000	0381278	–	–	0381263
1200	0381281	–	–	0381266
1500	0381284	–	–	0381269

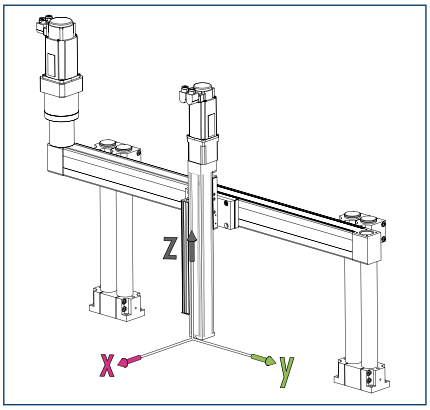
Z = 500 mm -0 without motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381532	–	–	0381517
800	0381535	–	–	0381520
1000	0381538	–	–	0381523
1200	0381541	–	–	0381526
1500	0381544	–	–	0381529

LPE



Axis definition

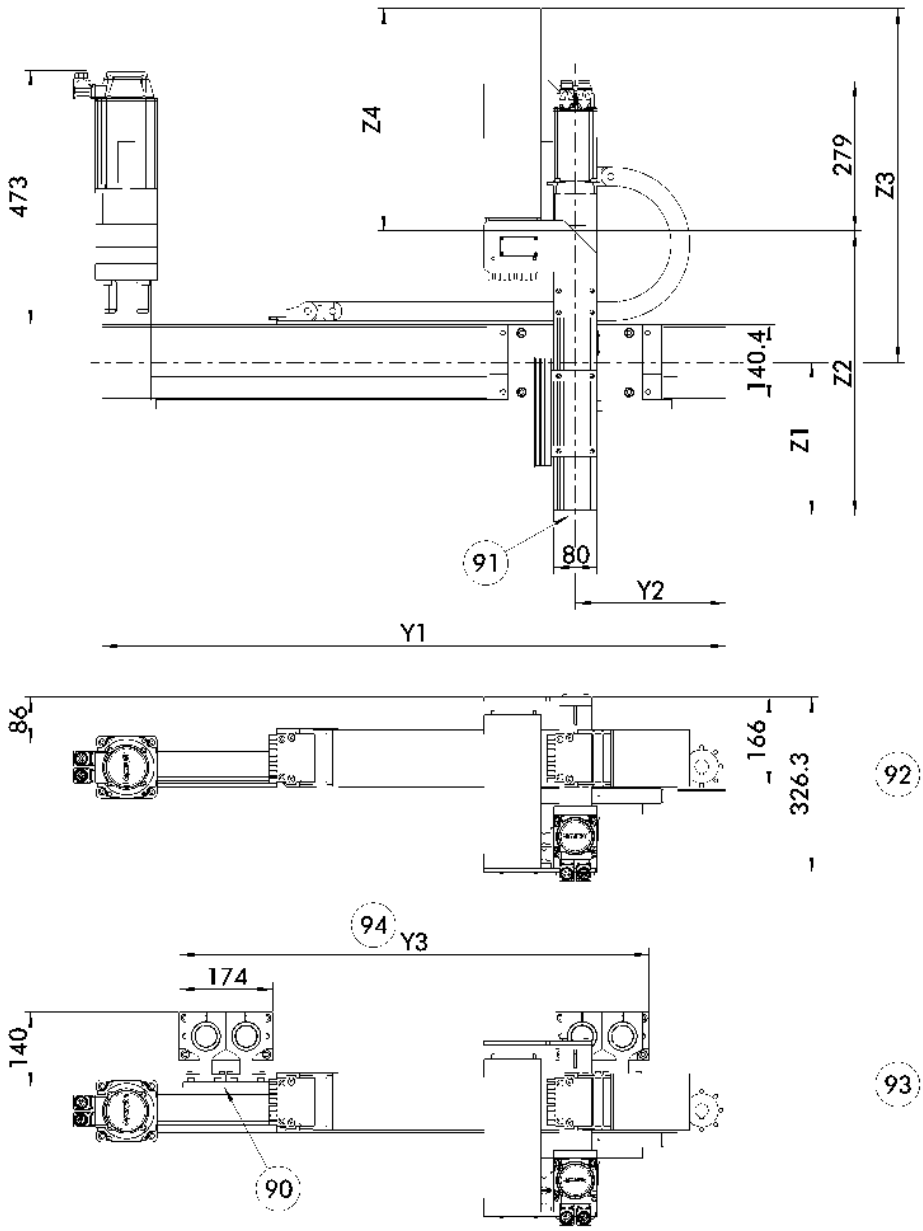


ⓘ If the payload protrudes too far, the maximum permissible forces and torques for the individual axis must be observed. These can be taken off the respective axis. If these values are exceeded, the service life of the axis may suffer.

Technical data

Description	Unit	LPE 200-...-...-...-.
Sample order		LPE 200-S800-Y1000-Z100-M
Useful load	[kg]	20
Pillar length	[mm]	400, 600, 800
Y-axis		
Useful stroke	[mm]	500, 800, 1000, 1200, 1500
Acceleration	[m/s²]	5
Speed	[m/s]	1
Repeat accuracy	[mm]	+/- 0.08
Axis type		B 140-ZSS
Drive option		
Drive type		Bosch Rexroth MSK060C
Gear type		Bosch Rexroth GTE120
Z-axis		
Useful stroke	[mm]	100, 300, 500
Acceleration	[m/s²]	2
Speed	[m/s]	0.25
Repeat accuracy	[mm]	+/- 0.03
Axis type		B 80-SSS
Drive option		
Drive type		Bosch Rexroth MSK040B
Gear type		Bosch Rexroth GTE120

Main view



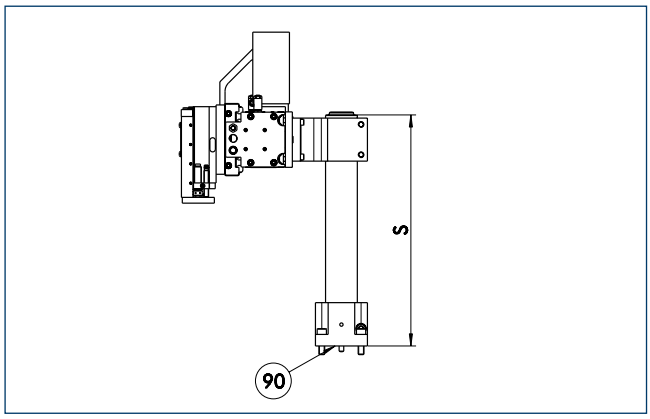
The drawing shows the unit in the basic version.
The options are described in the following drawings.

90 Gantry connection
91 Assembly connection
92 View without pillar assembly system
93 View with pillar assembly system
94 Maximum value – continuously adjustable

Variable dimensions

		Stroke				Stroke				
Pillar length [mm]	S [mm]	Y-axis [mm]	Y_1 [mm]	Y_2 [mm]	Y_3 [mm]	Z-axis [mm]	Z_1 [mm]	Z_2 [mm]	Z_3 [mm]	Z_4 [mm]
0	0	500	1160	280	1120	100	258	530	658.5	413.5
400	400	800	1460	280	1420	300	485	730	658.5	413.5
600	600	1000	1660	280	1620	500	685	930	658.5	413.5
800	800	1200	1860	280	1820					
		1500	2160	280	2140					

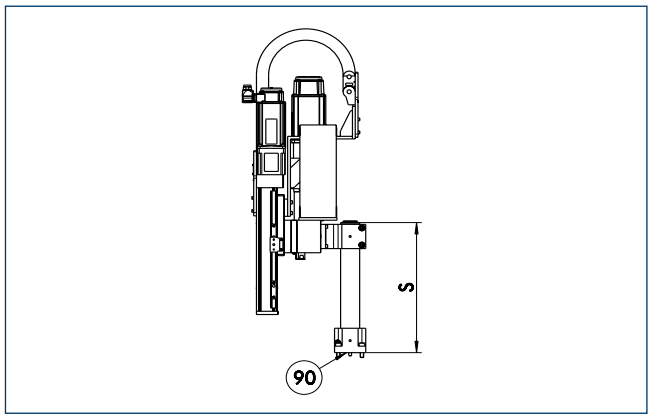
Pillar assembly system



(90) Base connection

This drawing shows the height of the pillar assembly system. The gantry can be continuously moved along the system.

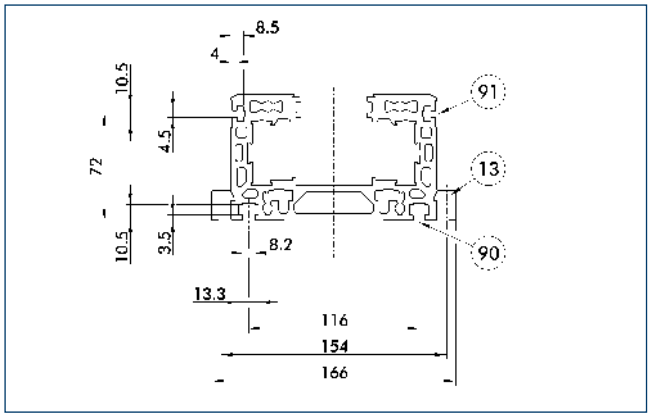
Base



(90) T-nut on base side

This drawing shows the detailed view of the base when using the option with pillar assembly system.

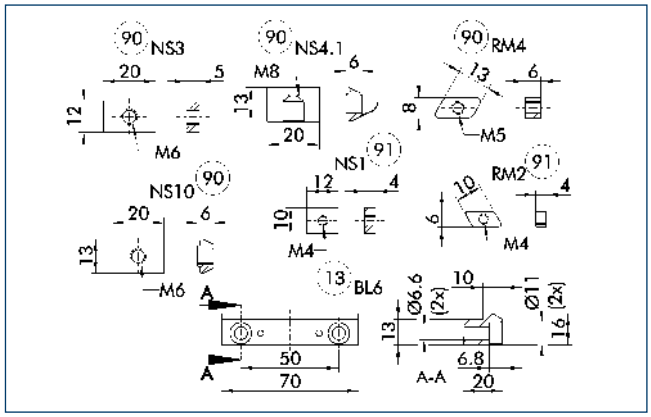
Fastening of the horizontal axis



(13) Mounting strip
(91) Side T-nut
(90) T-nut on base side

This drawing shows the position of the mounting options.

Horizontal axis fastening elements

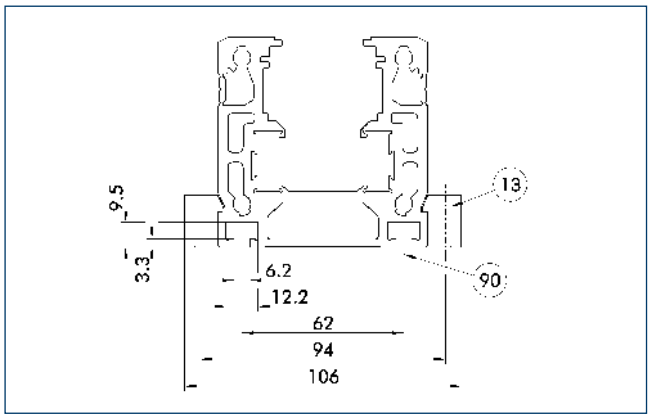


(13) Mounting strip
(91) Side T-nut
(90) T-nut on base side

This unit can be secured either by using T-nuts or mounting strips.

Description	ID
Mounting strip	
BL2-70x15x20-01	0331401
BL6-70x15x20-01	0331428
T-Nuts	
NS 1-M4	0331404
NS 3-M6	0331406
NS 8-M5	0331420
NS 9-M4	0331421
NS 10-M6-6	0331422
NS 12-M3	0331424
RM2-M4	0331425
RM4-M5	0331426
NS 4.1-M8-6	0331430

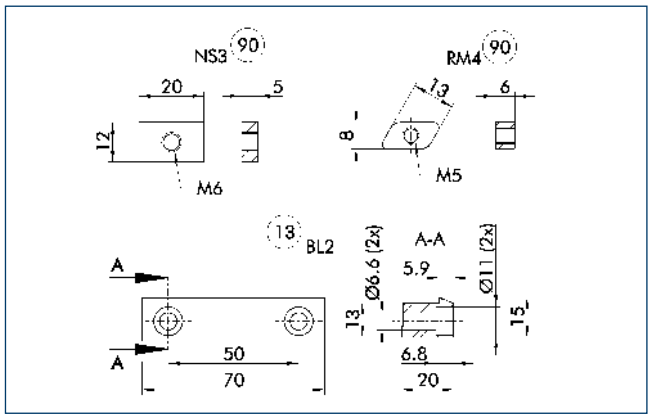
Fastening the vertical axis



(13) Mounting strip
(91) Side T-nut
(90) T-nut on base side

This drawing shows the position of the mounting options.

Vertical axis fastening elements



(13) Mounting strip
(91) Side T-nut
(90) T-nut on base side

This unit can be secured either by using T-nuts or mounting strips.

Description	ID
Mounting strip	
BL2-70x15x20-01	0331401
T-Nuts	
NS 3-M6	0331406
RM4-M5	0331426

Overview of order numbers

Z = 100 mm -M with motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381315	0381285	0381290	0381300
800	0381318	0381286	0381292	0381303
1000	0381321	0381287	0381294	0381306
1200	0381324	0381288	0381296	0381309
1500	0381327	0381289	0381298	0381312

Z = 100 mm -0 without motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381575	0381545	0381550	0381560
800	0381578	0381546	0381552	0381563
1000	0381581	0381547	0381554	0381566
1200	0381584	0381548	0381556	0381569
1500	0381587	0381549	0381558	0381572

Z = 300 mm -M with motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381316	–	0381291	0381301
800	0381319	–	0381293	0381304
1000	0381322	–	0381295	0381307
1200	0381325	–	0381297	0381310
1500	0381328	–	0381299	0381313

Z = 300 mm -0 without motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381576	–	0381551	0381561
800	0381579	–	0381553	0381564
1000	0381582	–	0381555	0381567
1200	0381585	–	0381557	0381570
1500	0381588	–	0381559	0381573

Z = 500 mm -M with motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381317	–	–	0381302
800	0381320	–	–	0381305
1000	0381323	–	–	0381308
1200	0381326	–	–	0381311
1500	0381329	–	–	0381314

Z = 500 mm -0 without motor

Stroke Y-axis [mm]	Pillar height S [mm] 0	400	600	800
500	0381577	–	–	0381562
800	0381580	–	–	0381565
1000	0381583	–	–	0381568
1200	0381586	–	–	0381571
1500	0381589	–	–	0381574

Flexible. Cost-effective. Modular.

RPE Room Gantry

Room gantry with two electric toothed belt axes in horizontal direction, and one electric spindle axis in vertical direction.

Field of Application

Universal application in three-dimensions, particularly in handling and assembly technology, measurement and testing technology, microelectronics, and in the medical technology.



Advantages – Your benefits

Can be programmed as desired in three dimensions for highest flexibility of your application

Optimum running smoothness due to the use of high-quality linear axes with precision profiled rail guides

Easy product selection due to pre-defined parameters for a fast selection during the project planning

Pre-assembled units for minimum assembly work and immediate commissioning

Various payload categories for an exact adjustment to your application

High controller interface compatibility therefore easy process integration

Sizes	Horizontal stroke	Vertical stroke	Max. payload
Quantity: 2	500 .. 1500 mm	100 .. 500 mm	10 .. 20 kg

Functional Description

The slide is driven by a toothed belt or a ball screw spindle and is precisely guided by a (double) profiled rail guide. The cover band runs through the slide and covers the drive and guidance. The servomotor is usually connected to the profile via the drive shaft.



① **Aluminum profile**
Self-supporting and robust

② **Profiled rail guide**
for maximum positioning accuracy and moment loads

③ **Cover tape made of plastic**
along the whole guidance length against coarse dirt

④ **Toothed belt**
Transforms the rotational movement into a linear movement

⑤ **Ball screw spindle**
Transforms the rotational movement into a linear movement

CAD data, operating manuals and other current product documents are available at **schunk.com**

General Notes on the Series

Guidance: Profiled rail guide

Drive: servomotors of different providers can be trouble-free adapted

Profile: Extruded aluminum profile with plastic cover strip

Slide: Aluminum slide with a brush seal

Scope of delivery: Fully assembled, incl. power supply and assembly and operating manual with declaration of incorporation

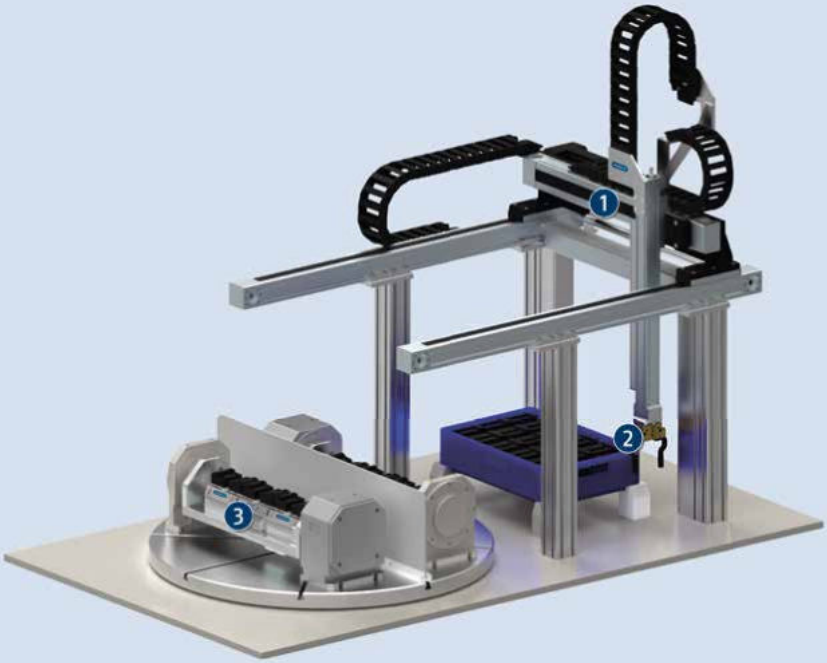
Warranty: 24 months

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Acceleration and speed: The values specified are the maximum values of the units with loading.

Payload: is the weight of the total weight which is attached to the cantilever arm. Please consider that service life will shorten if the maximum payload is exceeded. SCHUNK cannot assume any warranty for this.



Application Example

3-axis room gantry for loading and unloading of machine tools.

1. RPE Room Gantry, electric
2. PGN-plus Universal Gripper
3. KSP Power Lathe Chuck

SCHUNK offers more ...

The following components make the product RPE even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.





MSK Drives



Drive Controller CS



EGA Electric Long-stroke Gripper



PGN-plus Universal Gripper



ERM Electrical Rotary Module



Connection Cable for Sensor System



EGM Electrical Magnetic Gripper



ERS Rotary Module with Torque Motor



V Sensor Distributor



APL Adapter Plates



ZHU Centering Sleeves



SRU-plus Universal Swivel Unit

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

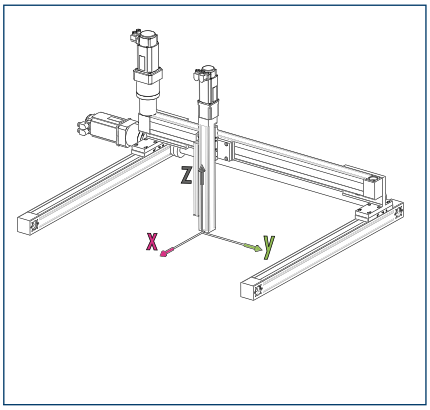
Drives: All required drives are designed and assembled for maximum admissible requirements.
Drive packages: The suitable drive packages can be supplied with various controller interfaces.
Pillar assembly system: If the assembly system is used, the complete solution can be mounted onto the table top.

RPE

Gantry Solutions | Room Gantry



Axis definition

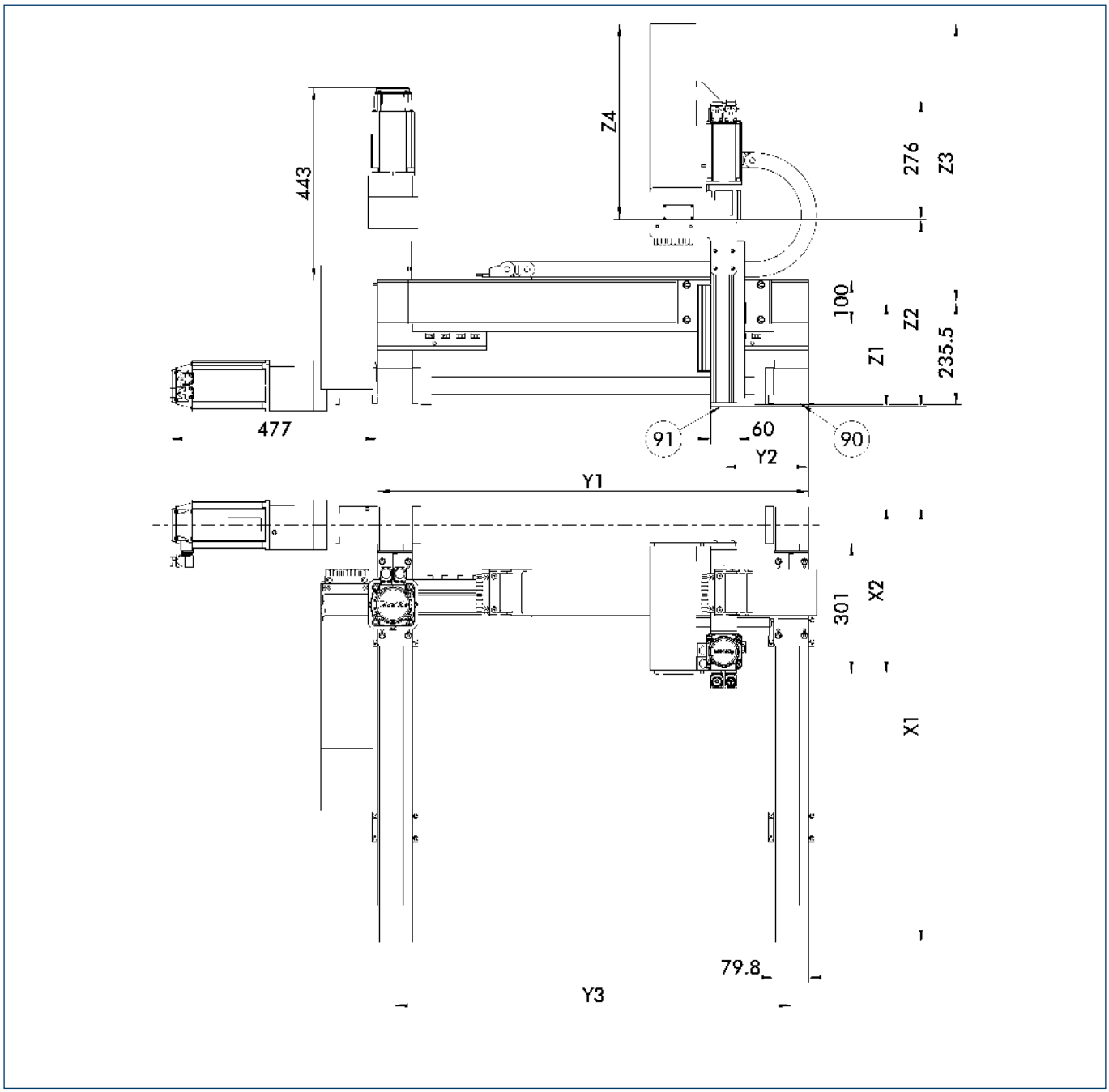


ⓘ If the payload protrudes too far, the maximum permissible forces and torques for the individual axis must be observed. These can be taken off the respective axis. If these values are exceeded, the service life of the axis may suffer.

Technical data

Description	Unit	RPE 100-...-...-...-.
Sample order		RPE 100-X1000-Y1000-Z100-M
Useful load	[kg]	10
X-axis		
Useful stroke	[mm]	500, 800, 1000, 1200, 1500
Acceleration	[m/s²]	5
Speed	[m/s]	1
Repeat accuracy	[mm]	+/- 0.08
Axis type		B 80-ZSS
Drive option		
Drive type		Bosch Rexroth MSK060C
Gear type		Bosch Rexroth GTE120
Y-axis		
Useful stroke	[mm]	500, 800, 1000, 1200, 1500
Acceleration	[m/s²]	5
Speed	[m/s]	1
Repeat accuracy	[mm]	+/- 0.08
Axis type		B 100D-ZSS
Drive option		
Drive type		Bosch Rexroth MSK050B
Gear type		Bosch Rexroth GTE120
Z-axis		
Useful stroke	[mm]	100, 300, 500
Acceleration	[m/s²]	2
Speed	[m/s]	0.25
Repeat accuracy	[mm]	+/- 0.03
Axis type		B 60-SSS
Drive option		
Drive type		Bosch Rexroth MSK040B
Gear type		Bosch Rexroth GTE120

Main view



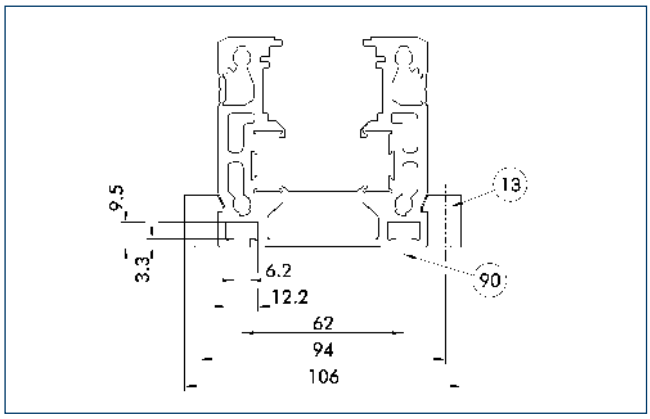
The drawing shows the unit in the basic version.
The options are described in the following drawings.

(90) Gantry connection
(91) Assembly connection
(92) View without pillar assembly system
(93) View with pillar assembly system
(94) Maximum value – continuously adjustable

Variable dimensions

Stroke			Stroke				Stroke				
X-axis [mm]	X_1 [mm]	X_2 [mm]	Y-axis [mm]	Y_1 [mm]	Y_2 [mm]	Y_3 [mm]	Z-axis [mm]	Z_1 [mm]	Z_2 [mm]	Z_3 [mm]	Z_4 [mm]
500	1000	383.3	500	990	195	909.8	100	240	430	638.5	448.5
800	1300	383.3	800	1290	195	1209.8	300	440	630	633.5	443.5
1000	1500	383.3	1000	1490	195	1409.8	500	640	830	633.5	443.5
1200	1700	383.3	1200	1690	195	1609.8					
1500	2000	383.3	1500	1990	195	1909.8					

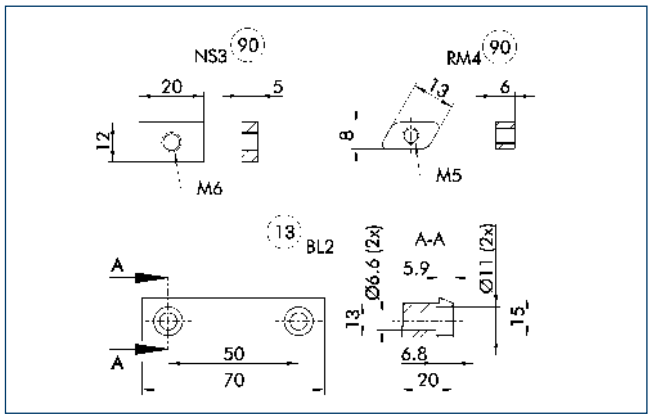
Fastening of the horizontal axis



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut on the bottom side

This drawing shows the position of the mounting options.

Horizontal axis fastening elements

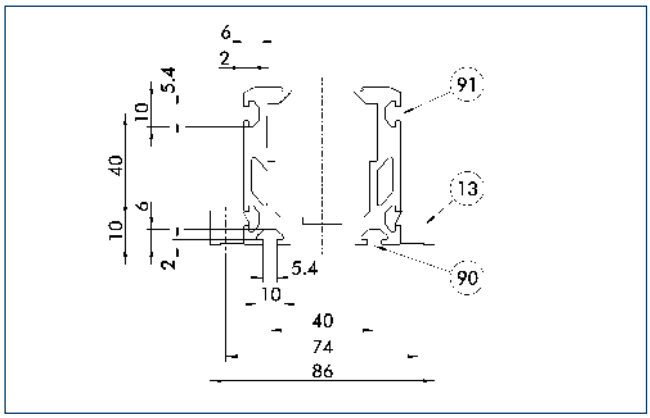


(13) Mounting strip
(91) Lateral T-nut
(90) T-nut on the bottom side

This unit can be secured either by using T-nuts or mounting strips.

Description	ID
Mounting strip	
BL2-70x15x20-01	0331401
T-Nuts	
NS 3-M6	0331406
RM4-M5	0331426

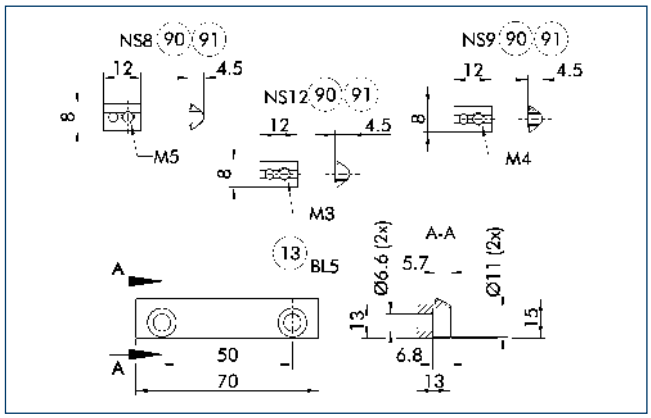
Fastening the vertical axis



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut on the bottom side

This drawing shows the position of the mounting options.

Vertical axis fastening elements



(13) Mounting strip
(91) Lateral T-nut
(90) T-nut on the bottom side

This unit can be secured either by using T-nuts or mounting strips.

Description	ID
Mounting strip	
BL5-70x15x13-01	0331419
T-Nuts	
NS 8-M5	0331420
NS 9-M4	0331421
NS 12-M3	0331424

Overview of order numbers

Z = 100 mm –M with motor

Stroke X-axis [mm] \ Stroke Y-axis [mm]	500	800	1000	1200	1500
500	0381330	0381333	0381336	0381339	0381342
800	0381345	0381348	0381351	0381354	0381357
1000	0381360	0381363	0381366	0381369	0381372
1200	0381375	0381378	0381381	0381384	0381387
1500	0381390	0381393	0381396	0381399	0381402

Z = 100 mm –0 without motor

Stroke X-axis [mm] \ Stroke Y-axis [mm]	500	800	1000	1200	1500
500	0381590	0381593	0381596	0381599	0381602
800	0381605	0381608	0381611	0381614	0381617
1000	0381620	0381623	0381626	0381629	0381632
1200	0381635	0381638	0381641	0381644	0381647
1500	0381650	0381653	0381656	0381659	0381662

Z = 300 mm –M with motor

Stroke X-axis [mm] \ Stroke Y-axis [mm]	500	800	1000	1200	1500
500	0381331	0381334	0381337	0381340	0381343
800	0381346	0381349	0381352	0381350	0381358
1000	0381361	0381364	0381367	0381370	0381373
1200	0381376	0381379	0381382	0381385	0381388
1500	0381391	0381394	0381397	0381400	0381403

Z = 300 mm –0 without motor

Stroke X-axis [mm] \ Stroke Y-axis [mm]	500	800	1000	1200	1500
500	0381591	0381594	0381597	0381600	0381603
800	0381606	0381609	0381612	0381615	0381618
1000	0381621	0381624	0381627	0381630	0381633
1200	0381636	0381639	0381642	0381645	0381648
1500	0381651	0381654	0381657	0381660	0381663

Z = 500 mm –M with motor

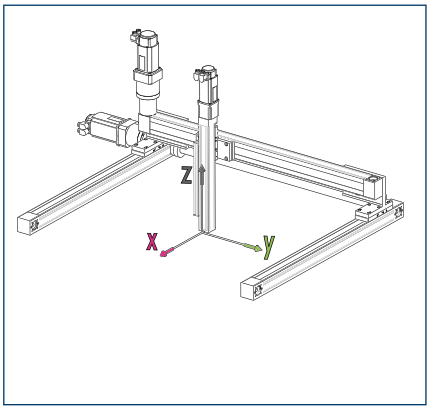
Stroke X-axis [mm] \ Stroke Y-axis [mm]	500	800	1000	1200	1500
500	0381332	0381335	0381338	0381341	0381344
800	0381347	0381350	0381353	0381356	0381359
1000	0381362	0381365	0381368	0381371	0381374
1200	0381377	0381380	0381383	0381386	0381389
1500	0381392	0381395	0381398	0381401	0381404

Z = 500 mm –0 without motor

Stroke X-axis [mm] \ Stroke Y-axis [mm]	500	800	1000	1200	1500
500	0381592	0381595	0381598	0381601	0381604
800	0381607	0381610	0381613	0381616	0381619
1000	0381622	0381625	0381628	0381631	0381634
1200	0381637	0381640	0381643	0381646	0381649
1500	0381652	0381655	0381658	0381661	0381664



Axis definition

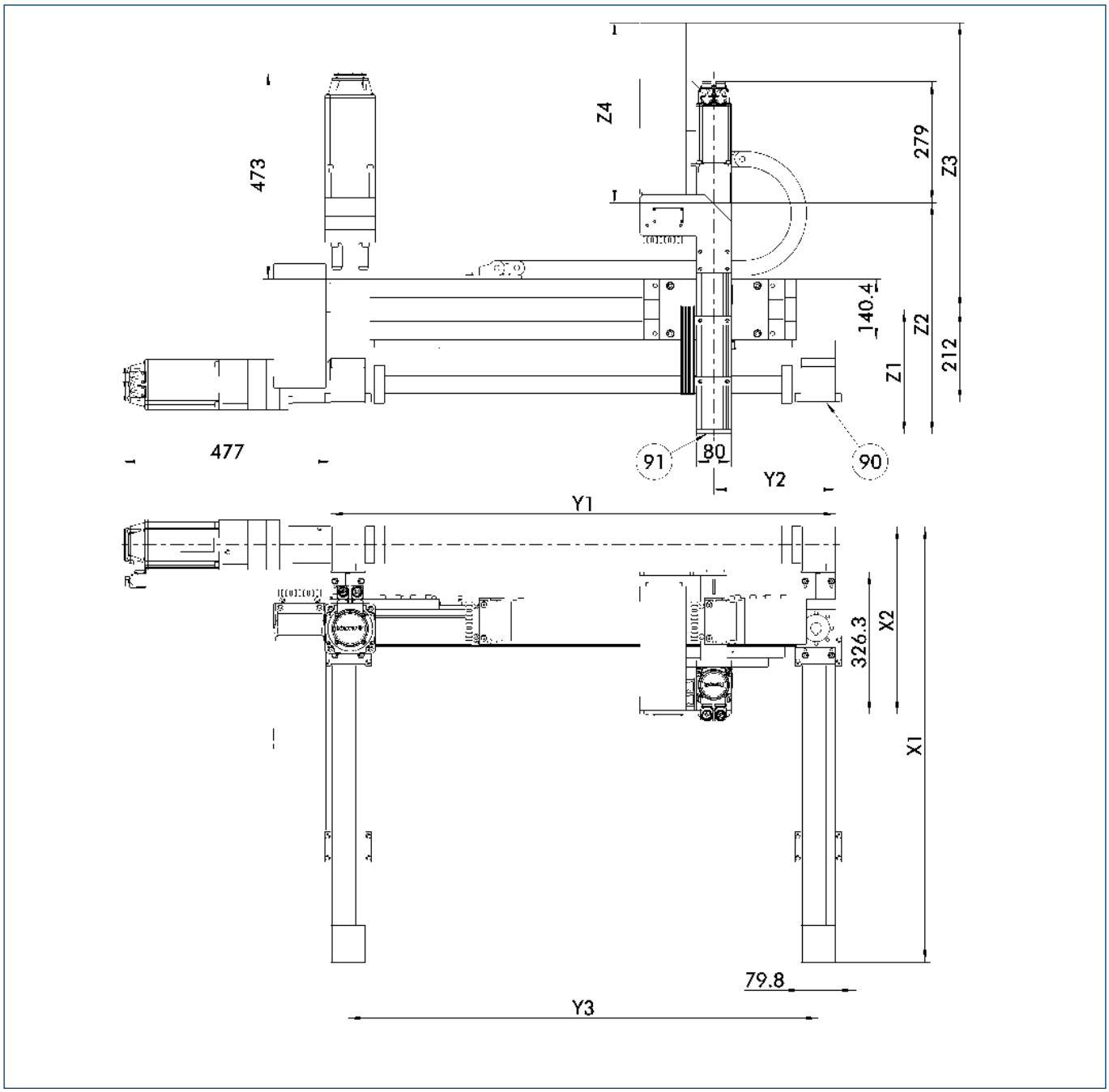


ⓘ If the payload protrudes too far, the maximum permissible forces and torques for the individual axis must be observed. These can be taken off the respective axis. If these values are exceeded, the service life of the axis may suffer.

Technical data

Description	Unit	RPE 200-...-...-...-.
Sample order		RPE 200-X1000-Y1000-Z100-M
Useful load	[kg]	20
X-axis		
Useful stroke	[mm]	500, 800, 1000, 1200, 1500
Acceleration	[m/s²]	5
Speed	[m/s]	1
Repeat accuracy	[mm]	+/- 0.08
Axis type		B 80-ZSS
Drive option		
Drive type		Bosch Rexroth MSK060C
Gear type		Bosch Rexroth GTE120
Y-axis		
Useful stroke	[mm]	500, 800, 1000, 1200, 1500
Acceleration	[m/s²]	5
Speed	[m/s]	1
Repeat accuracy	[mm]	+/- 0.08
Axis type		B 140-ZSS
Drive option		
Drive type		Bosch Rexroth MSK060C
Gear type		Bosch Rexroth GTE120
Z-axis		
Useful stroke	[mm]	100, 300, 500
Acceleration	[m/s²]	2
Speed	[m/s]	0.25
Repeat accuracy	[mm]	+/- 0.03
Axis type		B 80-SSS
Drive option		
Drive type		Bosch Rexroth MSK040B
Gear type		Bosch Rexroth GTE120

Main view



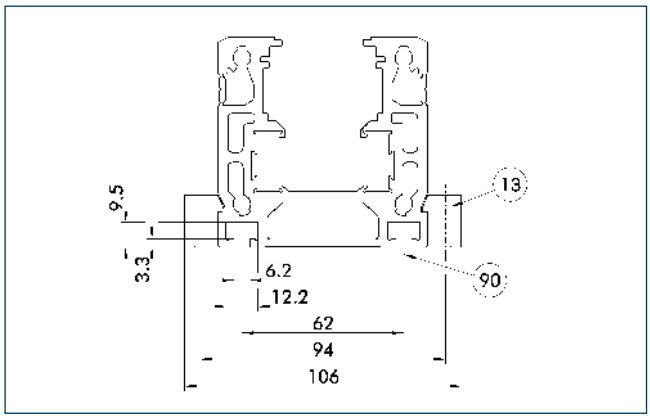
The drawing shows the unit in the basic version.
The options are described in the following drawings.

(90) Gantry connection
(91) Assembly connection
(92) View without pillar assembly system
(93) View with pillar assembly system
(94) Maximum value – continuously adjustable

Variable dimensions

Stroke			Stroke				Stroke				
X-axis [mm]	X_1 [mm]	X_2 [mm]	Y-axis [mm]	Y_1 [mm]	Y_2 [mm]	Y_3 [mm]	Z-axis [mm]	Z_1 [mm]	Z_2 [mm]	Z_3 [mm]	Z_4 [mm]
500	1000	430.3	500	990	280	909.8	100	240	430	638.5	448.5
800	1300	430.3	800	1290	280	1209.8	300	440	630	633.5	443.5
1000	1500	430.3	1000	1490	280	1409.8	500	640	830	633.5	443.5
1200	1700	430.3	1200	1690	280	1609.8					
1500	2000	430.3	1500	1990	280	1909.8					

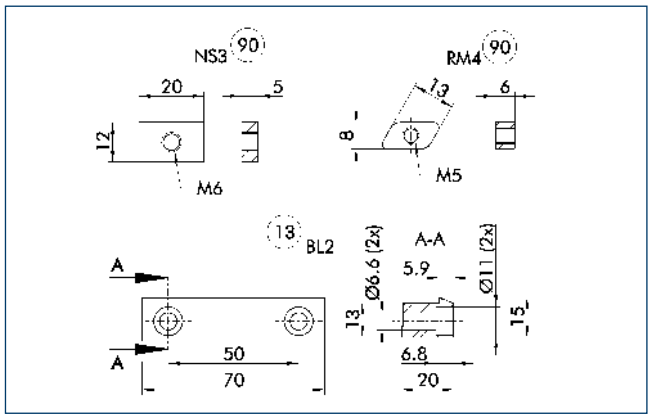
Fastening of the horizontal axis



13 Mounting strip
91 Lateral T-nut
90 T-nut on the bottom side

This drawing shows the position of the mounting options.

Horizontal axis fastening elements

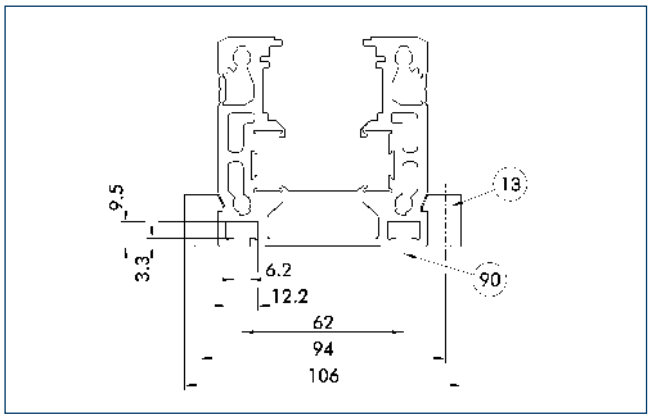


13 Mounting strip
91 Lateral T-nut
90 T-nut on the bottom side

This unit can be secured either by using T-nuts or mounting strips.

Description	ID
Mounting strip	
BL2-70x15x20-01	0331401
T-Nuts	
NS 3-M6	0331406
RM4-M5	0331426

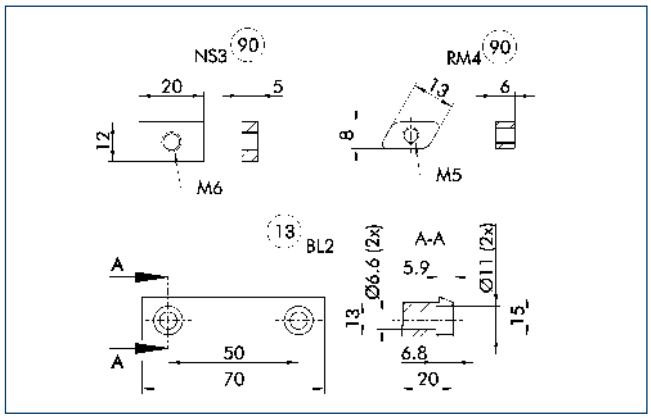
Fastening the vertical axis



13 Mounting strip
91 Lateral T-nut
90 T-nut on the bottom side

This drawing shows the position of the mounting options.

Vertical axis fastening elements



13 Mounting strip
91 Lateral T-nut
90 T-nut on the bottom side

This unit can be secured either by using T-nuts or mounting strips.

Description	ID
Mounting strip	
BL2-70x15x20-01	0331401
T-Nuts	
NS 3-M6	0331406
RM4-M5	0331426

Overview of order numbers

Z = 100 mm –M with motor

Stroke X-axis [mm]	Stroke Y-axis [mm] 500	800	1000	1200	1500
500	0381405	0381408	0381411	0381414	0381417
800	0381420	0381423	0381426	0381429	0381432
1000	0381435	0381438	0381441	0381444	0381447
1200	0381450	0381453	0381456	0381459	0381462
1500	0381465	0381468	0381471	0381474	0381477

Z = 100 mm –0 without motor

Stroke X-axis [mm]	Stroke Y-axis [mm] 500	800	1000	1200	1500
500	0381665	0381668	0381671	0381674	0381677
800	0381680	0381683	0381686	0381689	0381692
1000	0381695	0381698	0381701	0381704	0381707
1200	0381710	0381713	0381716	0381719	0381722
1500	0381725	0381728	0381731	0381734	0381737

Z = 300 mm –M with motor

Stroke X-axis [mm]	Stroke Y-axis [mm] 500	800	1000	1200	1500
500	0381406	0381409	0381412	0381415	0381418
800	0381421	0381424	0381427	0381430	0381433
1000	0381436	0381439	0381442	0381445	0381448
1200	0381451	0381454	0381457	0381460	0381463
1500	0381466	0381469	0381472	0381475	0381478

Z = 300 mm –0 without motor

Stroke X-axis [mm]	Stroke Y-axis [mm] 500	800	1000	1200	1500
500	0381666	0381669	0381672	0381675	0381678
800	0381681	0381684	0381687	0381690	0381693
1000	0381696	0381699	0381702	0381705	0381708
1200	0381711	0381714	0381717	0381720	0381723
1500	0381726	0381729	0381732	0381735	0381738

Z = 500 mm –M with motor

Stroke X-axis [mm]	Stroke Y-axis [mm] 500	800	1000	1200	1500
500	0381407	0381410	0381413	0381416	0381419
800	0381422	0381425	0381428	0381431	0381434
1000	0381437	0381440	0381443	0381446	0381449
1200	0381452	0381455	0381458	0381461	0381464
1500	0381467	0381470	0381473	0381476	0381479

Z = 500 mm –0 without motor

Stroke X-axis [mm]	Stroke Y-axis [mm] 500	800	1000	1200	1500
500	0381667	0381670	0381673	0381676	0381679
800	0381682	0381685	0381688	0381691	0381694
1000	0381697	0381700	0381703	0381706	0381709
1200	0381712	0381715	0381718	0381721	0381724
1500	0381727	0381730	0381733	0381736	0381739

SCHUNK Check-lists for Linear Modules
On the following Pages, you can find Check-lists for describing and preselecting your desired Application.

Check-lists



Check-lists

General Information Linear Modules	610
Pick & Place Units	614
Standard Line and Room Gantries	616

Check-list Linear Modules General Information

1. Task description
Please provide an accurate description of the task.

2. Requirement information (please check or elaborate)

☐ One-time application	☐ Technical improvement
☐ Series, quantities per year:	☐ Cost reduction
☐ New design	☐ Other:

3. Axis information – System configuration (please tick)

☐ x



☐ z



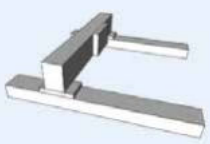
☐ x-x



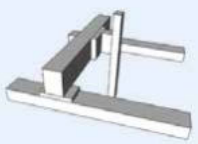
☐ x-x-y



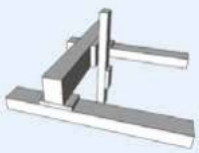
☐ x-x-y



☐ x-x-y-z



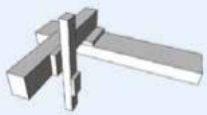
☐ x-x-y-z



☐ x-y



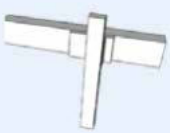
☐ x-y-z



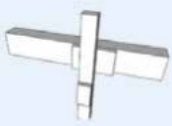
☐ x-y-z



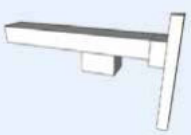
☐ x-z



☐ x-z



☐ x-z



3. Axis information – System configuration
(please tick)

			X-axis horizontal	Y-axis horizontal	Z-axis vertical
Basic information	Payload (load)	[kg]	Slide position: top (1) lateral (2) bottom (3)		
	Slide position: enter relevant number (1 .. 3)				
	Drive type: 1 = toothed belt; 2 = spindle; 3 = rack; 4 = linear direct; 5 = pneumatic				
	Attachment type: Slide motion (standard) Axis motion (cantilever)		☐ Standard ☐ Cantilever	☐ Standard ☐ Cantilever	☐ Standard ☐ Cantilever
	Useful stroke	[mm]			
Load	Additional force (e.g. process force) available? If so, please include additional information in the sketch.		☐ Yes	☐ No	
Dynamics (only for electrical axis)	Speed V_{max}	[m/s]			
	Acceleration a_{max}	[m/s²]			
Emergency stop function			☐ Yes	☐ No	
Operating data	Total cycle time (inc. rest period)	[s]			
	Minimum traveling time for one stroke	[s]			
	Minimum traveling time for one stroke	[s]			
	Operating hours per year	[hrs] on [days]	hrs on days		
Operating pressure (only for pneumatic axis)		[bar]			
Accuracy	Min. repeat accuracy	[mm]			
Environment	Temperature	[°C]			
	Air humidity	[%]			
	Dirt, interference fields, place of use				
Drive concept (only for electrical axis)	Drive components		☐ Motor ☐ Controller ☐ Cable set _____ m (5 m, 10 m, 15 m, 20 m)		
	Manufacturer drive components		☐ Bosch Rexroth Indradrive® CS type ☐ Siemens® Sinamics ☐ _____		
	Interface		☐ Profibus® ☐ Profinet® ☐ EtherCAT® ☐ _____		

Check-list Linear Modules General Information

4. Accessories

	X-axis horizontal	Y-axis horizontal	Z-axis vertical
Mounting strip, number of T-nuts			
Limit switch (mechanical, inductive)			
Drag chain assembly	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no

5. Documentation

☐ SCHUNK standard design Language: English / Scope: mounting instructions, drawing(s), parts list(s) / Delivery type: PDFs on CD-ROM	
☐ Special design (additional cost)	Definition:

6 Cycle table (each system axis considered individually)

Cycle step	Axis	Traverse path [mm]	Permissible travel time [s]	Shutdown after positioning [s]	Additional load (e.g. workpiece) [kg]
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

7. Customer Information

Company

Zip Code/City

Street Number

Project

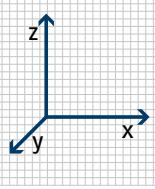
Contact Person

Tel.

E-Mail

Fax

8. Sketch



Check-list Pick & Place Units

1. Task description

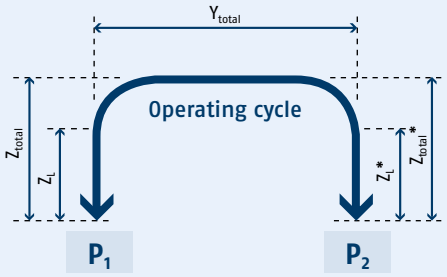
Please provide an accurate description of the task.

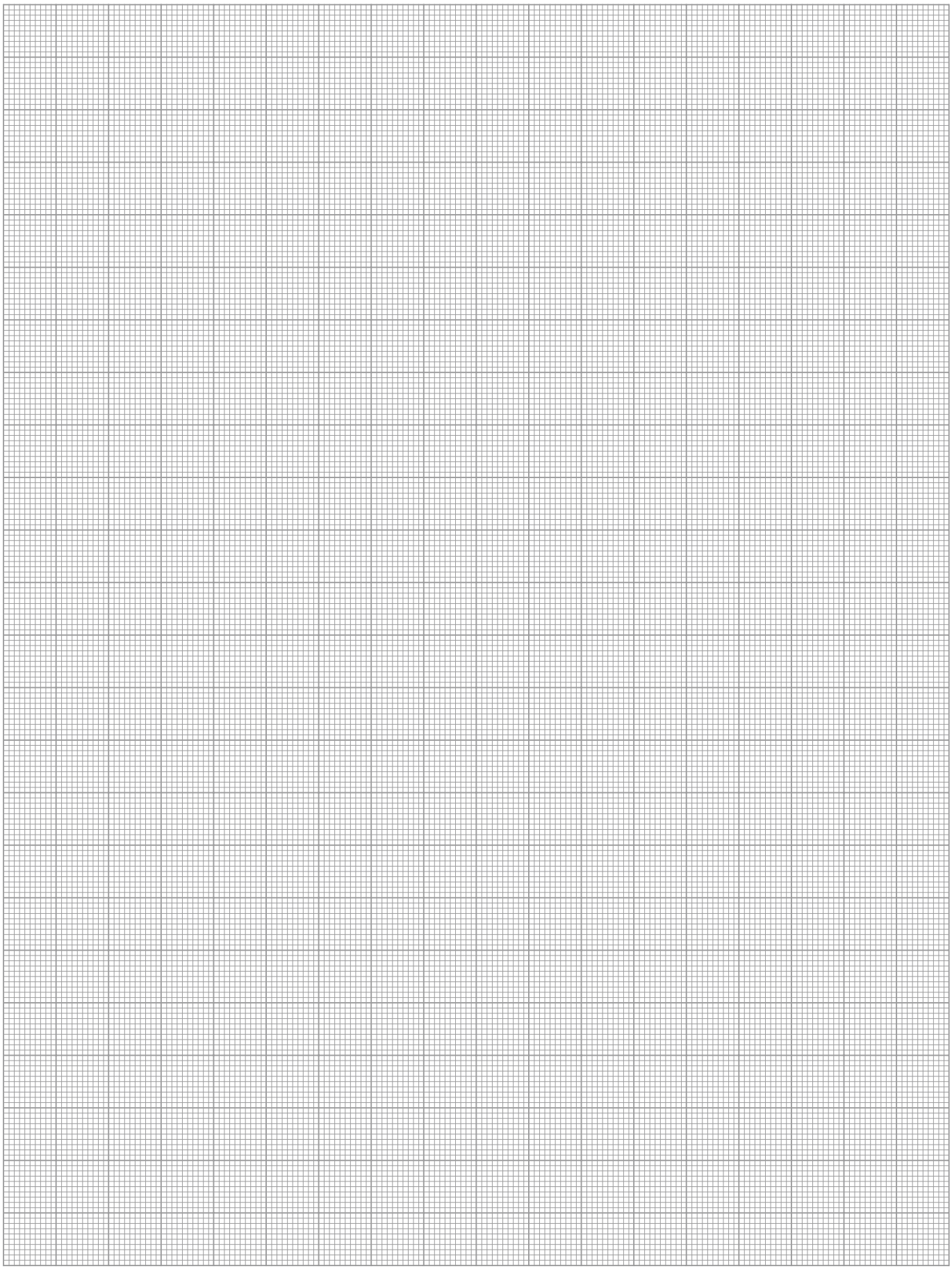
2. Requirement information (please check or complete)

☐ One-time application	☐ Technical improvement
☐ Series, quantity per year:	☐ Cost reduction
☐ New design	☐ Other:

3. System configuration (please check)

Basic information	Payload	m	[kg]		
	Total horizontal stroke	Y_{total}	[mm]		
	Total vertical stroke	Z_{total}	[mm]		
	Linear vertical stroke	Z_L	[mm]		
	Total vertical stroke*	Z_{total*}	[mm]		
	Linear vertical stroke*	Z_{L*}	[mm]		
	Gripping time	P_1	[ms]		
	Gripping time	P_2	[ms]		
	Picks per minute	PPM	[ppm]		
	Repeat accuracy per axis		[mm]		* Only required with different support and storage heights
	Intermediate horizontal positions required			☐ No	☐ Yes, quantity:
	Intermediate vertical positions required			☐ No	☐ Yes, quantity:
Load	Additional force (e.g. process force) available? If so, please include additional information in the sketch.			☐ Yes	☐ No
Dynamics (only for electrical axes)	Speed V_{max}		[m/s]		
	Acceleration a_{max}		[m/s²]		
Operating data	Operating hours per year			hrs on	days
Environment	Temperature		[°C]		
	Air humidity		[%]		
	Dirt, interference fields, place of use				





Check-lists for Standard Line and Room Gantries

1. Task description
Please provide an accurate description of the task.

2. Requirement information (please check or complete)

☐ One-time application	☐ Technical improvement
☐ Series, number of units per year:	☐ Cost reduction
☐ New design	☐ Other:

3. System configuration (please tick)

LPP – Pneumatic line gantries							
Defined payload	[kg]	☐ max. 5					
Horizontal stroke (adjustable up to 50 mm on each side)	[mm]	☐ 300	☐ 400	☐ 500	☐ 600	☐ 700	☐ 800
		☐ 900	☐ 1100	☐ 1200	☐ 1300	☐ 1400	☐ 1500
Vertical stroke (adjustable up to 25 mm on each side)	[mm]	☐ 25	☐ 50	☐ 75	☐ 100	☐ 125	☐ 175
		☐ 225					
Pillar height	[mm]	☐ 400	☐ 600	☐ none			
LPE – Electric line gantries							
Defined payload	[kg]	☐ max. 10	☐ max. 20				
Horizontal stroke Y-axis	[mm]	☐ 500	☐ 800	☐ 1000	☐ 1200	☐ 1500	
Vertical stroke Z-axis	[mm]	☐ 100	☐ 300	☐ 500			
Pillar height	[mm]	☐ 400	☐ 600	☐ 800	☐ none		

3. System configuration (please tick)

RPE – Electric room gantries							
Defined payload	[kg]	☐ max. 10	☐ max. 20				
Horizontal stroke X-axis	[mm]	☐ 500	☐ 800	☐ 1000	☐ 1200	☐ 1500	
Horizontal stroke Y-axis	[mm]	☐ 500	☐ 800	☐ 1000	☐ 1200	☐ 1500	
Vertical stroke Z-axis	[mm]	☐ 100	☐ 300	☐ 500			
Environment							
Temperature	[°C]						
Air humidity	[%]						
Dirt, interference fields, location of use							

Motor (only for LPE and RPE)

☐ with drive (motor, coupling, motor flange), motor type Bosch Rexroth MSK

☐ without drive (drive must be designed and assembled by the customer.)

Note:
Drives from other manufacturers can also be designed and assembled. However, this entails additional expense in project development and construction. Please contact us for assistance.

4. Accessories

Controller	☐ Bosch Rexroth Indradrive® CS				
Interfaces	☐ Profibus®	☐ Profibus®	☐ EtherCAT®	☐	
Cable set length	☐ 5 m	☐ 10 m	☐ 15 m	☐ 20 m	☐ m

5. Documentation

☐ SCHUNK standard design
Language: English / Scope: mounting instructions, drawing(s), parts list(s) / Delivery type: PDFs on CD-ROM

☐ Special design (additional cost)	Definition:

6. Customer Information

Company	Zip Code/City
Street Number	Project
Contact Person	Tel.
E-Mail	Fax

SCHUNK Original Accessories Fit 100%.



Accessories

Assembly System



SAS

Series	Size	Page
SAS		624
SAS	20	626
SAS	35	630
SAS	55	638

Sensor System



Inductive Proximity Switches IN

Series	Size	Page
IN		646
IN	3	648
IN	40	650
IN	50	652
IN	80	654



Inductive Proximity Switches NI

Series	Size	Page
NI		658



Electronic Magnetic Switches MMS

Series	Size	Page
MMS		664
MMS	22	668



Programmable Magnetic Switch MMS PI1

Series	Size	Page
MMS PI1		670
MMS PI1	22	672

Sensor System Accessories



Sensor Tester SST

Series	Size	Page
SST		676



Clip CLI

Series	Size	Page
CLI		680

Cable, Connector, and Distributor



Connection Cable KA

Series	Size	Page
KA		684
KA	M8	686
KA	M9	688

Series	Size	Page
KA	M12	690
KA	M16	692



Cable Connection KBU/KST

Series	Size	Page
KBU/KST		694
KBU/KST	M8	696
KBU/KST	M12	698

Series	Size	Page
KBU/KST	M16	670



Cable Connector KV

Series	Size	Page
KV		702
KV	M8	704
KV	M12	706



Sensor Distributor V

Series	Size	Page
Sensor Distributor		708
Sensor Distributor	Y	710
Sensor Distributor	V2	712

Series	Size	Page
Sensor Distributor	V4	714
Sensor Distributor	V8	716

Fastening Elements



Centering Element ZHU/ZH/RMZ/LMZL

Series	Size	Page
Centering Element		718
Centering Element	ZHU	720
Centering Element	RMZ	722

Series	Size	Page
Centering Element	LMZL	724

Valves and Screw Connection



Elbow Fittings WV

Series	Size	Page
WV		726



Swivel Fittings SWV

Series	Size	Page
SWV		730



Banjo Fittings with One-way Flow Control Valves DRV

Series	Size	Page
DRV		734



Pressure Maintenance Valve SDV-P

Series	Size	Page
SDV-P		738

Modular. Robust. Flexible.

SAS

Pillars, hard-chromium plated, ground

Field of Application

For the construction of system modules from SCHUNK assembly automation, for all kinds of constructions in clean or dirty environments. The numerous clamping elements ensure manifold combinations of pillars and support plates.



Advantages – Your benefits

Steel pillars for high rigidity and movement free from vibrations

Precise form and position tolerance for high accuracy, even with long pillars

Several pillar diameters for minimum interfering contours of the entire system

Options and special Information

We are also supplying pillars for your assembly in customized lengths. Please contact us.

Application Example



① **Adjustment Unit VEH**

② **Pillar Assembly System**

③ **Media Routing**

SCHUNK offers more ...

The following components make the product SAS even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Pneumatic Linear Module LM



Pneumatic Linear Module KLM



Pneumatic Linear Module CLM



Electric Linear Module ELM

ⓘ Additional information regarding the products can be found on the following product pages or at schunk.com.
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

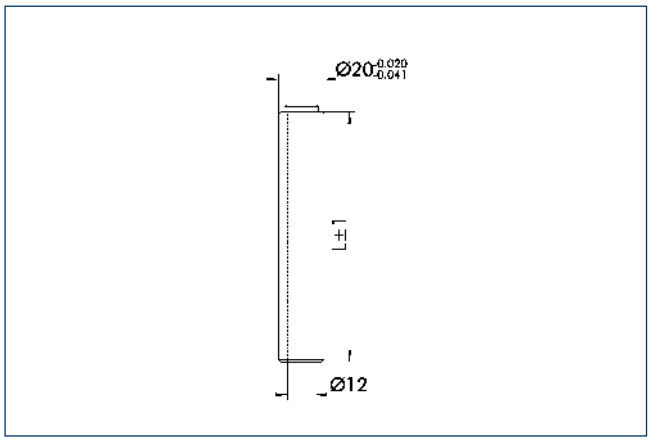
SAS 20



Technical data

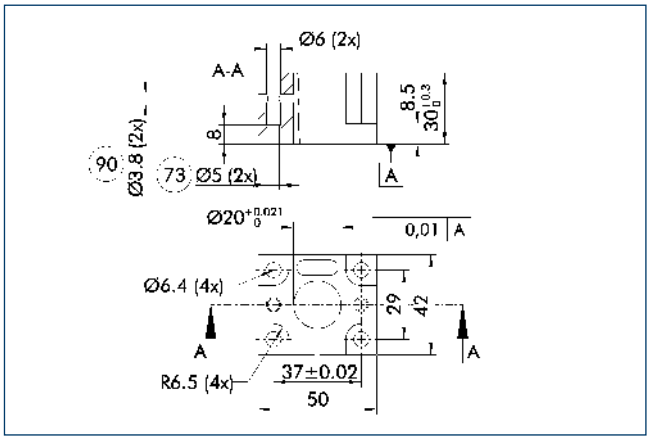
Description	ID	Material	Length	Pillar diameter
			[mm]	[mm]
SLH 20-0100	0313620	Steel	100	20
SLH 20-0110	0313621	Steel	110	20
SLH 20-0120	0313622	Steel	120	20
SLH 20-0130	0313623	Steel	130	20
SLH 20-0140	0313624	Steel	140	20
SLH 20-0150	0313625	Steel	150	20
SLH 20-0160	0313626	Steel	160	20
SLH 20-0170	0313627	Steel	170	20
SLH 20-0180	0313628	Steel	180	20
SLH 20-0190	0313629	Steel	190	20
SLH 20-0200	0313630	Steel	200	20
SLH 20-0210	0313631	Steel	210	20
SLH 20-0220	0313632	Steel	220	20
SLH 20-0230	0313633	Steel	230	20
SLH 20-0240	0313634	Steel	240	20
SLH 20-0250	0313635	Steel	250	20
SLH 20-0260	0313636	Steel	260	20
SLH 20-0270	0313637	Steel	270	20
SLH 20-0280	0313638	Steel	280	20
SLH 20-0290	0313639	Steel	290	20
SLH 20-0300	0313640	Steel	300	20
SLH 20-0310	0313641	Steel	310	20
SLH 20-0320	0313642	Steel	320	20
SLH 20-0330	0313643	Steel	330	20
SLH 20-0340	0313644	Steel	340	20
SLH 20-0350	0313645	Steel	350	20
SLH 20-0360	0313646	Steel	360	20
SLH 20-0370	0313647	Steel	370	20
SLH 20-0380	0313648	Steel	380	20
SLH 20-0390	0313649	Steel	390	20
SLH 20-0400	0313650	Steel	400	20
SLH 20-0410	0313651	Steel	410	20
SLH 20-0420	0313652	Steel	420	20
SLH 20-0430	0313653	Steel	430	20
SLH 20-0440	0313654	Steel	440	20
SLH 20-0450	0313655	Steel	450	20
SLH 20-0460	0313656	Steel	460	20
SLH 20-0470	0313657	Steel	470	20
SLH 20-0480	0313658	Steel	480	20
SLH 20-0490	0313659	Steel	490	20
SLH 20-0500	0313660	Steel	500	20

Hollow pillar SLH



The hollow pillars SLH can be also ordered in customized lengths. Please contact us for support.

Single base support SOE 020



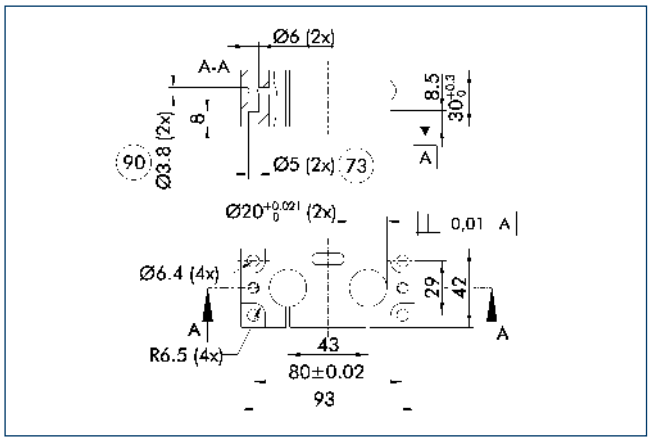
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Base support for fastening the pillars.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Base support			
SOE 20	0313611	20	Aluminum

Double base support SOD 020



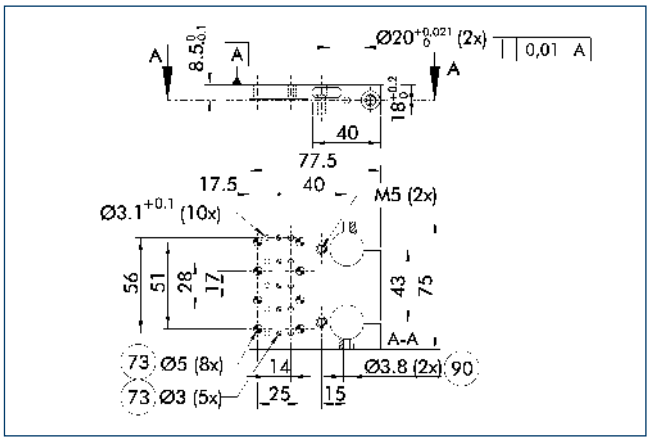
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Base support for fastening the pillars.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Base support			
SOD 20	0313612	20	Aluminum

Horizontal double mounting plate APDH 020



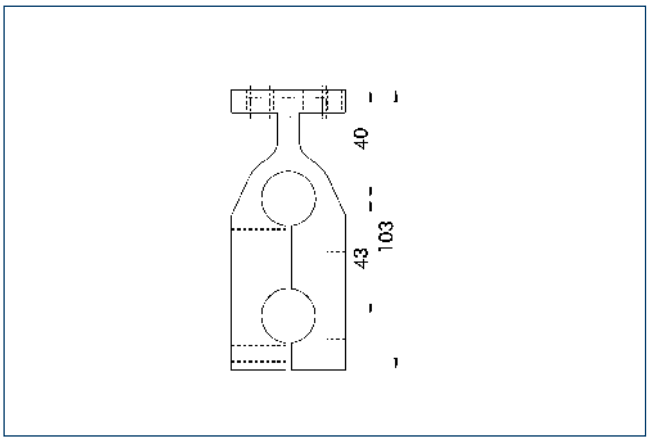
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APDH 20	0313614	20	Aluminum

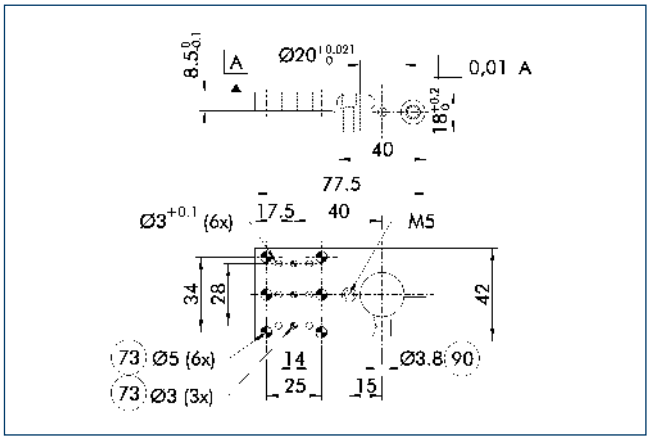
Vertical double mounting plate APDV 020



Mounting plate for vertical connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APDV 20	0313616	20	Aluminum

Horizontal single mounting plate APEH 020



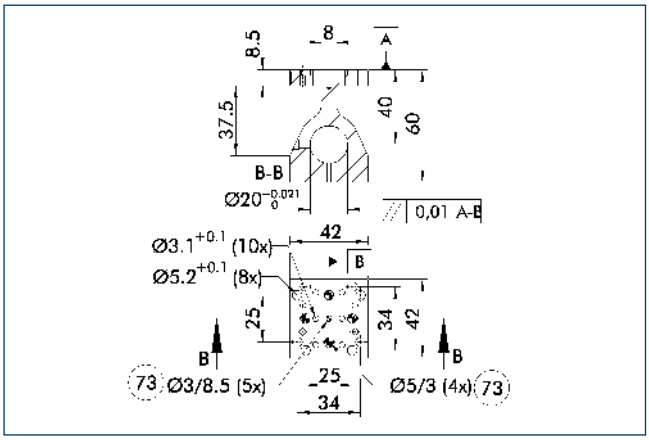
73 Fit for centering pins

90 Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APEH 20	0313613	20	Aluminum

Vertical single mounting plate APEV 020

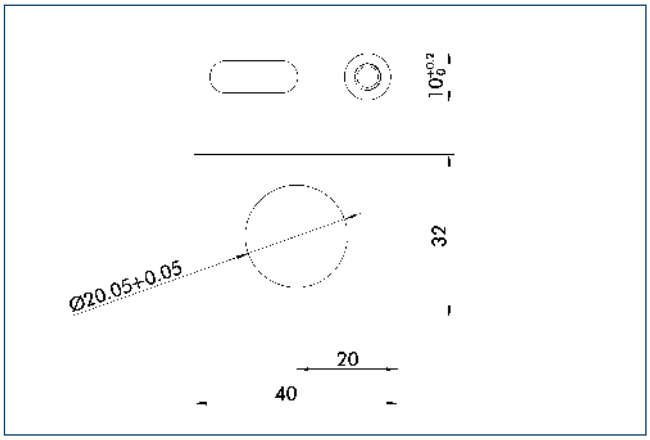


73 Fit for centering pins

Mounting plate for vertical connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APEV 20	0313615	20	Aluminum

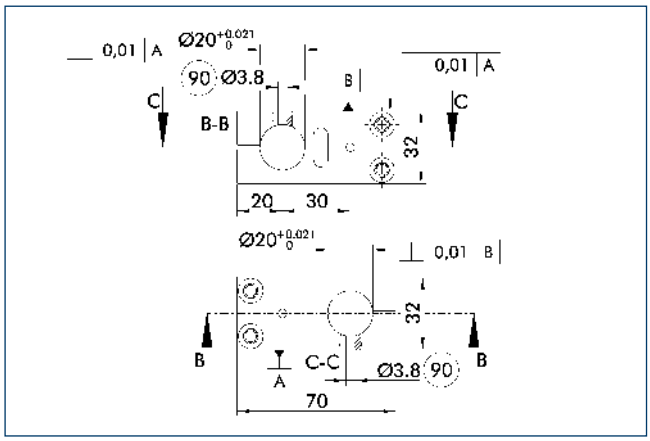
Adjustment ring STR 020



Adjustment ring for exact positioning of structural elements.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Adjustment ring			
STR 20	0313617	20	Aluminum

Cross connector KVB 020

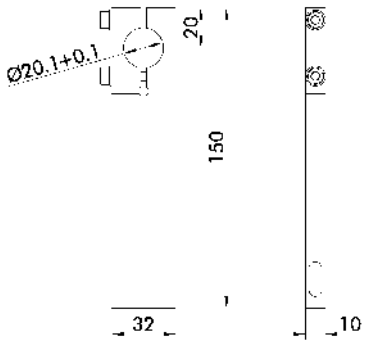


(90) Auxiliary hole for centering the pillar

Cross connector for implementing perpendicular extended variants.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Cross connector			
KVB 20	0313618	20	Aluminum

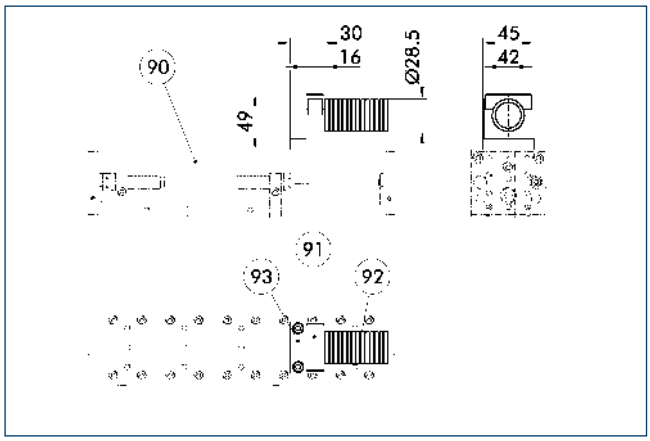
Mounting plate MPL 020



Mounting plate for extending and supporting the pillar assembly system

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
MPL 20	0313619	20	Aluminum

Media routing module hose Ø 21

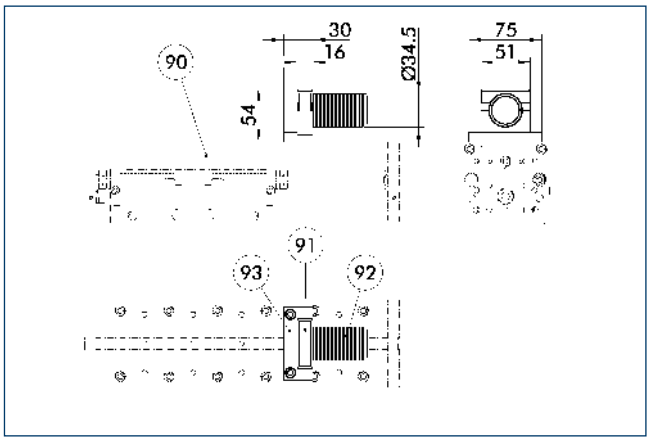


(90) Linear module
(91) Hose mounting MFB
(92) Hose MFS
(93) Hose plate SPL

Media routing with direct mounting on SCHUNK standard modules.

Description	ID	
Pillar assembly system: Media routing		
MFB 21	0313676	
SPL 50	0313692	

Media routing module hose Ø 29



(90) Linear module
(91) Hose mounting MFB
(92) Hose MFS
(93) Hose plate SPL

Media routing with direct mounting on SCHUNK standard modules.

Description	ID	
Pillar assembly system: Media routing		
MFB 29	0313677	
SPL 200	0313693	

SAS 35

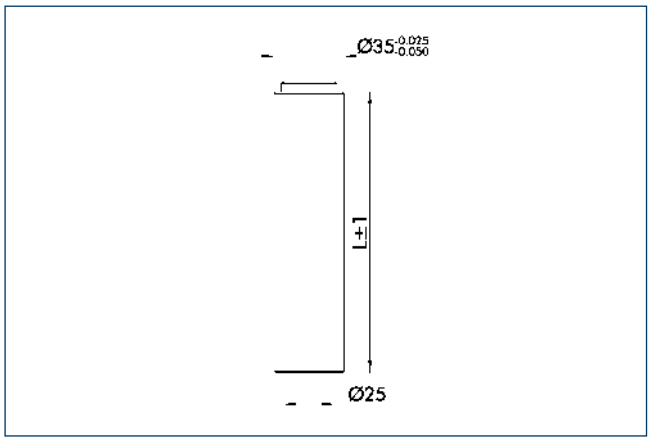


Technical data

Description	ID	Material	Length	Pillar diameter
			[mm]	[mm]
SLH-035-0100	0313800	Steel	100	35
SLH-035-0110	0313801	Steel	110	35
SLH-035-0120	0313802	Steel	120	35
SLH-035-0130	0313803	Steel	130	35
SLH-035-0140	0313804	Steel	140	35
SLH-035-0150	0313805	Steel	150	35
SLH-035-0160	0313806	Steel	160	35
SLH-035-0170	0313807	Steel	170	35
SLH-035-0180	0313808	Steel	180	35
SLH-035-0190	0313809	Steel	190	35
SLH-035-0200	0313810	Steel	200	35
SLH-035-0210	0313811	Steel	210	35
SLH-035-0220	0313812	Steel	220	35
SLH-035-0230	0313813	Steel	230	35
SLH-035-0240	0313814	Steel	240	35
SLH-035-0250	0313815	Steel	250	35
SLH-035-0260	0313816	Steel	260	35
SLH-035-0270	0313817	Steel	270	35
SLH-035-0280	0313818	Steel	280	35
SLH-035-0290	0313819	Steel	290	35
SLH-035-0300	0313820	Steel	300	35
SLH-035-0310	0313821	Steel	310	35
SLH-035-0320	0313822	Steel	320	35
SLH-035-0330	0313823	Steel	330	35
SLH-035-0340	0313824	Steel	340	35
SLH-035-0350	0313825	Steel	350	35
SLH-035-0360	0313826	Steel	360	35
SLH-035-0370	0313827	Steel	370	35
SLH-035-0380	0313828	Steel	380	35
SLH-035-0390	0313829	Steel	390	35
SLH-035-0400	0313830	Steel	400	35
SLH-035-0410	0313831	Steel	410	35
SLH-035-0420	0313832	Steel	420	35
SLH-035-0430	0313833	Steel	430	35
SLH-035-0440	0313834	Steel	440	35
SLH-035-0450	0313835	Steel	450	35
SLH-035-0460	0313836	Steel	460	35
SLH-035-0470	0313837	Steel	470	35
SLH-035-0480	0313838	Steel	480	35
SLH-035-0490	0313839	Steel	490	35
SLH-035-0500	0313840	Steel	500	35
SLH-035-0510	0313841	Steel	510	35
SLH-035-0520	0313842	Steel	520	35
SLH-035-0530	0313843	Steel	530	35

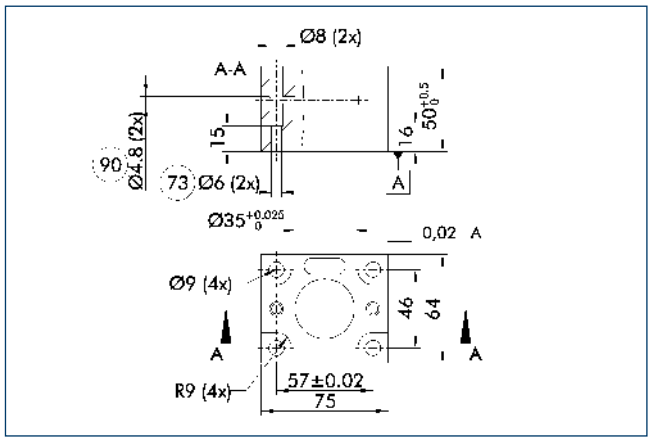
Description	ID	Material	Length	Pillar diameter
			[mm]	[mm]
SLH-035-0540	0313844	Steel	540	35
SLH-035-0550	0313845	Steel	550	35
SLH-035-0560	0313846	Steel	560	35
SLH-035-0570	0313847	Steel	570	35
SLH-035-0580	0313848	Steel	580	35
SLH-035-0590	0313849	Steel	590	35
SLH-035-0600	0313850	Steel	600	35
SLH-035-0610	0313851	Steel	610	35
SLH-035-0620	0313852	Steel	620	35
SLH-035-0630	0313853	Steel	630	35
SLH-035-0640	0313854	Steel	640	35
SLH-035-0650	0313855	Steel	650	35
SLH-035-0660	0313856	Steel	660	35
SLH-035-0670	0313857	Steel	670	35
SLH-035-0680	0313858	Steel	680	35
SLH-035-0690	0313859	Steel	690	35
SLH-035-0700	0313860	Steel	700	35
SLH-035-0710	0313861	Steel	710	35
SLH-035-0720	0313862	Steel	720	35
SLH-035-0730	0313863	Steel	730	35
SLH-035-0740	0313864	Steel	740	35
SLH-035-0750	0313865	Steel	750	35
SLH-035-0760	0313866	Steel	760	35
SLH-035-0770	0313867	Steel	770	35
SLH-035-0780	0313868	Steel	780	35
SLH-035-0790	0313869	Steel	790	35
SLH-035-0800	0313870	Steel	800	35
SLH-035-0810	0313871	Steel	810	35
SLH-035-0820	0313872	Steel	820	35
SLH-035-0830	0313873	Steel	830	35
SLH-035-0840	0313874	Steel	840	35
SLH-035-0850	0313875	Steel	850	35
SLH-035-0860	0313876	Steel	860	35
SLH-035-0870	0313877	Steel	870	35
SLH-035-0880	0313878	Steel	880	35
SLH-035-0890	0313879	Steel	890	35
SLH-035-0900	0313880	Steel	900	35
SLH-035-0910	0313881	Steel	910	35
SLH-035-0920	0313882	Steel	920	35
SLH-035-0930	0313883	Steel	930	35
SLH-035-0940	0313884	Steel	940	35
SLH-035-0950	0313885	Steel	950	35
SLH-035-0960	0313886	Steel	960	35
SLH-035-0970	0313887	Steel	970	35
SLH-035-0980	0313888	Steel	980	35
SLH-035-0990	0313889	Steel	990	35
SLH-035-1000	0313890	Steel	1000	35

Hollow pillar SLH



The hollow pillars SLH can be also ordered in customized lengths.
Please contact us for support.

Single base support SOE 035



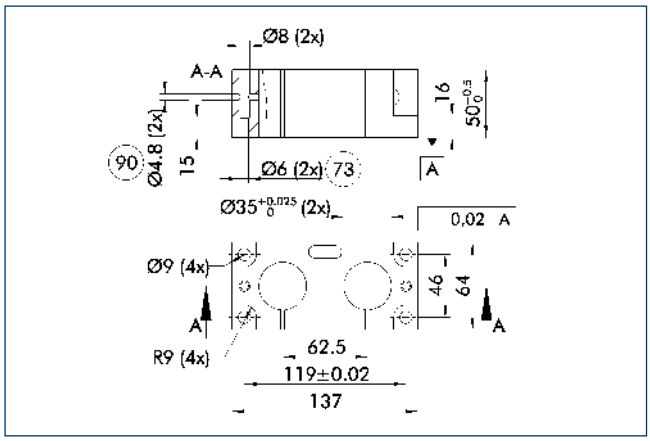
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Base support for fastening the pillars.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Base support			
SOE 35	0313891	35	Aluminum

Double base support SOD 035



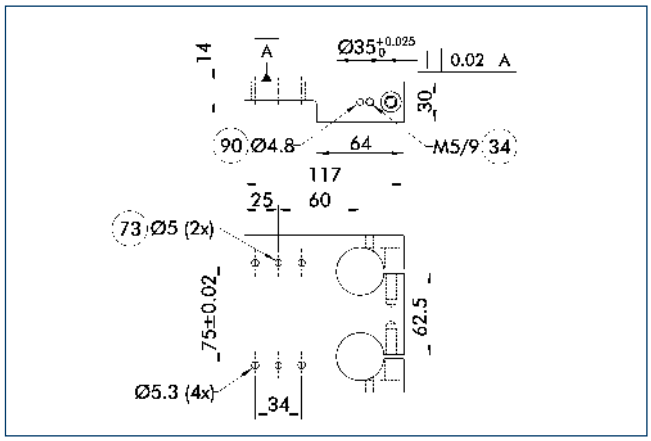
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Base support for fastening the pillars.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Base support			
SOD 35	0313892	35	Aluminum

Horizontal double mounting plate AMDH 035



(34) On both sides

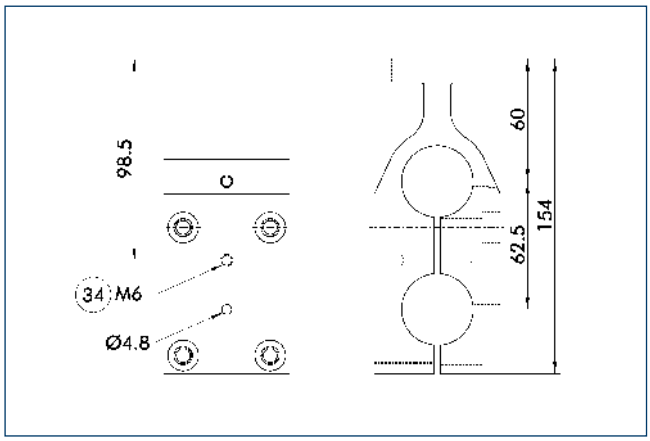
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
AMDH 35	0313688	35	Aluminum

Vertical double mounting plate AMDV 035

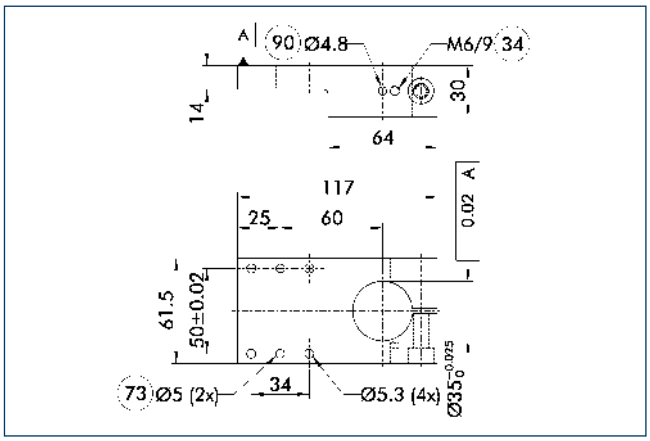


(34) On both sides

Mounting plate for vertical connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
AMDV 35	0313690	35	Aluminum

Horizontal single mounting plate AMEH 035

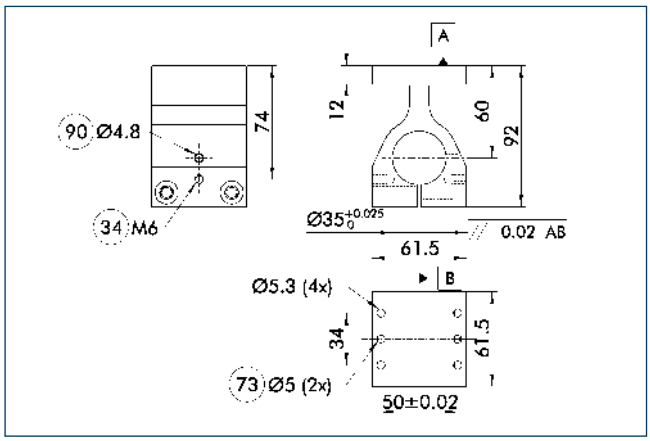


(34) On both sides
(73) Fit for centering pins
(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
AMEH 35	0313687	35	Aluminum

Vertical single mounting plate AMEV 035

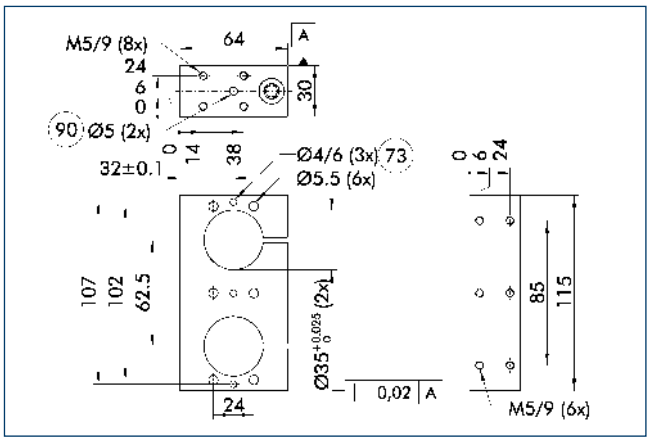


(34) On both sides
(73) Fit for centering pins
(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
AMEV 35	0313689	35	Aluminum

Horizontal double mounting plate APDA 035

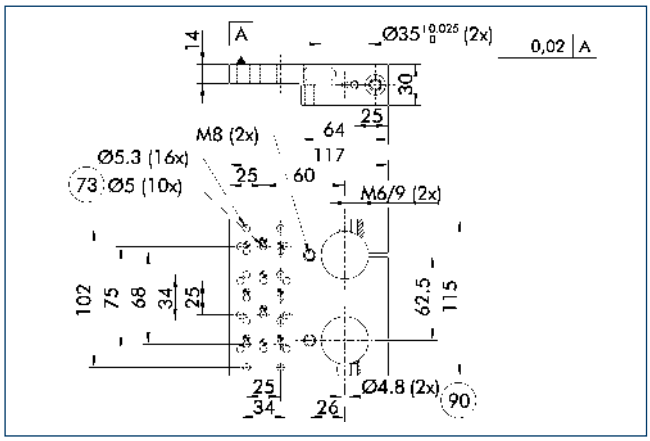


(73) Fit for centering pins
(90) Auxiliary hole for centering the pillar

Mounting plate for axial connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APDA 35	0313477	35	Aluminum

Horizontal double mounting plate APDH 035



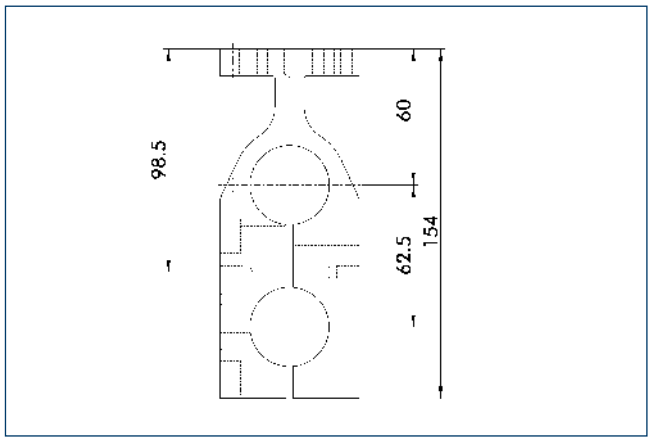
73 Fit for centering pins

90 Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APDH 35	0313894	35	Aluminum

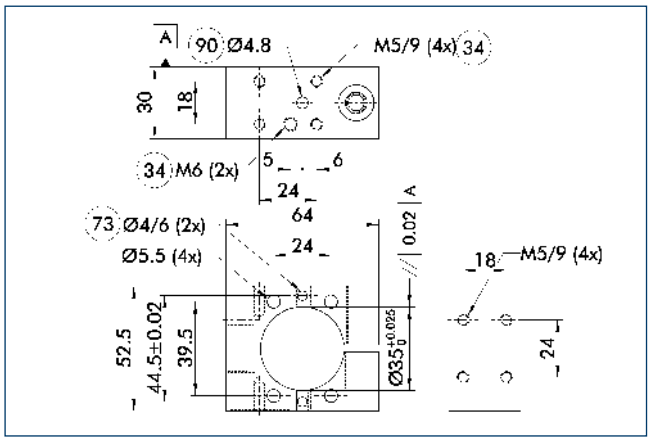
Vertical double mounting plate APDV 035



Mounting plate for vertical connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APDV 35	0313896	35	Aluminum

Axial single mounting plate APEA 035



34 On both sides

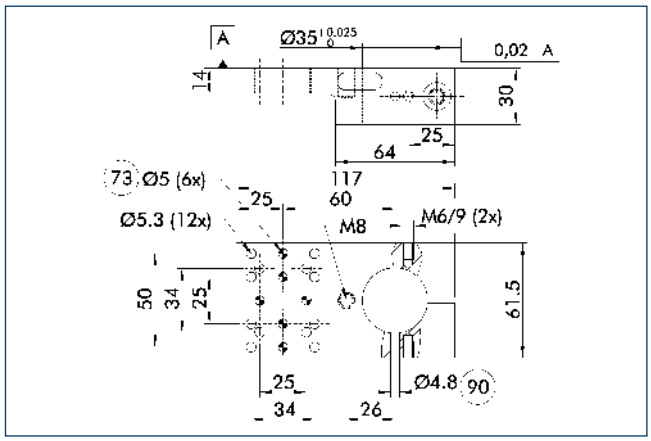
73 Fit for centering pins

90 Auxiliary hole for centering the pillar

Mounting plate for axial connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APEA 35	0313686	35	Aluminum

Horizontal single mounting plate APEH 035



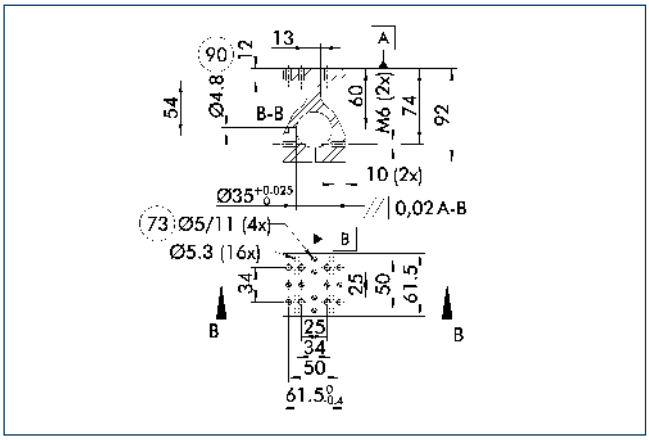
73 Fit for centering pins

90 Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APEH 35	0313893	35	Aluminum

Vertical single mounting plate APEV 035



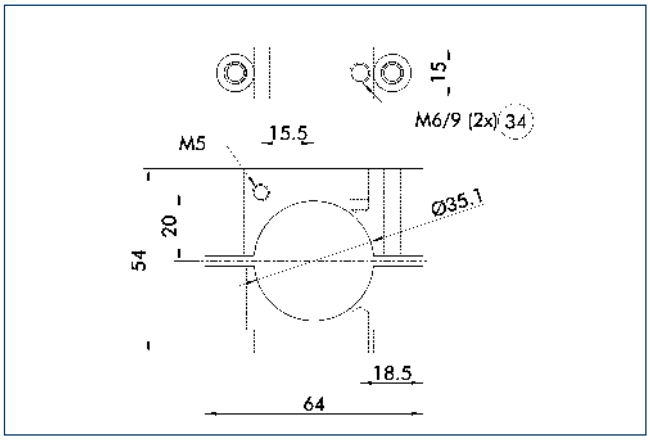
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Mounting plate for vertical connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APEV 35	0313895	35	Aluminum

Adjustment ring STG 035

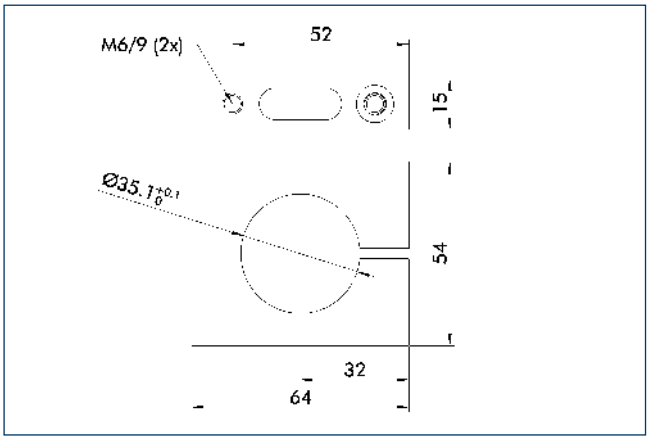


(34) On both sides

Adjustment ring for exact positioning of structural elements.

Description	ID	Material
Pillar assembly system: Adjustment ring		
STG 35	0313691	Aluminum

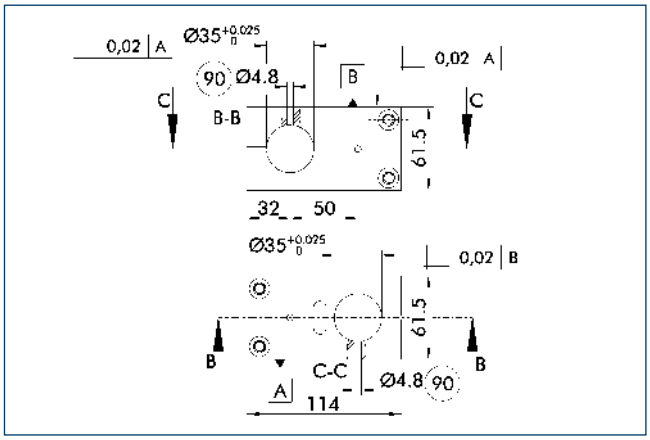
Adjustment ring STR 035



Adjustment ring for exact positioning of structural elements.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Adjustment ring			
STR 35	0313897	35	Aluminum

Cross connector KVB 035

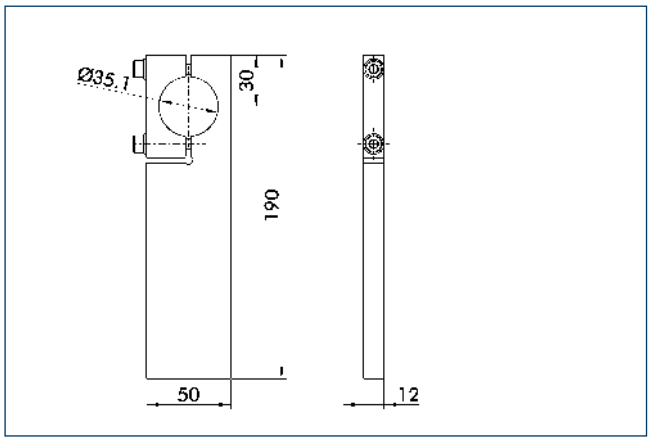


(90) Auxiliary hole for centering the pillar

Cross connector for implementing perpendicular extended variants.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Cross connector			
KVB 35	0313898	35	Aluminum

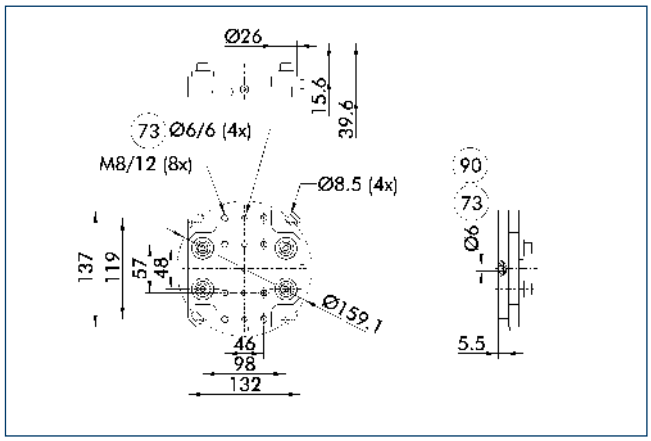
Mounting plate MPL 035



Mounting plate for extending and supporting the pillar assembly system

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
MPL 35	0313899	35	Aluminum

Adjustment unit VEH 035



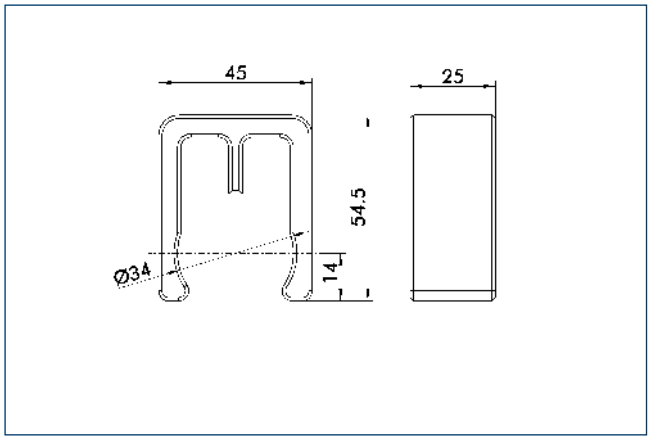
73 Fit for centering pins

90 Centring as an axis of rotation

Adjustment unit for easy fine adjustment of the finished handling assembly.

Description	ID	Adjustment range XY	Adjustment angle Z
		[mm]	[°]
Pillar assembly system: Adjustment unit			
VEH 35	0313513	±4	±3

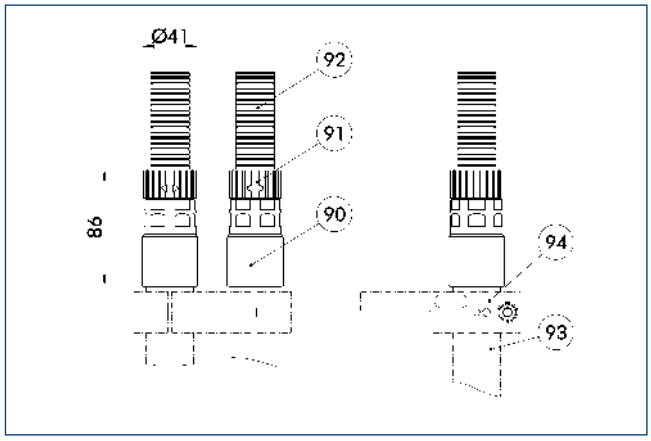
Media routing clip MFC 035



Clip for orderly media routing along pillars.

Description	ID	
Pillar assembly system: Media routing		
MFC 35	0313695	

Media routing pillars Ø 35



90 Cap MFK

91 Screw connection MFV

92 Hose MFS

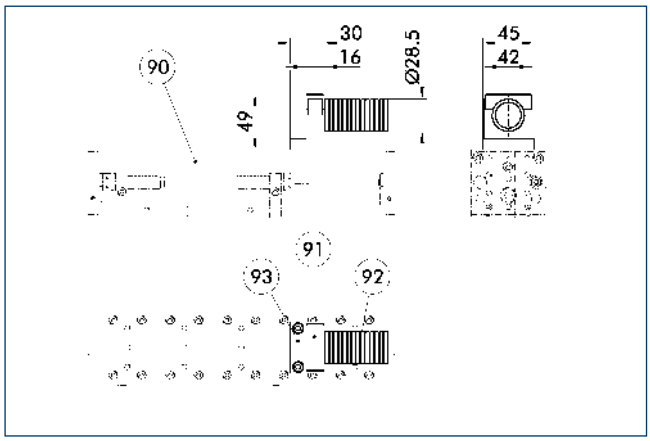
93 Hollow pillar SLH

94 Mounting plates

Media routings for feeding through the supply lines through the hollow pillars.

Description	ID	
Pillar assembly system: Media routing		
MFK 35-21	0313696	
MFS 21	0313678	
MFV 21	0313674	

Media routing module hose Ø 21

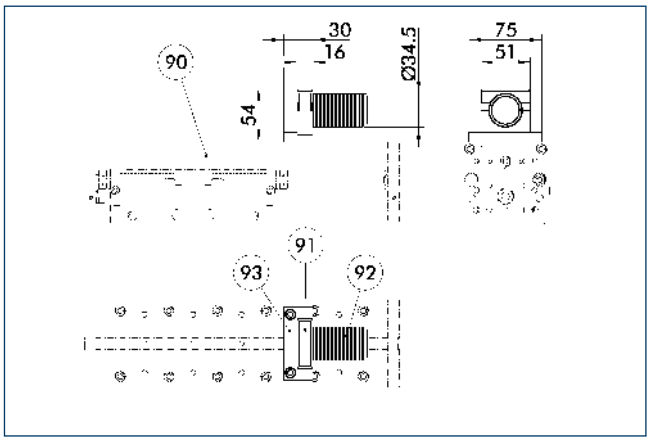


(90) Linear module
(91) Hose mounting MFB
(92) Hose MFS
(93) Hose plate SPL

Media routing with direct mounting on SCHUNK standard modules.

Description	ID	
Pillar assembly system: Media routing		
MFB 21	0313676	
SPL 50	0313692	

Media routing module hose Ø 29



(90) Linear module
(91) Hose mounting MFB
(92) Hose MFS
(93) Hose plate SPL

Media routing with direct mounting on SCHUNK standard modules.

Description	ID	
Pillar assembly system: Media routing		
MFB 29	0313677	
SPL 200	0313693	

SAS 55

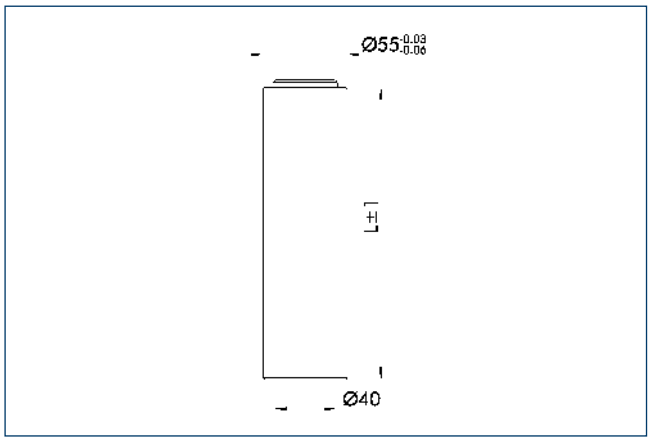


Technical data

Description	ID	Material	Length	Pillar diameter
			[mm]	[mm]
SLH-055-0150	0313700	Steel	150	55
SLH-055-0160	0313701	Steel	160	55
SLH-055-0170	0313702	Steel	170	55
SLH-055-0180	0313703	Steel	180	55
SLH-055-0190	0313704	Steel	190	55
SLH-055-0200	0313705	Steel	200	55
SLH-055-0210	0313706	Steel	210	55
SLH-055-0220	0313707	Steel	220	55
SLH-055-0230	0313708	Steel	230	55
SLH-055-0240	0313709	Steel	240	55
SLH-055-0250	0313710	Steel	250	55
SLH-055-0260	0313711	Steel	260	55
SLH-055-0270	0313712	Steel	270	55
SLH-055-0280	0313713	Steel	280	55
SLH-055-0290	0313714	Steel	290	55
SLH-055-0300	0313715	Steel	300	55
SLH-055-0310	0313716	Steel	310	55
SLH-055-0320	0313717	Steel	320	55
SLH-055-0330	0313718	Steel	330	55
SLH-055-0340	0313719	Steel	340	55
SLH-055-0350	0313720	Steel	350	55
SLH-055-0360	0313721	Steel	360	55
SLH-055-0370	0313722	Steel	370	55
SLH-055-0380	0313723	Steel	380	55
SLH-055-0390	0313724	Steel	390	55
SLH-055-0400	0313725	Steel	400	55
SLH-055-0410	0313726	Steel	410	55
SLH-055-0420	0313727	Steel	420	55
SLH-055-0430	0313728	Steel	430	55
SLH-055-0440	0313729	Steel	440	55
SLH-055-0450	0313730	Steel	450	55
SLH-055-0460	0313731	Steel	460	55
SLH-055-0470	0313732	Steel	470	55
SLH-055-0480	0313733	Steel	480	55
SLH-055-0490	0313734	Steel	490	55
SLH-055-0500	0313735	Steel	500	55
SLH-055-0510	0313736	Steel	510	55
SLH-055-0520	0313737	Steel	520	55
SLH-055-0530	0313738	Steel	530	55
SLH-055-0540	0313739	Steel	540	55
SLH-055-0550	0313740	Steel	550	55
SLH-055-0560	0313741	Steel	560	55
SLH-055-0570	0313742	Steel	570	55
SLH-055-0580	0313743	Steel	580	55

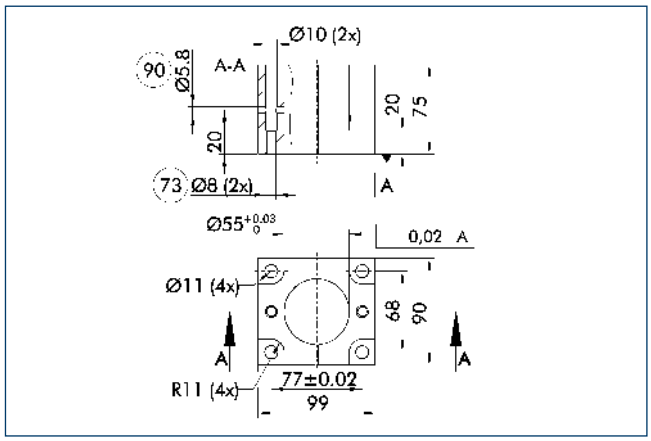
Description	ID	Material	Length	Pillar diameter
			[mm]	[mm]
SLH-055-0590	0313744	Steel	590	55
SLH-055-0600	0313745	Steel	600	55
SLH-055-0610	0313746	Steel	610	55
SLH-055-0620	0313747	Steel	620	55
SLH-055-0630	0313748	Steel	630	55
SLH-055-0640	0313749	Steel	640	55
SLH-055-0650	0313750	Steel	650	55
SLH-055-0660	0313751	Steel	660	55
SLH-055-0670	0313752	Steel	670	55
SLH-055-0680	0313753	Steel	680	55
SLH-055-0690	0313754	Steel	690	55
SLH-055-0700	0313755	Steel	700	55
SLH-055-0710	0313756	Steel	710	55
SLH-055-0720	0313757	Steel	720	55
SLH-055-0730	0313758	Steel	730	55
SLH-055-0740	0313759	Steel	740	55
SLH-055-0750	0313760	Steel	750	55
SLH-055-0760	0313761	Steel	760	55
SLH-055-0770	0313762	Steel	770	55
SLH-055-0780	0313763	Steel	780	55
SLH-055-0790	0313764	Steel	790	55
SLH-055-0800	0313765	Steel	800	55
SLH-055-0810	0313766	Steel	810	55
SLH-055-0820	0313767	Steel	820	55
SLH-055-0830	0313768	Steel	830	55
SLH-055-0840	0313769	Steel	840	55
SLH-055-0850	0313770	Steel	850	55
SLH-055-0860	0313771	Steel	860	55
SLH-055-0870	0313772	Steel	870	55
SLH-055-0880	0313773	Steel	880	55
SLH-055-0890	0313774	Steel	890	55
SLH-055-0900	0313775	Steel	900	55
SLH-055-0910	0313776	Steel	910	55
SLH-055-0920	0313777	Steel	920	55
SLH-055-0930	0313778	Steel	930	55
SLH-055-0940	0313779	Steel	940	55
SLH-055-0950	0313780	Steel	950	55
SLH-055-0960	0313781	Steel	960	55
SLH-055-0970	0313782	Steel	970	55
SLH-055-0980	0313783	Steel	980	55
SLH-055-0990	0313784	Steel	990	55
SLH-055-1000	0313785	Steel	1000	55

Hollow pillar SLH



The hollow pillars SLH can be also ordered in customized lengths.
Please contact us for support.

Single base support SOE 055



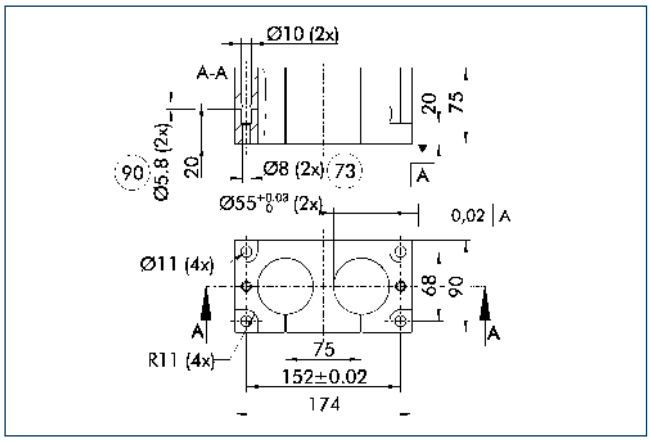
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Base support for fastening the pillars.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Base support			
SOE 55	0313408	55	Aluminum

Double base support SOD 055



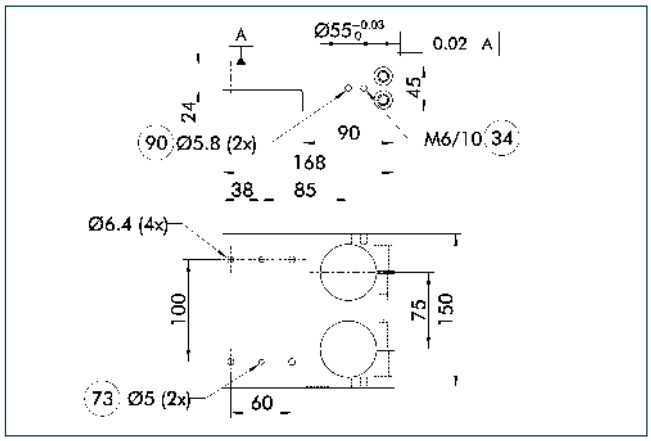
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Base support for fastening the pillars.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Base support			
SOD 55	0313409	55	Aluminum

Horizontal double mounting plate AMDH 055



(34) On both sides

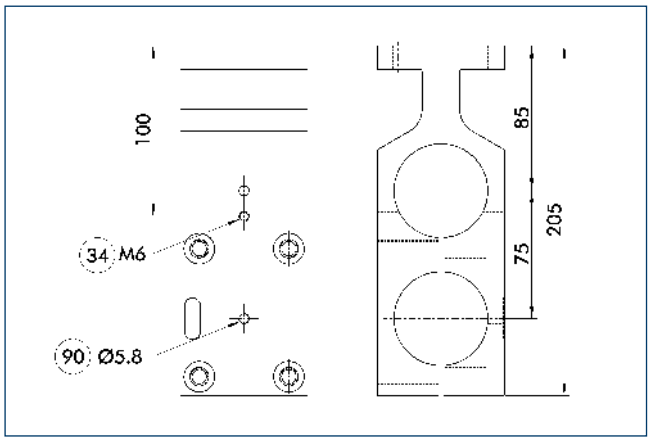
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
AMDH 55	0313682	55	Aluminum

Vertical double mounting plate AMDV 055

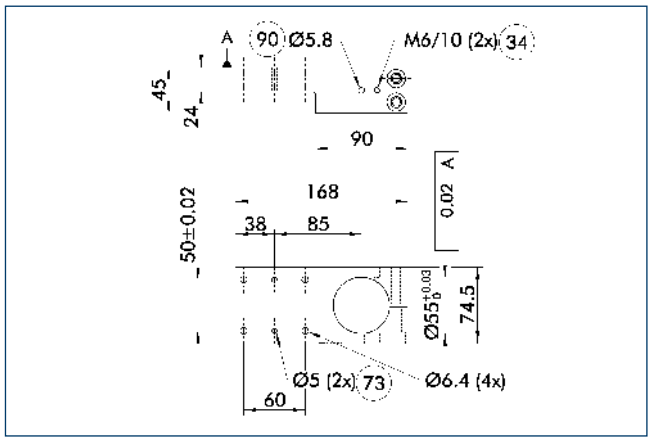


(34) On both sides
(90) Auxiliary hole for centering the pillar

Mounting plate for vertical connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
AMDV 55	0313684	55	Aluminum

Horizontal single mounting plate AMEH 055

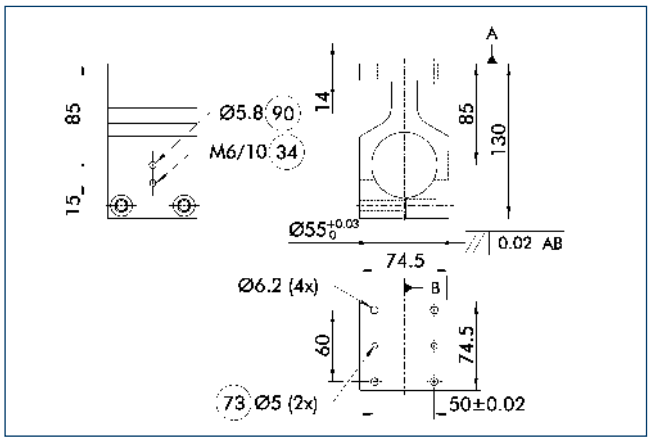


(34) On both sides
(73) Fit for centering pins
(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
AMEH 55	0313681	55	Aluminum

Vertical single mounting plate AMEV 055

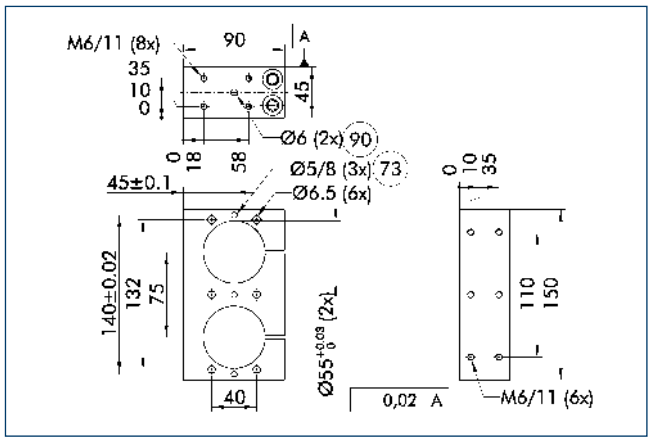


(34) On both sides
(73) Fit for centering pins
(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
AMEV 55	0313683	55	Aluminum

Axial double mounting plate APDA 055

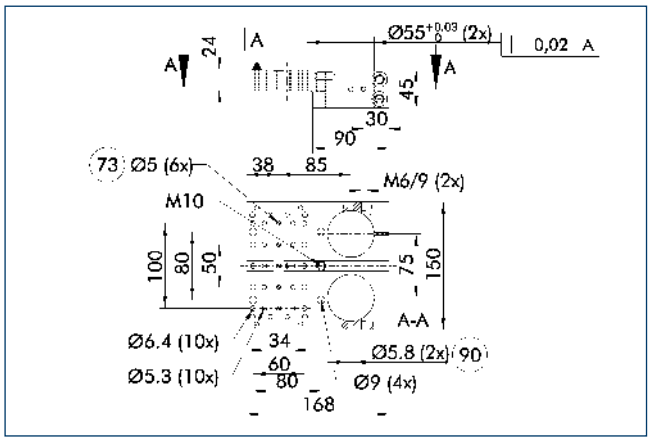


(73) Fit for centering pins
(90) Auxiliary hole for centering the pillar

Mounting plate for axial connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APDA 55	0313478	55	Aluminum

Horizontal double mounting plate APDH 085



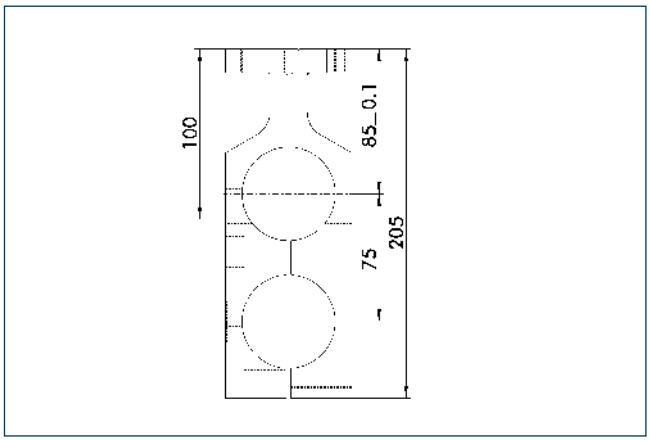
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APDH 85	0313414	55	Aluminum

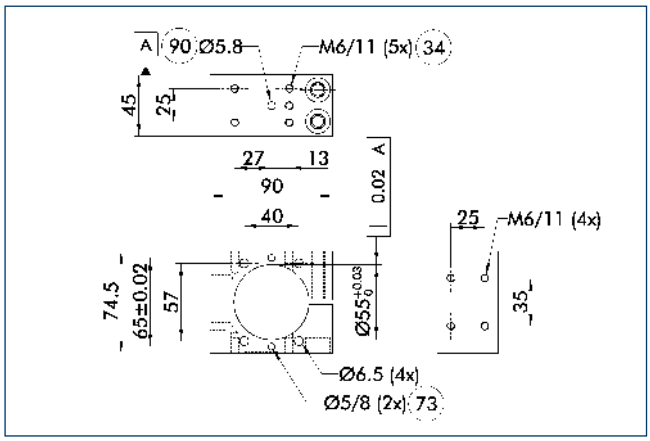
Vertical double mounting plate APDV 085



Mounting plate for vertical connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APDV 85	0313416	55	Aluminum

Axial single mounting plate APEA 055



(34) On both sides

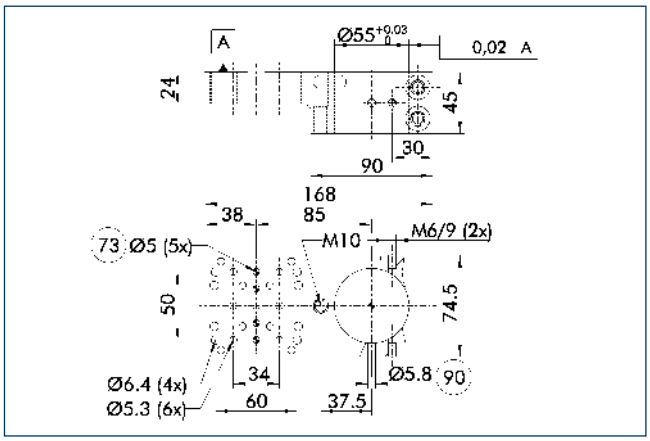
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Mounting plate for axial connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APEA 55	0313680	55	Aluminum

Horizontal single mounting plate APEH 085



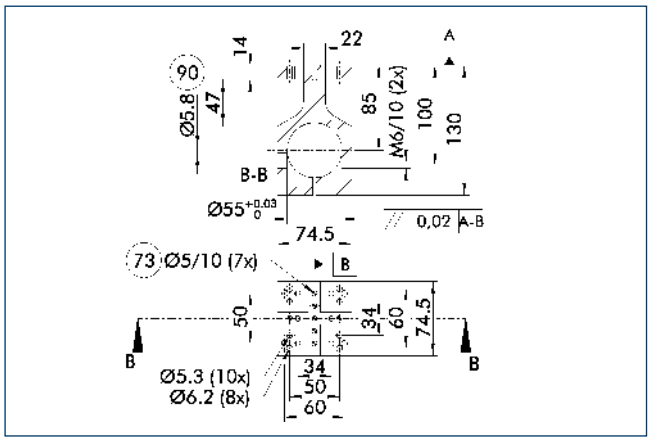
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Mounting plate for horizontal connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APEH 85	0313413	55	Aluminum

Vertical single mounting plate APEV 085



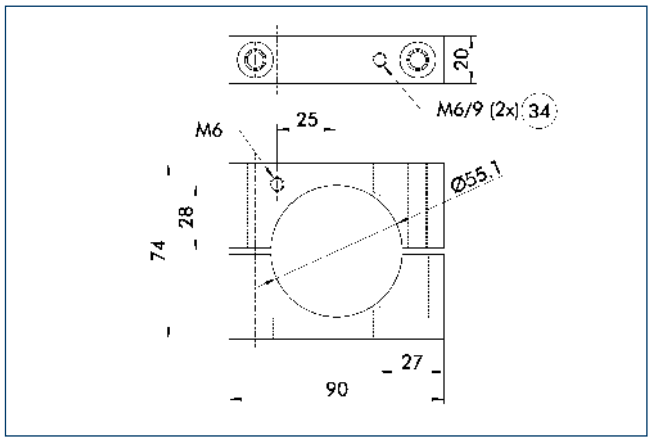
(73) Fit for centering pins

(90) Auxiliary hole for centering the pillar

Mounting plate for vertical connection of various modules or customized assemblies to the pillar assembly system.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
APEV 85	0313415	55	Aluminum

Adjustment ring STG 035

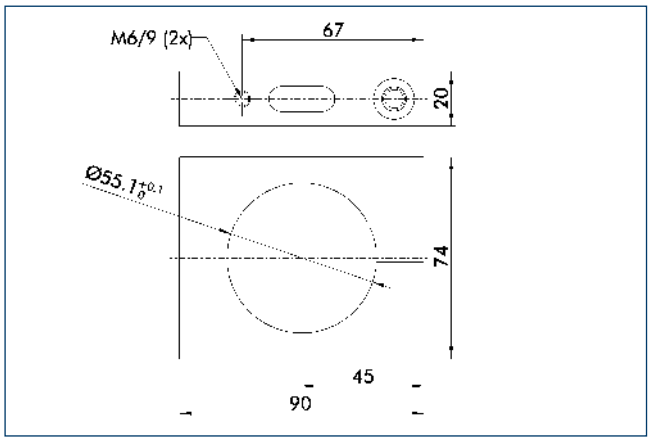


(34) On both sides

Adjustment ring for exact positioning of structural elements.

Description	ID	Material
Pillar assembly system: Adjustment ring		
STG 55	0313685	Aluminum

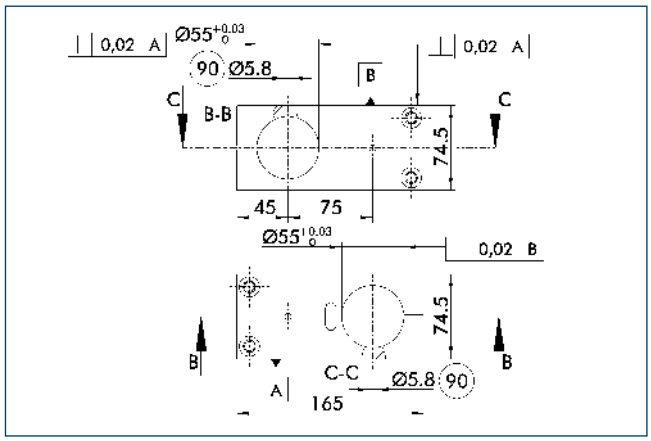
Adjustment ring STR 055



Adjustment ring for exact positioning of structural elements.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Adjustment ring			
STR 55	0313417	55	Aluminum

Cross connector KVB 075

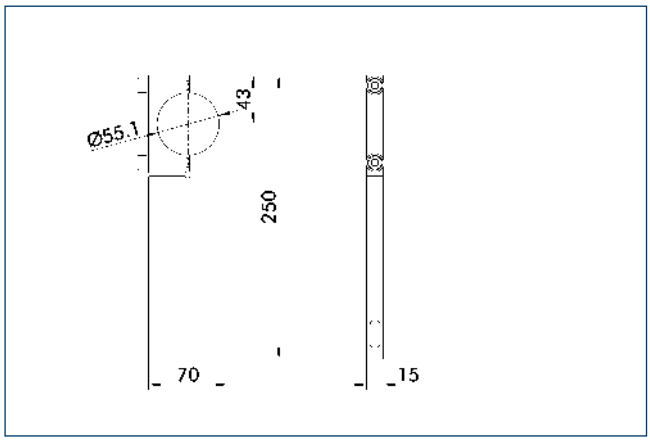


(90) Auxiliary hole for centering the pillar

Cross connector for implementing perpendicular extended variants.

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Cross connector			
KVB 75	0313418	55	Aluminum

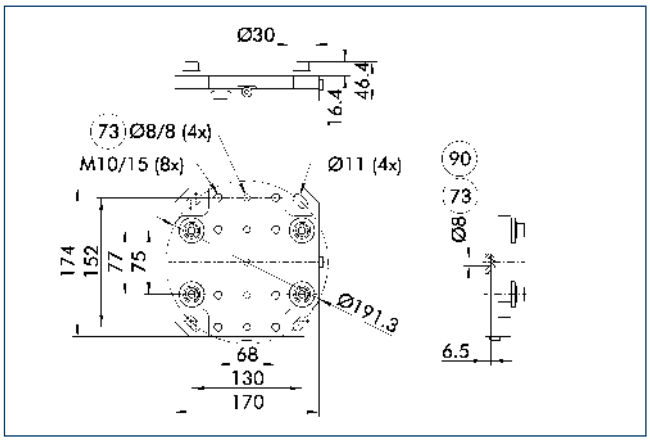
Mounting plate MPL 250



Mounting plate for extending and supporting the pillar assembly system

Description	ID	Pillar diameter	Material
		[mm]	
Pillar assembly system: Mounting plates			
MPL 250	0313419	55	Aluminum

Adjustment unit VEH 055



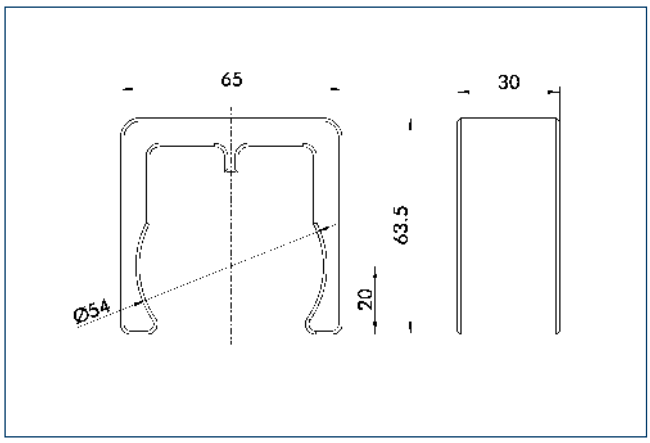
(73) Fit for centering pins

(90) Centring as an axis of rotation

Adjustment unit for easy fine adjustment of the finished handling assembly.

Description	ID	Adjustment range XY	Adjustment angle Z
		[mm]	[°]
Pillar assembly system: Adjustment unit			
VEH 55	0313514	±5	±2.5

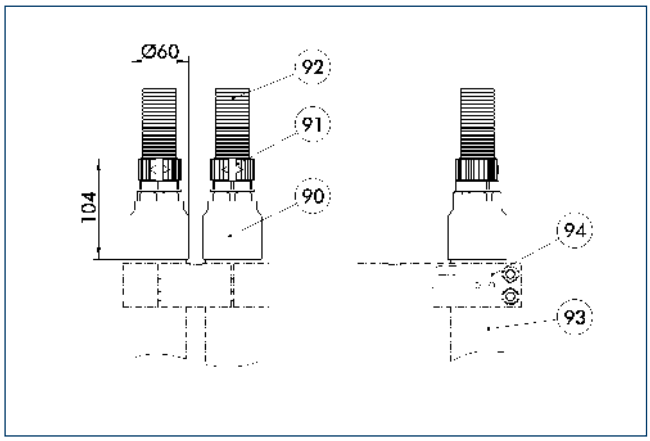
Media routing clip MFC 055



Clip for orderly media routing along pillars.

Description	ID	
Pillar assembly system: Media routing		
MFC 55	0313694	

Media routing pillars Ø 55

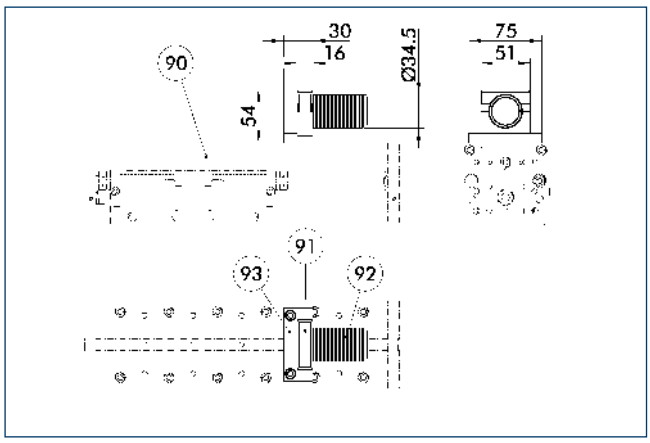


(90) Cap MFK
(91) Screw connection MFV
(92) Hose MFS
(93) Hollow pillar SLH
(94) Mounting plates

Media routings for feeding through the supply lines through the hollow pillars.

Description	ID	
Pillar assembly system: Media routing		
MFK 55-21	0313697	
MFK 55-29	0313698	
MFS 29	0313679	
MFV 29	0313675	

Media routing module hose Ø 29

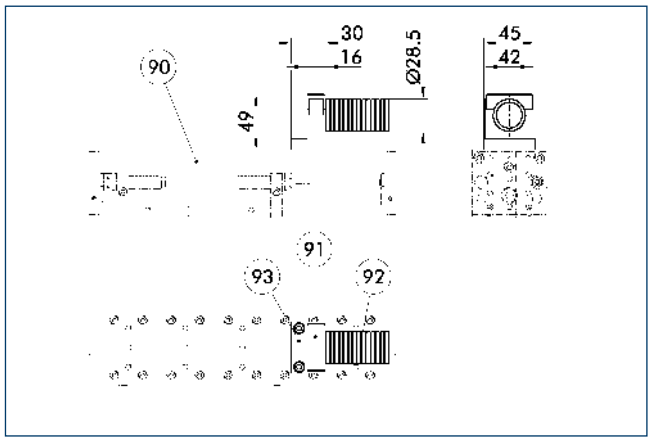


(90) Linear module
(91) Hose mounting MFB
(92) Hose MFS
(93) Hose plate SPL

Media routing with direct mounting on SCHUNK standard modules.

Description	ID	
Pillar assembly system: Media routing		
MFB 29	0313677	
SPL 200	0313693	

Media routing module hose Ø 21



(90) Linear module
(91) Hose mounting MFB
(92) Hose MFS
(93) Hose plate SPL

Media routing with direct mounting on SCHUNK standard modules.

Description	ID	
Pillar assembly system: Media routing		
MFB 21	0313676	
SPL 50	0313692	

Reliable. Non-contact. Easy Assembly.

Inductive Proximity Switch IN

Inductive proximity switches are used to monitor the current status of automation components. SCHUNK supplies them in two versions – IN (sensor with 30 cm molded cable and cable connector) or INK (sensor with 2 m supply cable and open wires for connection).

Field of Application

For monitoring of gripping and rotary modules, linear modules and robot accessories. Inductive SCHUNK sensors detect metals without contact and are resistant to vibration, dust and humidity. For connection with a digital input module (utilization category DC-12).

Advantages – Your benefit

Mounting using bracket for easy and fast attachment

Version with LED-display for checking the switching position directly at the sensor

Version with plug connector for fast and easy exchangeability of the extension cable

Very flexible cable in PUR-version for a long service lifetime and resistant against chemicals

Proximity switches for flush installation for minimum interfering contours in the application





Options and special Information

Protection class as per DIN 40050: IP67 in plugged position for the use in clean or dusty environments or if contact with water is given. Functionability in case of contact with other mediums (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK

Power supply: 10 – 30 V DC at < 15 % residual ripple

Type of switching: PNP

Warranty: 24 months (details, general terms and conditions and operating manuals can be downloaded at schunk.com)

Application Example



① **Sensors IN, pluggable**

② **Rotary Actuator SRU-plus**

③ **Universal Gripper PGN-plus**

④ **Cable Connector KST**

SCHUNK offers more ...

The following components make the product IN even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Sensor Cables



Sensor Distributor

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

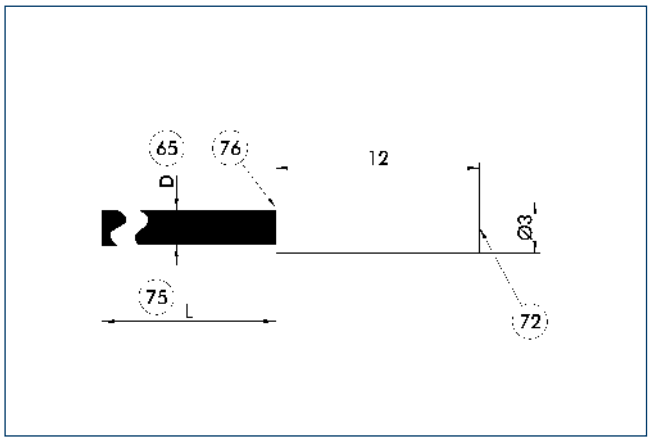
CAD data, operating manuals and other current product documents are available at **schunk.com**



Technical data

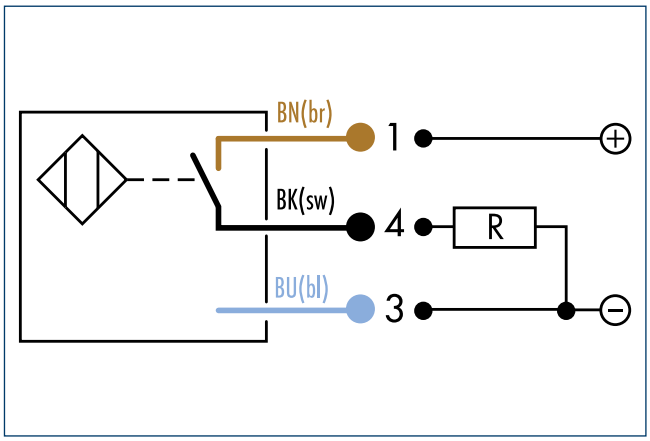
Description		IN 3-S-M8-PNP
ID		0301466
Switching function		Closer
Type of switching		PNP
Switching distance	[mm]	0.8
Switching hysterisis from the nominal switching distance		< 5%
Max. switching frequency	[Hz]	3000
Product weight	[kg]	0.05
Min./max. ambient temperature	[°C]	-25/75
IP class (sensor)		67
IP class (sensor connected)		67
Type of voltage		DC
Nominal voltage	[V]	24
Min. voltage	[V]	10
Max. voltage	[V]	30
Voltage drop	[V]	2
Max. switching current	[A]	0.1
Cable diameter D	[mm]	2.5
Min. bending radius (dynamically)	[mm]	25
Min. bending radius (statically)	[mm]	12.5
Number of wires		3
Wire cross section	[mm²]	0.14
Cable length L	[cm]	20
Cable connector/cable end		M8

Main view IN 3

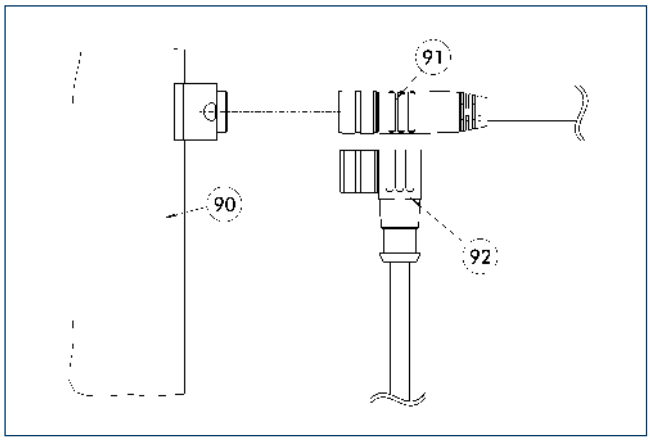


65 Cable diameter
72 Active sensor surface
75 Cable length
76 LED

Wiring diagram closer PNP



Cable connector/cable extension



90 Connecting point for component
91 Cable with straight connection
92 Cable with angular connection

Description	ID	Length	Connection cabinet sided	Often combined
Cable extensions				
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Open wire	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Open wire	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Open wire	●
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	Plug	●
KA BG08-L 3P-0500-PNP	0301623	5 m	Plug	
KA BW08-L 3P-0300-PNP	0301594	3 m	Plug	
KA BW08-L 3P-0500-PNP	0301502	5 m	Plug	

ⓘ BG stands for a connection cable with a straight socket and BW for an angled socket.

IN 40

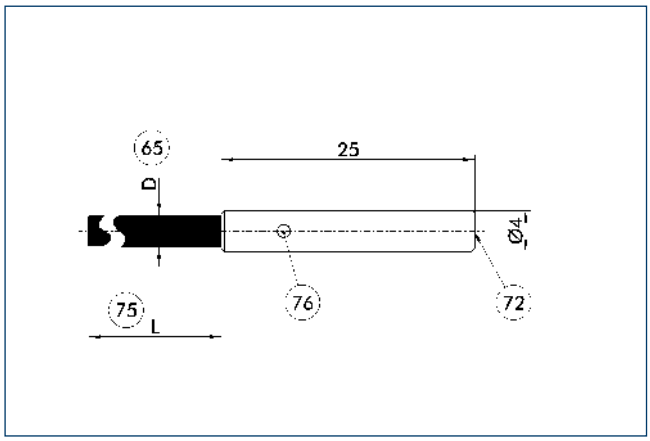
Accessories | Sensor Systems | Inductive Proximity Switch



Technical data

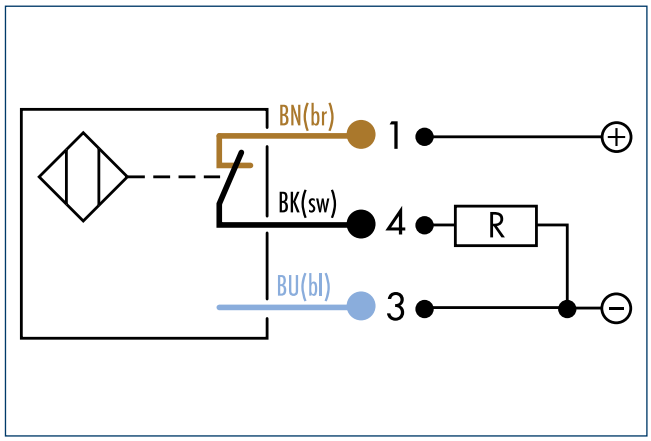
Description		IN 40-S-M8	IN 40-S-M12	INK 40-S	IN 40-O-M8	IN 40-O-M12	INK 40-O
ID		0301474	0301574	0301555	0301484	0301584	0301556
Switching function		Closer	Closer	Closer	Opener	Opener	Opener
Type of switching		PNP	PNP	PNP	PNP	PNP	PNP
Switching distance	[mm]	0.8	0.6	0.8	0.6	0.6	0.8
Switching hysterisis from the nominal switching distance		< 5%	< 5%	< 5%	< 5%	< 5%	< 5%
Max. switching frequency	[Hz]	3000	3000	3000	3000	3000	3000
Product weight	[kg]	0.04	0.05	0.06	0.04	0.05	0.04
Min./max. ambient temperature	[°C]	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67	67	67	67
IP class (sensor connected)		67	67	67	67	67	67
LED display at the sensor		yes	yes	yes	yes	yes	yes
Type of voltage		DC	DC	DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24	24	24
Min. voltage	[V]	10	10	10	10	10	10
Max. voltage	[V]	30	30	30	30	30	30
Voltage drop	[V]	0.6	0.6	0.6	0.6	0.6	0.6
Max. switching current	[A]	0.2	0.2	0.2	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamically)	[mm]	35	35	35	35	35	35
Min. bending radius (statically)	[mm]	17.5	17.5	17.5	17.5	17.5	17.5
Number of wires		3	3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14	0.14
Cable length L	[cm]	30	30	200	30	30	200
Cable connector/cable end		M8	M12	Open wire	M8	M12	Open wire
Options and their characteristics							
Version with lateral cable outlet		IN 40-S-M8-SA	IN 40-S-M12-SA	INK 40-S-SA			
ID		0301473	0301577	0301565			

Main view IN 40

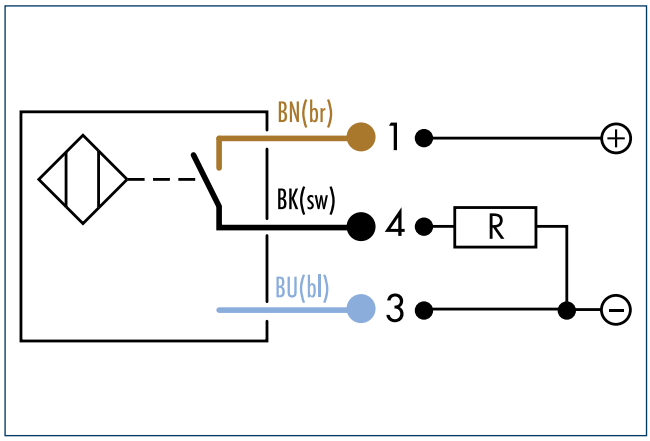


65 Cable diameter
72 Active sensor surface
75 Cable length
76 LED

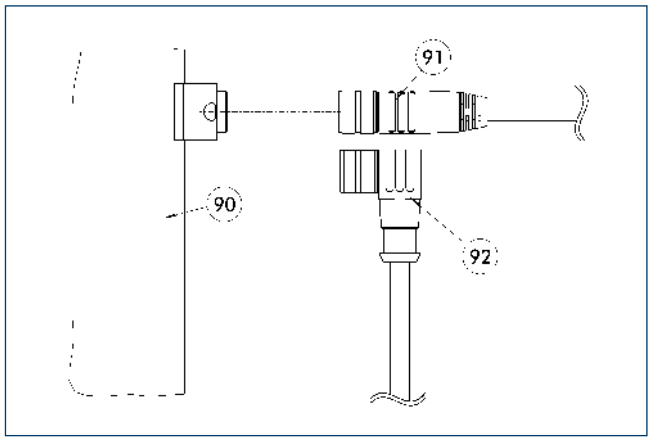
Wiring diagram opener PNP



Wiring diagram closer PNP



Cable connector/cable extension



90 Connecting point for component
91 Cable with straight connection
92 Cable with angular connection

Description	ID	Length	Connection cabinet sided	Often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	Open wire	●
KA BG08-L 3P-0500-PNP	0301623	5 m	Open wire	
KA BG12-L 3P-0500-PNP	30016369	5 m	Open wire	
KA BW08-L 3P-0300-PNP	0301594	3 m	Open wire	
KA BW08-L 3P-0500-PNP	0301502	5 m	Open wire	
KA BW12-L 3P-0300-PNP	0301503	3 m	Open wire	
KA BW12-L 3P-0500-PNP	0301507	5 m	Open wire	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Plug	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Plug	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Plug	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Plug	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Plug	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Plug	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Plug	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Plug	

ⓘ BG stands for a connection cable with a straight socket and BW for an angled socket.

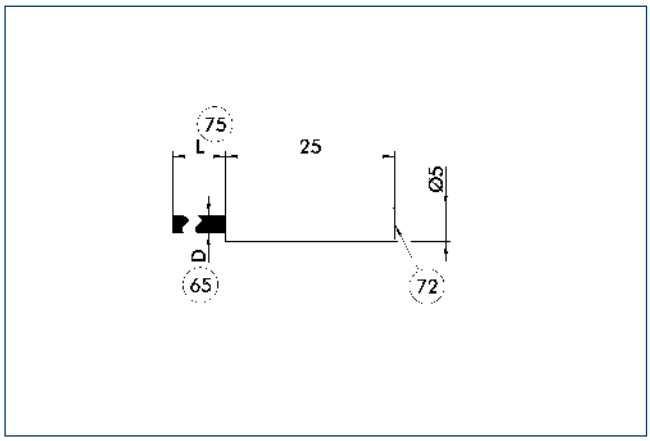
IN 50



Technical data

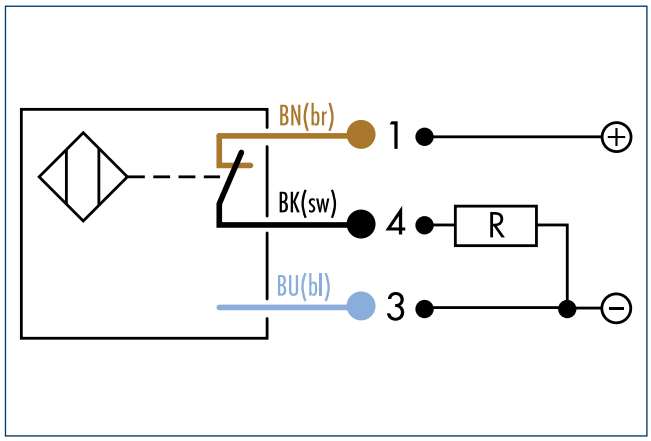
Description		IN 50-S-M8	IN 50-S-M12	INK 50-S
ID		0301568	0301575	0301560
Switching function		Closer	Closer	Closer
Type of switching		PNP	PNP	PNP
Switching distance	[mm]	1	1	1
Switching hysterisis from the nominal switching distance		< 5%	< 5%	< 5%
Max. switching frequency	[Hz]	3000	3000	3000
Product weight	[kg]	0.07	0.07	0.01
Min./max. ambient temperature	[°C]	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67
IP class (sensor connected)		67	67	67
LED display at the sensor		yes	yes	no
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24	24	24
Min. voltage	[V]	10	10	10
Max. voltage	[V]	30	30	30
Voltage drop	[V]	2	2	2
Max. switching current	[A]	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5
Min. bending radius (dynamically)	[mm]	35	35	35
Min. bending radius (statically)	[mm]	17.5	17.5	17.5
Number of wires		3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14
Cable length L	[cm]	30	30	200
Cable connector/cable end		M8	M12	Open wire

Main view IN 50

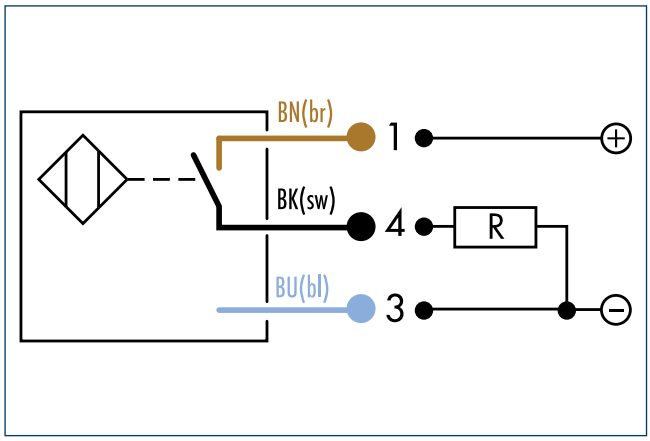


65 Cable diameter
72 Active sensor surface
75 Cable length

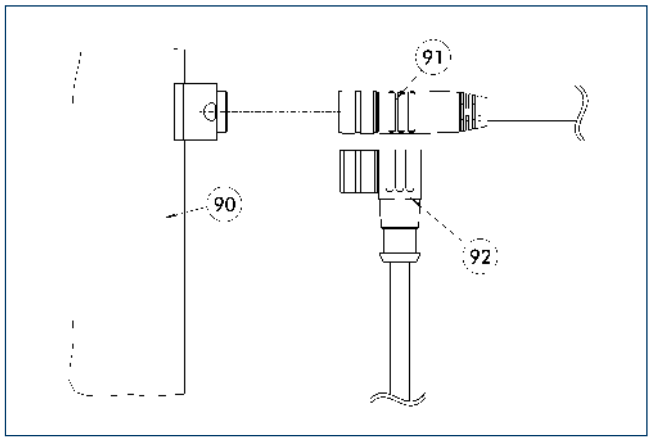
Wiring diagram opener PNP



Wiring diagram closer PNP



Cable connector/cable extension



90 Connecting point for component
91 Cable with straight connection
92 Cable with angular connection

Description	ID	Length	Connection cabinet sided	Often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	Open wire	●
KA BG08-L 3P-0500-PNP	0301623	5 m	Open wire	
KA BG12-L 3P-0500-PNP	30016369	5 m	Open wire	
KA BW08-L 3P-0300-PNP	0301594	3 m	Open wire	
KA BW08-L 3P-0500-PNP	0301502	5 m	Open wire	
KA BW12-L 3P-0300-PNP	0301503	3 m	Open wire	
KA BW12-L 3P-0500-PNP	0301507	5 m	Open wire	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Plug	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Plug	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Plug	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Plug	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Plug	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Plug	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Plug	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Plug	

ⓘ BG stands for a connection cable with a straight socket and BW for an angled socket.

IN 80

Accessories | Sensor Systems | Inductive Proximity Switch

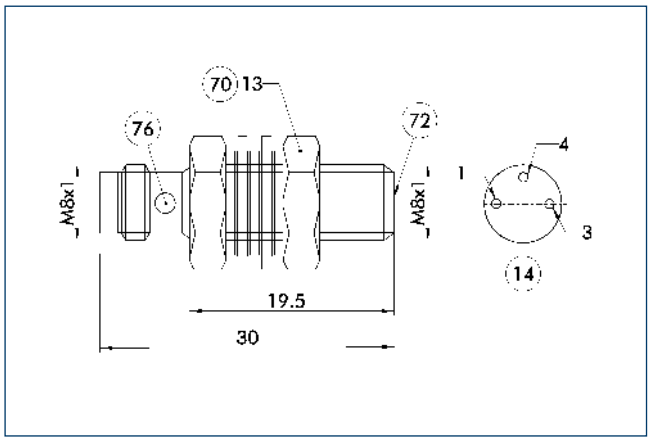


Technical data

Description		IN 80-S-M8	IN 80-S-M12	INK 80-S	IN 80-O-M8	IN 80-O-M12	INK 80-O
ID		0301478	0301578	0301550	0301488	0301588	0301551
Switching function		Closer	Closer	Closer	Opener	Opener	Opener
Type of switching		PNP	PNP	PNP	PNP	PNP	PNP
Switching distance	[mm]	1.5	1.5	1.5	1.5	1.5	1.5
Switching hysterisis from the nominal switching distance		< 15%	< 15%	< 10%	< 15%	< 15%	< 10%
Max. switching frequency	[Hz]	3000	3000	3000	3000	3000	3000
Product weight	[kg]	0.06	0.06	0.07	0.06	0.08	0.07
Min./max. ambient temperature	[°C]	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67	67	67	67
IP class (sensor connected)		67	67	67	67	67	67
LED display at the sensor		yes	yes	yes	yes	yes	yes
Type of voltage		DC	DC	DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24	24	24
Min. voltage	[V]	10	10	10	10	10	10
Max. voltage	[V]	30	30	30	30	30	30
Voltage drop	[V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. switching current	[A]	0.2	0.2	0.2	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamically)	[mm]	35	35	35	35	35	35
Min. bending radius (statically)	[mm]	17.5	17.5	17.5	17.5	17.5	17.5
Number of wires		3	3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14	0.14
Cable length L	[cm]	30	30	200	30	30	200
Cable connector/cable end		M8	M12	Open wire	M8	M12	Open wire
Options and their characteristics							
Version with lateral cable outlet		IN 80-S-M8-SA	IN 80-S-M12-SA	INK 80-S-SA			
ID		0301483	0301587	0301566			

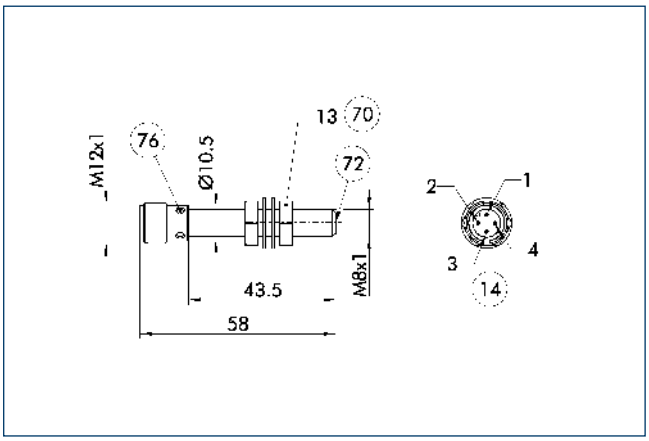
Description		IN 80-SL-M12	INK 80-SL	IN-B 80 S-M8	IN-B 80-S-M12	IN-C 80-S-M8
ID		0301529	0301579	0301477	0301479	0301475
Switching function		Closer	Closer	Closer	Closer	Closer
Type of switching		PNP	PNP	PNP	PNP	PNP
Switching distance	[mm]	3	3	1.5	1.5	1.5
Switching hysterisis from the nominal switching distance		< 10%	< 10%	< 15%	< 15%	< 15%
Max. switching frequency	[Hz]	500	500	3000	3000	3000
Product weight	[kg]	0.03	0.09	0.02	0.02	0.01
Min./max. ambient temperature	[°C]	-25/70	-25/70	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67	68	68
IP class (sensor connected)		67	67	67	68	68
LED display at the sensor		yes	yes	yes	yes	yes
Type of voltage		DC	DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24	24
Min. voltage	[V]	10	10	10	10	10
Max. voltage	[V]	30	30	30	30	30
Voltage drop	[V]	1.5	1.5	1.5	1.5	1.5
Max. switching current	[A]	0.2	0.2	0.2	0.2	0.1
Cable diameter D	[mm]	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamically)	[mm]	35	35	35	35	35
Min. bending radius (statically)	[mm]	17.5	17.5	17.5	17.5	17.5
Number of wires		3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14
Cable length L	[cm]	30	200			
Cable connector/cable end		M12	Open wire	M8	M12	M8

Main view IN-C 80



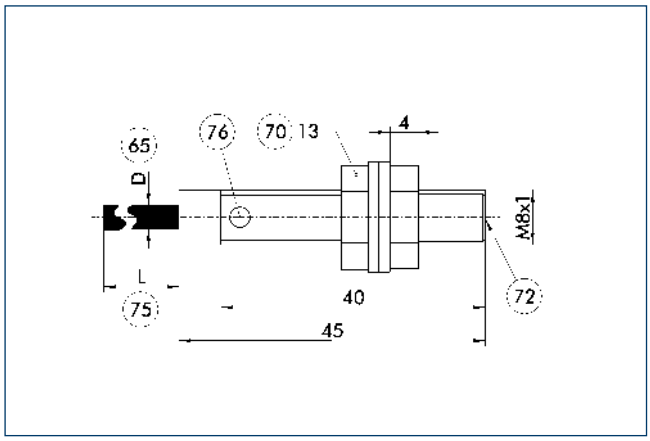
14 Plug
70 Wrench size
72 Active sensor surface
76 LED

Main view IN-B 80



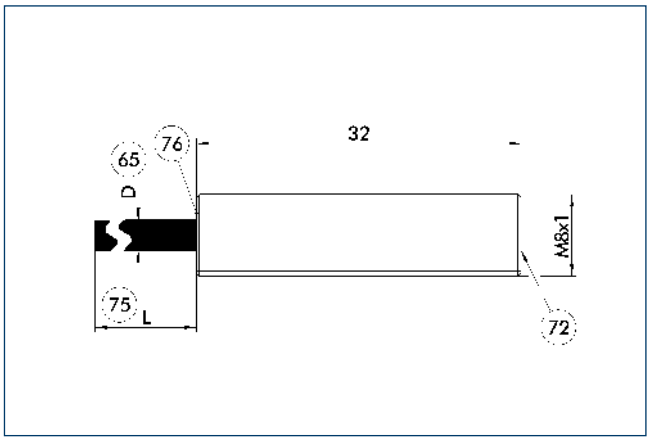
14 Plug
70 Wrench size
72 Active sensor surface
76 LED

Main view IN 80-SL



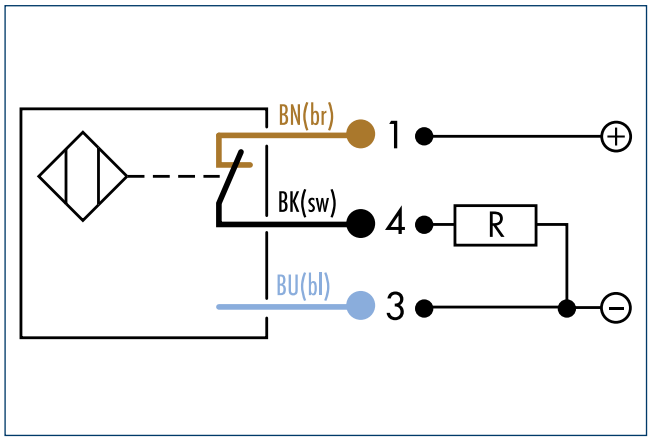
65 Cable diameter
70 Wrench size
72 Active sensor surface
75 Cable length
76 LED

Main view IN 80

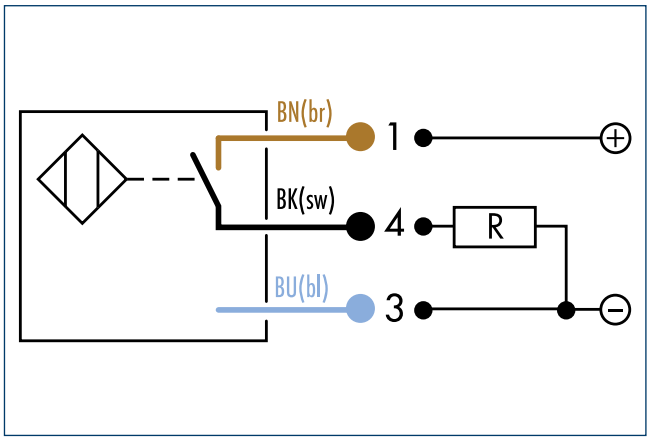


65 Cable diameter
72 Active sensor surface
75 Cable length
76 LED

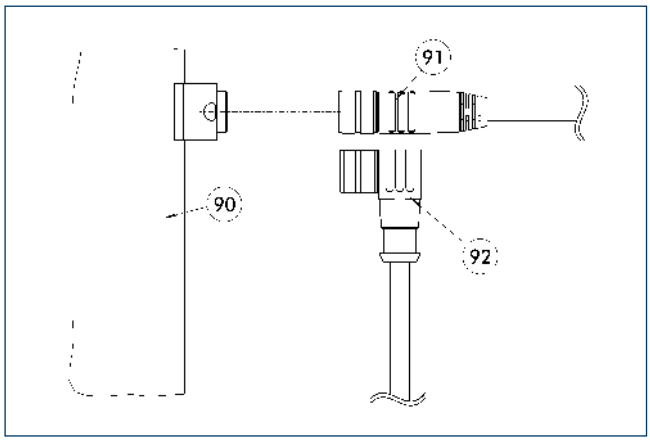
Wiring diagram opener PNP



Wiring diagram closer PNP



Cable connector/cable extension



(90) Connecting point for component
(91) Cable with straight connection
(92) Cable with angular connection

Description	ID	Length	Connection cabinet sided	Often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	Open wire	●
KA BG08-L 3P-0500-PNP	0301623	5 m	Open wire	
KA BG12-L 3P-0500-PNP	30016369	5 m	Open wire	
KA BW08-L 3P-0300-PNP	0301594	3 m	Open wire	
KA BW08-L 3P-0500-PNP	0301502	5 m	Open wire	
KA BW12-L 3P-0300-PNP	0301503	3 m	Open wire	
KA BW12-L 3P-0500-PNP	0301507	5 m	Open wire	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Plug	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Plug	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Plug	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Plug	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Plug	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Plug	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Plug	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Plug	

ⓘ BG stands for a connection cable with a straight socket and BW for an angled socket.

Reliable. Non-Contact. Easy Assembly.

Inductive Proximity Switch NI

Inductive proximity switches are used to monitor the current status of automation components. SCHUNK supplies them in two versions – IN (sensor with 30 cm molded cable and cable connector) or INK (sensor with 2 m supply cable and open wires for connection).

Field of Application

For monitoring of gripping and rotary modules, linear modules and robot accessories. Inductive SCHUNK sensors detect metals without contact and are resistant to vibration, dust and humidity. For connection with a digital input module (utilization category DC-12).



Advantages – Your benefit

Mounting using bracket for easy and fast attachment

Version with LED-display for checking the switching position directly at the sensor

Version with plug connector for fast and easy exchangeability of the extension cable

Very flexible cable in PUR-version for a long service lifetime and resistant against chemicals

Proximity switches for flush installation for minimum interfering contours in the application

Options and special Information

Protection class as per DIN 40050: IP67 in plugged position for the use in clean or dusty environments or if contact with water is given. Functionability in case of contact with other mediums (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK

Power supply: 10 – 30 V DC at < 15 % residual ripple

Type of switching: PNP

Warranty: 24 months (details, general terms and conditions and operating manuals can be downloaded at schunk.com)

Application Example



① **Sensors IN, pluggable**

② **Rotary Actuator SRU-plus**

③ **Universal Gripper PGN-plus**

④ **Cable Connector KST**

SCHUNK offers more ...

The following components make the product NI even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Sensor Cables



Sensor Distributor

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

CAD data, operating manuals and other current product documents are available at **schunk.com**

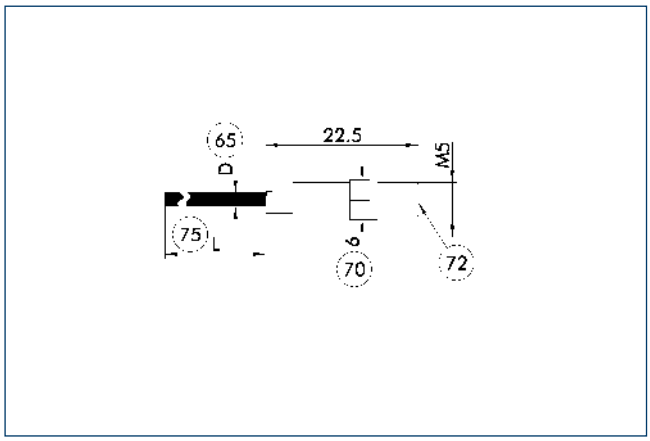
NI



Technical data

Description		NI 03	NI 30-KT	NI 32	NI 40-S	NIA 50-KT
ID		0313426	0313429	0313425	0313431	0313422
Switching function		Closer	Closer	Closer	Closer	Closer
Type of switching		PNP	PNP	PNP	PNP	PNP
Switching distance	[mm]	1	1.5	1.5	1.5	1
Switching hysterisis from the nominal switching distance		< 10%	< 15%	< 15%	< 20%	< 10%
Max. switching frequency	[Hz]	3000	5000	3000	1000	3000
Min./max. ambient temperature	[°C]	-25/70	-25/70	-25/70	-25/70	-25/70
IP class (sensor connected)		65	65	65	67	65
Type of voltage		DC	DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24	24
Min. voltage	[V]	10	10	10	10	10
Max. voltage	[V]	30	30	30	30	30
Max. switching current	[mA]	200	300	200	200	200
Cable diameter D	[mm]	3.5		3.5		3.5
Min. bending radius (dynamically)	[mm]	35		35		35
Min. bending radius (statically)	[mm]	17.5		17.5		17.5
Cable length L	[cm]	30		30		30
Cable connector/cable end		M8	M8	M8	M8	M8

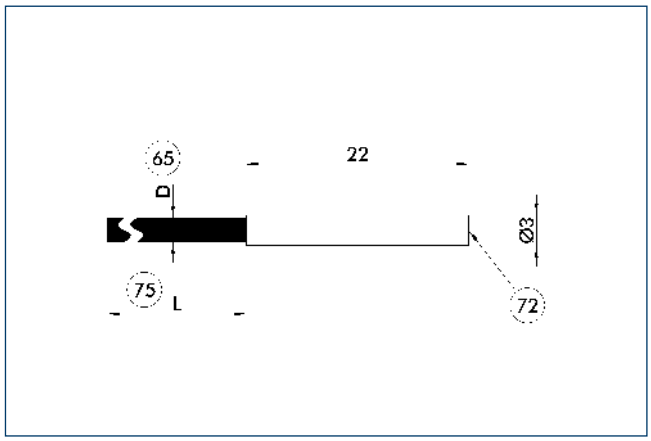
Main view



65 Cable diameter
70 Wrench size
72 Active sensor surface
75 Cable length

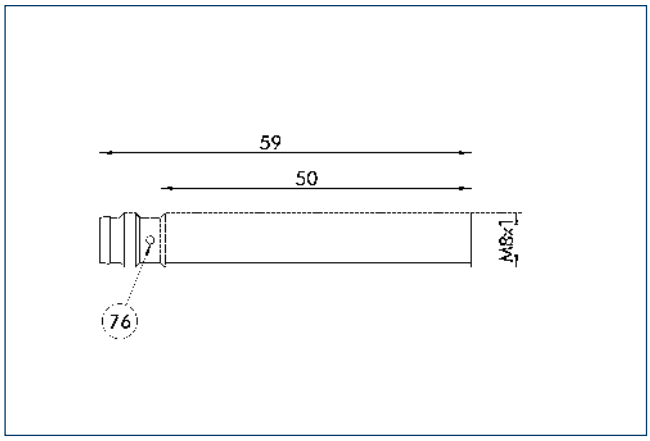
The drawing shows the basic version of the gripper with closed jaws without dimensional match to the options described below.

Main view NI 03



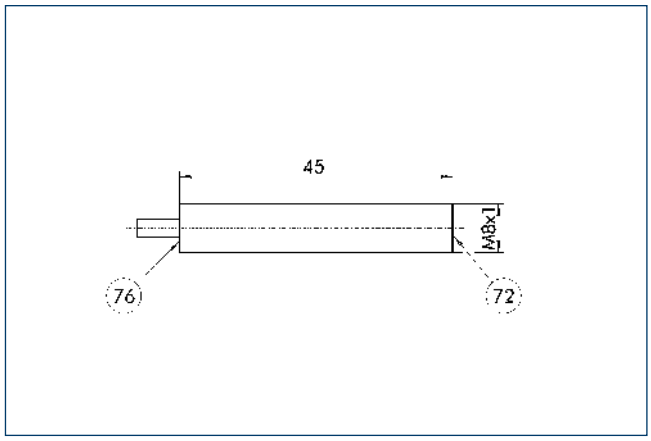
65 Cable diameter
72 Active sensor surface
75 Cable length

Main view NI 30



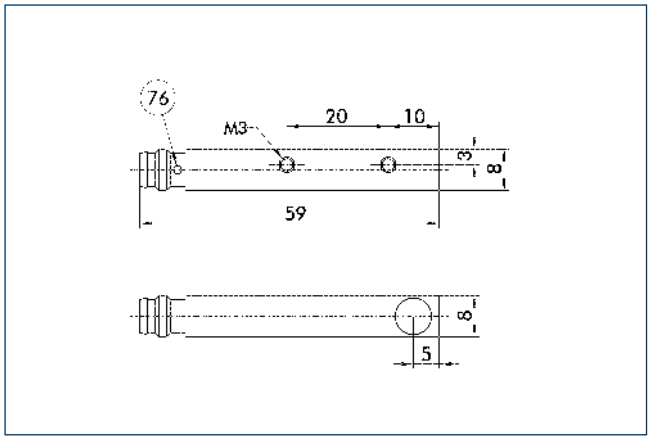
76 LED

Main view NI 32



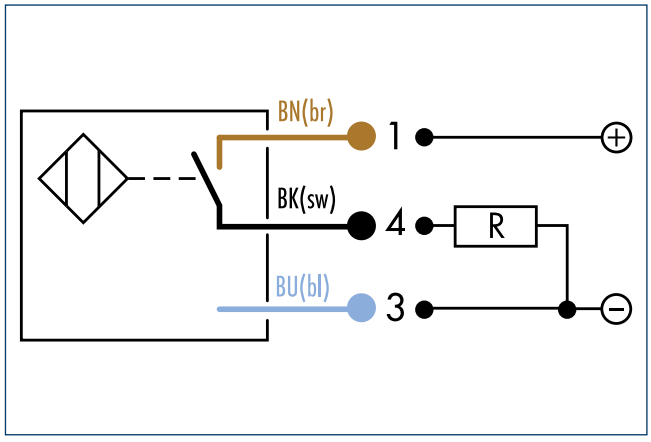
72 Active sensor surface
76 LED

Main view NI 40

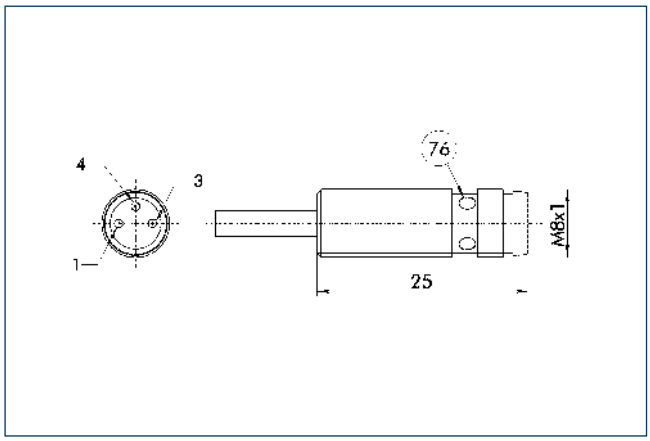


76 LED

Wiring diagram closer PNP



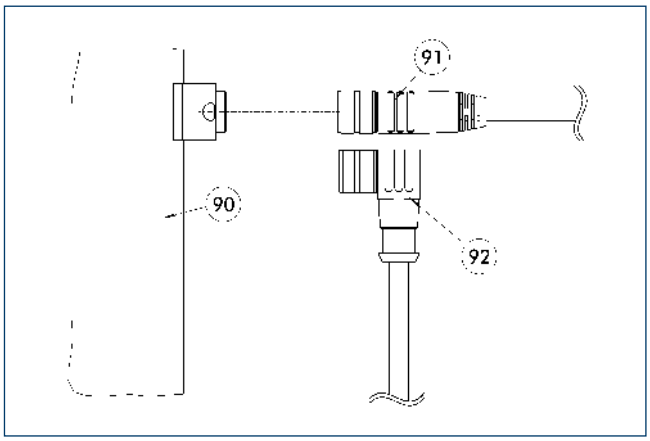
Plug M8



76 LED

The plug is not equipped with a cap nut. A cap nut is required for using the cable connection or the sensor distributor.

Cable connector/cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection cabinet sided	Often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	Open wire	●
KA BG08-L 3P-0500-PNP	0301623	5 m	Open wire	
KA BW08-L 3P-0300-PNP	0301594	3 m	Open wire	
KA BW08-L 3P-0500-PNP	0301502	5 m	Open wire	
Cable extensions				
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Plug	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Plug	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Plug	●

ⓘ BG stands for a connection cable with a straight socket and BW for an angled socket.

Non-contact. Reliable. Easy Assembly.

Electronic Magnetic Switch MMS

Magnetic switches are used for monitoring the position of automation components. They detect the approach of a magnet without contact, and above a certain switching threshold, enable their output.

Field of Application

For use in the monitoring of gripping and rotary modules, linear modules and robot accessories. Magnetic switches from SCHUNK detect metals without contact or wear and are resistant to vibration, dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours. For connection with a digital input module (utilization category DC-12).



Advantages – Your benefit

Installation into the sensor groove for space-saving, easy and fast assembly

Version with LED-display for checking the switching position directly at the sensor

Version with plug connector for fast and easy exchangeability of the extension cable

Very flexible cable in PUR-version for a long service lifetime and resistant against chemicals

Options and special Information

ATEX version EX: for explosive environments

Protection class as per DIN 40050: IP67 in plugged position for the use in clean or dusty environments or if contact with water is given. Functionability in case of contact with other mediums (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK

Power supply: 10 – 30 V DC at < 10 % residual ripple

Sources of interference: Sensors can be influenced by other magnetic fields in the immediate vicinity. Disturbing magnetic fields can be generated by motors, electric welders, permanent magnets or magnetized material (so-called soft magnets) such as Allen keys, metal chips, etc.

Application Example



① **Magnetic Switch MMS**

② **Universal Gripper PGN-plus**

③ **Tolerance Compensation Unit TCU-P**

SCHUNK offers more ...

The following components make the product MMS even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.


Sensor Cables


Connector Clip


Sensor Distributor


Sensor Tester SST

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

CAD data, operating manuals and other current product documents are available at **schunk.com**

MMS 22

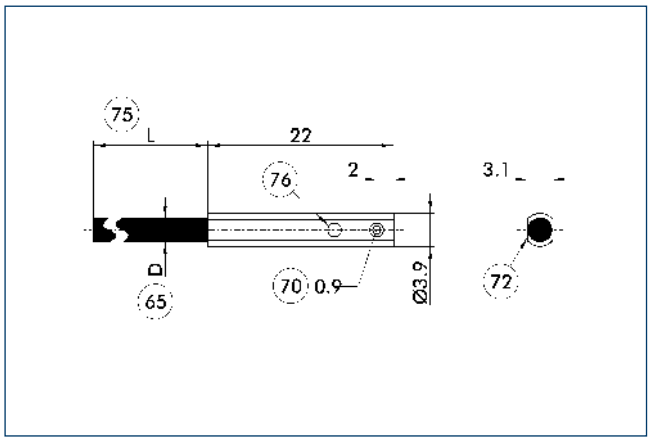
Accessories | Sensor Systems | Electronic Magnetic Switch



Technical data

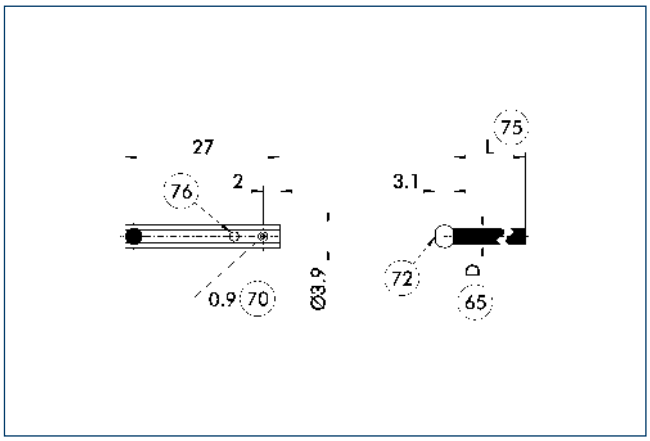
Description		MMS 22-S-M8-PNP	MMS 22-S-M8-NPN	MMSK 22-S-PNP	MMSK 22-S-NPN
ID		0301032	0301033	0301034	0301035
Switching function		Closer	Closer	Closer	Closer
Type of switching		PNP	NPN	PNP	NPN
Product weight	[kg]	0.01	0.01	0.04	0.04
Min./max. ambient temperature	[°C]	-10/70	-10/70	-10/70	-10/70
IP class (sensor)		67	67	67	67
IP class (sensor connected)		67	67	67	67
LED display at the sensor		yes	yes	yes	yes
Type of voltage		DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24
Min. voltage	[V]	10	10	10	10
Max. voltage	[V]	30	30	30	30
Voltage drop	[V]	2	2	2	2
Max. switching current	[A]	0.005	0.005	0.005	0.005
Cable diameter D	[mm]	2.1	2.1	2.1	2.1
Min. bending radius (dynamically)	[mm]	21	21	21	21
Min. bending radius (statically)	[mm]	10.5	10.5	10.5	10.5
Number of wires		3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14
Cable length L	[cm]	30	30	200	200
Cable connector/cable end		M8	M8	Open wire	Open wire
Options and their characteristics					
Version with lateral cable outlet		MMS 22-S-M8-PNP-SA	MMS 22-S-M8-NPN-SA	MMSK 22-S-PNP-SA	MMSK 22-S-NPN-SA
ID		0301042	0301043	0301044	0301045

Main view MMS 22



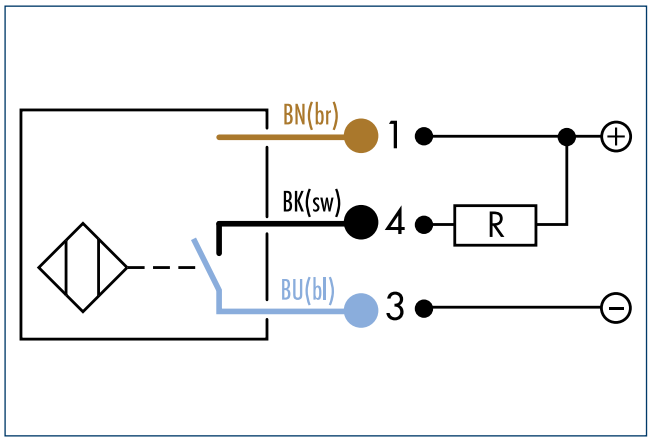
65 Cable diameter
70 Wrench size
72 Active sensor surface
75 Cable length
76 LED

Main view MMS 22-SA

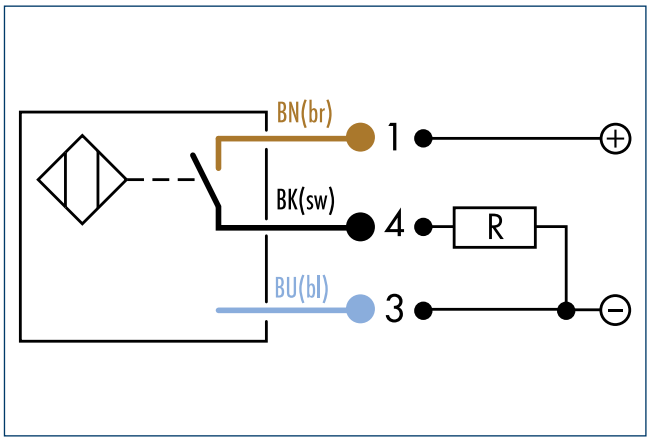


65 Cable diameter
70 Wrench size
72 Active sensor surface
75 Cable length
76 LED

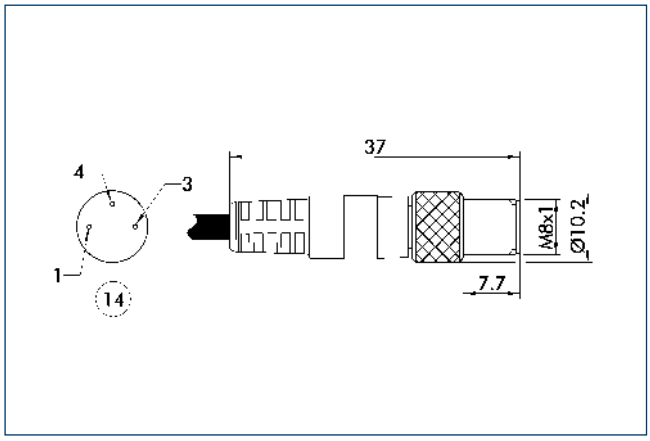
Circuit diagram closer NPN



Wiring diagram closer PNP

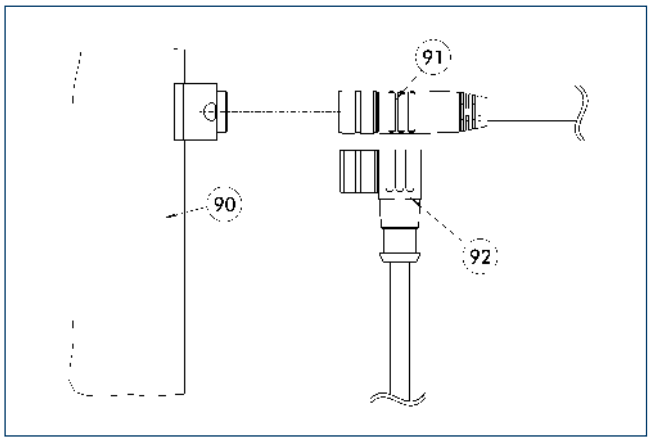


Plug M8



14 Plug

Cable connector/cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection cabinet sided	Often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	Open wire	●
KA BG08-L 3P-0500-PNP	0301623	5 m	Open wire	
KA BW08-L 3P-0300-NPN	0301602	3 m	Open wire	
KA BW08-L 3P-0300-PNP	0301594	3 m	Open wire	
KA BW08-L 3P-0500-NPN	9641116	5 m	Open wire	
KA BW08-L 3P-0500-PNP	0301502	5 m	Open wire	
Cable extensions				
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Plug	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Plug	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Plug	●

ⓘ BG stands for a connection cable with a straight socket and BW for an angled socket.

Programmable. Precise. Easy Assembly.

Programmable Magnetic Switch MMS PI1

Magnetic switches are used for monitoring the position of automation components. They detect the approach of a magnet without contact, and above a certain switching threshold, enable their output.

Field of Application

For use in the monitoring of gripping and rotary modules, linear modules and robot accessories. Magnetic switches from SCHUNK detect metals without contact or wear and are resistant to vibration, dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours. For connection with a digital input module (utilization category DC-12).



Advantages – Your benefit

Individual switching point – without interfering contours The magnetic switch can be completely inserted. Therefore there are no interfering contours due to overhanging sensors

Programmable within no time due to non-contact adjustment of the switching points and hysteresis

Adjustable hysteresis for precise position monitoring – even at very low strokes

Ideal for small spaces due to wired teaching (on option!)

Version with LED display for checking the switching position directly at the sensor

Version with plug connector for fast and easy exchangeability of the extension cable

Very flexible cable in PUR-version for a long service lifetime and resistant against chemicals

Installation into the sensor groove for space-saving, easy and fast assembly

Options and special Information

Protection class as per DIN 40050: IP67 in plugged position for the use in clean or dusty environments or if contact with water is given. Functionability in case of contact with other mediums (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK

Power supply: 10 – 30 V DC at < 10 % residual ripple

Sources of interference: Sensors can be influenced by other magnetic fields in the immediate vicinity. Disturbing magnetic fields can be generated by motors, electric welders, permanent magnets or magnetized material (so-called soft magnets) such as Allen keys, chips, etc.

Application Example



① **Actuator**

② **C-Slot Sensor MMS 22-PI1**

③ **Teaching Tool MT non-contact**

SCHUNK offers more ...

The following components make the product MMS PI1 even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.


Sensor Teaching Tool


Plug Teaching Tool


Sensor Distributor


Sensor Cables

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

CAD data, operating manuals and other current product documents are available at **schunk.com**

MMS PI1 22

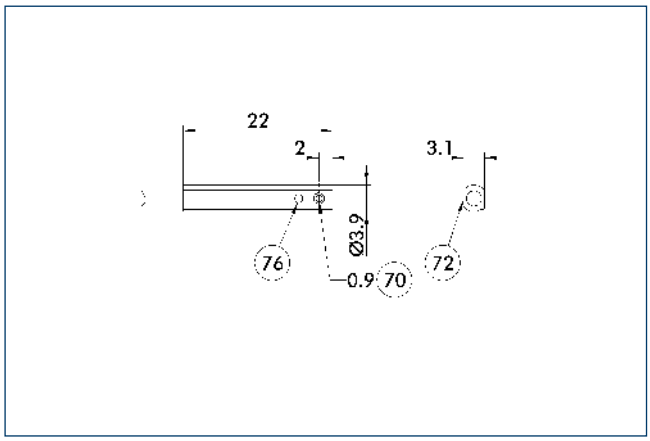
Accessories | Sensor Systems | Programmable Magnetic Switch



Technical data

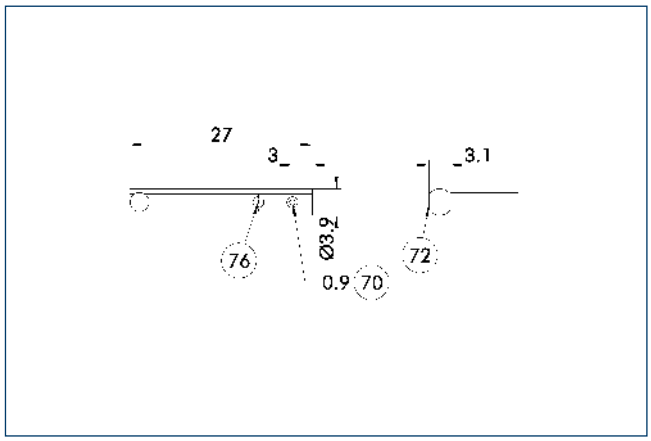
Description		MMS 22-PI1-S-M8-PNP	MMS 22-PI1-S-M8-NPN	MMSK 22-PI1-S-PNP	MMSK 22-PI1-S-NPN
ID		0301160	0301161	0301162	0301163
Switching function		Closer	Closer	Closer	Closer
Type of switching		PNP	NPN	PNP	NPN
Typical switching time	[s]	0.001	0.001	0.001	0.001
Max. switching frequency	[Hz]	1000	1000	1000	1000
Product weight	[kg]	0.01	0.01	0.04	0.04
Min./max. ambient temperature	[°C]	-10/70	-10/70	-10/70	-10/70
IP class (sensor)		67	67	67	67
IP class (sensor connected)		67	67	67	67
LED display at the sensor		yes	yes	yes	yes
Type of voltage		DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24
Min. voltage	[V]	10	10	10	10
Max. voltage	[V]	30	30	30	30
Voltage drop	[V]	1.5	1.5	1.5	1.5
Max. switching current	[A]	0.05	0.05	0.05	0.05
Cable diameter D	[mm]	2.1	2.1	2.1	2.1
Min. bending radius (dynamically)	[mm]	21	21	21	21
Min. bending radius (statically)	[mm]	10.5	10.5	10.5	10.5
Number of wires		3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14
Cable length L	[cm]	30	30	200	200
Cable connector/cable end		M8	M8	Open wire	Open wire
Options and their characteristics					
Version with lateral cable outlet		MMS 22-PI1-S-M8-PNP-SA	MMS 22-PI1-S-M8-NPN-SA	MMSK 22-PI1-S-PNP-SA	MMSK 22-PI1-S-NPN-SA
ID		0301166	0301167	0301168	0301169
Heavy duty version		MMS 22-PI1-S-M8-PNP-HD	MMS 22-PI1-S-M8-NPN-HD	MMSK 22-PI1-S-PNP-HD	MMSK 22-PI1-S-NPN-HD
ID		0301110	0301111	0301112	0301113

Main view MMS 22-PI1



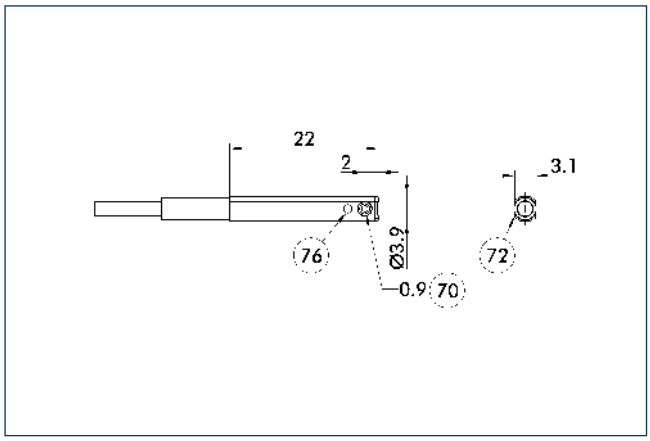
70 Wrench size
76 LED
72 Active sensor surface

Main view MMS 22-PI1-SA



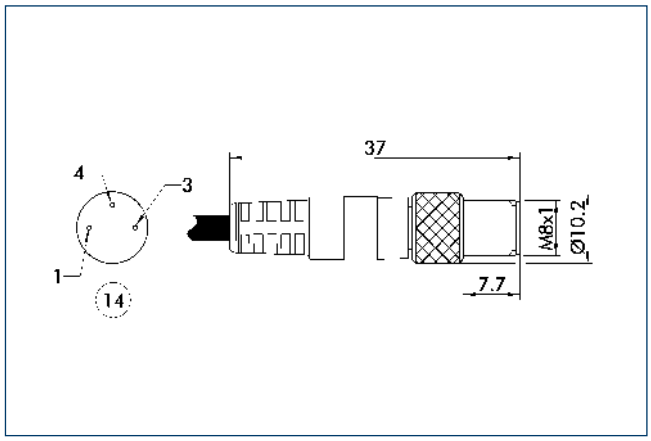
70 Wrench size
76 LED
72 Active sensor surface

Main view MMS 22-PI1-HD



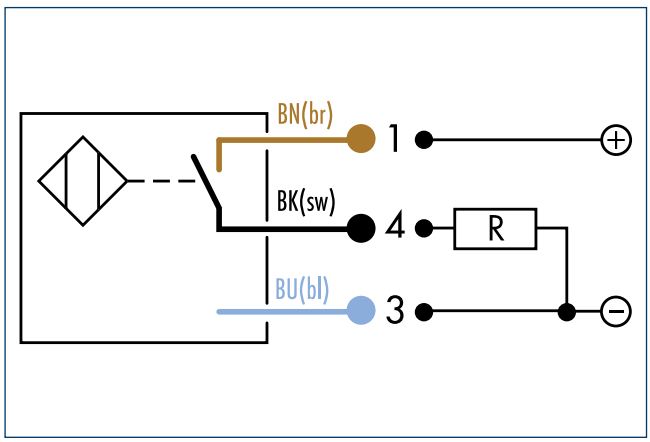
70 Wrench size
76 LED
72 Active sensor surface

Plug M8

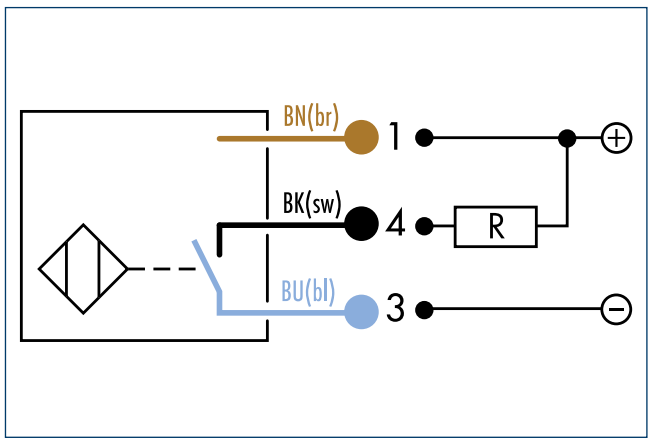


14 Plug

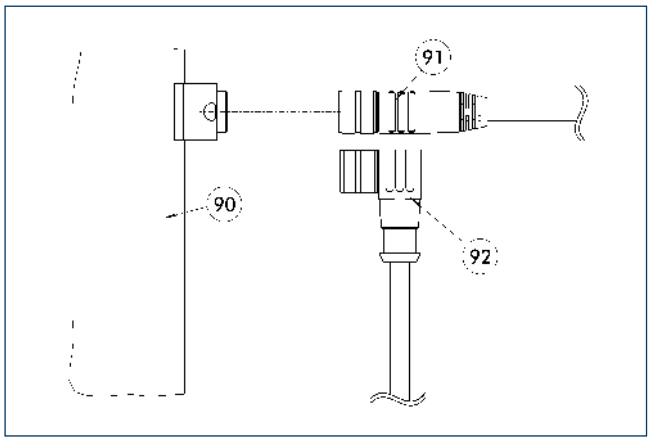
Wiring diagram closer PNP



Circuit diagram closer NPN



Cable connector/cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	Often combined
Cable extensions				
KA BG08-L 3P-0300-PNP	0301622	3 m	Open wire	●
KA BG08-L 3P-0500-PNP	0301623	5 m	Open wire	
KA BW08-L 3P-0300-NPN	0301602	3 m	Open wire	
KA BW08-L 3P-0300-PNP	0301594	3 m	Open wire	
KA BW08-L 3P-0500-NPN	9641116	5 m	Open wire	
KA BW08-L 3P-0500-PNP	0301502	5 m	Open wire	
Cable extensions				
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Plug	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Plug	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Plug	●

ⓘ BG stands for a connection cable with a straight socket and BW for an angled socket.

Flexible. Productive. Easy.

Sensor Tester SST

The SST sensor tester enables the rapid testing and adjustment of inductive sensors, magnetic switches and reed contacts. The necessary power is supplied by a 9 V compound battery.

Field of Application

Sensor testing and adjustment of the switching point (sensor calibration)



Advantages – Your benefit

Visual and acoustic signal for simple function checking and adjustment

For 2- and 3-wire DC technology enabling the connection of reed contacts, capacitive and inductive sensors

Tests possible without dismantling sensors for short maintenance times

Connections for M8 and M12 or open cable ends possible ensuring suitability for all SCHUNK sensors

PNP and NPN sensors can be tested

Operating voltage with 9 V compound battery for mobile use

Automatic shut-off function for an extended battery life

Options and special Information

Please note that only one SST input (M8 or M12 or cable terminal input) can be used at a time.

If the toggle switch is towards the sticker (name plate) then the sensor is in PNP mode. If not, NPN is selected.

Application Example



① **Sensor Tester SST**

② **Inductive Proximity Switch IN 80**

③ **Metal Plate**

SCHUNK offers more ...

The following components make the product SST even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Sensor RMS 22



Sensor MMS 22



Sensor IN ...



Inductive Proximity Sensor

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

CAD data, operating manuals and other current product documents are available at **schunk.com**

SST

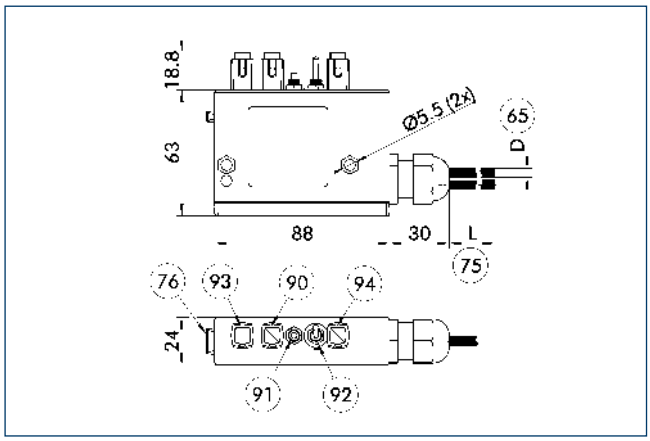
Accessories | Sensor System Accessories | Sensor Tester



Technical data

Description		SST
ID		0301400
Connection 1		M8x1
Connection 2		M12x1
Connection 3		Directly clamping
Housing material		Plastic
IP class		20

Main view SST



65 Cable diameter
75 Cable length
76 LED
90 Signal/4
91 ON button
92 PNP/NPN switch
93 Power supply UB/1
94 Power supply GND/3

ⓘ Power supply 9 V DC (block battery type LR 61)

Flexible. Light. Easy.

Clip CLI

The clip allows easy fixing of two straight sensor plug connectors.

Field of Application

Universally solution where sensors are used.

Advantages – Your benefit

Clip for an M8 or M12 plug for flexible use

Through-bore for quick and easy installation via a screw

Made from PA plastic suitable for many application areas



Options and special Information

Easy assembly: The CLI clip allows fixing of two straight M8/M12 sensor plug connectors. The plugs can be tool free disassembled/assembled, and simplify handling during exchange of sensors or cables.

Application Example



① **Clip**

② **Universal Gripper PGN-plus**

③ **Rotary Actuator SRU-plus**

④ **Connection Cable KA**

⑤ **Cable Extensions**

SCHUNK offers more ...

The following components make the product CLI even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Sensor IN ...



Sensor MMS 22



Optical Distance Sensor OAS



Sensor Cables

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

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CLI

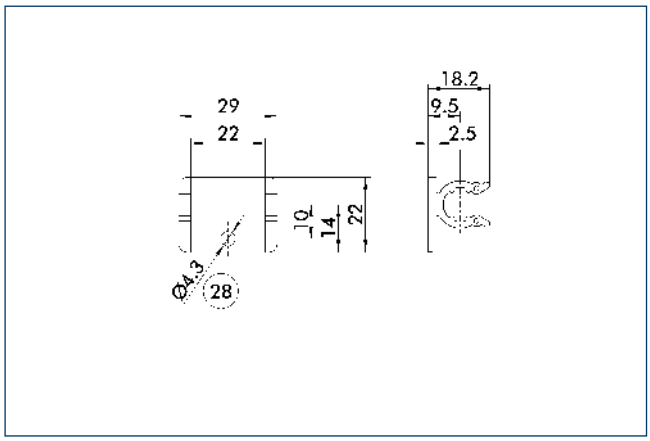
Accessories | Sensor System Accessories | Connector Clip



Technical data

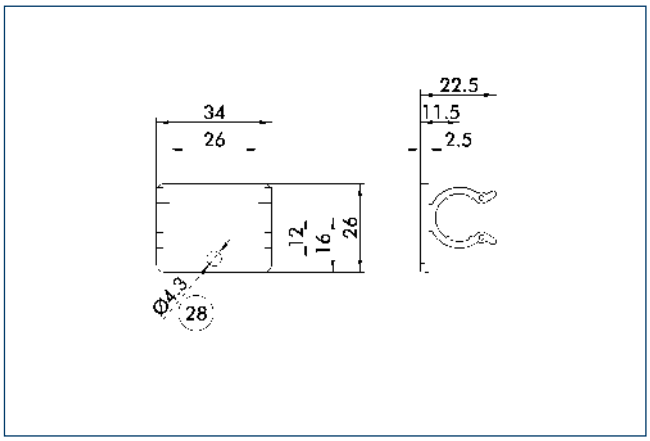
Description		CLI-M8	CLI-M12
ID		0301463	0301464
Weight	[g]	10	10
Material		PA	PA
Plug size		M8	M12

Main view CLI-M8



28 Through-bore

Main view CLI-M12



28 Through-bore

Easy. Robust. Compact.

Connection Cable KA

The SCHUNK connection cable KA is excellently suitable for supplying SCHUNK components and for leading signals.

Field of Application

The connection cables KA are used for every sensor, gripping, rotary and linear module, and also for numerous components of the robot accessories.



Advantages – Your benefit

Industrial standard plug connector for fast and easy commissioning

Connection cable with open wire strands for individual design of connection cables

Options and special Information

Troublefree combination with SCHUNK KBU/KST: therefore the connection cables can be adjusted to the suitable length and equipped with plug connectors.

Application Example



① **Clip**

② **Universal Gripper PGN-plus**

③ **Rotary Actuator SRU-plus**

④ **Connection Cable KA**

⑤ **Cable Extensions**

SCHUNK offers more ...

The following components make the product KA even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Inductive Proximity Sensor



Sensor MMS 22



Electric Parallel Gripper EGP



Sensor Distributor

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

CAD data, operating manuals and other current product documents are available at **schunk.com**

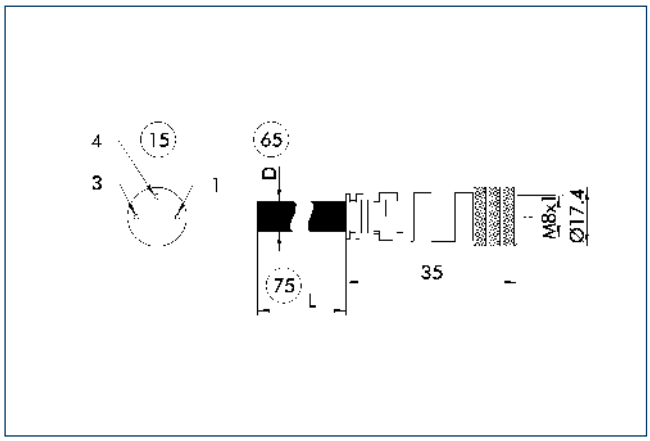
KA M8



Technical data

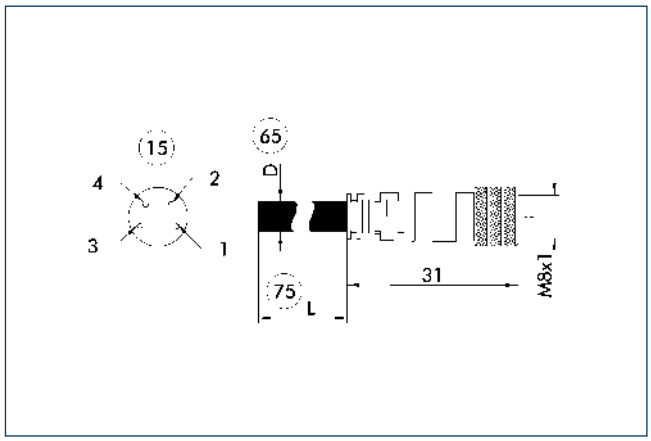
Straight PNP					
Description		KA BG08-L 3P-0300-PNP	KA BG08-L 3P-0500-PNP	KA BG08-L 4P-0500	KA BG08-L 4P-1000
ID		0301622	0301623	0307767	0307768
Connection sensor side		Socket	Socket	Socket	Socket
Connection electric cabinet sided		Open wire	Open wire	Open wire	Open wire
Angle electric cabinet sided	[°]	0	0	0	0
Cable length	[m]	3	5	5	10
Number of wires		3	3	4	4
Wire cross section	[mm²]	0.14	0.14	0.24	0.24
Weight	[kg]	0.09	0.18		
Max. current per wire	[A]	0.5	0.5	0.5	0.5
Max. total current	[A]	0.5	0.5	0.5	0.5
Angled NPN					
Description		KA BW08-L 3P-0300-NPN	KA BW08-L 3P-0500-NPN		
ID		0301602	9641116		
Connection sensor side		Socket	Socket		
Connection electric cabinet sided		Open wire	Open wire		
Angle electric cabinet sided	[°]	0	0		
Cable length	[m]	3	5		
Number of wires		3	3		
Wire cross section	[mm²]	0.14	0.14		
Weight	[kg]	0.12	0.2		
Max. current per wire	[A]	0.5	0.5		
Max. total current	[A]	0.5	0.5		
Angled PNP					
Description		KA BW08-L 3P-0300-PNP	KA BW08-L 3P-0500-PNP	KA BW08-L 4P-0500	KA BW08-L 4P-1000
ID		0301594	0301502	0307765	0307766
Connection sensor side		Socket	Socket	Socket	Socket
Connection electric cabinet sided		Open wire	Open wire	Open wire	Open wire
Angle electric cabinet sided	[°]	0	0	0	0
Cable length	[m]	3	5	5	10
Number of wires		3	3	4	4
Wire cross section	[mm²]	0.14	0.14	0.24	0.24
Weight	[kg]	0.12	0.2		
Max. current per wire	[A]	0.5	0.5	0.5	0.5
Max. total current	[A]	0.5	0.5	0.5	0.5

Main view KA BG08-L 3P



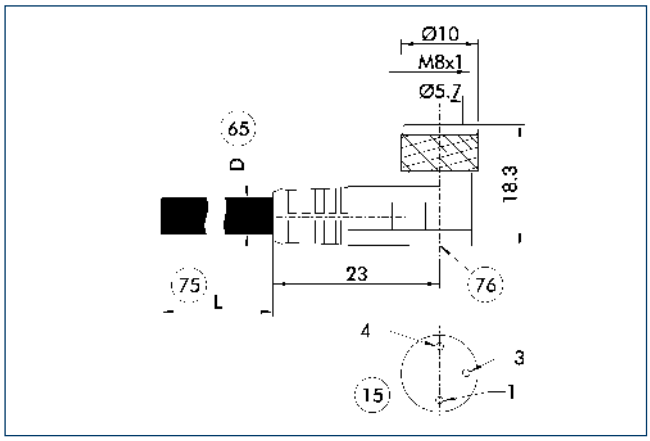
15 Socket
65 Cable diameter
75 Cable length

Main view KA BG08-L 4P



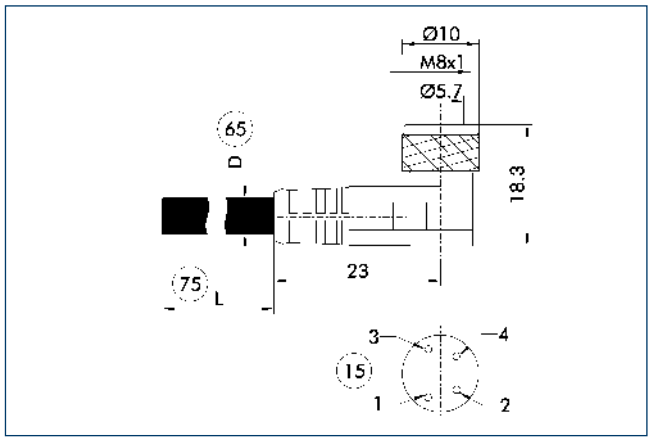
15 Socket
65 Cable diameter
75 Cable length

Main view KA BW08-L 3P



15 Socket
65 Cable diameter
75 Cable length
76 LED

Main view KA BW08-L 4P



15 Socket
65 Cable diameter
75 Cable length

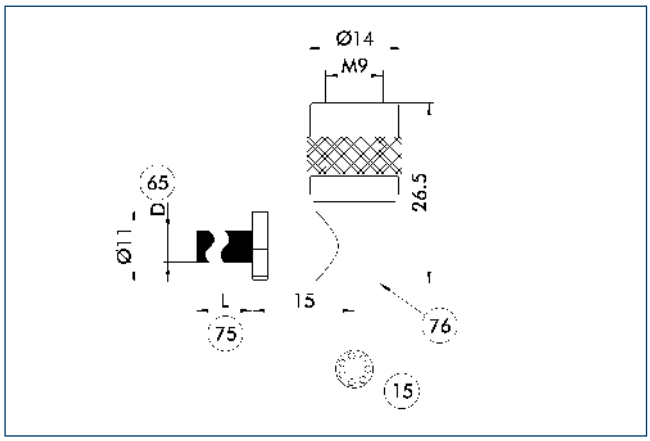
KA M9



Technical data

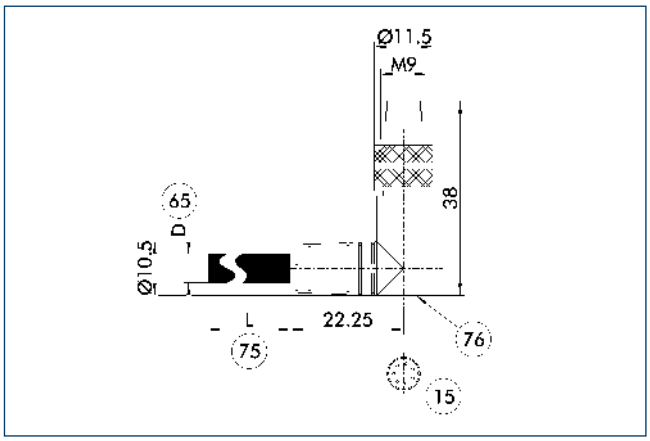
Socket			
Description		KA-BW9-L7P-0200	KA-BW9-L7P-0500
ID		0323001	0323003
Connection electric cabinet sided		Open wire	Open wire
Angle electric cabinet sided	[°]	0	0
Cable length	[m]	2	5
Number of wires		7	7
Wire cross section	[mm²]	0.14	0.14
Max. current per wire	[A]	0.5	0.5
Max. total current	[A]	0.5	0.5
Connector			
Description		KA-SW9-L7P-0200	KA-SW9-L7P-0500
ID		0323002	0323004
Connection electric cabinet sided		Open wire	Open wire
Angle electric cabinet sided	[°]	0	0
Cable length	[m]	2	5
Number of wires		7	7
Wire cross section	[mm²]	0.14	0.14
Max. current per wire	[A]	0.5	0.5
Max. total current	[A]	0.5	0.5

Main view KA SW09-L7P



15 Socket
65 Cable diameter
75 Cable length
76 LED

Main view KA BW09-L7P



15 Socket
65 Cable diameter
75 Cable length
76 LED

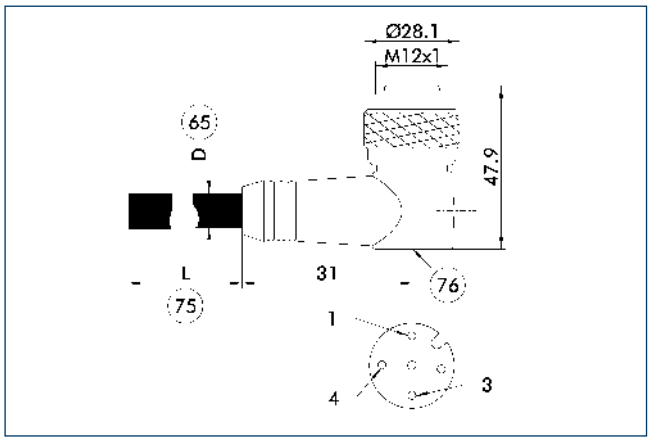
KA M12



Technical data

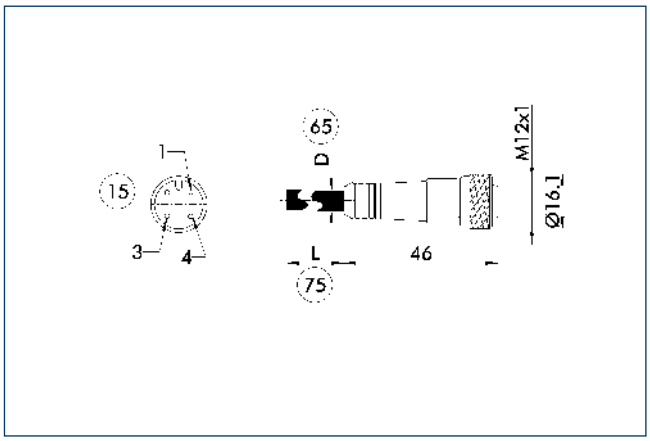
Straight PNP			
Description		KA BG12-L 3P-0500-PNP	
ID		30016369	
Connection sensor side		Socket	
Connection electric cabinet sided		Open wire	
Angle electric cabinet sided	[°]	0	
Cable length	[m]	5	
Number of wires		3	
Wire cross section	[mm²]	0.14	
Weight	[kg]	0.18	
Max. current per wire	[A]	0.5	
Max. total current	[A]	0.5	
Angled PNP			
Description		KA BW12-L 3P-0500-PNP	KA BW12-L 3P-0300-PNP
ID		0301507	0301503
Connection sensor side		Socket	Socket
Connection electric cabinet sided		Open wire	Open wire
Angle electric cabinet sided	[°]	0	0
Cable length	[m]	5	3
Number of wires		3	3
Wire cross section	[mm²]	0.14	0.14
Weight	[kg]	0.2	0.14
Max. current per wire	[A]	0.5	0.5
Max. total current	[A]	0.5	0.5

Main view KA BW12-L 3P



65 Cable diameter
75 Cable length
76 LED

Main view KA BG12-L 3P



15 Socket
65 Cable diameter
75 Cable length
76 LED

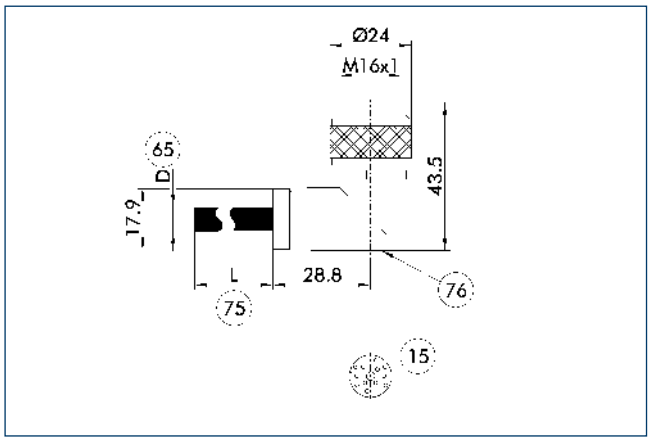
KA M16



Technical data

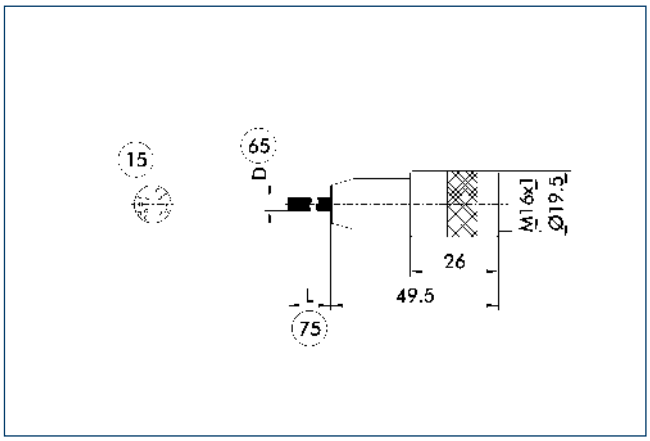
Socket			
Description		KA BW16-L 12P-0500	KA BG16-L 12P-1000
ID		0323005	0301801
Connection electric cabinet sided		Open wire	Open wire
Angle electric cabinet sided	[°]	0	0
Cable length	[m]	5	10
Number of wires		12	12
Wire cross section	[mm²]	0.14	0.14
Weight	[kg]	0.34	0.68
Max. current per wire	[A]	0.5	0.5
Max. total current	[A]	0.5	0.5
Connector			
Description		KA SW16-L 12P-0500	
ID		0323006	
Connection electric cabinet sided		Open wire	
Angle electric cabinet sided	[°]	0	
Cable length	[m]	5	
Number of wires		12	
Wire cross section	[mm²]	0.14	
Max. current per wire	[A]	0.5	
Max. total current	[A]	0.5	

Main view KA BW16-L



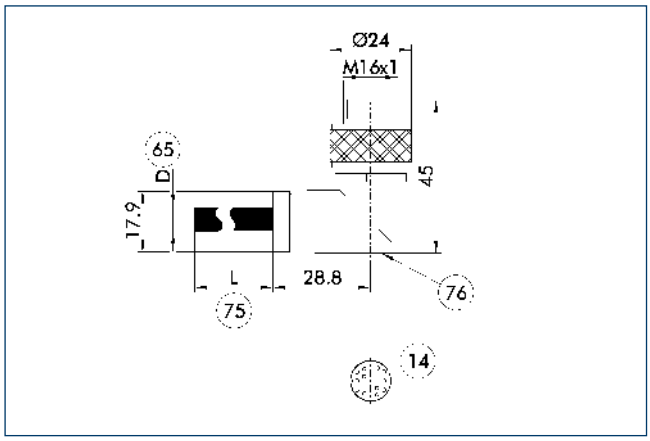
15 Socket
65 Cable diameter
75 Cable length
76 LED

Main view KA BG16-L



15 Socket
65 Cable diameter
75 Cable length

Main view KA SW 16-L



14 Plug
65 Cable diameter
75 Cable length
76 LED

Easy. Robust. Compact.

Cable Connector KBU/KST

The KST (cable connector) and KBU (cable bushing) are used for preparing lines for sensors and actuators.

Field of Application

The SCHUNK KBU/KST are used together with sensors, actuators, distributors and cables. Wherever customized cable lengths are required.



Advantages – Your benefit

Easy assembly

The KBU/KST can be quickly and easily connected to cables, and therefore reduces the complete installation time.

Industrial standard plug connector

Options and special Information

Can be troublefree combined with SCHUNK sensors, actuators, and sensor distributors for simple and flexible handling.

Application Example



① **Cable Connector KST**

② **Cable Extensions**

③ **Sensor Distributor**

④ **Magnetic Switch MMS**

⑤ **Rotary Feed-through DDF 2**

⑥ **Universal Gripper PGN-plus**

SCHUNK offers more ...

The following components make the product KBU/KST even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.


Sensor Cables


Inductive Proximity Sensor


Sensor Tester SST


Sensor Distributor

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

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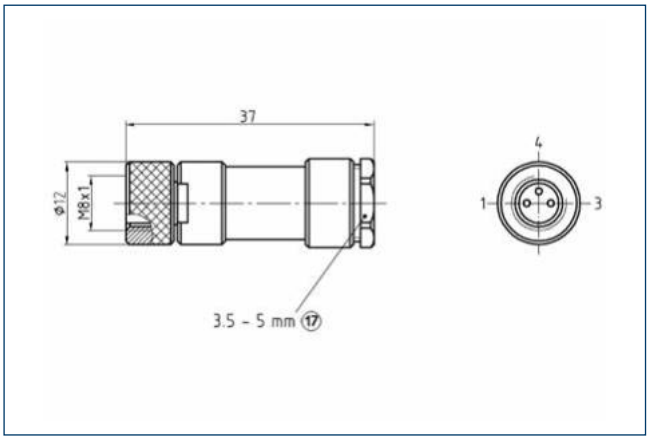
KBU/KST M8



Technical data

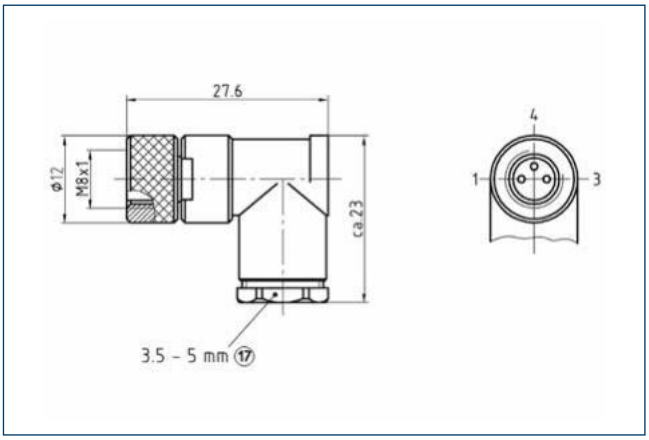
Cable socket			
Description		KBU-M8-G 3P	KBU-M8-W 3P
ID		0300052	0300053
Connection electric cabinet sided		Open wire	Open wire
Angle electric cabinet sided	[°]	0	0
Number of wires		3	3
Wire cross section	[mm²]	0.25	0.25
Max. current per wire	[A]	0.5	0.5
Max. total current	[A]	0.5	0.5
Cable connector			
Description		KST-M8-G 3P	KST-M8-W 3P
ID		0300050	0300051
Connection electric cabinet sided		Open wire	Open wire
Angle electric cabinet sided	[°]	0	0
Number of wires		3	3
Wire cross section	[mm²]	0.25	0.25
Max. current per wire	[A]	0.5	0.5
Max. total current	[A]	0.5	0.5

Socket straight M8



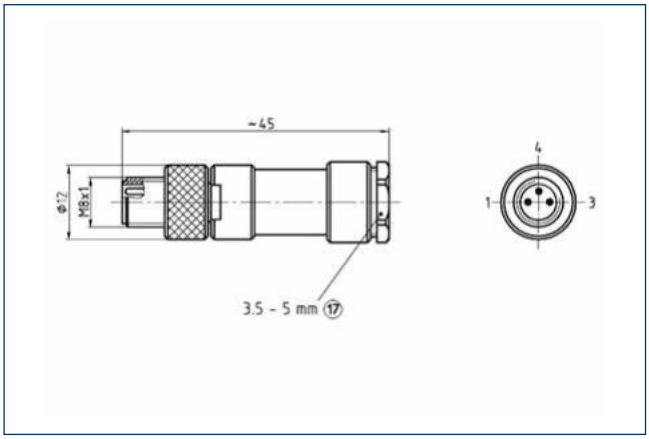
⑰ Cable outlet

Socket angled M8



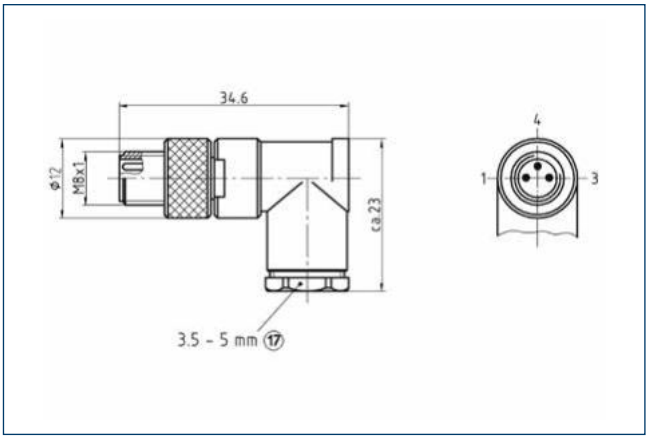
⑰ Cable outlet

Connector straight M8



⑰ Cable outlet

Connector angled M8



⑰ Cable outlet

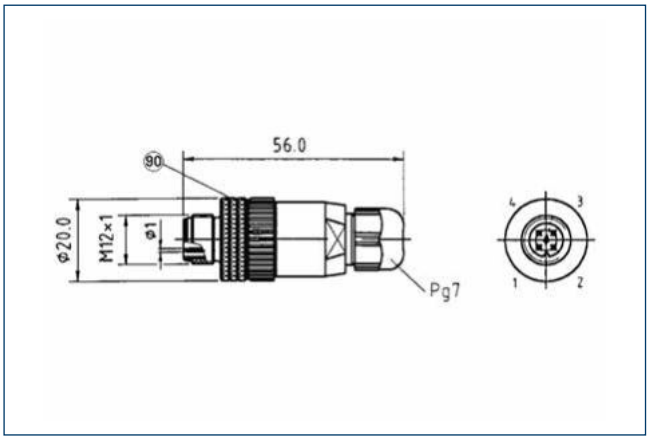
KBU/KST M12



Technical data

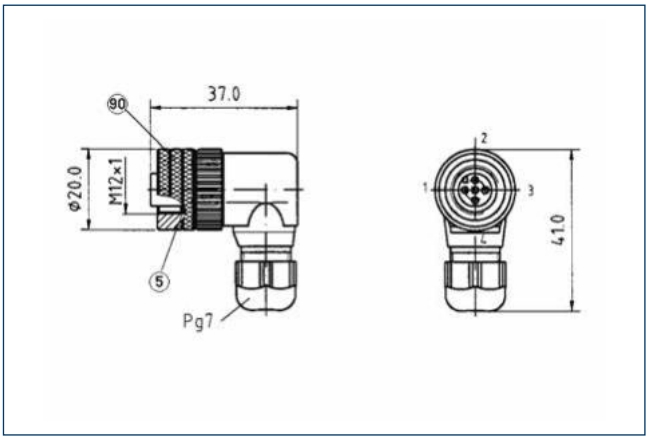
Cable socket			
Description		KBU-M12-G	KBU-M12-W
ID		0300062	0300063
Connection electric cabinet sided		Open wire	Open wire
Angle electric cabinet sided	[°]	0	0
Number of wires		3	3
Wire cross section	[mm²]	0.75	0.75
Max. current per wire	[A]	0.5	0.5
Max. total current	[A]	0.5	0.5
Cable connector			
Description		KST-M12-G	KST-M12-W
ID		0300060	0300061
Connection electric cabinet sided		Open wire	Open wire
Angle electric cabinet sided	[°]	0	0
Number of wires		3	3
Wire cross section	[mm²]	0.75	0.75
Max. current per wire	[A]	0.5	0.5
Max. total current	[A]	0.5	0.5

Socket straight M12



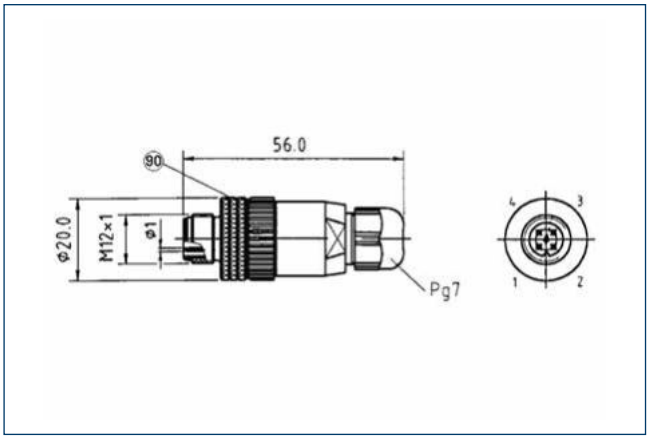
(90) Locking ring

Socket angled M12



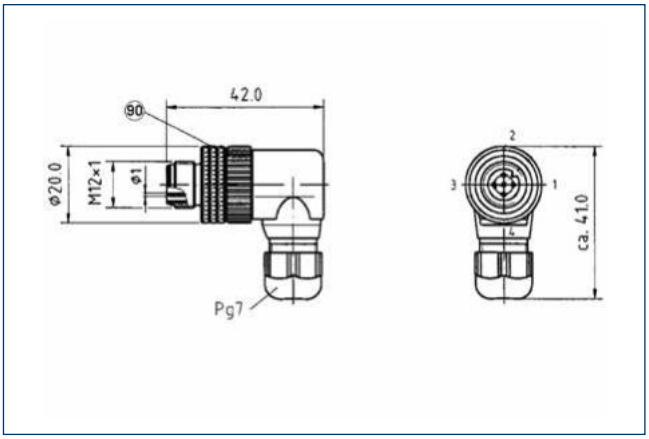
(5) O-ring
(90) Locking ring

Connector straight M12



(90) Locking ring

Connector angled M12



(90) Locking ring

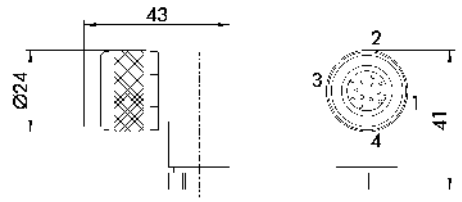
KBU/KST M16



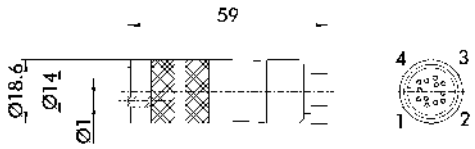
Technical data

Cable socket		
Description		KBU-M16 12P
ID		9941732
Connection electric cabinet sided		Open wire
Angle electric cabinet sided	[°]	0
Number of wires		12
Wire cross section	[mm²]	0
Max. current per wire	[A]	0.5
Max. total current	[A]	0.5
Cable connector		
Description		KST-M16 12P
ID		9940790
Connection electric cabinet sided		Open wire
Angle electric cabinet sided	[°]	0
Number of wires		12
Wire cross section	[mm²]	0
Max. current per wire	[A]	0.5
Max. total current	[A]	0.5

Socket angular M16



Plug straight M16



Reliable. Compact. Flexible.

Cable Extension KV

The SCHUNK KV cable extensions are perfectly suitable for supplying SCHUNK components and for leading signals.

Field of Application

Cable extensions are used where electric connections between two components should be done without cable assembly.

Advantages – Your benefit

Pre-assembled cable easy and fast wiring, without tool

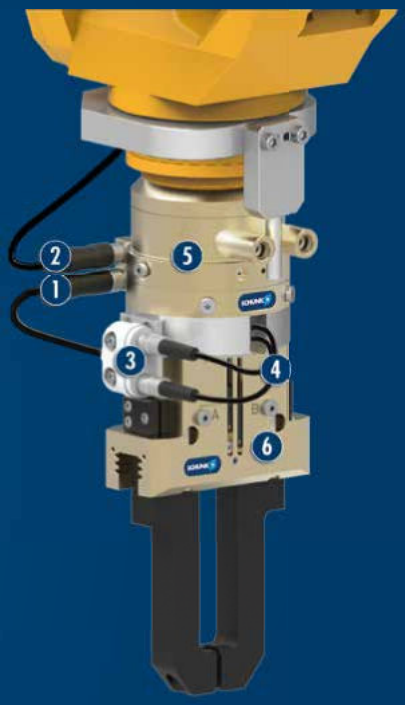
Standard plug connector for universal application



Options and special Information

Compatibility: Can be troublefree combined with SCHUNK sensors, actuators, and sensor distributors.

Application Example



① **Cable Connector KST**

② **Cable Extensions**

③ **Sensor Distributor**

④ **Magnetic Switch MMS**

⑤ **Rotary Feed-through DDF 2**

⑥ **Universal Gripper PGN-plus**

SCHUNK offers more ...

The following components make the product KV even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Sensor Distributor



Electric Parallel Gripper EGP



Connector Clip CLI



Sensor MMS 22

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

CAD data, operating manuals and other current product documents are available at **schunk.com**

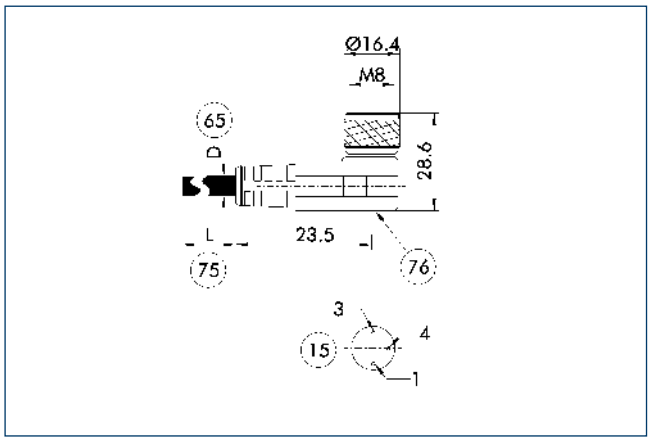
KV M8



Technical data

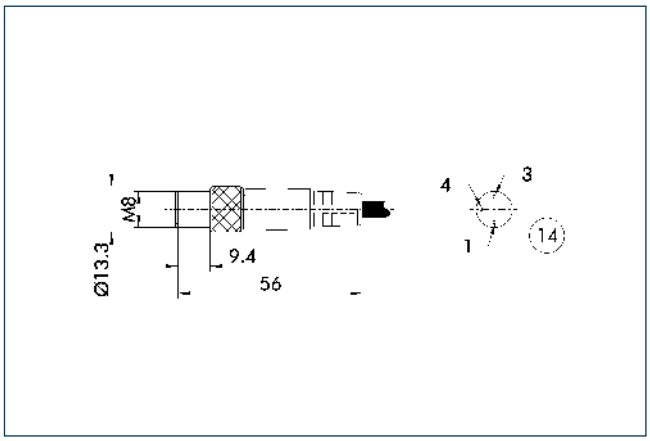
Description		KV BG08-SG08 3P-0050	KV BG08-SG08 3P-0100	KV BW08-SG08 3P-0030-PNP	KV BW08-SG08 3P-0100-PNP	KV BW08-SG08 3P-0200-PNP
ID		0301598	0301599	0301495	0301496	0301497
Connection sensor side		Connector	Connector	Connector	Connector	Connector
Thread sensor sided		M8	M8	M8	M8	M8
Angled connector, sensor side	[°]	0	0	90	90	90
Connection electric cabinet sided		Connector	Connector	Connector	Connector	Connector
Thread electric cabinet sided		M8	M8	M8	M8	M8
Angle electric cabinet sided	[°]	0	0	0	0	0
Cable length	[m]	0.5	1	0.3	1	2
Number of wires		3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14
Weight	[kg]	0.04	0.05	0.02	0.04	0.06
Max. current per wire	[A]	0.5	0.5	0.5	0.5	0.5
Max. total current	[A]	0.5	0.5	0.5	0.5	0.5

Socket angular KV M8



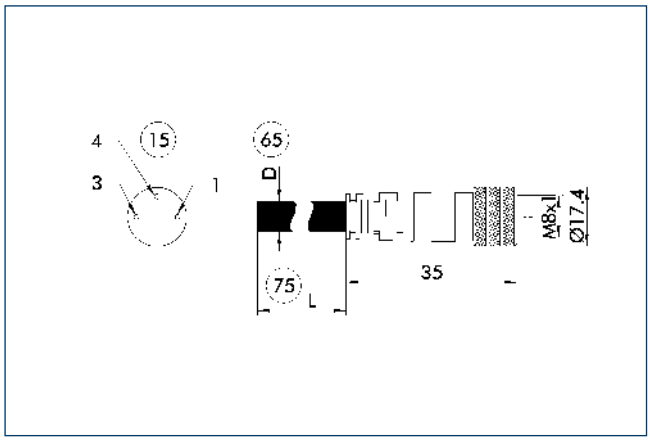
15 Socket
65 Cable diameter
75 Cable length
76 LED

Plug straight KC M8



14 Plug

Main view KA BG08-L 3P



15 Socket
65 Cable diameter
75 Cable length

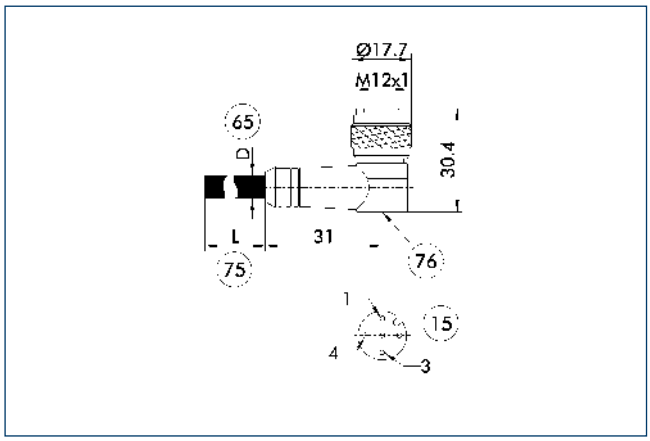
KV M12



Technical data

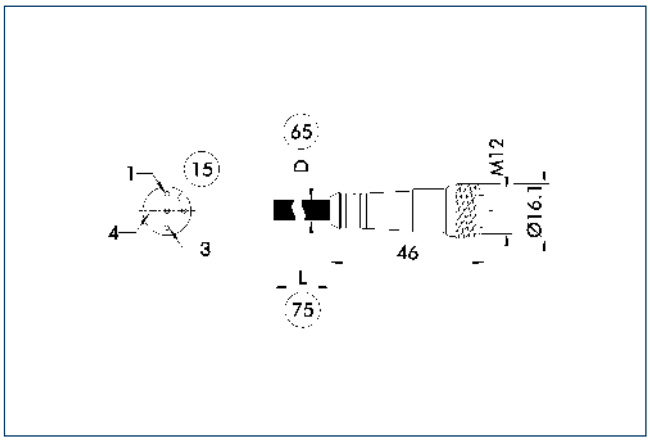
Description		KV BG12-SG12 3P-0030-PNP	KV BG12-SG12 3P-0060-PNP	KV BW12-SG12 3P-0030-PNP	KV BW12-SG12 3P-0100-PNP	KV BW12-SG12 3P-0200-PNP
ID		0301999	0301998	0301595	0301596	0301597
Connection sensor side		Socket	Socket	Socket	Socket	Socket
Thread sensor sided		M12	M12	M12	M12	M12
Angled connector, sensor side	[°]	0	0	90	90	90
Connection electric cabinet sided		Connector	Connector	Connector	Connector	Connector
Thread electric cabinet sided		M12	M12	M12	M12	M12
Angle electric cabinet sided	[°]	0	0	0	0	0
Cable length	[m]	0.3	0.6	0.3	1	2
Number of wires		3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14
Weight	[kg]	0.04	0.05	0.05	0.08	0.13
Max. current per wire	[A]	0.5	0.5	0.5	0.5	0.5
Max. total current	[A]	0.5	0.5	0.5	0.5	0.5

Socket angular KV M12



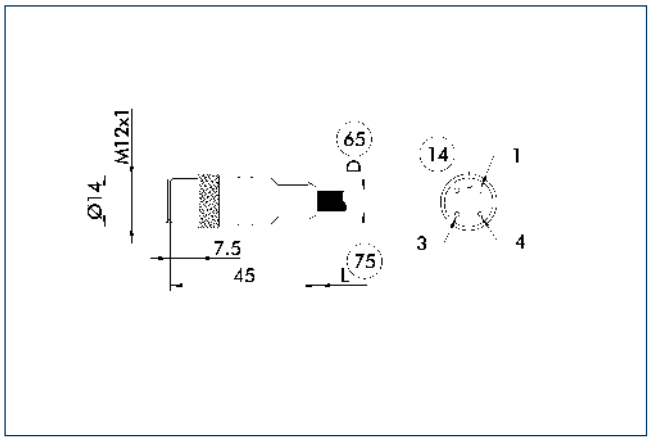
15 Socket
65 Cable diameter
75 Cable length
76 LED

Socket straight KV M12



15 Socket
65 Cable diameter
75 Cable length

Plug straight KV M12



14 Plug
65 Cable diameter
75 Cable length

Easy. Flexible. Compact.

Sensor Distributor V

For connection of all SCHUNK sensors and sensor systems (IN/INK/ MMS/APS-Z80/etc.). Versions 2-fold (V2), 4-fold (V4), and 8-fold (V8).

Field of Application

Sensor distributors from SCHUNK are all-rounders, insensitive against vibrations, dust and humidity. They are suitable for applications in clean and dirty environments.

Advantages – Your benefit

Operating display and shift indicator by LED for direct control of the switching status

A feed line therefore it is ideal for signal feed-through

Robust PA housing for a long service lifetime and resistant against many chemicals



Options and special Information

Protection class as per DIN 40050: IP67 in plugged position for the use in clean or dusty environments or if contact with water is given. Functionability in case of contact with other mediums (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

Application Example



① **Sensor Distributor V8**

② **Rotary Actuator SRU-plus**

③ **Stroke Module PHE**

④ **Universal Gripper PGN-plus with workpiece-specific gripper fingers**

SCHUNK offers more ...

The following components make the product Sensor Distributor even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Cable Connector
KBU/KST



Sensor MMS 22



Sensor Cables



Electric Parallel Gripper
EGP

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
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CAD data, operating manuals and other current product documents are available at **schunk.com**

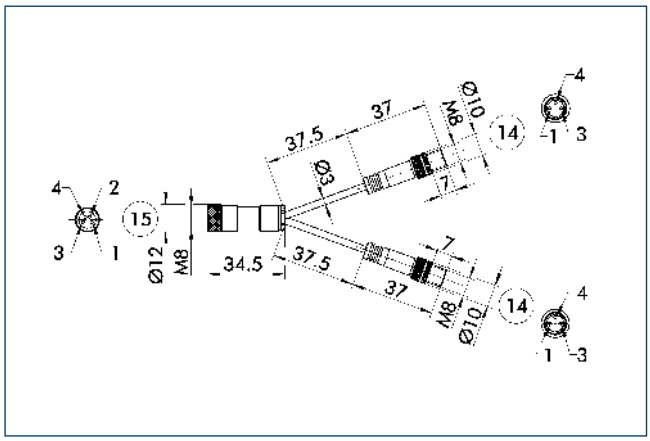
Sensor Distributor Y



Technical data

Description		V2-M8-4P-2XM8-3P
ID		0301380
Connection socket		M8
Cable length	[mm]	37
Nominal voltage	[V]	30
Max. total current	[A]	4
Min./max. ambient temperature	[°C]	-25/80

Main view V2-M8-4-2xM8-3



14 Plug

15 Socket

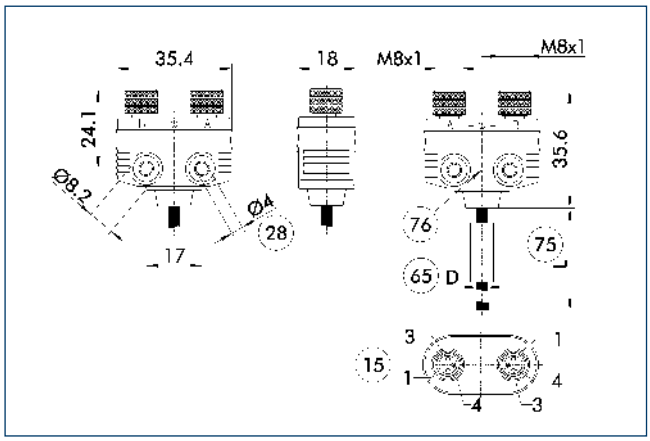
Sensor Distributor V2



Technical data

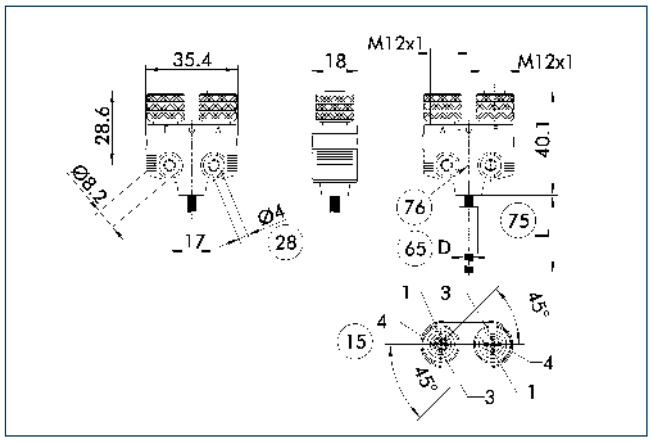
Description		V2-M8	V2-M12
ID		0301775	0301776
Connection socket		M8	M12
Cable length	[m]	3	3
Cable diameter	[mm]	4.5	4.5
Nominal voltage	[V]	24	24
Min. voltage	[V]	10	10
Max. voltage	[V]	30	30
Max. current per wire	[A]	2	2
Max. total current	[A]	2	2
Min./max. ambient temperature	[°C]	-5/70	-5/70

Main view V2-M8



(15) Socket
(28) Through-bore
(65) Cable diameter
(75) Cable length
(76) LED

Main view V2-M12



(15) Socket
(28) Through-bore
(65) Cable diameter
(75) Cable length
(76) LED

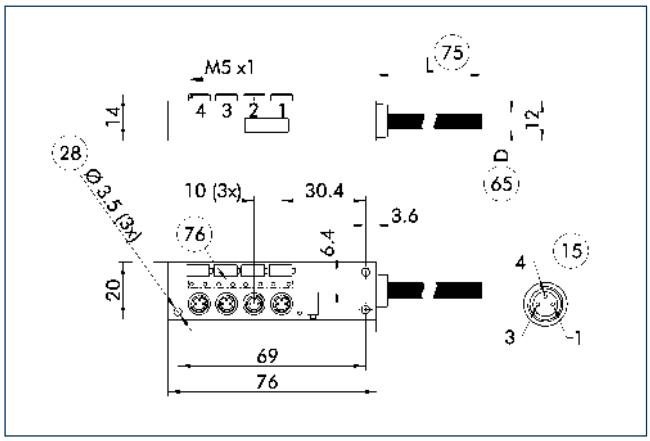
Sensor Distributor V4



Technical data

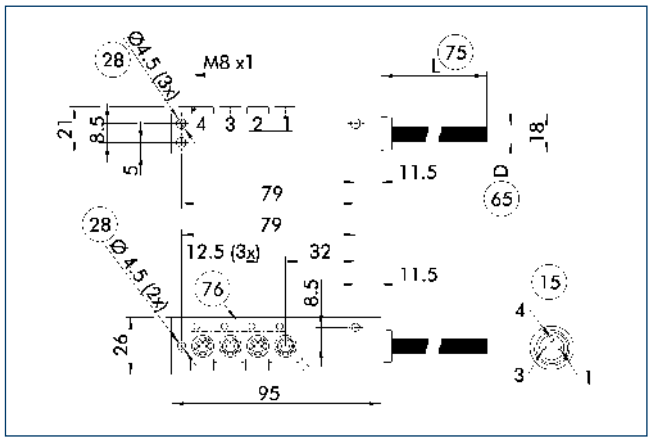
Description		V4-M5	V4-M8	V4-M8-M12 PRH	V4-M12
ID		0301661	0301746	0301755	0301747
Connection socket		M5	M8	M8	M12
Cable length	[m]	5	5	5	5
Cable diameter	[mm]	5	7	7	8.4
Nominal voltage	[V]	24	24	24	24
Min. voltage	[V]	30	30	30	30
Max. voltage	[V]	10	10	10	10
Max. current per wire	[A]	2	2	2	2
Max. total current	[A]	2	2	2	2

Main view V4-M5



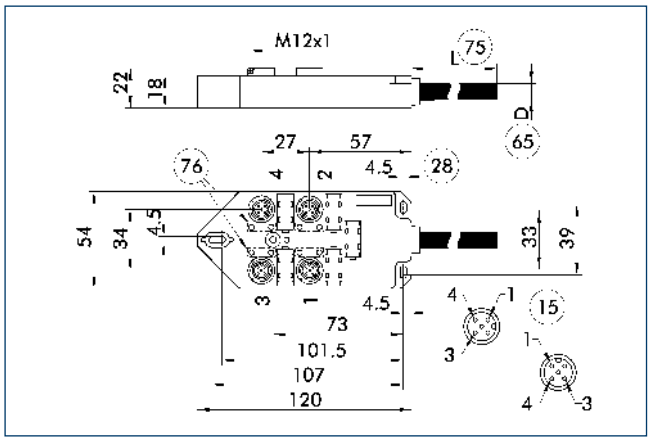
(15) Socket
(28) Through-bore
(65) Cable diameter
(75) Cable length
(76) LED

Main view V4-M8



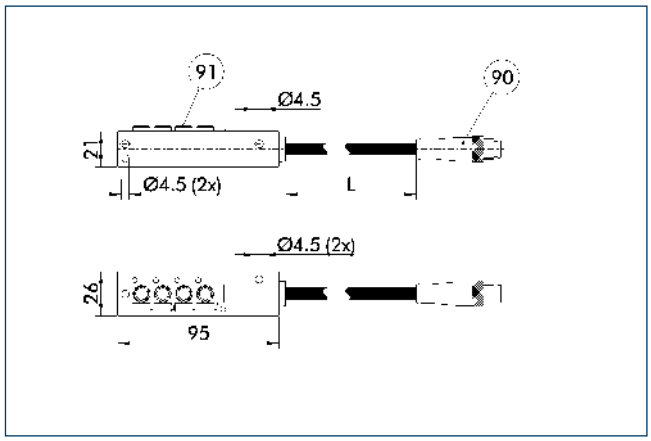
(15) Socket
(28) Through-bore
(65) Cable diameter
(75) Cable length
(76) LED

Main view V4-M12



(15) Socket
(28) Through-bore
(65) Cable diameter
(75) Cable length
(76) LED

Main view V4-M8 PRH



(90) Connection of the PRH module via M12/12-pole plug connector
(91) Sensor connection M8 (4x)

The PRH sensor distributor can be directly connected to the PRH module. Four sensors with 3 poles/M8 plug can be connected.

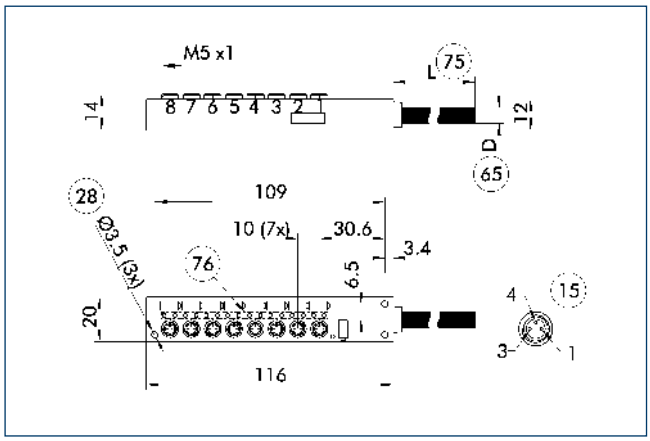
Sensor Distributor V8



Technical data

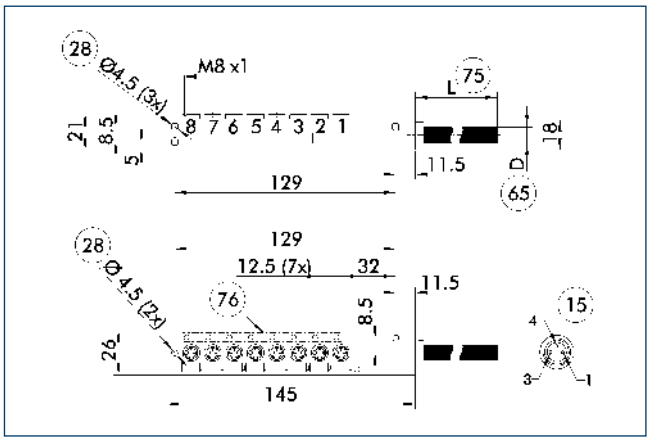
Description		V8-M5	V8-M8	V8-M12
ID		0301662	0301751	0301752
Connection socket		M5	M8	M12
Cable length	[m]	5	5	5
Cable diameter	[mm]	6.5	9.5	9.5
Nominal voltage	[V]	24	24	24
Min. voltage	[V]	10	10	10
Max. voltage	[V]	30	30	30
Max. current per wire	[A]	2	2	2
Max. total current	[A]	2	2	2

Main view V8-M5



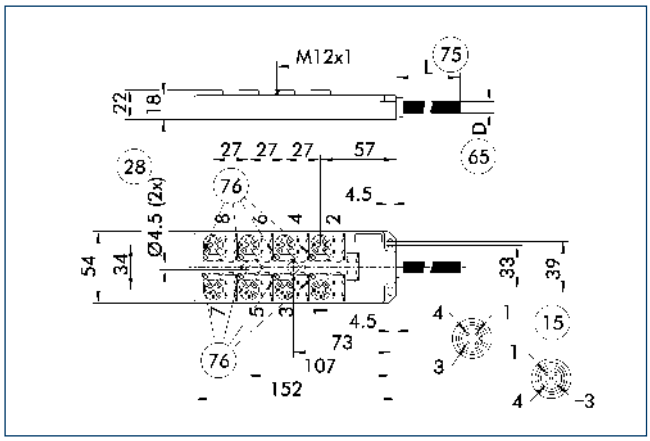
15 Socket
28 Through-bore
65 Cable diameter
75 Cable length
76 LED

Main view V8-M8



15 Socket
28 Through-bore
65 Cable diameter
75 Cable length
76 LED

Main view V8-M12



15 Socket
28 Through-bore
65 Cable diameter
75 Cable length
76 LED

Precise. Compact. Easy Assembly.

Centering Element ZHU/ZH/RMZ/LMZL

Centering sleeves are used for centering between two elements. With SCHUNK grippers, this frequently occurs between the mounting plate and gripper and between the gripper and gripper fingers.

Field of Application

Variable centering tasks for gripper and rotary modules, as well as linear modules.



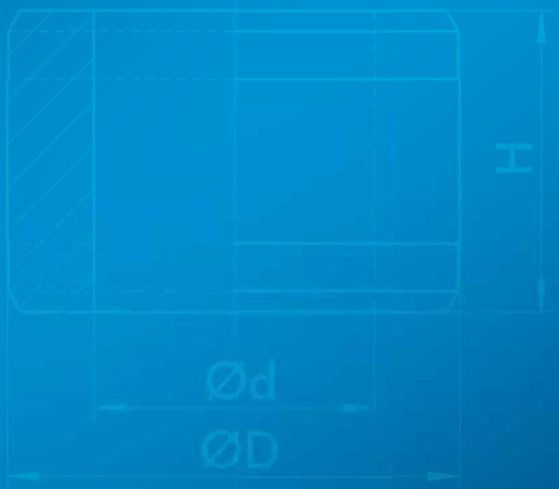
Advantages – Your benefit

Space-saving for small, compact grippers

Precise for high repeat accuracy

Economical for low costs

Easy to install for fast assembly



Applications



① **Centering Sleeves ZHU**

② **Universal Gripper PGN-plus**

SCHUNK offers more ...

The following components make the product centering element even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Universal Gripper
PGN-plus



Flat Swivel Unit
SRU-plus



Adapter Plate

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
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Centering Element ZHU



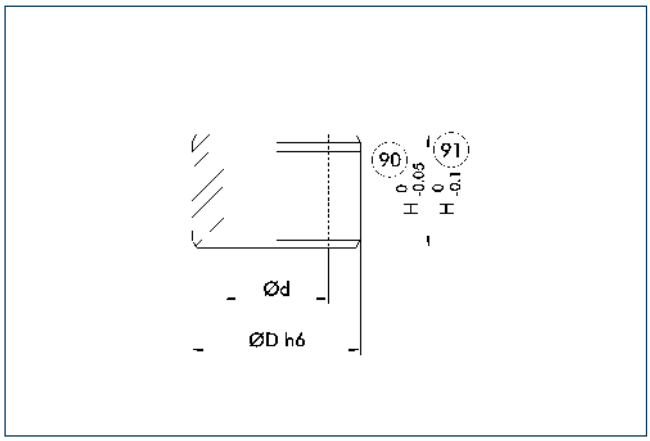
Technical data

Description		ZH 500	ZH 600	ZH 700	ZHU 2	ZHU 2,5	ZHU 3
ID		0313399	0313367	0313368	9941547	9941628	9941629
Ø D	[mm]	5	6	7	2	2.5	3
Ø d	[mm]	3.2	4.4	5.4	1.3	1.7	2.1
H	[mm]	2.5	2.5	2.5	1.95	1.95	1.95

Description		ZHU 3,5	ZHU 4	ZHU 5	ZHU 6	ZHU 8	ZHU 10
ID		9939947	9939376	9939377	9939384	9939378	9939379
Ø D	[mm]	3.5	4	5	6	8	10
Ø d	[mm]	2.1	2.6	3.1	4.1	5.1	6.2
H	[mm]	2.95	3.95	4.35	5.35	5.35	6.65

Description		ZHU 12	ZHU 14	ZHU 16	ZHU 22	ZHU 28
ID		9939380	9939381	9939382	9939383	9941220
Ø D	[mm]	12	14	16	22	28
Ø d	[mm]	8.2	10.2	12.2	16.2	21
H	[mm]	6.65	8.6	8.6	13.6	17.6

Main view ZHU



(90) Ød1,3 – Ød8,2 (91) Ød10,2 – Ød21

You can find the variable dimensions in the technical data table.

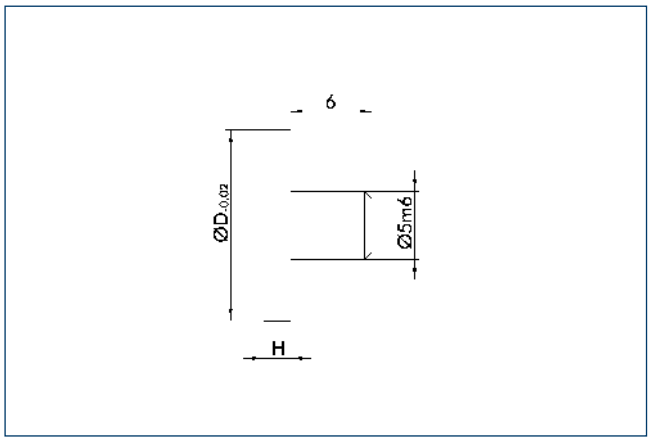
Centering Element RMZ



Technical data

Description		RMZ 12	RMZ 50	RMZ 110	RMZ 200
ID		0313360	0313361	0313362	0313363
Ø D	[mm]	20.03	14.03	16.03	20.03
H	[mm]	0.7	2	2	2

Main view RMZ



You can find the variable dimensions in the technical data table.

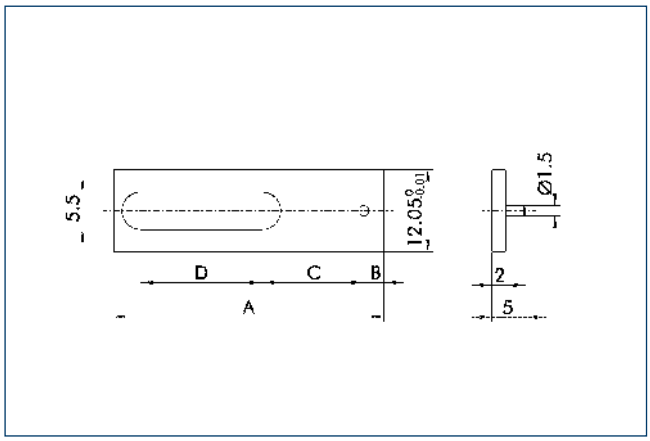
Centering Element LMZL



Technical data

Description		LMZL 50	LMZL 100
ID		0314211	0314212
A	[mm]	40	55
B	[mm]	3	5
C	[mm]	15	18
D	[mm]	18	26

Main view LMZL



You can find the variable dimensions in the technical data table.

Strong. Easy. Robust.

Elbow Fitting WV

Version as plug-in connection for fast and easy connection to the pneumatic energy supplies.

Field of Application

For secure hose connections in automation solutions.

Advantages – Your benefit

Suitable for all SCHUNK grippers, swivel and linear modules, in addition to robot accessories

Flexible utilization for use on pneumatic hoses from various manufacturers

Fittings as plug-in connections for fast hose attachment



Application Example



① **Elbow Fitting**

② **Universal Gripper PGN-plus**

③ **Rotary Actuator SRU-plus**

SCHUNK offers more ...

The following components make the product WV even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Universal Gripper
PGN-plus



Rotary Actuator
SRU-plus



Banjo Fittings with One-way
flow control Valves DRV



Adapter plate

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
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WV

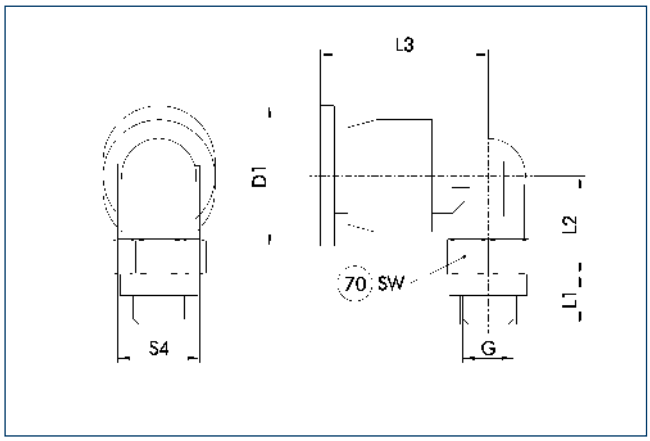
Accessories | Valves and Fittings | Elbow Fitting



Technical data

Description		WV-G1/8-6	WV-G1/8-8	WV-G1/4-6
ID		9937129	9936730	9937170
Thread		G1/8“	G1/8“	G1/4“
Operating pressure	[bar]	-/20	-/20	-/20
Min./max. ambient temperature	[°C]	-10/60	-10/60	-10/60

Main view WV



70 Wrench size

Description	G	L1	L2	L3	D1	SW	S4
WV-G1/8-6	G1/8"	5	13.5	22	12	13	10
WV-G1/8-8	G1/8"	5	16	25.5	14	13	12
WV-G1/4-6	G1/4"	7	15.5	23.5	12	17	10

Flexible. Robust. Easy.

Swivel Fitting SWV

Version as plug-in connection for fast and easy connection to the pneumatic energy supplies.

Field of Application

For secure hose connections in automation solutions.

Advantages – Your benefit

Suitable for all SCHUNK grippers, swivel and linear modules, in addition to robot accessories

Flexible utilization for use on pneumatic hoses from various manufacturers

Fittings as plug-in connections for fast hose attachment



Application Example



① **Swivel Fitting**

② **Flow control Valves**

③ **Swivel Head SRH-plus**

④ **3-Finger Universal Gripper PZN-plus**

SCHUNK offers more ...

The following components make the product SWV even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Universal Gripper
PGN-plus



Rotary Actuator
SRU-plus



Adapter Plate



Elbow Fittings WV

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
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CAD data, operating manuals and other current product documents are available at **schunk.com**

SWV

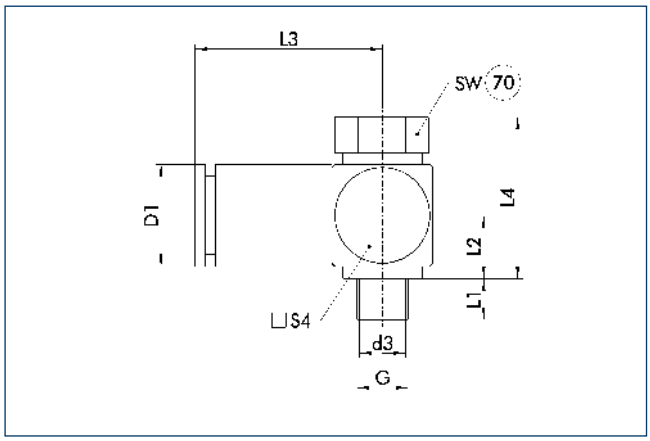
Accessories | Valves and Fittings | Swivel Fitting



Technical data

Description		SWV-G4-6	SWV-G4-8	SWV-G8-6	SWV-M3-4	SWV-M5-6
ID		9937128	9936728	9937152	9210505	9936171
Thread		G1/4“	G1/4“	G1/8“	M3	M5
Operating pressure	[bar]	20	20	20	20	20
Min./max. ambient temperature	[°C]	-10/60	-10/60	-10/60	-10/60	-10/60

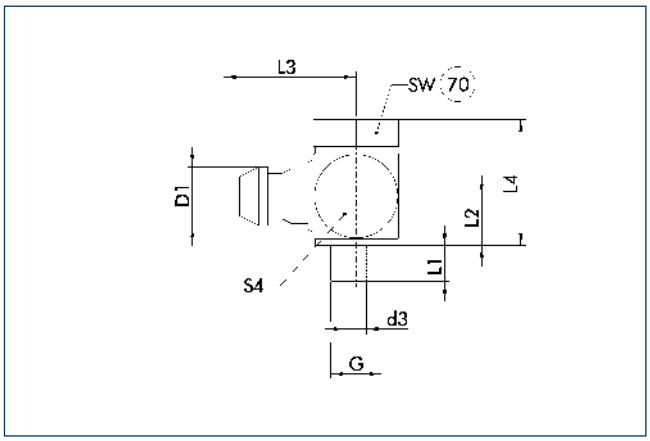
Main view SWV



70 Wrench size

Description	G	D3	L1	L2	L3	L4	D1	SW
SWV-G4-6	G1/4"	7	8	8.4	24.5	21.6	12	17
SWV-G4-8	G1/4"	7	8	15.3	25	21.6	13.5	17
SWV-G8-6	G1/8"	5	6.5	8.25	22.5	20.5	12	14
SWV-M5-6	M5	2	4	6.2	18.5	15.8	10	8

Main view SWV-M3



Description	G	D3	L1	L2	L3	L4	D1	SW
SWV-M3-4	M3	1.1	2	2.5	7.3	7.3	3.4	5

Compact. Easy. Safe.

Banjo Fitting with One-way flow control Valves DRV

Version as plug-in connection for fast and easy connection to the pneumatic energy supplies.

Field of Application

For secure hose connections in automation solutions.

Advantages – Your benefit

Suitable for all SCHUNK grippers, swivel and linear modules, as well as robot accessories

Flexible utilization for use on pneumatic hoses from various manufacturers

Fittings as plug-in connections for fast hose attachment



Application Example



① **Swivel Fitting**

② **Joint with throttle**

③ **Swivel Head SRH-plus**

④ **3-Finger Universal Gripper PZN-plus**

SCHUNK offers more ...

The following components make the product DRV even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



PGN-plus Universal Gripper



Rotary Actuator SRU-plus



Elbow Fittings WV



Adapter Plate

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
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CAD data, operating manuals and other current product documents are available at **schunk.com**

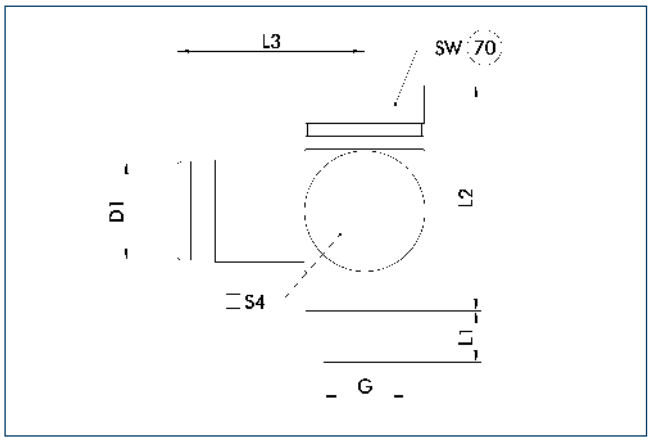
DRV



Technical data

Description		DRV-M3-3	DRV-M5-6	DRV-G8-6	DRV-G4-6	DRV-G8-8
ID		9720005	9936160	9936159	9936161	9936162
Thread		M3	M5	G1/8“	G1/4“	G1/8“
Operating pressure	[bar]	20	20	20	20	20
Min./max. ambient temperature	[°C]	-10/60	-10/60	-10/60	-10/60	-10/60

Main view DRV



70 Wrench size

Description	G	L1	L2	L3	D1	SW
DRV-M3-3	M3	2.5	29	11	4.8	
DRV-M5-6	M5	4	21.5	21	10.4	8
DRV-G8-6	G1/8"	5	30	22.5	12	14
DRV-G4-6	G1/4"	6.5	32	24.5	12	17
DRV-G8-8	G1/8"	5	30	23	14	14

Reliable. Compact. Safe.

Pressure Maintenance Valve SDV-P

With a loss of air pressure, venting of the module will be prevented by the pressure maintenance valve. Via this valve the grip force or position for various modules can be maintained. This is especially useful for grippers where a mechanical grip force maintence solution is not possible.

Field of Application

Use in applications, where temporary force or position maintenance is required, complements grippers, rotary or linear modules.



Advantages – Your benefit

Robust design for long term reliable applications

Well proven in multiple applications of the industrial automation

Quality from the leading expert in clamping technology and gripping systems

Functional Description

Two check valves switches in parallel, automatically open the return flow direction and close the pressure line when they are actuated.



① **Housing**

② **Ventilation button channel A**

③ **Ventilation button channel B**

④ **Return spring**

SCHUNK offers more ...

The following components make the product SDV-P even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Universal Gripper
PGN-plus



Pneumatic Long-stroke Gripper PHL



Rotary Actuator
SRU-plus



3-Finger Universal Gripper PZN-plus

ⓘ Further information regarding the products can be found on the following product pages or at schunk.com.
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SDV-P

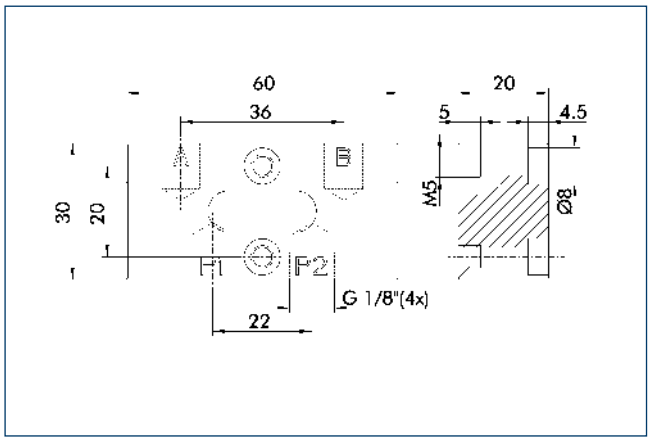
Accessories | Valves and Fittings | Pressure Maintenance Valve



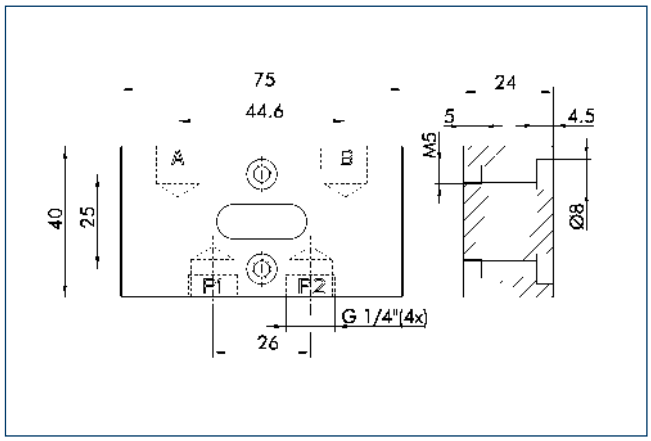
Technical data

Description		SDV-P 04	SDV-P 04-E	SDV-P 07	SDV-P 07-E
ID		0403130	0300120	0403131	0300121
Thread		G1/8"	G1/8"	G1/4"	G1/4"
Nominal distance	[mm][µm]	4	4	7	7
Air stream KV	[m³/min] [l/min]	16	16	27	27
Rate of flow	[l/min]	200	200	300	300
Operating pressure	[bar]	2/10	2/10	2/10	2/10
Min./max. ambient temperature	[°C]	-10/80	-10/80	-10/80	-10/80
Closing-/opening time	[ms][h]	10	10	10	10
Weight	[kg][g]	0.1	0.1	0.2	0.2
Fast ventilation		without	with	without	with

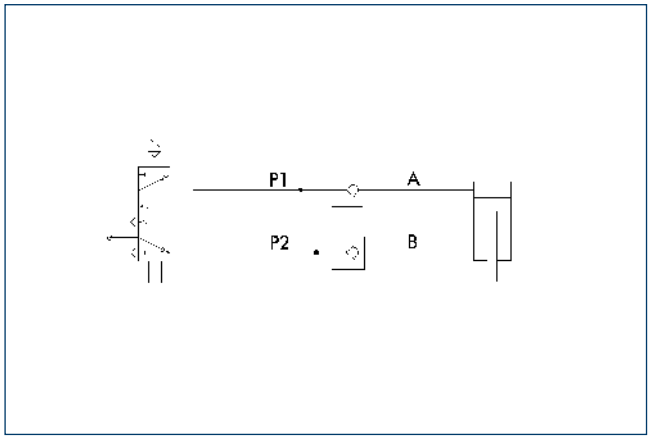
Main view SDV-P 04 (-E)



Main view SDV-P 07 (-E)



Wiring diagram



SCHUNK Service



Competent and skilled personnel ensure optimal availability of your SCHUNK products, and make sure that their value will be maintained.

Your advantage:

- Fast supply of original spare parts
- Reduction of down-times
- The complete spectrum of components from one source
- Quality and availability that can only be guaranteed by the original manufacturer
- 12-month warranty

Initial operation

- Professional assembly
- Fast and trouble-free

Inspection

- Inspection is carried out by skilled service engineers
- Avoiding unplanned failures of workholding and toolholding equipment

Maintenance

- Regular maintenance carried out by skilled service engineers
- Increasing and ensuring the availability of your workholding and tool-holding equipment

Repairs

- Short down-times due to fast intervention of the SCHUNK service engineers
- Spare parts and accessories

Training

- Fast and practical training
- Efficient use of your SCHUNK products by training of the operating personnel
- The basis for proper machining of workpieces
- Ensures longevity of your SCHUNK products

Individual service – for better results

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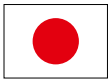
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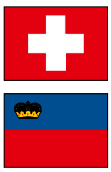
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Catalog Lathe Chucks
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Catalog Chuck Jaws
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Catalog Stationary Workholding
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The whole World of Lathe Chucks ☐

Product Catalog MAGNOS Magnetic Clamping Technology
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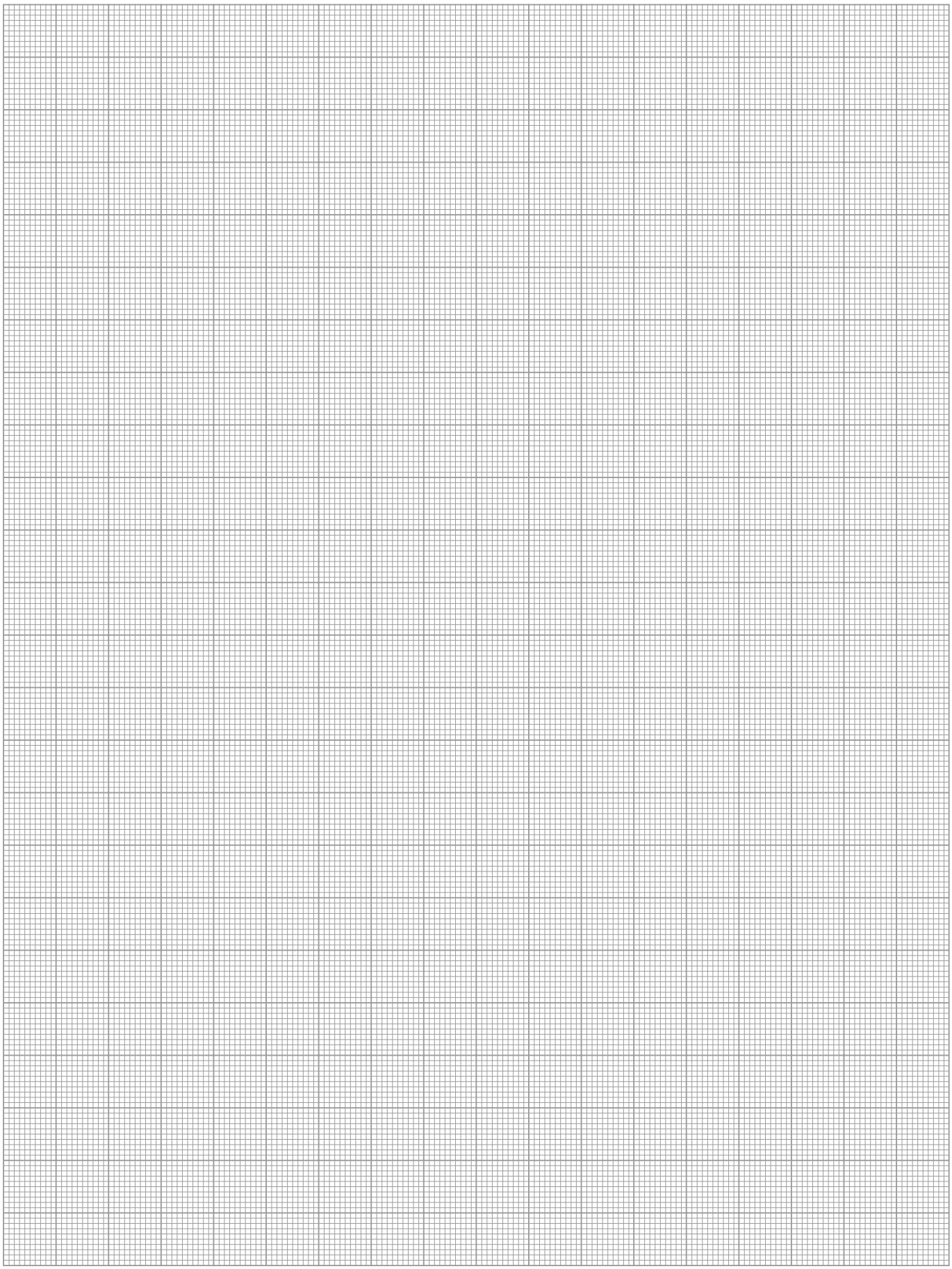
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