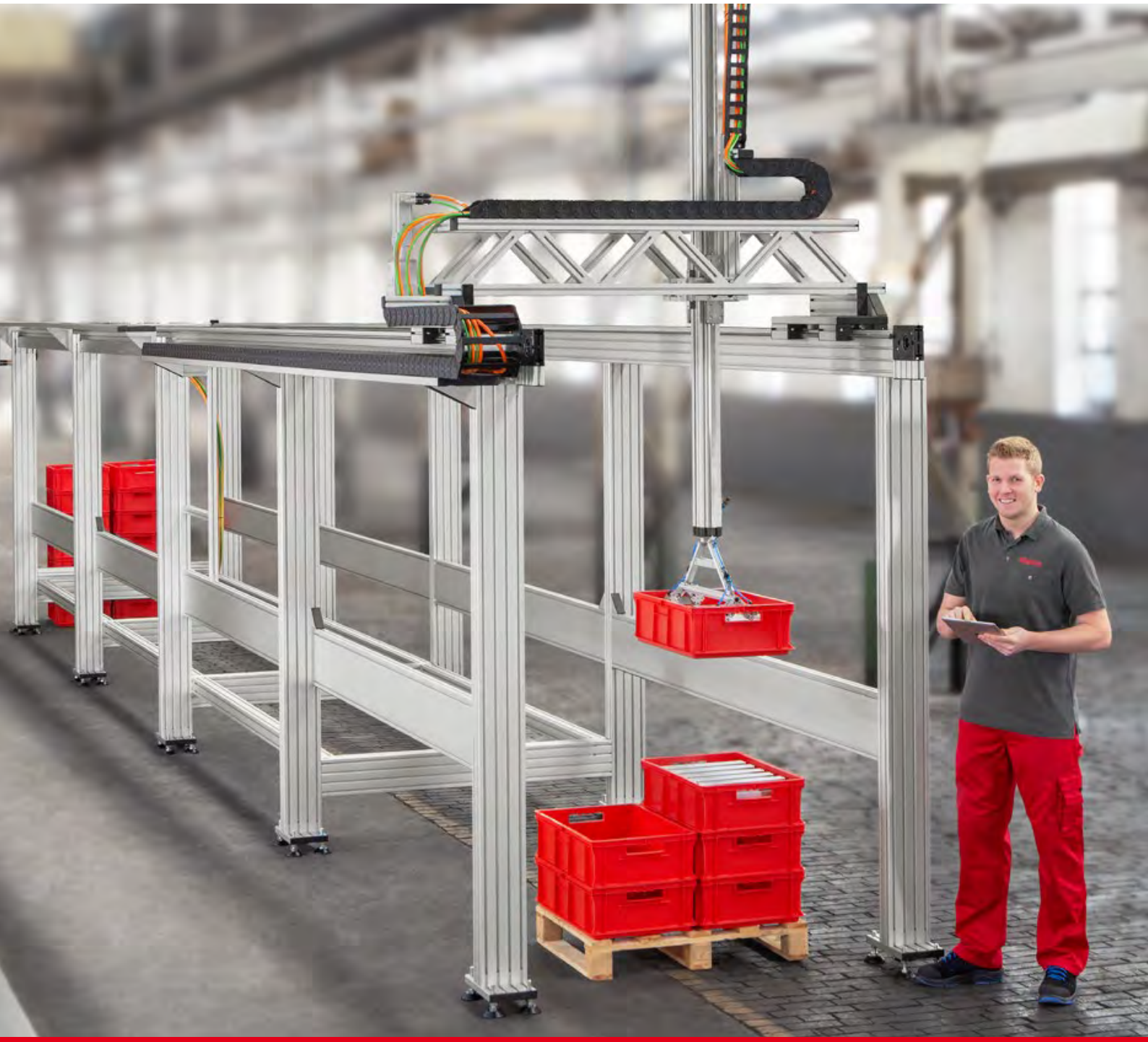
item

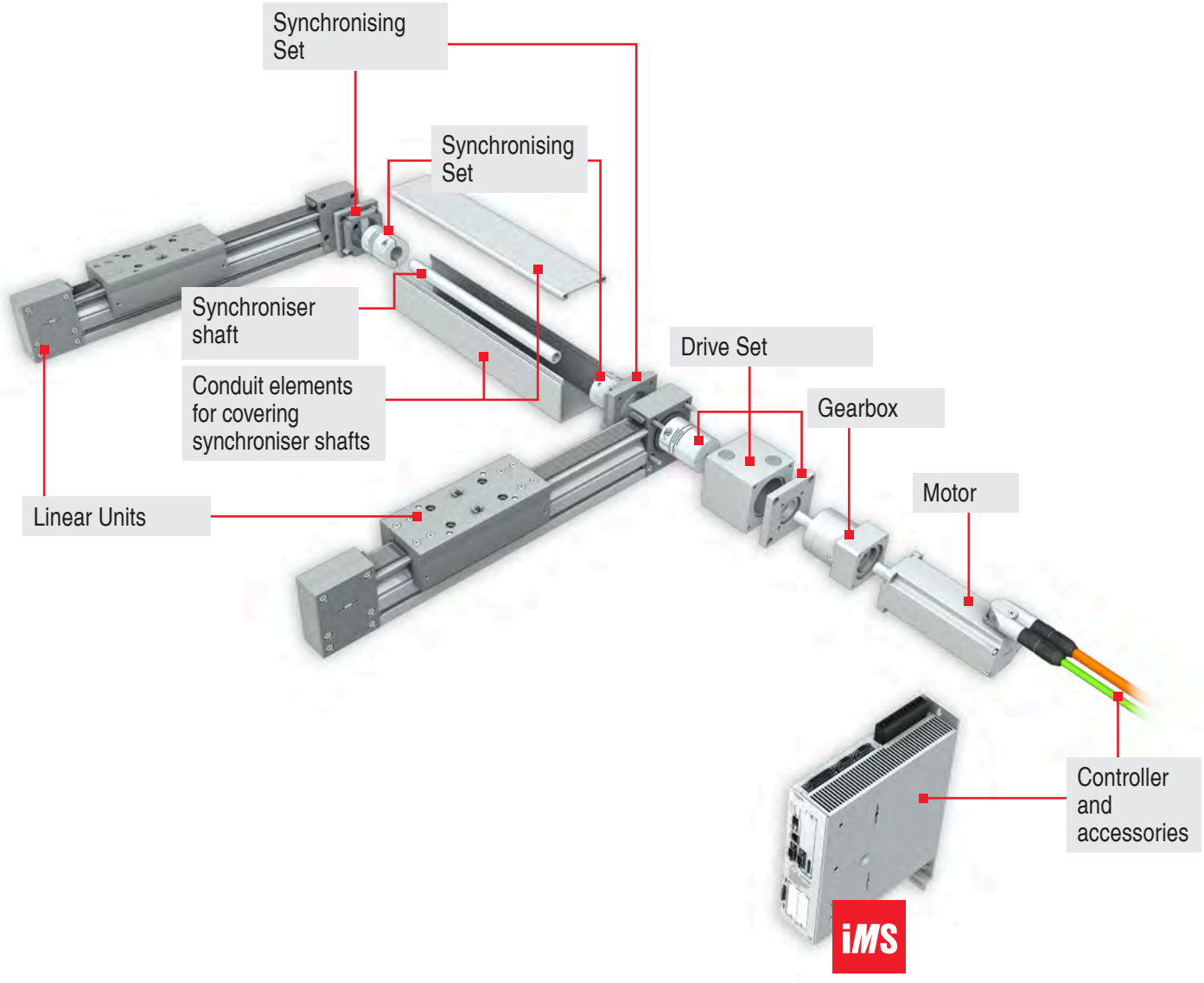


The item Automation System

Comprehensive Catalogue

3

The item Automation System - everything slots into place



Selection – get the ideal Linear Unit every time

Rapid movement, powerful lifting, precise positioning – no matter what your application is, the item Automation System can provide optimised linear technology with a suitable drive type.

- Large selection of Linear Units for moving even heavy workpieces
- Suitable for use in harsh environmental conditions
- Automation solutions with very long stroke lengths can be achieved

Teamwork – coordinated components for your all-in-one solution

One principle, unlimited possibilities. Thanks to the modular principle of the item Automation System, all components work together seamlessly.

- Numerous plug-and-play solutions for Motors, Gearboxes and Controllers
- Support for connecting to custom motors and controllers
- Easily retrofittable synchronisation for Linear Units

Software – help with design and selection

High speed or high torque? item MotionDesigner® calculates the perfect combination of all components to suit your transport task precisely.

- Maximum certainty when selecting components, because everything fits together
- Expert know-how integrated into the software supports the design process
- You retain a full overview of all the details

Service – preconfigured and ready-to-install automation solutions

Made specifically for you – all item Linear Units are delivered so you can get started straight away. Commissioning can be completed in next to no time when using Motors and Controllers from item.

- The all-in-one system means there is no need to have in-depth knowledge about all the components
- Self-testing and automatic Controller setting with item MotionSoft®
- Service and support are available from item at all times

Contents

Linear Units

Drive elements

Gearboxes

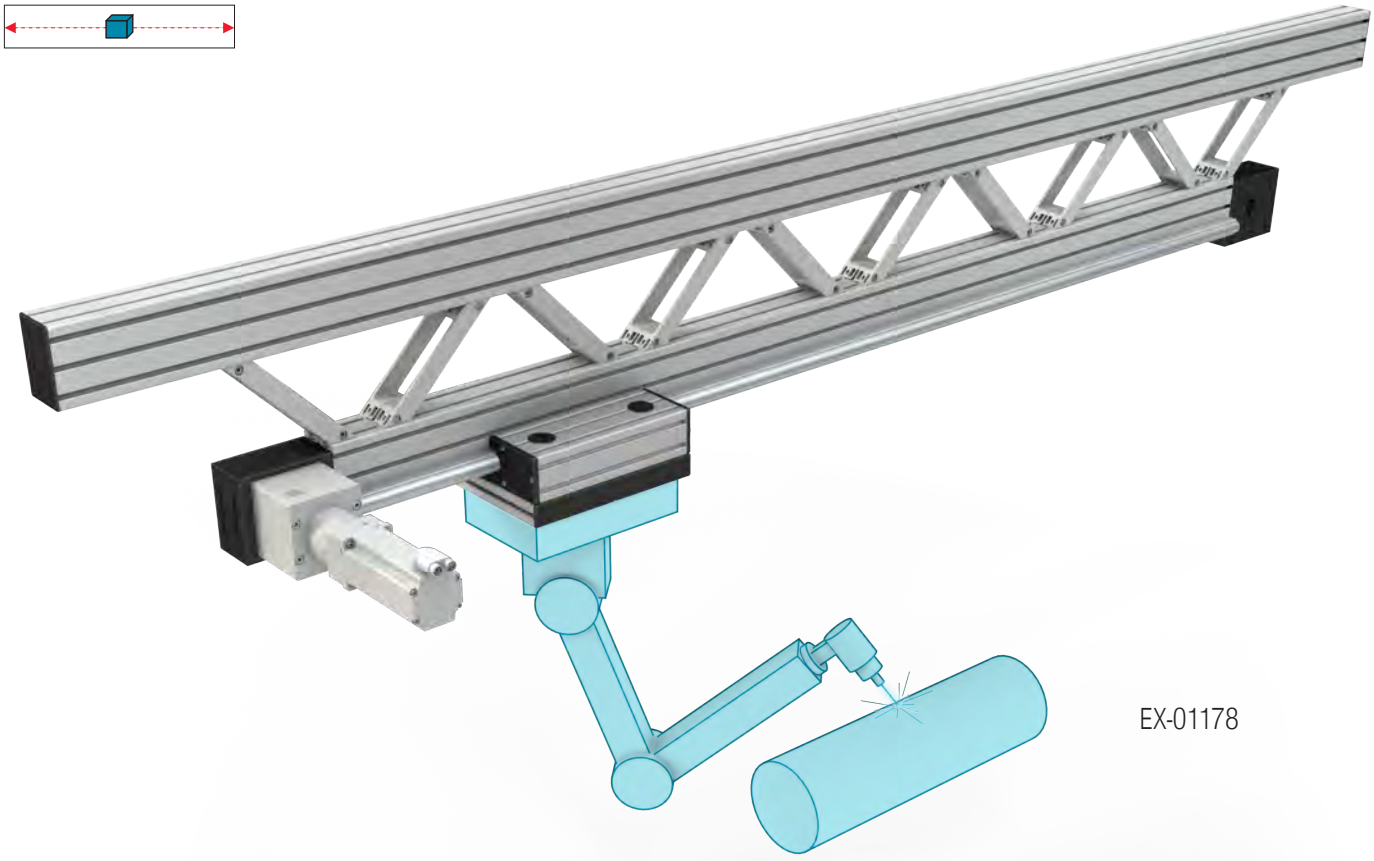
Motors

Controllers

Accessories

Technical data

Linear Units for all applications – from delicate to heavy duty



EX-01178

In automated systems, multiple worksteps are often carried out along a line. A Linear Unit is used to move either the workpiece to be processed or the tool – such as a robot – along this line so that screwing, drilling or joining can be carried out. Many different requirements are placed on this kind of solution, which may have to transport heavy loads or position itself with accuracy measured down to a fraction of a millimetre. Depending on the production process, it may be important for the solution to be resistant to soiling.

Note: CAD data for the models depicted here is available to download from the item website.

The benefits of the item Automation System:

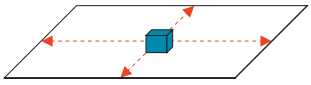
1) The particularly rigid linear guides deliver a high load-carrying capacity that can be increased further using elements from the MB Building Kit System.

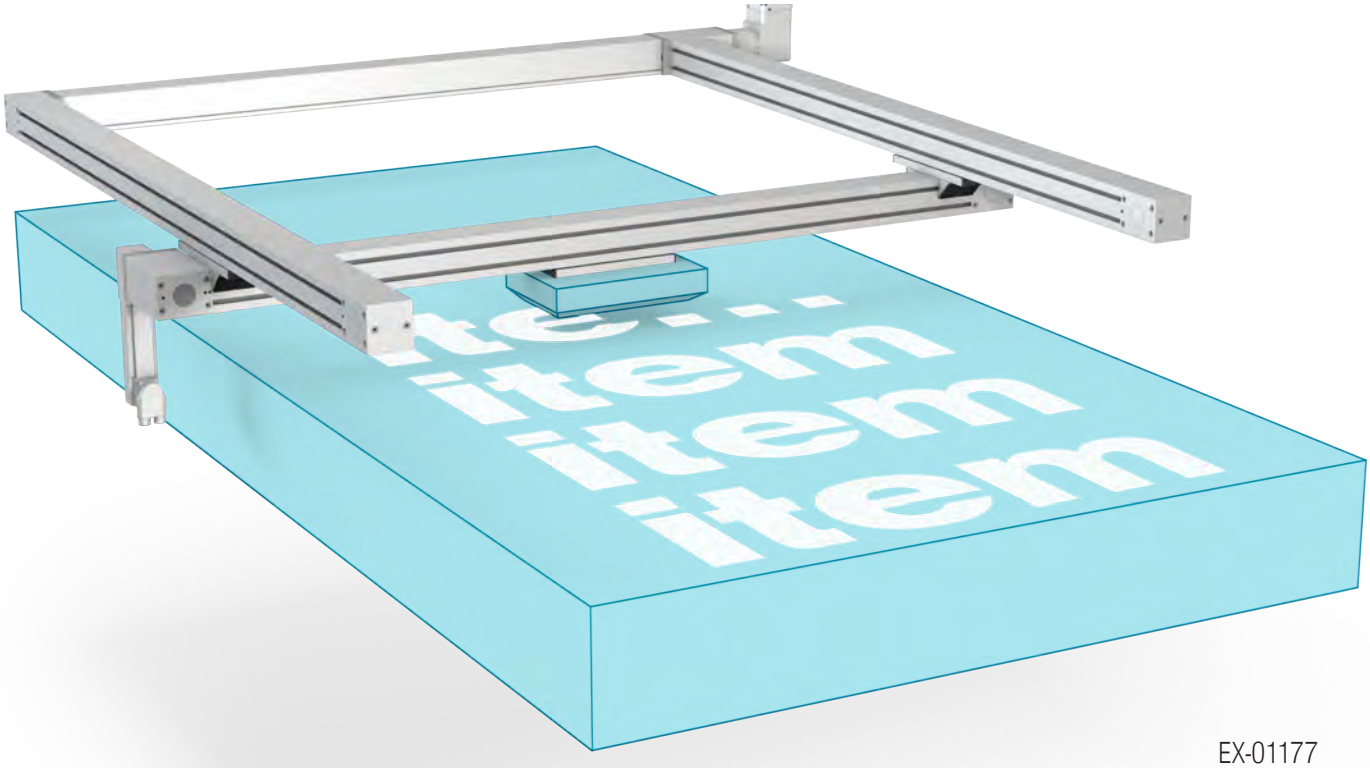
2) The length of the linear axis is not limited by the length of a single profile. Many models allow users to extend the travel distance with almost no transitions.

3) The mounting arrangement of the Linear Unit can be selected to suit the task at hand because the stable guides also support angled and suspended applications.

4) Thanks to the large selection of linear drives, you can optimise your Linear Unit for any task and working environment.

2D flat gantries – using Linear Units in sync





EX-01177

2D flat gantries are perfect for automation tasks in which a tool travels to various points in a single plane. These two-axis solutions are used to print or inspect surfaces, among other things. Tools such as styluses, sensors and print heads need to be moved with precision, often over large distances, which places stringent requirements on the rigidity and synchronous movement of the linear axes in two dimensions.

The benefits of the item Automation System:

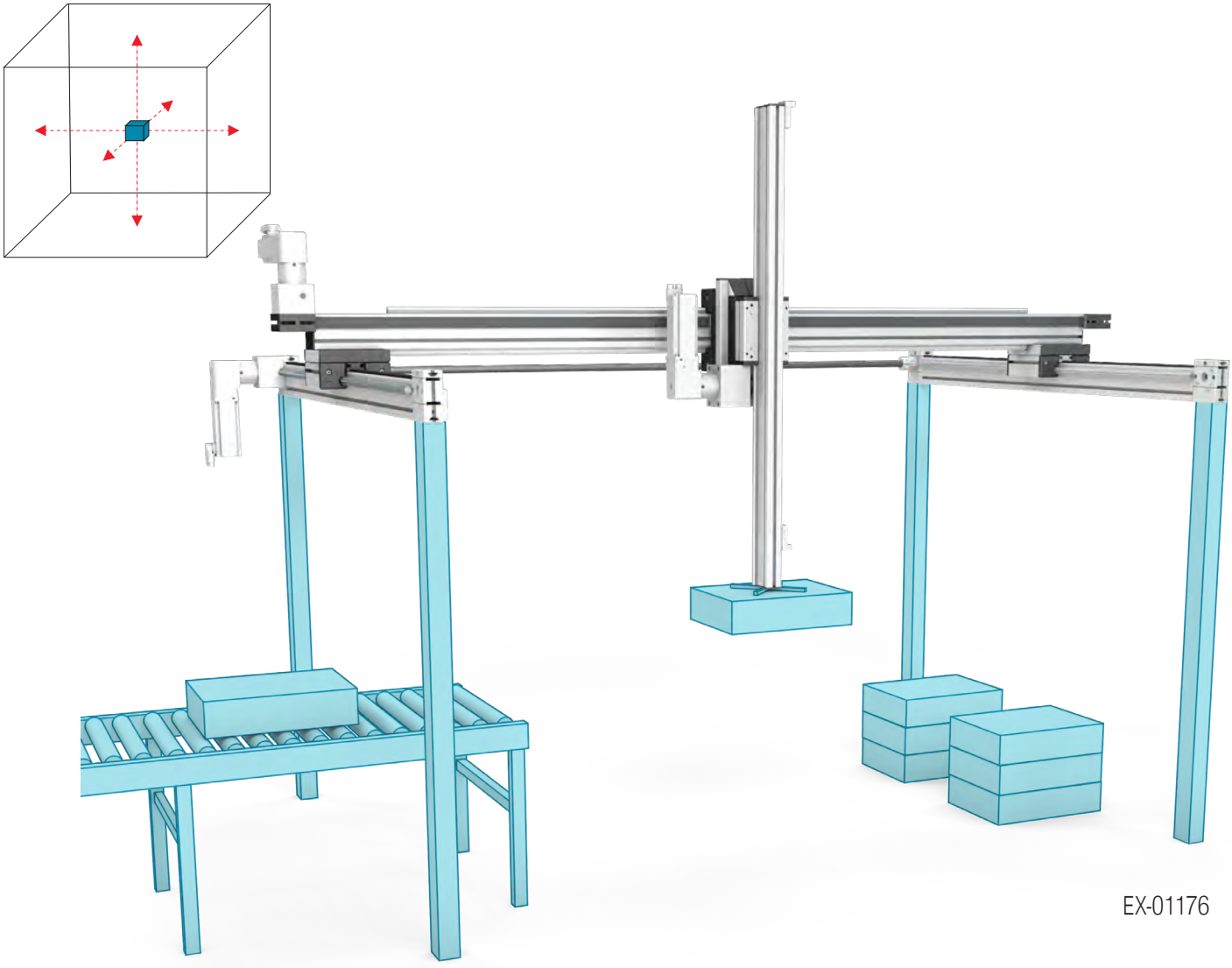
1) Long synchronising shafts in the item Automation System ensure 2D flat gantries can have a very wide working area.

2) Sturdy carriages ensure heavy tools can be reliably secured and moved over long stretches.

3) item MotionDesigner® can be used to design mechanically synchronised Linear Units and thus helps you find the ideal solution fast.

4) Linear Units with timing belts that are fed through the inside of the profile and roller guides that are concealed in the core of the profile feature optimum protection.

3D gantries – using three axes to reach any point in a space



EX-01176

3D gantries carry out demanding positioning tasks in three dimensions. They are used to pick up, move and set down workpieces for stacking, sorting and machining operations. When designing pick-and-place systems, it is important, on the one hand, that the right grippers and tools for the task can be attached. On the other hand, the rigidity of the overall construction is crucial. This prevents load-related vibration on the Z axis and thus enhances the gantry's precision.

The benefits of the item Automation System:

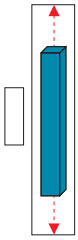
1) Thanks to the wide range of basic models, users are sure to find the perfect Linear Unit combination to optimise the speed, accuracy and load-bearing capacity of their 3D application.

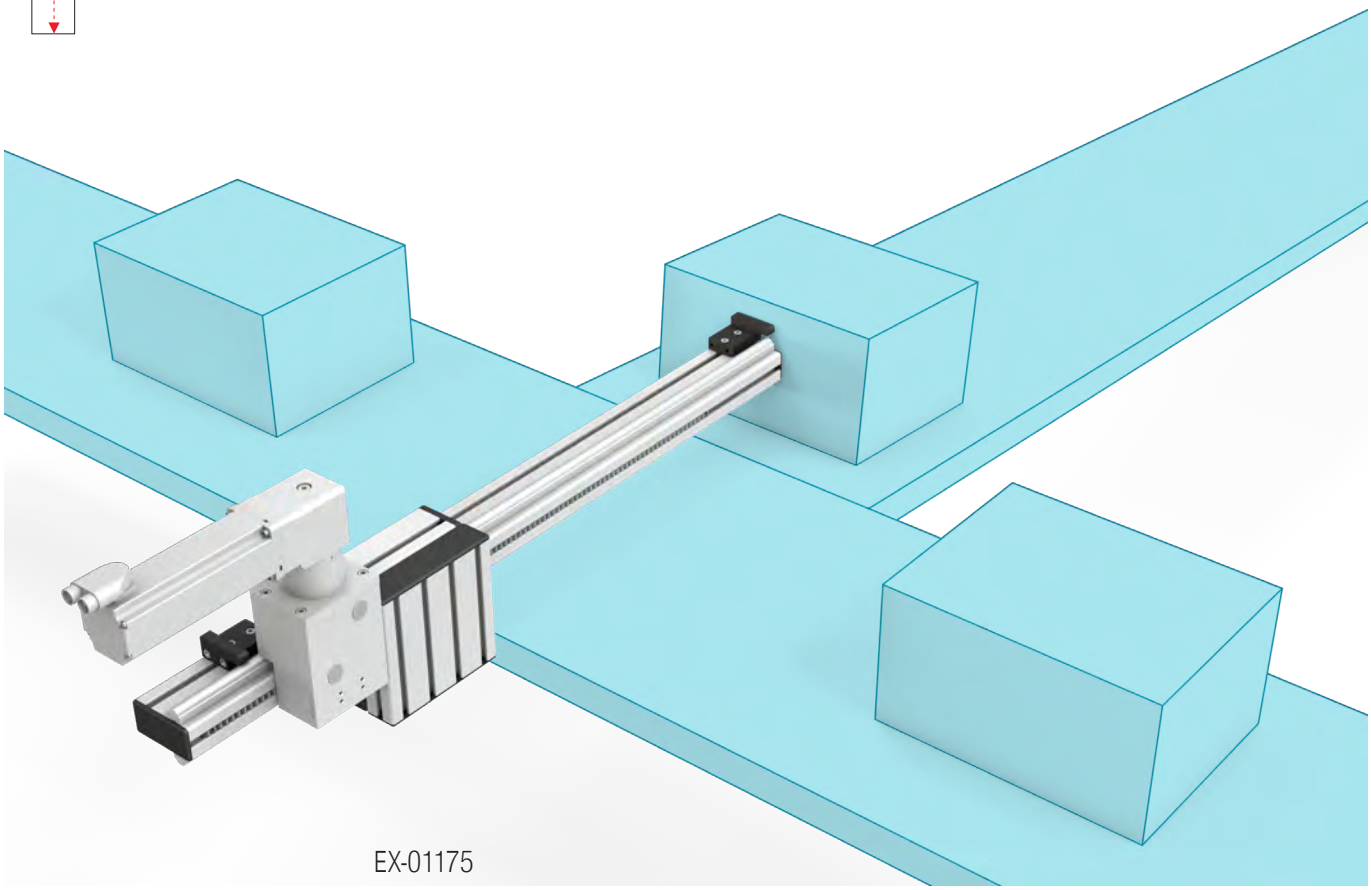
2) Compatibility with the MB Building Kit System means the load-bearing frame can be adapted to the space available and the enclosure can be connected to other plants.

3) To ensure loads and forces can be optimally distributed, the carriage plates of the Linear Units can be easily enlarged and thereby adapted to tools and workpieces.

4) Many item Linear Units can be extended beyond the profile length to cover a large working area.

Cantilever axes – putting the support profile to powerful use





EX-01175

Cantilever axes use the support profile of the Linear Unit to exert force on a workpiece or to accurately position a tool. They are ideally suited for production and logistics tasks and also for many material and load tests. As the aluminium profile moves and the carriage remains stationary, this system can be used to select articles moving along a conveyor belt, for example. A cantilever Linear Unit has to accommodate high forces and torques, which the axis itself generates due to its movement and operating forces.

The benefits of the item Automation System:

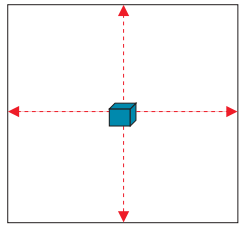
1) Compatibility with the MB Building Kit System means tools and applications can be easily and securely fastened to the support profile.

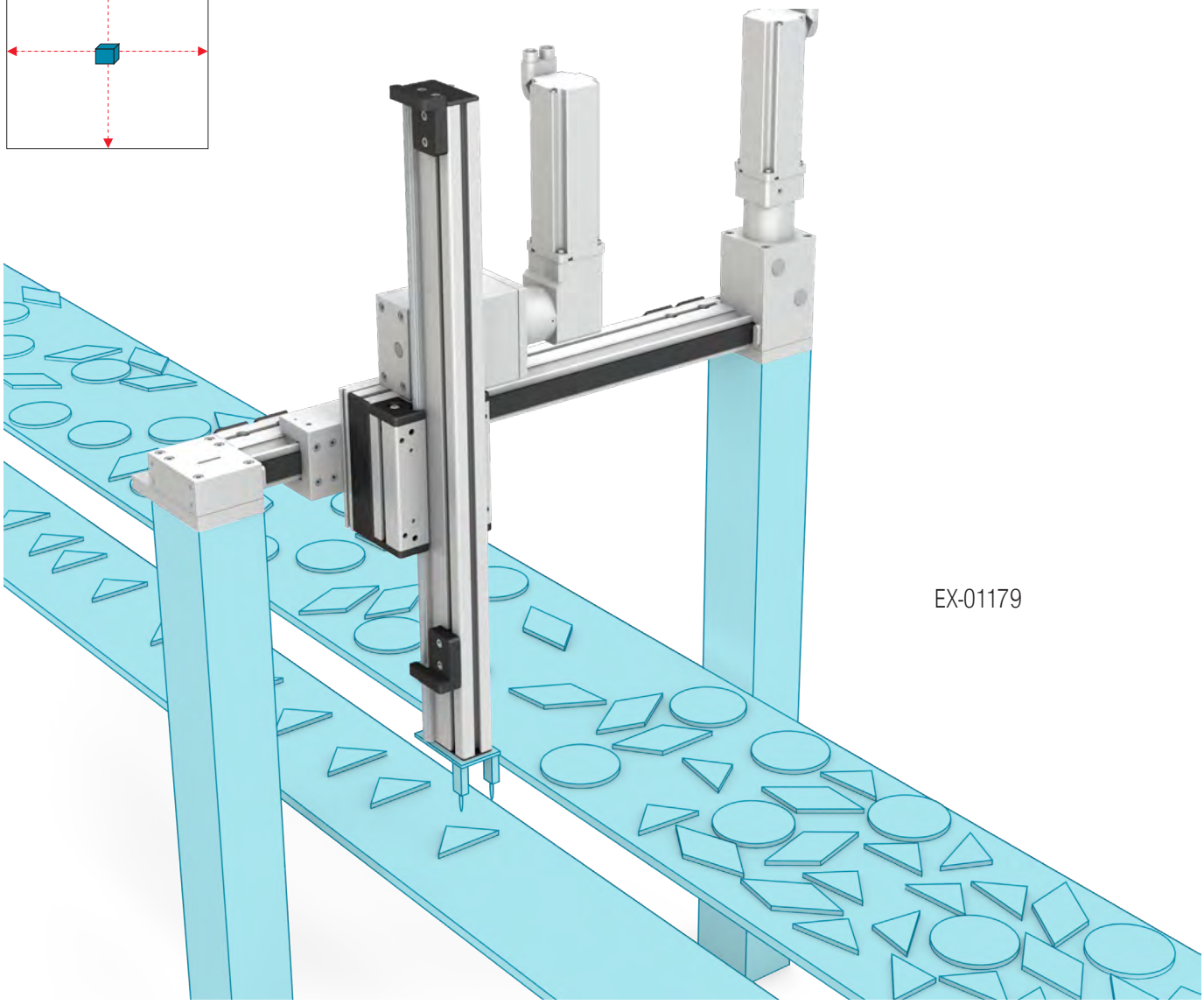
2) The length of the guide rail can be adapted to suit the task at hand precisely. This is possible thanks to highly robust guides and item racks, which can be implemented in custom lengths.

3) item MotionDesigner® keeps design and selection processes as simple as they are for conventional Linear Units by factoring in the loads associated with the cantilever.

4) item cantilever axes can be designed with lightweight support profiles for excellent dynamics or with heavy-duty profiles and robust racks for particularly high load-bearing capacity.

XY tables – dynamic lifting and moving





EX-01179

Grippers, suction cups, lasers and scanners are used in XY tables for machining, sorting, positioning and inspecting workpieces. The tool is often guided into place from above via a cantilever axis, while the X axis is used to move it to different positions. 2D linear gantries are perfect for dynamic pick-and-place tasks. Unlike 2D flat gantries, the working area of the tool can be adapted to the contour of the workpiece.

The benefits of the item Automation System:

1) Even heavy tools can be guided across a wide working area in this way thanks to the low profile deflection and exceptional load-bearing capacity of the linear axes.

2) System grooves and compatibility with the item MB Building Kit System ensure the XY table can be easily integrated into a machine frame.

3) Proximity Switches and mechanical Limit Stops are available to ensure both axes can be operated safely.

4) The dimensions of the cantilever axis can be adapted very precisely to the task at hand so as to make economical use of the installation space.

Lean production in the item online tools

Software and support

To provide the best possible assistance for your process automation tasks, we offer both highly proficient support and a number of innovative software solutions that ensure automation applications can be realised simply and conveniently.

item MotionDesigner®

item MotionDesigner® is completely free to use and analyses thousands of options to calculate the perfect combination of components for your specific task. At the end of the process, you get an optimised turnkey solution and a list of useful accessories that can be used with it.

item MotionSoft®

item MotionSoft® is smart commissioning software that links up seamlessly with configurations produced in item MotionDesigner®. Data entered during the configuration process is reused, the optimum controller settings are automatically calculated, and the entire system can be autonomously checked if required.

item Academy

Just-in-time learning! The item Academy shares knowledge through its online training units, step-by-step guides and instructional videos, which cover many different aspects of mechanical engineering and the item product world.
This free online learning platform offers in-depth training courses and know-how for immediate use, covering topics such as automation, lean principles and value-stream mapping. The various modules and units differ in terms of how long they take to complete, their focus and technical detail. The content in the item Academy is available round the clock on the internet and in six languages: academy.item24.com

WWW. You can find all item online tools at:
item24.de/en/configurators

item drive technologies

Installation-ready Linear Units from item: preconfigured linear technology that has been optimised for speed, payload, precision and stroke length.

Linear Units with a timing-belt drive

- Ideal for speed and reliability
- High drive forces and long travel distances

Linear Units with a ball screw drive

- Maximum precision and strong drive force
- Play-free and very strong

Linear Units with a chain drive

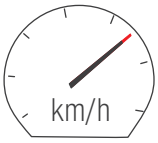
- Particularly resistant to dirt
- High force transmission and suitable for vertical movements

Linear Units with a rack drive

- Powerful stroke and precise control
- Non-slip power transmission

Payload
The item Automation System can also be used to move very heavy loads. item MotionDesigner® knows the technical data associated with all components such as the guide and support profile and calculates the optimum combination for your transport task, as suited to your installation scenario.

Repeatability
Linear Units are optimised for point-to-point motions. High repeatability means the carriage will stop precisely where it is supposed to. The item ball screw drive positions the carriage precisely, down to 0.05 mm.



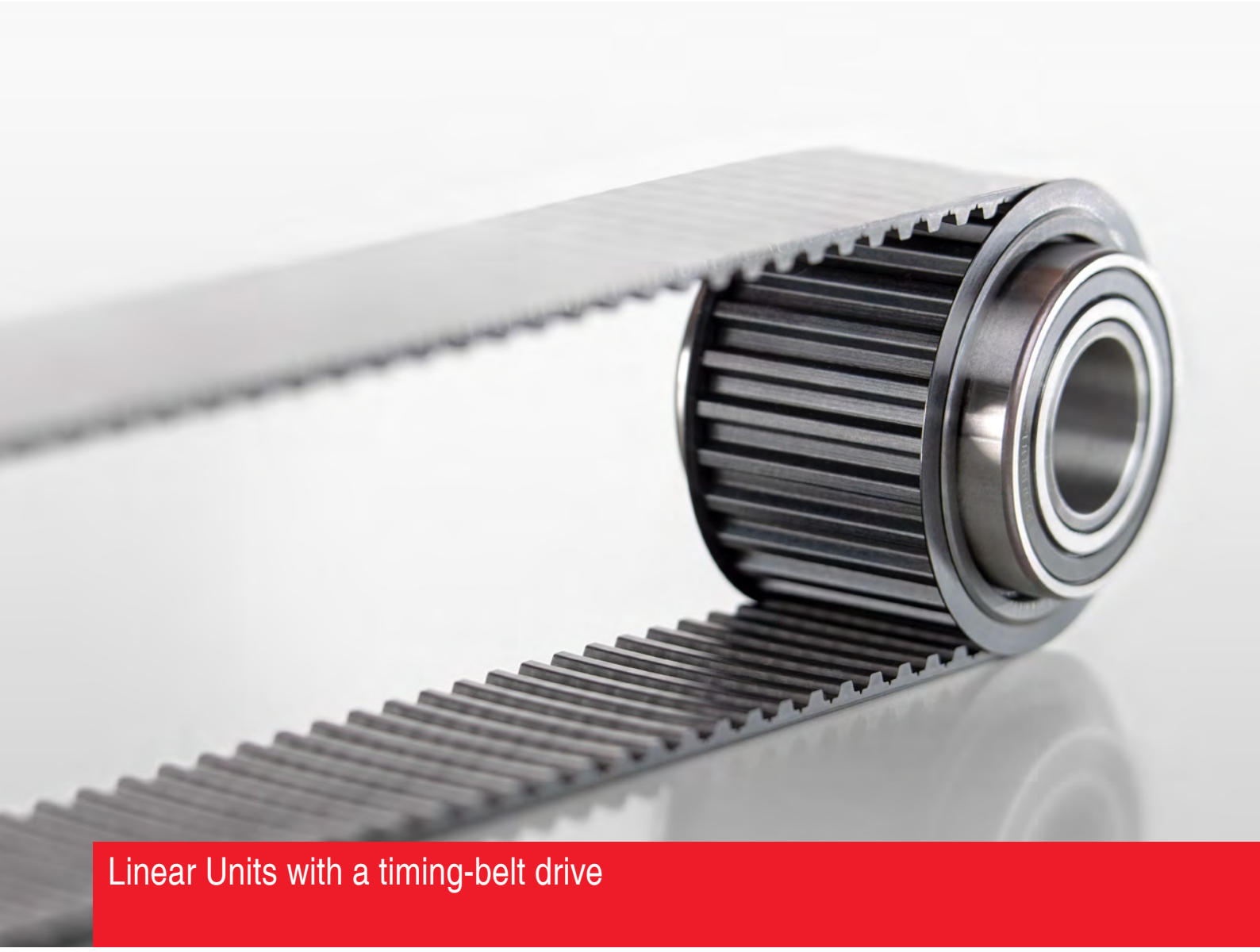
Speed
Acceleration and high maximum speed keep work cycles short. When speed and long travel distances are the primary concerns, the best option is a timing belt. The item Automation System offers you the widest selection.

Maximum travel distance
Depending on the model in question, the ready-to-install Linear Units from item offer a stroke length of up to 6000 mm. Even longer travel distances can be implemented for special designs.

Overview of ready-to-install Linear Units

Linear Unit	Payload	Speed	Repeatability	Maximum travel distance
Linear Unit GSF 8 40 R10	■	■■	■	■■
Linear Units KLE	■■	■■■■	■■■	■■■
Linear Units KRF	■■■	■■■■	■■■	■■■
Linear Unit LRE 5 D6	■	■■■	■■■	■■
Linear Units LRE 8 D10	■■	■■■■	■■■	■■■■
Linear Units LRE 8 D14	■■■	■■■■	■■■	■■■■
Linear Units LRE 8 D25	■■■■	■■■■	■■■	■■■■
Linear Unit LRE 8 D10 80x80 KGT 20x5	■■	■	■■■■	■
Linear Unit LRE 8 D10 80x80 KGT 20x20	■■	■■	■■■■	■
Linear Unit LRE 8 D14 80x80 KGT 20x5	■■■	■	■■■■	■
Linear Unit LRE 8 D14 80x80 KGT 20x20	■■■	■■	■■■■	■
Linear Unit LRE 8 D14 80x40 KU 80	■■■	■■	■	■■
Linear Unit LRE 8 D14 80x40 ZS	■■■	■■	■■■	■■■■
Linear Unit LRE 8 D10 80x40 ZS K	■■	■■	■	■■■■

Note: You can find a detailed comparison of the technical data for all item Linear Units starting on Page 138



Linear Units with a timing-belt drive

When speed and reliability are the primary concerns, the best option is a timing-belt drive. It supports extremely dynamic movements and therefore short cycle times.

In a timing-belt drive, a toothed drive belt locks mechanically around a toothed pulley that is driven by a motor. This mechanical interlocking eliminates slip and ensures high forces can be transmitted. The drive can also reverse its direction rapidly and accelerate large masses.

The timing belt comprises steel cables in a polyurethane sheath, has a long service life and supports a smooth running action. Because the belt itself has a low mass, it takes little energy to move it on its own.

Linear Units with a timing-belt drive can be built in virtually any length. As a result, they produce Linear Units that combine high drive forces with long travel distances. The drive effect is applied where the timing belt is reversed.

When using this type of drive in a vertical application, steps need to be taken to ensure the carriage does not run out of control if there is a power cut. Unless a motor brake is fitted, the timing belt can be easily moved and therefore does not hold its position independently.

Linear Unit GSF 8 40 R10

- Low-cost, quiet, compact and low-maintenance
- Low-friction sliding guidance

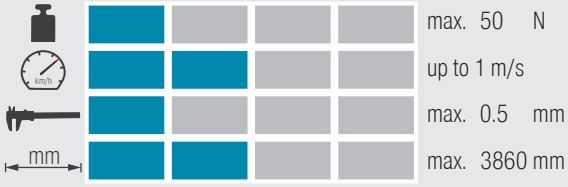
8

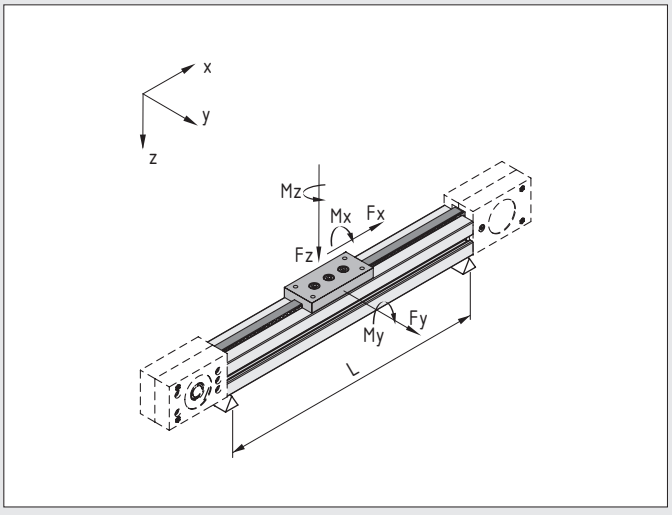
Light, quiet and high-performance! Linear Unit GSF 8 40 R10 is an efficient turnkey system with minimal space requirements. This economic Linear Unit uses only a few components to deliver maximum performance. For example, the carriage uses a Line 8 groove on the support profile as its guide. It runs without lubricants on a wear-resistant sliding shoe.

The timing-belt drive and reverse unit also feature an exceptionally compact design. The tensioning device for the timing belt is integrated into the reverse unit. Its ball-bearing mounted pulleys ensure quiet and smooth running over long-term use. The timing belt is routed back through the profile groove.

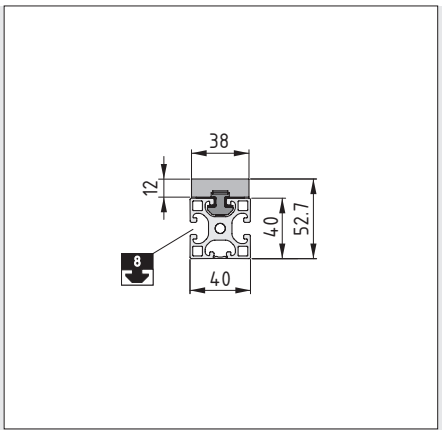
The compact dimensions and maintenance-free design make Linear Unit GSF 8 40 R10 an exceptionally efficient solution. It is ideal for applications that require the movement of low loads. Thanks to the practical hollow shaft, an expanding hub coupling can be installed on the right or left, as appropriate to the installation scenario.

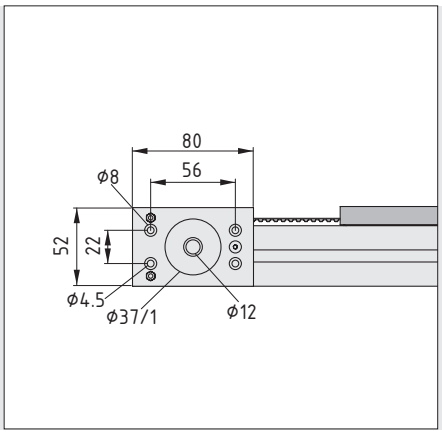
Note: Linear Unit GSF 8 40 R10 is supplied ready for installation as a turnkey system in the desired stroke length. The components can also be ordered separately and assembled to form customised units.

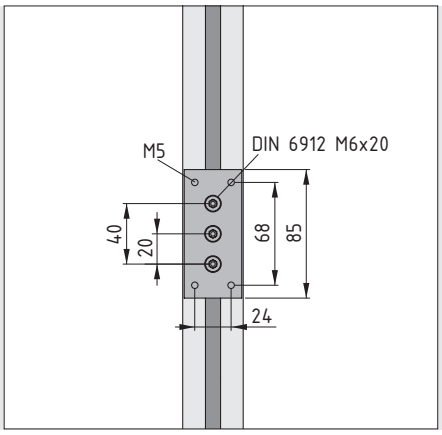


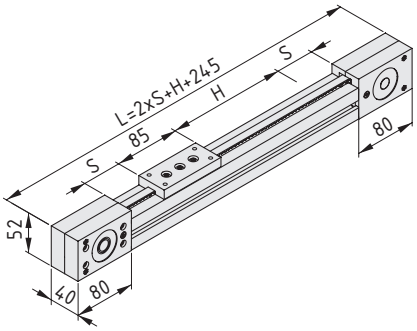


Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit GSF 8 40 R10	0.0.655.98	15	150	25	50	0.4	2	1.25	2400	2100









Linear Unit GSF 8 40 R10			8
Maximum stroke H_{max}	3860	mm	
Safety clearance S	27.5	mm	
Basic mass (when stroke length = 0 mm) m_1	1.1	kg	
Mass per mm of stroke m_2	1.8	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeatability	0.5	mm	
Maximum acceleration	3	m/s^2	
Maximum travelling speed	1	m/s	
Feed constant	115	mm/r	
1 pce.			0.0.655.98

Compatible drive elements

Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
40	✓	✓	✓

Overview Linear Units KLE

- Roller elements run concealed inside the profile
- Especially compact design
- Available in the modular dimension of Lines 6 and 8

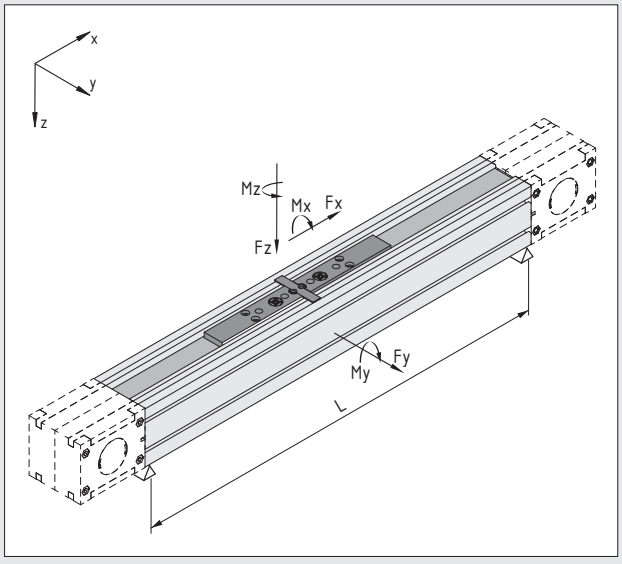
Everything in one housing. The roller elements of the compact item Linear Units KLE run inside the profile. With the exception of the carriage, none of the moving parts can be touched because the timing belt in the guide groove covers the moving elements. This enhances occupational health and safety and reduces soiling on the guides and roller elements.

Linear Units KLE are supplied ready to install in stroke lengths up to 5750 mm. They are available in the modular dimension of Lines 6 and 8 and with corresponding grooves on the outer sides. With an overall width of just 60 mm, including the carriage, Linear Unit KLE 6 is one of the slimmest Linear Units to feature a roller guide.

The special aluminium support profile ensures high load-carrying capacity and low-vibration operation. Thanks to their very smooth running and robust drive elements, Linear Units KLE are particularly suitable for high-speed positioning tasks.

The guide carriage runs on four roller elements and two hardened guiding shafts inside the profile. A Carriage Plate KLE or Transverse Carriage Plate KLE is used to connect applications. The tensioning device for the timing belt is integrated into the reverse unit.

Linear Units KLE have been tested for use in cleanrooms in line with ISO 14644-1 up to Class 6.

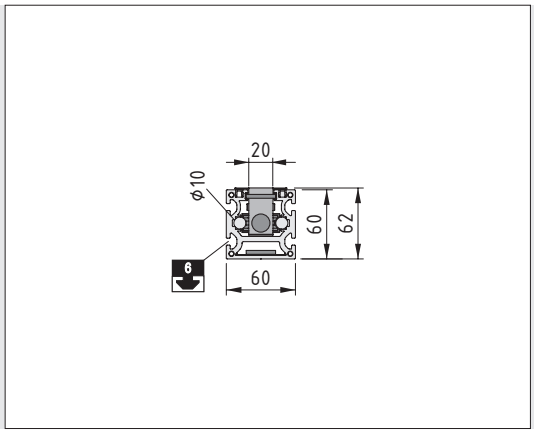


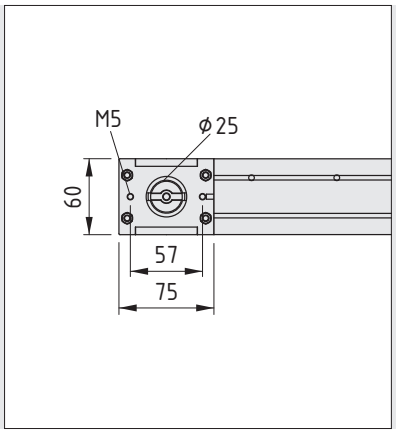
Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit KLE 6 60x60 LR	0.0.605.07	18	500	750	500	20	50	75	1500	1600
Linear Unit KLE 8 80x80 LR	0.0.605.02	19	1500	1500	1000	50	100	150	1900	2000

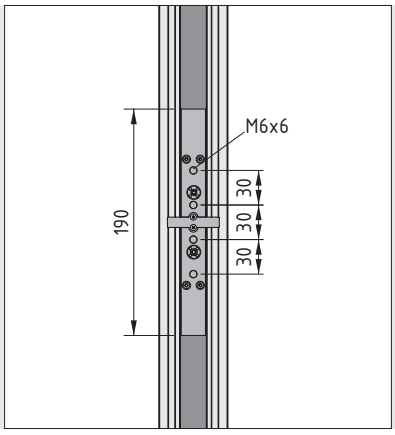
Linear Unit KLE 6 60x60 LR

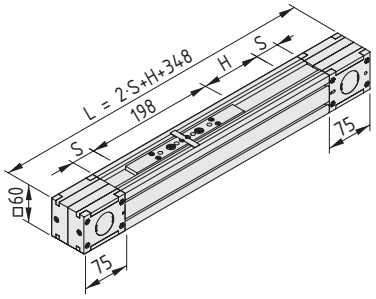
- Overall width of 60 mm, including carriage
- Excellent protection thanks to covered roller elements
- In modular dimension of Line 6

6









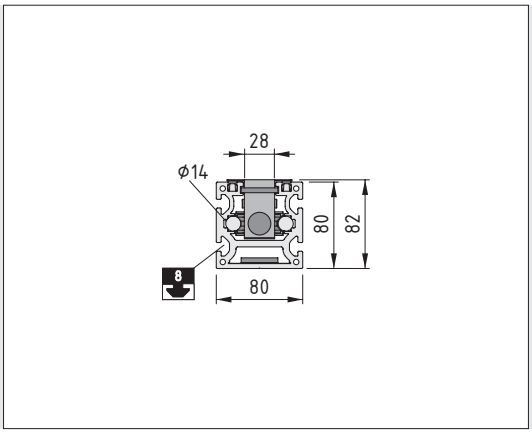
Linear Unit KLE 6 60x60 LR			6
Maximum stroke H_{max}	5750	mm	
Safety clearance S	26	mm	
Basic mass (when stroke length = 0 mm) m_1	4.0	kg	
Mass per mm of stroke m_2	4.8	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeatability	0.1	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	155	mm/r	
1 pce.			0.0.605.07

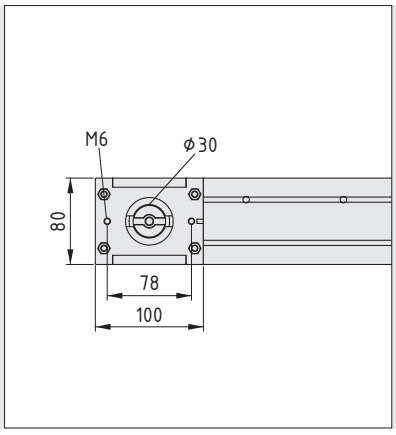
Compatible drive elements

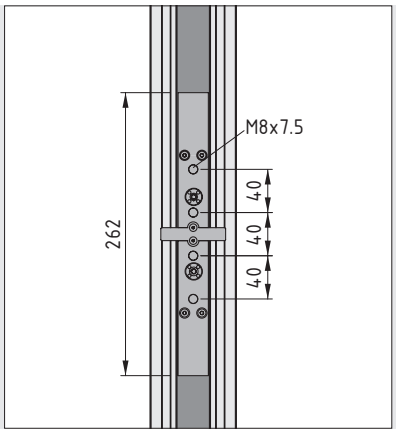
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✓

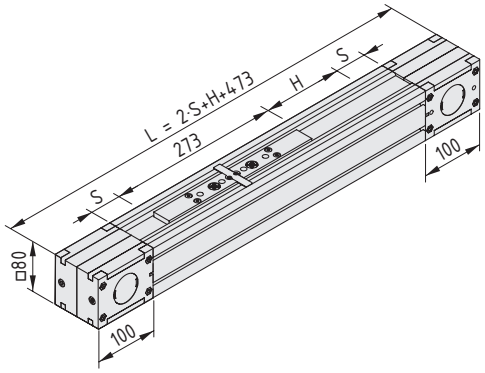
Linear Unit KLE 8 80x80 LR

- Excellent protection thanks to covered roller elements
- Strong and low-vibration
- In modular dimension of Line 8









Linear Unit KLE 8 80x80 LR		
Maximum stroke H_{max}	5600	mm
Safety clearance S	63.5	mm
Basic mass (when stroke length = 0 mm) m_1	9.8	kg
Mass per mm of stroke m_2	8.7	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.1	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	210	mm/r
1 pce.		0.0.605.02

Compatible drive elements

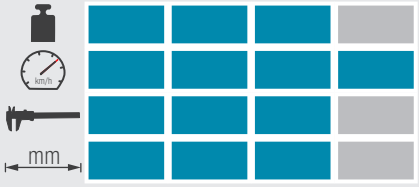
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✓

Overview Linear Units KRF

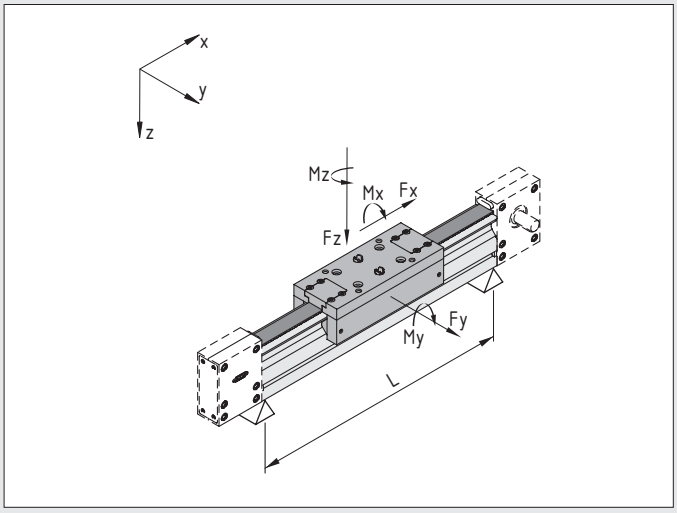
- Extremely torsion-resistant profile
- Criss-crossed roller guide for optimum force transfer

8

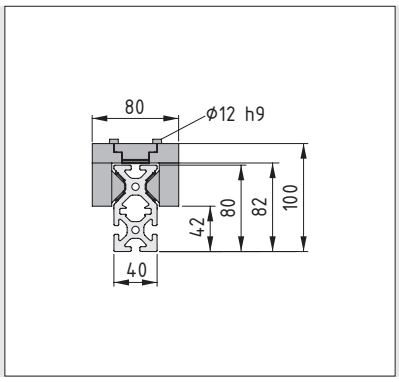
Thanks to its criss-crossed roller guide and high-strength steel tracks, Linear Unit KRF is ideal for demanding applications. Two Linear Units KRF can work in parallel via a synchronous drive, with Linear Unit KRF 8 80x40 ZR, synchronous drive responsible for guidance. As the shaft on the drive side passes straight through, a synchroniser shaft can be connected to it. Synchronising Set KRF 8 80 ZR (0.0.648.58) is used to make this connection.

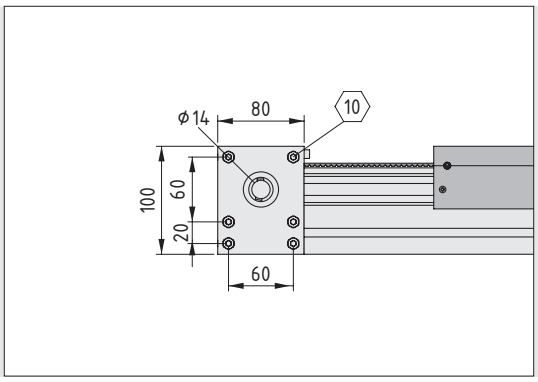


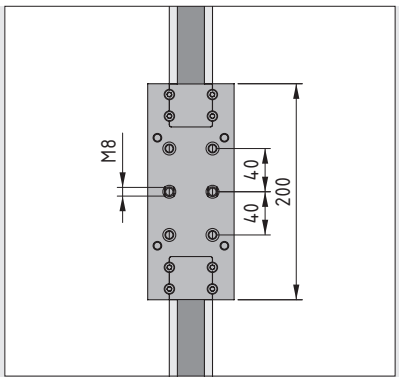
max. 2500 N
up to 10 m/s
max. 0.1 mm
max. 5760 mm

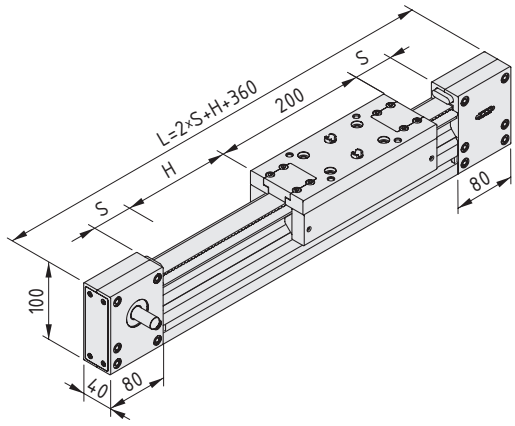


Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit KRF 8 80x40 ZR, left-hand input shaft	0.0.641.21	21	1000	2500	2500	50	140	140	500	1100
Linear Unit KRF 8 80x40 ZR, right-hand input shaft	0.0.648.66	21	1000	2500	2500	50	140	140	500	1100
Linear Unit KRF 8 80x40 ZR, synchro-nous drive	0.0.648.69	22	1000	2500	2500	50	140	140	500	1100





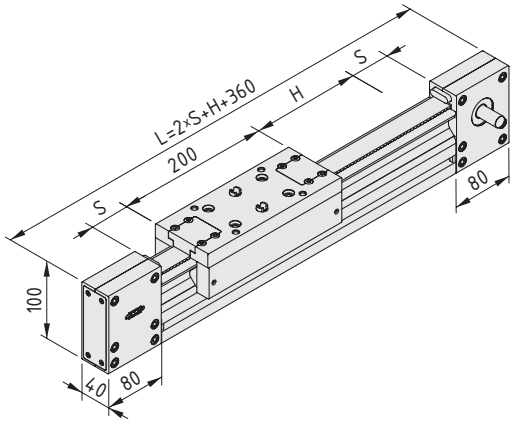




Linear Unit KRF 8 80x40 ZR, right-hand input shaft		
Maximum stroke H_{max}	5760	mm
Safety clearance S	20	mm
Basic mass (when stroke length = 0 mm) m_1	5.1	kg
Mass per mm of stroke m_2	4.6	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.1	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	145	mm/r
1 pce.		0.0.648.66

Compatible drive elements

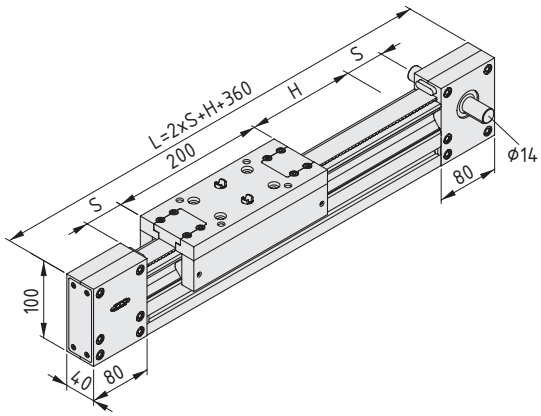
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✓



Linear Unit KRF 8 80x40 ZR, left-hand input shaft		
Maximum stroke H_{max}	5760	mm
Safety clearance S	20	mm
Basic mass (when stroke length = 0 mm) m_1	5.1	kg
Mass per mm of stroke m_2	4.6	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.1	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	145	mm/r
1 pce.		0.0.641.21

Compatible drive elements

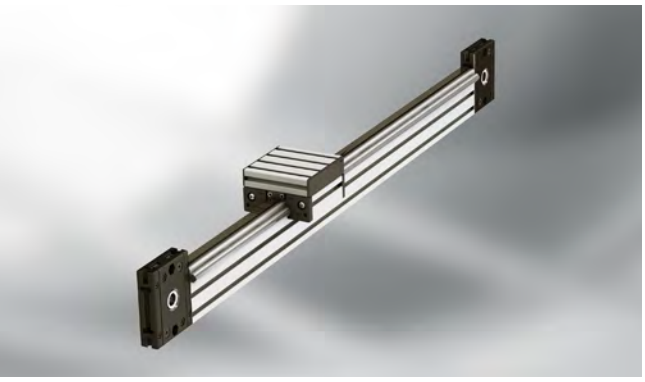
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✓



Linear Unit KRF 8 80x40 ZR, synchronous drive			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	20	mm	
Basic mass (when stroke length = 0 mm) m_1	5.0	kg	
Mass per mm of stroke m_2	4.6	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeatability	0.1	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	145	mm/r	
1 pce.			0.0.648.69

Compatible drive elements

Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✓



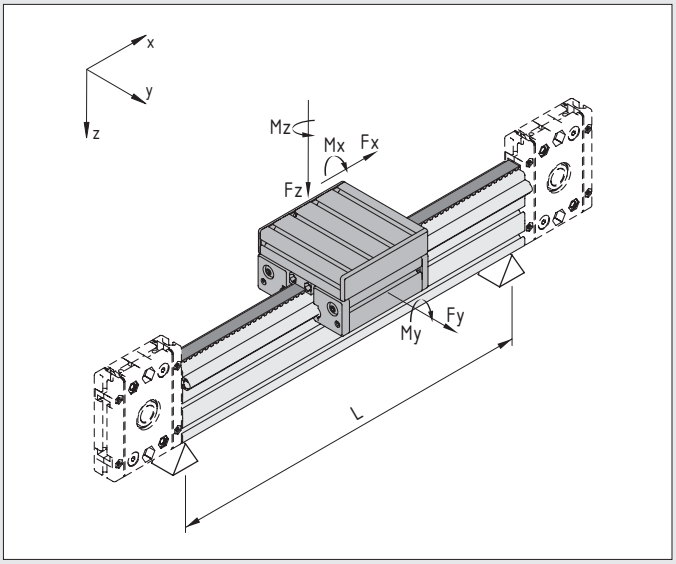
Linear Unit LRE 5 D6 60x20 ZU 40 R10

- Speedy, compact and versatile
- Extremely space-saving

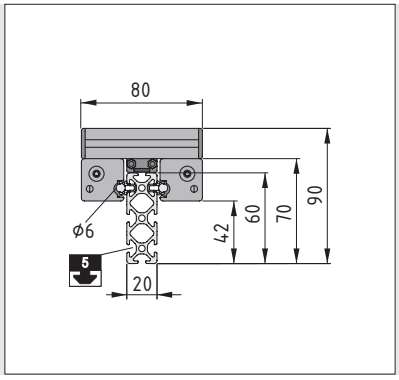
5

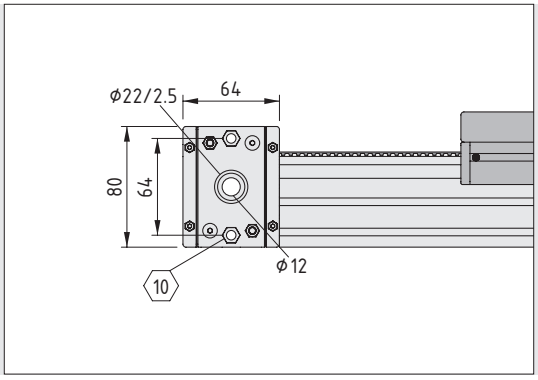
The compact Linear Unit with exceptional performance. Thanks to stable roller elements and a fast timing-belt drive, Linear Unit LRE 5 D6 60x20 ZU 40 R10 is ideal for applications with limited installation space where short cycle times are important. Able to carry a payload of up to 32 kg, it can move heavier loads than a slide guide. The application is fastened to the streamlined slide via the system grooves on the carriage plate.

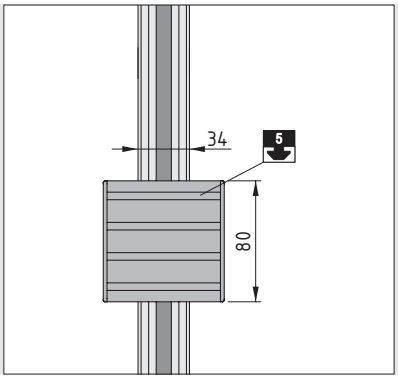
max. 320 N
up to 5 m/s
max. 0.15 mm
max. 2828 mm

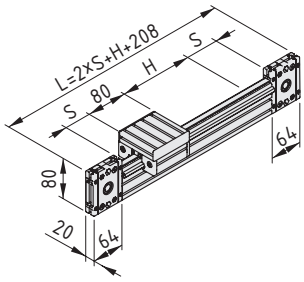


Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit LRE 5 D6 60x20 ZU 40 R10	0.0.666.89	23	150	400	320	4	6	8	400	1200









Linear Unit LRE 5 D6 60x20 ZU 40 R10			5
Maximum stroke H_{max}	2828	mm	
Safety clearance S	46	mm	
Basic mass (when stroke length = 0 mm) m_1	1.2	kg	
Mass per mm of stroke m_2	1.9	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeatability	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	5	m/s	
Feed constant	140	mm/r	
1 pce.			0.0.666.89

Compatible drive elements

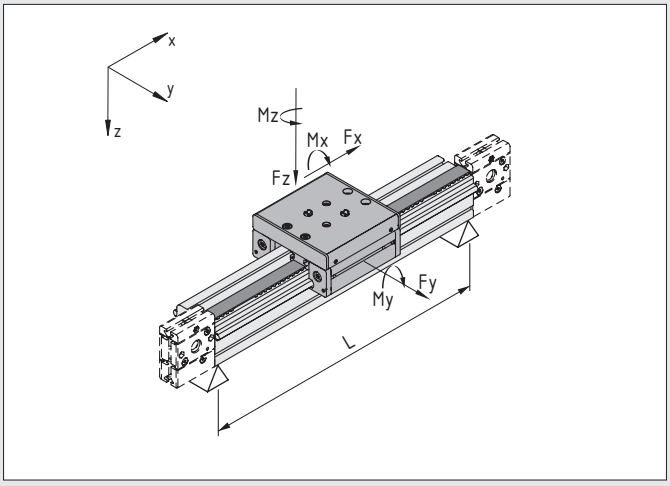
Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
40	✓	✓	✗

Overview Linear Units LRE 8 D10

- Fast, strong and versatile
- Applications on the carriage can be easily switched
- Special lengths on request

8

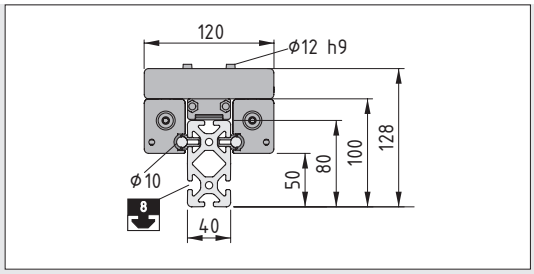
Fast speed, streamlined dimensions and high payload – all are features of Linear Units LRE 8 D10. The carriage measures just 120 mm wide and is guided securely along steel shafts by roller elements. The carriage has a flat surface for accommodating application-specific mounting holes.
The ingenious positioning collars ensure that the chosen application can be mounted on the carriage with exceptional precision. This reduces setup times and makes maintenance work easier. Various support profiles are available so that profile deflection can be minimised for high loads and support spans.

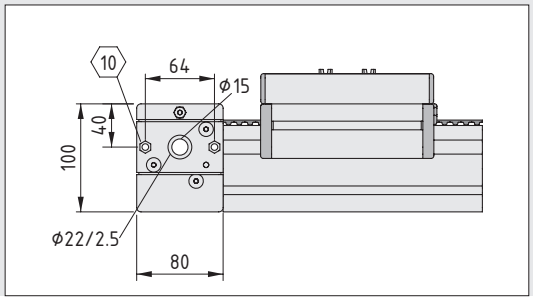


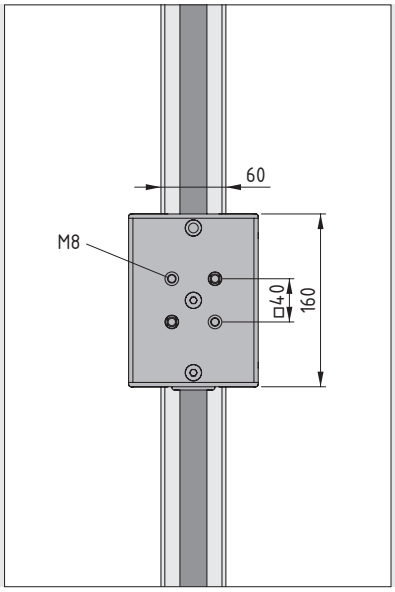
Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit LRE 8 D10 80x40 ZU 40 R25	0.0.662.70	26	870	1300	880	22	35	52	800	1900
Linear Unit LRE 8 D10 80x80 ZU 40 R25	0.0.663.32	27	870	1300	880	39	35	52	2100	2500

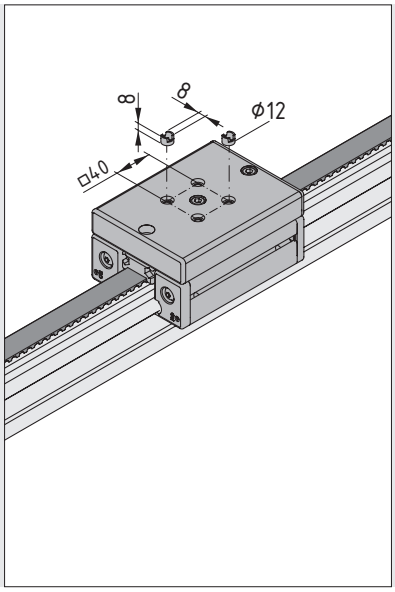
Linear Unit LRE 8 D10 80x40 ZU 40 R25

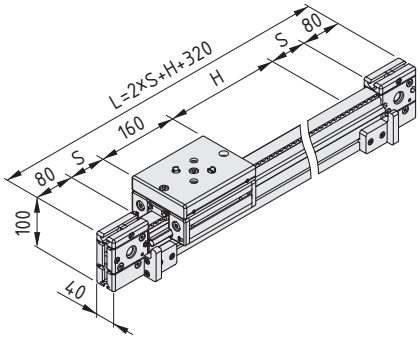
- Maximum support span of 1900 mm when $F_{z\,max}$
- $M_{x\,max}$ 22 Nm











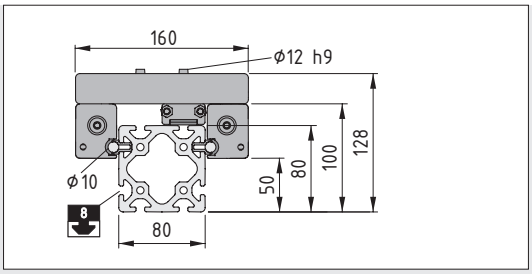
Linear Unit LRE 8 D10 80x40 ZU 40 R25		
Maximum stroke H_{max}	5760	mm
Safety clearance S	40	mm
Basic mass (when stroke length = 0 mm) m_1	6.7	kg
Mass per mm of stroke m_2	6.4	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	150	mm/r
1 pce.		0.0.662.70

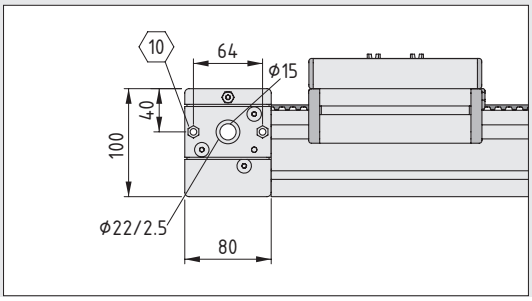
Compatible drive elements

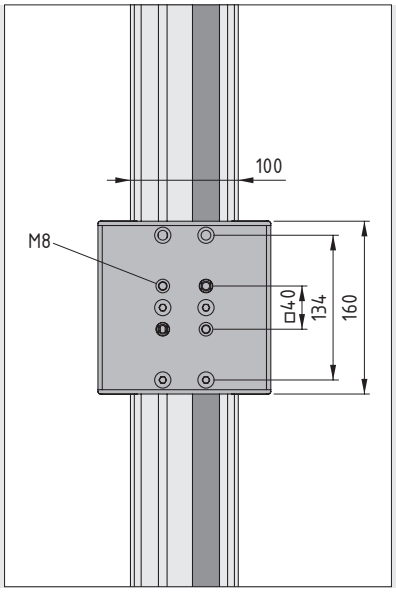
Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60	✓	✓	✗

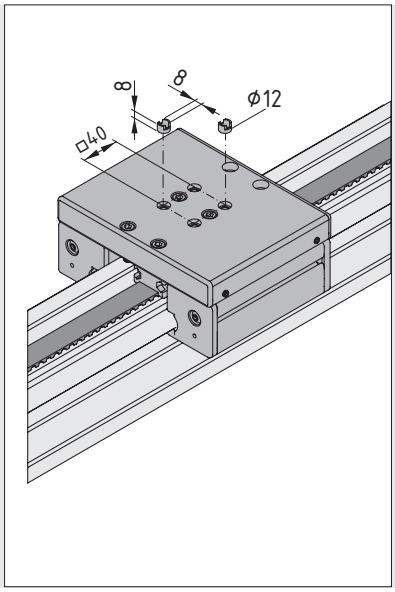
Linear Unit LRE 8 D10 80x80 ZU 40 R25

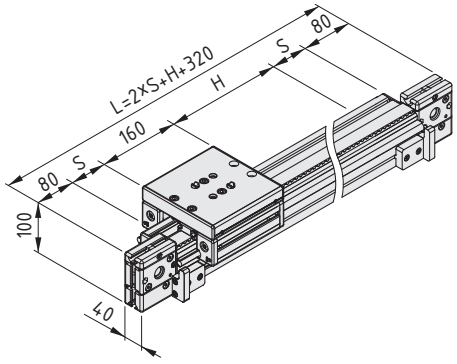
- Maximum support span 2500 mm when $F_{z\,max}$
- $M_{x\,max}$ 39 Nm











Linear Unit LRE 8 D10 80x80 ZU 40 R25		
Maximum stroke H_{max}	5760	mm
Safety clearance S	40	mm
Basic mass (when stroke length = 0 mm) m_1	7.8	kg
Mass per mm of stroke m_2	9.1	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	150	mm/r
1 pce.		0.0.663.32

Compatible drive elements

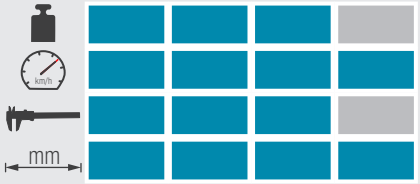
Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60	✓	✓	✗

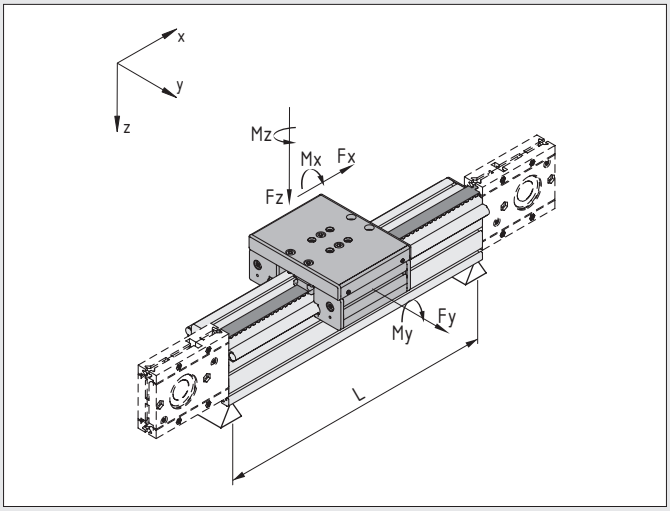
Overview Linear Units LRE 8 D14

- Fast, strong and universal
- The strong all-rounder
- Special lengths on request

The standard Linear Units with impressive performance potential. Linear Units LRE 8 D14 offer the widest range of support profiles and a robust design for a long service life. The maximum payload of up to 160 kg opens up a broad range of potential applications.

The carriage has a flat surface for accommodating application-specific mounting holes and the ingenious positioning collars ensure that the chosen application can be mounted with exceptional precision. As a result, changeover and maintenance operations can be completed in record time. Various support profiles are available so that profile deflection can be minimised for high loads and support spans.

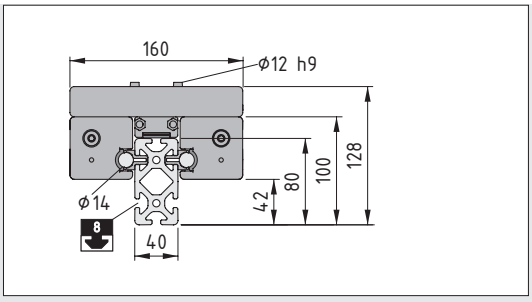


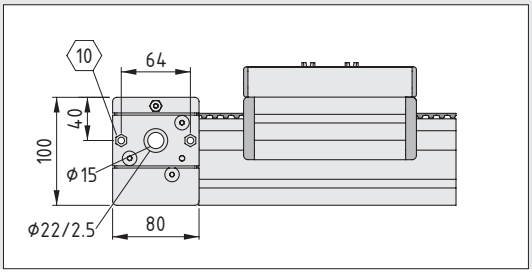


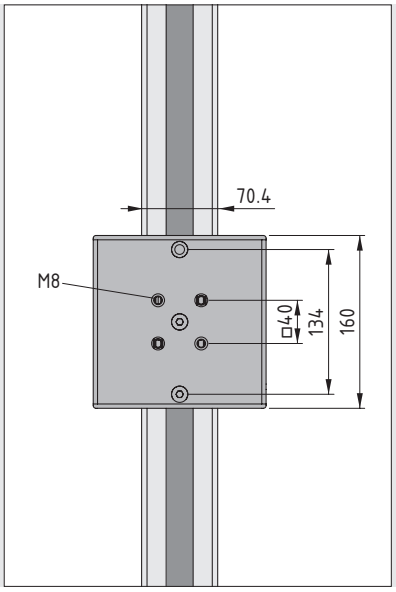
Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit LRE 8 D14 80x40 ZU 40 R25	0.0.662.91	29	870	2400	1600	40	64	96	600	1400
Linear Unit LRE 8 D14 80x40 ZU 80 R25	0.0.663.12	30	1200	2400	1600	40	64	96	600	1400
Linear Unit LRE 8 D14 80x80 ZU 40 R25	0.0.663.25	31	870	2400	1600	76	64	96	1500	1900
Linear Unit LRE 8 D14 80x80 ZU 80 R25	0.0.663.26	32	1200	2400	1600	76	64	96	1500	1900
Linear Unit LRE 8 D14 120x80 ZU 40 R25	0.0.663.34	33	870	2400	1600	76	64	96	1900	3200
Linear Unit LRE 8 D14 120x80 ZU 80 R25	0.0.663.35	34	1200	2400	1600	76	64	96	1900	3200

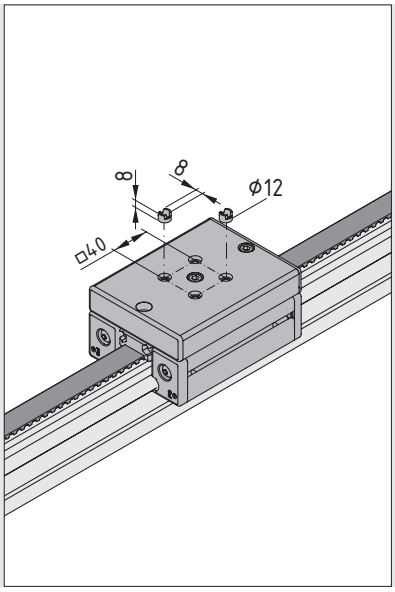
Linear Unit LRE 8 D14 80x40 ZU 40 R25

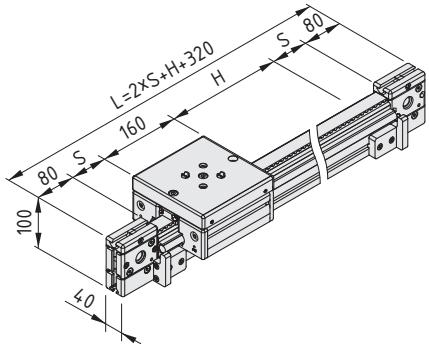
- Maximum support span 1400 mm when $F_{z\,max}$
- Operating load 870 N











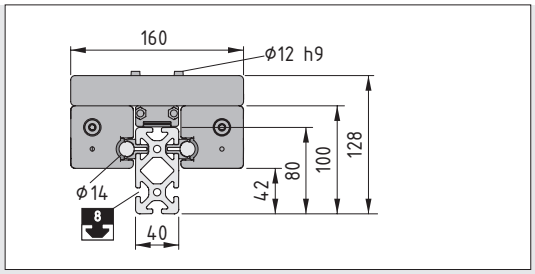
Linear Unit LRE 8 D14 80x40 ZU 40 R25		
Maximum stroke H_{max}	5760	mm
Safety clearance S	40	mm
Basic mass (when stroke length = 0 mm) m_1	8.4	kg
Mass per mm of stroke m_2	7.8	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	150	mm/r
1 pce.		0.0.662.91

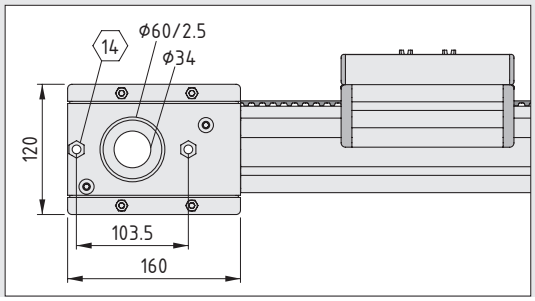
Compatible drive elements

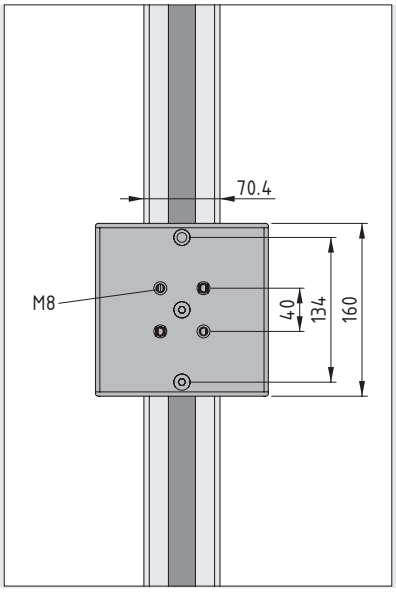
Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60	✓	✓	✗

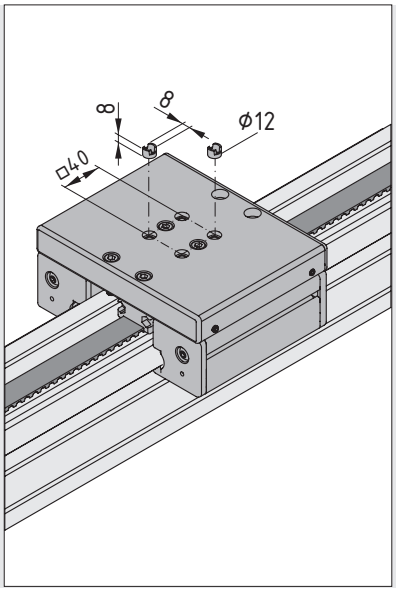
Linear Unit LRE 8 D14 80x40 ZU 80 R25

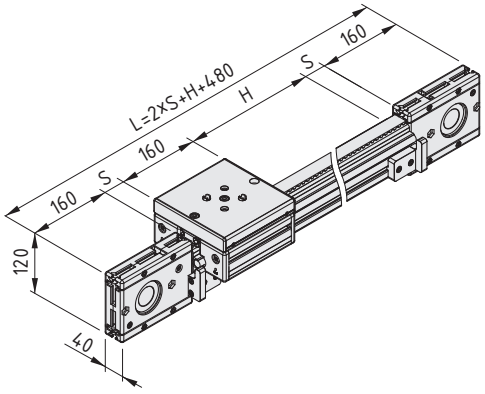
- Maximum support span 1400 mm when $F_{z\,max}$
- Operating load 1200 N











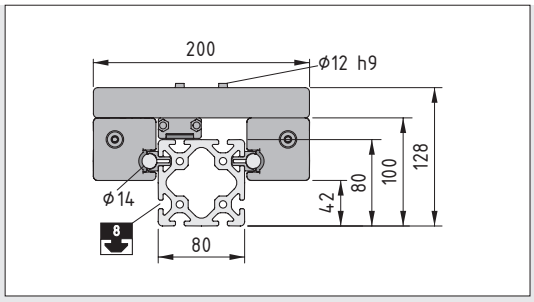
Linear Unit LRE 8 D14 80x40 ZU 80 R25		
Maximum stroke H_{max}	5820	mm
Safety clearance S	10	mm
Basic mass (when stroke length = 0 mm) m_1	11.7	kg
Mass per mm of stroke m_2	7.8	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	280	mm/r
1 pce.		0.0.663.12

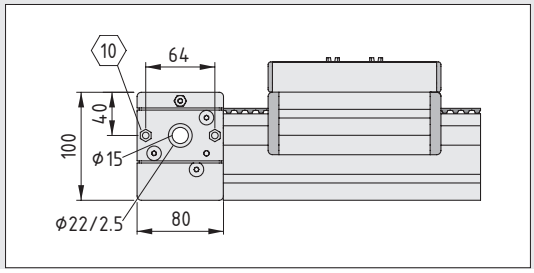
Compatible drive elements

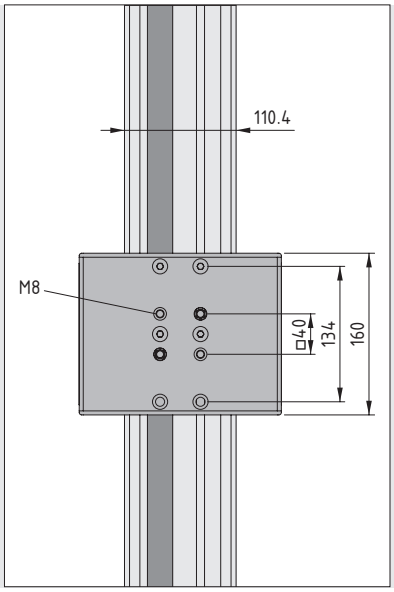
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✗

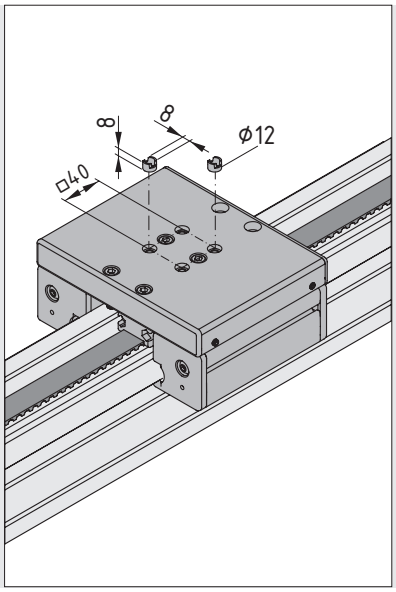
Linear Unit LRE 8 D14 80x80 ZU 40 R25

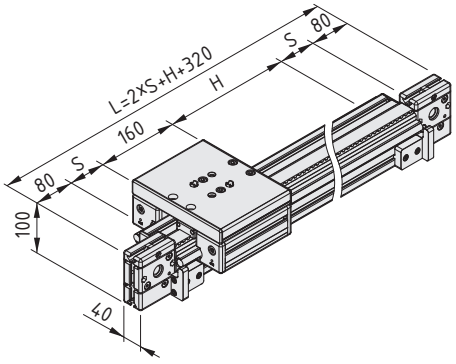
- Maximum support span 1900 mm when $F_{z\,max}$
- Operating load 870 N











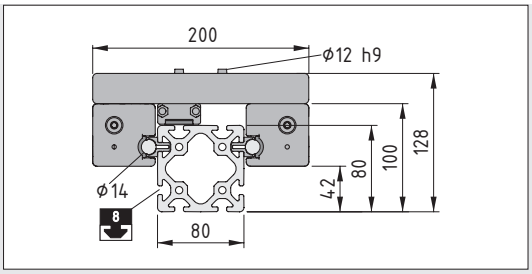
Linear Unit LRE 8 D14 80x80 ZU 40 R25		
Maximum stroke H_{max}	5760	mm
Safety clearance S	40	mm
Basic mass (when stroke length = 0 mm) m_1	9.4	kg
Mass per mm of stroke m_2	10.5	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	150	mm/r
1 pce.		0.0.663.25

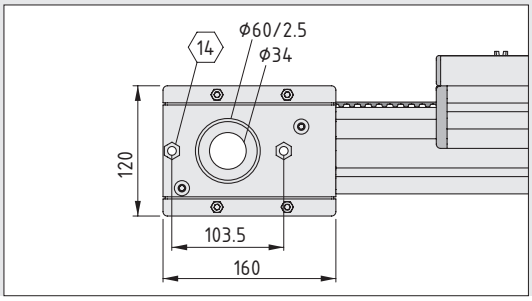
Compatible drive elements

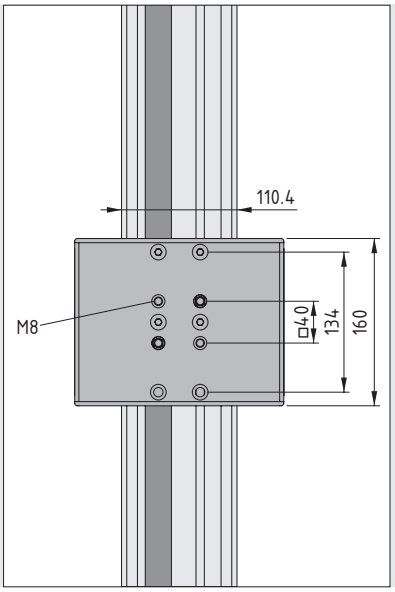
Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60	✓	✓	✗

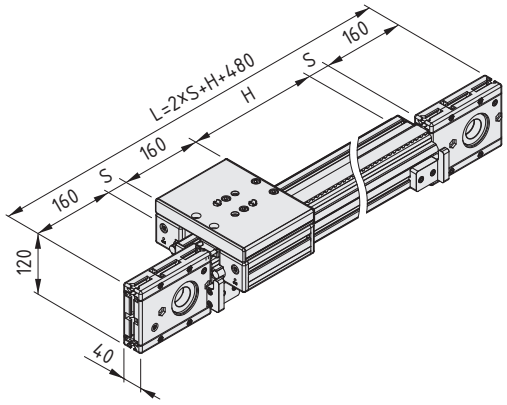
Linear Unit LRE 8 D14 80x80 ZU 80 R25

- Maximum support span 1900 mm when $F_{z\,max}$
- Operating load 1200 N









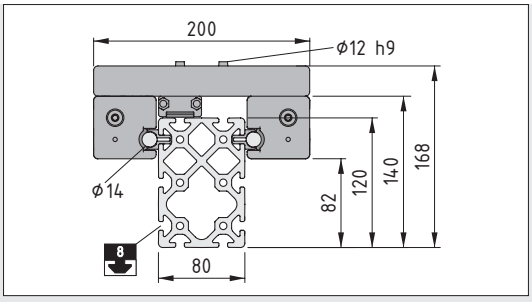
Linear Unit LRE 8 D14 80x80 ZU 80 R25		
Maximum stroke H_{max}	5820	mm
Safety clearance S	10	mm
Basic mass (when stroke length = 0 mm) m_1	12.6	kg
Mass per mm of stroke m_2	10.5	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	280	mm/r
1 pce.		0.0.663.26

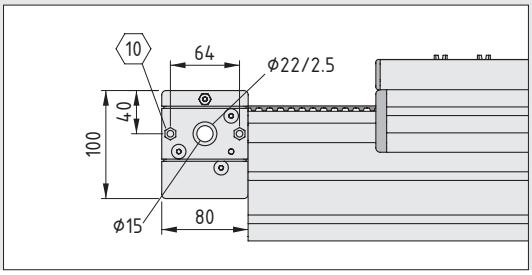
Compatible drive elements

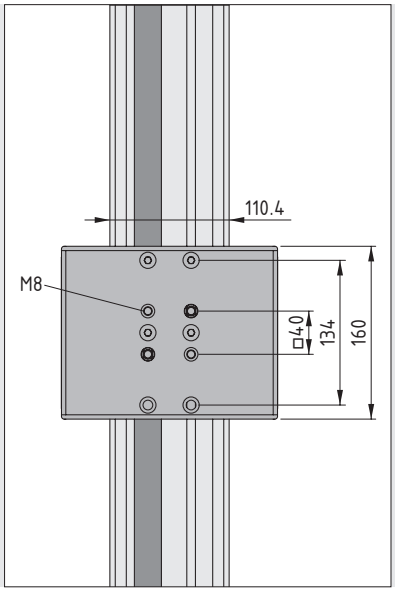
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✗

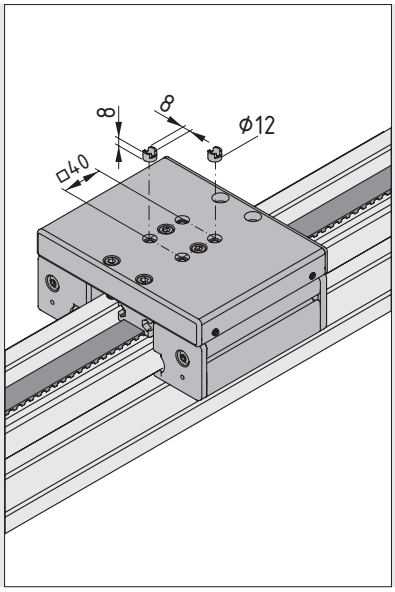
Linear Unit LRE 8 D14 120x80 ZU 40 R25

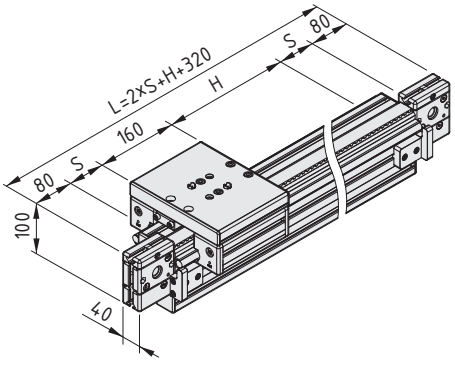
- Maximum support span 3200 mm when $F_{z\,max}$
- Operating load 870 N











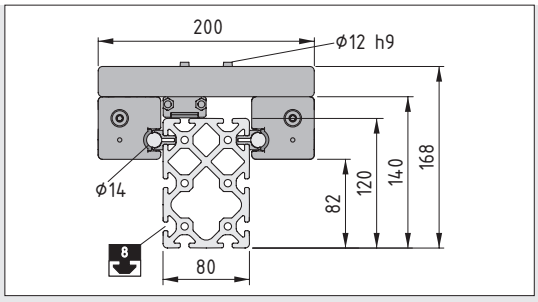
Linear Unit LRE 8 D14 120x80 ZU 40 R25		
Maximum stroke H_{max}	5760	mm
Safety clearance S	40	mm
Basic mass (when stroke length = 0 mm) m_1	10.3	kg
Mass per mm of stroke m_2	14.2	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	150	mm/r
1 pce.		0.0.663.34

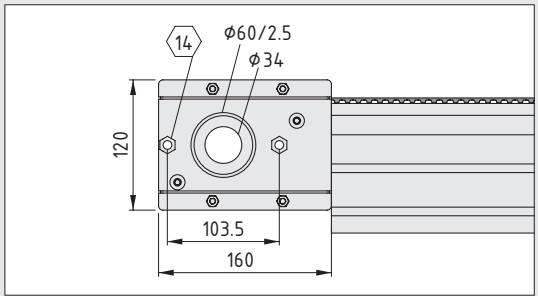
Compatible drive elements

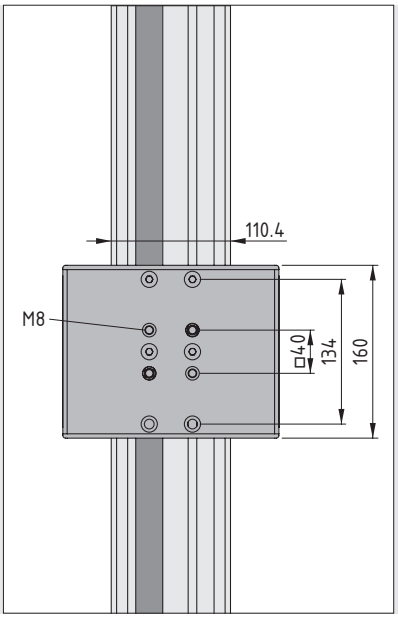
Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60	✓	✓	✗

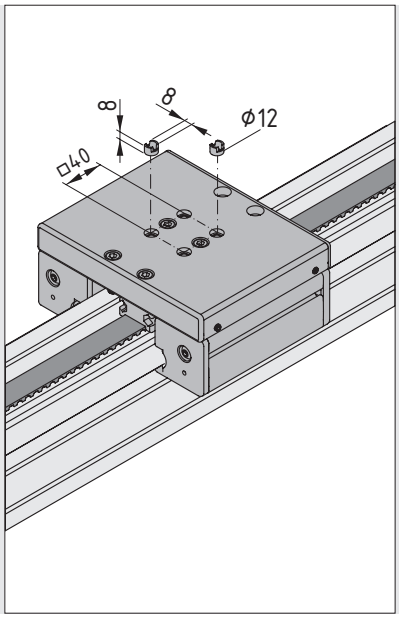
Linear Unit LRE 8 D14 120x80 ZU 80 R25

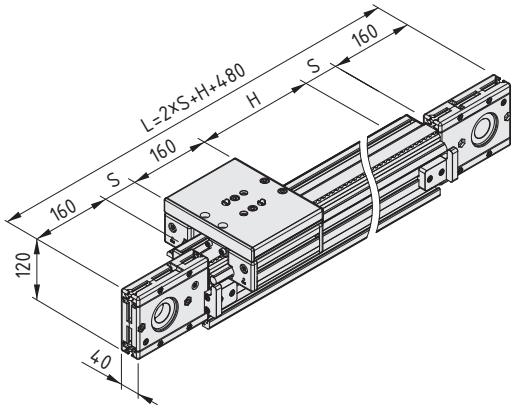
- Maximum support span 3200 mm when $F_{z\,max}$
- Operating load 1200 N











Linear Unit LRE 8 D14 120x80 ZU 80 R25			
Maximum stroke H_{max}	5820	mm	
Safety clearance S	10	mm	
Basic mass (when stroke length = 0 mm) m_1	13.2	kg	
Mass per mm of stroke m_2	14.2	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeatability	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	280	mm/r	
1 pce.			0.0.663.35

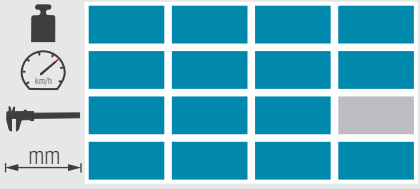
Compatible drive elements

Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✗

Overview Linear Units LRE 8 D25

- For payloads up to 5200 N
- The Linear Units for heavy loads

The Linear Units for heavy-duty use. Linear Units LRE 8 D25 can transport payloads up to 5200 N. Solid roller elements, stable steel shafts and support profiles with a cross-section measuring up to 200 x 80 mm make it possible to transport these types of load. The roller guide and high-performance timing-belt drive create the ideal conditions for high-speed operation. A 50 mm-wide timing belt is also available for high operating forces generated by hard acceleration and deceleration.Various support profiles can be selected to minimise profile deflection in the case of high loads and large support spans. The application is fastened to the stable carriage via the system grooves on the carriage plate.

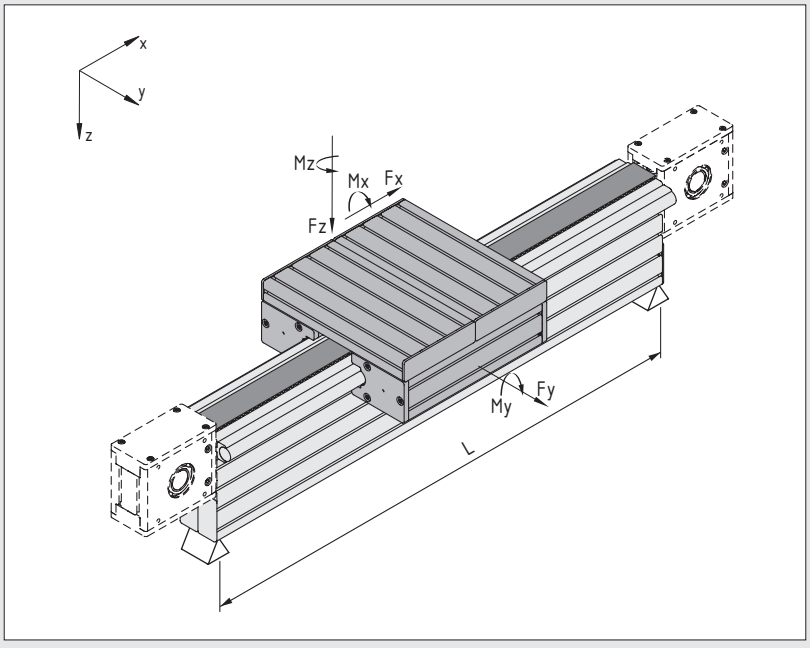


max. 5200 N

up to 10 m/s

max. 0.15 mm

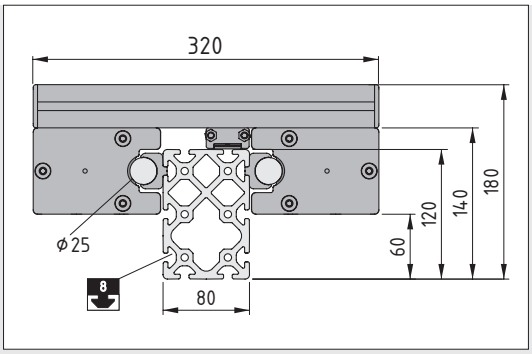
max. 5620 mm

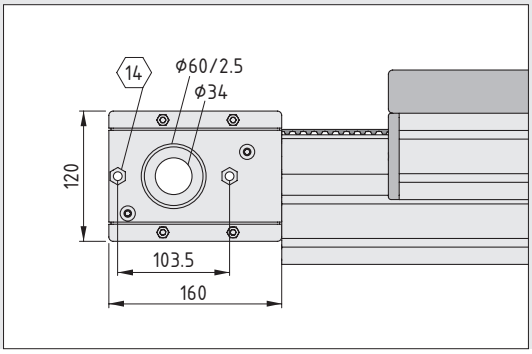


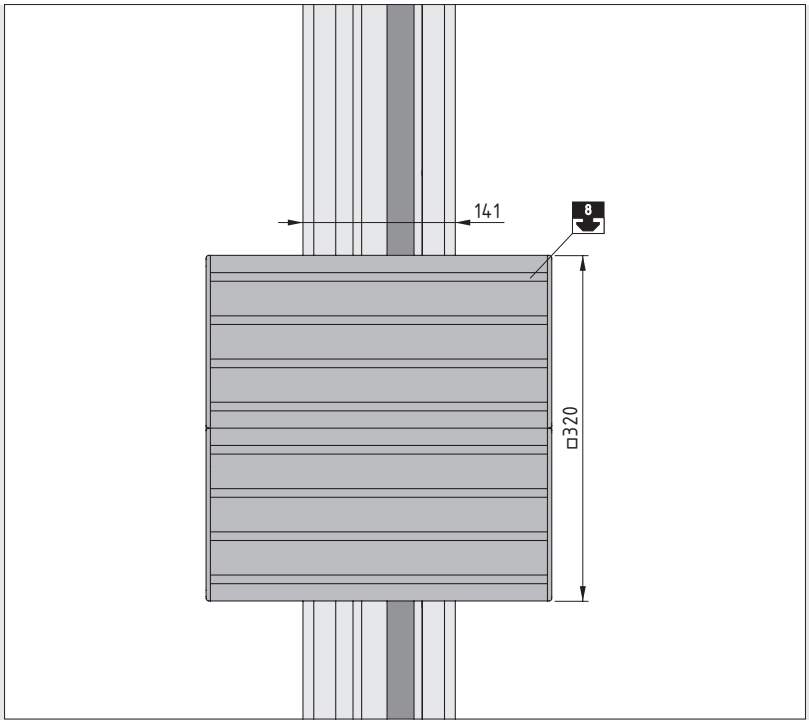
Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit LRE 8 D25 120x80 ZU 80 R25	0.0.663.36	36	1200	7600	5200	301	520	760	1000	1900
Linear Unit LRE 8 D25 120x80 ZU 80 R50	0.0.666.65	37	2100	7600	5200	301	520	760	1000	1900
Linear Unit LRE 8 D25 200x80 ZU 80 R25	0.0.666.53	38	1200	7600	5200	301	520	760	1300	3600
Linear Unit LRE 8 D25 200x80 ZU 80 R50	0.0.666.66	39	2100	7600	5200	301	520	760	1300	3600

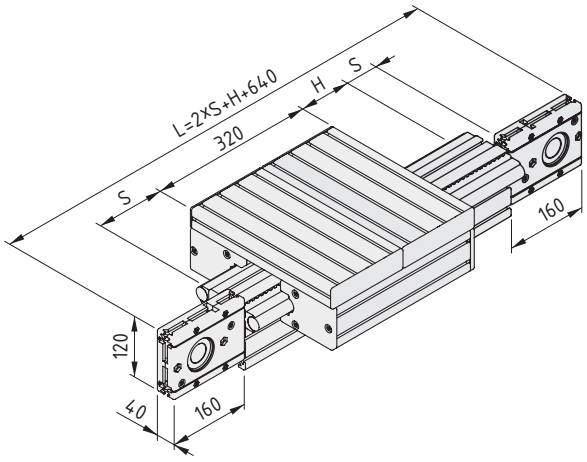
Linear Unit LRE 8 D25 120x80 ZU 80 R25

- Maximum support span 1900 mm when $F_{z\,max}$
- Operating load 1200 N









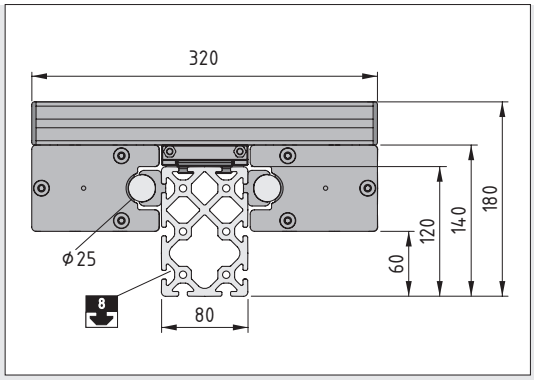
Linear Unit LRE 8 D25 120x80 ZU 80 R25		
Maximum stroke H_{max}	5620	mm
Safety clearance S	30	mm
Basic mass (when stroke length = 0 mm) m_1	31.1	kg
Mass per mm of stroke m_2	20.7	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	280	mm/r
1 pce.		0.0.663.36

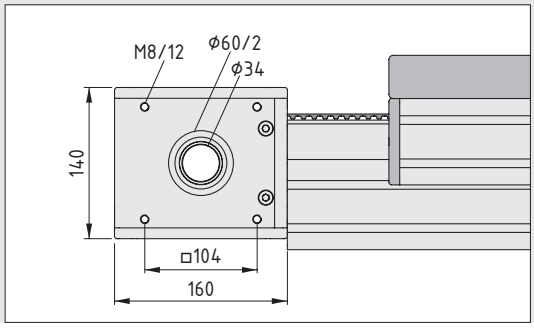
Compatible drive elements

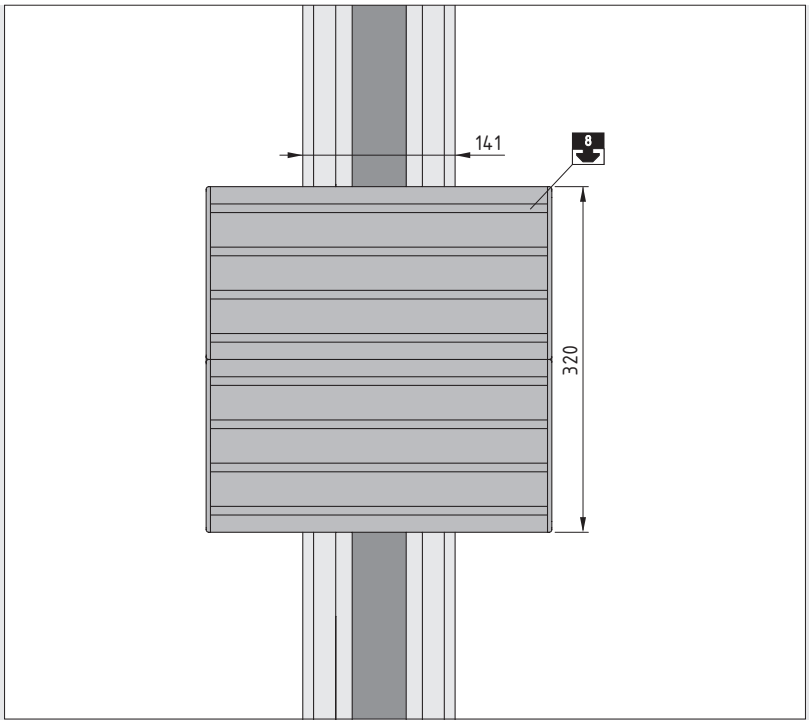
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✗

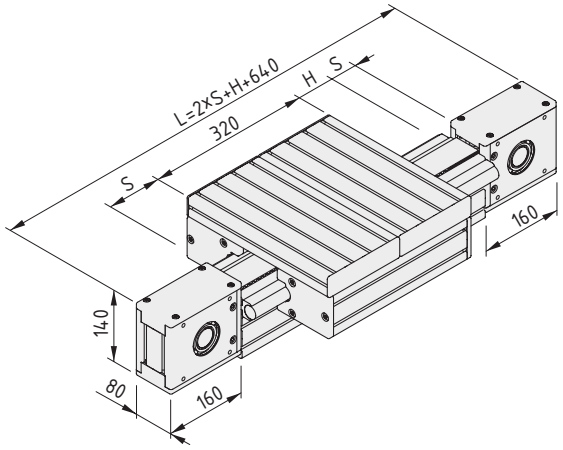
Linear Unit LRE 8 D25 120x80 ZU 80 R50

- Maximum support span 1900 mm when $F_{z\,max}$
- Operating load 2100 N









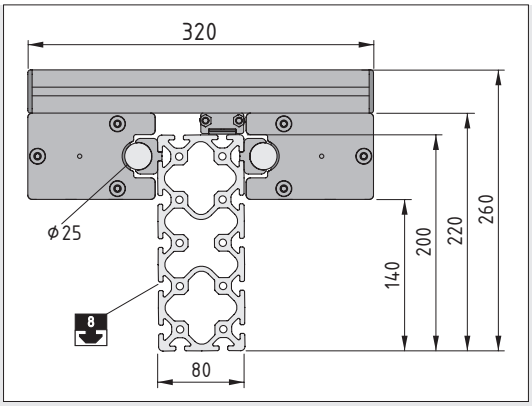
Linear Unit LRE 8 D25 120x80 ZU 80 R50		
Maximum stroke H_{max}	5620	mm
Safety clearance S	30	mm
Basic mass (when stroke length = 0 mm) m_1	32.6	kg
Mass per mm of stroke m_2	20.9	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	280	mm/r
1 pce.		0.0.666.65

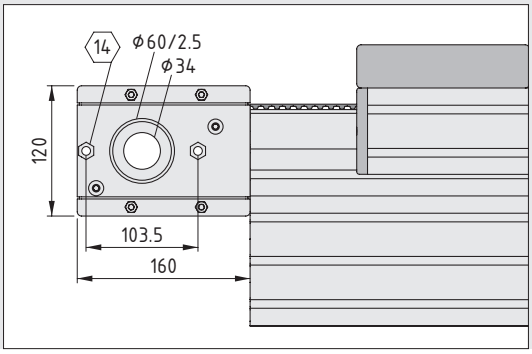
Compatible drive elements

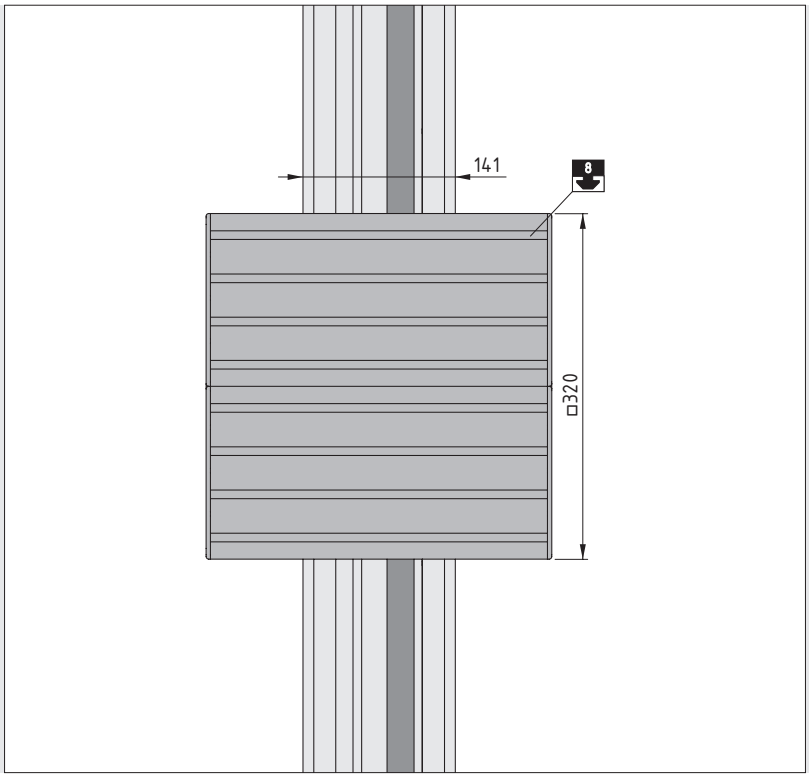
Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
80	✓	✓	✗

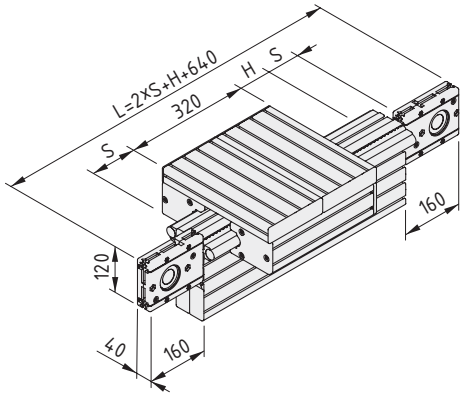
Linear Unit LRE 8 D25 200x80 ZU 80 R25

- Maximum support span 3600 mm when $F_{z\,max}$
- Operating load 1200 N









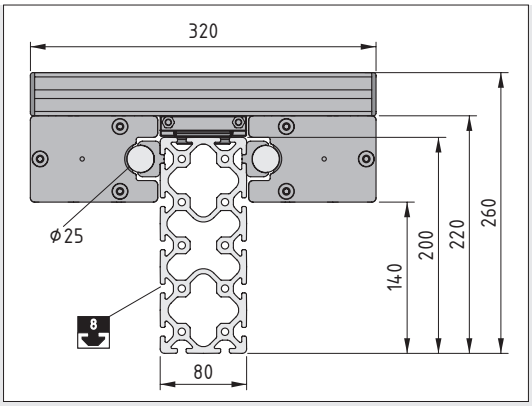
Linear Unit LRE 8 D25 200x80 ZU 80 R25		
Maximum stroke H_{max}	5620	mm
Safety clearance S	30	mm
Basic mass (when stroke length = 0 mm) m_1	32.8	kg
Mass per mm of stroke m_2	25.0	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	280	mm/r
1 pce.		0.0.666.53

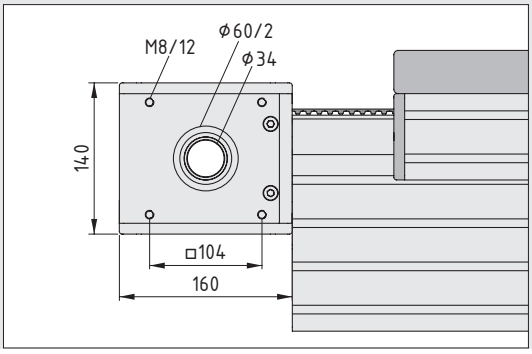
Compatible drive elements

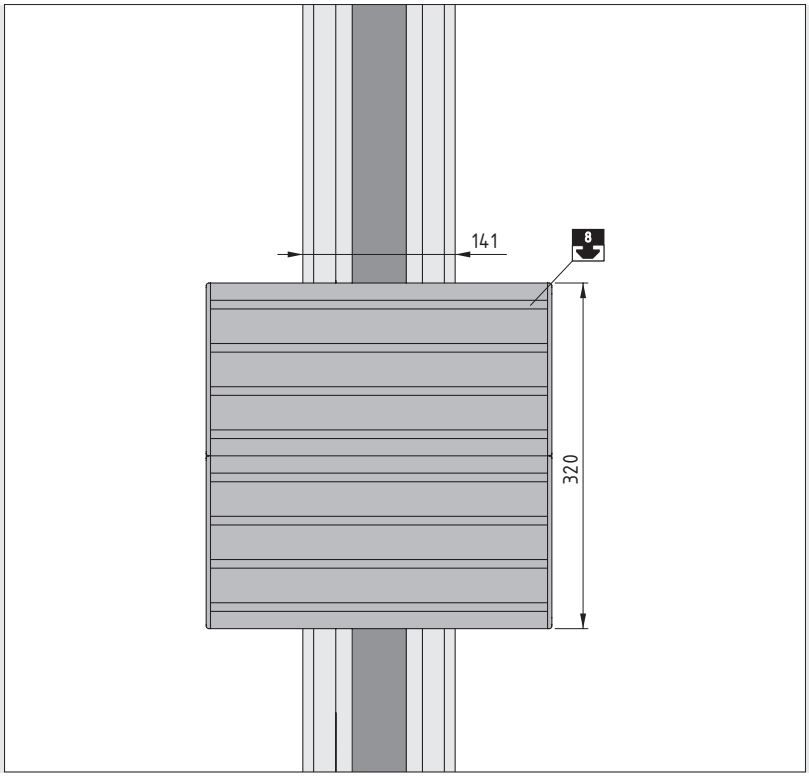
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✓	✗

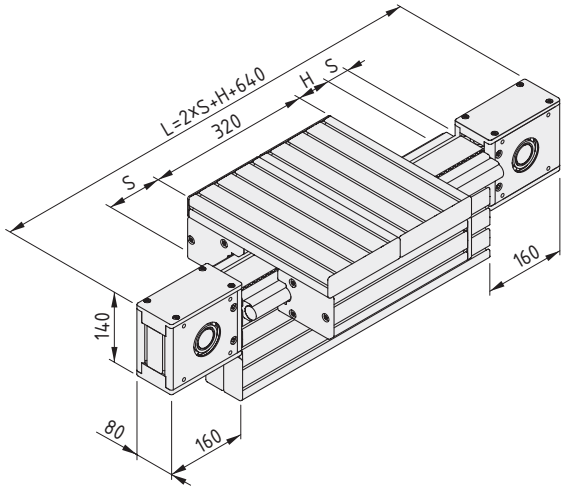
Linear Unit LRE 8 D25 200x80 ZU 80 R50

- Maximum support span 3600 mm when $F_{z\,max}$
- Operating load 2100 N









Linear Unit LRE 8 D25 200x80 ZU 80 R50		
Maximum stroke H_{max}	5620	mm
Safety clearance S	30	mm
Basic mass (when stroke length = 0 mm) m_1	34.4	kg
Mass per mm of stroke m_2	25.3	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	280	mm/r
1 pce.		0.0.666.66

Compatible drive elements

Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
80	✓	✓	✗

Linear Units with a ball screw drive

The specialist for precision and drive force: A Ball Screw Unit is used when a great deal of power and precise positioning are required.
This is made possible by the drive principle: A Ball Screw Unit is based on a precision spindle. The speed and positioning accuracy of the system are largely determined by the lead on the thread. A non-turning drive nut that houses ball bearings is fitted to the spindle. These ball bearings circulate in the thread and ensure that the nut moves along a straight axis as the spindle turns. Because the ball bearings are very slightly larger than the track in which they run, they produce a pre-tensioning effect that eliminates play and supports load-carrying capacity. Using a spindle with a large lead boosts the travel speed that the Ball Screw Unit can achieve.

The length of the spindle limits its revolution speed. As a result, a spindle with a large lead is preferable for high driving rates. This design is less prone to uncontrolled carriage movement in vertical applications – due to the transmission ratio of the Ball Screw Unit, the drive only has to provide low braking torque.

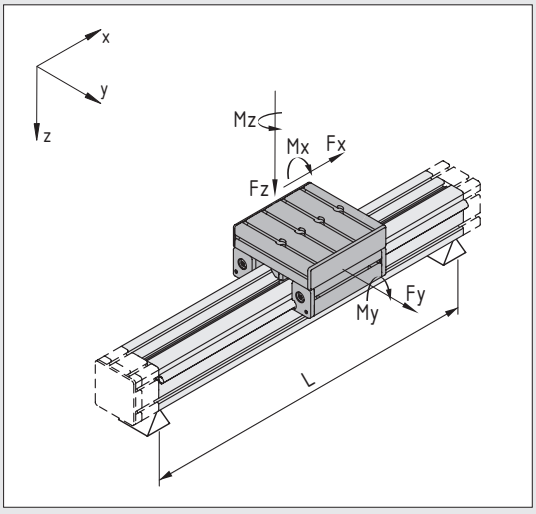
Overview of Linear Units LRE 8 D10 80x80 KGT

- Compact carriage with D10 roller elements
- Payloads up to 880 N
- Two spindle leads available

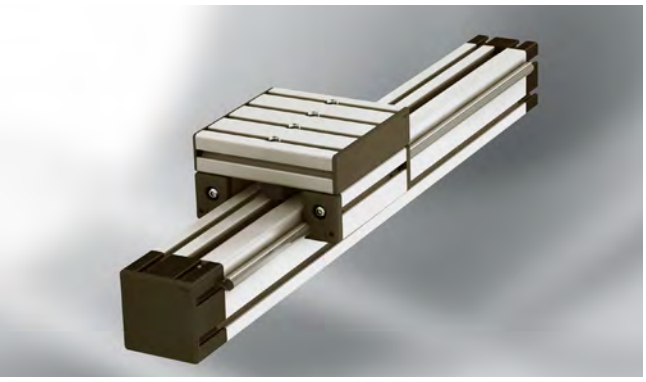
Linear Units LRE 8 D10 80x80 KGT offer the excellent precision of a ball screw drive for applications with a payload of up to 880 N. The 160x160 mm carriage is guided by roller elements with a diameter of D10 that run on hardened steel shafts.

Two spindle leads are available. The 20x5 lead translates a low drive torque into a very high operating force. The spindle lead of 20x20 enables a maximum speed of up to 1 m/s combined with a high operating load.

max. 880 N
up to 0.25 m/s
max. 0.05 mm
max. 2687 mm

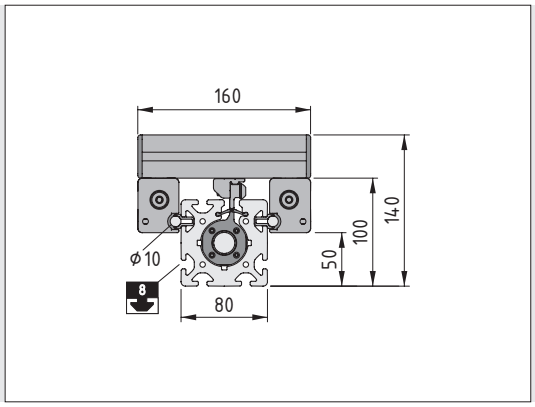


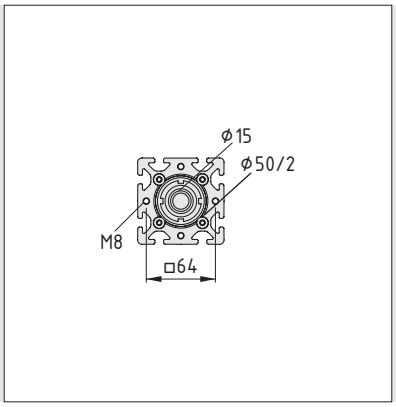
Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fz max [mm]	Support width L max when Fy max [mm]
Linear Unit LRE 8 D10 80x80 KGT 20x5	0.0.668.12	42	2000	1300	880	39	35	52	2500	2200
Linear Unit LRE 8 D10 80x80 KGT 20x20	0.0.668.10	43	2000	1300	880	39	35	52	2500	2200

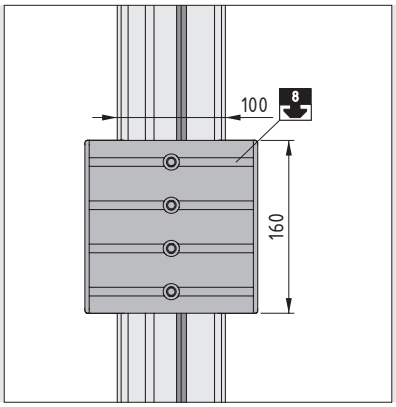


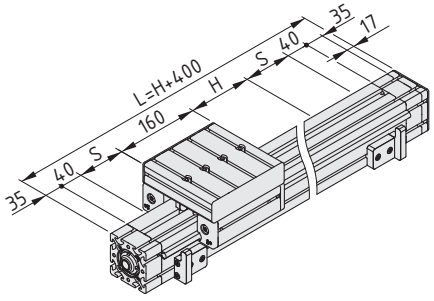
Linear Unit LRE 8 D10 80x80 KGT 20x5

- Precise with strong drive
- High rigidity





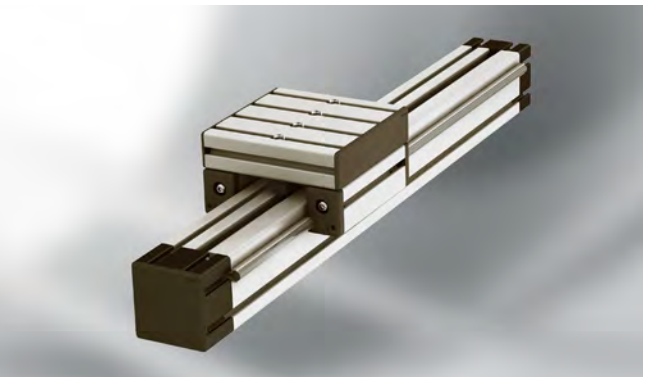




Linear Unit LRE 8 D10 80x80 KGT 20x5		
Maximum stroke H_{max}	2687	mm
Safety clearance S	76.5	mm
Basic mass (when stroke length = 0 mm) m_1	8.3	kg
Mass per mm of stroke m_2	12.8	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.05	mm
Maximum acceleration	5	m/s^2
Maximum travelling speed	0.25	m/s
Feed constant	5	mm/r
1 pce.		0.0.668.12

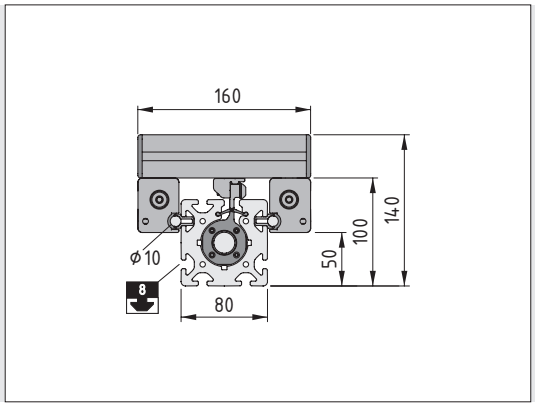
Compatible drive elements

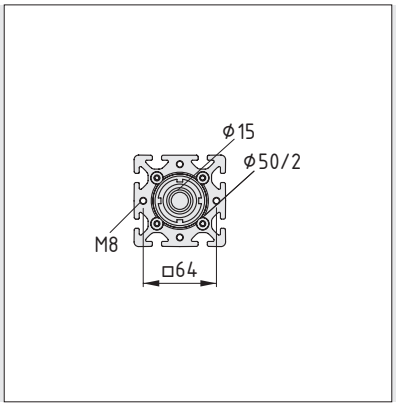
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✗	✗

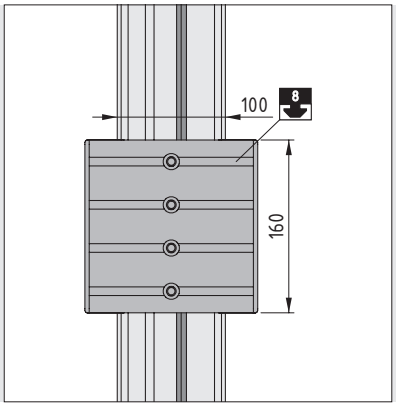


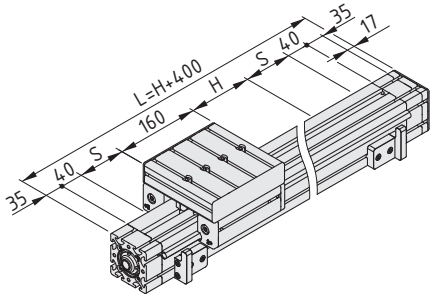
Linear Unit LRE 8 D10 80x80 KGT 20x20

- Extremely precise positioning
- Highly rigid drive









Linear Unit LRE 8 D10 80x80 KGT 20x20		
Maximum stroke H_{max}	2687	mm
Safety clearance S	76.5	mm
Basic mass (when stroke length = 0 mm) m_1	8.2	kg
Mass per mm of stroke m_2	12.5	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.05	mm
Maximum acceleration	5	m/s^2
Maximum travelling speed	1	m/s
Feed constant	20	mm/r
1 pce.		0.0.668.10

Compatible drive elements

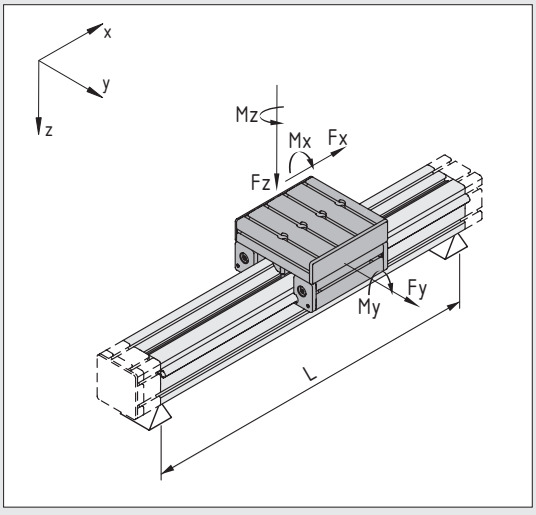
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✗	✗

Overview of Linear Units LRE 8 D14 80x80 KGT

- Strong Roller Guide D14
- Two spindle leads available
- Precise positioning and payloads of up to 1600 N

Linear Units LRE 8 D14 80x80 KGT offer the excellent repeatability of a ball screw drive for applications with a high payload of up to 1600 N. The carriage is guided by strong roller elements with a diameter of D14 that run on hardened steel shafts.

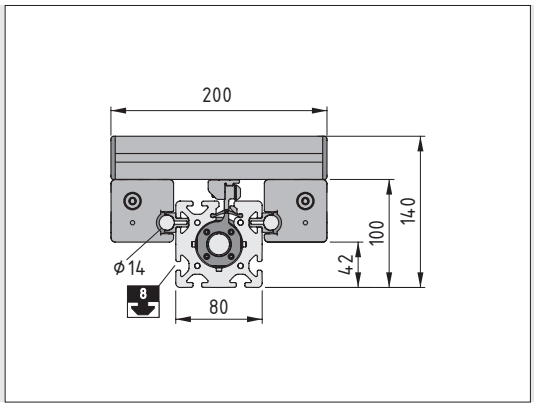
Two spindle leads are available. The 20x5 lead translates a low drive torque into a very high operating force. The spindle lead of 20x20 enables a maximum speed of up to 1 m/s combined with a high operating load.

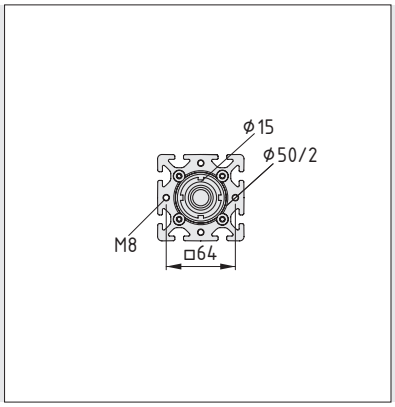


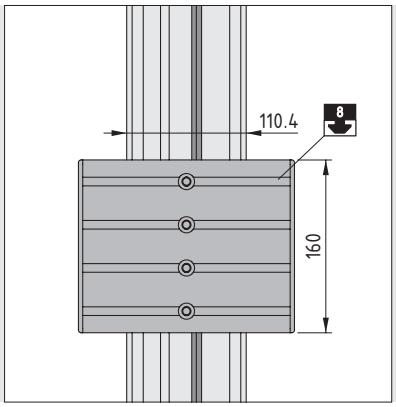
Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fz max [mm]	Support width L max when Fy max [mm]
Linear Unit LRE 8 D14 80x80 KGT 20x5	0.0.668.06	45	2000	2400	1600	76	64	96	1900	1700
Linear Unit LRE 8 D14 80x80 KGT 20x20	0.0.668.08	46	2000	2400	1600	76	64	96	1900	1700

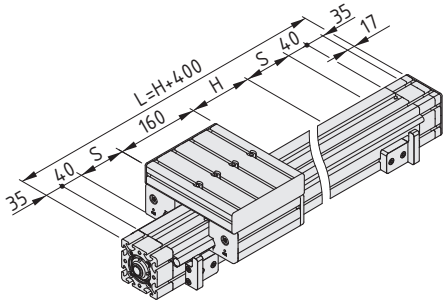
Linear Unit LRE 8 D14 80x80 KGT 20x5

- Precise with a high drive force coupled with a heavy payload
- Highly rigid drive









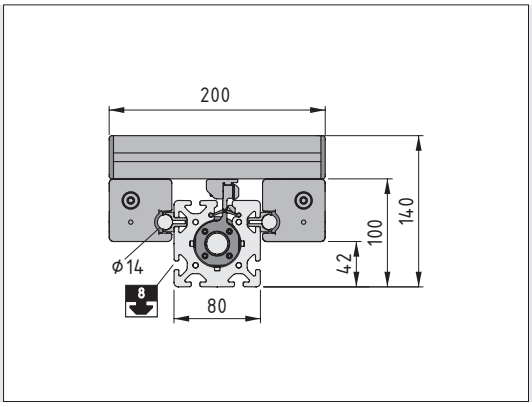
Linear Unit LRE 8 D14 80x80 KGT 20x5		
Maximum stroke H_{max}	2687	mm
Safety clearance S	76.5	mm
Basic mass (when stroke length = 0 mm) m_1	10.0	kg
Mass per mm of stroke m_2	14.3	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.05	mm
Maximum acceleration	5	m/s^2
Maximum travelling speed	0.25	m/s
Feed constant	5	mm/r
1 pce.		0.0.668.06

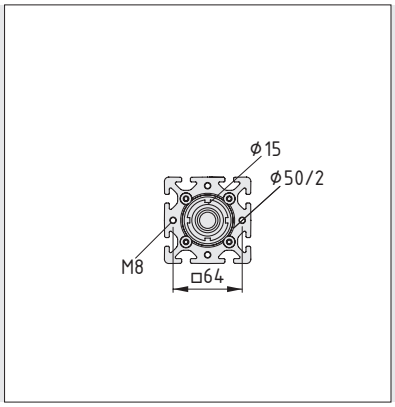
Compatible drive elements

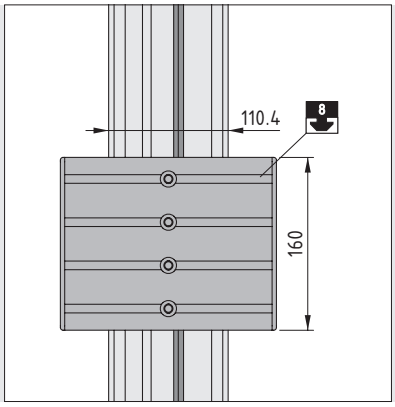
Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✗	✗

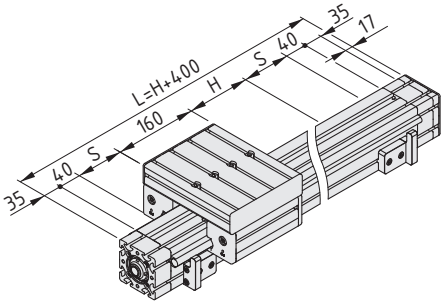
Linear Unit LRE 8 D14 80x80 KGT 20x20

- Precise – even with higher payloads
- Highly rigid drive









Linear Unit LRE 8 D14 80x80 KGT 20x20		
Maximum stroke H_{max}	2687	mm
Safety clearance S	76.5	mm
Basic mass (when stroke length = 0 mm) m_1	10.0	kg
Mass per mm of stroke m_2	14.0	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeatability	0.05	mm
Maximum acceleration	5	m/s^2
Maximum travelling speed	1	m/s
Feed constant	20	mm/r
1 pce.		0.0.668.08

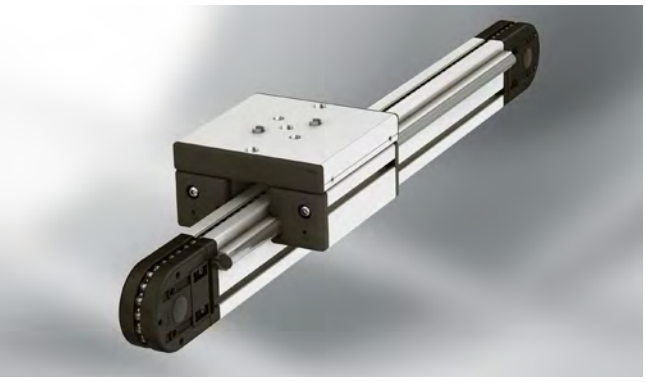
Compatible drive elements

Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✗	✗

Linear Units with a chain drive

It holds steady when others have given up. A chain drive is resistant to problems caused by soiling, can transfer high forces and is also ideal for vertical movements. The robust chain comes into use when absolute reliability is required, including under tough conditions.
Similar to a timing-belt drive, the rotary motion of the motor is transferred to a continuous chain. The drive cannot slip.
Linear Units with a chain drive transfer large forces in the direction of travel, but are limited in terms of positioning and travel speed due to their design. However, they exhibit excellent failure load characteristics, which means chain drives are often used to build lifting doors and other vertical applications.

Because the force in a chain drive can be converted into movement via sprocket wheels positioned anywhere on the Linear Unit, this design is particularly well suited to building conveyor systems with rollers. In fact, there are hardly any alternative solutions in this application scenario.
Compared to other Linear Units, those that use steel link chains require slightly more maintenance work. It is also important to ensure the system is adequately lubricated and to check chain tension regularly.

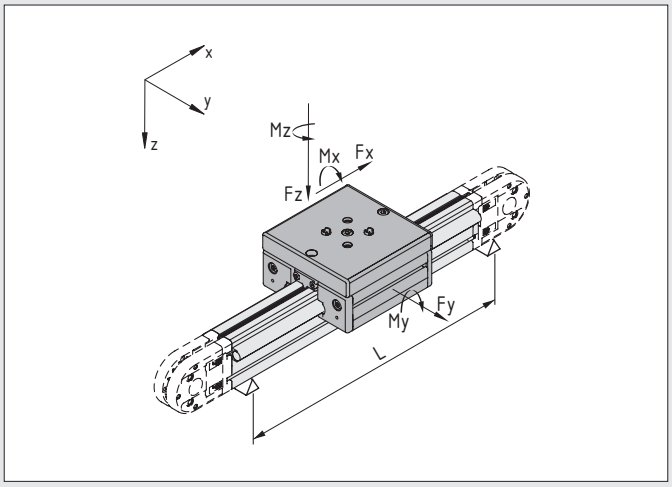


Linear Unit LRE 8 D14 80x40 KU 80

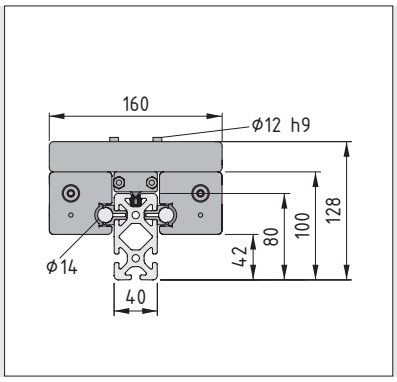
- Chain drive ensures consistently high power transmission
- Robust in heavily contaminated environments

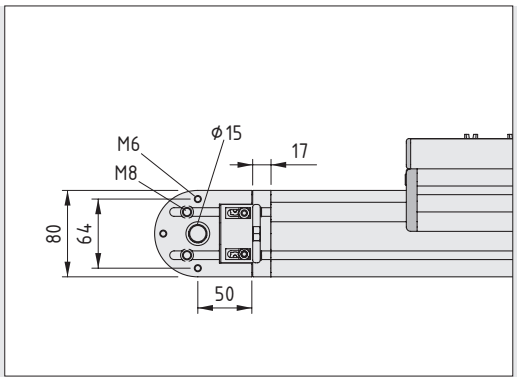
8

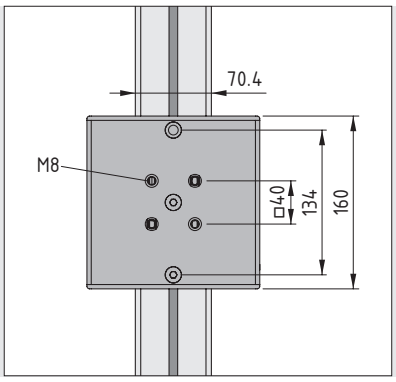
Linear Unit LRE 8 D14 80x40 KU 80 is secure and virtually indestructible. The 1/2" roller chain delivers consistently high power transmission and a reliable hold when used in vertical applications. Even very heavy loads up to 160 kg are moved in a controlled manner and with powerful acceleration. Linear Unit LRE 8 D14 80x40 KU 80 can also be used in heavily contaminated environments.

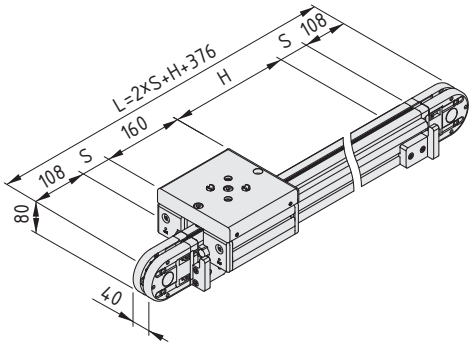


Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit LRE 8 D14 80x40 KU 80	0.0.664.54	48	620	2400	1600	40	64	96	600	1400









Linear Unit LRE 8 D14 80x40 KU 80			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	12	mm	
Basic mass (when stroke length = 0 mm) m_1	7.7	kg	
Mass per mm of stroke m_2	8.1	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeatability	0.5	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	2	m/s	
Feed constant	203.2	mm/r	
1 pce.			0.0.664.54

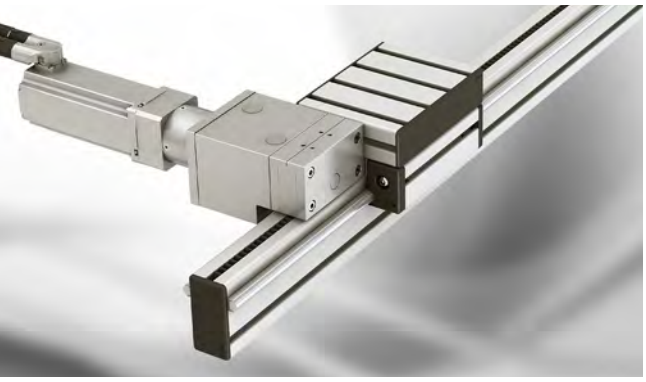
Compatible drive elements

Plug-and-play Drive Set size	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60	✓	✓	✗

Linear Units with a rack drive

A Linear Unit with a rack drive is often the best solution when a powerful stroke and precise control are required. The driven gearwheel interlocks with the straight rack to eliminate the possibility of slip. The rotary motion of the drive motor is thus converted directly into the rectilinear motion of the slide.
This enables two applications: Either the load travels with the driven gearwheel, or the drive is locked and the load travels with the moving rack. In the item Automation System, the rack is completely concealed in the groove of the supporting profile. Drive is transmitted directly to the slide. Other applications can be engineered as special solutions using the MB Building Kit System.

The rack drive is a robust linear drive that can be used to move heavy loads. A high standard of positioning accuracy is obtained, even on long axes, as the rack does not stretch out when under load.
Linear units with a rack drive also transmit power securely in vertical applications.



Linear Unit LRE 8 D10 80x40 ZS K light

- Rack made from high-strength plastic
- Cost-effective solution with low base weight
- Straightforward assembly

8

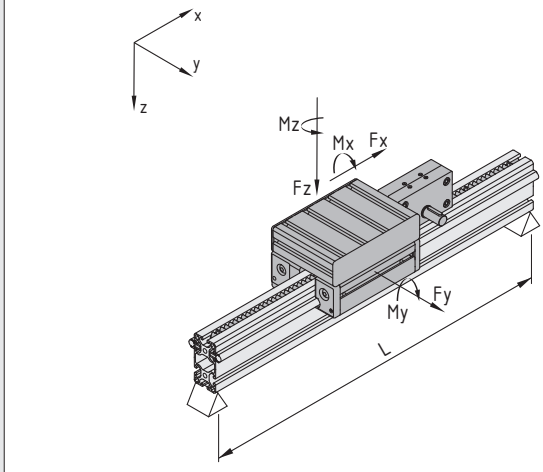
Extra light and extra strong! Linear Unit LRE 8 D10 80x40 ZS K light uses a rack made of high-strength plastic. As a result, it is ideal for moving medium loads securely and quickly.

The Linear Unit features a low dead weight and excellent safety for vertical movements. The modular rack is made of fibre-glass reinforced plastic. It is safely concealed in the groove of a Profile 8 light and exhibits high rigidity and low coefficients of friction. The plastic ensures stability, smooth travel and corrosion resistance. The slide runs on a high-strength Double-Bearing Unit and hardened steel Shafts.

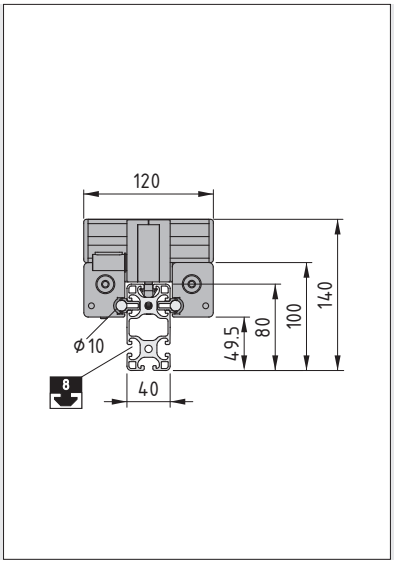
The low mass of the Support Profile and rack enable impressive dynamics, even during lifting movements. This combination is also a very economical solution for many tasks. Linear Unit LRE 8 D14 80x40 ZS with a metal rack is available as a rack system for moving larger masses.

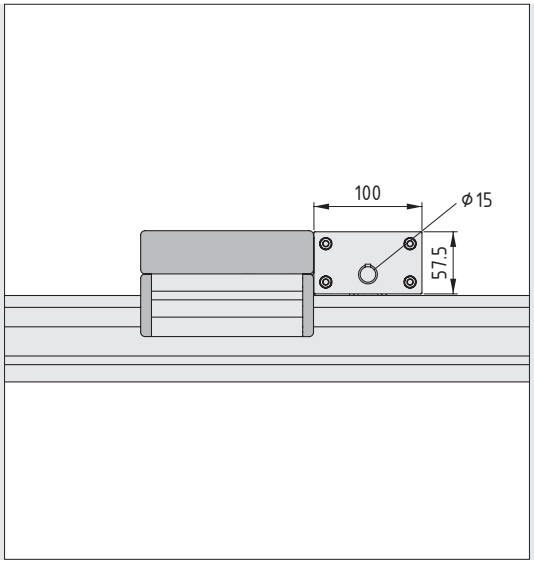
Linear Unit LRE 8 D10 80x40 ZS K is supplied ready-to-install in the desired length. The plastic rack can also be ordered separately to build custom solutions.

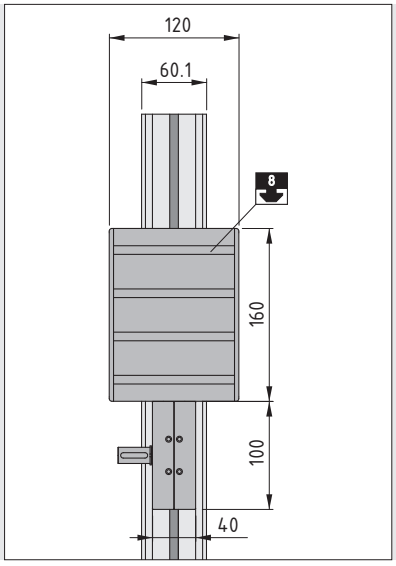
max. 880 N
up to 3 m/s
max. 0.5 mm
max. 5678 mm

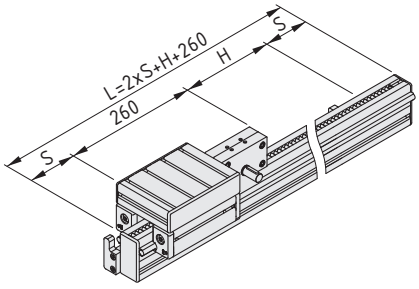


Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit LRE 8 D10 80x40 ZS K light	0.0.679.91	51	350	1300	880	22	35	52	600	1600









Linear Unit LRE 8 D10 80x40 ZS K light			8
Maximum stroke H_{max}	5678	mm	
Safety clearance S	31	mm	
Basic mass (when stroke length = 0 mm) m_1	5.1	kg	
Mass per mm of stroke m_2	4.8	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeatability	0.5	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	3	m/s	
Feed constant	144	mm/r	
1 pce.			0.0.679.91

Compatible drive elements

Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✗	✗

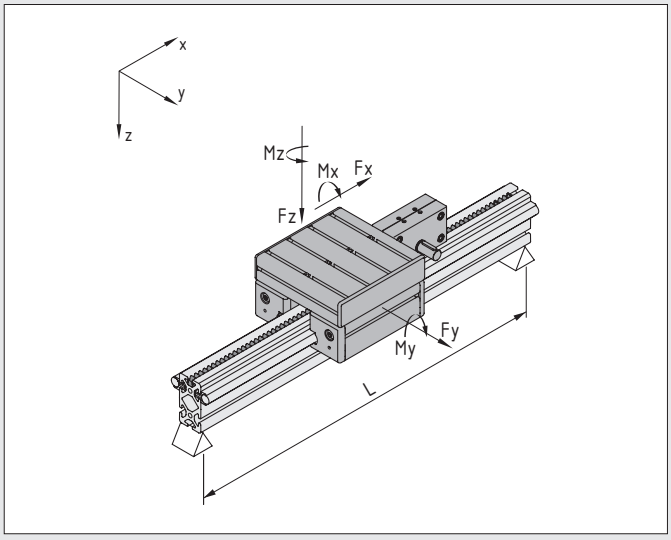
Linear Unit LRE 8 D14 80x40 ZS

- Exceptional reliability for vertical movements
- Very rigid and strong
- Special lengths on request

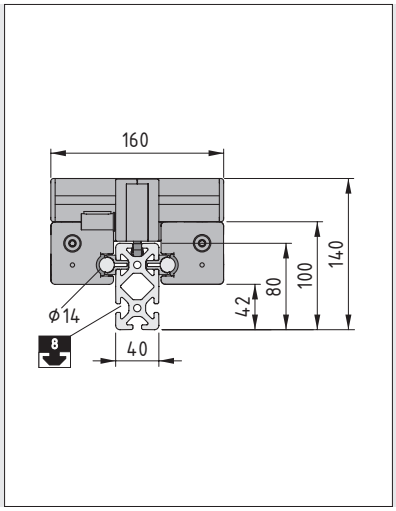
8

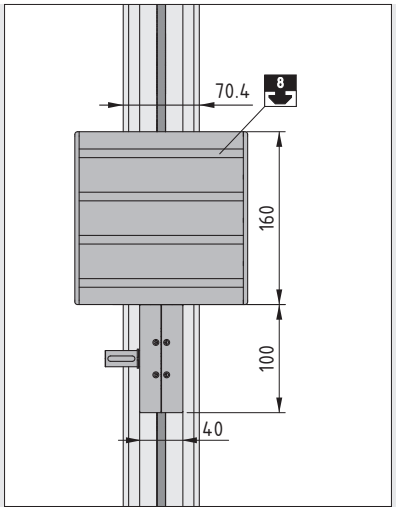
Perfect for vertical movements! Linear Unit LRE 8 D14 80x40 ZS positions itself with a repeat accuracy of just 0.1 mm, even over very long travel distances. As the drive is mounted directly on the slide, it is very easy to build a vertical axis of movement, on which the slide is fixed and the rack is moved vertically. Roller guide D14 ensures that high forces and torques can be accommodated. Linear Unit LRE 8 D14 80x40 ZS can also be used in heavily contaminated environments.

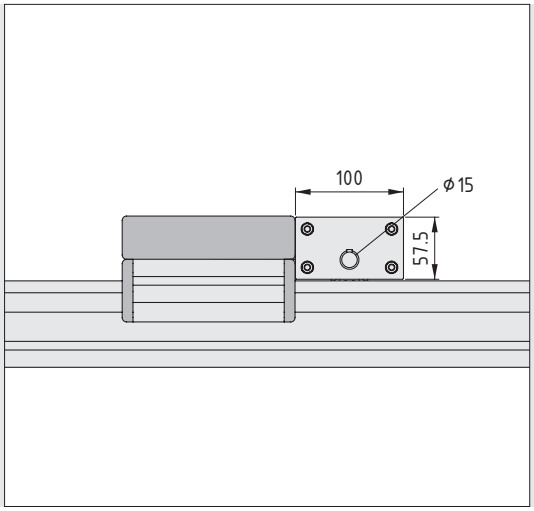
max. 1600 N
up to 3 m/s
max. 0.1 mm
max. 5678 mm

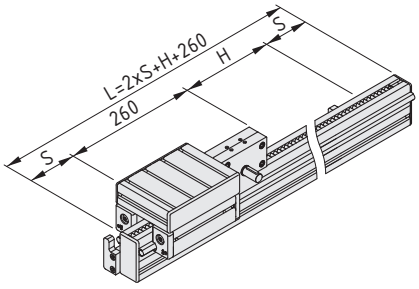


Linear Unit	Art. No.		Operating load Fx max [N]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Support width L max when Fy max [mm]	Support width L max when Fz max [mm]
Linear Unit LRE 8 D14 80x40 ZS	0.0.664.28	53	1000	2400	1600	40	64	96	600	1400









Linear Unit LRE 8 D14 80x40 ZS			8
Maximum stroke H_{max}	5678	mm	
Safety clearance S	31	mm	
Basic mass (when stroke length = 0 mm) m_1	7.4	kg	
Mass per mm of stroke m_2	8.2	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeatability	0.1	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	3	m/s	
Feed constant	144	mm/r	
1 pce.			0.0.664.28

Compatible drive elements

Plug-and-play Drive Set sizes	Universal Drive Set	Synchronising Set	Synchroniser Shaft Cover Set
60, 80	✓	✗	✗

Drive elements for Linear Units

There are compatible drive elements for every item Linear Unit. These transfer the torque to the Linear Unit via a friction-based connection, free from backlash.
The Drive Sets comprise a coupling and housing. Due to the range of different hollow shaft and shaft diameters in use, the correct Drive Set has to be selected as appropriate to the Linear Unit in use. The information pages for the Linear Units state which Set is compatible.
The durable item couplings are easy to fit and compensate for slight misalignments. They are available as ready-to-install plug-and-play variants or in a predrilled universal design for building custom solutions.

item Synchronising Sets are available for running several Linear Units in parallel (not available for Linear Units that use a ball screw unit or rack as a drive type).
The compatible Synchronising Set is also stated on the information pages for the Linear Units.

Note:
You can find detailed technical information on installing couplings in the Annex, starting on Page 152.

Products in this section

Plug-and-play Drive Sets

- For connecting Gearboxes and Motors from item
- Coordinated components that can be used straight away

57

Universal Drive Sets

- For connecting any drives
- Custom configuration and machining necessary

67

Synchronising Sets

- Couplings for connecting synchronising shafts
- Parallel operation of two Linear Units

79

Tubes for Synchronising Sets

- Available in three diameters
- Steel tubes for connections made via item Synchronising Sets

85

Synchronising Shaft Profile

- Torsionally rigid aluminium tube for building synchronising shafts
- Prepared for connection via a multiple-spline shaft

86

Synchroniser Shaft Cover Sets

- Adapter plates for the seamless connection of Conduit Profiles
- For Linear Units GSF, KLE and KRF

89

Conduit and Lid Profiles

- Conduit Profiles made of aluminium as a secure cover for shafts
- Enclosure also keeps out dust and dirt

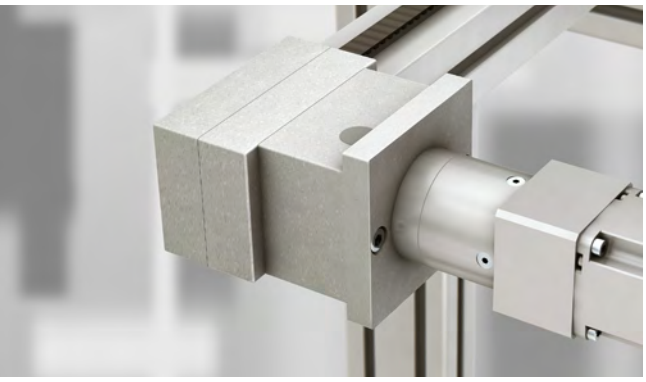
92

Plug and play

All the components in the item Automation System are mutually compatible. This eases your workload considerably, as you don't need to machine the drive shaft or coupling to connect the Drive Set to the preassembled Linear Unit and Gearbox or Motor from item. Replacement parts can also be installed and used straight away because no additional machining steps are required.

Universal

Universal Drive Sets connect your Linear Unit of choice to any drive. With custom machining, the coupling can accommodate the relevant drive shaft and ensure play-free power transmission. Please check the relevant diameter and the depth of insertion of the drive shaft. To ensure smooth running and avoid premature wear, it is important for the Coupling Halves to be aligned precisely.

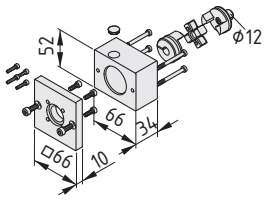


Drive Set GSF 8 40 AP/WP

- Compatible with Linear Unit GSF
- No machining required
- Supplied ready for installation

The Drive Set is configured for Linear Unit GSF.

The expanding hub coupling is supplied ready-to-install with a housing and can be fitted directly to the Linear Unit. The drive side is prepared for connecting an axial planetary Gearbox (AP) or a bevel planetary Gearbox (WP).

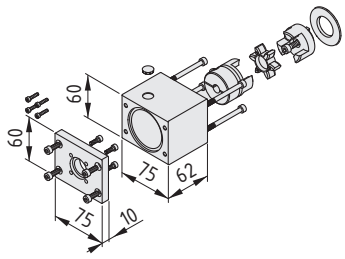


Drive Set GSF 8 40 AP/WP 40	
Coupling housing GSF 8, Al Adapter plate GSF 8, for Gearbox AP/WP 40, Al Coupling half D30/D10, for Gearbox AP/WP 40, Al Expanding hub coupling half D30/D12, St and Al Coupling insert D30, PU, blue 4 Hexagon Socket Head Cap Screws DIN 912-M3x10, St, bright zinc-plated 4 Hexagon Socket Head Cap Screws DIN 7984-M4x45, St, bright zinc-plated 4 Hexagon Socket Head Cap Screws DIN 912-M4x12, St, bright zinc-plated 2 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated Cap D30F, PA, grey Tightening torque, expanding hub screw: 2.8 Nm Tightening torque, clamping hub screw: 2 Nm m = 411.0 g	
1 set	0.0.673.30

Drive Sets KLE AP/WP

- Compatible with Linear Units KLE
- No machining required
- Supplied ready for installation

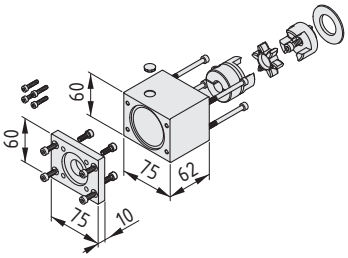
The Drive Sets are configured for Linear Units KLE in various sizes. The Coupling is supplied ready-to-install with a Housing and can be fitted directly to the Linear Unit. The drive side is prepared for connecting an Axial Planetary Gearbox (AP) or a Bevel Planetary Gearbox (WP). Various Drive Sets are available for the size of the drive in use.



Drive Set KLE 6 60x60 AP/WP 40

Coupling housing KLE 6 60x60, Al
Adapter plate KLE 6 60x60, for Gearbox AP/WP 40, Al
Coupling half D40 KLE 6 60x60, Al
Coupling half D40/D10, for Gearbox AP/WP 40, Al
Coupling insert D40, PU, green
Centring piece D40 KLE 6 60x60, St
4 Hexagon Socket Head Cap Screws DIN 912-M3x10, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M4x12, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x65, St, bright zinc-plated
Hexagon Socket Head Cap Screw DIN 912-M6x20, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, coupling half D40 KLE 6 60x60, Al: 14 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 807.0 g

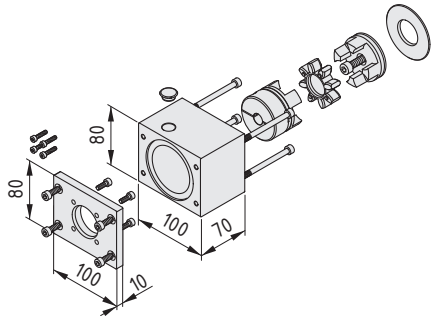
1 set	0.0.673.29



Drive Set KLE 6 60x60 AP/WP 60

Coupling Housing KLE 6 60x60, Al
Adapter Plate KLE 6 60x60, for Gearbox AP/WP 60, Al
Coupling Half D40 KLE 6 60x60, Al
Coupling Half D40/D14, for Gearbox AP/WP 60, Al
Coupling Insert D40, PU, green
Centring Piece D40 KLE 6 60x60, St
4 Hexagon Socket Head Cap Screws DIN 912-M4x18, St, bright zinc-plated
8 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x65, St, bright zinc-plated
Hexagon Socket Head Cap Screw DIN 912-M6x20, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, Coupling Half D40 KLE 6 60x60, Al: 14 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 812.0 g

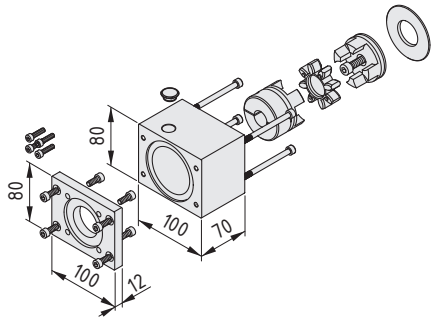
1 set	0.0.673.28



Drive Set KLE 8 80x80 AP/WP 60

Coupling housing KLE 8 80x80, Al
Adapter plate KLE 8 80x80, for Gearbox AP/WP 60, Al
Coupling half D55/D14, for Gearbox AP/WP 60, Al
Coupling half D55 KLE 8 80x80, Al
Coupling insert D55, PU, green
Centring piece D55 KLE 8 80x80, St
4 Hexagon Socket Head Cap Screws DIN 912-M4x18, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x85, St, bright zinc-plated
Hexagon Socket Head Cap Screw DIN 912-M8x25, St, bright zinc-plated
Cap 8 D15, PA, grey
Tightening torque, coupling half D55 KLE 8 80x80, Al: 25 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.7 kg

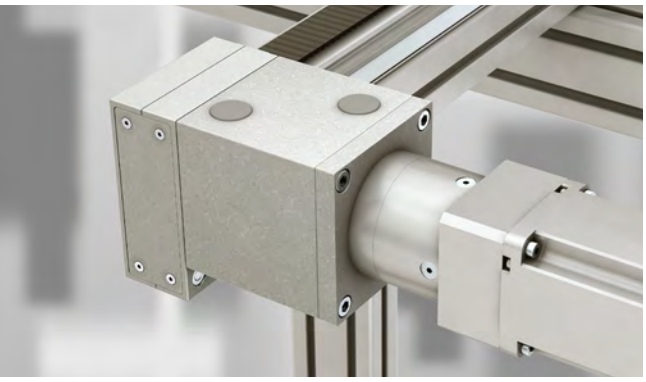
1 set	0.0.673.26



Drive Set KLE 8 80x80 AP/WP 80

Coupling Housing KLE 8 80x80, Al
Adapter Plate KLE 8 80x80, for Gearbox AP/WP 80, Al
Coupling Half D55/D20, for Gearbox AP/WP 80, Al
Coupling Half D55 KLE 8 80x80, Al
Coupling Insert D55, PU, green
Centring Piece D55 KLE 8 80x80, St
4 Hexagon Socket Head Cap Screws DIN 912-M5x20, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x15, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x85, St, bright zinc-plated
Hexagon Socket Head Cap Screw DIN 912-M8x25, St, bright zinc-plated
Cap 8 D15, PA, grey
Tightening torque, Coupling Half D55 KLE 8 80x80, Al: 25 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.7 kg

1 set	0.0.673.27



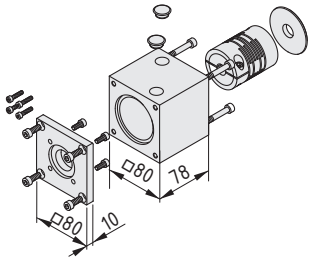
Drive Sets KRF AP/WP

- Compatible with Linear Unit KRF
- No machining required
- Supplied ready for installation

The Drive Sets are configured for Linear Unit KRF.

The Coupling is supplied ready-to-install with a Housing and can be fitted directly to the Linear Unit. The drive side is prepared for connecting an Axial Planetary Gearbox (AP) or a Bevel Planetary Gearbox (WP).

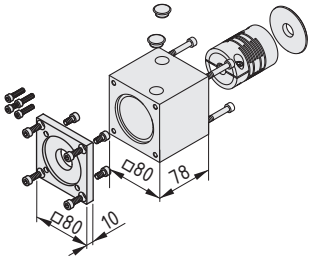
Various Drive Sets are available for the size of the drive in use.



Drive Set KRF 8 ZR AP/WP 60

Coupling Housing KRF 8 ZR, Al
Adapter Plate 8 80x80, for Gearbox AP/WP 60, Al
Self-aligning coupling D50/D14, St, for Gearbox AP/WP 60, stainless
Centre ring D32/D48, St
4 Hexagon Socket Head Cap Screws DIN 912-M4x18, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x12, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x50, St, bright zinc-plated
2 Caps D15, PA, grey
Tightening torque, clamping hub screw: 14.5 Nm
m = 1.8 kg

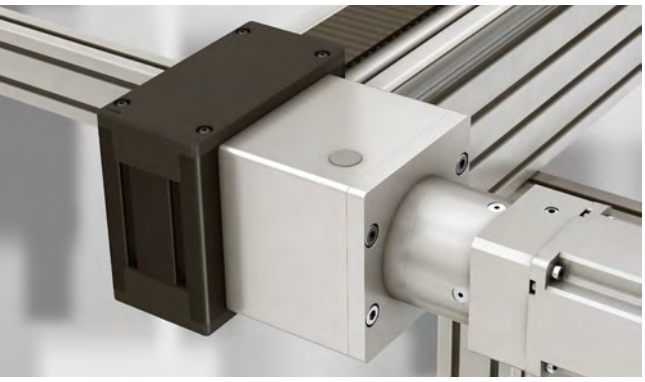
1 set	0.0.673.31



Drive Set KRF 8 ZR AP/WP 80

Coupling Housing KRF 8 ZR, Al
Adapter Plate 8 80x80, for Gearbox AP/WP 80, Al
Self-aligning coupling D50/D20, St, stainless, for Gearbox AP/WP 80
Centre ring D32/D48, St
4 Hexagon Socket Head Cap Screws DIN 912-M5x20, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x12, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x50, St, bright zinc-plated
2 Caps D15, PA, grey
Tightening torque, clamping hub screw: 14.5 Nm
m = 1.2 kg

1 set	0.0.673.32



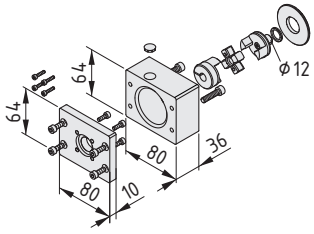
Drive Sets ZU AP/WP

- Compatible with Linear Units with a timing-belt reverse unit (ZU)
- For hollow shaft diameters of 12 and 34 mm
- No machining required

The Drive Sets are configured for the Linear Units that feature a hollow shaft diameter of 12 or 34 mm.

The Coupling is supplied ready-to-install with a Housing and can be fitted directly to the Linear Unit. The drive side is prepared for connecting an Axial Planetary Gearbox (AP) or a Bevel Planetary Gearbox (WP).

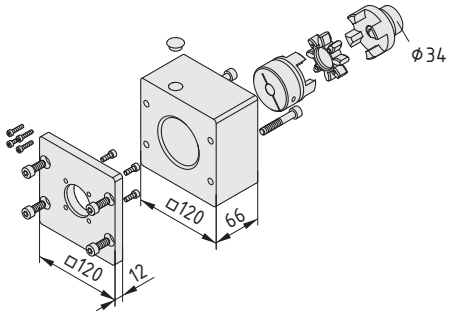
Various Drive Sets are available for the size of the drive in use.



Drive Set ZU 5 40 D30/D12 AP/WP 40

Coupling Housing 5 D30, Al
Adapter Plate 5 D30, for Gearbox AP/WP 40, Al
Coupling Half D30/D10, for Gearbox AP/WP 40, Al
Expanding hub coupling half D30/D12, St and Al
Coupling Insert D30, PU, blue
Spacer washer D12, Al
Centring Piece D55-D22, St
4 Hexagon Socket Head Cap Screws DIN 912-M3x10, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M4x12, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M6x25, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, expanding hub screw: 2.8 Nm
Tightening torque, clamping hub screw: 2 Nm
m = 557.0 g

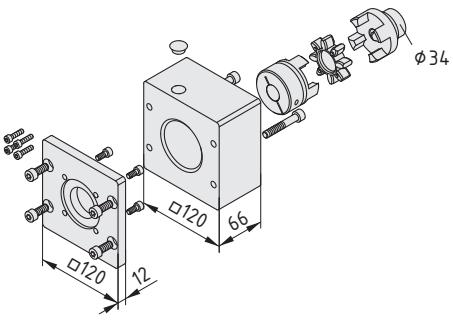
1 set	0.0.672.74



Drive Set ZU 8 80 D55/D34 AP/WP 60

Coupling Housing 8 D55, Al
Adapter Plate 8 D55/D80, for Gearbox AP/WP 60, Al
Coupling Half D55/D14, for Gearbox AP/WP 60, Al
Expanding hub coupling half D55/D34, St and Al
Coupling Insert D55, PU, green
4 Hexagon Socket Head Cap Screws DIN 912-M4x18, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M8x50, St, bright zinc-plated
Cap D15, PA, grey
Tightening torque, expanding hub screw: 23 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 2.9 kg

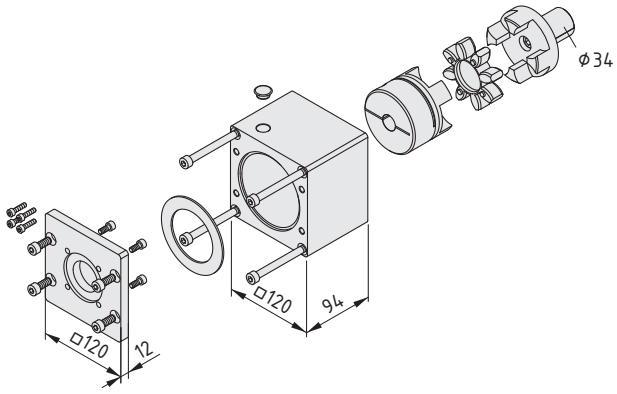
1 set	0.0.672.75



Drive Set ZU 8 80 D55/D34 AP/WP 80

Coupling Housing 8 D55, Al
Adapter Plate 8 D55/D80, for Gearbox AP/WP 80, Al
Coupling Half D55/D20, for Gearbox AP/WP 80, Al
Expanding hub coupling half D55/D34, St and Al
Coupling Insert D55, PU, green
4 Hexagon Socket Head Cap Screws DIN 912-M5x20, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x14, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M8x50, St, bright zinc-plated
Cap D15, PA, grey
Tightening torque, expanding hub screw: 23 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 2.9 kg

1 set	0.0.672.79



Drive Set ZU 8 80 D80/D34 AP/WP 80

Coupling Housing 8 D80, Al
Adapter Plate 8 D55/D80, for Gearbox AP/WP 80, Al
Coupling Half D80/D20, for Gearbox AP/WP 80, Al
Expanding hub coupling half D80/D34, St and Al
Coupling Insert D80, PU, red
Centring Piece D95-D65, St
4 Hexagon Socket Head Cap Screws DIN 912-M5x20, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x15, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M8x100, St, bright zinc-plated
Cap D15, PA, grey
Tightening torque, expanding hub screw: 49 Nm
Tightening torque, clamping hub screw: 23 Nm
m = 3.7 kg

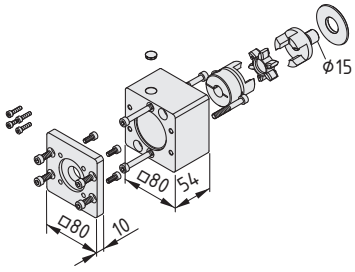
1 set	0.0.672.76

Drive Set 8 D40/D15 AP/WP

- Compatible with Linear Units with a hollow shaft diameter of 15 mm
- No machining required
- Supplied ready for installation

The Drive Sets are configured for the Linear Units that feature a hollow shaft diameter of 15 mm.

The Coupling is supplied ready-to-install with a Housing and can be fitted directly to the Linear Unit. The drive side is prepared for connecting an Axial Planetary Gearbox (AP) or a Bevel Planetary Gearbox (WP).



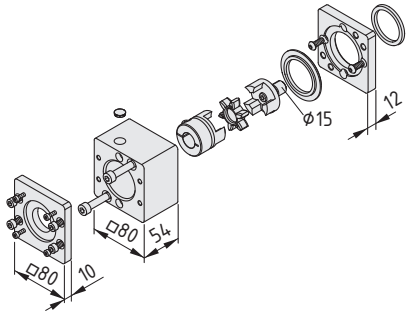
Drive Set 8 D40/D15 AP/WP 60	
Coupling Housing 8 D40, Al Adapter Plate 8 D40, for Gearbox AP/WP 60, Al Coupling Half D40/D14, for Gearbox AP/WP 60, Al Expanding hub coupling half D40/D15, St and Al Coupling Insert D40, PU, green Centring Piece D50-D22, St 4 Hexagon Socket Head Cap Screws DIN 912-M4x16, St, bright zinc-plated 4 Hexagon Socket Head Cap Screws DIN 912-M5x12, St, bright zinc-plated 4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated 2 Hexagon Socket Head Cap Screws DIN 912-M6x45, St, bright zinc-plated 2 Hexagon Socket Head Cap Screws DIN 912-M6x60, St, bright zinc-plated Cap D30F, PA, grey Tightening torque, expanding hub screw: 9.6 Nm Tightening torque, clamping hub screw: 9.6 Nm m = 1.0 kg	
1 set	0.0.672.73

Drive Sets KGT D40/D15 SE

- Compatible with Linear Units with a Ball Screw Unit
- No machining required
- Supplied ready for installation

The Drive Sets are configured for the Linear Units with a Ball Screw Unit (KGT). To ensure maximum precision in spindle control, the Motor should be connected directly, without an additional Gearbox.

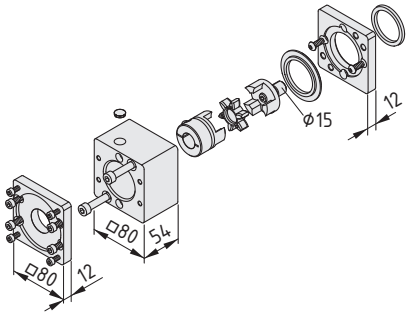
Various models are available depending on the performance class of the Motor.



Drive Set KGT D40/D15 SE 60

Coupling Housing 8 D40, Al
Adapter Plate 8 D40, for Motor SE 60, Al
Coupling Adapter Plate D30/D55, Al
Coupling Half D40/D14, for Motor SE 60, Al
Expanding hub coupling half D40/D15, St and Al
Coupling Insert D40, PU, green
Centring Piece D63-D50, St
Centring Piece D50-D50, St
4 Hexagon Socket Head Cap Screws DIN 912-M4x16, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M8x60, St, bright zinc-plated
2 Button-Head Screws ISO 7380-M6x16, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, expanding hub screw: 9.6 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.1 kg

1 set	0.0.672.78



Drive Set KGT D40/D15 SE 80

Coupling Housing 8 D40, Al
Adapter Plate 8 D40, for Motor SE 80, Al
Coupling Adapter Plate D30/D55, Al
Coupling Half D40/D19, for Motor SE 80, Al
Expanding hub coupling half D40/D15, St and Al
Coupling Insert D40, PU, green
Centring Piece D63-D50, St
Centring Piece D50-D50, St
4 Hexagon Socket Head Cap Screws DIN 912-M5x20, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M8x60, St, bright zinc-plated
2 Button-Head Screws ISO 7380-M6x16, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, expanding hub screw: 9.6 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.1 kg

1 set	0.0.672.77

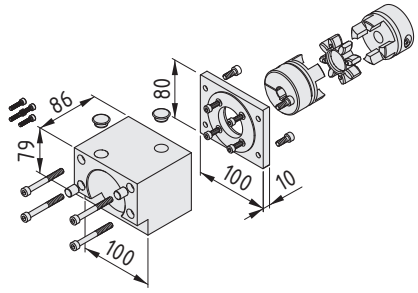
Drive Sets ZS AP/WP

- Compatible with Linear Units with a rack drive (ZS and ZS K)
- No machining required
- Supplied ready for installation

The Drive Sets are configured for the Linear Units with a rack drive (ZS).

The Coupling is supplied ready-to-install with a Housing and can be fitted directly to the Linear Unit. The drive side is prepared for connecting an Axial Planetary Gearbox (AP) or a Bevel Planetary Gearbox (WP).

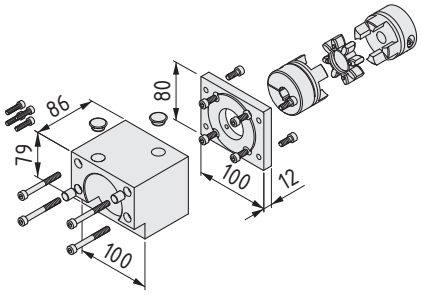
Various Drive Sets are available for the size of the drive in use.



Drive Set, Rack 8 AP/WP 60

Coupling Housing for Gearbox AP/WP 60, Al
Adapter Plate 8 80x80 for Gearbox AP/WP 60, Al
Coupling Half D55/D14, for Gearbox AP/WP 60, Al
Coupling Half D55/D15 PF, Al with parallel keyway
Coupling Insert D55, PU, green
2 centring sleeves, St
4 Hexagon Socket Head Cap Screws DIN 912-M4x18, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x55, St, bright zinc-plated
2 Caps 8 D15, PA, grey
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.7 kg

1 set	0.0.673.33



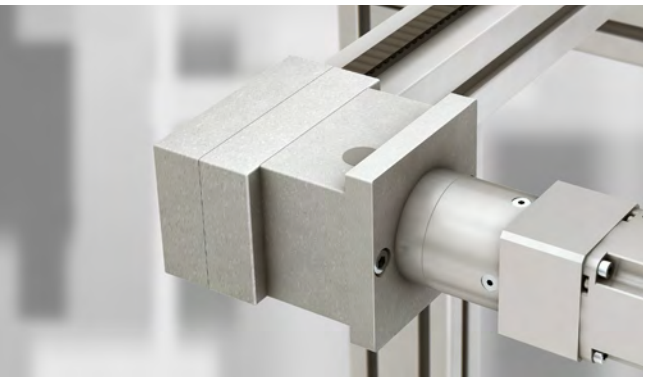
Drive Set, Rack 8 AP/WP 80

Coupling Housing for Gearbox AP/WP 80, Al
Adapter Plate 8 80x80 for Gearbox AP/WP 80, Al
Coupling Half D55/D20, for Gearbox AP/WP 80, Al
Coupling Half D55/D15 PF, Al with parallel keyway
Coupling Insert D55, PU, green
2 centring sleeves, St
4 Hexagon Socket Head Cap Screws DIN 912-M5x20, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x15, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x55, St, bright zinc-plated
2 Caps 8 D15, PA, grey
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.7 kg

1 set	0.0.673.34

Overview of plug-and-play Drive Sets

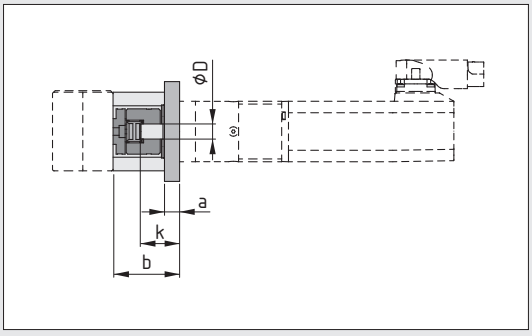
Linear Unit	Art. No.		Plug-and-play Drive Set Size 1	Art. No.		Plug-and-play Drive Set Size 2	Art. No.	
GSF 8 40 R10	0.0.655.98	15	Drive Set GSF 8 40 AP/WP 40	0.0.673.30	57	–	–	–
KLE 6 60x60 LR	0.0.605.07	18	Drive Set KLE 6 60x60 AP/WP 40	0.0.673.29	58	Drive Set KLE 6 60x60 AP/WP 60	0.0.673.28	58
KLE 8 80x80 LR	0.0.605.02	19	Drive Set KLE 8 80x80 AP/WP 60	0.0.673.26	59	Drive Set KLE 8 80x80 AP/WP 80	0.0.673.27	59
KRF 8 80x40 ZR, drive on right	0.0.648.66	21	Drive Set KRF 8 ZR AP/WP 60	0.0.673.31	60	Drive Set KRF 8 ZR AP/WP 80	0.0.673.32	60
KRF 8 80x40 ZR, drive on Left	0.0.641.21	21						
KRF 8 80x40 ZR, synchronous drive	0.0.648.69	22						
LRE 5 D6 60x20 ZU 40 R10	0.0.666.89	23	Drive Set ZU 5 40 D30/D12 AP/WP 40	0.0.672.74	61	–	–	–
LRE 8 D10 80x40 ZU 40 R25	0.0.662.70	26	Drive Set 8 D40/D15 AP/WP 60	0.0.672.73	63	–	–	–
LRE 8 D10 80x80 ZU 40 R25	0.0.663.32	27						
LRE 8 D14 80x40 ZU 40 R25	0.0.662.91	29						
LRE 8 D14 80x80 ZU 40 R25	0.0.663.25	31						
LRE 8 D14 120x80 ZU 40 R25	0.0.663.34	33						
LRE 8 D14 80x40 KU 80	0.0.664.54	48						
LRE 8 D14 80x40 ZU 80 R25	0.0.663.12	30	Drive Set ZU 8 80 D55/D34 AP/WP 60	0.0.672.75	61	Drive Set ZU 8 80 D55/D34 AP/WP 80	0.0.672.79	62
LRE 8 D14 80x80 ZU 80 R25	0.0.663.26	32						
LRE 8 D14 120x80 ZU 80 R25	0.0.663.35	34						
LRE 8 D25 120x80 ZU 80 R25	0.0.663.36	36						
LRE 8 D25 200x80 ZU 80 R25	0.0.666.53	38						
LRE 8 D25 120x80 ZU 80 R50	0.0.666.65	37	Drive Set ZU 8 80 D80/D34 AP/WP 80	0.0.672.76	62	–	–	–
LRE 8 D25 200x80 ZU 80 R50	0.0.666.66	39						
LRE 8 D10 80x40 ZS K light	0.0.679.91	51	Drive Set Rack 8 AP/WP 60	0.0.673.33	65	Drive Set Rack 8 AP/WP 80	0.0.673.34	65
LRE 8 D14 80x40 ZS	0.0.664.28	53						
LRE 8 D10 80x80 KGT 20x5	0.0.668.12	42	Drive Set KGT D40/D15 SE 60	0.0.672.78	64	–	–	–
LRE 8 D10 80x80 KGT 20x20	0.0.668.10	43						
LRE 8 D14 80x80 KGT 20x5	0.0.668.06	45						
LRE 8 D14 80x80 KGT 20x20	0.0.668.08	46						



Drive Set GSF 8 40

- Universal design allows connection of any drive

Drive Set GSF 8 40 can be used to connect any drives to Linear Unit GSF 8. The versatile coupling can be adapted for several different drive shafts and transfers drive torque without play. The maximum transferrable drive torque is 3 Nm.

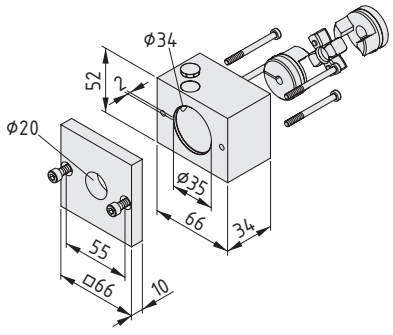


[mm]	GSF 8 40
a	10
b	44
∅ D	6 - 16
k	22 - 26.5

Information about installing couplings 152

Transferable torques depend on the clamping diameter 154

Linear Unit	Art. No.		Drive Set	Art. No.	
Linear Unit GSF 8 40 R10	0.0.655.98	15	Drive Set GSF 8 40	0.0.654.23	67



Drive Set GSF 8 40

Coupling housing GSF 8, Al
Adapter plate GSF 8, Al
D30/D6 coupling half, Al – reborable up to max. ∅ 16 mm
Expanding hub coupling half D30/D12, St and Al
Coupling insert D30, PU, blue
4 Hexagon Socket Head Cap Screws DIN 7984-M4x45, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, expanding hub screw: 2.8 Nm
Tightening torque, clamping hub screw: 2 Nm
m = 477.0 g

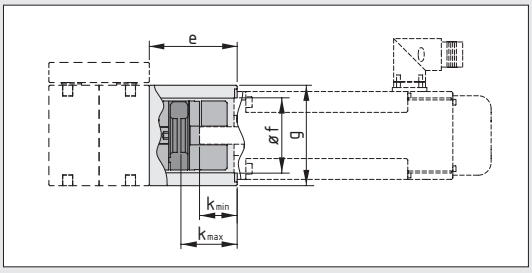
1 set	0.0.654.23

Drive Sets KLE

- Universal design allows connection of any drive

The relevant Drive Set is attached to the Drive Unit for driving a KLE. This Drive Set consists of a Coupling Half for connection to the pulley, a Coupling Half for connection to the motor shaft, a Coupling Housing with Adapter Plate for connecting the motor to the housing of the Drive Unit, a Centring Piece and fasteners.

The prepared Coupling Half and the hub of the pulley are mechanically interlocked and bolted together. The elastic Coupling Insert transmits the drive torque free of play.

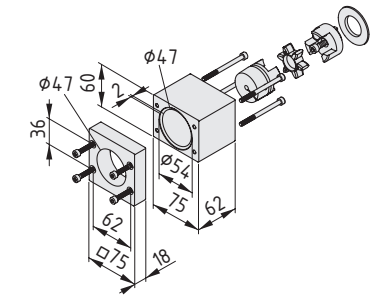


[mm]	KLE 6 60x60 LR	KLE 8 80x80 LR
a	18	20
b	80	90
∅ D	6 - 20	8 - 26
k	52 - 56	50 - 64

Information about installing couplings 152

Transferable torques depend on the clamping diameter 154

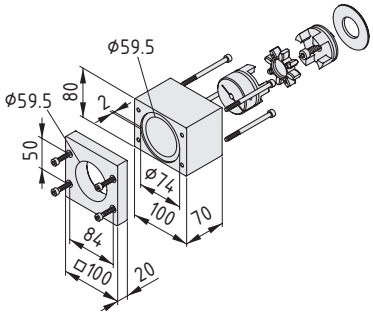
Linear Unit	Art. No.		Drive Set	Art. No.	
Linear Unit KLE 6 60x60 LR	0.0.605.07	18	Drive Set KLE 6 60x60	0.0.609.80	69
Linear Unit KLE 8 80x80 LR	0.0.605.02	19	Drive Set KLE 8 80x80	0.0.609.77	69



Drive Set KLE 6 60x60

Coupling housing KLE 6 60x60, Al
Adapter plate KLE 6 60x60, Al
Coupling half D40 KLE 6 60x60, Al
D40/D5 coupling half, Al – reborable up to max. ∅20 mm
Coupling insert D40, PU, green
Centring piece D40 KLE 6 60x60, St
4 Hexagon Socket Head Cap Screws DIN 912-M5x25, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M5x65, St, bright zinc-plated
Hexagon Socket Head Cap Screw DIN 912-M6x20, St, bright zinc-plated
Tightening torque, coupling half D40 KLE 6 60x60, Al: 14 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 911.0 g

1 set	0.0.609.80



Drive Set KLE 8 80x80

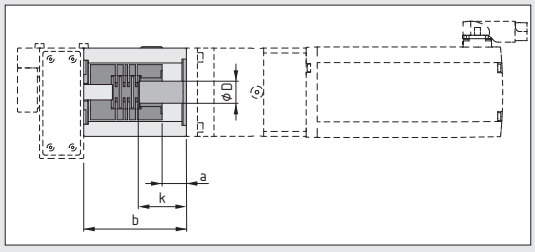
Coupling housing KLE 8 80x80, Al
Adapter plate KLE 8 80x80, Al
D55/D8 coupling half, Al – reborable up to max. ∅26 mm
Coupling half D55 KLE 8 80x80, Al
Coupling Insert D55, PU, green
Centring piece D55 KLE 8 80x80, St
4 Hexagon Socket Head Cap Screws DIN 912-M6x25, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x85, St, bright zinc-plated
Hexagon Socket Head Cap Screw DIN 912-M8x25, St, bright zinc-plated
Tightening torque, coupling half D55 KLE 8 80x80, Al: 25 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.7 kg

1 set	0.0.609.77

Drive Set KRF 8 ZR

- Universal design allows connection of any drive

The Drive Set makes it easy to connect a wide variety of motors to the Drive Unit of the KRF. The stand-out features of this modular concept include limited machining requirements and friction-based torque transmission.

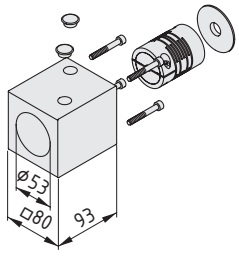


[mm]	KRF 8 ZR
a	22
b	93
∅ D	12 - 25
k	42 - 62

Information about installing couplings 152

Transferable torques depend on the clamping diameter 154

Linear Unit	Art. No.		Drive Set	Art. No.	
Linear Unit KRF 8 80x40 ZR, left-hand input shaft	0.0.641.21	20	Drive Set KRF 8 ZR	0.0.627.46	70
Linear Unit KRF 8 80x40 ZR, right-hand input shaft	0.0.648.66				
Linear Unit KRF 8 80x40 ZR, synchronous drive	0.0.648.69				



Drive Set KRF 8 ZR

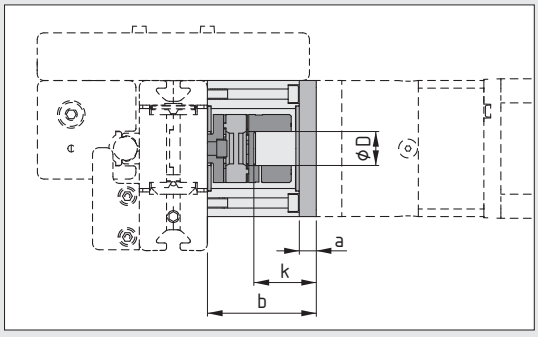
Coupling housing KRF 8 ZR, Al
Equaliser coupling D50, St, stainless – reborable up to max. ∅25 mm
Centring piece D32/D48, St
4 Hexagon Socket Head Cap Screws DIN 912-M6x50, St, bright zinc-plated
2 Caps D15, PA, grey
Tightening torque, clamping hub screw: 14.5 Nm
m = 1.9 kg

1 set	0.0.627.46

Drive Sets LRE

- Universal design allows connection of any drive

Drive Sets LRE from item connect the compact Linear Units LRE with a drive of the customer's choosing. This is made possible by an Adapter Plate that can be machined to suit any requirements. The central coupling bore can also be enlarged to match the drive shaft. Thanks to the integrated expanding hub coupling, the casing is particularly narrow. The Drive Set can be fitted to either side of the Timing-Belt Reverse Unit. Compatible Synchronising Sets from item can be used to operate two Linear Units in parallel with just one motor.

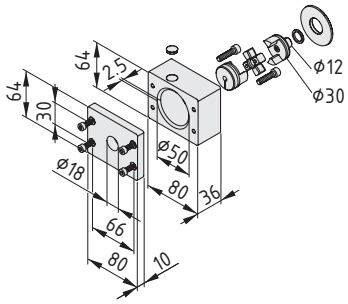


	Drive Set			
[mm]	5 40 D30/D12	8 40 D40/D15	8 80 D55/D34	8 80 D80/D34
a	10	10	12	12
b	46	64	78	106
∅ D	6 - 16	6 - 20	8 - 28	12 - 45
k	24 - 25.5	31.7 - 40	36.9 - 47	48.5 - 63.7

Information about installing couplings 152

Transferable torques depend on the clamping diameter 154

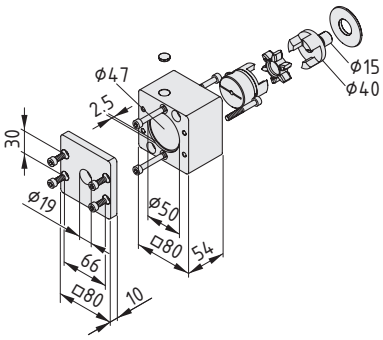
Linear Unit	Art. No.		Drive Set	Art. No.	
Linear Unit LRE 5 D6 60x20 ZU 40 R10	0.0.666.89	23	Drive Set 5 40 D30/D12	0.0.662.49	72
Linear Unit LRE 8 D10 80x40 ZU 40 R25	0.0.662.70	26	Drive Set 8 40 D40/D15	0.0.668.02	73
Linear Unit LRE 8 D10 80x80 ZU 40 R25	0.0.663.32	27			
Linear Unit LRE 8 D14 80x40 ZU 40 R25	0.0.662.91	29			
Linear Unit LRE 8 D14 80x80 ZU 40 R25	0.0.663.25	31			
Linear Unit LRE 8 D14 120x80 ZU 40 R25	0.0.663.34	33			
Linear Unit LRE 8 D14 80x40 KU 80	0.0.664.54	48			
Linear Unit LRE 8 D14 80x40 ZU 80 R25	0.0.663.12	30	Drive Set 8 80 D55/D34	0.0.668.03	73
Linear Unit LRE 8 D14 80x80 ZU 80 R25	0.0.663.26	32			
Linear Unit LRE 8 D14 120x80 ZU 80 R25	0.0.663.35	34			
Linear Unit LRE 8 D25 120x80 ZU 80 R25	0.0.663.36	36			
Linear Unit LRE 8 D25 200x80 ZU 80 R25	0.0.666.53	40			
Linear Unit LRE 8 D25 120x80 ZU 80 R50	0.0.666.65	37	Drive Set 8 80 D80/D34	0.0.668.04	73
Linear Unit LRE 8 D25 200x80 ZU 80 R50	0.0.666.66	39			



Drive Set 5 40 D30/D12

Coupling housing 5 D30, Al
Adapter plate 5 D30, Al
D30/D6 coupling half, Al – reborable up to max. ∅16 mm
Expanding hub coupling half D30/D12, St and Al
Coupling insert D30, PU, blue
Spacer washer D12, Al
Centring piece D55-D22, St
4 Hexagon Socket Head Cap Screws DIN 912-M5x14, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M6x25, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, expanding hub screw: 2.8 Nm
Tightening torque, clamping hub screw: 2 Nm
m = 580.0 g

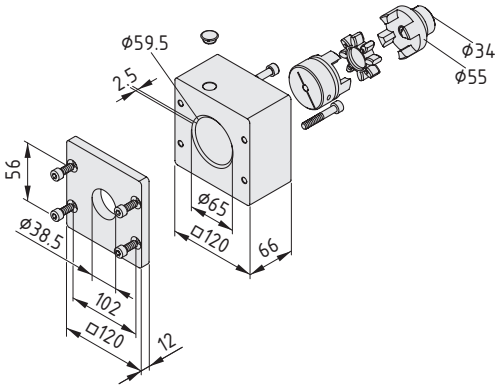
1 set 0.0.662.49



Drive Set 8 40 D40/D15

Coupling housing 8 D40, Al
Adapter plate 8 D40, Al
D40/D5 coupling half, Al – reborable up to max. ∅20 mm
Expanding hub coupling half D40/D15, St and Al
Coupling insert D40, PU, green
Centring piece D50-D22, St
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M6x45, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M6x60, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, expanding hub screw: 9.6 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.0 kg

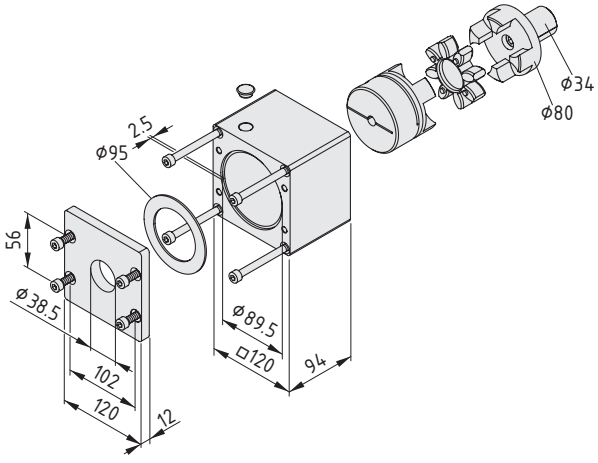
1 set	0.0.668.02



Drive Set 8 80 D55/D34

Coupling housing 8 D55, Al
Adapter plate 8 D55/D80, Al
D55/D8 coupling half, Al – reborable up to max. ∅28 mm
Expanding hub coupling half D55/D34, St and Al
Coupling insert D55, PU, green
4 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M8x50, St, bright zinc-plated
Cap D15, PA, grey
Tightening torque, expanding hub screw: 23 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 2.9 kg

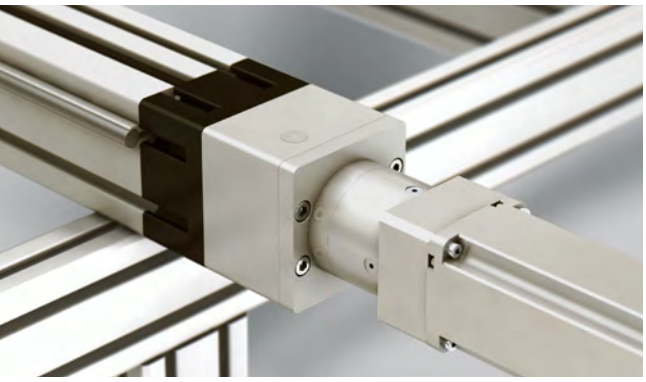
1 set	0.0.668.03



Drive Set 8 80 D80/D34

Coupling housing 8 D80, Al
Adapter plate 8 D55/D80, Al
D80/D12 coupling half, Al – reborable up to max. ∅45 mm
Expanding hub coupling half D80/D34, St and Al
Coupling insert D80, PU, red
Centring piece D95-D65, St
4 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M8x100, St, bright zinc-plated
Cap D15, PA, grey
Tightening torque, expanding hub screw: 49 Nm
Tightening torque, clamping hub screw: 23 Nm
m = 3.8 kg

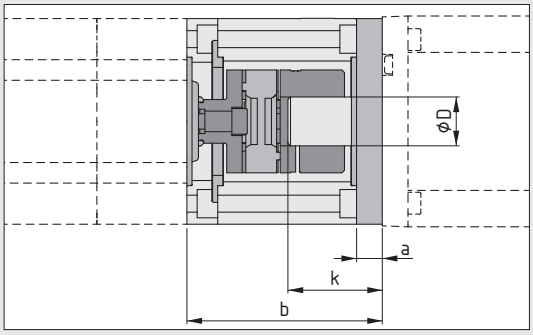
1 set	0.0.668.04



Drive Set KGT D40/D15

- Universal design allows connection of any drive

Drive Set KGT D40/D15 has been optimised for item Linear Units with a ball screw drive. It connects them with a drive of the customer's choosing. This is made possible by an adapter plate that can be machined to suit any requirements. The central coupling bore can also be enlarged to match the drive shaft. Thanks to the integrated expanding hub coupling, the housing is particularly narrow.

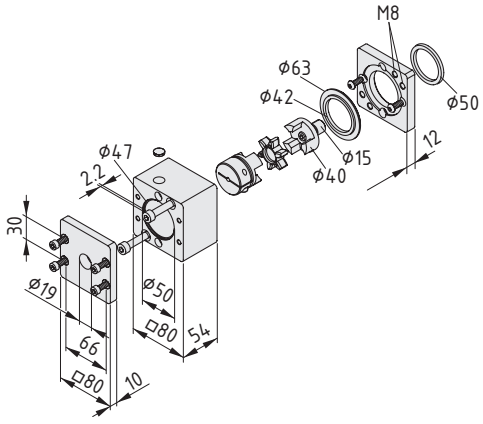


[mm]	KGT D40/D15
a	10
b	76
∅ D	8 - 20
k	32.2 - 40.5

Information about installing couplings 152

Transferable torques depend on the clamping diameter 154

Linear Unit	Art. No.		Drive Set	Art. No.	
Linear Unit LRE 8 D10 80x80 KGT 20x5	0.0.668.12	42	Drive Set KGT D40/D15	0.0.667.76	74
Linear Unit LRE 8 D10 80x80 KGT 20x20	0.0.668.10	43			
Linear Unit LRE 8 D14 80x80 KGT 20x5	0.0.668.06	45			
Linear Unit LRE 8 D14 80x80 KGT 20x20	0.0.668.08	46			



Drive Set KGT D40/D15

Coupling housing 8 D40, Al
Adapter plate 8 D40, Al
Coupling adapter plate D30/D55, Al
D40/D5 coupling half, Al – reborable up to max. ∅24 mm
Expanding hub coupling half D40/D15, St and Al
Coupling insert D40, PU, green
Centring piece D63-D50, St
Centring Piece D50-D50, St
4 Hexagon Socket Head Cap Screws DIN 912-M6x16, St, bright zinc-plated
2 Hexagon Socket Head Cap Screws DIN 912-M8x60, St, bright zinc-plated
2 Button-Head Screws ISO 7380-M6x16, St, bright zinc-plated
Cap D30F, PA, grey
Tightening torque, expanding hub screw: 9.6 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.2 kg

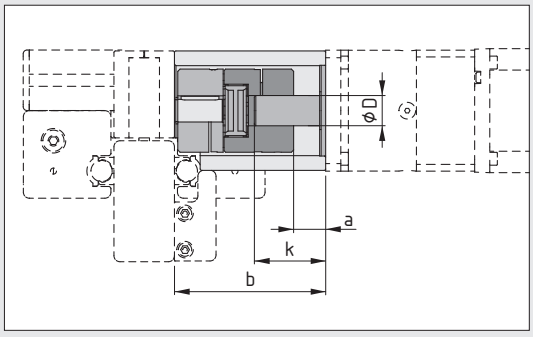
1 set	0.0.667.76

Drive Set ZS

- Carriage driven directly via the rack
- Flexible coupling for connecting virtually any motor

Drive force is transmitted to the rack from the carriage of the linear guide. As a result, the drive is fastened directly to the carriage. If the carriage is to move, a cable chain is required.

The Coupling Module comes with a universal coupling for connecting virtually any drive, which is connected directly to the Coupling Module's housing.



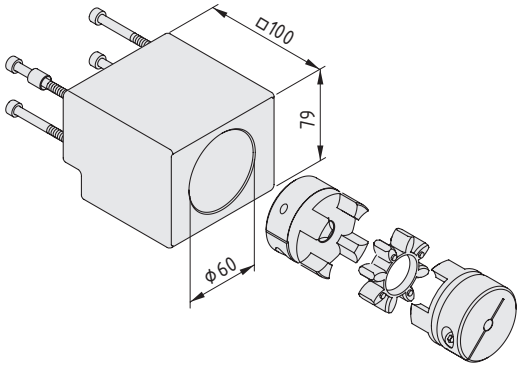
[mm]	ZS
a	21.2
b	100
∅ D	8 - 28
k	43 - 51

Information about installing couplings 152

Transferable torques depend on the clamping diameter 154

The Rack 8 Coupling Module fits nearly any motor – simply machine the housing and coupling to suit your needs. You will, however, need to take care over how far the shaft extends into the coupling half.

Linear Unit	Art. No.		Drive Set	Art. No.	
Linear Unit LRE 8 D14 80x40 ZS	0.0.664.28	53	Rack 8 Coupling Module	0.0.621.73	77



Rack 8 Coupling Module

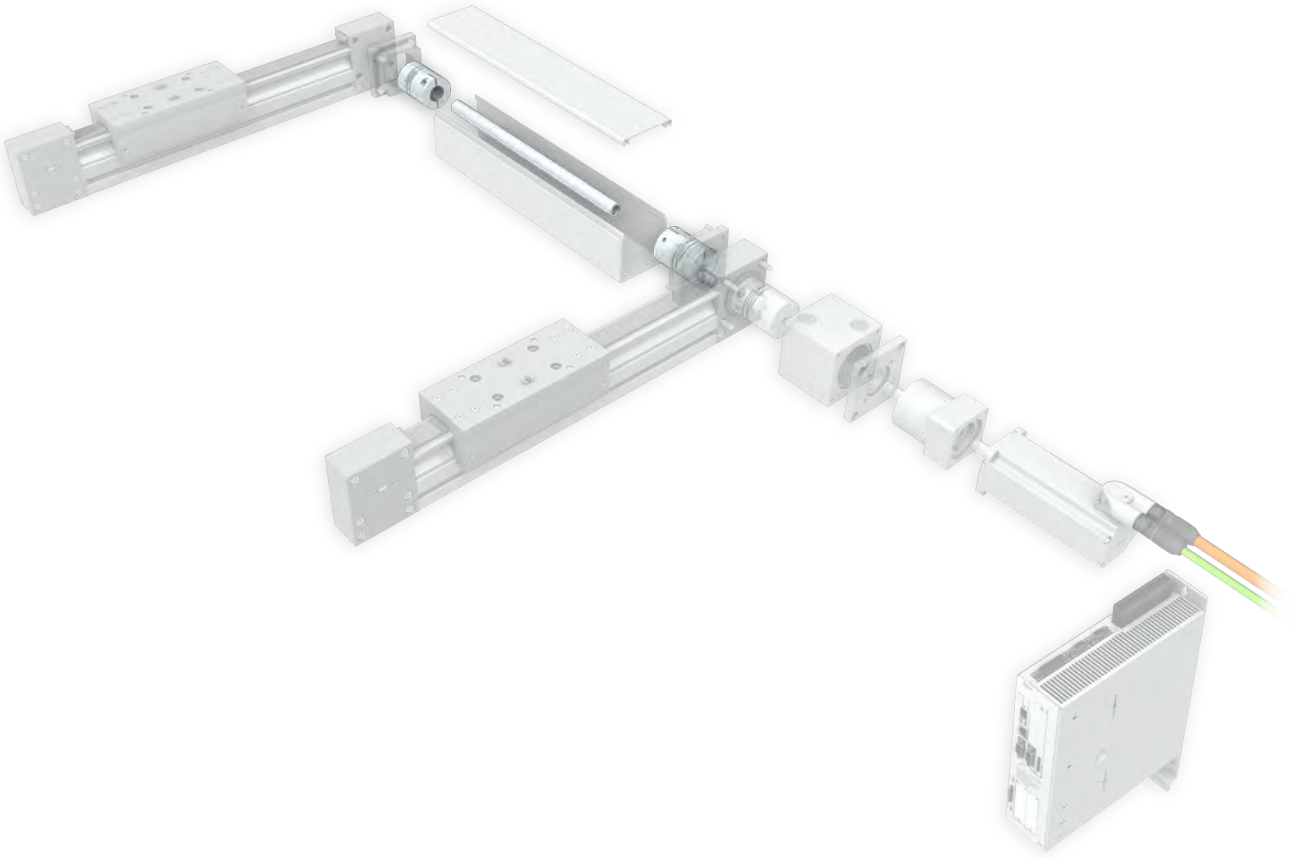
Coupling housing, Al, white aluminium
Coupling set D55
Screws, fastening elements and centring sleeves
Tightening torque, clamping hub screw: 9.6 Nm
m = 1.7 kg

1 set	0.0.621.73

Overview of universal Drive Sets

Linear Unit	Art. No.		Universal Drive Set	Art. No.	
GSF 8 40 R10	0.0.655.98	15	Drive Set GSF 8 40	0.0.654.23	67
KLE 6 60x60 LR	0.0.605.07	18	Drive Set KLE 6 60x60	0.0.609.80	69
KLE 8 80x80 LR	0.0.605.02	19	Drive Set KLE 8 80x80	0.0.609.77	69
KRF 8 80x40 ZR, drive on right	0.0.648.66	21	Drive Set KRF 8 ZR	0.0.627.46	70
KRF 8 80x40 ZR, drive on left	0.0.641.21	21			
KRF 8 80x40 ZR, synchronous drive	0.0.648.69	22			
LRE 5 D6 60x20 ZU 40 R10	0.0.666.89	23	Drive Set ZU 5 40 D30/D12 AP/WP 40	0.0.672.74	61
LRE 8 D10 80x40 ZU 40 R25	0.0.662.70	26	Drive Set 8 40 D40/D15	0.0.668.02	73
LRE 8 D10 80x80 ZU 40 R25	0.0.663.32	27			
LRE 8 D14 80x40 ZU 40 R25	0.0.662.91	29			
LRE 8 D14 80x80 ZU 40 R25	0.0.663.25	31			
LRE 8 D14 120x80 ZU 40 R25	0.0.663.34	33			
LRE 8 D14 80x40 KU 80	0.0.664.54	48			
LRE 8 D14 80x40 ZU 80 R25	0.0.663.12	30	Drive Set 8 80 D55/D34	0.0.668.03	73
LRE 8 D14 80x80 ZU 80 R25	0.0.663.26	32			
LRE 8 D14 120x80 ZU 80 R25	0.0.663.35	34			
LRE 8 D25 120x80 ZU 80 R25	0.0.663.36	36			
LRE 8 D25 200x80 ZU 80 R25	0.0.666.53	38			
LRE 8 D25 120x80 ZU 80 R50	0.0.666.65	37	Drive Set 8 80 D80/D34	0.0.668.04	73
LRE 8 D25 200x80 ZU 80 R50	0.0.666.66	39			
LRE 8 D10 80x40 ZS K light	0.0.679.91	51	Rack 8 Coupling Module	0.0.621.73	76
LRE 8 D14 80x40 ZS	0.0.664.28	53			
LRE 8 D10 80x80 KGT 20x5	0.0.668.12	42	Drive Set KGT D40/D15	0.0.667.76	74
LRE 8 D10 80x80 KGT 20x20	0.0.668.10	43			
LRE 8 D14 80x80 KGT 20x5	0.0.668.06	45			
LRE 8 D14 80x80 KGT 20x20	0.0.668.08	46			

Synchronising Sets

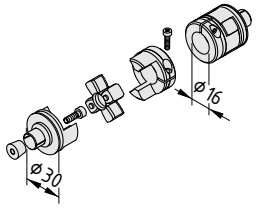


Synchronising Sets are used when two Linear Units are to be run in parallel. item Synchronising Sets comprise couplings that are fitted between two Linear Units and are connected by a synchroniser shaft that has been manufactured in the appropriate length. This ensures that the end result is a highly customised and flexible design. The Synchroniser Shaft Cover Sets from item are a useful accessory as they stop the synchroniser shaft coming into contact with external influences and keep dirt out, thereby boosting operational reliability.

Synchronising Set GSF 8 40 R10

Synchronising Set GSF 8 40 R10 combines two Linear Units GSF 8 40 (0.0.655.98) to form one functional unit. A synchroniser shaft transmits the torque of the motor to both units.

Linear Unit	Art. No.		Synchronising Set	Art. No.	Accessories	
Linear Unit GSF 8 40 R10	0.0.655.98	15	Synchronising Set GSF 8 40 R10	0.0.662.95	0.0.664.14	80



Synchronising Set GSF 8 40 R10

2 coupling halves D30/D16, Al
2 expanding hub coupling halves D30/D12, St and Al
2 coupling inserts D30, PU, blue
Tightening torque, expanding hub screw: 2.8 Nm
Tightening torque, clamping hub screw: 2 Nm
m = 91.0 g

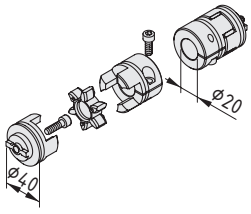
1 set	0.0.662.95

Synchronising Sets KLE

Synchronising Sets are available to synchronise two Linear Units KLE. Each of these contains two coupling sets for connecting the pulleys of the timing-belt drives.

Note: When designing the drive for synchronised KLEs, the maximum permissible drive torques of the Linear Unit must be taken into account.

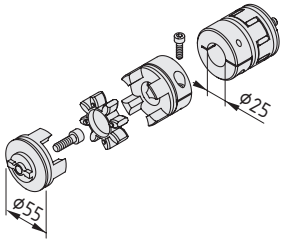
Linear Unit	Art. No.		Synchronising Set	Art. No.	Accessories	
Linear Unit KLE 6 60x60 LR	0.0.605.07	18	Synchronising Set KLE 6 60x60	0.0.609.81	0.0.609.86	81
Linear Unit KLE 8 80x80 LR	0.0.605.02	19	Synchronising Set KLE 8 80x80	0.0.609.78	0.0.609.83	81



Synchronising Set KLE 6 60x60

2 Coupling Halves D40/D20, Al
2 Coupling Halves D40 KLE 6 60x60, Al
2 Coupling Inserts D40, PU, green
2 Hexagon Socket Head Cap Screws DIN 912-M6x20, St, bright zinc-plated
Tightening torque, Coupling Halves D40 KLE 6 60x60, Al: 14 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 285.0 g

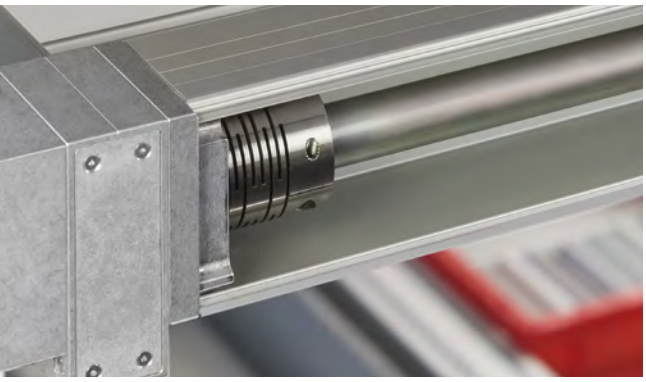
1 set **0.0.609.81**



Synchronising Set KLE 8 80x80

2 Coupling Halves D55/D25, Al
2 Coupling Halves D55 KLE 8 80x80, Al
2 Coupling Inserts D55, PU, green
Tightening torque, Coupling Halves D55 KLE 8 80x80, Al: 25 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 715.0 g

1 set **0.0.609.78**

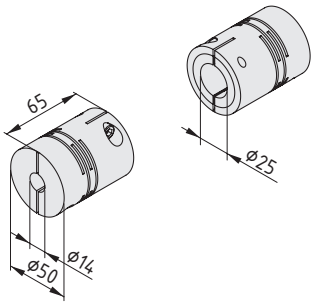


Synchronising Set KRF 8 80 ZR

The robust equaliser couplings made from stainless steel connect the synchronising shaft to Linear Units KRF. Tube D25x3 (0.0.609.83) is required as a shaft.

Note: To make installation easier, the protective layer of zinc should be removed from the ends of the steel tube.

Linear Unit	Art. No.		Synchronising Set	Art. No.	Accessories	
Linear Unit KRF 8 80x40 ZR, left-hand input shaft	0.0.641.21	21	Synchronising Set KRF 8 80 ZR	0.0.648.58	0.0.609.83	82
Linear Unit KRF 8 80x40 ZR, right-hand input shaft	0.0.648.66					
Linear Unit KRF 8 80x40 ZR, synchronous drive	0.0.648.69					



Synchronising Set KRF 8 80 ZR	
2 equaliser couplings D50, St, stainless Tightening torque, clamping hub screw: 14.5 Nm m = 1.2 kg	
1 set	0.0.648.58

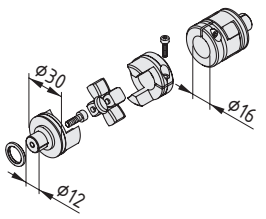
Synchronising Sets LRE

Synchronising Sets from item can be used to operate two Linear Units in parallel with just one motor. They comprise shaft couplings that are tailored to the relevant Linear Unit and designed to compensate for slight misalignments and withstand the stated torque over long-term use. These couplings are pre-prepared to accommodate a synchronising shaft. Besides featuring a compact design, expanding hub couplings are also easy to use. The friction-based connection is created by tightening the central screw with the specified tightening torque. An integrated pull-off thread makes them easy to dismantle. First, the central screw is removed, then a longer screw is driven into the same position to effortlessly relieve tension in the coupling.

Please note that the maximum length of the synchronising shaft varies depending on its operating speed.

Note:
Use the diagrams in the “Technical data” section to coordinate the speed and length of your synchronising shaft.

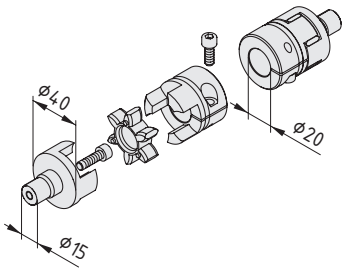
Linear Unit	Art. No.		Synchronising Set	Art. No.	Accessories	
Linear Unit LRE 5 D6 60x20 ZU 40 R10	0.0.666.89	23	Synchronising Set D30/D12	0.0.662.51	0.0.664.14	84
Linear Unit LRE 8 D10 80x40 ZU 40 R25	0.0.662.70	26	Synchronising Set D40/D15	0.0.662.50	0.0.609.86	84
Linear Unit LRE 8 D10 80x80 ZU 40 R25	0.0.663.32	28				
Linear Unit LRE 8 D14 80x40 ZU 40 R25	0.0.662.91	29				
Linear Unit LRE 8 D14 80x80 ZU 40 R25	0.0.663.25	31				
Linear Unit LRE 8 D14 120x80 ZU 40 R25	0.0.663.34	33				
Linear Unit LRE 8 D14 80x40 KU 80	0.0.664.54	48				
Linear Unit LRE 8 D14 80x40 ZU 80 R25	0.0.663.12	30	Synchronising Set D55/D34	0.0.666.60	0.0.609.83	84
Linear Unit LRE 8 D14 80x80 ZU 80 R25	0.0.663.26	32				
Linear Unit LRE 8 D14 120x80 ZU 80 R25	0.0.663.35	33				
Linear Unit LRE 8 D25 120x80 ZU 80 R25	0.0.663.36	36				
Linear Unit LRE 8 D25 200x80 ZU 80 R25	0.0.666.53	38				
Linear Unit LRE 8 D25 120x80 ZU 80 R50	0.0.666.65	37	Synchronising Set D80/D34	0.0.666.61	0.0.463.56	84
Linear Unit LRE 8 D25 200x80 ZU 80 R50	0.0.666.66	39				



Synchronising Set D30/D12

2 Coupling Halves D30/D16, Al
2 expanding hub coupling halves D30/D12, St and Al
2 Coupling Inserts D30, PU, blue
2 Spacer Washers D12
Tightening torque, expanding hub screw: 2.8 Nm
Tightening torque, clamping hub screw: 2 Nm
m = 93.0 g

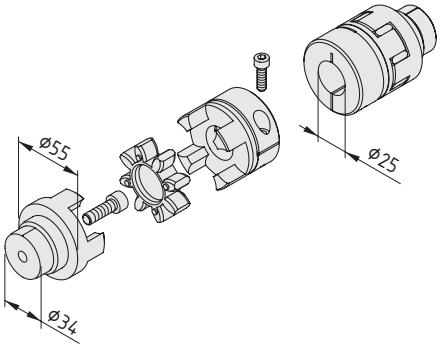
1 set	0.0.662.51



Synchronising Set D40/D15

2 Coupling Halves D40/D20, Al
2 expanding hub coupling halves D40/D15, St and Al
2 Coupling Inserts D40, PU, green
Tightening torque, expanding hub screw: 9.6 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 198.0 g

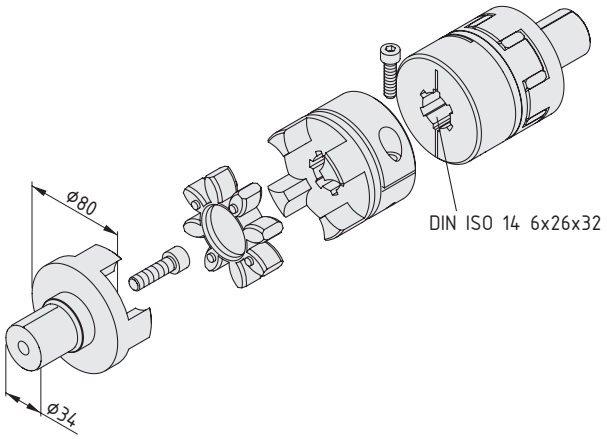
1 set	0.0.662.50



Synchronising Set D55/D34

2 Coupling Halves D55/D25, Al
2 expanding hub coupling half D55/D34, St and Al
2 Coupling Inserts D55, PU, green
Tightening torque, expanding hub screw: 23 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 756.0 g

1 set	0.0.666.60



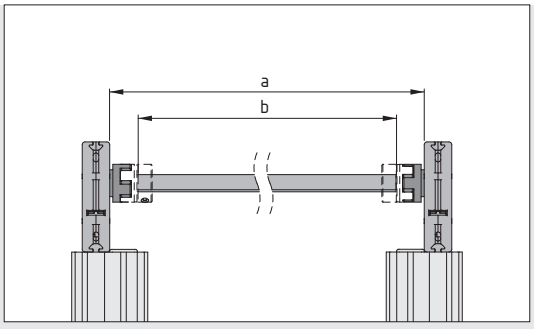
Synchronising Set D80/D34

2 Coupling Halves D80/VK32, Al
2 expanding hub coupling halves D80/D34, St and Al
2 Coupling Inserts D80, PU, red
Tightening torque, expanding hub screw: 49 Nm
Tightening torque, clamping hub screw: 23 Nm
m = 2.1 kg

1 set	0.0.666.61

Tubes for Synchronising Sets

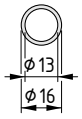
- Torsion-resistant steel tubes
- Compatible with item Synchronising Sets



A suitable Tube St (sawn to length) turns the Synchronising Set into a complete synchroniser shaft.

Information for synchroniser shaft speed 150

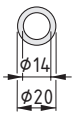
Synchronising Set	Tube D16x1.5 St	Tube D20x3 St	Tube D25x3 St	a
	b			
D30/D12	a - 42.5 mm	–	–	Distance between Reverse Units
D40/D15	–	a - 50 mm	–	
D55/D34	–	–	a - 82 mm	
GSF 8 40 R10	a - 40.5 mm	–	–	
KLE 6 60x60	–	a - 65 mm	–	
KLE 8 80x80	–	–	a - 70 mm	
KRF 8 80 ZR	–	–	a - 100 mm	



Tube D16x1.5 St

St

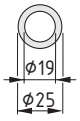
m [kg/m]	I_x [cm^4]	I_y [cm^4]	I_t [cm^4]	W_x [cm^3]	W_y [cm^3]	
0.54	0.18	0.18	0.36	0.23	0.23	
stainless, cut-off max. 2990 mm						0.0.664.14
stainless, 1 pce., length 2990 mm						0.0.662.92



Tube D20x3 St

St

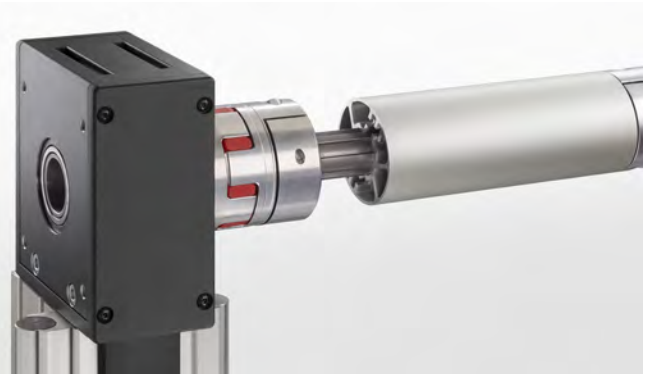
m [kg/m]	I_x [cm^4]	I_y [cm^4]	I_t [cm^4]	W_x [cm^3]	W_y [cm^3]	
1.26	0.60	0.60	1.18	0.60	0.60	
bright zinc-plated, cut-off max. 6000 mm						0.0.609.86
bright zinc-plated, 1 pce., length 6000 mm						0.0.609.85



Tube D25x3 St

St

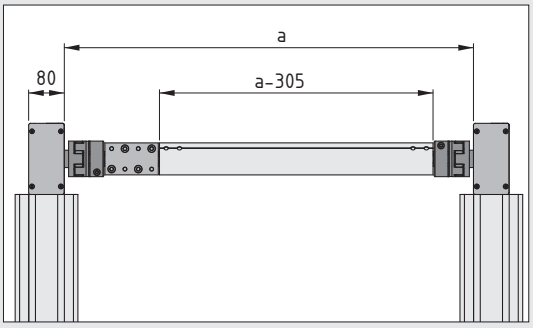
m [kg/m]	I_x [cm^4]	I_y [cm^4]	I_t [cm^4]	W_x [cm^3]	W_y [cm^3]	
1.63	1.28	1.28	2.53	1.02	1.02	
bright zinc-plated, cut-off max. 6000 mm						0.0.609.83
bright zinc-plated, 1 pce., length 6000 mm						0.0.609.82



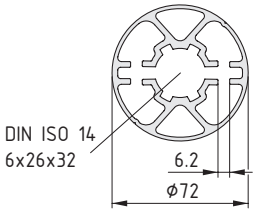
Synchronising Shaft Profile

- For easily constructing synchroniser shafts between drive elements
- Connection made via Multi-Spline Shafts
- Increased torsional rigidity

The Synchronising Shaft Profiles are used to build synchroniser shafts using sections of Multi-Spline Shaft VK32. Shafts and Synchronising Shaft Profiles are mechanically interlocked. A Synchroniser Shaft Equaliser Coupling can be used to adjust the torsion angle.

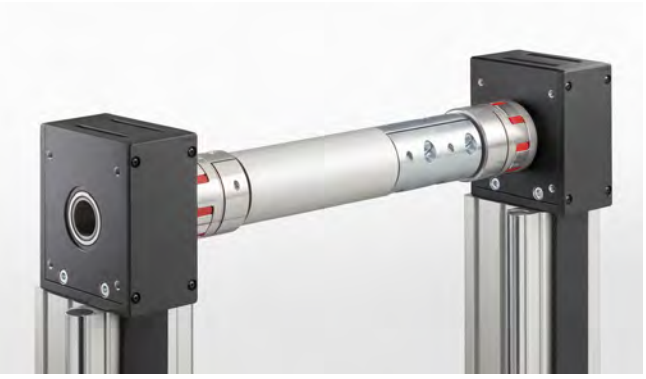


a = distance between drive Reverse Units



Synchronising Shaft Profile VK32					
Al, anodized					
A [cm²]	m [kg/m]	I_x [cm⁴]	I_y [cm⁴]	I_t [cm⁴]	
11.62	3.13	47.42	45.09	65.95	
natural, cut-off max. 3000 mm					0.0.463.56
natural, 1 pce., length 3000 mm					0.0.454.05

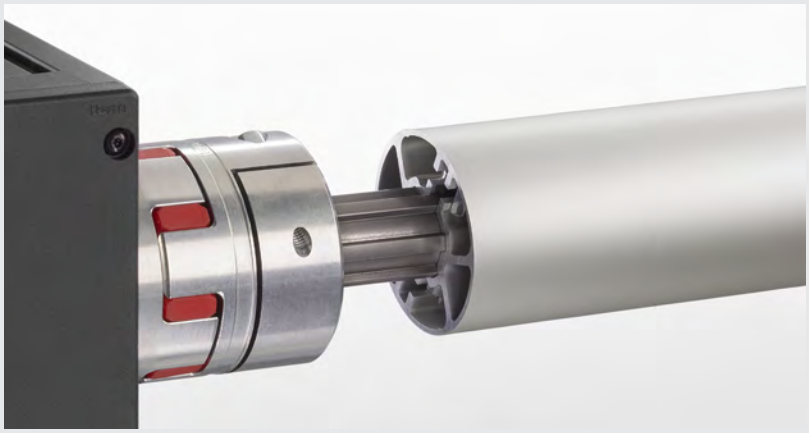
Clamping Set for Synchronising Shaft Profile VK32	
8 standard connecting plates 6, St, bright zinc-plated 4 T-Slot Nuts 8 St 2xM6-60, bright zinc-plated 8 screws M6x25, St, bright zinc-plated m = 196.0 g	
1 set	0.0.463.30



Accessories for Synchronising Shaft Profile

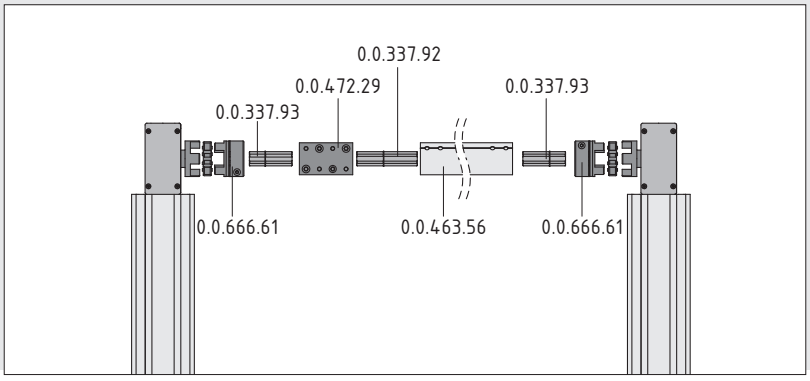
- Compatible with item Synchronising Shaft Profile VK32
- Connecting Shaft for drive
- Simple adjustment thanks to Equaliser Coupling

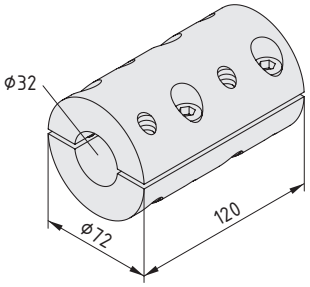
Connecting Shafts are used to provide a torsionally rigid connection between the mechanical drive elements and the corresponding Coupling Half. The Connecting Shafts are inserted into the drive elements until they come up against the stop of the Snap Ring. The clampable Coupling Half is slipped onto the free end of the shaft and clamped axially such that the length of the coupling matches the length of the Coupling Housing, and the Coupling Inserts are not under any axial load.



When using synchronising shafts to transfer torque, it may be necessary to ensure the connected drives can be adjusted during installation.
The Synchroniser Shaft Equaliser Coupling can be used to divide a synchronising shaft in two and then create a friction-based connection between the two shaft sections.

The snap rings W32 should be used to secure the synchronising shaft axially between the drive elements.

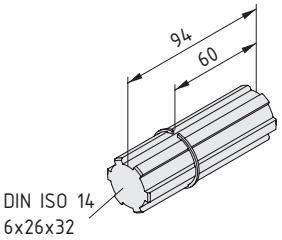




Synchroniser Shaft Equaliser Coupling VK32

2 half shells, St, bright zinc-plated
8 Hexagon Socket Head Cap Screws DIN 912-M10x30, St, bright zinc-plated and waxed
8 screws M6x25, St, bright zinc-plated
m = 2.8 kg

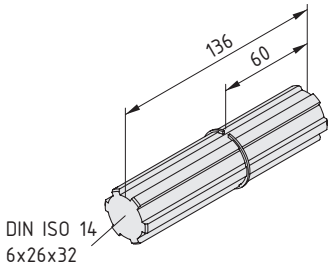
1 set	0.0.472.29



Connecting Shaft VK32 R25

Multi-Spline Shaft similar to DIN ISO 14 6x26x32, St, C 45 k
Snap Ring W32
m = 470.0 g

1 pce.	0.0.337.93



Connecting Shaft VK32 R50

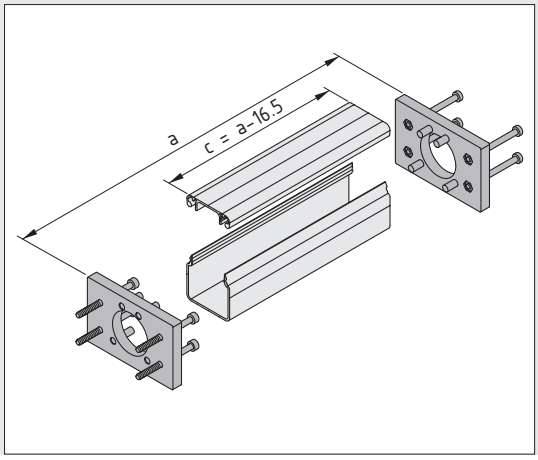
Multi-Spline Shaft similar to DIN ISO 14 6x26x32, St, C 45 k
Snap Ring W32
m = 680.0 g

1 pce.	0.0.337.92

Synchroniser Shaft Cover Sets

- Shaft covered for added safety
- Prevents soiling

For safety reasons, Synchroniser Shaft Cover Set GSF 8 40 R10 should be used to enclose the synchroniser shaft between two Linear Units GSF 8 40 so that material cannot become entangled in the rotating tube.



The adapter plates included in the Synchroniser Shaft Cover Set secure the conduit elements between the two timing-belt drives of Linear Units GSF 8 40 R10. Calculating the length:

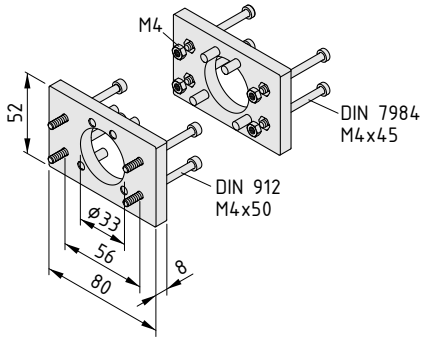
a = Distance between Linear Units

c = Length of conduit elements

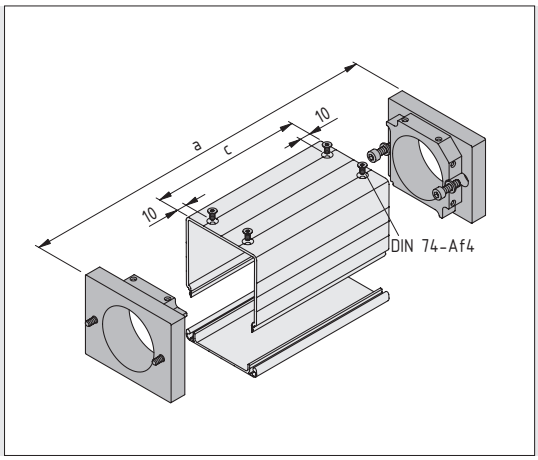
Use this cable conduit:

Conduit Profile U 40x40 E (7.0.001.44)

Lid Profile D40 E (7.0.001.46)



Synchroniser Shaft Cover Set GSF 8 40 R10	
2 Synchroniser Adapter Plates GSF 8 40, Al, natural 4 Hexagon Socket Head Cap Screws DIN 7984-M4x45, St, bright zinc-plated 4 Hexagon Socket Head Cap Screws DIN 912-M4x50, St, bright zinc-plated 4 hexagon nuts DIN 934-M4-5, St, bright zinc-plated 8 taper grooved dowel pins ISO 8745 5x18, St m = 202.0 g	
1 set	0.0.662.54



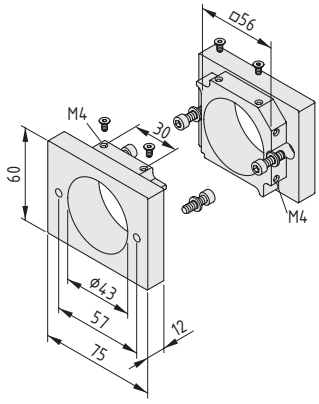
The conduit elements are fixed in place between the two timing-belt drives of Linear Units KLE using the adapter plates in the Synchroniser Shaft Cover Set.

Linear Unit KLE 6 60x60:
Conduit Profile U 60x60 E (7.0.002.91)
Lid Profile D60 E (7.0.002.87)
c = a - 24.5 mm (adapter plate thickness = 12 mm)

Linear Unit KLE 8 80x80:
Conduit Profile U 80x80 E (7.0.002.74)
Lid Profile D80 E (7.0.002.73)
c = a - 32.5 mm (adapter plate thickness = 16 mm)

a = Distance between Linear Units
c = Length of conduit elements

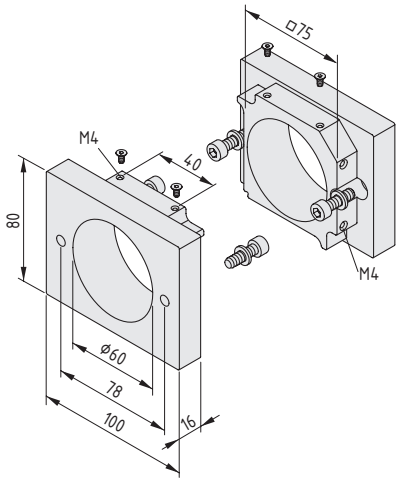
The Conduit Profiles must be provided with DIN 74-Af4 countersinks for their fixings.



Synchroniser Shaft Cover Set KLE 6 60x60

2 Synchroniser Adapter Plates KLE 6 60x60, Al
4 Hexagon Socket Head Cap Screws DIN 912-M5x16, St, bright zinc-plated
4 Washers DIN 433 5.3, St, bright zinc-plated
4 Countersunk Screws DIN 7991-M4x8, St, bright zinc-plated
m = 300.0 g

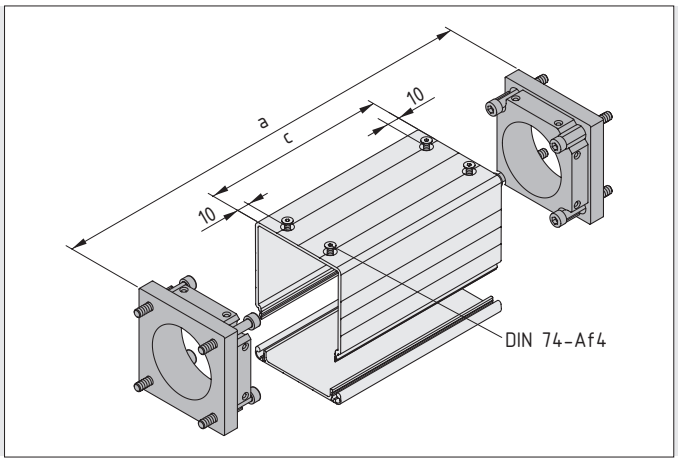
1 set	0.0.612.46



Synchroniser Shaft Cover Set KLE 8 80x80

2 Synchroniser Adapter Plates KLE 8 80x80, Al
4 Hexagon Socket Head Cap Screws DIN 912-M6x20, St, bright zinc-plated
4 Washers DIN 433 6.4, St, bright zinc-plated
4 Countersunk Screws DIN 7991-M4x8, St, bright zinc-plated
m = 625.0 g

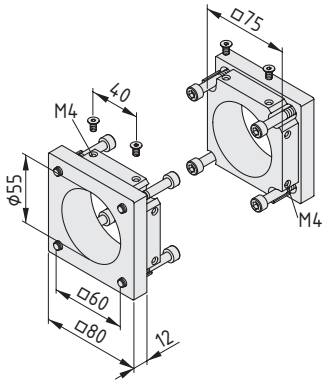
1 set	0.0.612.45



The conduit elements are fixed in place between the two drive units of Linear Units KRF using the adapter plates in the Synchroniser Shaft Cover Set.
a = Distance between Linear Units
c = Length of conduit elements

Conduit Profile U 80x80 E (Art. No. 7.0.002.74)
Lid Profile D80 E (Art. No. 7.0.002.73)
c = a - 24.5 mm (adapter plate thickness = 12 mm)

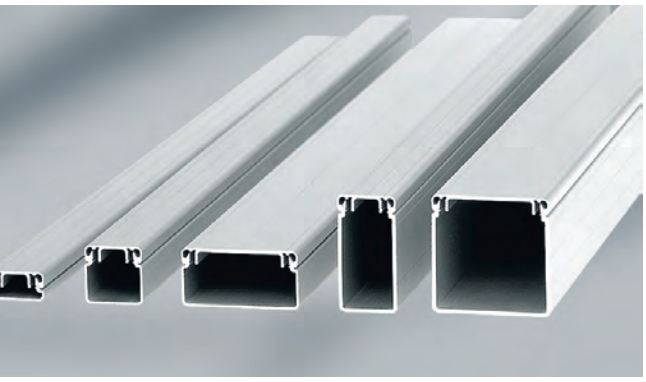
The Conduit Profiles must be provided with DIN 74-Af4 countersinks for their fixings.



Synchroniser Shaft Cover Set KRF 8 80 ZR

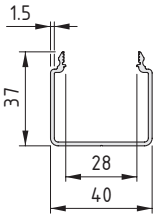
2 synchroniser adapter plates KRF 8 80x80, Al, natural
4 Hexagon Socket Head Cap Screws DIN 912-M6x45, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912-M6x60, St, bright zinc-plated
4 Countersunk Screws DIN 7991-M4x8, St, bright zinc-plated
m = 540.0 g

1 set	0.0.648.59



Conduit and Lid Profiles

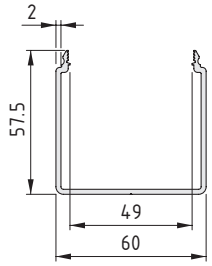
- Protect against dust and dirt
- Prevent contact with rotating parts



Conduit Profile U 40x40 E

Al, anodized

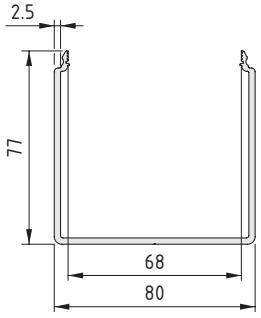
A [cm²]	m [kg/m]	
1.70	0.45	
natural, cut-off max. 3000 mm		7.0.001.44
natural, 1 pce., length 3000 mm		0.0.452.20



Conduit Profile U 60x60 E

Al, anodized

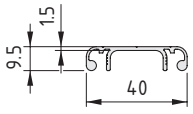
A [cm²]	m [kg/m]	
3.38	0.91	
natural, cut-off max. 3000 mm		7.0.002.91
natural, 1 pce., length 3000 mm		0.0.451.45



Conduit Profile U 80x80 E

Al, anodized

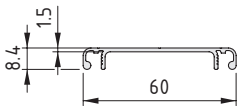
A [cm²]	m [kg/m]	
5.61	1.52	
natural, cut-off max. 3000 mm		7.0.002.74
natural, 1 pce., length 3000 mm		7.0.002.78



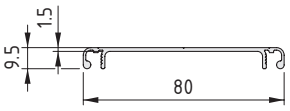
Lid Profile D40 E

Al, anodized

A [cm²]	m [kg/m]	
1.13	0.30	
natural, cut-off max. 3000 mm		7.0.001.46
natural, 1 pce., length 3000 mm		0.0.452.09



Lid Profile D60 E	
Al, anodized	
A [cm²]	m [kg/m]
1.50	0.41
natural, cut-off max. 3000 mm	7.0.002.87
natural, 1 pce., length 3000 mm	0.0.451.43



Lid Profile D80 E	
Al, anodized	
A [cm²]	m [kg/m]
2.12	0.57
natural, cut-off max. 3000 mm	7.0.002.73
natural, 1 pce., length 3000 mm	7.0.002.77

Linear Unit	Art. No.		Synchroniser Shaft Cover Set	Art. No.		Conduit Profile	Art. No.		Lid Profile	Art. No.	
GSF 8 40 R10	0.0.655.98	15	Synchroniser Shaft Cover Set GSF 8 40 R10	0.0.662.54	89	Conduit Profile U 40x40 E	7.0.001.44	92	Lid Profile D40 E	7.0.001.46	92
KLE 6 60x60 LR	0.0.605.07	18	Synchroniser Shaft Cover Set KLE 6 60x60	0.0.612.46	90	Conduit Profile U 60x60 E	7.0.002.91	92	Lid Profile D60 E	7.0.002.87	93
KLE 8 80x80 LR	0.0.605.02	19	Synchroniser Shaft Cover Set KLE 8 80x80	0.0.612.45	90	Conduit Profile U 80x80 E	7.0.002.74	92	Lid Profile D80 E	7.0.002.73	93
KRF 8 80x40 ZR, drive on right	0.0.648.66	21	Synchroniser Shaft Cover Set KRF 8 80 ZR	0.0.648.59	91						
KRF 8 80x40 ZR, drive on left	0.0.641.21	21									
KRF 8 80x40 ZR, synchronous drive	0.0.648.69	22									

Gearboxes

Gearboxes connect together the Linear Unit, Drive Set and Motor and ensure users can achieve the correct ratio of input speed, torque and precise carriage positioning for any application. item Gearboxes also help make optimum use of the installation space available. Motors can be fitted in line with the Drive Set or offset at a 90° angle from it.

To ensure reliability and a long service life, item uses only high-quality planetary Gearboxes that distribute forces to the gears with low backlash. They are also compact, very quiet and have a maintenance-free design.

Note:
You can find a table comparing all the item Gearboxes starting on Page 156.

Products in this section

Axial planetary Gearboxes

- Linear, axial connection for motors
- Suitable for high speeds and torques

96

Bevel planetary Gearboxes

- Right-angled connection for motors
- Suitable for high speeds and torques

100

Gearboxes AP

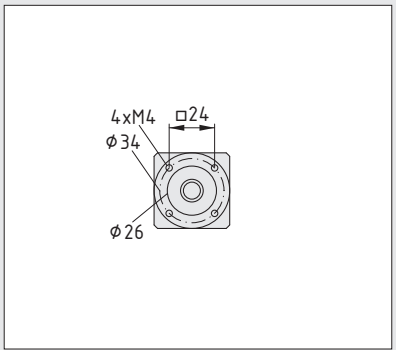
- Axial connection for motors
- Suitable for very high input speeds
- Highly efficient with low backlash

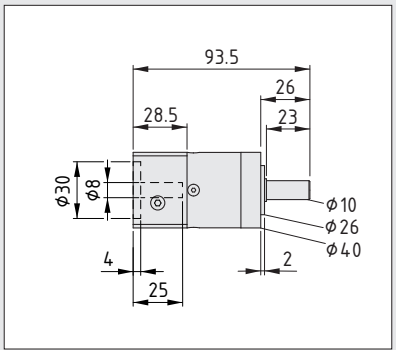
Gearboxes AP connect a Motor with a Drive Set along a shared axis. The compact planetary gearboxes are available in various gear ratios and in three connection dimensions. They exhibit a high degree of efficiency and are suitable for very high input speeds up to 18000 rpm.

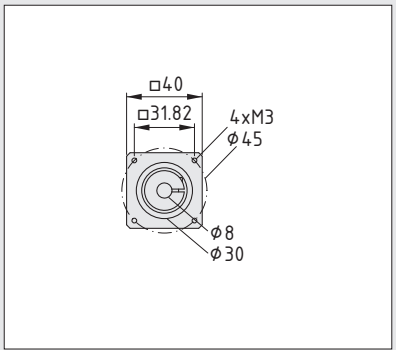
The Gearboxes run quietly and have a long service life. All variants are maintenance free and do not require additional lubrication.

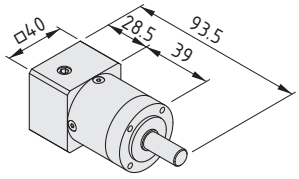
NB: The modular item Automation System can be used to configure solutions using preassembled components. Please ensure that the connection dimensions for the selected Motor, Gearbox and Drive Set are identical.

Gearbox AP 40







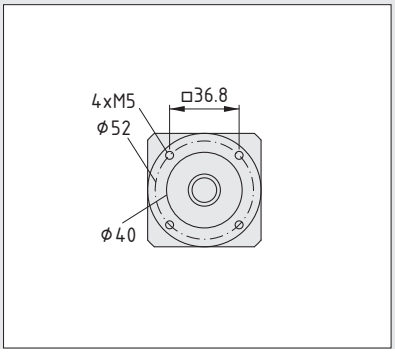


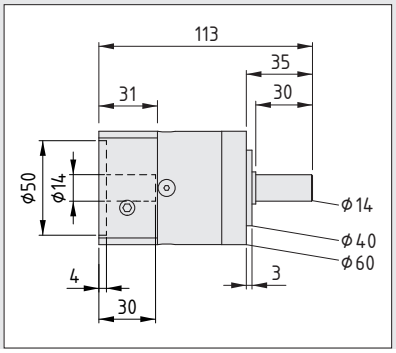
Gearbox AP 40-3		
Gear ratio	i = 3	
Efficiency at full load	0.98	
Rated output torque	11 Nm	
Max. mechanical input speed	18000 rpm	
Mass moment of inertia	0.027 kg cm²	
Standard backlash	< 15 arcmin	
Tightening torque, clamping hub screw	2 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.05

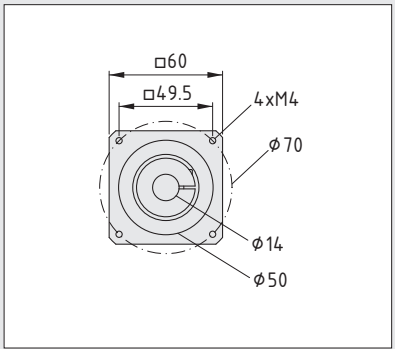
Gearbox AP 40-5		
Gear ratio	i = 5	
Efficiency at full load	0.98	
Rated output torque	14 Nm	
Max. mechanical input speed	18000 rpm	
Mass moment of inertia	0.019 kg cm²	
Standard backlash	< 15 arcmin	
Tightening torque, clamping hub screw	2 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.06

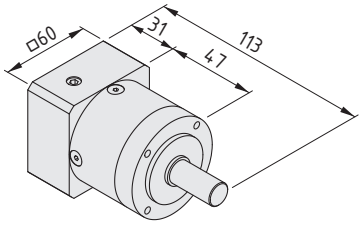
Gearbox AP 40-7		
Gear ratio	i = 7	
Efficiency at full load	0.97	
Rated output torque	8.5 Nm	
Max. mechanical input speed	18000 rpm	
Mass moment of inertia	0.015 kg cm²	
Standard backlash	< 15 arcmin	
Tightening torque, clamping hub screw	2 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.07

Gearbox AP 60









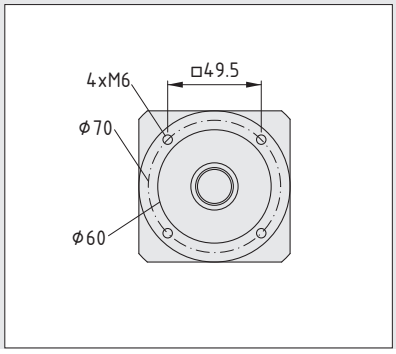
Gearbox AP 60-3		
Gear ratio	i = 3	
Efficiency at full load	0.98	
Rated output torque	28 Nm	
Max. mechanical input speed	13000 rpm	
Mass moment of inertia	0.149 kg cm²	
Standard backlash	< 10 arcmin	
Tightening torque, clamping hub screw	4.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.11

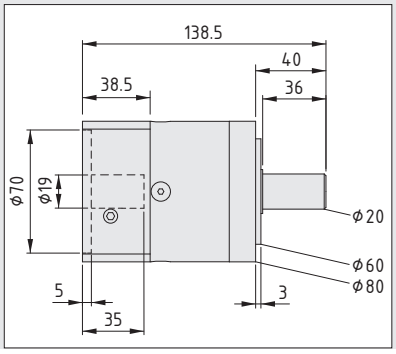
Gearbox AP 60-5		
Gear ratio	i = 5	
Efficiency at full load	0.98	
Rated output torque	40 Nm	
Max. mechanical input speed	13000 rpm	
Mass moment of inertia	0.1 kg cm²	
Standard backlash	< 10 arcmin	
Tightening torque, clamping hub screw	4.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.12

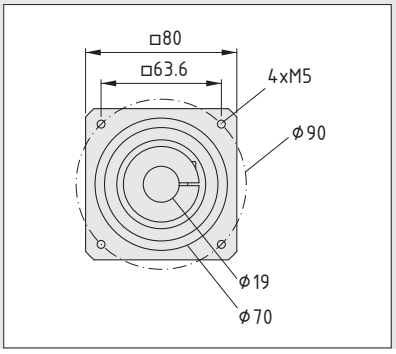
Gearbox AP 60-7		
Gear ratio	i = 7	
Efficiency at full load	0.97	
Rated output torque	25 Nm	
Max. mechanical input speed	13000 rpm	
Mass moment of inertia	0.09 kg cm²	
Standard backlash	< 10 arcmin	
Tightening torque, clamping hub screw	4.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.13

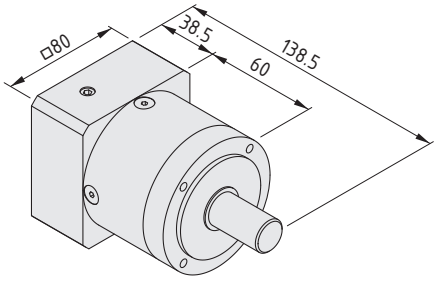
Gearbox AP 60-16		
Gear ratio	i = 16	
Efficiency at full load	0.96	
Rated output torque	44 Nm	
Max. mechanical input speed	13000 rpm	
Mass moment of inertia	0.106 kg cm²	
Standard backlash	< 12 arcmin	
Tightening torque, clamping hub screw	4.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.698.04

Gearbox AP 80









Gearbox AP 80-3		
Gear ratio	i = 3	
Efficiency at full load	0.98	
Rated output torque	85 Nm	
Max. mechanical input speed	7000 rpm	
Mass moment of inertia	0.654 kg cm^2	
Standard backlash	< 7 arcmin	
Tightening torque, clamping hub screw	9.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.17

Gearbox AP 80-5		
Gear ratio	i = 5	
Efficiency at full load	0.98	
Rated output torque	110 Nm	
Max. mechanical input speed	7000 rpm	
Mass moment of inertia	0.423 kg cm^2	
Standard backlash	< 7 arcmin	
Tightening torque, clamping hub screw	9.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.18

Gearbox AP 80-7		
Gear ratio	i = 7	
Efficiency at full load	0.97	
Rated output torque	65 Nm	
Max. mechanical input speed	7000 rpm	
Mass moment of inertia	0.379 kg cm^2	
Standard backlash	< 7 arcmin	
Tightening torque, clamping hub screw	9.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.19

Gearboxes WP

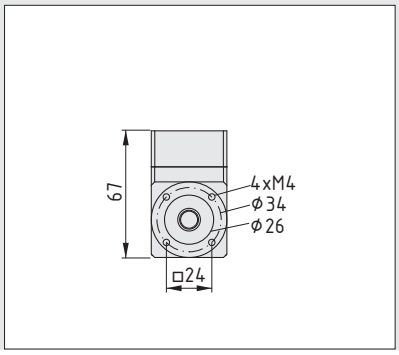
- Right-angled connection for motors
- Suitable for very high input speeds
- Highly efficient with low backlash

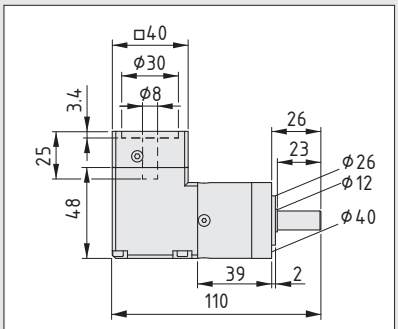
Gearboxes WP connect a Motor with a Drive Set at a 90° angle. The compact planetary Gearboxes are available in various gear ratios and in three connection sizes. They exhibit a high degree of efficiency and are suitable for very high input speeds up to 18000 rpm.

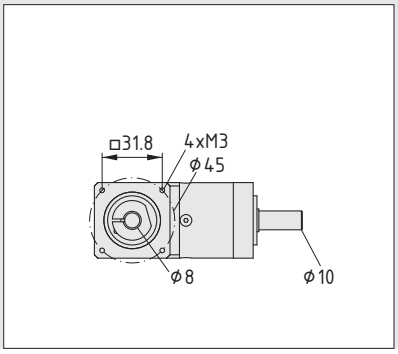
The Gearboxes run quietly and have a long service life. All variants are maintenance-free and do not require additional lubrication.

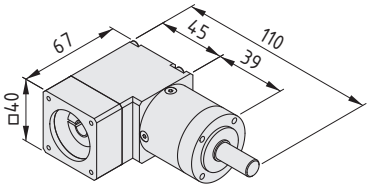
Note: The modular item Automation System can be used to configure solutions using preassembled components. Please ensure that the connection dimensions for the selected Motor, Gearbox and Drive Set are identical.

Gearbox WP 40







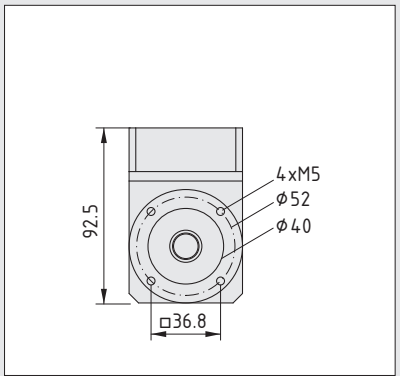


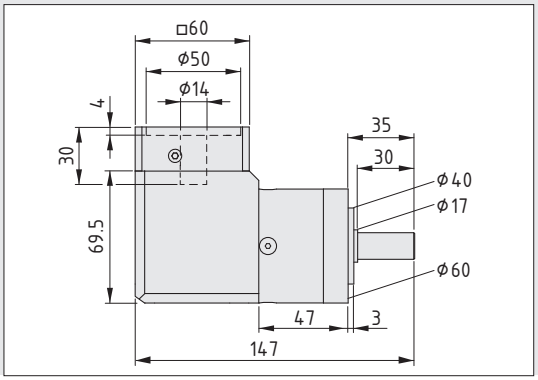
Gearbox WP 40-3		
Gear ratio	i = 3	
Efficiency at full load	0.94	
Rated output torque	3.96 Nm	
Max. mechanical input speed	18000 rpm	
Mass moment of inertia	0.049 kg cm^2	
Standard backlash	< 21 arcmin	
Tightening torque, clamping hub screw	2 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.08

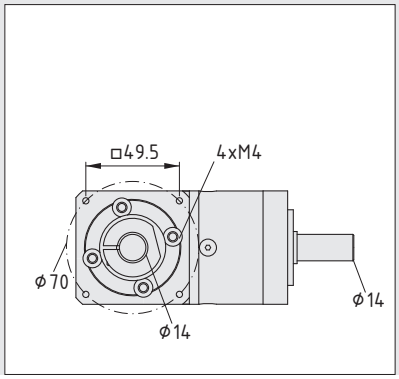
Gearbox WP 40-5		
Gear ratio	i = 5	
Efficiency at full load	0.94	
Rated output torque	6.6 Nm	
Max. mechanical input speed	18000 rpm	
Mass moment of inertia	0.035 kg cm^2	
Standard backlash	< 21 arcmin	
Tightening torque, clamping hub screw	2 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.09

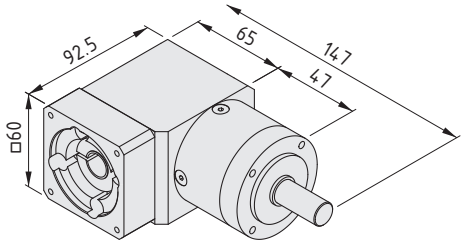
Gearbox WP 40-7		
Gear ratio	i = 7	
Efficiency at full load	0.94	
Rated output torque	7.48 Nm	
Max. mechanical input speed	18000 rpm	
Mass moment of inertia	0.033 kg cm^2	
Standard backlash	< 21 arcmin	
Tightening torque, clamping hub screw	2 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.10

Gearbox WP 60









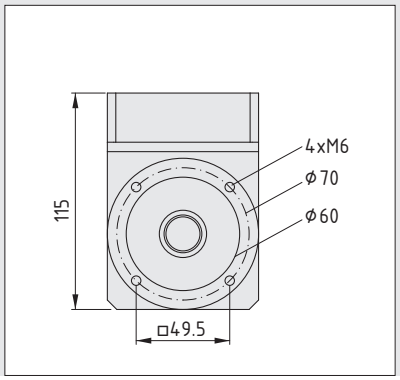
Gearbox WP 60-3		
Gear ratio	i = 3	
Efficiency at full load	0.95	
Rated output torque	12.32 Nm	
Max. mechanical input speed	13000 rpm	
Mass moment of inertia	0.394 kg cm^2	
Standard backlash	< 16 arcmin	
Tightening torque, clamping hub screw	4.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.14

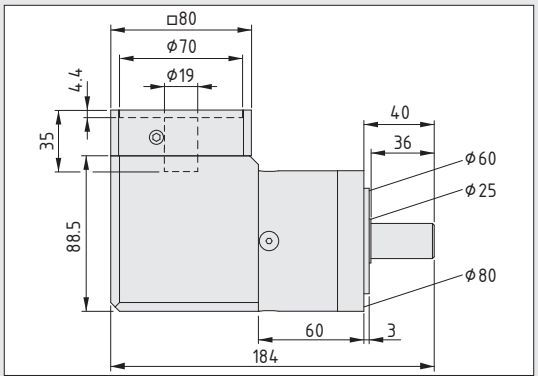
Gearbox WP 60-5		
Gear ratio	i = 5	
Efficiency at full load	0.95	
Rated output torque	21.12 Nm	
Max. mechanical input speed	13000 rpm	
Mass moment of inertia	0.257 kg cm^2	
Standard backlash	< 16 arcmin	
Tightening torque, clamping hub screw	4.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.15

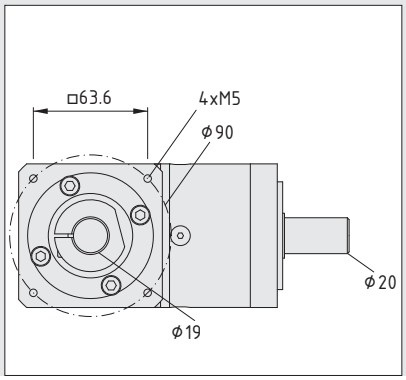
Gearbox WP 60-7		
Gear ratio	i = 7	
Efficiency at full load	0.94	
Rated output torque	22 Nm	
Max. mechanical input speed	13000 rpm	
Mass moment of inertia	0.245 kg cm^2	
Standard backlash	< 16 arcmin	
Tightening torque, clamping hub screw	4.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.16

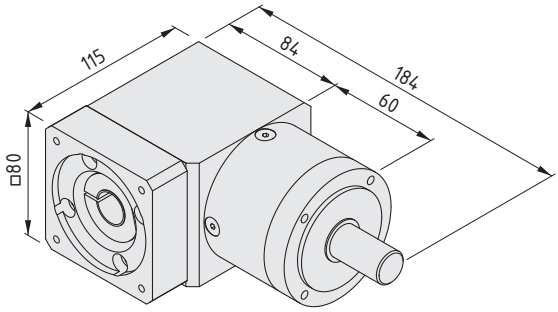
Gearbox WP 60-16		
Gear ratio	i = 16	
Efficiency at full load	0.93	
Rated output torque	38.72 Nm	
Max. mechanical input speed	13000 rpm	
Mass moment of inertia	0.27 kg cm^2	
Standard backlash	< 18 arcmin	
Tightening torque, clamping hub screw	4.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.698.05

Gearbox WP 80









Gearbox WP 80-3		
Gear ratio	i = 3	
Efficiency at full load	0.96	
Rated output torque	35.2 Nm	
Max. mechanical input speed	7000 rpm	
Mass moment of inertia	1.409 kg cm^2	
Standard backlash	< 13 arcmin	
Tightening torque, clamping hub screw	9.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.20

Gearbox WP 80-5		
Gear ratio	i = 5	
Efficiency at full load	0.95	
Rated output torque	58.96 Nm	
Max. mechanical input speed	7000 rpm	
Mass moment of inertia	1.017 kg cm^2	
Standard backlash	< 13 arcmin	
Tightening torque, clamping hub screw	9.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.21

Gearbox WP 80-7		
Gear ratio	i = 7	
Efficiency at full load	0.95	
Rated output torque	57.2 Nm	
Max. mechanical input speed	7000 rpm	
Mass moment of inertia	0.948 kg cm^2	
Standard backlash	< 13 arcmin	
Tightening torque, clamping hub screw	9.5 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.22

Motors

In automation, motors are more than just drive units. As well as determining the dynamics of the system, they also play a key role in terms of precision and controlling movement. The reliability and safety of the system as a whole also depend on the quality of the motor.

That is why item uses high-quality synchronous motors. These electric motors supply high torque even at low rotational speeds and complete their start-up with excellent precision, even under high loads. Controlled synchronous operation in all phases boosts precision. As a servomotor, the drive supplies information about the angle of its motor shaft, as well as rotational speed and acceleration, to the Controller.

item uses robust and yet precise resolvers for position control purposes. These contactless encoders, combined with the Controllers from item, ensure the Linear Unit can be positioned precisely in any phase of the motion cycle, even in difficult environmental conditions.

The item servomotors are perfectly configured for use with the item Linear Units, Gearboxes and Controllers.

Note:
You can find a clear comparison of all the item Motors starting on Page 158.

Products in this section

Motors SE 40

- Very high nominal speed
- With resolver or incremental encoder

107

Motors SE 60

- High speed and high torque
- With resolver or incremental encoder

109

Motors SE 80

- Very high torque
- With resolver or incremental encoder

111

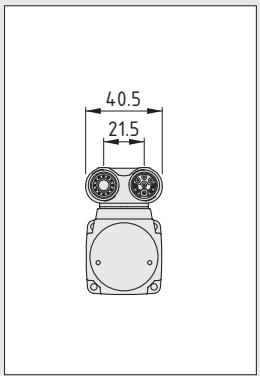
Motors SE

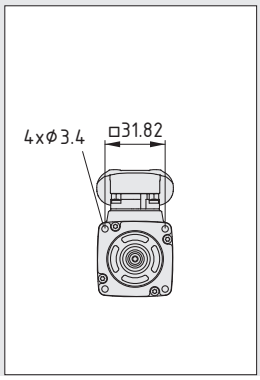
- High nominal speed and durable design
- High load-to-size ratio and overload capacity
- With and without optional holding brake

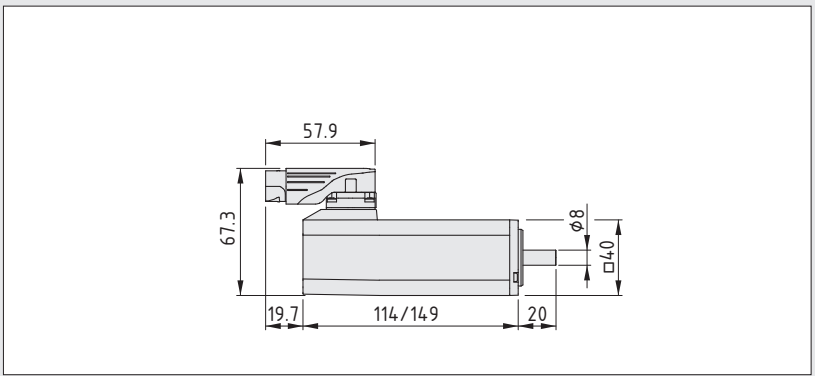
Motors SE feature a high rated speed of up to 9000 rpm and are suitable for all applications that require precision and dynamic operation. Robust and precise encoders ensure the system exhibits reliable positioning characteristics over long term use.

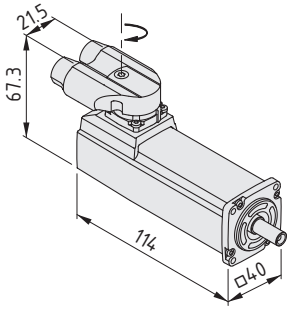
Thanks to colour-coded plug-in connectors and item Power and Data Cables, the Motor can be connected to its Controller quickly and reliably. The servomotors are available with a holding brake (B in product name) and without a holding brake.

Motors SE 40

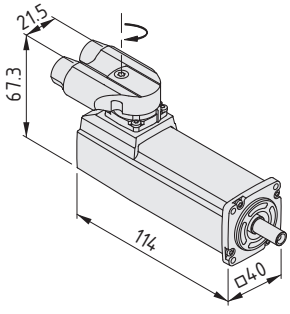




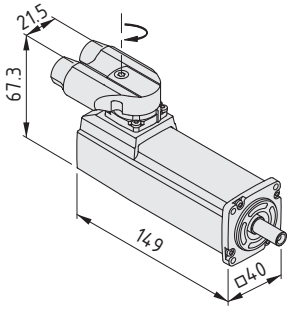




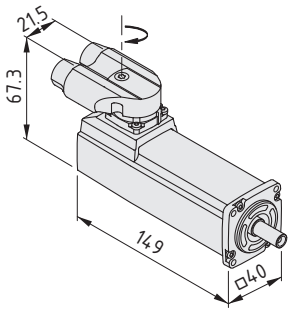
Motor SE 40-035-3-90-R	
Encoder systems	Resolver
Rated speed	9000 rpm
DC bus circuit voltage	320
Rated power	200 W
Rated torque	0.21 Nm
Stall torque	0.35 Nm
Peak torque	1.4 Nm
Holding brake	No
white aluminium, similar to RAL 9006, 1 pce.	0.0.666.03



Motor SE 40-035-3-90-AK	
Encoder systems	Capacitive incremental encoder
Rated speed	6000 rpm
DC bus circuit voltage	320
Rated power	200 W
Rated torque	0.21 Nm
Stall torque	0.35 Nm
Peak torque	1.4 Nm
Holding brake	No
white aluminium, similar to RAL 9006, 1 pce.	0.0.688.47



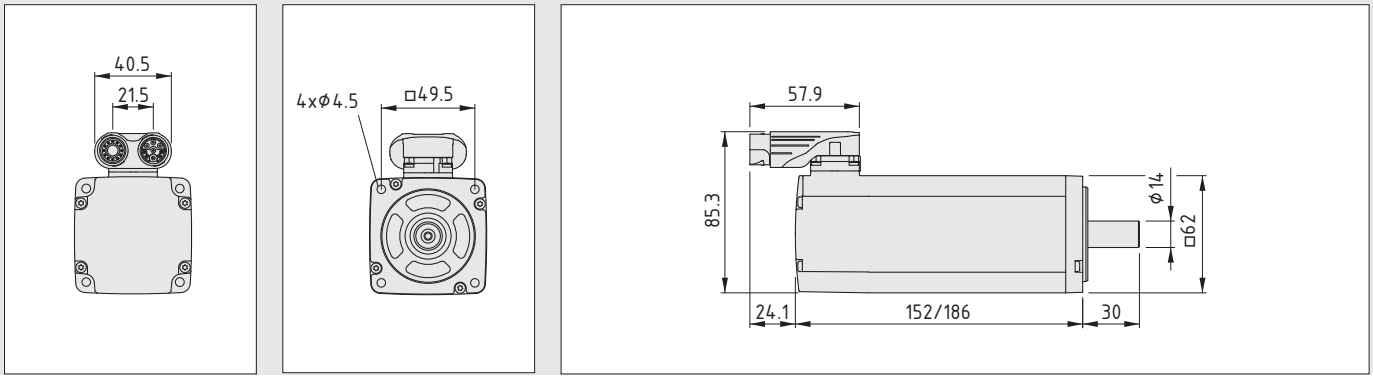
Motor SE 40-035-3-90-R-B	
Encoder systems	Resolver
Rated speed	9000 rpm
DC bus circuit voltage	320
Rated power	200 W
Rated torque	0.21 Nm
Stall torque	0.35 Nm
Peak torque	1.4 Nm
Holding brake	Yes
Static braking torque	0.4 Nm
white aluminium, similar to RAL 9006, 1 pce.	0.0.666.04

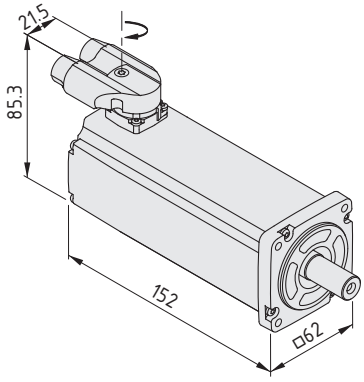


Motor SE 40-035-3-90-AK-B	
Encoder systems	Capacitive incremental encoder
Rated speed	6000 rpm
DC bus circuit voltage	320
Rated power	200 W
Rated torque	0.21 Nm
Stall torque	0.35 Nm
Peak torque	1.4 Nm
Holding brake	Yes
Static braking torque	0.4 Nm

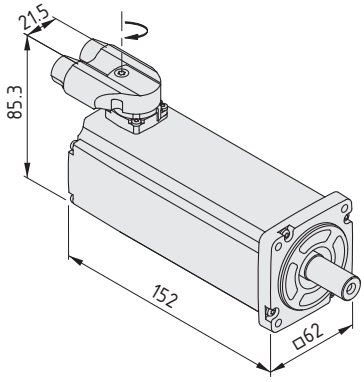
white aluminium, similar to RAL 9006, 1 pce.	0.0.688.48

Motors SE 60

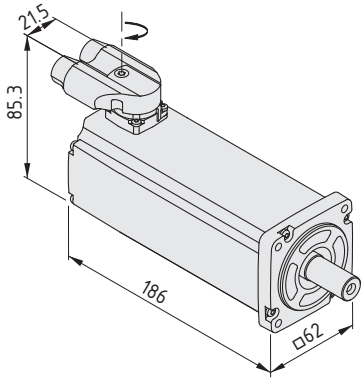




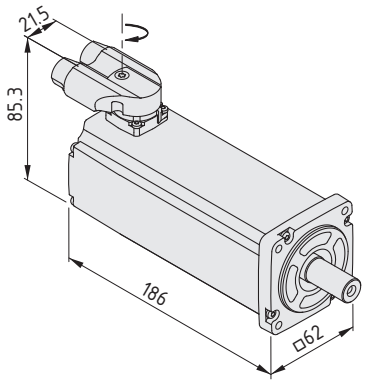
Motor SE 60-150-3-60-R	
Encoder systems	Resolver
Rated speed	6000 rpm
DC bus circuit voltage	320
Rated power	550 W
Rated torque	0.9 Nm
Stall torque	1.5 Nm
Peak torque	6 Nm
Holding brake	No
white aluminium, similar to RAL 9006, 1 pce.	0.0.666.02



Motor SE 60-150-3-60-AK	
Encoder systems	Capacitive incremental encoder
Rated speed	6000 rpm
DC bus circuit voltage	320
Rated power	550 W
Rated torque	0.9 Nm
Stall torque	1.5 Nm
Peak torque	6 Nm
Holding brake	No
white aluminium, similar to RAL 9006, 1 pce.	0.0.688.49



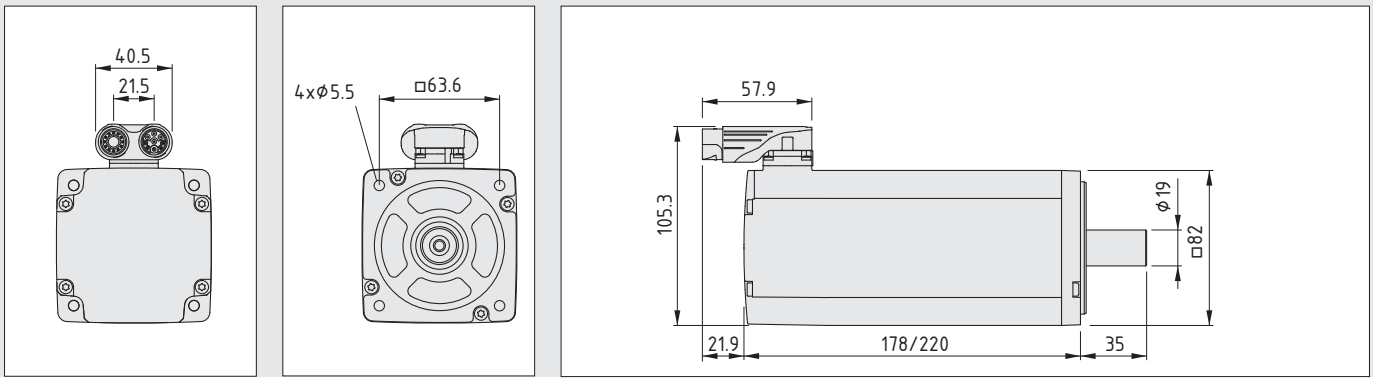
Motor SE 60-150-3-60-R-B	
Encoder systems	Resolver
Rated speed	6000 rpm
DC bus circuit voltage	320
Rated power	550 W
Rated torque	0.9 Nm
Stall torque	1.5 Nm
Peak torque	6 Nm
Holding brake	Yes
Static braking torque	2 Nm
white aluminium, similar to RAL 9006, 1 pce.	0.0.665.99

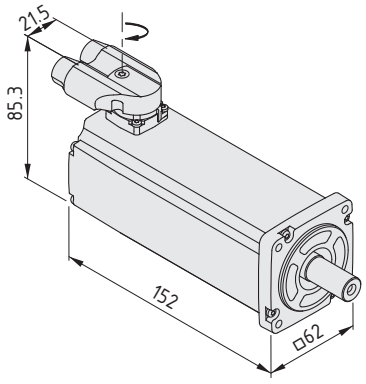


Motor SE 60-150-3-60-AK-B	
Encoder systems	Capacitive incremental encoder
Rated speed	6000 rpm
DC bus circuit voltage	320
Rated power	550 W
Rated torque	0.9 Nm
Stall torque	1.5 Nm
Peak torque	6 Nm
Holding brake	Yes
Static braking torque	2 Nm

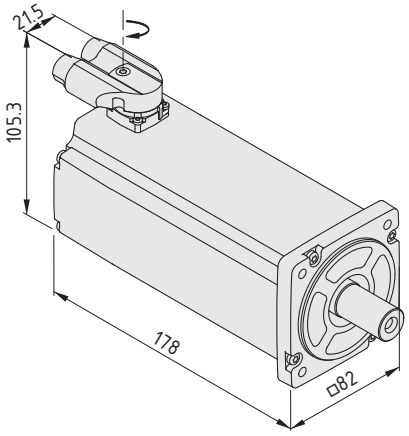
white aluminium, similar to RAL 9006, 1 pce.	0.0.688.50

Motors SE 80

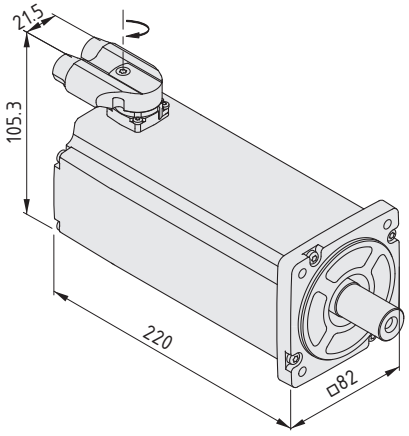




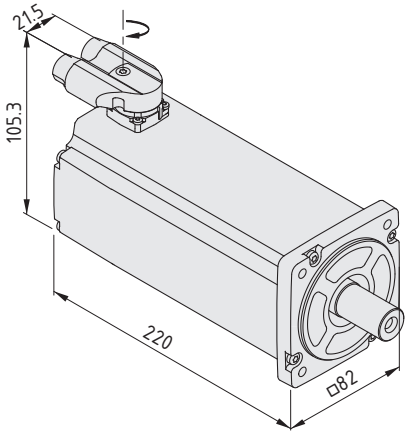
Motor SE 80-350-5-55-R	
Encoder systems	Resolver
Rated speed	5500 rpm
DC bus circuit voltage	560
Rated power	1200 W
Rated torque	2.1 Nm
Stall torque	3.5 Nm
Peak torque	14 Nm
Holding brake	No
white aluminium, similar to RAL 9006, 1 pce.	0.0.666.01



Motor SE 80-350-5-55-AK	
Encoder systems	Capacitive incremental encoder
Rated speed	5500 rpm
DC bus circuit voltage	560
Rated power	1200 W
Rated torque	2.1 Nm
Stall torque	3.5 Nm
Peak torque	14 Nm
Holding brake	No
white aluminium, similar to RAL 9006, 1 pce.	0.0.688.51



Motor SE 80-350-5-55-R-B	
Encoder systems	Resolver
Rated speed	5500 rpm
DC bus circuit voltage	560
Rated power	1200 W
Rated torque	2.1 Nm
Stall torque	3.5 Nm
Peak torque	14 Nm
Holding brake	Yes
Static braking torque	4.5 Nm
white aluminium, similar to RAL 9006, 1 pce.	0.0.666.00



Motor SE 80-350-5-55-AK-B	
Encoder systems	Capacitive incremental encoder
Rated speed	5500 rpm
DC bus circuit voltage	560
Rated power	1200 W
Rated torque	2.1 Nm
Stall torque	3.5 Nm
Peak torque	14 Nm
Holding brake	Yes
Static braking torque	4.5 Nm

white aluminium, similar to RAL 9006, 1 pce.	0.0.688.52

Controllers

item Controllers are the digital heart of the item linear motion units® and are perfectly configured for the Motors and Linear Units of the item Automation System.

These programmable servo controllers designed for industrial use combine several functions in a compact housing. They make it easy to construct a controlled automation solution. Thanks to their modular design, they are futureproof and can be integrated into complex systems with ease.

These high-performance item Controllers are very easy to connect and operate. Together with the intuitive commissioning software item MotionSoft®, the intelligent controllers measure the Linear Unit independently. The Controller initiates an automatic test run to configure the parameters of the entire system in its actual installation scenario and calculates the optimum controller settings for the drive system used.

Naturally, there are no problems in working with one central controller either. The modular Controllers support all standard fieldbus protocols and have numerous interfaces for processing signals. Slots are provided so that future standards can also be taken into account.

Single and three-phase models in various power stages are available to suit the relevant power supply.

Note:
You can find a detailed table comparing all the item Controllers starting on Page 160.

Products in this section

C 1 Controllers

- Intelligent, programmable Controllers for item Motors
- For single-phase operation with 100 V to 230 V

115

C 3 Controllers

- Intelligent, programmable Controllers for item Motors
- For three-phase operation with 230 V to 480 V

116

Safety Module STO

- Puts Motor into a no-torque state when at rest
- Plug-in module for item Controllers

117

Fieldbus interfaces

- For EtherCAT, PROFIBUS or PROFINET
- Can be easily added as a plug-in module

118

Cables

- Shielded, colour-coded Power and Data Cables
- Preconfigured in numerous lengths

119

Shield Terminal Block D14

- Efficient EMC shielding
- Prevents interference at exposed connections

123

Controllers C 1-02, -05

- Intelligent, programmable Controllers for item Motors
- For single-phase operation with 100 V to 230 V
- Can be expanded using plug-in cards
- Simple setup using item MotionSoft®

Controllers ensure a perfect response from item servomotors. Three power stages for single-phase operation are available to suit different loads. item MotionDesigner®, the online selection and configuration tool, helps tailor the Controller and Motor to the relevant transport task and ensure appropriate dimensioning.

All item Controllers C 1 incorporate a programmable servo controller that enables the Controller to store motion profiles and actuate them independently.

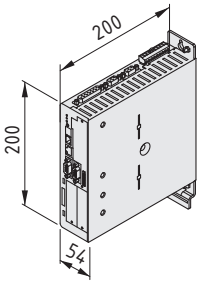
Thanks to freely configurable I/O ports, signals from start/stop switches, sensors, etc. can be directly processed and integrated into the program sequence. Setup is completed using the intuitive software program item MotionSoft®.

Thanks to optional interface modules, the Controllers can be expanded for all standard fieldbus systems. CAN-Open, USB, Ethernet and RS232 interfaces are standard. EtherCAT and PROFIBUS can be easily retrofitted.

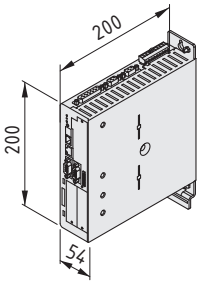
Safety Module STO (Safe Torque Off) makes the system even safer by putting the motor into a no-torque state when at rest. To ensure precise motion over long-term use, the Controllers feature a universal, integrated encoder interface for resolvers.

The item Controllers have CE and UL certifications.

Note: item recommends that Shield Terminal Block D14 (0.0.668.19) is used to ensure problem-free signal processing.



Controller C 1-02	
Supply voltage	1 x 100 ... 230 VAC (+- 10%) , 50 ... 60 Hz
Control voltage	24 VDC (+-20 %) [0.55 A]
DC bus circuit voltage	360 ... 380 V / 310 ... 320 V (with/without Power Factor Control)
Output power (rated)	0.5 KVA
max. output power (for 5 s)	1 KVA
1 pce.	0.0.668.62



Controller C 1-05	
Supply voltage	1 x 100 ... 230 VAC (+- 10%) , 50 ... 60 Hz
Control voltage	24 VDC (+-20 %) [0.65 A]
DC bus circuit voltage	360 ... 380 V / 310 ... 320 V (with/without Power Factor Control)
Output power (rated)	1.0 KVA
max. output power (for 5 s)	2 KVA
1 pce.	0.0.668.63

Controllers C 3-05, -10

- Intelligent, programmable Controllers for item Motors
- For three-phase operation with 230 V to 480 V
- Can be expanded using plug-in cards
- Simple setup using item MotionSoft®

Controllers ensure a perfect response from item servomotors. Two power stages for three-phase operation are available to suit different loads. item MotionDesigner®, the online selection and configuration tool, helps tailor the Controller and Motor to the relevant transport task and ensure appropriate dimensioning.

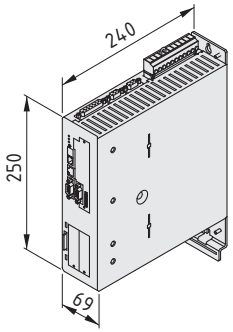
All item Controllers C 3 incorporate a programmable servo controller that enables the Controller to store motion profiles and trigger them independently. Thanks to freely programmable I/O ports, signals from start/stop switches, sensors, etc. can be directly processed and integrated into the program sequence. Setup is completed using the intuitive software program item MotionSoft®.

Thanks to optional interface modules, the Controllers can be expanded for all standard fieldbus systems. CAN-Open, USB, Ethernet and RS232 interfaces are standard. PROFINET, EtherCAT and PROFIBUS can be easily retrofitted. Safety Module STO (Safe Torque Off) makes the system even safer by putting the motor into a no-torque state when at rest.

To ensure precise motion over long-term use, the Controllers feature a universal, integrated encoder interface for resolvers.

The item Controllers have CE and UL certifications.

Note: item recommends that Shield Terminal Block D14 (0.0.668.19) is used to ensure problem-free signal processing.



Controller C 3-05		
Supply voltage	3 x 230 ... 480 VAC (+- 10%) , 50 ... 60 Hz	
Control voltage	24 VDC (+-20 %) [1 A]	
DC bus circuit voltage	560 ... 570 V	
Output power (rated)	3 KVA	
max. output power (for 5 s)	6 KVA	
1 pce.		0.0.668.65

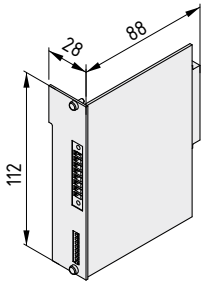
Controller C 3-10		
Supply voltage	3 x 230 ... 480 VAC (+- 10%) , 50 ... 60 Hz	
Control voltage	24 VDC (+-20 %) [1 A]	
DC bus circuit voltage	560 ... 570 V	
Output power (rated)	6 KVA	
max. output power (for 5 s)	12 KVA	
1 pce.		0.0.668.66

Safety Module STO

- Plug-in module for item Controllers
- Puts drive into a no-torque state when at rest
- Maximum safety to EN ISO 13849-1 and 61800-5-2

Safety Module STO (Safe Torque Off) is an add-on for item Controllers. It ensures that, when at rest, a Motor does not produce any effective torque. When actuated, e.g. by an emergency shutdown system or when a door is opened, it switches off the system safely.

The Module is slotted into one of the expansion slots. All applicable safety standards are reliably met, including category 4 / PL e to EN ISO 13849-1 and SIL CL 3 to EN 62061.



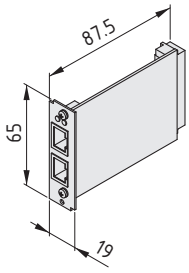
STO Safety Module	
m = 72.0 g	
1 pce.	0.0.668.20

EtherCAT/ PROFIBUS Interfaces

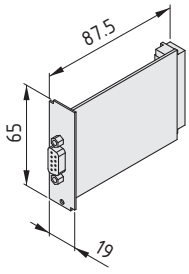
- Plug-in module for item Controllers
- For additional fieldbus connections

The plug-in modules connect item Controllers to system environments via the EtherCAT or PROFIBUS fieldbus standards.

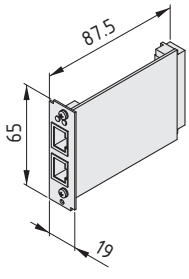
As plug-and-play solutions, the modules are simply inserted into one of the expansion slots. The necessary connection ports for the relevant network are located on the front side of the modules.



EtherCAT Interface	
m = 45.0 g	
1 pce.	0.0.668.15



PROFIBUS Interface	
m = 46.0 g	
1 pce.	0.0.668.14



PROFINET Interface	
m = 46.0 g	
1 pce.	0.0.681.66

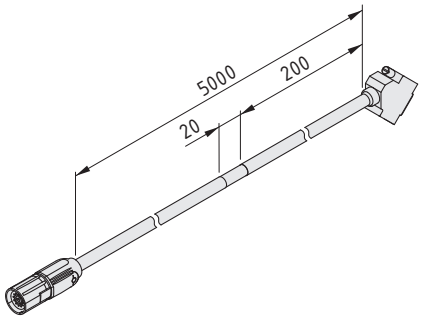
Cables

- Power and Data Cables for item Controllers and Motors
- Durable and well shielded
- Colour-coded and tamperproof
- Easy to order thanks to standard lengths in all performance classes

To prevent interference, communication between the Motor and Controller takes place via two separate cables: The orange Power Cable feeds power to the Motor, while the green Data Cable is reserved for data transfer. In addition to colour coding, distinct connectors ensure cables are not connected to the wrong terminals.

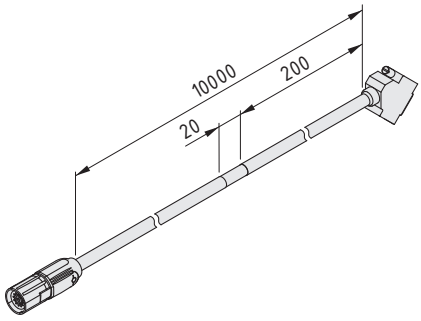
All cables are available in standard lengths of 5 and 10 metres. Data Cables feature EMC shielding. When selecting Power Cables, it is important to choose the correct type of cable for the load involved. The connectors make the separate types of cable unmistakeable and ensure they are not connected to the wrong terminal.

Note: If you use item MotionDesigner® to configure a turnkey system, the software automatically selects the right Cable.



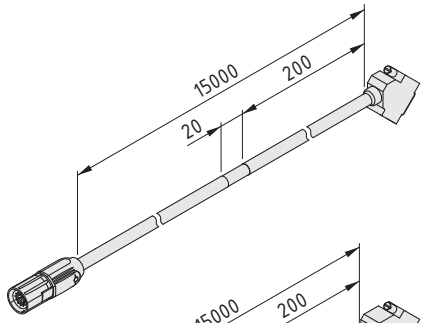
Data Cable RSC /5		
Cable length	5 m	
Smallest possible bend radius (when fixed in place)	30 mm	
Smallest possible bend radius (repeated movement)	63 mm	
m = 587.0 g		
green, 1 pce.		0.0.670.27

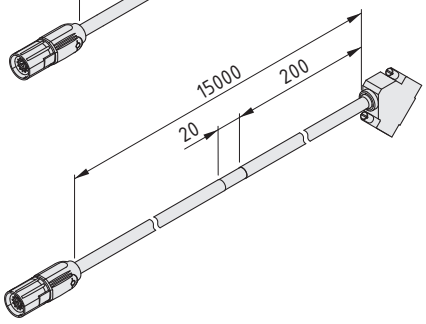
Data Cable AKSC/5		
Cable length	5 m	
Smallest possible bend radius (when fixed in place)	45 mm	
Smallest possible bend radius (repeated movement)	93 mm	
m = 682.0 g		
green, 1 pce.		0.0.688.53



Data Cable RSC /10		
Cable length	10 m	
Smallest possible bend radius (when fixed in place)	30 mm	
Smallest possible bend radius (repeated movement)	63 mm	
m = 1.1 kg		
green, 1 pce.		0.0.671.89

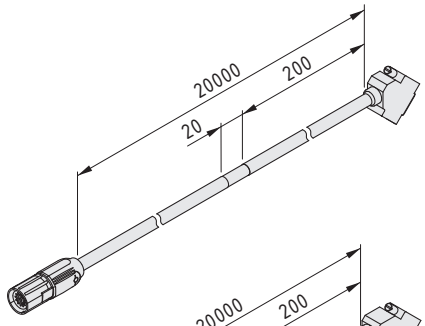
Data Cable AKSC/10		
Cable length	10 m	
Smallest possible bend radius (when fixed in place)	45 mm	
Smallest possible bend radius (repeated movement)	93 mm	
m = 1.3 kg		
green, 1 pce.		0.0.688.54

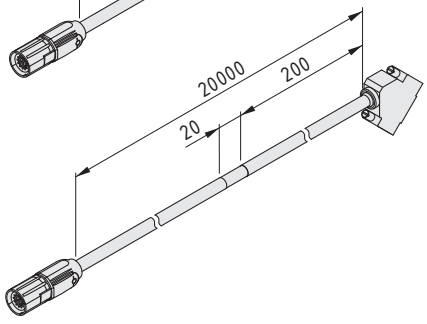




Data Cable RSC /15		
Cable length	15 m	
Smallest possible bend radius (when fixed in place)	30 mm	
Smallest possible bend radius (repeated movement)	63 mm	
m = 1.6 kg		
green, 1 pce.		0.0.691.38

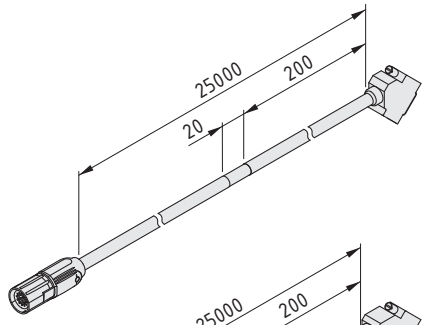
Data Cable AKSC/15		
Cable length	15 m	
Smallest possible bend radius (when fixed in place)	45 mm	
Smallest possible bend radius (repeated movement)	93 mm	
m = 1.7 kg		
green, 1 pce.		0.0.691.41

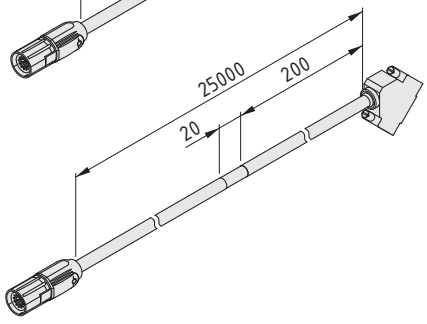




Data Cable RSC /20		
Cable length	20 m	
Smallest possible bend radius (when fixed in place)	30 mm	
Smallest possible bend radius (repeated movement)	63 mm	
m = 2.2 kg		
green, 1 pce.		0.0.691.39

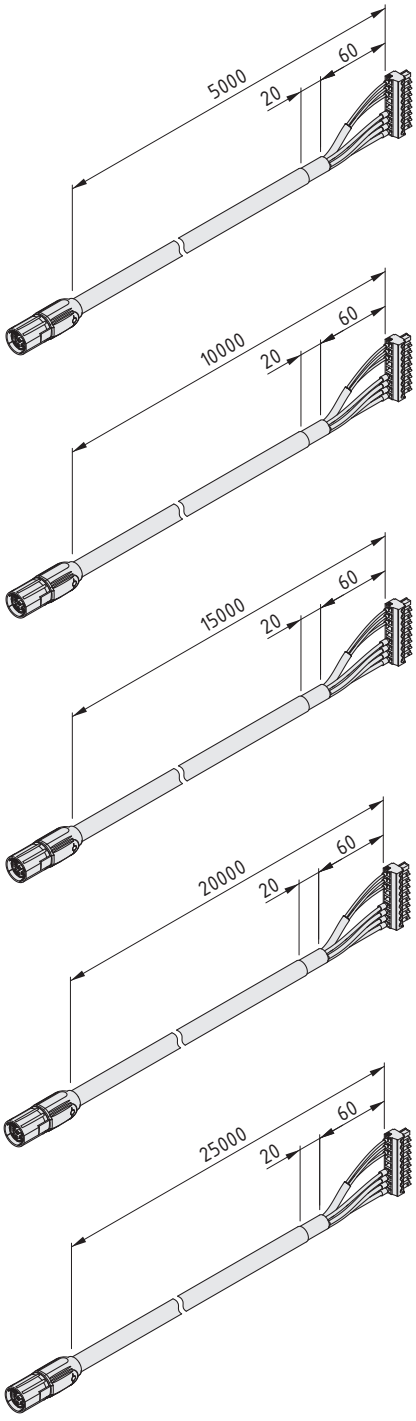
Data Cable AKSC/20		
Cable length	20 m	
Smallest possible bend radius (when fixed in place)	45 mm	
Smallest possible bend radius (repeated movement)	93 mm	
m = 2.3 kg		
green, 1 pce.		0.0.691.42





Data Cable RSC /25		
Cable length	25 m	
Smallest possible bend radius (when fixed in place)	30 mm	
Smallest possible bend radius (repeated movement)	63 mm	
m = 2.7 kg		
green, 1 pce.		0.0.691.40

Data Cable AKSC/25		
Cable length	25 m	
Smallest possible bend radius (when fixed in place)	45 mm	
Smallest possible bend radius (repeated movement)	93 mm	
m = 2.9 kg		
green, 1 pce.		0.0.691.43



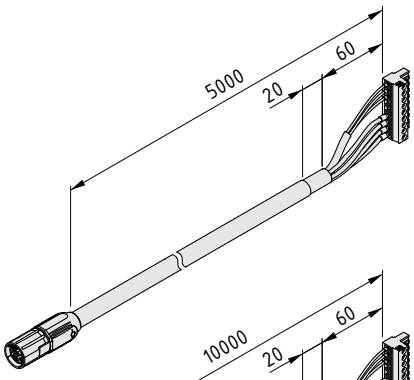
Power Cable SC1 05 /5		
Cable length	5 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 965.0 g		
orange, 1 pce.		0.0.670.28

Power Cable SC1 05 /10		
Cable length	10 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 1.9 kg		
orange, 1 pce.		0.0.671.90

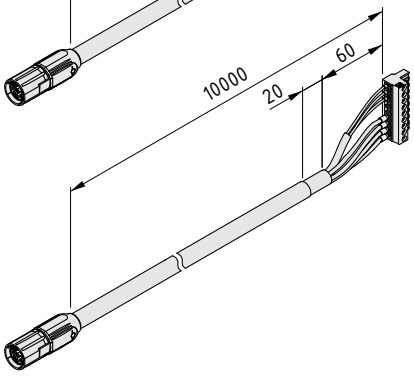
Power Cable SC1 05 /15		
Cable length	15 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 2.8 kg		
orange, 1 pce.		0.0.691.35

Power Cable SC1 05 /20		
Cable length	20 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 3.7 kg		
orange, 1 pce.		0.0.691.36

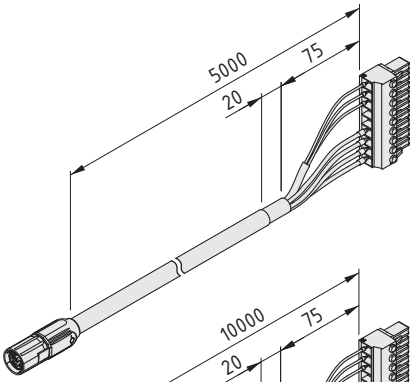
Power Cable SC1 05 /25		
Cable length	25 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 4.6 kg		
orange, 1 pce.		0.0.691.37



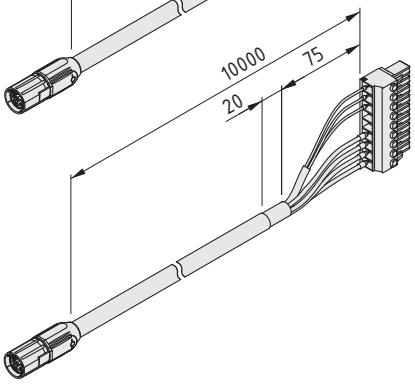
Power Cable SC1 08 /5		
Cable length	5 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 970.0 g		
orange, 1 pce.		0.0.670.29



Power Cable SC1 08 /10		
Cable length	10 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 1.9 kg		
orange, 1 pce.		0.0.671.91



Power Cable SC3 10 /5		
Cable length	5 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 992.0 g		
orange, 1 pce.		0.0.670.30

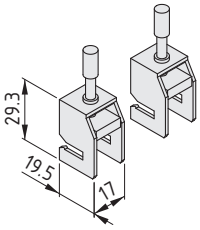


Power Cable SC3 10 /10		
Cable length	10 m	
Smallest possible bend radius (when fixed in place)	46 mm	
Smallest possible bend radius (repeated movement)	87 mm	
m = 1.9 kg		
orange, 1 pce.		0.0.671.92

Shield terminal block D14

- Efficient EMC shielding
- Enables fault-free operation

Interference at exposed connections is a frequent cause of errors. Shield Terminal Block D14 ensures data is transferred correctly and thus safeguards fault-free operation.

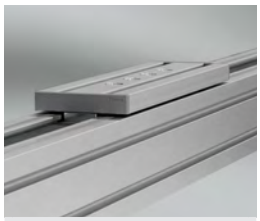


Shield Clamp D14	
m = 40.0 g	
bright zinc-plated, 1 set	0.0.668.19

Accessories for Linear Units

Accessories from item are fully compatible add-on elements for item Linear Units. They can be used to adapt the functionality of a Linear Unit precisely to a specific application. They also include useful maintenance products that will help you ensure your item Linear Unit continues to provide outstanding performance long into the future.

Products in this section



Carriage Plates and Transverse Carriage Plates KLE

- Simple means of connecting applications
- Also suitable for strong multi-axis systems

126

Slide Stop LRE 8

- Robust stop made from aluminium
- Also suitable for retrofitting

128

Proximity Switches

- Inductive proximity detection
- For building customised solutions

129

Proximity Switch Sets

- Inductive proximity detection
- All components in one set

132

I/O Interface Module (C Series)

- Freely assignable D-Sub 25 connector
- Custom connection for sensors etc.

134

Pin Spanners

- For adjusting bearing units
- For roller guides and C-Rail Guides

135

Track Oil / Oil Can for Linear Guides

- Increase the service life of linear guides
- High-quality, fully synthetic oils

136

Carriage Plates and Transverse Carriage Plates KLE

- Compatible with Linear Units KLE
- Profile grooves provide universal fastening options
- Fastening for cross members and grippers

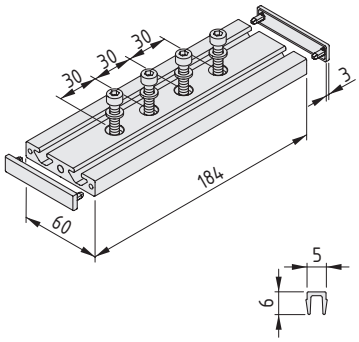
6 8 Line

A secure hold for all superstructures. Standardised Carriage Plates KLE feature all the fastening holes and elements needed to secure attachments to the carriages of item Linear Units KLE.

Profiles X 6 60x12 (0.0.609.32) and X 8 80x16 (0.0.609.34) with matching Caps are available for constructing carriage plates in custom lengths.

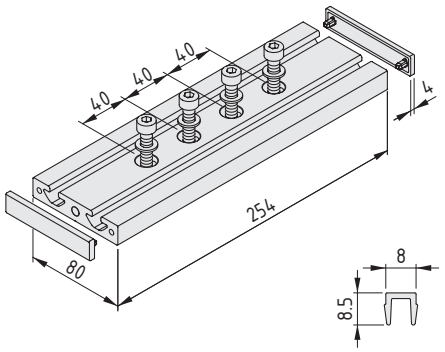
Transverse Carriage Plates KLE significantly speed up the process of designing, building and commissioning multi-axis systems based on Linear Unit KLE. Only a small number of components is needed to design a secure and robust complete system.

The Transverse Carriage Plate is screwed to the guide carriage of Linear Unit KLE. The second Linear Unit is attached at a right-angle to the direction of travel on the primary Linear Unit. The large supporting surface area ensures a torsion-resistant connection. Models with suitable modular dimensions can be used as a second Linear Unit.



Carriage Plate KLE 6 60x60	6
Profile X 6 60x12, Al natural 2 Caps X 6 60x12, PA-GF, grey 4 Hexagon Socket Head Cap Screws DIN 912-M6x25, St, bright zinc-plated 4 Washers DIN 433 6.4, St, bright zinc-plated m = 275.0 g	
1 set	0.0.609.25

Cover Profile 6 LE	6
PP/TPE m = 13.0 g/m	
grey similar to RAL 7042, 1 pce., length 2000 mm	0.0.603.88
grey similar to RAL 7042, cut-off max. 2000 mm	0.0.605.10



Carriage Plate KLE 8 80x80

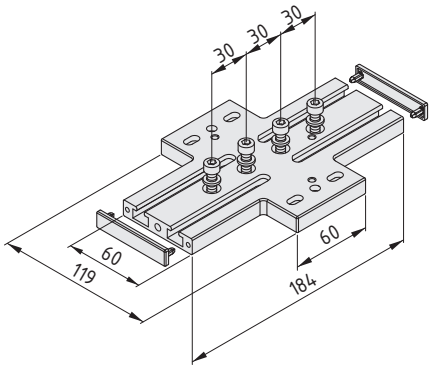
Profile X 8 80x16, Al natural
2 Caps 8 80x16, PA-GF, grey
4 Hexagon Socket Head Cap Screws DIN 912-M8x30, St, bright zinc-plated
4 Washers DIN 433 8.4, St, bright zinc-plated
m = 675.0 g

1 set	0.0.609.24

Cover Profile 8 LE

PP/TPE
m = 28.5 g/m

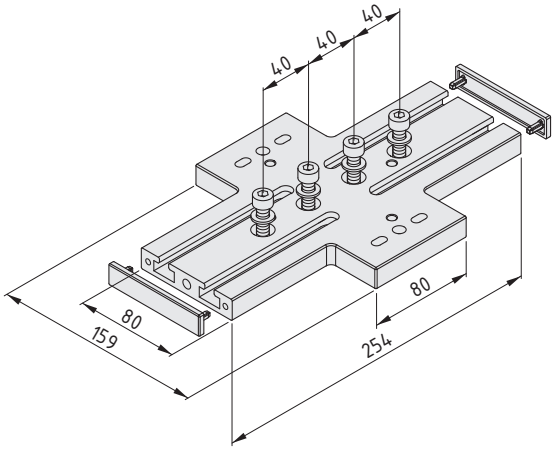
grey similar to RAL 7042, 1 pce., length 2000 mm	0.0.600.54
grey similar to RAL 7042, cut-off max. 2000 mm	0.0.605.05



Transverse Carriage Plate KLE 6 60x60

1 Transverse Carriage Plate KLE 6 60x60, Al
2 Caps X 6 60x12, PA-GF, grey
4 Hexagon Socket Head Cap Screws DIN 912-M6x25, St, bright zinc-plated
4 washers DIN 433-6.4, St, bright zinc-plated
m = 367.4 g

1 set	0.0.692.19



Transverse Carriage Plate KLE 8 80x80

1 Transverse Carriage Plate KLE 8 80x80, Al
2 Caps X 8 80x16, PA-GF, grey
4 Hexagon Socket Head Cap Screws DIN 912-M8x30, St, bright zinc-plated
4 washers DIN 433-8.4, St, bright zinc-plated
m = 931.2 g

1 set	0.0.692.61

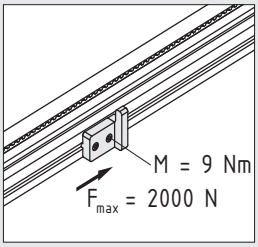
Slide Stop LRE 8

- Robust stop made from aluminium
- Simple to install

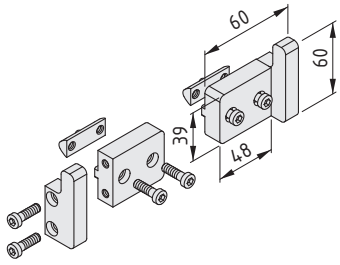
Keep everything on track! Sturdy Slide Stop LRE 8 stops the carriage of a Linear Unit from overshooting the calculated or desired point. The aluminium travel limiter delivers added safety.

Slide Stop LRE 8 can be easily secured – and even retrofitted – to the Line 8 groove of a Linear Unit LRE. Thanks to its special shape, the Slide Stop can be used with shafts in various diameters and fitted at any position, making it a universal solution.

Note: When configured using item MotionDesigner®, most LRE-type Linear Units from item are automatically fitted with a Slide Stop that can be moved to a different position or removed entirely, as required. Some models, such as Linear Units KLE are designed in such a way that an additional Slide Stop is unnecessary.



Max. load



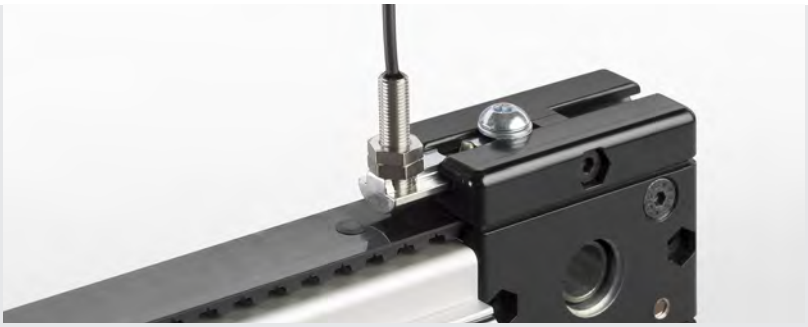
Slide Stop LRE 8	
2 carriers, Al 2 stops, Al 2 T-Slot Nuts 8 St 2xM6-36 8 Hexagon Socket Head Cap Screws DIN 6912-M6x20 m = 283.0 g	
1 set	0.0.686.50

Proximity Switch

- Inductive proximity switch for added safety in linear drives
- Installed in Line 8 groove (Proximity Switch 8)
- Installed in Timing-Belt Reverse Unit (Proximity Switch M8)

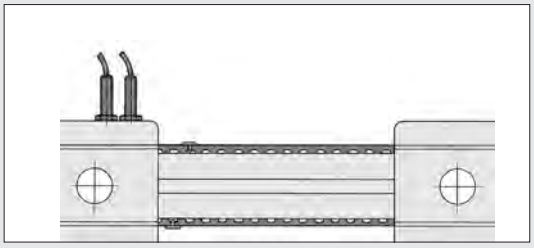
Proximity Switch M8 is a versatile device for limiting the terminal position or for reference on Linear Units with timing-belt drives. It is available with a permanent or plug-in connecting cable.

The Proximity-Switch Cam is used to mark the terminal position and/or the reference point of the unit on the Timing Belt.

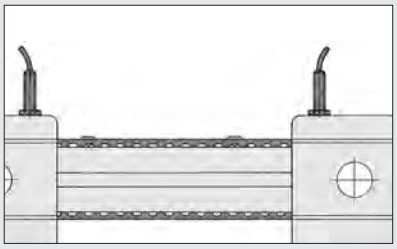


The Proximity-Switch Fastening Set is used to position and attach inductive Proximity Switches M8 on the Timing-Belt Reverse Units.

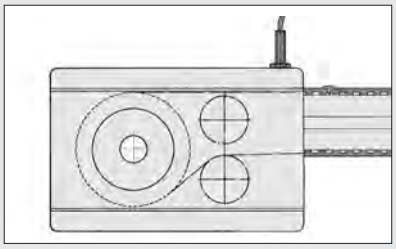
Proximity-Switch Connecting Cable in plug-in design with integrated LEDs for displaying the switch function and operating voltage.



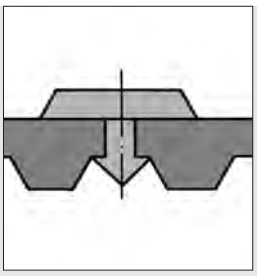
Possible arrangement of Proximity Switches 8 and Proximity-Switch Cams 8:
The Proximity-Switch Cams run through the Timing-Belt Reverse Units.
Particularly suitable when used with the drive end Timing Belt Reverse Unit for simplifying cable routing between the drive unit, Proximity Switch and motor control unit.



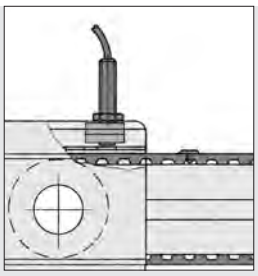
Possible arrangement of Proximity Switches 8 and Proximity-Switch Cams 8:
The Proximity-Switch Cams do not run through the Timing-Belt Reverse Units.

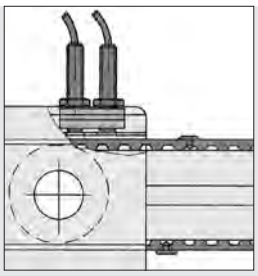


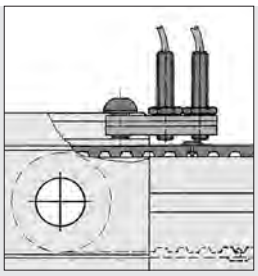
When using a system that reverses the timing belt via contact with its flat side (Timing-Belt Counter-Reverse Unit 8 R25/ Timing-Belt Reverse Unit 8 80 R25 with emergence 40 mm), Proximity-Switch Cams 8 must not pass through the Timing-Belt Reverse Units. In this case, Proximity Switches 8 and Proximity-Switch Cams 8 must be positioned to prevent this from happening.



Proximity-Switch Cam 8 is pressed into the flat side of the Timing Belt at the required positions.

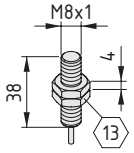






Options for installing Proximity Switches 8 using the Proximity-Switch Fastening Set. Depending on the application, the Proximity-Switch Fastening Set must be shortened accordingly.

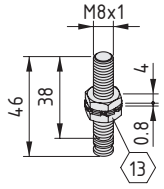
Proximity Switch 8 is particularly suitable in conjunction with Timing-Belt Reverse Units 8 or Timing-Belt Counter-Reverse Unit 8, Proximity-Switch Fastening Set 8 and Proximity-Switch Cams 8. Timing-Belt Reverse Units 8 are provided with openings for the Proximity Switch at appropriate points in order to ensure compact installation.



Proximity Switch M8

St, stainless
Inductive Proximity Switch, positive switching, suitable for installation in thread M8x1
Voltage = 10...30 V DC
Max. switching current = 200 mA
Sensing range = 1.5 mm
LED control display
Connecting cable, black l = 3 m; d = 3.5 mm
m = 54.0 g

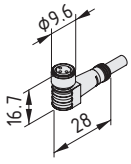
1 pce.	0.0.337.14



Proximity Switch M8, Plug Connection

St, stainless
Inductive Proximity Switch, positive switching, suitable for installation in thread M8x1
Voltage = 10...30 V DC
Max. switching current = 200 mA
Sensing range = 1.5 mm
LED control display
m = 16.0 g

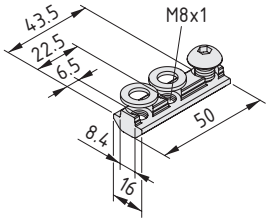
1 pce.	0.3.001.24



Proximity-Switch Connecting Cable

Outer sheath PUR, grey
Structure Lif9YH11YH, 3x0.25 mm²
Plug: integrated 3-pole plug with metal collar M8x1
Cable inlet angled by 90°
LED control display: Green = Operating display, Yellow/orange = Switch function display
Connecting cable l = 5 m; d = 4.0 mm
m = 144.0 g

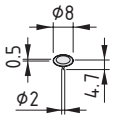
1 pce.	0.3.001.25



Proximity-Switch Fastening Set 8

St
2 washers DIN 433 8.4, St, bright zinc-plated
Button-Head Screw ISO 7380 M8x10, St, bright zinc-pl.
m = 37.0 g

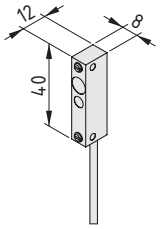
1 set	0.0.337.31



Proximity-Switch Cam 8

St
m = 0.2 g

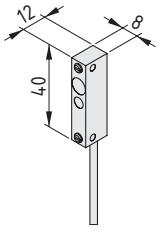
black, 1 pce.	0.0.337.15



Proximity Switch 8 - 1NC

Inductive Proximity Switch, positive switching
Casing Al, anodized, natural
Fixing mechanism, fixing screws
Voltage = 10...30 V DC
Switching current$_{max}$ = 150 mA
Sensing range = 2 mm
Cable, grey l = 3 m ; d = 3 mm
m = 51.0 g

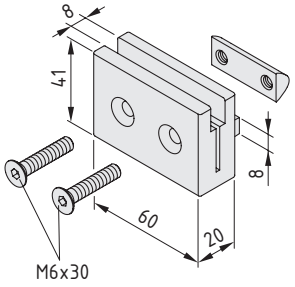
1 pce.	0.0.600.05



Proximity Switch 8 - 1NO

Inductive Proximity Switch, positive switching
Casing Al, anodized, natural
Fixing mechanism, fixing screws
Voltage = 10...30 V DC
Switching current$_{max}$ = 150 mA
Sensing range = 2 mm
Cable, grey l = 3 m ; d = 3 mm
m = 51.0 g

1 pce.	0.3.001.30

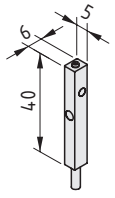


Limit-Switch Holder KRF 8

Holder, Al, natural
2 Countersunk Screws DIN 7991-M6x30, St, bright zinc-plated
T-Slot Nut 8 St 2xM6-36
m = 120.0 g

1 pce.	0.0.626.55

The following applies to all the products below:
Inductive proximity switch, positive switching
Housing Al, anodized, natural
Fixing mechanism, fixing screws
Voltage = 10...30 V DC
Switching current$_{max.}$ = 150 mA
Operating distance = 2 mm
Cable, grey, l = 10 m; d = 3 mm



Proximity Switch KLE 6 60x60 - 1NO

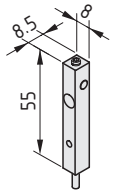
m = 125.0 g

1 pce.	0.0.609.31

Proximity Switch KLE 6 60x60 - 1NC

m = 125.0 g

1 pce.	0.0.604.41



Proximity Switch KLE 8 80x80 - 1NO

m = 125.0 g

1 pce.	0.0.609.30

Proximity Switch KLE 8 80x80 - 1NC

m = 125.0 g

1 pce.	0.0.600.59

Proximity Switch Sets

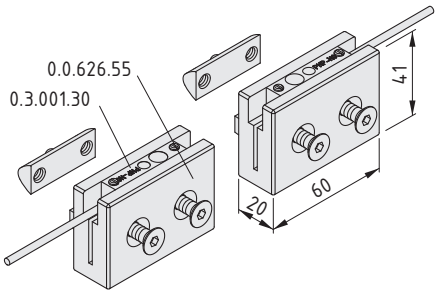
- Inductive proximity detection
- Compatible with item Linear Units
- All the parts you need in one package

8

Always know your limits! item Proximity Switches are used for homing and for identifying the end positions on Linear Units. They are inductive devices and send their signals to the Controller via a connecting cable.

The exact combination of components varies according to the model in use and where it is installed. Proximity Switch Sets contain all the components needed for Linear Units KRF, LRE and KGT. When placing an order, please note that some Proximity Switches are available in NO (normally open) and NC (normally closed) versions.

Note: item MotionSoft® commissioning software supports the use of Proximity Switches with item Controllers to ensure systems can be set up very quickly.



Proximity Switch Set KRF NO

8

2 Limit-Switch Holders 8 KRF
2 Proximity Switches 8 - 1NO
Inductive Proximity Switch, positive switching
Casing Al, anodized, natural
Fixing mechanism, fixing screws
Voltage = 10...30 V DC
Switching current$_{max}$ = 150 mA
Sensing range = 2 mm
Cable, grey l = 3 m ; d = 3 mm
m = 384.0 g

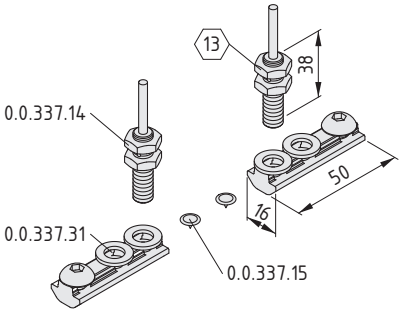
1 pce.	0.0.688.08

Proximity Switch Set KRF NC

8

2 Limit-Switch Holders 8 KRF
2 Proximity Switches 8 - 1NC
Inductive Proximity Switch, positive switching
Casing Al, anodized, natural
Fixing mechanism, fixing screws
Voltage = 10...30 V DC
Switching current$_{max}$ = 150 mA
Sensing range = 2 mm
Cable, grey l = 3 m ; d = 3 mm
m = 384.0 g

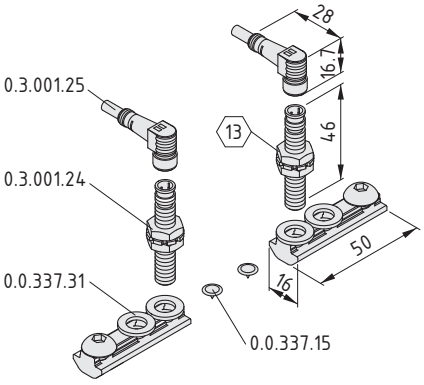
1 pce.	0.0.688.09



Proximity Switch Set LRE NO

2 Proximity Switch fixings 8
2 Proximity Switches M8
2 connecting cables, l = 3 m, d = 3.5 mm
2 Proximity-Switch Cams
Inductive Proximity Switch, positive switching,
suitable for installation in thread M8x1
Voltage = 10...30 V DC
Max. switching current = 200 mA
Sensing range = 1.5 mm
LED control display
m = 191.0 g

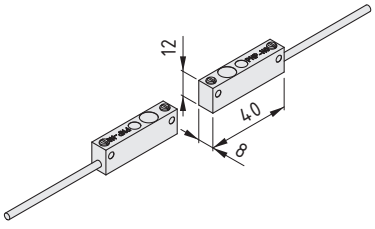
1 pce. 0.0.688.11



Proximity Switch Set LRE NO, plug-in

2 Proximity Switch fixings 8
2 Proximity Switches M8, plug-in
2 Proximity-Switch Connecting Cables, l = 5 m, d = 4 mm
2 Proximity-Switch Cams
Inductive Proximity Switch, positive switching,
suitable for installation in thread M8x1
Voltage = 10...30 V DC
Max. switching current = 200 mA
Sensing range = 1.5 mm
LED control display
m = 405.0 g

1 pce. 0.0.688.10



Proximity Switch Set KGT NO

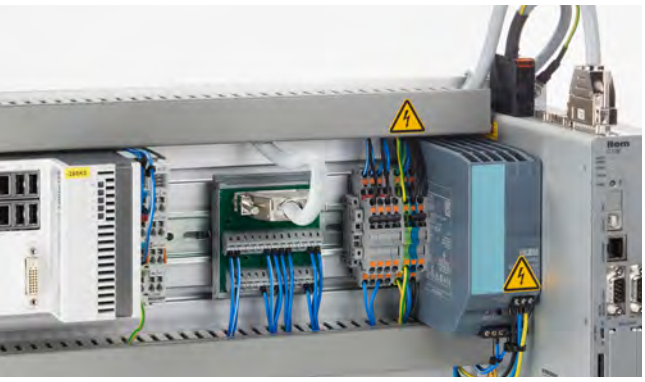
2 Proximity Switches 8 - 1NO
Inductive Proximity Switch, positive switching
Casing Al, anodized, natural
Fixing mechanism, fixing screws
Voltage = 10...30 V DC
Switching current$_{max}$ = 150 mA
Sensing range = 2 mm
Cable, grey l = 3 m ; d = 3 mm
m = 110.0 g

1 pce. 0.0.688.12

Proximity Switch Set KGT NC

2 Proximity Switches 8 - 1NC
Inductive Proximity Switch, positive switching
Casing Al, anodized, natural
Fixing mechanism, fixing screws
Voltage = 10...30 V DC
Switching current$_{max}$ = 150 mA
Sensing range = 2 mm
Cable, grey l = 3 m ; d = 3 mm
m = 110.0 g

1 pce. 0.0.688.13



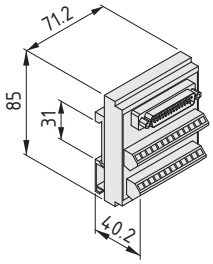
I/O Interface Module (C Series)
I/O Cable (C Series)

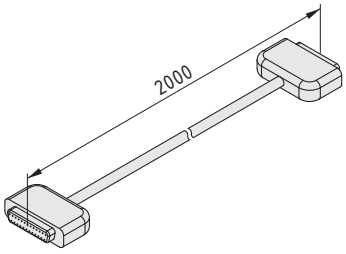
- Freely assignable D-Sub 25 connector
- Perfect cable connection
- Compatible with item Controllers

Communication made easy! All item C Series Controllers feature a standardised D-Sub 25 connection (DB-25). I/O Interface Module (C Series) can be used to combine signals from sensors etc. and easily link them up to the digital inputs and outputs of the item Controllers.

The industry-standard Interface Module is mounted on the support rail of an enclosure. Single-wire and fine-stranded conductors can be inserted into the terminal connections and the clear marking of the mounting base speeds up wiring work.

The I/O Interface Module (C Series) incorporates an integrated D-Sub 25 mating connector and is connected to the item Controller using a shielded I/O Cable (C Series). The end result is the flexibility to design a custom solution that slots perfectly into place.





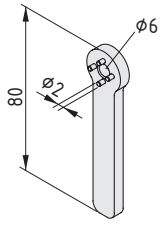
I/O Interface Module (C Series)	
D-Sub 25 (pin header) Singe-wire and fine-stranded conductors 0.08 ... 2.5 mm² accommodated Mounting type: Support rail 35 IP20 protection m = 82.0 g	
1 pce.	0.0.688.62

I/O Cable (C Series)	
D-Sub 25 connection Number of poles: 25 Cable length: 2 m m = 372.0 g	
1 pce.	0.0.689.27

Pin Spanners

- For adjusting the eccentrics on roller guides and C-Rail Guides

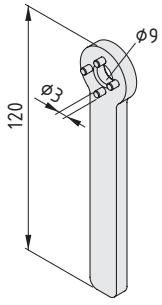
For tightening lock nuts in the Bearing Units of Roller Guides 5 D6, 8 D10, 8 D14 and 8 D25.



Pin Spanner 5 D6, 8 D10

St
m = 40.0 g

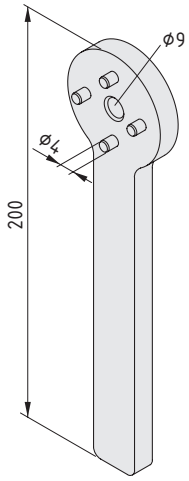
black, 1 pce.	0.0.390.13



Pin Spanner 8 D14

St
m = 90.0 g

black, 1 pce.	0.0.294.41



Pin Spanner 8 D25

St
m = 430.0 g

black, 1 pce.	0.0.350.30

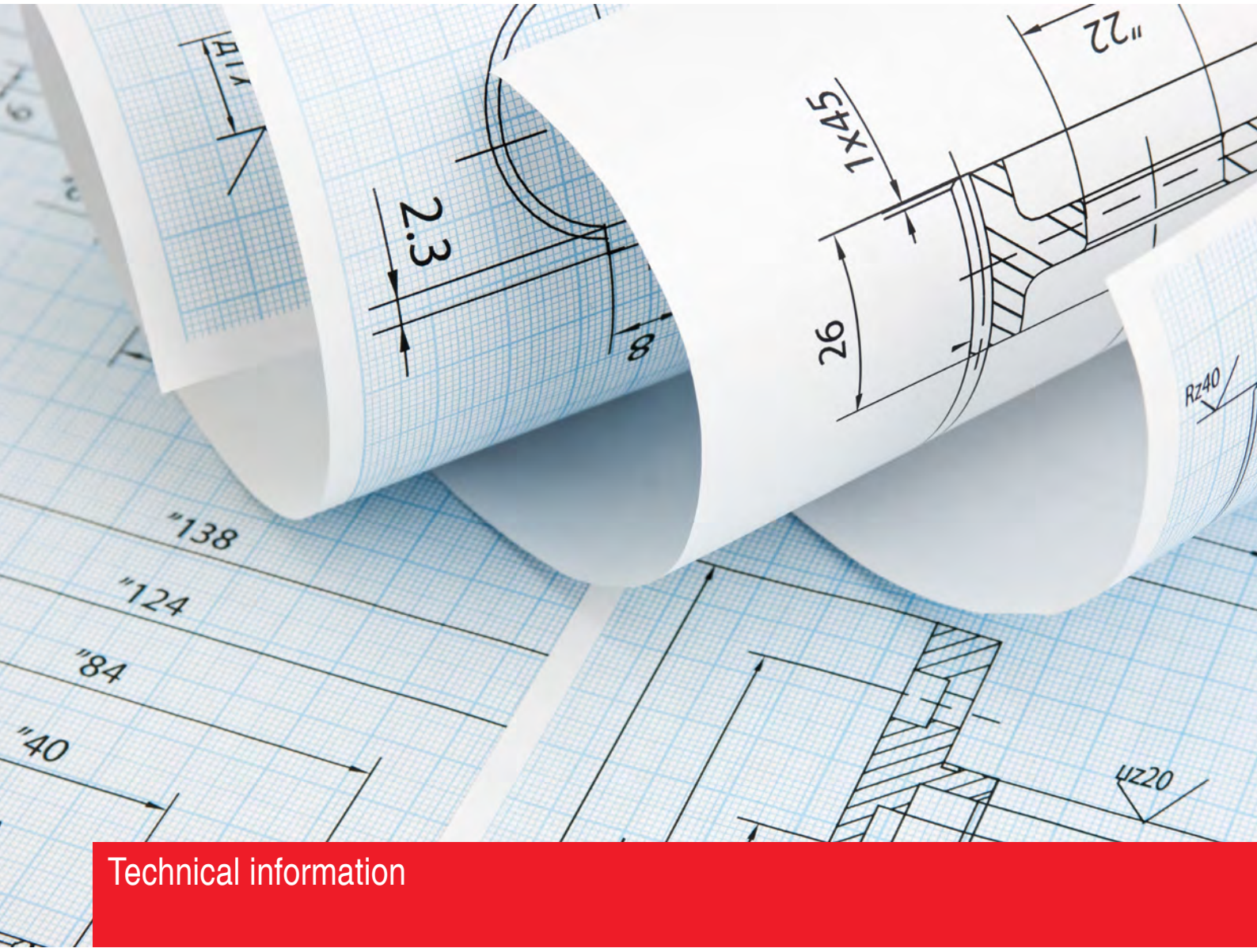
Track Oil for Linear Guides
Oil Can for Linear Guides

- High-quality oils increase the service life of linear slides
- Ideal for product maintenance and care

The special Track Oil for Linear Guides is entirely synthetic and approved for contact with foodstuffs. It is used to maintain oil-lubricated guide tracks.

Track Oil for Linear Guides	
Synthetic lubrication oil ISO VG 460 Contents: 250 ml (bottle) m = 285.0 g	
1 pce.	0.0.612.75

Oil Can for Linear Guides	
Pump-action oil dispenser Al with pointed tip Contents: 200 ml m = 600.0 g	
1 pce.	0.0.612.74



Technical information

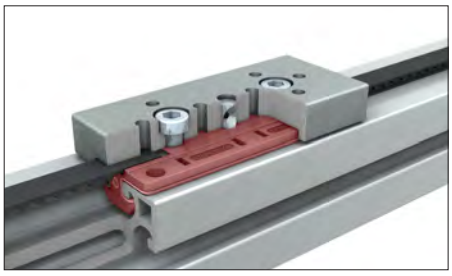
The details at a glance:
The following pages contain all the facts and figures you need about service life, load-carrying capacity, technical features, etc. To make it easier to find the data you need, we have also summarised the most important details on the information pages for the Linear Units.

Nomenclature

Nomenclature guide for Linear Units

GSF variant – T-slot slider with timing-belt drive

Linear Unit	Guide technology	Line	Support profile cross-section	Timing-belt type
Linear Unit	GSF	8	40	R10
		GSF = T-slot slider		R10 = Belt width 10 mm



KLE variant – Internal roller guide with timing-belt drive

Linear Unit	Designation	Line	Support profile cross-section (H x W)	Guide technology
Linear Unit	KLE	6	60x60	LR
(Example)		KLE = Compact Linear Unit		LR = Roller element

KRF variant – Criss-crossed roller guide with timing-belt drive

Linear Unit	Guide tech-nology	Line	Support profile cross-section (H x W)	Drive	Drive side
Linear Unit	KRF	8	80x40	ZR	Left
(Example)		KRF = Criss-crossed roller guide			ZR = Timing belt

LRE variant – External roller guide with various drives

Linear Unit	Guide technology	Line	Guiding shaft diameter	Support profile cross-section (H x W)	Drive	Dimension of drive
Linear Unit	LRE	5	D6	60x20	ZU	40 R10
(Example)			LRE = Rolling element unit		ZU = Timing-belt reverse unit	

Linear Unit	Designation (T-slot slider – GSF)	Line	Support profile cross-section	Drive
Timing-belt drive				
Linear Unit	GSF	8	40	R10

Linear Unit	Designation (compact Linear Unit – KLE)	Line	Support profile cross-section (height x width)	Guide technology (roller guide)
Timing-belt drive				
Linear Unit	KLE	6	60x60	LR
Linear Unit	KLE	8	80x80	LR

Linear Unit	Designation (criss-crossed roller guide – KRF)	Line	Support profile cross-section (height x width)	Drive	Drive side
Timing-belt drive					
Linear Unit	KRF	8	80x40	ZR	Left
Linear Unit	KRF	8	80x40	ZR	Right
Linear Unit	KRF	8	80x40	ZR	Synchronous

Linear Unit	Designation (roller guide – LRE)	Line	Guiding shaft diameter	Support profile cross-section (height x width)	Drive	Dimension of drive
Timing-belt drive						
Linear Unit	LRE	5	D6	60x20	ZU	40 R10
Linear Unit	LRE	8	D10	80x40	ZU	40 R25
Linear Unit	LRE	8	D10	80x80	ZU	40 R25
Linear Unit	LRE	8	D14	80x40	ZU	40 R25
Linear Unit	LRE	8	D14	80x40	ZU	80 R25
Linear Unit	LRE	8	D14	80x80	ZU	40 R25
Linear Unit	LRE	8	D14	80x80	ZU	80 R25
Linear Unit	LRE	8	D14	120x80	ZU	40 R25
Linear Unit	LRE	8	D14	120x80	ZU	80 R25
Linear Unit	LRE	8	D25	120x80	ZU	80 R25
Linear Unit	LRE	8	D25	120x80	ZU	80 R50
Linear Unit	LRE	8	D25	200x80	ZU	80 R25
Linear Unit	LRE	8	D25	200x80	ZU	80 R50
Ball screw drive						
Linear Unit	LRE	8	D10	80x80	KGT	20x5
Linear Unit	LRE	8	D10	80x80	KGT	20x20
Linear Unit	LRE	8	D14	80x80	KGT	20x5
Linear Unit	LRE	8	D14	80x80	KGT	20x20
Chain drive						
Linear Unit	LRE	8	D14	80x40	KU	80
Rack drive						
Linear Unit	LRE	8	D10	80x40	ZS K	
Linear Unit	LRE	8	D14	80x40	ZS	

ZR = Timing Belt ZU = Timing-Belt Reverse Unit KGT = Ball Screw Unit KU = Chain Reverse Unit ZS = Rack ZS K = Rack, plastic

Nomenclature for plug 'n' play Drive Sets

Drive Set	Linear Unit	Drive type	Drive size
Drive Set	GSF 8 40	AP/WP	40
Drive Set	KLE 6 60x60	AP/WP	40
Drive Set	KLE 6 60x60	AP/WP	60
Drive Set	KLE 8 80x80	AP/WP	60
Drive Set	KLE 8 80x80	AP/WP	80
Drive Set	KRF 8 ZR	AP/WP	60
Drive Set	KRF 8 ZR	AP/WP	80
Drive Set	ZU 5 40 D30/D12	AP/WP	40
Drive Set	ZU 8 80 D55/D34	AP/WP	60
Drive Set	ZU 8 80 D55/D34	AP/WP	80
Drive Set	ZU 8 80 D80/D34	AP/WP	80
Drive Set	8 D40/D15	AP/WP	60
Drive Set	KGT D40/D15	SE	60
Drive Set	KGT D40/D15	SE	80
Drive Set	Rack 8	AP/WP	60
Drive Set	Rack 8	AP/WP	80

SE = Servomotor WP = Bevel planetary Gearbox AP = Axial planetary Gearbox

Nomenclature for Gearboxes

Name	Type	Size	Gear ratio [1 : n]
Gearbox	AP	40	3
			5
			7
		60	3
			5
			7
			16
	WP	80	3
			5
			7

WP = Bevel planetary Gearbox AP = Axial planetary Gearbox

Name	Type	Size [mm]	Stall torque [Nm]	DC bus circuit voltage	Speed [1/100]	Encoder		Brake
Motor	SE	40	0.35	3 (320 V)	90	R	AK	B
		60	1.50	3 (320 V)	60			
		80	3.50	5 (560 V)	55			

SE = Servomotor R = Resolver AK = Absolute encoder, capacitive B = Brake

Nomenclature for Controllers

Name	Type	Phase	Rated current [A]
Controller	C	1	02
			05
			08
		3	05
			10

C = Controller

Nomenclature for Cables

Name	Length [m]
Data Cable RSC	5
	10
	15
	20
	25

RSC = Resolver servomotor controller

Name	Length [m]
Data Cable AKSC	5
	10
	15
	20
	25

AKSC =Absolute encoder capacitive servomotor controller

Name	Phase	Cable for Controller C1-	Length [m]
Power Cable SC	1	05	5
			10
			15
			20
			25
		08	5
			10

SC = Servomotor controller

Name	Phase	Cable for Controller C3-	Length [m]
Power Cable SC	3	10	5
			10

SC = Servomotor controller

All Linear Units in comparison

Linear Unit	Art. No.	Max. drive torque [Nm]	Max. speed	Max. acceler-ation	Repeat accuracy	Travel distance per revolution [mm]	Frictional moment [Nm]	Efficiency [%]
Linear Unit GSF 8 40 R10	0.0.655.98	3	up to 1 m/s	up to 3 m/s²	up to 0.5 mm	115	0.1	
Linear Unit KLE 6 60x60 LR	0.0.605.07	12	up to 10 m/s	up to 10 m/s²	up to 0.1 mm	155	1	
Linear Unit KLE 8 80x80 LR	0.0.605.02	50	up to 10 m/s	up to 10 m/s²	up to 0.1 mm	210	2.5	
Linear Unit KRF 8 80x40 ZR, right-hand input shaft	0.0.648.66	23	up to 10 m/s	up to 10 m/s²	up to 0.1 mm	145	2	
Linear Unit KRF 8 80x40 ZR, left-hand input shaft	0.0.641.21	23	up to 10 m/s	up to 10 m/s²	up to 0.1 mm	145	2	
Linear Unit KRF 8 80x40 ZR, synchronous drive	0.0.648.69	23	up to 10 m/s	up to 10 m/s²	up to 0.1 mm	145	2	
Linear Unit LRE 5 D6 60x20 ZU 40 R10	0.0.666.89	3.3	up to 5 m/s	up to 10 m/s²	up to 0.15 mm	140	0.2	
Linear Unit LRE 8 D10 80x40 ZU 40 R25	0.0.662.70	20	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	150	0.9	
Linear Unit LRE 8 D10 80x80 ZU 40 R25	0.0.663.32	20	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	150	0.9	
Linear Unit LRE 8 D14 80x40 ZU 40 R25	0.0.662.91	20	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	150	1	
Linear Unit LRE 8 D14 80x40 ZU 80 R25	0.0.663.12	52	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	280	1	
Linear Unit LRE 8 D14 80x80 ZU 40 R25	0.0.663.25	20	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	150	1	
Linear Unit LRE 8 D14 80x80 ZU 80 R25	0.0.663.26	52	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	280	1	
Linear Unit LRE 8 D14 120x80 ZU 40 R25	0.0.663.34	20	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	150	1	
Linear Unit LRE 8 D14 120x80 ZU 80 R25	0.0.663.35	52	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	280	1	
Linear Unit LRE 8 D25 120x80 ZU 80 R25	0.0.663.36	52	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	280	2.3	
Linear Unit LRE 8 D25 120x80 ZU 80 R50	0.0.666.65	92	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	280	3.4	
Linear Unit LRE 8 D25 200x80 ZU 80 R25	0.0.666.53	52	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	280	2.3	
Linear Unit LRE 8 D25 200x80 ZU 80 R50	0.0.666.66	92	up to 10 m/s	up to 10 m/s²	up to 0.15 mm	280	3.4	
Linear Unit LRE 8 D10 80x80 KGT 20x5	0.0.668.12	2	up to 0.25 m/s	up to 5 m/s²	up to 0.05 mm	5		80
Linear Unit LRE 8 D10 80x80 KGT 20x20	0.0.668.10	7.5	up to 1 m/s	up to 5 m/s²	up to 0.05 mm	20		85
Linear Unit LRE 8 D14 80x80 KGT 20x5	0.0.668.06	2	up to 0.25 m/s	up to 5 m/s²	up to 0.05 mm	5		80
Linear Unit LRE 8 D14 80x80 KGT 20x20	0.0.668.08	7.5	up to 1 m/s	up to 5 m/s²	up to 0.05 mm	20		85
Linear Unit LRE 8 D14 80x40 KU 80	0.0.664.54	20	up to 2 m/s	up to 5 m/s²	up to 0.5 mm	203.2	1	
Linear Unit LRE 8 D14 80x40 ZS	0.0.664.28	23	up to 3 m/s	up to 5 m/s²	up to 0.1 mm	144	1	
Linear Unit LRE 8 D10 80x40 ZS K light	0.0.679.91	8	up to 3 m/s	up to 5 m/s²	up to 0.5 mm	144	0.9	

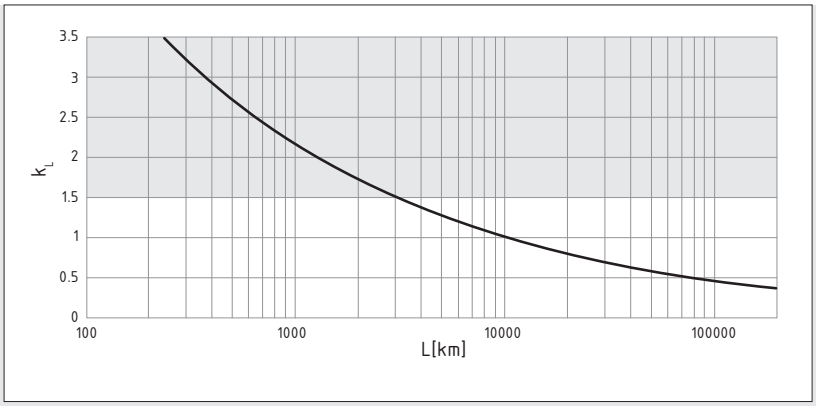
Run length under max. load: 10000 km
(GSF 8 40 R10: 1000 km)

Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]	Fy max [N]	Fz max [N]	Max. stroke [mm]	Mass 0 stroke [kg]	
0.4	2	1.25	150	25	50	3860	1.1	15
20	50	75	500	750	500	5750	4.0	18
50	100	150	1500	1500	1000	5600	9.8	19
50	140	140	1000	2500	2500	5760	5.1	21
50	140	140	1000	2500	2500	5760	5.1	21
50	140	140	1000	2500	2500	5760	5.0	22
4	6	8	150	400	320	2828	1.2	23
22	35	52	870	1300	880	5760	6.7	26
39	35	52	870	1300	880	5760	7.8	27
40	64	96	870	2400	1600	5760	8.4	29
40	64	96	1200	2400	1600	5820	11.7	30
76	64	96	870	2400	1600	5760	9.4	31
76	64	96	1200	2400	1600	5820	12.6	32
76	64	96	870	2400	1600	5760	10.3	33
76	64	96	1200	2400	1600	5820	13.2	34
301	520	760	1200	7600	5200	5620	31.1	36
301	520	760	2100	7600	5200	5620	32.6	37
301	520	760	1200	7600	5200	5620	32.8	38
301	520	760	2100	7600	5200	5620	34.4	39
39	35	52	2000	1300	880	2687	8.3	42
39	35	52	2000	1300	880	2687	8.2	43
76	64	96	2000	2400	1600	2687	10.0	45
76	64	96	2000	2400	1600	2687	10.0	46
40	64	96	620	2400	1600	5760	7.7	48
40	64	96	1000	2400	1600	5678	7.4	53
22	35	52	350	1300	880	5678	5.1	51

Calculating service life

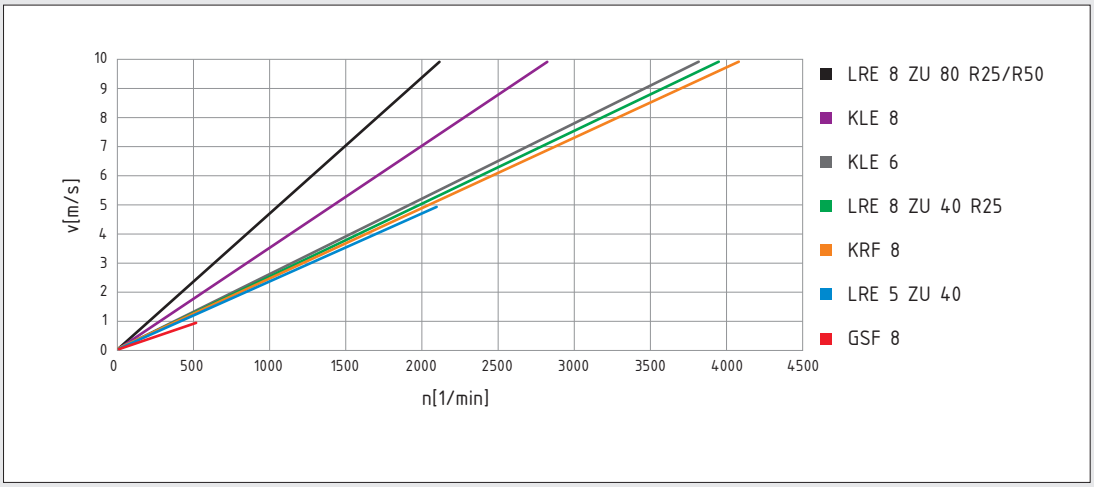
Service life coefficient k_L can be used to calculate the approximate anticipated service life of the guide.

The table below can be used to match values for k_L to an anticipated service life L [km]. Please note that these are theoretical values and that additional operating factors are not included in calculations of this type. For example, if the products are subjected to impact loads or are used in contaminated environments, their anticipated service life can be considerably reduced. Values above 1.5 are not permitted for k_L and are purely theoretical in nature.

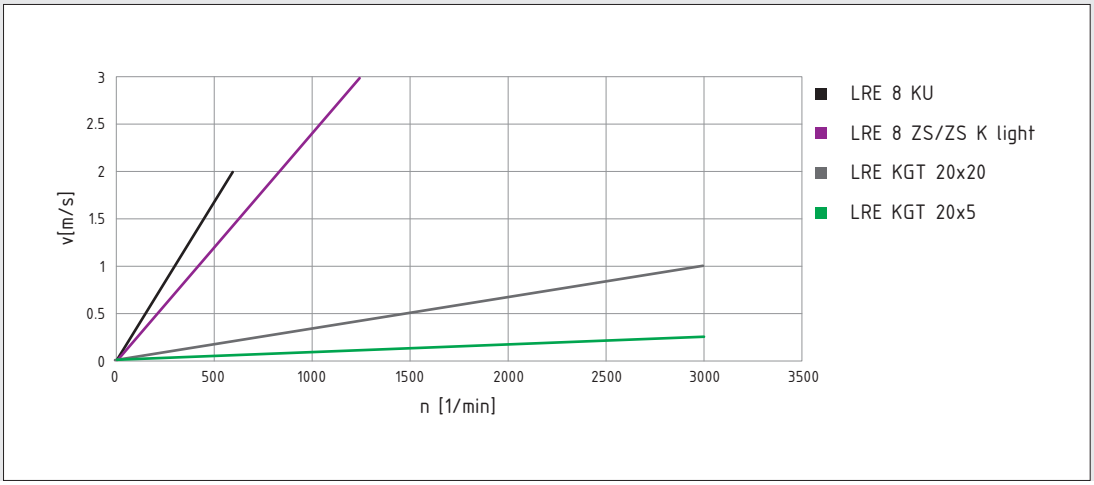


$$k_L = \frac{|M_x|}{M_{x\,max}} + \frac{|M_y|}{M_{y\,max}} + \frac{|M_z|}{M_{z\,max}} + \frac{|F_y|}{F_{y\,max}} + \frac{|F_z|}{F_{z\,max}}$$

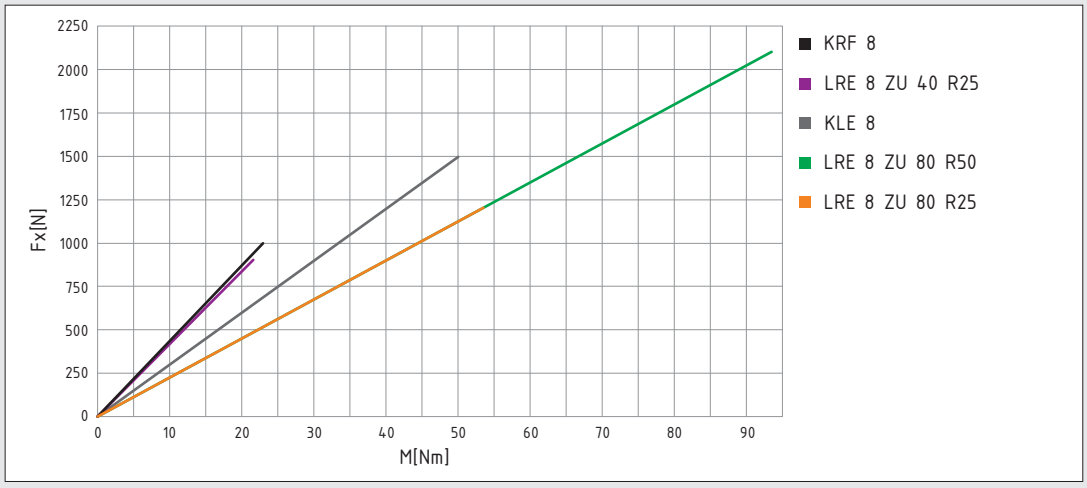
Travel speed v in relation to input speed n (timing-belt drive)



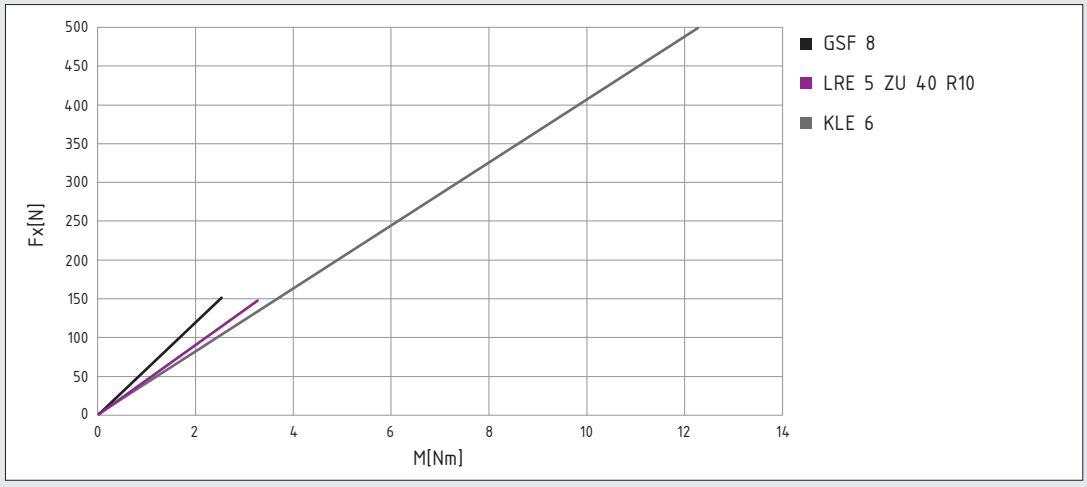
Travel speed v in relation to input speed n (ball screw, chain and rack drives)



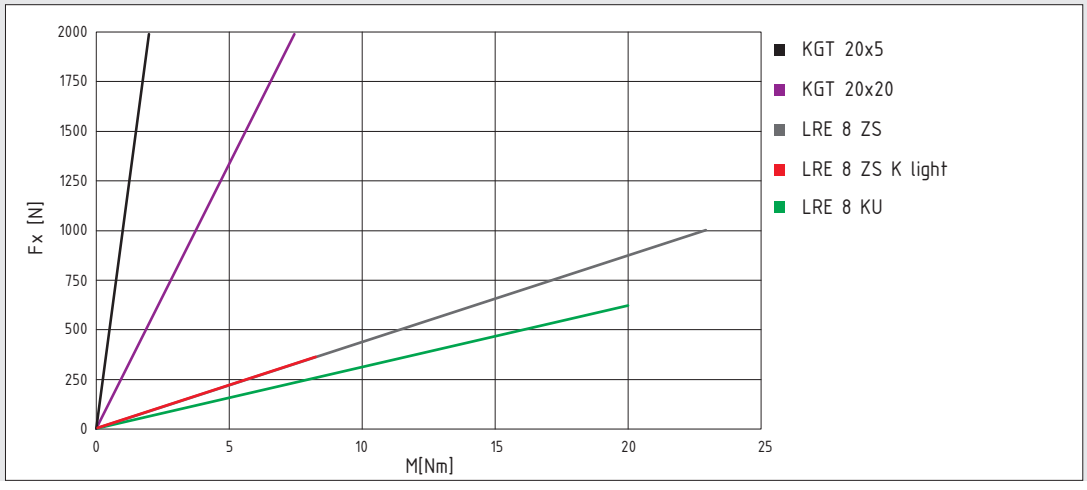
Operational force Fx dependent on input torque M (timing-belt drives Fx > 500N)



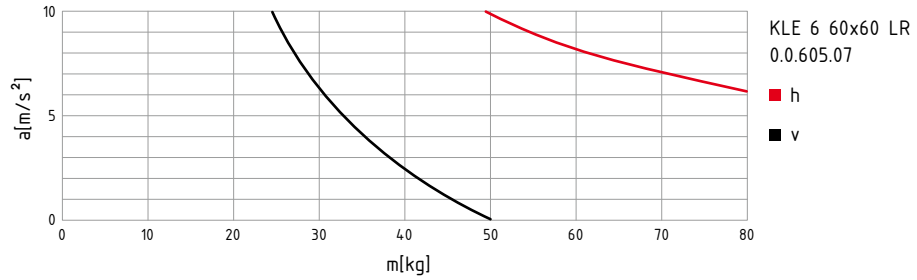
Operational force Fx dependent on input torque M (timing-belt drives Fx ≤ 500N)

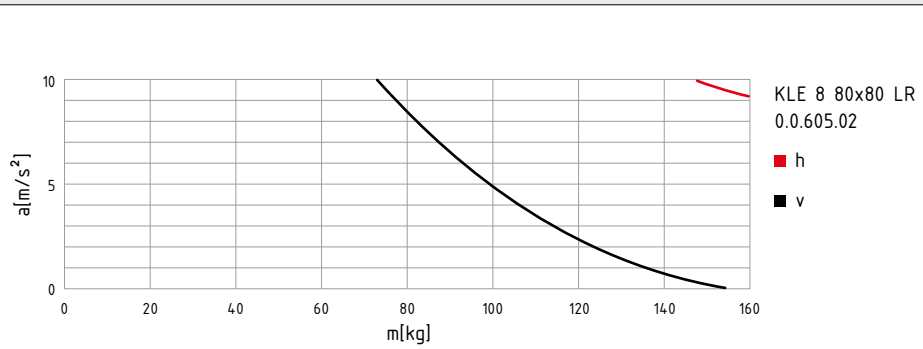


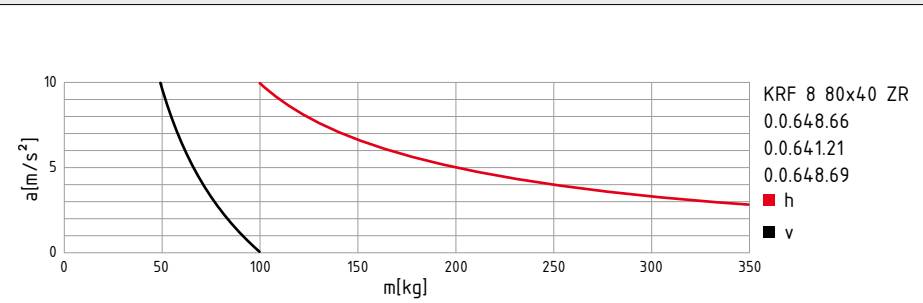
Operational force Fx dependent on input torque M (ball screw drive, chain drive, rack drive)

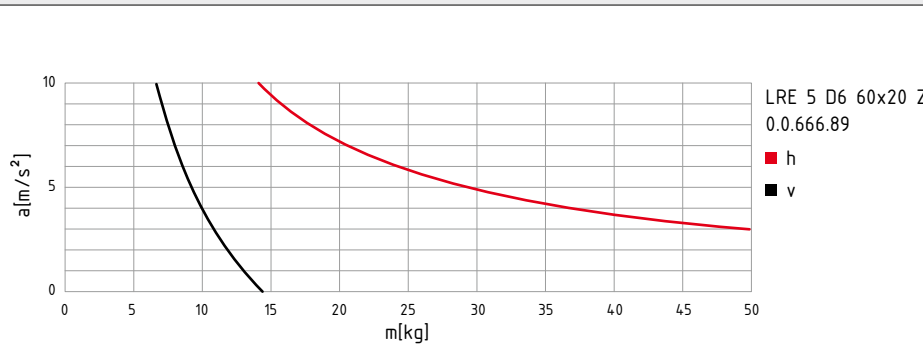


Maximum possible acceleration in relation to moved mass and installation orientation

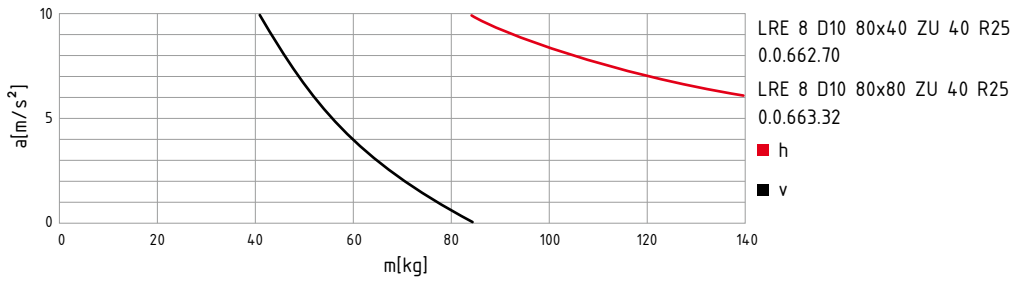


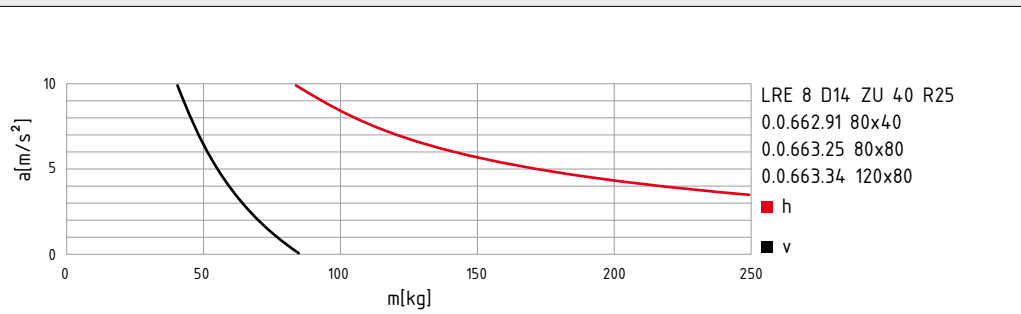


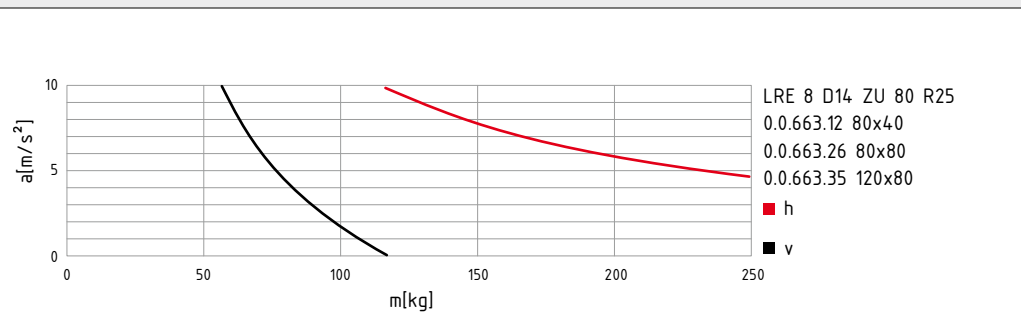


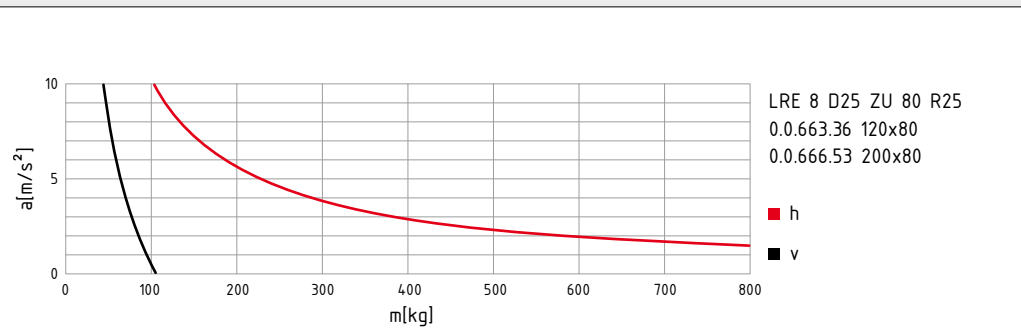


h = horizontal orientation v = vertical orientation

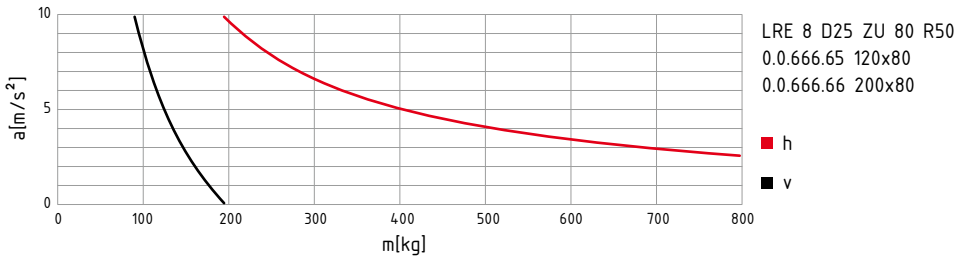


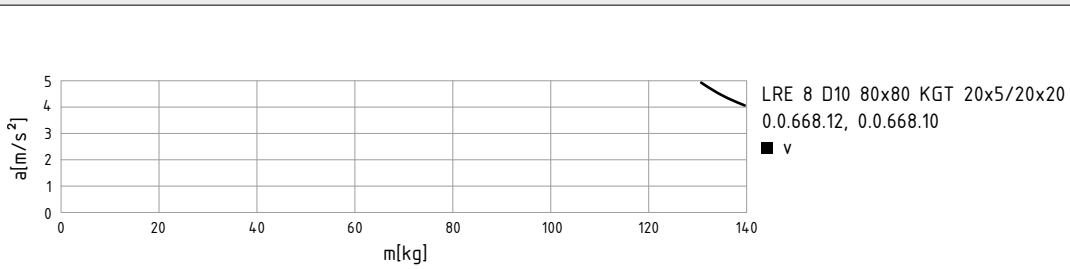


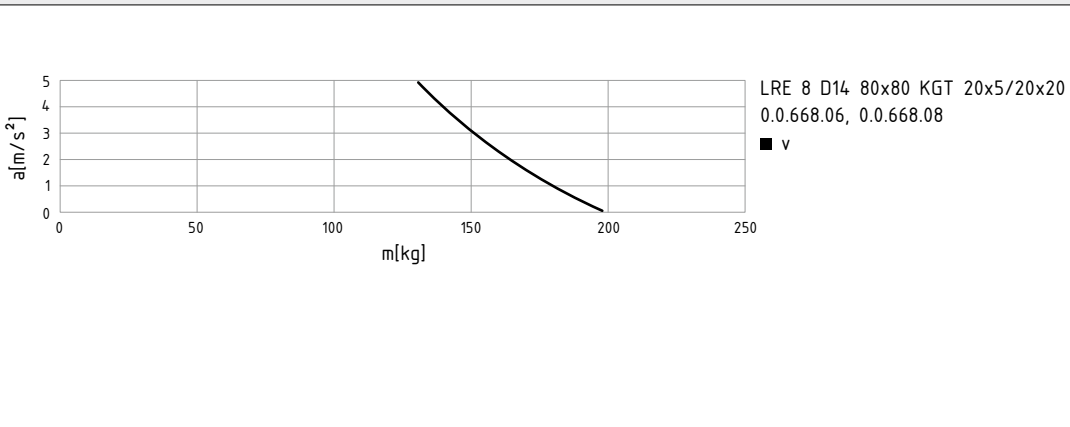


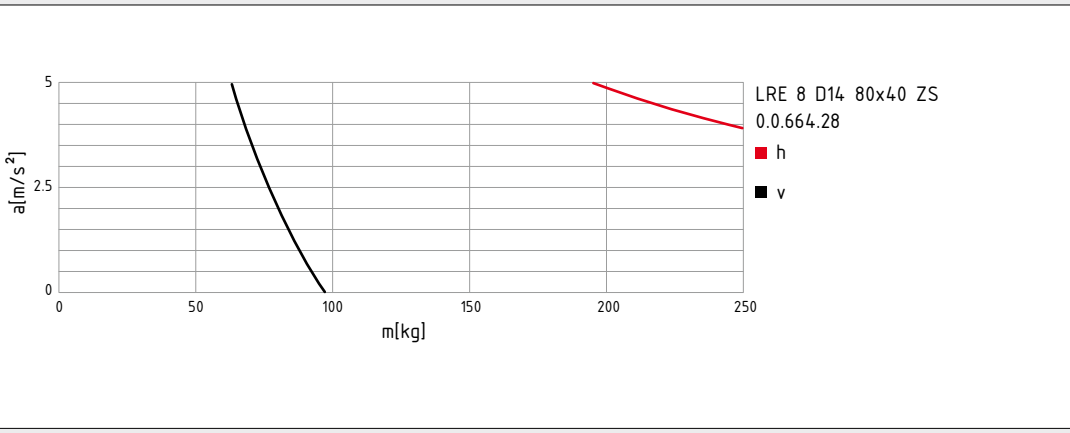


h = horizontal orientation v = vertical orientation

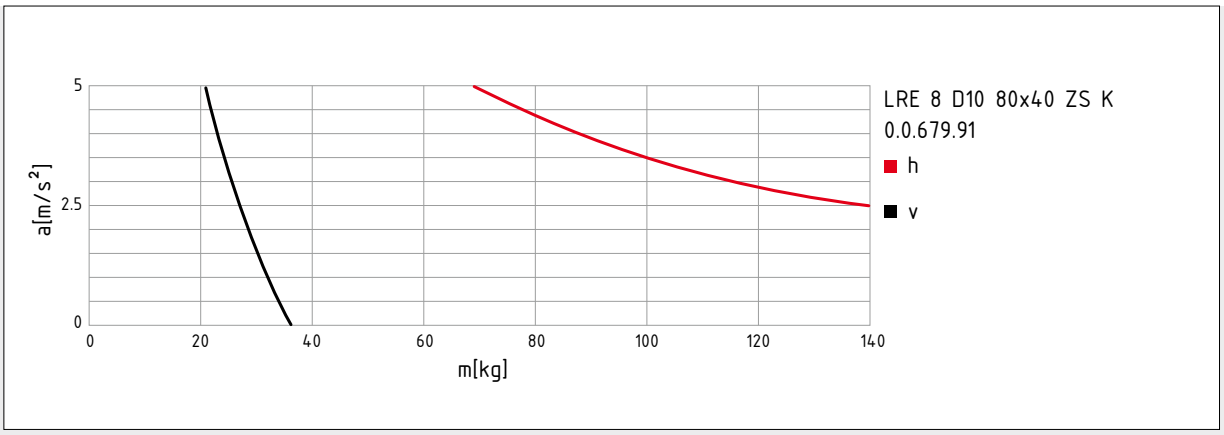


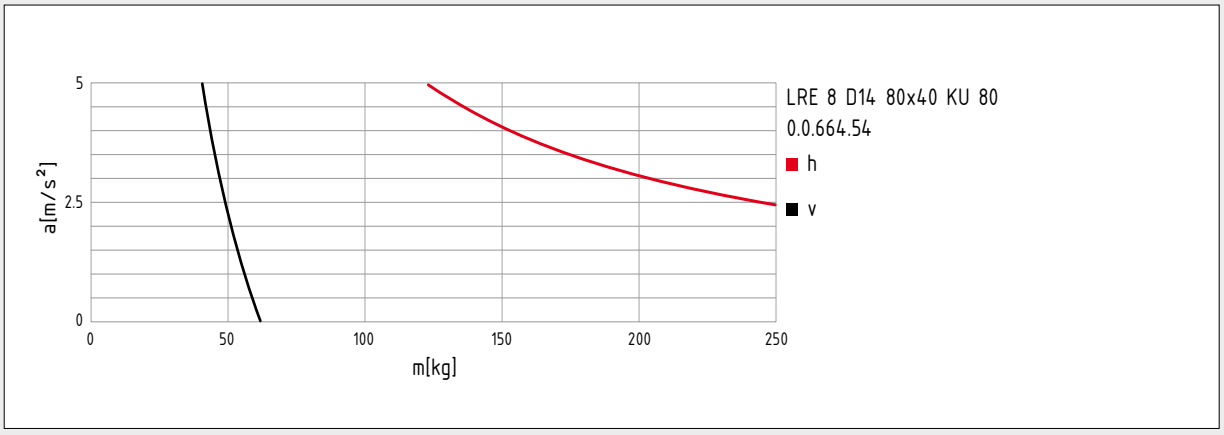






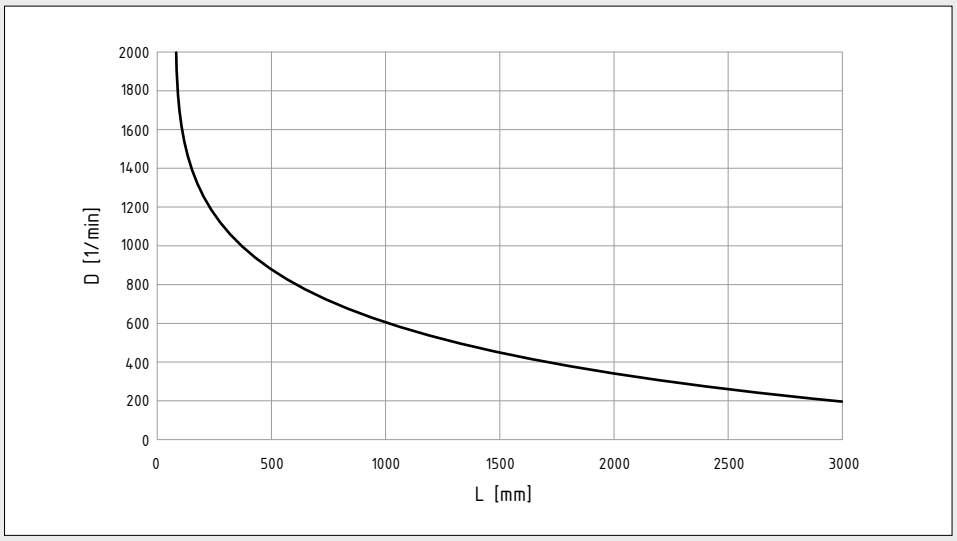
h = horizontal orientation v = vertical orientation





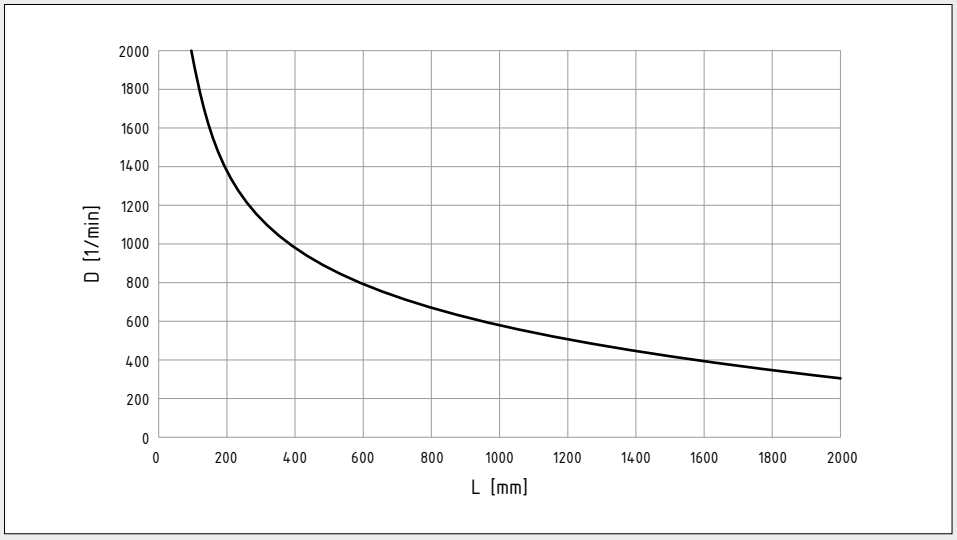
h = horizontal orientation v = vertical orientation

Permissible synchroniser shaft speed in relation to length



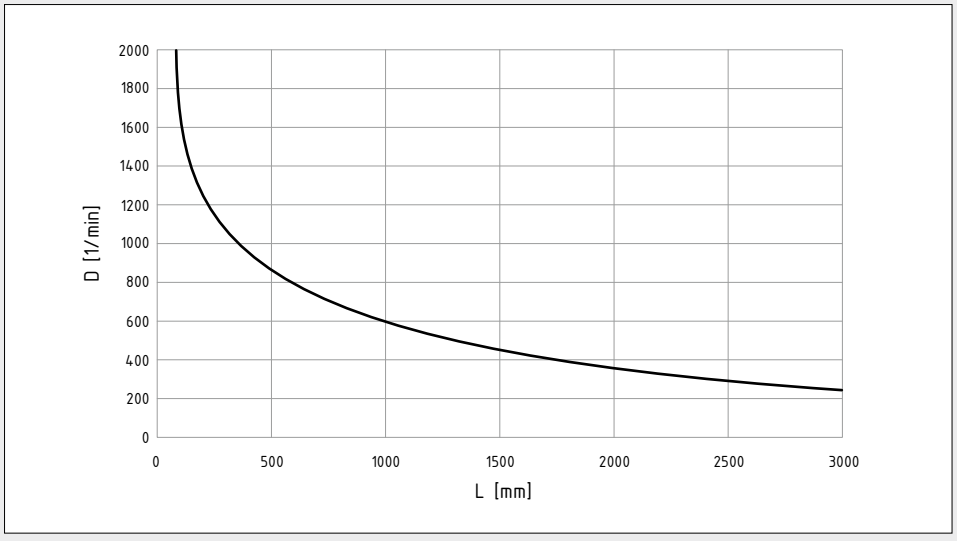
0.0.609.86 Tube D20x3 St

D = speed [RPM]
L = length of shaft [mm]



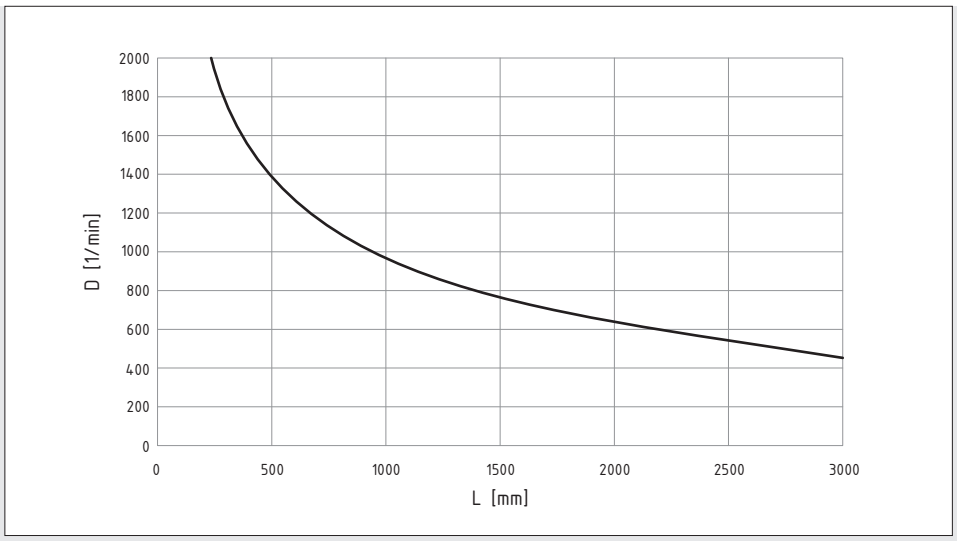
0.0.664.14 Tube D16x1.5 St

D = speed [RPM]
L = length of shaft [mm]



0.0.609.83 Tube D25x3 St

D = speed [RPM]
L = length of shaft [mm]



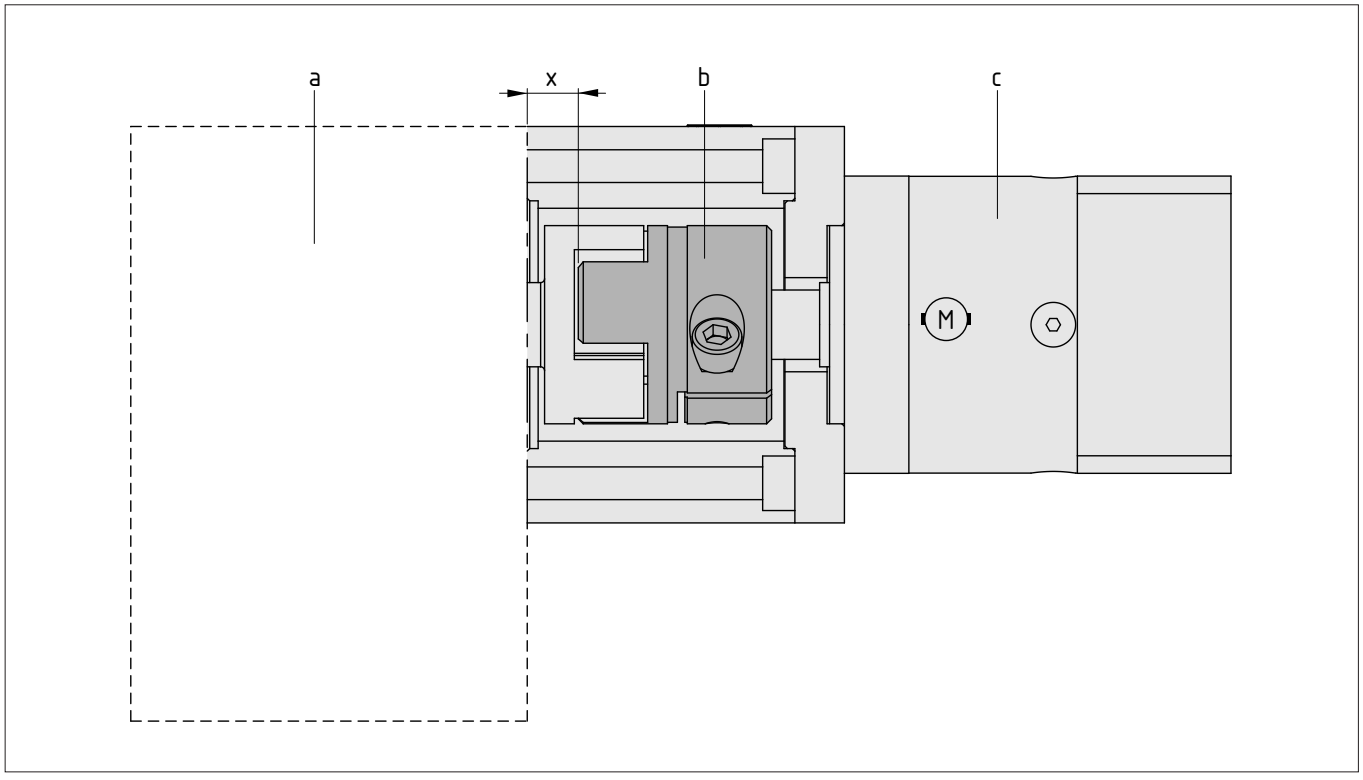
0.0.463.56 Synchronising Shaft Profile VK32

D = speed [RPM]
L = length of shaft [mm]

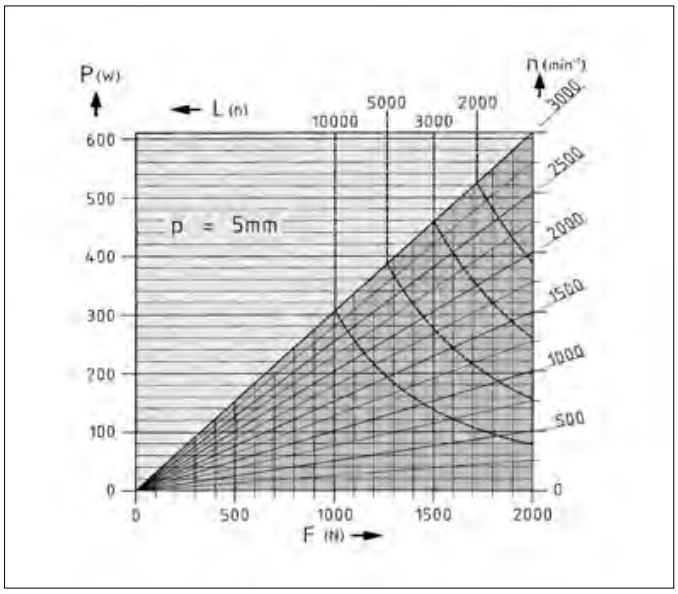
Information about installing couplings

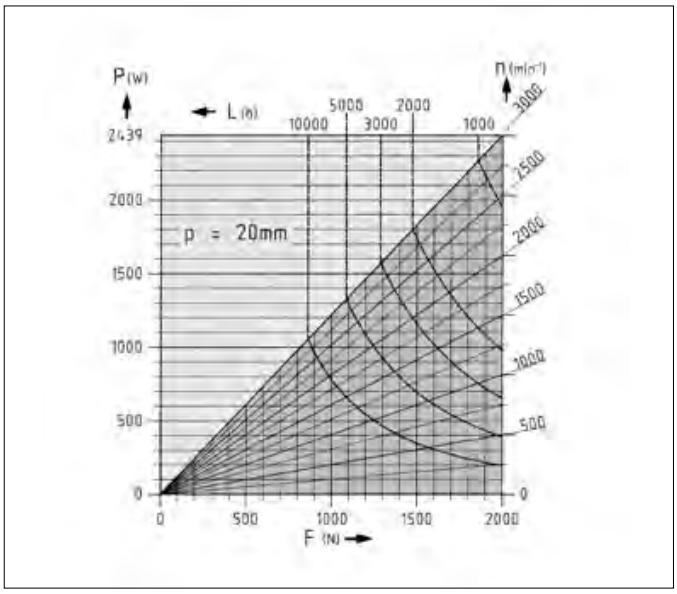
To prevent axial forces between the drive and the Linear Unit when using two-part couplings, it is crucial that the coupling halves are precisely aligned. The coupling half on the Linear Unit side should be fitted flush. The coupling half on the motor side must be installed so as to comply with dimension x, the distance between the Linear Unit and the bottom of the motor-side coupling half.

a = Linear Unit
b = Coupling half
c = Transmission/motor

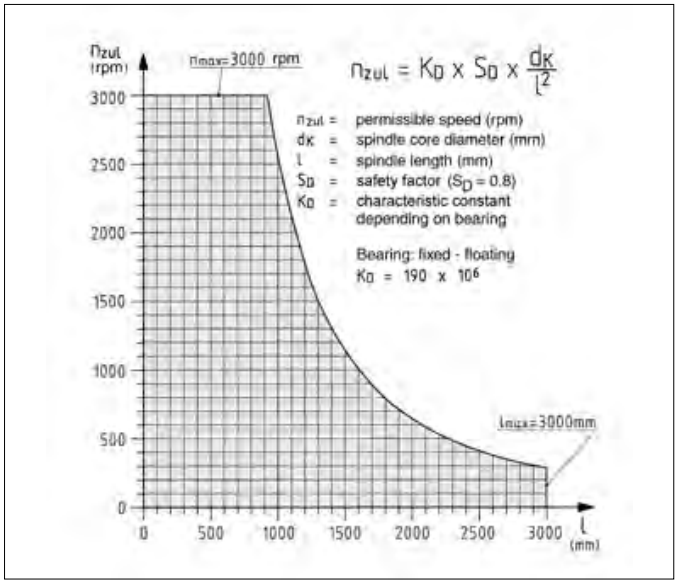


Universal Drive Set	Art. No.	x [mm]
Drive Set 5 40 D30/D12	0.0.662.49	9.9 - 10.9
Drive Set 8 40 D40/D15	0.0.668.02	10.3 - 11.3
Drive Set 8 80 D55/D34	0.0.668.03	15.6 - 16.6
Drive Set 8 80 D80/D34	0.0.668.04	22.5 - 23.5
Drive Set KLE 6 60x60	0.0.609.80	15.0 - 16.0
Drive Set KLE 8 80x80	0.0.609.77	16.0 - 17.0
Drive Set KGT D40/D15	0.0.667.76	22.3 - 23.3
Drive Set GSF 8 40	0.0.654.23	7.7 - 8.7
Rack 8 Coupling Module	0.0.621.73	32.8 - 33.8





The service life of the screw and drive nut combination can be calculated based on the thrust load and drive speeds



The maximum travelling speed of the spindle units depends on the length of the spindle (see adjacent diagram).

Calculating the feed rate of the carriage based on the drive speed at the input of the KGT:

$$v = \frac{n \cdot p}{60000}$$

$v \left[\frac{m}{s}\right]$ = Feed rate

$n \left[\frac{1}{min}\right]$ = Drive speed

p [mm] = Spindle lead

Calculating the feed force of the carriage based on the drive torque at the input of the KGT:

$$F = \frac{M \cdot \pi \cdot \eta}{p} \cdot 2000$$

F [N] =Feed force

M [Nm] = Drive torque

η [ ] = Efficiency (KGT 20x5: 0.8; KGT 20x20: 0.85)

p [mm] = Spindle lead

Transferable torques depend on the clamping diameter

		Art. No.	0.0.654.23	0.0.662.49	0.0.609.80	0.0.668.02
		Product name	Drive Set GSF 8 40	Drive Set 5 40 D30/D12	Drive Set KLE 6 60x60	Drive Set 8 40 D40/D15
		Maximum torque, output side [Nm]	8		34	40
		Maximum torque, elastomer [Nm]	4		26	
		Coupling half reborable on drive side up to [mm]	16		20	
Bore diameter, drive side [mm]	7	Maximum torque, drive side [Nm] (Values in brackets: Maximum torque of combination)	5 (4)			
	8		5.1 (4)		25	
	10		5.3 (4)		27 (26)	
	11		5.6 (4)		27 (26)	
	12		5.8 (4)			
	14		6.1 (4)		29 (26)	
	15		6.3 (4)		30 (26)	
	16		6.5 (4)		31 (26)	
	18				32 (26)	
	19				32 (26)	
	20				34 (26)	
	22					
	24					
	25					
	28					
	30					
	32					
	35					
	38					
	40					
	42					
	45					

0.0.667.76	0.0.621.73	0.0.609.77	0.0.668.03	0.0.627.46	0.0.668.04
Drive Set KGT D40/D15	Rack 8 Coupling Module	Drive Set KLE 8 80x80	Drive Set 8 80 D55/D34	Drive Set KRF 8 ZR	Drive Set 8 80 D80/D34
40	50		116	60	116
26				–	325
20		28		25	45
25					
27 (26)		34			
27 (26)		35			
				60	
29 (26)		36		60	
30 (26)		38		60	92
31 (26)		38		60	94
32 (26)		39		60	97
32 (26)		40		60	98
34 (26)		41		60	99
		42		60	102
		43		60	104
		45		60	105
		46			109
					112
					113
					118 (116)
					122 (116)
					123 (116)
					126 (116)
					130 (116)

Overview of Gearboxes

Gearboxes AP

Art. No.	0.0.666.05	0.0.666.06	0.0.666.07	0.0.666.11
Product name	Gearbox AP 40-3	Gearbox AP 40-5	Gearbox AP 40-7	Gearbox AP 60-3
Efficiency	0.98	0.98	0.97	0.98
Gear ratio i	3	5	7	3
Rated output torque [Nm]	11	14	8.5	28
Max. mechanical input speed [1/min]	18000			
Mass moment of inertia [kg cm^2]	0.027	0.019	0.015	0.149
Torsional rigidity [Nm/arcmin]	1	1	0.9	2.3
Standard backlash	< 15			
Tightening torque for clamping hub screw [Nm]	2			
Type				
Operating temperature				
Protection class				

Gearboxes WP

Art. No.	0.0.666.08	0.0.666.09	0.0.666.10	0.0.666.14
Product name	Gearbox WP 40-3	Gearbox WP 40-5	Gearbox WP 40-7	Gearbox WP 60-3
Efficiency	0.94	0.94	0.94	0.95
Gear ratio i	3	5	7	3
Rated output torque [Nm]	3.96	6.6	7.48	12.32
Max. mechanical input speed [1/min]	18000			
Mass moment of inertia [kg cm^2]	0.049	0.035	0.033	0.394
Torsional rigidity [Nm/arcmin]	0.8	0.8	0.7	2
Standard backlash	< 21			
Tightening torque for clamping hub screw [Nm]	2			
Type				
Operating temperature				
Protection class				

0.0.666.12	0.0.666.13	0.0.698.04	0.0.666.17	0.0.666.18	0.0.666.19
Gearbox AP 60-5	Gearbox AP 60-7	Gearbox AP 60-16	Gearbox AP 80-3	Gearbox AP 80-5	Gearbox AP 80-7
0.98	0.97	0.96	0.98	0.98	0.97
5	7	16	3	5	7
40	25	44	85	110	65
13000			7000		
0.1	0.09	0.106	0.654	0.423	0.379
2.2	2.1	2.8	5.7	5.5	5.2
< 10			< 7		
4.5			9.5		
Planetary gearbox, inline					
-25 °C to 90 °C					
IP 54					

0.0.666.15	0.0.666.16	0.0.698.05	0.0.666.20	0.0.666.21	0.0.666.22
Gearbox WP 60-5	Gearbox WP 60-7	Gearbox WP 60-16	Gearbox WP 80-3	Gearbox WP 80-5	Gearbox WP 80-7
0.95	0.94	0.93	0.96	0.95	0.95
5	7	16	3	5	7
21.12	22	38.72	35.2	58.96	57.2
13000		13000	7000		
0.257	0.245	0.27	1.409	1.017	0.948
1.9	1.8	2	5	4.8	4.8
< 16		< 18	< 13		
4.5			9.5		
Planetary gearbox, right angle					
-25 °C to 90 °C					
IP 54					

Overview of Motors

Art. No.	0.0.666.03	0.0.666.04	0.0.666.02	0.0.665.99	0.0.666.01	0.0.666.00
Product name	Motor SE 40-035-3-90-R	Motor SE 40-035-3-90-R-B	Motor SE 60-150-3-60-R	Motor SE 60-150-3-60-R-B	Motor SE 80-350-5-55-R	Motor SE 80-350-5-55-R-B
Rated speed [RPM]	9000	9000	6000	6000	5500	5500
Number of pole pairs	2	2	3	3	3	3
DC bus circuit voltage	320	320	320	320	560	560
Rated voltage [V]	132	132	180	180	316	316
Rated power [W]	200	200	550	550	1200	1200
Rated torque of Motor [Nm]	0.21	0.21	0.9	0.9	2.1	2.1
Stall torque of motor [Nm]	0.35	0.35	1.5	1.5	3.5	3.5
Rated current per phase [A]	1.2	1.2	2.2	2.2	2.8	2.8
Peak torque [Nm]	1.4	1.4	6	6	14	14
Peak current [A]	6.4	6.4	13.2	13.2	15.6	15.6
Max. speed [RPM]	10000	10000	7350	7350	6680	6680
Voltage constant at 1000 RPM [V]	13.2	13.2	27.9	27.9	55	55
Torque constant [Nm/A]	0.22	0.22	0.46	0.46	0.91	0.91
Mass moment of inertia, rotor [kgcm^2]	0.054	0.054	0.413	0.413	1.93	1.93
Holding brake	No	Yes	No	Yes	No	Yes
Static braking torque [Nm]		0.4		2		4.5
Motor type	Permanent-magnet three-phase synchronous servomotor					
Ambient temperature (during operation)	-10°C to +40°C					
Storage temperature	- 20°C to +70°C					
Humidity	Less than 90% relative humidity (without condensing)					
Insulation class	F (= up to 155°C) Delta T = 115 K					
Protection class	IP 65					
Max. installation height	4000 m over NN; with power reduction of 1% per 100 m starting from 1000 m					
Property	white aluminium, similar to RAL 9006					
Shaft end	Cylindrical shaft end					
Magnetic material	Neodymium iron boron (NdFeB)					
Encoder systems	Resolver					
Approvals	CE, UL					

Art. No.	0.0.688.47	0.0.688.48	0.0.688.49	0.0.688.50	0.0.688.51	0.0.688.52
Product name	Motor SE 40-035-3-90-AK	Motor SE 40-035-3-90-AK-B	Motor SE 60-150-3-60-AK	Motor SE 60-150-3-60-AK-B	Motor SE 80-350-5-55-AK	Motor SE 80-350-5-55-AK-B
Rated speed [RPM]	6000	6000	6000	6000	5500	5500
Number of pole pairs	2	2	3	3	3	3
DC bus circuit voltage	320	320	320	320	560	560
Rated voltage [V]	132	132	180	180	316	316
Rated power [W]	200	200	550	550	1200	1200
Rated torque of Motor [Nm]	0.21	0.21	0.9	0.9	2.1	2.1
Stall torque of motor [Nm]	0.35	0.35	1.5	1.5	3.5	3.5
Rated current per phase [A]	1.2	1.2	2.2	2.2	2.8	2.8
Peak torque [Nm]	1.4	1.4	6	6	14	14
Peak current [A]	6.4	6.4	13.2	13.2	15.6	15.6
Max. speed [RPM]	6000	6000	6000	6000	6000	6000
Voltage constant at 1000 RPM [V]	13.2	13.2	27.9	27.9	55	55
Torque constant [Nm/A]	0.22	0.22	0.46	0.46	0.91	0.91
Mass moment of inertia, rotor [kgcm^2]	0.054	0.054	0.413	0.413	1.93	1.93
Holding brake	No	Yes	No	Yes	No	Yes
Static braking torque [Nm]		0.4		2		4.5
Motor type	Permanent-magnet three-phase synchronous servomotor					
Ambient temperature (during operation)	-10°C to +40°C					
Storage temperature	- 20°C to +70°C					
Humidity	Less than 90% relative humidity (without condensing)					
Insulation class	F (= up to 155°C) Delta T = 115 K					
Protection class	IP 65					
Max. installation height	4000 m over NN; with power reduction of 1% per 100 m starting from 1000 m					
Property	white aluminium, similar to RAL 9006					
Shaft end	Cylindrical shaft end					
Magnetic material	Neodymium iron boron (NdFeB)					
Encoder systems	Capacitive incremental encoder					
Approvals	CE, UL					

Overview of Controllers

Art. No.	0.0.668.62	0.0.668.63	0.0.668.65	0.0.668.66
Product name	Controller C 1-02	Controller C 1-05	Controller C 3-05	Controller C 3-10
Output power (rated) [KVA]	0.5	1.0	3	6
Max. output power (for 5 s) [KVA]	1	2	6	12
Rated output current [A]	2.5	5	5	10
Max. output current [A]	10	10	6	12
Control voltage	24 VDC (+-20 %) [0.55 A]	24 VDC (+-20 %) [0.65 A]	24 VDC (+-20 %) [1 A]	
Intermediate circuit voltage	360 ... 380 V / 310 ... 320 V (with/without Power Factor Control)		560 ... 570 V	
External brake resistance, max. continuous braking power [Ohm]	>= 50		>= 40	
Supply voltage	1 x 100 ... 230 VAC (+- 10%) , 50 ... 60 Hz		3 x 230 ... 480 VAC (+- 10%) , 50 ... 60 Hz	
Alternative DC infeed	60 .. 380 VDC		60 .. 700 VDC	
Clock rate	Variable cycle frequencies up to 20 KHz, operational data at 1 x 230 VAC (+-10 %), 50 Hz		Variable cycle frequencies up to 16 KHz, operational data at 3 x 400 VAC (+-10 %), 50 Hz	
Holding brake	24 VDC, max. 1A		24 VDC, max. 2A	
Storage temperature	- 25°C to +70°C			
Operating temperature	0°C to +40°C and +40°C to +50°C with power reduction of 2.5% / K			
Reliable installation height	Max. installation height 2000 m over NN, with power reduction of 1% per 100 m starting from 1000 m			
Humidity	Less than 90% relative humidity (without condensing)			
Protection class	IP 20			
Protection class	1			
Pollution degree to IEC 61010	2			
Conformity	CE, UL			
Low Voltage Directive	2006/95/EC, verified via application of harmonised standard EN 61800-3			
EMC Directive	2004/108/EC, verified via application of harmonised standard EN 61800-3			
Inputs	10 x digital in (24 VDC) // 3 x analogue in (+-10 VDC, 2 x 10 Bit, 1 x 16 Bit)			
Outputs	4 x digital out (24 VDC) // 1 x digital out (24 VDC) for holding brake // 2 x analogue out (+- 10 VDC, 9 Bit)			
Interfaces (standard)	USB 2.0, Ethernet, RS232/RS485, Can-Bus (CANopen DSP 402)			
Interfaces (optional)	EtherCAT, PROFIBUS-DP, PROFINET			
Encoder evaluation	Universal encoder interface for motors with a resolver, HIPERFACE interface for motors with an absolute encoder			

Alphabetical Register

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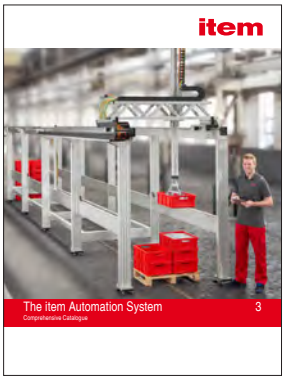

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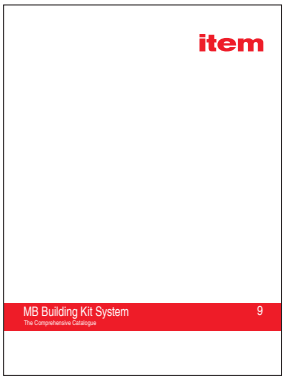

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