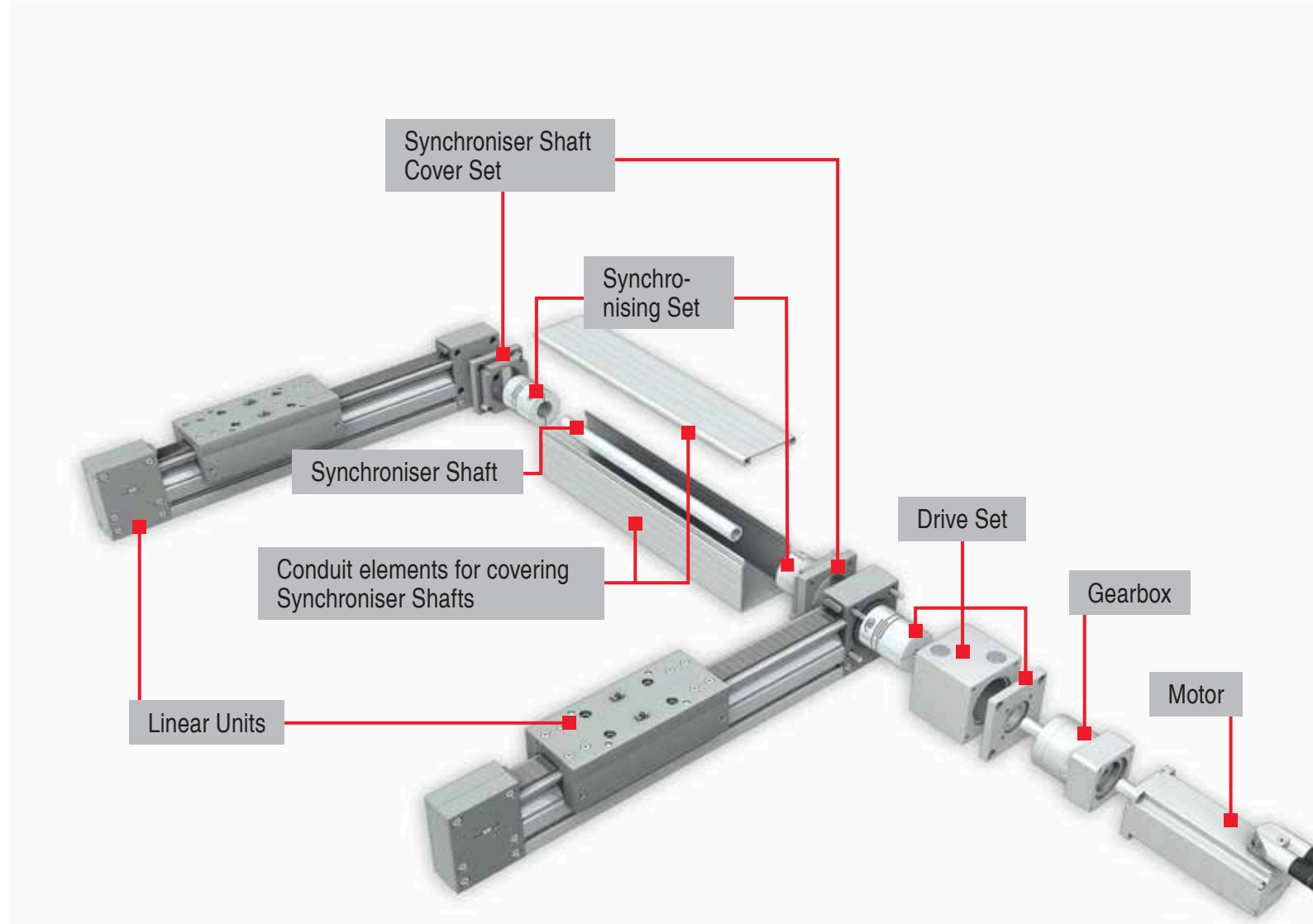
item

The item Automation System 2

Comprehensive Catalogue

item linear motion units® – perfect teamwork.



The technology: Really complete!

The item linear motion unit® is the all-in-one turnkey solution for your automation needs. Intelligent software also speeds up configuration and commissioning processes.

An ecosystem of various Linear Units, Motors and Controllers produces a customised automation solution that is tailored to your requirements.

An item linear motion unit® is a made-to-measure combination of:

Linear Unit: 26 systems with various drive and guide technologies, optimised for speed, payload, precision and stroke length.

Motor: Highly dynamic synchronous servomotors for short cycle times and dependable precision, including maintenance-free gearboxes and optimised Drive Sets.

Controller: Motion profiles can be implemented directly in the Controller, meaning a PLC is often unnecessary, but can be connected if required. item Controllers are intelligent, safe and support all standard fieldbus systems.

Cables and accessories: Enjoy maximum safety and rapid installation, thanks to tamper-proof connectors and colour coding.

The Software: Really intelligent!

item MotionDesigner® is your accomplished automation expert. This intelligent software covers everything and factors in your dynamic requirements and technical parameters (operating load, stroke, speed).

The step-by-step dialogue in item MotionDesigner® guides you through the process of defining your transport operation and developing a truly customised solution. The genius of the system is that the description you build up during configuration is used as the basis for commissioning your item linear motion unit®.

If required, item MotionSoft® commissioning software can use this existing data. This speeds up the process of installing item linear motion units®, which are supplied ready-to-install. The intelligent item Controller analyses the Linear Unit independently, finds the optimum setting and can adopt the motion profile from item MotionDesigner®.

Controller and accessories

The service: Completely correct!

You can't know everything. That is why item offers you service and support over the entire lifecycle of your automation solution. Our team of specialists advises you from the idea right through to the finished system.

The innovative item MotionDesigner® software ensures that everything is compatible and nothing is missing. Thanks to coordinated components that are supplied ready-to-install, an item linear motion unit® saves you time and money and eliminates typical sources of error.

For all other questions, item is always on hand to help:

- Technical advice: Whether during selection, installation or commissioning, item can help you on the phone, via e-mail or even in person, thanks to the many item customer advisers.
- End-to-end project engineering: Advice and support for development work – use the expertise of experienced project engineers and technicians to make sure your needs are met precisely.
- Training: Training pays off! Our experts can provide you and your staff with customised training on site.

item linear motion units® – perfectly coordinated automation.

The item linear motion units® are the all-in-one turnkey solution for linear technology.

They comprise 26 ready-to-install Linear Units with a range of guidance and drive technologies and are supplied complete with drive elements, Motors, Controllers, carriages and accessories. They are also supported by intuitive software for configuring and commissioning the ideal solution. Select, install and go – automation really can be that easy.

An automation project starts with a transport task, whether positioning a sensor, guiding a tool or moving a load. It is important to be clear about the requirements and know what kind of load needs to be moved at what speed in how much time. The system components are then selected on that basis. This often requires input from a specialist in linear or control technology and, what's more, reading through datasheets and configuring the individual components takes up a great deal of time.

Conventional configurators query technical parameters (operating load, stroke, speed) and pick out the products with parameters that fit the relevant specification – without taking into account dynamic or thermal requirements. When working with the innovative configuration software item MotionDesigner®, users can formulate the transport task in as much detail as they like. item MotionDesigner® factors in the static, dynamic and thermal loads of all components and thus delivers the optimum solution from thousands of possible combinations.

The end result, produced in next to no time, is a ready-to-deploy, customised solution for the automation project that comprises a Linear Unit, Motor and Gearbox. The coordinated interfaces of the item components make assembly very straightforward, with no need for machining operations. item MotionSoft® commissioning software and the intelligent item Controller measure the Linear Unit independently and thus calculate the optimum settings.

The service and support team at item is on hand to help with any questions over the entire lifecycle of your automation solution. Our team of specialists advises you from the idea right through to the finished system.

The item linear motion units®.

Really simple. Really smart. Really productive!

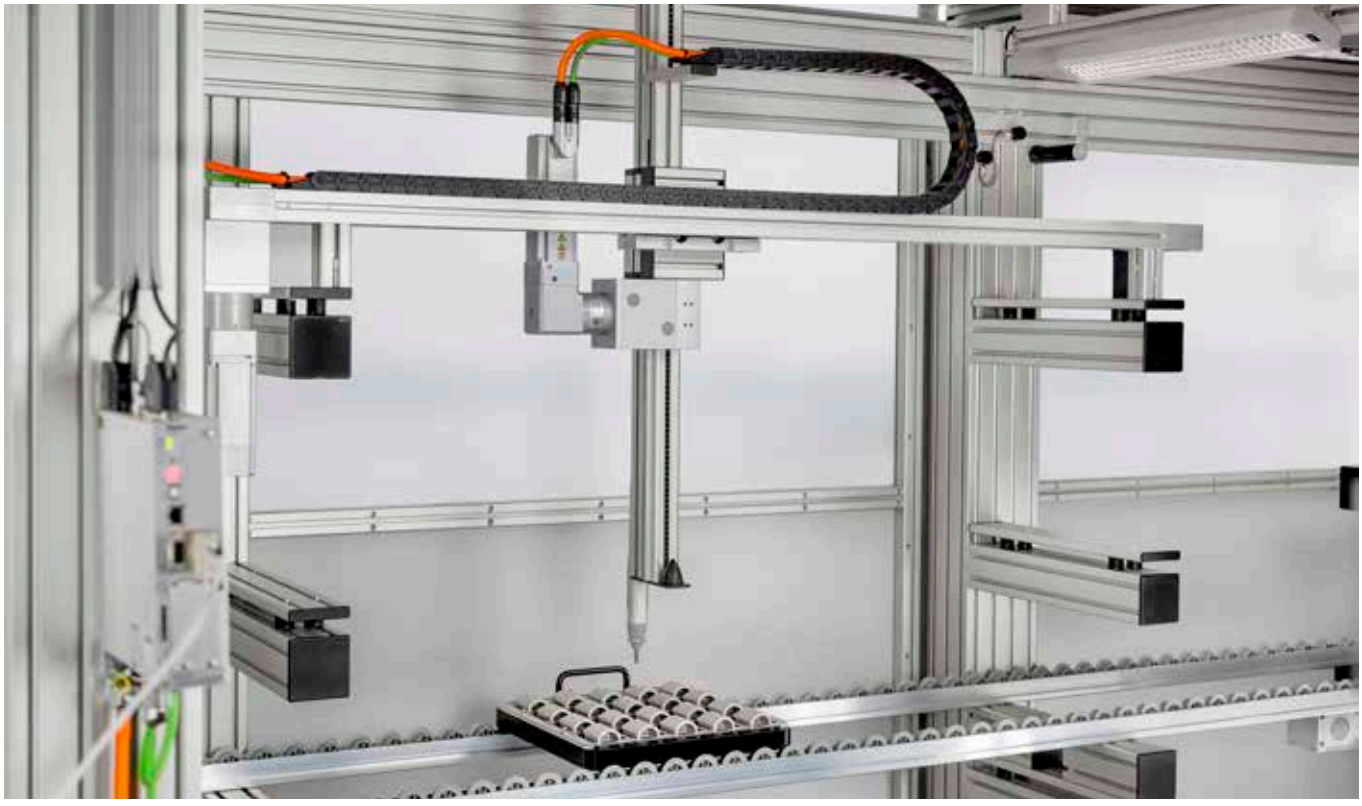


Fig.: Linear Unit KRF 8 80x40 ZR, drive side on left (0.0.641.21) with Drive Set KRF 8 ZR AP/WP 60 (0.0.673.31), Gearbox AP 60-5 (0.0.666.12), Motor SE 60-150-3-60-R (0.0.666.02), Linear Unit LRE 8 D10 80x40 ZS K light (0.0.679.91) with Drive Set Rack 8 AP/WP 60 (0.0.673.33), Gearbox WP 60-3 (0.0.666.14), Motor SE 60-150-3-60-R-B (0.0.665.99), Controller C 1-05 (0.0.668.63)

item linear motion units – make sure it all runs smoothly.

Really simple!

Welcome to the future! The concept behind the new item linear motion units® is revolutionising the way that automation solutions are planned, built and commissioned. Each step slides perfectly into place with the next to make sure you get your ready-to-use turnkey system in record time.

Intelligent software translates your transport task into an optimised all-in-one solution comprising a Linear Unit, Motor, Gearbox and Controller. You don't need to be an expert in the technology either, as your complete item linear motion unit® will be supplied ready-to-install and preconfigured in next to no time.

Really smart!

A typical Linear Unit is made up of 30 separate parts. Thanks to the innovative selection and configuration tool, item MotionDesigner®, you can concentrate on your transport task instead of on the technology behind it.

You describe your requirements in easy-to-follow steps, right up to the motion profile. The intelligent software takes in the bigger picture and uses integrated expertise for linear technology, Controllers and Motors. In just a few minutes, you have the ideal solution, without having to wade through all the data sheets yourself.

That is really smart!

Really fast!

Thanks to the intuitive item MotionSoft® software program, you can commission your solution in just a few minutes. The user-friendly software automatically checks the entire system and calculates the optimum controller settings. The data you entered in item MotionDesigner® is reused. Thanks to the option of saving motion profiles in the Controller, many transport tasks can be taken care of without the need for an additional PLC.

That saves time, effort and money. And that is really fast!

Really productive!

Using an item linear motion unit® means you can cut out a lot of steps that are essential for conventional automation solutions.

What about the future? An item linear motion unit® will grow with your needs. The programming can be adjusted and the entire world of the item MB Building Kit System is at your disposal. That is really productive!

Linear Units

Drive elements

Gearboxes

Motors

Controllers

Accessories

Technical data

Ready-to-install Linear Units from item – selecting the perfect solution.

The item Automation System offers 26 ready-to-install Linear Units for a wide range of applications. Which technology is most suitable will depend on what you want to use it for. To help you track down your ideal solution faster, we've defined four search criteria that we feel are most relevant to the basic requirements in industry – payload, speed, repeatability and maximum travel distance. Our visual selection guide shows at a glance which of our Linear Units meet which requirements – and to what extent. If you are looking for turnkey Linear Units with a drive system, the item MotionDesigner at motiondesigner.item24.de/DEen is the direct solution for designing your custom automation solution!

Certain parameters overlap to some degree, such as payload and permissible support span. Details on factors such as profile deflection, etc. can be found in our technical data.

Timing-belt drive

Linear Unit GSF 8 40 R10

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

18

Linear Units KLE

- Encapsulated roller guide
- Concealed timing belt runs inside the profile

20

Linear Units KRF

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

23

Linear Unit LRE 5

- Speedy, compact and
- Extremely space-savi

Ball Screw Unit

Linear Unit LRE 8 D10 80x80 KGT 20x5

- Precise with strong drive
- High rigidity

48

Linear Unit LRE 8 D10 80x80 KGT 20x20

- Extremely precise positioning
- Highly rigid drive

49

Linear Unit LRE 8 D14 80x80 KGT 20x5

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

50

Linear Unit LRE 8 D14 80x80 KGT 20x20

- Precise – even with higher payloads
- Highly rigid drive

51

5 D6

versatile
ng

25

Linear Units LRE 8 D10

- Fast, strong and versatile
- Applications on the slide can be easily switched

27

Linear Units LRE 8 D14

- Fast, strong and universal
- The strong all-rounder

30

Linear Units LRE 8 D25

- For payloads up to 530 kg
- The Linear Unit for heavy loads

38

Chain drive

Linear Unit LRE 8 D14 80x40 KU 80

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

54

Rack drive

Linear Unit LRE 8 D14 80x40 ZS

- Exceptional reliability for vertical movements
- Very rigid and strong

60

Linear Unit LRE 8 D10 80x40 ZS K

- Fast and low cost

58

Payload

How much weight a slide can carry depends primarily on its guide, i.e. the load-carrying capacity of the roller elements, shafts, linear guide units, etc. If a heavy payload is to be moved over a long distance, the design must be configured for the load, as should the cross-section of the support profile. The item Automation System therefore offers a wide selection of optimised Linear Units. Whether compact solutions for moving lightweight sliding doors, or solid designs for carrying heavy workpieces – item always has the right solution for your needs.

Speed

When speed and long travel distances are the key factors for your automation solution, the best option is a timing belt. The item Automation System offers you the widest selection in this respect. More speed means more productivity. If there are additional criteria that need to be prioritised, item Linear Units with ball screw, chain and rack drives can satisfy these requirements perfectly.

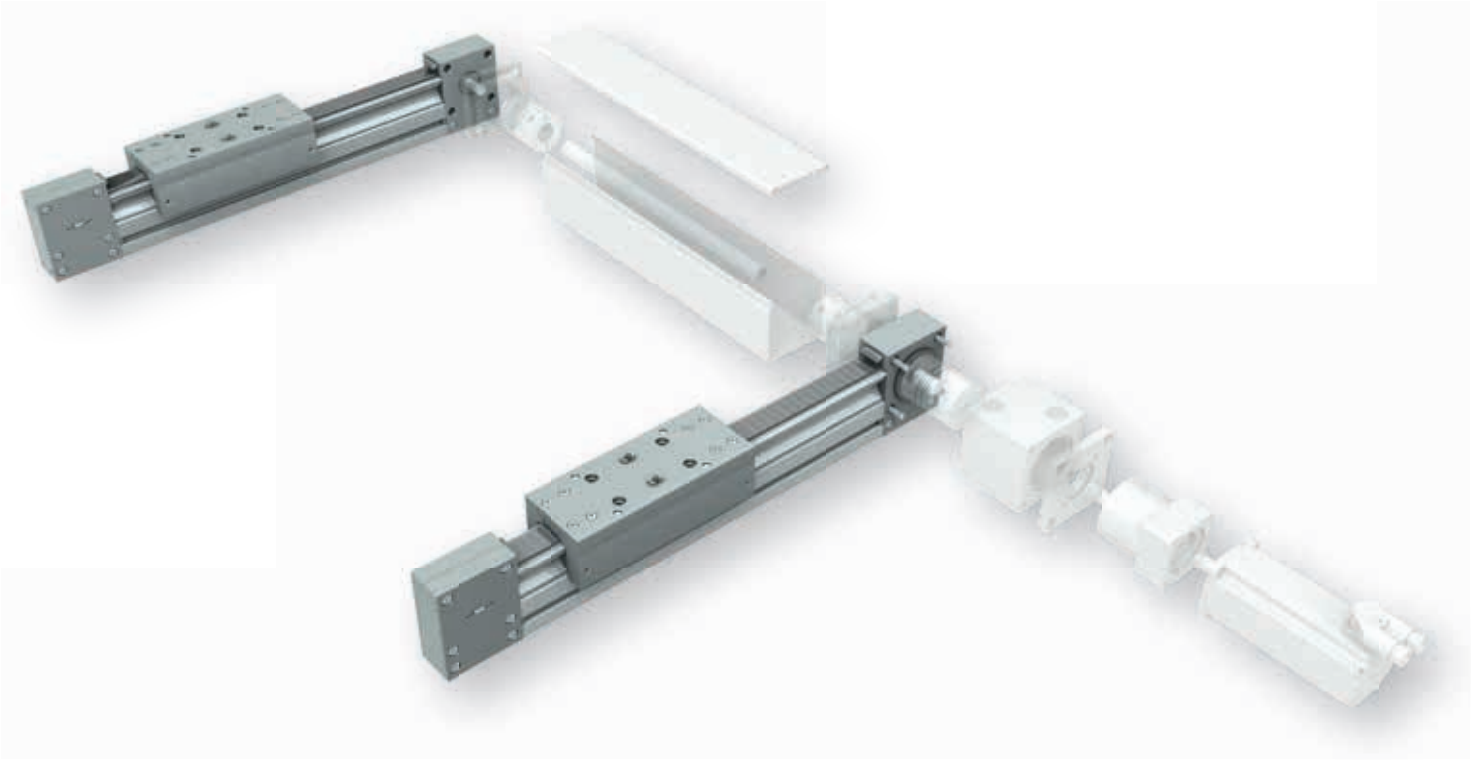
Repeat accuracy

Linear Units from item have been optimised for point-to-point motions. In a system with excellent repeat accuracy, the slide will stop precisely where it is supposed to – again and again and again. Low tolerances are the best way to ensure a pre-defined movement is executed reliably. Ball Screw Units achieve the maximum repeat accuracy. The precision turning of the spindle positions the slide with an accuracy down to 0.05 mm – perfect for strict requirements. Other drive systems can be used when requirements are less stringent, such as timing belts, which can achieve a repeat accuracy of 0.1 mm depending on their design.

Maximum travel distance

Depending on the model in question, the ready-to-install Linear Units from item can support a maximum travel distance of up to six metres. Even longer travel distances can be implemented for special designs. Your item partners will be more than happy to offer advice and support with special designs. The maximum distance over which a linear technology can move a payload also varies depending on the rigidity of the installation. For example, it is crucial to take into account the design of the machine frame, and particularly the load specifications.

Linear Units from item.

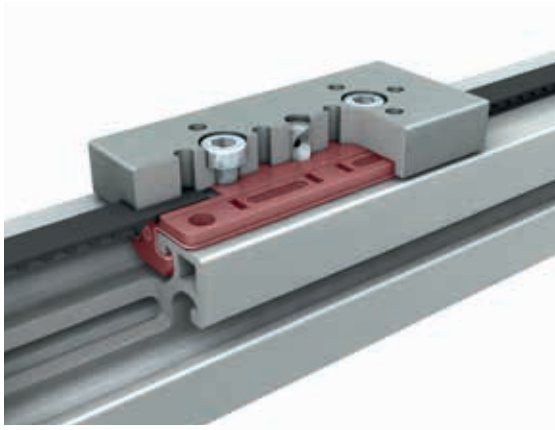


A Linear Unit is a combination of a linear guide and a corresponding drive element. item linear guides are designed for linear, low-friction movement and positioning tasks. Depending on requirements, you can choose your drive element from a range of technologies with different performance features. The Automation System from item comprises 26 ready-to-install Linear Units that feature linear guides and drive element technology that have been carefully coordinated for the relevant application. These Linear Units can be operated separately or – as shown in the drawing above – can be synchronised.

Nomenclature guide for Linear Units

1 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



2 KLE variant – Internal roller guide with timing-belt drive

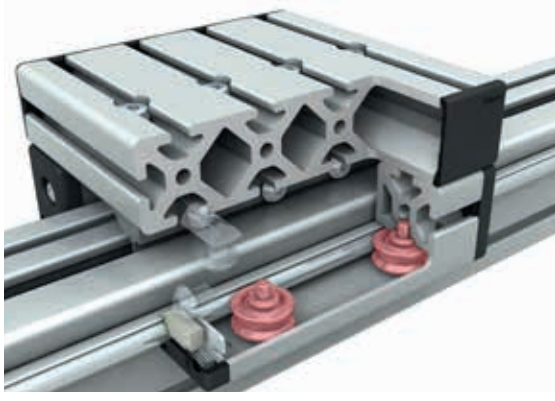
Linear Unit	Designation	Line	Support profile cross-section (H x W)	Guide technology
Linear Unit	KLE	6	60x60	LR
(Example)		KLE = Compact Linear Unit		LR = Roller element

3 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

4 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 = Roller element unit		ZU = Timing-Belt Reverse Unit	



The speed junkies – Linear Units with timing-belt drives.

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

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

A 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 slide does not run out of control if there is a power cut or similar scenario. Unless a motor brake is fitted, the timing belt can be moved with ease and therefore does not automatically hold its position.

Fig.: Linear Unit LRE 8 D14 80x80 ZU 80 R25 (Art. No. 0.0.663.26)

Linear Unit GSF 8 40 R10

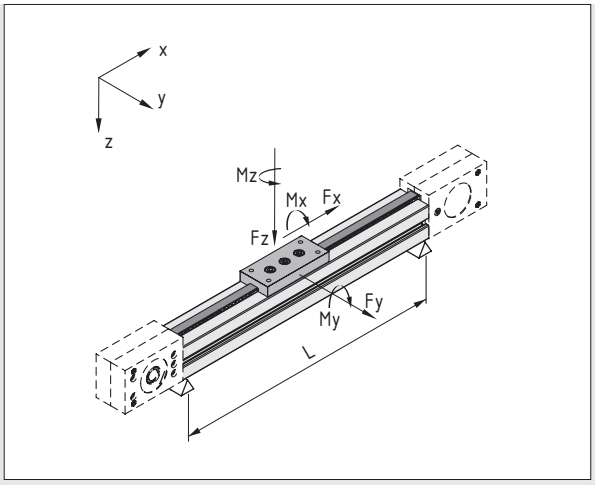
- Low-cost, quiet, compact and low-maintenance
- Low-friction sliding guidance

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 slide uses a Line 8 groove on the support profile as its guide. It runs without lubricants on a wear-resistant sliding shoe.

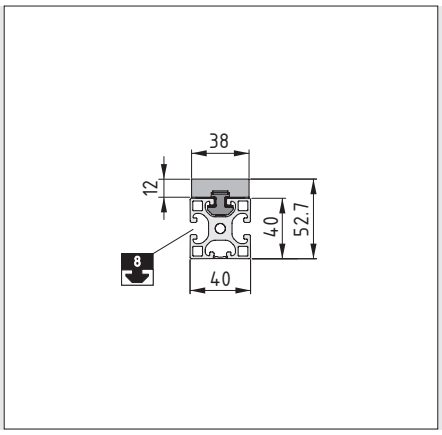
The Drive Unit and Reverse Unit feature an exceptionally compact design. The tensioning device for the Timing Belt is integrated into the Reverse Unit. Its ball-bearing mounted pulleys ensure quiet and smooth running over long-term use. The Timing Belt is routed back through the profile groove.

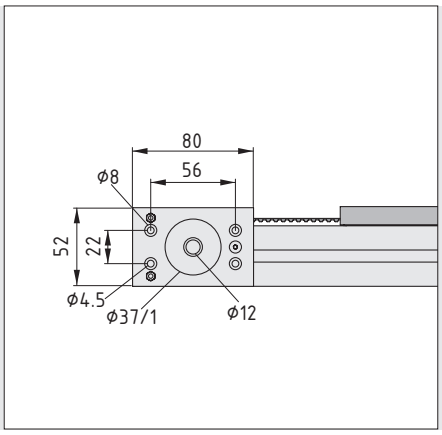
The compact dimensions and maintenance-free design make Linear Unit GSF 8 40 R10 an exceptionally efficient solution. It is ideal for applications that require the movement of low loads. Thanks to the practical hollow shaft, an expanding hub coupling can be installed on the right or left, as appropriate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

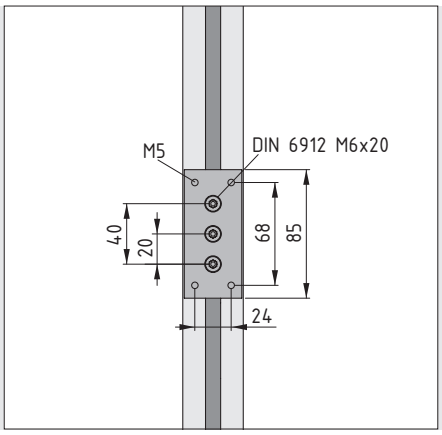
Note: Linear Unit GSF 8 40 R10 is supplied ready for installation as a turnkey system in the desired stroke length. The components can also be ordered separately and assembled to form customised units.

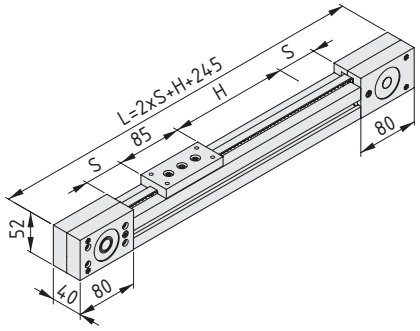


	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit GSF 8 40 R10	2100	2400	25	50	0.4	2	1.25	150









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	1.3	kg	
Mass per mm of stroke m_2	1.9	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.5	mm	
Maximum acceleration	3	m/s^2	
Maximum travelling speed	1	m/s	
Feed constant	115	mm/rev	
1 pce.			0.0.655.98

Drive elements		
Drive Set GSF 8 40	75	0.0.654.23
Synchronising Set GSF 8 40 R10	87	0.0.662.95

Linear Units KLE

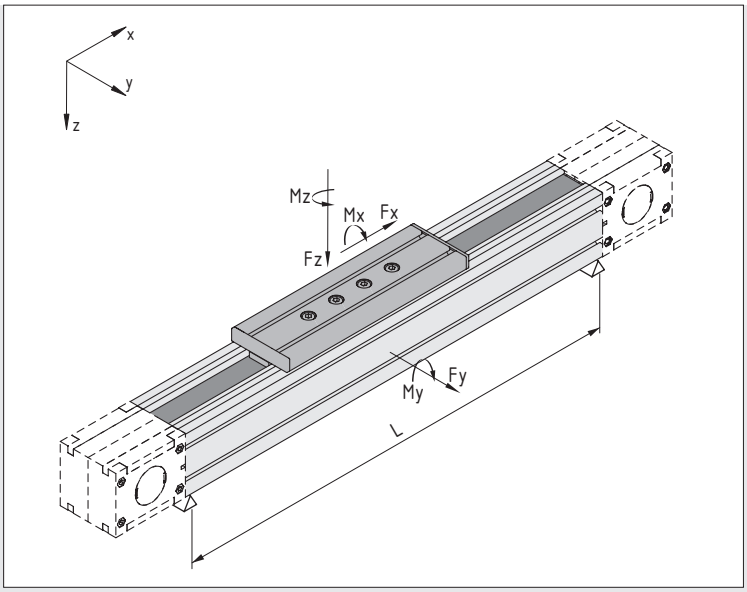
- Encapsulated roller guide
- Concealed timing belt runs inside the profile

Complete Linear Units with variable stroke length (H), Drive Unit and Reverse Unit, Housing Profile with integrated roller guide on hardened guiding shafts, preset to be free of play. The Timing Belt in its guide grooves acts as a labyrinth seal, the Timing-Belt tensioning device is integrated into the Reverse Unit along with the ball-bearing mounted pulleys.

Guide carriage with four-piece roller-bearing mounting, oil-lubricated roller contact.

Linear Units KLE boast exceptional precision and low-vibration linear movement.

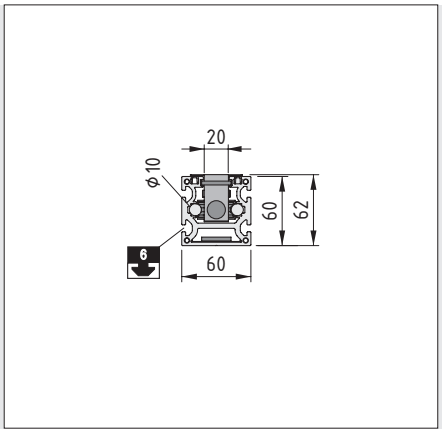
item Linear Units KLE are tested for cleanroom suitability to ISO class 6.

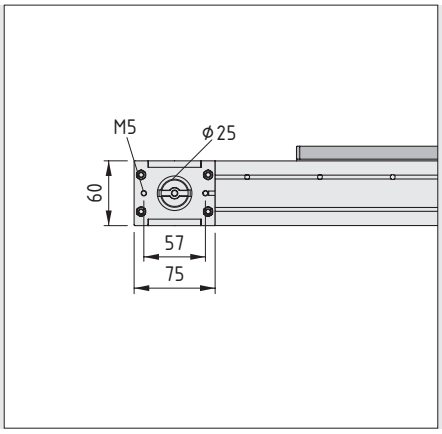


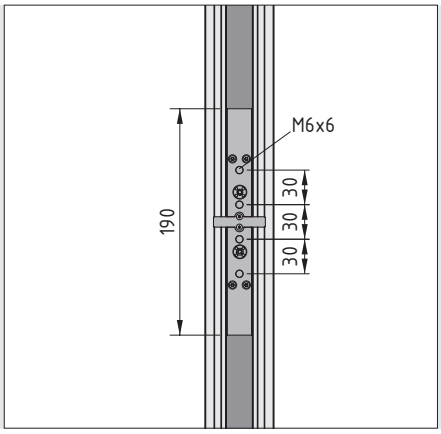
	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit KLE 6 60x60 LR	1600	1500	750	500	20	50	75	500
Linear Unit KLE 8 80x80 LR	2000	1900	1500	1000	50	100	150	1500

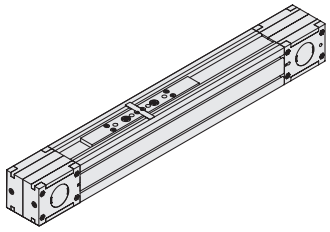
Linear Unit KLE 6 60x60 LR

- Maximum support span 1600 mm when Fz = max
- Operating load 500 N







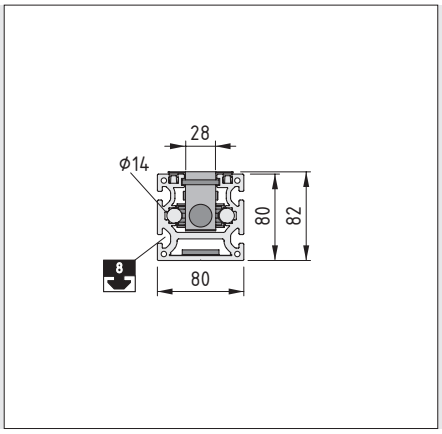


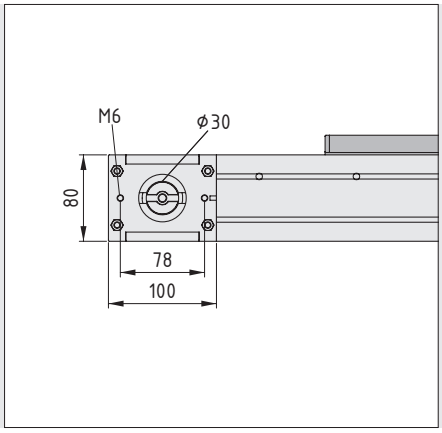
Linear Unit KLE 6 60x60 LR			6
Maximum stroke H_{max}	5750	mm	
Safety clearance S	26	mm	
Basic mass (when stroke length = 0 mm) m_1	4.8	kg	
Mass per mm of stroke m_2	5.0	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.1	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	155	mm/rev	
1 pce.			0.0.605.07

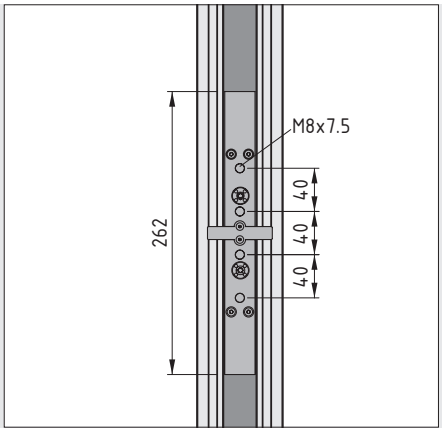
Drive elements		
Drive Set KLE 6 60x60	76	0.0.609.80
Synchronising Set KLE 6 60x60	88	0.0.609.81

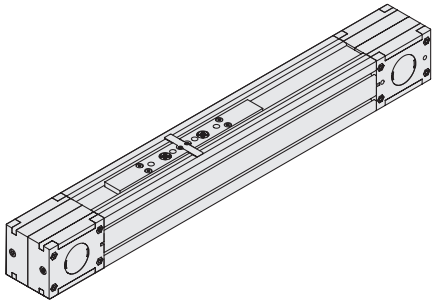
Linear Unit KLE 8 80x80 LR

- Maximum support span 2000 mm when Fz = max
- Operating load 1500 N









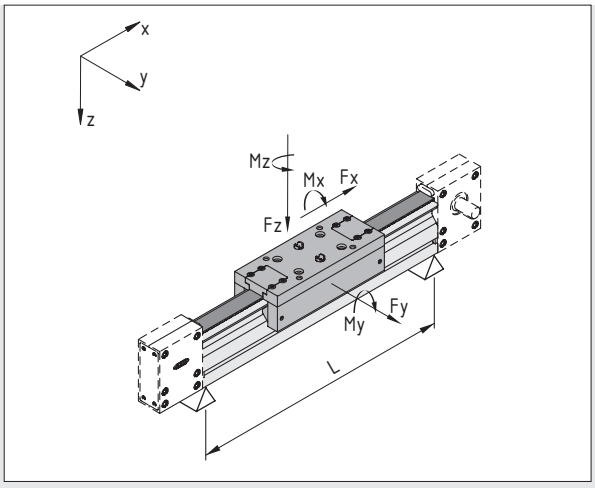
Linear Unit KLE 8 80x80 LR			8
Maximum stroke H_{max}	5600	mm	
Safety clearance S	63.5	mm	
Basic mass (when stroke length = 0 mm) m_1	11.6	kg	
Mass per mm of stroke m_2	8.8	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.1	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	210	mm/rev	
1 pce.			0.0.605.02

Drive elements		
Drive Set KLE 8 80x80	76	0.0.609.77
Synchronising Set KLE 8 80x80	88	0.0.609.78

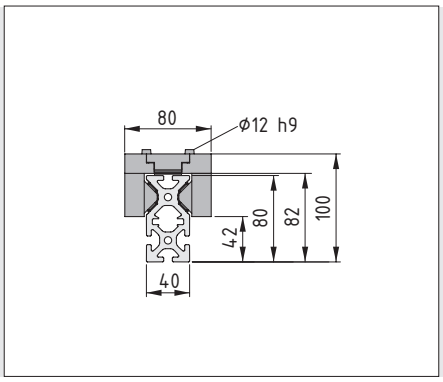
Linear Units KRF

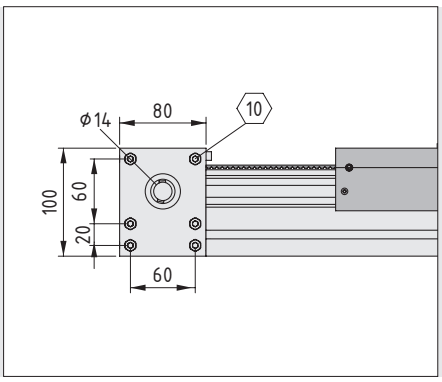
- Extremely torsion-resistant profile
- Criss-crossed roller guide for optimum force transfer

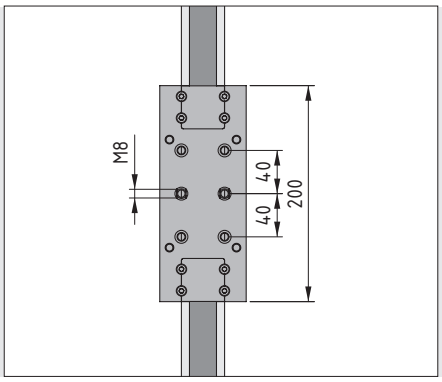
Thanks to its criss-crossed roller guide and high-strength steel tracks, Linear Unit KRF is ideal for demanding applications
Two Linear Units KRF can also be used in parallel and synchronised together. In this case, Linear Unit KRF 8 80x40 ZR, synchronous drive permits connection to a Synchroniser Shaft on the opposite side to the motor. Synchronising Set KRF 8 80 ZR (0.0.648.58) is used to make this connection.

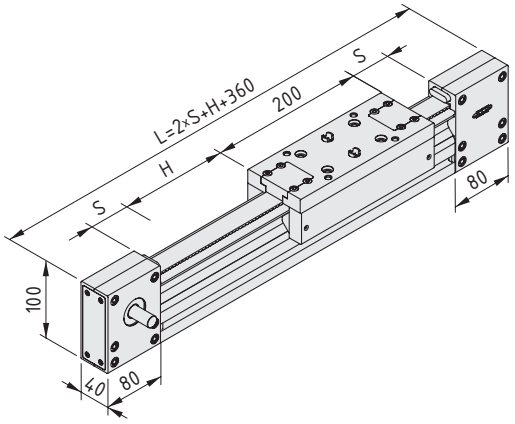


	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit KRF 8 80x40 ZR, left-hand input shaft	1100	500	2500	2500	50	140	140	1000
Linear Unit KRF 8 80x40 ZR, right-hand input shaft	1100	500	2500	2500	50	140	140	1000
Linear Unit KRF 8 80x40 ZR, synchronous drive	1100	500	2500	2500	50	140	140	1000

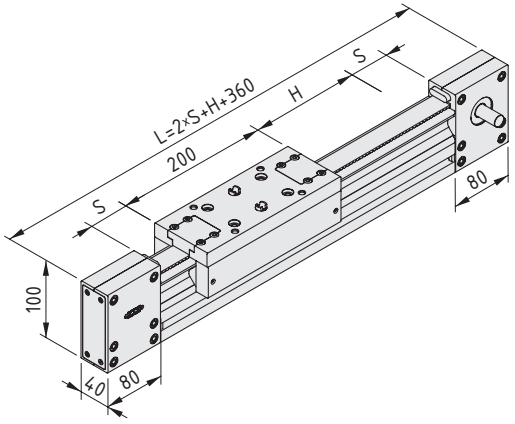




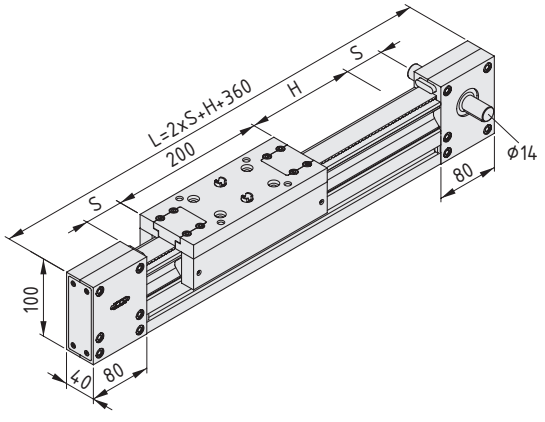




Linear Unit KRF 8 80x40 ZR, right-hand input shaft			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	20	mm	
Basic mass (when stroke length = 0 mm) m_1	5.1	kg	
Mass per mm of stroke m_2	4.5	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.1	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	145	mm/rev	
1 pce.			0.0.648.66



Linear Unit KRF 8 80x40 ZR, left-hand input shaft			8
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	4.5	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.1	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	145	mm/rev	
1 pce.			0.0.641.21

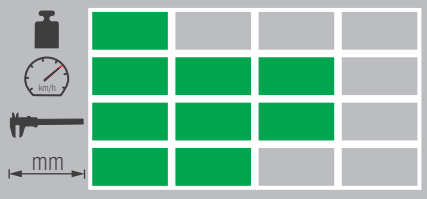


Linear Unit KRF 8 80x40 ZR, synchronous drive			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	20	mm	
Basic mass (when stroke length = 0 mm) m_1	5.1	kg	
Mass per mm of stroke m_2	4.5	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.1	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	145	mm/rev	
1 pce.			0.0.648.69

Drive elements		
Drive Set KRF 8 ZR	78	0.0.627.46
Synchronising Set KRF 8 80 ZR	89	0.0.648.58

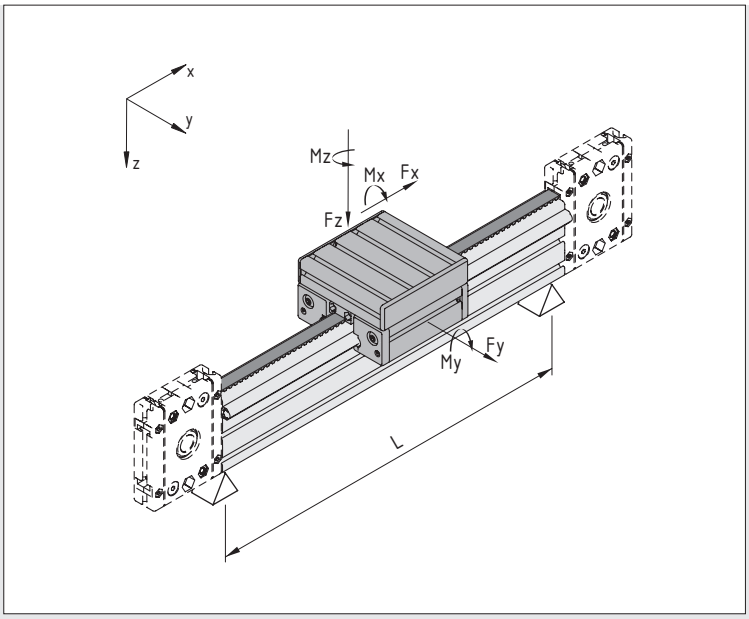
Linear Unit LRE 5 D6 60x20 ZU 40 R10

- Speedy, compact and versatile
- Extremely space-saving
- Special lengths on request

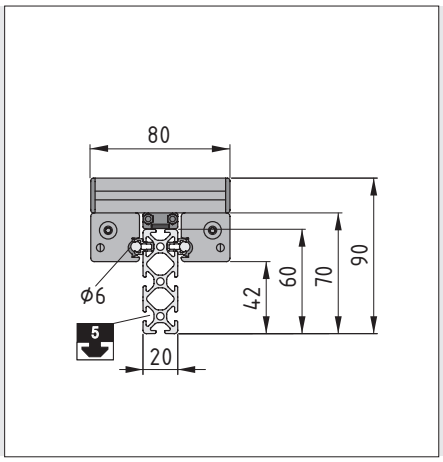


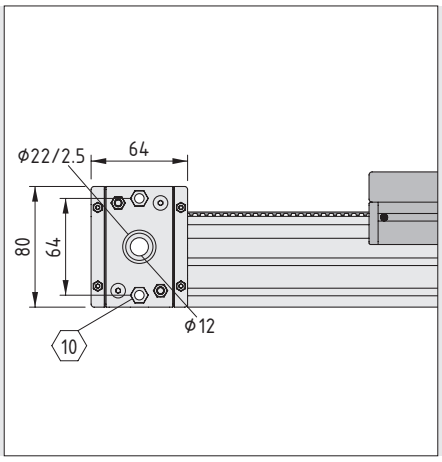
max. 320 N
up to 5 m/s
max. 0.15 mm
max. 2828 mm

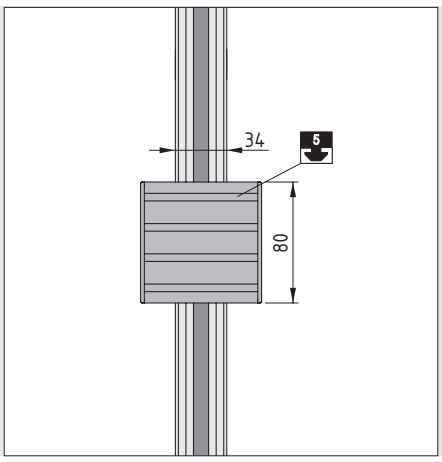
The compact Linear Unit with exceptional performance. Thanks to stable roller elements and a fast timing-belt drive, Linear Unit LRE 5 D6 60x20 ZU 40 R10 is ideal for applications with limited installation space where short cycle times are important. Able to carry a payload of up to 32 kg, it can move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

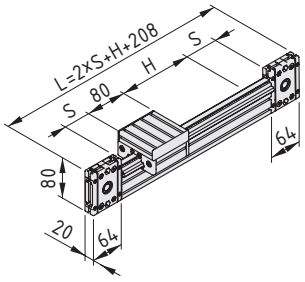


	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 5 D6 60x20 ZU 40 R10	1200	400	400	320	4	6	8	150







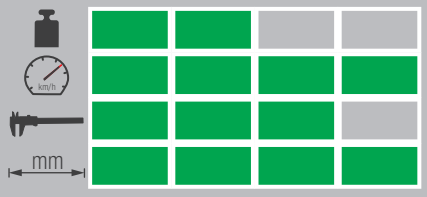


Linear Unit LRE 5 D6 60x20 ZU 40 R10			5
Maximum stroke H_{max}	2828	mm	
Safety clearance S	46	mm	
Basic mass (when stroke length = 0 mm) m_1	1.2	kg	
Mass per mm of stroke m_2	1.9	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	5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

Drive elements		
Drive Set 5 40 D30/D12	80	0.0.662.49
Synchronising Set D30/D12	91	0.0.662.51

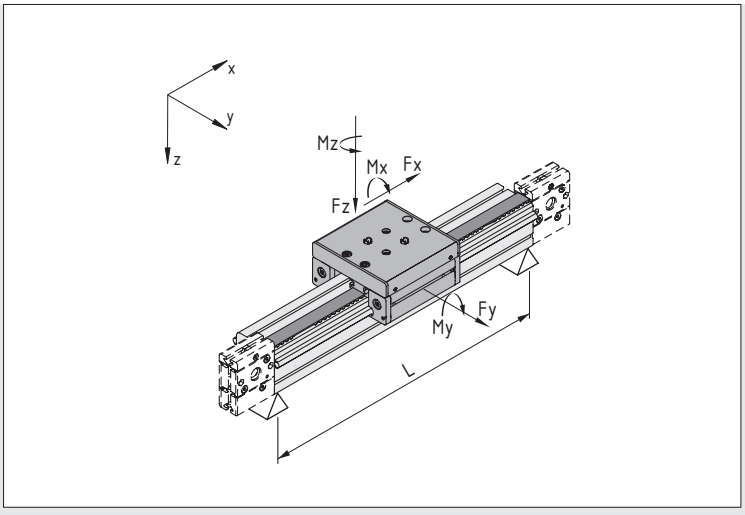
Linear Units LRE 8 D10

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



max. 880 N
up to 10 m/s
max. 0.15 mm
max. 5760 mm

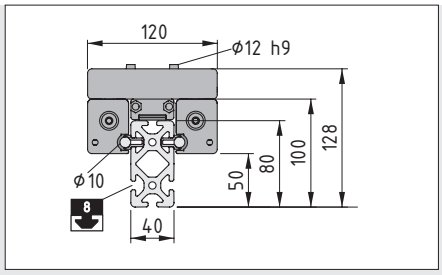
Fast speed, streamlined dimensions and high payload – all are features of Linear Units LRE 8 D10. The slide measures just 120 mm wide and is guided securely along steel shafts by roller elements. The slide has a flat surface for accommodating application-specific mounting holes.
The ingenious positioning collars ensure that the chosen application can be mounted on the slide 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.

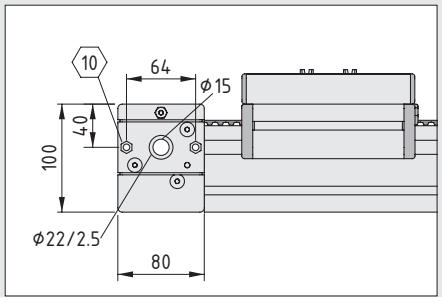


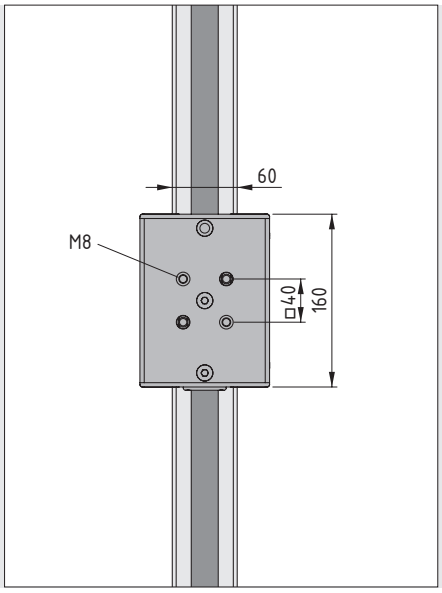
	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D10 80x40 ZU 40 R25	1900	800	1300	880	22	35	52	870
Linear Unit LRE 8 D10 80x80 ZU 40 R25	2500	2100	1300	880	39	35	52	870

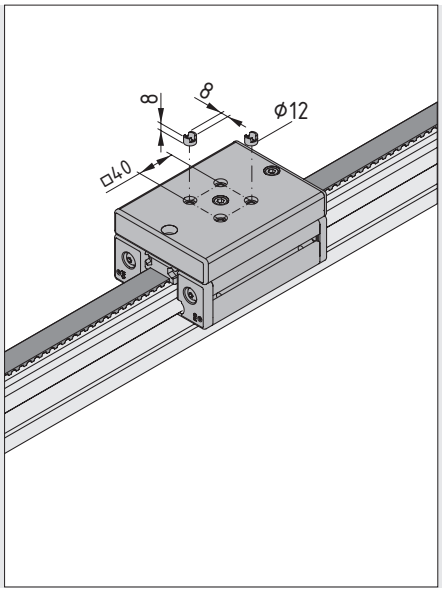
Linear Unit LRE 8 D10 80x40 ZU 40 R25

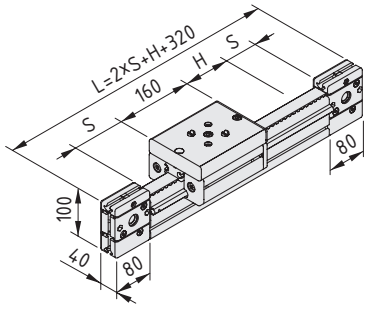
- Maximum support span 1900 mm when Fz = max
- Mx max 22 Nm









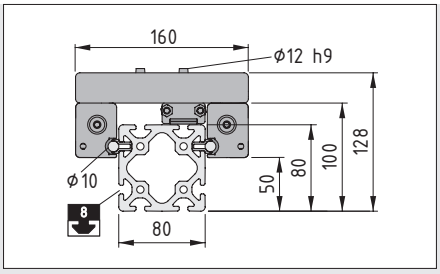


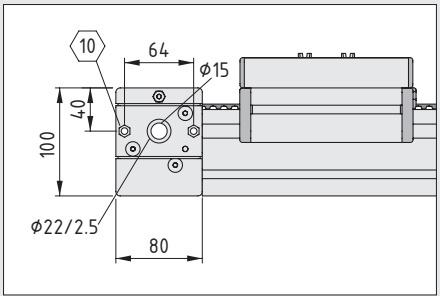
Linear Unit LRE 8 D10 80x40 ZU 40 R25			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	40	mm	
Basic mass (when stroke length = 0 mm) m_1	6.8	kg	
Mass per mm of stroke m_2	6.5	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	150	mm/rev	
1 pce.			0.0.662.70

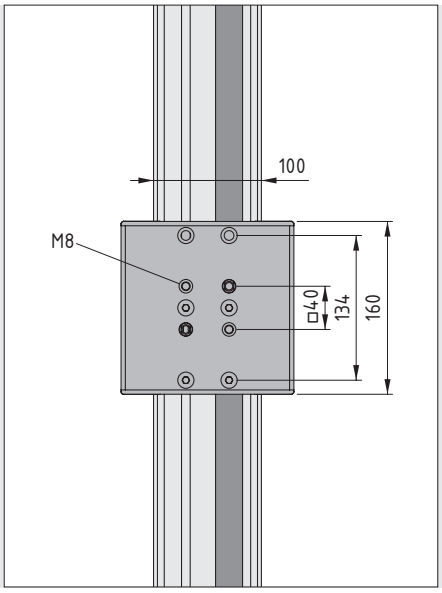
Drive elements		
Drive Set 8 40 D40/D15	81	0.0.668.02
Synchronising Set D40/D15	91	0.0.662.50

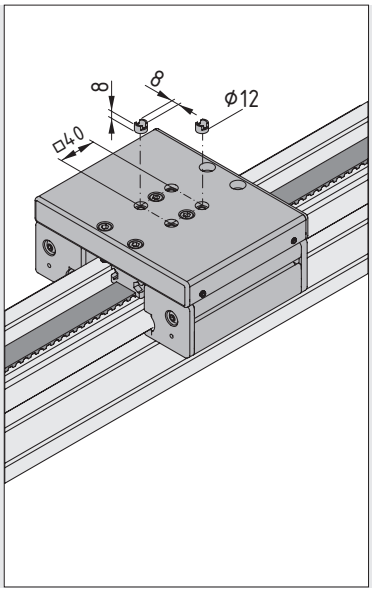
Linear Unit LRE 8 D10 80x80 ZU 40 R25

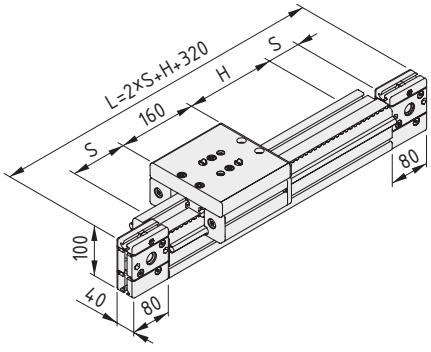
- Maximum support span 2500 mm when Fz = max
- Mx max 39 Nm









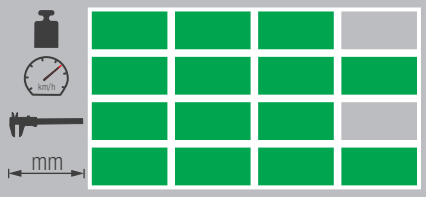


Linear Unit LRE 8 D10 80x80 ZU 40 R25			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	40	mm	
Basic mass (when stroke length = 0 mm) m_1	7.8	kg	
Mass per mm of stroke m_2	9.1	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed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

Drive elements		
Drive Set 8 40 D40/D15	81	0.0.668.02
Synchronising Set D40/D15	91	0.0.662.50

Linear Units LRE 8 D14

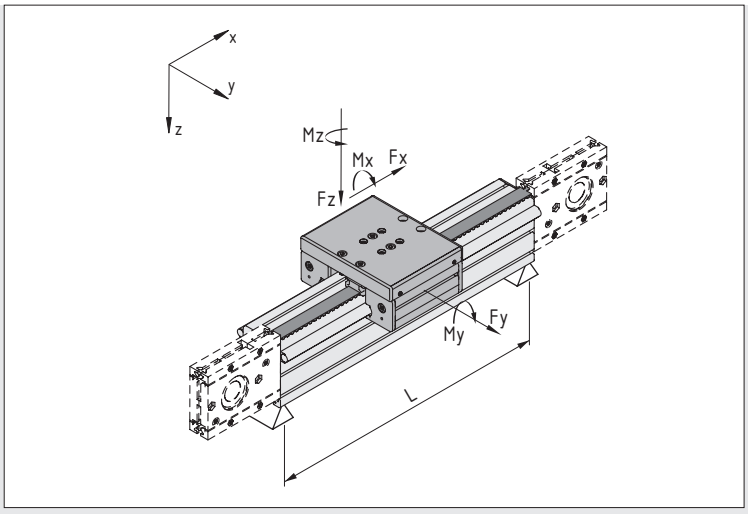
- Fast, strong and universal
- The strong all-rounder
- Special lengths on request



max. 1600 N
up to 10 m/s
max. 0.15 mm
max. 5820 mm

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 slide 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.

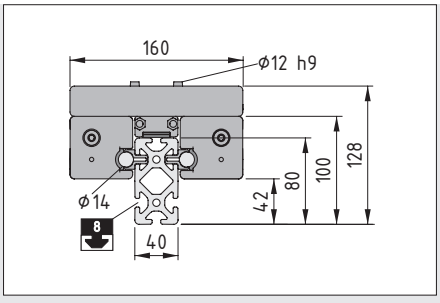


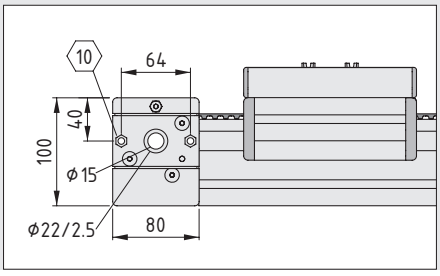
	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D14 80x40 ZU 40 R25	1400	600	2400	1600	40	64	96	870
Linear Unit LRE 8 D14 80x40 ZU 80 R25	1400	600	2400	1600	40	64	96	1200
Linear Unit LRE 8 D14 80x80 ZU 40 R25	1900	1500	2400	1600	76	64	96	870

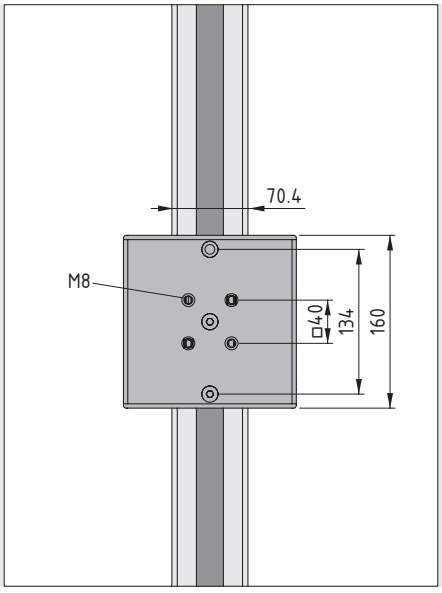
	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D14 80x80 ZU 80 R25	1900	1500	2400	1600	76	64	96	1200
Linear Unit LRE 8 D14 120x80 ZU 40 R25	3200	1900	2400	1600	76	64	96	870
Linear Unit LRE 8 D14 120x80 ZU 80 R25	3200	1900	2400	1600	76	64	96	1200

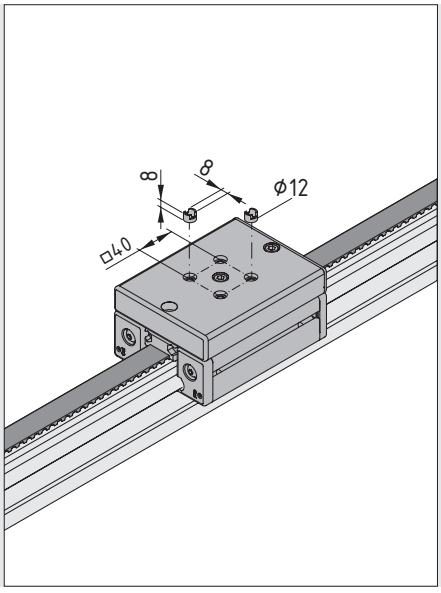
Linear Unit LRE 8 D14 80x40 ZU 40 R25

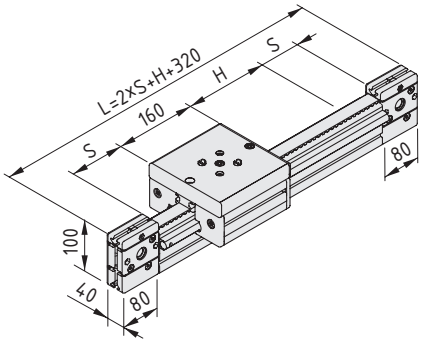
- Maximum support span 1400 mm when Fz = max
- Operating load 870 N









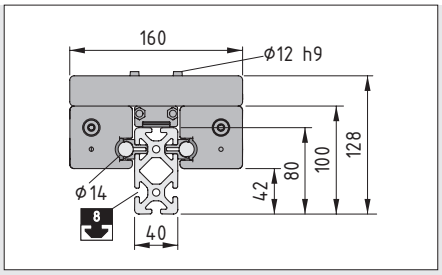


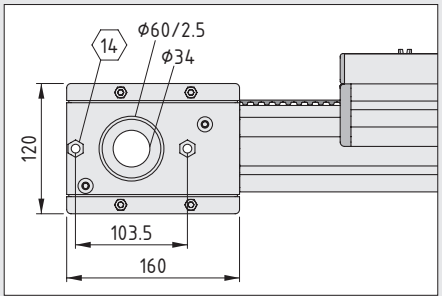
Linear Unit LRE 8 D14 80x40 ZU 40 R25			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	40	mm	
Basic mass (when stroke length = 0 mm) m_1	8.4	kg	
Mass per mm of stroke m_2	7.9	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	150	mm/rev	
1 pce.			0.0.662.91

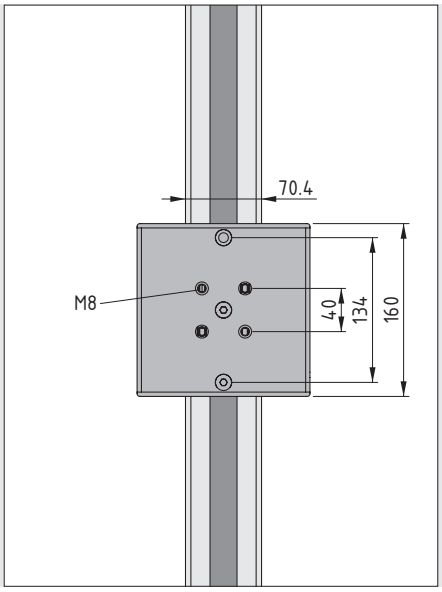
Drive elements		
Drive Set 8 40 D40/D15	81	0.0.668.02
Synchronising Set D40/D15	91	0.0.662.50

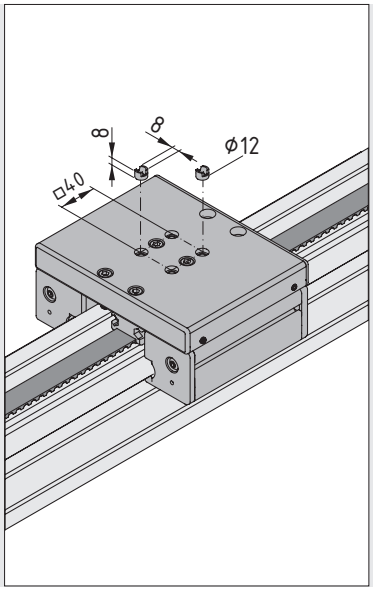
Linear Unit LRE 8 D14 80x40 ZU 80 R25

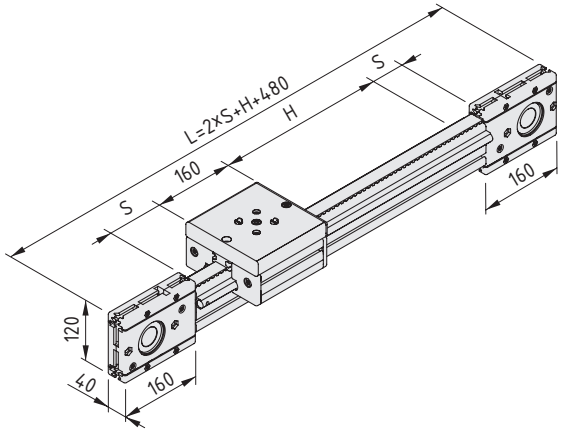
- Maximum support span 1400 mm when Fz = max
- Operating load 1200 N









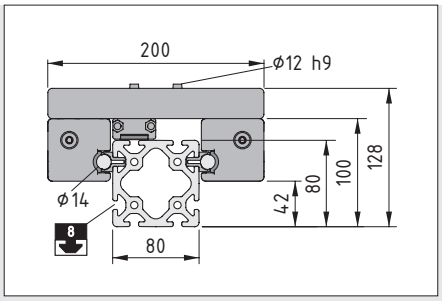


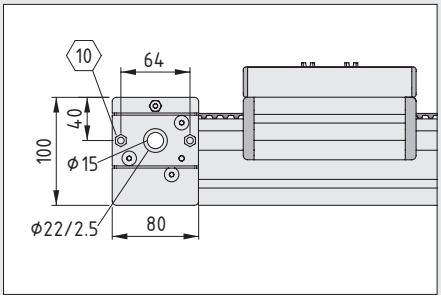
Linear Unit LRE 8 D14 80x40 ZU 80 R25		
Maximum stroke H_{max}	5820	mm
Safety clearance S	10	mm
Basic mass (when stroke length = 0 mm) m_1	12.0	kg
Mass per mm of stroke m_2	7.9	g/mm
Total mass m =	$m_1 + H * m_2$	
Repeat accuracy	0.15	mm
Maximum acceleration	10	m/s^2
Maximum travelling speed	10	m/s
Feed constant	280	mm/rev
1 pce.		0.0.663.12

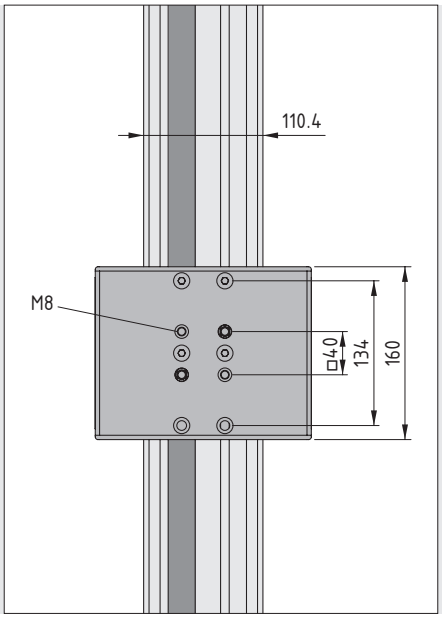
Drive elements		
Drive Set 8 80 D55/D34	81	0.0.668.03
Synchronising Set D55/D34	91	0.0.666.60

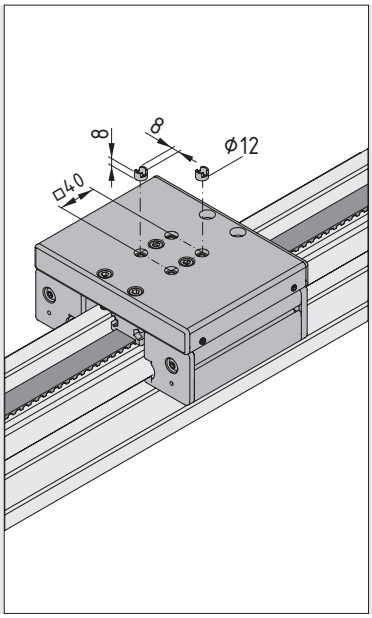
Linear Unit LRE 8 D14 80x80 ZU 40 R25

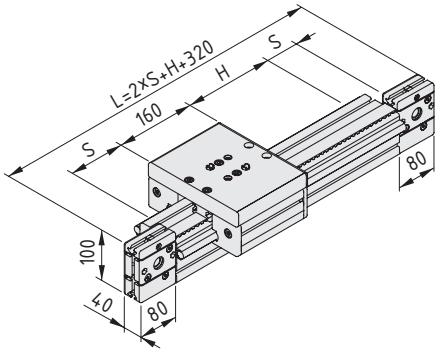
- Maximum support span 1900 mm when Fz = max
- Operating load 870 N









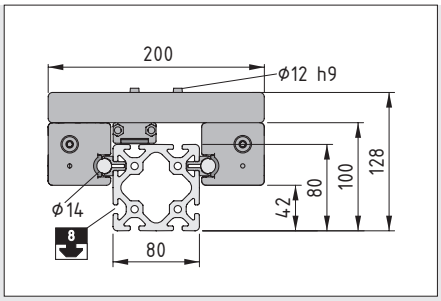


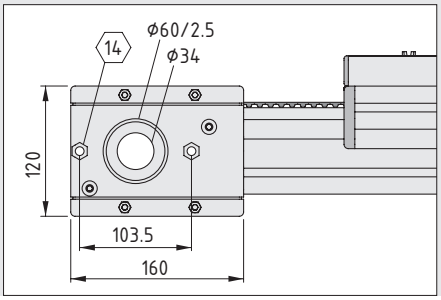
Linear Unit LRE 8 D14 80x80 ZU 40 R25			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	40	mm	
Basic mass (when stroke length = 0 mm) m_1	9.4	kg	
Mass per mm of stroke m_2	10.6	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	150	mm/rev	
1 pce.			0.0.663.25

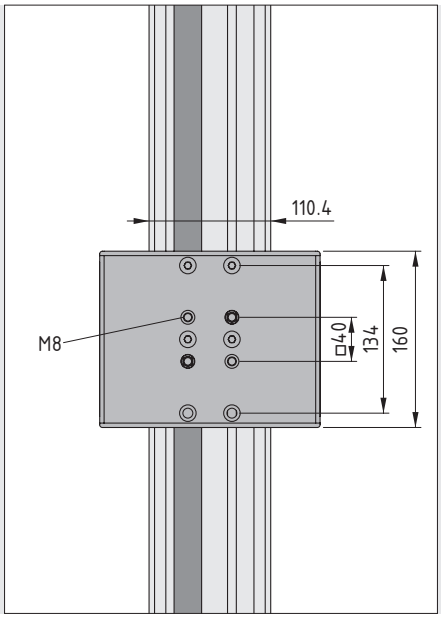
Drive elements		
Drive Set 8 40 D40/D15	81	0.0.668.02
Synchronising Set D40/D15	91	0.0.662.50

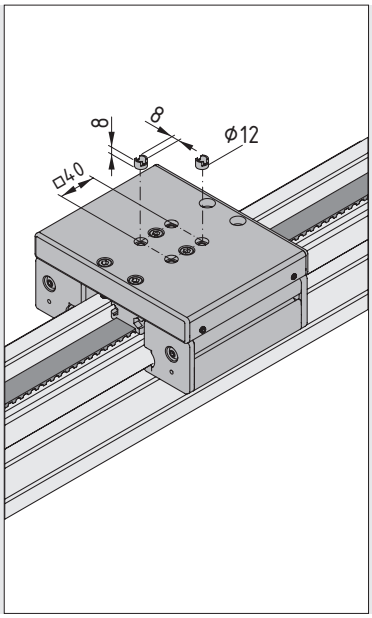
Linear Unit LRE 8 D14 80x80 ZU 80 R25

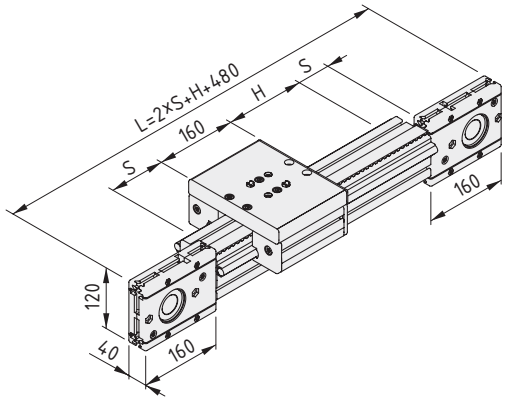
- Maximum support span 1900 mm when Fz = max
- Operating load 1200 N









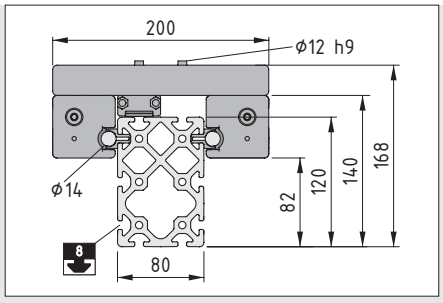


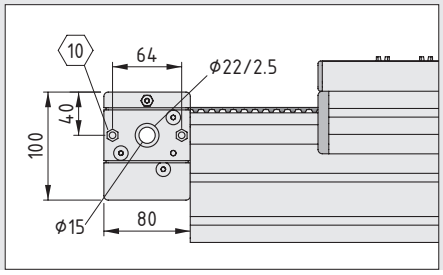
Linear Unit LRE 8 D14 80x80 ZU 80 R25			8
Maximum stroke H_{max}	5820	mm	
Safety clearance S	10	mm	
Basic mass (when stroke length = 0 mm) m_1	12.8	kg	
Mass per mm of stroke m_2	10.6	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	280	mm/rev	
1 pce.			0.0.663.26

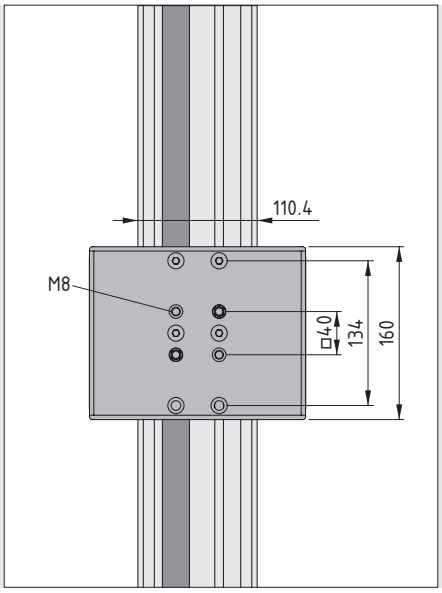
Drive elements		
Drive Set 8 80 D55/D34	81	0.0.668.03
Synchronising Set D55/D34	91	0.0.666.60

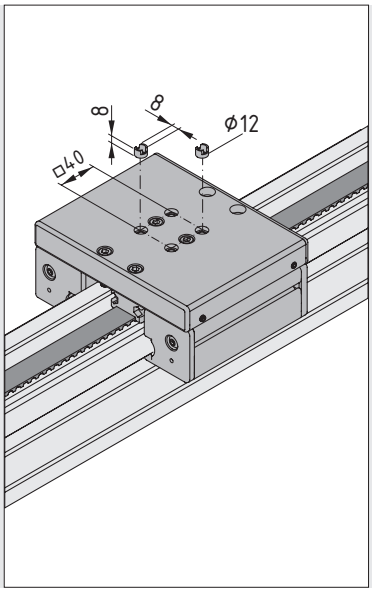
Linear Unit LRE 8 D14 120x80 ZU 40 R25

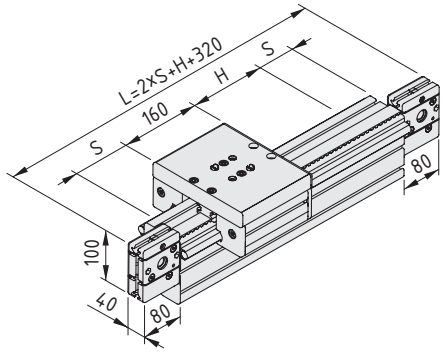
- Maximum support span 3200 mm when Fz = max
- Operating load 870 N









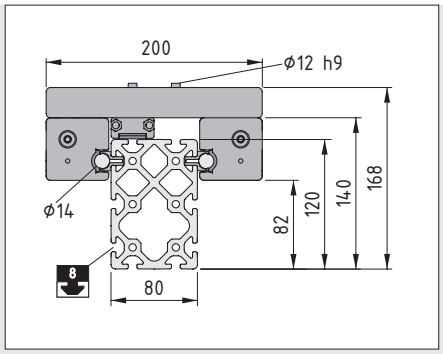


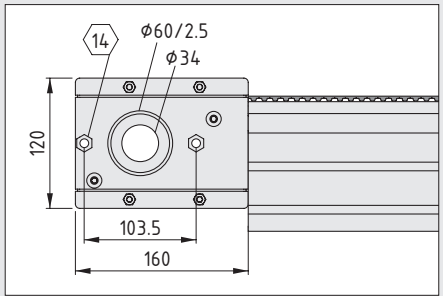
Linear Unit LRE 8 D14 120x80 ZU 40 R25			8
Maximum stroke H_{max}	5760	mm	
Safety clearance S	40	mm	
Basic mass (when stroke length = 0 mm) m_1	10.3	kg	
Mass per mm of stroke m_2	14.2	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed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

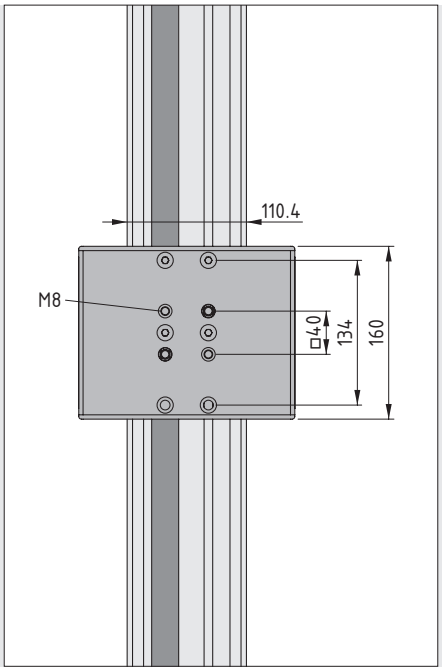
Drive elements		
Drive Set 8 40 D40/D15	81	0.0.668.02
Synchronising Set D40/D15	91	0.0.662.50

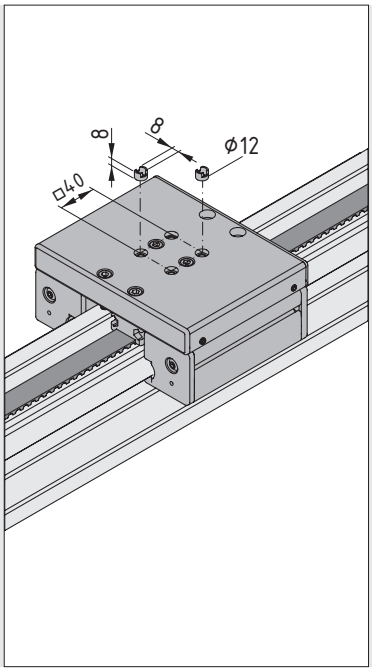
Linear Unit LRE 8 D14 120x80 ZU 80 R25

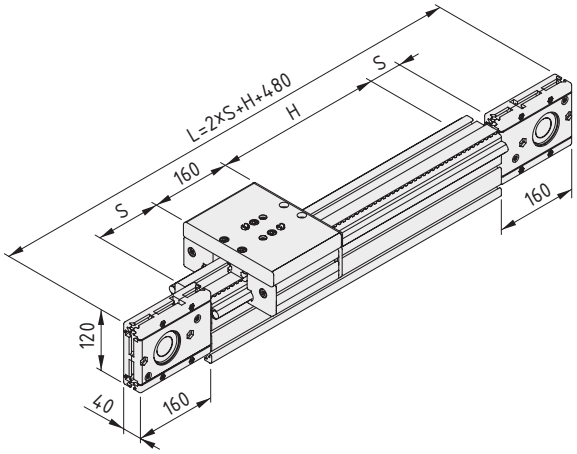
- Maximum support span 3200 mm when Fz = max
- Operating load 1200 N









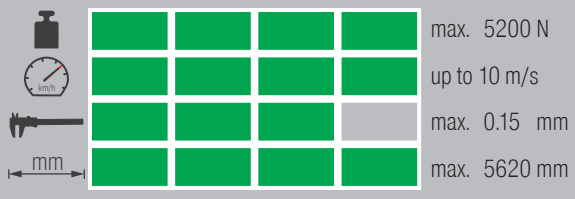


Linear Unit LRE 8 D14 120x80 ZU 80 R25			
Maximum stroke H_{max}	5820	mm	
Safety clearance S	10	mm	
Basic mass (when stroke length = 0 mm) m_1	13.5	kg	
Mass per mm of stroke m_2	14.2	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	280	mm/rev	
1 pce.			0.0.663.35

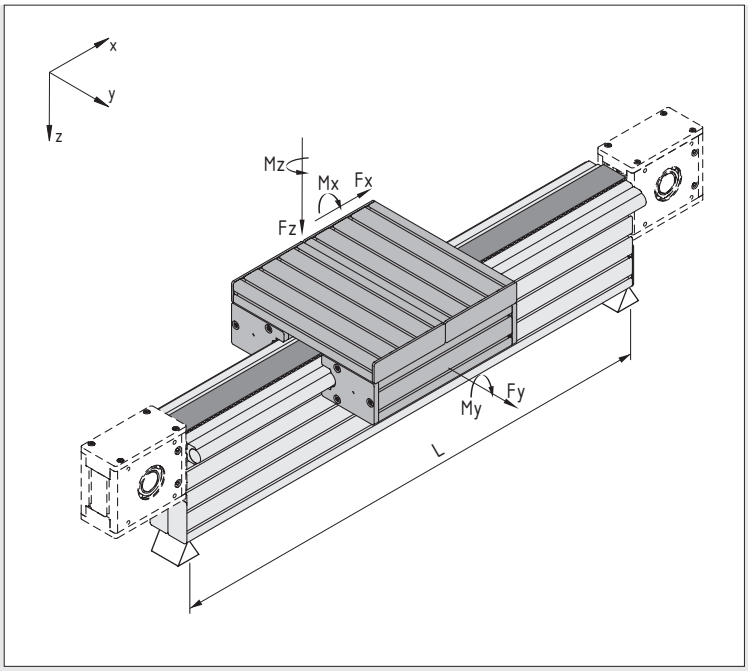
Drive elements		
Drive Set 8 80 D55/D34	81	0.0.668.03
Synchronising Set D55/D34	91	0.0.666.60

Linear Units LRE 8 D25

- For payloads up to 530 kg
- The Linear Unit for heavy loads



The Linear Units for heavy-duty use. Linear Units LRE 8 D25 can transport payloads up to 530 kg. This load-carrying capacity is based on solid roller elements, stable steel shafts and support profiles with a cross-section of up to 200x80 mm. 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 operational forces generated by hard acceleration and deceleration. Various support profiles are available so that profile deflection can be minimised for high loads and support spans. The application is fastened to the stable slide via the system grooves on the carriage plate.

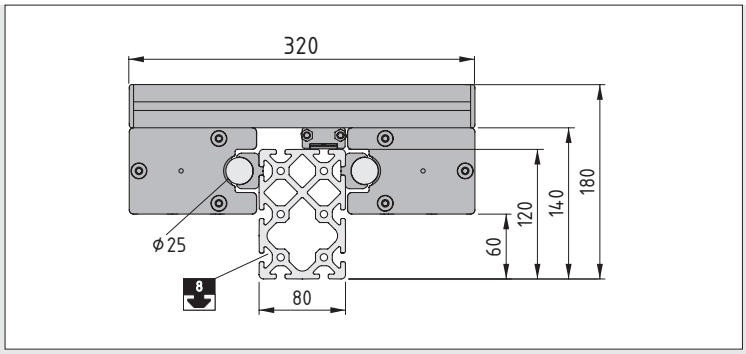


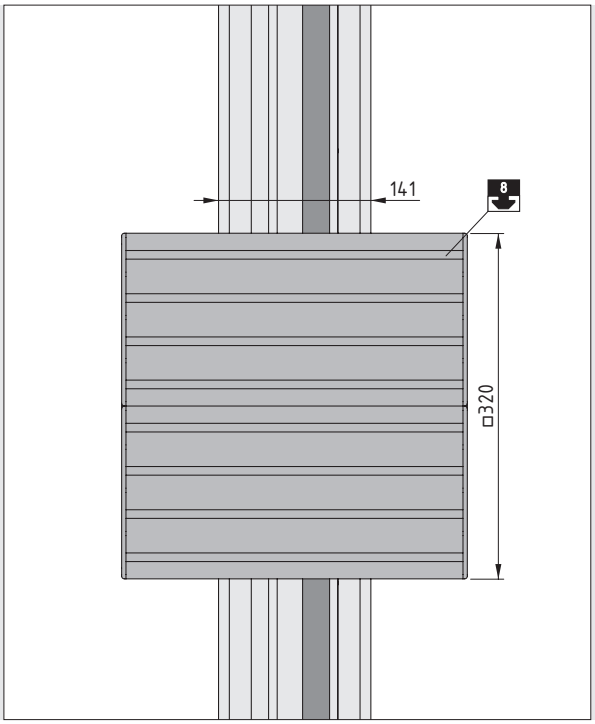
	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D25 120x80 ZU 80 R25	1900	1000	7600	5200	301	520	760	1200

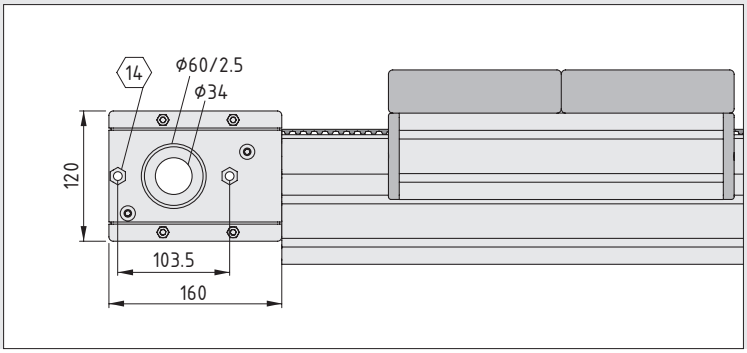
	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D25 120x80 ZU 80 R50	1900	1000	7600	5200	301	520	760	2100
Linear Unit LRE 8 D25 200x80 ZU 80 R25	3600	1300	7600	5200	301	520	760	1200
Linear Unit LRE 8 D25 200x80 ZU 80 R50	3600	1300	7600	5200	301	520	760	2100

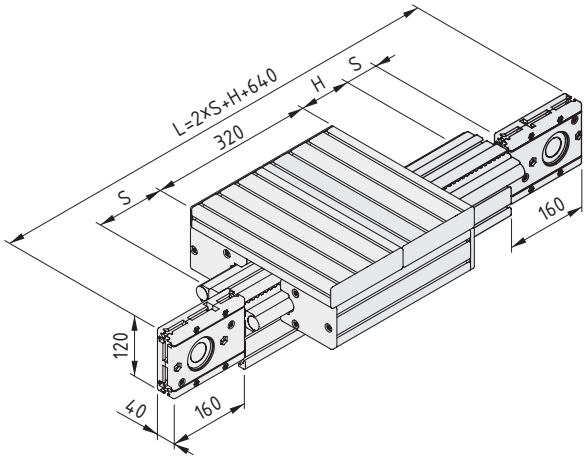
Linear Unit LRE 8 D25 120x80 ZU 80 R25

- Maximum support span 1900 mm when Fz = max
- Operating load 1200 N







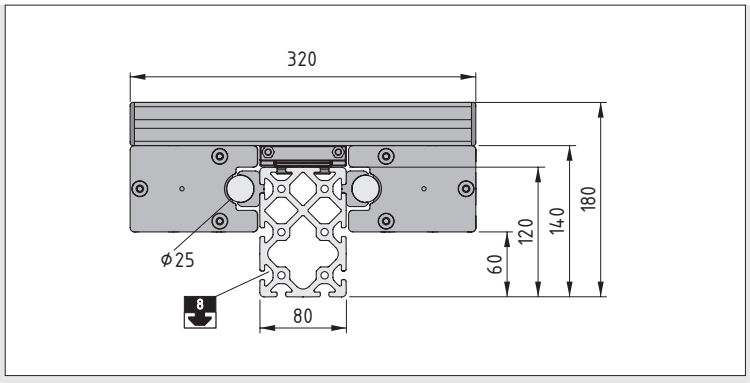


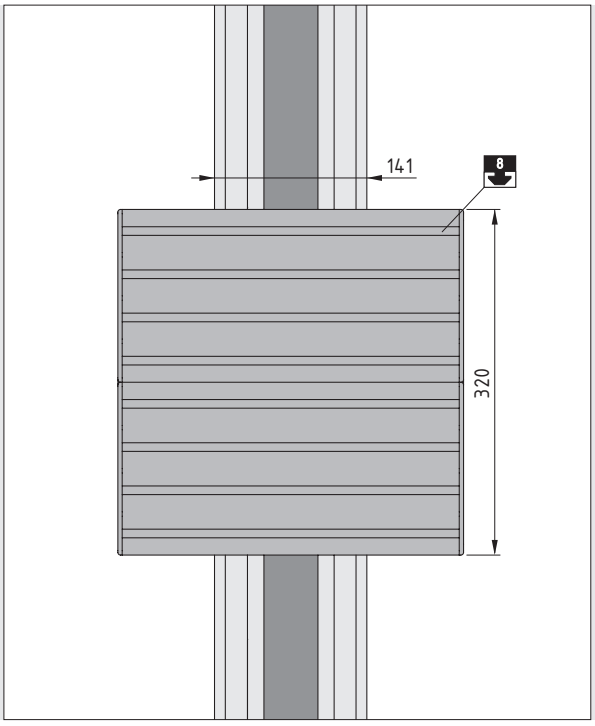
Linear Unit LRE 8 D25 120x80 ZU 80 R25			8
Maximum stroke H_{max}	5620	mm	
Safety clearance S	30	mm	
Basic mass (when stroke length = 0 mm) m_1	31.2	kg	
Mass per mm of stroke m_2	20.9	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	280	mm/rev	
1 pce.			0.0.663.36

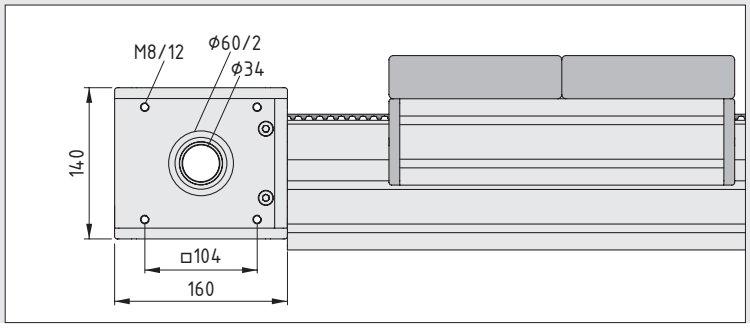
Drive elements		
Drive Set 8 80 D55/D34	81	0.0.668.03
Synchronising Set D55/D34	91	0.0.666.60

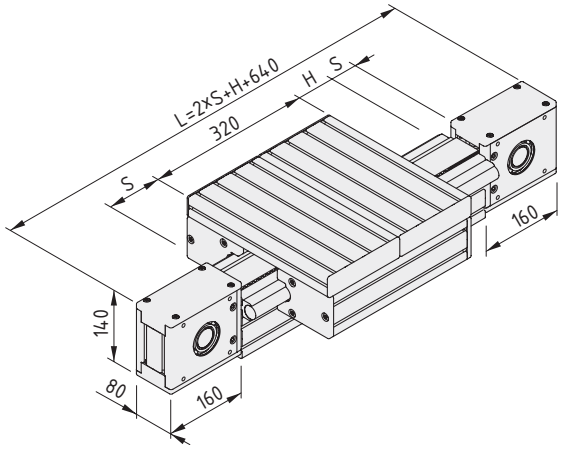
Linear Unit LRE 8 D25 120x80 ZU 80 R50

- Maximum support span 1900 mm when Fz = max
- Operating load 2100 N







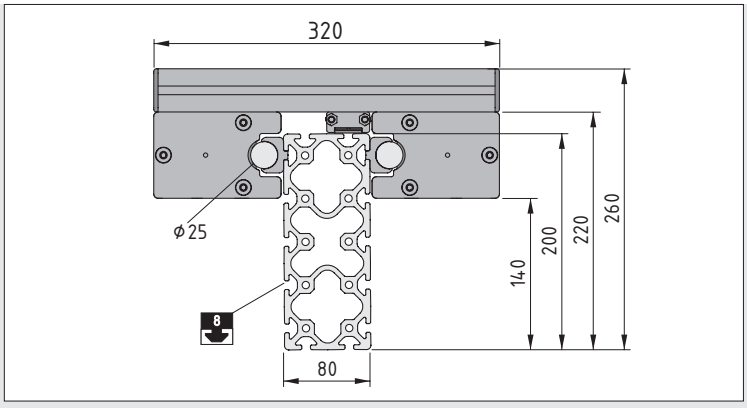


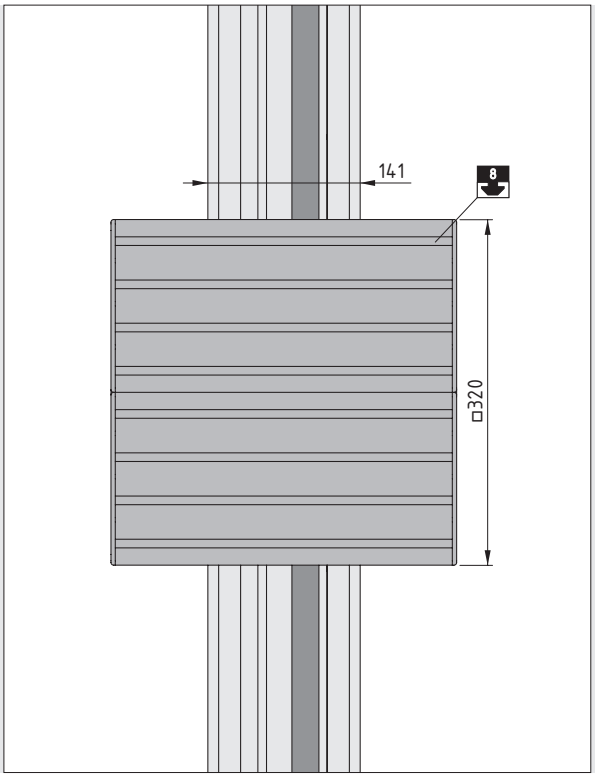
Linear Unit LRE 8 D25 120x80 ZU 80 R50			8
Maximum stroke H_{max}	5620	mm	
Safety clearance S	30	mm	
Basic mass (when stroke length = 0 mm) m_1	33.2	kg	
Mass per mm of stroke m_2	20.9	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	280	mm/rev	
1 pce.			0.0.666.65

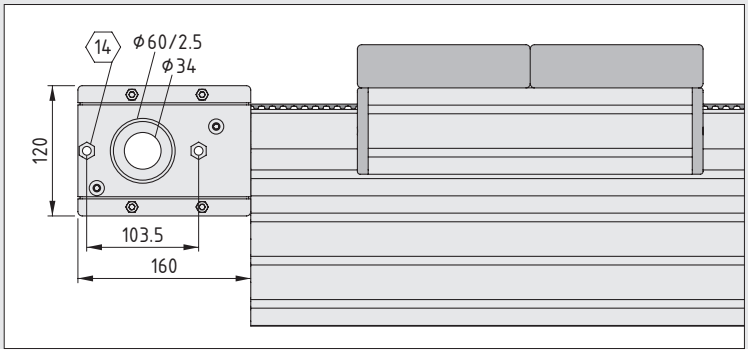
Drive elements		
Drive Set 8 80 D80/D34	81	0.0.668.04
Synchronising Set D80/D34	91	0.0.666.61

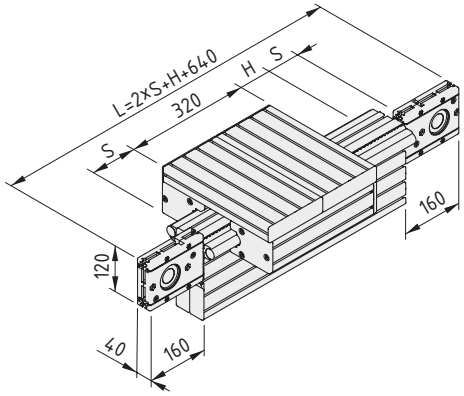
Linear Unit LRE 8 D25 200x80 ZU 80 R25

- Maximum support span 3600 mm when Fz = max
- Operating load 1200 N







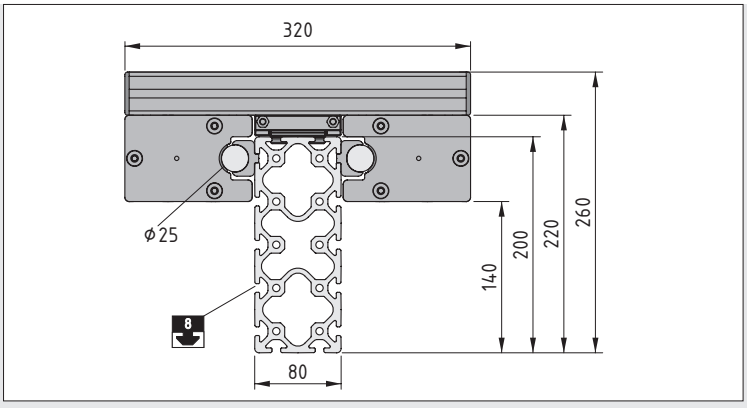


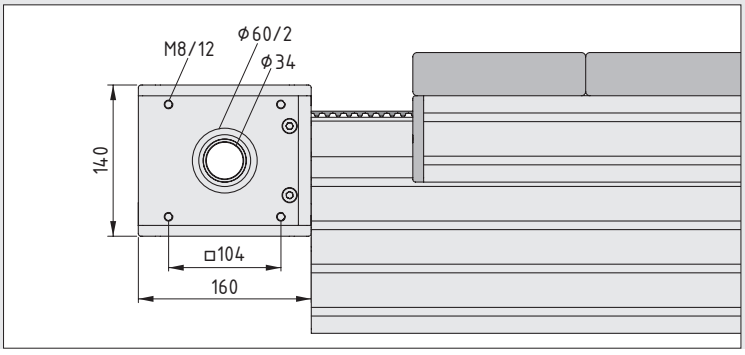
Linear Unit LRE 8 D25 200x80 ZU 80 R25			8
Maximum stroke H_{max}	5620	mm	
Safety clearance S	30	mm	
Basic mass (when stroke length = 0 mm) m_1	32.8	kg	
Mass per mm of stroke m_2	25.2	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	280	mm/rev	
1 pce.			0.0.666.53

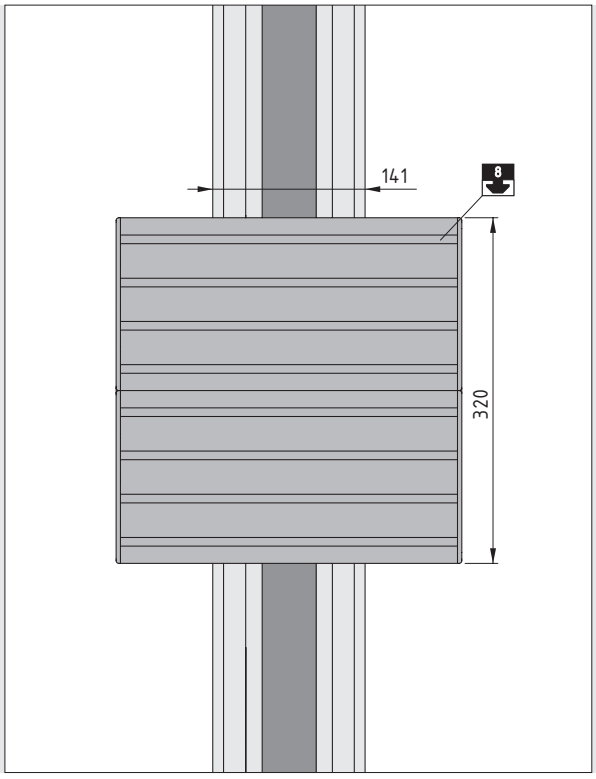
Drive elements		
Drive Set 8 80 D55/D34	81	0.0.668.03
Synchronising Set D55/D34	91	0.0.666.60

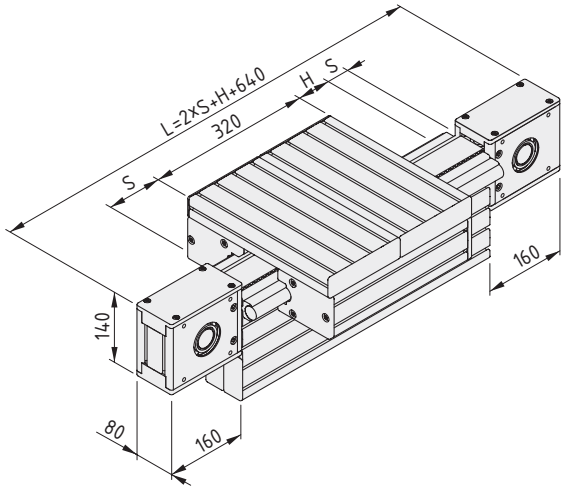
Linear Unit LRE 8 D25 200x80 ZU 80 R50

- Maximum support span 3600 mm when Fz = max
- Operating load 2100 N





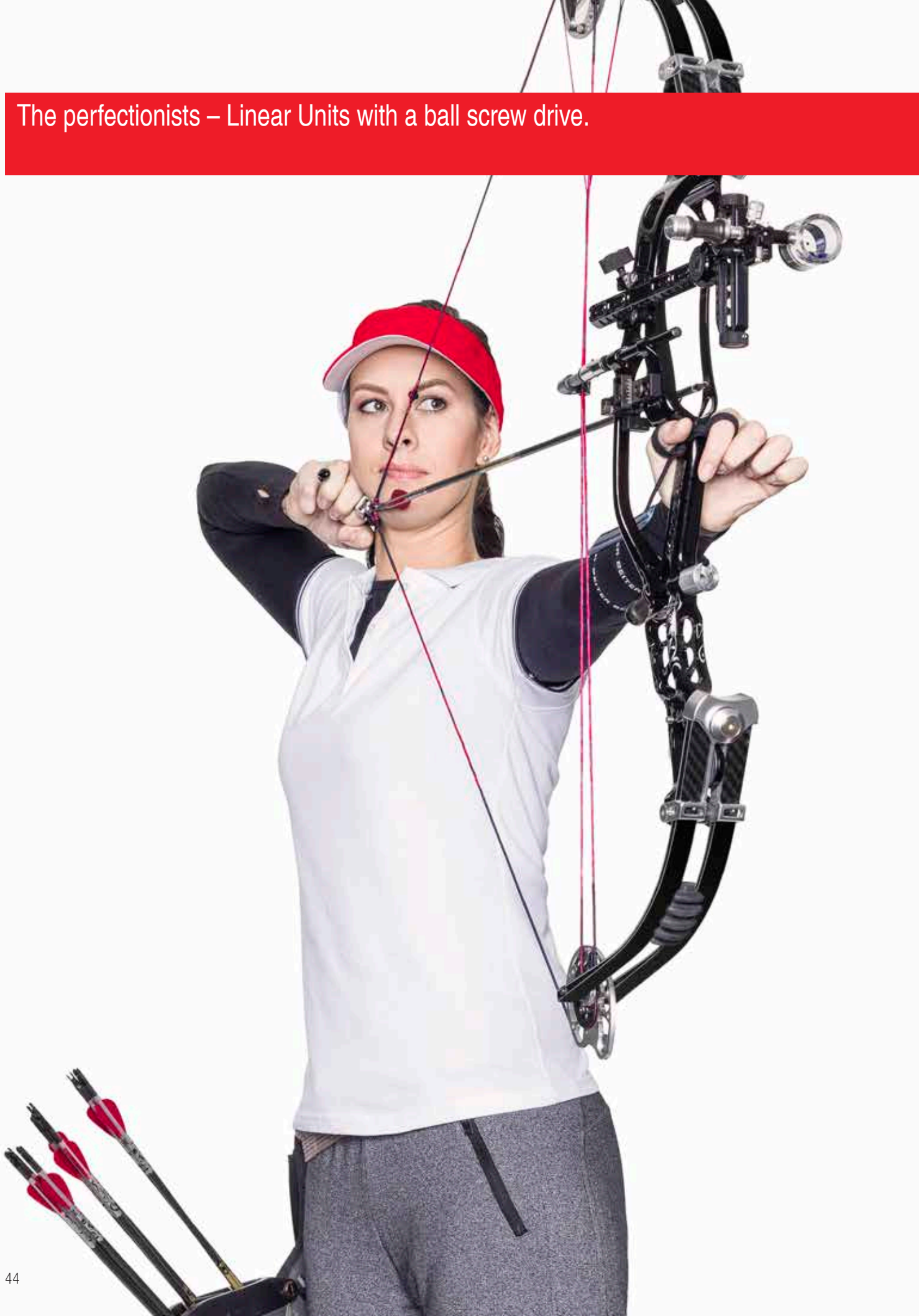




Linear Unit LRE 8 D25 200x80 ZU 80 R50			8
Maximum stroke H_{max}	5620	mm	
Safety clearance S	30	mm	
Basic mass (when stroke length = 0 mm) m_1	34.8	kg	
Mass per mm of stroke m_2	25.2	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.15	mm	
Maximum acceleration	10	m/s^2	
Maximum travelling speed	10	m/s	
Feed constant	280	mm/rev	
1 pce.			0.0.666.66

Drive elements		
Drive Set 8 80 D80/D34	81	0.0.668.04
Synchronising Set D80/D34	91	0.0.666.61

The perfectionists – Linear Units with a ball screw drive.



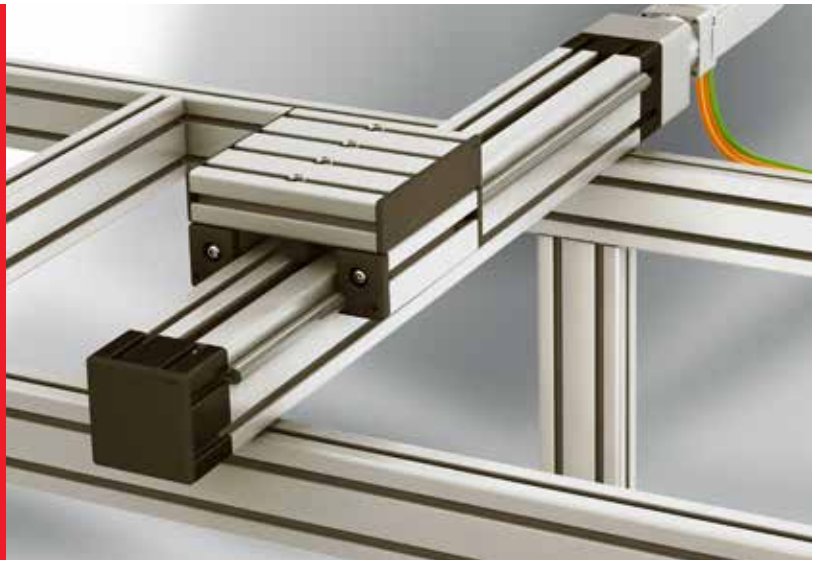
The specialist for precision and drive force: A Ball Screw Unit is used when a great deal of power and precise positioning are required.

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.

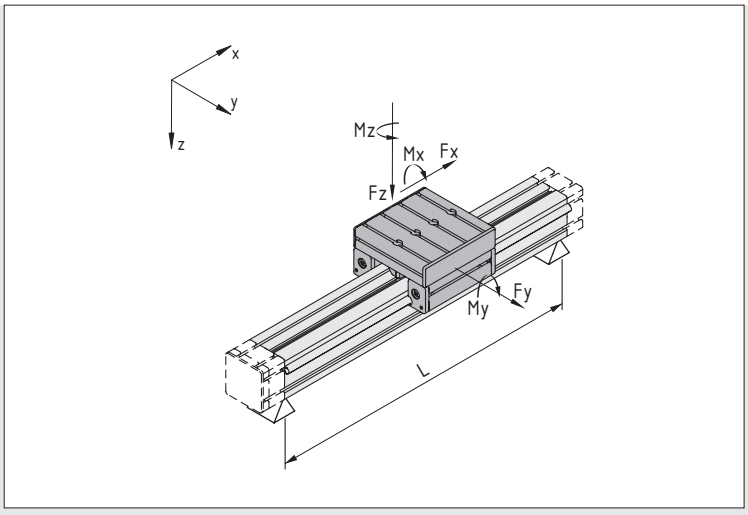
The length of the spindle limits its revolution speed. As a result, a spindle with a large lead is preferable for high driving rates.

This design is less prone to uncontrolled slide movement in vertical applications – due to the transmission ratio of the Ball Screw Unit, the drive only has to provide low braking torque.

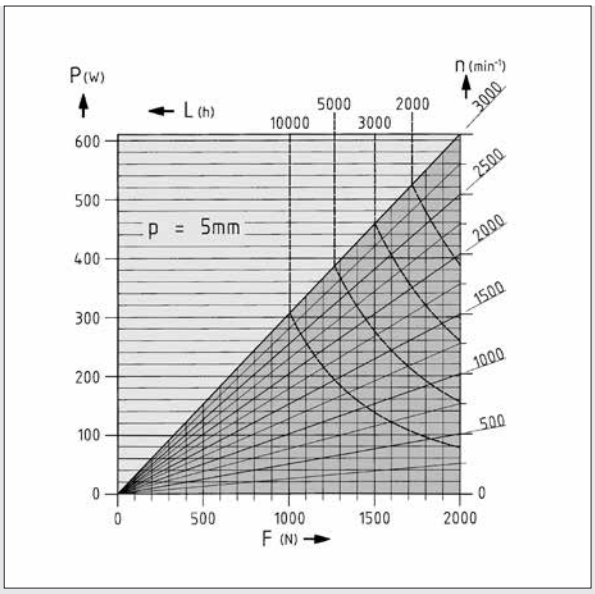
Fig.: Linear Unit LRE 8 D14 80x80 KGT (Art. No. 0.0.668.06)

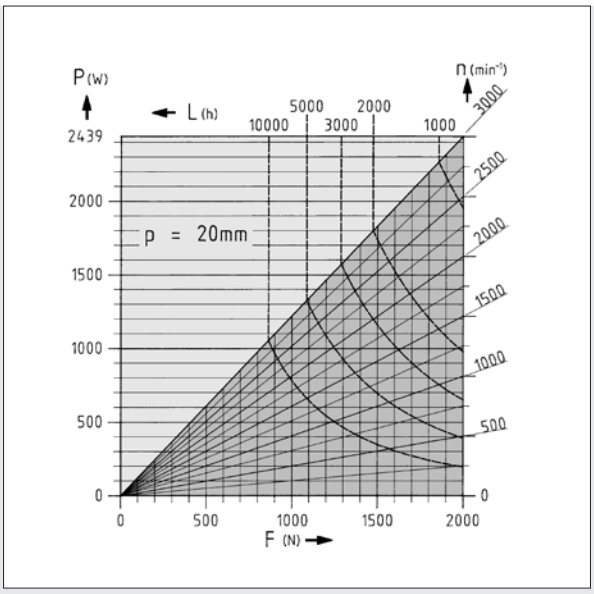


Linear Units LRE 8 D10/14 80x80 KGT

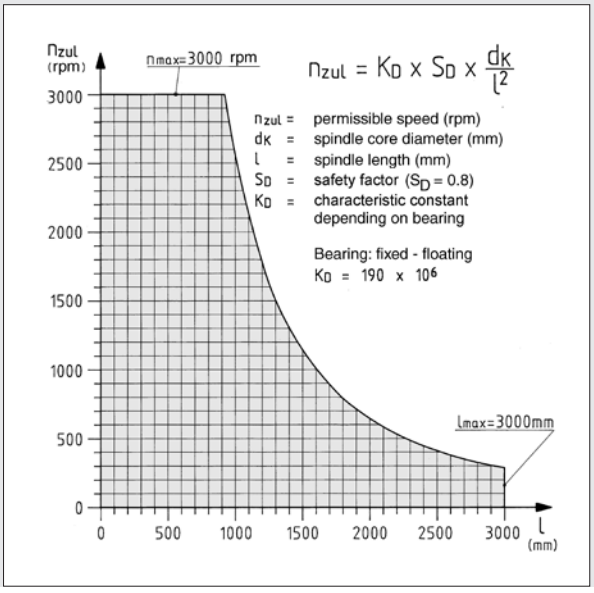


	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D10 80x80 KGT 20x5	2500	2200	1300	880	39	35	52	2000
Linear Unit LRE 8 D10 80x80 KGT 20x20	2500	2200	1300	880	39	35	52	2000
Linear Unit LRE 8 D14 80x80 KGT 20x5	1900	1700	2400	1600	76	64	96	2000
Linear Unit LRE 8 D14 80x80 KGT 20x20	1900	1700	2400	1600	76	64	96	2000

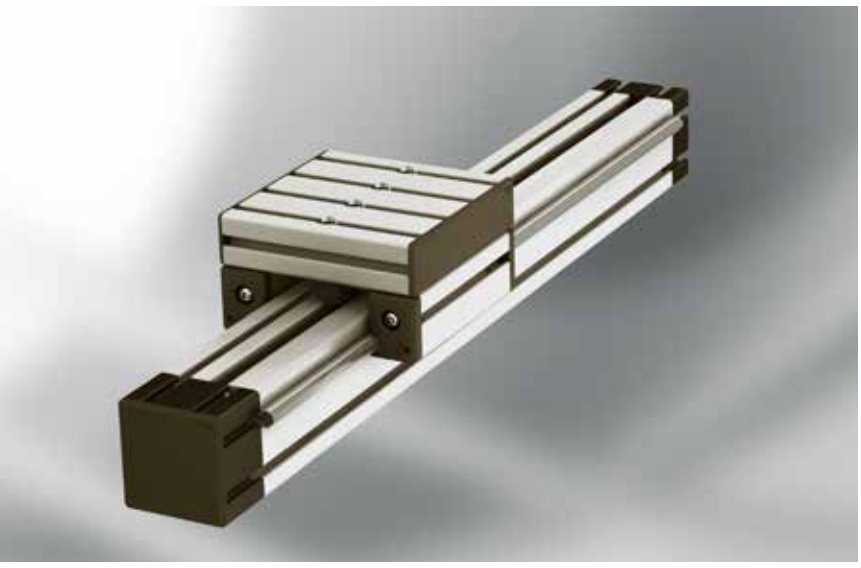




The service life of the spindle / drive nut combination can be calculated as a function of the axial load and drive speed.



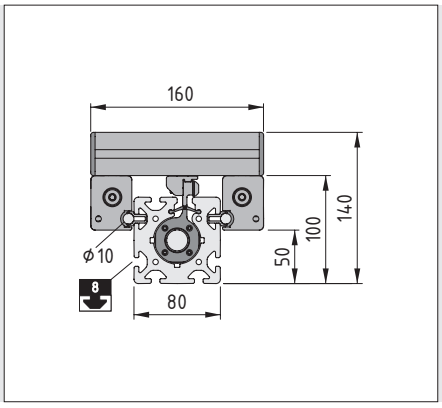
The maximum travelling speed of the spindle units depends on the length of the spindle (see adjacent diagram).

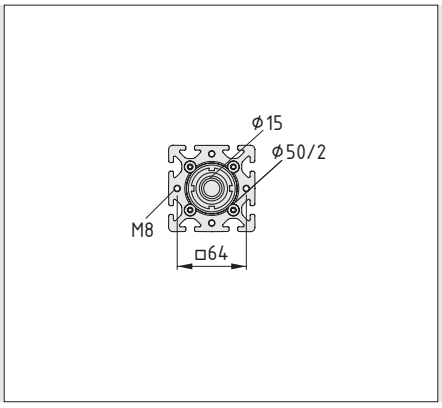


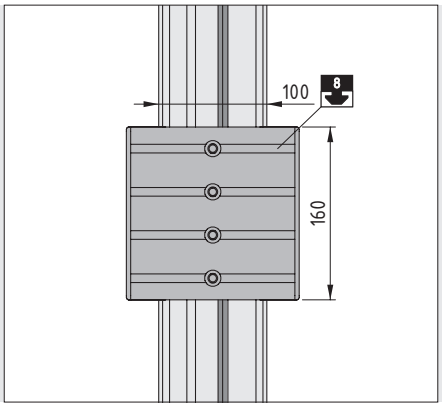
Linear Unit LRE 8 D10 80x80 KGT 20x5

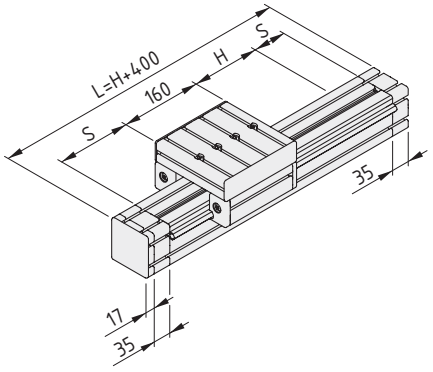
- Precise with strong drive
- High rigidity

Excellent repeat accuracy and high drive forces – Linear Unit LRE 8 D10 80x80 KGT 20x5 is ideal for all applications that involve high operational forces and require exceptional precision. The low lead of the spindle translates a low drive torque into a high operational force. The use of roller guides D10 ensures that a payload of up to 90 kg can be carried – despite its small size.



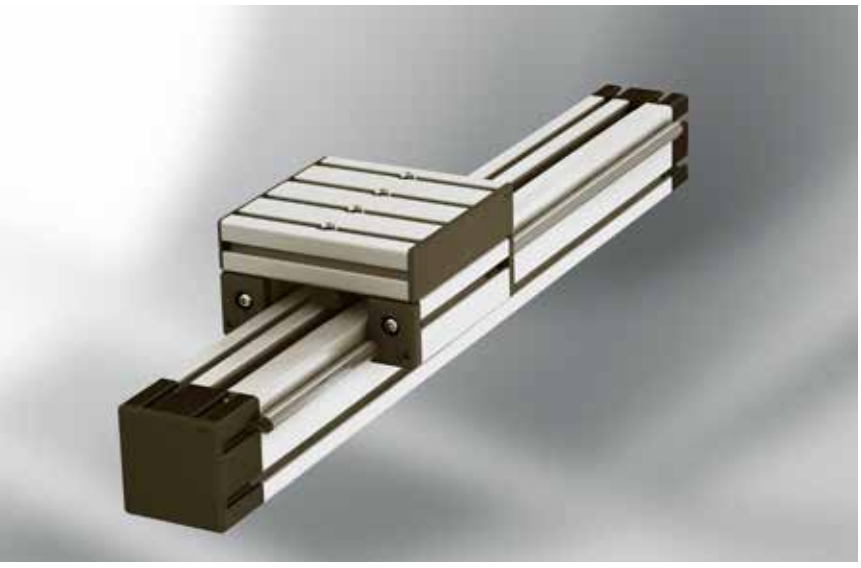






Linear Unit LRE 8 D10 80x80 KGT 20x5			
Maximum stroke H_{max}	2687	mm	
Safety clearance S	76.5	mm	
Basic mass (when stroke length = 0 mm) m_1	8.4	kg	
Mass per mm of stroke m_2	12.9	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.05	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	0.25	m/s	
Feed constant	5	mm/rev	
1 pce.			0.0.668.12

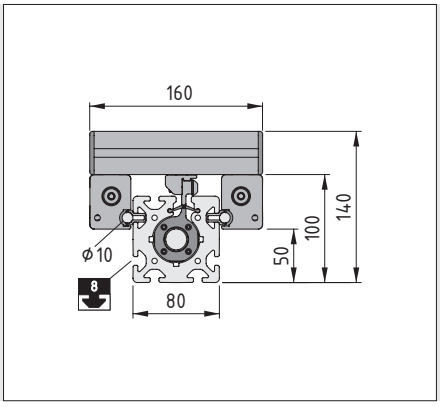
Drive elements		
Drive Set KGT D40/D15	82	0.0.667.76

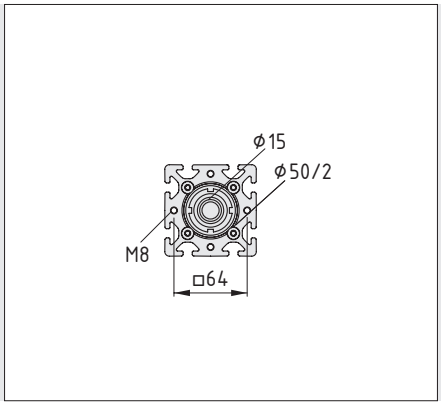


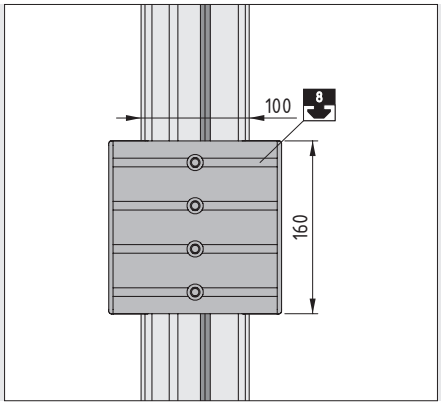
Linear Unit LRE 8 D10 80x80 KGT 20x20

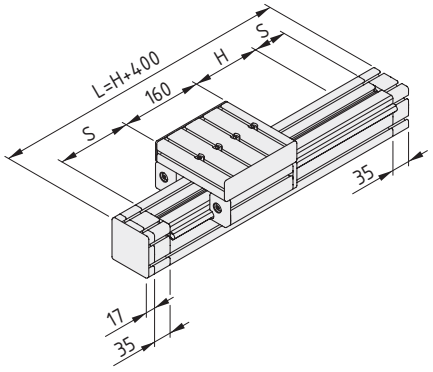
- Extremely precise positioning
- Highly rigid drive

Thanks to its ball screw drive, Linear Unit LRE 8 D10 80x80 KGT 20x20 boasts extremely high repeat accuracy. The spindle lead of 20 mm supports a maximum speed of up to 1 m/s and a high operating load. The use of roller guides D10 ensures that a payload of up to 90 kg can be carried – despite its small size.









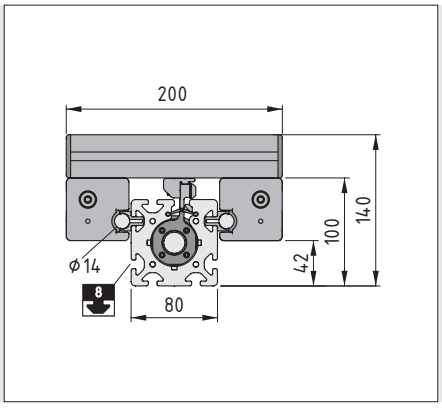
Linear Unit LRE 8 D10 80x80 KGT 20x20			8
Maximum stroke H_{max}	2687	mm	
Safety clearance S	76.5	mm	
Basic mass (when stroke length = 0 mm) m_1	8.4	kg	
Mass per mm of stroke m_2	12.6	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.05	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	1	m/s	
Feed constant	20	mm/rev	
1 pce.			0.0.668.10

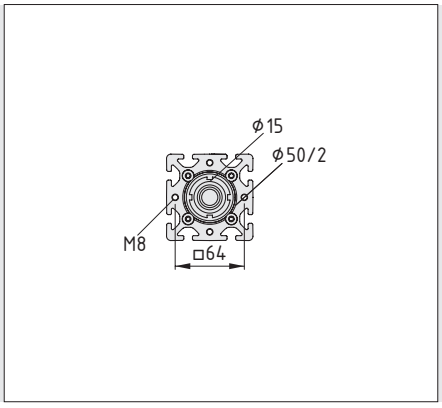
Drive elements		
Drive Set KGT D40/D15	82	0.0.667.76

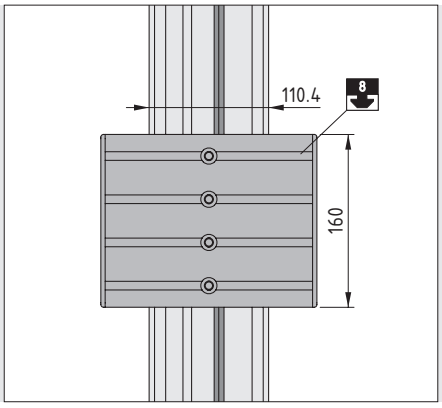
Linear Unit LRE 8 D14 80x80 KGT 20x5

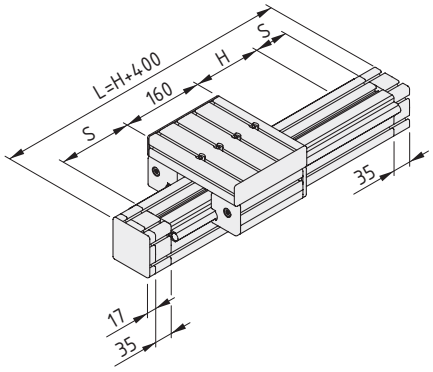
- Precise with a high drive force coupled with a heavy payload
- Highly rigid drive

Linear Unit LRE 8 D14 80x80 KGT 20x5 is the perfect solution when exceptional precision is required in addition to high operating forces. The low lead of the spindle translates a low drive torque into a high operational force. Using roller guides D14 supports a high payload of up to 160 kg.









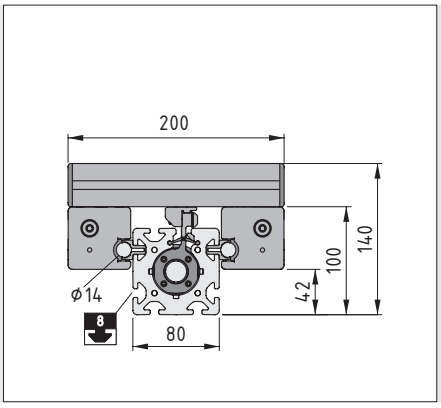
Linear Unit LRE 8 D14 80x80 KGT 20x5			8
Maximum stroke H_{max}	2687	mm	
Safety clearance S	76.5	mm	
Basic mass (when stroke length = 0 mm) m_1	10.4	kg	
Mass per mm of stroke m_2	14.4	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.05	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	0.25	m/s	
Feed constant	5	mm/rev	
1 pce.			0.0.668.06

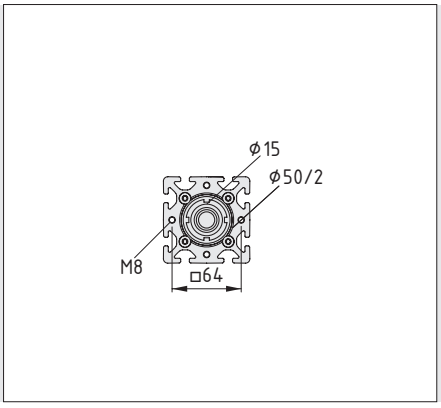
Drive elements		
Drive Set KGT D40/D15	82	0.0.667.76

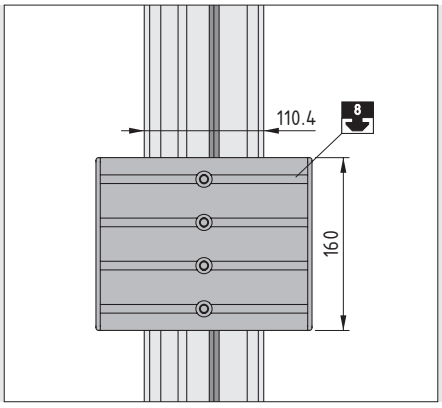
Linear Unit LRE 8 D14 80x80 KGT 20x20

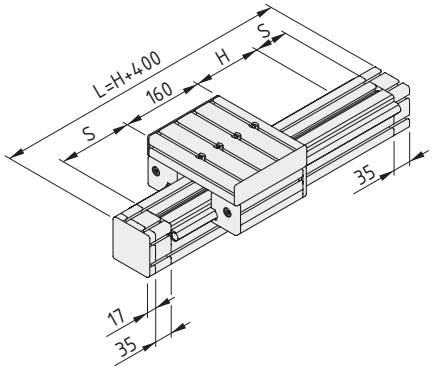
- Precise – even with higher payloads
- Highly rigid drive

Thanks to its ball screw drive, Linear Unit LRE 8 D14 80x80 KGT 20x20 boasts extremely high repeat accuracy. The spindle lead of 20 mm supports a maximum speed of up to 1 m/s and a high operating load. Using roller guides D14 supports a high payload of up to 160 kg.





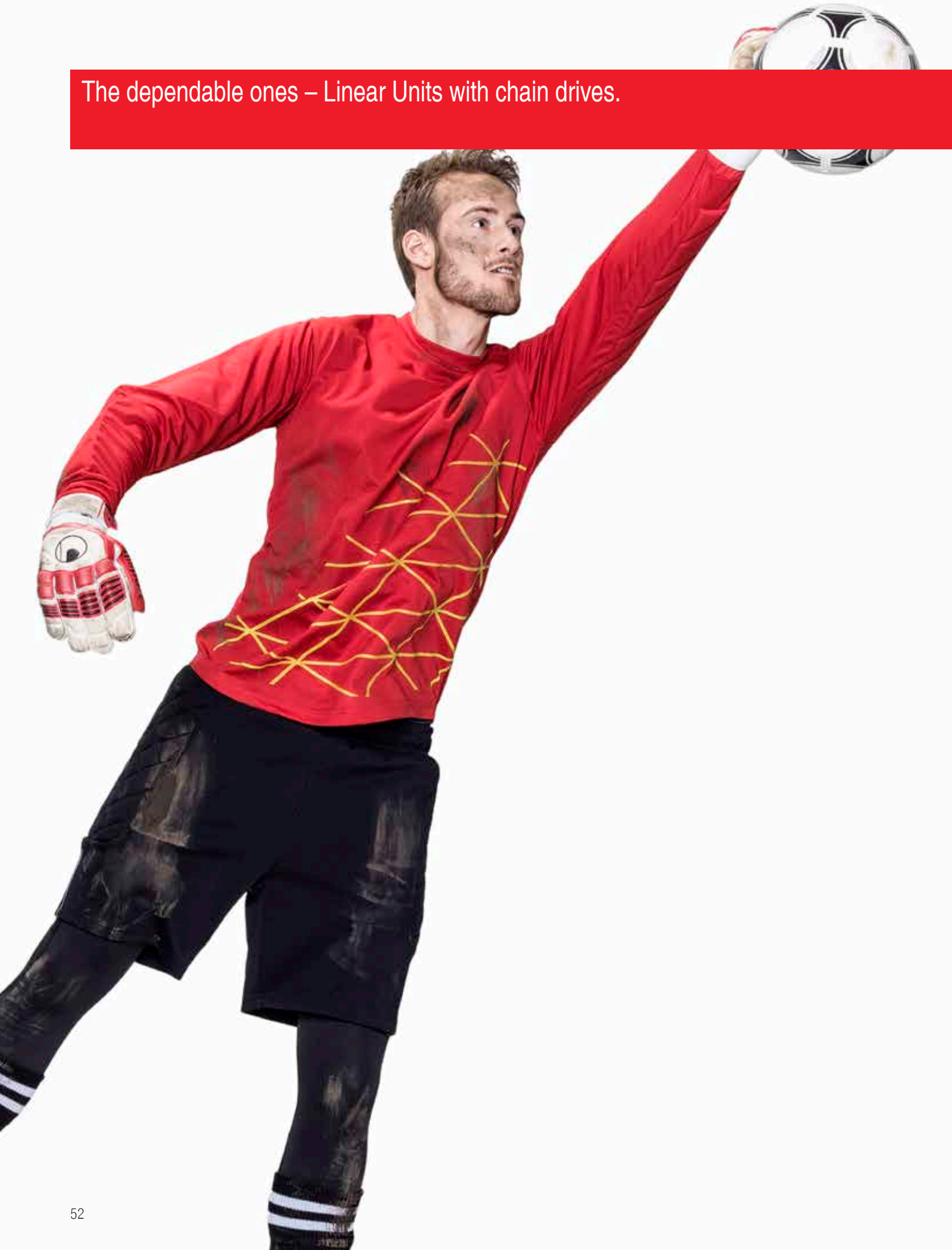




Linear Unit LRE 8 D14 80x80 KGT 20x20			8
Maximum stroke H_{max}	2687	mm	
Safety clearance S	76.5	mm	
Basic mass (when stroke length = 0 mm) m_1	10.4	kg	
Mass per mm of stroke m_2	14.1	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.05	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	1	m/s	
Feed constant	20	mm/rev	
1 pce.			0.0.668.08

Drive elements		
Drive Set KGT D40/D15	82	0.0.667.76

The dependable ones – Linear Units with chain drives.



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.

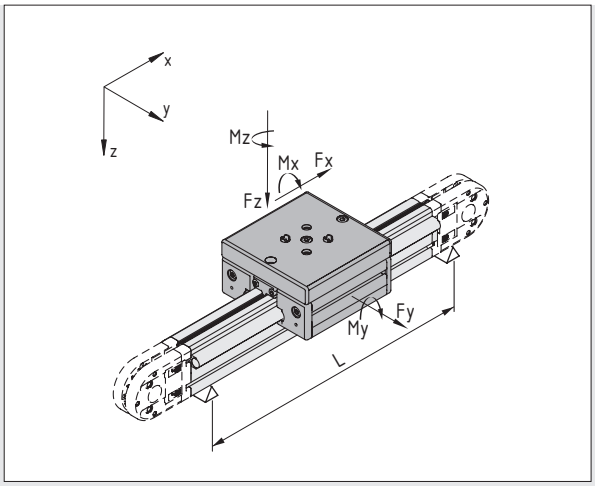
Compared to other Linear Units, those that use steel link chains require slightly more maintenance work. It is also important to ensure the system is adequately lubricated and to check chain tension regularly.

Fig.: Linear Unit LRE 8 D14 80x40 KU 80 (Art. No. 0.0.664.54)

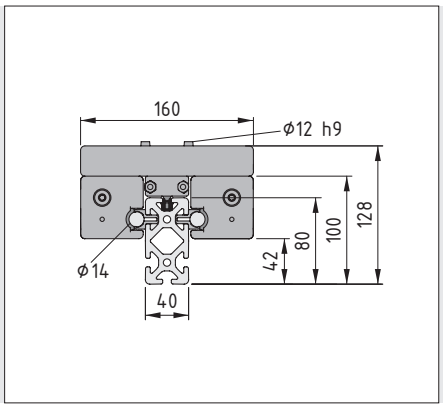
Linear Unit LRE 8 D14 80x40 KU 80

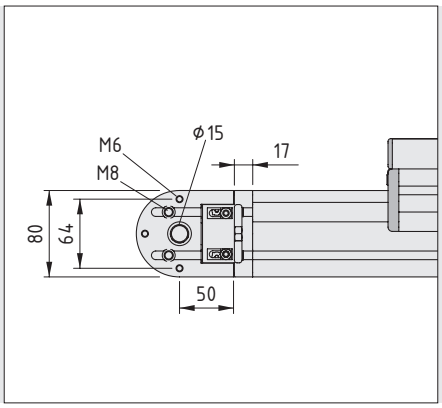
- Chain drive ensures consistently high power transmission
- Robust in heavily contaminated environments

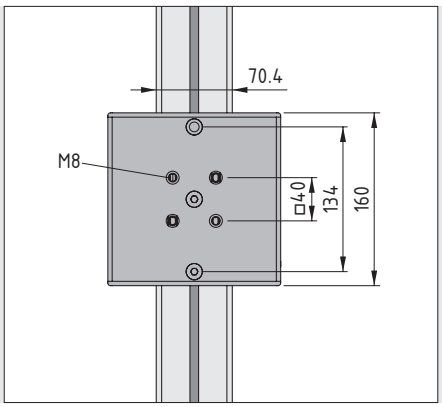
Linear Unit LRE 8 D14 80x40 KU 80 is secure and virtually indestructible. The 1/2" roller chain delivers consistently high power transmission and a reliable hold when used in vertical applications. Even very heavy loads up to 160 kg are moved in a controlled manner and with powerful acceleration. Linear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

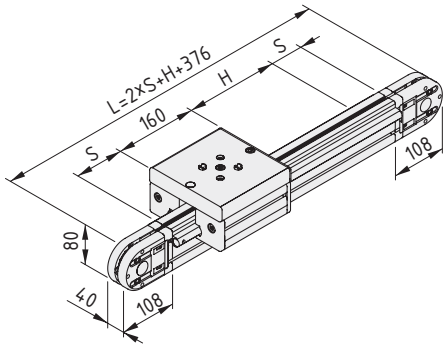


	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D14 80x40 KU 80	1400	600	2400	1600	40	64	96	620









Linear Unit LRE 8 D14 80x40 KU 80			
Maximum stroke H_{max}	5760	mm	
Safety clearance S	12	mm	
Basic mass (when stroke length = 0 mm) m_1	8.0	kg	
Mass per mm of stroke m_2	8.1	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.5	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	2	m/s	
Feed constant	203.2	mm/rev	
1 pce.			0.0.664.54

Drive elements		
Drive Set 8 40 D40/D15	81	0.0.668.02
Synchronising Set D40/D15	91	0.0.662.50

The powerhouses – Linear Units with rack drives.

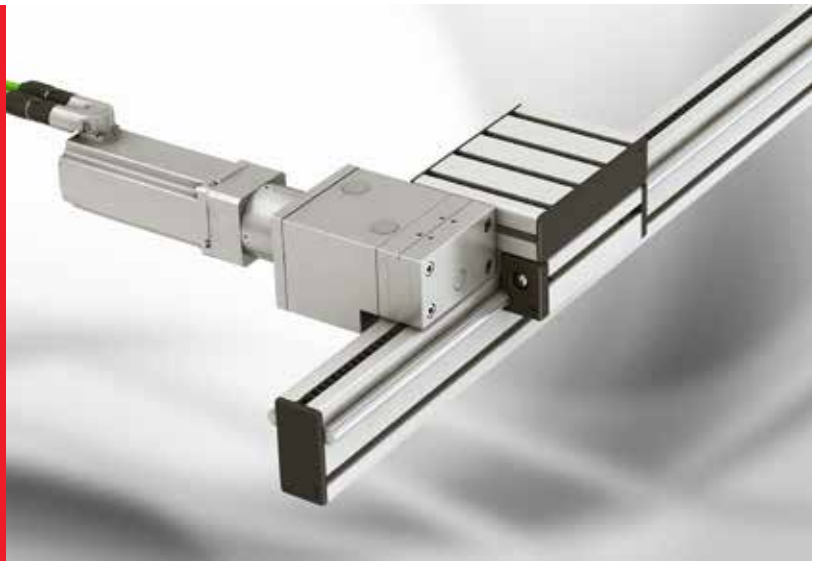
A Linear Unit with a rack drive is often the best solution when a powerful stroke and precise control are required. The driven gearwheel interlocks with the straight rack to eliminate the possibility of slip. The rotary motion of the drive motor is thus converted directly into the rectilinear motion 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 direct 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.

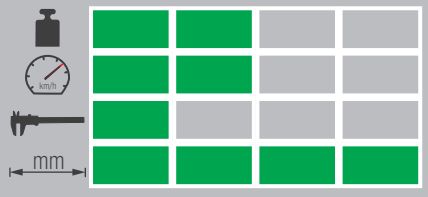
Linear units with a rack drive also transmit power securely in vertical applications.

Fig.: Linear Unit LRE 8 D14 80x40 ZS (Art. No. 0.0.664.28)



Linear Unit LRE 8 D10 80x40 ZS K

- Rack made from high-strength plastic
- Highly secure for vertical movement
- Cost-effective solution with low base weight
- Straightforward assembly



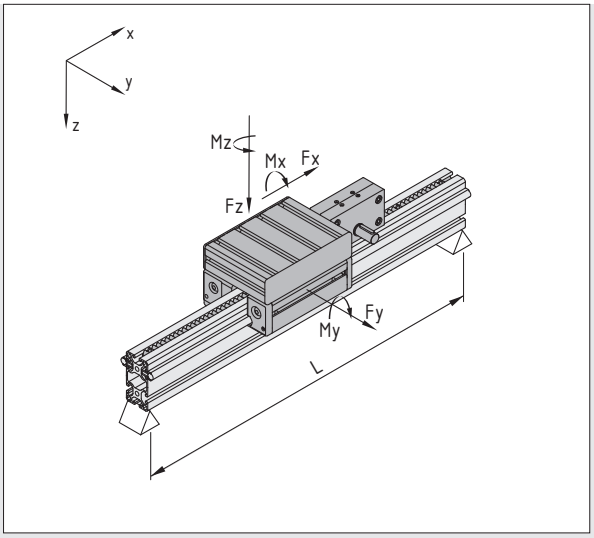
max. 880 N
up to 3 m/s
max. 0.5 mm
max. 5678 mm

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.

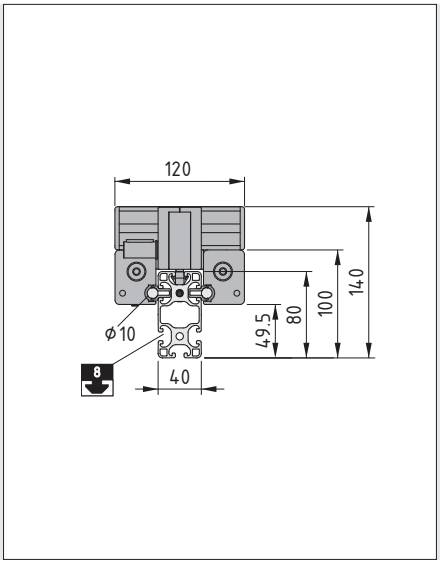
The Linear Unit features a low dead weight and excellent safety for vertical movements. The modular rack is made of fibre-glass reinforced plastic. It is safely concealed in the groove of a Profile 8 light and exhibits high rigidity and low coefficients of friction. The plastic ensures stability, smooth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

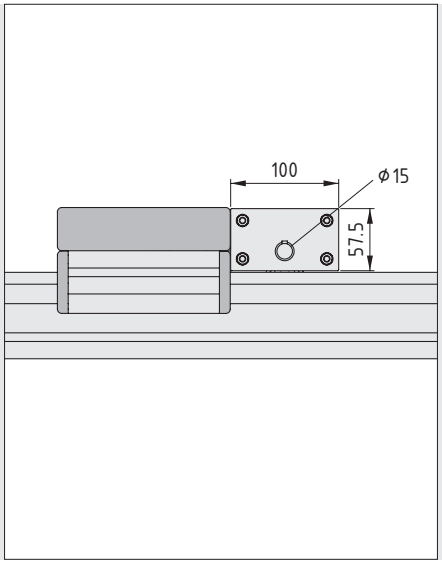
The low mass of the Support Profile and rack enable impressive dynamics, even during lifting movements. This combination is also a very economical solution for many tasks. Linear Unit LRE 8 D14 80x40 ZS with a metal rack is available as a rack system for moving larger masses.

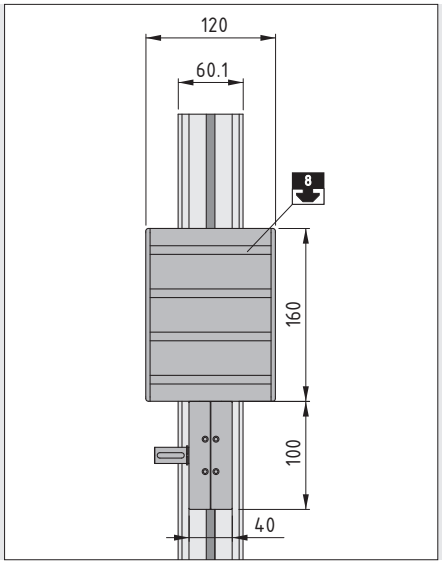
Linear Unit LRE 8 D10 80x40 ZS K is supplied ready-to-install in the desired length. The plastic rack can also be ordered separately to build custom solutions.

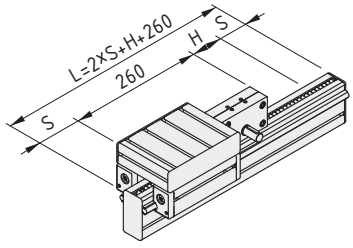


	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D10 80x40 ZS K light	1600	600	1300	880	22	35	52	350







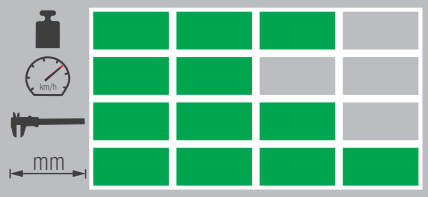


Linear Unit LRE 8 D10 80x40 ZS K light			8
Maximum stroke H_{max}	5678	mm	
Safety clearance S	31	mm	
Basic mass (when stroke length = 0 mm) m_1	4.4	kg	
Mass per mm of stroke m_2	4.8	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.5	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	3	m/s	
Feed constant	144	mm/rev	
1 pce.			0.0.679.91

Drive elements		
Rack 8 Coupling Module	84	0.0.621.73

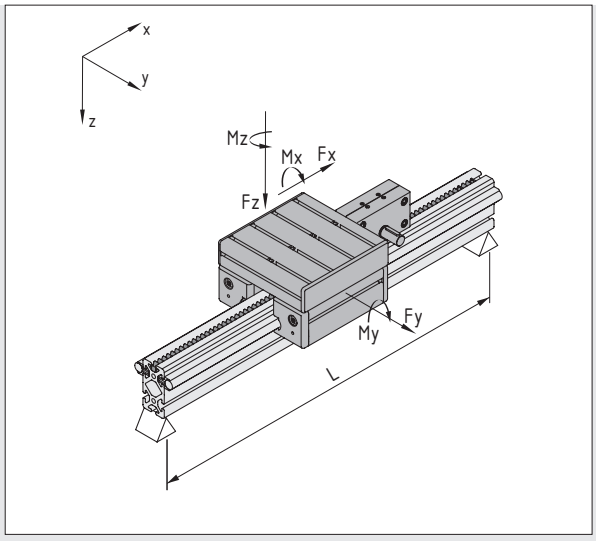
Linear Unit LRE 8 D14 80x40 ZS

- Exceptional reliability for vertical movements
- Very rigid and strong

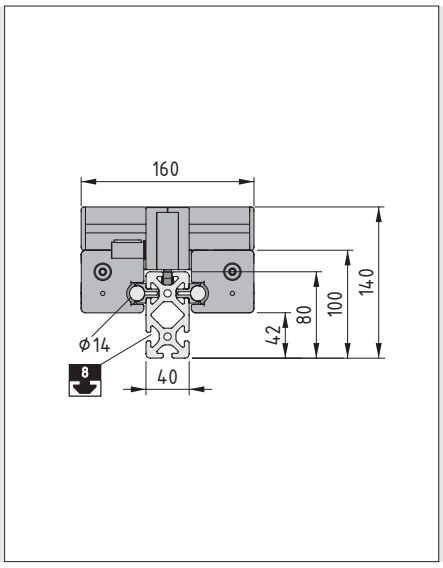


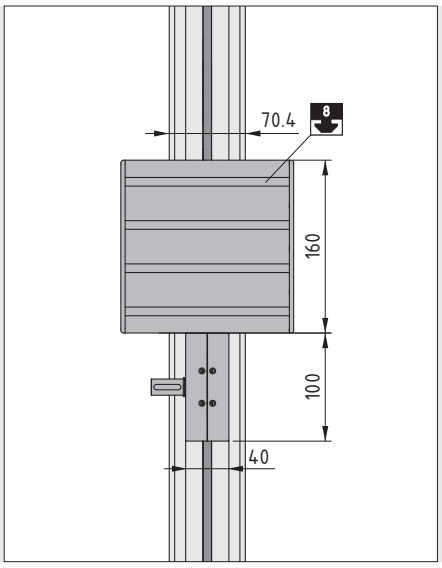
max. 1600 N
up to 3 m/s
max. 0.1 mm
max. 5678 mm

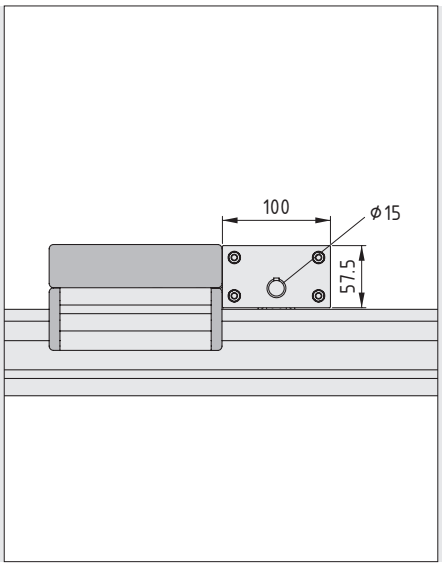
Perfect for vertical movements! Linear Unit LRE 8 D14 80x40 ZS positions itself with a repeat accuracy of just 0.1 mm, even over very long travel distances. As the drive is mounted directly on the slide, it is very easy to build a vertical axis of movement, on which the slide is fixed and the rack is 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.

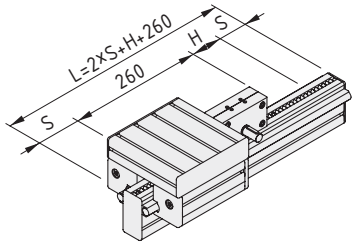


	Support span Lmax when Fz = max [mm]	Support span Lmax when Fy = max [mm]	Fy max [N]	Fz max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	Operating load Fx max [N]
Linear Unit LRE 8 D14 80x40 ZS	1400	600	2400	1600	40	64	96	1000









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	9.8	kg	
Mass per mm of stroke m_2	8.3	g/mm	
Total mass m =	$m_1 + H * m_2$		
Repeat accuracy	0.1	mm	
Maximum acceleration	5	m/s^2	
Maximum travelling speed	3	m/s	
Feed constant	144	mm/rev	
1 pce.			0.0.664.28

Drive elements		
Rack 8 Coupling Module	84	0.0.621.73

Pathfinders – drive elements for Linear Units

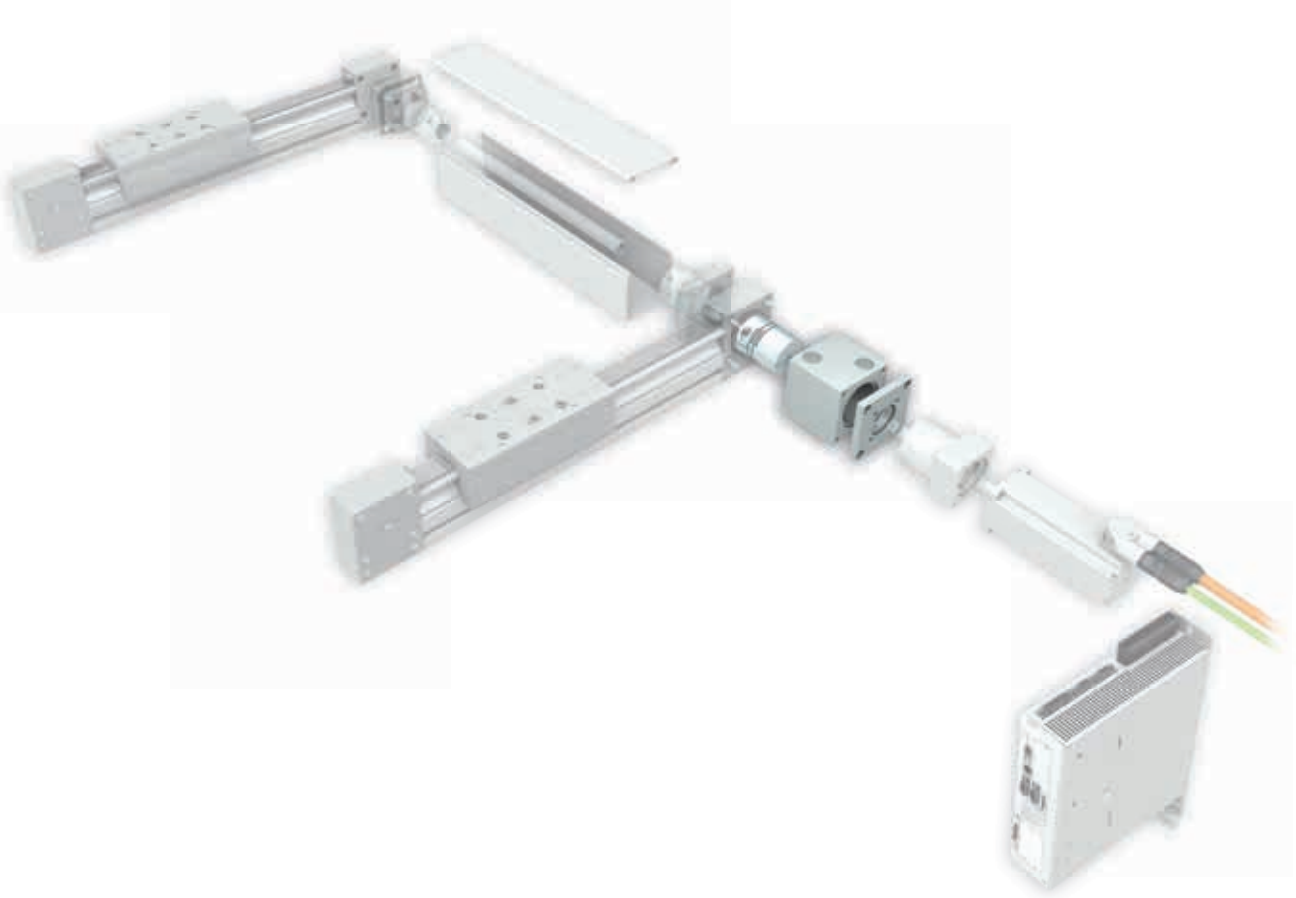
There are compatible drive elements for every item Linear Unit. These transfer the torque to the Linear Unit via a friction-based connection, free from backlash.
The Drive Sets comprise a coupling and housing. Due to the range of different hollow shaft and shaft diameters in use, the correct Drive Set 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 'n' 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.

Fig.: Synchronising Set GSF 8 40 R10 (Art. No. 0.0.662.95), Tube D16x1.5 St (Art. No. 0.0.664.14)

Drive Sets from item.



Drive Sets comprise a coupling and housing. The coupling transmits the torque from the Motor or the intermediate Gearbox to the Linear Unit.

item Drive Sets are configured for the relevant drive type (Timing Belt, Ball Screw Unit, etc.) and design. This ensures they can be easily connected to the desired Linear Unit.

The item MotionDesigner® online product configurator guides you through the selection and design process as appropriate to the Motor, Gearbox and Linear Unit.

Plug 'n' play

All the components in the item Automation System are 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 directly, because no additional machining steps are required.

Universal

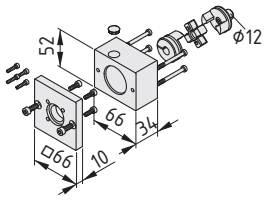
Universal Drive Sets connect your Linear Unit of choice to any drive. With custom machining, the coupling can accommodate the relevant drive shaft and ensure play-free power transmission. Please check the relevant diameter and the depth of insertion of the drive shaft. To ensure smooth running and avoid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

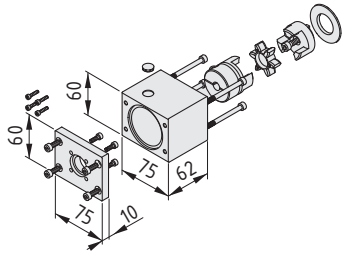


Drive Set GSF 8 40 AP/WP 40	
Coupling Housing GSF 8, Al Adapter Plate GSF 8, for Gearbox AP/WP 40, Al Coupling Half D30/D10, for Gearbox AP/WP 40, Al Expanding hub coupling half D30/D12, St and Al Coupling Insert D30, PU, blue 4 Hexagon Socket Head Cap Screws DIN 912 M3x14, St, bright zinc-plated 4 Hexagon 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

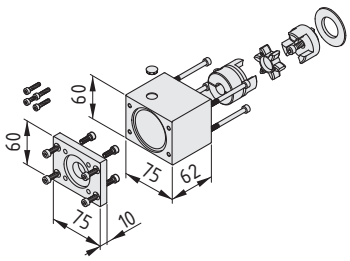
The Drive Sets are configured for Linear Units KLE in various sizes. The Coupling is supplied ready-to-install with a Housing and can be fitted directly to the Linear Unit. The drive side is prepared for connecting an Axial Planetary Gearbox (AP) or a Bevel Planetary Gearbox (WP). Various Drive Sets 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 M3x14, 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 M5x65, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912 M5x14, 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

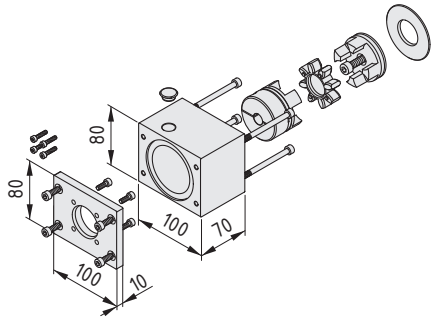
1 set	0.0.673.29



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

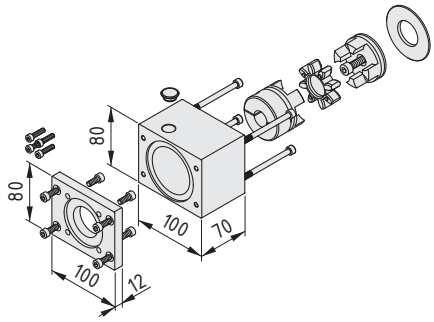
1 set	0.0.673.28



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 M6x85, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912 M6x16, 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

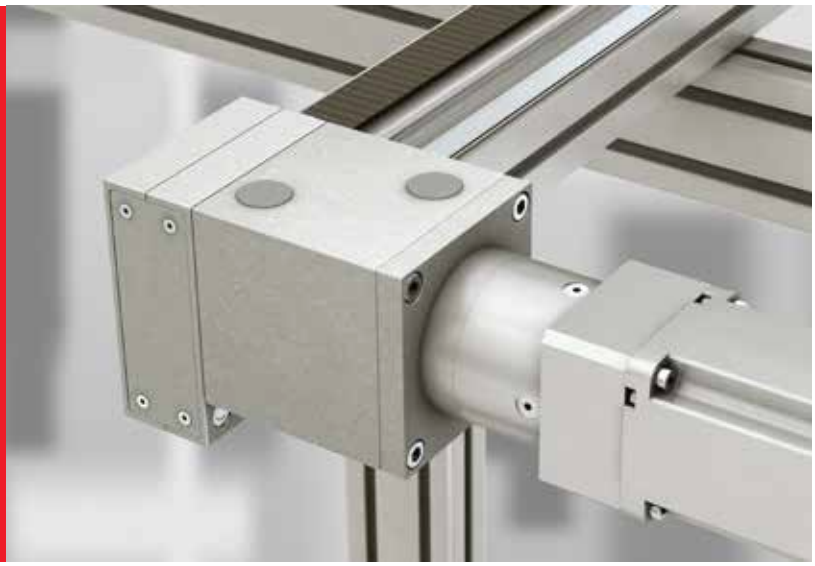
1 set	0.0.673.26



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



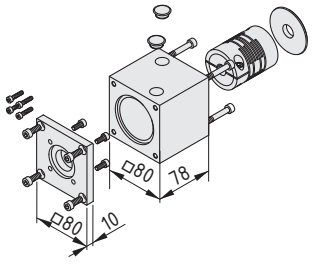
Drive Sets KRF AP/WP

- 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).

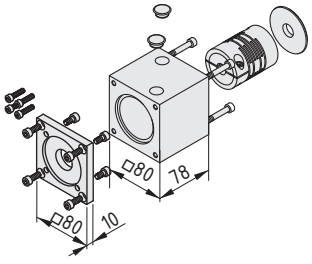
Various Drive Sets are available for the size of the drive in use.



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

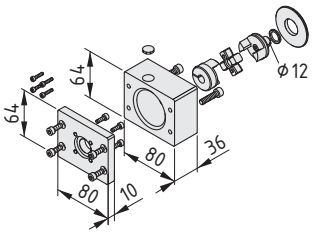
Drive Sets ZU AP/WP

- Compatible with Linear Units with a Timing-Belt Reverse Unit (ZU)
- For hollow shaft diameters of 12 and 34 mm
- No machining required
- Supplied ready for installation

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).

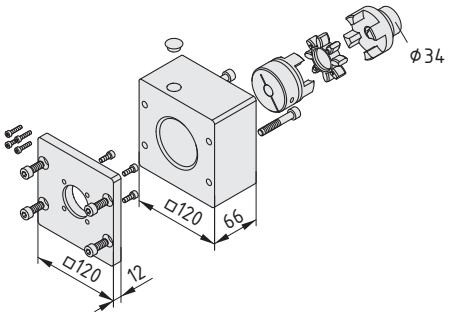
Various Drive Sets are available for the size of the drive in use.



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 M3x14, 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

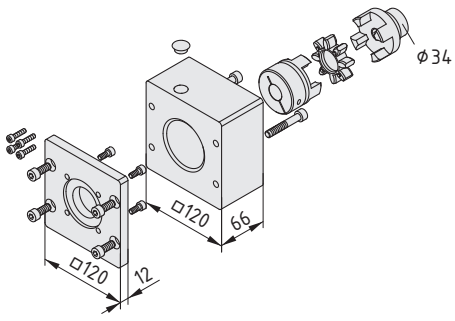
1 set	0.0.672.74



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

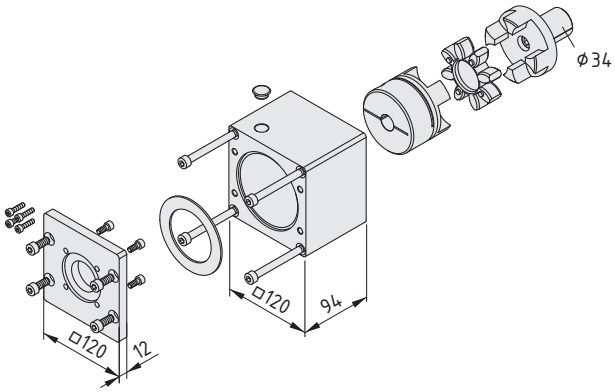
1 set	0.0.672.75



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

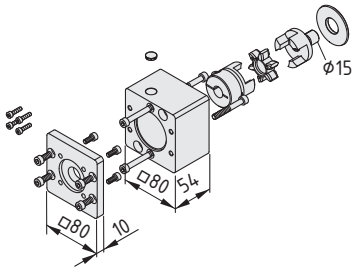
1 set	0.0.672.76

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).



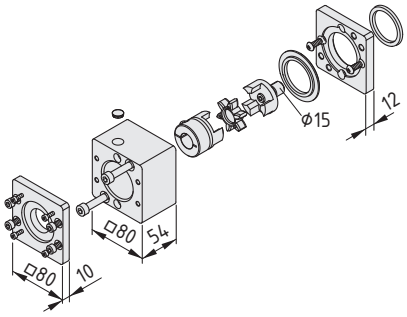
Drive Set 8 D40/D15 AP/WP 60	
Coupling Housing 8 D40, Al Adapter Plate 8 D40, for Gearbox AP/WP 60, Al Coupling Half D40/D14, for Gearbox AP/WP 60, Al Expanding hub coupling half D40/D15, St and Al Coupling Insert D40, PU, green Centring Piece D50-D22, St 4 Hexagon Socket Head Cap Screws DIN 912 M4x16, 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

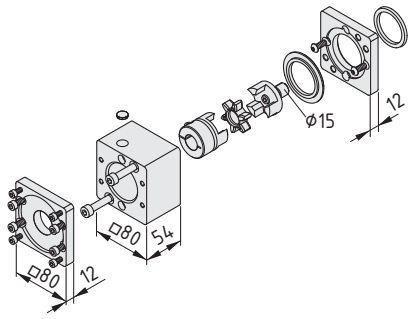
- Compatible with Linear Units with a Ball Screw Unit
- No machining required
- Supplied ready for installation

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

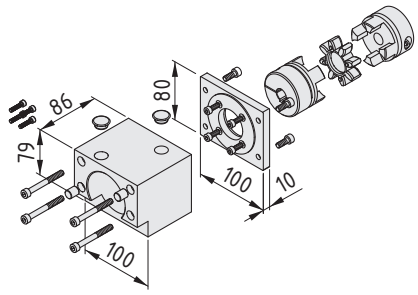
Drive Sets ZS AP/WP

- 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).

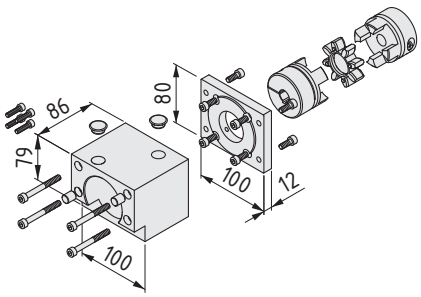
Various Drive Sets are available for the size of the drive in use.



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

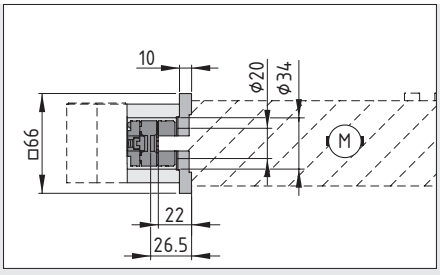
Coupling Housing for Gearbox AP/WP 80, Al
Adapter Plate 8 80x80 for Gearbox AP/WP 80, Al
Coupling Half D55/D20, for Gearbox AP/WP 80, Al
Coupling Half D55/D15 PF, Al with parallel keyway
Coupling Insert D55, PU, green
2 centring sleeves, St
4 Hexagon Socket Head Cap Screws DIN 912 M5x20, St, bright zinc-plated
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

Drive Set GSF 8 40

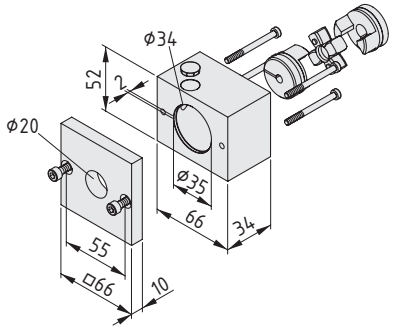
- Universal design allows connection of any drive

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.



Information about installing couplings 148

Linear Unit	Art. No.		Drive Set	Art. No.
Linear Unit GSF 8 40 R10	0.0.655.98	18	Drive Set GSF 8 40	0.0.654.23



Drive Set GSF 8 40

Coupling Housing GSF 8, Al
Adapter Plate GSF 8, Al
Coupling Half D30/D6, Al - reborable up to ∅16mm
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

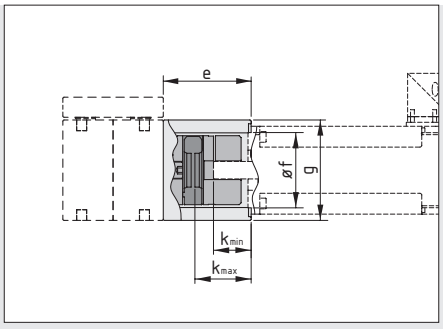
1 set	0.0.654.23

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	KLE 8 80x80
e	62	70
∅ f_{min}	47	59.5
g	60	80
k_{min}	34	30
k_{max}	38	44

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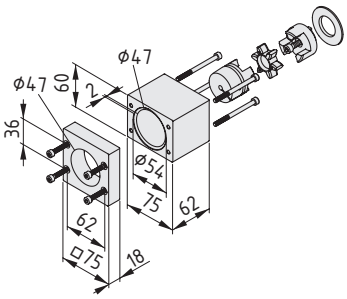
Linear Unit	Art. No.		Drive Set	Art. No.
Linear Unit KLE 6 60x60 LR	0.0.605.07	21	Drive Set KLE 6 60x60	0.0.609.80
Linear Unit KLE 8 80x80 LR	0.0.605.02	22	Drive Set KLE 8 80x80	0.0.609.77

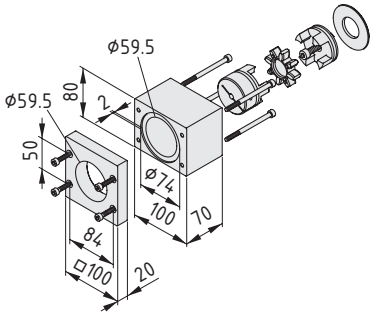


Drive Set KLE 6 60x60

Line 6

Coupling Housing KLE 6 60x60, Al
Adapter Plate KLE 6 60x60, Al
Coupling Half D40 KLE 6 60x60 Al
Coupling Half D40/D5, Al - reborable up to ∅20mm
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

Line 8

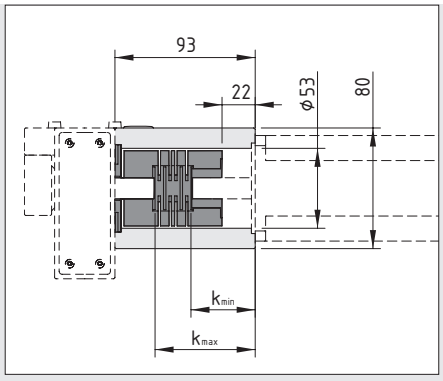
Coupling Housing KLE 8 80x80, Al
Adapter Plate KLE 8 80x80, Al
Coupling Half D55/D8, Al - reborable up to ∅28mm
Coupling Half D55 KLE 8 80x80 Al
Coupling Insert D55, PU, green
Centring Piece D55 KLE 8 80x80, St
4 Hexagon Socket Head Cap Screws DIN 912 M6x25, St, bright zinc-plated
4 Hexagon Socket Head 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

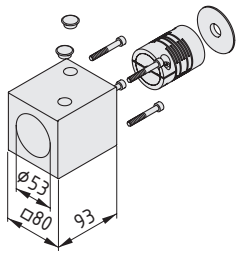
- Universal design allows connection of any drive

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]	Length of drive shaft [mm]
K_{min}	42
k_{max}	62

Linear Unit	Art. No.		Drive Set	Art. No.
Linear Unit KRF 8 80x40 ZR, left-hand input shaft	0.0.641.21	23	Drive Set KRF 8 ZR	0.0.627.46
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

Line 8

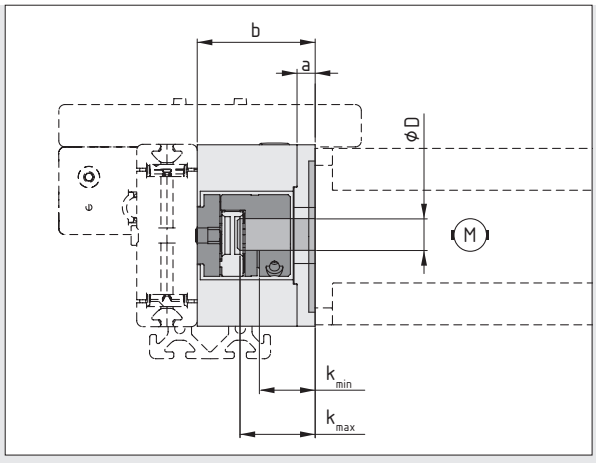
Coupling Housing KRF 8 ZR, Al
Equaliser coupling D50, St, stainless - reborable up to ∅25mm
Centring Piece D32/D48, St
4 Hexagon Socket Head Cap Screws DIN 912 M6x50, St, bright zinc-plated
2 Caps D15, PA, grey
Tightening torque, clamping hub screw: 14.5 Nm
m = 1.9 kg

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.



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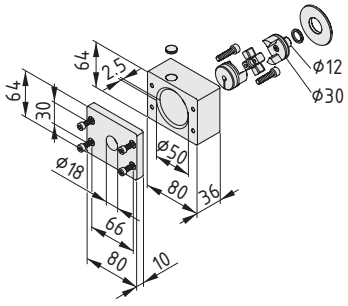
	Drive Set			
[mm]	5 40 D30/D12	8 40 D40/D15	8 80 D55/D34	8 80 D80/D34
∅ D	6-16	6-24	8-28	12-45
a	10	10	12	12
b	46	64	78	106
k_{min}	24	31.7	36.9	48.5
k_{max}	25.5	40	47	63.7

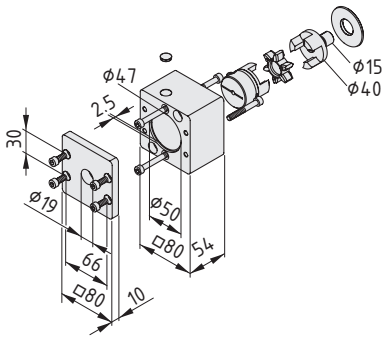
Linear Unit	Art. No.		Drive Set	Art. No.
Linear Unit LRE 5 D6 60x20 ZU 40 R10	0.0.666.89	24	Drive Set 5 40 D30/D12	0.0.662.49
Linear Unit LRE 8 D10 80x40 ZU 40 R25	0.0.662.70	28	Drive Set 8 40 D40/D15	0.0.668.02
Linear Unit LRE 8 D10 80x80 ZU 40 R25	0.0.663.32	29		
Linear Unit LRE 8 D14 80x40 ZU 40 R25	0.0.662.91	32		
Linear Unit LRE 8 D14 80x80 ZU 40 R25	0.0.663.25	34		
Linear Unit LRE 8 D14 120x80 ZU 40 R25	0.0.663.34	36		
Linear Unit LRE 8 D14 80x40 KU 80	0.0.664.54	54		
Linear Unit LRE 8 D14 80x40 ZU 80 R25	0.0.663.12	33	Drive Set 8 80 D55/D34	0.0.668.03
Linear Unit LRE 8 D14 80x80 ZU 80 R25	0.0.663.26	35		
Linear Unit LRE 8 D14 120x80 ZU 80 R25	0.0.663.35	37		
Linear Unit LRE 8 D25 120x80 ZU 80 R25	0.0.663.36	40		
Linear Unit LRE 8 D25 200x80 ZU 80 R25	0.0.666.53	42		
Linear Unit LRE 8 D25 120x80 ZU 80 R50	0.0.666.65	41	Drive Set 8 80 D80/D34	0.0.668.04
Linear Unit LRE 8 D25 200x80 ZU 80 R50	0.0.666.66	43		



Drive Set 5 40 D30/D12

Coupling Housing 5 D30, Al
Adapter Plate 5 D30, Al
Coupling Half D30/D6, Al - reborable up to ∅ 16mm
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

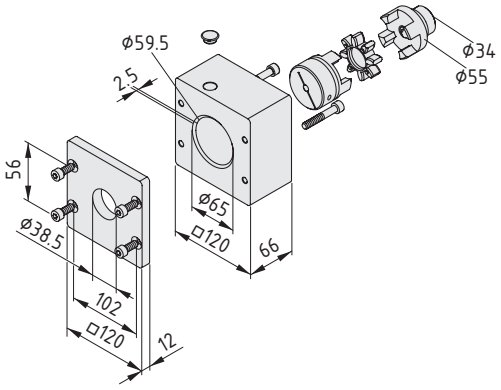
1 set	0.0.662.49



Drive Set 8 40 D40/D15

Coupling Housing 8 D40, Al
Adapter Plate 8 D40, Al
Coupling Half D40/D5, Al - reborable up to ∅24mm
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

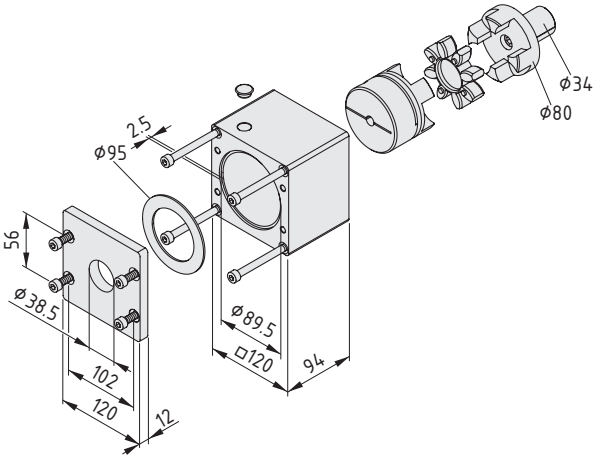
1 set	0.0.668.02



Drive Set 8 80 D55/D34

Coupling Housing 8 D55, Al
Adapter Plate 8 D55/D80, Al
Coupling Half D55/D8, Al - reborable up to ∅28mm
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

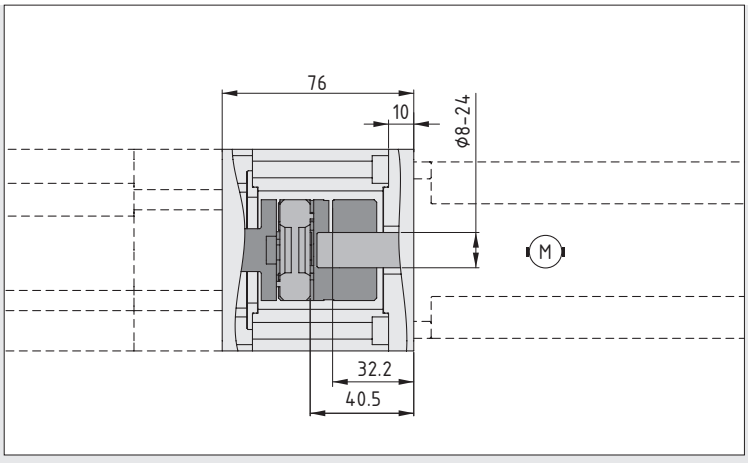
Coupling Housing 8 D80, Al
Adapter Plate 8 D55/D80, Al
Coupling Half D80/D12, Al - reborable up to ∅45mm
Expanding hub coupling half D80/D34, St and Al
Coupling Insert D55, PU, red
Centring Piece D95-D65, St
4 Hexagon Socket Head Cap Screws DIN 912 M8x20, St, bright zinc-plated
4 Hexagon Socket Head 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 Unit. 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 casing is particularly narrow.



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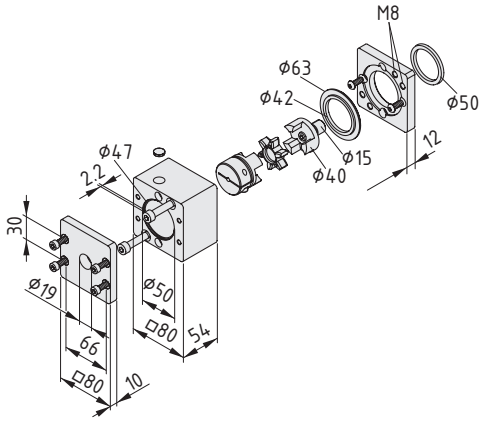
Linear Unit	Art. No.		Drive Set	Art. No.
Linear Unit LRE 8 D10 80x80 KGT 20x5	0.0.668.12	48	Drive Set KGT D40/D15	0.0.667.76
Linear Unit LRE 8 D10 80x80 KGT 20x20	0.0.668.10	49		
Linear Unit LRE 8 D14 80x80 KGT 20x5	0.0.668.06	50		
Linear Unit LRE 8 D14 80x80 KGT 20x20	0.0.668.08	51		



Drive Set KGT D40/D15

8

Coupling Housing 8 D40, Al
Adapter Plate 8 D40, Al
Coupling Adapter Plate D30/D55 Al
Coupling Half D40/D5, Al - reborable up to ∅24mm
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

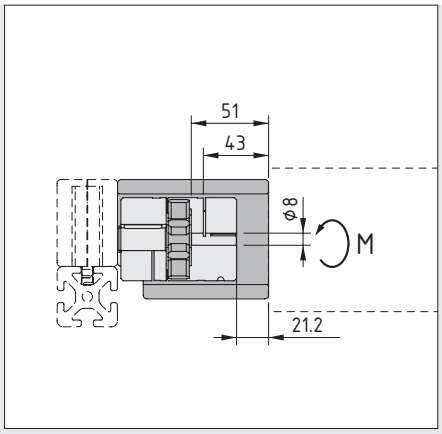
1 set	0.0.667.76

Drive Set ZS

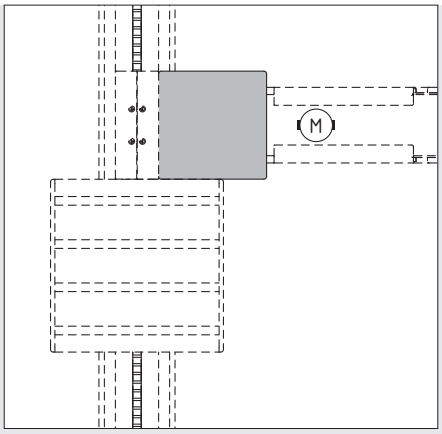
- Slide driven directly via the rack
- Versatile coupling ensures virtually any drive can be connected
- Universal design allows connection of any drive

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.

Want to choose your own motor for the drive? That's fine by us! We want our customers to be able to use the drive of their choice. That's why the Coupling Module comes with a universal coupling for connecting virtually any drive. The motor is connected directly to the module's housing.



The Rack 8 Coupling Module fits nearly any motor – simply process 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.



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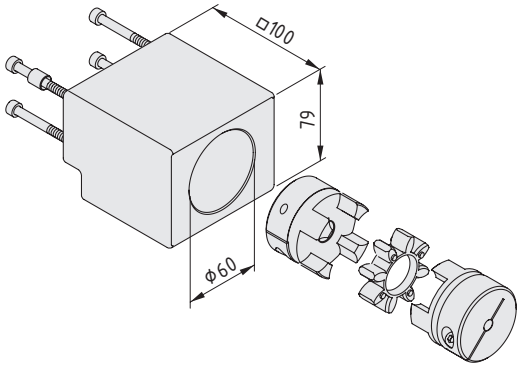
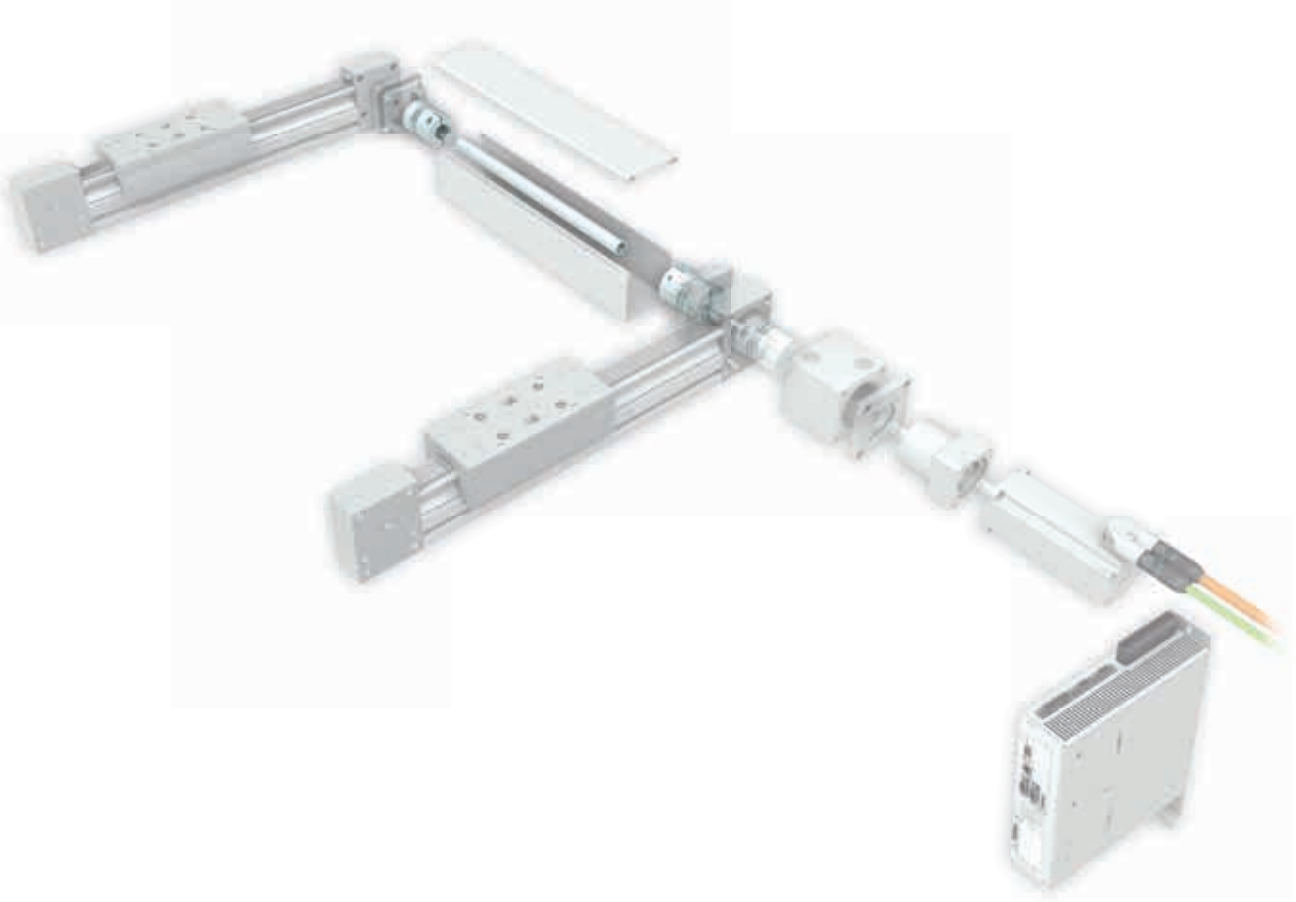
Linear Unit	Art. No.		Drive Set	Art. No.
Linear Unit LRE 8 D14 80x40 ZS	0.0.664.28	60	Rack 8 Coupling Module	0.0.621.73



Rack 8 Coupling Module	8
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

Synchronising Sets from item.

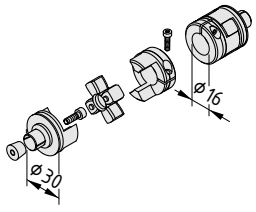


Synchronising Sets are used when two Linear Units are to be run in parallel. item Synchronising Sets comprise couplings that are fitted between two Linear Units and are connected by a Synchroniser Shaft that has been manufactured in the appropriate length. This ensures that the end result is a highly 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.

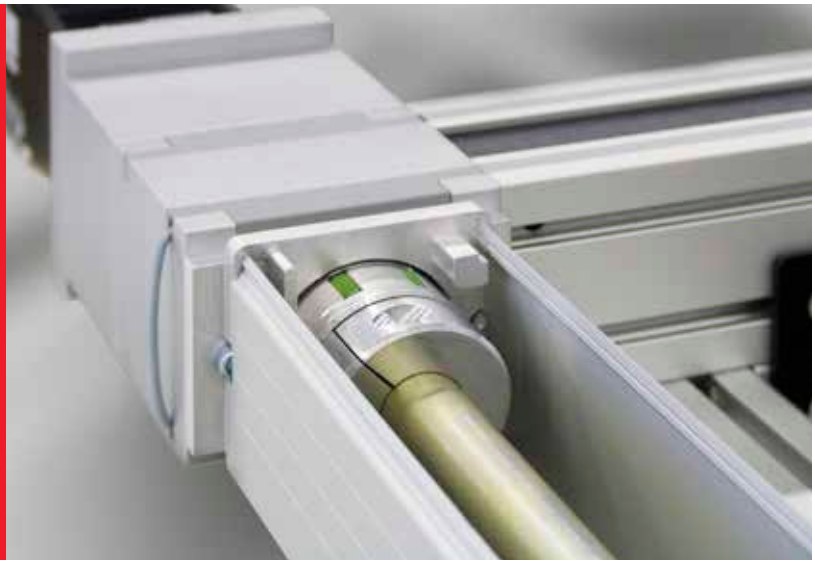
Linear Unit	Art. No.		Synchronising Set	Art. No.	Accessories	
Linear Unit GSF 8 40 R10	0.0.655.98	18	Synchronising Set GSF 8 40 R10	0.0.662.95	0.0.664.14	92-97



Synchronising Set GSF 8 40 R10 8

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

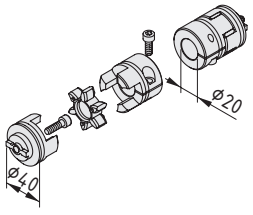


Synchronising Sets KLE

Synchronising Sets are available to synchronise two Linear Units KLE. Each of these contains two coupling sets for connecting the Drive Unit pulleys.

Note: When designing the drive for synchronised KLEs, the permissible drive torques of the Linear Unit must be taken into account (see the diagrams starting on page 154).

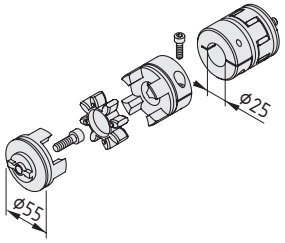
Linear Unit	Art. No.		Synchronising Set	Art. No.	Accessories	
Linear Unit KLE 6 60x60 LR	0.0.605.07	21	Synchronising Set KLE 6 60x60	0.0.609.81	0.0.609.86	92-98
Linear Unit KLE 8 80x80 LR	0.0.605.02	22	Synchronising Set KLE 8 80x80	0.0.609.78	0.0.609.83	92-98



Synchronising Set KLE 6 60x60 6

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 8

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

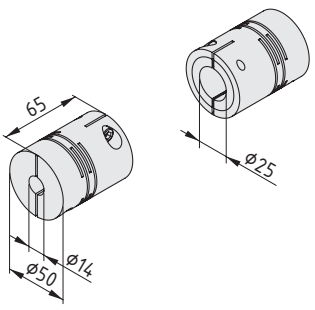
1 set — 0.0.609.78

Synchronising Set KRF 8 80 ZR

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

Note: The protective layer of zinc must be removed from the ends of Tube D25x3 St prior to installation.

Linear Unit	Art. No.		Synchronising Set	Art. No.	Accessories	
Linear Unit KRF 8 80x40 ZR, left-hand input shaft	0.0.641.21	23	Synchronising Set KRF 8 80 ZR	0.0.648.58	0.0.609.83	92-99
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 8

2 equaliser couplings D50, St, stainless
Tightening torque, clamping hub screw: 14.5 Nm
m = 1.2 kg

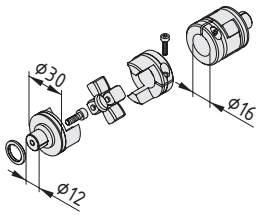
1 set	0.0.648.58

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. The couplings are pre-prepared to accommodate a Synchroniser 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.

How long a Synchroniser Shaft can be depends on its operating speed. To determine the maximum length for a given speed or the maximum speed for a given length, please consult the information contained in the diagrams starting on page 140.

Linear Unit	Art. No.		Synchronising Set	Art. No.	Accessories	
Linear Unit LRE 5 D6 60x20 ZU 40 R10	0.0.666.89	25	Synchronising Set D30/D12	0.0.662.51	0.0.664.14	92
Linear Unit LRE 8 D10 80x40 ZU 40 R25	0.0.662.70	28	Synchronising Set D40/D15	0.0.662.50	0.0.609.86	92
Linear Unit LRE 8 D10 80x80 ZU 40 R25	0.0.663.32	29				
Linear Unit LRE 8 D14 80x40 ZU 40 R25	0.0.662.91	32				
Linear Unit LRE 8 D14 80x80 ZU 40 R25	0.0.663.25	34				
Linear Unit LRE 8 D14 120x80 ZU 40 R25	0.0.663.34	36				
Linear Unit LRE 8 D14 80x40 KU 80	0.0.664.54	54				
Linear Unit LRE 8 D14 80x40 ZU 80 R25	0.0.663.12	33	Synchronising Set D55/D34	0.0.666.60	0.0.609.83	92
Linear Unit LRE 8 D14 80x80 ZU 80 R25	0.0.663.26	35				
Linear Unit LRE 8 D14 120x80 ZU 80 R25	0.0.663.35	37				
Linear Unit LRE 8 D25 120x80 ZU 80 R25	0.0.663.36	40				
Linear Unit LRE 8 D25 200x80 ZU 80 R25	0.0.666.53	42				
Linear Unit LRE 8 D25 120x80 ZU 80 R50	0.0.666.65	41	Synchronising Set D80/D34	0.0.666.61	0.0.463.56	93-95
Linear Unit LRE 8 D25 200x80 ZU 80 R50	0.0.666.66	43				

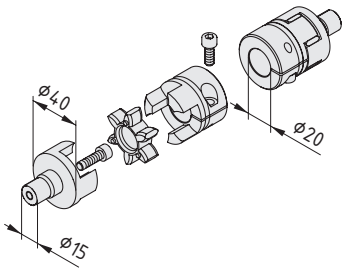


Synchronising Set D30/D12

5

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

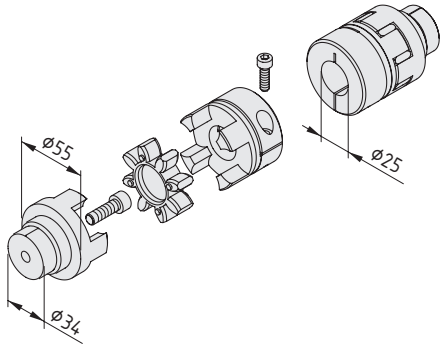


Synchronising Set D40/D15

8

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

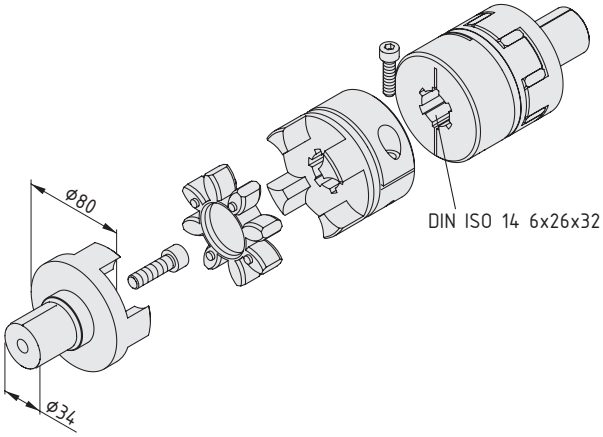


Synchronising Set D55/D34

8

2 Coupling Halves D55/D25, Al
2 expanding hub coupling halves 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



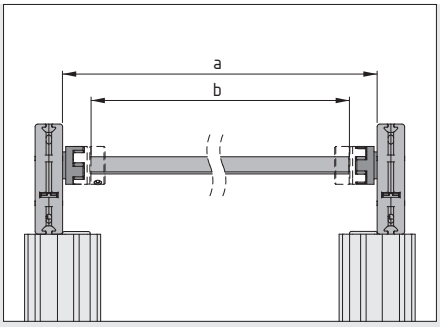
Synchronising Set D80/D34

8

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

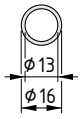
Tubes for Synchronising Sets



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

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

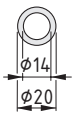
Information for Synchroniser Shaft speed 144



Tube D16x1.5 St

St

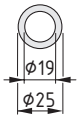
m [kg/m]	I_x [cm^4]	I_y [cm^4]	I_t [cm^4]	W_x [cm^3]	W_y [cm^3]	
0.54	0.18	0.18	0.36	0.23	0.23	
stainless, cut-off max. 2990 mm						0.0.664.14
stainless, 1 pce., length 2990 mm						0.0.662.92



Tube D20x3 St 6

St

m [kg/m]	I_y [cm^4]	I_x [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 8

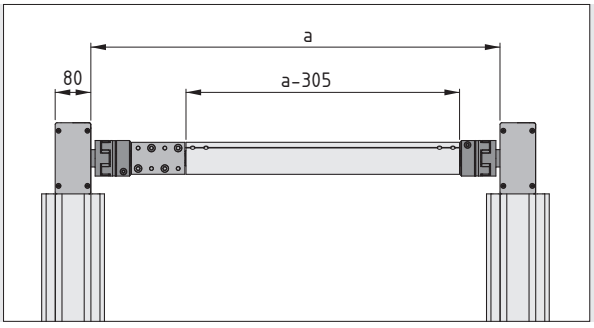
St

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

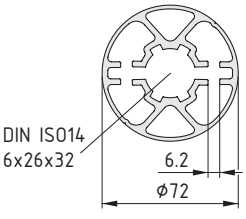
Synchronising Shaft Profiles

- 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

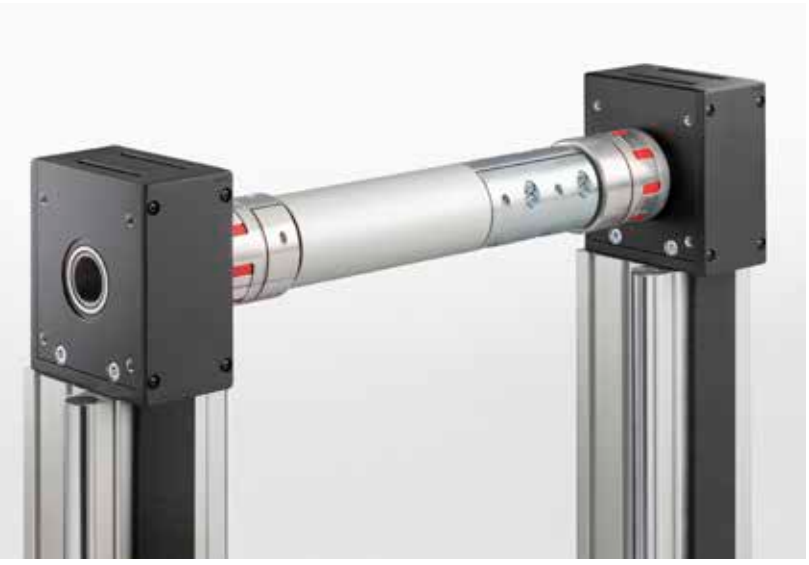
Al, anodized

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

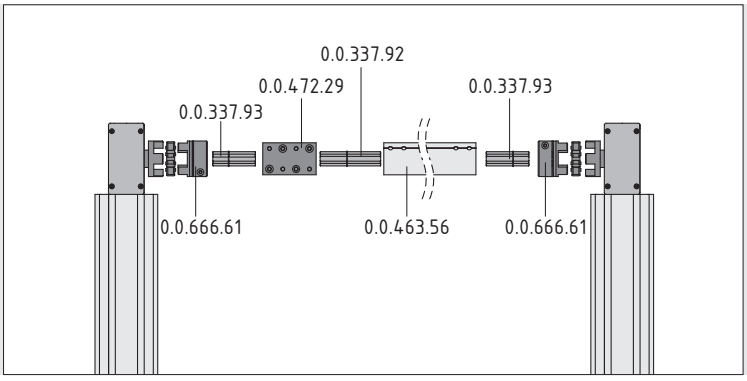
8 standard connecting plates 6, St, bright zinc-plated
4 T-Slot Nuts 8 St 2xM6-60, bright zinc-plated
8 screws M6x25, St, bright zinc-plated
m = 196.0 g

1 set	0.0.463.30



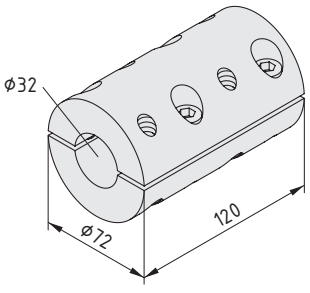
Accessories for Synchronising Shaft Profiles

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 Synchroniser Shafts are used to transfer torque, it can be necessary to adjust the attached drives during assembly. The Synchroniser Shaft Equaliser Coupling enables the Synchroniser Shaft to be separated, and then creates a powerful friction-based connection between the shafts.

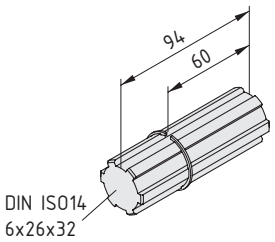
Snap Rings W should be used to secure the Synchroniser Shaft axially between the drive elements.



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

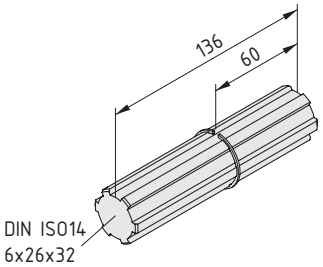
1 set	0.0.472.29



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

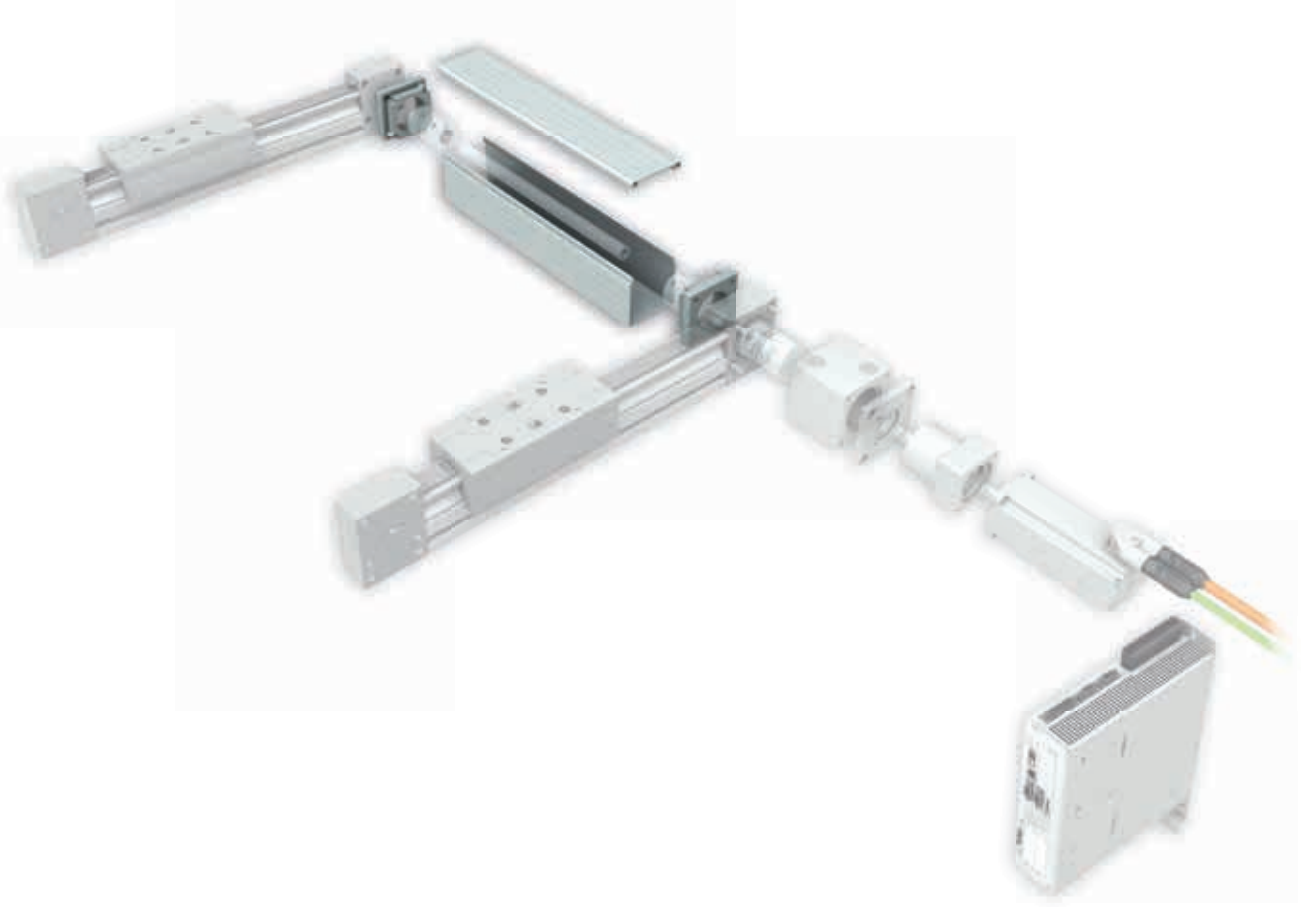


Connecting Shaft VK32 R50

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

Accessories for drive elements from item.

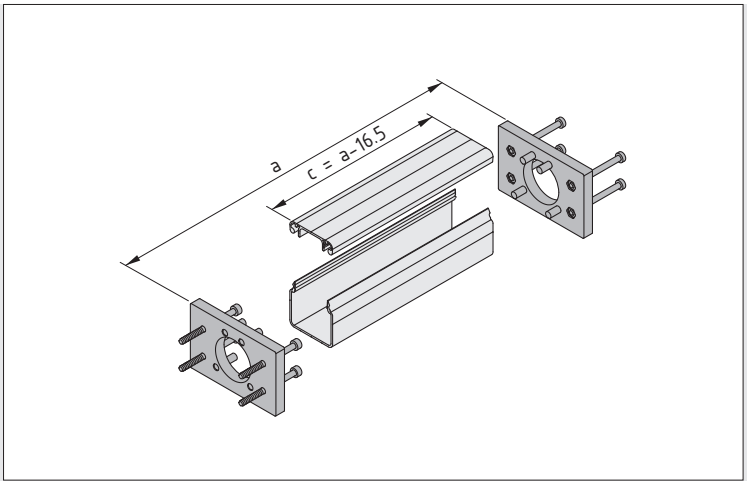


The item Synchroniser Shaft Cover Sets and Conduit Profiles are useful accessories for the item Synchronising Sets. Synchroniser Shaft Cover Sets and Conduit Profiles from item encapsulate the Synchroniser Shaft to prevent it coming into contact with external influences and keep dirt out – for maximum operational reliability.

Synchroniser Shaft Cover Sets

- Shaft covered for added safety
- Prevents soiling

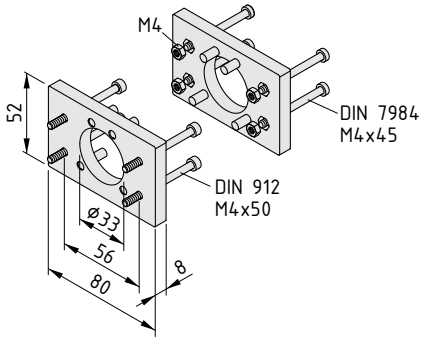
Where added safety is required, a protective housing consisting of conduit elements and a Synchroniser Shaft Cover Set can be constructed over the Synchroniser Shaft.



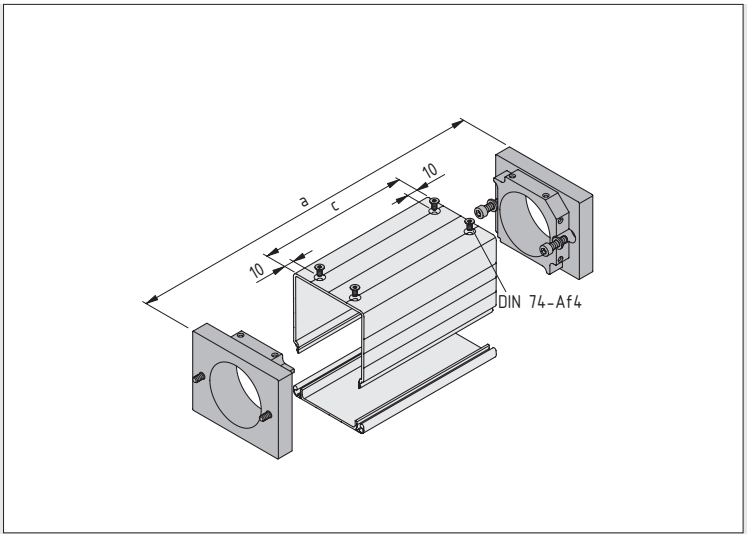
The components in the Synchroniser Shaft Cover Set are used to fasten conduit elements to the Drive Units of the GSF:

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

Conduit Profile U 40x40 E (Art. No. 7.0.001.44)
Lid Profile D40 E (Art. No. 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



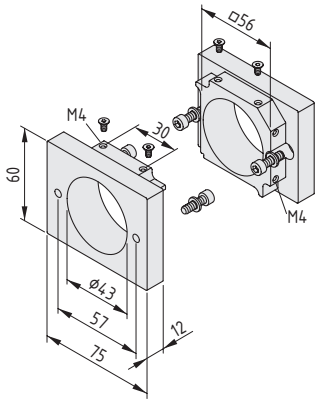
The components contained in the Synchroniser Shaft Cover Set are used to secure the conduit elements between the Drive Units of the KLEs.

KLE 6 60x60:
Conduit Profile U 60x60 E and Lid Profile D60 E
c = a - 24.5 mm (Adapter Plate thickness = 12 mm)

KLE 8 80x80:
Conduit Profile U 80x80 E and Lid Profile D80 E
c = a - 32.5 mm (Adapter Plate thickness = 16 mm)

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

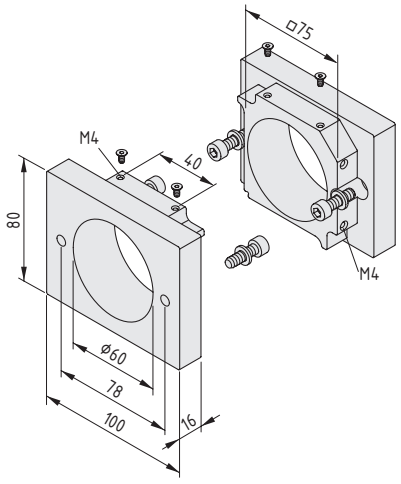
DIN 74-Af4 countersinks must be machined into the Conduit Profiles so they can be secured in place.



Synchroniser Shaft Cover Set KLE 6 60x60 6

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

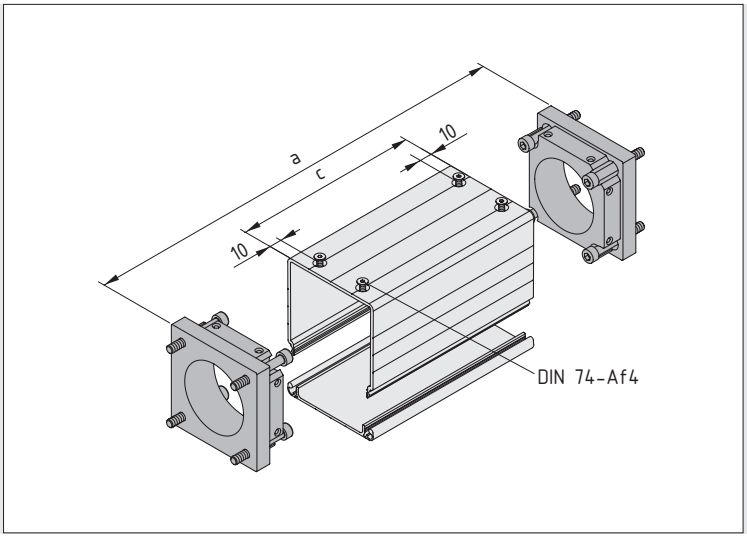
1 set	0.0.612.46



Synchroniser Shaft Cover Set KLE 8 80x80 8

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

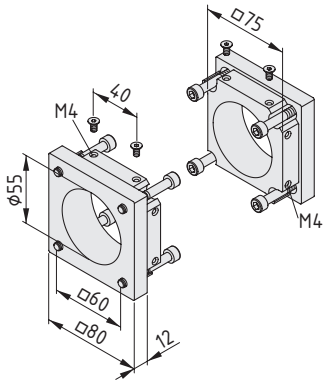


The components contained in the Synchroniser Shaft Cover Set are used to secure the conduit elements between the Drive Units of the KRF.

a = distance between the Linear Units
c = length of the 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)

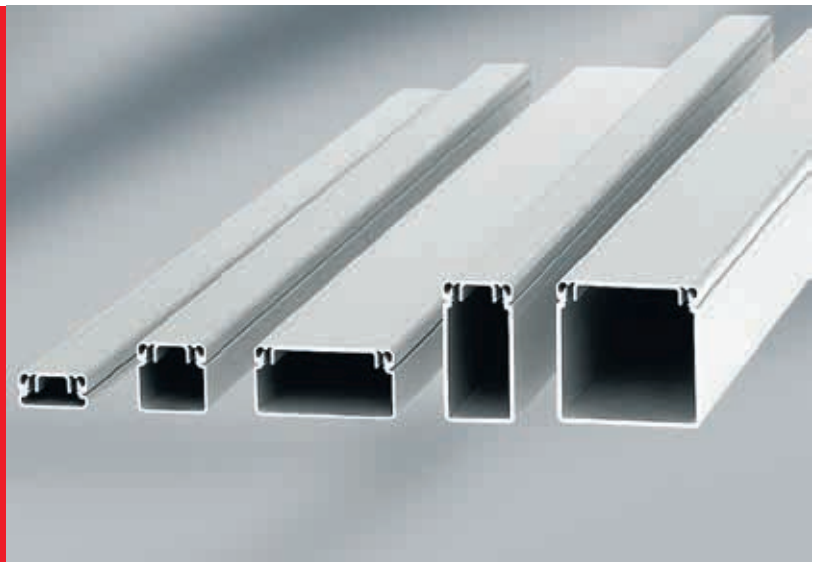
DIN 74-Af4 countersinks must be machined into the Conduit Profiles so they can be secured in place.



Synchroniser Shaft Cover Set KRF 8 80 ZR

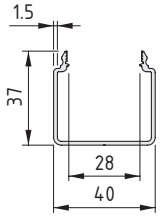
2 synchroniser adapter plates KRF 8 80x80, Al, natural
4 Hexagon Socket Head Cap Screws DIN 912 M6x45, St, bright zinc-plated
4 Hexagon Socket Head Cap Screws DIN 912 M6x60, St, bright zinc-plated
4 Countersunk Screws DIN 7991 M4x8, St, bright zinc-plated
m = 540.0 g

1 set	0.0.648.59

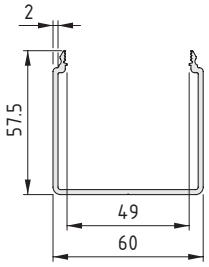


Conduit and Lid Profiles

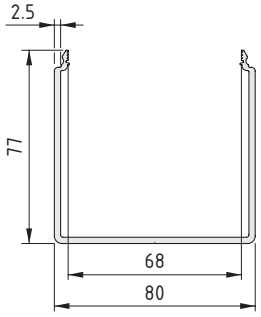
- Protect against dust and dirt
- Prevent contact with rotating parts



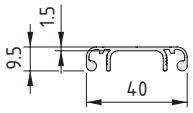
Conduit Profile U 40x40 E	
Al, anodized	
A [cm²] m [kg/m]	
1.70 0.45	
natural, cut-off max. 3000 mm	7.0.001.44
natural, 1 pce., length 3000 mm	0.0.452.20



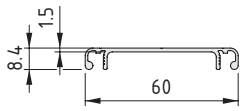
Conduit Profile U 60x60 E	
Al, anodized	
A [cm²] m [kg/m]	
3.38 0.91	
natural, cut-off max. 3000 mm	7.0.002.91
natural, 1 pce., length 3000 mm	0.0.451.45



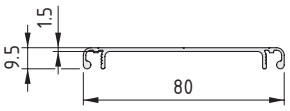
Conduit Profile U 80x80 E	
Al, anodized	
A [cm²] m [kg/m]	
5.61 1.52	
natural, cut-off max. 3000 mm	7.0.002.74
natural, 1 pce., length 3000 mm	7.0.002.78



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

Gearboxes – Robust. Precise.

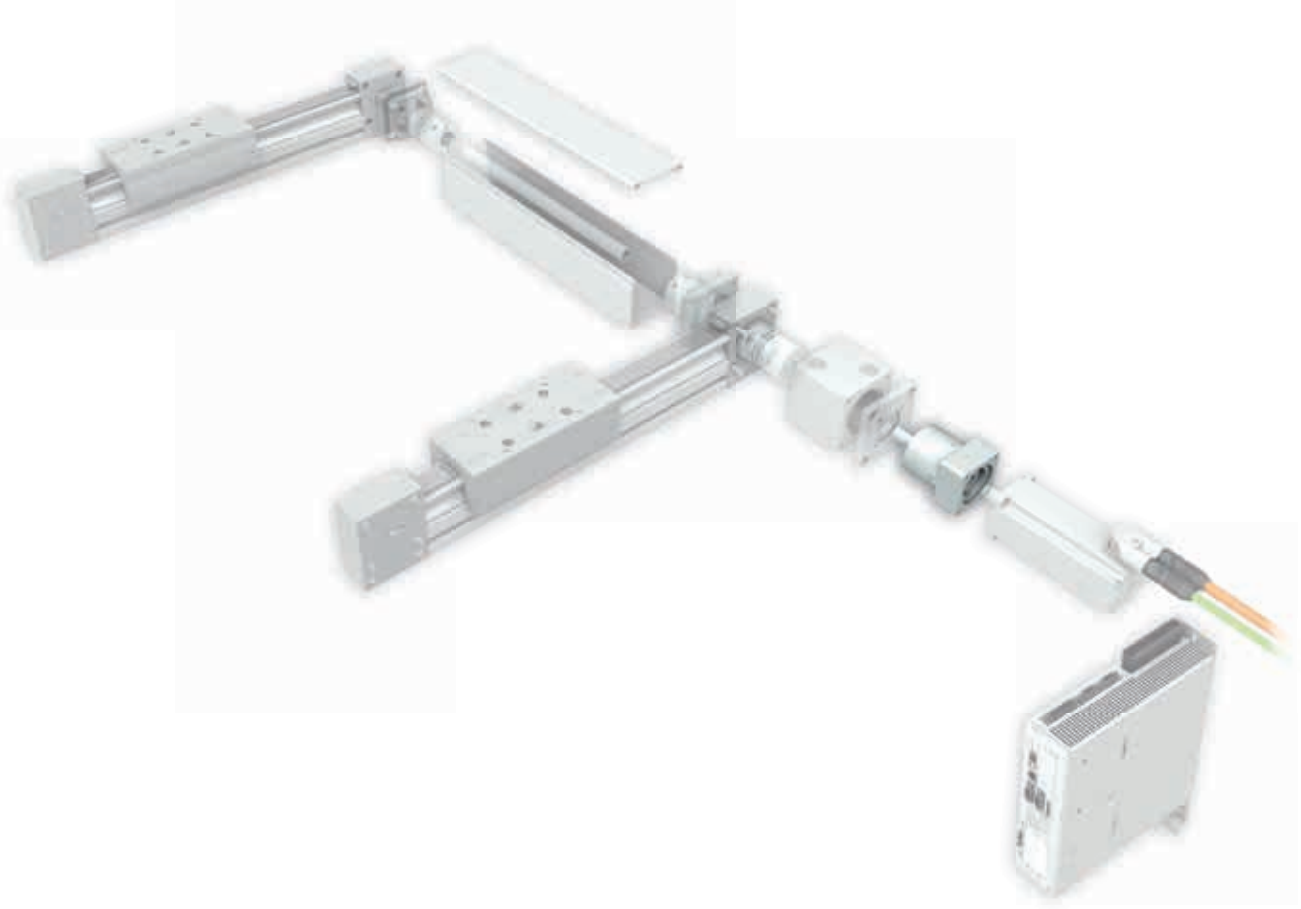
Gearboxes connect together the Linear Unit, Drive Set and Motor and ensure users can achieve the correct ratio of input speed, torque and precise carriage positioning for any application. item Gearboxes also help make optimum use of the installation space available. Motors can be fitted in line with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

Fig.: Linear Unit KRF 8 80x40 ZR (0.0.641.21), Gearbox AP 60-3 (0.0.666.11), Motor SE 60 (0.0.666.02)

Fig.: Linear Unit KRF 8 80x40 ZR (0.0.641.21), Gearbox WP 60-3 (0.0.666.14), Motor SE 60 (0.0.666.02)

Gearboxes from item.



item Gearboxes are supplied ready-to-install and in robust steel housings. The carefully configured units can be combined with Linear Units, Drive Sets and Motors from the Automation System with no need for remachining. All the components form a single unit in terms of both technical characteristics and look.

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.

The single-stage planetary gearboxes come in three fixed gear ratios (1:3, 1:5, 1:7). Reducing rotational speed increases torque. As a result, large masses can also be accelerated, even when there are high mass inertia ratios between load and motor.

Gearboxes AP

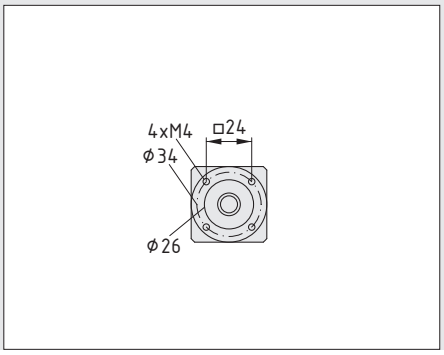
- Axial connection for motors
- Suitable for very high input speeds
- Highly efficient with low backlash
- Long service life and maintenance free thanks to lifetime lubrication

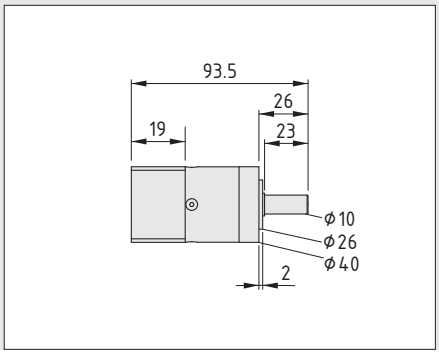
Gearboxes AP connect a Motor with a Drive Set along a shared axis. The compact, maintenance-free planetary Gearboxes are each available in three fixed gear ratios – 1:3, 1:5 and 1:7.

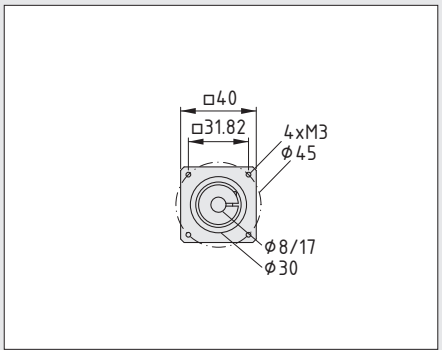
The Gearboxes run quietly and have a long service life. They are maintenance free and do not require additional lubrication. The compact Gearbox AP is suitable for very high input speeds up to 18,000 RPM.

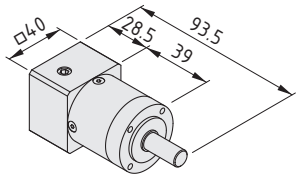
Note: The modular item Automation System can be used to configure solutions using ready-to-install components. Please ensure that the connection dimensions for the selected Motor, Gearbox and Drive Set are identical.

Gearbox AP 40







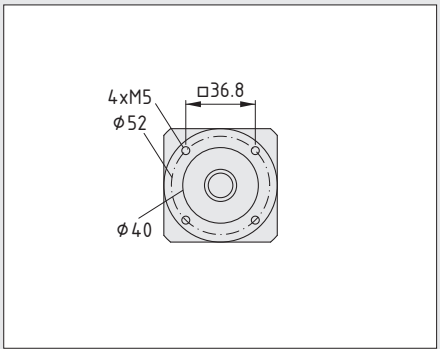


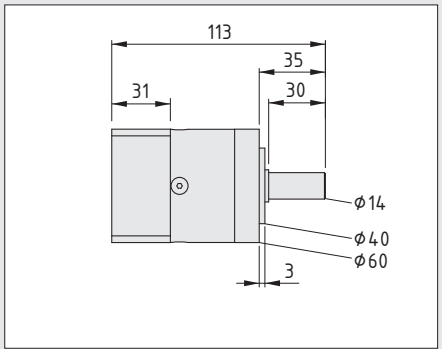
Gearbox AP 40-3		
Efficiency at full load	0.98	
Rated output torque	11 Nm	
Max. mechanical input speed	18000	
Standard backlash	15 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.05

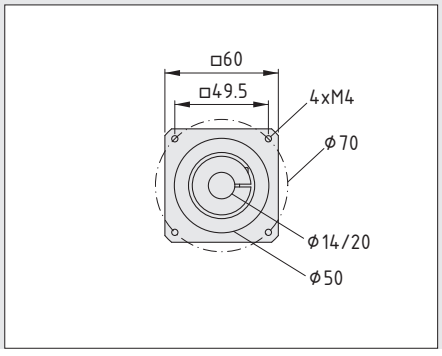
Gearbox AP 40-5		
Efficiency at full load	0.98	
Rated output torque	14 Nm	
Max. mechanical input speed	18000	
Standard backlash	15 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.06

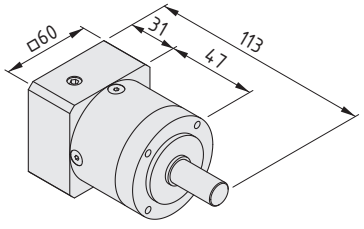
Gearbox AP 40-7		
Efficiency at full load	0.97	
Rated output torque	8.5 Nm	
Max. mechanical input speed	18000	
Standard backlash	15 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.07

Gearbox AP 60







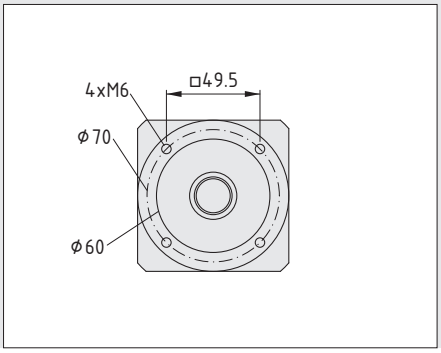


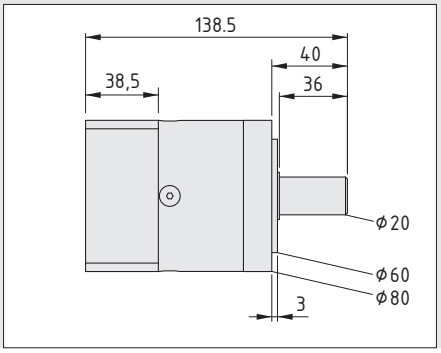
Gearbox AP 60-3		
Efficiency at full load	0.98	
Rated output torque	28 Nm	
Max. mechanical input speed	13000	
Standard backlash	10 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.11

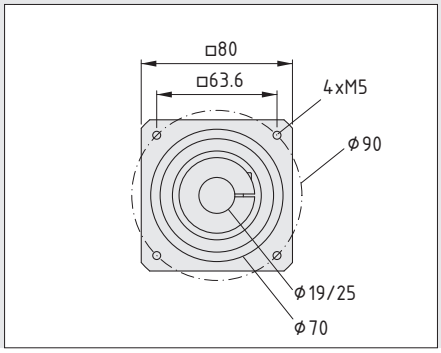
Gearbox AP 60-5		
Efficiency at full load	0.98	
Rated output torque	40 Nm	
Max. mechanical input speed	13000	
Standard backlash	10 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.12

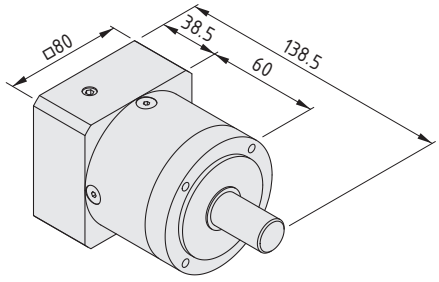
Gearbox AP 60-7		
Efficiency at full load	0.97	
Rated output torque	25 Nm	
Max. mechanical input speed	13000	
Standard backlash	10 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.13

Gearbox AP 80









Gearbox AP 80-3		
Efficiency at full load	0.98	
Rated output torque	85 Nm	
Max. mechanical input speed	7000	
Standard backlash	7 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.17

Gearbox AP 80-5		
Efficiency at full load	0.98	
Rated output torque	110 Nm	
Max. mechanical input speed	7000	
Standard backlash	7 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.18

Gearbox AP 80-7		
Efficiency at full load	0.97	
Rated output torque	65 Nm	
Max. mechanical input speed	7000	
Standard backlash	7 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.19

Gearboxes WP

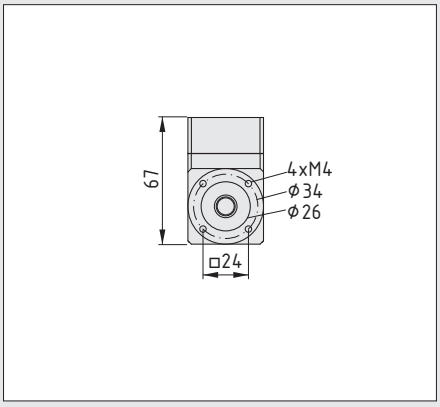
- Right-angled connection for motors
- Suitable for very high input speeds
- Highly efficient with low backlash
- Long service life and maintenance free thanks to lifetime lubrication

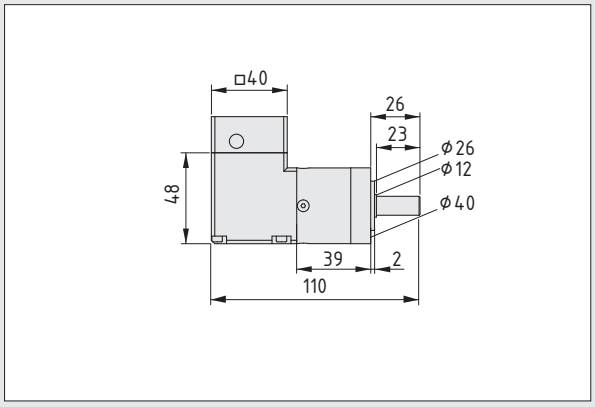
Gearboxes WP connect a Motor with a Drive Set at a 90° angle. The compact, maintenance-free planetary Gearboxes are each available in three fixed gear ratios – 1:3, 1:5 and 1:7.

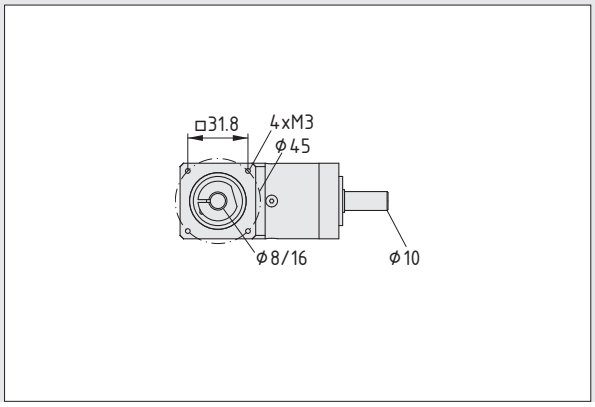
The Gearboxes run quietly and have a long service life. They are maintenance free and do not require additional lubrication. The compact Gearbox WP is suitable for very high input speeds up to 18,000 RPM.

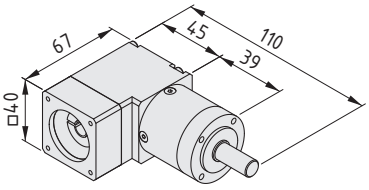
Note: The modular item Automation System can be used to configure solutions using ready-to-install components. Please ensure that the connection dimensions for the selected Motor, Gearbox and Drive Set are identical.

Gearbox WP 40







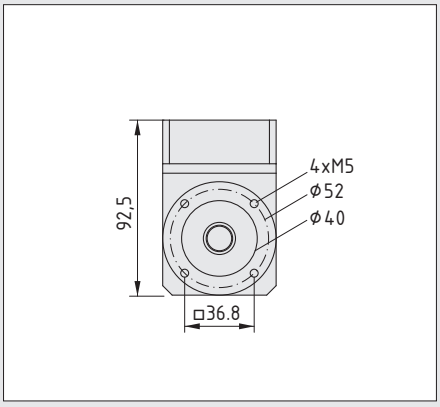


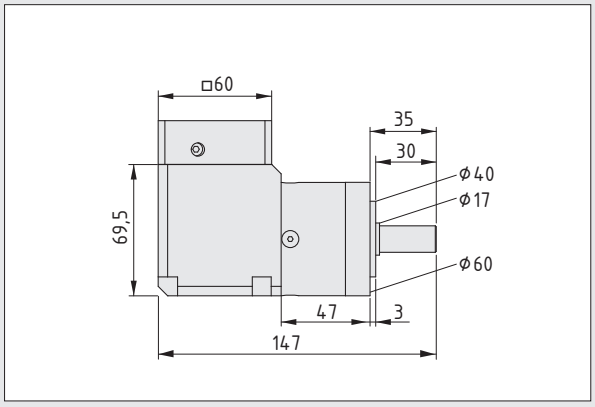
Gearbox WP 40-3		
Efficiency at full load	0.94	
Rated output torque	3.96 Nm	
Max. mechanical input speed	18000	
Standard backlash	21 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.08

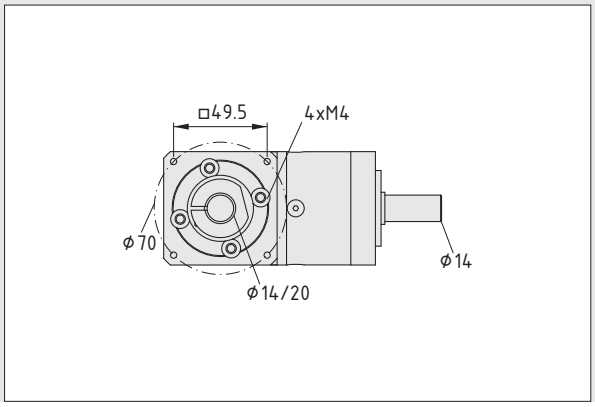
Gearbox WP 40-5		
Efficiency at full load	0.94	
Rated output torque	6.6 Nm	
Max. mechanical input speed	18000	
Standard backlash	21 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.09

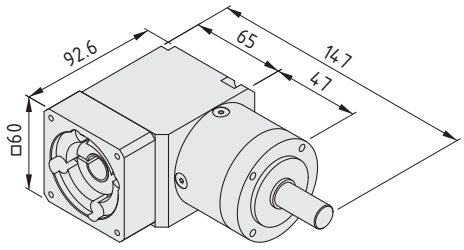
Gearbox WP 40-7		
Efficiency at full load	0.94	
Rated output torque	7.48 Nm	
Max. mechanical input speed	18000	
Standard backlash	21 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.10

Gearbox WP 60







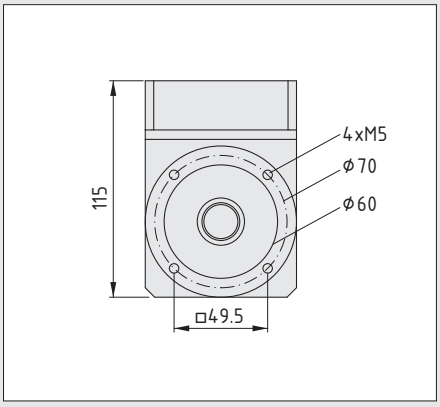


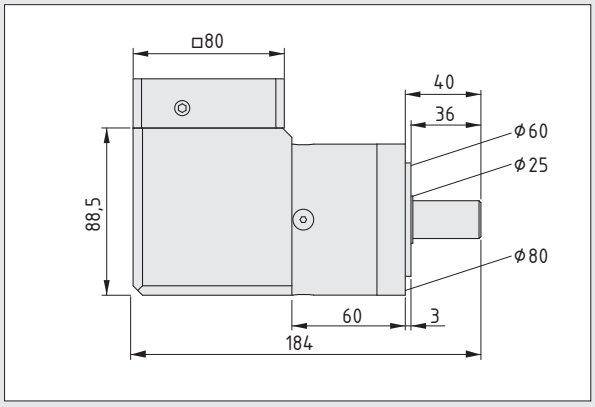
Gearbox WP 60-3		
Efficiency at full load	0.95	
Rated output torque	12.32 Nm	
Max. mechanical input speed	13000	
Standard backlash	16 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.14

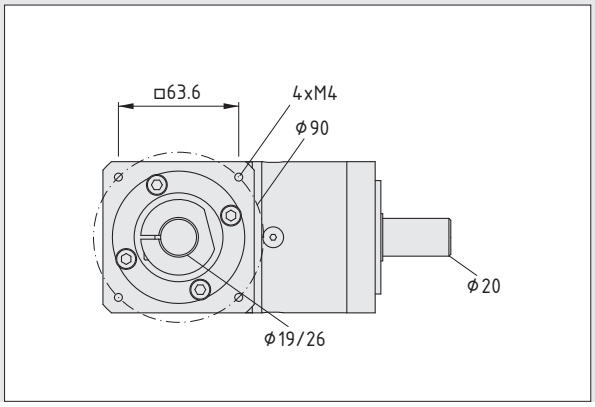
Gearbox WP 60-5		
Efficiency at full load	0.95	
Rated output torque	21.12 Nm	
Max. mechanical input speed	13000	
Standard backlash	16 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.15

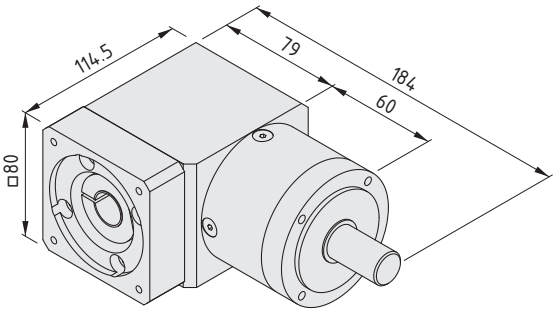
Gearbox WP 60-7		
Efficiency at full load	0.94	
Rated output torque	22 Nm	
Max. mechanical input speed	13000	
Standard backlash	16 ’	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.16

Gearbox WP 80









Gearbox WP 80-3		
Efficiency at full load	0.96	
Rated output torque	35.2 Nm	
Max. mechanical input speed	7000	
Standard backlash	13 '	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.20

Gearbox WP 80-5		
Efficiency at full load	0.95	
Rated output torque	58.96 Nm	
Max. mechanical input speed	7000	
Standard backlash	13 '	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.21

Gearbox WP 80-7		
Efficiency at full load	0.95	
Rated output torque	57.2 Nm	
Max. mechanical input speed	7000	
Standard backlash	13 '	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.22

Motors – Dynamic. Powerful.

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.

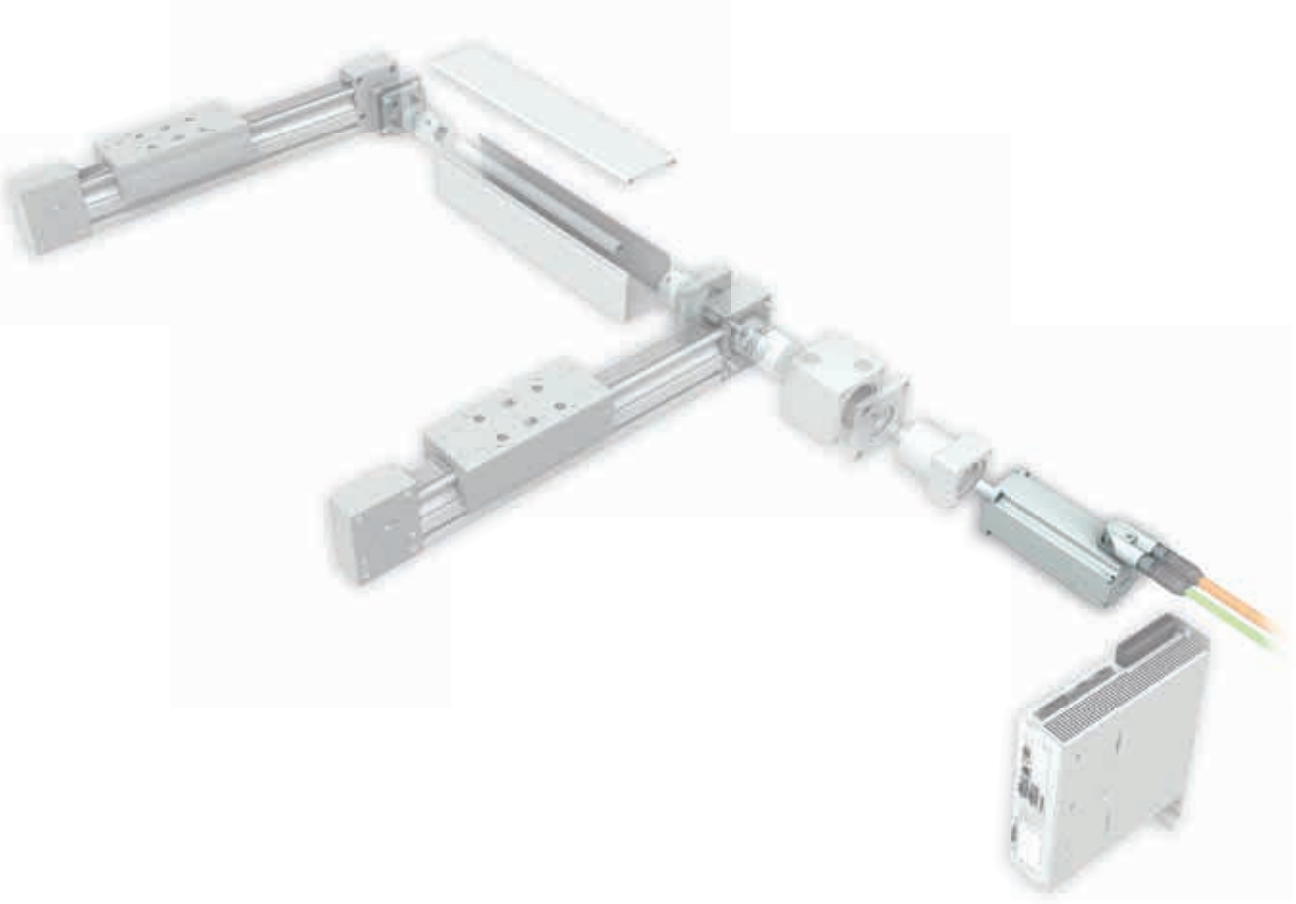
That is why item uses high-quality synchronous motors. These electric motors supply high torque even at low rotational speeds and complete their start-up with excellent precision, even under high loads. Controlled synchronous operation in all phases boosts precision. As a servomotor, the drive supplies 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.

Fig.: Linear Unit KRF 8 80x40 ZR (0.0.641.21), Gearbox WP 60-3 (0.0.666.14), Motor SE 60 (0.0.666.02)

Motors from item.



item servomotors are available in three sizes (40, 60 and 80 mm) that are precisely configured for the Gearboxes and Drive Sets in the item Automation System. If necessary – in vertical applications, for example – the Motors can be ordered with an optional integrated holding brake.

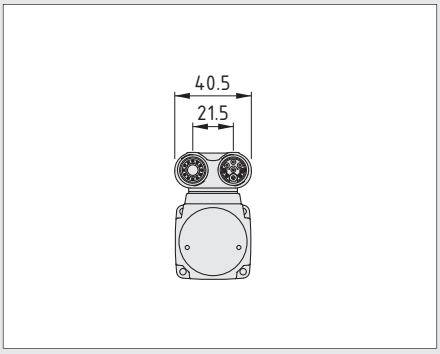
Motors SE

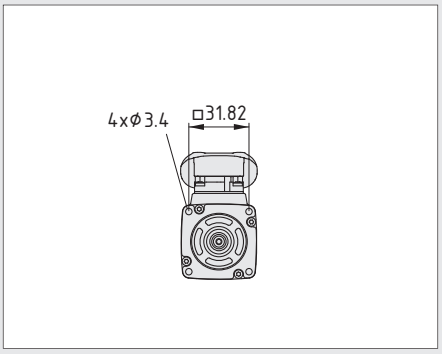
- High rated speed
- Durable design
- High load-to-size ratio and overload capacity
- With and without optional holding brake

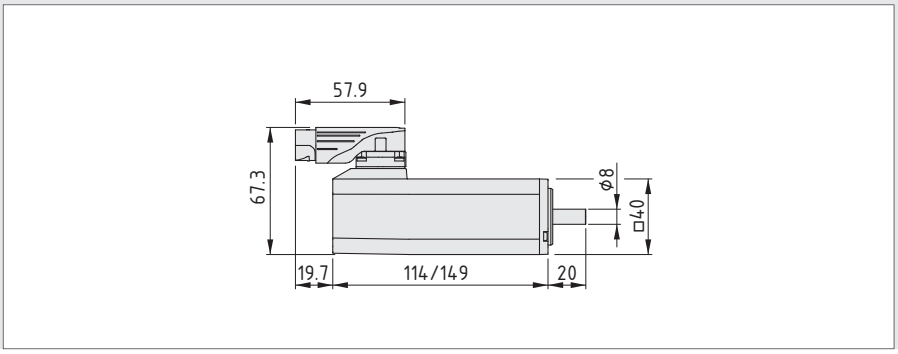
Motors SE feature a high rated speed of up to 9,000 RPM and are suitable for all applications that require precision and dynamic operation. Robust and precise encoders ensure the system exhibits reliable positioning characteristics over long term use.

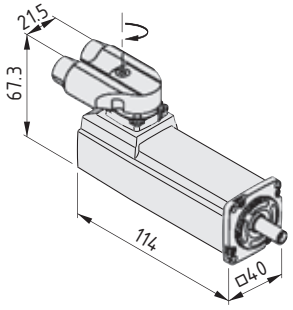
Thanks to colour-coded plug-in connectors and item Power and Data Cables, the Motor can be connected to its Controller quickly and reliably. The servomotors are available with a holding brake (B in product name) and without a holding brake.

Motors SE 40

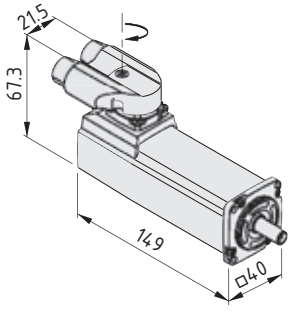






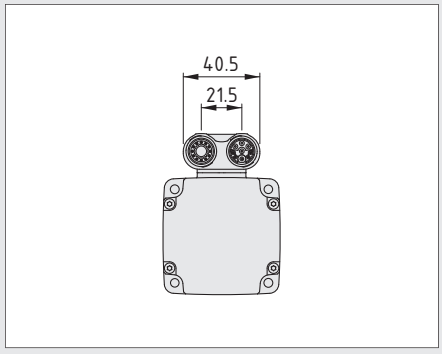


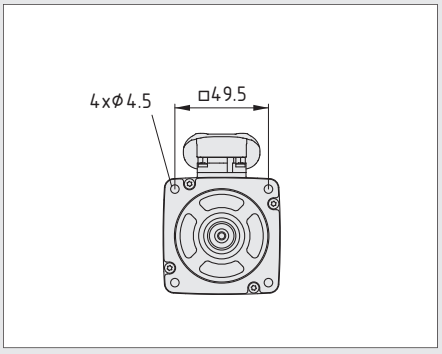
Motor SE 40-035-3-90-R	
Rated torque	9000
Intermediate circuit voltage [V]	320
Rated power	200 W
Rated torque	0.21 Nm
Peak torque	1.4 Nm
white aluminium, similar to RAL 9006, 1 pce.	0.0.666.03

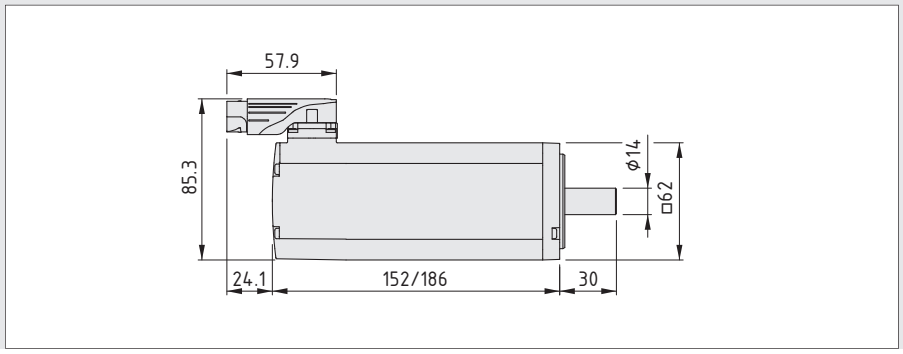


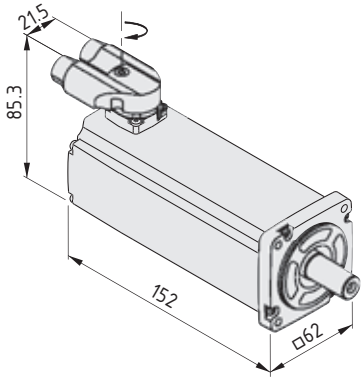
Motor SE 40-035-3-90-R-B	
Rated torque	9000
Intermediate circuit voltage [V]	320
Rated power	200 W
Rated torque	0.21 Nm
Peak torque	1.4 Nm
white aluminium, similar to RAL 9006, 1 pce.	0.0.666.04

Motors SE 60

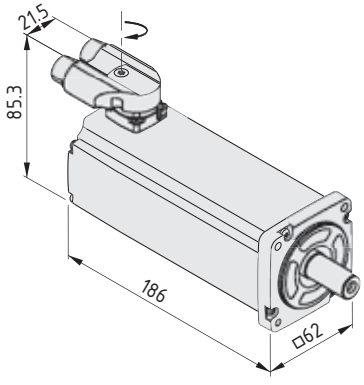






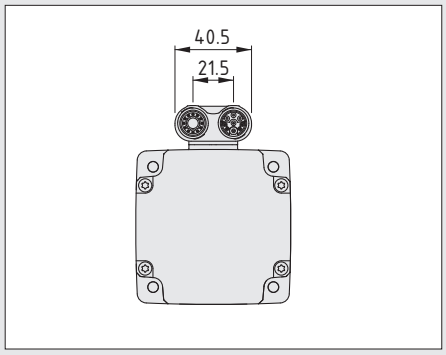


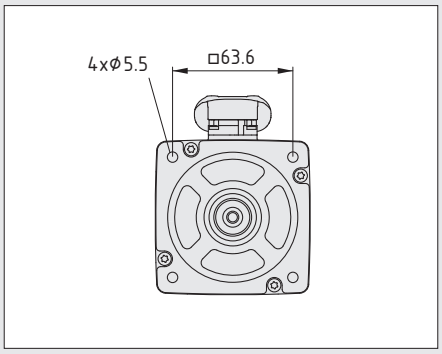
Motor SE 60-150-3-60-R		
Rated torque	6000	
Intermediate circuit voltage [V]	320	
Rated power	550 W	
Rated torque	0.9 Nm	
Peak torque	6 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.02

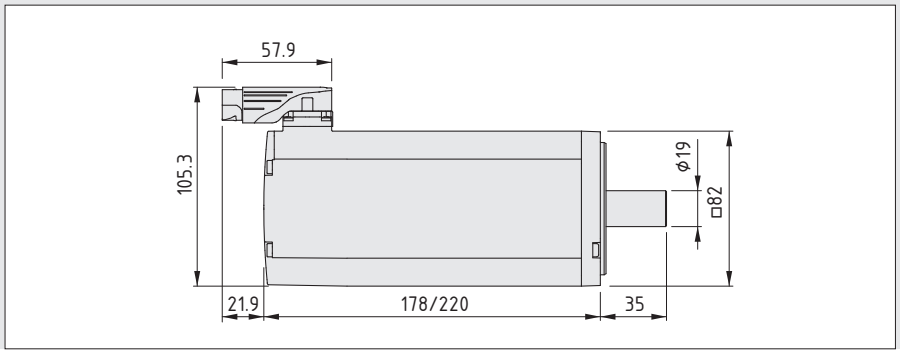


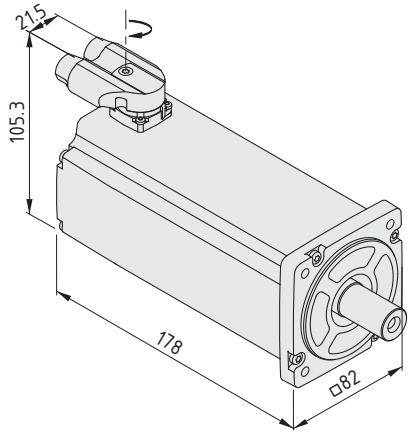
Motor SE 60-150-3-60-R-B		
Rated torque	6000	
Intermediate circuit voltage [V]	320	
Rated power	550 W	
Rated torque	0.9 Nm	
Peak torque	6 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.665.99

Motors SE 80

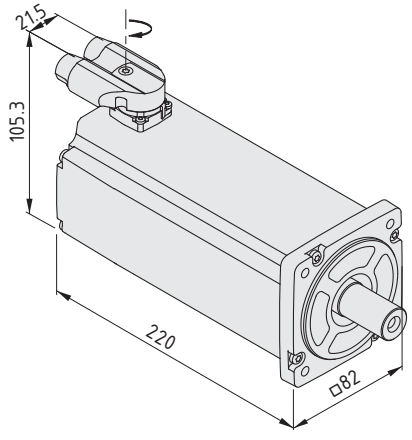




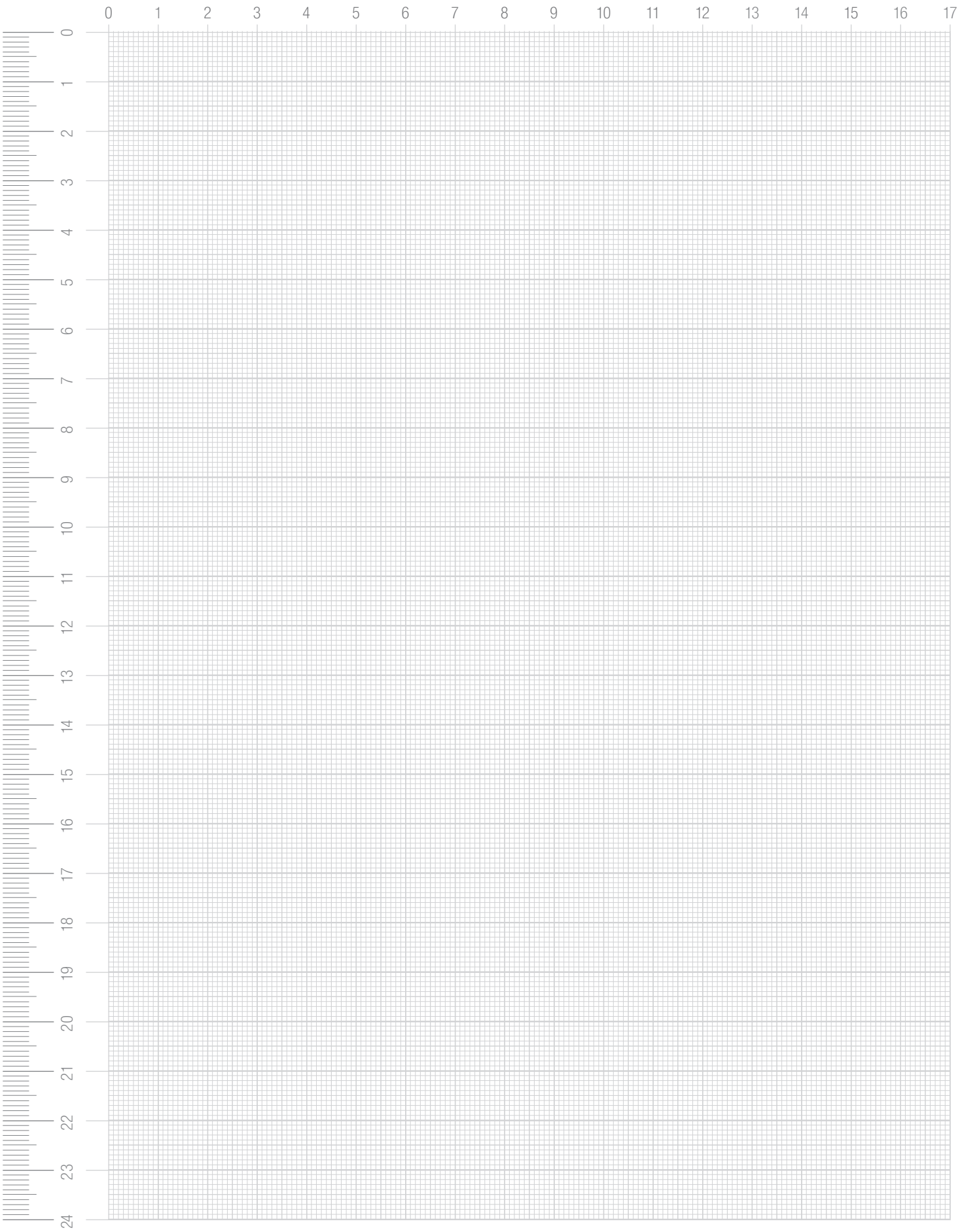




Motor SE 80-350-5-55-R		
Rated torque	5500	
Intermediate circuit voltage [V]	560	
Rated power	1200 W	
Rated torque	2.1 Nm	
Peak torque	14 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.01



Motor SE 80-350-5-55-R-B		
Rated torque	5500	
Intermediate circuit voltage [V]	560	
Rated power	1200 W	
Rated torque	2.1 Nm	
Peak torque	14 Nm	
white aluminium, similar to RAL 9006, 1 pce.		0.0.666.00


0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Controller – Fast. Precise. Intelligent.

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 future-proof 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.

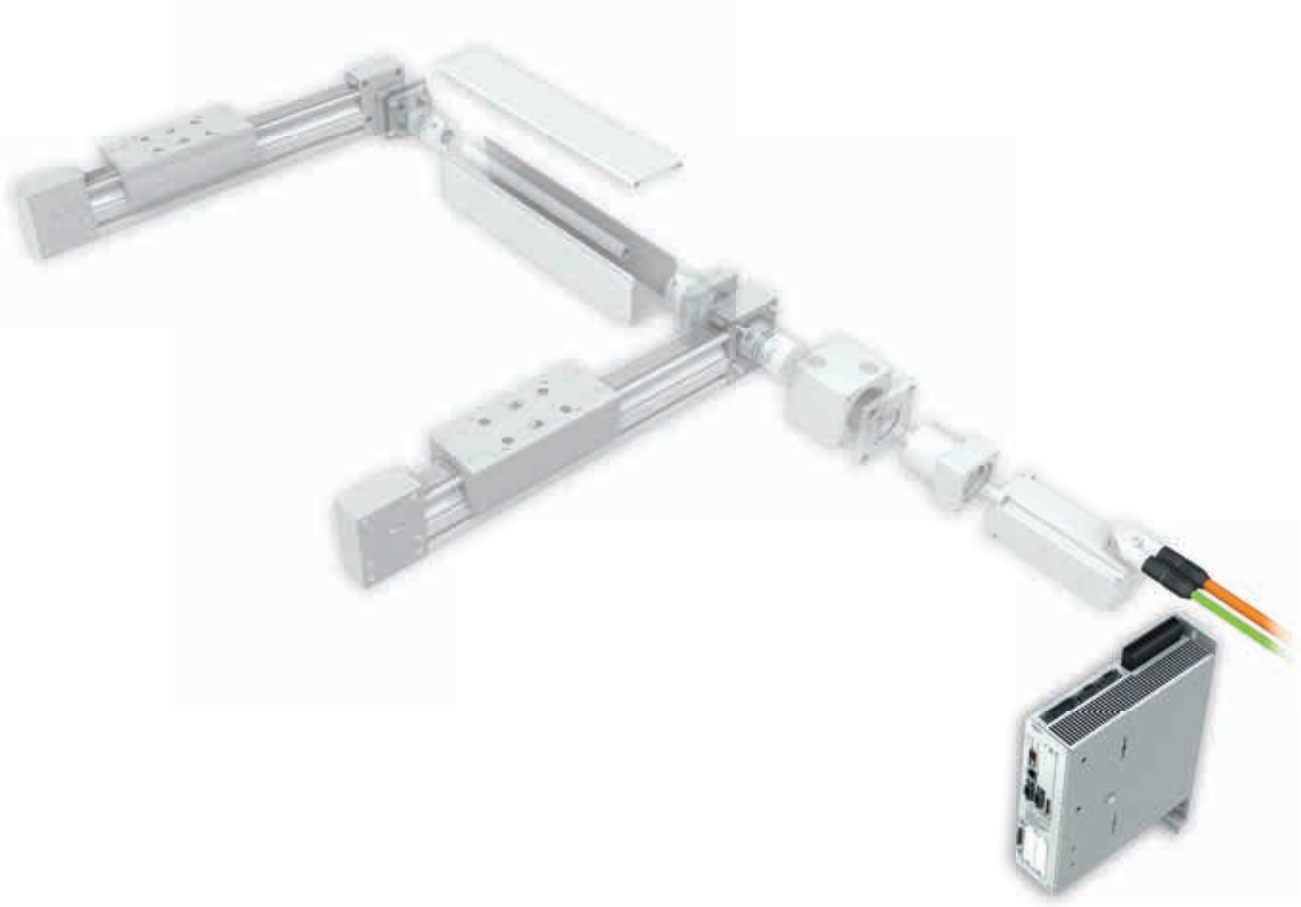
The Controller initiates an automatic test run to configure the parameters of the entire system in its actual installation scenario and calculates the optimum controller settings for the drive system used.

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.

Fig.: Controller C1-02 (0.0.668.62)

Controllers from item.



The core task of the Controllers is to ensure optimum actuation of the item servomotors at all times. Complete motion profiles can be stored and executed in each Controller. Signals are processed directly in the Controller, which in many cases saves you from having to use a superordinate PLC.

Controllers C 1-02, -05, -08

- 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 C1 incorporate a programmable servo controller that enables the Controller to store motion profiles and actuate them independently.

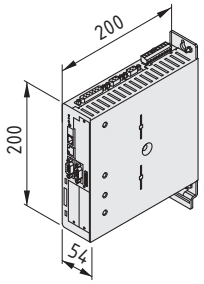
Thanks to freely configurable I/O ports, signals from start/stop switches, sensors, etc. can be directly processed and integrated into the program sequence. Setup is completed using the intuitive software program item MotionSoft®.

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.



C1-02 control system	
Supply voltage	1 x 100 ... 230 VAC (+- 10%) , 50 ... 60 Hz
Control voltage	24 VDC (+-20%) [0,55 A]
Intermediate circuit voltage [V]	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

C1-05 control system	
Supply voltage	1 x 100 ... 230 VAC (+- 10%) , 50 ... 60 Hz
Control voltage	24 VDC (+-20%) [0,65 A]
Intermediate circuit voltage [V]	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

C1-08 control system	
Supply voltage	1 x 100 ... 230 VAC (+- 10%) , 50 ... 60 Hz
Control voltage	24 VDC (+-20%) [0,65 A]
Intermediate circuit voltage [V]	310 ... 320 V
Output power (rated)	1.5 KVA
Max. output power (for 5 s)	3 KVA
1 pce.	0.0.668.64

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 C3 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®.

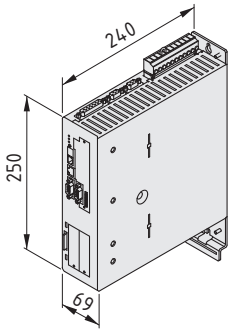
Thanks to optional interface modules, the Controllers can be expanded for all standard fieldbus systems. CAN-Open, USB, Ethernet and RS232 interfaces are standard.

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.



C3-05 control system	
Supply voltage	3 x 230 ... 480 VAC (+- 10%) , 50 ... 60 Hz
Control voltage	24 VDC (+-20%) [1 A]
Intermediate circuit voltage [V]	560... 570 V
Output power (rated)	3 KVA
Max. output power (for 5 s)	6 KVA
1 pce.	0.0.668.65

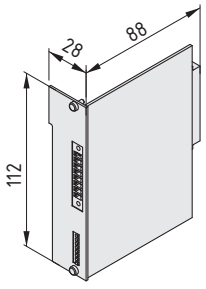
C3-10 control system	
Supply voltage	3 x 230 ... 480 VAC (+- 10%) , 50 ... 60 Hz
Control voltage	24 VDC (+-20%) [1 A]
Intermediate circuit voltage [V]	560... 570 V
Output power (rated)	6 KVA
Max. output power (for 5 s)	12 KVA
1 pce.	0.0.668.66

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.



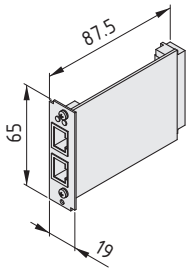
STO safety module	
m = 72.0 g	
1 pce.	0.0.668.20

EtherCAT/ PROFIBUS Interfaces

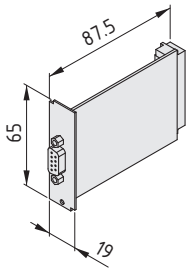
- Plug-in module for item Controllers
- For additional fieldbus connections

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

As plug 'n' 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

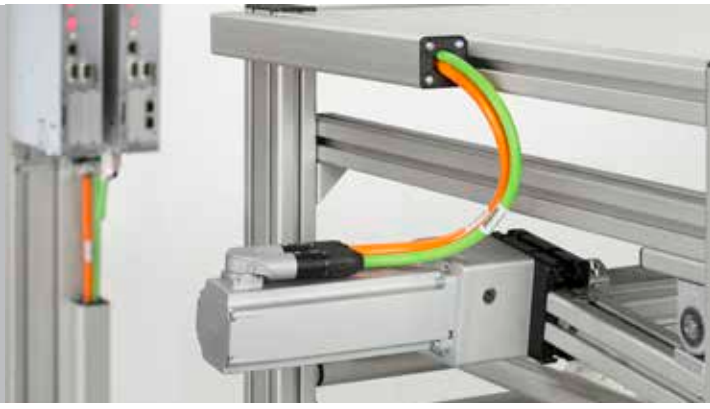
Cables

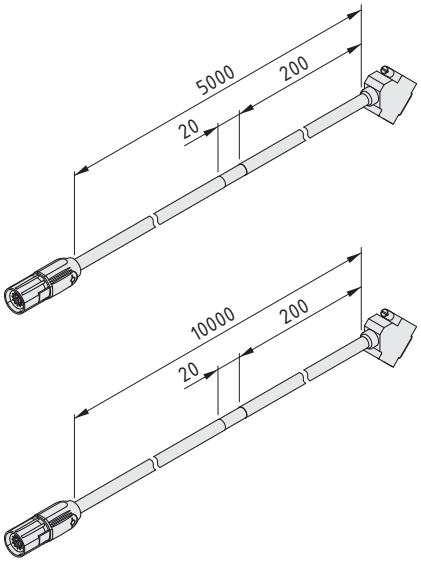
- Power and data cables for item Controllers and Motors
- Durable and well shielded
- Colour-coded and tamperproof
- Easy to order thanks to standard lengths in all performance classes

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.

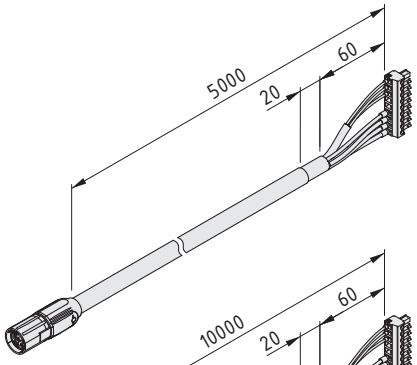
Note: If you use item MotionDesigner® to configure a turnkey system, the software automatically selects the right Cable.



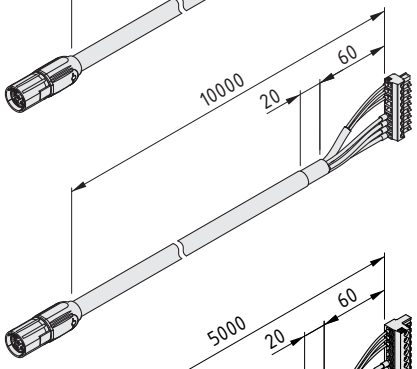


RSC /5 transmitter line	
m = 587.0 g	
green, 1 pce., length 5000 mm	0.0.670.27

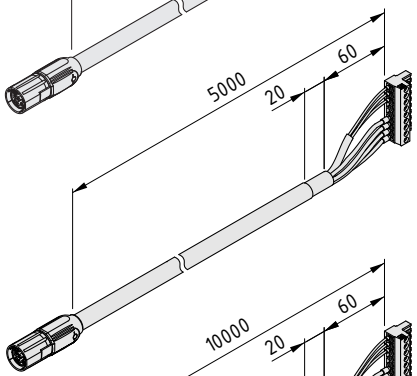
RSC /10 transmitter line	
m = 1.1 kg	
green, 1 pce., 10000 mm long	0.0.671.89



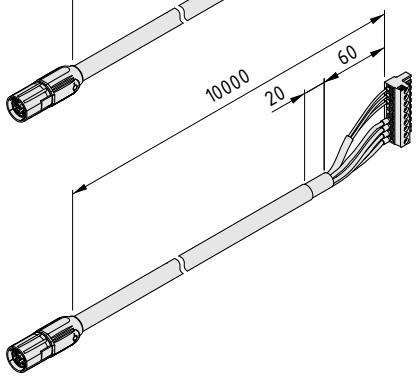
SC1 05 /5 power cable	
m = 965.0 g	
orange, 1 pce., length 5000 mm	0.0.670.28



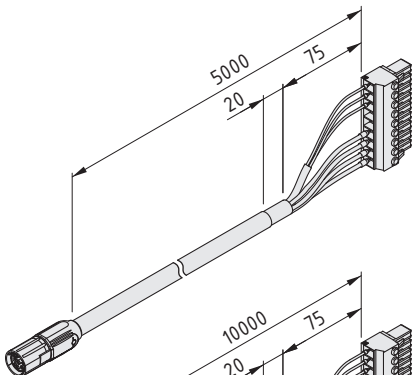
SC1 05 /10 power cable	
m = 1.9 kg	
orange, 1 pce., 10000 mm long	0.0.671.90



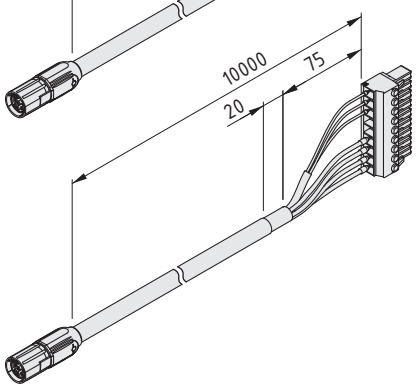
SC1 08 /5 power cable	
m = 970.0 g	
orange, 1 pce., length 5000 mm	0.0.670.29



SC1 08 /10 power cable	
m = 1.9 kg	
orange, 1 pce., 10000 mm long	0.0.671.91



SC3 10 /5 power cable	
m = 992.0 g	
orange, 1 pce., length 5000 mm	0.0.670.30

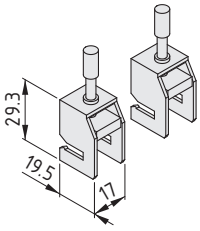


SC3 10 /10 power cable	
m = 1.9 kg	
orange, 1 pce., 10000 mm long	0.0.671.92

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

Performance plus – accessories for Linear Units

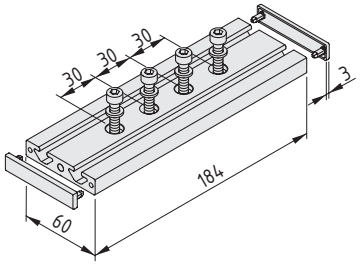
Accessories from item are fully compatible add-on elements for item Linear Units. They can be used to adapt the functionality of a Linear Unit precisely to a specific application. They also include useful maintenance products that will help you ensure your item Linear Unit continues to provide outstanding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

Carriage Plates KLE

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

The standardised Carriage Plate KLE is a universal means of securing attachments to the moving slide of the KLE. It has already been provided with all necessary fastening holes and elements.

Profiles X 6 60x12 (0.0.609.32) and X 8 80x16 (0.0.609.34) with appropriate Caps are available for constructing Carriage Plates in customised lengths.

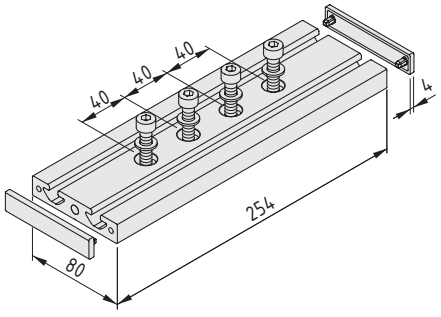


Carriage Plate KLE 6 60x60

Line 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



Carriage Plate KLE 8 80x80

Line 8

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

Proximity Switch

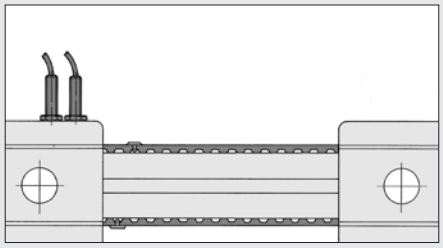
- Inductive proximity switch for added safety in linear drives
- Installed in Line 8 groove (Proximity Switch 8)
- Installed in Timing-Belt Reverse Unit (Proximity Switch M8)

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.

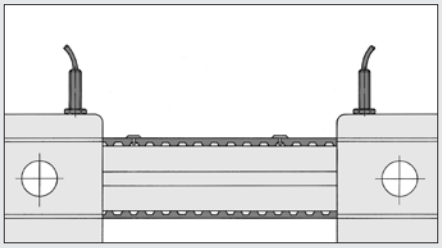
The Proximity-Switch Cam is used to mark the terminal position and/or the reference point of the unit on the Timing Belt.

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

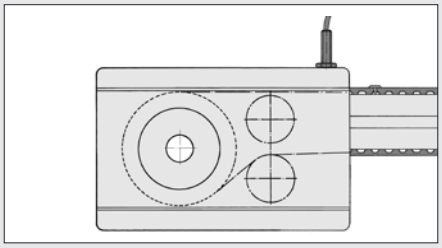
Proximity-Switch Connecting Cable in plug-in design with integrated LEDs for displaying the switch function and operating voltage.



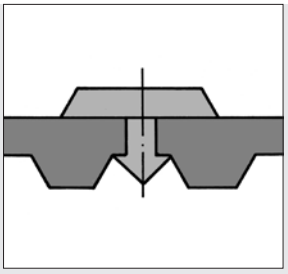
Possible arrangement of Proximity Switches 8 and Proximity-Switch Cams 8:
The Proximity-Switch Cams run through the Timing-Belt Reverse Units.
Particularly suitable when used with the drive end Timing Belt Reverse Unit for simplifying cable routing between the drive unit, Proximity Switch and motor control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



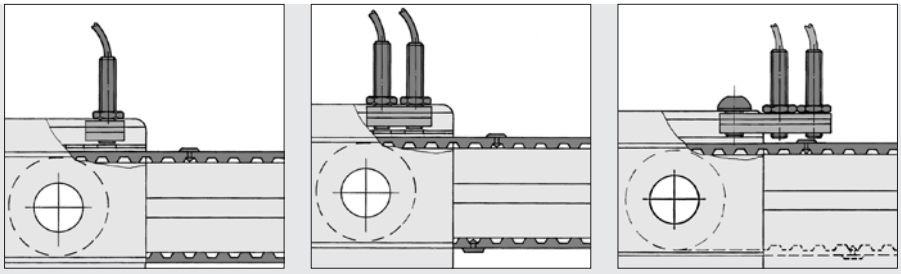
Possible arrangement of Proximity Switches 8 and Proximity-Switch Cams 8:
The Proximity-Switch Cams do not run through the Timing-Belt Reverse Units.



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.

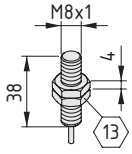


Proximity-Switch Cam 8 is pressed into the flat side of the Timing Belt at the required positions.



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.

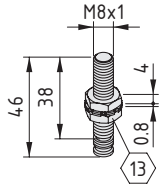
Proximity Switch 8 is particularly suitable in conjunction with Timing-Belt Reverse Units 8 or Timing-Belt Counter-Reverse Unit 8, Proximity-Switch Fastening Set 8 and Proximity-Switch Cams 8. Timing-Belt Reverse Units 8 are provided with openings for the Proximity Switch at appropriate points in order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

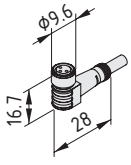
1 pce.	0.0.337.14



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

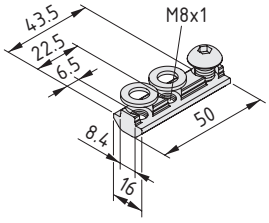
1 pce.	0.3.001.24



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

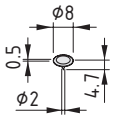
1 pce.	0.3.001.25



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

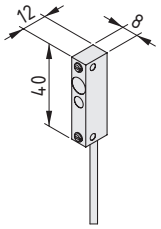
1 set	0.0.337.31



Proximity-Switch Cam 8

St
m = 0.2 g

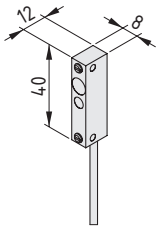
black, 1 pce.	0.0.337.15



Proximity Switch 8 - 1NC

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

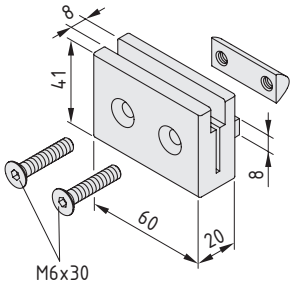
1 pce.	0.0.600.05



Proximity Switch 8 - 1NO

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

1 pce.	0.3.001.30



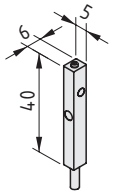
Limit-Switch Holder KRF 8

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

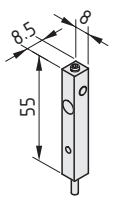
m = 125.0 g

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

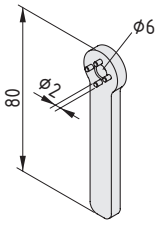
m = 125.0 g

1 pce.	0.0.600.59

Pin Spanners

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

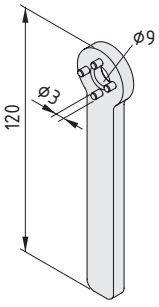
For tightening lock nuts in the Bearing Units of Roller Guides 5 D6, 8 D10, 8 D14 and 8 D25.



Pin Spanner 5 D6, 8 D10 5 8

St
m = 40.0 g

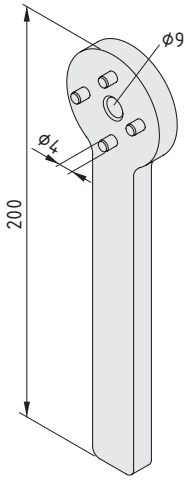
black, 1 pce.	0.0.390.13



Pin Spanner 8 D14 8

St
m = 90.0 g

black, 1 pce.	0.0.294.41



Pin Spanner 8 D25 8

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

Figures that count – technical data

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.

All Linear Units in comparison

Linear Unit	Art. No.	Max. drive torque [Nm]	Max. speed	Max. acceler-ation	Repeat accu-racy	Travel distance per revolution [mm]	Frictional moment [Nm]	Efficie
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	–

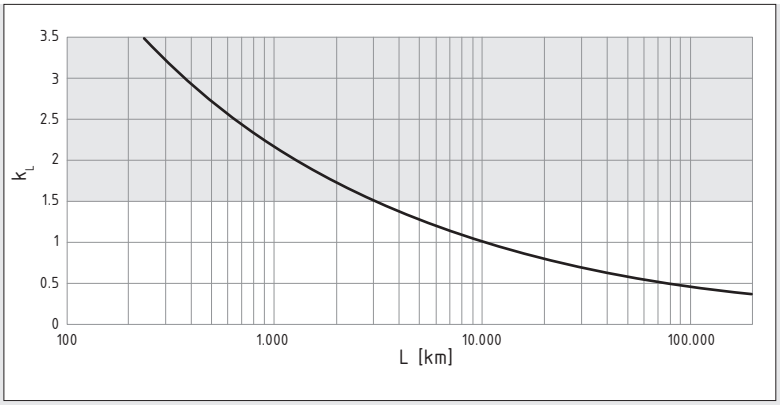
Run length under max. load: 10,000 km
(GSF 8 40 R10: 1000 km)

ncy [%]	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	1.3	18
	20	50	75	500	750	500	5750	4.8	21
	50	100	150	1500	1500	1000	5600	11.6	22
	50	140	140	1000	2500	2500	5760	5.1	24
	50	140	140	1000	2500	2500	5760	5.1	24
	50	140	140	1000	2500	2500	5760	5.1	24
	4	6	8	150	400	320	2828	1.2	25
	22	35	52	870	1300	880	5760	6.8	28
	39	35	52	870	1300	880	5760	7.8	29
	40	64	96	870	2400	1600	5760	8.4	32
	40	64	96	1200	2400	1600	5820	12.0	33
	76	64	96	870	2400	1600	5760	9.4	34
	76	64	96	1200	2400	1600	5820	12.8	35
	76	64	96	870	2400	1600	5760	10.3	36
	76	64	96	1200	2400	1600	5820	13.5	37
	301	520	760	1200	7600	5200	5620	31.2	40
	301	520	760	2100	7600	5200	5620	33.2	41
	301	520	760	1200	7600	5200	5620	32.8	42
	301	520	760	2100	7600	5200	5620	34.8	43
	39	35	52	2000	1300	880	2687	8.4	48
	39	35	52	2000	1300	880	2687	8.4	49
	76	64	96	2000	2400	1600	2687	10.4	50
	76	64	96	2000	2400	1600	2687	10.4	51
	40	64	96	620	2400	1600	5760	8.0	54
	40	64	96	1000	2400	1600	5678	9.8	58
	22	35	52	350	1300	880	5678	8.3	60

Calculating service life

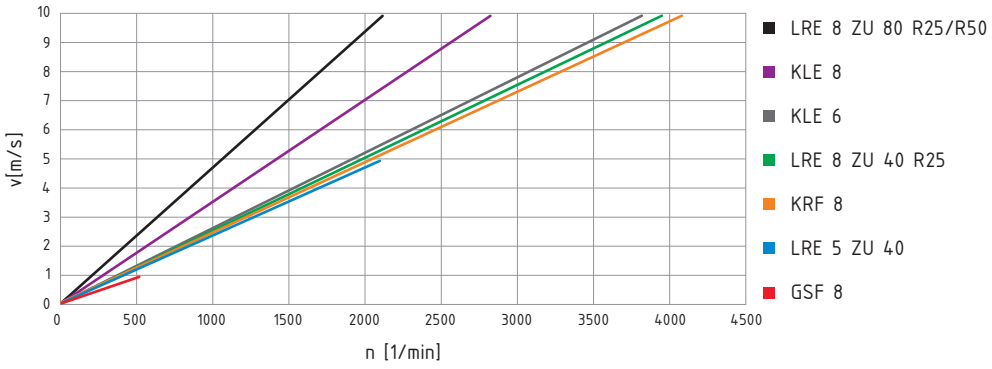
Service life coefficient k_L can be used to calculate the approximate anticipated service life of the guide.

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.

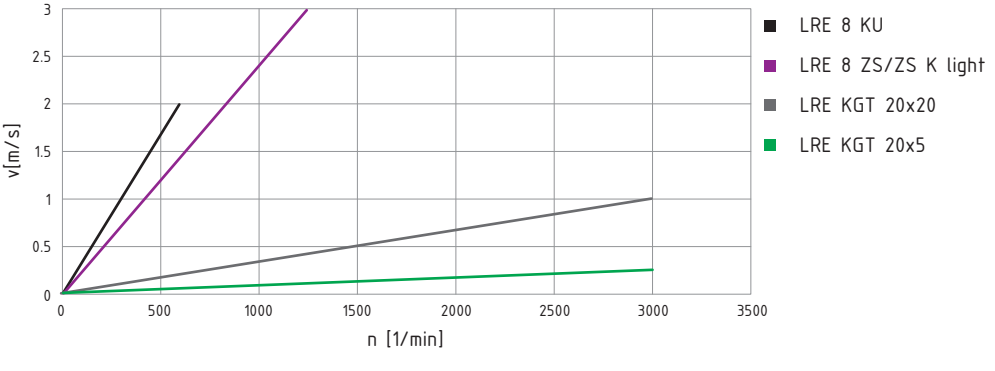


$$k_L = \frac{|M_x|}{M_{x\,max}} + \frac{|M_y|}{M_{y\,max}} + \frac{|M_z|}{M_{z\,max}} + \frac{|F_y|}{F_{y\,max}} + \frac{|F_z|}{F_{z\,max}}$$

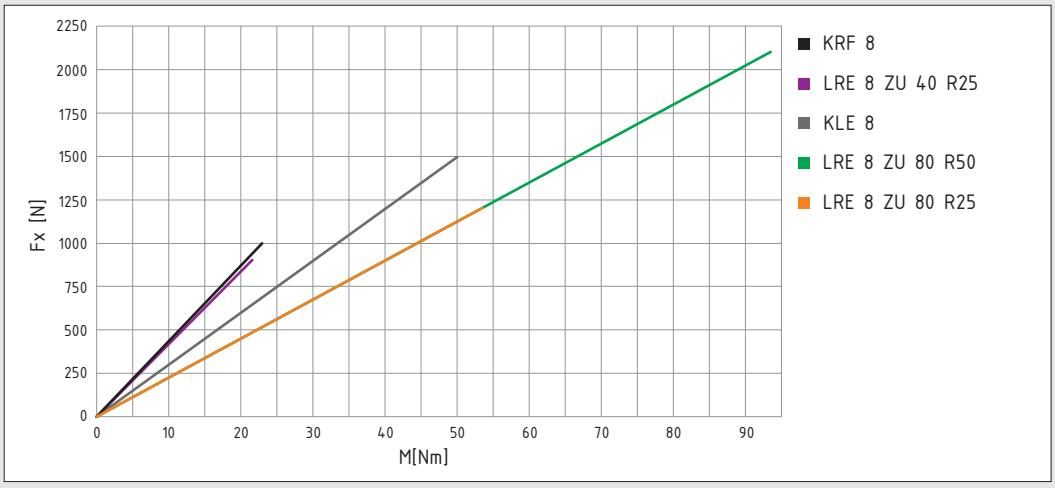
Travel speed v in relation to input speed n (timing-belt drive)



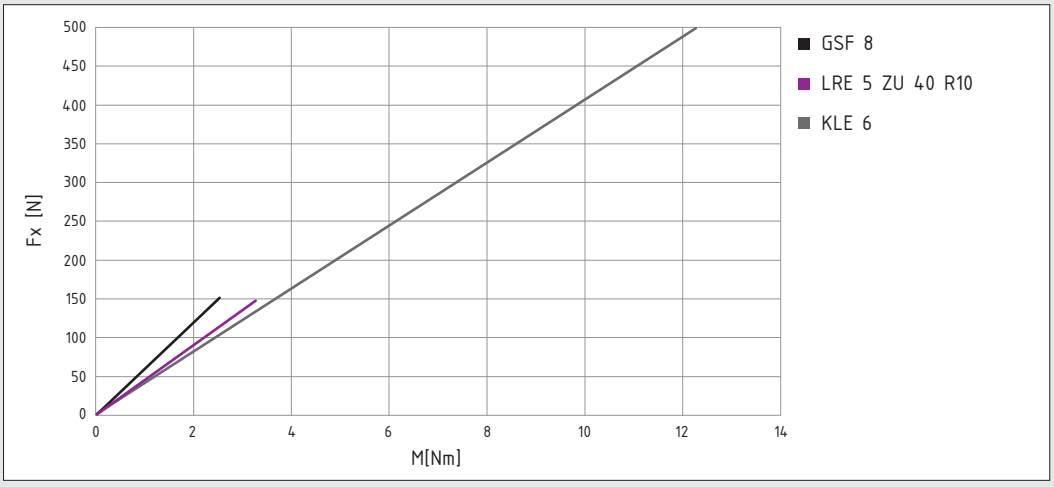
Travel speed v in relation to input speed n (ball screw, chain and rack drives)



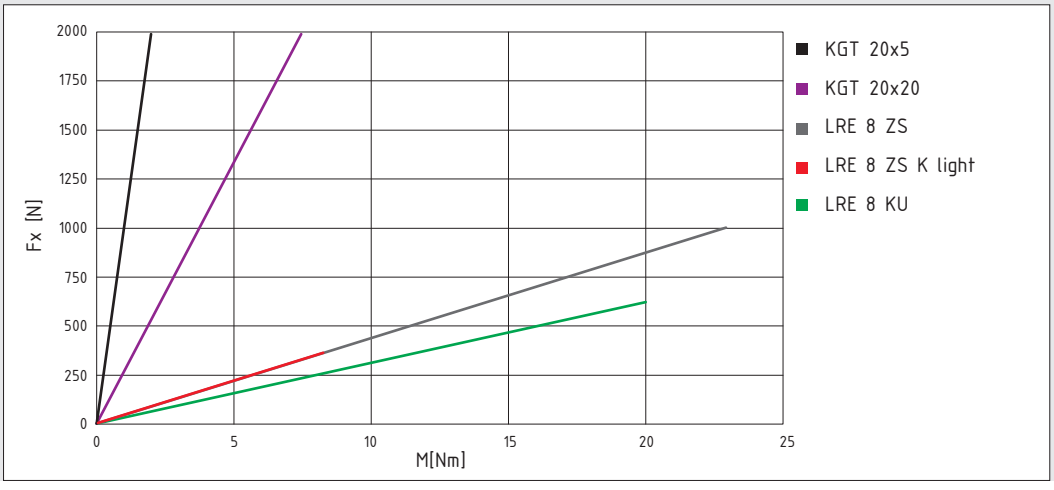
Operational force Fx dependent on input torque M (timing-belt drives Fx > 500N)



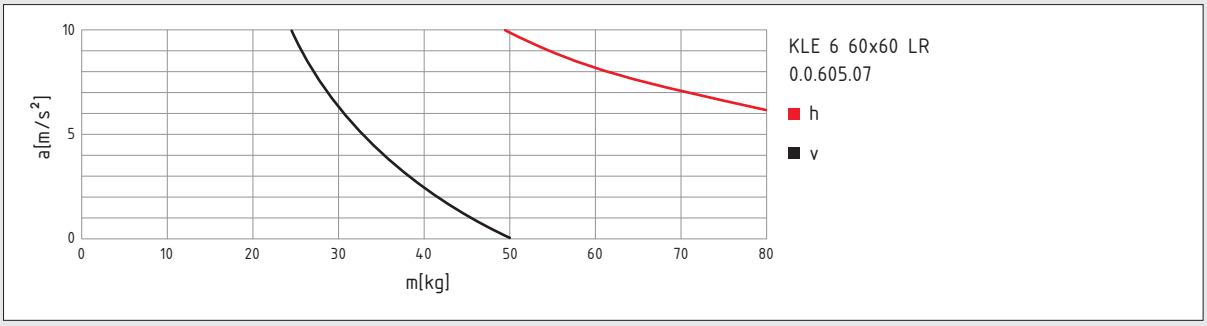
Operational force Fx dependent on input torque M (timing-belt drives Fx ≤ 500N)

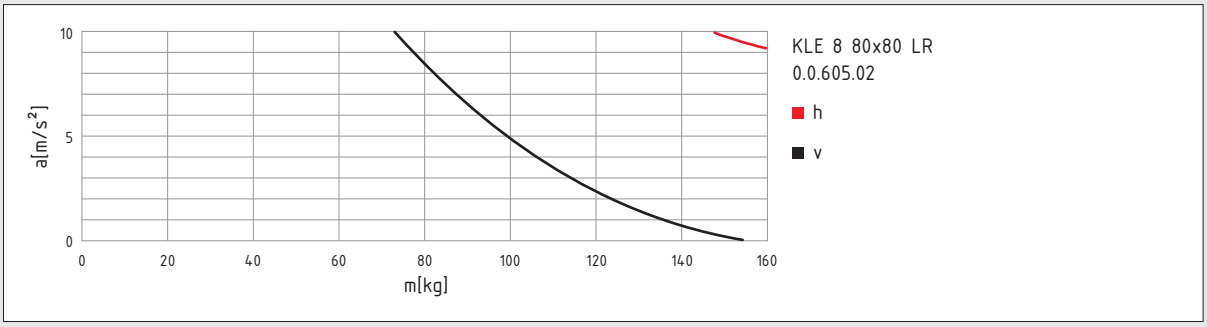


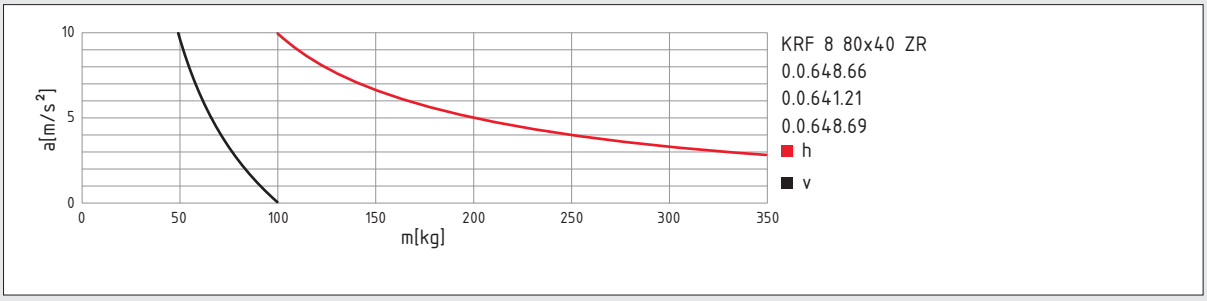
Operational force Fx dependent on input torque M (ball screw drive, chain drive, rack drive)

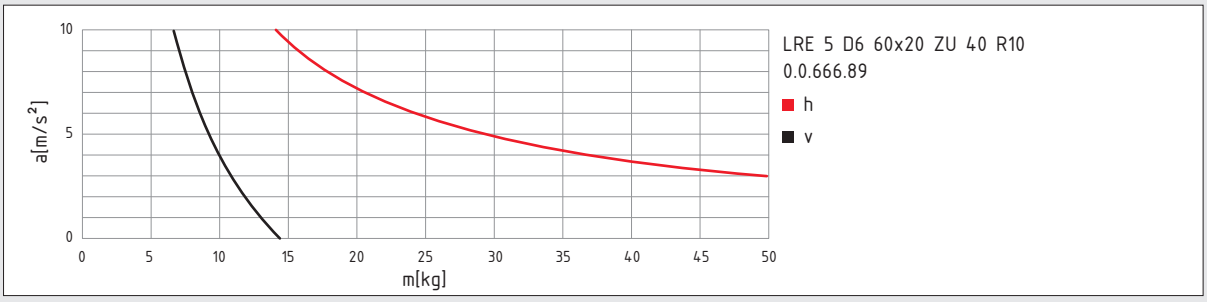


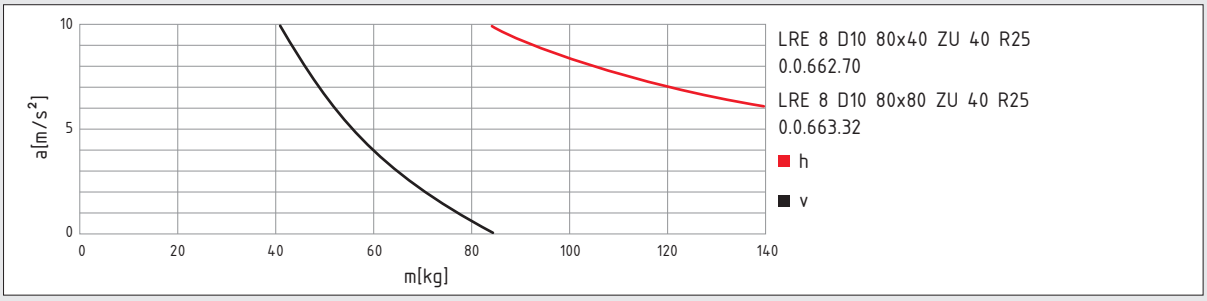
Maximum possible acceleration in relation to moved mass and installation orientation



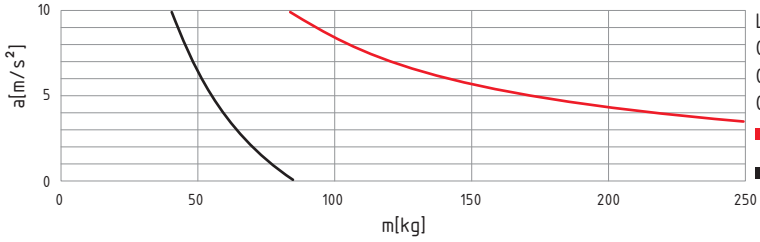




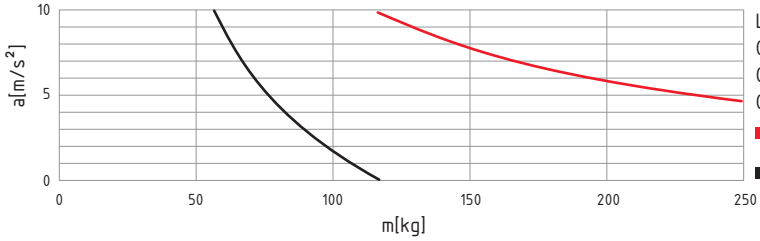




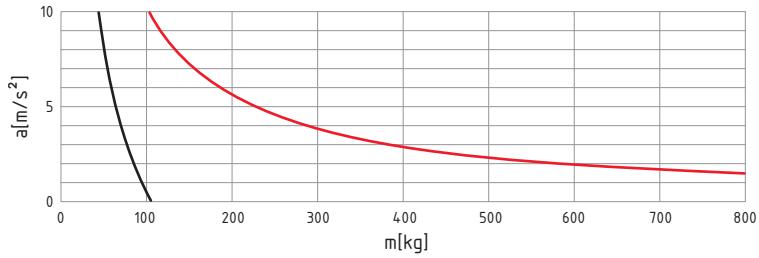
h = horizontal orientation v = vertical orientation



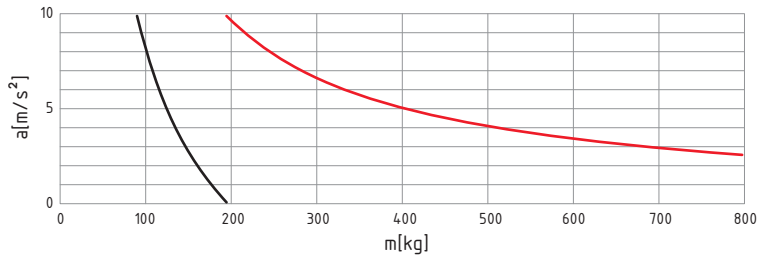
LRE 8 D14 ZU 40 R25
0.0.662.91 80x40
0.0.663.25 80x80
0.0.663.34 120x80
h
v



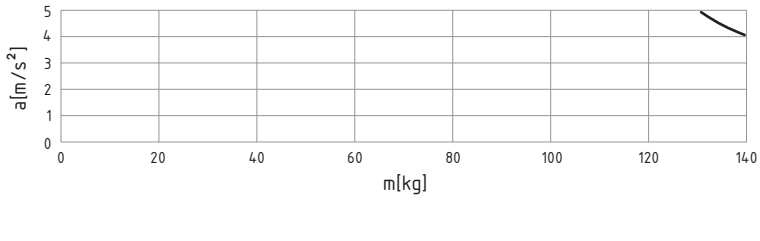
LRE 8 D14 ZU 80 R25
0.0.663.12 80x40
0.0.663.26 80x80
0.0.663.35 120x80
h
v



LRE 8 D25 ZU 80 R25
0.0.663.36 120x80
0.0.666.53 200x80
h
v

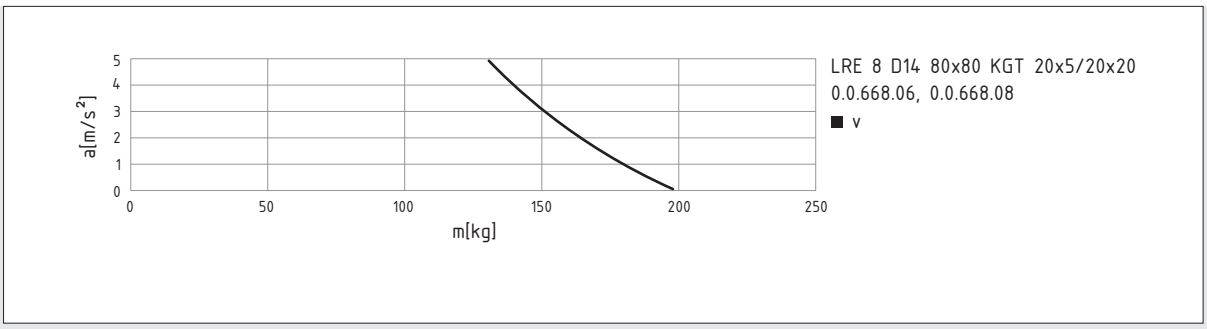


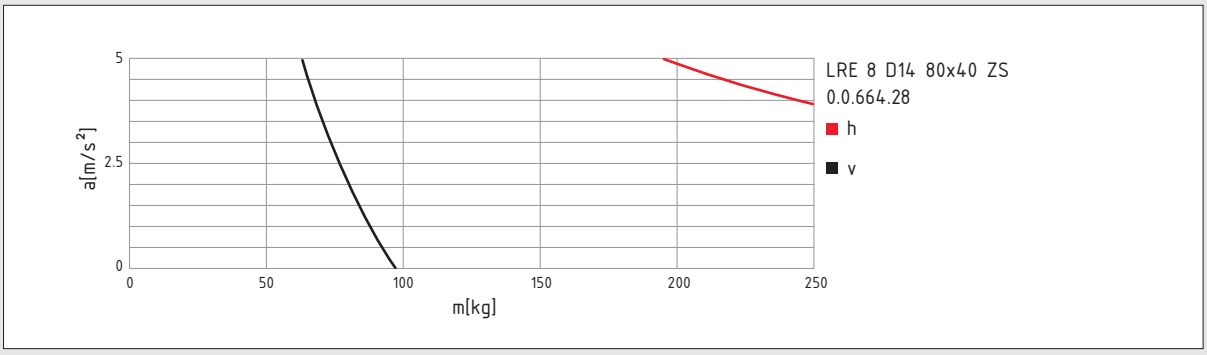
LRE 8 D25 ZU 80 R50
0.0.666.65 120x80
0.0.666.66 200x80
h
v

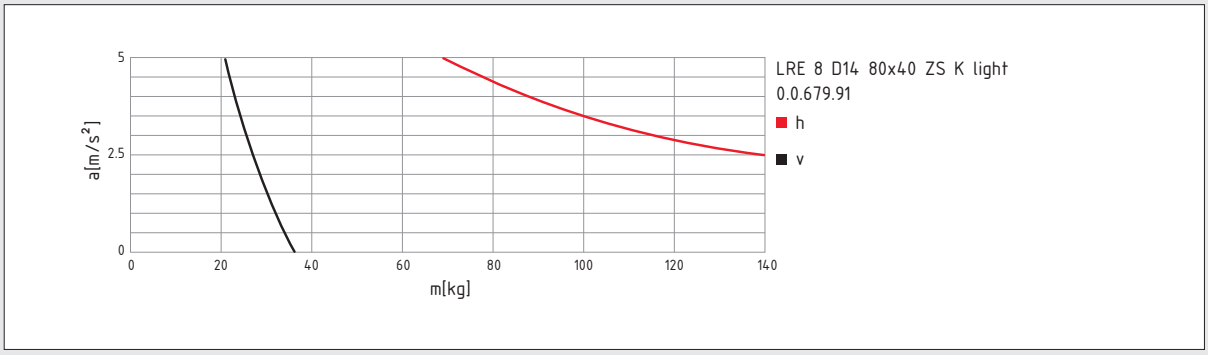


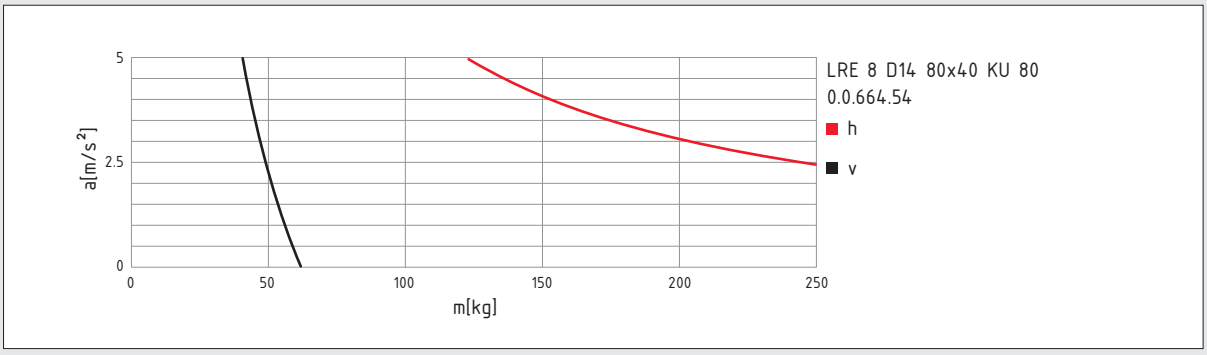
LRE 8 D10 80x80 KGT 20x5/20x20
0.0.668.12, 0.0.668.10
v

h = horizontal orientation v = vertical orientation



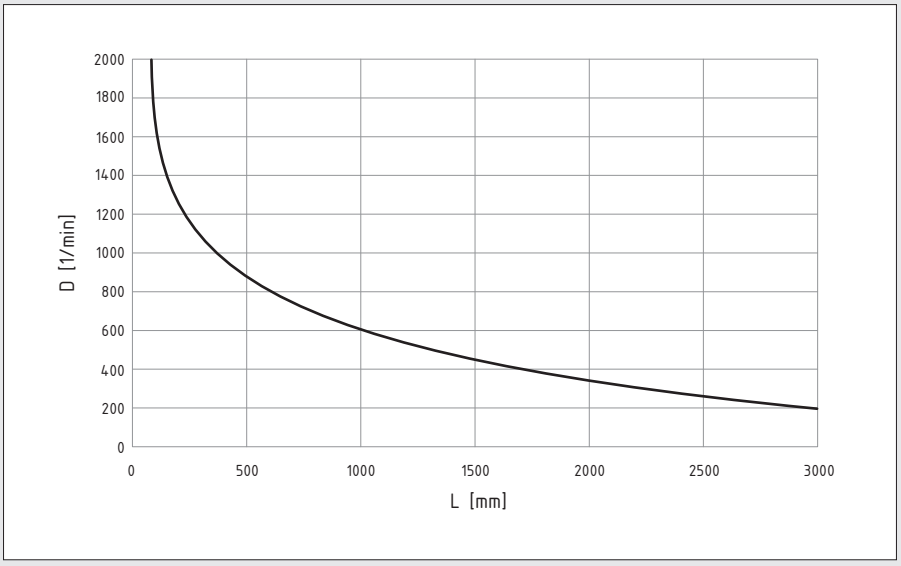






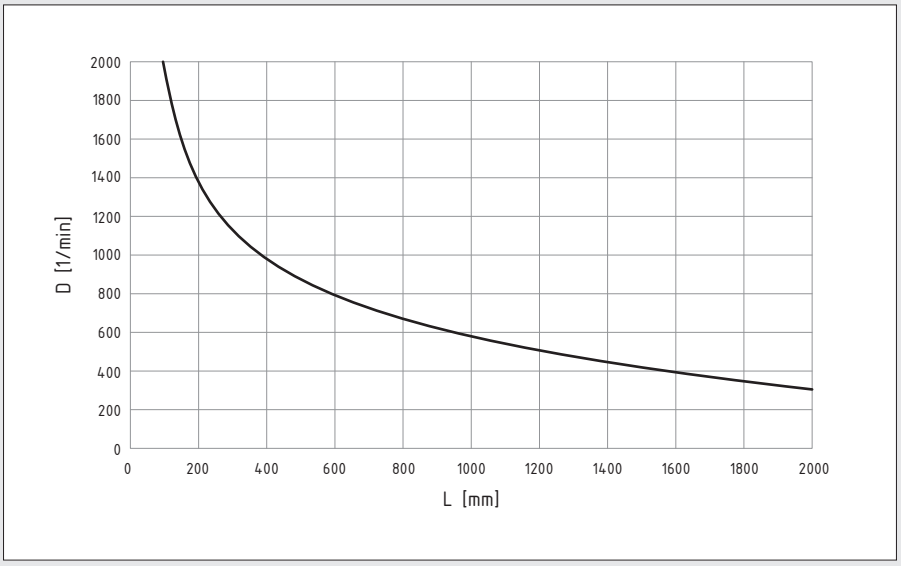
h = horizontal orientation v = vertical orientation

Permissible Synchroniser Shaft speed in relation to length



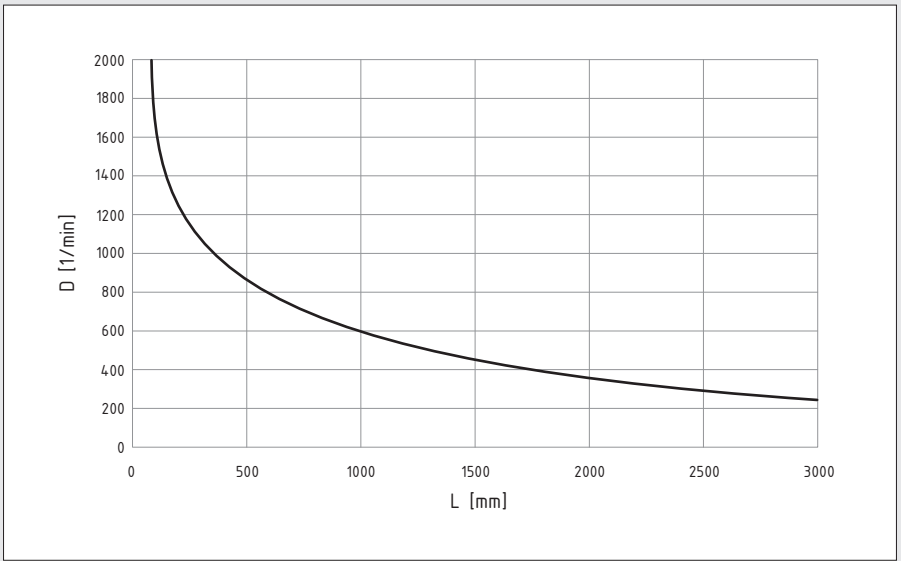
0.0.609.86 Tube D20x3 St

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



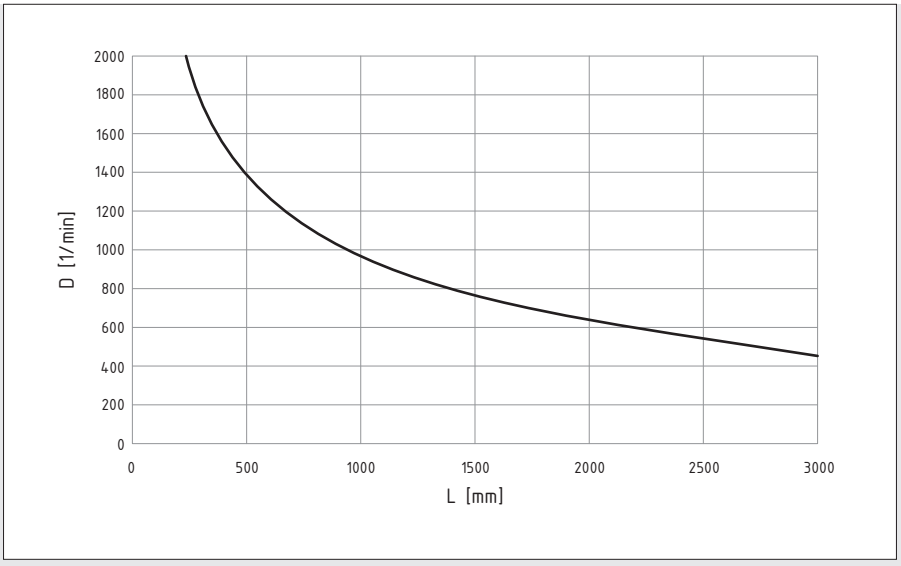
0.0.664.14 Tube D16x1.5 St, stainless

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



0.0.609.83 Tube D25x3

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



0.0.463.56 Synchronising Shaft Profile VK32

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

Nomenclature guide for Linear Units

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

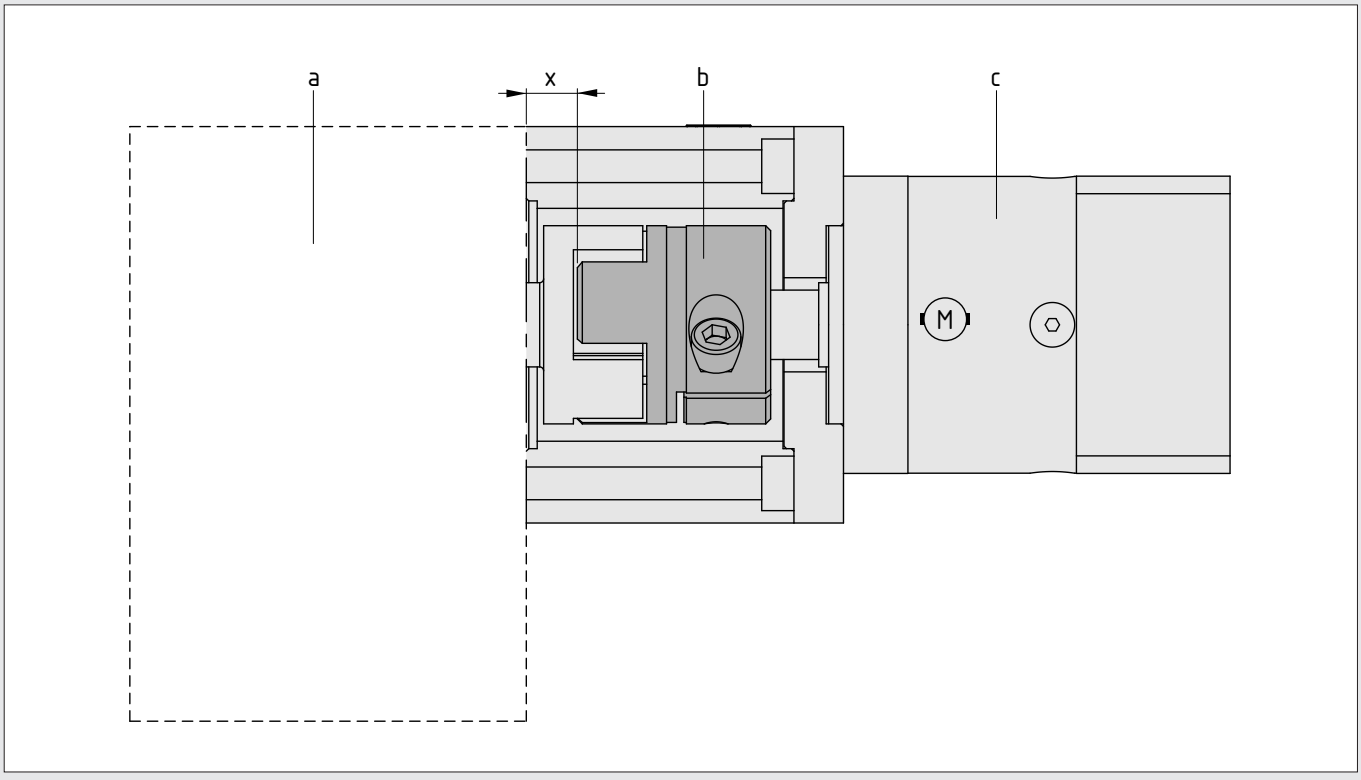
Linear Unit	Designation (roller guide - LRE)	Line	Guiding shaft diameter	Support profile cross-section (height x width)	Drive	Dimension of drive
Timing-belt drive						
Linear Unit	LRE	5	D6	60x20	ZU	40 R10
Linear Unit	LRE	8	D10	80x40	ZU	40 R25
Linear Unit	LRE	8	D10	80x80	ZU	40 R25
Linear Unit	LRE	8	D14	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	D14	80x40	ZS	
Linear Unit	LRE	8	D10	80x40	ZS K	

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

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
Drive Set ZS	0.0.621.73	32.8 – 33.8

Nomenclature for plug 'n' play Drive Sets

Drive Set	Linear Unit	Type of Gearbox	Size of Gearbox
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 6 80x80	AP/WP	60
Drive Set	KLE 6 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

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	18000	18000	13000
Mass moment of inertia [kgcm^2]	0.014 - 0.027			
Torsional rigidity [Nm/arcmin]	0.7 - 1			
Backlash [arcmin]	15			
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	18000	18000	13000
Mass moment of inertia [kgcm^2]	0.032 - 0.049			
Torsional rigidity [Nm/arcmin]	0.6-0.8			
Backlash [arcmin]	21			
Type				
Operating temperature				
Protection class				

0.0.666.12	0.0.666.13	0.0.666.17	0.0.666.18	0.0.666.19
Gearbox AP 60-5	Gearbox AP 60-7	Gearbox AP 80-3	Gearbox AP 80-5	Gearbox AP 80-7
0.98	0.97	0.98	0.98	0.97
5	7	3	5	7
40	25	85	110	65
13000	13000	7000	7000	7000
0.359 - 0.654		0.359 - 0.654		
1.7 - 2.3		4.3 - 5.8		
10		7		
Planetary gearbox, inline				
-25°C to 90°C				
IP54				

0.0.666.15	0.0.666.16	0.0.666.20	0.0.666.21	0.0.666.22
Gearbox WP 60-5	Gearbox WP 60-7	Gearbox WP 80-3	Gearbox WP 80-5	Gearbox WP 80-7
0.95	0.94	0.96	0.95	0.95
5	7	3	5	7
21.12	22	35.2	58.96	57.2
13000	13000	7000	7000	7000
0.221 - 0.376		0.917 - 1.409		
1.5-2		3.8-5.1		
16		13		
Planetary gearbox, right angle				
-25°C to 90°C				
IP54				

Nomenclature for Gearboxes

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

WP = Bevel Planetary Gearbox AP = Axial Planetary Gearbox

Nomenclature for Motors

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

SE = Servomotor R = Resolver B = Brake

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
Intermediate circuit voltage [V]	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
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 [kgcm²]	0.054	0.054	0.413	0.413	1.93	1.93
Holding brake	No	Yes	No	Yes	No	Yes
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	IP65					
Max. installation height	4,000 m over NN; with power reduction of 1% per 100 m starting from 1,000 m					
Colour	white aluminium, similar to RAL 9006					
Shaft end	Cylindrical shaft end					
Magnetic material	Neodymium iron boron (NdFeB)					
Encoder systems	Resolver					
Approvals	CE, UL					

Overview of Controllers

Art. No.	0.0.668.62	0.0.668.63	0.0.668.64	0.0.668.65	0.0.668.66
Product name	C1-02 control system	C1-05 control system	C1-08 control system	C3-05 control system	C3-10 control system
Output power (rated) [KVA]	0.5	1.0	1.5	3	6
Max. output power (for 5 s) [KVA]	1	2	3	6	12
Rated output current [A]	2.5	5	8	5	10
Max. output current [A]	10	10	16	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)		310 ... 320 V	560... 570 V	
External brake resistance, max. continuous braking power [Ohm]	>= 50		>= 25	>= 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%), 50Hz			Variable cycle frequencies up to 16 KHz, operational data at 3 x 400 VAC (+-10%), 50Hz	
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	IP20				
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 analog 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				
Encoder evaluation	Universal encoder interface for motors with a resolver				

Nomenclature for Controllers

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

C = controller

Nomenclature for Cables

Name	Length [m]
Data Cable RSC	5
	10

RSC = Resolver Servo-Controller

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

SC = Servo-Controller

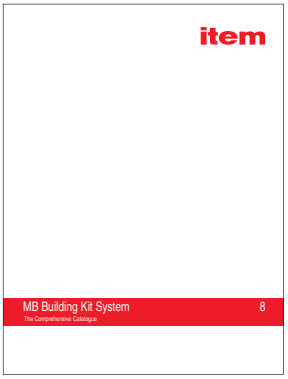
Name	Phase	Cable for Controller C3-	Length [m]
Power Cable SC	3	10	5
			10

SC = Servo-Controller

Alphabetical Register.

Other item product catalogues.

MB Building Kit System



item24.de/en/epaper-mb

Line XMS

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Stairway/Platform System

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Work Bench System

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Lean Production Building Kit System

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item Industrietechnik GmbH
Friedenstrasse 107-109
42699 Solingen
Germany

Phone +49 212 6580 0
Fax +49 212 6580 310

info@item24.com
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