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## Symbols, safety



Important information



Observe directions for disposal



Observe directions for disposal



Maintenance



Note! Failure to observe this safety instruction can result in material damage



Warning! Failure to observe this safety instruction can result in material damage, serious injury or death



Caution! Failure to observe this safety instruction can result in material damage, serious injury or death



Caution! Failure to observe this safety instruction can result in material damage or injury

## General safety information

The details and information in this assembly guide are provided for the purposes of describing the product and its assembly only. This information does not discharge users from the obligation to conduct their own assessments and checks. It is also important to bear in mind that our products are subject to a natural process of wear and ageing.

This guide contains important information that will enable you to use the product safely and appropriately. When sold, rented out or otherwise passed on to another party, this product must be handed over with the assembly guide. You must therefore read and follow the safety instructions set out below.

- All work on and with the KGT 6 60 P20 must be performed with “safety first” in mind.
- Switch off the power to the KGT 6 60 P20 before carrying out any work on the linear axis.
- Observe the regulations pertaining to accident prevention and environmental protection that apply in the country and place of work where the product is being used.
- Use only item products that are in perfect working order.
- Failure to use original spare parts will invalidate the product warranty!
- Check the product for obvious defects.
- Use the product only within the performance range described in the technical data.
- Ensure all the safety equipment associated with the product is present, properly installed and in full working order.
- Do not alter the position of safety equipment, circumvent it or render it ineffective.

The KGT 6 60 P20, as described here, corresponds to the state of the art and takes into account the general principles of safety applicable at the time this assembly guide was published. Nevertheless, failure to observe the safety instructions and warning notices in this assembly guide may result in personal injury and damage to property. We will assume no liability for any resulting damage or injury. We reserve the right to make changes that represent technical advances. Keep this guide in a place where it can be accessed by all users at any time. This general safety information applies to the entire lifecycle of the KGT 6 60 P20.

## Correct use

The KGT 6 60 P20 is a component and must only be used in accordance with the technical data and safety requirements set out in this document. Combining linear axis KGT 6 60 P20 with a motor and controller creates a partly completed machine as defined in Machinery Directive 2006/42/EC. The declaration of incorporation for the variants with our Motors and Controllers, such as the item MotionKit Linear Unit KGT 6 60 P20 as an all-in-one package for automation projects, is included with this document. Internal company requirements and the regulations that apply in the country where the product is being used must be observed. You must not make any design modifications to the KGT 6 60 P20 yourself. We will assume no liability for any resulting damage or injury. You may only install, operate and maintain the KGT 6 60 P20 if:

- The KGT 6 60 P20 has been integrated into its surroundings in a proper and safe manner.
- You have carefully read and understood the assembly guide.
- You are appropriately qualified.
- You are authorised to do so by your company.
- You are using only original equipment from the manufacturer.

The KGT 6 60 P20 is designed for indoor use.

## Improper use

Improper use is defined as any use of the product for purposes other than those authorised in the assembly guide and under the definition of correct use. We will assume no liability for any resulting damage or injury.

## Product description

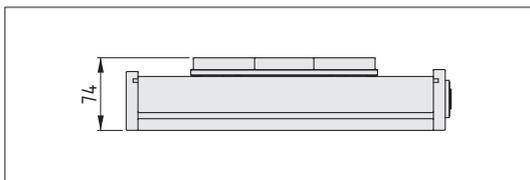
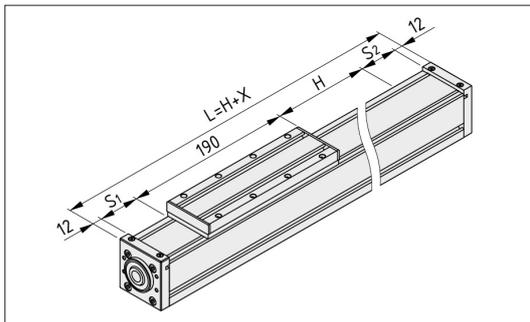
Compact, precise and dynamic, Linear Unit KGT 6 60 combines a ball screw drive that has a stroke of up to 2600 mm with a strong carriage, and does so in the smallest of installation spaces. In applications with a long travel distance, travelling spindle supports keep everything running smoothly and precisely without sacrificing dynamics. Mechanical coding on the inside of the axis provides perfect support for the specially shaped spindle with any stroke length and in any carriage position.

Two Drive Sets are available that suit the performance spectrum of the mechanical axis and are fully prepared for combination with item Motors and item Controllers to produce customer-specific solutions. The universal Drive Set 6 60 D30/D12 makes it possible to connect to third-party motors.

Three preconfigured Linear Units complete with Motor and Controller are available for the various stroke lengths. The variants are based on these basic mechanical components.

### Linear Unit KGT 6 60 P20:

0.0.706.00



Stroke range [mm]	X [mm]	S <sub>1</sub> [mm]	S <sub>2</sub> [mm]	Basic mass [kg]
0 - 1000	323	56	53	2.635
1001 - 1560	355	72	69	2.855
1561 - 2120	387	88	85	3.053
2121 - 2600	419	104	101	3.253

The distances S<sub>1</sub> and S<sub>2</sub> are built as follows:

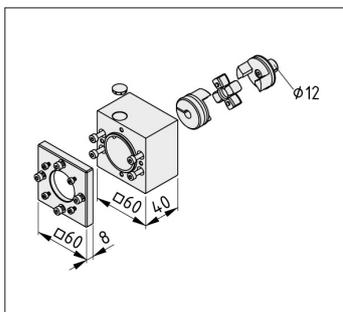
S<sub>1</sub>: distance to the fixed bearing (13mm) + safety distance (S<sub>min</sub> = 26mm) + n x spindle support (16mm)

S<sub>2</sub>: distance to floating bearing (11mm) + safety distance (S<sub>min</sub> = 26mm) + n x spindle support (16mm)

The safety distance of 26mm is in all variants the free area, in which e.g. during the reference motion procedure is driven.

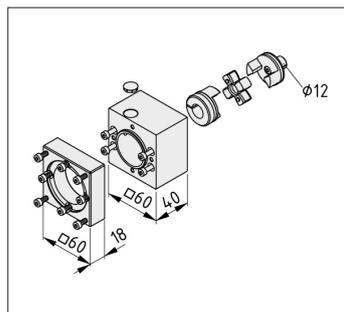
### Drive Set KGT 6 60 D30/D12 SE 40:

0.0.692.53



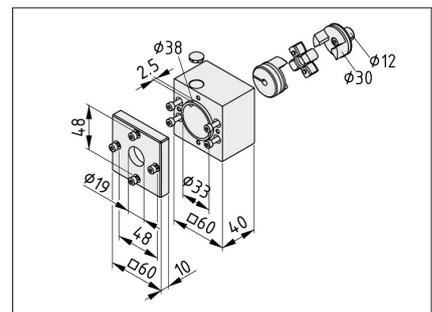
### Drive Set KGT 6 60 D30/D12 SE 60:

0.0.692.55

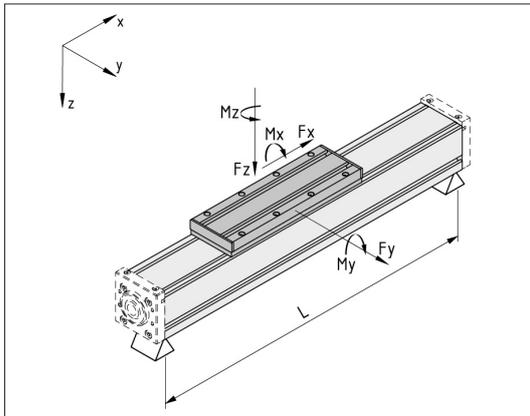


### Drive Set KGT 6 60 D30/D12:

0.0.704.53



## Technical data



Maximum stroke:	2600 mm
Safety clearance:	26 mm
Mass per mm of stroke:	3592 g/mm
Repeatability:	0.01 mm
Maximum acceleration:	15 m/s <sup>2</sup>
Maximum speed:	1 m/s
Feed:	20 mm/revolution
Mounting dimension:	60 mm x 60 mm
Spindle lead:	20 mm
Maximum operating load:	1000 N

	Support width $L_{max}$ at $F_{z max}$ [mm]	Support width $L_{max}$ at $F_{y max}$ [mm]	$F_{y max}$ [N]	$F_{z max}$ [N]	$M_{x max}$ [Nm]	$M_{y max}$ [Nm]	$M_{z max}$ [Nm]	Operating load $F_{x max}$ [N]
Linear Unit KGT 6 60 P20	600	800	2000	2000	15	120	120	1000

Ambient conditions:

Storage temperature: -20°C to +70°C

Relative humidity: 5% to 85%

Linear Unit KGT 6 60 P20 is intended as a permanent fixture to be used in an area that is protected from the weather.

Do not install or use in close proximity to industrial plants that produce chemical emissions.

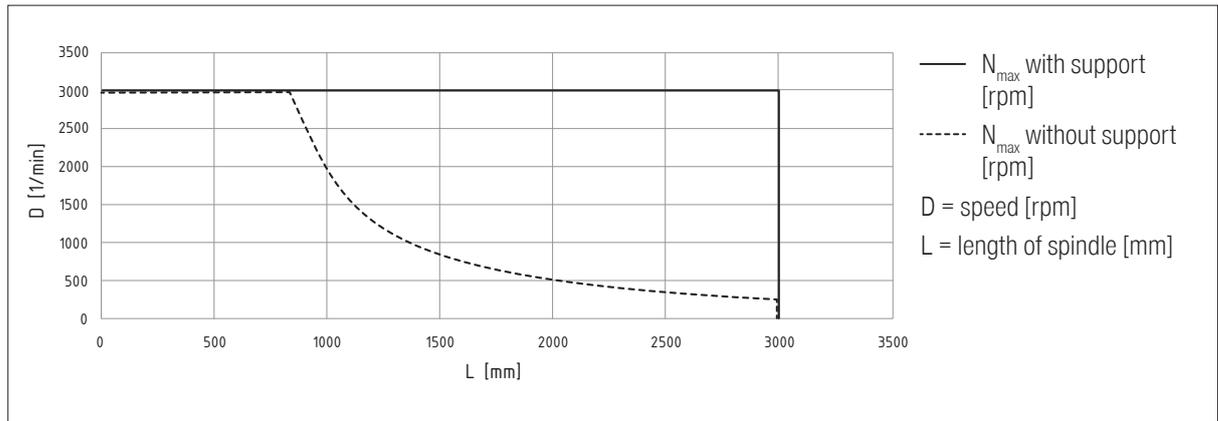
Do not install or use in an area that is regularly exposed to high-energy surges such as those caused by presses or heavy machinery, for example.

In case of doubt regarding resistance to certain chemicals such as test oil, alloyed oils, aggressive cleaning substances, solvents or brake fluid, we advise that you consult your specialist representative.

Consult the manufacturer if using in very salty air.

Deflection in the KGT 6 60 P20 should not exceed 1 mm over an axis of 1000 mm. In scenarios where high demands are placed on the system dynamics, supports should be added every 300 mm to 600 mm.

### Maximum spindle speed with and without KGT 6 60 P20 spindle supports



The spindle supports ensure that the maximum length of the spindle that is unsupported remains more or less the same. This means the critical speed of 3000 rpm is constant over the entire possible stroke range.

### Preparing for assembly

Switch off the power to the system before carrying out any installation, cleaning or maintenance work on the KGT 6 60 P20.

Preparations for assembly:

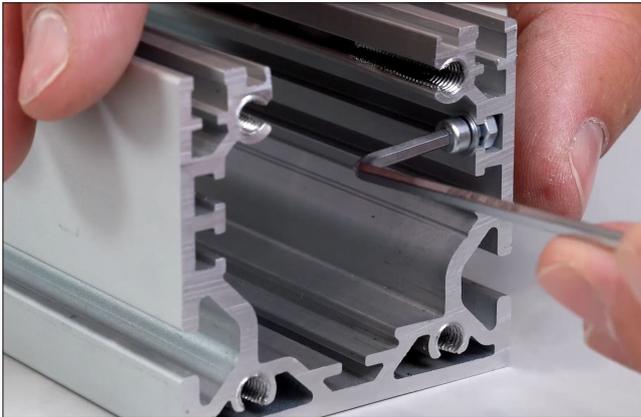
- Profile 6 60 LE:  $L = H + X - 24$
- Spindle: 15 mm shorter than Profile 6 60 LE
- Profile, guide rail: 20 mm shorter than Profile 6 60 LE
- Magnetic strip: Approx. 5 mm longer than Profile 6 60 LE
- Steel strip: Approx. 12 mm longer than Profile 6 60 LE

The first step is to countersink the core bores of Support Profile 6 60 LE on both sides and give them an M5x20 thread. The tap should have a helix to prevent it from canting in the core hole.



Anti-slip aids should be placed underneath the axis during assembly.

## Fitting the spindle support stops



Secure the stops for the spindle supports – a screw-washer-nut combination for subsequent positioning of the support – in the relevant positions in the Support Profile's T-slot channels.

Tightening torque  $M_T = 1.2 \text{ Nm}$



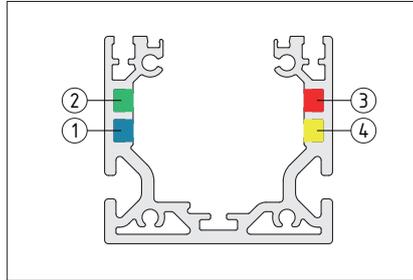
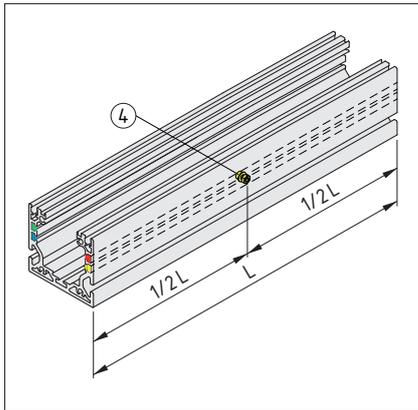
The number of stops required depends on the stroke of the Linear Unit. Consult the drawings to determine which of the profile channels to use and where in that channel to place the stop. The stops themselves are identical and only their position and tightening torque are important.

Variation and number of stops				
Stroke range [mm]	0 - 1000	1001 - 1560	1561 - 2120	2121 - 2600
Number of stops	1	2	3	4
Profile channel number (see drawing)	1	1 + 2	1 + 2 + 3	1 + 2 + 3 + 4
Position of stop	0.5 x profile length	Each 0.33 x profile length	Each 0.25 x profile length	Each 0.2 x profile length



Caution: It is important that the stops are positioned precisely for the KGT 6 60 PS to function correctly. Positioning the stops incorrectly can result in damage to the linear axis and injuries for users.

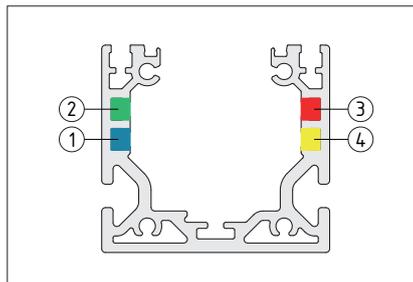
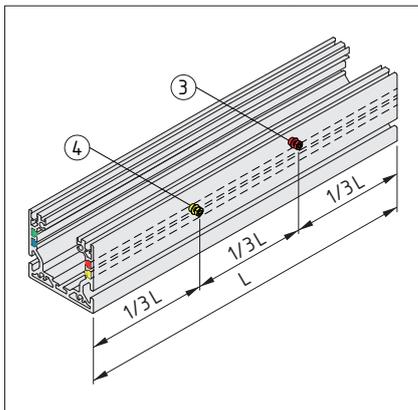
1. Number and position of stops in a stroke range of between 0 mm and 1000 mm:



- The numbers indicate the coloured profile channels in which the stops are to be installed.
- L is the measured length of the profile and not stroke.

The stop required for a stroke range of between 0 and 1000 mm must therefore be installed in channel 4, half way along the profile.

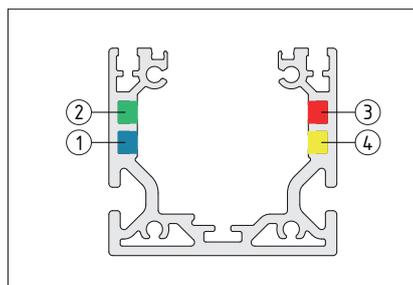
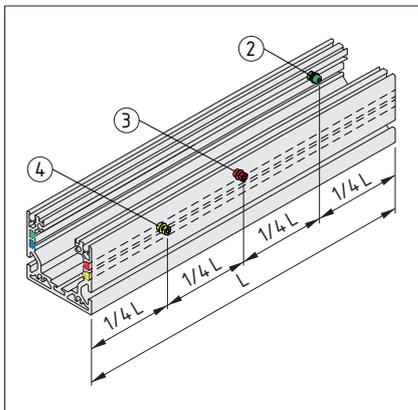
2. Number and position of stops in a stroke range of between 1001 mm and 1560 mm:



- The numbers indicate the coloured profile channels in which the stops are to be installed.
- L is the measured length of the profile and not stroke.

The stops required for a stroke range of between 1001 mm and 1560 mm must therefore be installed in channels 3 and 4, at intervals of 0.33 x the profile length.

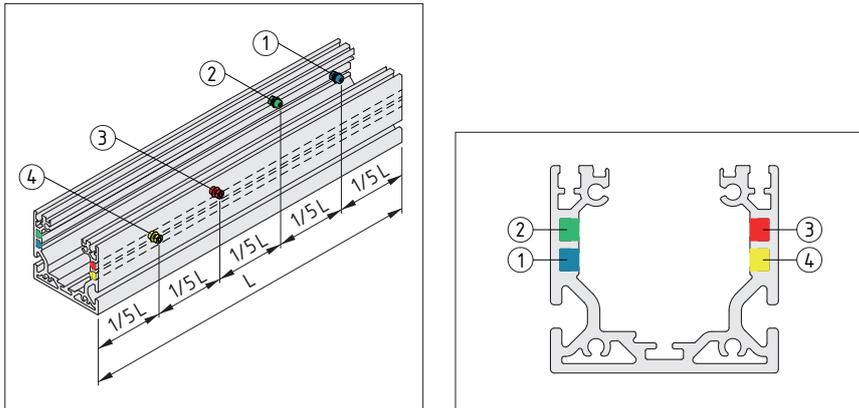
3. Number and position of stops in a stroke range of between 1561 mm and 2120 mm:



- The numbers indicate the coloured profile channels in which the stops are to be installed.
- L is the measured length of the profile and not stroke.

The stops required for a stroke range of between 1561 mm and 1210 mm must therefore be installed in channels 2, 3 and 4, at intervals of 0.25 x the profile length.

#### 4. Number and position of stops in a stroke range of between 2121 mm and 2600 mm:



- The numbers indicate the coloured profile channels in which the stops are to be installed.
- L is the measured length of the profile and not stroke.

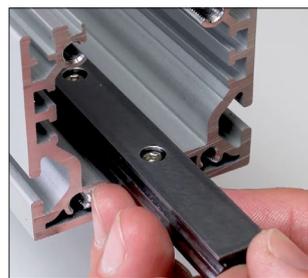
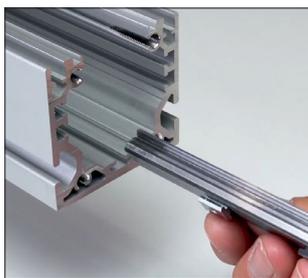
The stops required for a stroke range of between 1001 mm and 1560 mm must therefore be installed in channels 1, 2, 3 and 4, at intervals of  $0.2 \times$  the profile length.

### Fitting the Linear Guide Rail

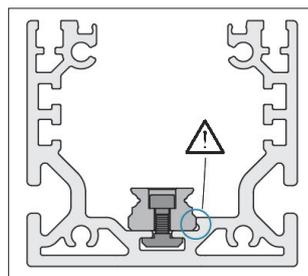
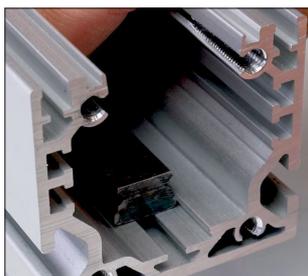


The next step is to fit the Linear Guide Rail. Start by checking the sawn ends of the rail are burrless and rework them if necessary.

Fit the rail with all the necessary Hexagon Socket Head Cap Screws and T-Slot Nuts. Make sure the Hexagon Socket Head Cap Screws are screwed approximately one to a maximum of two full turns into the T-Slot Nuts. This then makes it easier to push the rail into the Support Profile.



Push the rail, fitted with the Hexagon Socket Head Cap Screws and T-Slot Nuts, into the Support Profile. The T-Slot Nuts must be correctly aligned when sliding into the relevant groove.



The rail is a total of 20 mm shorter than the Support Profile and must be centred, that is to say 10 mm from each edge. Furthermore, manual pressure must be applied to keep the rail pressed permanently against the stop edge while the screws are being tightened.

Tightening torque  $M_T = 1.2 \text{ Nm}$



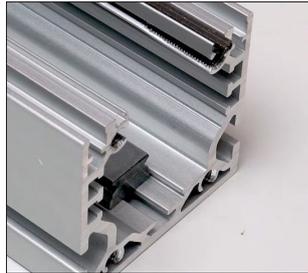
When tightening the screws, apply manual pressure to keep the rail permanently pressed against the stop edge.

## Fitting the magnetic strips

The next step is to fit the magnetic strips that have been cut to size. These strips will subsequently hold the KGT's steel strip in place. They should be approximately 5 mm longer than the Support Profile. Push the magnetic strips into the Support Profile on the right-hand and left-hand sides.



Use an appropriate tool to remove any burrs from the profile's insertion edge. Applying soapy water makes it easier to push in the strips.

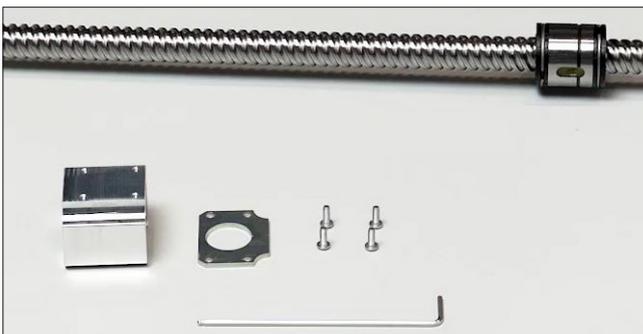
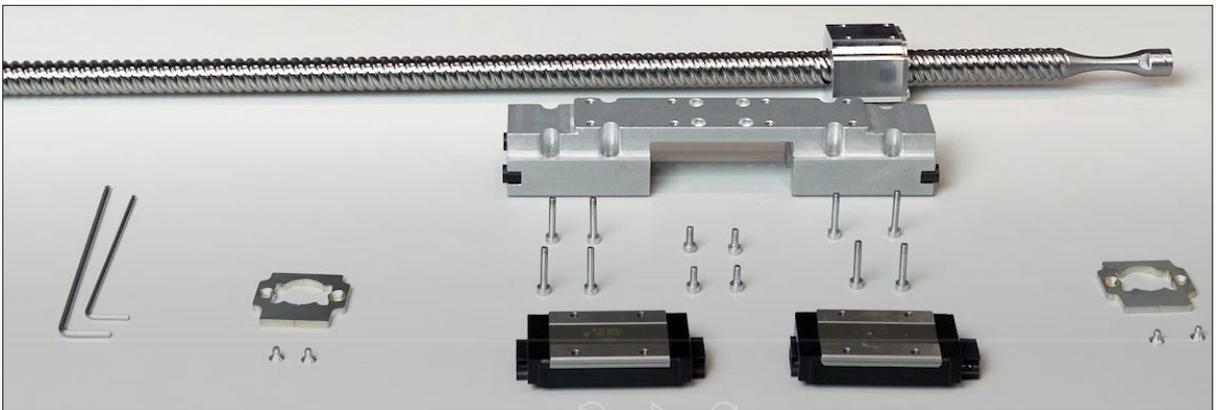


Once they have been fitted, the magnetic strips protrude by approximately 2.5 mm at both ends of the profile.



The fine groove in the magnetic strip should be pointing upwards when it is being fitted.

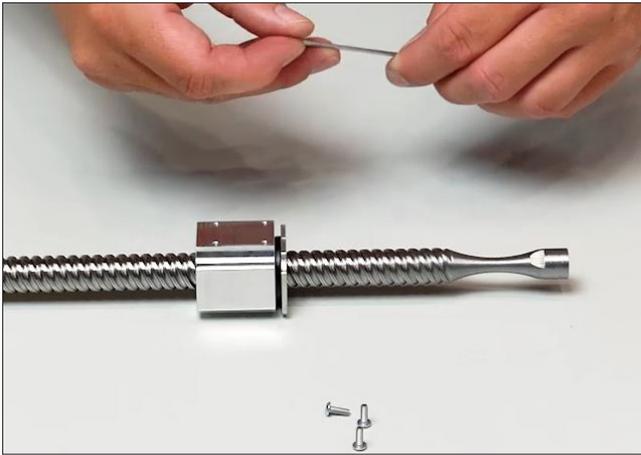
## Fitting the carriage



A ball screw drive (KGT) is used to move the Linear Unit's carriage. The fixed combination of ball screw nut and ball screw spindle makes the drive more precise. Ball screw spindles are always fitted with a ball screw nut.



Under no circumstances should the ball screw nut be twisted off the spindle.



Push the spindle nut holder onto the spindle nut from the sawn off, unmachined end of the spindle and screw it in place on one side using the fastening plate and screws.

Tightening torque  $M_T = 1.2 \text{ Nm}$

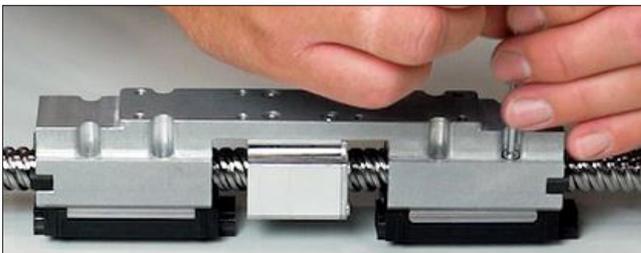


Now place the body of the carriage over the ball screw drive and secure it in place.

Tightening torque  $M_T$ : tighten by hand and then loosen again by a  $\frac{1}{4}$  turn

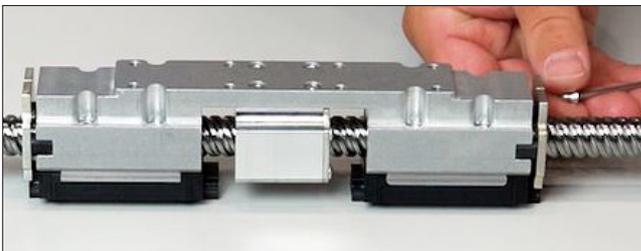


Ensure the relevant assembly aid of the Bearing Carriages (recirculating ball guide carriages) does not slip out. If this happens, balls could be lost.



Place the two Bearing Carriages underneath the carriage and also screw these in place.

Tightening torque  $M_T$ : tighten by hand and then loosen again by a  $\frac{1}{4}$  turn



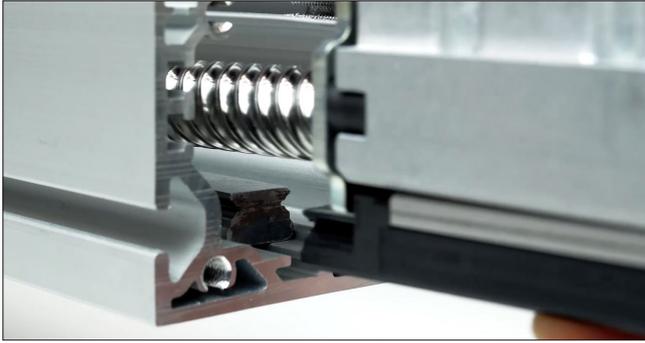
Next, push the side slide plates onto the spindle and screw them to the body of the carriage using Counter-sunk Screws.

Tightening torque  $M_T = 0.6 \text{ Nm}$



Now carefully push the body of the carriage along with the assembled ball screw drive into the Support Profile, with the Bearing Carriages sliding off their assembly aid and directly onto the Linear Guide Rail.

Make sure no balls are lost.



The assembly aids should be pressed against the Linear Guide Rail throughout the process.



Important: Balls can be lost, in which case the Bearing Carriage can no longer be used.



Next, screw the intermediate carriage plate securely onto the body of the carriage using the eight Counter-sunk Screws M4x10.

Tightening torque  $M_T = 3 \text{ Nm}$



Use the installed intermediate carriage plate to align the moving carriage so that it is parallel with and centred in relation to the Support Profile. Then securely tighten the Bearing Carriage's eight Hexagon Socket Head Cap Screws.

Tightening torque  $M_T = 1.5 \text{ Nm}$

### Number and positioning of spindle supports

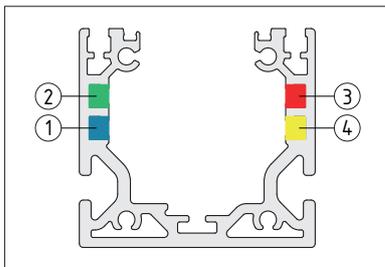


Caution: The number and arrangement of the spindle supports included in the scope of supply depend on the stroke of your Linear Unit KGT 6 60 P20. Regardless of how many are being fitted, ensure the individual supports are inserted in the correct order according to their numbering (black dots or numbers). Incorrect positioning can result in damage to the linear axis and injuries.

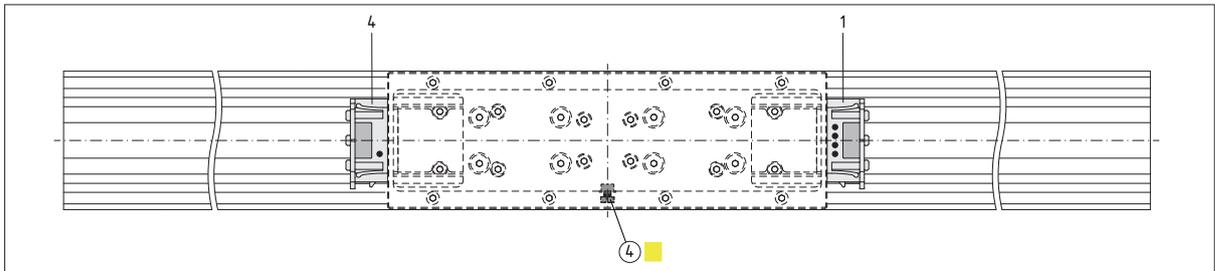
Slide the spindle supports carefully into the profile from the right and left. The metal plates should always be facing out, away from the carriage.



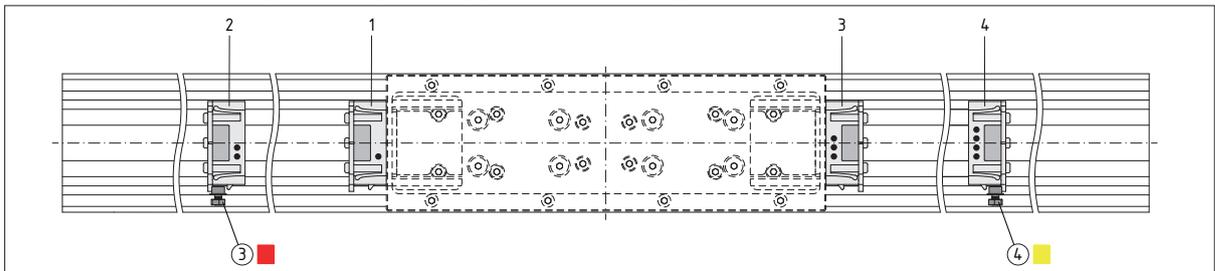
- The numbers or black dots on the spindle supports identify the supports.
  - The carriage is shown in the middle of the profile, which ensures the spindle supports can be slid into the profile in the correct order from the right and left.
  - The stops, which are shown in grey and have already been installed, make it easier to arrange the spindle supports.
- The spindle supports are always fitted with the metal plate on them facing out. To do this, slide them carefully in from the relevant side. When inserted in the correct order, each support will slide past stops until it reaches its designated position, where it will come to a halt against the appropriate stop.



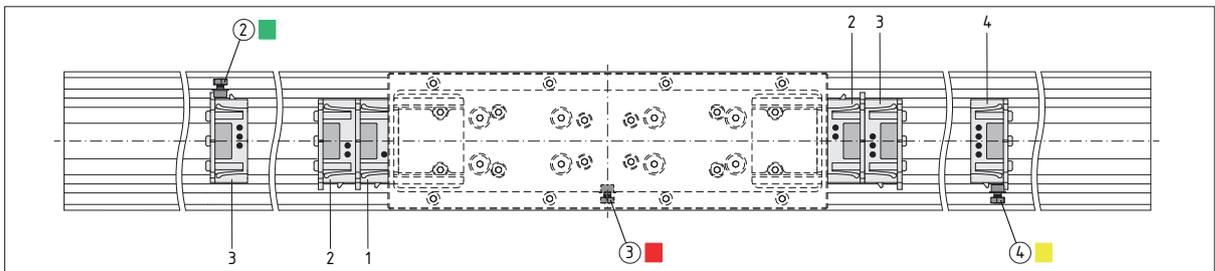
1. Number, position and alignment of spindle supports in a stroke range of between 0 mm and 1000 mm:



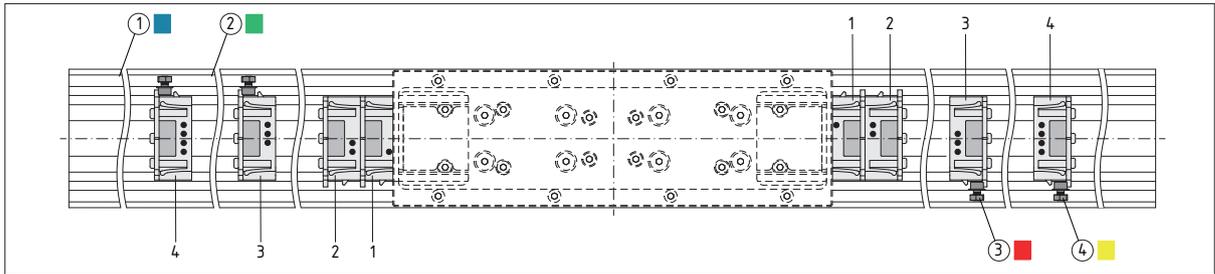
2. Number, position and alignment of spindle supports in a stroke range of between 1001 mm and 1560 mm:



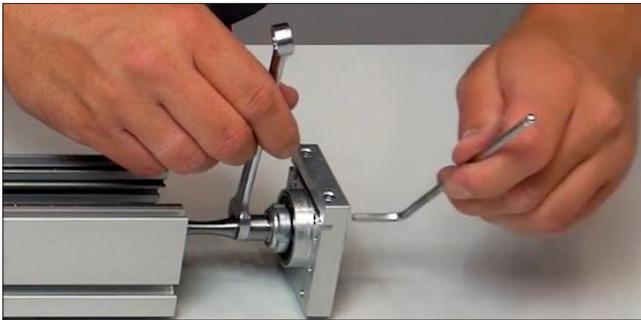
3. Number, position and alignment of spindle supports in a stroke range of between 1561 mm and 2120 mm:



4. Number, position and alignment of spindle supports in a stroke range of between 2121 mm and 2600 mm:

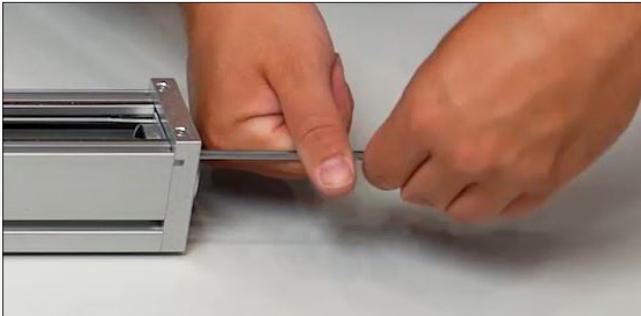


Fitting the fixed and floating bearings



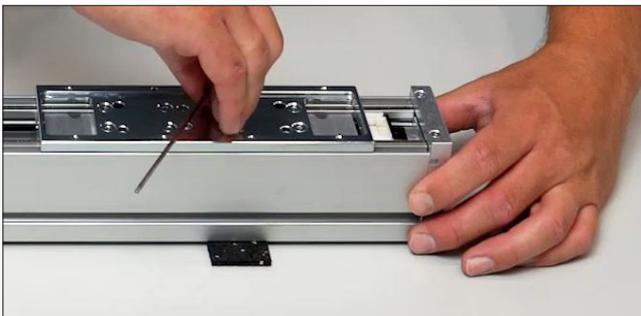
Pull out the tapered part of the spindle slightly from the profile. Use a cloth to clean the cone of the spindle and the cone of the fixed bearing hub. Screw the fixed bearing and the spindle in place via the cone using Hexagon Socket Head Cap Screw M5x25.

Tightening torque  $M_T = 2.5 \text{ Nm}$



Next, screw the fixed bearing to the profile using the four Hexagon Socket Head Cap Screws M5x20.

Tightening torque  $M_T$ : tighten by hand and then loosen again by a  $\frac{1}{4}$  turn



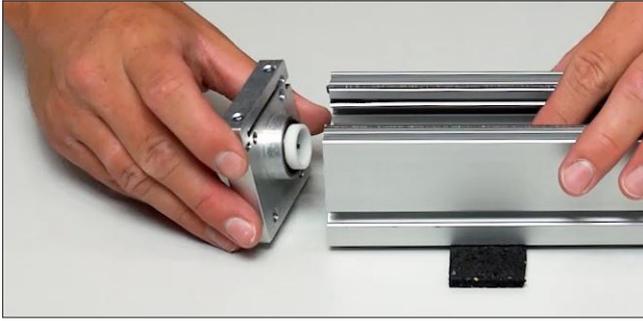
Push the basic carriage structure up to the fixed bearing as far as the stop. The fixed bearing can now be aligned laterally so that it is parallel with the Support Profile. Then tighten the four Hexagon Socket Head Cap Screws M3x8 on the spindle holder.

Tightening torque  $M_T = 1.2 \text{ Nm}$



Now tighten the four screws that are still loose on the fixed bearing.

Tightening torque  $M_T = 2.5 \text{ Nm}$



Next, press the floating bearing onto the sawn end of the spindle and screw it onto the Support Profile using the four Hexagon Socket Head Cap Screws M5x20.

Tightening torque  $M_T$ : tighten by hand and then loosen again by a  $\frac{1}{4}$  turn



Now push the carriage up to the stop at the floating bearing end and also align the floating bearing laterally so that it is parallel with the Support Profile. Then screw the floating bearing securely to the Support Profile.

Tightening torque  $M_T = 2.5 \text{ Nm}$

Once everything has been properly fitted and screwed into place, move the carriage over the entire length of the axis by hand, checking the operation and smooth running of the guide, bearings and spindle supports.



Subsequently use a brush to apply a thin layer of Divinol Lithogrease G 421 over the entire length of the spindle.

### Fitting the steel strip



Wear cut-resistant gloves to prevent injuries when installing the steel strip.



Fit the steel strip, which covers the spindle in the profile. This strip should be approximately 12 mm longer than the Support Profile.



Start by threading the steel strip from either end, from below, through the opening in the intermediate carriage plate and pull it through approximately 200 mm.



Fit the two guides – correctly aligned – onto the steel strip. The correct alignment of the steel strip guides is important and must be ensured.

Next, thread the steel strip out through the second opening in the intermediate carriage plate and pull it as far as the end of the Support Profile.



Secure the ends of the steel strip in the bearing housings. The clamping plate screws need to be loosened by three to four turns for this purpose.

Once the steel strip has been inserted, the clamping plate's Countersunk Screws can be tightened again.

$M_T = 0.6 \text{ Nm}$



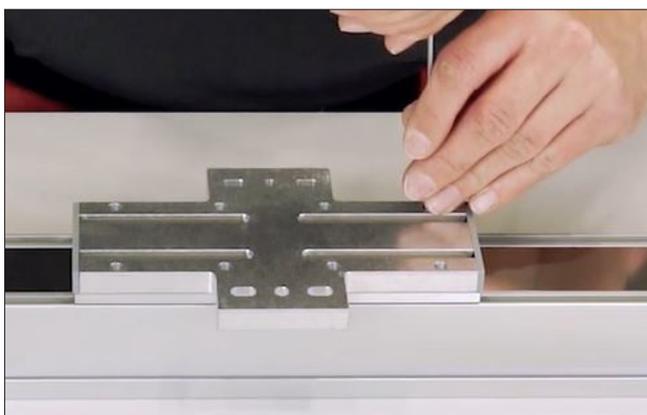
Ensure the strip is smoothed down over the entire length of the profile. There must be no creases or dents.



After that, screw on the carriage plate. Start by using a mallet to fit the Caps X 6 60x12. The carriage plate must be aligned by hand so that it is centred on and parallel with the carriage.

Tightening torque  $M_T = 1.5 \text{ Nm}$

Alternatively, a Transverse Carriage Plate can also be used to build a Linear Guide 6 60 PS Transverse Carriage.



First, use a mallet to fit the Caps X 6 60x12. Centre the Transverse Carriage Plate on the intermediate carriage plate, ensuring both are parallel.

Tightening torque  $M_T = 1.5 \text{ Nm}$

### Fitting Cover Profile LE 6

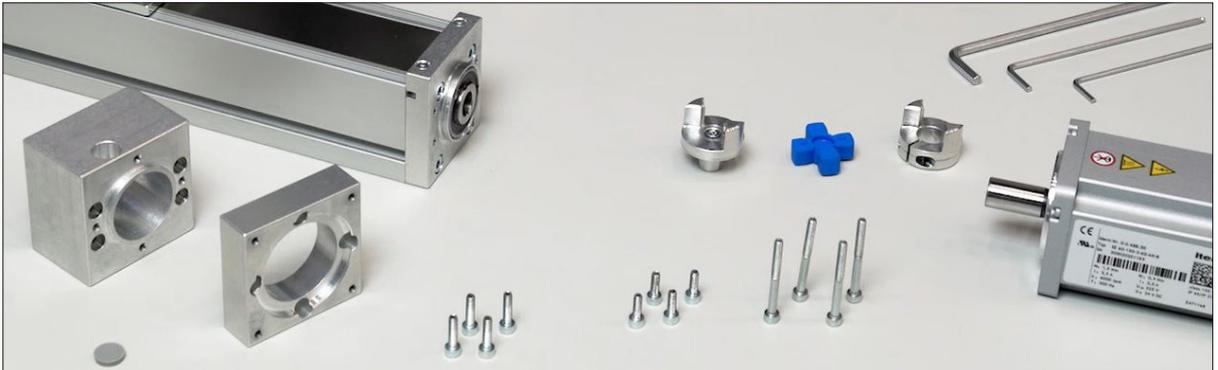
Lastly, install Cover Profile LE 6.

Cut the plastic profile to the appropriate length and slide it under the carriage to cover the special groove accommodating Proximity Switches and their wiring.

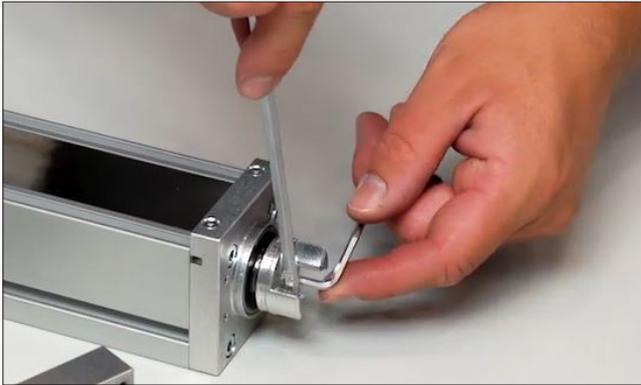


Now move the carriage over the entire length of the profile. Listen/look out for any noises, rubbing or constrictions to check whether the carriage is running and being guided on the axis free from any play.

## Motor connection with Drive Set KGT 6 60



Servomotors from item can be connected directly to the linear axis with the help of the relevant Drive Sets. Motors from other manufacturers can be adapted using the universal Drive Set 6 60 D30/D12. The flange plate must be adapted accordingly for this purpose.



This example describes how to fit Motor SE 60 using Drive Set KGT 6 60 D30/D12 SE 60.

Start by inserting the expanding hub coupling half into bore D12 of the Linear Unit and tightening the expanding hub screw. The coupling half can be secured in place using a second Allen key.

Tightening torque  $M_T = 2.8 \text{ Nm}$

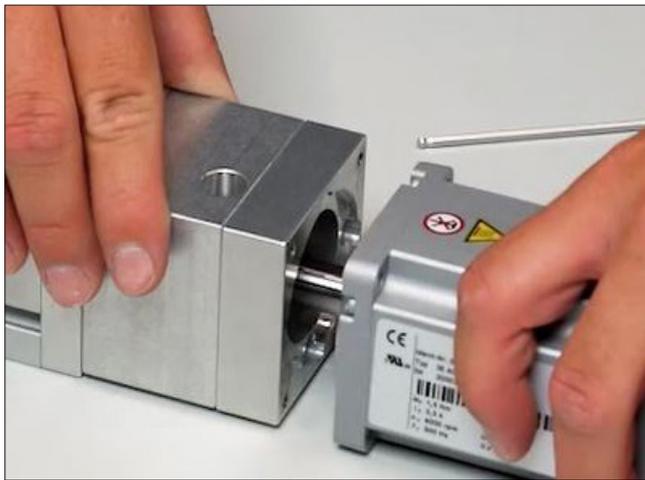


Fit the Coupling Insert followed by Coupling Half D30/D12 so that they are mounted flush on the expanding hub coupling half. The clamping screw of Coupling Half D30/D14 should be aligned as shown.



Now fit the Coupling Housing and tighten it using the four Hexagon Socket Head Cap Screws M4x40 so that it is mounted flush with the fixed bearing.

Tightening torque  $M_T = 3 \text{ Nm}$



Next, use the four Hexagon Socket Head Cap Screws M4x12 to screw down the adapter plate for Motor SE 60 so that it, too, is flush with the Coupling Housing.

Tightening torque  $M_T = 3 \text{ Nm}$

Insert Motor SE 60 (the motor shown here) into the Drive Set and secure it in place using the four Screws M4x18.

Tightening torque  $M_T = 3 \text{ Nm}$

Four Hexagon Socket Head Cap Screws M4x10 are used to secure Motor SE 40 (also available but not shown here).

Tightening torque  $M_T = 1.2 \text{ Nm}$



Finally, tighten the clamping hub screw of Coupling Half D30/D12 through the maintenance hole. Use a Cap to seal the hole.

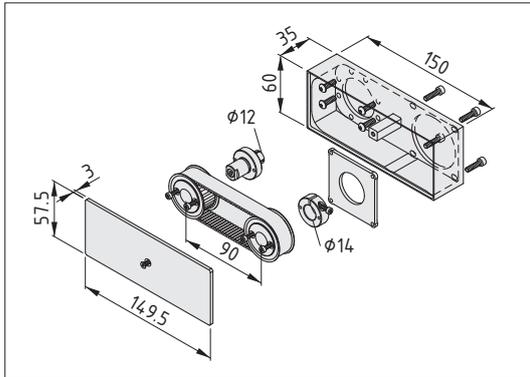
Tightening torque  $M_T = 2 \text{ Nm}$



If using a third-party motor, fit this with the help of Drive Set KGT 6 60 - universal (0.0.704.53).

The installation process is as described above, except that the universal adapter plate must be machined to match the third-party motor's connection dimensions.

## Motor connection with Parallel Drive Set 6 60



This example describes how to fit Motor SE 60 with the help of Parallel Drive Set 6 60 D12-1 SE 60.

Parallel Drive Set 6 60 D12-1 SE 60 combines Linear Unit KGT 6 60 P20 with a Motor at an angle of 180°. The fact the drive is positioned parallel to the Linear Unit means exceptionally space-saving applications can be realised.

A timing-belt drive ensures non-slip power transmission. As a plug-and-play solution, it requires no machining when using size 60 item Motors.

Maximum permissible torque of coupling – drive side:  $M_{\max} = 3.7 \text{ Nm}$

Efficiency:  $\eta = 1$



The housing of the parallel drive set is screwed onto the fixed bearing of the linear unit KGT 6 60, only the smaller opening in the housing is designed to fit the fixed bearing exactly.

Fastening elements are four ISO 7380-M4x16 half-round screws, tightening torque  $M_A = 1,2 \text{ Nm}$ .



The expansion hub shaft is screwed into the fixed bearing of the KGT, for this purpose it is countered with the help of an open-end wrench when tightening. Tightening torque of the expansion hub clamping screw  $M_A = 2,8 \text{ Nm}$ .



### Caution!

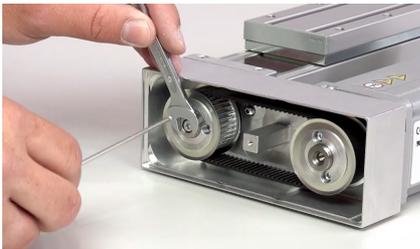
The clamping ring is now clamped onto the shaft of the 60's series motor. Push the clamping ring onto the motor shaft and ensure a distance of 1 mm between the motor housing and the clamping ring.

Tightening torque of the clamping ring screw,  $M_A = 1,2 \text{ Nm}$ .



The enclosed DIN 912-M4x16 cylinder head screws and threaded plate are also used to fasten the 60 series motor to the housing of the parallel drive set. The threaded plate is held in the housing of the parallel drive while the motor is fastened from the outside.

In the first step, tighten the screws only hand-tight to guarantee a certain mobility



The timing belt pulleys are pushed into the housing with the timing belt already fitted and fastened to the clamping ring on the motor shaft and on the expanding hub shaft. An open-end wrench can be applied to the expanding hub shaft to hold and lock the connection.

Tightening torque cylinder head screws M3x16,  $M_A = 1.2\text{Nm}$ .

With the highest possible manual force, the motor must be pressed outwards so that there is tension in the timing belt. This allows the parallel drive set to operate without slippage.

Tightening torque of the cylinder screws of the motor, M4x16,  $M_A = 3\text{Nm}$

Finally, screw on the cover securely. Tightening torque for Countersunk Screw M3x10:  $M_T = 1.2\text{ Nm}$ .



Caution! Rotating parts can cause serious injuries.



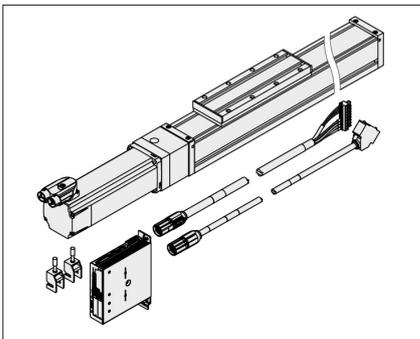
Tip! If using a third-party motor, fit this with the help of Parallel Drive Set 6 60 D12-1 (0.0.708.42). The installation process is as described above, except that the universal adapter plate must be machined and adapted to match the third-party motor's connection dimensions.

## Preconfigured variants

item MotionKit Linear Unit KGT 6 60 P20 is an all-in-one package for automation projects that includes Linear Unit KGT 6 60 together with Motor, Controller and Cables. The item MotionKit is available in three set stroke lengths (600, 1400 and 2600 mm).

It provides all the benefits of the item Automation System in an all-in-one package. The Linear Unit is easy to program and the item Controller can be used with or without an overarching PLC. item MotionSoft® makes it easier to commission automation systems and independently optimizes controller settings.

The carriage plate with grooves allows users to connect a whole range of end devices and handling systems.



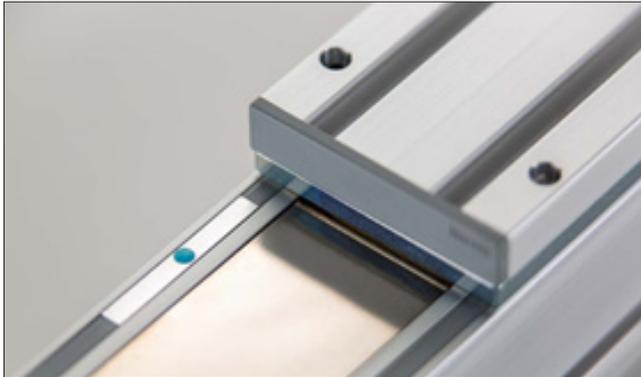
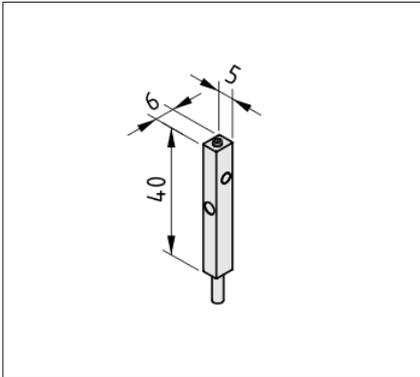
- item MotionKit Linear Unit KGT 6 60 P20-600 0.0.702.63
- item MotionKit Linear Unit KGT 6 60 P20-1400 0.0.702.64
- item MotionKit Linear Unit KGT 6 60 P20-2600 0.0.702.65
- item MotionKit Linear Unit KGT 6 60 P20-600-BL 0.0.709.17
- item MotionKit Linear Unit KGT 6 60 P20-1400 - BL 0.0.709.18
- item MotionKit Linear Unit KGT 6 60 P20-2600 - BL 0.0.709.19

The documentation relating to the relevant Controllers, Motors and accessories can be found on the product page of item GmbH ([www.item24.com](http://www.item24.com)) or in the item MotionSoft® commissioning software (0.0.675.15).

## KGT 6 60 P20 accessories

Proximity Switch KLE 6 60x60 - 1NC (0.0.604.41)

Proximity Switch KLE 6 60x60 - 1NO (0.0.609.31)



Inductive proximity switch, positive switching

Housing Al, anodized, natural

Fixing mechanism, fixing screws

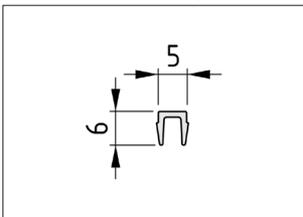
Voltage = 10...30 V DC

Maximum switching current = 150 mA

Sensing range = 2 mm

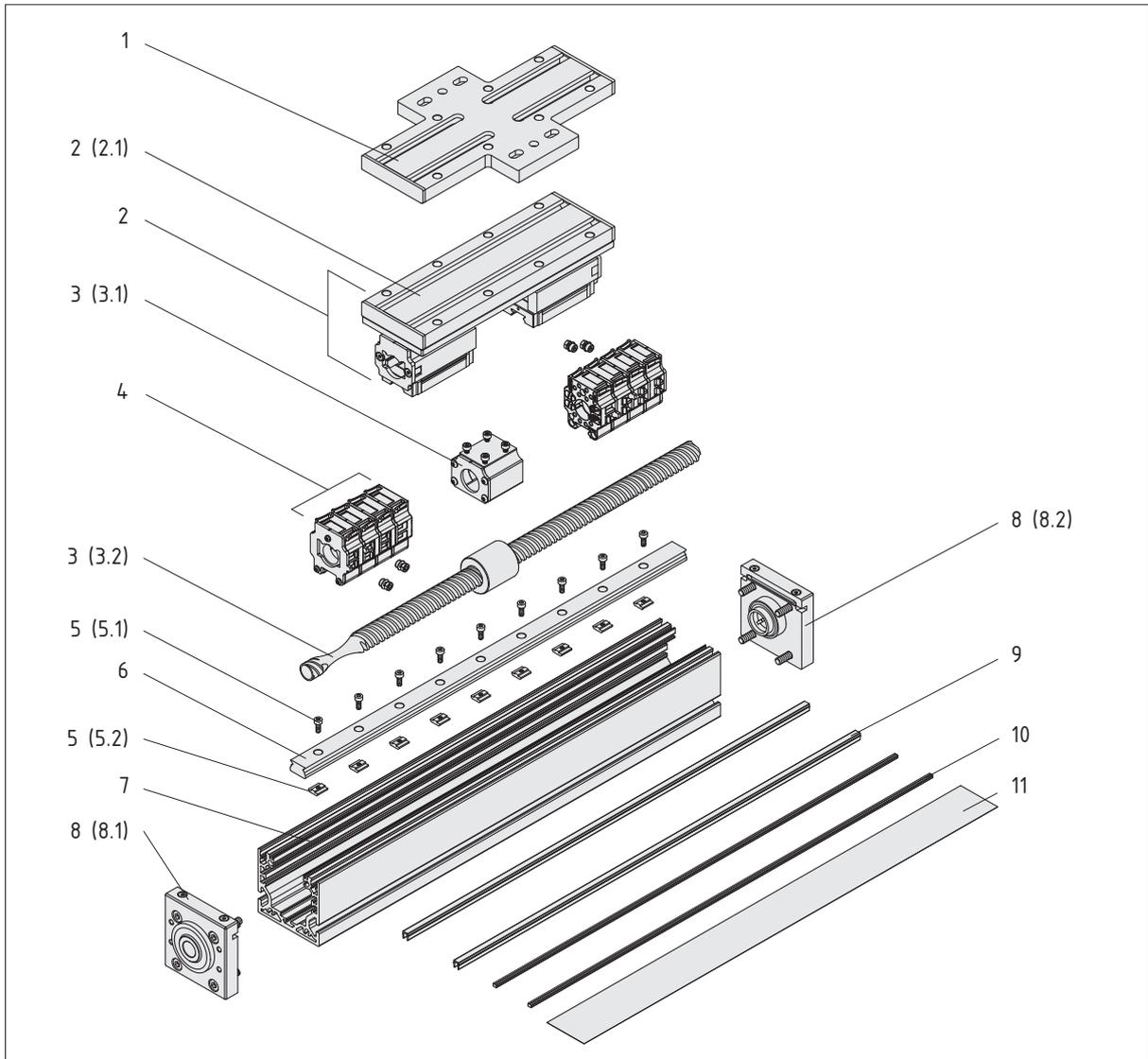
Cable, grey, l = 10 m; d = 3 mm

Cover Profile 6 LE, grey similar to RAL 7042 (0.0.603.88)



The special support profile of the KGT 6 60 P20 features two indentations running along the top to accommodate Proximity Switch KLT and Cables. These grooves are sealed with cover profiles as standard to ensure a smooth, easy-to-clean surface..

### Dealer configuration and spare parts list



The construction of a Linear Unit KGT 6 60 P20, the individual parts to be used and preconfigured sets of articles depend largely on the stroke lengths selected. The coloured table cells containing a cross or tick indicate which components are always required for the basic version and which articles are required only for certain stroke ranges.

Basic configuration spare parts list for building a KGT 6 60 P20					
Ref.*	Position	Article number	Product name		Basic set [mm] 0-2600
CA**	1	0.0.708.75	Transverse Carriage Plate 6 60 190x119	1 set	✓
DA**	2	0.0.696.71	Carriage Set KGT 6 60	1 set	✓
CA**	2.1	0.0.708.76	Carriage Plate 6 60 190x60	1 set	✓

DA	5	0.0.709.40	Assembly Set PS 2-15 LE	1 set	✓
-	5.1	0.0.701.87	Hexagon Socket Head Cap Screw DIN 912 M3x18	75 pcs.	-
-	5.2	0.0.706.53	T-Slot Nut St 1x M3	75 pcs.	-
DA***	6	0.0.694.68	Linear Guide Rail	Cut-off max. 3 m	✓
DA***		0.0.694.39	Linear Guide Rail	1 pce., 3 m	
DA***	7	0.0.689.98	Profile 6 60 LE	Cut-off, max. 3 m	✓
DA***		0.0.688.21	Profile 6 60 LE	1 pce., 3 m	
DA	8	0.0.709.36	Bearing Set 6 60 LE	1 set	✓
-	8.1	0.0.696.78	Linear Unit KGT 6 60, fixed bearing	1 set	-
-	8.2	0.0.692.64	Linear Unit KGT 6 60, floating bearing	1 set	-
DA****	9	0.0.605.10	Cover Profile 6 LE	Cut-off, max. 2 m	✓
DA****		0.0.603.88	Cover Profile 6 LE	1 pce., 2m	
DA***	10	0.0.694.67	Magnetic Strip 3x2.5	Cut-off, max. 25 m	✓
DA***		0.0.692.27	Magnetic Strip 3x2.5	1 roll, 25 m	
DA	11	0.0.692.56	Steel Strip 36.5 x 0.1	1 roll, 25 m	✓

\* CA: Catalogue article

DA: Dealer article

\*\* Either a Transverse Carriage Plate 6 60 190x119 (0.0.708.75) or a Carriage Plate 6 190x60 (0.0.708.76) can be used. Carriage Plate 6 190x60 is also part of the basic article Carriage Set KGT 6 60 (0.0.696.71).

\*\*\* For calculating the necessary length, see Page 6 “Preparing for assembly”

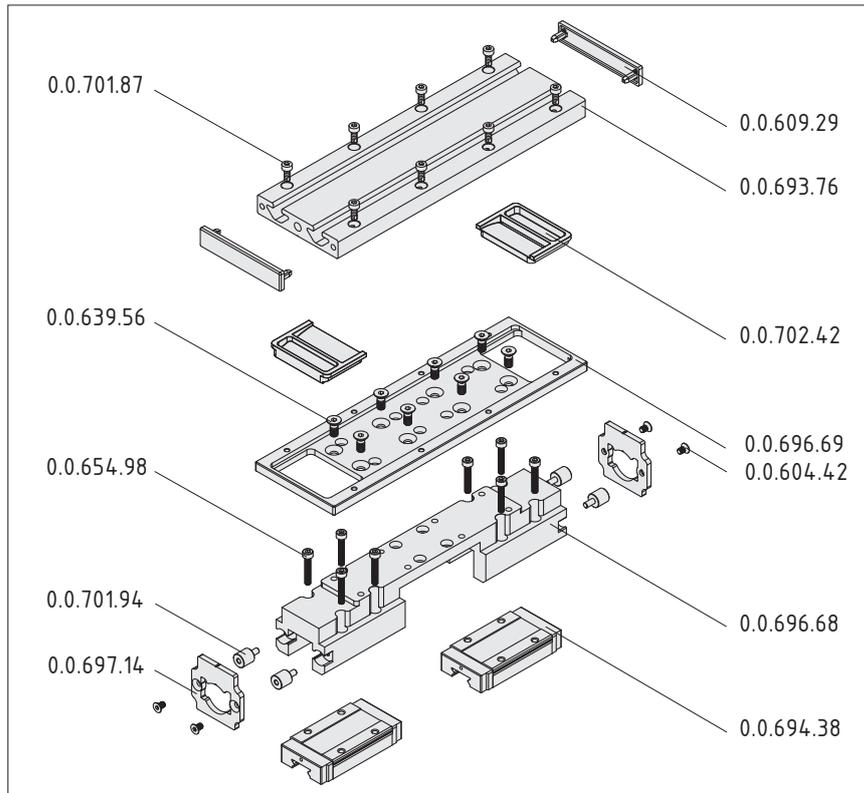
\*\*\*\* For calculating the necessary length, see Page 17 “Fitting Cover Profile LE 6”

Components and spare parts that vary acc. to stroke length						Stroke range [mm]					
Ref.*	Position	Article number	Product name		Stroke range [mm]						
					0 - 600	601 - 1000	1001 - 1400	1401 - 1560	1561 - 2120	2121 - 2600	
DA	3.1+3.2	0.0.709.37	Ball Screw Unit 16P20 H600	Set	✓	✗	✗	✗	✗	✗	
DA	3.1+3.2	0.0.709.38	Ball Screw Unit 16P20 H1400	Set	✗	✓	✓	✗	✗	✗	
DA	3.1+3.2	0.0.709.39	Ball Screw Unit 16P20 H2600	Set	✗	✗	✗	✓	✓	✓	

Components and spare parts that vary acc. to stroke length						Stroke range [mm]					
Ref.*	Position	Article number	Product name		Stroke range [mm]						
					0 - 600	601 - 1000	1001 - 1400	1401 - 1560	1561 - 2120	2121 - 2600	
DA	4	0.0.694.03	Spindle Support Set KGT 6 60 H1000	Set	✓	✓	✗	✗	✗	✗	
DA	4	0.0.694.02	Spindle Support Set KGT 6 60 H1560	Set	✗	✗	✓	✓	✗	✗	
DA	4	0.0.694.01	Spindle Support Set KGT 6 60 H2120	Set	✗	✗	✗	✗	✓	✗	
DA	4	0.0.694.00	Spindle Support Set KGT 6 60 H2600	Set	✗	✗	✗	✗	✗	✓	

\* CA: Catalogue article  
DA: Dealer article

Carriage Set KGT 6 60 is a preconfigured set (0.0.696.71) and is composed of the following individual parts.



## Checklist

### Assembling KGT 6 60 P20

Checks	Checked	Comment
Visual inspection		
Screws tightened		
Carriage aligned		
Unusual running noises during manual test run		
Rubbing		

Date:

Signature:

## Repair and maintenance



Ball Screw Unit KGT 6 60 P20 is maintenance-free.

Ball Screw Unit KGT 6 60 P20 is fully greased when initially assembled. This initial greasing cannot be renewed.

Ball Screw Unit KGT 6 60 P20 must be renewed after a service life of 5000 km.

The initial greasing consists of the lithium complex soap grease Divinol Lithogrease G 421.



If operating conditions are unusual, e.g. special type of installation, dust, short stroke, influence of solvents etc., the service life of Ball Screw Unit KGT 6 60 P20 must be adapted to the specific usage scenario.



This information does not discharge users from the obligation to carry out their own assessments and checks.

It is also important to bear in mind that our products are subject to a natural process of wear and ageing.

## Care and cleaning



Incorrect care and/or cleaning risks causing damage.

A cloth and a standard domestic cleaning agent are adequate for cleaning the KGT 6 60 P20. Check that the substances you are using are suitable for use on paints and plastics. Aggressive cleaning agents and pressure washers may damage the product.

## Disposal

The product can be recycled or re-used (after any necessary refurbishment and replacement of parts). The use of appropriate materials and easy dismantling ensure the product can be recycled. Improper disposal of the KGT 6 60 P20 can pollute the environment.



You should therefore dispose of the KGT 6 60 P20 in full accordance with the laws of your country. Inappropriate disposal poses a hazard to the environment.



Transport packaging:  
Dispose of the packaging using the return and collection systems that are available to you.

## Product development and documentation

A process of continuous product development ensures that products from item Industrietechnik GmbH always exhibit a high standard of innovation.

Consequently, there could be inconsistencies between this guide and the product you have acquired. item Industrietechnik GmbH can also not exclude the possibility of errors.

We therefore ask for your understanding that the information, illustrations and descriptions provided here cannot constitute an entitlement to

any claims. You can find the latest version of this guide at [www.item24.com](http://www.item24.com).

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10/2021

Made in Germany

item Industrietechnik GmbH