



Linear Guide Unit 8 D14  
Notes on Use and Installation

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## Symbols, safety



Important, safety information, recommendation



Maintenance



Information

## General safety information

The details and information in the installation guide are provided for the purposes of describing the product and its assembly only. The information does not discharge the user from the obligation to carry out his own assessments and checks. It is important to bear in mind that our products are subject to a natural process of wear and ageing. These notes contain 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 installation guide. When installing, operating and maintaining the driven Linear Guide Unit, it is important to ensure that all moving elements are secured so that they cannot be switched on and moved unintentionally. Rotating and moving parts can cause serious injury! You must therefore read and follow the safety instructions set out below.

- All work on and with the driven Linear Guide Unit must be performed with “safety first” in mind.
- Always switch off the drive assembly before you start working on the driven Linear Guide Unit.
- Ensure the drive unit cannot be switched on unintentionally, e.g. by affixing warning notices at the activation point or by removing the fuse from the power supply.
- Do not place your hand within the operating range of the driven Linear Guide Unit’s moving parts when the unit is still switched on.
- Fit guards and covers to the moving parts of the driven Linear Guide Unit to ensure they are not touched unintentionally.
- 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 that 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 driven Linear Guide Unit described here corresponds to the state of the art and takes into account the general principles of safety applicable at the time this installation guide was published. Nevertheless, failure to observe the safety instructions and warning notices in this installation 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 technical changes that represent technical advances. Keep these installation notes in a place where they can be easily accessed by all users. Observe the directions contained in the main user guide for the completed machine. The general safety information applies to the entire lifecycle of the partly completed machine.

#### 1. During transportation

Observe the handling instructions on the packaging. Until it is installed, the product must be stored in its original packaging, protected from moisture and damage. Ensure that moving parts are secured when in transit and cannot cause any damage.

#### 2. During installation

Always deactivate the power to the relevant system part and ensure it is not live before installing the product and/or plugging it in or unplugging it. Ensure the system cannot be switched back on. Lay cables and lines in such a way that they cannot be damaged and do not represent a trip hazard. Avoid areas that pose slip, trip and fall hazards.

#### 3. During start-up

Allow the product to acclimatise for a few hours before starting it up. Ensure that the partly completed machine is securely and safely integrated into the completed machine. Only start up a product that has been installed in full.

#### 4. During operation

Ensure that only persons who have been authorised by the operator have access to the immediate operating environment of the system. This also applies when the system is not in operation. It must not be possible to actuate moving parts unintentionally. During emergencies, malfunctions or other irregularities, deactivate the system and ensure that it cannot be switched back on. Prevent the possibility of persons becoming trapped in the system's hazard zone.

#### 5. During cleaning

Close all openings with suitable protective equipment to ensure that cleaning agents cannot penetrate the system. Do not use aggressive cleaning substances. Do not use a high-pressure cleaner when cleaning the system.

#### 6. During maintenance and servicing work

Carry out the prescribed maintenance work at the intervals stipulated in the user guide. Ensure that no line links, connections or components are removed while the system is live and under pressure. Ensure the system cannot be switched back on.

#### 7. During disposal

Dispose of the product in accordance with the national and international regulations that apply in your country.

### Correct use

The Linear Guide Unit 8 D14 is a component that is suitable for building powered linear units. The driven linear unit is a product in accordance with the Machinery Directive 2006/42/EC (partly completed machinery). The driven linear unit can only be used in accordance with the technical data and safety regulations of the present documentation. 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 driven Linear Guide Unit yourself. We will assume no liability for any resulting damage or injury.

You may only install, operate and maintain the driven Linear Guide Unit if:

- The driven Linear Guide Unit has been integrated properly and safely into the completed machine,
- You have carefully read and understood the installation guide,
- You are appropriately qualified,
- You are authorised to do so by your company,
- You are using only original equipment from the manufacturer.

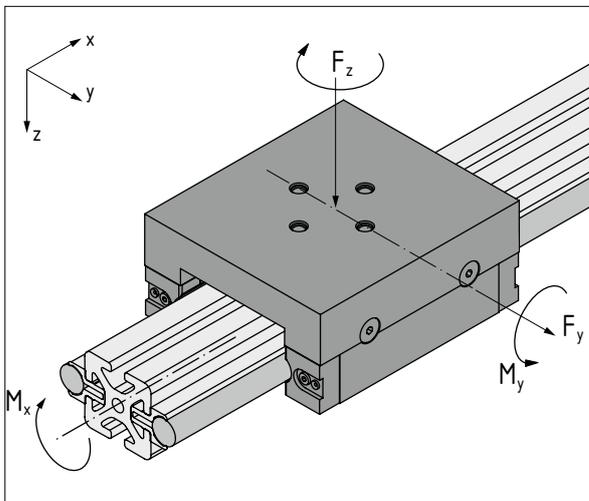
Unsafe or inappropriate use of the driven Linear Guide Unit runs a risk of serious injury through crushing and cuts.

## Improper use

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

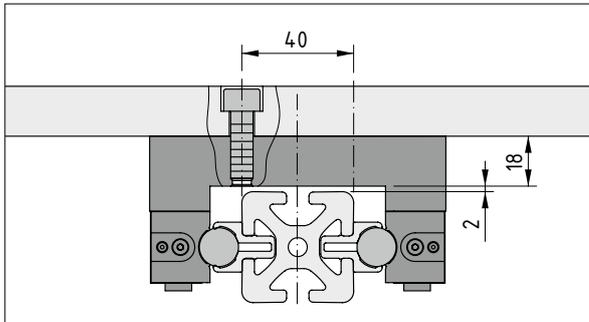
## Operating parameters

Linear Guide Carriage Unit 8 D14 120x40 0.0.629.19  
 Linear Guide Carriage Unit 8 D14 120x80 0.0.634.63

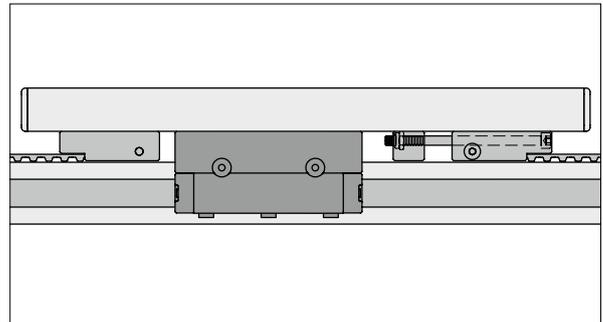


	8 D14 120x40	8 D14 120x80
$F_y = F_z$	2.300 N	2.300 N
$M_x$	237 Nm	355 Nm
$M_y = M_z$	95 Nm	95 Nm
C	5.400 N	5.400 N
$C_0$	6.700 N	6.700 N
$v_{max}$	3 m/s	3 m/s
$\vartheta$	-10 – +100 °C	-10 – +100 °C
$h_{min}$	120 mm	120 mm

Displacement force along the X axis: 40 N



Universal connection bores in the carriage plate:  
 M8 threaded holes for fastening profiles or any other structures.



The driving force:  
 A Timing Belt or spindle drive KGT can be connected to a Profile 8 that is screwed to the carriage plate.

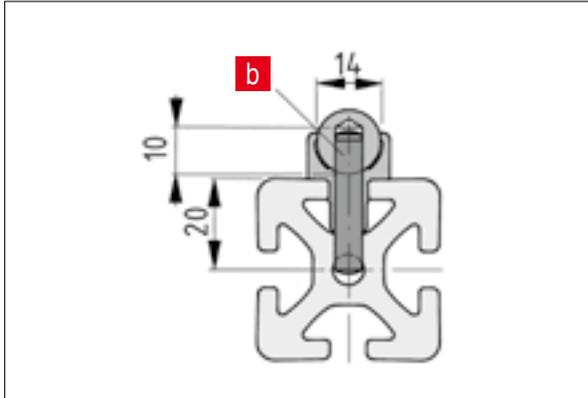
## Installation

### Installing the support profile

There are two variants of Linear Guide Unit:

1. Linear Guide Carriage Unit 8 D14 120x40      0.0.629.19
2. Linear Guide Carriage Unit 8 D14 120x80      0.0.634.63

As the designations indicate, the products are used with a support profile from Line 8 with a width of either 40 mm or 80 mm. Shafts D14 (0.0.294.01, 0.0.294.55, 0.0.472.30) are installed and pinned with a Shaft-Clamp Profile (0.0.294.34) and the corresponding Line 8 profile (width 40 mm or 80 mm) as a support profile.



**b** dowel DIN 6325-6x30

Do not use Line 8 profiles in the “light” or “E” designs.

The Shaft ends should be chamfered slightly.

Chamfer: 1 x 30°- 45°

This will make mounting the carriage easier and prevents the lip seals from being damaged.

A detailed assembly instructions for assembling the shaft D14, you find in the online shop at the product Bearing Unit 8 D14.

### Installing the carriage

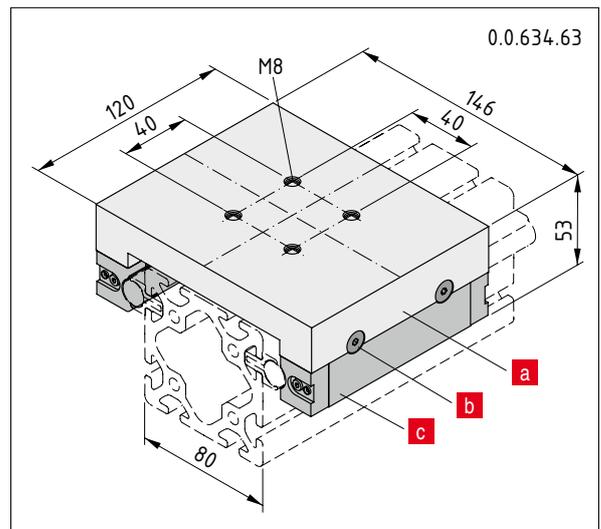
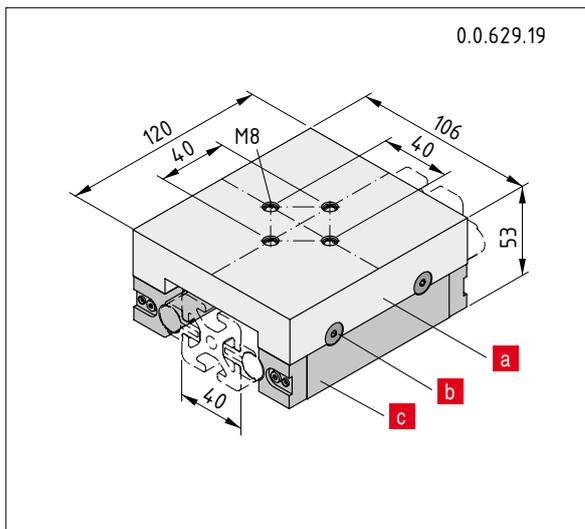
The Carriage (0.0.629.19/0.0.634.63) comprises a carriage plate with two setscrews on each bearing side and two pre-assembled Linear Guide Units, each with three clamping screws on the underside.



When supplied, one pre-assembled Linear Guide Unit will already be fitted parallel to the carriage plate. For installation purposes, this unit is the fixed bearing end.

The second Linear Guide Unit is the floating bearing end and is supplied pre-assembled.

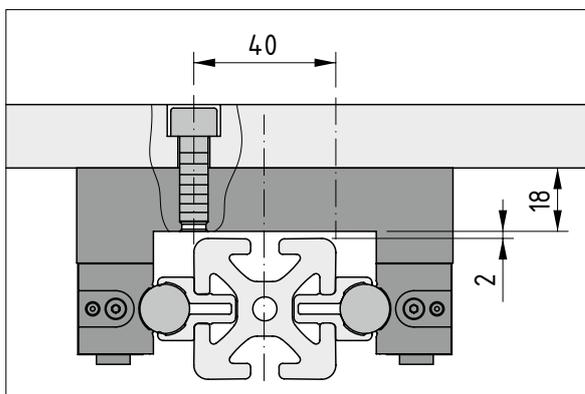
Before commencing installation, ensure that both setscrews on the floating bearing end are unscrewed enough so that the carriage can be placed on the guide profile without having to apply force.



- a** Carriage plate
- b** Setscrew
- c** Linear Guide Unit

Carefully place the carriage on the guide profile, ensuring it is not sitting at an angle. If the carriage is forced on, or mounted at an angle, there is a danger that the ball bearings could be dislodged from the Linear Guide Unit.

Next, evenly tighten the three clamping screws on the floating bearing end so that the Linear Guide Unit can be moved on the carriage plate with no noticeable play.



Clamping screws:  
Hexagon Socket Head Cap Screw DIN 912-M5x40 with washer DIN 125-5.3

Use the two setscrews (0.0.626.51) to adjust the play or pre-tensioning of the carriage. Drive the setscrews alternately, little by little, moving the carriage back and forth in between. Repeat this process until the carriage is free from play. The carriage is now correctly adjusted.



The contact pressure that the lip seals exert on the shafts gives the impression that the desired play-free fitting has been achieved before it actually has. It is important to remember this during the installation process.

Now tighten the three clamping screws on the floating bearing end with a torque of 8 Nm. Start with the inside screw and work towards the outside screw.



Tip: Depending on the operating load, the carriage can be pre-tensioned as described above. However, this requires a very skilled pair of hands and should only be attempted by experienced installers.

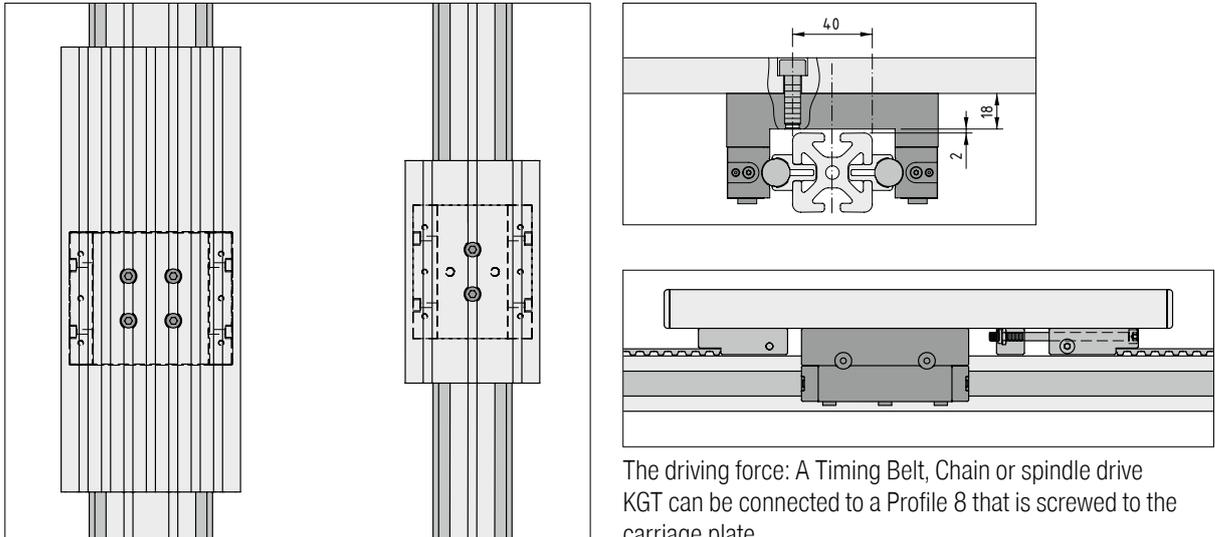
If required, the Linear Guide Units can be pinned to the carriage plate. To do so, drill and grind two 6H7 locating holes on each side of the carriage plate. The two 6H10 holes (or 6.5 mm to half depth) between the clamping screws in the Linear Guide Unit act as both locating holes for the pins and as a guide for drilling and grinding. Use DIN 7979 D-6x20 dowels as pins.



Once the Linear Guide Units have been pinned, it is no longer possible to adjust the guide play. This step should therefore be given careful consideration.

## Drive

There are four M8 universal connection bores in each carriage plate. On Linear Guide Carriage Unit 8 D14 120x40 (0.0.629.19), the bores are arranged in a diamond pattern and on Linear Guide Carriage Unit 8 D14 120x80 (0.0.634.63) they form a square. This ensures that a Line 8 profile can always be fastened securely, centrally and without torsion on the carriage plate with at least 2 screws. This Line 8 profile is required for securing the drive elements. This means that a profile with at least two parallel grooves can be fastened centrally to Linear Guide Carriage Unit 8 D14 120x40 (0.0.629.19), while a Profile 8 40x40 with just one groove can also be secured to a Linear Guide Carriage Unit 8 D14 120x80 (0.0.634.63).



## Maintenance



Lubrication interval:

When re-lubricating the system, 0.35g of lubricant (50% of the amount applied initially) should be applied during the adjustment process, in order that the lubricant can be distributed.

The lubricant used when the system was first lubricated should be applied for all subsequent lubrication: Rhenus Norlith STM2

Load case	V <sub>average</sub> m/min	Stroke mm	relubrication interval in h			relubrication interval in km		
			min. value	max. value	average value	min. value	max. value	average value
1	0,5	1000	1129	2219	1674	2033	3994	3014
2	0,5	2000	1017	1998	1508	1830	3596	2713
3	0,5	3000	943	1854	1399	1698	3337	2518
4	0,5	4000	888	1746	1317	1599	3142	2371
5	0,5	5000	844	1658	1251	1519	2984	2252
6	0,5	6000	806	1584	1195	1451	2851	2151
7	1,0	1000	401	953	677	1443	3432	2438
8	1,0	2000	361	858	610	1299	3089	2194
9	1,0	3000	335	796	566	1206	2867	2037
10	1,0	4000	315	750	533	1135	2700	1918
11	1,0	5000	300	712	506	1078	2564	1821
12	1,0	6000	286	680	483	1030	2449	1740
13	2,0	1000	130	374	252	935	2691	1813
14	2,0	2000	117	336	227	841	2423	1632
15	2,0	3000	108	312	210	781	2248	1515
16	2,0	4000	102	294	198	735	2117	1426
17	2,0	5000	97	279	188	698	2010	1354
18	2,0	6000	93	267	180	667	1921	1294
19	3,0	1000	57	209	133	614	2255	1435
20	3,0	2000	51	188	120	553	2030	1292
21	3,0	3000	48	174	111	513	1884	1199
22	3,0	4000	45	164	105	483	1773	1128
23	3,0	5000	42	156	99	459	1684	1072
24	3,0	6000	41	149	95	438	1609	1024

This table shows lubrication intervals for the maximum load on the carriage as a function of travel distance and average speed. Factors such as load, travel distance, speed parameters, operating hours and environmental influences have a significant impact on the length of lubrication intervals.

For general purposes, the lubrication interval can be defined as:

- Once every three months (40hrs/week), or
- Every 2,000 km

### 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 these operating instructions 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 these operating instruction at [item24.com](http://item24.com).

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