

Slide LRF 8 D10 120x160/160x160

Slide LRF 8 D14 160x160/200x160

Slide Set LRF 8 D10

Slide Set LRF 8 D14

Notes on Use and Installation

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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 is likely to result in material damage, serious injury or death



Danger! 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 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 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 Unit must be performed with “safety first” in mind.
- Always switch off the drive assembly before you start working on the driven Linear 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 Unit’s moving parts when the unit is still switched on.
- Fit guards and covers so that the moving parts of the driven Linear Unit cannot be 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 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

A driven Linear Unit is a partly completed machine as defined in the Machinery Directive (2006/42/EC). The driven Linear Unit must only be used in accordance with the technical data and safety requirements set out in 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 driven Linear Unit yourself. We will assume no liability for any resulting damage or injury.

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

- The driven Linear 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.

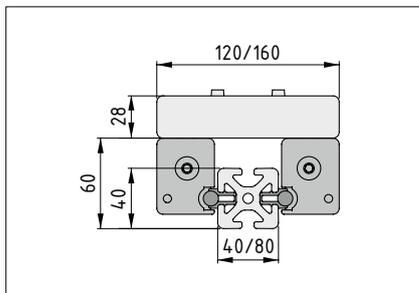
Unsafe or inappropriate use of the driven Linear Unit runs a risk of serious injury through crushing and cuts.

## Improper use

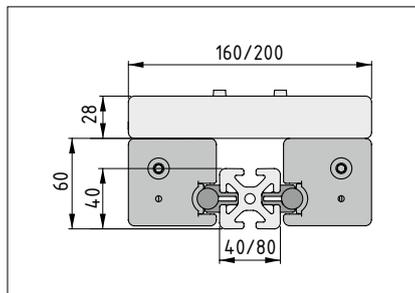
Improper use is defined as any use of the product for purposes other than those authorised in the installation guide and under the definition of correct use. We will assume no liability for any resulting damage or injury.

## Application options

LRF 8 D10

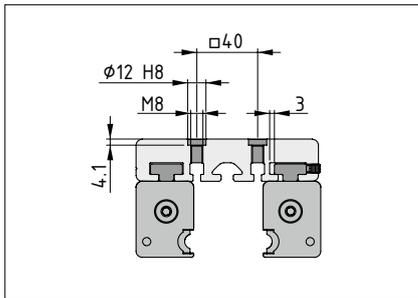


LRF 8 D14



Slide LRF 8 is a practical complete system for roller guides that run on Shafts D10 or D14, which are fastened to a standard Line 8 groove using Shaft-Clamp Profiles.

Slide LRF 8 is available for linear slides in a width of 40 and 80 mm. Slide Sets LRF 8, Slide Profiles LRF 8 and Adjuster Profile 8 can be used to design and build customised linear slides up to 3000 mm in length.

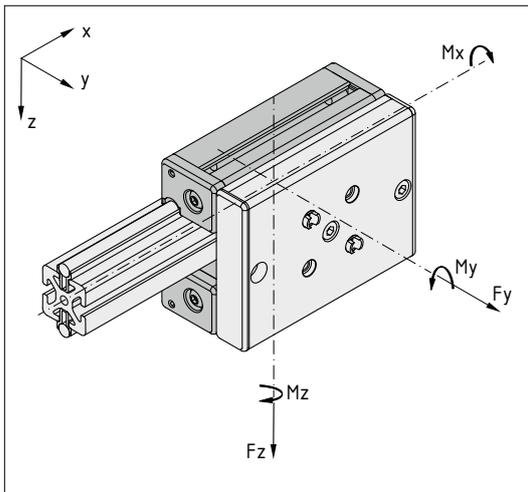


The Slide Profiles LRF 8 have two special features that make it easier to build customised units.

They offer a flat, face-milled surface that is ideal for mounting add-ons and feature two positioning collars that ensure a perfect fit.

### Load specifications

Slide LRF 8 D10 120x160/160x160  
 Slide LRF 8 D14 160x160/200x160

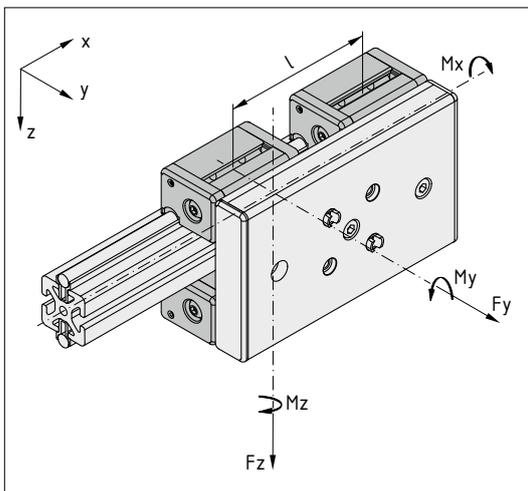


Simplified method for determining the maximum permissible load for Slide Sets LRF 8:

	8 D10		8 D14	
	120	160	160	200
Fy	880 N		1600 N	
Fz	1300 N		2400 N	
Mx	22 Nm	39 Nm	40 Nm	76 Nm
My	52 Nm		96 Nm	
Mz	35 Nm		64 Nm	

Run length under max. load: 10000 km  
 Max. speed: 10 m/s

Slide Set LRF 8 D10  
 Slide Set LRF 8 D14



Simplified method for determining the maximum permissible load for Slide LRF 8:

	8 D10		8 D14	
	120	160	160	200
Fy	880 N		1600 N	
Fz	1300 N		2400 N	
Mx	22 Nm	39 Nm	40 Nm	76 Nm
My	650 N x l		1200 N x l	
Mz	440 N x l		800 N x l	

Run length under max. load: 10000 km  
 Max. speed: 10 m/s

## Assembly guides

The Shaft-Clamp Profile must not be used in conjunction with lightweight or economy profiles.

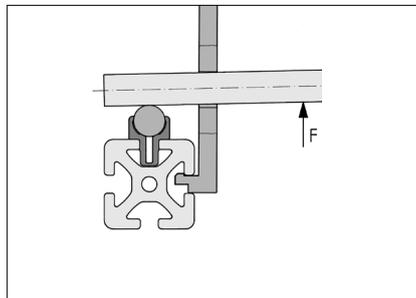
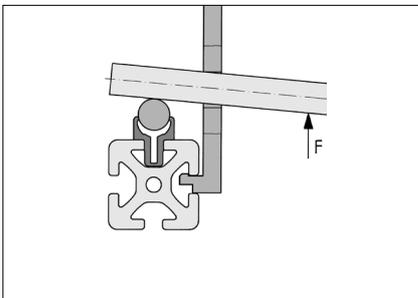
### Shaft-Clamp Profile and Shaft:

The supporting profile, Shaft-Clamp Profile and Shaft can be assembled in a variety of ways.

To facilitate installation, a film of oil or grease should be applied to the outer surfaces of the Shaft-Clamp Profile in contact with the support profile prior to insertion into the groove. The same applies to the contact points between the Shaft and Shaft-Clamp Profile and to the guiding shaft.

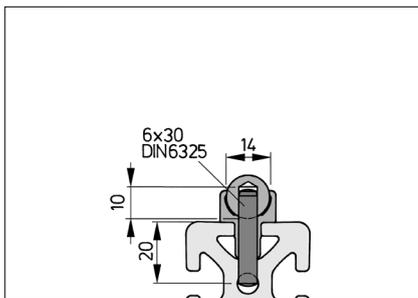
In the case of short support profiles which are not yet built into the structure, the assembly is best done in the following sequence:

- A Shaft-Clamp Profile is pressed into the relevant groove in the Support Profile
- The Shaft is pressed in using a vice (use protective jaw)
- Second side in same sequence



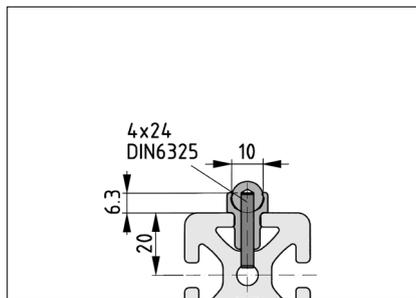
On longer stretches, when the support profiles have already been installed or are being held in a vice and the Shaft-Clamp Profile has been pressed into place, you can press the shaft into the Shaft-Clamp Profile section by section using the Mounting Aid (0.0.265.38) and a lever in the form of a suitable round steel bar.

### Pinning Shaft 8 D14



- b** DIN 6325-6x30 dowel pin
- c** Art.-No. 0.0.373.55 for Shaft D14
- d**  $\varnothing$  6 mm

### Pinning Shaft 8 D10



- b** DIN 6325-4x24 dowel pin
- c** Art.-No. 0.0.444.68 for Shaft D10
- d**  $\varnothing$  4 mm

When higher loads are involved, it is advisable to secure the Shaft. Ideally, a Combination Drilling Jig **c** should be used to machine the Shaft, Shaft-Clamp Profile and Support Profile as detailed in the following steps:

- Using a carbide drill, cut a blind hole in the Shaft, 40 mm from the end face (as shown in the drawing)
- At the same distance from the end face, cut **d** mm through hole through the Shaft-Clamp Profile and Support Profile together, up to the centre bore of the Support Profile
- Press dowel pin **b** DIN 6325 into the Shaft
- Install the Shaft into the Shaft-Clamp Profile as described above

**Slide LRF 8 D10 120x160/160x160**  
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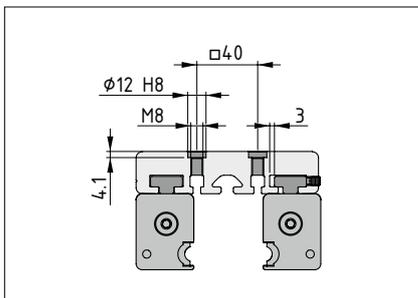
The guide carriages of the various models are partially assembled. One Double-Bearing Unit is preassembled, ready for use and must not be adjusted. The other Double-Bearing Unit is supplied with adjustment screws on the side that protrude slightly. Slot the guide carriage in its preassembled state onto the Support Profile that you fitted the guiding Shafts to earlier. Making small adjustments, tighten the grub screws on the side alternately until there is no play between the Slide and guiding Shafts. Check the Slide unit is free from play by pushing it along the entire length of the guiding Shafts and make any adjustments that are necessary. Next, secure the position of the Double-Bearing Unit from below using two Hexagon Socket Head Cap Screws M8.

Finally, install the End Cap and Lubricating Systems and Caps.

Tightening torque for the lock screws M8x16: 25 Nm

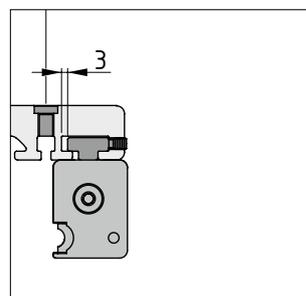
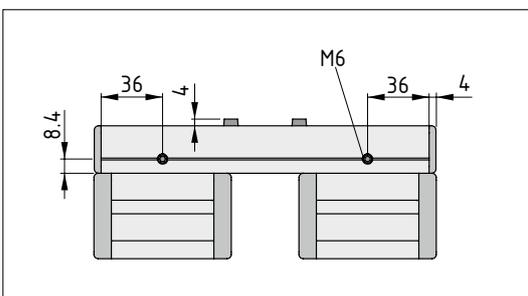
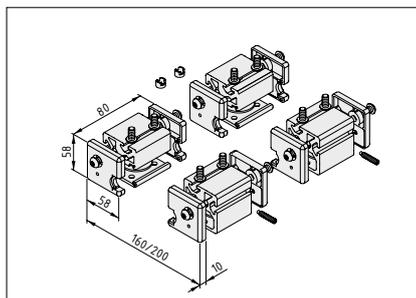
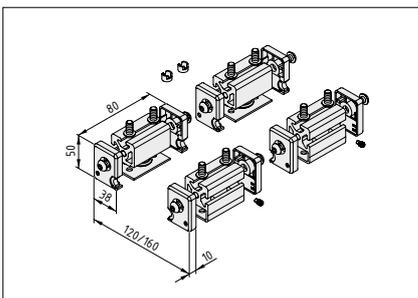
LRF 8 D10

LRF 8 D14



**Slide Set LRF 8 D10**  
**Slide Set LRF 8 D14**

Guide carriages can be built to custom lengths by combining Carriage Profiles with the corresponding Slide Set LRF 8 D10 or Slide Set LRF 8 D14 and Adjuster Profile 8. This requires additional machining work (see drawings). The width of the Support Profiles is limited to the 40 mm and 80 mm widths on the standard Line 8 profiles.



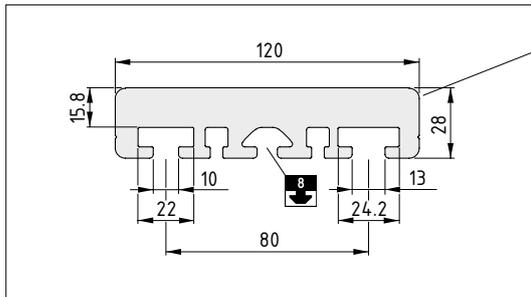
Slide Profile LRF 8 features two special grooves – one with an aperture width of 10 mm, the other with an aperture width of 13 mm (see drawing).

The groove with the 13 mm aperture accommodates the play adjustment mechanism on the slide. Play is adjusted by means of two threaded M6 through holes tapped into the side (see drawing) and two M6 grub screws.

When tapping the threads, use only the indentation on this side and adhere to the dimension 36 mm!

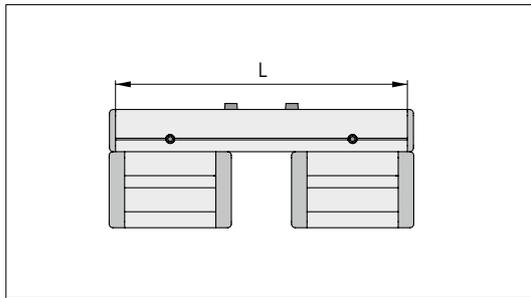


WARNING! Risk of mistaking the correct side for drilling!



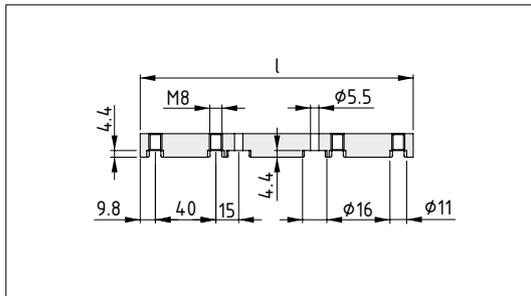
Side for machining the M6 thread

Adjuster Profile 8 runs the entire length of the slide, thus ensuring that the roller units are continuously in parallel, play-free contact with the Shaft, even on long slides. As a result, when cut to the appropriate length and used together, Slide Profiles LRF 8 and the Adjuster Profile ensure low-wear running characteristics, even on very long slides.



Guide carriage

The Adjuster Profile needs to be machined as shown in the drawing:



Adjuster Profile

The length of the slide (L) determines how long the T-Slot Nut (l) needs to be.

$$l = L - 12.4$$

TIP!

Step Drill, Universal Connection 6 (0.0.431.19) can be used to machine the notches.

The adjustment procedure is described in the Section on Slide LRF 8 D10 / Slide LRF 8 D14.

Next, install the End Cap and Lubricating System and use a rubber mallet to fix the Caps in place.

## Lubrication

End Cap and Lubricating Systems are essential in order to protect and lubricate the Bearing Units. These should be fitted back in place only when the guide carriage has been mounted on the Shafts. Otherwise, it is important to ensure the movable wipers are pressed back when sliding the guide carriage onto the Shaft, to ensure they are not bent.

Wipers located in the internal recesses of the end-face End Cap and Lubricating Systems are also designed to take up the lubricant. They are pressed against the guiding Shaft by a spring. These wipers are supplied pre-charged with lubricant and can be topped up with lubricant as required via the hole in the cap.

All good machine lubricating oils, bed track oils and transmission greases with or without additives can be used, such as MoS<sub>2</sub> or similar.

In the event of considerable soiling, you may need to replace the wipers.

## Maintenance

Suitable for use in dry conditions and over the temperature range -20 °C to + 70 °C.

If operating conditions are unusual - e.g. special type of installation, dust, short stroke, influence of solvents etc. the lubrication intervals must be adapted accordingly.

This 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.

The rollers of the guide are maintenance-free. The spring-loaded end cap and lubricating felts can be topped up with lubricant as required via a hole.

Recommended re-oiling period: Every 6 months or every 2500 km. The felt pieces are supplied in ready-oiled condition.



Synthetic lubrication oil ISO VG 460, e.g. recommended track oil for linear guides: Klüber Oil 4 UH1-460.  
Add the following quantity to each maintenance hole at the end of each maintenance interval: 1 ml

Greases containing solid particles (e.g. graphite and MoS<sub>2</sub> additives) must not be used!

Oil Can for Linear Guides (one actuation delivers approx. 1 ml of oil).

To ensure adequate lubrication, the carriage must cover a minimum travel distance. Minimum stroke length [mm]: 80 mm

The Timing Belt is a maintenance-free drive element.

Check the tension on the Timing Belt after a running-in phase.

We recommend regular checks for damage and wear. These checks should be carried out weekly at first and then adjusted to account for environmental and operational conditions.

The Timing Belt may need to be replaced.

Ideal operating conditions:

Ambient temperature: 10 °C ... 40 °C

Load: < 5 %

## 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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