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General safety information

The data and the information contained in the Notes on Use and Installation are intended exclusively for product description and assembly. The information does not release the user from conducting their own assessments and checks. It should be noted that our products are subject to natural wear and tear as well as an aging process.

These Notes on Installation and Use include important information for the safe and appropriate use of the product. In the case of a sale, rent or other transmission of the product, the latter must be accompanied by the Notes on Use and Installation. During the assembly, operation and maintenance of the driven linear unit, it must be ensured that all moving parts are secured against accidental switch-on or moving. Rotating and moving parts can lead to serious injury! Please make sure to read and observe the following safety precautions.

- Any work with or close to the driven linear unit must be performed under the motto “safety first”.
- Switch the drive unit off before you begin a task close to the driven linear unit.
- Secure the drive unit against accidental switch-on, e.g. by installing signs near the switch or remove the fuse from the power supply.
- Do not reach into the working area of the moving parts of the driven linear unit while it is operating.
- Secure the moving parts of the driven linear unit against accidental contact by installing protective devices and enclosures.
- Please take note of the applicable regulations for accident prevention and environmental protection in the country of use and the workplace.
- Use item products only in technically perfect condition.
- Non-use of original spare parts leads to the expiry of the warranty!
- Check if the product has obvious defects.
- Use the product exclusively within the range of performance described in the technical data.
- Make sure all the safety devices belonging to the product are available, suitably installed and fully functional.
- You are not allowed to change the position of, avoid or disable safety devices.

The driven linear unit described here corresponds to the state-of-the-art and respects the general principles of safety at the date of printing of the present Notes on Use and Installation. Nonetheless, the hazard for personal injury and damage to property remains when the fundamental safety instructions and warning notices mentioned in the present Notes on Use and Installation are not observed. We accept no liability for any damage that may arise from them. In the interest of further development, we reserve ourselves the right to technical changes. Keep the present Notes on Use and Installation readily accessible to all users. Please take notice of the superordinate instructions for use of the complete machinery or equipment. The general hazard warning refers to the whole life cycle of the partly completed machinery.

1. Transport

Please note the transport instructions on the packaging. Make sure to leave the product in the original packaging and protect it from humidity and damage until assembly. Please note that moving parts are fixed and can cause no damage during transport.

2. Assembly

Always switch the relevant system component off-circuit before you assemble the product or plug/unplug it. Secure the system against re-starting. Lay the cables and conducts so that they cannot be damaged and nobody can trip over them. Avoid places with risk of slipping, tripping or falling.

3. Putting into service

Let the product acclimatise for some hours before putting it into service. Make sure the partly completed machinery is tightly and safely integrated to the complete machinery. Only put fully installed products into service.

4. During operation

Allow the access to the direct operational area of the system only to people authorised by the operator. This also applies for downtimes of the system. Moving parts must not be accidentally actuated. In case of emergency, error or other irregularities, switch off the system and secure it against restarting. Make sure people cannot be shut in the system's danger zone.

5. Cleaning

Close all openings with appropriate protective devices so that no detergent can enter the system. Use no aggressive detergents. Do not use a high-pressure cleaner for the cleaning.

6. Putting into service and maintenance

Perform the required maintenance work in the time intervals described in the operating instructions. Make sure no connection line, connection or component is released until the system is under pressure and tension. Secure the system against restarting.

7. Disposal

Dispose of the product according to the national and international provisions of your country.

Correct use

The roller guide is a component that is suitable for building powered linear axes. 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. The internal rules and guidelines of the country of use must be respected. Unauthorised structural changes to the driven linear unit are not permitted. We accept no liability for any damage that may arise from them.

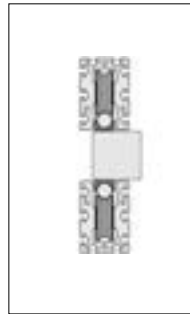
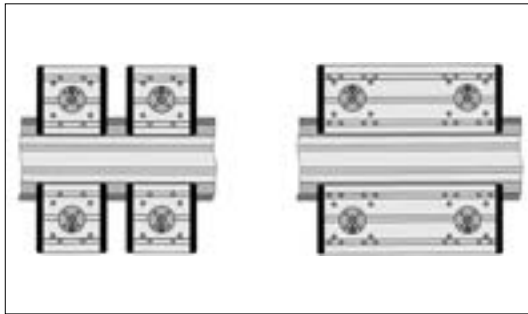
- You are authorised to assemble, operate and maintain the drive linear unit only if:
- The driven linear unit has been integrated to the complete machinery according to the intended applications and safety requirements.
- You have read the Notes on Use and Installation carefully and understood them.
- You are qualified.
- You have the authorisation of your company.
- You exclusively use the original accessories of the manufacturer.

In case of unsafe and inappropriate operation of the driven linear unit, there is a danger of serious injury from crush and shear points.

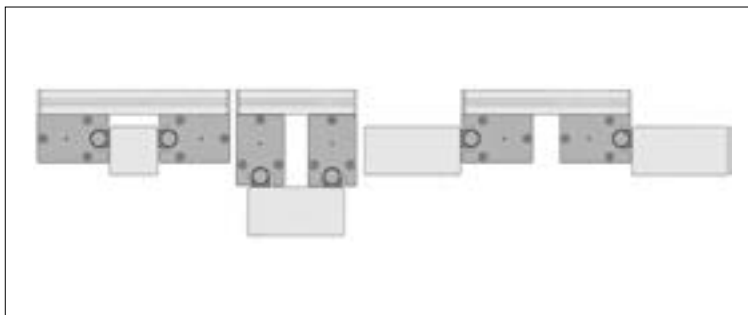
Inappropriate use

The inappropriate use refers to applications differing from the use authorised by the Notes on Use and Installation and the appropriate use. We accept no liability for any damage that may arise.

Application options



To construct a linear guide, two centric (fixed) and two eccentric (adjustable) bearing units are normally required. Each pair of single bearing units can be replaced by one double bearing unit. More bearing units can be used if required.



The roller profiles provide a variety of fastening options using the grooves of Line 8 Profiles, this greatly simplifying installation and alignment on profiles or carriage plates.

Assembly guides

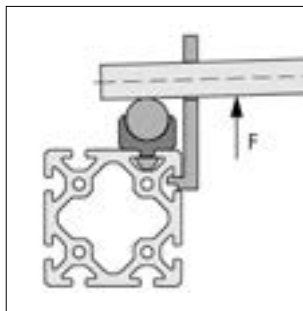
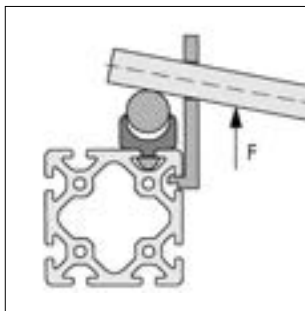
Shaft-Clamp Profile and Shaft:

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:

- Screw-attach the Shaft-Clamp Profile to the groove of the relevant support profile
- The Shaft is pressed in using a vice (use protective jaw)
- Second side in same sequence

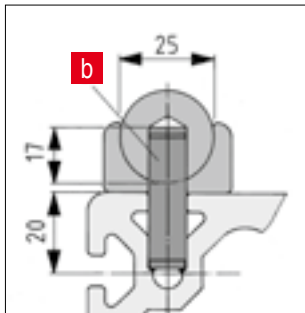
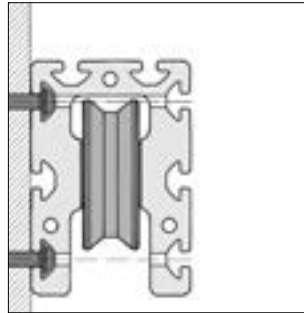
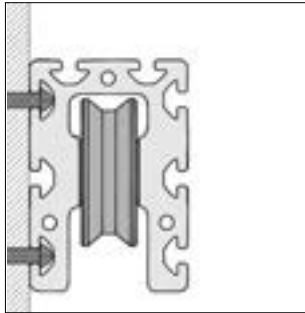


On longer stretches, when the support profiles have already been installed or are being held in a vice and the Shaft-Clamp Profile has been pressed into place, you can press the shaft into the Shaft-Clamp Profile section by section using the Mounting Aid (0.0.265.38) and a lever in the form of a suitable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

Guide carriage/bearing units:

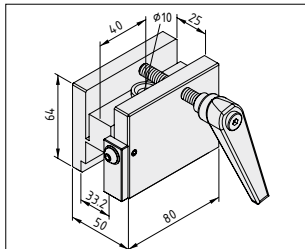
Bearing units can be fitted to all MB System profile elements as well as to all other elements. The standard grooves can be used to secure the bearing units using two different methods:

- The heads of the Button-Head Screws and washers are located within one of the bearing unit grooves. In order to access the screws, holes for the hexagon key are required at the relevant positions. Suitable holes are already provided in the bearing units for the most popular fastening position. In other fastening positions, holes will need to be drilled.
- The T-Slot Nuts are located within one of the bearing unit grooves and the fastening screws are inserted through the carriage plate.



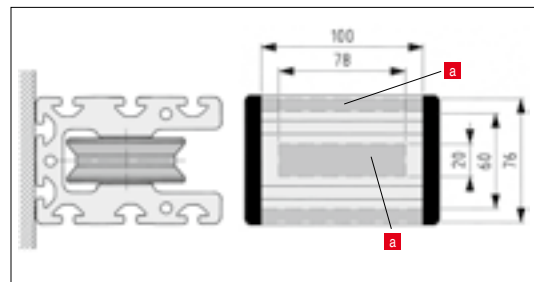
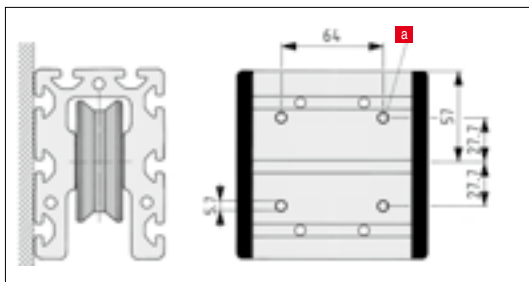
When higher loads are involved, it is advisable to secure the Shaft. Ideally, a Combination Drilling Jig **c** should be used to machine the Shaft, Shaft-Clamp Profile and Support Profile as detailed in the following steps:

- Using a carbide drill, $\varnothing 10$ recommended revolution speed 3000 min^{-1} , 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 a through hole $\varnothing 10\text{H7}$ 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



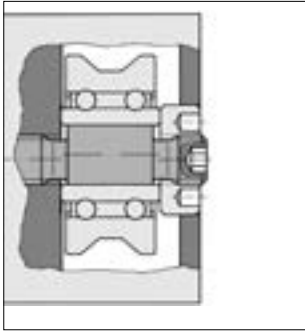
b DIN 6325-10x40 dowel pin

c Art. No. 0.0.373.15 for Shaft D25



a dowel DIN 7979-6x32

If there are undefined loads on the guide unit such as impact loads that could cause movement in the Bearing Units, the Bearing Units will need to be reinforced. You can do this by drilling and reaming on $\varnothing 10\text{H7}$ and pinning a the Units in the positions indicated or the areas shown in dark grey **a**.



You must prepare the eccentric orientation of the eccentric Bearing Units before using the guide carriage.

Use an Allen key to turn the eccentric bolt of the rollers:

- Drive the bolt as far as it will go
- Turn back ½ a turn
- Continue turning back until the rearmost eccentric position is reached

When Bearing Units have been prepared and installed in this way, the maximum play between the rollers and Shafts can be used to adjust preload. When adjusting the Bearing Units to eliminate play, ensure that no excess strain is generated!

After making this adjustment, fix the position of the eccentric bolt by securing the lock nut with a Pin Spanner (M). While doing so, use an Allen key to hold the bolt in its selected position.

M = 100 Nm

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 MoS2 or similar.

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

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.



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