item

Timing-Belt Reverse Unit 8 80 R25

Notes on Use and Installation

Content

item shall not be liable for damage caused by faulty instal-lation or improper maintenance or handling of the Timing-Belt Reverse Unit!

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 Useinclude 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 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

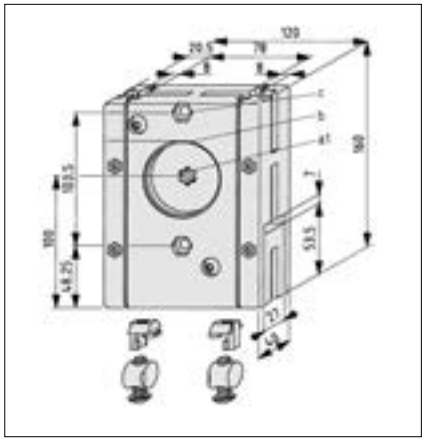
The inappropriate use refers to applications differing from the use authorised by the Notes on Use and Installation and the appropriate use. We accept no liability for any damage that may arise.

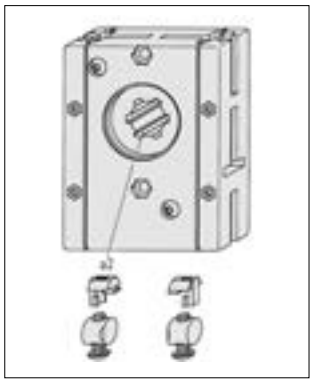
Application

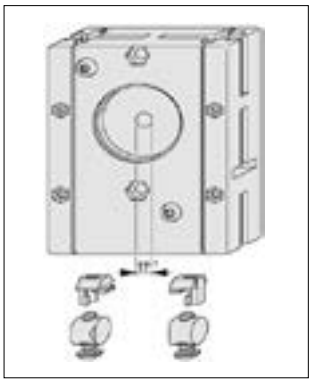
Timing-Belt Reverse Units 8 80 R25 with multi-spline or bore are used to drive or reverse timing belt R25 T10 for mounting linear units in conjunction with the guides, bevel gear boxes and drive units.
The timing pulley with multi-spline toothing has been pre-pared for mounting drive units or multi-spline shafts and adapter shafts with multi-spline toothing.

The timing pulley with bore ∅ 11^{H7} can be machined for other shaft/hub connections (reborable up to ∅ 50 mm).

Technical Data/Scope of Supply







Timing-Belt Reverse Unit 8 80 R25, GD-Zn, black,
Roller-bearing timing pulley
a1 = DIN ISO 14-6x11x14
a2 = DIN ISO 6x26x32
b = ∅ 60 mm-2 deep
c = 14A/F-4,3 deep / ∅ 8,1 mm
pitch p = 10 mm, number of teeth z = 28,
one revolution corresponds to 280 mm
suitable for Timing Belt width 25 mm
2 Universal Fasteners 8
2 Button-Head Screws ISO 7380-M8x30, St, galvanized
2 special T-slot nut GS M8
Friction moment with 1‰ pre-tensioning of the Timing Belt:
M_R = 1,05 Nm (Belt emergence 40)
M_R = 0,55 Nm (Belt emergence 80)
Max. load: M_D = 60 Nm
Weight: m = 3,3 kg

The timing-belt length in the Timing-Belt Reverse Unit depends on the application:
90° reversal= 190 mm (Fig. 3)
180° reversal (Belt emergence 40) = 360 mm (Fig. 1+2)
180° reversal (Belt emergence 80) = 340 mm (Fig. 4)
180° reversal (Belt emergence80) = 260 mm (Fig. 5)

Application Options

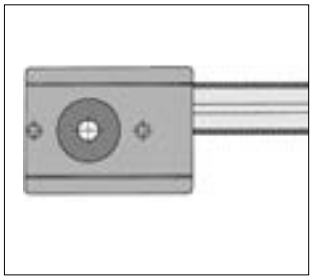


Fig. 1:
Timing belt turned around 180° on Line 8
profiles (height 40 mm): The timing belt is returned outside the profile.

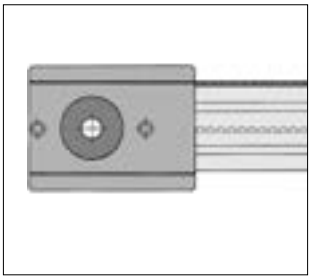


Fig. 2:
Timing belt turned through 180° on Line 8 profiles (height 80 mm and above): The timing belt is returned in the profile cavity.

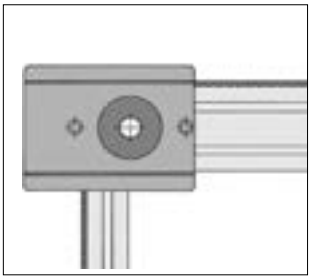


Fig. 3:
Timing belt turned through 90°.

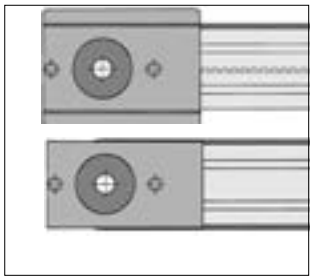


Fig. 4:
The upper and lower belt covers can be removed for applications with very limited space.

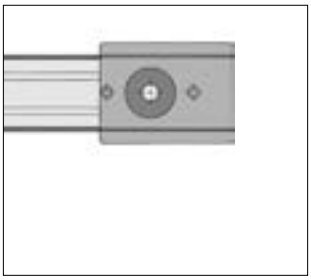
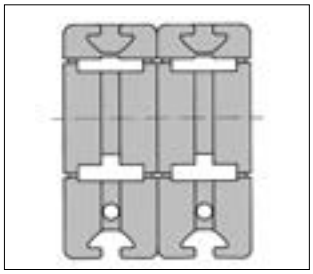
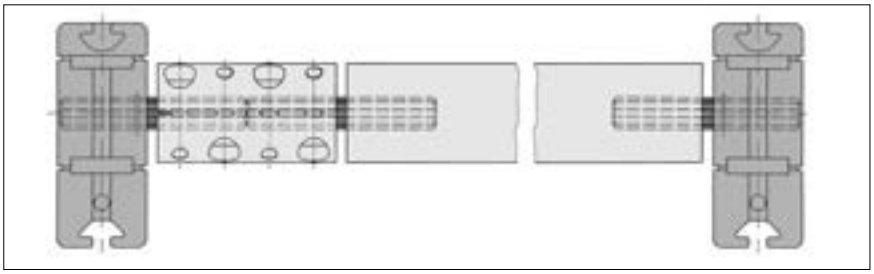


Fig. 5:
Timing belt turned through 180° on Line 8 profiles (height 80 mm and above.



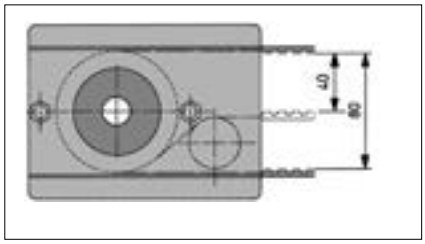
Possible arrangement of 2 parallel Timing-Belt Reverse Units 8 80 R25 for separate drives on one profile or for double belt drive with double loading capacity.

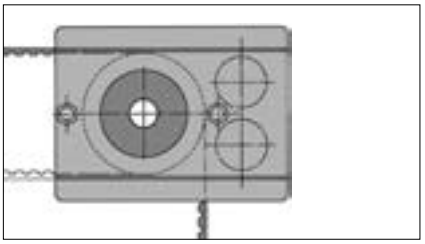


Connection of Timing-Belt Reverse Units for distances over 500 mm with Synchroniser Shaft.

Splines components inside the Reverse Unit must be lubricated prior to assembly to prevent fretting.
For Reverse Units with multi-spline hubs operated in parallel it will be necessary to adjust the position of the hub to the teeth of the pulley which might be different. This correction has to be carried out for best performance of the drive. The Synchroniser Shaft mounted between the two Reverse Units should be equipped with a Synchroniser Shaft Equalisier Coupling. These products are content of Section “Accessories for Mechanical Drive Elements” of the MB Building Kit.

Fitting the Timing Belt

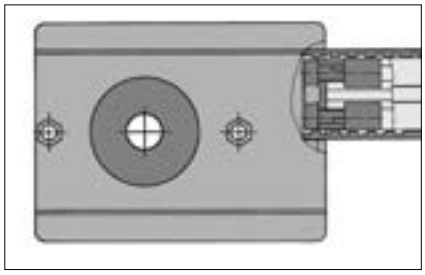




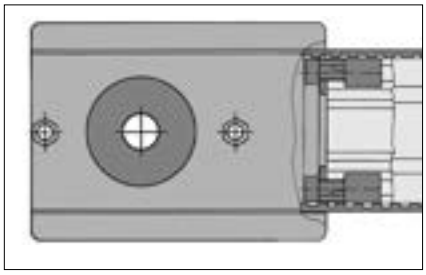
To fit the Timing Belt into the Reverse Unit 8 80 R25, the latter must be opened by removing all screws.
When opening the Reverse Unit 8 80 R25, screwdrivers or similar tools must under no circumstances be used to lever up the two halves of the housing at the joints, since this may inadvertently break off the belt covers.
The two halves of the housing can be separated by gently tapping the hub of the timing pulley (using plastic punch). The Timing Belt can now be threaded through in the required manner (turned through 90° or 180°; belt emergence 40 oder 80).

Note: If you intend to select the emergence 40 option for the Timing Belt as it leaves the Reverse Unit, insert the two ball-bearings in the two halves of the Reverse Unit housing in such a way that the reverse side of the Timing Belt is in contact with the outer races of the bearings.

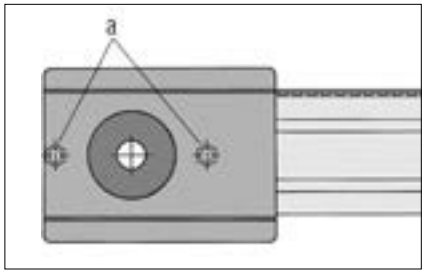
Fastening Options



Connection of Timing-Belt Reverse Unit 8 80 R25 to Line 8 Profiles (height 40 mm).



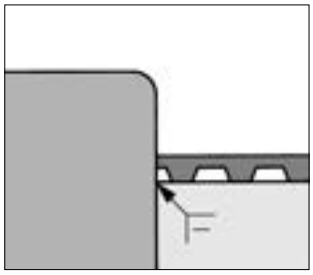
Connection of Timing-Belt Reverse Unit 8 80 R25 to Line 8 Profiles (height 80 mm and above).
Disconnection of the special T-slot nut at the specified break point.



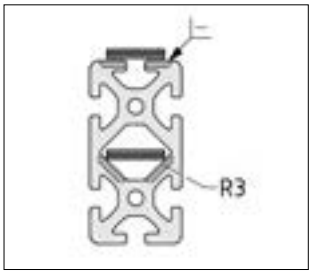
Function of bores:

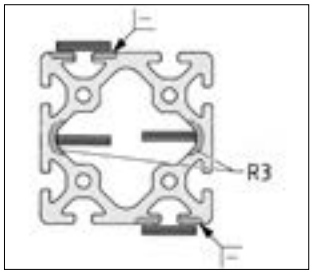
a) Housing bores for securing the drive units, adapter flange, bevel gear box and ball screw units and/or for interconnecting Timing-Belt Reverse Units.

Rounding the Profile Edges



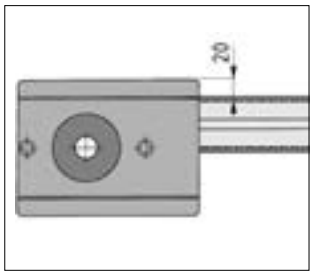
All cut profile edges facing the timing belt must be rounded or chamfered in order to prevent the belt from being damaged or sticking and running out of line.

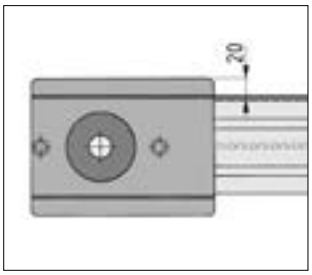




When running the belt back through the inside of profiles, the profile edge facing the back of the belt must also be rounded.

Alignment of Timing-Belt Reverse Unit to the Profile



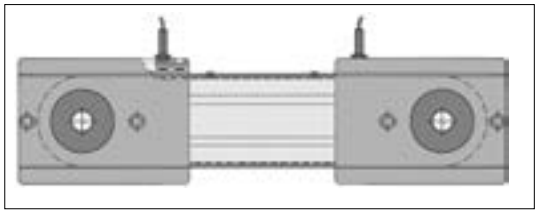


Fastening location of Timing-Belt Reverse Unit 8 80 R25 to different profiles, depending on the position of the return timing belt.

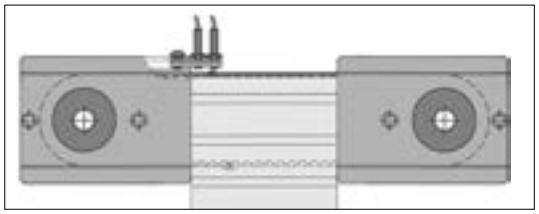
Positioning Proximity Switch

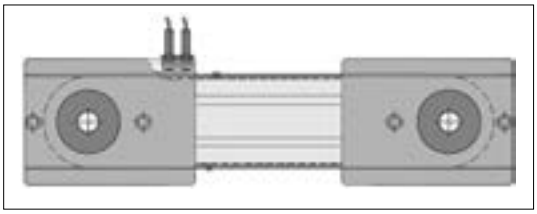
Inductive proximity switches to mark reference positions and electrical terminal position limits can be positioned and secured in the system groove of the Timing-Belt Reverse Unit 8 80 R25 using the proximity-switch fastening set.

Depending on the application, the Proximity-Switch Fastening Sets must be shortened accordingly.



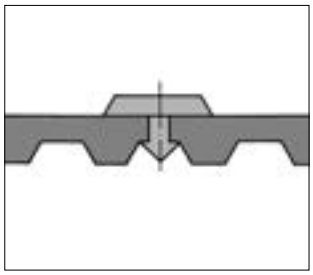
The Proximity-Switch Cams do not run through Timing-Belt Reverse Units 8 80 R25.





The Proximity-Switch Cams run through Timing-Belt Reverse Units 8 80 R25. When used on drive side Timing-Belt Reverse Unit 8 80 R25, they are particularly well-suited for simplified cable routing between drive unit, proximity switch and motor control unit.

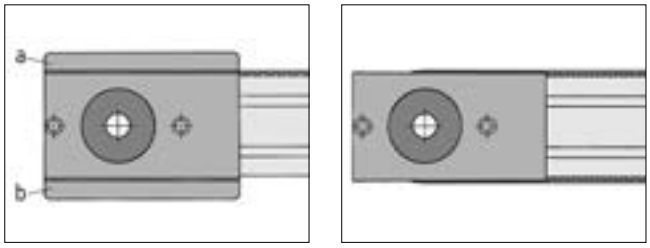
Positioning Proximity Switch Cams



The Proximity-Switch Cams are used for marking the electrical terminal position limit and the reference point of the moving unit and the Timing Belt.

They are pressed into the required positions in the middle of the timing belt width from the unprofiled side.

Removing the Belt Cover



Timing-Belt Reverse Unit 8 80 R25 must first be opened as described in section “Fitting the Timing Belt”. The belt covers (a and b) can then be broken off at the specified break points.

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.

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