item

Chain Reverse Unit 8 80 with Bore D15
Notes on Use and Installation

item

Contents

Symbols, safety

Meaning:
Important, safety information, recommendation

Maintenance

General safety information

The details and information in the installation guide are provided solely for the purposes of describing the product and the assembly and disassembly of variants of Linear Unit LRE 8 D14 80x40 KU 80. The text below usually refers to these as the Linear Unit or LRE. 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. 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, disassembling, operating and maintaining the 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 Linear Unit must be performed with “safety first” in mind.
- Always switch off the drive unit before you start working on the 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 Linear Unit’s moving parts when the unit is still switched on.
- Fit guards and covers to the moving parts of the Linear 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 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 or circumvent safety equipment, or render it ineffective.

The 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 commissioning
Allow the product to acclimatise for a few hours before starting to use it. 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 area of the system. This also applies when the system is not in operation. It must not be possible to actuate moving parts unintentionally. In the event of an emergency, malfunction or other irregularity, deactivate the system and ensure it cannot be switched back on. Prevent the possibility of persons becoming trapped in the system's accessible 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 Chain Reverse Unit 8 80 with Bore D15 is a mechanical component and by adding a drive system or a controling divice, the application becomes a partly completed machinery according to the machinery directive 2006/42/EC. It 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 aforementioned Linear Unit yourself. We will assume no liability for any resulting damage or injury. You may only install, operate and maintain the Linear Unit if:

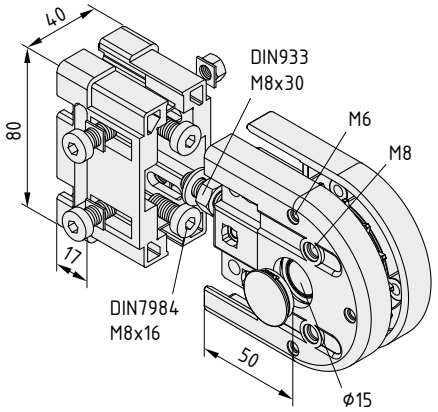
- The Linear Unit has been integrated properly and safely into the completed machine,
- You have carefully read and understood the installation guide,
- You are appropriately qualified,
- You are authorised to do so by your company,
- You are using only original equipment from the manufacturer.

Unsafe or inappropriate use of the 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 assembly guide and under the definition of correct use. We will assume no liability for any resulting damage or injury.

Operating parameters



Chain Reverse Unit 8 80 with Bore D15

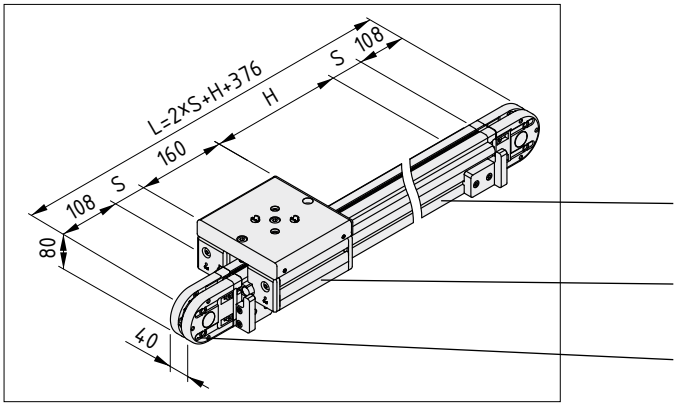
Chain Reverse Unit, die-cast zinc, black, preassembled
Ball-bearing sprocket wheel, n = 16; one revolution equivalent to 203.2 mm
Effective radius r_e = 32.3 mm
Hub with ∅ 15 H7 bore
Hub length 30 mm,
Max. load: T_D = 20 Nm
Tensioning Block, die-cast zinc, black, preassembled
Fastening screws, St, black
2 caps, PA, black
Chain length inside Reverse Unit: 236.3 mm
Notes on Use and Installation
m = 1.2 kg

1 set	0.0.664.53

Chain Reverse Unit 8 80 with Bore D15	0.0.664.53	
Drive Set 8 40 D40/D15 AP/WP 60	0.0.672.73	Plug-and-play drive set for size 60 Gearboxes
Drive Set 8 40 D40/D15	0.0.668.02	Universal drive set

The Chain Reverse Unit can be used with item Motors and Gearboxes as a plug-and-play solution via the Drive Set. No additional machining is required. Alternatively, the universal Drive Set cited can be used to connect drives from virtually any other manufacturer.

Preparation



Support profile,
e.g.: Profile 8 80x40

Guide,
e.g.: Roller guide D14

Drive,
e.g.: Chain ½" and Chain Reverse Unit 8 80

Fundamentally, a Linear Unit converts a rotary motion into a translational motion.

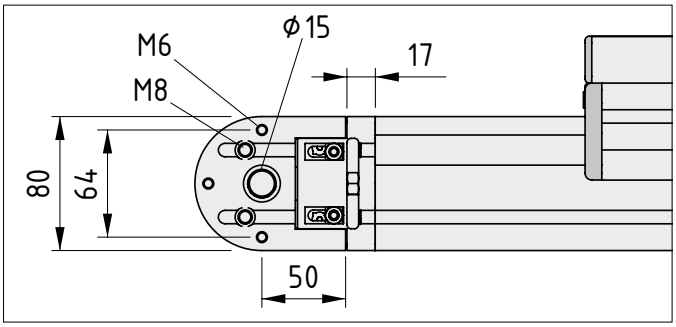
A Linear Unit is made up of:

- Guide
- Drive
- Support profile

These components are picked for assembly and assembled in part or in full, depending on customer wishes.

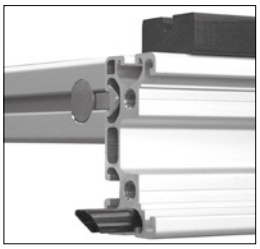
Application options

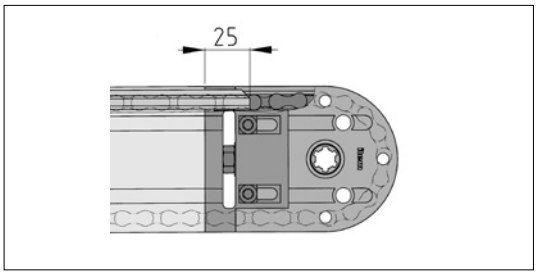
In combination with Profile 8 80x40 as a support profile:

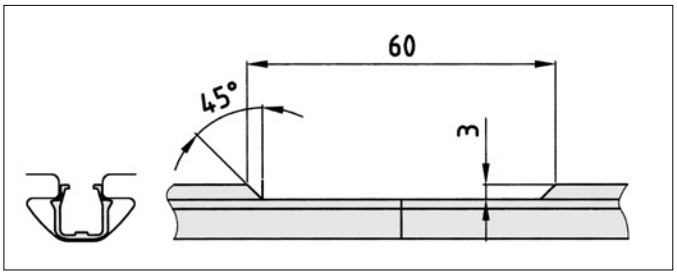


Basic construction of the Chain and Chain Reverse Unit

Chain Guide Profiles 8 must be pushed into the profile grooves before the Chain Reverse Units are fastened to the frame profile. Measure the length of Chain Guide Profiles 8 so they overhang each side of the frame profile by 25 mm. This overhang guides the Chain into the Chain Reverse Unit. Machine the Chain Guide Profile as shown in the figure below for a length of 60 mm. This is where the Chain will be inserted into the guide and sealed. It may be expedient to locate this partial opening on the top of the chain guide.





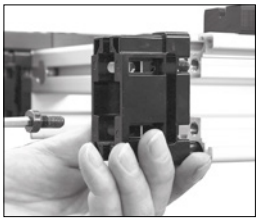


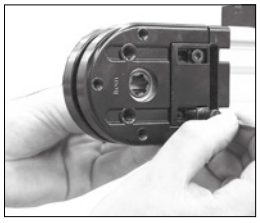
Screw the Chain Reverse Unit Tensioning Blocks to the end face of the frame profile. To do this, tap an M8x16 thread into the core bores of the profile. Push the Chain Reverse Unit fully onto the Tensioning Block and screw it loosely into place using M6x35 clamping screws.

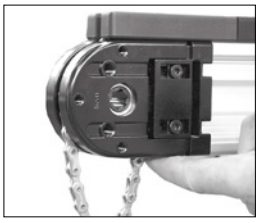
Introduce the Chain into the Chain Guide Profile at the point you machined earlier. A drift pin can be used to draw the first link in the Chain through the guide and into the Chain Reverse Units.

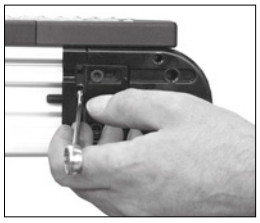
Pull the two end links of the Chain out of the chain guide at the prepared point and connect them with Chain Link ½″. It may be expedient to use needle-nosed pliers to bring the chain links together, as these can be inserted between the rollers of the end links. Now insert the two-part Chain Link ½″ into each end roller and connect the two.

Adjust the chain tension by tensioning the 13 A/F clamping nuts between the Tensioning Block and Chain Reverse Unit. Tighten the two M6 clamping screws (tightening torque T_T = 10 Nm) to fix the Chain Reverse Unit in this position.



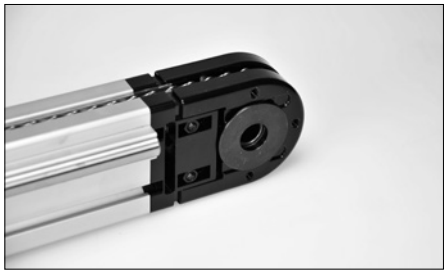
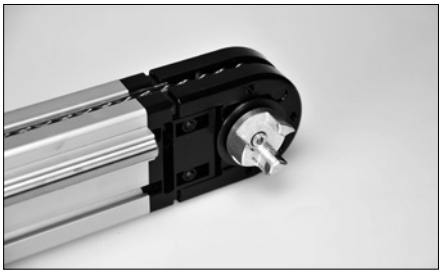


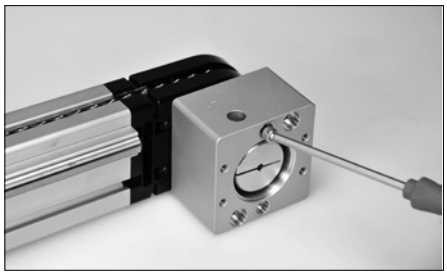
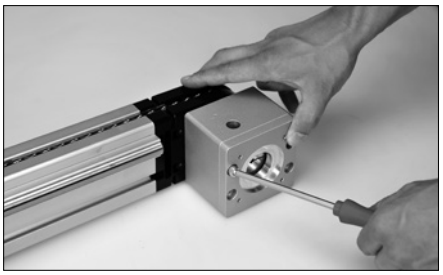


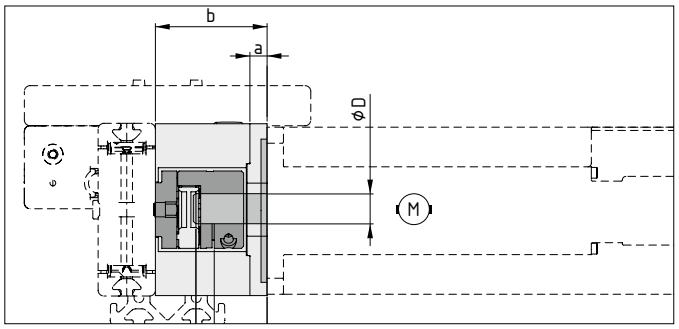


Connecting Drive Set 8 40 D40/D15 – 0.0.668.02

The Chain is driven at Chain Reverse Units 8 80. The housings of the Chain Reverse Units feature a thread for screw-attaching Drive Set 8 40 D40/D15.



[mm]	8 40 D40/D15
∅ D	6-24
a	10
b	64
k_{min}	31.7
k_{max}	40

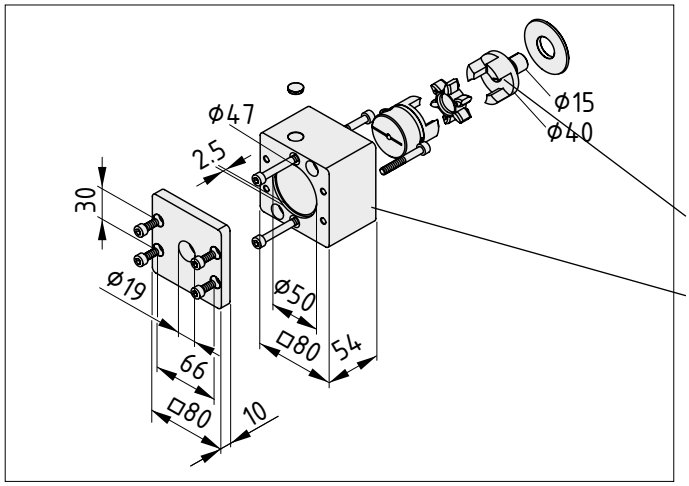
Two Hexagon Socket Head Cap Screws DIN 7984 M6x45 are supplied with the Drive Set for this purpose and are screwed through the Coupling Housing and into Chain Reverse Unit 8 80.

Tightening torque: T = 14 Nm

Machine the drive casing or Adapter Plate according to the requirements of the motor or gearbox you are using and then screw it to the motor or gearbox. Take the coupling half that is to be connected to the drive shaft and drill a hole in it to match the drive shaft then connect the coupling half and the shaft.

The torques transferred by the clamp connection factor in the maximum mating play for the shaft fits: Shaft k6 / hole H7.

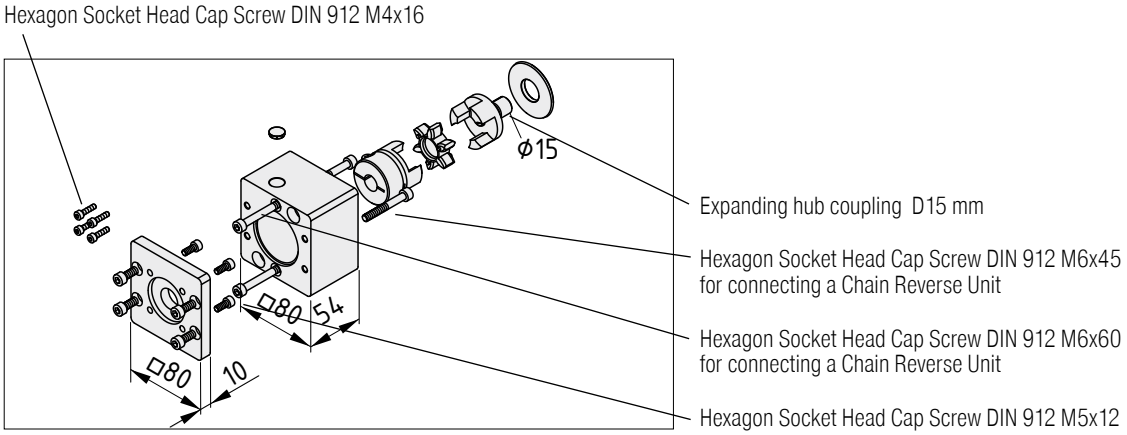
Force is transferred from the coupling to the drive shaft by means of frictional resistance. The Shaft and the hole in the coupling hub must be degreased and cleaned to ensure the frictional resistance is effective. Hexagon Socket Head Cap Screws must be secured against working loose.



Coupling half that accommodates the drive shaft

Coupling Housing with hole (that can be sealed) to allow an Allen key through to generate the necessary clamping force on the drive shaft.

Connecting Drive Set 8 D40/D15 AP/WP 60 – 0.0.672.73



Drive Set 8 D40/D15 AP/WP 60 (0.0.672.73) is used solely to connect item drives. The Drive Set is fully prepared for installation on the corresponding Linear Unit. The drive shaft transfers drive torque without backlash. Hexagon Socket Head Cap Screws DIN 912 M6x60 are supplied with the Drive Set for this purpose and are screwed through the Coupling Housing of the Drive Set and into the housing of the Chain Reverse Unit. Tightening torque: T = 13 Nm

The torques transferred by the clamp connection factor in the maximum mating play for the shaft fits: Shaft k6 / hole H7. Force is transferred from the coupling to the drive shaft by means of frictional resistance. The Shaft and the hole in the coupling hub must be degreased and cleaned to ensure the frictional resistance is effective. Hexagon Socket Head Cap Screws must be secured against working loose. Hexagon Socket Head Cap Screws M6x20, T = 13 Nm.

Next, use the prepared Centring Piece to fasten the Gearbox flush on the Adapter Plate of the Drive Set. Use Hexagon Socket Head Cap Screws DIN 912 M5x12 for this purpose (T = 10 Nm). Hexagon Socket Head Cap Screws DIN 912 M4x16 (T = 6 Nm) are included in the Drive Set for the purpose of fastening the Motor to the Gearbox.

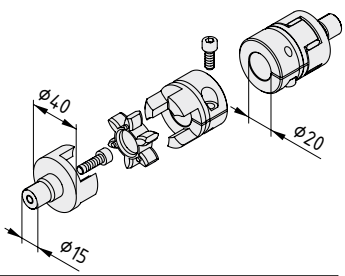
Working through the Coupling Housing, create a friction-based connection between the clamping hub screw (T = 9.6 Nm) of the clamp coupling half and the drive shaft.

Synchronising the iLMU

Synchronising Sets are used when two Linear Units are to be run in parallel. item Synchronising Sets comprise couplings that are fitted between two Linear Units and are connected by a Synchroniser Shaft that has been manufactured in the appropriate length. This ensures that the end result is a highly customised and flexible design.

Synchronising Sets from item can be used to operate two Linear Units in parallel with just one motor. They comprise shaft Couplings that are tailored to the relevant Linear Unit and designed to compensate for slight misalignments and withstand the stated torque over long-term use. The Couplings are pre-prepared to accommodate a Synchroniser Shaft. Besides featuring a compact design, expanding hub couplings are also easy to use. The friction-based connection is created by tightening the central screw with the specified tightening torque. An integrated pull-off thread makes them easy to dismantle. First, the central screw is removed, then a longer screw is driven into the same position to effortlessly relieve tension in the Coupling. How long a Synchroniser Shaft can be depends on its operating speed. To determine the maximum length for a given speed or the maximum speed for a given length, please consult the information contained in the diagrams.

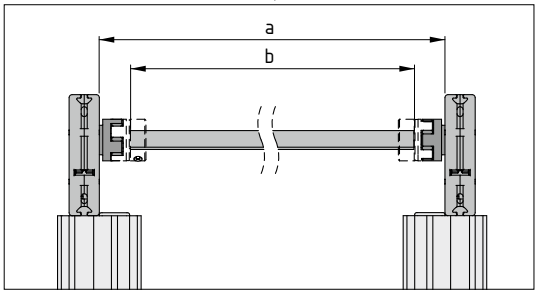
Linear Unit	Art. No.	Synchronising Set	Art. No.
Linear Unit LRE 8 D14 80x40 KU 80	0.0.664.54	Synchronising Set D40/D15	0.0.662.50



Synchronising Set D40/D15

2 Coupling Halves D40/D20, Al
2 expanding hub coupling halves D40/D15, St and Al
2 Coupling Inserts D40, PU, green
Tightening torque, expanding hub screw: 9.6 Nm
Tightening torque, clamping hub screw: 9.6 Nm
m = 198.0 g

1 set	0.0.662.50



A suitable Tube St (sawn to length) turns the Synchronising Set into a complete Synchroniser Shaft.

Tube D20x3 St		
Synchronising Set	b	a
D40/D15	a - 50 mm	Distance between Linear Units

item

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The latest version of these Notes on Use and Installation is available online, in the download section for this product.

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