

## **Installation and Operating Instructions**

### **Interroll Module Z conveyor**

**SH 1300**

**Rated width 405 mm (S), 710 mm (M), 862 mm (L)**

**Manufacturer's address**

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**Contents**

We strive for the information presented to be correct, up to date and complete. We have carefully developed the contents of this document. Nevertheless, errors and changes are expressly subject to change.

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### Introduction

#### Notes about working with the installation and operating instructions

The Interroll Modulband-Z-Förderer product is generally referred to as "module" in this document.

#### Contents of these installation and operating instructions

These installation and operating instructions contain important notes and information about the various operating phases of the module:

- Transport, assembly and startup
- Safe operation, required maintenance tasks, removal of any faults
- Spare parts, supplementary accessories

#### Integrated part of the product

The installation and operating instructions describe the module at the time of its initial delivery after manufacturing.

In addition to these installation and operating instructions, special contractual agreements and technical documents apply to special versions of the module and its additional equipment.

#### Installation and operating instructions are part of the module

- ▶ To ensure trouble-free and safe operation, as well as the settlement of possible warranty claims, always read these installation and operating instructions first and observe all information contained herein.
- ▶ Keep the installation and operating instructions close to the module.
- ▶ Pass the installation and operating instructions on to any subsequent operator or occupant. Interroll does not accept any liability for faults or defects due to non-observance of these installation and operating instructions.
- ▶ If you have any questions after reading the installation and operating instructions, please contact Interroll customer service. Contact persons near you can be found on the Internet under: [www.interroll.com/contact](http://www.interroll.com/contact).

## Interroll Module Z conveyor SH 1300

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### Introduction

### Warning notices in this document

The warning notices refer to risks which may arise while using the module. They are available in four danger levels identified by the signal word:

| Signal word | Meaning   |
|-------------|---|
| DANGER      | Identifies a danger with high risk that will result in death or serious injury if it is not avoided.    |
| WARNING     | Identifies a danger with medium risk that could result in death or serious injury if it is not avoided. |
| CAUTION     | Identifies a danger with low risk that may result in minor or medium injury if it is not avoided.       |
| NOTICE      | Identifies a danger that results in property damages.   |

### Symbols



This symbol marks useful and important information.

Requirement:

- This symbol represents a prerequisite to be met prior to installation and maintenance work.
- ▶ This symbol marks the steps to be carried out.

### Safety

#### State of the art

The module has been built to comply with the state of the art. Nevertheless, users may encounter hazards during its use.



Disregarding the notices in these installation and operating instructions may lead to life-threatening injuries!

- ▶ Carefully read the installation and operating instructions and follow their content.
- ▶ Observe local accident prevention regulations and general safety regulations that apply in the area of use.

#### Intended use

The module may only be used for industrial applications and in an industrial environment to convey belt conveyor-ready goods, such as all types of boxes, packaged food or beverage units.

The module is an incomplete machine and must be integrated into a complete system prior to operation.

#### Field of use

The module is dimensioned only for a certain field of use and may not be operated outside of these specific limits. For additional information, see the chapter "Technical Data".

Any other use is considered inappropriate. Deviating operating conditions require additional clarifications, a special release of the module and new contractual agreements.

#### Changes to the module

Any modifications that affect the safety are not permitted.



## Interroll Module Z conveyor SH 1300

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### Safety

#### Unintended use

Any use beyond the intended use is considered inappropriate or, if required, must be authorized by Interroll Trommelmotoren GmbH. Setup and operation in explosive atmospheres is prohibited. The use in a medical-pharmaceutical area requires the approval from Interroll.

The transport of persons is prohibited.

The transport of hazardous or damaging goods is prohibited.

The transport of hot or hygroscopic goods is prohibited.

Installation in unprotected rooms exposed to the weather or in areas where the technology deteriorates and can fail due to the prevailing climatic conditions is considered inappropriate use.

Use of the module is not intended for private end customers! Use in a residential area is prohibited without additional assessment and without the use of EMC protective measures that have been adapted accordingly!

#### Personnel qualification

Unqualified personnel cannot recognize risks and, as a result, is subject to greater dangers.

- ▶ Authorize only qualified personnel to perform the activities described in these instructions.
- ▶ The operating company must ensure that personnel follow locally applicable regulations and rules about safety and hazards while working.

The following target groups are addressed in these instructions:

|                          |  |
|--------------------------|--|
| <b>Operators</b>         | Operators have been instructed in the operation and cleaning of the module and follow the safety guidelines. |
| <b>Service personnel</b> | The service personnel features a technical training and performs the maintenance and repair tasks.           |
| <b>Electricians</b>      | Persons working on electrical installations must have pertinent technical training.                          |

## Interroll Module Z conveyor SH 1300

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### Safety

#### Personal protective equipment



- ▶ For all work, such as assembly, maintenance and cleaning tasks, wear personal protective equipment that is suitable and appropriate for the hazard situation.



Close-fitting work clothing



Protective gloves



Safety shoes



Hard hat



Hearing protection

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## Interroll Module Z conveyor SH 1300

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### Safety

#### Dangers



The following list informs you about the various types of danger or damage that may occur while working with the module.

#### Safety devices

- ▶ Perform any maintenance and repair work on the module only when it is powered down and ensure that it cannot be started accidentally.
- ▶ In an area frequented by people or if people can reach between conveying goods, take additional protective measures.
- ▶ Do not remove protective covers or housing.
- ▶ Regularly check the safety devices.

#### Heat

- ▶ Do not touch the drum motor during operation. Risk of burns.

#### Electricity

- ▶ Reach into the module only if the module is de-energized.

#### Rotating parts

- ▶ Never wear loose clothing.
- ▶ Never wear jewelery, such as necklaces or bracelets.
- ▶ If you have long hair, always wear a hair net.

#### Parts lying around or falling off

- ▶ Remove equipment or material which is not required from the workspace.
- ▶ Wear safety shoes.
- ▶ Specify and monitor careful placement of the goods on the conveyor.

#### Risk of injury due to faults during operation

- ▶ Regularly check the module for visible damage.
- ▶ Stop the module at once and ensure that it cannot be started accidentally in case of: Smoke from a fire, unusual noise, blocked or defective conveying good, defective supports, side guides or accessory devices, unauthorized removal of safety covers.
- ▶ Promptly have qualified personnel determine the cause of the fault.
- ▶ Immediately remove any escaping gear oil.
- ▶ Do not step onto the module during operation.

#### Insufficient hygiene

- ▶ Clean the module regularly.
- ▶ Follow all notices relevant to hygiene in these instructions.

#### Maintenance intervals

- ▶ Regularly perform maintenance and inspection work.
- ▶ Use only OEM spare parts.

#### Interfaces to other devices

Hazard locations may occur while integrating the module into a complete system. These are not part of this manual and have to be analyzed during the installation and startup of the complete system.

- ▶ When combining the module with other modules or machinery, check for new hazard locations before startup.
- ▶ If necessary, take further construction measures.



## Interroll Module Z conveyor SH 1300

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### Safety

### Operating modes

**Normal mode** The module is installed at the customer in a complete system and operated as part of the system.

**Special mode** Special operation refers to all operating modes that are required to guarantee and maintain regular operation.

| <b>Special operating mode</b> | <b>Explanation</b>   | <b>Comment</b>    |
|-------------------------------|--|-------------------|
| Transport/storage             | Loading and unloading, transport and storage                 | -                 |
| Assembly/initial startup      | Installation at the end customer and performing the test run | -                 |
| Cleaning                      | External cleaning without removing protective devices        | When powered down |
| Maintenance/repairs           | Maintenance and inspection tasks                             | When powered down |
| Troubleshooting               | Troubleshooting in the event of a fault                      | -                 |
| Fault elimination             | Eliminating the fault  | When powered down |
| Decommissioning               | Removal from the complete system                             | When powered down |
| Disposal                      | Removal from the complete system and disassembly             | When powered down |

## Interroll Module Z conveyor SH 1300

### Product identification

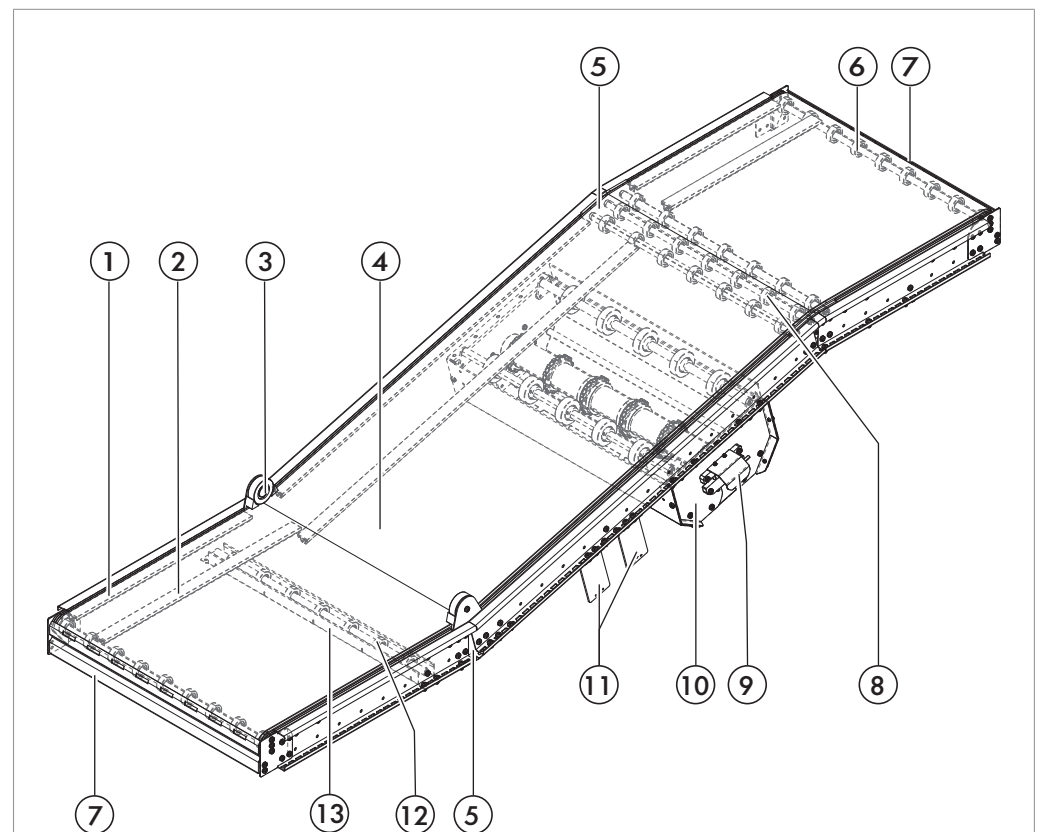
#### Module Z conveyor (SH 1300)

The Interroll straight module Z conveyor is available in the following rated widths (BF):

- S: 405 mm
- M: 710 mm
- L: 862 mm

#### Components

The module Z conveyor SH 1300 with center drive consists of an incline with feed and upper arch.

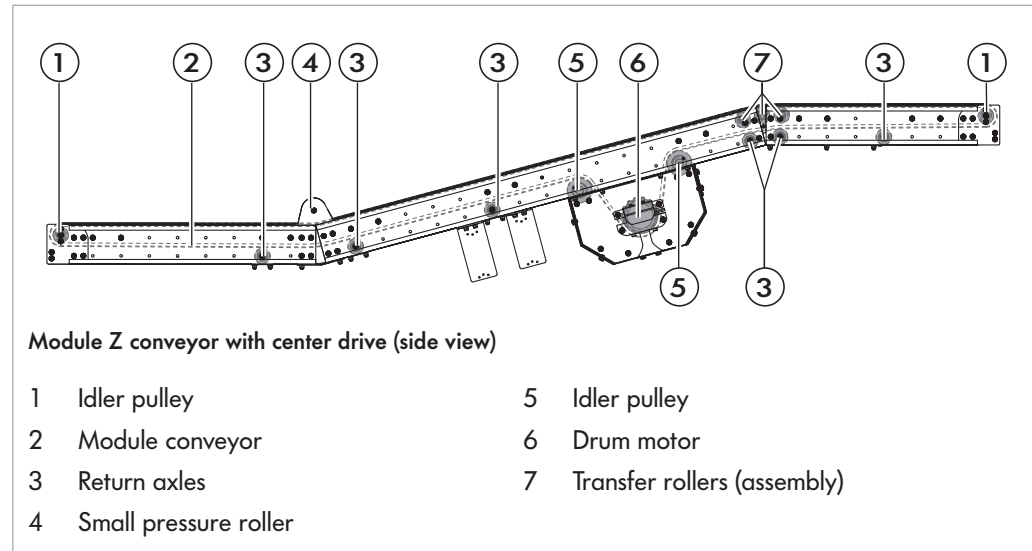


Module Z conveyor with center drive (top view). Continued on next page

- |   |                       |    |                             |
|---|-----------------------|----|-----------------------------|
| 1 | Outside sliding guide | 8  | Transfer rollers (assembly) |
| 2 | Inside sliding guide  | 9  | Drum motor                  |
| 3 | Small pressure roller | 10 | Center drive station        |
| 4 | Module conveyor       | 11 | Frequency inverter consoles |
| 5 | Angle bracket         | 12 | Return axle                 |
| 6 | Front idler axle      | 13 | Cover of return axle        |
| 7 | End plate             |    |                             |

## Interroll Module Z conveyor SH 1300

### Product identification



#### Property

The Z conveyor is used to transport all types of goods on inclines and declines. Arch and feed allow a smooth and more quiet transition at the upper and lower kink.

The Z conveyor is available with drum motor as center drive (CD).



The incline is possible at different angles. Starting at an angle of 9°, a special module conveyor chain is required.

#### Technical data

|                              | <b>SH 1300</b>   |
|------------------------------|--|
| Rated width (BF)             | 405 mm (S)   |
|                              | 710 mm (M)   |
|                              | 862 mm (L)   |
| Conveying width (CW)         | 335 mm (S)   |
|                              | 640 mm (M)   |
|                              | 792 mm (L)   |
| Dimensions of conveying good | Min.: 100 x 100 mm   |
|                              | Max.: 700 x 800 mm   |
| Max. load capacity           | 35 kg/m  |
| Conveyor speed               | 0.1 to 0.8 m/s   |
| Ambient temperature          | -5 to +40 °C   |
| Incline/decline              | -6 to -18°; +6 to +18°   |
| Angle adjustability          | In increments of 3°  |
| Max. module length           | Preselected in the layouter  |
| Conveying height (TOB)       | Preselected in the layouter  |
| Number of zones (N)          | 1  |
| Motor type                   | Synchronous/asynchronous drum motor DM 0080, DM 0113, DM 0138, DM 0165 |

## Interroll Module Z conveyor SH 1300

### Product identification

|                         | <b>SH 1300</b>  |
|-------------------------|---|
| Rated voltage           | 230/400 V 50 Hz<br>230/460 V 60 Hz                        |
| Electrical power        | 550 to 1818 W   |
| Drive system            | Center drive  |
| Transmission of force   | Sprockets   |
| Frequency inverter      | Standard: Getriebebau Nord                                |
| Module conveyor         | Ammeraal M-QNB-C  |
| Side frame hole spacing | 90 mm   |
| Protection rating       | Drum motor: IP 69 K<br>Frequency inverter: IP 20 or IP 66 |

### Scope of supply

The module is delivered completely assembled.

The scope of delivery includes:

- Rack, including side frames, sliding guides and guide rails
- Drive (drum motor as center drive)
- Rollers/axles (return axles, idler pulley, transfer rollers)
- Module conveyor
- Covers and end plates

Optional:

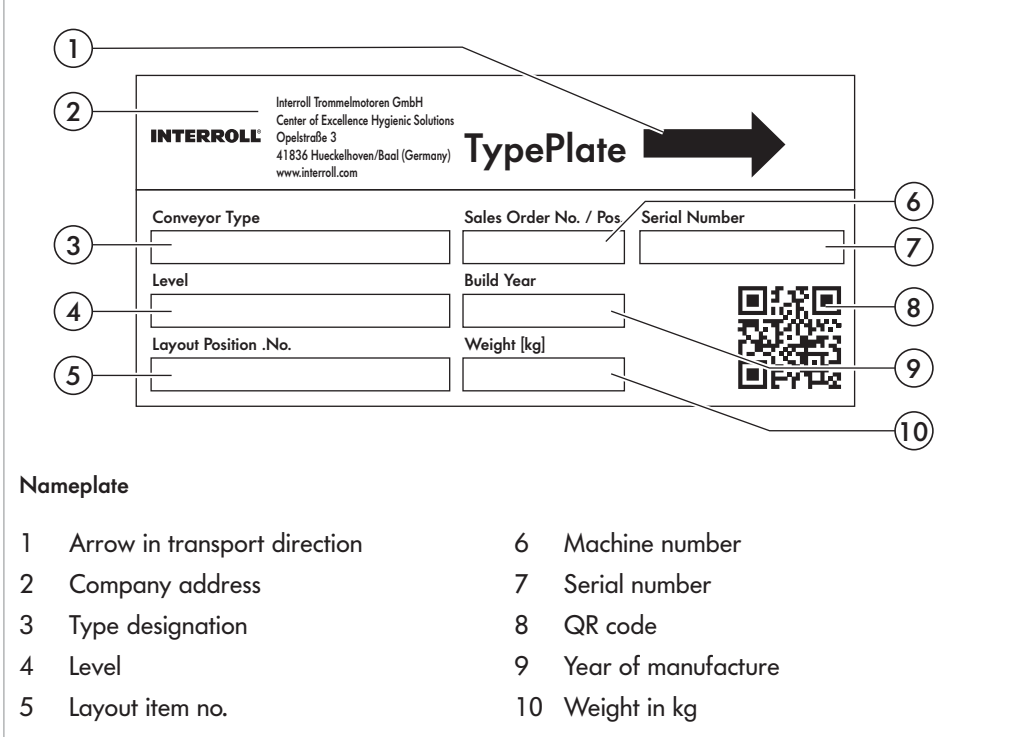
- Photo cell and reflector, sensor holder and universal support
- Side guides, side guide brackets and universal support
- Connector sets incl. module connectors and contact guards
- Frequency inverter (e.g. from Getriebebau Nord)
- Electronics
- Supports

The side guide profiles and sensors are delivered installed (if ordered).

## Interroll Module Z conveyor SH 1300

### Product identification

### Nameplate



The diagram shows a nameplate with the following fields and features:

- 1: Arrow in transport direction
- 2: Company address (Interroll Trommelmotoren GmbH, Center of Excellence Hygienic Solutions, Opelstraße 3, 41836 Hueckelhoven/Baal (Germany), www.interroll.com)
- 3: Conveyor Type
- 4: Level
- 5: Layout Position .No.
- 6: Machine number
- 7: Serial Number
- 8: QR code
- 9: Year of manufacture (Build Year)
- 10: Weight in kg

**Nameplate**

|   |                              |    |                     |
|---|------------------------------|----|---------------------|
| 1 | Arrow in transport direction | 6  | Machine number      |
| 2 | Company address              | 7  | Serial number       |
| 3 | Type designation             | 8  | QR code             |
| 4 | Level                        | 9  | Year of manufacture |
| 5 | Layout item no.              | 10 | Weight in kg        |

The information on the nameplate is used to identify the conveyor. The type designation is required to use the conveyor according to its intended use.



The nameplate is located on the right side frame.



## Transport and storage

### Transport

---

#### **WARNING**

##### **Risk of injury during transport**

- ▶ Fasten the module securely and slip-proof for transport.
  - ▶ Ensure that the lifting device (e.g. fork lift) is rated for the weight of the module.
  - ▶ Ensure that there are no persons under the suspended load while lifting and moving the module.
- 

- ▶ Have any persons leave the danger zone.
- ▶ Wear safety shoes.
- ▶ Check correct fastening for transport.
- ▶ Avoid strong impacts during transport.
- ▶ Do not expose the module to strong temperature fluctuations since these could damage the electrical components.

Loosen the transport locks around the package. The crossbeams above the top module can then be removed, thereby exposing the module. The individual module is lifted out of the package using a suitable lifting device.

#### **After the delivery**

- ▶ Inspect module for transport damages.
- ▶ Immediately notify the carrier and manufacturer in case of damages to avoid losing any claims for compensation.

### Storage

---

#### **WARNING**

##### **Risk of injury due to improper storage**

- ▶ Do not stack modules. Do not place any other objects on the module.
  - ▶ Check module for stability.
- 
- ▶ If the module is not immediately placed in operation, store it at a location protected against humidity and dust.

### Installation

---

#### **WARNING**

##### **Risk of injury due to improper assembly**

- ▶ Mechanical assembly tasks should be performed only by service personnel. Observe the safety information.
  - ▶ Electrical assembly tasks should be performed only by authorized electricians. Observe the safety information.
  - ▶ Carefully install all terminals and connections, such as cables, hoses and pipework, and check for correct fit.
- 

The module is delivered to the installation site as a pre-assembled unit and must be set up, connected and integrated into a system on site.

If available, photo cell and reflector are already pre-assembled and connected. The side guides (universal support, side guide brackets and side guides) are also delivered assembled.

The installation tasks are divided into two sections:

- Setting up the module
- Integrating the module into a complete system

#### **To be observed during installation**

---

##### Electrical installation



#### **DANGER**

##### **Danger - energized cable ends!**

- ▶ Electrical installation should only be performed by qualified electricians.
  - ▶ Ensure that the device is powered down.
  - ▶ Minimum bending radii of cables, hoses and lines must be maintained.
- 



#### **DANGER**

##### **Danger to life from electrocution and crushing**

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.
- 

The module is provided with voltage either via CEE plug or direct installation in the control cabinet.

- ▶ Check cables and components for damage before installation.
- ▶ The connection values of the module are listed on the motor nameplate.

## Interroll Module Z conveyor SH 1300

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### Installation



Static electricity

Take proper measures for grounding and potential equalization.



Use only original fuses with specified amperage.

#### Torque

When tightening screws and nuts, always observe the standard tightening torque, unless specifically indicated otherwise. Standard screw lockers should be replaced as needed.

#### Grounding

During installation of the module, its grounding must be ensured. A grounding connection, which is fastened at the supports, is intended for this purpose. It is recommended to connect a grounding connection with grounding cable every 20 m.

#### Orientation

- ▶ Align the module using the height-adjustable feet of the support. The roller top edge (for roller conveyors) or the module conveyor top edge (for module belt conveyors) is the relevant height for aligning the modules. Use suitable tools for the alignment (spirit level or rotation laser).
- ▶ Secure the adjusted height.
- ▶ During alignment of the module, ensure that no moving parts are touching.

#### Connection

- ▶ Connect the individual modules with each other using the profile connector.
- ▶ During the setup of the module, check the passageways for the personnel. Install transitions as necessary.

#### Anchoring

- ▶ Anchor or fasten the module torsion-free, e.g. to the floor or to adjacent components.

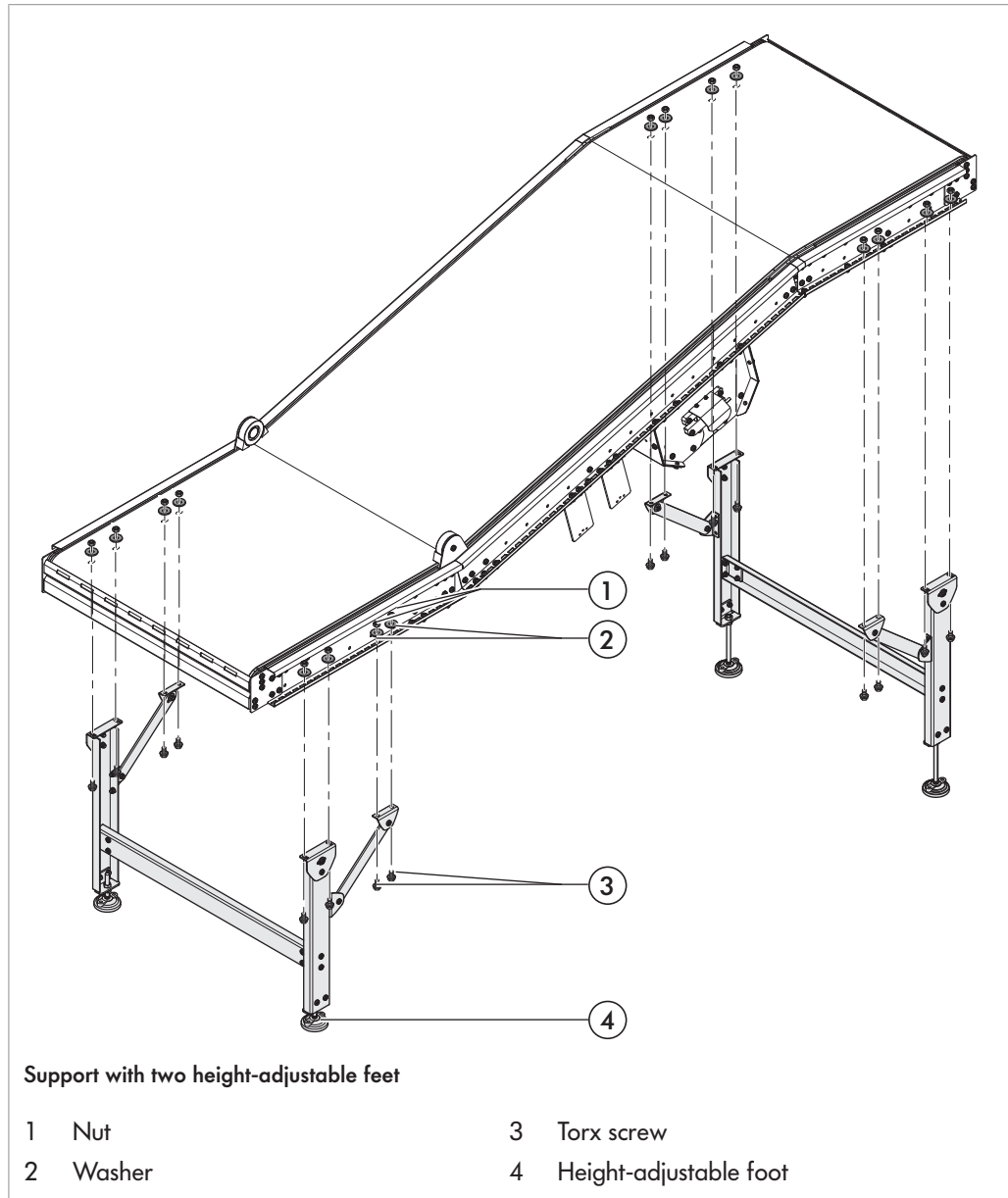
#### Integration into complete system

- ▶ When integrating the module into the complete system, consider possible danger spots, particularly infeed locations and interfaces.

## Interroll Module Z conveyor SH 1300

### Installation

#### Installing supports



### CAUTION

#### Risk of injury when lifting heavy loads

- ▶ During the installation and replacement of conveyor modules or heavy spare parts, always work in pairs or use suitable lifting devices.



Fasten screws with a tightening torque of 19 Nm.

## Interroll Module Z conveyor SH 1300

---

### Installation

The module sits on at least one support. Each support has two height-adjustable feet (4).

- ▶ Place the module on the supports.
- ▶ Position the supports underneath the module.
- ▶ Fasten the rack with screws (3), washers (2) and nuts (1) inside in the side profile.

### Integrating the module in a complete system

---

#### CAUTION

##### **Risk of crushing and injuries from cuts**

- ▶ When integrating the module into a complete system, consider possible danger spots, particularly infeed locations and interfaces.
- 

The module is delivered pre-assembled, but integration into a complete system may still require individual installation tasks:

- Install the universal support, see "*Installing the universal support*", page 22.
- Fasten the side guide, see "*Installing the side guide*", page 23.
- Install photo cell and reflector, see "*Installing the photo cell and reflector*", page 24.
- Attach the module connectors and contact guards, see "*Connecting the modules*", page 27.

Integrating the module in a complete system may require installing other components. The corresponding instructions are available in the chapter "Maintenance and Repair".

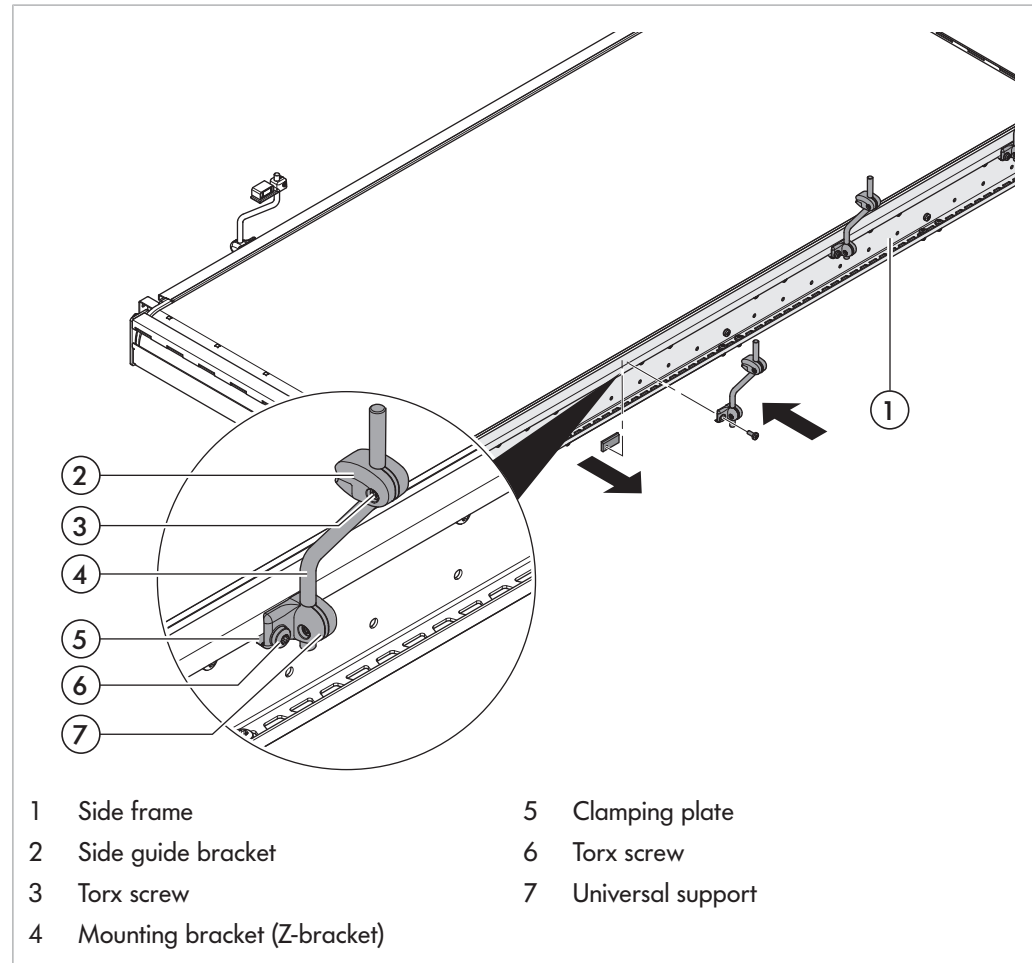
## Interroll Module Z conveyor SH 1300

### Installation

#### Installing the universal support



The universal supports are delivered pre-assembled, with Z or U mounting brackets depending on the selection. The universal supports are turned towards the conveyor center for transport and still must be positioned before startup depending on their use (for the installation of adjustable side guide, photo cell or reflector).



### DANGER

#### Danger to life from electrocution and crushing

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



Fasten screws with a tightening torque of 19 Nm.

## Interroll Module Z conveyor SH 1300

### Installation

The universal support (7) is installed at the top on the profile of the side frame.

Requirement:

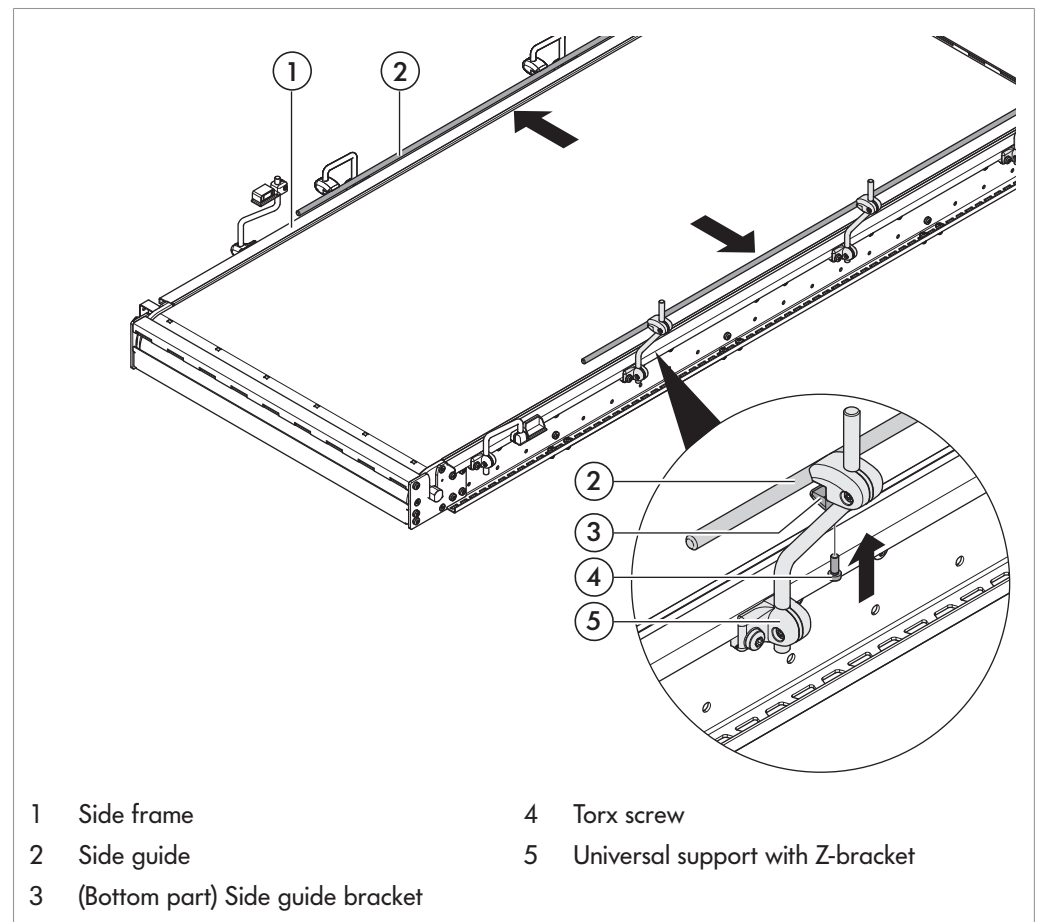
- The module is shut down.
- ▶ Loosen screw (6) in the universal support, but do not remove it.
- ▶ Bring clamping plate (5) with universal support (7) from below into position at the profile of the side frame.
  - The profile of the side frame is located between clamping plate and universal support.
- ▶ Tighten the screw (6) at the desired location.
- ▶ Push side guide bracket (2) onto the mounting bracket (4) of the universal support (7).



Fasten screws with a tightening torque of 6 Nm.

- ▶ Position side guide bracket and firmly tighten screw (3) in the side guide bracket.

### Installing the side guide



## Interroll Module Z conveyor SH 1300

---

### Installation

---



#### **DANGER**

##### **Danger to life from electrocution and crushing**

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.
- 



Fasten screws with a tightening torque of 6 Nm.

Requirement:

- The module is shut down.
    - ▶ Install the universal support, see "*Installing the universal support*", page 22.
    - ▶ Loosen screw (4) slightly.  
The bottom part of side guide bracket (3) loosens.
    - ▶ Place side guide (2) in the opening created and position it.
    - ▶ Tighten the screws (4).
- ⇒ Screw is secured. The side guide bracket sits firmly on the universal support.

### **Installing the photo cell and reflector**

The photo cell and reflector are each delivered as a complete unit:

- The photo cell is in the photo cell housing.
- The reflective tape is affixed to the reflector.



Photo cell and reflector can be installed along the C-profile of the side frame. The flexible universal support enables adjusting the sensors with respect to height and distance and correctly align them to each other.

---

#### **DANGER**



##### **Danger to life from electrocution and crushing**

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.
- 



Fasten screws with a tightening torque of 19 Nm.

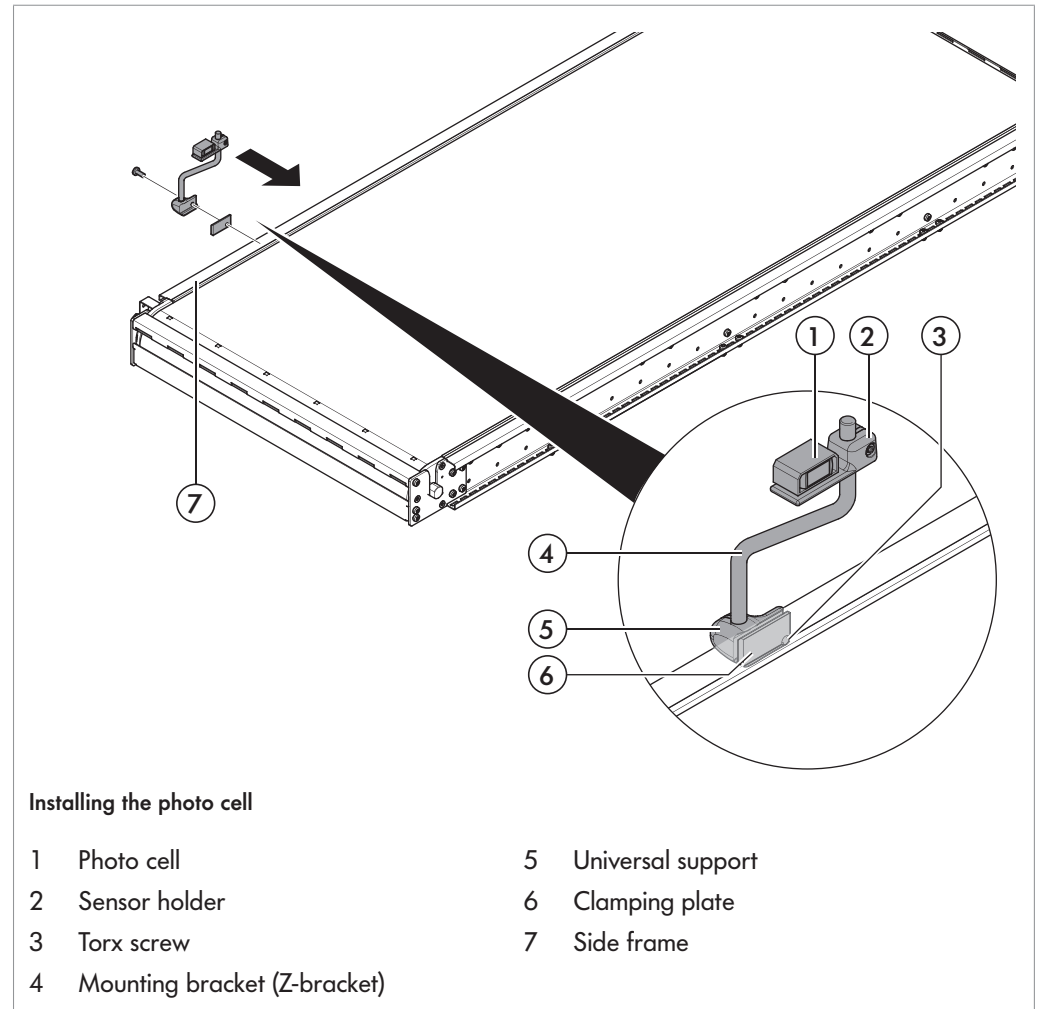
Photo cell and reflector must be installed exactly facing each other:



## Interroll Module Z conveyor SH 1300

### Installation

#### Installing the photo cell



#### Requirement:

- ☑ The module is shut down.
  - ▶ Loosen screw (3) in the universal support (5), but do not remove it.
  - ▶ Bring clamping plate (6) with universal support (5) from below into position at the profile of the side frame (7).  
The profile of the side frame is located between clamping plate and universal support.
  - ▶ Tighten the screw (3) at the desired location.



The fine adjustment of the photo cell is done with the vertical adjustment of the sensor holder on the mounting bracket until it "sees" the reflector.

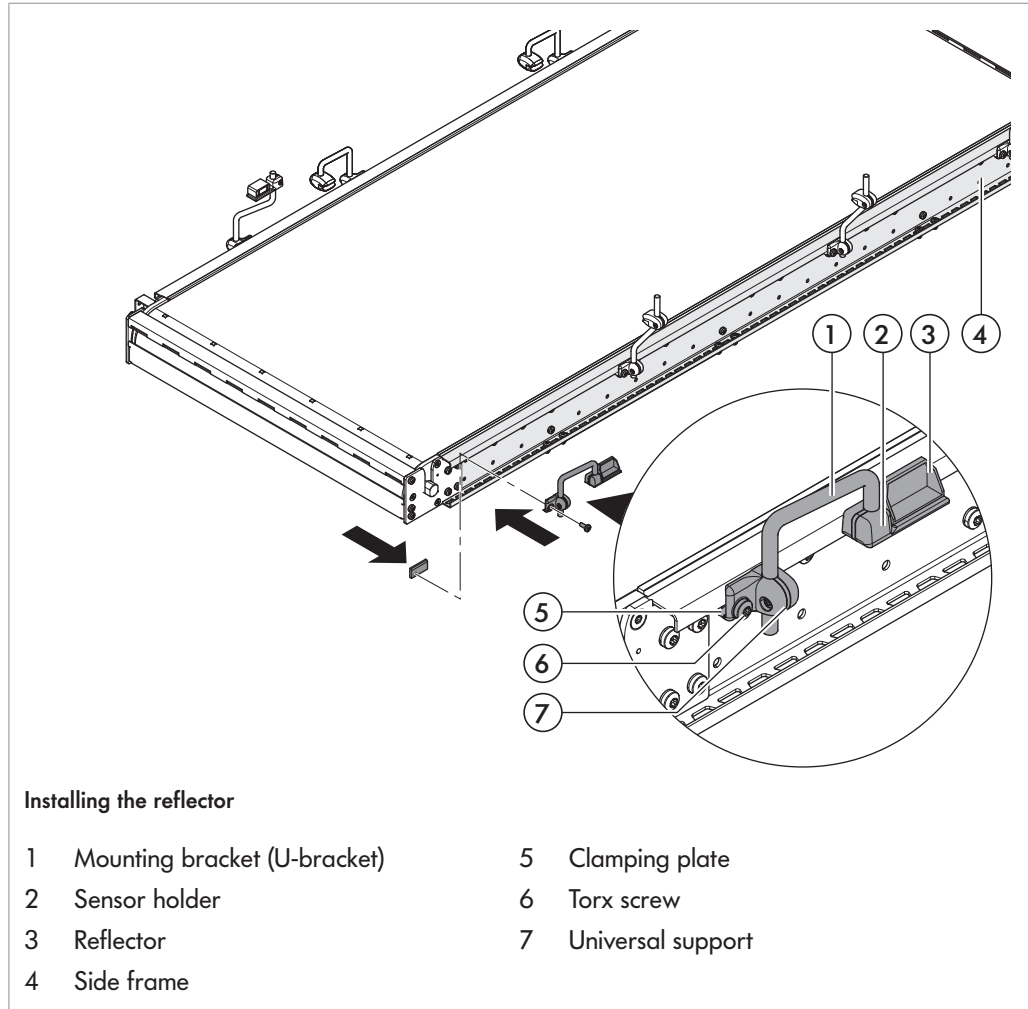


The electrical installation of the photo cell takes place after installing the reflector.

## Interroll Module Z conveyor SH 1300

### Installation

#### Installing the reflector



- ▶ Install the reflector (3) opposite the photo cell.
- ▶ Loosen screw (6) in the universal support (7), but do not remove it.
- ▶ Bring clamping plate (5) with universal support (7) from below into position at the profile of the side frame (4).  
The profile of the side frame is located between clamping plate and universal support.
- ▶ Tighten the screw (6) at the desired location.
- ▶ After installing the photo cell and reflector: Connect the photo cell to the control of the module with a cable.
- ▶ Check whether both LEDs are lit.
- ▶ If the yellow LED flashes, position reflector and photo cell relative to each other.

## Interroll Module Z conveyor SH 1300

### Installation





| LED green | LED yellow | Meaning  |
|-----------|------------|--|
| On        | Off        | Photo cell is operational.<br>No signal from reflector.  |
| On        | On         | Photo cell is correctly adjusted.<br>Light beam is well reflected.                                   |
| On        | Flashing   | Photo cell is operational.<br>Weak signal.<br>Reflector is dirty, damaged or not correctly adjusted. |

### Connecting the modules

#### CAUTION

##### Risk of crushing and injuries from cuts

- ▶ When integrating the module into a complete system, consider possible danger spots, particularly infeed locations and interfaces.

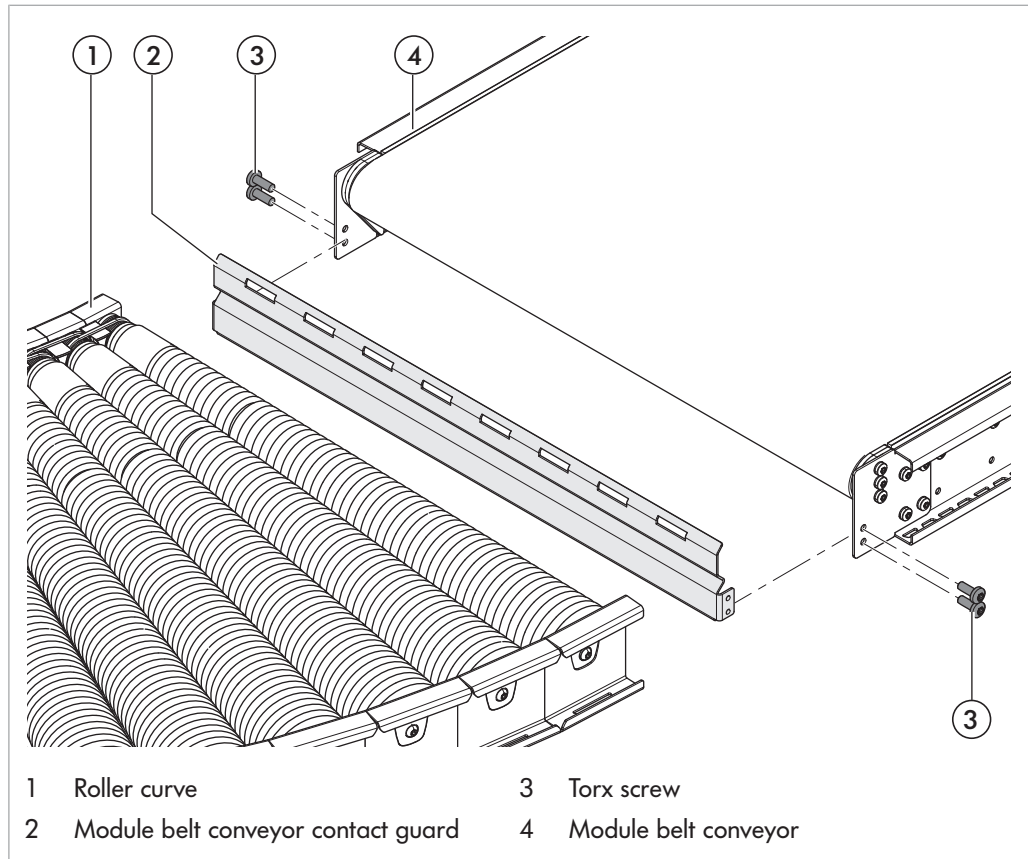
-  The profile connectors are also used for grounding between modules. If no profile connectors are used, alternative measures must be taken for grounding.
-  The modules are aligned based on the top edge of the roller conveyor or module conveyor. Suitable tools for alignment are a spirit level or rotation laser.
-  During setup of the conveyor system, check for passageways for personnel. Install crossings as necessary.
-  Fasten screws with a tightening torque of 19 Nm.

The individual modules of a complete conveyor system are screwed together using connector sets. The following module connectors are available for this module:

## Interroll Module Z conveyor SH 1300

### Installation

Straight module belt conveyor (50) - roller curve



This connection does not allow incline or decline.

- ▶ Position the modules to be connected (1, 4) in such a way that the side profiles are aligned.
- ▶ Align the top edges of the modules by using the height-adjustable feet of the supports.
- ▶ Check horizontal alignment with a spirit level or rotation laser.
- ▶ Secure the adjusted height.
- ▶ Attach contact guard (2) at side profile of module belt conveyor (4) and fasten it with screws (3).
- ▶ Fasten the module torsion-free, e.g., by anchoring it to the floor or to adjacent components.

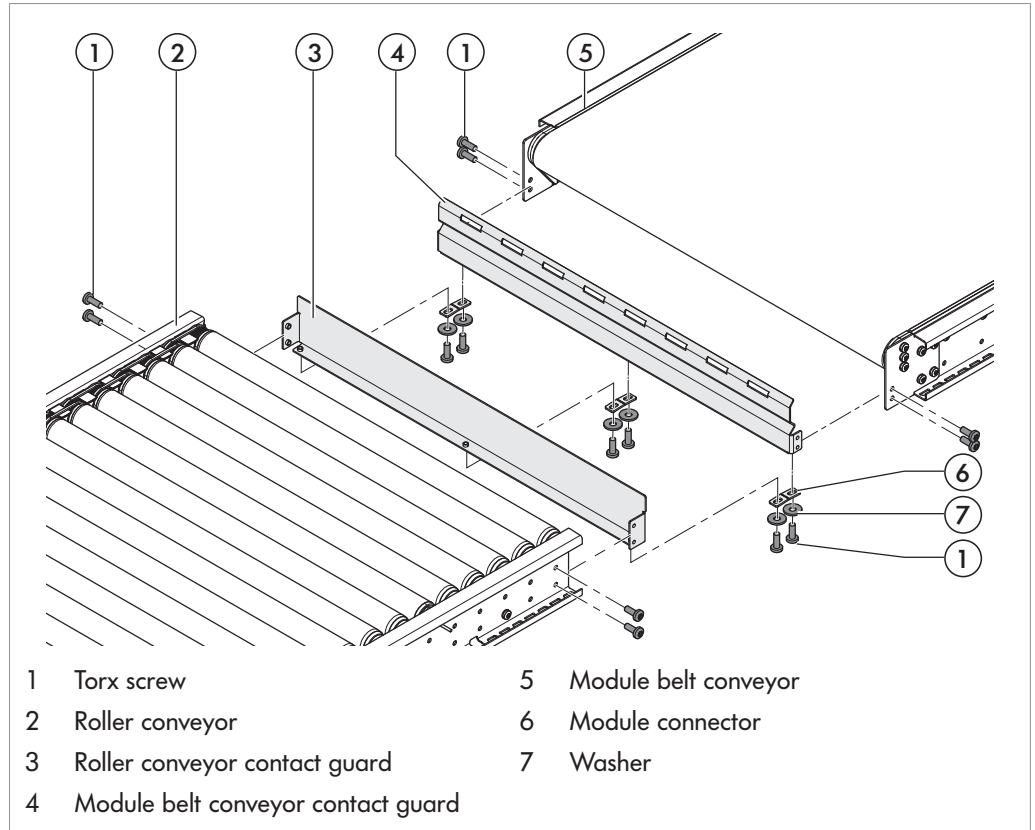
## Interroll Module Z conveyor SH 1300

### Installation

#### Straight module belt conveyor (50) - straight roller conveyor

The modules can be connected with each other in different ways:

- Horizontal
- Up to max. 4° ascending
- Up to max. 4° descending



- ▶ Position the modules to be connected (2, 5) in such a way that the side profiles are aligned or at a right angle to each other.
- ▶ Align the top edges of the modules by using the height-adjustable feet of the supports.
- ▶ Check alignment with a spirit level or rotation laser.
- ▶ Secure the adjusted height.
- ▶ Attach contact guard (4) at side profile of module belt conveyor (5) and fasten it with screws (1).
- ▶ Attach contact guard (3) at side profile of roller conveyor (2) and fasten it with screws (1).
- ▶ Connect the contact guards (3, 4) form-fit with the module connectors (6) on the right, left and center with each other and fasten with screws (1) and washers (7).
- ▶ Fasten the module torsion-free, e.g., by anchoring it to the floor or to adjacent components.

## Interroll Module Z conveyor SH 1300

### Installation

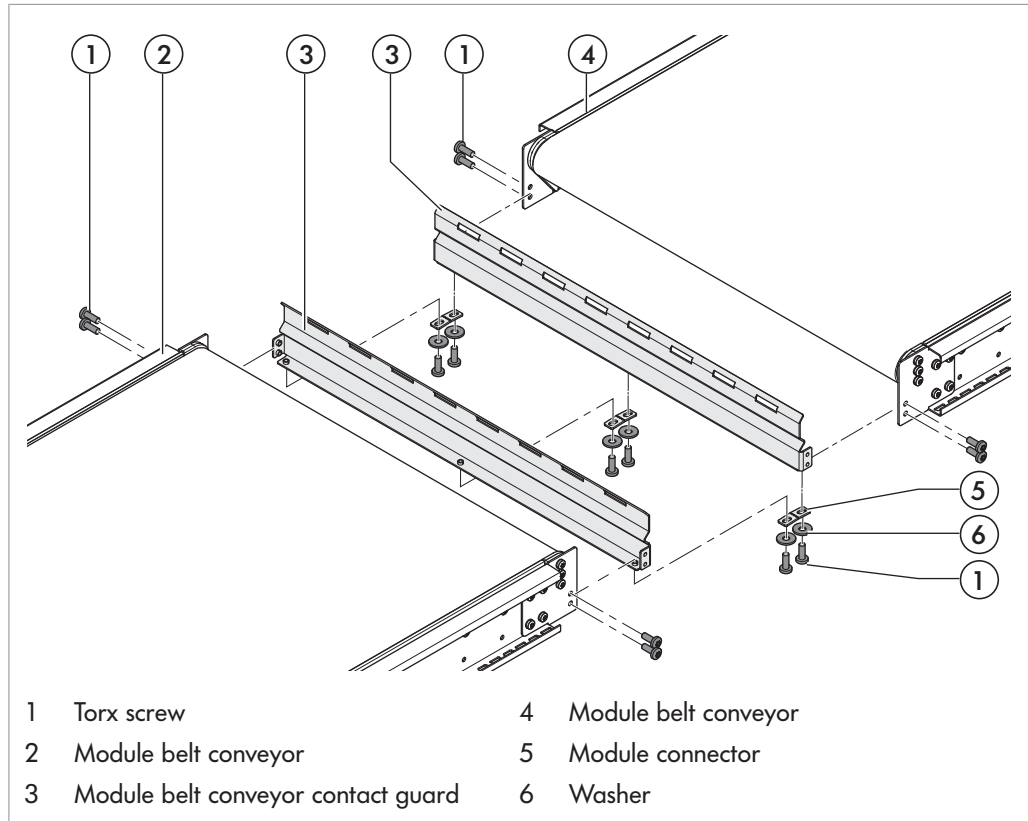
#### Straight module belt conveyor (50) - straight module belt conveyor (50)

The modules can be connected with each other in different ways:

- Horizontal
- Up to max. 4° ascending
- Up to max. 4° descending



Various module connectors are being used depending on the desired type (see connector sets spare parts list).



- ▶ Position the modules to be connected (2, 4) in such a way that the side profiles are aligned or at a right angle to each other.
- ▶ Align the top edges of the modules by using the height-adjustable feet of the supports.
- ▶ Check alignment with a spirit level or rotation laser.
- ▶ Secure the adjusted height.
- ▶ Attach one contact guard (3) each at side profile of module belt conveyor (2, 4) and fasten it with screws (1).
- ▶ Connect the contact guards (3) form-fit with the module connectors (5) on the right, left and center with each other and fasten with screws (1) and washers (6).
- ▶ Fasten the module torsion-free, e.g., by anchoring it to the floor or to adjacent components.

## Interroll Module Z conveyor SH 1300

### Installation

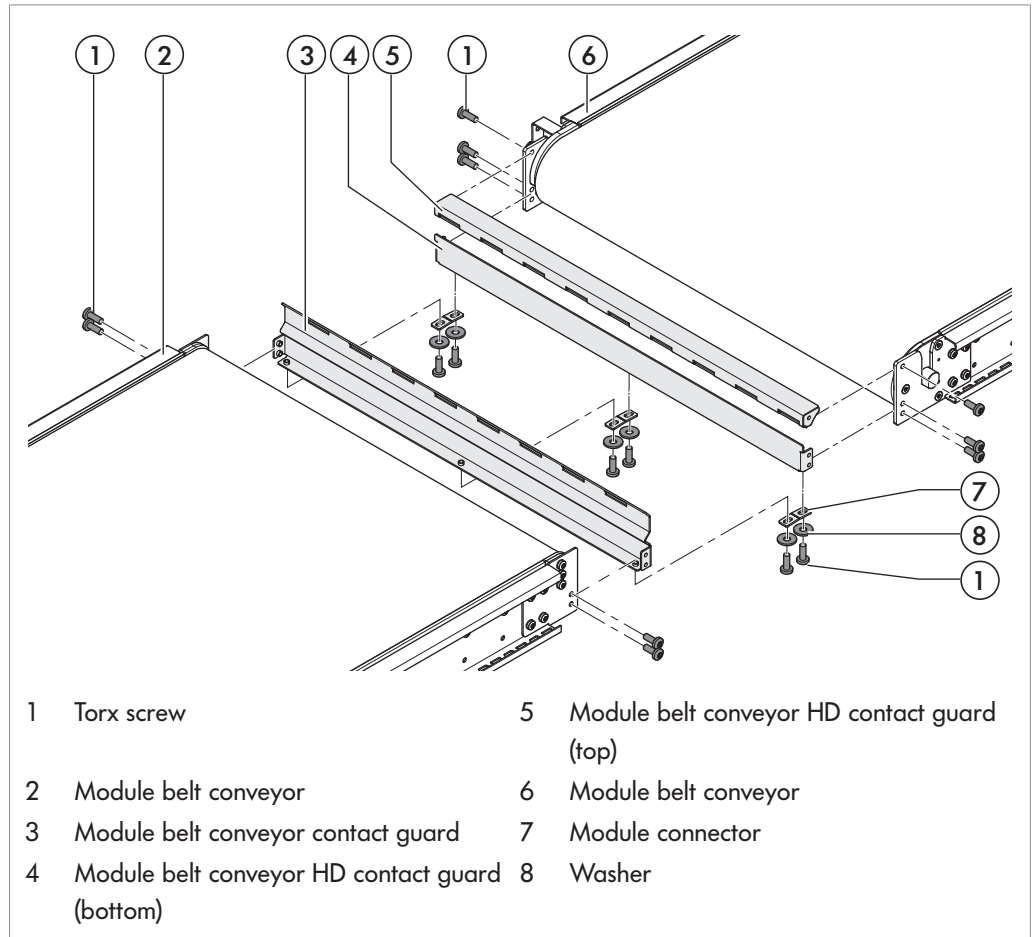
#### Straight module belt conveyor (80) - straight module belt conveyor (50)

The modules can be connected with each other in different ways:

- Horizontal
- Up to max. 4° ascending
- Up to max. 4° descending



The conveying direction is only allowed from left to right (HD pulling).



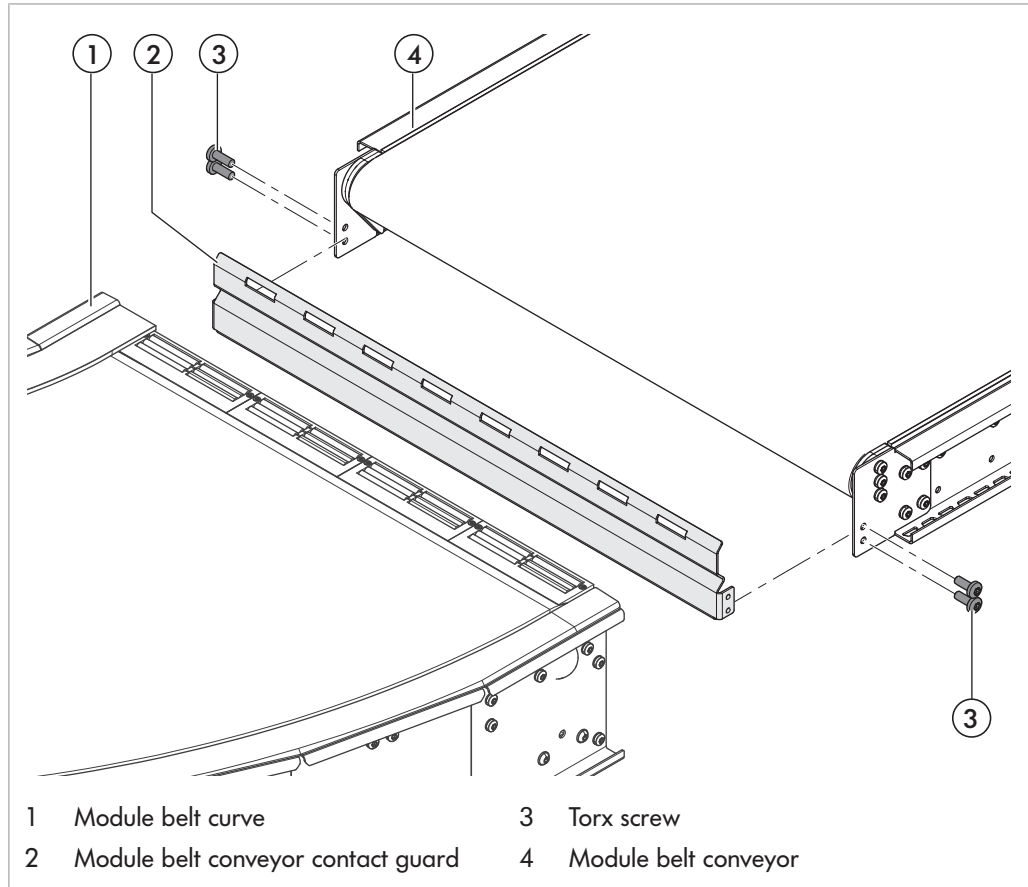
- ▶ Position the modules to be connected (2, 6) in such a way that the side profiles are aligned.
- ▶ Align the top edges of the modules by using the height-adjustable feet of the supports.
- ▶ Check horizontal alignment with a spirit level or rotation laser.
- ▶ Secure the adjusted height.
- ▶ Attach contact guard (3) at side profile of module belt conveyor (2) at idler axle and fasten it with screws (1).
- ▶ Attach contact guard (4) at the bottom at side profile of module belt conveyor (6) for the drum motor (HD) and fasten it with screws (1).
- ▶ Attach contact guard (5) at the top at side profile of module belt conveyor (6) for the drum motor (HD) and fasten it with screws (1).

## Interroll Module Z conveyor SH 1300

### Installation

- ▶ Connect the contact guards (3, 4) form-fit with the module connectors (7) with each other and fasten with screws (1) and washers (8).
- ▶ Fasten the module torsion-free, e.g., by anchoring it to the floor or to adjacent components.

#### Module belt curve - front straight module belt conveyor (50)



The module belt curve must be aligned horizontally and the module belt conveyor with an angle of 4° to be able to connect the modules. Other connections are not permissible.

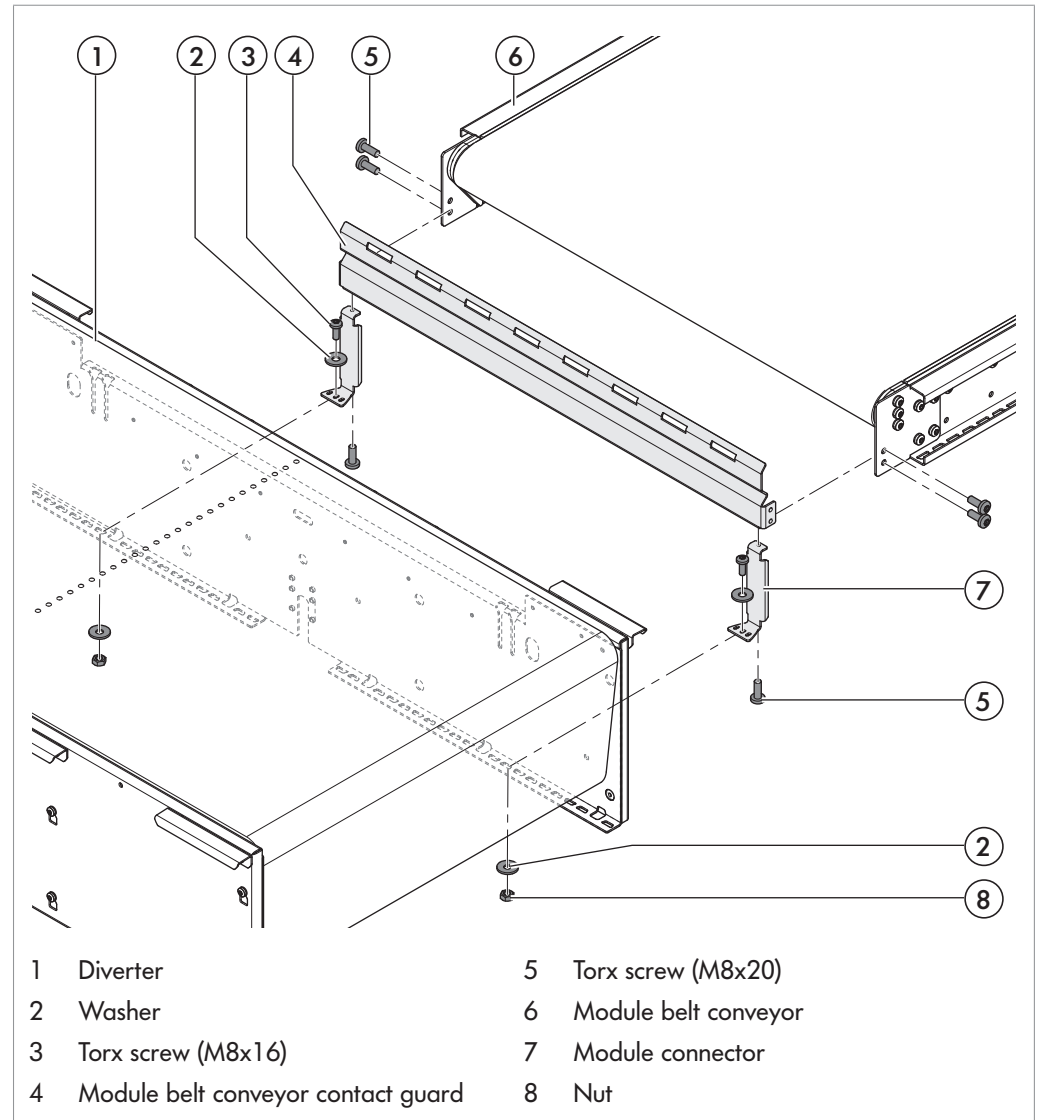
- ▶ Position the modules to be connected (1, 4) in such a way that the side profiles are at the correct angle to each other.
- ▶ Align the top edges of the modules by using the height-adjustable feet of the supports.
- ▶ Check alignment with a spirit level or rotation laser.
- ▶ Secure the adjusted height.
- ▶ Fasten contact guard (2) at side profile of module belt conveyor (4) with screws (3).
- ▶ Fasten the module torsion-free, e.g., by anchoring it to the floor or to adjacent components.



## Interroll Module Z conveyor SH 1300

### Installation

#### Straight module belt conveyor (50) - lateral diverter



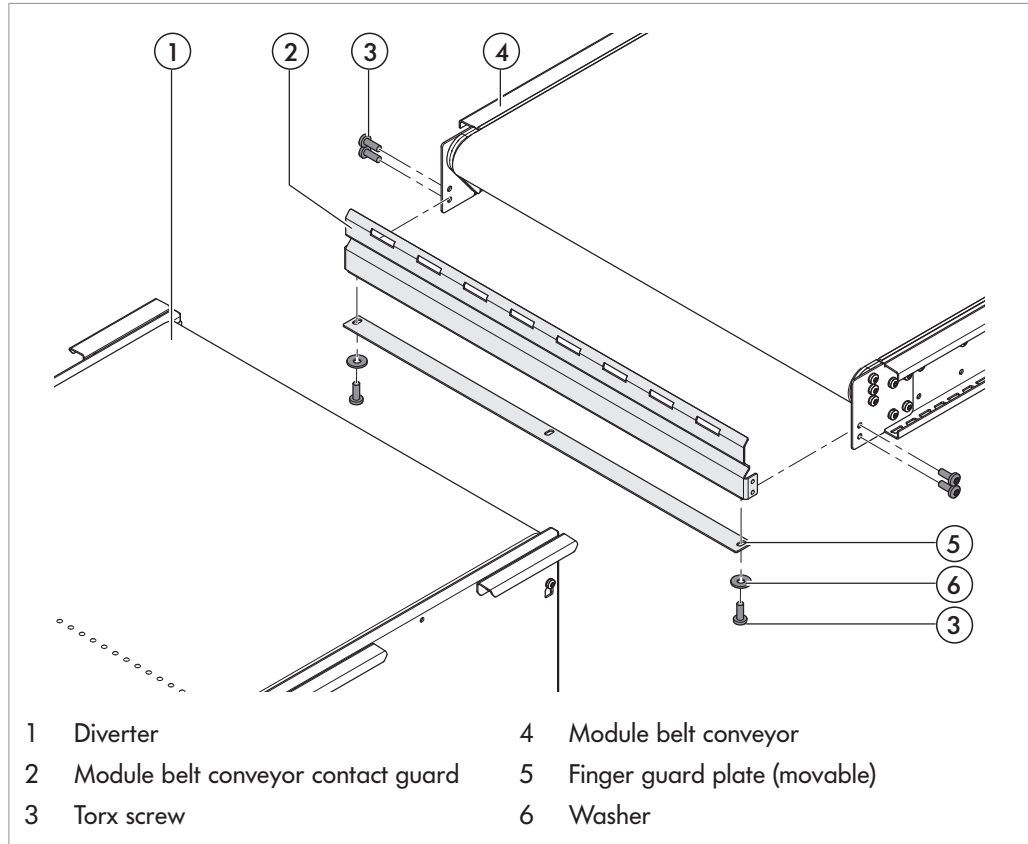
This connection does not allow incline or decline.

- ▶ Position the modules to be connected (1, 6) in such a way that the side profiles are aligned.
- ▶ Align the top edges of the modules by using the height-adjustable feet of the supports.
- ▶ Check horizontal alignment with a spirit level or rotation laser.
- ▶ Secure the adjusted height.
- ▶ Attach contact guard (4) at side profile of module belt conveyor (6) at idler axle and fasten it with screws (5).
- ▶ Fasten module connector (7) on the right and left at the bottom of the side profile of the diverter (1) with screws (3), washers (2) and nuts (8).
- ▶ Fasten contact guard (4) and module connector (7) each with one screw (5) and washer (2) to each other.
- ▶ Fasten the module torsion-free, e.g., by anchoring it to the floor or to adjacent components.

## Interroll Module Z conveyor SH 1300

### Installation

#### Front diverter - straight module belt conveyor (50)



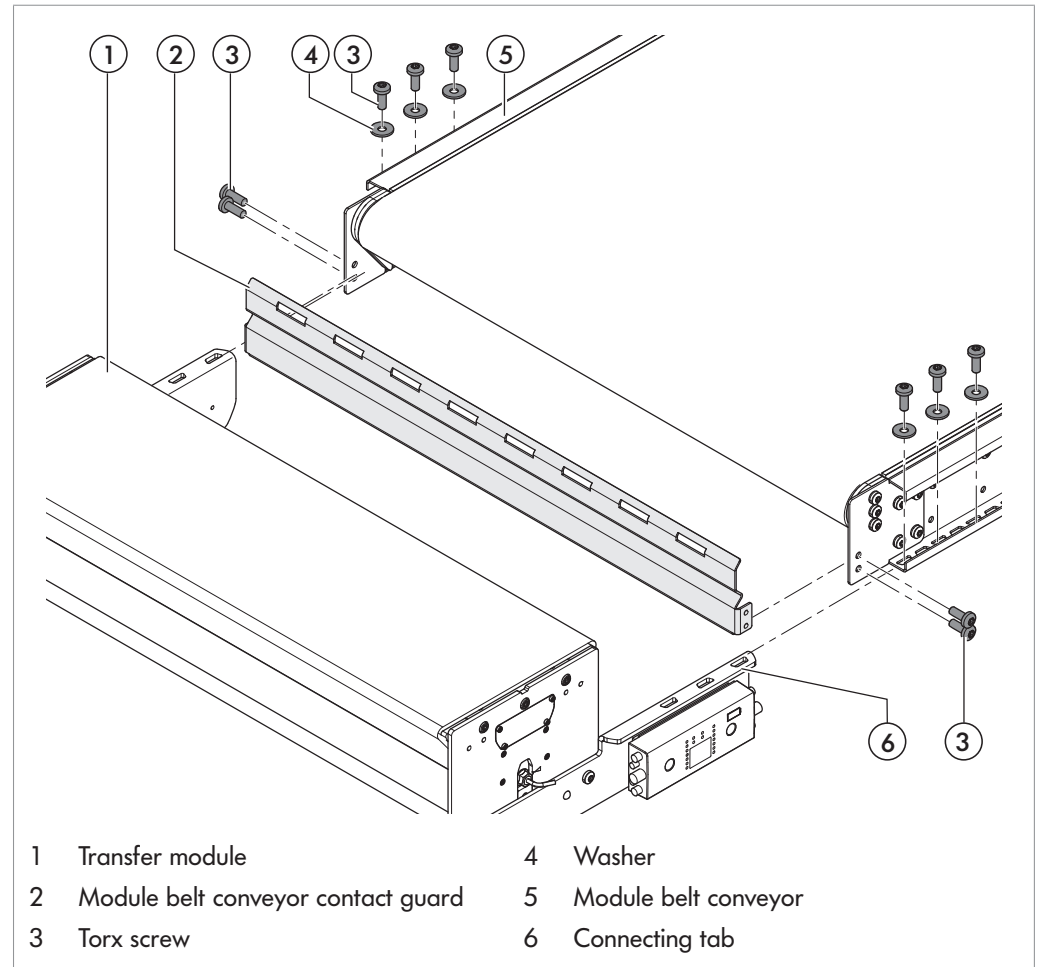
This connection does not allow incline or decline.

- ▶ Position the modules to be connected (1, 4) in such a way that the side profiles are aligned.
- ▶ Align the top edges of the modules by using the height-adjustable feet of the supports.
- ▶ Check horizontal alignment with a spirit level or rotation laser.
- ▶ Secure the adjusted height.
- ▶ Attach contact guard (2) at side profile of module belt conveyor (4) at the idler axle and fasten it with screws (3).
- ▶ Fasten finger guard plate (5) at contact guard (2) with screws (3) and washers (6).
- ▶ Fasten the module torsion-free, e.g., by anchoring it to the floor or to adjacent components.

## Interroll Module Z conveyor SH 1300

### Installation

#### Straight module belt conveyor (50) - transfer module



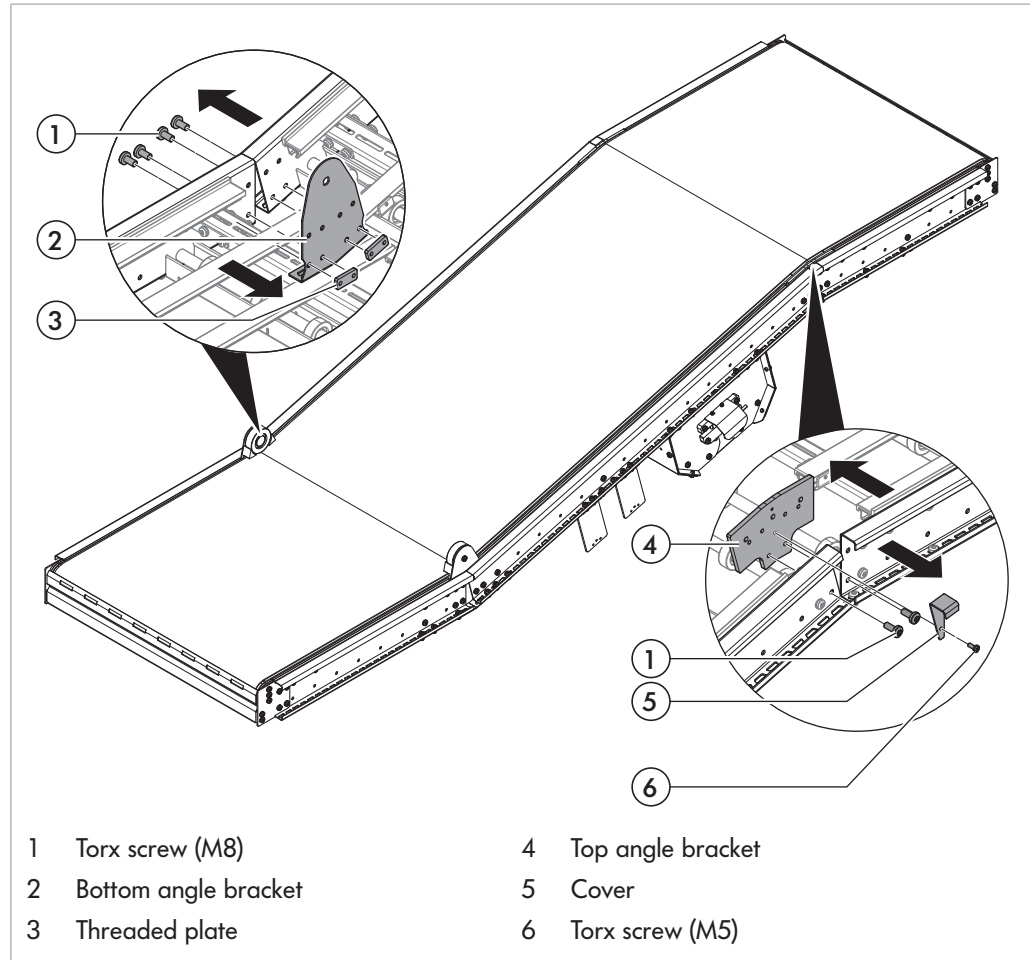
- ▶ Position the modules to be connected (1, 5) in such a way that the side profiles are aligned.
- ▶ Align the top edges of the modules by using the height-adjustable feet of the supports.
- ▶ Check horizontal alignment with a spirit level or rotation laser.
- ▶ Secure the adjusted height.
- ▶ Attach contact guard (2) at side profile of module belt conveyor (5) at the idler pulley and fasten it with screws (3).
- ▶ Fasten connecting tabs (6) of the transfer module (1) in the side profile of the module belt conveyor (5) with screws (3) and washers (4).
- ▶ Fasten the module torsion-free, e.g., by anchoring it to the floor or to adjacent components.

## Interroll Module Z conveyor SH 1300

### Installation

#### Changing the angle bracket

For the module Z conveyor, an angle change can be made by replacing the upper and lower angle brackets. The angle change can be made in increments of 3°. For the corresponding spare parts refer to the spare parts list, see "Spare parts list", page 71.



### DANGER



#### Danger to life from electrocution and crushing

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



Fasten screws with a tightening torque of 19 Nm.

## Interroll Module Z conveyor SH 1300

---

### Installation

Requirement:

- ☑ The module is shut down.
  - ▶ To replace the lower angle bracket: Remove the small pressure roller, see *"Replacing the small pressure rollers"*, page 62.
  - ▶ Loosen screws (1) on the right and left in the side frame and remove the angle brackets (2).
  - ▶ Retain the angle bracket for later use.
  - ▶ Fasten angle brackets (2) with the other angle on the right and left at the side frame with threaded plates (3) and screws (1).
  - ▶ Install the small pressure rollers in reverse order.
  - ▶ To replace the upper angle bracket: Remove the transfer rollers, see *"Replacing the transfer rollers (top arch)"*, page 61.
  - ▶ Loosen screws (6) on the right and left in the side frame and remove the covers (5).
  - ▶ Loosen screws (1) on the right and left in the side frame and remove the angle brackets (4).
  - ▶ Retain the angle bracket for later use.
  - ▶ Fasten angle brackets (4) with the other angle on the right and left at the side frame with screws (1).



Fasten screws with a tightening torque of 3.5 Nm.

- ▶ Fasten cover (5) with screws (6) on the right and left in the side frame.
- ▶ Install the transfer rollers in reverse order.

### Initial startup and operation

#### Initial startup

---

#### **WARNING**

##### **Risk of injuries due to incorrect handling**

- ▶ Check electrical connections and protective devices.
  - ▶ Remove the goods from the module.
  - ▶ Remove unauthorized persons from the danger zone.
  - ▶ Wear safety shoes and work clothing.
- 

The module has been checked at the factory. Module conveyor setting and module conveyor tension are preset at the factory and generally do not have to be changed.

Nevertheless, the following control measure is required:

- ▶ Before initial startup, check the travel direction of the module and correct as necessary  
The travel direction is indicated on the module by an arrow. See the chapter "Nameplate".
- ▶ If faults occur during startup, adjust the module conveyor setting. For additional information, see see "*Maintenance and repair*", page 44 ff.

## Interroll Module Z conveyor SH 1300

---

### Initial startup and operation

#### Operation

##### Before every operation start

- ▶ Check the module for visible damage.
- ▶ Ensure that all safety devices operate flawlessly.
- ▶ Ensure that only authorized persons are in the operating area of the module.
- ▶ Ensure that the module is running freely and that no parts are jammed.
- ▶ Remove equipment or material that is not required from the operating area.
- ▶ Specify and monitor correct placement of the conveying good.

##### During operation

---

### WARNING

#### Danger from rotating parts

Crushing and serious injuries due to parts of the body and clothing being pulled into the module!



- ▶ Do not remove the protective covers.
- ▶ Wear personal protective equipment.
- ▶ Avoid jewelry and bracelets.

---

### CAUTION

#### Danger from shearing between product and universal support of side guide

- ▶ Do not reach in from the side.
- ▶ Take additional protective measures.



##### Procedure in case of accident or fault

- ▶ If material is jammed between side guides, switch off the module and ensure that it cannot be started accidentally, then remove the fault.
- ▶ Press the Emergency Stop pushbutton, power it down and ensure that it cannot be switched on accidentally.
- ▶ In case of an accident: Provide first aid and make an emergency call, if necessary.
- ▶ Inform qualified personnel.
- ▶ Have the fault corrected by qualified personnel.
- ▶ Restart the module only after this has been approved by qualified personnel.

### Cleaning

---

#### CAUTION

##### **Risk of injury due to improper handling or accidental motor starts**

- ▶ Maintenance work and cleaning must only be performed by qualified and authorized persons.
  - ▶ Perform maintenance work only after switching off the power. Ensure that the conveyor cannot be switched on accidentally.
  - ▶ Set up signs indicating that maintenance work is in progress.
- 

#### CAUTION

##### **Risk of infections due to non-observance of hygiene regulations for the food industry!**

When conveying damaged products, dangerous bacteria can be deposited at the conveyor. They could lead to health risks for the end consumer.

- ▶ Observe all legal regulations and hygiene regulations for food safety.
  - ▶ Use solely food-safe lubricants as well as cleaning and disinfecting agents.
  - ▶ Observe the cleaning intervals.
- 

#### CAUTION

##### **Risk of injury from slipping on the floor!**

Slipping on a wet floor can lead to a fall. The fall can cause injuries.

- ▶ Immediately pick up leaking and spilled fluids using suitable means.
- 



The conveyor platform is generally designed for protection rate IP55.

| IP identifier                    | Definition  |
|----------------------------------|---|
| 5 - dust protection              | Dust is not completely prevented from entering, but dust may not enter at a magnitude that would impair the function of the module.   |
| 5 - Protected against water jets | A water jet from a nozzle (6.3 mm (0.25 in)), that is directed at the module from all directions, may not have any damaging effect.<br>Test duration: 1 m <sup>2</sup> /min for at least 3 minutes<br>Water volume: 12.5 l/min<br>Pressure: 30 kPa (4.4 psi or 0.3 bar) at a distance of 3 m (9.8 ft) |



## Interroll Module Z conveyor SH 1300

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### Cleaning

The module is designed specifically for use in the food sector that does not require daily intensive cleaning, such as the area behind packaging equipment where the food is protected by packaging. Should food packaging leak, the conveyor can still be cleaned dry or with soft water. For this purpose, use low-pressure water, e.g., with a water hose with water pressure, or by splashing water over the conveyor, e.g., using a bucket.

### Preparation for cleaning by hand

- ▶ Switch off the power supply to the conveyor.
- ▶ Switch off the main switch to de-energize all the drives.
- ▶ Open terminal box or distribution box and disconnect cables if there is no switch. Ensure that live components or cables are electrically insulated to prevent electrocution.
- ▶ Attach a sign to the control cabinet that maintenance work is in progress.
- ▶ Remove foreign materials from all accessible surfaces.
- ▶ Do not use sharp-edged tools to clean the module.
- ▶ Do not use a high-pressure cleaner for cleaning, particularly not for the roller conveyors.

### Manual cleaning



The conveyor platform is not designed for cleaning with alkaline or acidic cleaning agents. In particular, rollers and drive rollers should not be cleaned with cleaning agents, only dry or with water.

---

## NOTICE

### Seal not tight due to excessive pressure

- ▶ Do not direct the nozzle directly on the seals during cleaning.
- ▶ Observe a maximum water pressure of 8 bar (116 psi).
- ▶ Move the nozzle continuously and evenly over the entire module.
- ▶ Ensure that the distance between the nozzle of the water hose and the conveyor is at least 100 cm.

---

## NOTICE

### Risk of damage to the conveyor due to improper cleaning

- ▶ Never use an acidic cleaner together with a chlorinated cleaner since the resulting dangerous chlorine gases can damage stainless steel and elastomers.
  - ▶ Avoid temperatures over 35 °C so that no proteins can be deposited on the surface.
  - ▶ Remove greases at lower temperatures and with suitable cleaners.
  - ▶ Avoid water pressures over 8 bar so that no aerosols are created and to prevent damages.
  - ▶ Maintain a distance of 100 cm between the nozzle and the surface to be cleaned.
  - ▶ Do not direct the nozzle directly on the seals during cleaning, particularly not in the area of the drum motor axle or drive rollers.
-



## Interroll Module Z conveyor SH 1300

---

### Cleaning

- ▶ Wipe off larger, loose contamination.
- ▶ Pre-clean with water (8 bar, 35 °C).
- ▶ Direct the nozzle down onto the surfaces at an angle of 45°.
- ▶ For a more thorough cleaning, clean seals, grooves and other recesses with a soft brush.
- ▶ In case of heavy contamination, use a soft brush and/or a plastic scraper together with spraying water.
- ▶ Spray off with water (8 bar, 35 °C).
- ▶ After cleaning, check surfaces, grooves and other recesses for residues.
- ▶ Wipe the floor dry.
- ▶ Observe the corresponding certificates at [www.interroll.com](http://www.interroll.com).

## Interroll Module Z conveyor SH 1300

---

### Cleaning

#### Resistance

The conveyor platform consists of various parts. Some parts are more resistant to cleaning agents than others. Drum motors and plastic modular belts can be cleaned, e.g. with certain cleaning agents.

**Chemical resistance of the plastic modular belts** Polyoxymethylene (POM), polypropylene (PP) and polyamide (PA):

- Acidic acid, aqueous solution 5 %
- Calcium chloride, aqueous solution 10 %
- Dimethylformamide
- Dioctylphthalate
- Ethyl ether
- Isopropanol
- Soap solution, aqueous solution
- Sodium carbonate, aqueous solution 10 %
- Sodium chloride, aqueous solution 10 %
- Sodium nitrate, aqueous solution 10 %
- Sodium thiosulphate, aqueous solution 10 %
- Water, cold

The resistance of the polymers is affected by temperature, exposure to force, UV exposure, and the duration of exposure and concentration of the medium.

A thorough suitability test of the polymer to be used by the user is indispensable.

### Maintenance and repair

#### Observe the following for maintenance and repair

---



#### **⚠ DANGER**

##### **Danger to life from electrical voltage!**

- ▶ Switch off the power supply system, ensure that it cannot be switched on accidentally and check that there is no voltage.
- 

#### **⚠ WARNING**

##### **Risk of crushing and injuries**

- ▶ Ensure that the personnel involved in maintenance and repair have secure footing and sufficient room to move.
  - ▶ Mechanical maintenance and repair work should be performed only by service personnel. Observe the safety information.
  - ▶ Electrical maintenance and repair work should be performed only by authorized electricians. Observe the safety information.
  - ▶ Observe the weight of the module (see type plate), if necessary, work in pairs.
  - ▶ Use suitable loading and lifting equipment. Secure the module against falling or tipping.
- 

#### **⚠ CAUTION**

##### **Risk of injury due to improper handling or accidental motor starts**

- ▶ Maintenance work and cleaning must only be performed by qualified and authorized persons.
  - ▶ Perform maintenance work only after switching off the power. Ensure that the conveyor cannot be switched on accidentally.
  - ▶ Set up signs indicating that maintenance work is in progress.
- 



When tightening screws and nuts, always observe the standard tightening torque, unless specifically indicated otherwise. Standard thread lockers must be replaced as needed.



Torx screws and nuts used in elongated holes must have a washer so that they can be loosened again if necessary (e.g., for disassembly).

- ▶ Work on electrical equipment must only be performed by authorized electricians.
- ▶ Set up warning signs that indicate maintenance and repair work.
- ▶ Block off the area around the module.
- ▶ Inform persons who must enter the blocked-off area about the risks.

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Maintenance intervals



If maintenance is not performed according to schedule, it may lead to damages and failures. If maintenance intervals are not followed, the warranty will be void.



All bearings of the module feature a life-time lubrication and are maintenance-free within the operating parameters.

#### Maintenance and inspection list

| Component                      | Interval       | Task / check   | Work to be performed            | Performed by |
|--------------------------------|----------------|--|---------------------------------|--------------|
| Complete module                | Daily          | Check for soiling.   | Clean and disinfect             |              |
| Complete module                | Weekly         | Perform a visual and acoustic check.   |                                 |              |
| Module conveyor                | Weekly         | Check module belt-carrying side for cleanliness.   | Clean dry as required           |              |
| Side guides                    | Monthly        | Check attachment and fastening of side guides.   | Readjust as necessary           |              |
| Module conveyor                | Every 6 months | Check running behavior and tension.  | Adjust as required              |              |
|                                |                | Check for damage.  | Replace as required             |              |
| Return wheels/transfer rollers | Every 6 months | Check whether the return wheels have contact with the conveyor belt.   | Readjust as necessary           |              |
|                                |                | Check return wheels for ease of movement. (Do the return wheels also turn freely when they contact the conveyor belt?) | Replace as required             |              |
| Idler pulleys/front Idler axle | Every 6 months | Check for damage.  | Replace as required             |              |
|                                |                | Check for unusual noise and ease of movement.  | Replace as required             |              |
| Drum motor                     | Every 6 months | Check temperature*.  | Replace as required             |              |
|                                |                | Check for noise.   | Replace as required             |              |
|                                |                | Check for true running.  | Replace as required             |              |
|                                |                | Check drive for oil leaks (visual inspection).   | Replace as required             |              |
| Complete module                | Annually       | Check screw connections.   | Tighten to standard as required |              |

\* For permissible temperatures: see the motor's operating instructions

## Interroll Module Z conveyor SH 1300

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### Maintenance and repair

### Preparatory and follow-up maintenance work

---



#### **⚠ DANGER**

##### **Danger to life from electrocution and crushing**

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.
- 

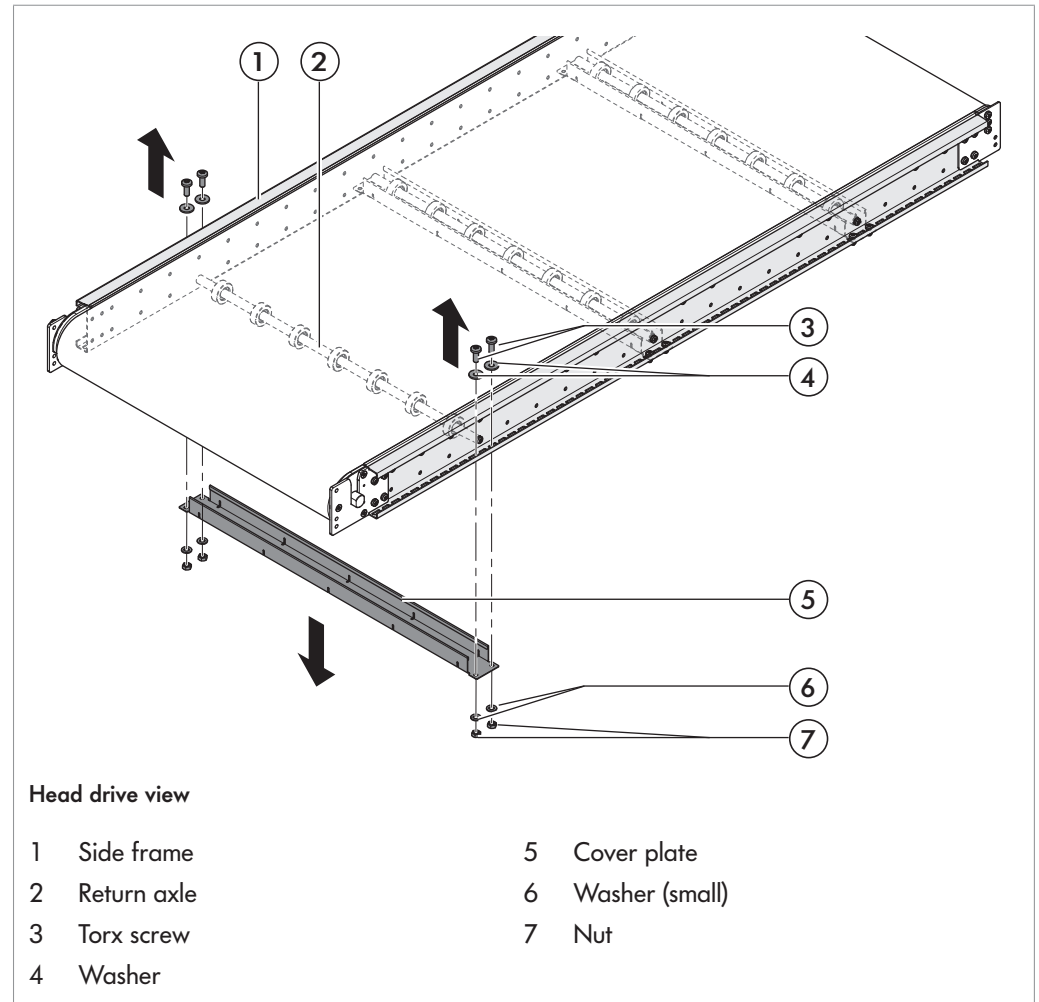
The following preparatory and follow-up maintenance work can be performed at the module Z conveyor:

- Remove cover plates at return axles, see "*Removing/installing cover plates at return axles*", page 47
- Remove contact guard and covers at center drive station, see "*Removing/installing contact guard and covers at center drive station*", page 48
- Remove cable connection cover, see "*Removing/installing center drive cable connection cover*", page 49
- Remove protective cover at upper kink, see "*Removing/installing protective cover at upper kink*", page 50
- Remove end plates at idler axles, see "*Removing/installing front side idler axle end plate*", page 51

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Removing/installing cover plates at return axles



Fasten screws with a tightening torque of 19 Nm.

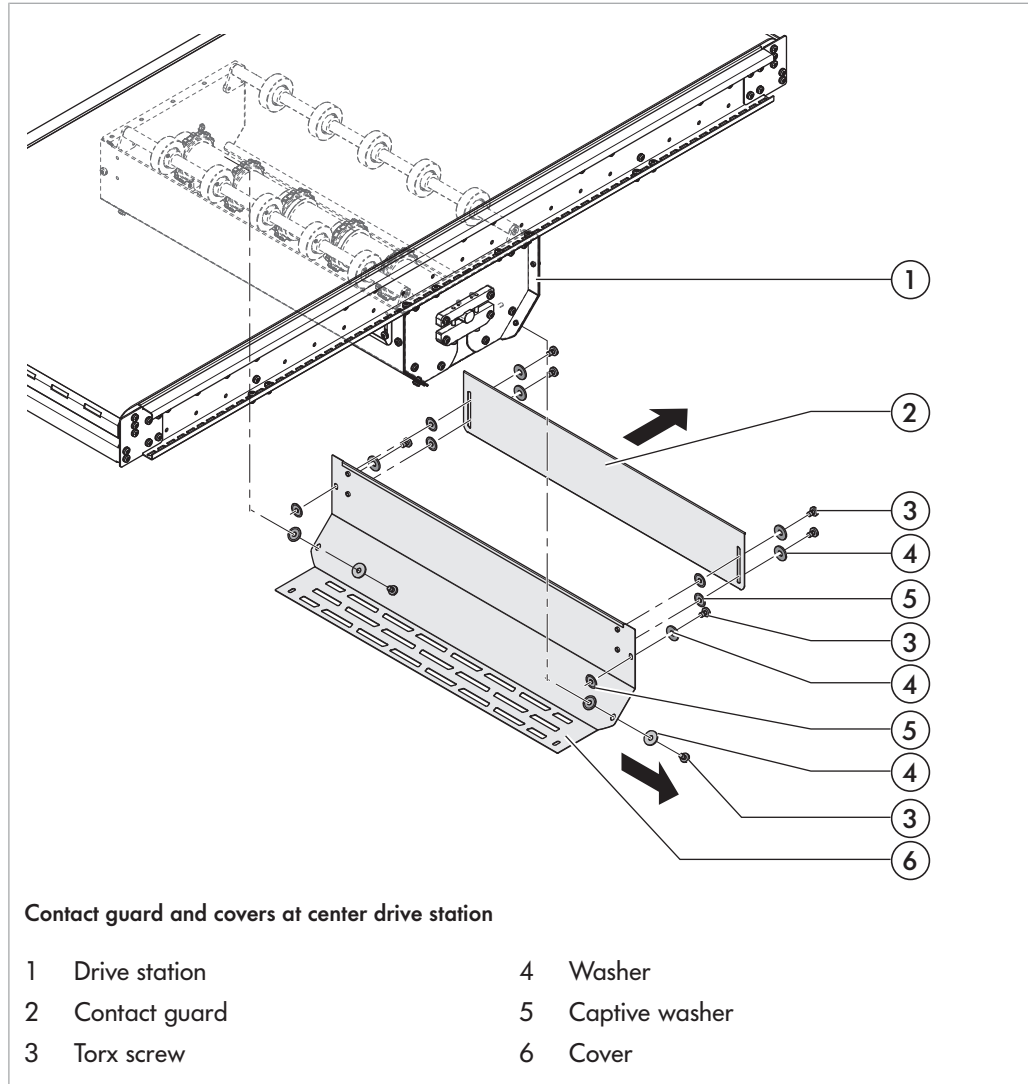
#### Requirement:

- The module is shut down.
- ▶ Loosen screws (3) from the side frame (1) and remove cover plate (5).
- ▶ After the maintenance work: Install cover plate (5) from below at the return axles (2).
- ▶ To do so, guide two screws each (3) on the right and left with two washers (4) from the inside through the C-profile and fasten it from the outside with two small washers (6) and two nuts (7).

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Removing/installing contact guard and covers at center drive station



Fasten screws with a tightening torque of 19 Nm.



After initial tightening, the captive washers undergo plastic deformation and remain in the screw shaft.

#### Requirement:

- The module is shut down.

- ▶ Loosen screws (3) at the contact guard (2) on the belt infeed side and remove contact guard (2) from the cover (6).
- ▶ Loosen screws (3) at the two covers (6) on the right and left at the drive station (1) and remove the covers (6).
- ▶ After the maintenance work: Install covers (6) and contact guard (2) from below at the drive station (1).

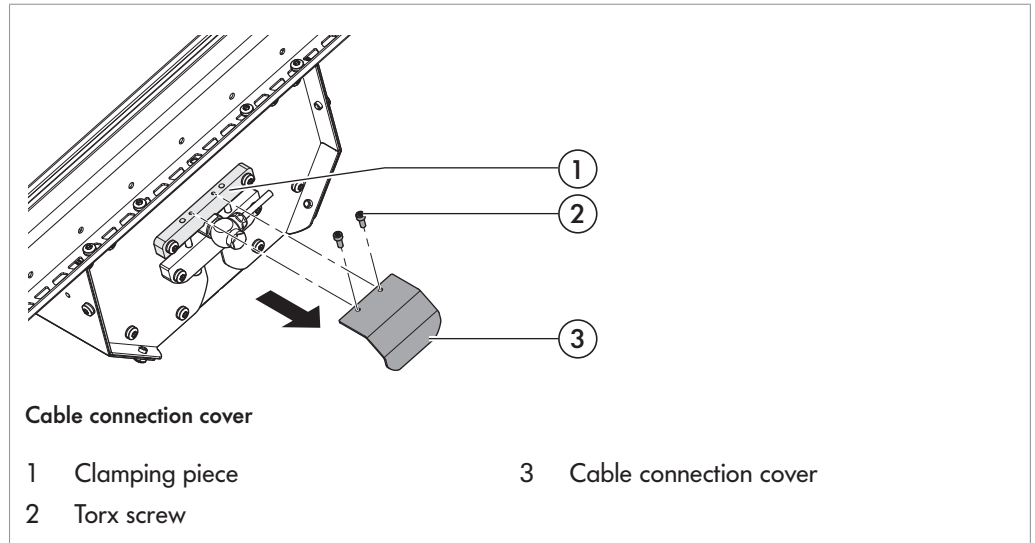


## Interroll Module Z conveyor SH 1300

### Maintenance and repair

- ▶ To do so, guide three screws (3) with washers (4) in each case for both covers on the right and left from the inside through the C-profile and fasten them.
- ▶ Fasten contact guard (2) with two screws (3) and washers (4) each on the right and left at the cover on the belt infeed side.

#### Removing/installing center drive cable connection cover



Fasten screws with a tightening torque of 3.5 Nm.

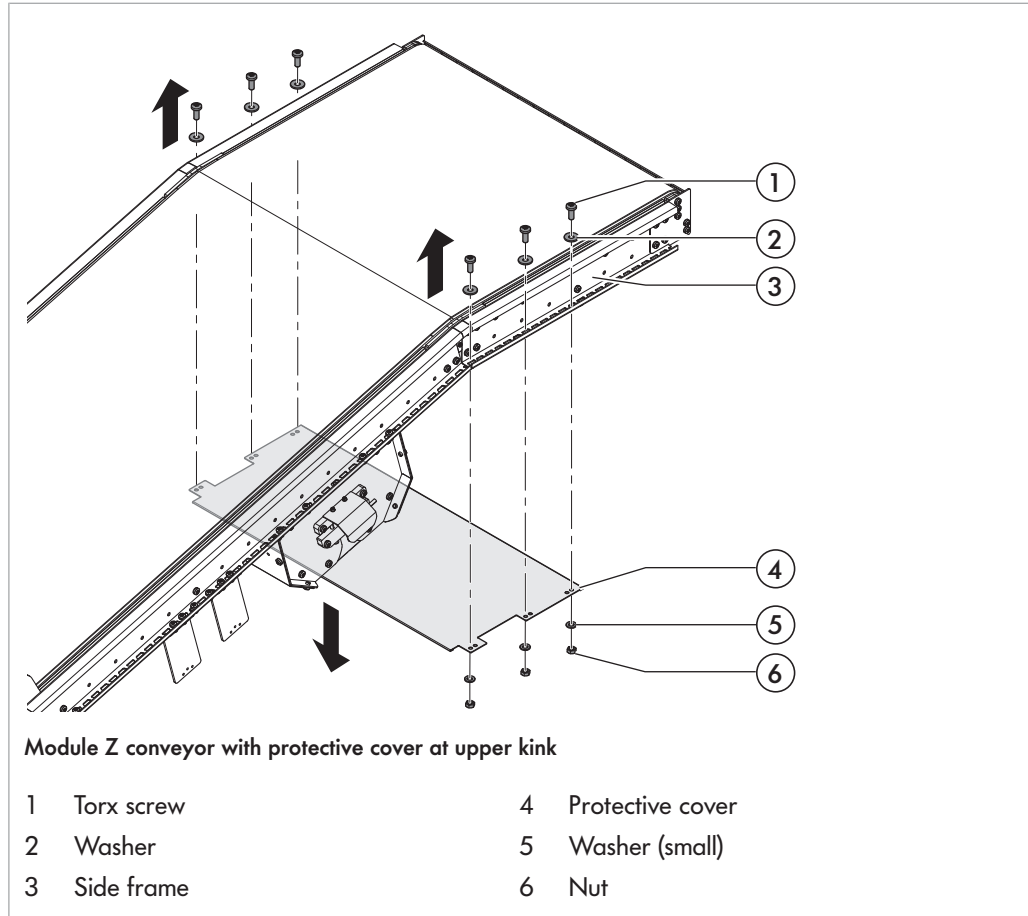
#### Requirement:

- The module is shut down.
- ▶ Unscrew the screws (2) and remove the cover (3) from the clamping piece (1).
- ▶ After the maintenance work: Fasten cover (3) at clamping piece (1) with screws (2).

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Removing/installing protective cover at upper kink



Fasten screws with a tightening torque of 19 Nm.

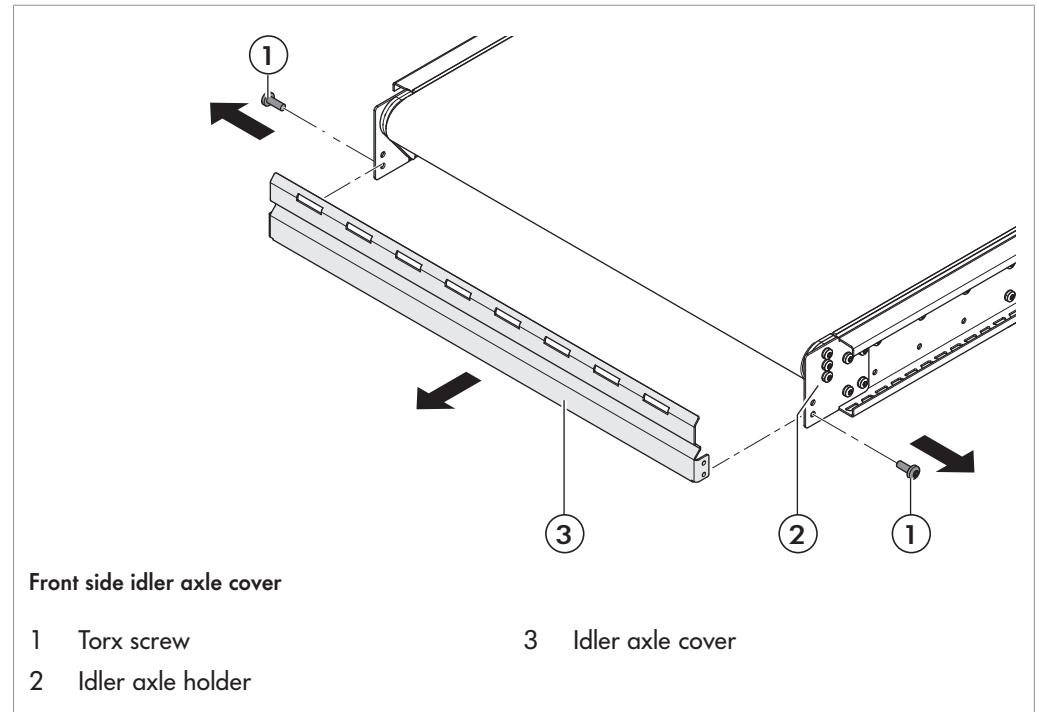
#### Requirement:

- The module is shut down.
- ▶ Loosen screws (1) from the side frame (3) and remove protective cover (4).
- ▶ After the maintenance work: Install protective cover (4) from below over the return axles.
- ▶ To do so, guide three screws each (1) on the left and right with washers (2) from the inside through the C-profile and fasten it from the outside with small washers (5) and nuts (6).

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Removing/installing front side idler axle end plate



Fasten screws with a tightening torque of 19 Nm.

Requirement:

- The module is shut down.
- ▶ Unscrew the screws (1) and remove the cover (3) from the holder (2).
- ▶ After the maintenance work: Fasten the cover (3) at the holder (2) on the right and left with two screws each (1).

### Replacing the photo cell and reflector

#### DANGER

##### Danger to life from electrocution and crushing

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

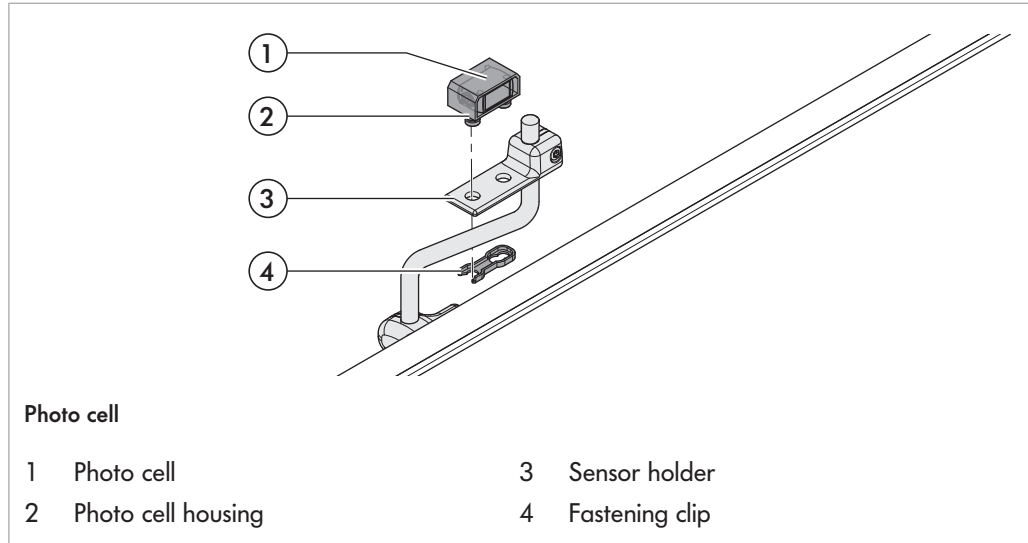
- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing the photo cell



The photo cell is replaced together with the photo cell housing and the fastening clip.



The fine adjustment of the photo cell is done with the vertical adjustment of the sensor holder on the mounting bracket until it "sees" the reflector.



The electrical installation of the photo cell takes place after installing the reflector.

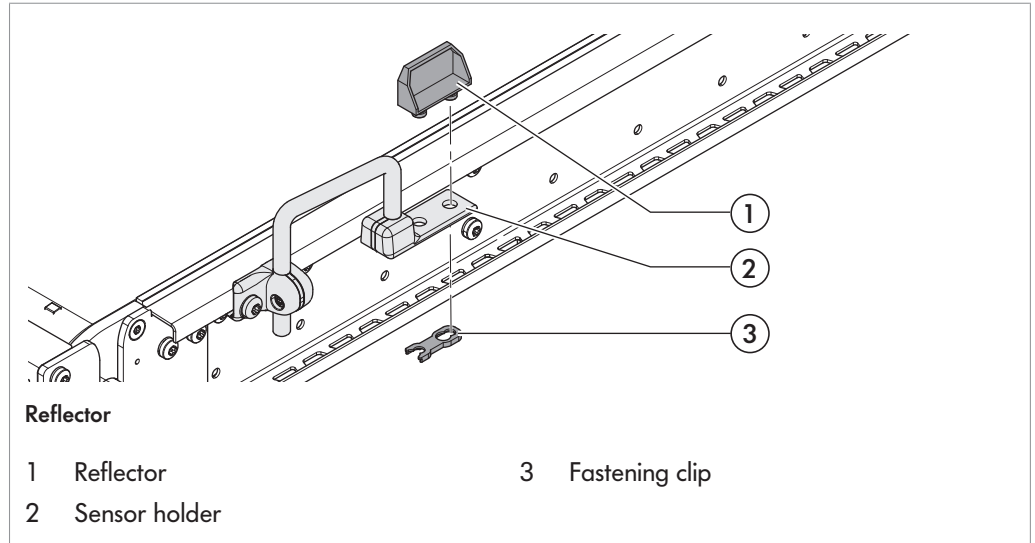
- ▶ Loosen the fastening clip (4) under the sensor holder (3).
- ▶ Remove old photo cell (1) and housing (2) from the sensor holder.
- ▶ Insert the new photo cell in the housing at the same location. The studs of the housing (2) are guided through the holes in the sensor holder (3) and secured with the fastening clip (4) from the opposite side. The clip engages noticeably through lateral movement and secures the photo cell in place.
- ▶ Connect the photo cell to the control of the module with a cable.
- ▶ Check whether both LEDs are lit.
- ▶ If the yellow LED flashes, position reflector and photo cell relative to each other.

| LED green | LED yellow | Meaning  |
|-----------|------------|--|
| On        | Off        | Photo cell is operational.<br>No signal from reflector.  |
| On        | On         | Photo cell is correctly adjusted.<br>Light beam is well reflected.                                   |
| On        | Flashing   | Photo cell is operational.<br>Weak signal.<br>Reflector is dirty, damaged or not correctly adjusted. |

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing the reflector



The reflector is replaced in the same way as the photo cell:

Requirement:

- The module is shut down.
- ▶ Loosen the fastening clip (3) under the sensor holder (2).
- ▶ Remove old reflector (1) from sensor holder.
- ▶ Place new reflector at the same location. The studs of the reflector (1) are guided through the holes in the sensor holder (2) and secured with the fastening clip (3) from the opposite side. The clip engages noticeably through lateral movement and secures the reflector in place.

#### Replacing the module conveyor

To operate module conveyors with sprockets requires that a sufficient number of sprockets are attached to the drum shell in order to support the module conveyor and to correctly transfer the force.

### DANGER

#### **Danger to life from electrocution and crushing**

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

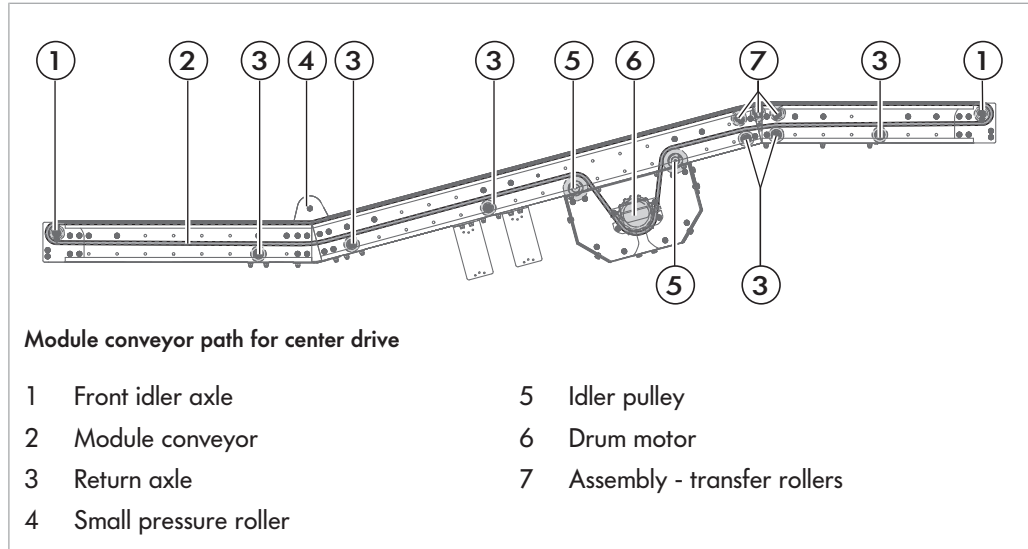
- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing the module conveyor (center drive)



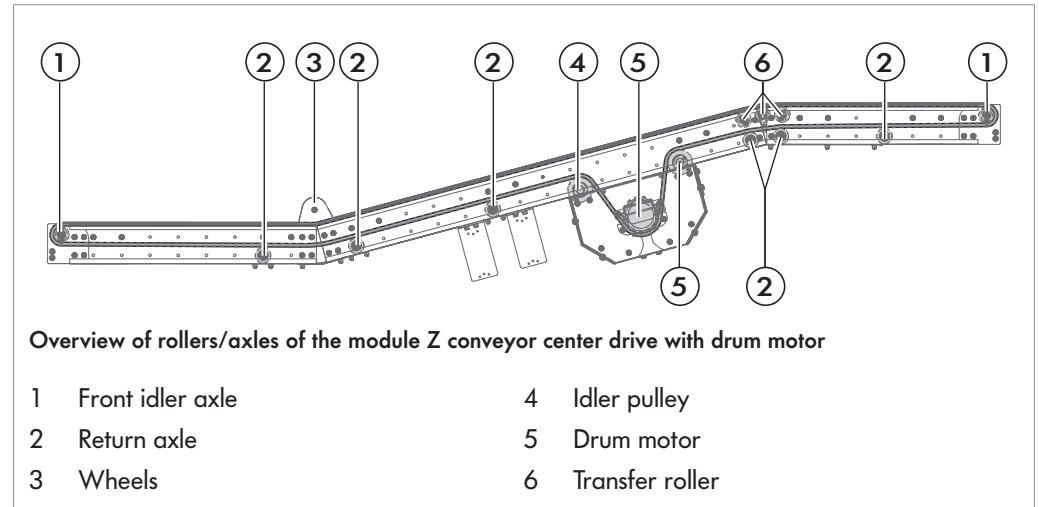
#### Requirement:

- The module is shut down.
- ▶ Remove contact guard and cover plates at drive station, see *"Removing/installing contact guard and covers at center drive station"*, page 48.
- ▶ Remove protective cover at upper kink, see *"Removing/installing protective cover at upper kink"*, page 50.
- ▶ Remove the end plates, see *"Removing/installing front side idler axle end plate"*, page 51.
- ▶ Remove the return wheel cover, see *"Removing/installing cover plates at return axles"*, page 47.
- ▶ Drive the connecting rod out of the module conveyor with a hammer and mandrel.
- ▶ Thread out the old module conveyor and properly dispose of it.
- ▶ Guide new module conveyor (2) around sliding guides, front idler axles (1), transfer rollers (7) and drum motor (6) and thread it in above the return axles (3) and idler pulleys (5) as well as below the small pressure rollers (4) in the process.
- ▶ Combine the module conveyor without sagging and drive in the connecting rod using a hammer and mandrel.
- ▶ Install the contact guard and cover plates at the drive station in reverse order.
- ▶ Install the protective cover at the upper kink in reverse order.
- ▶ Install the end plates and return axle cover in reverse order.

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing rollers/axles



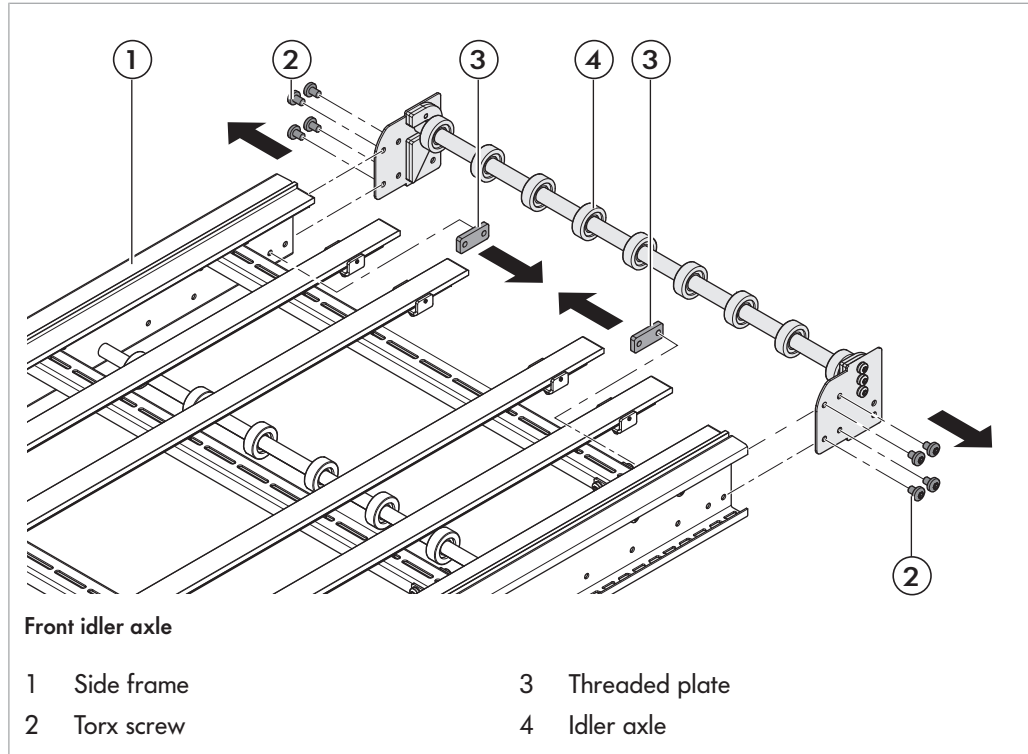
The rollers and axles of the module Z conveyor may require the following maintenance tasks to be performed or parts to be replaced:

- Replace idler axle at the front, see *"Replacing the front idler axle"*, page 56
- Replace return axle, see *"Replacing the return axle"*, page 57
- Disassemble drum motor, see *"Removing/installing drum motor (center drive)"*, page 58
- Replace sprockets at drum motor, see *"Replace the sprockets"*, page 60
- Replace assembly - transfer rollers at upper arch, see *"Replacing the transfer rollers (top arch)"*, page 61
- Replace small rollers, see *"Replacing the small pressure rollers"*, page 62
- Replace complete drive station incl. drum motors and idler pulleys, see *"Replacing the center drive station"*, page 63

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing the front idler axle



### DANGER

#### Danger to life from electrocution and crushing

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



Fasten screws with a tightening torque of 19 Nm.

#### Requirement:

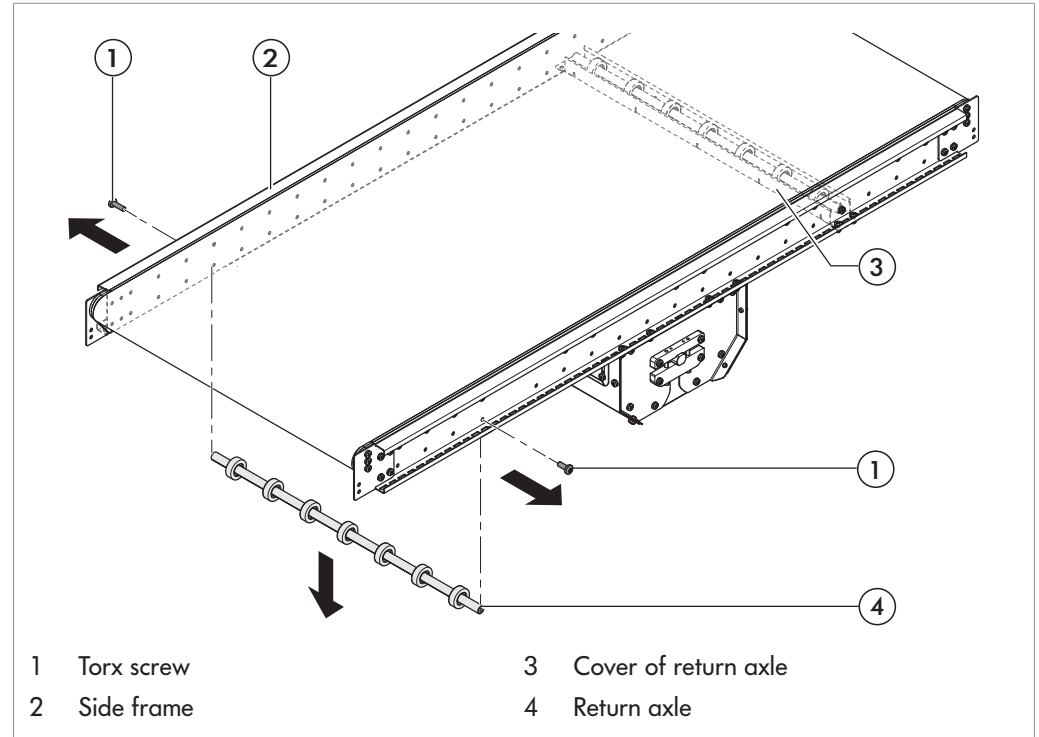
- The module is shut down.
  - ▶ Remove the module conveyor, see "Replacing the module conveyor", page 53.
  - ▶ Loosen screws (2) on the right and left, remove threaded plate (3) and push idler axle (4) out of the side frame (1).
  - ▶ Properly dispose of the old idler axle.
  - ▶ Push new idler axle (4) into the C-profile of the side frame (1).
  - ▶ Secure the idler axle (4) on the right and left with screws (2) and threaded plates (3).
  - ▶ Install the module conveyor in reverse order.



## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing the return axle



### **⚠ DANGER**



#### **Danger to life from electrocution and crushing**

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



Fasten screws with a tightening torque of 19 Nm.

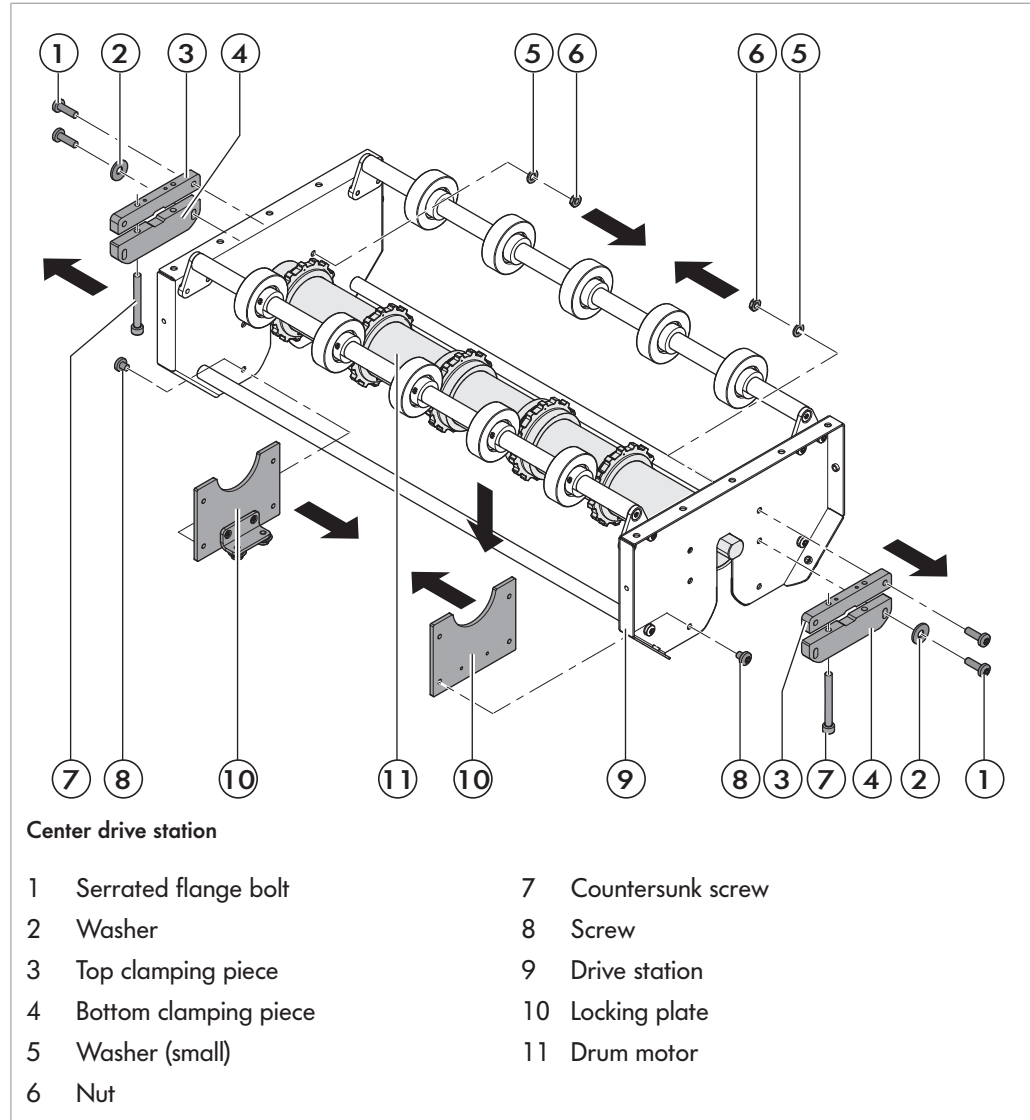
#### Requirement:

- The module is shut down.
  - ▶ Remove cover of the return axle to be replaced, see "Removing/installing cover plates at return axles", page 47.
  - ▶ Remove protective cover at upper kink, see "Removing/installing protective cover at upper kink", page 50.
  - ▶ Unscrew the screws (1) and remove return axle (4).
  - ▶ Properly dispose of the old return axle.
  - ▶ Fasten the new return axle (4) with screws (1) in the side frame (2).
  - ▶ Install the cover of the return axle in reverse order.
  - ▶ Install the protective cover at the upper kink in reverse order.

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Removing/installing drum motor (center drive)



### DANGER

#### Danger to life from electrocution and crushing

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.

### CAUTION

#### Risk of injury when lifting heavy loads

- ▶ Use a tool or a second person for steps directly involving the motor.

## Interroll Module Z conveyor SH 1300

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### Maintenance and repair



Fasten screws with a tightening torque of 19 Nm.

Requirement:

- The module is shut down.
  - ▶ Remove the module conveyor, see *"Replacing the module conveyor"*, page 53.
  - ▶ Remove cable connection cover, see *"Removing/installing center drive cable connection cover"*, page 49
  - ▶ Disconnect the drum motor (11) from the power supply.
  - ▶ Unscrew countersunk screws (7) and ribbed screws (1), remove clamping pieces (3, 4).
  - ▶ Remove the screws (8). Remove locking plates (10).
  - ▶ Remove the drum motor (11) downward through the opening.
  - ▶ After the maintenance work: Insert drum motor (11) through the opening to the top.
  - ▶ Push in locking plates (10). Fasten with two screws each (8).
  - ▶ Fasten clamping piece (3) with ribbed screws (1), small washers (5) and nuts (6) on both sides of the drive station (9).
  - ▶ Fasten clamping piece (4) with ribbed screws (1) and washers (2).
  - ▶ Connect clamping pieces (3, 4) with countersunk screws (4).
  - ▶ Connect the drum motor to the power supply.
  - ▶ Install the cable connection cover and module conveyor in reverse order.

## Interroll Module Z conveyor SH 1300

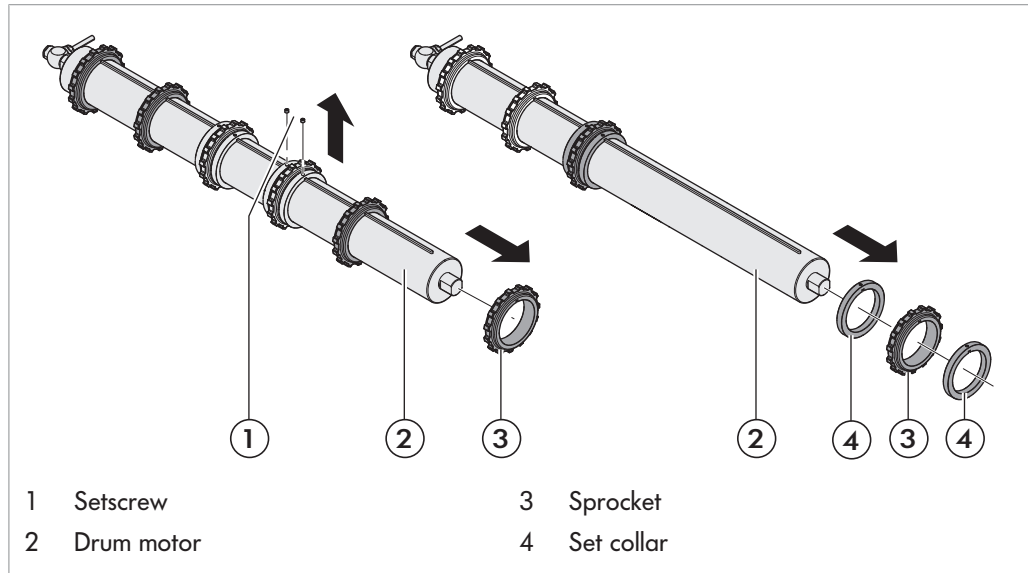
### Maintenance and repair

#### Replace the sprockets

To replace the sprockets, it is first necessary to remove the drum motor.



When replacing the sprockets, the set collars must also be replaced.



### **⚠ CAUTION**

#### **Risk of injury when lifting heavy loads**

- ▶ Use a tool or a second person for steps directly involving the motor.



Fasten screws with a tightening torque of 3.5 Nm.

Requirement:

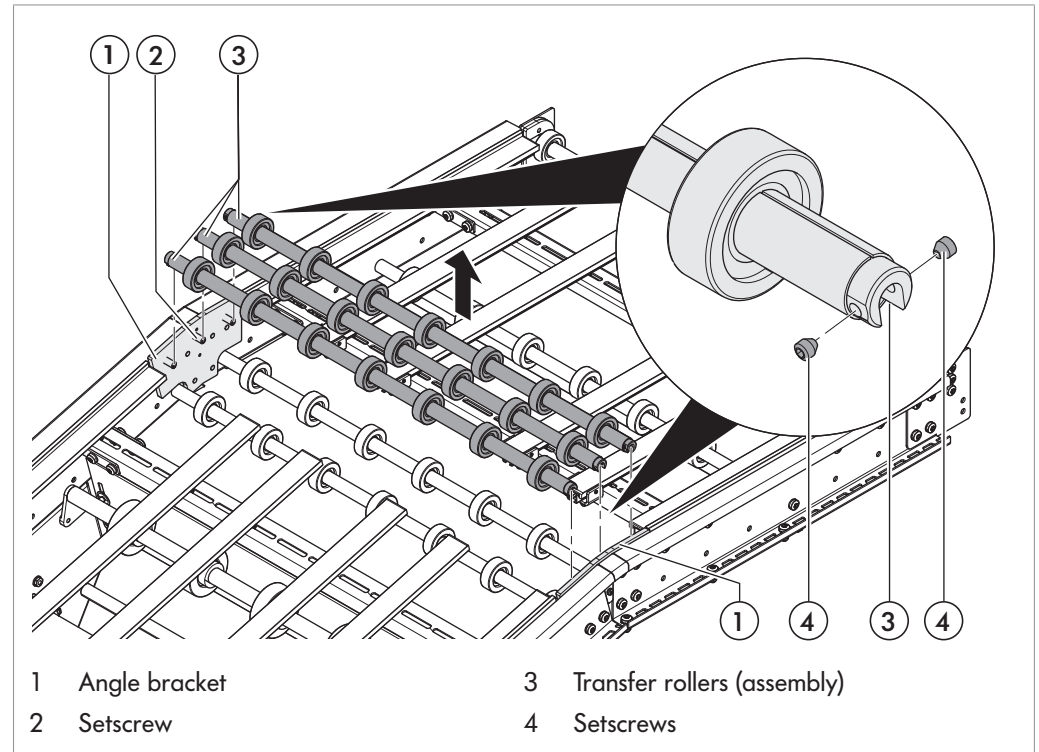
- The module is shut down.
  - ▶ Disassemble drum motor, see "*Removing/installing drum motor (center drive)*", page 58.
  - ▶ Pull the sprockets (3) off the drum motor (2) by and by.
  - ▶ Loosen setscrews (1) from the set collars (4) to be able to replace the two middle sprockets (3).
  - ▶ Pull set collars (4) off the drum motor (2).
  - ▶ Properly dispose of the old sprockets and set collars.
  - ▶ Push new set collars (4) onto the drum motor (2) to position the two middle sprockets (3), fasten set collars (4) with setscrews (1).
  - ▶ Push new sprockets (3) onto the drum motor (2) by and by.
  - ▶ Install the drum motor in reverse order.

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing the transfer rollers (top arch)

The three transfer rollers are located at the top arch of the module Z conveyor and are replaced as a complete assembly.



### **⚠ DANGER**



#### **Danger to life from electrocution and crushing**

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



Fasten screws with a tightening torque of 6 Nm.

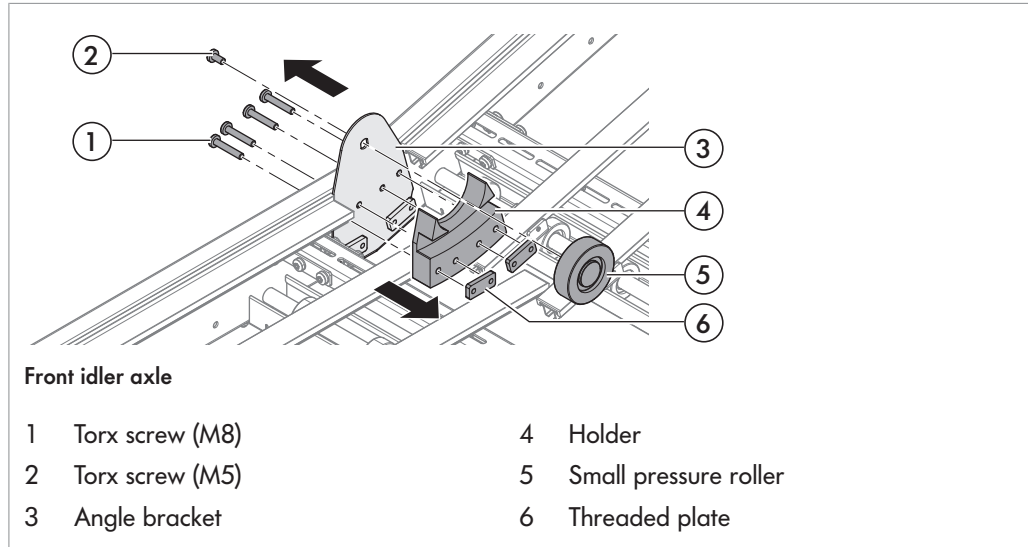
Requirement:

- The module is shut down.
  - ▶ Disassemble the module conveyor, see "Replacing the module conveyor", page 53.
  - ▶ On both sides of the module, unscrew the setscrews (4) from the axles of the transfer rollers (3).
  - ▶ Pull the transfer rollers (3) off the threaded pins (2).
  - ▶ Properly dispose of the old assembly.
  - ▶ Place new transfer rollers (3) on the threaded pins in the angle bracket (1).
  - ▶ Secure the axles of the transfer rollers (3) with 2 setscrews each (4) on both sides.
  - ▶ Install the module conveyor in reverse order.

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing the small pressure rollers



### DANGER

#### Danger to life from electrocution and crushing

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



Fasten screws with a tightening torque of 19 Nm.

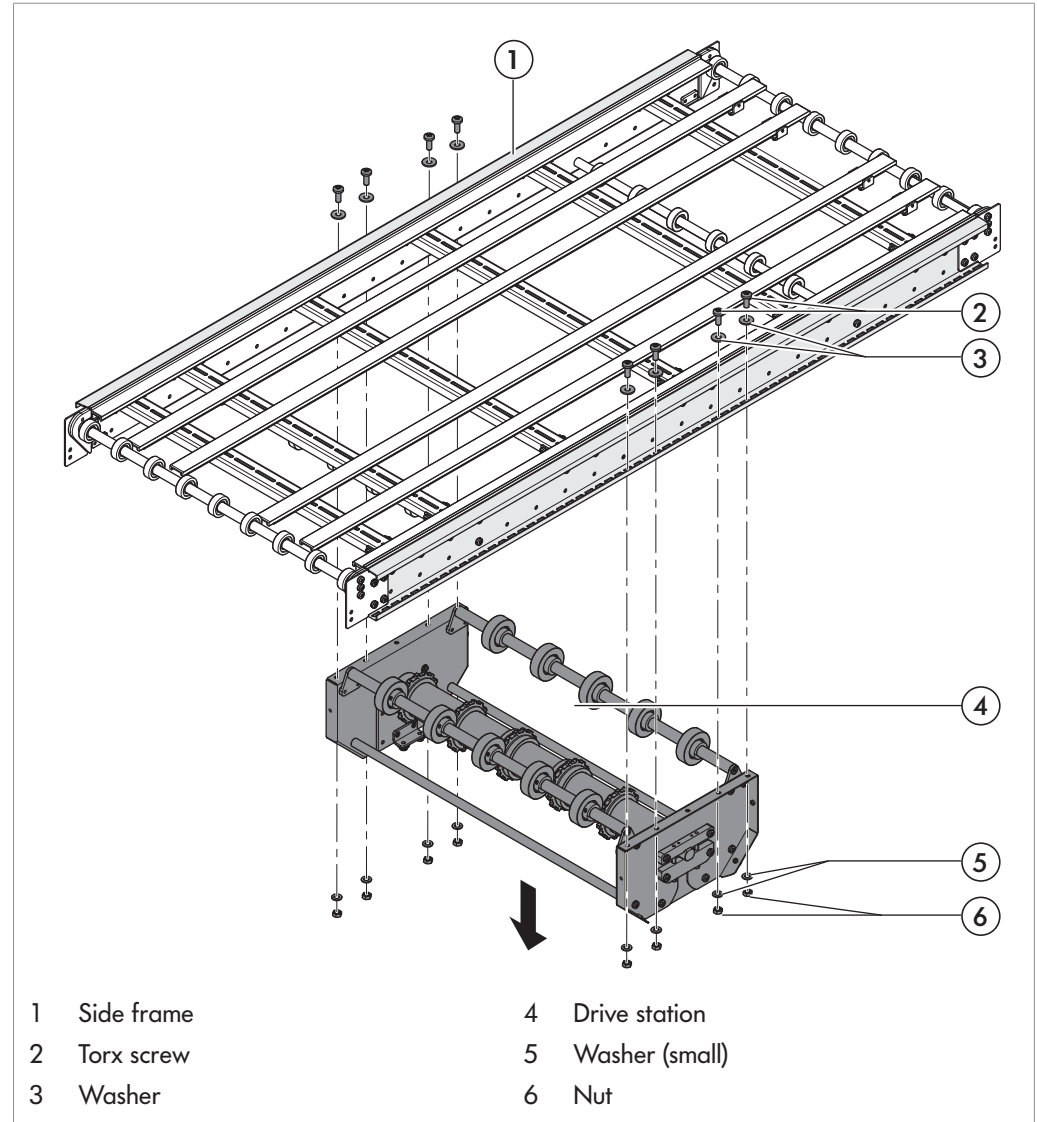
#### Requirement:

- The module is shut down.
  - ▶ Remove the module conveyor, see "Replacing the module conveyor", page 53.
  - ▶ Loosen screws (1, 2) in the side frame and in the angle bracket (3), remove holder (4) with small pressure roller (5).
  - ▶ Properly dispose of the old small pressure roller.
  - ▶ Fasten holder (4) at angle bracket (3) with screws (1) and threaded plates (6).
  - ▶ Place the new small pressure rollers (5) into the holder (4) and secure it with the screw (2) at the angle bracket (3).
  - ▶ Install the module conveyor in reverse order.

## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing the center drive station



#### DANGER

##### Danger to life from electrocution and crushing

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.

#### CAUTION

##### Risk of injury when lifting heavy loads

- ▶ Use a tool or a second person for steps directly involving the motor.

## Interroll Module Z conveyor SH 1300

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### Maintenance and repair

Requirement:

- The module is shut down.
- ▶ Remove the module conveyor, see *"Replacing the module conveyor"*, page 53.
- ▶ Disconnect the drive motor from the power supply.
- ▶ Remove the drive station (4) from the module frame by loosening the screws (2).
- ▶ Properly dispose of the old drive station.
- ▶ Fasten the new drive station (4) at the bottom left and right at the side frames (1): fasten with four screws (2) and four washers each (3) from the top in the C-profile of the side frame and secure with four small washers (5) and four nuts each (6) from below.
- ▶ Connect the drive motor to the power supply.
- ▶ Install the module conveyor in reverse order.

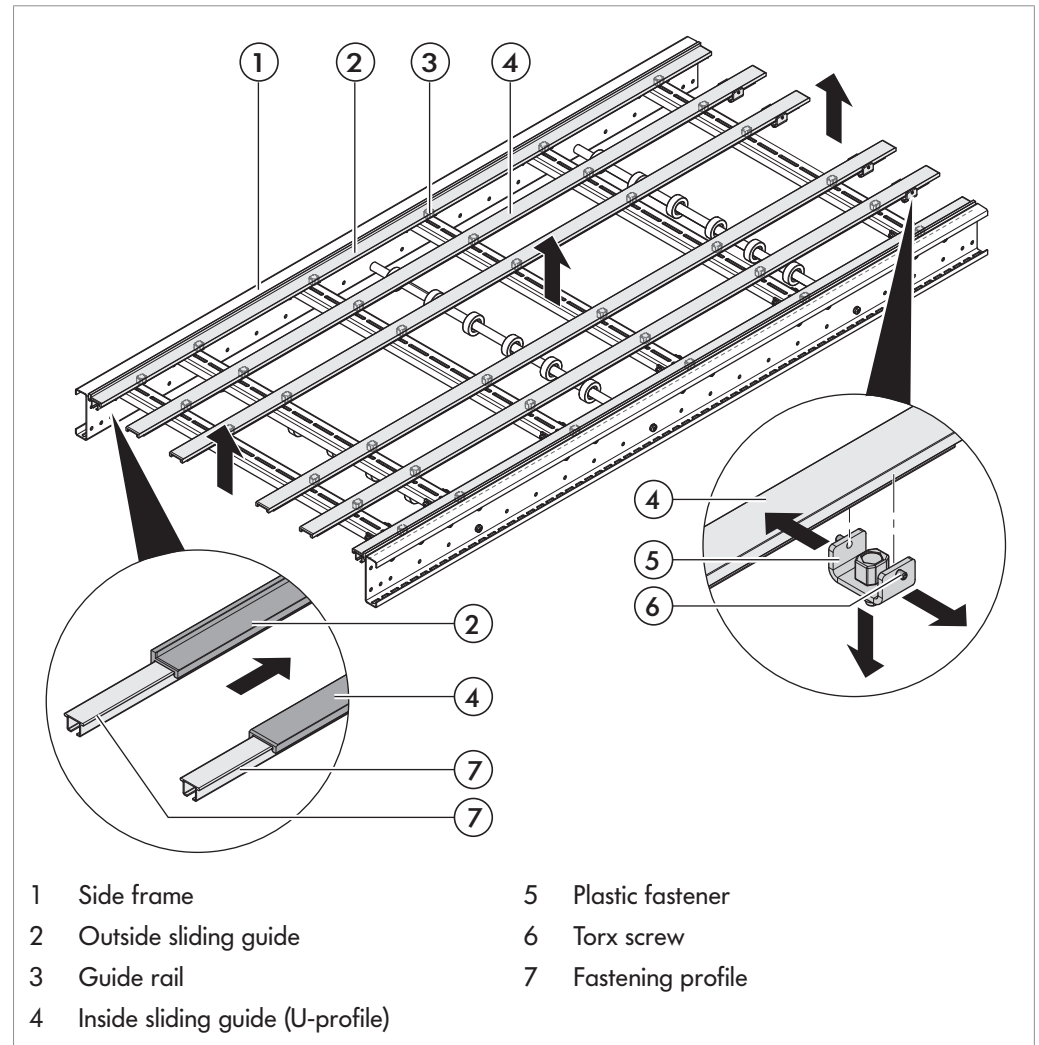


## Interroll Module Z conveyor SH 1300

### Maintenance and repair

#### Replacing sliding guides

Replacing the sliding guides requires removing the fastening profiles. The plastic fasteners hold the sliding guides on the fastening profiles in position.



#### DANGER

##### **Danger to life from electrocution and crushing**

Installation and maintenance tasks on 400-V conveyor systems while they are in operation can cause life-threatening electrocution and serious crushing.

- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



Fasten screws with a tightening torque of 3.5 Nm.

## Interroll Module Z conveyor SH 1300

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### Maintenance and repair

Requirement:

- ☑ The module is shut down.
- ▶ Remove the module conveyor, see *"Replacing the module conveyor"*, page 53.
- ▶ Loosen fastening profiles (7) together with the inside and outside sliding guides (2, 4) to the top from the securing blocks.
- ▶ Loosen screws (6) out of the plastic fasteners (5) at the inside sliding guides (4) and pull fasteners (5) off the sliding guides (4).
- ▶ Push sliding guides (2, 4) off the fastening profiles (7).
- ▶ Properly dispose of the old sliding guides.
- ▶ Push sliding guides (2, 4) onto the fastening profiles (7).
- ▶ Push plastic fasteners (5) onto the ends of the inside sliding guide (4) and secure them with screws (6).
- ▶ Click fastening profiles (7) together with the sliding guides (2, 4) onto the securing blocks of the guide rail (1).
- ▶ Install the module conveyor in reverse order.

## Troubleshooting

### In case of a fault



#### **⚠ DANGER**

##### **Danger to life from electrocution**

- ▶ Only perform maintenance and repair work after you have switched off power.
- ▶ Faults on electrical equipment may be rectified only by a trained electrician!

- ▶ Immediately power down the module and ensure that it cannot be started accidentally.
- ▶ Remove material and objects that block the conveyor.
- ▶ Before switching it on again, ensure that no persons are at risk.
- ▶ Properly dispose of any gear oil that has leaked. Have the motor replaced by qualified personnel, if necessary.

### Troubleshooting

| <b>Fault</b>   | <b>Cause</b>                                  | <b>Remedy</b>   |
|--|---|---|
| Conveying goods jam between the side guides                | Conveying goods sit on the module at an angle | Align conveying goods parallel to the side guide  |
|  | Center of gravity of the load is not centered | Align the center of gravity of the load   |
| Transport process cannot be started and motor does not run | Main switch and/or control turned off         | Check the switch position; turn on main switch and/or key switch of the control as required |
|  | Supply line damaged                           | Check supply line   |
| Transport process cannot be started and motor is running   | Module conveyor too loose                     | Retension module conveyor   |
|  | Transport weight too high                     | Observe maximum weight  |
| Transport shows jerky movements                            | Foreign objects in roller area                | Remove foreign objects  |
| Conveying goods are not being transported                  | Defective drum motor                          | Replace defective motor   |
|  | Defective roller                              | Replace defective roller  |
| Module conveyor brushes against the side frame             | Module conveyor adjustment is not straight    | Adjust module conveyor  |



## Interroll Module Z conveyor SH 1300

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### Troubleshooting

| <b>Fault</b>  | <b>Cause</b>   | <b>Remedy</b>  |
|---|--|--|
| Motor circuit breaker is triggered due to excessive current consumption | Gear box defective, bearing of drive roller/idler pulley defective | Replace the defective part                               |
|   | Short circuit  | Check electrical connections and replace defective parts |
|   | Unit weight too high   | Observe maximum weight                                   |
| Noise development/<br>squeaking/whistling                               | Bearing defective  | Replace bearing  |
|   | Module conveyor is touching  | Remove the cause   |
|   | Dirty roller   | Clean roller   |

## Interroll Module Z conveyor SH 1300

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### Spare and wear parts

All spare and wear parts are available from Interroll. Maintenance and repair work may be performed only by qualified personnel. Interroll offers training sessions about required maintenance and repair tasks upon request.



The spare parts for the connector sets can be ordered from Interroll upon request. The different connector sets are matched to all available conveyor modules and include static connectors as well as safety-relevant protective devices.

### Ordering information

Ordering spare and wear parts requires the exact identification of the module, see type plate.

The following information is required for an order:

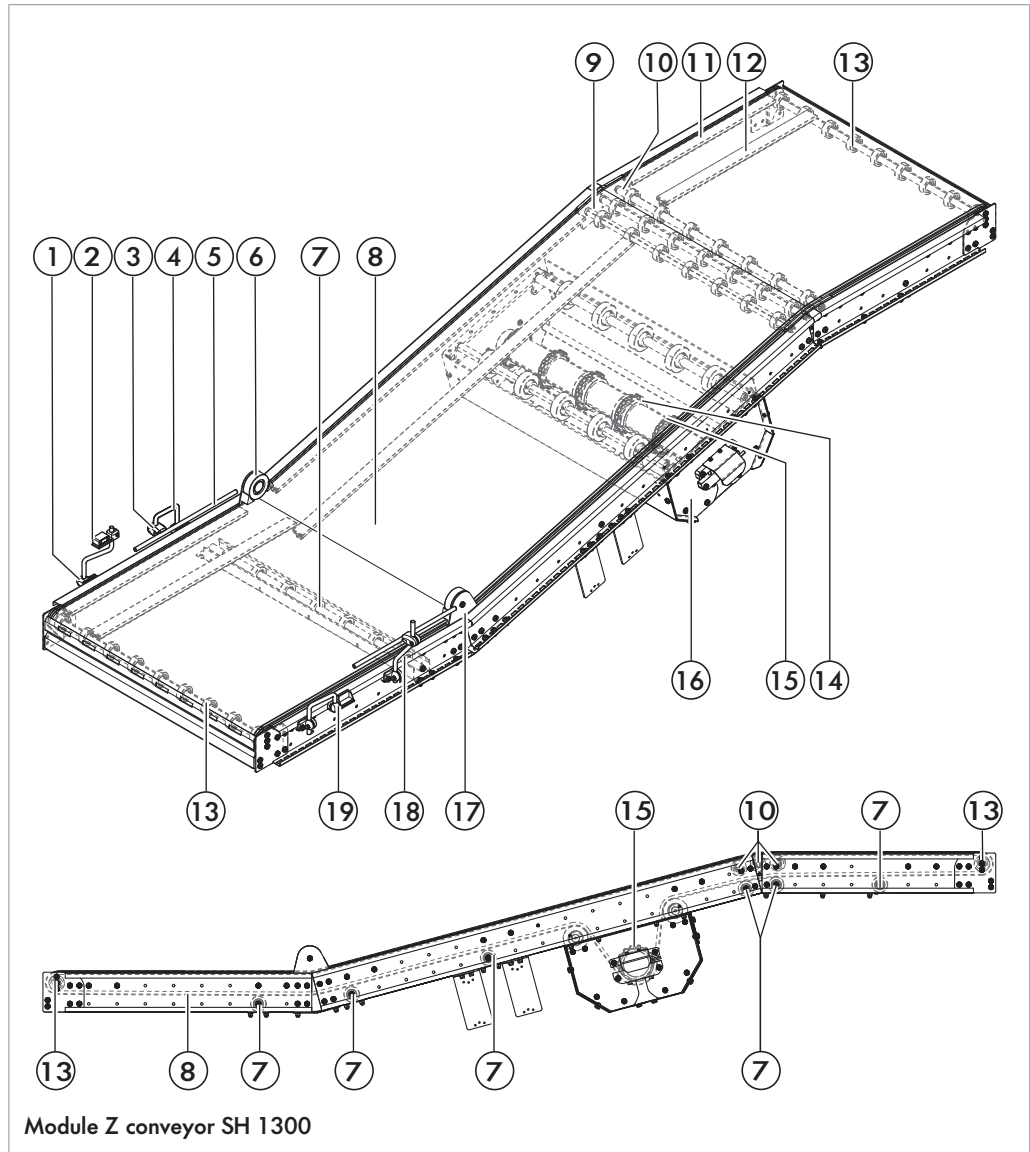
- Machine number
- Type
- Item number in spare parts list
- Designation
- Material number

For additional information about the spare parts portfolio, please contact your supplier.

## Interroll Module Z conveyor SH 1300

### Spare and wear parts

### Spare parts drawing












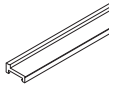
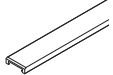
## Interroll Module Z conveyor SH 1300

### Spare and wear parts

#### Spare parts list

S = spare part, W = wear part, T = tool




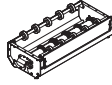



#### Type: 1300 (S, M, L)

| Item No.: | Designation  | Material number                                 | S/W/T |   |
|-----------|--|---|-------|---|
| 1         | Universal support                                  | 63172654  | S     |    |
| 2         | Photo cell incl. housing, fastening clip and cable | 63104071  | S     |    |
| 3         | Side guide bracket                                 | 63172677  | S     |    |
| 4         | Mounting bracket U                                 | 63172696  | S     |    |
| 5         | Side guide   | 1129435   | S     |   |
| 6         | Small pressure roller (without holder)             | 63180119  | S     |   |
| 7         | Return axle  | S: 63170990<br>M: 63170937<br>L: 63170818       | S     |  |
| 8         | Module conveyor                                    | S: 1129576<br>M: 1129577<br>L: 1129578          | S     |  |
| 9         | Top angle bracket                                  | 12°: 63173255<br>15°: 63171377<br>18°: 63173256 | S     |  |
| 10        | Assembly - transfer rollers                        | S: 63181111<br>M: 63181122<br>L: 63181127       | S     |  |
| 11        | Outside sliding guide                              | 1128658   | S     |  |
| 12        | Inside sliding guide                               | 1128657   | S     |  |
|           | Securing block                                     | 1128655   | S     |   |
|           | Fastening profile                                  | 1128659   | S     |   |

## Interroll Module Z conveyor SH 1300

### Spare and wear parts

Type: 1300 (S, M, L)

| Item No.: | Designation  | Material number                                 | S/W/T |   |
|-----------|--|---|-------|---|
| 13        | Idler axle   | S: 63180130<br>M: 63180133<br>L: 63170922       | S     |    |
| 14        | Set collar   | 63170839  | S     |    |
| 15        | Sprocket   | 63170835  | S     |    |
| 16        | Drive station (CD)                                 | S: 63180122<br>M: 63180125<br>L: 63180127       | S     |    |
| 17        | Bottom angle bracket                               | 12°: 63173122<br>15°: 63171369<br>18°: 63173125 | S     |    |
| 18        | Mounting bracket Z                                 | 63172672  | S     |   |
| 19        | Reflector incl. reflective tape and fastening clip | 64000905  | S     |  |



## Interroll Module Z conveyor SH 1300

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### Decommissioning and disposal

- ▶ When disposing the motor oil, observe the disposal documents of the motor manufacturer.
- ▶ The packaging must be recycled to provide environmental relief.

### Environmental protection regulations

For all work on and with the module, the legal regulations concerning waste avoidance and proper disposal and recycling must be followed.

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### NOTICE



**Substances with a water hazard class, such as greases and oils, hydraulic oils, coolants or cleaning agents with solvents may not be allowed to come into contact with the ground or reach the sewer system!**

- ▶ Store, transport, catch and dispose these substances in suitable containers!
  - ▶ Observe the notices on the supply containers.
  - ▶ Observe any additional national regulations.
-

### Declaration of incorporation

In accordance with EC Machinery Directive 2006/42/EC, Appendix II 1 B

Manufacturer and person authorized to prepare the technical documents

Interroll Trommelmotoren GmbH

Center of Excellence Hygienic Solutions

Opelstraße 3

41836 Hueckelhoven/Baal (Germany)

herewith declares that the conveyor module described below is an incomplete machine in accordance with the EC Machinery Directive:

- Interroll module Z Conveyor SH 1300

The incomplete machine may only be started up if it has been determined that the complete machine/system into which the incomplete machine is to be installed meets the requirements of this directive.

The following safety and occupational health requirements as stated in Appendix I have been applied:

- 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.6, 1.3.7, 1.3.8, 1.4.1, 1.4.2, 1.5.1, 1.5.2, 1.5.4, 1.5.5, 1.5.6, 1.5.8, 1.5.9, 1.6.1, 1.6.2, 1.6.4, 1.7.1, 1.7.2, 1.7.3, 1.7.4

The special technical documents mentioned in Appendix VII B have been prepared and will be transmitted to the responsible authority if necessary. Transmission is performed electronically.

Applicable EC Directives:

- Machinery Directive 2006/42/EC
- EMC Directive 2014/30/EU

Applicable EC/EU regulations:

- Regulation 10/2011/EU
- Regulation 1935/2004/EU

Applied harmonized standards:

- EN 415-10:2014 "Safety of machinery - Ergonomic design principles - Part 1: Terminology and classification of packaging machines and associated equipment"
- EN 619:2011-02 "Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of unit loads"
- EN ISO 12100:2011-03 "Safety of machinery - General principles for design - Risk assessment and risk reduction"
- DIN EN 1672-1:2014-12 "Food processing machinery - Basic concepts - Part 1: Safety requirements"
- EN ISO 13854:2020-01 "Safety of machinery - Minimum gaps to avoid crushing of parts of the human body"
- EN ISO 13849-1:2016-06 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"

## Interroll Module Z conveyor SH 1300

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### Declaration of incorporation

Hueckelhoven/Baal, dated 16 May 2022

A handwritten signature in black ink, appearing to read "H. Tiedemann".

Dr. Hauke Tiedemann  
Managing Director



## Interroll Module Z conveyor SH 1300

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### Declaration of incorporation

#### UK Supply of Machinery (Safety) Regulations 2008

##### The manufacturer

Interroll Trommelmotoren GmbH  
Opelstr. 3  
D - 41836 Hueckelhoven/Baal  
Germany

##### represented in the UK by

Interroll Limited  
Unit 1a, Orion Way Kettering, Northants  
NN15 6NL  
England

##### hereby declares that the "incomplete machine"

- Interroll Belt Z Conveyor SH1300

##### is an incomplete machine in the sense of the EC Machinery Directive (2006/42/EC), but complies with the following requirements according to Annex I of this Directive:

1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.6, 1.3.7, 1.3.8, 1.4.1, 1.4.2, 1.5.1, 1.5.2, 1.5.4, 1.5.5, 1.5.6, 1.5.8, 1.5.9, 1.6.1, 1.6.2, 1.6.4, 1.7.1, 1.7.2, 1.7.3, 1.7.4

The specific technical documentation according to Annex VII B has been prepared and will be submitted to the competent authority if required.

The commissioning of the incomplete machine is prohibited until the conformity of the overall machine/system in which it is installed with the UK Supply of Machinery (Safety) Regulations 2008 has been declared.

##### Further applied guidelines and resulting UKCA marking:

- UK Electromagnetic Compatibility Regulations 2016
- UK Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 212

##### Applied harmonized standards:

- EN ISO 12100:2011-03
- EN 60204-1:2019-06
- EN IEC 63000:2019-05
- EN 619:2011-02
- EN 1672-1:2014-12

##### Other standards applied:

- EN 60034-1:2011-02
- EN 60034-11:2005-04
- EN IEC 60034-14:2019-04
- EN IEC 60034-5:2021-05
- EN 60034-6:1996-08
- EN 61984:2009-11

## Interroll Module Z conveyor SH 1300

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### Declaration of incorporation

- EN 61800-1:2018:11

The partly completed machine may only be put into operation when it has been established that the complete machine/system in which the partly completed machine is to be installed is to be installed, complies with the provisions of this directive.

### Authorised for compiling technical documentation:

Interroll Trommelmotoren GmbH, Opelstr. 3, Germany - 41836 Hueckelhoven  
Hueckelhoven, 16th May 2022

A handwritten signature in black ink, appearing to read "H. Tiedemann".

Dr. Hauke Tiedemann  
(Managing Director)

## Appendix

### Warranty for Interroll module belt conveyors

Interroll grants a two-year warranty on its module belt conveyor range; the warranty applies to manufacturing and material defects and starts with the delivery or pickup at the factory. The warranty period is based on the regular operation of the product eight hours per day, provided no written agreement to the contrary is in effect.

As part of this warranty, Interroll repairs or replaces any defective product, free of charge, that is returned to the factory before the warranty period expires. The warranty period shall not be extended by repairs performed within the framework of the warranty.

#### Restrictions

Interroll and its dealers do not assume any liability for shutdowns or damages to the product that are due to the following causes:

- Non-observance of the installation or maintenance notes from Interroll
- Operation of the motor without suitable motor protection
- Not connecting the internal Interroll thermal circuit breaker (if available)
- Reversing the rotational direction before the motor has reached complete standstill
- Use of the module belt conveyor outside the specifications stated on the nameplate and/or in the current Interroll catalog or quotation

Repairs, modifications or conversions to the product that are not performed by a qualified Interroll technician or service partner, void the warranty, unless such work was clarified beforehand with Interroll in writing.

#### Exceptions

The Interroll warranty excludes any liability for the following damages:

- Damages caused by incorrect use or normal wear on materials used
- Costs for removal and return shipment of the product to Interroll as part of this warranty
- Damage to other systems that are used in conjunction with the product
- Loss of income, injuries or other costs in conjunction with the failure of the product

### Interroll Service

Do you any questions or issues?

Our Service Team will gladly provide support:

Hotline: +49 (0) 2193 - 23 222

E-mail: [ceu.service@interroll.com](mailto:ceu.service@interroll.com)



## Interroll Module Z conveyor SH 1300

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