

Installation and Operating Instructions

Interroll Transfer module

SH 1400

Rated width 410 mm (S), 715 mm (M), 867 mm (L)

Manufacturer's address

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Contents

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Introduction

Notes about working with the installation and operating instructions

The Interroll Ausschleuser product is generally referred to as "module" in this document.

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

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.

- ▶ 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.

**Contents of these
installation and operating
instructions**

**Integrated part of the
product**

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

Interroll Transfer module SH 1400

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.

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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:

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

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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

Interroll Transfer module SH 1400

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 motor/RollerDrive 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.



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Safety

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.

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.

Special operating mode	Explanation	Comment
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

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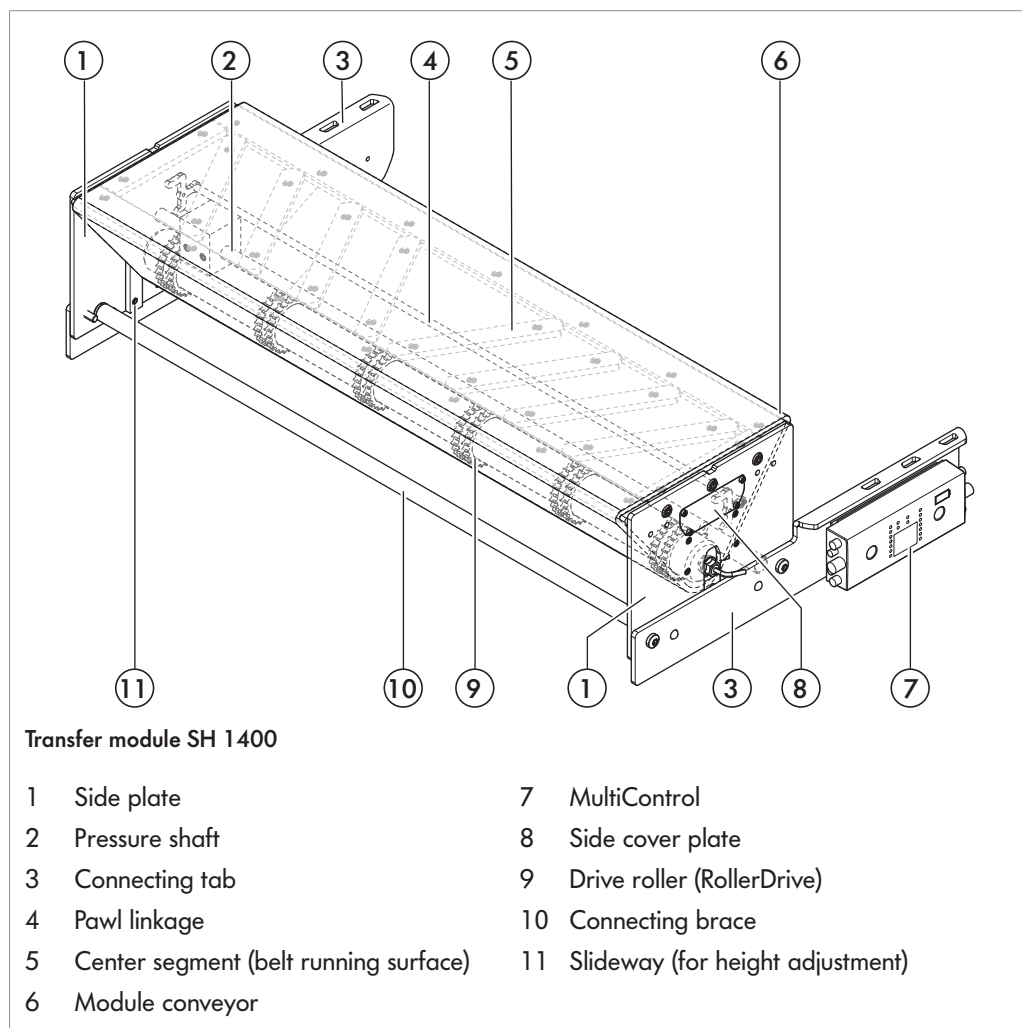
Product identification

Transfer module (SH 1400)

The Interroll transfer module is available in the following rated widths (BF):

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

Components



Interroll Transfer module SH 1400

Product identification

Property

The transfer module can be used with horizontal module belt conveyors. It can be installed at any position along the conveyor path. A subsequent installation is possible, as is shifting. No supports are attached at the module since it is connected straight with the module belt conveyor, which is standing on supports.

The drive is provided by an Interroll RollerDrive EC5000. Together with MultiControl, it is very easy to implement a zero-pressure accumulation conveyor.

Depending on the size of the transfer module, the rated width is S (410 mm), M (715 mm) or L (867 mm).

Technical data

	SH 1400
Rated width (BF)	410 mm (S) 715 mm (M) 867 mm (L)
Conveying width (CW)	398 mm (S) 703 mm (M) 855 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	Not suitable
Module length	310 mm
Conveying height (TOB)	Preselected in the layouter
Motor type	RollerDrive EC5000
Electrical power	35 W
Rated voltage	24 V
Rated current	2.4 A
Starting current	5.5 A
Control variants	MultiControl Bus Interface (IPX5 housing)
Transmission of force	Sprockets
Module conveyor	Movex 510FT
Protection rating	RollerDrive: IP 66

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Product identification

Scope of supply

The module is delivered completely assembled.

The scope of delivery includes:

- Rack, including side frames, connecting braces
- Drive (RollerDrive)
- Pressure shaft, pawl linkage
- Module conveyor

Optional:

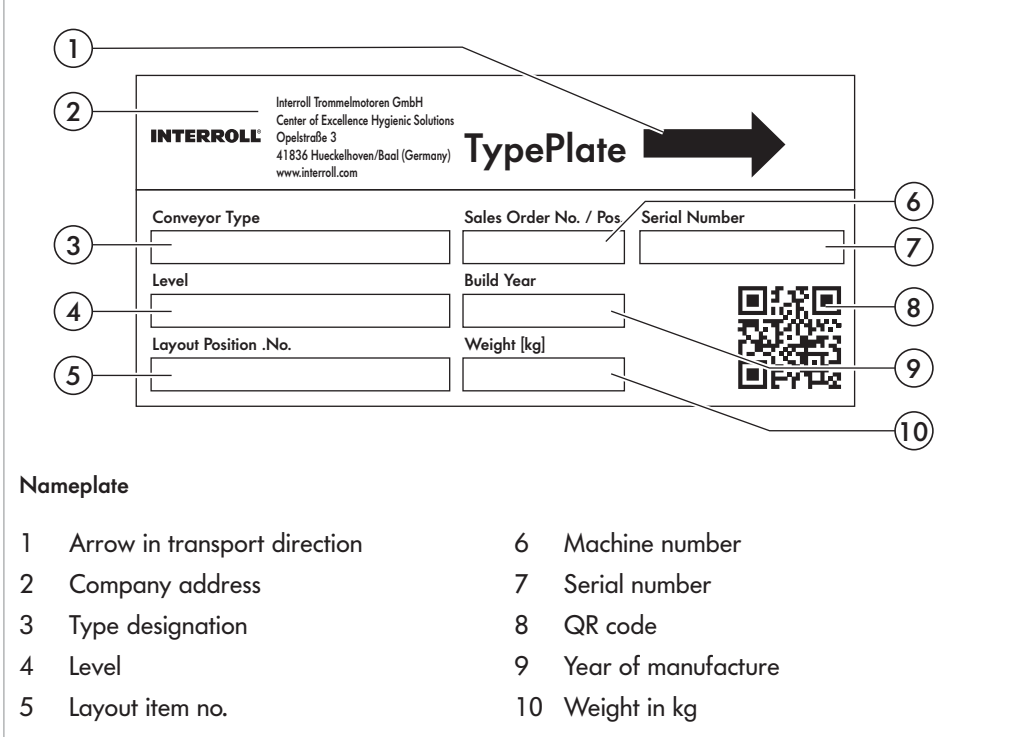
- MultiControl
- Photo cell and reflector, sensor holder and universal support
- Side guides, side guide brackets and universal support
- Connector sets incl. module connectors and contact guards
- Electronics

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

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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 side plate of the diverter.

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.

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.
-



WARNING

Risk of injury from crushing and electrocution

Installation and maintenance tasks on a conveyor system while it is in operation can cause crushing and electric shock.

- ▶ 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.

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Installation

- ▶ The connection values of the module are listed on the nameplate of the RollerDrive EC5000. It is located on the cable output side of the RollerDrive. In addition, the RollerDrive may feature a label for the documentation. Connect the RollerDrive EC5000 according to its own operating instructions.



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.

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Installation

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.
-

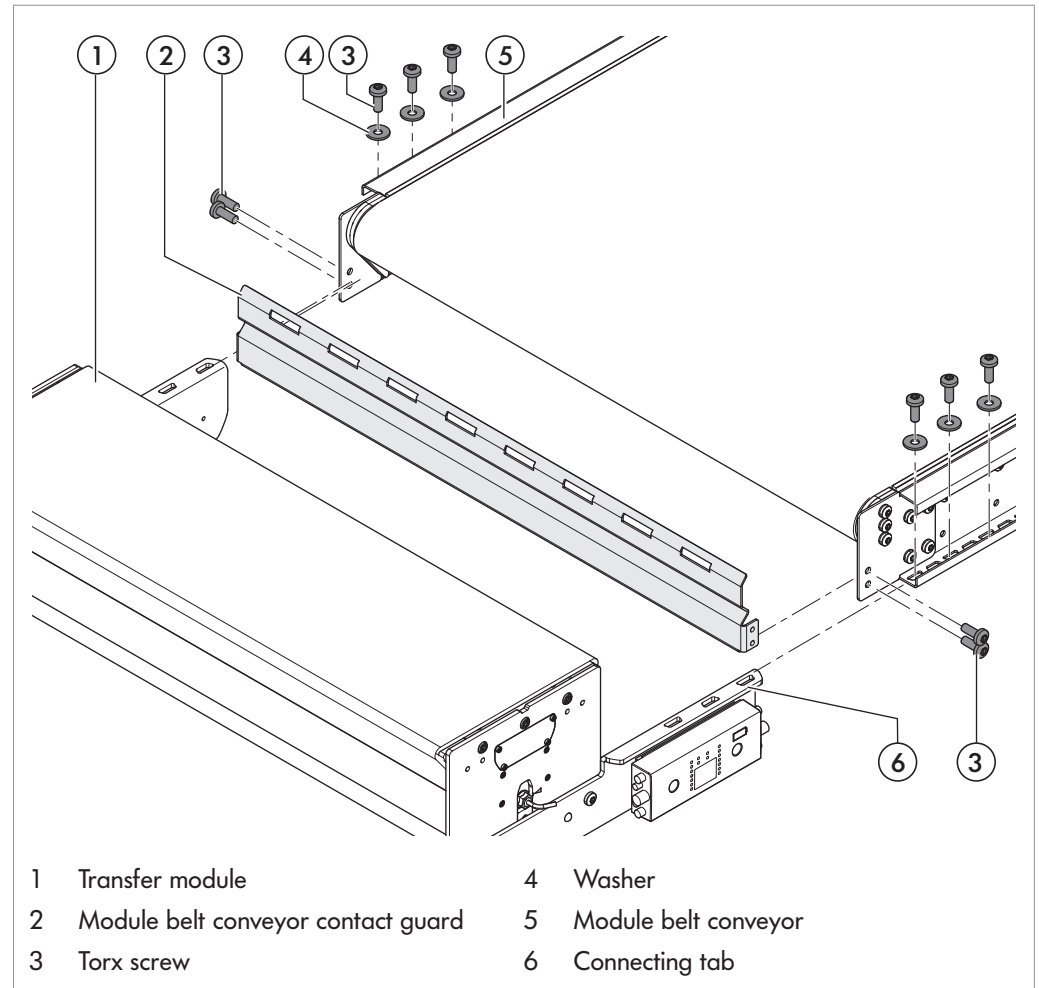
-  The profile connectors are also used for grounding between modules. If no profile connectors are used, alternative measures must be taken for grounding.
-  The modules are aligned based on the top edge of the roller conveyor or module conveyor. Suitable tools for alignment are a spirit level or rotation 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:

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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.

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 28 ff.

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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.

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. Test duration: 1 m ² /min for at least 3 minutes Water volume: 12.5 l/min Pressure: 30 kPa (4.4 psi or 0.3 bar) at a distance of 3 m (9.8 ft)

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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 in the area of the drive rollers.
-



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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.

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Cleaning

Resistance

The conveyor platform consists of various parts. Some parts are more resistant to cleaning agents than others. The RollerDrive 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.

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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 an acoustic check.	Initiate further measures depending on the component	
Module conveyor	Weekly	Check module belt-carrying side for cleanliness.	Clean dry as required	
RollerDrive	1 month after installation of module	Check for firm seating in the side profile.	Tighten as required	
RollerDrive	Monthly	Check temperature.	Replace as required	
		Check for noise.	Replace as required	
		Check for damage.	Replace as required	
		Check for true running.	Replace as required	
		Check electrical connections.	Replace as required	
Module conveyor	Every 6 months	Check for damage.	Replace as required	
		Check running behavior and tension.	Adjust as required	
Complete module	Every 6 months	Check moving parts for seating and wear.	Replace as required	
RollerDrive	Annually	Ensure that the RollerDrive shaft is secured properly in the side profile.	Correct as required	
Complete module	Annually	Check screw connections.	Tighten to standard as required	

Interroll Transfer module SH 1400

Maintenance and repair

Preparatory and follow-up maintenance work



⚠ WARNING

Risk of injury from crushing and electrocution

Installation and maintenance tasks on a conveyor system while it is in operation can cause crushing and electric shock.

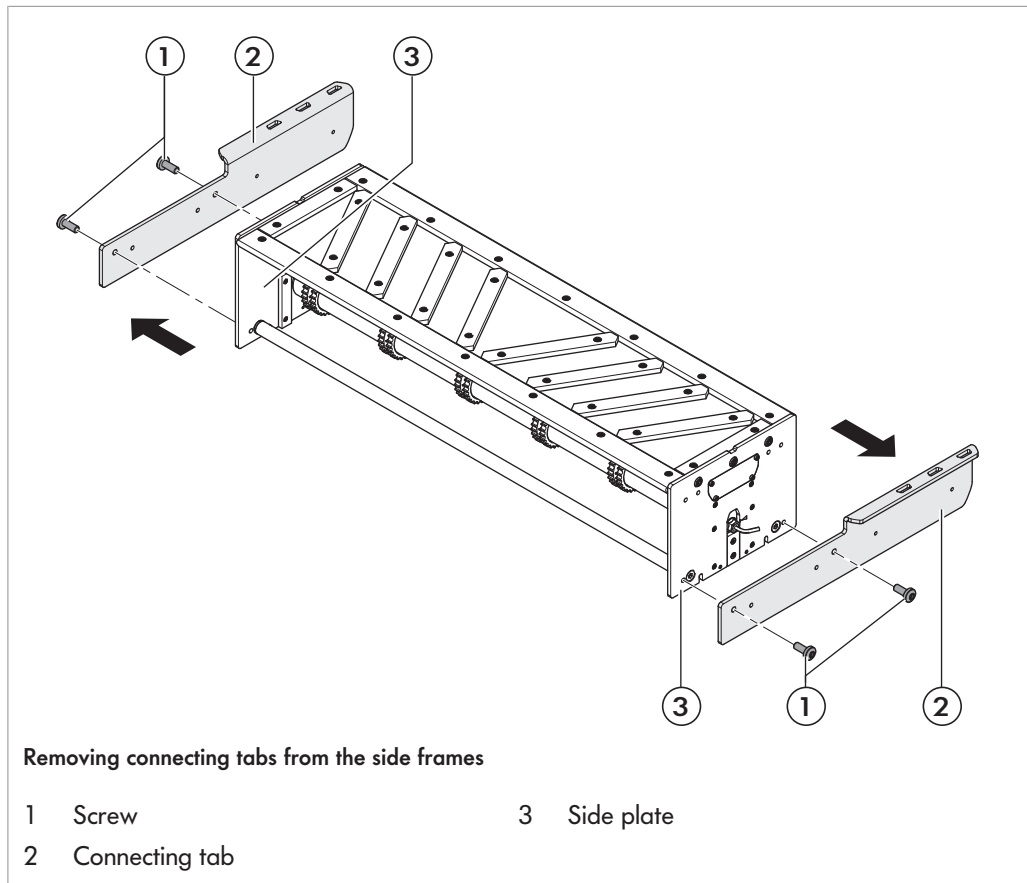
- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.



Fasten screws with a tightening torque of 19 Nm.

Installing/removing module between connecting tabs

To replace the drive roller, the module must first be removed from the connecting tabs and, therefore, the complete system.



Requirement:

- The module is shut down.
- ▶ Disconnect the motor connecting cable from the control system or from the extension cable.

Interroll Transfer module SH 1400

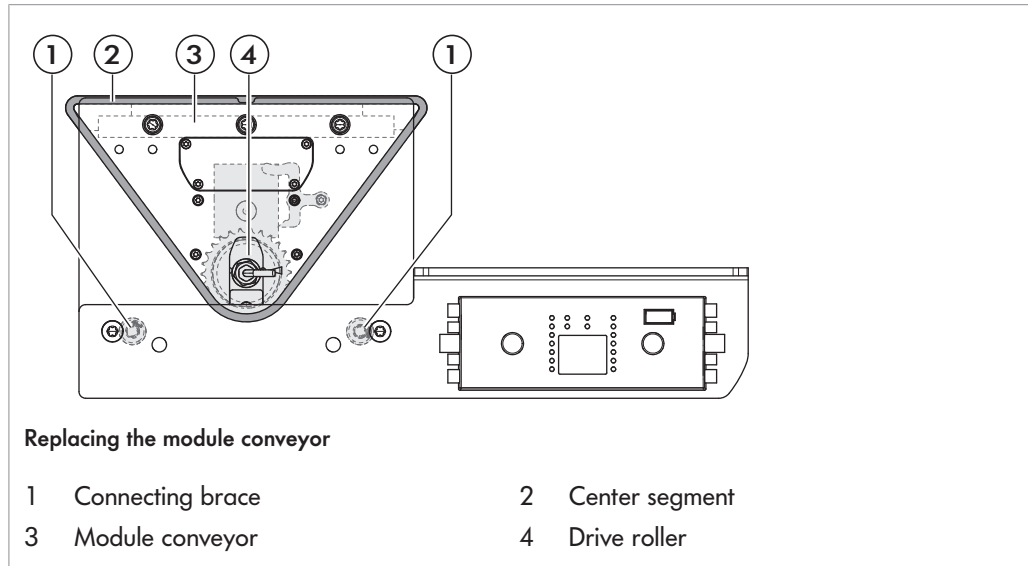
Maintenance and repair

- ▶ Remove the module from the complete system: Loosen screws (1) from connecting tabs (2) and side frames (3) on the right and left and lift out the module between the connecting tabs and, therefore, out of the complete system.
- ▶ The connecting tabs can remain screwed on to the subsequent conveyor or completely removed.
- ▶ After the maintenance work: Place/hang the module onto the screws in the connecting tabs. Attach the side frames (3) of the module on the right and left with screws (1) between the connecting tabs (2).

Interroll Transfer module SH 1400

Maintenance and repair

Replacing the module conveyor



WARNING

Risk of injury from crushing and electrocution

Installation and maintenance tasks on a conveyor system while it is in operation can cause crushing and electric shock.

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

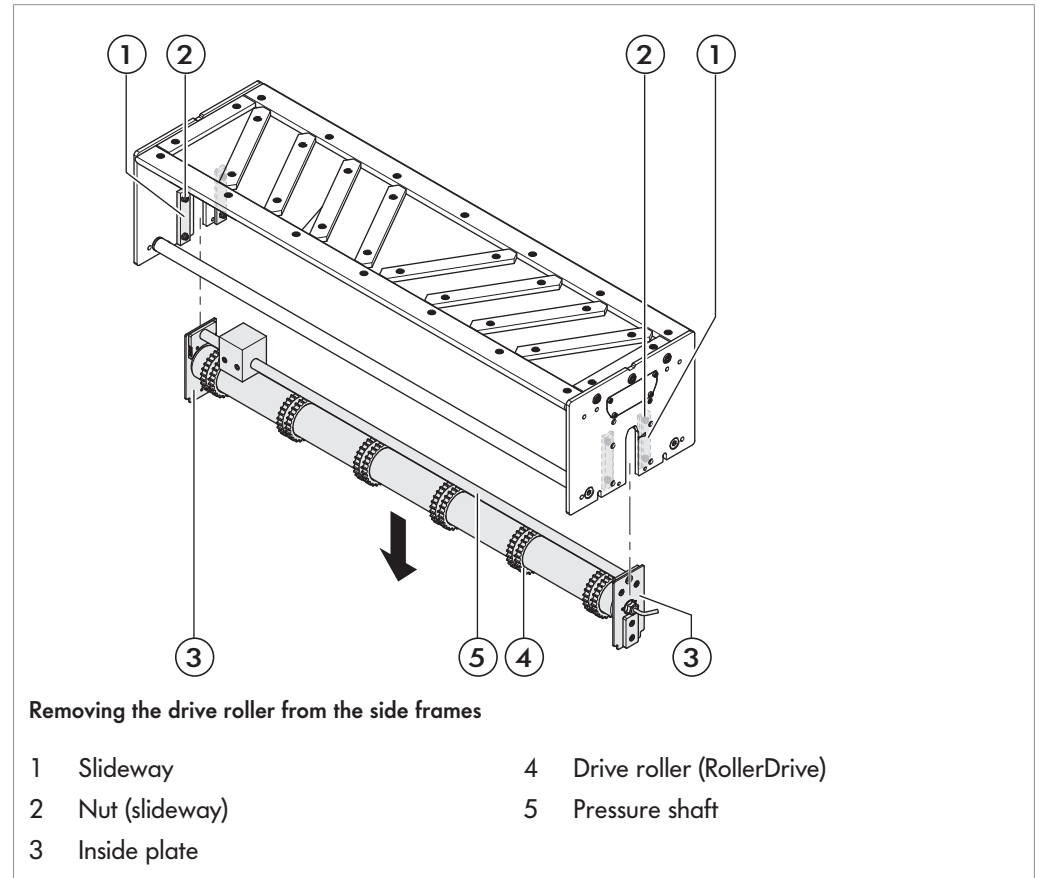
Requirement:

- The module is shut down.
- ▶ Drive the connecting rod out of the module conveyor (2) with a hammer and mandrel.
- ▶ Thread out the old module conveyor mat and properly dispose of it.
- ▶ Feed the new module conveyor (2) around the drive roller (4) and the center segment (3) and thread it in inside the connecting braces (1).
- ▶ Combine the module conveyor without sagging and drive in the connection rod using a hammer and mandrel.

Interroll Transfer module SH 1400

Maintenance and repair

Replacing the RollerDrive



⚠ WARNING



Risk of injury from crushing and electrocution

Installation and maintenance tasks on a conveyor system while it is in operation can cause crushing and electric shock.

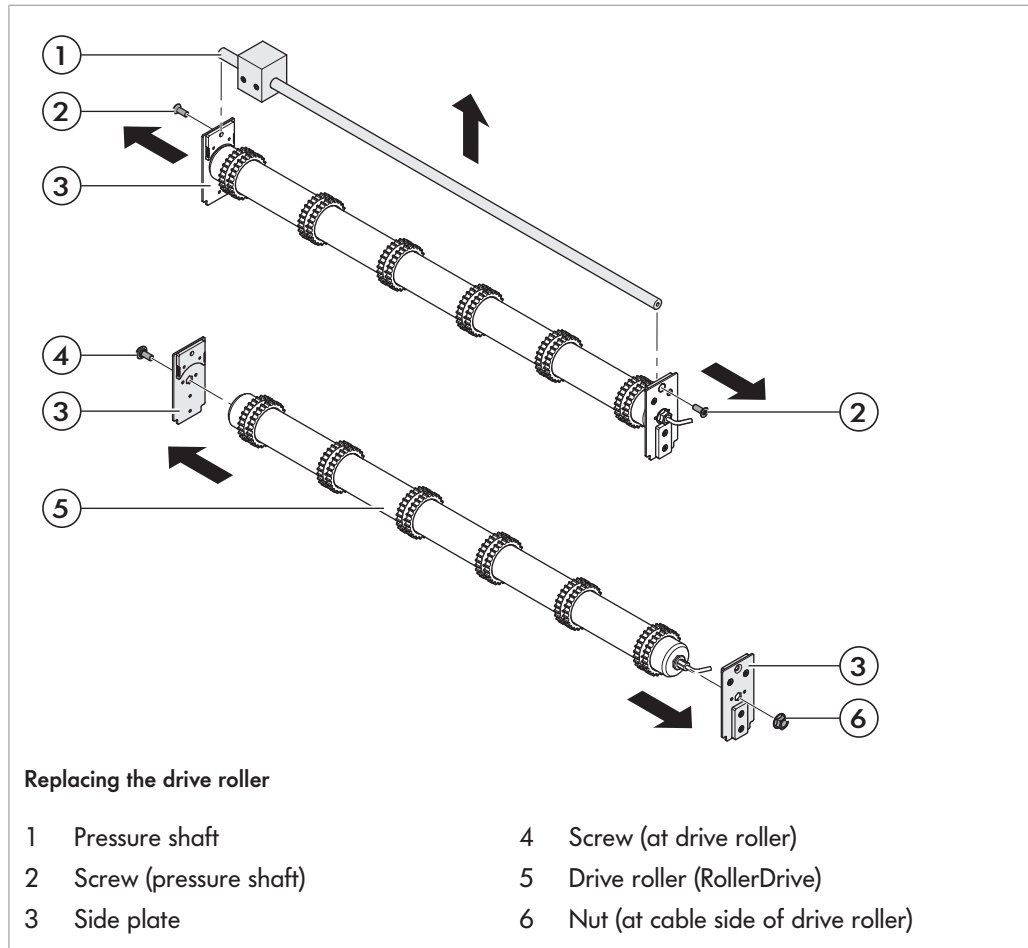
- ▶ Power down the entire conveyor module and ensure that it cannot be started accidentally.

Requirement:

- The module is shut down.
- ▶ Remove the module from the connecting tabs, see "*Installing/removing module between connecting tabs*", page 30.
- ▶ Remove the module conveyor, see "*Replacing the module conveyor*", page 32.
- ▶ Loosen nuts (2) on the right and left at the slideways (1) in each case.
- ▶ Remove the drive roller (4) with pressure shaft (5) at the inside plate (3) to the bottom and out of the side frames.

Interroll Transfer module SH 1400

Maintenance and repair



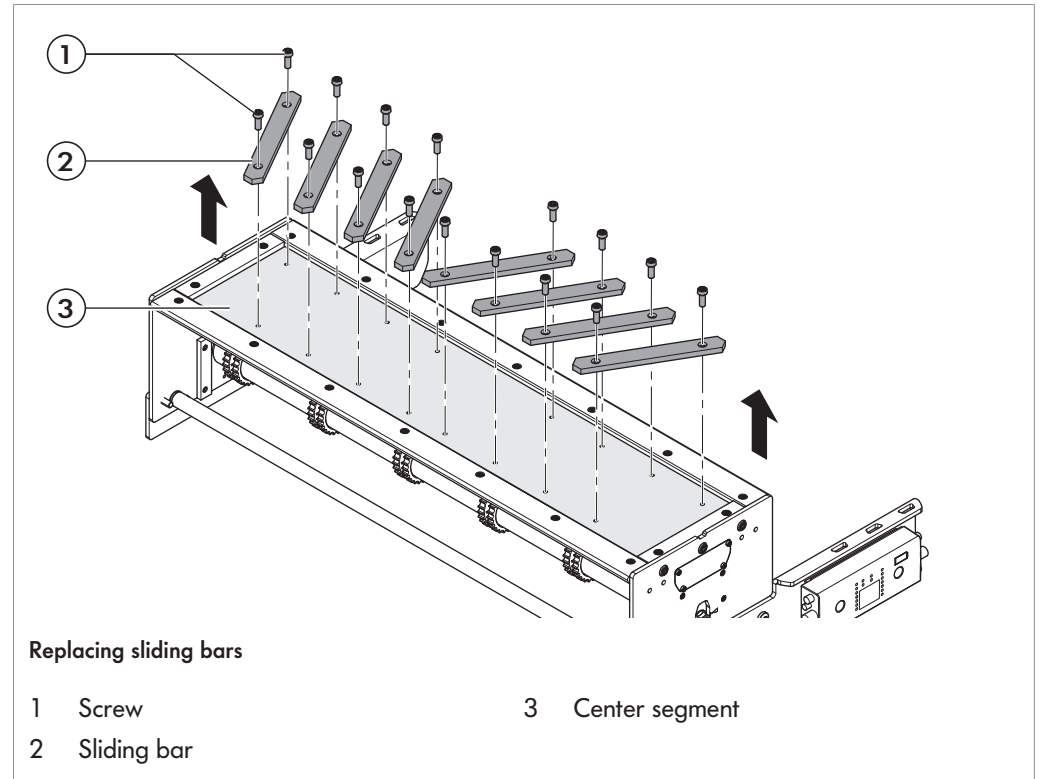
- ▶ Remove pressure shaft (1) by loosening the screws (3) in the side plates (2) on both sides.
- ▶ Remove screw (4) of the drive roller (5) from the side plate (3) of the module. Loosen the nut (6) on the cable side of the drive roller.
- ▶ Remove the drive roller from the side frames and install new RollerDrive in the side plates: Fasten screw with a tightening torque of 19 Nm. On the cable side, fasten nut with a tightening torque of 29 Nm on the drive roller.
- ▶ Fasten screws of pressure shaft with a tightening torque of 6 Nm.
- ▶ Reinstall drive roller with pressure shaft with the slideways in the side plates.
- ▶ Reattach module conveyor and reconnect the module with connecting tabs.
- ▶ Connect the drive roller to the power supply.

Interroll Transfer module SH 1400

Maintenance and repair

Replacing sliding bars

The eight sliding bars are replaced together.



WARNING

Risk of injury from crushing and electrocution

Installation and maintenance tasks on a conveyor system while it is in operation can cause crushing and electric shock.

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

Requirement:

- The module is shut down.
 - ▶ Remove the module conveyor, see "Replacing the module conveyor", page 32.
 - ▶ Remove screws (1) from sliding bars (2) and detach old sliding bars from center segment (3).
 - ▶ Place new sliding bars on center segment and fasten with screws.
 - ▶ Reattach the module conveyor.

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

Fault	Cause	Remedy
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 RollerDrive does not run	Main switch and/or control system turned off (is the LED on the MultiControl lit?)	Check the switch position; if necessary, turn on the main switch and/or control
	Supply line damaged	Check supply line
	RollerDrive defective	Replace the RollerDrive, see <i>"Replacing the RollerDrive"</i> , page 33
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	MultiControl defective	Replace MultiControl, see <i>"Replacing MultiControl"</i> , page 35
Module conveyor brushes against the side frame	Module conveyor adjustment is not straight	Adjust module conveyor

Interroll Transfer module SH 1400

Troubleshooting

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

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:

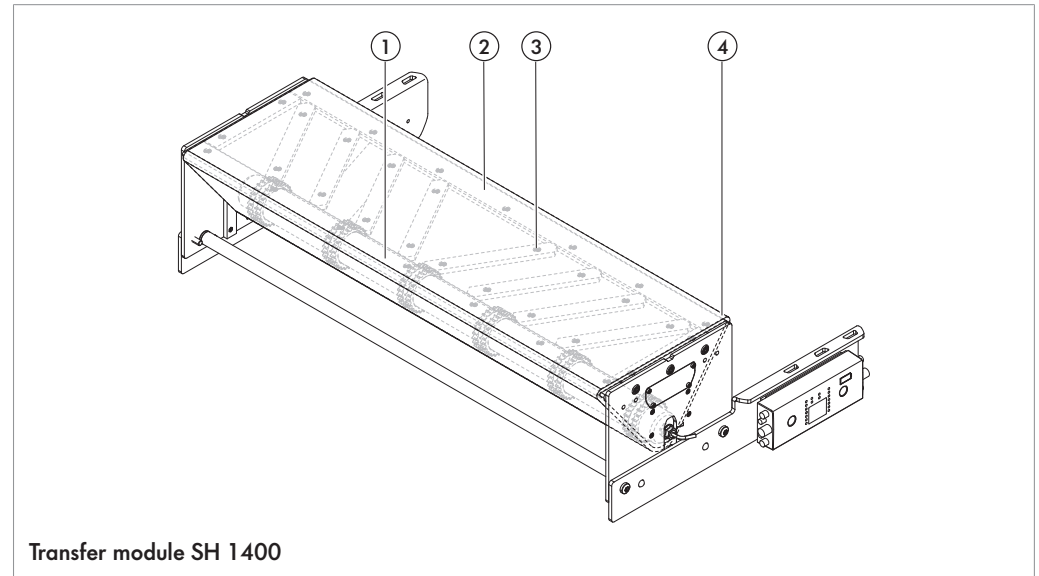
- Machine number
- Type
- Item number in spare parts list
- Designation
- Material number

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

Interroll Transfer module SH 1400

Spare and wear parts




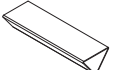
Spare parts drawing



Spare parts list

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

Type: 1400 (S, M, L)

Item No.:	Designation	Material number	S/W/T	
1	RollerDrive	S: 61124089 M: 61124090 L: 61124091	S	
2	Knife edge	S: 63172455 M: 63172318 L: 63172581		
3	Sliding bar	63172273		
4	Module conveyor	S: 1129393 M: 1129345 L: 1129404	S	

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.

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 transfer module SH 1400

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 Transfer module SH 1400

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

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 Transfer Module SH1400

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 Transfer module SH 1400

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

