Operating Instructions
Interroll Strip Belt Merge
Type 4430 / 4445
Manufacturer’s address

Interroll Automation GmbH
Untere Au 4
74889 Sinsheim, Germany
Phone: +49 7261 938 – 0
Fax: +49 7261 938 – 124
www.interroll.com
automation@interroll.com

Copyright
The copyright for these operating instructions remains with Interroll Automation GmbH. The operating instructions contain technical regulations and drawings which may not be reproduced partially or in full, transmitted by any means, utilized without permission for competitive purposes or disclosed to third parties.
Table of contents

About this document
   Information about the operating instructions .................... 3
   Warning signs in this document .................................... 4
   Other symbols .......................................................... 4

Safety
   Basic safety instructions ............................................ 5
   Intended use ............................................................. 5
   Incorrect use ............................................................ 5
   Specialists ............................................................... 5
   Electricians .............................................................. 5
   Dangers ................................................................. 6
   Interfaces to other devices .......................................... 6
   Operating modes ....................................................... 7

Product identification
   Components ............................................................. 8
   Characteristic ......................................................... 8
   Product variants ..................................................... 9
   Type plate ............................................................. 10
   Identifying the conveyor type ...................................... 11
   Entering the type designation ...................................... 11
   Determining permissible dimensions ............................... 12
   Determining permissible weights ................................... 13
   Characteristic curve loading weight Type 4430 / 4445 ........... 13

Transport and storage
   Transport .............................................................. 14
   Storage ................................................................. 14

Assembly and installation
   Assembly ............................................................... 15
   Assembling the conveyor ............................................. 15
   Electrical installation ................................................. 15

Start-up and operation
   Initial start-up ....................................................... 16
   Operation .............................................................. 17
   Procedure for accidents or malfunctioning ........................ 17

Cleaning, maintenance and repairs
   Cleaning ............................................................... 18
   Maintenance and repair work information .......................... 18
   Replacing the belt .................................................... 18
   Adjusting the belt tension ......................................... 19
   Maintenance intervals ............................................... 21
   Maintenance and inspection list .................................... 23

Troubleshooting
   In case of malfunctioning ............................................ 24
   Troubleshooting ........................................................ 24

Spare and wear parts
   Spare parts drawing .................................................. 25
   Spare parts list ....................................................... 26
   Order details .......................................................... 26
## Table of contents

### Shut-down and disposal
- Shut-down and disposal .................................................. 27
- Environmental regulations ........................................... 27

### Accessories
- High side guide ......................................................... 28
- Transfer profile ....................................................... 28

### Manufacturer's declaration
About this document

**Information about the operating instructions**

These operating instructions contain important details and information about the various operating phases of the conveyor:
- Transport, assembly and start-up
- Safe operation, required maintenance, remedy of possible faults
- Spare parts, supplementary accessories

**Product affiliation**
The operating instructions describe the finished conveyor at the time of initial delivery.

Supplementary to these operating instructions, special contractual agreements and technical documents apply for special conveyor versions and additional appliances.

**These operating instructions are an integral part of the conveyor**
- To ensure trouble-free and safe operation as well as the settlement of any warranty claims, always read these operating instructions first and observe all the information contained herein.
- Keep these operating instructions close to the conveyor.
- Always give the operating instructions to each subsequent owner or user. Interroll shall not accept liability for any damages or malfunctioning caused by non-adherence to these operating instructions.
- Please contact Interroll Customer Service if you have any further questions after reading these operating instructions. See the last page for your local contact.
About this document

Warning signs in this document

The warning signs in this document provide information about dangers which may arise during conveyor operation. The relevant warning signs are displayed in the "safety" section, see "Safety", page 5 and at the beginning of each chapter.

There are three types of warning signs:
- **DANGER**
- **WARNING**
- **CAUTION**

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Meaning</th>
<th>Consequences of non-adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGER</td>
<td>warns of an imminent danger</td>
<td>death or serious injuries.</td>
</tr>
<tr>
<td>WARNING</td>
<td>warns of a possible danger</td>
<td>death or serious injuries are possible.</td>
</tr>
<tr>
<td>CAUTION</td>
<td>warns of a possibly dangerous situation</td>
<td>slight injuries are possible.</td>
</tr>
</tbody>
</table>

**Warning sign design**

- **DANGER**
  - The type and source of the imminent danger is specified here!
  - Possible consequences of non-adherence are stated here.
  - Protective measures against the danger are listed here.

- **CAUTION**
  - Always read and carefully observe all warning signs.

**Other symbols**

- **NOTICE**
  - This sign specifies possible property damages.
  - Protective measures against property damages are listed here.

This symbol displays safety instructions.

This symbol displays useful and important information.

- This symbol refers to an actual task.
Safety

Basic safety instructions

The conveyor was state of the art and generally safe to operate at the time of delivery; however dangers may still arise during utilization:

- Danger of death or personal injury to operators and others
- Adverse effects on the conveyor and other areas

Non-adherence to the information in these operating instructions can result in life-threatening injuries!

Read these operating instructions carefully and adhere to the information contained herein to ensure safe conveyor operation.

Intended use

The conveyor is intended for use in industrial environments and should only be applied to transport goods, such as parts, boxes or crates.

Application area

The conveyor is intended for certain application areas only (see "Product identification", page 8 and the following) and its defined capacity limits must not be exceeded during operation.

Any other use is not permitted. Operating conditions which deviate from those specified require new contractual agreements.

Conveyor modifications

Users are not permitted to carry out alterations or modifications which will have an adverse effect on safety.

Incorrect use

The conveyor is not intended for transporting people, bulk goods and small parts.

Specialists

Specialists are personnel who have the knowledge to read and understand the operating instructions and the ability to carry out work professionally while observing national regulations.

Electricians

According to German accident prevention regulations (BGV A2), electricians must be able to assess and recognize possible dangers when performing entrusted tasks due to their professional training, know-how, experience and knowledge of relevant regulations.
Safety

Dangers

This section provides information about various dangers and damages which may occur when operating the conveyor.

Safety equipment
- Only carry out maintenance and repair work once the machine has been de-energized and measures have been taken to ensure that it cannot be started accidentally.
- Organize additional safety measures for passageways and to stop people reaching into the moving conveyor.
- Never remove protective covers or housings.
- Regularly inspect safety equipment.

Electricity
- Never reach into a live machine.

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

Falling objects/Work environment
- Always remove materials and objects which are not required from the work area.
- Wear safety shoes.
- Regulate and monitor the position of goods.

Malfunctioning during operation
- Regularly inspect the conveyor for visible damages.
- Stop the device immediately and ensure that it cannot be started accidentally. Smoke, unusual noises, trapped or broken goods, defective support stands, side guides or accessory appliances.
- A specialist must locate the source of the fault immediately.
- Immediately clean up any leaked gear oil.
- Do not climb on the conveyor during operation.

Maintenance intervals
- Carry out maintenance and inspections regularly.
- Only use original spare parts.

Interfaces to other devices

Danger zones can arise when integrating the conveyor into a system. These zones will not be described in these operating instructions and must be analyzed during installation and initial start-up of the respective system.

- After connecting the conveyor to other conveyors or machines, always check for new danger zones prior to initial start-up. Especially at the end roller shaft where cuts and crushing can occur.
- If necessary, implement further constructional measures.

A transition profile can be fitted to eliminate danger zones. The transition profile is available as an accessory, see "Transfer profile", page 28.
Safety

Operating modes

Normal mode
Operation when installed at the end customer's as an individual conveyor or as a conveyor in a system.

Special mode
All operating modes which are required to guarantee and maintain safe and normal operation.

<table>
<thead>
<tr>
<th>Special operating mode</th>
<th>Explanation</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport/Storage</td>
<td>Loading and unloading, transport and correct storage</td>
<td>-</td>
</tr>
<tr>
<td>Assembly/Initial start-up</td>
<td>Installation at the end customer's and execution of a test run</td>
<td>-</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Cleaning the outside without removing safety equipment</td>
<td>When de-energized</td>
</tr>
<tr>
<td>Maintenance/Repairs</td>
<td>Maintenance and inspection tasks</td>
<td>When de-energized</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>Troubleshooting during normal operation</td>
<td>-</td>
</tr>
<tr>
<td>Fault elimination</td>
<td>Eliminating the fault</td>
<td>When de-energized</td>
</tr>
<tr>
<td>Shut-down</td>
<td>Removal from the system</td>
<td>When de-energized</td>
</tr>
<tr>
<td>Disposal</td>
<td>Removal from the system and disassembly</td>
<td>When de-energized</td>
</tr>
</tbody>
</table>
Product identification

Components

Device design

1. Side frame
2. Type plate
3. Geared motor
4. Drive shaft
5. Tensioning station
6. Side frame
7. End rollers

Characteristic

The belt merge introduces and distributes conveyed goods on collection belts.

The feed/discharge angle is 30° or 45°.
Interroll Strip Belt Merge
Type 4430 / 4445

Product identification

Product variants
The difference between Type 4430 and Type 4445 is only the feed/discharge angle.

<table>
<thead>
<tr>
<th>Type 4430 / 4445</th>
<th>Technical data, **</th>
</tr>
</thead>
</table>
| Feed/Discharge angle $\alpha$ | 30° for Type 4430  
                       | 45° for Type 4445  |
| Belt width (BW) | 40 mm or 90 mm |
| Lane width (LW) | 410 mm up to 1210 mm in increments of 100 mm |
| Conveyor length (CL) | See type plate |
| Direction of travel (D.O.T.) | A, B, C, D (see diagram below) |
| Height (T.O.B.) | From min. 220 mm to 2000 mm, with adjustment range of ±50 mm |
| Conveyor weight | From 120 kg to 500 kg |
| Conveying speed (V) | 0.1 m/s to 2.5 m/s |
| Load per merge | Up to 300 N/m (30 kg/m), max. 75 kg/merge |
| Drive | Geared motor 0.37 kW to 1.10 kW; 400 V / 50 Hz or 460 V / 60 Hz (depending on the country of operation) |
| Side guide height | 120 mm (or according to customer specifications) |
| End roller diameter | Ø70 mm at sloping side  
                       | Ø80 mm or Ø120 mm at straight side |
| Temperature range | −5 °C to +50 °C ambient temperature |
| Relative humidity | Max. 90%, non-condensating |
| Ambient conditions | Not suitable for application in areas with chemically aggressive media, e.g. acids or alkalis. Exceptions only after prior consultation. |
| Belt variants | Rough top PVC belt |
| Noise | Leq < 70 dB(A) |

* depending on the variant, ** special versions possible

Directions of travel (D.O.T.)

A

B

C

D

Version 2.2 (03/2009) en
Product identification

Type plate

The type plate specifications identify the conveyor. The type designation is required for correct application of the conveyor.

The type plate is located close to the motor.

Type plate

1. Company's address
2. Year of manufacture
4. Type designation (= order code)
Product identification

Identifying the conveyor type

Entering the type designation

- Determine the type designation details and enter them here as reference.

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Characteristic</th>
<th>Type plate details</th>
<th>Unit/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Type no.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Belt width (BW)</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Lane width (LW)</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Conveyor length (CL)</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Direction of travel (D.O.T.)</td>
<td>A, B, C or D (see product variants)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Conveyor height (T.O.B.)</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Conveying speed</td>
<td>m/s</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Drive shaft Ø</td>
<td>mm</td>
<td></td>
</tr>
</tbody>
</table>

Type designation example

Type designation 4445-40-720-1500-B-800-2-120
- Interroll Strip Belt Merge Type 4445
- Belt width (BW) = 40 mm
- Lane width (LW) = 720 mm
- Conveyor length (CL) = 1,500 mm
- Direction of travel (D.O.T.) = B
- Conveyor height (T.O.B.) = 800 mm
- Conveying speed = 2 m/s
- Drive shaft Ø = 120 mm
Product identification

Determining permissible dimensions

**NOTICE**

- Damage to the conveyor or conveyed material!
  - Only transport materials with permissible dimensions (see table).
  - Conveyed material must not be longer than 1,050 mm and wider than 600 mm.
  - Position the short side of the conveyed material parallel to the conveyor’s lane width.

Use the following table to determine permissible dimensions:

<table>
<thead>
<tr>
<th>Feed/Discharge angle</th>
<th>Length/Width ratio</th>
<th>Max. permissible width of the conveyed material</th>
</tr>
</thead>
<tbody>
<tr>
<td>30°</td>
<td>&lt; 2</td>
<td>Lane width - 20 mm</td>
</tr>
<tr>
<td></td>
<td>&gt;= 2</td>
<td>Lane width - 120 mm</td>
</tr>
<tr>
<td>45°</td>
<td>&lt;= 1.3</td>
<td>Lane width - 20 mm</td>
</tr>
<tr>
<td></td>
<td>1.3 &lt; L/W &lt;= 2</td>
<td>Lane width - 100 mm</td>
</tr>
<tr>
<td></td>
<td>&gt; 2</td>
<td>Lane width - 200 mm</td>
</tr>
</tbody>
</table>
Product identification

Determining permissible weights

- Use the type designation to determine the motor capacity and conveying speed (V).
- Select the characteristic curve for the motor capacity in the "loading weight" curve. The intersection point of the characteristic curve with the speed equals the maximum permissible weight of the conveyed material.
- Ensure that the total weight of the conveyed goods is below the determined maximum weight.

Characteristic curve loading weight Type 4430 / 4445

<table>
<thead>
<tr>
<th>Loading weight of the merge [kg]</th>
<th>Conveying speed [m/s]</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>70</td>
<td>0.25</td>
</tr>
<tr>
<td>60</td>
<td>0.50</td>
</tr>
<tr>
<td>50</td>
<td>0.75</td>
</tr>
<tr>
<td>40</td>
<td>1.00</td>
</tr>
<tr>
<td>30</td>
<td>1.25</td>
</tr>
<tr>
<td>20</td>
<td>1.50</td>
</tr>
<tr>
<td>10</td>
<td>1.75</td>
</tr>
<tr>
<td>0</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>2.25</td>
</tr>
<tr>
<td></td>
<td>2.50</td>
</tr>
</tbody>
</table>

Damage to the conveyor or conveyed material!
- Only transport materials with a permissible weight.
Transport and storage

Transport

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of injuries due to incorrect transport!</td>
</tr>
<tr>
<td>➢ Transport must be carried out by qualified and authorized personnel.</td>
</tr>
</tbody>
</table>

Refer to the enclosed data sheet for details about the weight and requirements for load carrying and load securing equipment.

➢ Ensure people are not in the danger zones.
➢ Wear safety shoes.
➢ Check secure fastening for transport
The lifting points are marked on the conveyor.

Lifting point identification

After delivery

➢ Inspect the delivery for transport damages. Notify the transport company and the manufacturer immediately if any defects are detected to prevent claims being refused.

Storage

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of injuries due to incorrect storage!</td>
</tr>
<tr>
<td>➢ Do not stack conveyors on top of each other. Do not place other objects on the conveyor.</td>
</tr>
<tr>
<td>➢ Check the stability of the conveyor.</td>
</tr>
</tbody>
</table>

➢ If the conveyor is not to be used immediately, store and protect it from moisture and dust.
Assembly and installation

Assembly

The conveyor is supplied fully pre-assembled at the installation site and only has to be erected and connected.

⚠️ WARNING

Risk of injuries due to incorrect assembly!
- Assembly must be carried out by qualified personnel in accordance with the safety instructions.
- Carefully assemble all the connections, e.g. cables, hoses and pipes, and check that they are connected correctly.

Assembling the conveyor

- Set the conveyor to the desired height via the adjustable feet and use the counternuts to fix them.
  Use a spirit level and a level for this task.
- Secure the conveyor, ensuring it is not twisted or warped
- When aligning the conveyor, make sure there is no contact between moving parts.

Pay attention to the tracking profile attached to the belt, it should not rub against the conveyor! During alignment, ensure that a minimum distance of 5 mm is observed for all operating conditions.

- After conveyor installation, make sure passageways are clear of obstacles. If necessary, assemble walkways.
- When integrating the conveyor in a system, always consider possible danger zones, especially where cuts and crushing can occur.

Electrical installation

⚠️ DANGER

Danger of death due to live cable ends!
- Electrical installation should only be carried out by qualified electricians.
- Disconnect from the power supply.
- Observe the minimum bend radii of the cables, hoses and wires.

Power is supplied to the conveyor either via a CEE plug or direct installation in a control panel.

- Always check cables and assemblies for damages prior to installation.
- Refer to the motor's type plate for connection values.
- Connect the motor in accordance with EN-IEC 60204-1. Refer to the motor's terminal box for wiring information.
Start-up and operation

Initial start-up

⚠️ WARNING

Risk of injuries due to incorrect handling!
- Check electrical connections and protective equipment.
- Remove conveyed material from the conveyor.
- Ensure unauthorized persons are not in the danger zones.
- Wear safety shoes and suitable work clothes.

The conveyor has been factory tested. The belt adjustment or the belt tension is factory set and does not usually have to be altered.

Nevertheless, the following check must be carried out:

- Check the direction of travel prior to initial start-up. If necessary, correct the direction.
  The conveying direction is indicated by an arrow at the conveyor.

- If faults occur during initial start-up, adjust the belt setting. Further information: see "Cleaning, maintenance and repairs", page 18 and the following.
Start-up and operation

Operation

Prior to each operation
➢ Check the conveyor for visible damages. Pay special attention to belt, guides and support stands.
➢ Ensure that all safety equipment is functioning correctly.
➢ Make sure that only authorised persons are in the conveyor's work area.
➢ Always remove materials and objects which are not required from the work area.
➢ Provide instructions about and monitor correct loading of the conveyor.

During operation

➢ If goods become trapped in the side guides, switch off the conveyor and ensure that it cannot be started accidentally, then eliminate the fault.

![WARNING]

Rotating parts!
Crushing and serious injuries due to being caught and pulled into the conveyor!
➢ Do NOT remove the protective covers.
➢ Never wear loose work clothes, jewelry or chains.
➢ If you have long hair, always wear a hair net.

Procedure for accidents or malfunctioning
➢ Stop the device and ensure that it cannot be started accidentally.
➢ In case of an accident: If necessary, apply first aid treatment and make an emergency call.
➢ Inform a specialist.
➢ A specialist must eliminate the fault.
➢ Only restart the device after it has been deemed safe and released by a specialist.
Cleaning, maintenance and repairs

Cleaning

- Only dry clean the belts.
- Only use suitable cleaning agents.
- Clean panels on the underside with compressed air.

Maintenance and repair work information

- Work at electrical appliances should only be carried out by authorized and qualified electricians.
- Display signs warning of maintenance and repair work when carrying out tasks.
- Cordon off the area around the conveyor.
- Inform people entering the cordoned off area of the risks.
Cleaning, maintenance and repairs

Replacing the belt

**WARNING**

Risk of injuries due to falling parts!
- Maintenance and repair work must be carried out only by qualified personnel in accordance with the safety instructions.
- A belt change should always be carried out by two members of staff or with appropriate lifting equipment.
- Secure the device against falling down.

Preparing belt disassembly

- If there is a bottom panelling, unscrew the screws on the bottom panelling and pull the bottom panelling to the drive shaft out of the device.
- Secure the device against falling down. Unscrew the bolts on the support stands below the short side bolster.
- Unscrew the screws on the sloping transfer side and remove the protective cover.
- Unscrew bolts 1 on the short side frame and remove the bracket.

Bolts at the short side frame

Lubricating nipple and tensioning station
Cleaning, maintenance and repairs

Creating work space on the tensioning station

➢ To create sufficient space on the tensioning station, loosen the torque arm 5, thus placing the motor station in a secure position
➢ Disassemble the motor station completely and remove it.

Releasing belt tension

➢ Loosen the counternut 2 on the tensioning station.
➢ Unscrew the lock nut 3.

Removing the old belt and installing a new one

➢ Extract the belt from between the detached support stands and the short side frame.
➢ Assemble a new belt in a reverse order.
➢ Clamp the belt, see "Adjusting the belt tension", page 21.
➢ Assemble the conveyor in a reverse order.
➢ Secure the movability of the belt.
➢ Carry out a test run.
Cleaning, maintenance and repairs

Adjusting the belt tension

Adjust the belt tension via the drive shaft

- Creating work space on the tensioning station, see “Creating work space on the tensioning station”, page 20.
- Loosen the lateral counternut 1.
- To increase the belt tension, tighten the lock nut 2.
- To release the belt tension, loosen the lock nut.
- Tighten the counternut.
- Carry out a test run.

The individual belt deflectors on the sloping transfer side are set at the factory. Only adjust the belt tension on the drive shaft at the beginning of the belt. Clamp the drive shaft evenly across the entire width.
Cleaning, maintenance and repairs

Adjust the belt tension via the end rollers

The tension on the end rollers can be readjusted in an unevenly clamped belt or after changing a belt.

- Loosen the nuts ①.
- Loosen the counternut ②.
- To increase the belt tension, tighten the lock nut ③.
- To release the belt tension, loosen the lock nut.
- Tighten the counternut.
- Tighten the nuts ①.
- Secure the movability of the belt.
- Carry out a test run.
Cleaning, maintenance and repairs

Maintenance intervals

Refer to the manufacturer's documentation for information about lubricating intervals and maintenance tasks at the motor.

All the conveyor's bearings have lifetime lubrication and are maintenance free at operating temperatures of between -5 °C and +50 °C in a low dust and low moisture environment.

Maintenance and inspection list

<table>
<thead>
<tr>
<th>Part</th>
<th>Interval</th>
<th>Task/Inspection</th>
<th>Required work</th>
<th>Carried out by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire machine/system</td>
<td>Weekly</td>
<td>General visual inspection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>Check screwed connections</td>
<td>Retighten if necessary</td>
<td></td>
</tr>
<tr>
<td>Belt</td>
<td>Monthly</td>
<td>Check running behaviour</td>
<td>Adjust, if necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check for damage</td>
<td>Replace, if necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check for cleanliness</td>
<td>Clean, if necessary</td>
<td></td>
</tr>
<tr>
<td>Drive rollers/End rollers</td>
<td>Monthly</td>
<td>Listen for noise development</td>
<td>Replace, if necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check for damage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bearings</td>
<td>Quarterly</td>
<td>Check for operating noise and smooth movement</td>
<td>Replace, if necessary</td>
<td></td>
</tr>
<tr>
<td>Geared motor</td>
<td>Quarterly</td>
<td>Check drive (visual inspection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check temperature</td>
<td>Replace, if necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Listen for noise development</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check for oil loss</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Troubleshooting

In case of malfunctioning

<table>
<thead>
<tr>
<th>DANGER</th>
</tr>
</thead>
</table>

**Danger of death due to electric shock!**
- Ensure that the conveyor has been de-energized before carrying out maintenance and repair work.
- Faults at electrical appliances should only be eliminated by qualified electricians!

Operators are only allowed to eliminate faults which are clearly related to an operator error! The danger zones at the conveyor are covered by guards and protective equipment.

- Stop the device immediately and ensure that it cannot be started accidentally.
- Remove the conveyed material.
- Always make sure that nobody can be injured before restarting the conveyor.
- Dispose of any leaked gear oil correctly. If necessary, a specialist must replace the motor.

**Troubleshooting**

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport cannot be started and motor not running.</td>
<td>Main switch and/or control switched off</td>
<td>➢ Check the switch position; if necessary, actuate the main switch and/or key-operated switch of the control</td>
</tr>
<tr>
<td>Transport cannot be started and motor is running.</td>
<td>Belt tension insufficient, belt trapped</td>
<td>➢ Tension the belt or release it</td>
</tr>
<tr>
<td></td>
<td>Gearing/Coupling defective</td>
<td>➢ If necessary, replace gearing/coupling</td>
</tr>
<tr>
<td>Jerky movement during transport.</td>
<td>Foreign particles in the guide roller or belt area</td>
<td>➢ Remove foreign particles</td>
</tr>
<tr>
<td>Belt rubs against the side guide.</td>
<td>One-sided belt tension</td>
<td>➢ Tension the belt evenly</td>
</tr>
<tr>
<td></td>
<td>Running surface/Dive shaft soiled</td>
<td>➢ Cleaning</td>
</tr>
<tr>
<td></td>
<td>Bearings defective</td>
<td>➢ Replace bearings</td>
</tr>
<tr>
<td>Protective motor switch is triggered by excessive power input.</td>
<td>Gearing, drive/end roller shaft bearing defective</td>
<td>➢ Replace</td>
</tr>
<tr>
<td></td>
<td>Short circuit</td>
<td>➢ Check electrical connections</td>
</tr>
<tr>
<td></td>
<td>Excessive unit load weight</td>
<td>➢ Observe max. weight</td>
</tr>
<tr>
<td>Noise development / squeaking / whistling</td>
<td>Belt rubbing</td>
<td>➢ Eliminate the source</td>
</tr>
<tr>
<td></td>
<td>Bearings defective</td>
<td>➢ Replace</td>
</tr>
</tbody>
</table>
Interroll Strip Belt Merge
Type 4430 / 4445

Spare and wear parts

Spare parts drawing
Spare and wear parts

Spare parts list

S=Spare part, W=Wear part, T=Tool
Nrec.=Recommended order quantity

<table>
<thead>
<tr>
<th>Pos. no.:</th>
<th>Name</th>
<th>Comment</th>
<th>Nrec.</th>
<th>S/W/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Conveyor belt L1 x BW</td>
<td>L1=length of the first belt</td>
<td>1</td>
<td>W</td>
</tr>
<tr>
<td>2</td>
<td>Conveyor belt L2 x BW</td>
<td>L2=length of the second belt</td>
<td>1</td>
<td>W</td>
</tr>
<tr>
<td>3</td>
<td>Conveyor belt L3 x BW</td>
<td>L3=length of the third belt</td>
<td>1</td>
<td>W</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>It is recommended to order a belt for each individual belt length.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Geared motor</td>
<td></td>
<td>1</td>
<td>S</td>
</tr>
<tr>
<td>5</td>
<td>Drive shaft complete</td>
<td></td>
<td>1</td>
<td>S</td>
</tr>
<tr>
<td>6</td>
<td>End roller Ø70 mm</td>
<td>Ø70 mm</td>
<td>2</td>
<td>W</td>
</tr>
<tr>
<td>7</td>
<td>Axle for end roller Ø70 mm</td>
<td>Ø20 mm</td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td>8</td>
<td>Bearings</td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td>9</td>
<td>Flange bearing</td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
</tbody>
</table>

Order details

Precise identification of the device is imperative when ordering spare and wear parts, see "Product identification", page 8.

The following information is required for an order:
- Machine number
- Type
- Position number of the spare parts list
- Name
- Comment
- Recommended number (N>rec.)
- It must be stated whether a spare part, wear part or tool (S/W/T) is required

Please contact your supplier for further information about the spare parts on offer.
Shut-down and disposal

Shut-down and disposal
- Adhere to the manufacturer’s disposal documents when disposing of the motor oil.
- To protect the environment, recycle the packaging.

Environmental regulations
When working on and at the conveyor, always observe legal rules and regulations as regards waste avoidance, correct disposal and material recycling.

**NOTICE**

Ensure that materials which are hazardous to waters, such as grease, lubricants, hydraulic oil, coolants or solvent-based cleaning fluids, do not pollute the ground or enter the sewage system during operation!
- Always keep, transport, collect and dispose of these materials in suitable containers.
- Observe information about suitable storage containers.
- Adhere to further national regulations.
Accessories

High side guide

Transfer profile

Function
The transition profile minimizes the distance to the next device, thus increasing the operating safety of the conveyor.
Manufacturer's declaration

According to EC Machinery Directive 98/37/EC and its amendment 98/79/EC, Appendix II B

The manufacturer:
Interroll Automation GmbH
Untere Au 4, D-74889 Sinsheim

hereby declares that the conveyor module described below:
- Interroll Strip Belt Merge
- Type 4430 / 4445

is not a ready-to-use machine according to the EC Machinery Directive and, therefore, does not fully comply with the requirements of this directive.
Initial start-up of these conveyor modules is not permitted until conformity of the entire machine/system in which they are installed has been declared via the EC Machinery Directive!

Applied EC directives:
Machinery Directive 98/37/EC with the amendment 98/79/EC
Low Voltage Directive 2006/95/EC
EMC Directive 2004/108/EC

Applied harmonized standards:
EN ISO 12100 Part 1 and Part 2
EN 294 "Safety of machinery, safety distances to prevent danger zones being reached"
EN 349 "Safety of machinery, minimum distances to avoid crushing"
EN 60204-1

Sinsheim, on

Dr.-Ing. Heinrich Droste
(Managing Director)