



Belt Conveyor

Operating / Installation Instructions

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1. General

1.1 Manufacturer of the system

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1.2 Introduction / purpose of this operating / installation instructions

Belt Conveyors, that are delivered including a motor according to the Robotunits catalogue, are considered to be a complete machine (MRL 2006/42/ EC, Art. 2a) and accordingly, this document is to be considered as an operating instructions. The declaration of conformity required for this purpose can be found in the enclosed documents.

Belt Conveyors, which are delivered without a motor are considered as partly completed machinery (MRL 2006/42/EC, Art. 2g) and accordingly this document is to be regarded as installation instructions. The declaration of incorporation required for this purpose can be found in the enclosed documents.

In the following only the term „machine“ will be used.

1.3 Version

Version	Type	Date
11	Operating / Installation Instructions	01.12.2021

2. Safety

2.1 General

- These operating instructions are a component part of the conveyor and must be made readily available. The strict adherence to the information provided within these instructions is a pre-requisite for the correct operation of the conveyor.
- Robotunits will only accept responsibility for the conveyor unit in regards to safety, reliability and functionality. Assembly, adjustments, modifications, changes or repairs may only be carried out by Robotunits or an officially appointed distributor / service center of Robotunits. The conveyor must be operated in accordance with these operating instructions.

2.2 Intendend use



The conveyor is designed and constructed primarily for:

- horizontal conveying of piece goods or liquids in closed containers.
- and / or for the applications as mentioned in the quotation or order confirmation. The conveying of goods >10 mm with a given weight defines and influences the width of the belt and its ability to transport larger weights.
- use by trained adults.

2. Safety

2.3 Improper use and prohibited



Any application other than those listed by the manufacturer in its technical documentation, data sheets, assembly-, installation-, and instruction manuals and also other specific requirements and the terms and conditions is prohibited.

In particular to prevent is:

- the operation of the machine without safety installations.
- manipulation, bypassing or disabling of existing security installations.
- use in or under water.
- the transport of animals or humans.
- the transport of hot substances ($> 80^{\circ}\text{C}$).
- the transport of objects, which can be damaged through static discharge.
- the transport of, and insertion into acids, corrosive / abrasive materials or substances.
- transporting at too high speeds (causing goods to slide).

General improper use is:

- the deliberate creation and handling of flammable or explosive materials.
- the use in areas in which frequent or permanent occurrence of explosive atmospheres of gas or dust are expected. (The use in hazardous areas must be agreed beforehand with Robotunits as design changes may be required).



Should the operating company process / convey substances and materials other than those made known to the manufacturer, as stated in the agreements or in the specification respectively, is the manufacturers declaration therefore no longer valid. In this case the national regulations then take effect.

The conveyor is designed for use within an ambient temperature ranging from -20 up to $+60^{\circ}\text{C}$ (-4 to 140°F). In relation to the atmospheric moisture, the protection rating of IP54 is to be observed.

Using the machine in hazardous areas is prohibited.

2. Safety

2.4 Safety advice - normal operation

The machine has been designed and developed by Robotunits using current technologies. No hazards can be expected with normal use of the machine.

Other risks have been reduced to a minimum.

- When operating the machine, national laws and regulations on the safety and health of workers are to be considered! In the interest of a secure work flow the users and operators are responsible for the compliance of the regulations.
- The operator is responsible for checking the machine's operation prior to every working shift.
- The operator must be familiar with the operating instructions for the machine.



Do not reach between the motor and the belt!
(risk of hand injuries)



2.5 Safety advice - electrical



- The conveyor may only be used in conjunction with plugs, sockets, and other power supply components conforming to the local regulating standards.
- In the event of technical problems or other potentially endangering situations, isolate the conveyor immediately from the power supply by means of a switch or emergency stop.
- Installation may only be carried out by suitably qualified personnel.
- The provided rules, instructions and diagrams of the motor manufacturers is to be complied with.
- When using a frequency converter, the provided rules, instructions and diagrams of the frequency converter are to be complied with and, if necessary, a device for shutting down the power supply in an emergency must be installed in red-yellow.

2. Safety

2.6 Safety advice - mechanics



The conveyor may only be operated in its original condition (with all safety features ie. Covers etc.).

When installing or integrating the conveyor into a system, the “integration of safety” needs to be considered. It may be required that the owner/operator must expand or provide additional safety equipment, following a hazard analysis conducted by the operating owner of the machine.

2.7 Safety advice - cleaning

Before cleaning, be sure to put the conveyor in a safe state and isolate the conveyor from the power supply. Also take steps to prevent the unit being switched on during cleaning.

3. Transport / assembly

3.1 Storage / transport conditions



The conveyor must be suitably stored and transported so as to remove the possibility of the conveyor tipping over. Do not store the conveyor outdoors.

3.2 Transport requirements



When lifting consider the center of gravity of the machine.
Do not stand under the load.



Be sure to use adequate packaging and transport materials.

3.3 Electrical installation / wiring



The provided rules, instructions and diagrams of the motor manufacturer is to be complied with.

When using a frequency converter, the provided rules, instructions and diagrams of the frequency converter are to be complied with.

If necessary, a mains disconnection device must be installed in the supply line for switching off in an emergency, in particular when several conveyor sections are installed in the separate drive.

4. Operating instructions

4.1 Requirements of personnel

All work carried out with this conveyor may only be carried out by suitably qualified personnel.

4.2 Installation



Injury to the lower limbs (crushing and colliding) can be caused through tipping of the machine due to assembly on or in an unstable situation. The machine should always be secured against tipping.

The installation may only be carried out by qualified and authorized personnel.

The safety advice - electrical (2.5) and mechanical (2.6) needs to be observed.

4. Operating instructions

4.3 Initial operation



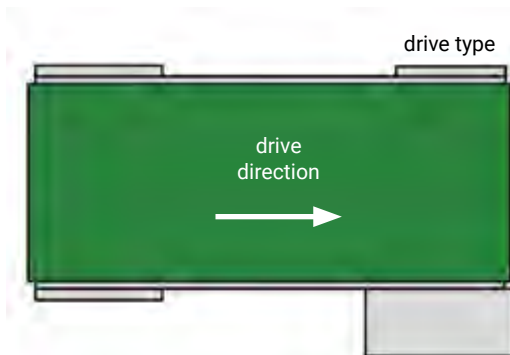
Injury to the upper limbs due to cutting and pinching on the transported work pieces / goods can be caused when one can reach into the hazard area.

Should such dangerous goods be transported, the operating company must prevent the reaching in by means of safety guarding or similar effective means.



The following is to be checked before initial operation:

1. All safety devices are correctly installed and functioning properly (covers etc.). With an elevated risk due to the transported goods, the appropriate protection and / or safety guarding is to be fitted.
2. During the first run of the conveyor, the belt speed, belt direction and tracking should be carefully checked. In order to guarantee safe operation, the belt conveyor must only be used in regard to the predefined running direction ("pushing" or "pulling")

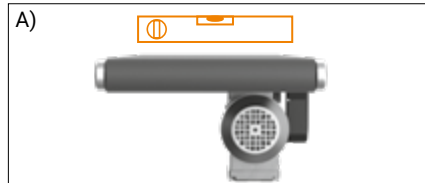


4. Operating instructions

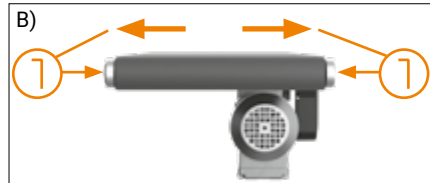
4.4 Tracking the belt

The belt tracking is adjusted before shipping. If adjustments are necessary please proceed as follows:

4.4.1 End drive adjustment



Level the conveyor



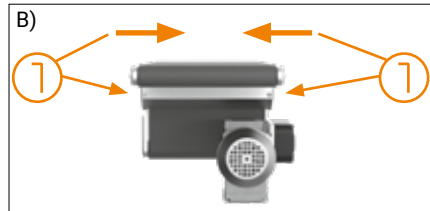
Belt moves to the right, tension right side
Belt moves to the left, tension left side



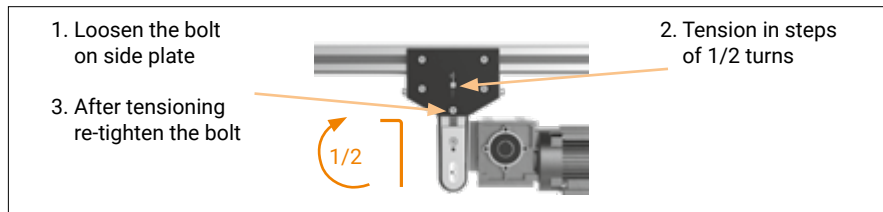
4.4.2 Center drive adjustment



Level the conveyor



Belt moves to the right, tension left side
Belt moves to the left, tension right side



4. Operating instructions

4.5 During operation



The removal of safety equipment, covers and safety guarding during operation is prohibited.

Likewise, the hazard areas must be secured.

The approaching and / or operating of the machine is only allowed with the appropriate clothing, (hair net, ear protection, safety shoes, etc.).

4.6 Placing out of operation



Injury by electric shock!

Before the machine is put out of operation, make sure the machine has been stopped and unplugged before further removal work is carried out. When placing out of operation, the machine must be in a safe state.

Preparation for storage of the conveyor is only to be carried out by suitably qualified personnel.

4.7 Disposal

The machine and associated materials must be disposed of in a manner according to local laws and regulations.

5. Maintenance

The security of the operator and trouble-free operation of the machine is only guaranteed with the use of original machine parts. Proper machine maintenance is essential for reliable operation and long life.

Any maintenance, with the exception of the tracking of the belt and monitoring of the driving direction, may only be carried out after the conveyor has been disconnected from the power supply.

5.1 Requirements of maintenance personnel

For maintenance work, the stability of the machine must be ensured.
Any maintenance is only to be carried out by suitably qualified personnel.

5.2 Maintenance schedule

Service point / to do	Service interval	Info
Bearing	2 x per year	Check for wear
Electrical installation	2 x per year	Optical check for damage
Timing belt (if applicable)	1 x per month	Optical check for damage
Conveyor belt	1 x per month	Optical check for damage
Conveyor belt	1 x per month	Check the tracking and drive direction
Screws / bolts, after the initial operation	1 month after initial operation	Check the tightness
Screws / bolts	1x annually	Check the tightness

5.3 Corrective maintenance / repairs

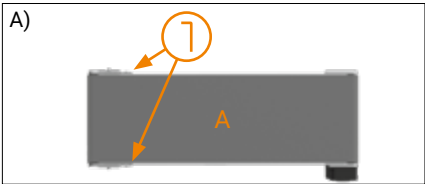
Repairs of the conveyor may only be carried out by Robotunits or an approved service center technician appointed by Robotunits.

5.4 Bearing replacement

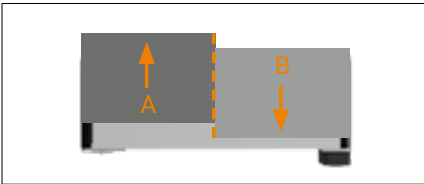
See attached drawings

5. Maintenance

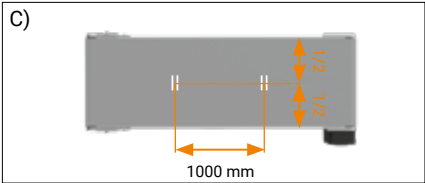
5.5 Belt change on end



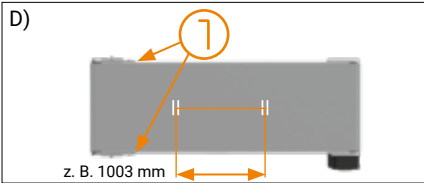
Loosen belt A completely (see 4.4.1 C)



Replace belt A with belt B

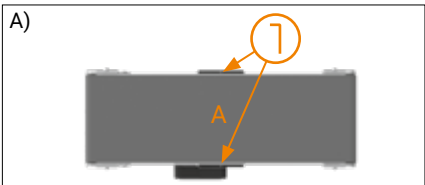


Mark 1000 mm in the center of the belt

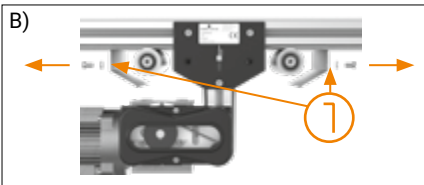


Tension according to specific parts list (e.g. 0.3 % = 1003 mm)

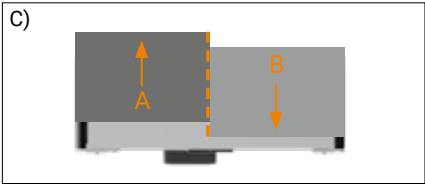
5.6 Belt change on center



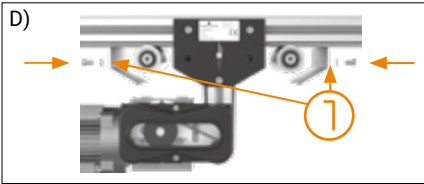
Loosen belt A completely (see 4.4.2 C)



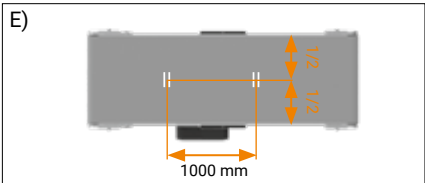
Remove snub pulleys



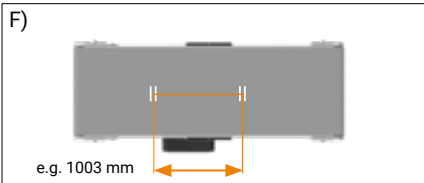
Replace belt A with belt B



Install snub pulleys



Mark 1000 mm in the center of the belt



Tension according to specific parts list (e.g. 0.3 % = 1003 mm) on both sides



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