



Turntable

Instruction manual / Installation instructions

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1. General

1.1 Manufacturer of the system

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1.2 Introduction / purpose of this instruction manual / installation instructions

A Turntable, supplied with a control logic is considered a completed machine (according to MRL 2006/42/EC, article 2a). Therefore this document serves as operating manual.

The declaration of conformity required for this purpose can be found in the enclosed documents.

A Turntable, supplied without a control logic is considered a partly completed machine (according to MRL 2006/42/EC, article 2g). Therefore this document serves as installation instruction.

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.

This operating manual / installation instruction includes options. These options are noted in the particular section in parenthesis.

1.3 Version

Version	Type	Date
1	Instruction manual / Installation instructions	01.02.2020

2. Safety

2.1 General

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

2.2 Intended use



The Turntable is designed and built for

- turning parts or fluids in closed containers horizontally into the correct position.
- and/or for the applications as mentioned in the quotation or order confirmation.
- use by trained adults
- use in commercial and industrial settings

2. Safety

2.3 Improper use 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.

To be prevented in particular:

- the operation of the machine without safety installations.
- manipulation, bypassing or disabling of existing safety installations.
- use in, or submerged in liquids
- the transport of animals or people
- the transport of hot parts or substances (> 80°C)
- the transport of, and submersion in acids, corrosive / abrasive materials or substances
- transport at excessive speed (causing goods to slide)
- damage due to improper installation of the Turntable
- use in personal households

General improper use is:

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

Should the operating company process or convey substances and materials other than those made known to the manufacturer in agreements or mentioned in the specifications, the manufacturers declaration will no longer be valid. In this case the national regulations take effect.

The machine is designed for use within an ambient temperature ranging from +2 to +40 °C. The relative humidity must be below 90 % (no condensation). Thermal shocks must be avoided and physical shocks must be less than 0.5 G.

2. Safety

Using the machine in potentially explosive atmospheres is prohibited.

When conveying objects, which can be damaged by static discharges, please contact Robotunits beforehand.

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 residual 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 to the regulations.
- The operator is responsible for checking the functionality and condition prior to every working shift.
- The operator must be familiar with the operating instructions for the machine.

2.5 Safety advice - electrical



- The conveyor may only be connected to an adequate power supply.
- In the event of technical problems or other potentially endangering situations, shut down the conveyor through a safety or emergency switch.
- Installation may only be carried out by qualified personnel.
- Do not pull the cable when removing the plug. Do not bend the cable.
- If cables are removed or new cables are installed, grommets must be used to prevent damage to the cable.
- For cleaning avoid any detergents.

2. Safety

2.6 Safety advice - mechanical



- Standing and walking on the Turntable and the extrusion frame is prohibited.
- Reaching into the Turntable during operation is prohibited.

The machine may only be operated in its original condition (with all safety features, e.g. 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 and maintenance work

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

3. Transport / assembly

3.1 Storage/transport conditions



The conveyor must be properly stored and transported to prevent the conveyor from 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



A maximum of 12 motor rollers may be connected to a 24V/20A power supply adapter. The DC-fuse protection must be 20A +/- 10 %.

The entire Turntable must be grounded. Additionally the power supply must be grounded as well.

Measures regarding electromagnetic compatibility (EMC) must be observed.

It is necessary to ensure continuous equipotential bonding.

If necessary, a power-off switch to turn off in an emergency must be installed in the MDR+ power line, in particular when installing several conveyor lines with separate drives.

4. Operating instructions

4.1 Personnel requirements

All work on this conveyor must be carried out by qualified personnel.

4.2 Installation



Injury to the lower limbs (crushing and colliding) can be caused by the machine tipping over due to installation in an unstable location. The machine needs to be secured to prevent it from tipping over.

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.

4.3 Initial operation



Injury to the upper limbs due to cutting or pinching on the transported goods if a person can reach into the hazardous area.



If such hazardous goods are transported the operating company is responsible to put safety measures in place that prevent somebody from reaching into this area.

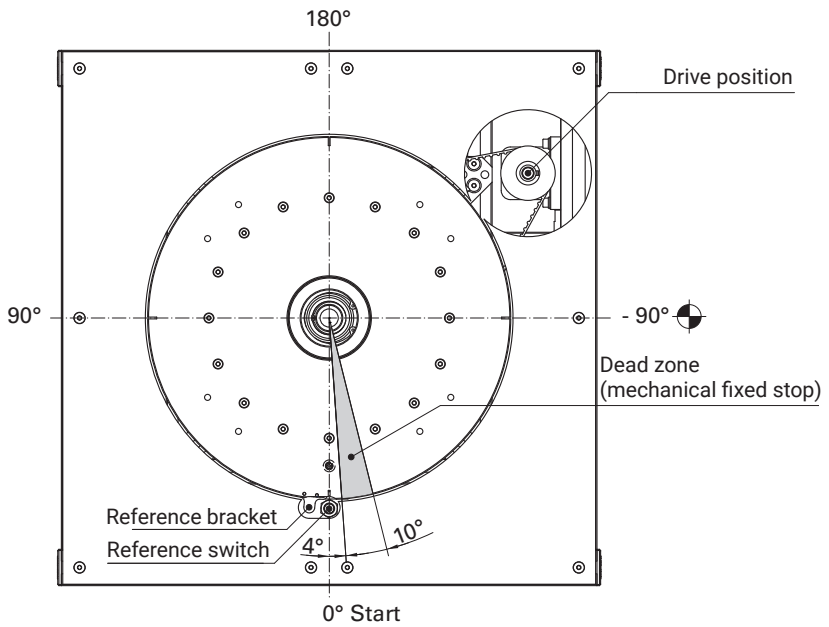


The following is to be checked before initial operation:

1. All safety devices are correctly installed and function properly (covers etc). With an elevated risk due to the transported goods, the appropriate protection and / or safety guarding is to be fitted.
2. After starting the Turntable for the first time, check the speed and direction.
3. Check the grounding screw for tightness and that the ground wire is securely held in the clamp.

4. Operating instructions

4.4 Range of motion



Motor impulse

Motor impulse / revolution = 30 steps / revolution

Total transfer side length \square 790mm = 76

Total transfer side length \square 590mm = 72

4. Operating instructions

4.5 During operation



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

All hazardous areas must be secured.

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

4.6 Decommissioning of the machine



Injury by electric shock!

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

Preparation for storage of the conveyor is only to be carried out by 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 may only be carried out after the machine has been disconnected from the power supply.

5.1 Maintenance personnel requirements

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

5.2 Maintenance schedule

Service point / to do	Service interval	Info
Electrical installation	2 x per year	Visual check for damage and for firm seating
Timing belt	2 x per year	Visual check for damage
Bearing	2 x per year	Check for wear
Screws / bolts after the initial operation	1 month after initial operation	Check the tightness
Screws / bolts	1x annually	Check the tightness
Sensor	As needed	Free from any dirt


5.3 Corrective maintenance / repairs

Repairs of the conveyor may only be carried out by Robotunits or by a service center authorized by Robotunits.


5. Maintenance

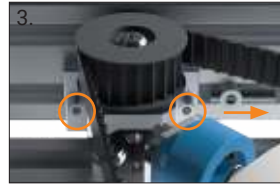
5.4 Timing belt replacement




1. Remove the roller conveyor including wiring 




2. Remove protective panel and flange plate 




3. Loosen the timing belt tension 




4. Replace the timing belt 




5. Tension the timing belt 



6. Install the protection panel and flange plate 



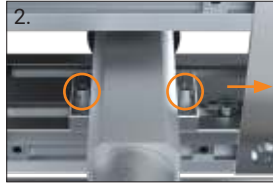
7. Attach the roller conveyor and wiring 

5. Maintenance

5.5 Motor replacement



1. Remove the protective panel on the motor side



2. Loosen the timing belt tension and remove the motor



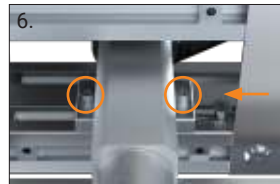
3. Remove the timing belt pulley and the motor bracket from the motor



4. Swap the motor



5. Install the timing belt pulley and the motor bracket



6. Mount the motor and tension the timing belt



7. Install the protective panel



We reserve the right to alter technical specifications at any time.
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