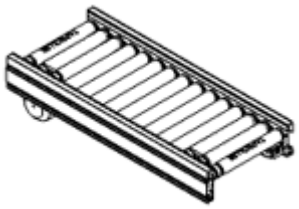
swisslog

Assembly Instructions

ERS 53 Belt Driven Roller Conveyor



Content:

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Content

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1 General Safety Instruction

1.1 Target Group

This documentation is aimed at users with the following knowledge and skills:

- Advanced knowledge of mechanical engineering
- Advanced knowledge of electrical engineering

1.2 Representation of warnings and notes

	**Caution** For your personal safety please precisely observe the working and operating procedures
	**Warning** Observe all instructions and procedures, in order to maintain your plant in working condition.
	**Note** In order to keep the machine in working order, observe precisely all technical requirements for appropriate handling of the machine.
	**Additional information** Helps you to make optimum use of all the functions on your machine.

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1.3 Requirements and Conditions

⚠ CAUTION	**Supplement to the documentation** - Generally applicable and local rules for accident prevention. - Law on staff protection. - Regulations on the protection of the environment.
NOTE	**Qualification of staff** - You have the required training. - You are thoroughly familiar with the use of the plant. - You are familiar with the documentation contents.
⚠ CAUTION	**Safe operation** - There are no persons or obstacles in the danger areas. - Shut down operation at once when there is a threat of danger. - Regular inspection and maintenance keeps your plant ready for use. - Immediately rectify any defects or damage which occurs. - Ensure all use is for the purpose intended. - Protective equipment is fitted professionally and is fully functional. - Safety and danger notices must be fully legible.
i	**Explanation of terminology** Maintenance: Measures for upkeep and repairs of the projected status and also determining and assessing the actual status of the technical devices of a system. The measures comprise: - Inspection - Servicing - Repairs
⚠ CAUTION	**Safe maintenance** - Access to the plant is forbidden for all unauthorized persons. - You are thoroughly aware of all sources of danger. - You have switched off the main switch and secured it against being switched on again. - You access the plant only at those points designed for access. - Never ignore or fail to use safety equipment. - Always observe the safety notices.

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⚠ WARNING	**Correct maintenance** - Appropriately trained maintenance staff. - You are familiar with the maintenance measures. - You have completed the tests required within the time period laid down. - You use suitable tools. - Immediately rectify any defects or damage which occurs.

1.3.1 Special safety devices

⚠ CAUTION	**Protective measures** - Machine movements are dangerous. - Danger areas of this kind are to be separated from the rest of the plant by protective screens, Plexiglas barriers, etc. and marked with safety warning notices.
i	**Further safety devices** - See documentation on electrical system, controls.

1.3.2 Intended use and misuse

Intended use

⚠ WARNING	**Products to be transported** - You must not exceed the maximum load capacity.
⚠ CAUTION	**Products to be transported** - The load must not project more than the amount foreseen above the carrier, in order to avoid tipping, catching or falling. - The carrier must be in a satisfactory condition.
⚠ CAUTION	**Plant** - You must observe the generally valid safety notices. - You must observe the maintenance regulations.

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Misuse

⚠ CAUTION	**Not permitted is** The transport of: - Explosives, highly inflammable or radioactive materials. - Fluids not in closed barrels. - Materials to which special hygienic regulations apply. - Parts with high electrical potential and magnetic fields. - Live animals. - The removal of or ignoring of safety equipment. - The ignoring of safety notices.

1.3.3 Special Regulations

These regulations apply when working with the ERS Belt Driven Roller Conveyor Modules.

⚠ WARNING	**Clothing & Appearance** - Wear suitable work clothes and Personal Protection Equipment (no loose hanging clothes, safety shoes, gloves, etc.). - Tie up long hair or wear a cap or hairnet. - Remove jewellery (necklaces, rings, bracelets, watches, etc.).

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1.4 Risks

Danger	Cause	Avoidance
Permanent injury to the area of the spine Permanent injury to the area of the wrist	Excessive bodily strain during manual lifting of the products	Do not manually lift the product Use appropriate lifting equipment
Serious injury to hands	Clamping of hands between moving objects Catching of clothing / jewellery in moving machine parts during maintenance / operation	Do not touch the product when connected to a power source Observe the general safety notices Approved working clothes Remove jewellery
Serious injury to head	Catching of hair in moving machine parts during maintenance / operation	In case of long hair, bind them together or wear a hairnet or cap
Serious injury to body parts	Falling of products during manual removal e.g. after a failure of the machine controls	Use of safety straps Do not lift products exceeding specified weight limits Use of protective gloves with grip coating
Serious injury to body parts	Falling of products from conveyor	If conveyor is placed overhead, make sure to place protection against falling products around the conveyor Place side guard Provide a stop at the end of each conveyor

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Danger	Cause	Avoidance
Serious injury to body parts	During set up, sharp edges of the frame are accessible	Wear protective gloves during handling of the conveyor Wear protective gloves during set up of the conveyor Place cover caps after set up and installation of the conveyor

2 Product description

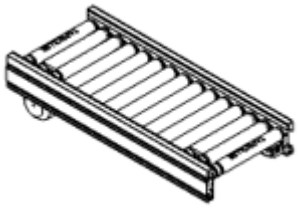
2.1 ERS 53 Belt Driven Roller Conveyor

2.1.1 Product Description

The ERS Belt Driven Roller Conveyor System is a modular system used to transport products. The ERS Belt Driven Roller Conveyor System provides a low noise, high volume solution. The throughput of the standard ERS Belt Driven Roller Conveyor System depends on the weight and dimensions of the transported products.

The ERS Belt Driven Roller Conveyor System consists of the following principal components:

- ERS 53 Straight with End Drive
- ERS 53 Straight with General Drive



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2.2 ERS 53 Straight with End Drive

The ERS Straight with End Drive is a driven straight roller conveyor, used to transport products in a straight line. The ERS Straight with End Drive provides a low noise, high volume solution. The throughput of the standard module depends on the weight and dimensions of the transported products.

2.3 ERS 53 Straight with General Drive

The ERS Straight with General Drive is a driven straight roller conveyor, used to transport products in a straight line. The ERS Straight with General Drive provides a low noise, high volume solution. The throughput of the standard module depends on the weight and dimensions of the transported products.

2.4 ERS 61 Stopper

The ERS Stopper is a static element that is placed at the end of a roller conveyor and is used to stop the transported products.

2.5 ERS Support

The ERS Belt Driven Roller Conveyor System needs to be supported by a suitable supporting system in at least every 1.5 m distance. The supporting system has to be mounted with M8 hammerhead bolts onto the side profiles of the ERS Belt Driven Roller Conveyor System. ERS 60 Support

The ERS 60 Support could be used to support a Belt Driven Roller conveyor system and is placed underneath a roller conveyor and is bolted onto the ground.

2.6 ERS Sensor and Reflector

The ERS Sensor is a photocell based sensor used to detect an object or to control a zone of a ERS Belt Driven Roller Conveyor Module. The sensor can be integrated in High Profile Conveyors Modules or added to the Low Profile Conveyors Modules with a dedicated mounting brackets.

2.7 ERS Side Guide

The ERS Side Guide is used to guide conveyed objects on the ERS Belt Driven Roller Conveyor Modules. The guide can be integrated on the Low Profile Conveyor Modules using the dedicated mounting brackets. There are two types of brackets; a fixed guide bracket and an adjustable guide bracket.

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2.8 ERS Side Cover Profile

The ERS Side Cover profiles are used to cover the sides of the ERS Belt Driven Roller Conveyor Module profiles.

2.9 ERS Cover Caps

The ERS Cover Caps are used to cover the edges on the front and back side of the ERS Belt Driven Roller Conveyor Module profiles. The ERS Cover Caps are available for high and low profiles.

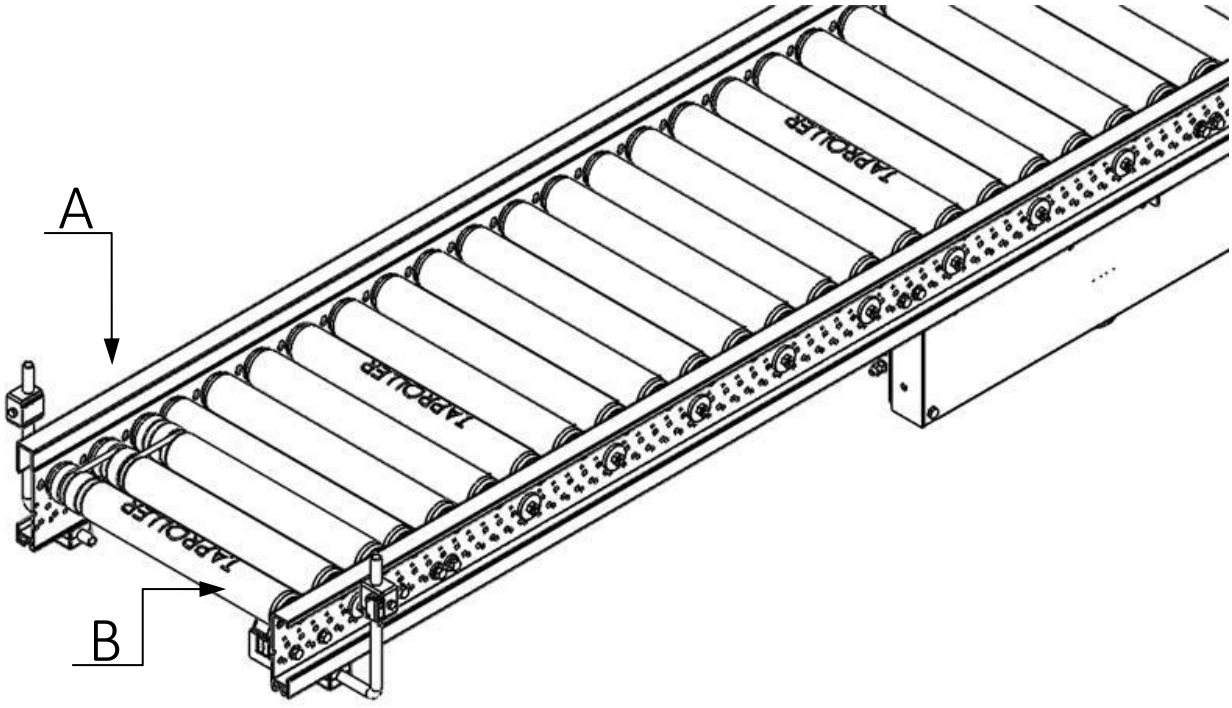
2.10 ERS Straight Connector

The ERS Straight Connector is used to connect multiple ERS Belt Driven Roller Conveyor Modules. The connector is equipped with a plastic screen cover.

3 Safety

3.1 Dangerous areas

⚠ WARNING	Dangerous areas - Do not touch the ERS Belt Driven Roller Conveyor System when connected to the power source - Never reach to or near any dangerous areas - Dangerous areas regarding the ERS Belt Driven Roller Conveyor System are: A Between the rollers and round belt/ flat belt B Between the moving parts, underneath the conveyor



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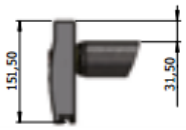
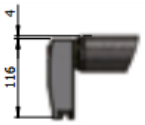
4 Technical data

4.1 ERS 53 Straight with End Drive

General technical data	
Max. load capacity	50 kg
Conveyor speed	0.16 ... 1.75 m/s
Inclined / Declined	Not Suitable
Ambient temperature	-5°C to +50°C
	Maximum load capacity is depending on the combination of speed & load
Rollers	
Roller diameter	Ø 50 mm
Roller material	Steel, zinc-plated
Drive	
Rated voltage	400V / 50 Hz / 3 Phase
Max. power per zone	1.5 kW
Drive medium	Belt
Side profile	
H profile (high)	151.5 mm high 31.5 mm from top edge of the roller 
L profile (low)	Maximum sideways shift 116 mm high 4 mm from top edge of the roller 
Combinations (left/right)	
Dimensions	
LW dimension	420/520/620/820 mm
ML – Max. module length	3000 mm
TW - Module width	LW + 75 mm
P - Roller separation	75 / 100 mm
Sp - Side profile	116 / 151.5 mm
SF - Side guide	31.5 mm

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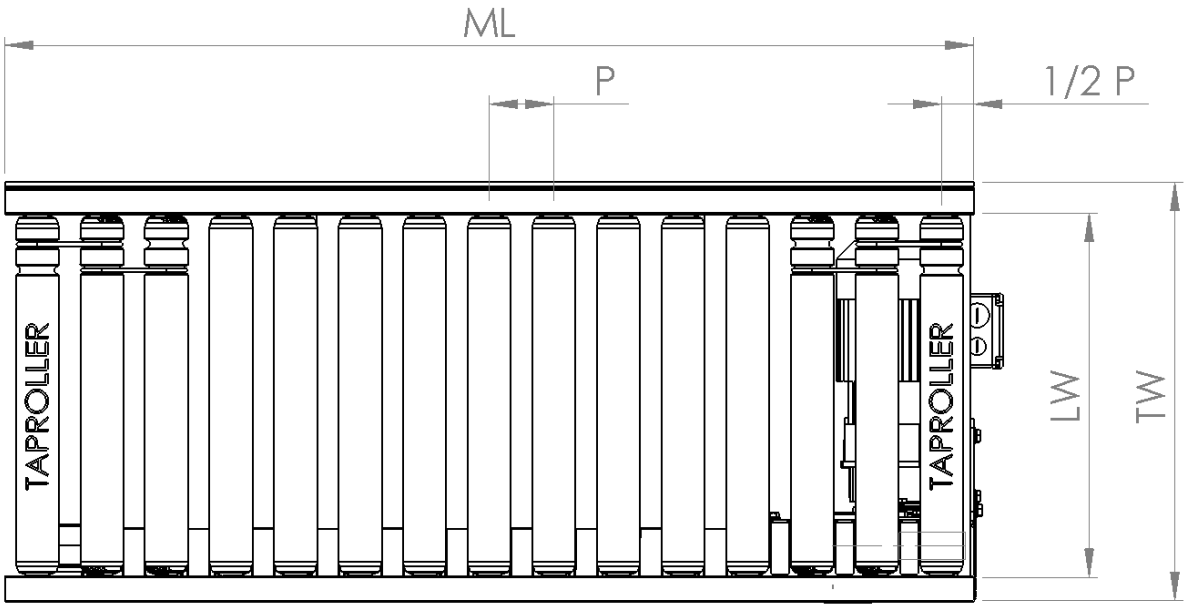

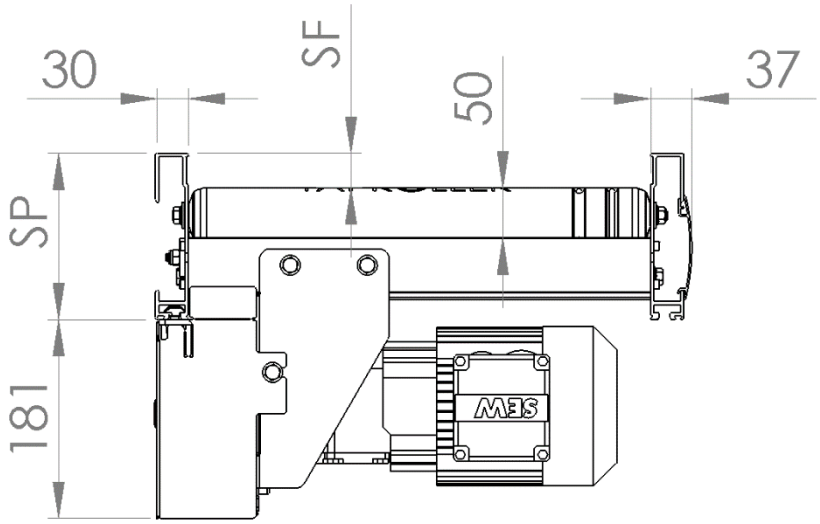

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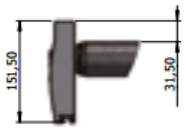
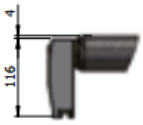
4.2 ERS 53 Straight with General Drive

General technical data	
Max. load capacity	100 kg
Conveyor speed	0.16 … 1.75 m/s
Inclined / Declined	Not Suitable
Ambient temperature	-5°C to +50°C
	Maximum load capacity is depending on the combination of speed & load
Rollers	
Roller diameter	Ø 50 mm
Roller material	Steel, zinc-plated
Drive	
Rated voltage	400V / 50 Hz / 3 Phase
Max. power per zone	1.1 kW
Drive medium	Belt
Side profile	
H profile (high)	151.5 mm high 31.5 mm from top edge of the roller 
L profile (low)	Maximum sideways shift 116 mm high 4 mm from top edge of the roller 
Combinations (left/right)	
Dimensions	
LW dimension	420/520/620/820 mm
ML – Max. module length	10000 mm
TW - Module width	LW + 75 mm
P - Roller separation	75 / 100 mm
Sp - Side profile	116 / 151.5 mm
SF - Side guide	31.5 mm

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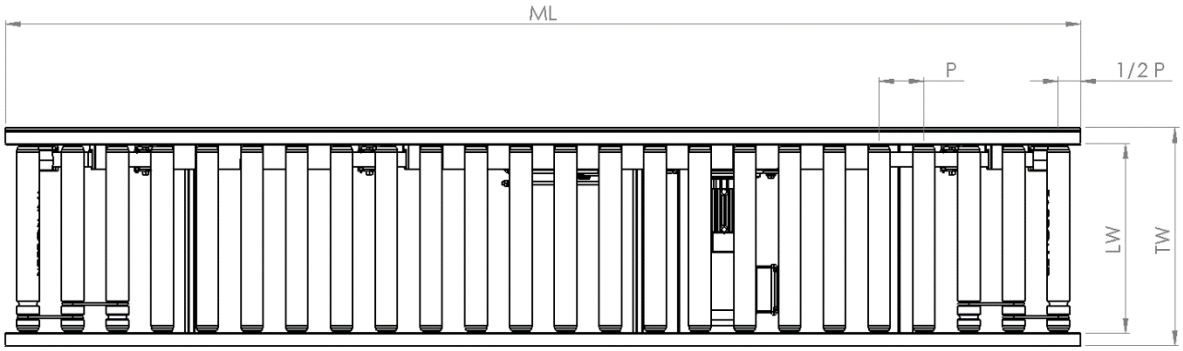

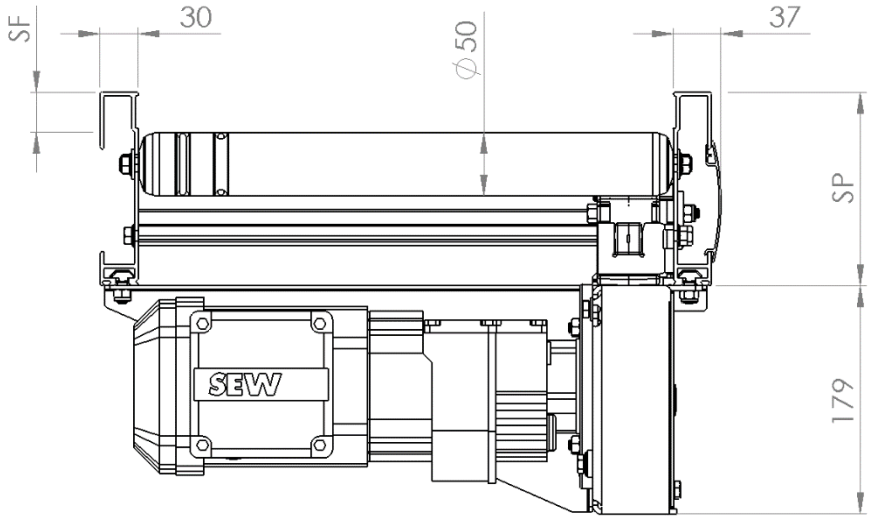

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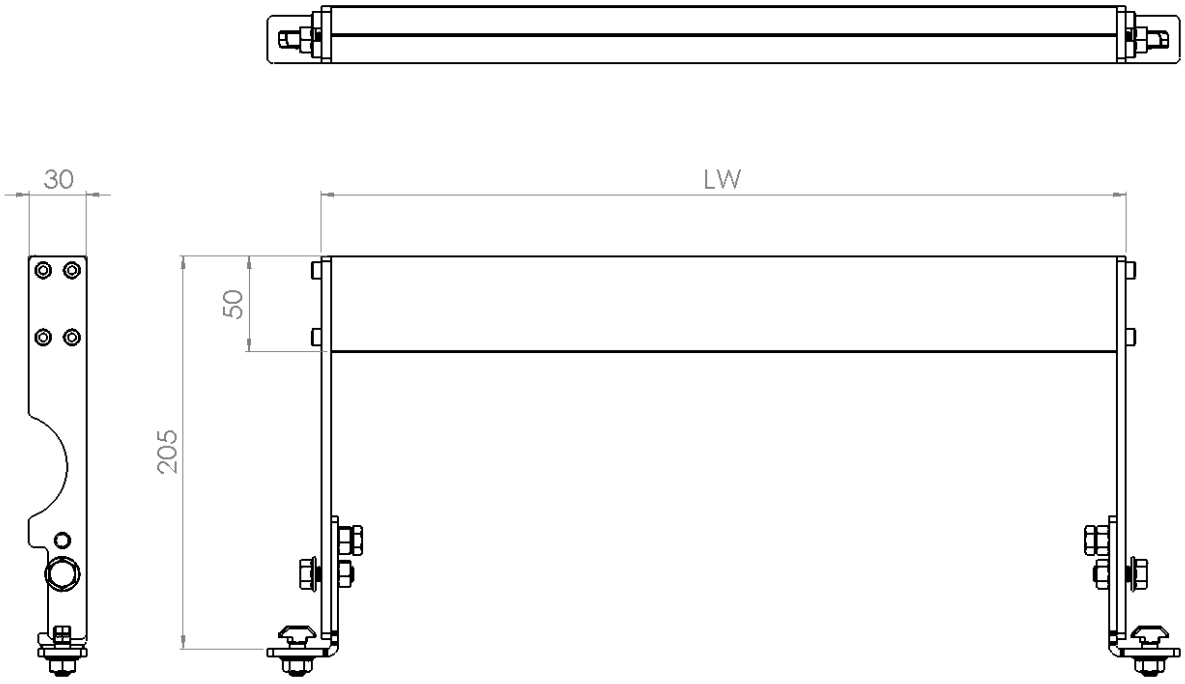
4.3 ERS 61 Stopper

General technical data	
Maximum force	300 N
Side profile	
Combinations (left/right)	
Dimensions	
LW dimension	420/520/620/820 mm



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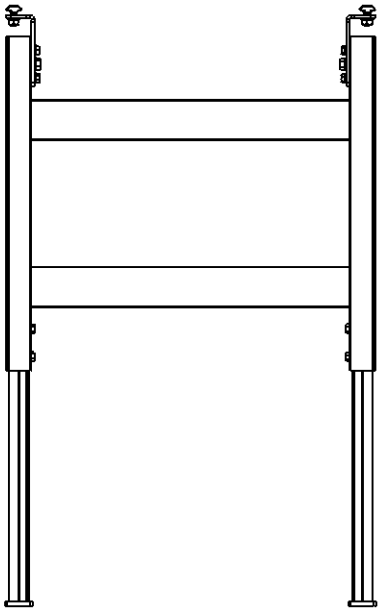
4.4 ERS Support

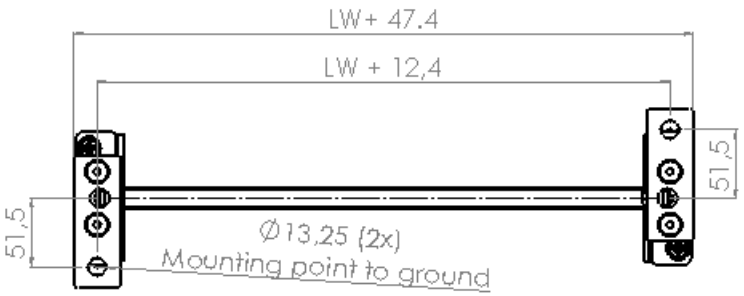
i	For further information, see the ERS 69 Supports - Assembly Instructions.

General requirements	
Max. horizontal load capacity	Depends on the conveyor type and load
Max. vertical load capacity	Depends on the conveyor type and load
Max. pitch	1500 mm

4.4.1 Technical Data ERS 60 Support

General technical data	
Max. load capacity	200 kg
Number of cross-members	1 with 350 to 800 mm top edge of roller
	2 with 800 to 1400 mm top edge of roller
	3 with 1400 to 2000 mm top edge of roller
Dimensions	
LW dimension	420/520/620/820 mm
Height to top side of rollers	362 to 2000 mm





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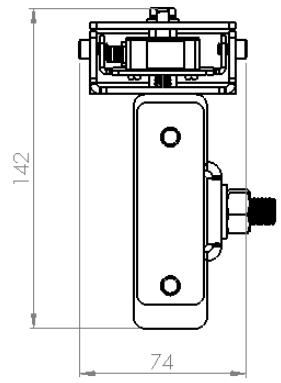
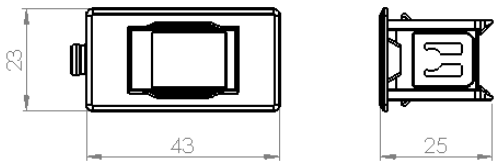
4.5 ERS Sensor and Reflector

General technical data	
Operating range	0.02 ... 4.5 m, With reflector TK(S) 100x100
Light source	LED, RED
Supply voltage	10 ... 30 V, DC
Open-circuit current	0 ... 20 mA
Weight (sensor only)	20 g
Operation temperature	-40 ... 60˚C
Bracket	
Weight	660 g
Clip	
Weight	3 g

Sensor Bracket



Sensor Clip



i	More variations available, please refer to the Additional Parts Assembly Instruction.

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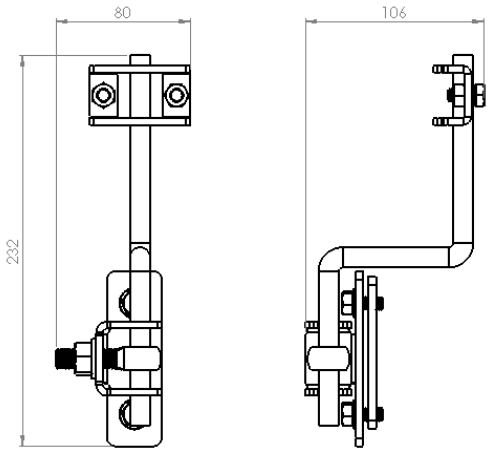
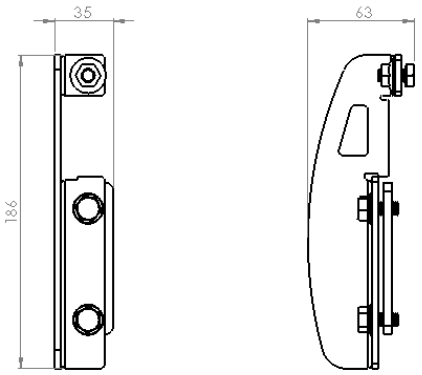
4.6 ERS Side Guide

General technical data	
Adjustable Guide Bracket	
Roller conveyor profile	Low
Adjustability range (height)	50 mm
Adjustability range (track width)	50 mm
Suitable for curved conveyor track	Yes
Number of brackets in curve track	90° = 7 / 60° = 5 / 45° = 5 / 30° = 4
Number of brackets straight track	Every 0.5 m
Weight	660 g
Fixed Guide Bracket	
Roller conveyor profile	Low
Suitable for curved conveyor track	No
Number of brackets straight track	Every 0.5 m
Weight	430 g
Guides	
Side Guide Profile order length	5600 mm
Weight	1940 g
Guide Wear Strip order length	3000 mm
Weight	650 g

Adjustable Guide Bracket



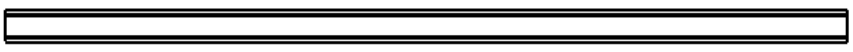
Fixed Guide Bracket



Side Guide Profile

Guide End

Guide Wear Strip



i	More variations available, please refer to the Additional Parts Assembly Instruction.

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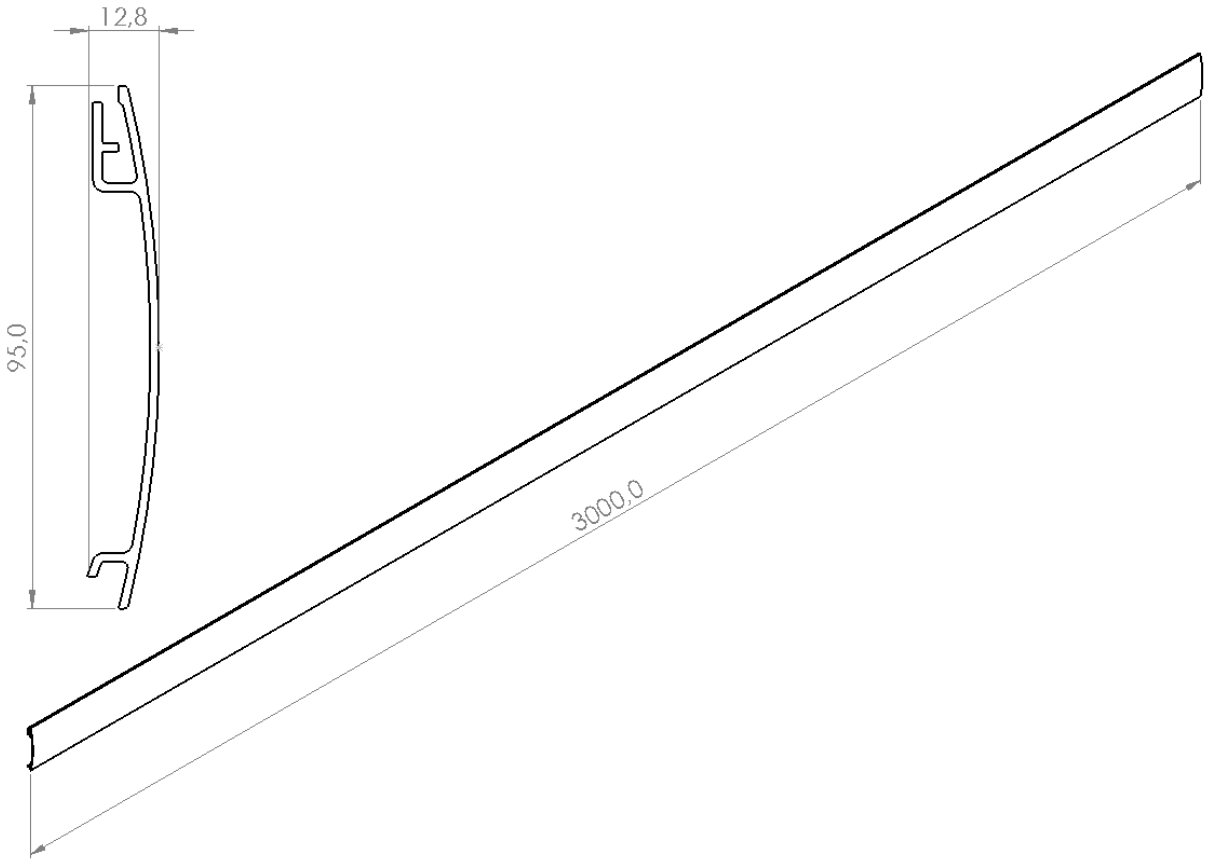
4.7 ERS Side Cover Profile

General technical data	
Dimensions	
Side Cover Profile order length	3000 mm
Weight	826 g



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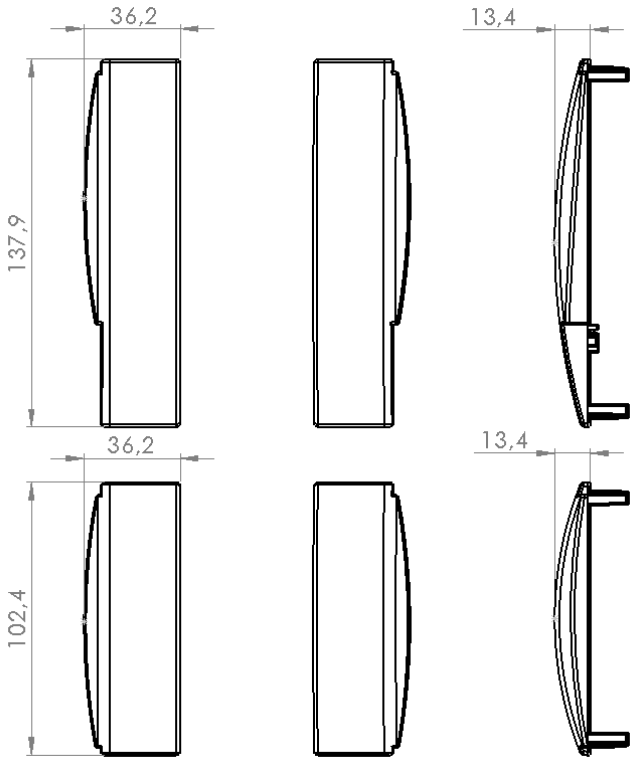
4.8 ERS Cover Caps

General technical data	
Dimensions	
High profile Cover Cap weight	16 g
Low profile Cover Cap weight	12 g



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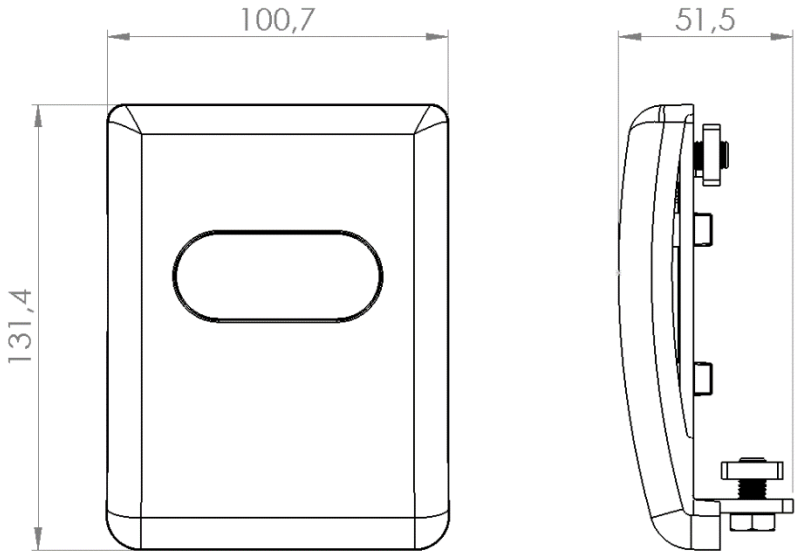
4.9 ERS Straight Connector

General technical data	
Dimensions	
Weight	476 g



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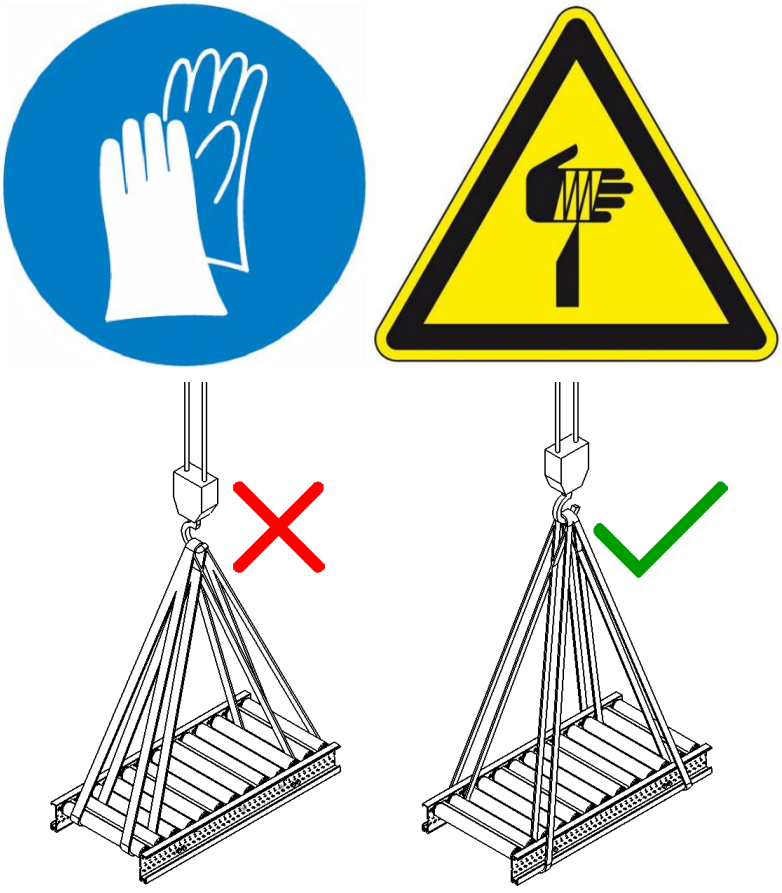
5 Transportation

⚠ CAUTION	**Transportation** - Only qualified and authorized personnel should transport the packaged ERS Belt Driven Roller Conveyor System. - If packaged contents are unstable, unload the package unit by unit and not by truck. - When unpacked only transport single modules, unless they are already coupled before transportation by the supplier. - Wear protective clothing, gloves and shoes during handling of the conveyor. Sharp edges are exposed. - Be aware that the center of gravity is not always in the middle of the Conveyor Module.



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6 Assembly and installation

WARNING	**Installation**
	
	- As the ERS Belt Driven Roller Conveyor Modules are a partial system of an overall installation, you need to perform a risk analysis of the entire installation.
	- Identify the protective measures required concerning risks related to local conditions at the site and to usage.
	- Define a safety zone in the working area.
	- Secure the zone and set up proper signaling and appropriate protection
	- For assembling modules at special heights, refer to safety rules concerning working on heights.
	- Never climb or walk on top of the ERS Belt Driven Roller Conveyor Modules.
	- During assembly wear appropriate Personal Protective Equipment.
	
	- Always provide a control circuit with at least:
	  - Main switch
	  - Start–Stop function,
	  - Emergency stop
	- The control circuit has to be made according to EN-IEC 60204-1
	- The emergency stop system has to be made according to EN-ISO13850

6.1 General Information

6.1.1 Assembly rules

The assembly method provided by Swisslog Technology Center Netherlands is a guide line in how to assemble the different modules. Always adapt the provided assembly method to the national and local safety rules and requirements.

The ERS Belt Driven Conveyor Modules will always be delivered pre-assembled.

i	**Edited components** If any changes are made to the components or their location in the lanes, then Swisslog Technology Center Netherlands is no longer responsible for the product, as this represents unintended use of the ERS Belt Driven Roller Conveyor Modules.

6.1.2 Qualified Personnel

Assembly and installation of the ERS Belt Driven Roller Conveyor Modules can only be done by properly instructed personnel. This personnel must be under the supervision of a manager who is technically competent and trained concerning the following:

- The products and their use.

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- The dangers inherent in the assembly of heavy components.
- The risks related to incorrect assembly.
- The adjustments required for correct operation of the ERS Belt Driven Roller Conveyor Modules.

6.1.3 General Rules

Before starting the assembly take account for the following:

- Comply with the designed layout.
- Before starting assembly, clean the work site to create a safe environment.
- If other systems connect to the ERS Belt Driven Roller Conveyor Modules, use the same reference points to level the systems.
- Before unpacking the shipped ERS Belt Driven Roller Conveyor Modules, check the stability before remove packaging.
- Make sure you do not damage the ERS Belt Driven Roller Conveyor Modules.
- After assembly and before testing clean the work environment. Do not leave any spare parts or tools in the work site and surrounding areas.

6.1.4 Assembly

The ERS Belt Driven Roller Conveyor Modules, are always delivered completely assembled (up to 3 meters in length). The final assembly on site should only consist out of the following:

1. Mounting Support Stands or Support.
2. Coupling of Modules.
3. Wiring Drive.
4. Connecting Air Supply

⚠ CAUTION	**Mounting** Always mount a support stand or similar to the ground or another solid part of a construction.
⚠ CAUTION	**Coupling** Before coupling the different sections always place the sections on a support stand or Support. Never couple sections without proper support. Do not transport sections when connected, this could possibly cause failures.
i	**Wiring** For wiring instructions check manufactures website or check the dealer section on our website for applicable user manuals.
i	**Air Supply** For connecting instructions check manufactures website or check the dealer section on our website for applicable user manuals.

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6.1.5 Start-up checks

⚠ CAUTION	**Visual safety check** - When connecting the ERS Belt Driven Roller Conveyor Modules to another machine or system perform a risk analysis of the entire installation. - Check the installed modules for damage. - Check the working area for foreign material in the working area. - Check that all signage is in place (max. load capacity and restriction for use).
⚠ WARNING	**Safety check** - Check all personnel are properly instructed before working with or near the ERS Belt Driven Roller Conveyor Modules. - Check for visible damage on the ERS Belt Driven Roller Conveyor Modules. - Check for foreign material preventing correct operation.

6.1.6 Operation

⚠ WARNING	**In operation** Close down a system or ERS Belt Driven Roller Conveyor Modules Module if any of the following occurs: - Suspicious noise from any of the component. - A visibly worn or damaged component. - Damage to structural components such as frame and support.

6.1.7 In case of an accident

1. Stop the ERS Belt Driven Roller Conveyor Module.
2. Secure the area and set up appropriate signage.
3. In the event of an accident: provide first aid and call the emergency services.
4. Inform qualified personnel.
5. Have the system repaired by qualified maintenance personnel.
6. Do not use the ERS Belt Driven Roller Conveyor Module until authorized by qualified maintenance personnel.

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6.2 ERS 53 Coupling Belt Driven Conveyor Modules

6.2.1 Couple/ uncouple of ERS Modules

Before coupling of the different ERS Belt Driven Roller Conveyor Modules could take place, the modules must be mounted on support stands.

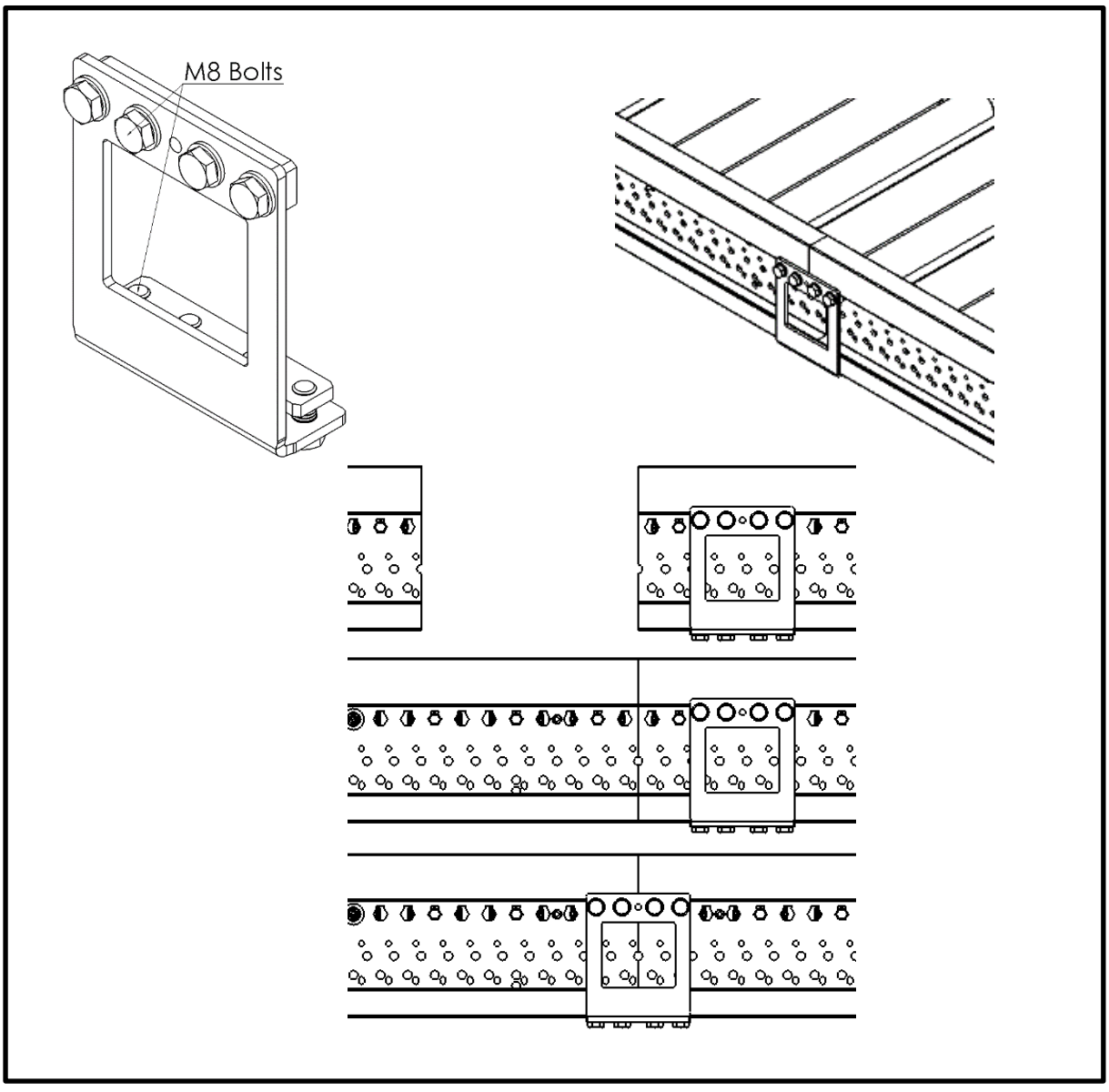
Step 1 Place two ERS Belt Driven Roller Conveyor Modules next to each other and slide Straight Connectors into both sides of the side profile of one of the ERS Belt Driven Roller Conveyor Modules.

Step 2 Align the ERS Belt Driven Roller Conveyor Modules.

Step 3 Slide the Straight Connectors halfway onto both modules.

Step 4 Tighten the M8 bolts with a torque of 23 Nm.

For uncoupling, repeat the steps above in reverse order.



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6.3 ERS 53 Flat Belt Installation

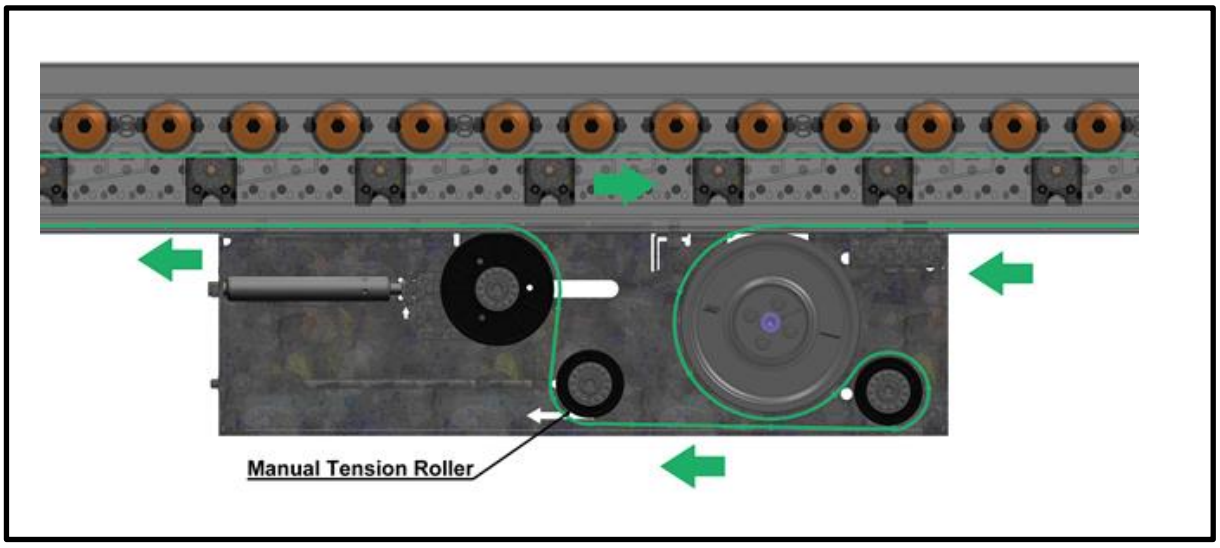
6.3.1 Flat Belt Feed Through

When assembling a Belt Driven Roller conveyor longer than 3 meters, the flat belt will have to be installed on site

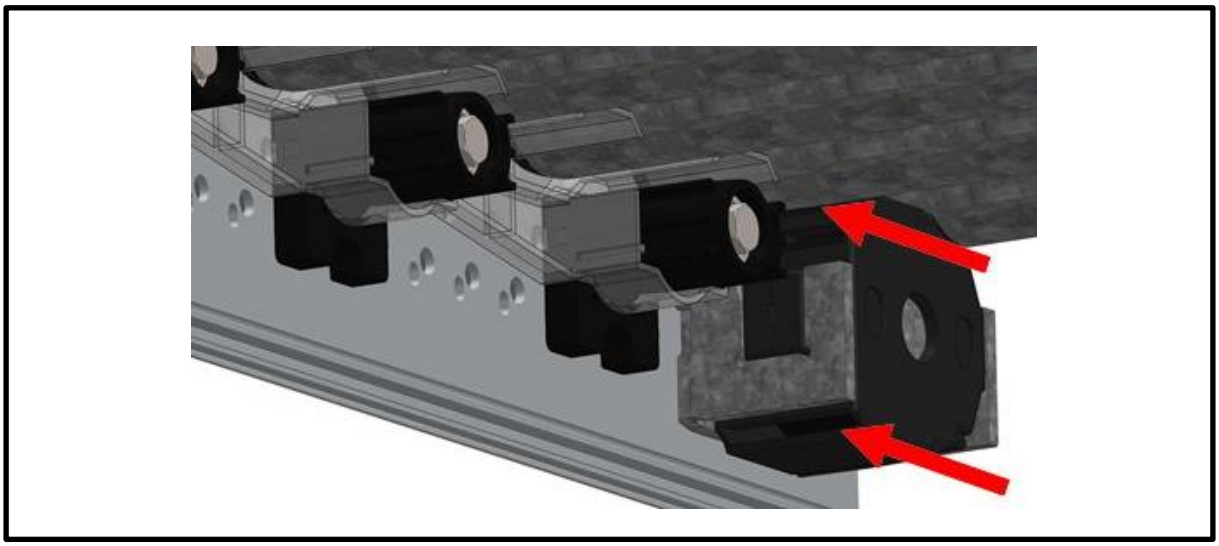
Step 1 Feed the flat belt through the general drive unit.

Step 2 The arrows in the illustration below are showing the travel direction of the flat belt and how it runs through the 'General Drive Unit'.

Step 3 Make sure the 'Manual Tension Roller' is as close as possible to the drive wheel. This ensures the most re-tension cycles.



Step 4 Feed the flat belt through one return unit and over the tension rollers and finally through the last return unit. Make sure the flat belt goes through the upper and lower slot of the cover in the return unit, else the pressure against the rollers will be lower and the flat belt will wear more quickly.



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6.3.2 Flat Belt Welding

When the flat belt is guided through the system, pull both ends as much as manually possible over each other. Place a mark at where the material meets and continue with the belt cutting and belt welding instructions.

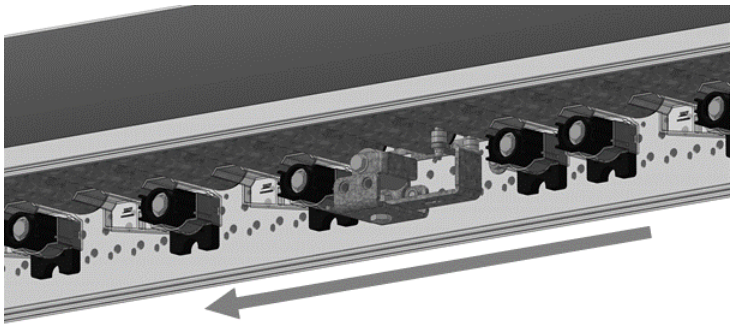
The instructions can be found enclosed together with the Belt Cutting and Belt Welding tool. The belt welding time is approximately 7- 8 minutes.

6.3.3 Flat Belt Controlling – General Drive Conveyor

The arrow in the picture below points towards the products direction of travel (when on top of the conveyor). This means the ERS Belt Controller will point towards the start point of the conveyor.

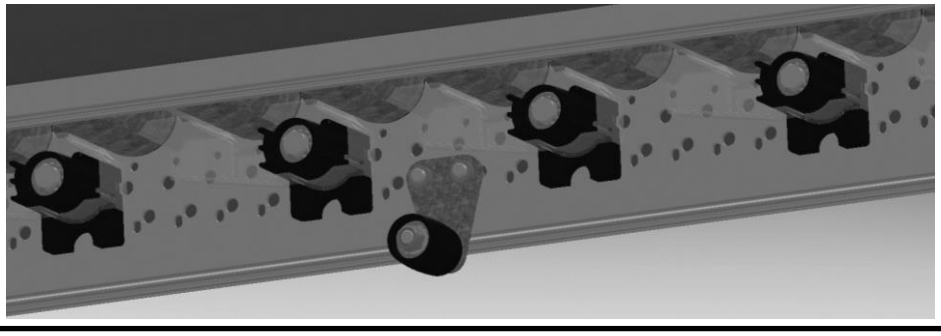
A belt controller will be mounted on flat belt driven roller conveyors longer than 5 meters. With a maximum distance between the belt controllers of 5000 mm. The total number of the belt controllers for a conveyor will be:

Range Distance [mm]		Number of Belt Controllers	Number of Flat Belt Supports
0	5000	0	0
5000	9000	1	1
9000	13000	2	2
13000	17000	3	3
17000	21000	4	4



6.3.4 Flat Belt Support – General Drive Conveyor

Flat belt driven roller conveyors use a flat belt which can sag below the profile. The sag of the flat belt depends on the amount of tension on the flat belt. This also determines the amount of belt supports needed. The ERS Belt Support can easily be mounted between two tension units, lifting the belt.



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6.3.5 Flat Belt (Re-) Tensioning – General Drive Unit

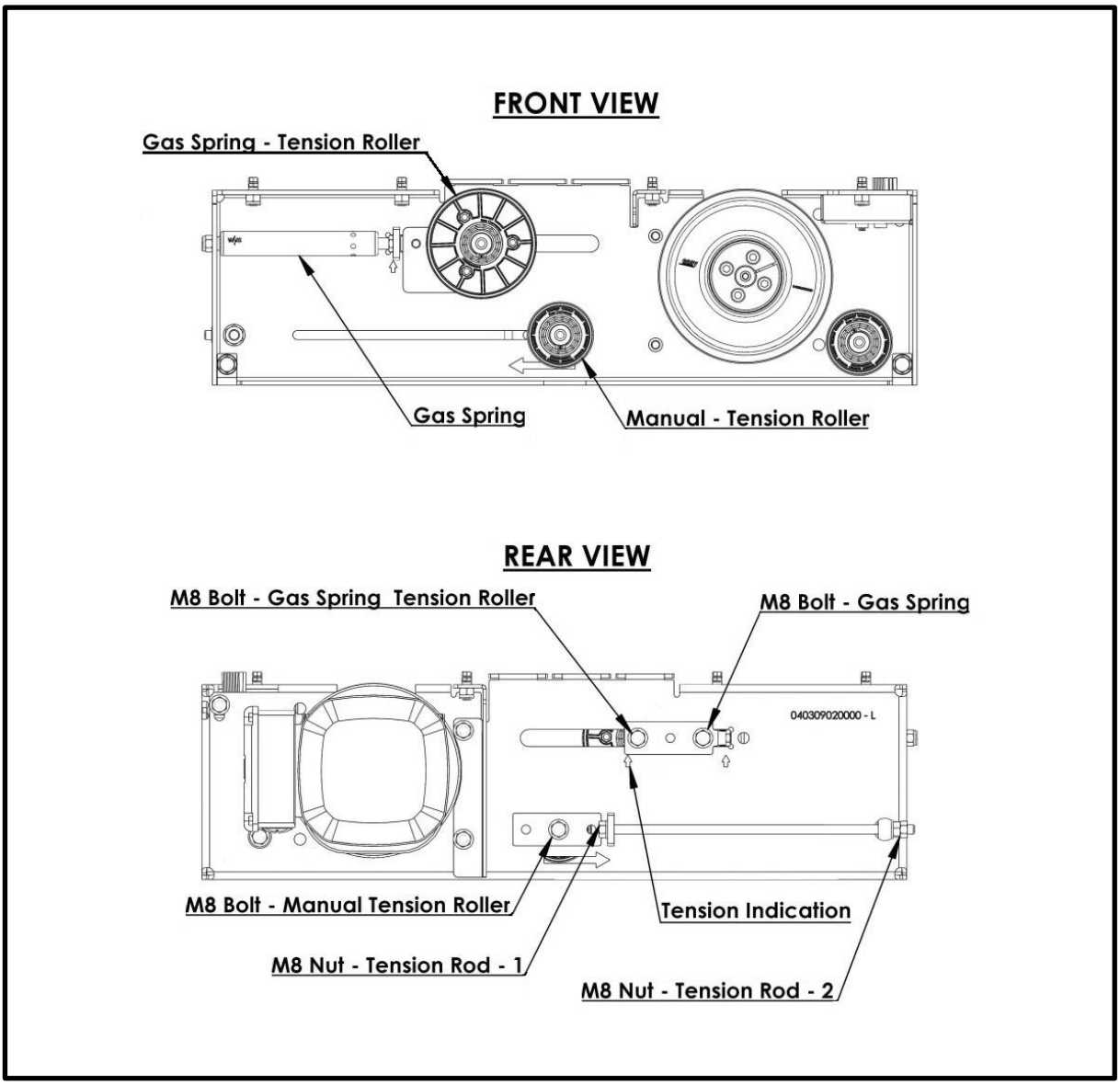
⚠ CAUTION	This operation can only be executed when the machine is turned off and disconnected to any power source.

Step 1 Slightly loosen 'M8 Bolt – Manual Tension Roller' prior to the tensioning procedure.

Step 2 Tension the belt by fastening 'M8 Nut – Tension Rod – 2' and holding 'M8 Nut – Tension Rod – 1'. Do this until the tension indicator points to the end of the upper tension bracket which fixes the 'Gas Spring – Tension Roller'.

Step 3 Finish by fastening all the 'M8 Bolt – Manual Tension Roller'.

Important! When the 'Tension Indicator' arrow isn't pointing to the bracket attached to the gas spring and 'Gas Spring – Tension Roller', the force delivered by the gas spring is too low to ensure an ideal belt tension. Repeat the instructions from step 1, if the desired belt tension still can't be reached, replace the flat belt material.



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6.3.6 Flat Belt (Re-) Tensioning – End Drive Unit

⚠ CAUTION	This operation can only be executed when the machine is turned off and disconnected to any power source.

Step 1 Slightly loosen 'M8 Bolt – Tension Plate' and 'M8 Bolt – Manual Tension Roller'.

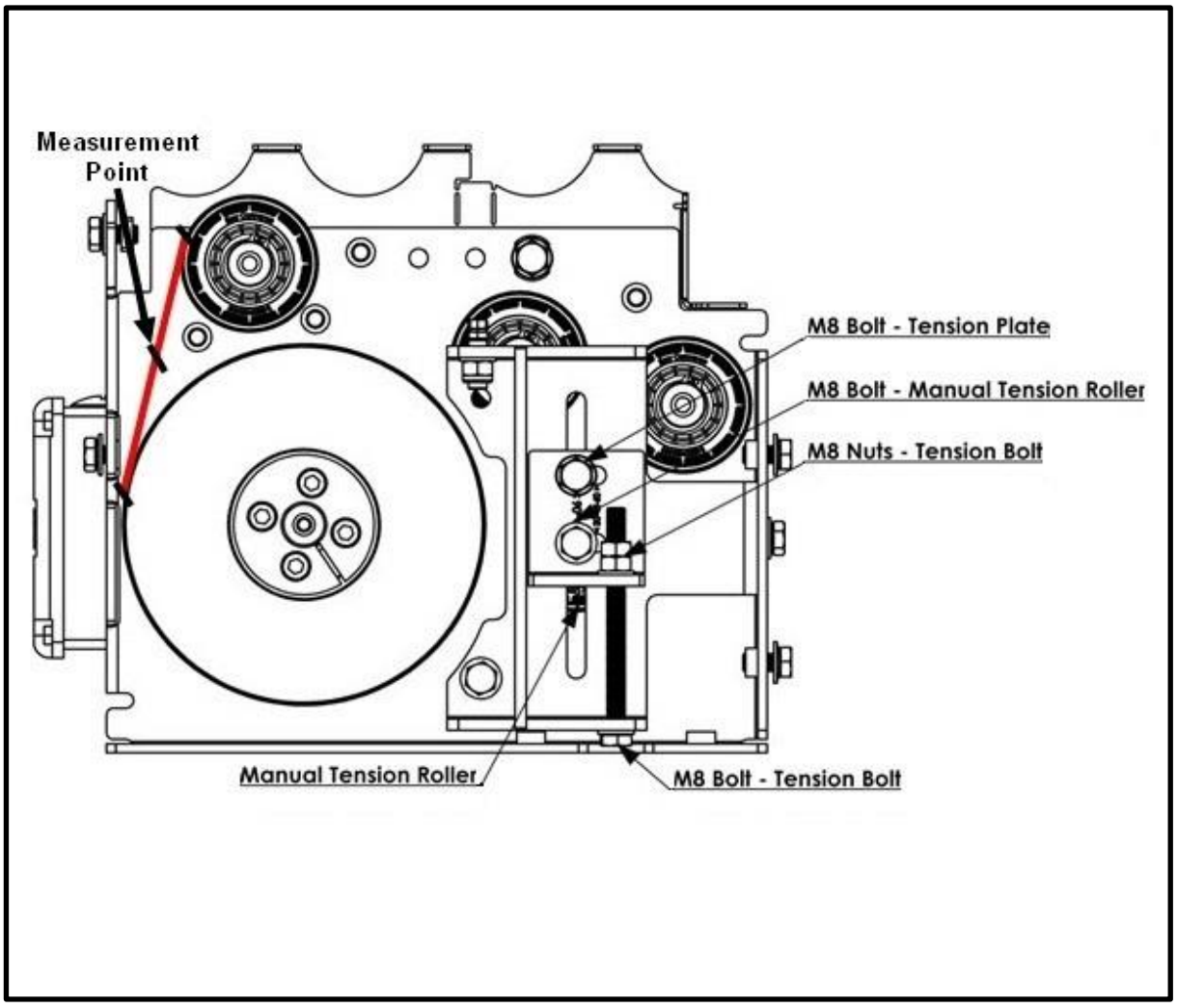
Step 2 Hold 'M8 Nuts – Tension Bolt' and fasten 'M8 Bolt – Tension Bolt'. This will pull the manual tension roller down and create additional tension. Do this until the desired tension is reached.

Step 3 Check the tension of the Belt with a 'flat belt tension measurement device'. Set the flat belt in an oscillating motion by hand and measure the frequency. Adjust the tension until the correct frequencies have been reached.

Correct frequencies:

Before first run	320 ± 10 Hz
After 50- 100 hours operation	310 ± 10 Hz

Step 4 Finish by fastening all the bolts and nuts.



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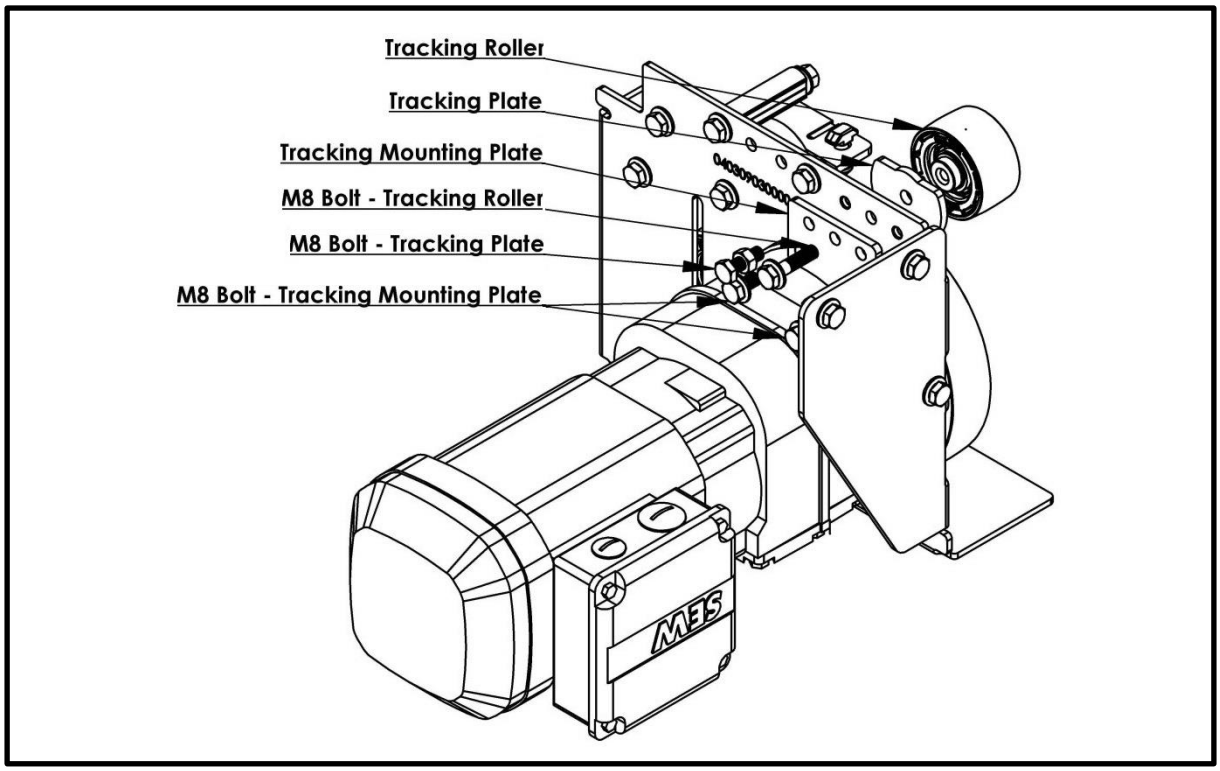
6.3.7 Belt tracking – End Drive Conveyor

The belt tracking set exists of the following components:

Component	Function
Tracking Roller	Tracks the flat belt
Tracking Plate	Pushes the Tracking roller in the correct angle.
Tracking Mounting Plate	Holds the tracking plate in place
M8 Bolt – Tracking Roller	Fastens the Tracking Roller
M8 Bolt – Tracking Plate	Pushes against Tracking plate
M8 Bolt – Tracking Mounting Plate	Holds the Tracking mounting plate in place



The belt tracking of the Straight With End Drive conveyors could me adjusted. This is done with the tracking roller. The tracking roller could be steering inward or outward. Inward will cause the belt to move towards the drive motor. Outward will cause the belt to move away from the drive motor.

Inward steering could be done by pushing against the tracking plate through ‘Tracking Hole 1’.
Outward steering could be done by pushing against the tracking plate through ‘Tracking Hole 2’.

Pushing against the tracking plate will be done by fastening ‘M8 Bolt – Tracking Plate’ in the tracking hole.

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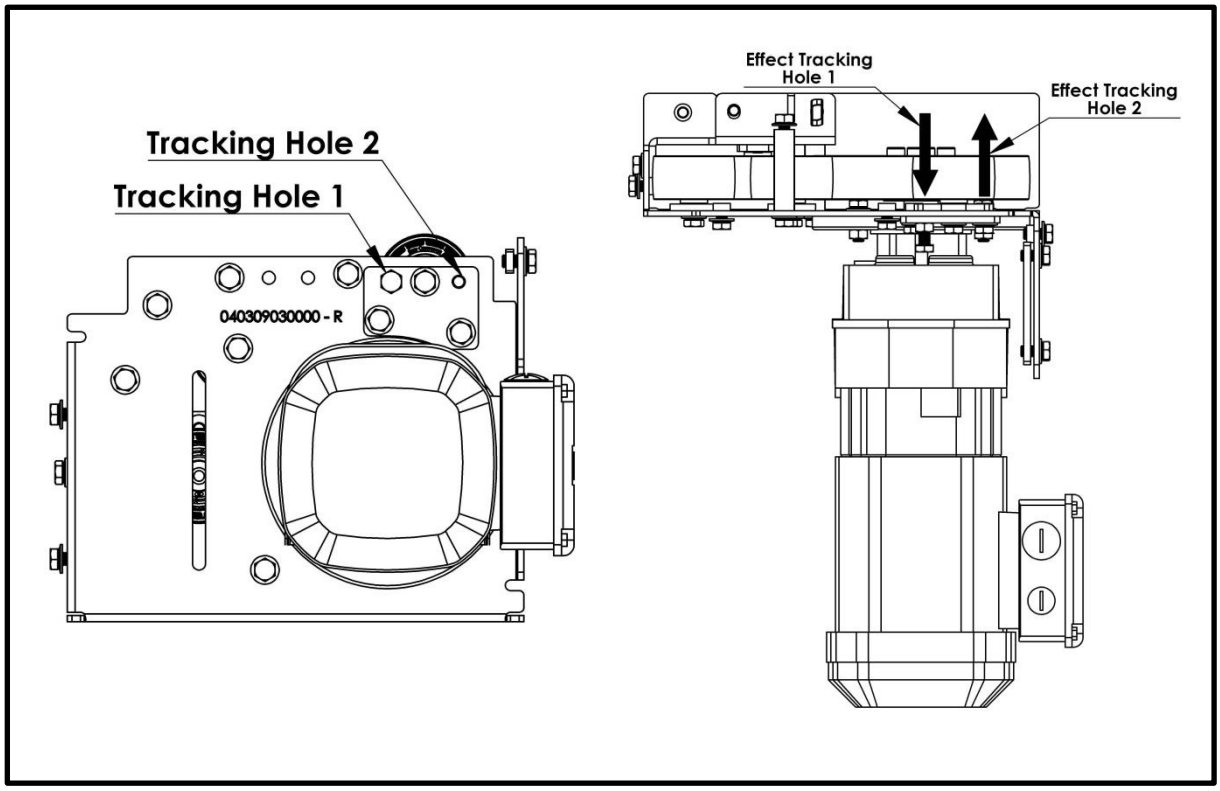
Step 1 Check the alignment of the belt on the drive wheel. Slightly loosen the 'M8 Bolt – Tracking Roller', loosening the bolt too much will cause the Tracking Roller to become unstable. This will make the tracking unreliable.

Step 2 Apply inward or outward steering by fastening 'M8 Bolt – Tracking Plate' in the desired tracking hole.

Step 3 Check the tracking. Keep adjusting the amount of force delivered by the 'M8 Bolt – Tracking Plate' until the alignment of the flat belt on the drive wheel centered.

Step 4 Fasten the nut on the 'M8 Bolt – Tracking Plate' and fasten 'M8 Bolt – Tracking Roller'. Some additional tracking could be needed. Repeat the steps until the tracking is correct.



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6.4 ERS 61 Stopper

6.4.1 Mounting/ dismounting the ERS 61 Stopper

The Stopper is directly mounted to a roller conveyor and is attached with four M8 bolts and torque nuts onto the side profiles.

Step 1 Remove the two M8 bolts and nuts.

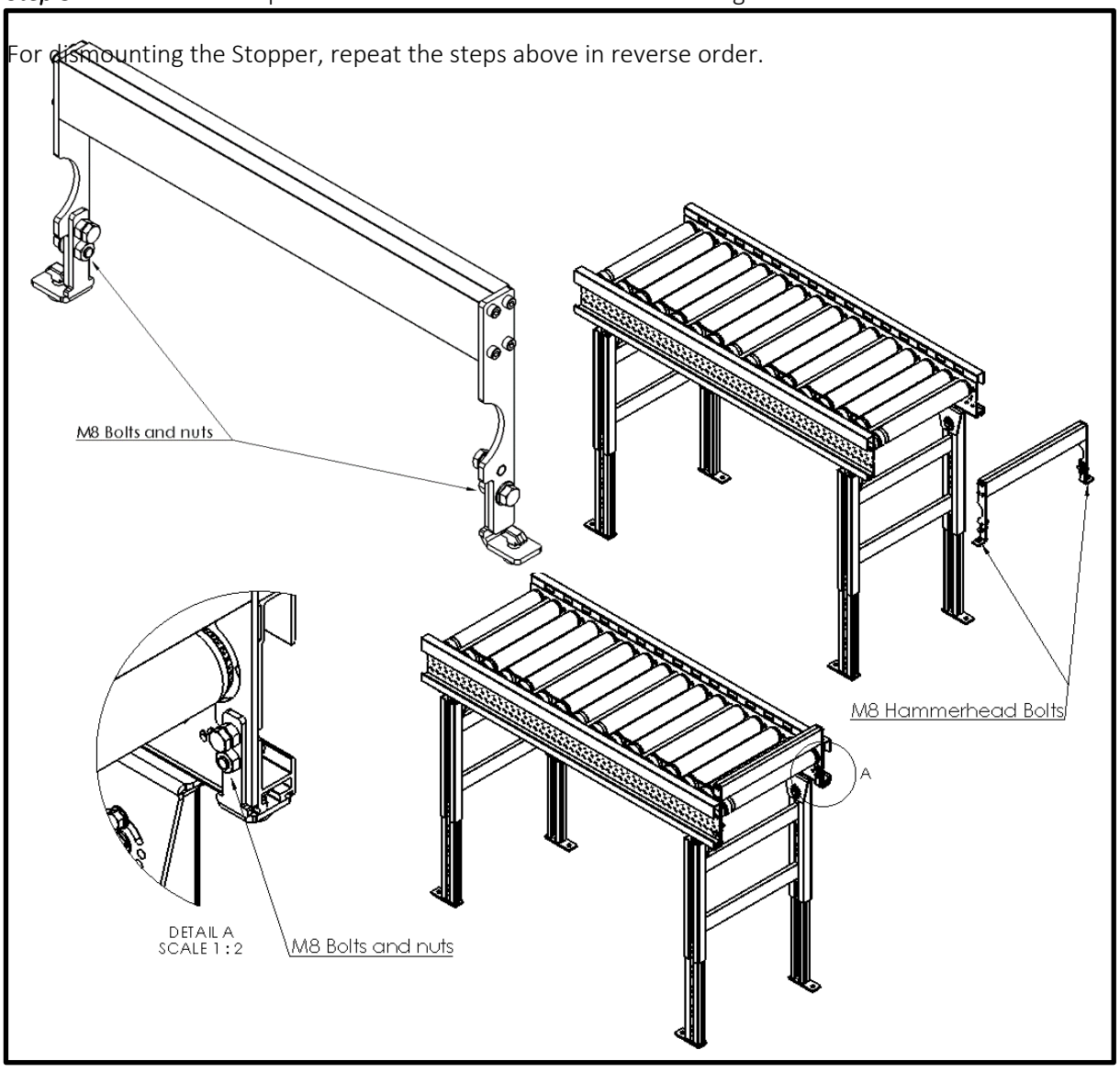
Step 2 Slide the Stopper, provided with two M8 hammerhead bolts into each side of the roller conveyor module.

Step 3 Align the holes in the Stopper, with the holes in the side profiles.

Step 4 Place the M8 bolts and nuts through the holes and tighten them.

Step 5 Place the M8 torque nuts onto the hammerhead bolts and tighten them.

For dismounting the Stopper, repeat the steps above in reverse order.



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6.5 ERS 60 Support

6.5.1 Mounting/ dismounting the ERS 60 Support

Before coupling of the different modules could take place, the modules must be mounted on support stands. Supports are attached with four M8 hammerhead bolts and torque nuts onto the side profiles of the module.

Step 1 Hoist and hang a roller conveyor module above the ground, 100 mm higher than the Support height, using appropriate lifting equipment.

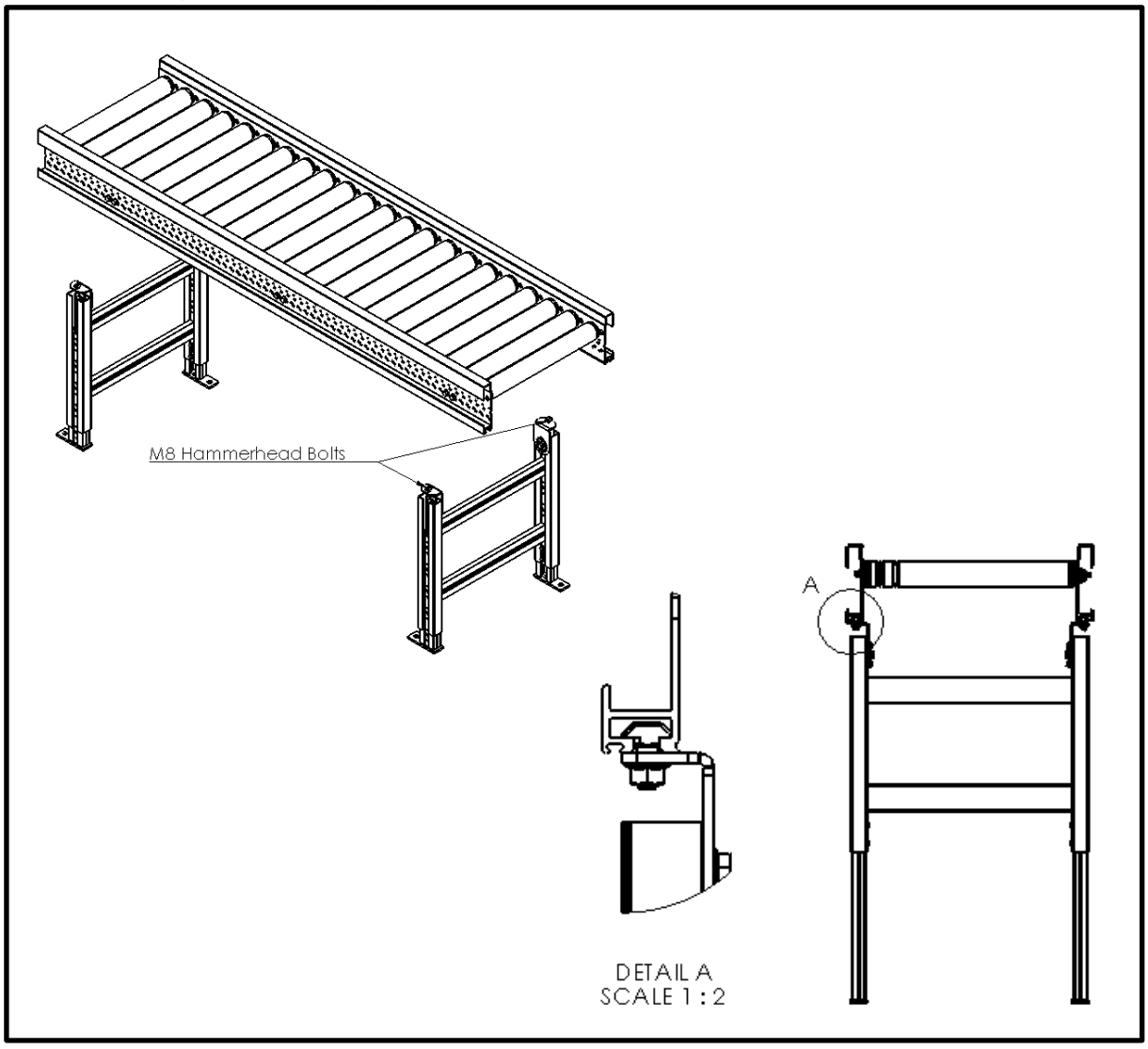
Step 2 Slide two Supports provided with M8 hammerhead bolts into each side of the roller conveyor module.

Step 3 Slide the Supports to the desired place.

Step 4 Place the M8 torque nuts onto the hammerhead bolts and tighten them.

Step 5 Lower the roller conveyor onto the ground.

For dismounting the Supports, repeat the steps above in reverse order.



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6.6 ERS Sensor and Reflector

6.6.1 Mounting/ dismounting the ERS Sensor and Reflector – Sensor Clip

A High Profile ERS Belt Driven Conveyor Module is equipped with dedicated mounting holes for the Sensorclip.

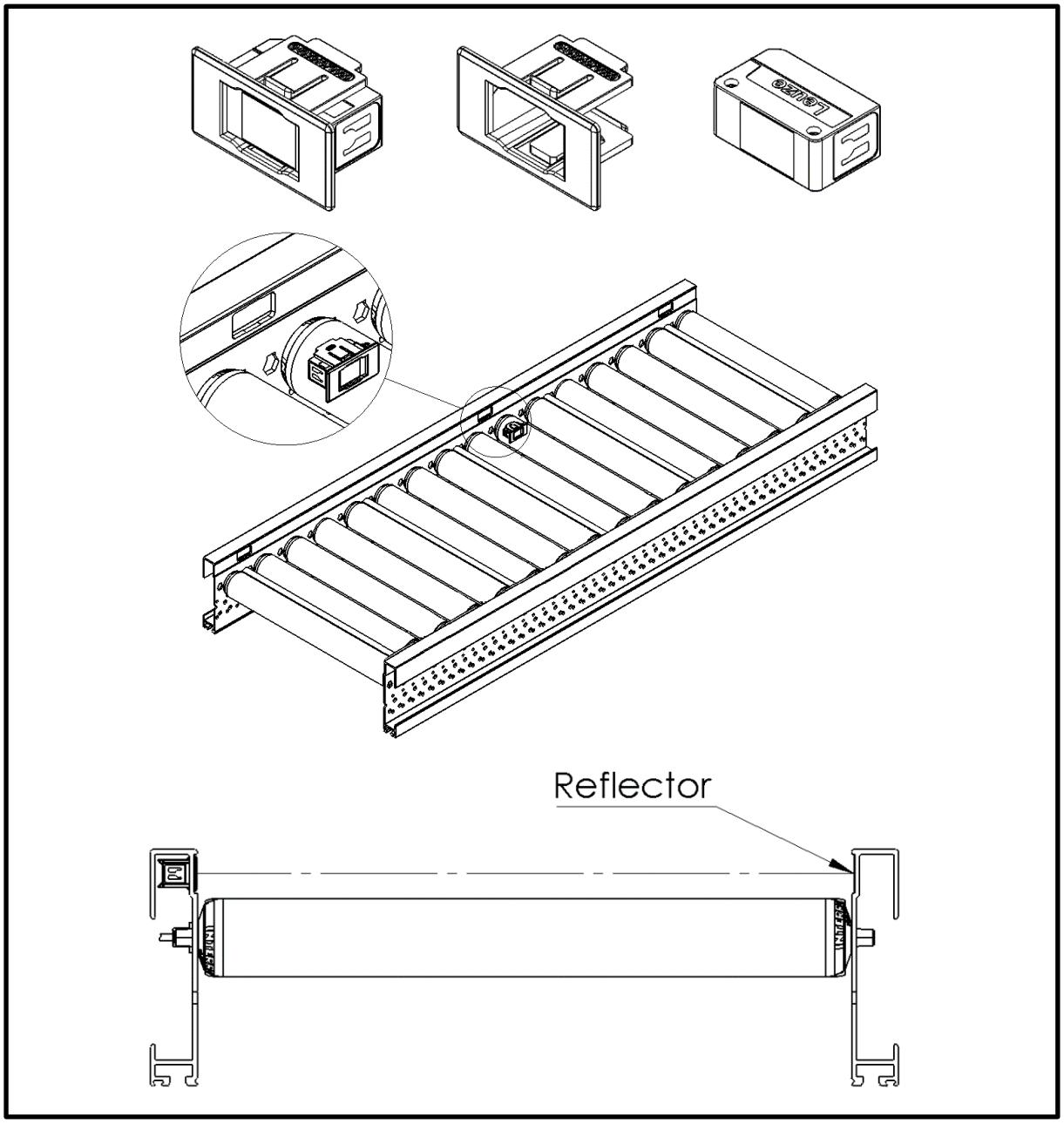
Step 1 Place the ERS Sensor in the Sensorclip as shown in the illustration

Step 2 Determine the desired position of the sensor.

Step 3 Push-click the clip with sensor in the corresponding hole.

Step 4 Place the reflector in line with the sensor on the opposite side of the roller conveyor.

For dismounting the Sensor and Reflector, repeat the steps above in reverse order.



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6.6.2 Mounting/ dismounting the ERS Sensor and Reflector – Sensor Bracket

The Sensor bracket is suitable for Low Profile ERS Belt Driven Conveyor Modules.

Step 1 Loosen the two M8 Bolts.

Step 2 Determine the desired position of the Sensor.

Step 3 Place the bracket on the roller conveyor as shown in the illustration below.

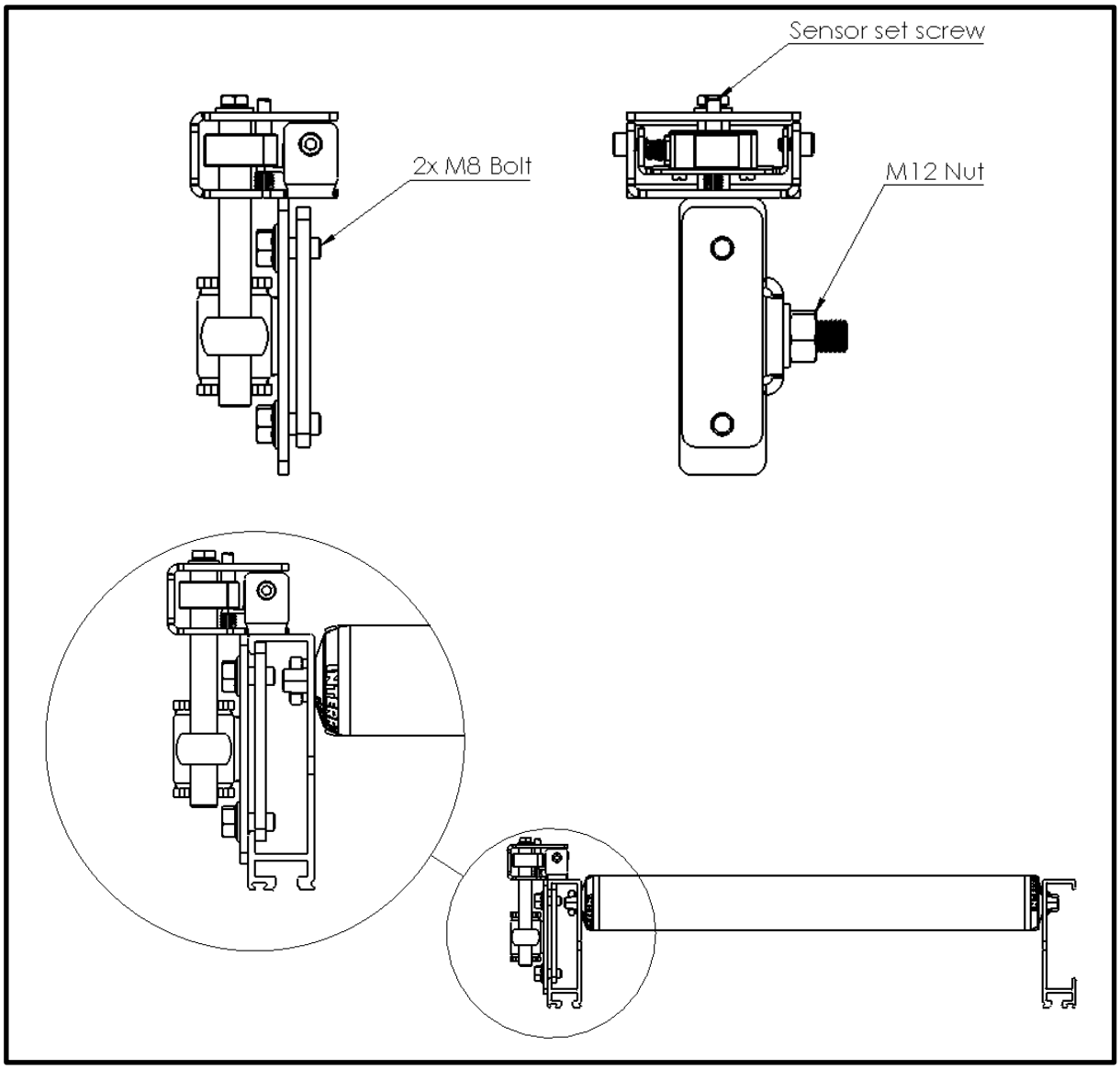
Step 4 Clamp the bracket to the Straight Module by tightening the M8 Bolts.

Step 5 Optional: Adjust the height and rotation by loosening the M12 nut.

Step 6 Optional: Adjust the orientation of the sensor with the Sensor set screw.

Step 7 For mounting the Reflector bracket repeat the steps above. Place the reflector in line with the sensor on the opposite side of the roller conveyor.

For dismounting the Sensor or Reflector, repeat the steps above in reverse order.



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6.7 ERS Side Guides

6.7.1 Mounting/ dismounting the ERS Side Guide – Fixed Bracket Type

The ERS Side Guide Fixed Bracket is mounted on the low profile ERS Belt Driven Conveyor Modules. The Fixed Bracket is not suitable for bended ERS Belt Driven Conveyor Modules. The Side Guide Profile and the Guide Wear Strip should be cut to the desired length with a proper cutting tool. The Guide Wear Strip should be 50 mm longer then the Side Gide Profile to properly assemble the Guide Ends.

Step 1 Define the required amount of brackets (can be found in the product description).

Step 2 Loosen the M8 Bolts of the fixed bracket(s).

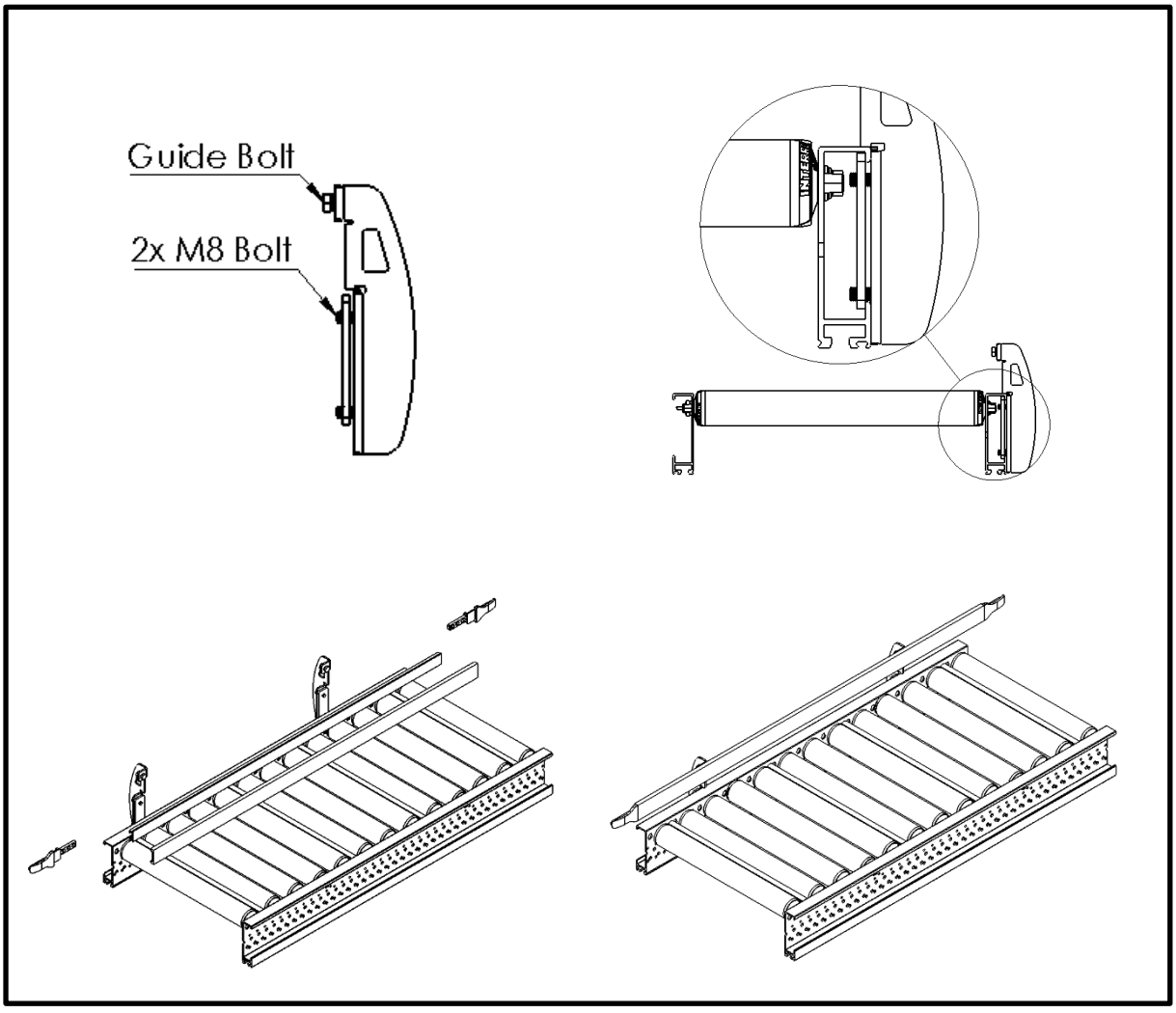
Step 3 Place the bracket(s) on the roller conveyor at the desired location and tighten the M8 Bolts.

Step 4 Slide the Side Guide Profile over the Guide Bolt and tighten it.

Step 5 Slide the Guide Wear Strip over the Side Guide Profile.

Step 6 Place the Guide End on both sides of the Side Guide.

For dismounting the ERS Side Guide, repeat the steps above in reverse order.



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6.7.2 Mounting/ dismounting the ERS Side Guide – Adjustable Bracket Type

The ERS Side Guide Adjustable Bracket is mounted on the low profile ERS Belt Driven Conveyor Modules. The Adjustable Bracket is suitable for curved ERS Belt Driven Conveyor Modules. In case of a curved module, the ERS Side Guide Profile should be bend with a dedicated bending machine. The Side Guide Profile and the Guide Wear Strip should be cut to the desired length with a proper cutting tool. The Guide Wear Strip should be 50 mm longer then the Side Gide Profile to properly assemble the Guide Ends.

Step 1 Define the required amount of brackets (can be found in the product description).

Step 2 Loosen the M8 Bolts of the adjustable bracket(s).

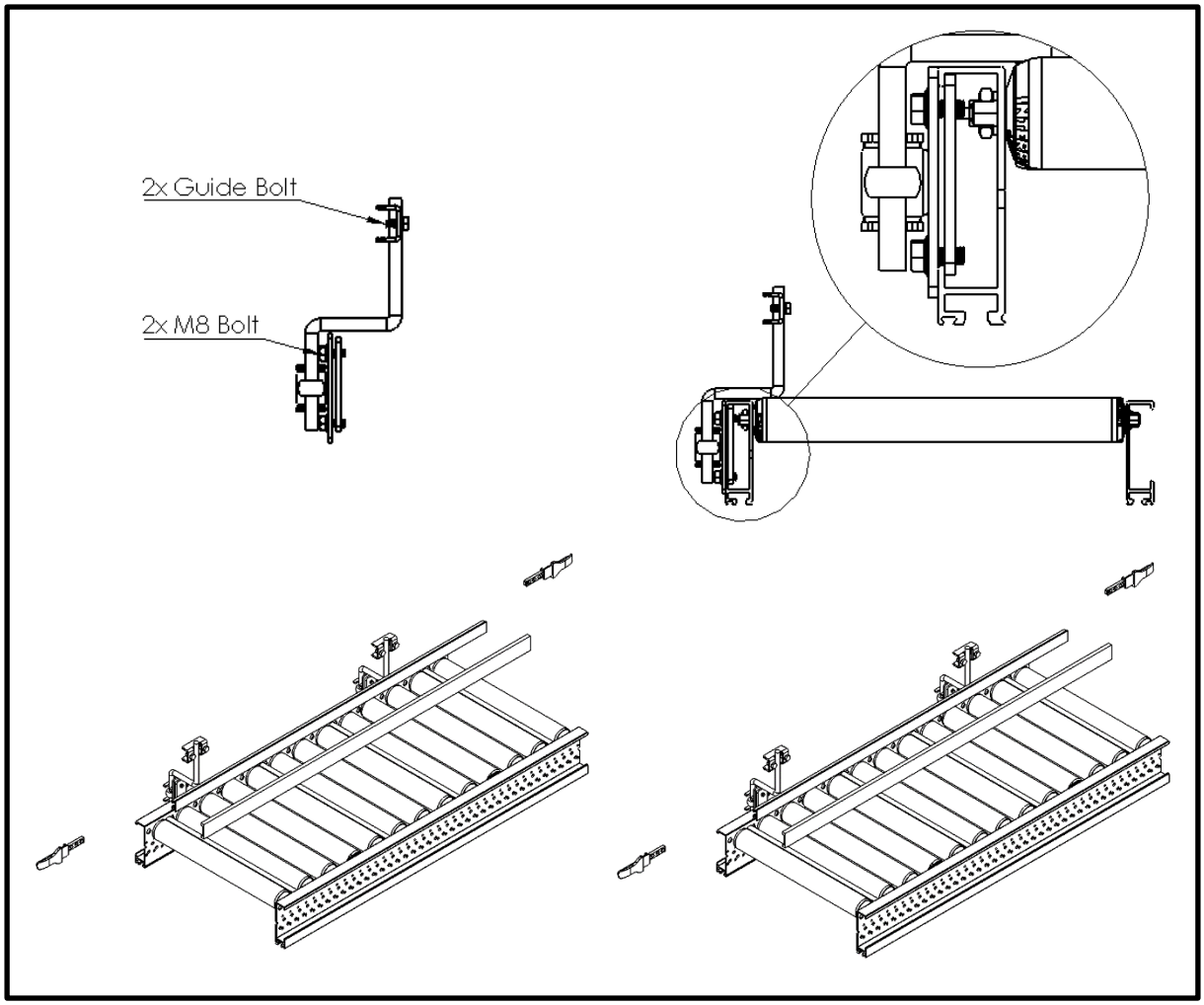
Step 3 Place the bracket(s) on the roller conveyor at the desired location and tighten the M8 Bolts.

Step 4 Slide the Side Guide Profile over the two Guide Bolts and tighten them.

Step 5 Slide the Guide Wear Strip over the Side Guide Profile.

Step 6 Place the Guide End on both sides of the Side Guide.

For dismounting the ERS Side Guide, repeat the steps above in reverse order.



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6.8 ERS Side Cover Profile and ERS Cover Caps

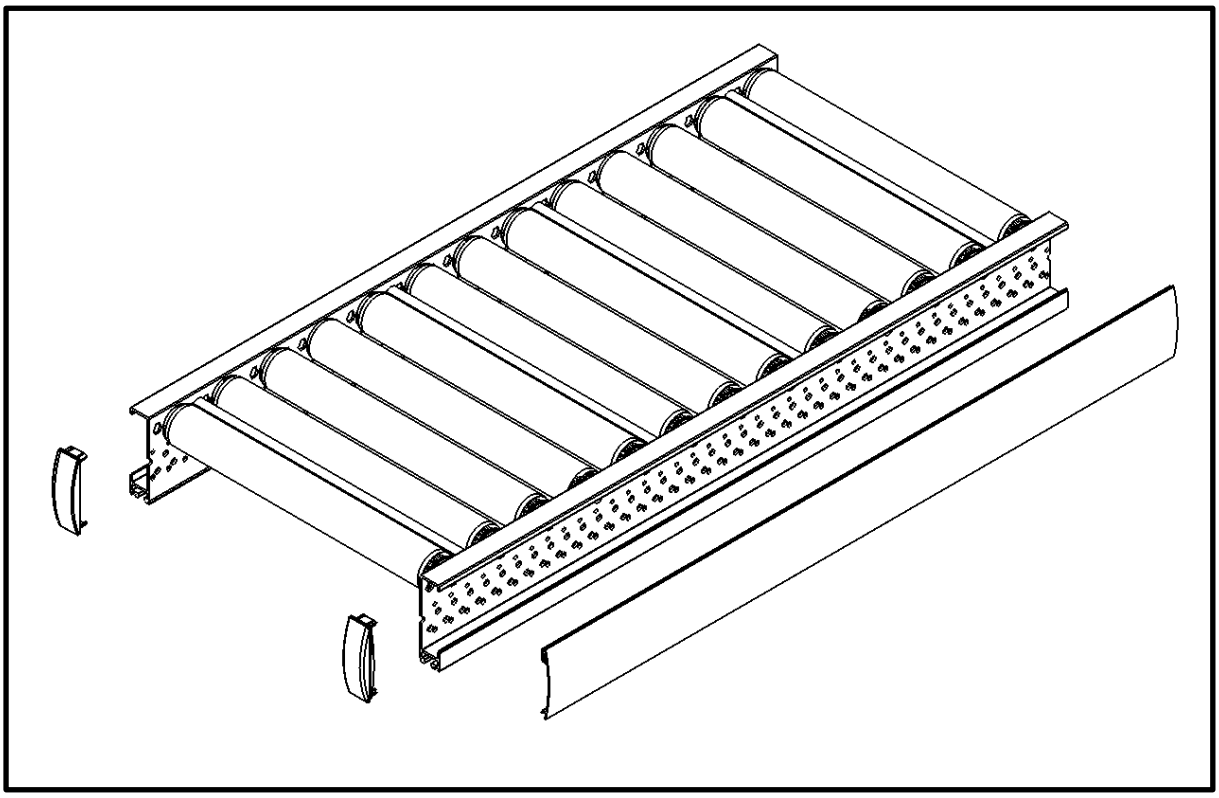
6.8.1 Mounting/ dismounting the ERS Side Cover Profile and ERS Cover Caps

The ERS Side Cover Profile and ERS Cover Caps are mounted on the ERS Belt Driven Conveyor Module side profiles. The ERS Side Cover Profile should be cut to the desired length with a proper cutting tool.

Step 1 Define the required length of the ERS Side Cover Profile and cut the profile to the desired length.

Step 2 Slide in or push in the ERS Side cover Profile and ERS Cover Caps.

For dismounting the ERS Side Cover Profile and ERS Cover Caps, repeat the steps above in reverse order.



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7 Cleaning, Maintenance and Replacements

Make sure the ERS Belt Driven Conveyor Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

7.1 General information

7.1.1 Cleaning Information

NOTE	**Products** - Do not use abrasive products, pressurized jets or products which may cause oxidization or damage the equipment. - Clean the ERS Belt Driven Conveyor Modules using a dry cloth.

7.1.2 Maintenance Information

⚠ CAUTION	**Safety** - Make sure maintenance is carried out by qualified personnel who are familiar with the proper procedures and instructions. - Secure the working area and shut down the machinery and apply appropriate signage. Make sure nobody can start up the machinery during maintenance. - Wear Personal Protective Equipment. - When in doubt contact the supplier or manufacturer of the parts. - Make sure the complete system is disconnected from the power source when carrying out cleaning, maintenance or replacements.
i	**Third party spare parts** Some parts are used from third parties, mostly electronics. In case of the ERS Belt Driven Conveyor Modules this can be: - Inductive Sensors - Geared Drives The third parties deliver these parts with stand-alone user manuals. Please check the appendix or visit the manufacturer's website for additional maintenance and mounting information.

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7.1.3 Maintenance intervals

defines the maintenance intervals according to the **operating hours**. During these periods, The ERS Belt Driven Conveyor System has to be disconnected from the electrical network, cleaned, and investigated for wear. Faults observed during the inspections and unforeseen changes must be corrected immediately.

The maintenance activities are to be performed as listed.

Working period In hours per day	**Interval** In months
0-8	3
8-16	2
16-24	1

If maintenance is not performed as scheduled, damage can occur. If maintenance intervals are not complied with, guarantee expires.

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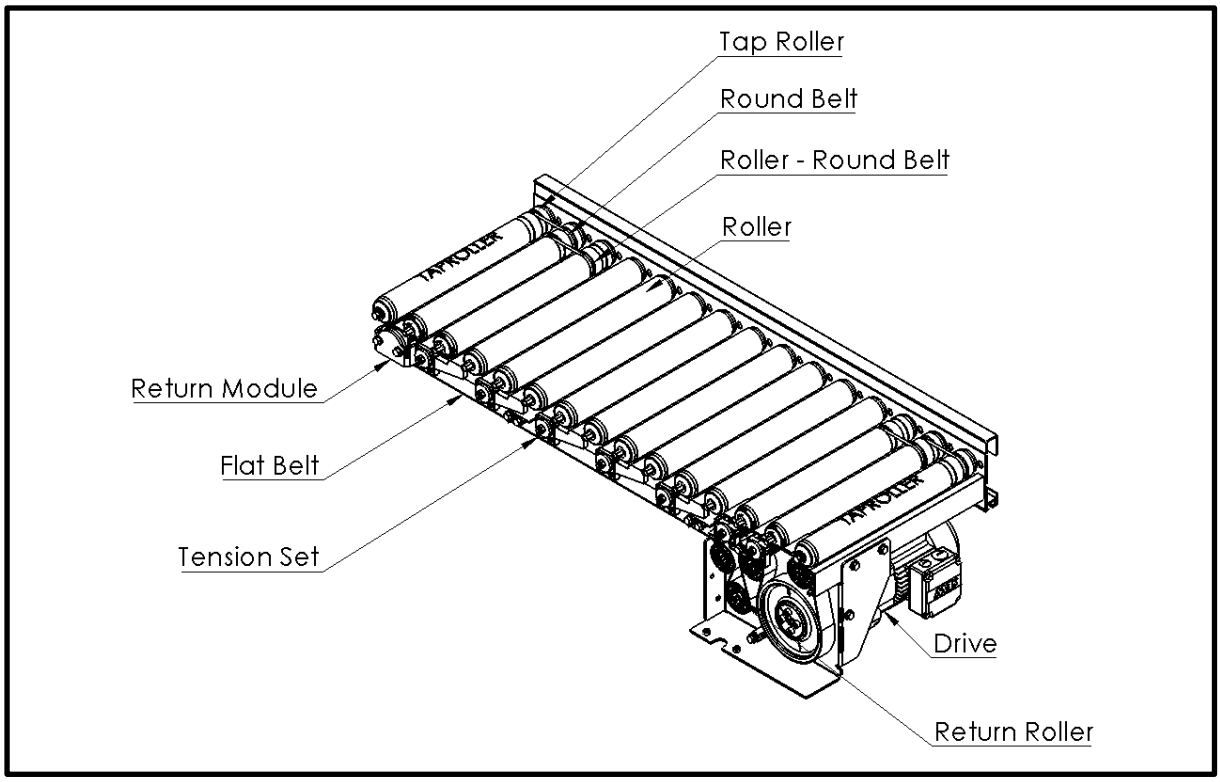
7.2 ERS 53 Belt Driven with End Drive/ General Drive/ Curve with End Drive

7.2.1 Maintenance



	Part	Inspection	Result	Action
1.	Return Module	Mounting check	Mounting bolt too loose	Tighten
		Acoustic check	Noise	Replace Return Module
		Visual check	Damaged	Replace Return Module
2.	Flat Belt	Mounting check	Mounting bolt too loose	Tighten
		Acoustic check	Noise	Replace Flat Belt
		Visual check	Damaged Belt	Replace Flat Belt
3.	Tension Set	Mounting check	Mounting bolt too loose	Tighten
		Acoustic check	Noise	Replace Tension Set
		Visual check	Damaged	Replace Tension Set
4.	Tap Roller	Mounting check	Mounting bolt too loose	Tighten
		Acoustic check	Noise	Replace Tap Roller
		Visual check	Damaged Roller	Replace Tap Roller

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5.	Round Belt	Mounting check Acoustic check Visual check	Mounting bolt too loose Noise Damaged Belt	Tighten Replace Round Belt Replace Round Belt
6.	Roller – Round Belt	Mounting check Acoustic check Visual check	Mounting bolt too loose Noise Damaged Roller	Tighten Replace Roller – Round Belt Replace Roller – Round Belt
7.	Roller	Mounting check Acoustic check Visual check	Mounting bolt too loose Noise Damaged Roller	Tighten Replace Roller Replace Roller
8.	Drive	Mounting check Acoustic check Visual check	Mounting bolt too loose Noise Damaged	Tighten Replace Drive Replace Drive
9.	Return Roller	Mounting check Acoustic check Visual check	Mounting bolt too loose Noise Damaged Roller	Tighten Replace Return Roller Replace Return Roller

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7.2.2 Replacements

7.2.2.1 Return Module Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

Release the tension of the Flat Belt by loosening the M8 Bolt. Located on the bottom of the End Drive and on the side of the General Drive.

Step 2.

Remove the M8 Bolts holding the Return Module.

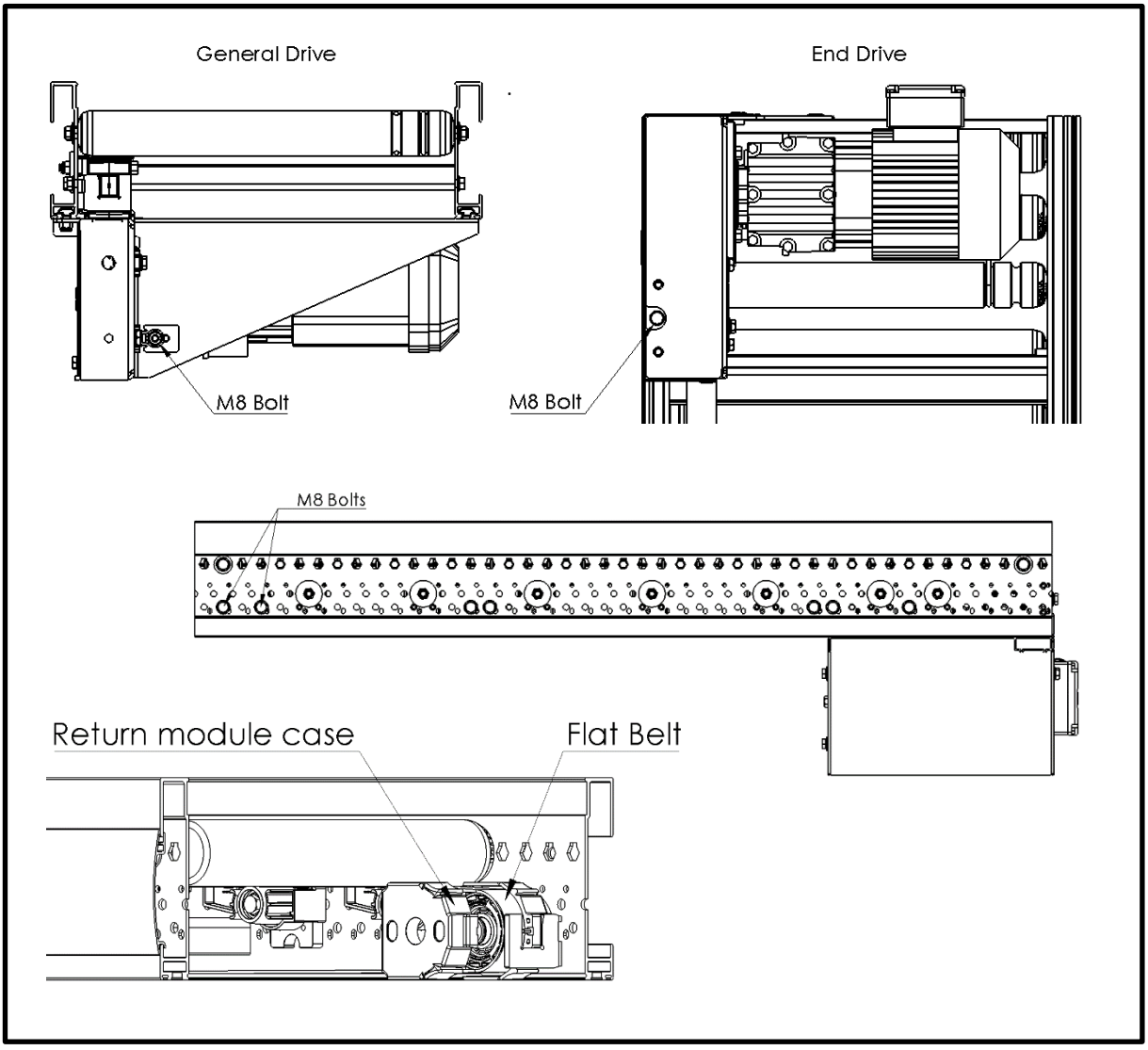
Step 3.

Snap open the casing of the Return Module and remove the Flat Belt.

Step 4.

Remove the Return Module.

Replacing the Return Module could be done by repeating the steps in reverse order



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7.2.2.2 Flat Belt Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

Release the tension of the Flat Belt by loosening the M8 Bolt. Located on the bottom of the End Drive and on the side of the General Drive.

Step 2.

Remove the Drive as described in chapter 'Drive Replacement' .

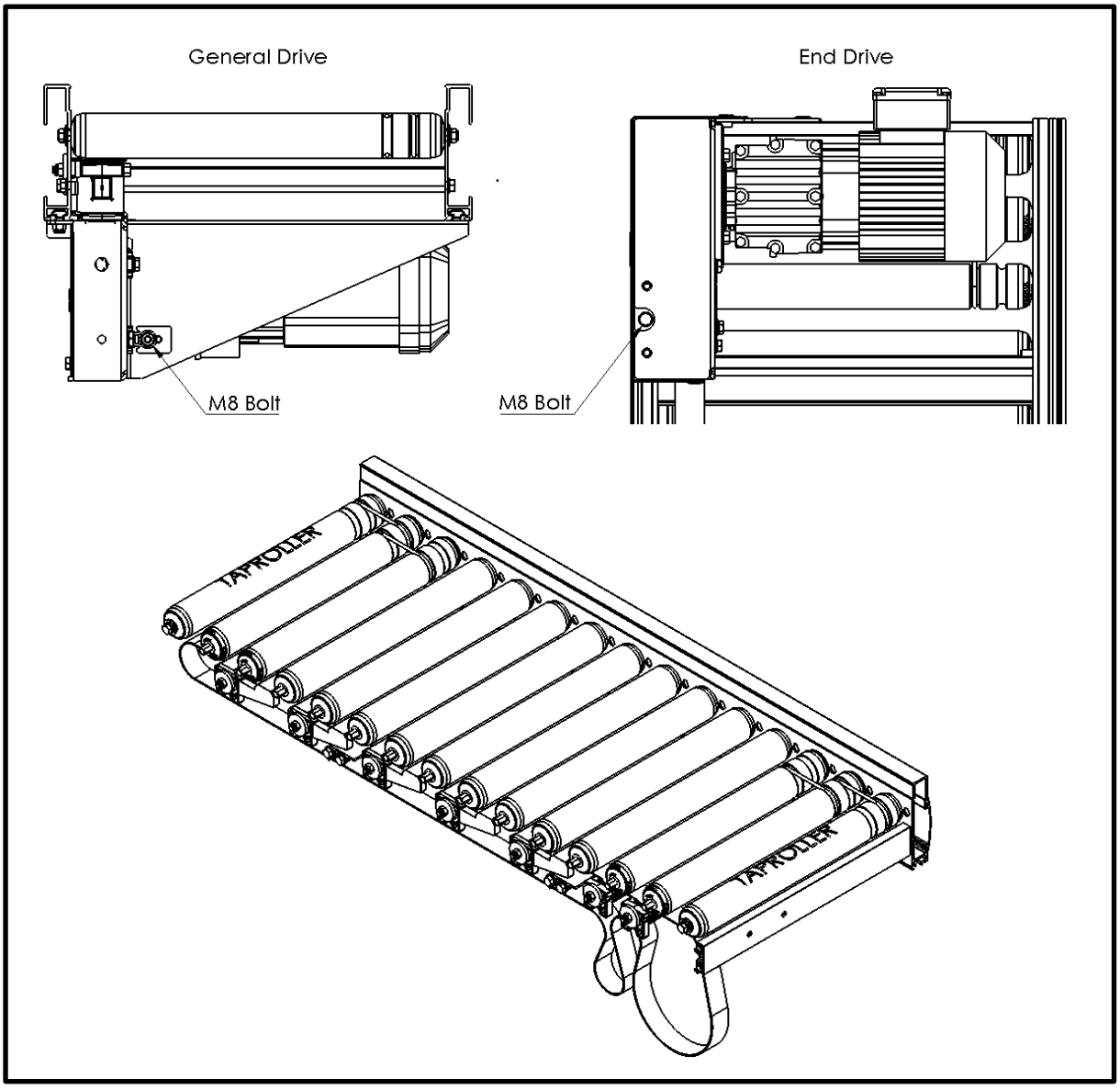
Step 3.

Remove the Return Module as described in chapter 'Return Module Replacement'.

Step 4.

The Flat Belt is detached from the pulleys and is free to be removed (without removing the side profile).

Replacing the Flat Belt could be done by repeating above steps in reversed order.



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7.2.2.3 Tension Set Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

Release the tension of the Flat Belt by loosening the M8 Bolt. Located on the bottom of the End Drive and on the side of the General Drive.

Step 2.

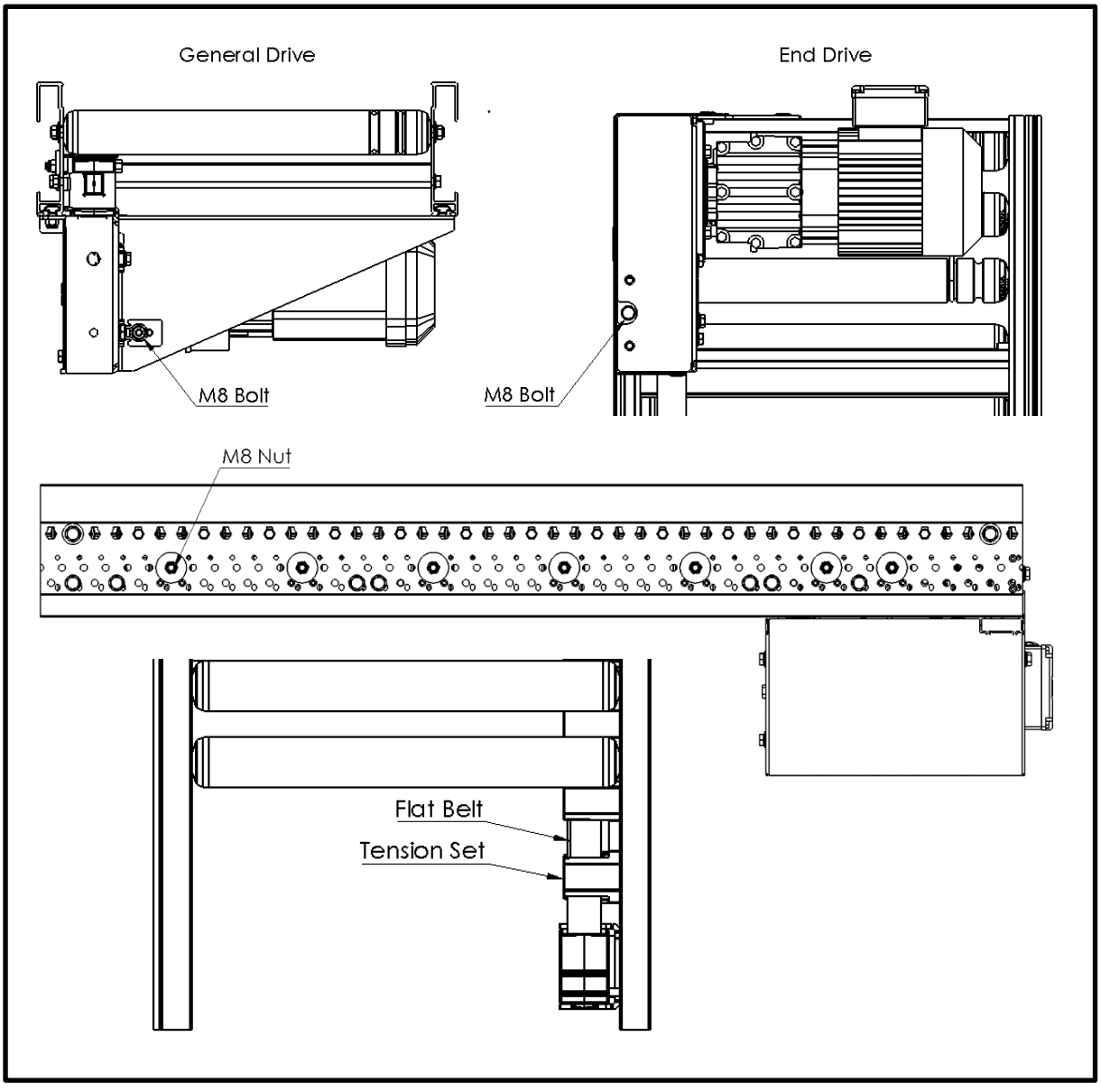
Remove the M8 Nut holding the Tension Set.

Step 3.

Slide the Flat Belt of the Tension Set.

Step 4.

Remove the Tension Set. Replacing could be done by repeating above steps in reversed order.



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7.2.2.4 Tap Roller Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

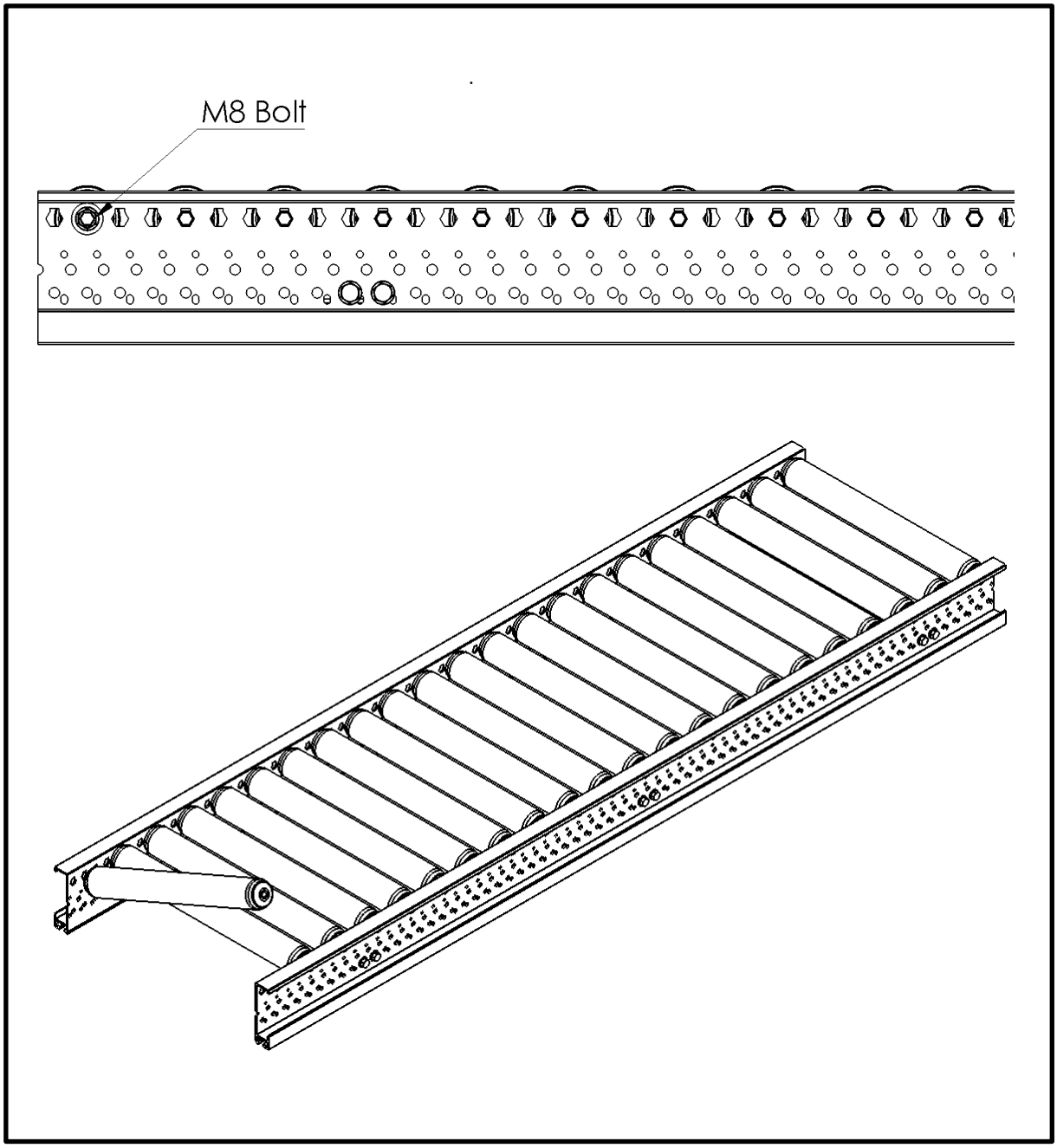
Remove the M8 Bolts on both sides of the roller.

Step 2.

Tilt and lift the Roller.

Step 3.

Replacing the Roller could be done by repeating the steps in reverse order.



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7.2.2.5 Round Belt Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

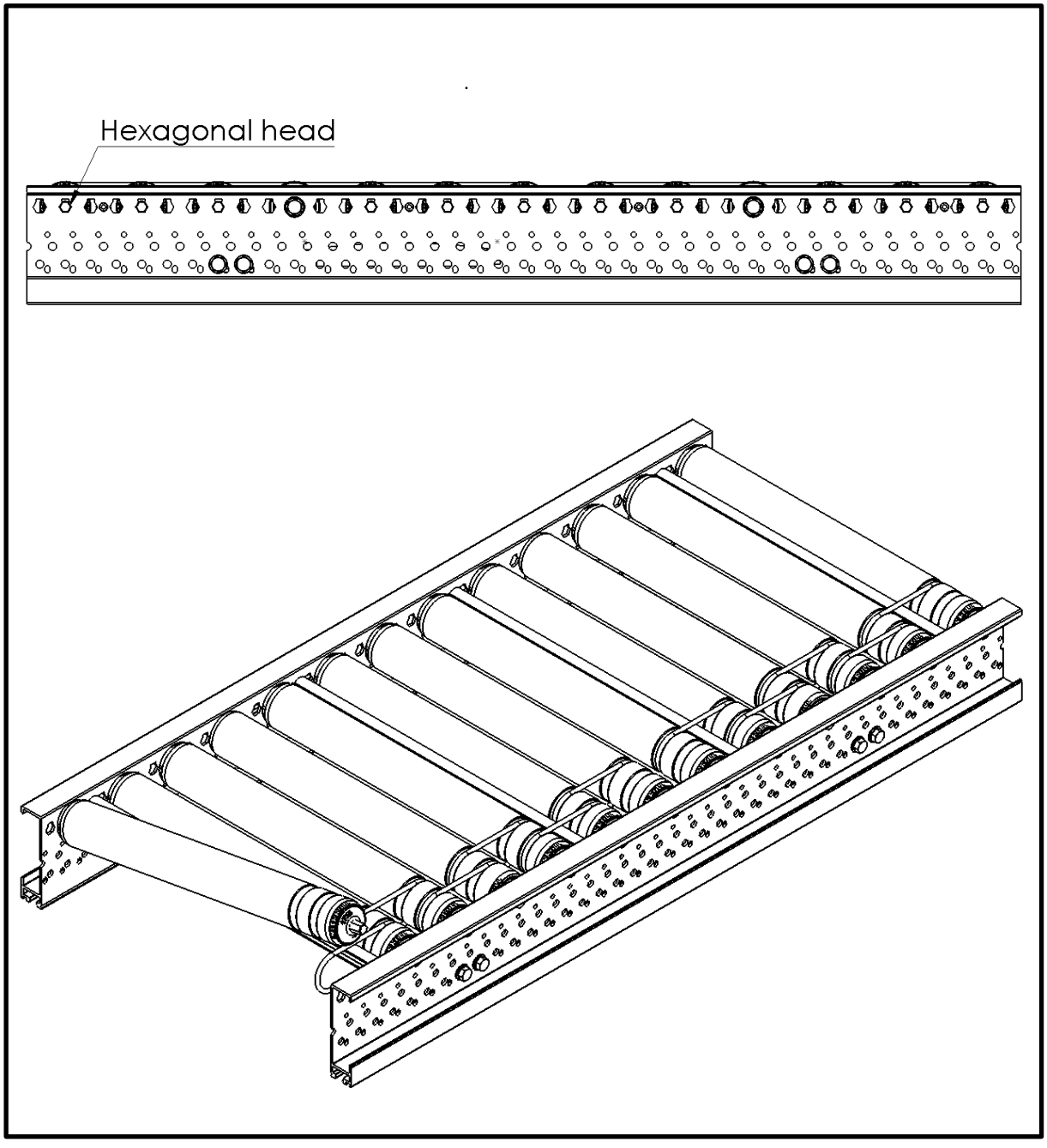
Push in the hexagonal head on one end of the roller.

Step 2.

Tilt and lift the Roller and remove the round belt.

Step 3.

Replacing the Round Belt could be done by repeating the steps in reverse order.



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7.2.2.6 Roller - Round Belt Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

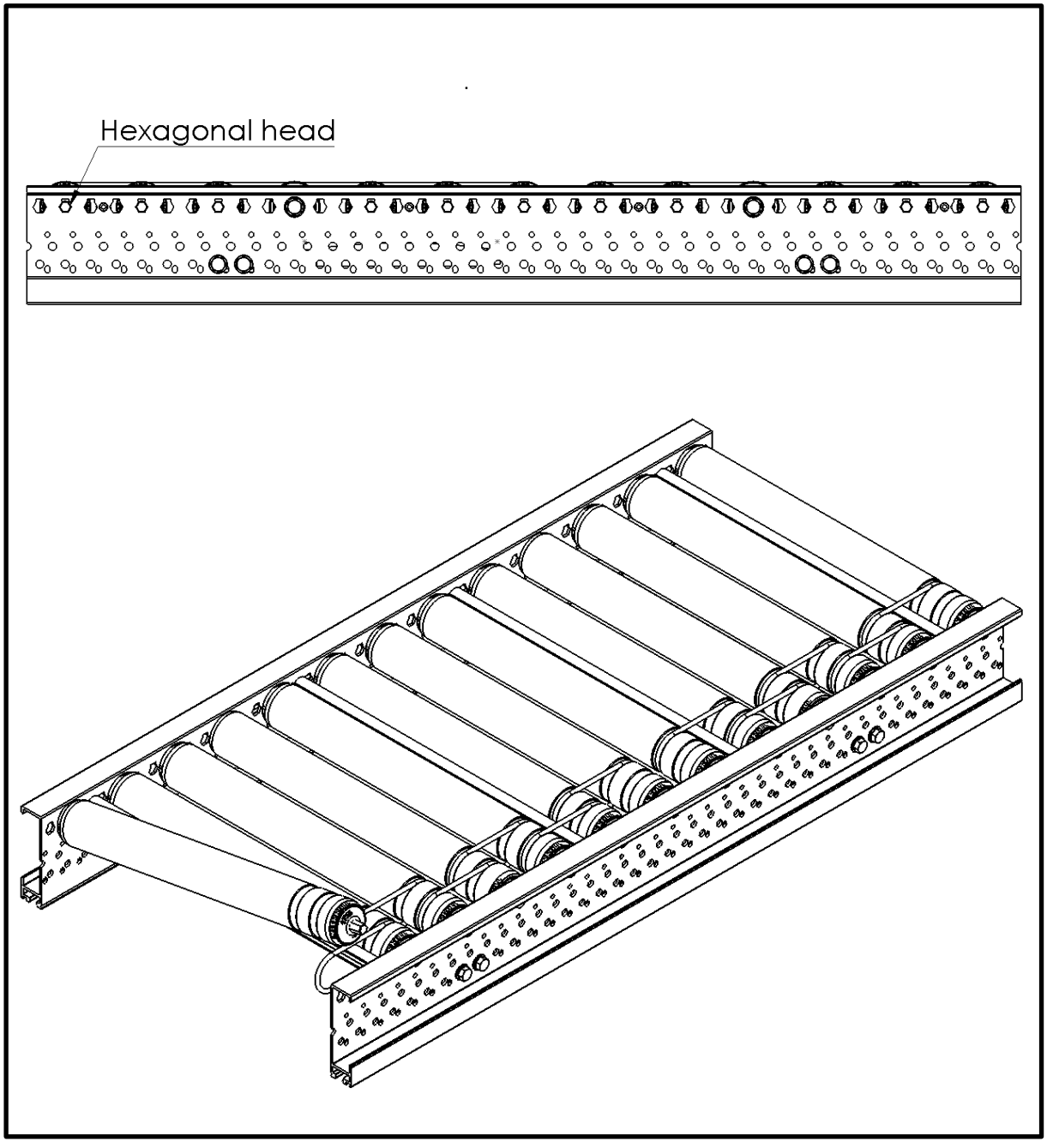
Push in the hexagonal head on one end of the roller.

Step 2.

Tilt and lift the Roller and remove the round belt.

Step 3.

Replacing the Roller could be done by repeating the steps in reverse order.



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7.2.2.7 Roller Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

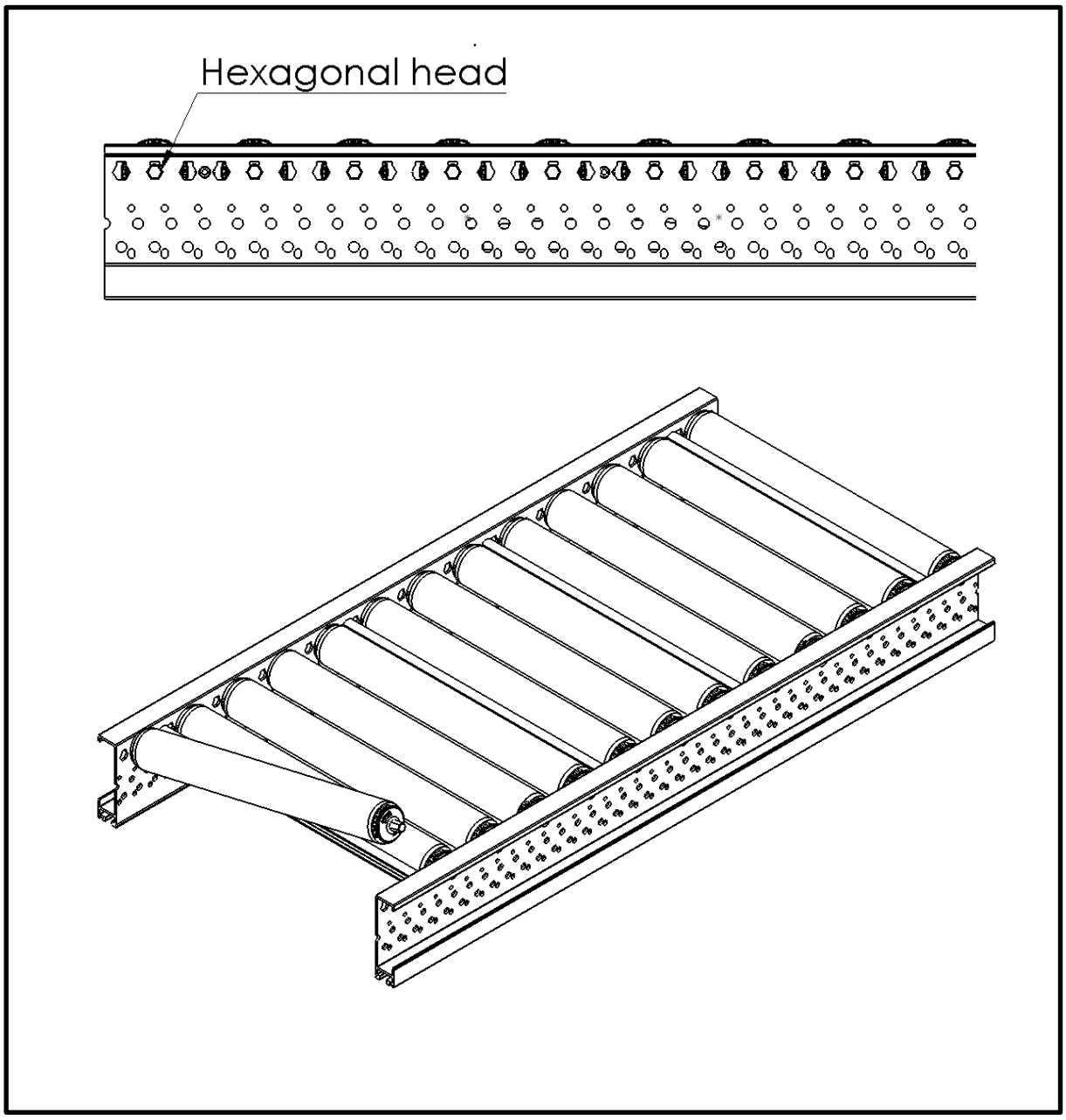
Push in the hexagonal head on one end of the roller.

Step 2.

Tilt and lift the Roller.

Step 3.

Replacing the Roller could be done by repeating the steps in reverse order.



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7.2.2.8 Drive Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

Remove the M8 Bolts of the cover plate.

Step 2.

Remove the flat belt from the Drive pulleys as described in the Flat Belt Installation chapter.

Step 3.

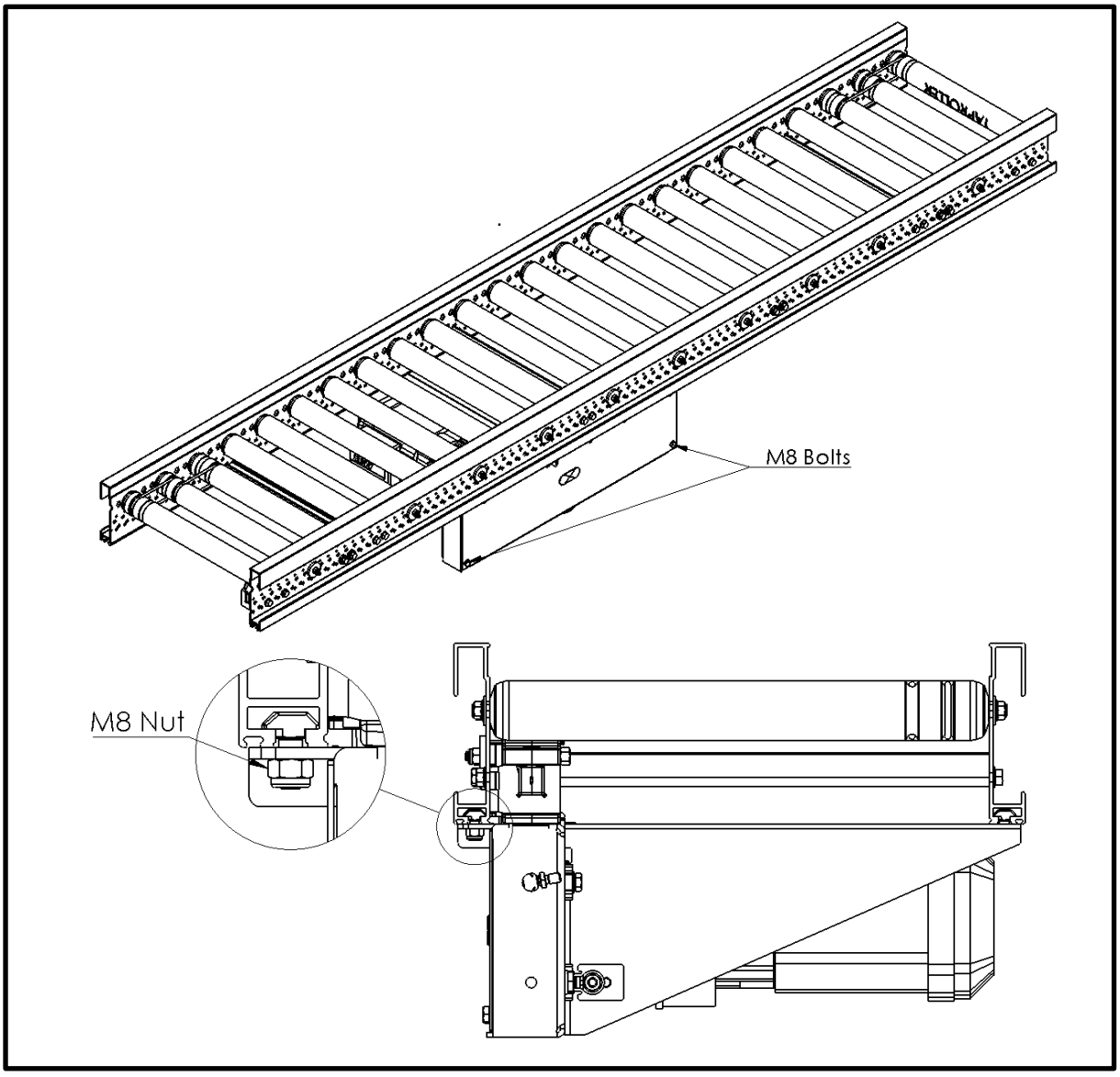
Remove the four M8 nuts connected to the hammerhead bolts.

Step 4.

Lift the conveyor of the Drive with appropriate lifting equipment.

Step 5.

Replacing the Drive could be done by repeating above steps in reversed order.



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7.2.2.9 Return Roller Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

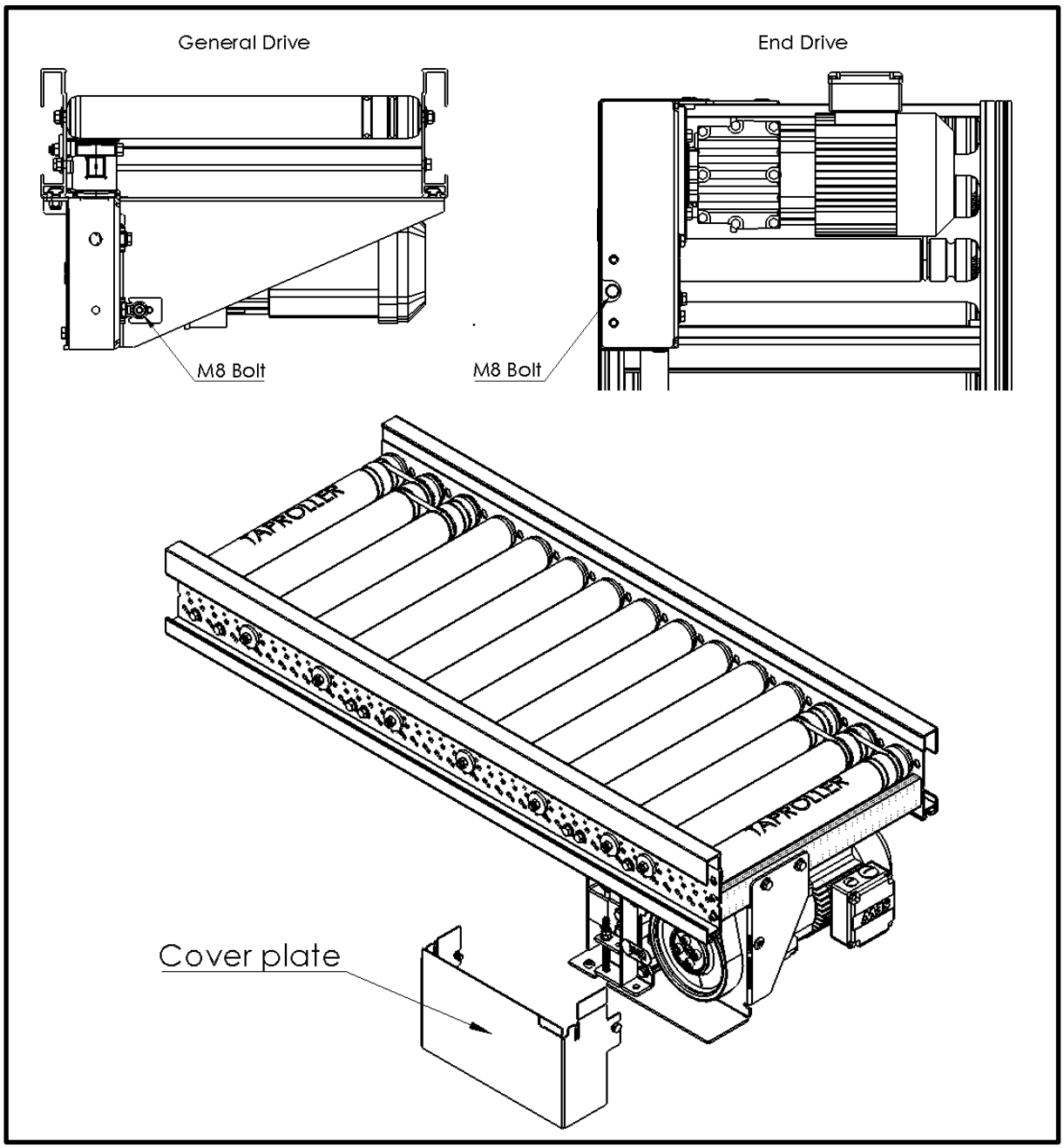
Release the tension of the Flat Belt by loosening the M8 Bolt. Located on the bottom of the End Drive and on the side of the General Drive.

Step 2.

Remove the three M8 Bolts holding the Cover plate.

Step 3.

Remove the cover plate.



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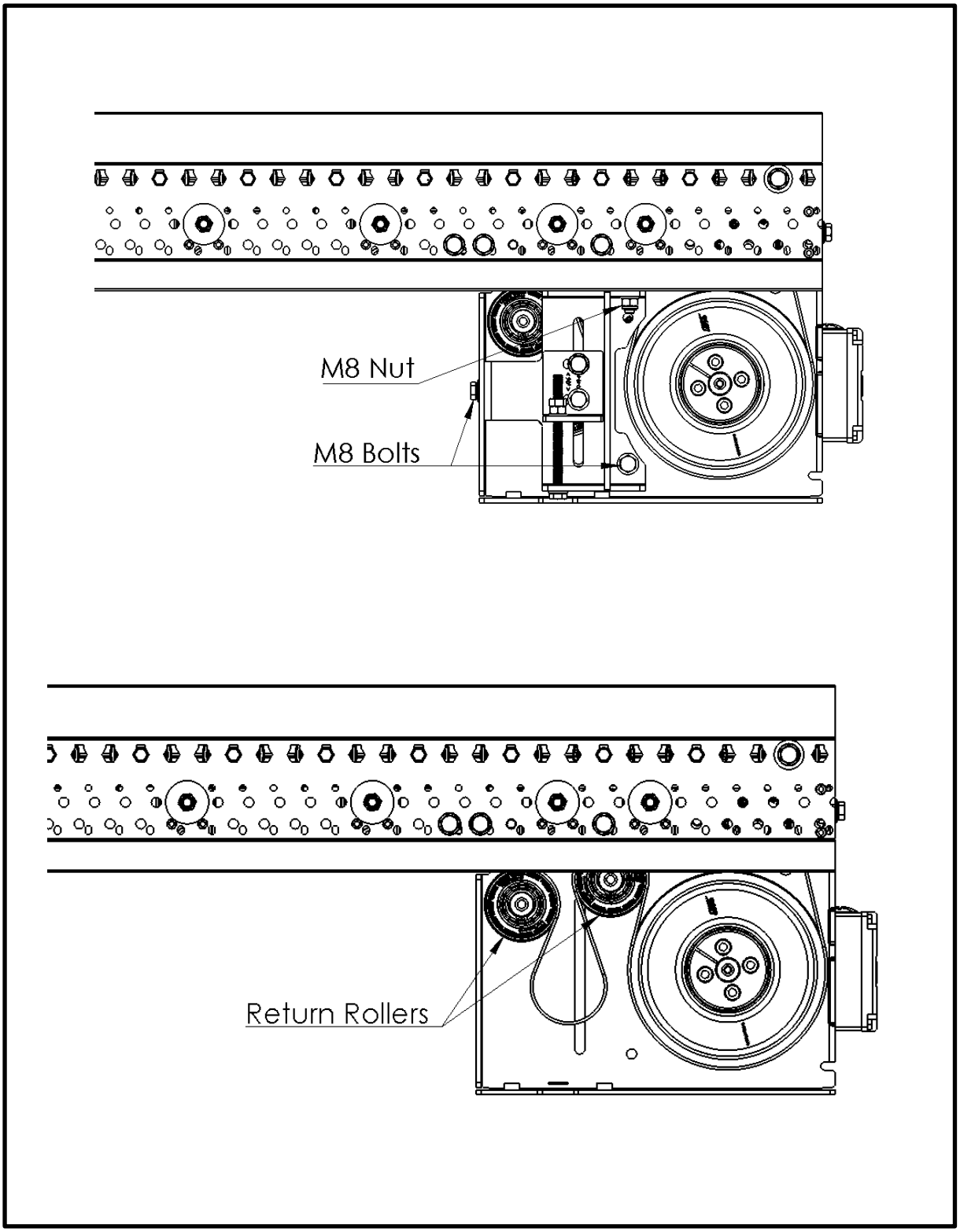
Step 4.

Remove the tension element by removing the two M8 Bolts and the M8 nut.

Step 5.

Remove the M8 Bolt on the back of the desired Return Roller to remove the Roller.

Replacing the Return Roller could be done by repeating above steps in reversed order.



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7.2.2.10 Self-Steering Belt Support Roller Replacement

⚠ CAUTION	Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

Locate the Self-Steering Belt Support Roller.

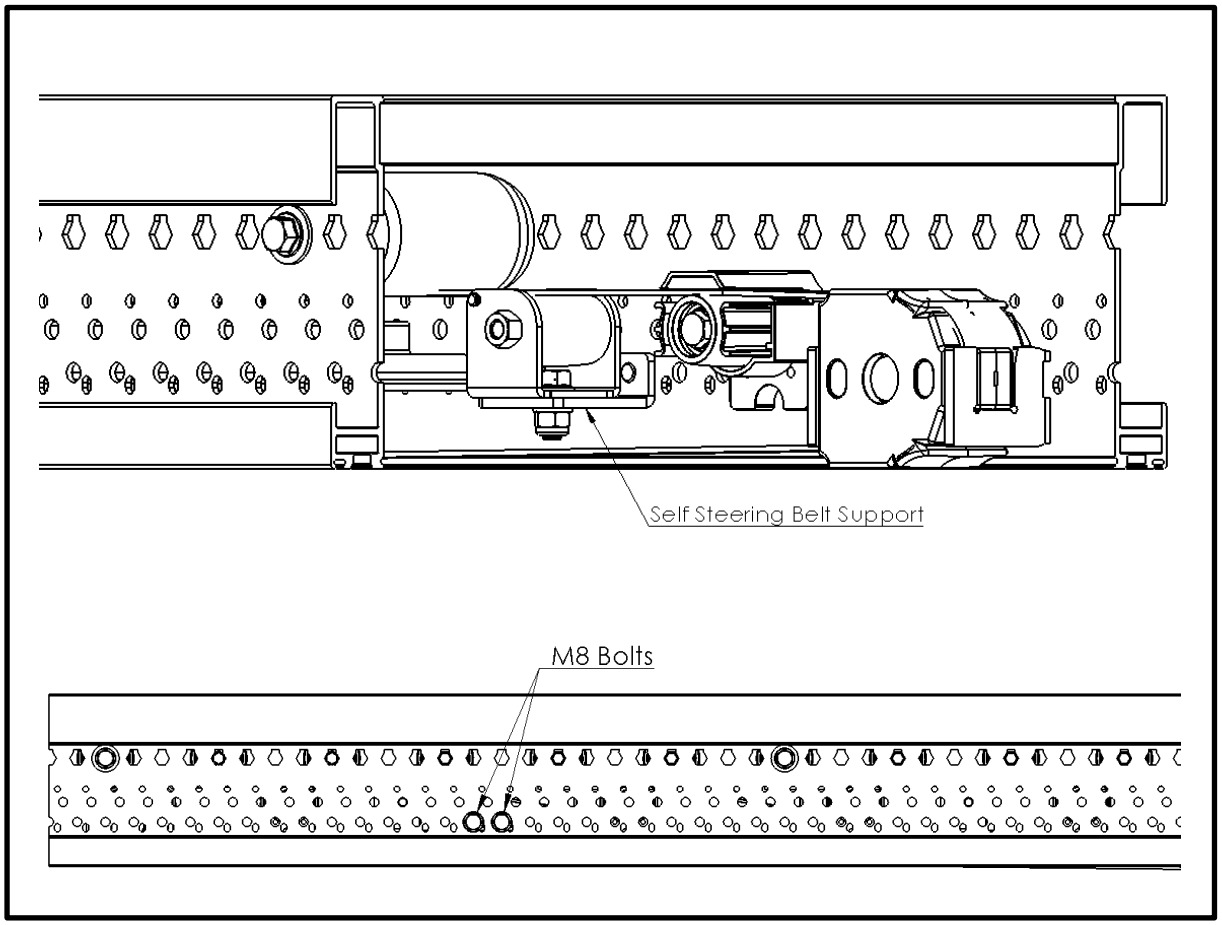
Step 2.

Remove the two M8 Bolts holding the Self-Steering Support Roller.

Step 3.

Remove the Support Roller.

Replacing the Self-Steering Support Roller could be done by repeating above steps in reversed order. Do not tighten the M8 Bolt of the Self-Steering mechanism, the Self-Steering Support Roller should be able to steer.



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7.2.3 Troubleshooting

Failure	Cause	Correction
Belt Driven Roller Conveyor		
Product flow is wrong	Product turns	Install side profile
	Product runs to one side	Check horizontal alignment of the ERS Belt Driven Conveyor Module
Product does not move	The Drive Belt is broken	Replace Drive Belt
	The Drive Belt is not powered	Check the tension of the Drive Belt
		Check Failure: 'Drive doesn't turn'
	Round belt is broken	Replace Round Belt
Drive doesn't turn	The load on the Drive is too high	Lower load per drive
	The Drive or the power cable is damaged	Replace Drive
Drive Roller doesn't start	Start-up load is too large	Apply the boost mode in the Zone Controller

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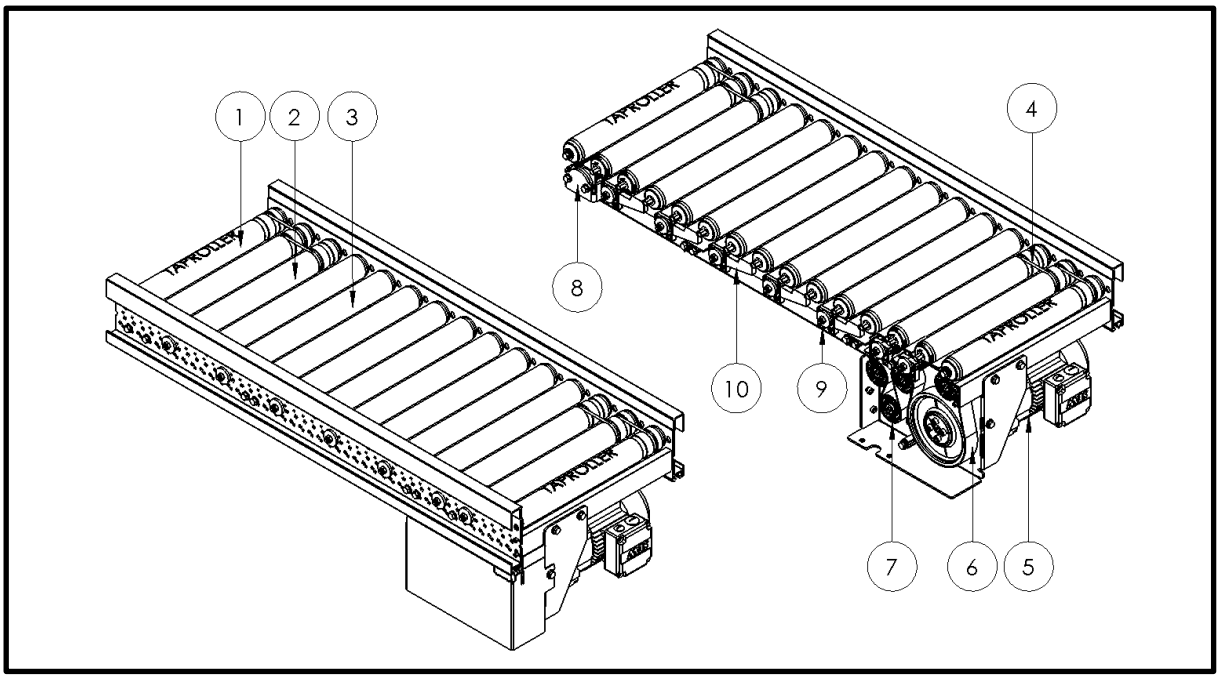
7.2.4 Spare parts

7.2.4.1 ERS 53 Belt Driven with End Drive



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS040308180420	420	Taproller
	ERS040308180520	520	Taproller
	ERS040308180620	620	Taproller
	ERS040308180820	820	Taproller
2	ERS040308010420	420	Roller - Round Belt
	ERS040308010520	520	Roller - Round Belt
	ERS040308010620	620	Roller - Round Belt
	ERS040308010820	820	Roller - Round Belt
3	ERS040308000420	420	Roller
	ERS040308000520	520	Roller
	ERS040308000620	620	Roller
	ERS040308000820	820	Roller
4	ERS040305030075	-	Round Belt (Pitch 75)
	ERS040305030100	-	Round Belt (Pitch 100)
5	Belt Conveyor Specific	-	End Drive, Contact Swisslog Technology Center Netherlands
6	Belt Conveyor Specific	-	Drive Belt, Contact Swisslog Technology Center Netherlands
7	040309000000	-	Return Roller
8	ERS040304000000	-	Return Module
9	040309040000	-	Tensioner Set
10	040306050003		Tensioner Cover (Pitch 75)
	040306050004	-	Tensioner Cover (Pitch 100)

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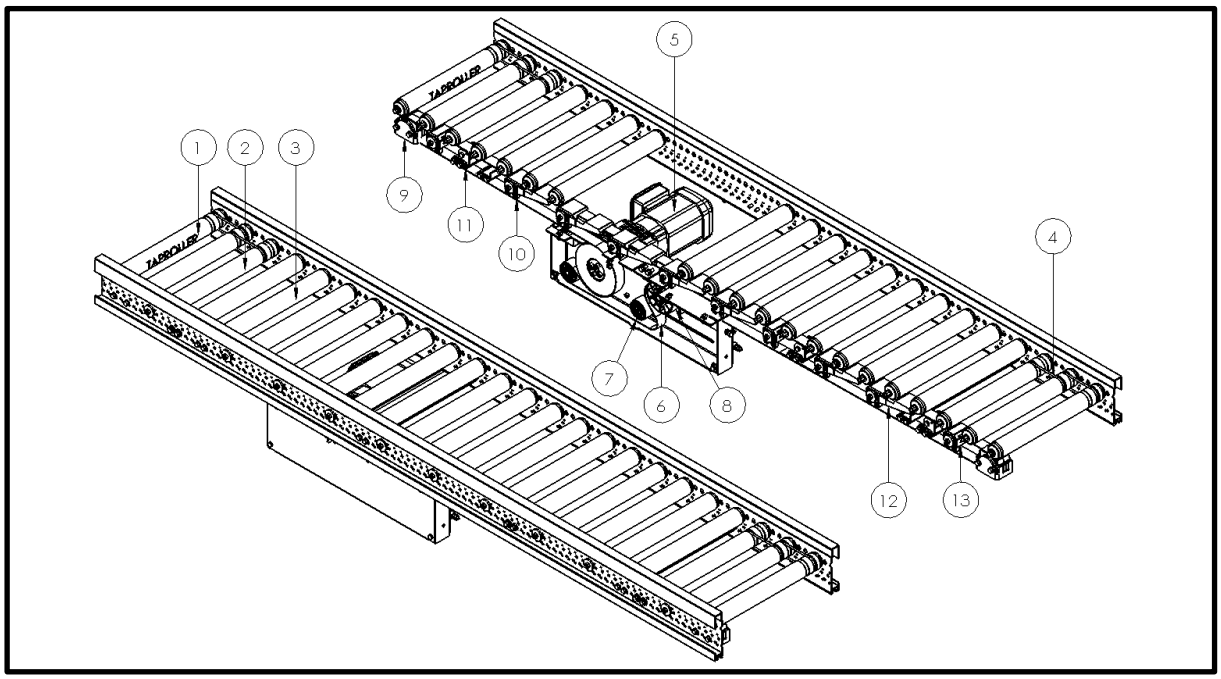
7.2.4.2 ERS 53 Belt Driven with General Drive



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS040308180420	420	Taproller
	ERS040308180520	520	Taproller
	ERS040308180620	620	Taproller
	ERS040308180820	820	Taproller
2	ERS040308010420	420	Roller - Round Belt
	ERS040308010520	520	Roller - Round Belt
	ERS040308010620	620	Roller - Round Belt
	ERS040308010820	820	Roller - Round Belt
3	ERS040308000420	420	Roller
	ERS040308000520	520	Roller
	ERS040308000620	620	Roller
	ERS040308000820	820	Roller
4	ERS040305030075	-	Round Belt (Pitch 75)
	ERS040305030100	-	Round Belt (Pitch 100)
5	Belt Conveyor Specific	-	General Drive, Contact Swisslog Technology Center Netherlands
6	Belt Conveyor Specific	-	Drive Belt, Contact Swisslog Technology Center Netherlands
7	040309000000	-	Return Roller
8	040309000001	-	Return Roller
9	ERS040304000000	-	Return Module
10	040309040000	-	Tensioner Set
11	040309040005	-	Self-Steering Belt Support Roller
12	040306050003	-	Tensioner Cover (Pitch 75)
	040306050004	-	Tensioner Cover (Pitch 100)
13	040306050002	-	Tensioner Cover

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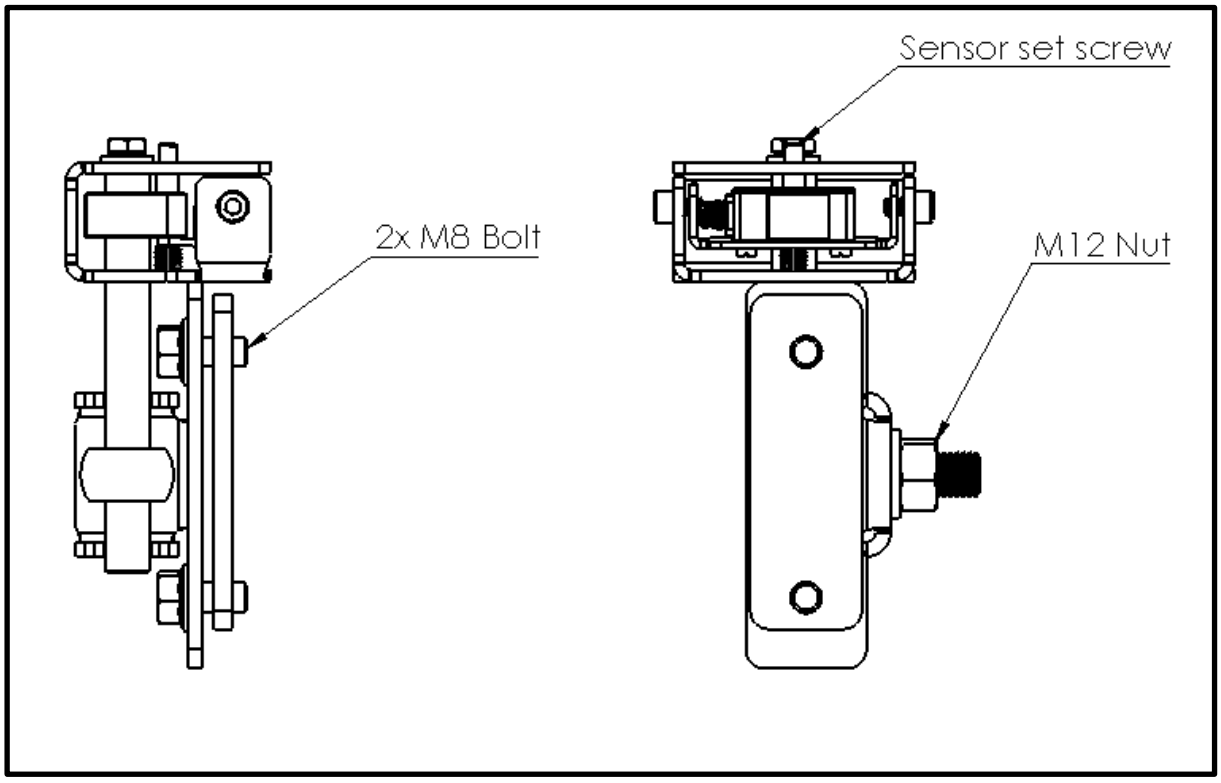
7.3 ERS Sensor and Reflector

7.3.1 Maintenance



	Part	Inspection	Result	Action
1.	Sensor	Visual check	LED not burning	Check / Replace Wiring Check Power Supply Replace Sensor
2.	Bracket	Visual Check	Misalignment Disjointed	Adjust height Adjust orientation Tighten joint M8 Bolts

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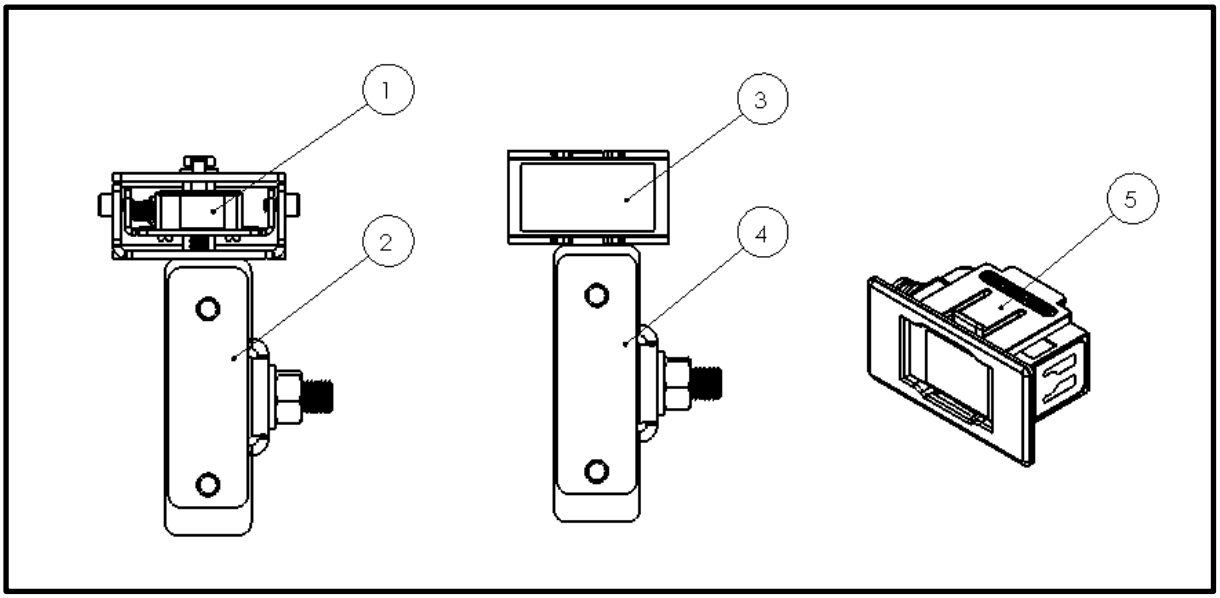
7.3.2 Spare parts

7.3.2.1 ERS Sensor and Reflector



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS040310010003	-	Sensor, Leuze PRK5/4P-M8
2	ERS040311020000	-	Sensor Bracket
3	ERS040310010001	-	Reflector
4	ERS040311020001	-	Reflector Bracket
5	ERS090315000000	-	Sensor Clip

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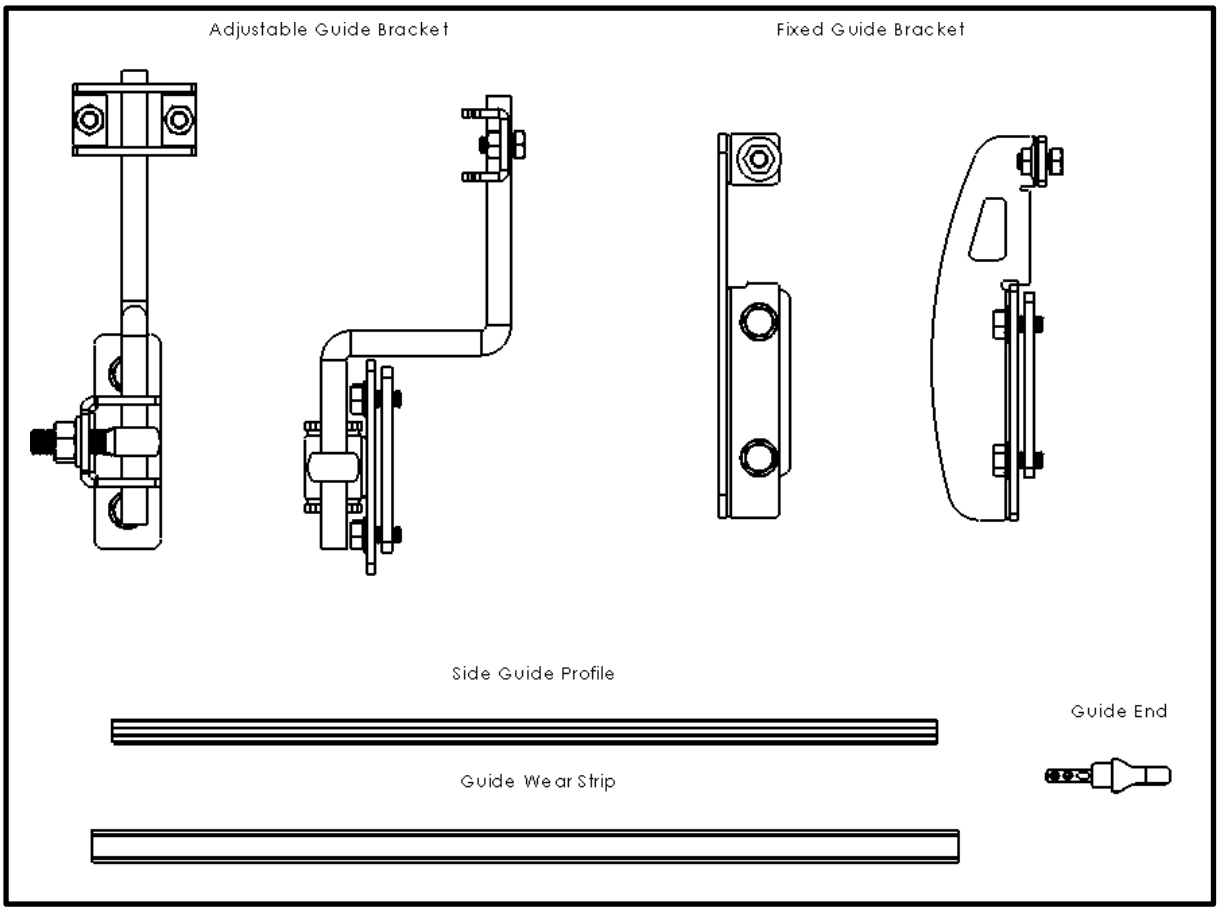
7.4 ERS Side Guide

7.4.1 Maintenance



	Part	Inspection	Result	Action
1.	Fixed Guide Bracket	Visual Check	Disjointed	Tighten joint M8 Bolts Replace Bracket
2.	Adjustable Guide Bracket	Visual Check	Misalignment Disjointed	Adjust height Adjust orientation Tighten joint M8 Bolts Replace Bracket
3.	Side Guide Profile	Visual Check	Cracks/ Broken	Replace Side Guide Profile
4.	Guide Wear Strip	Visual Check	Cracks/ Broken	Replace Guide Wear Strip
5.	Guide End	Visual Check	Cracks/ Broken	Replace Guide End

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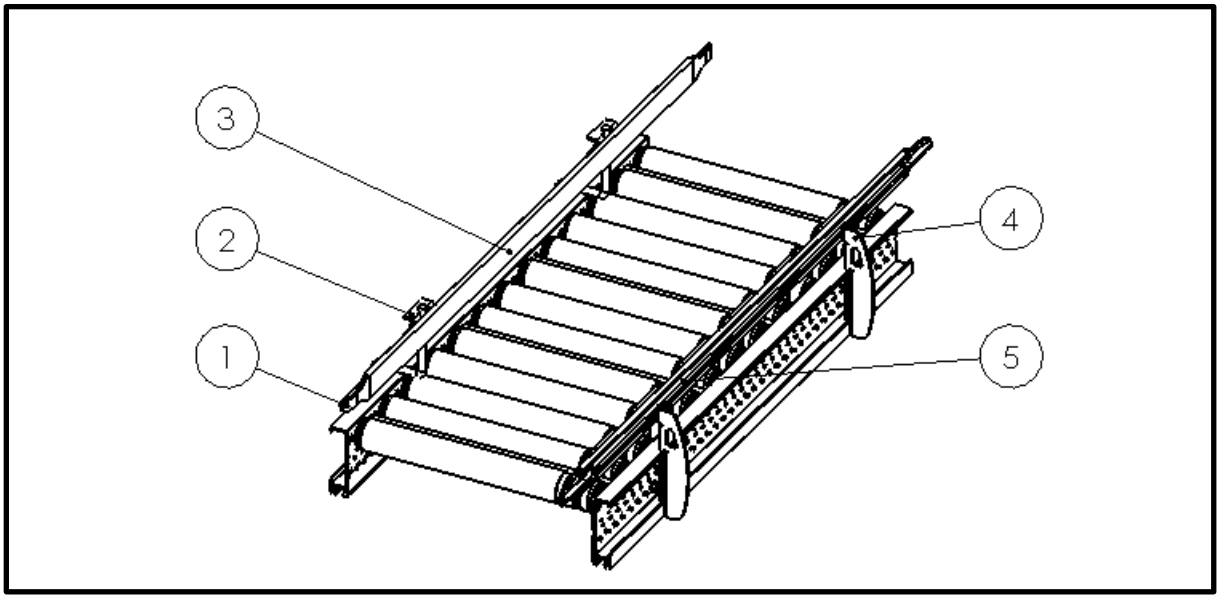
7.4.2 Spare parts

7.4.2.1 ERS Side Guide



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ETS040809050000	-	Guide End
2	ERS040311000002	-	Adjustable Guide Bracket
3	ECP040103000000	-	Guide Wear Strip (3000 mm)
4	ERS040311010000	-	Fixed Guide Bracket
5	ETS040809000000	-	Side Guide Profile (5600 mm)

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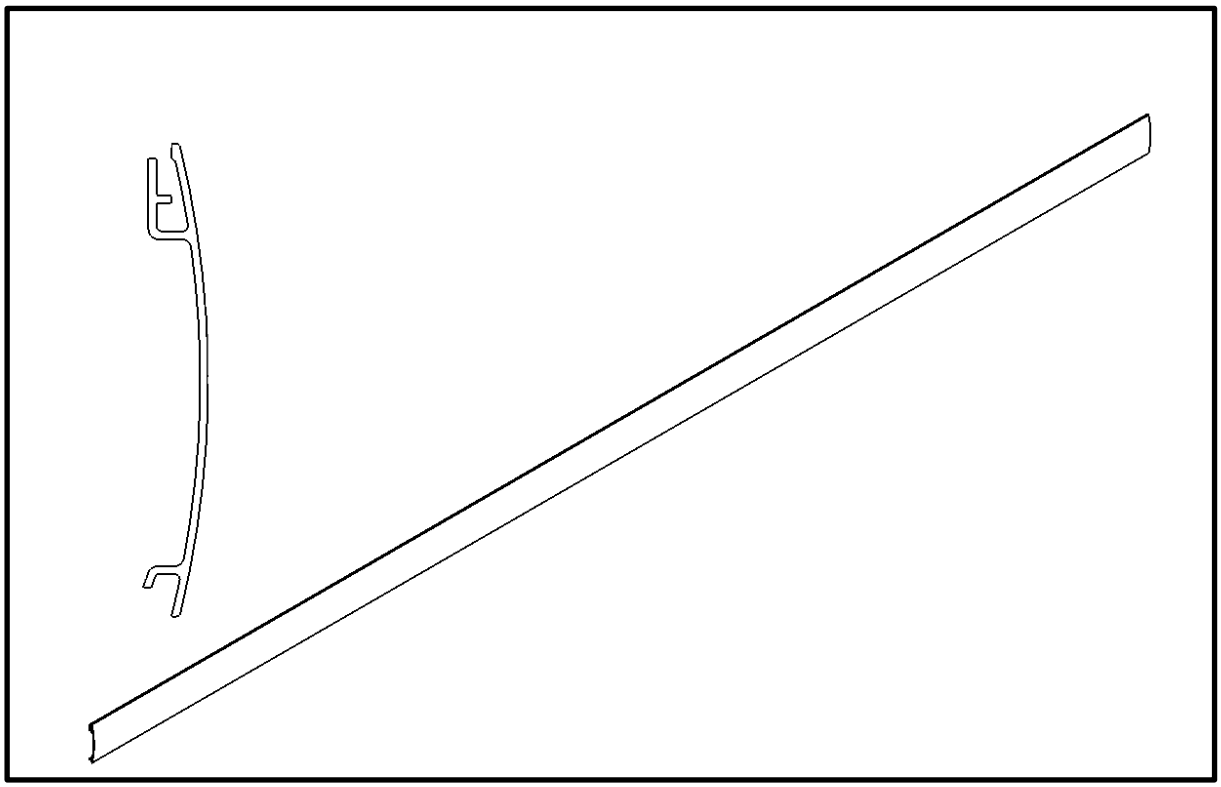
7.5 ERS Side Cover Profile

7.5.1 Spare parts

7.5.1.1 ERS Side Cover Profile



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	040307000002	-	ERS Side Cover Profile (3000 mm)

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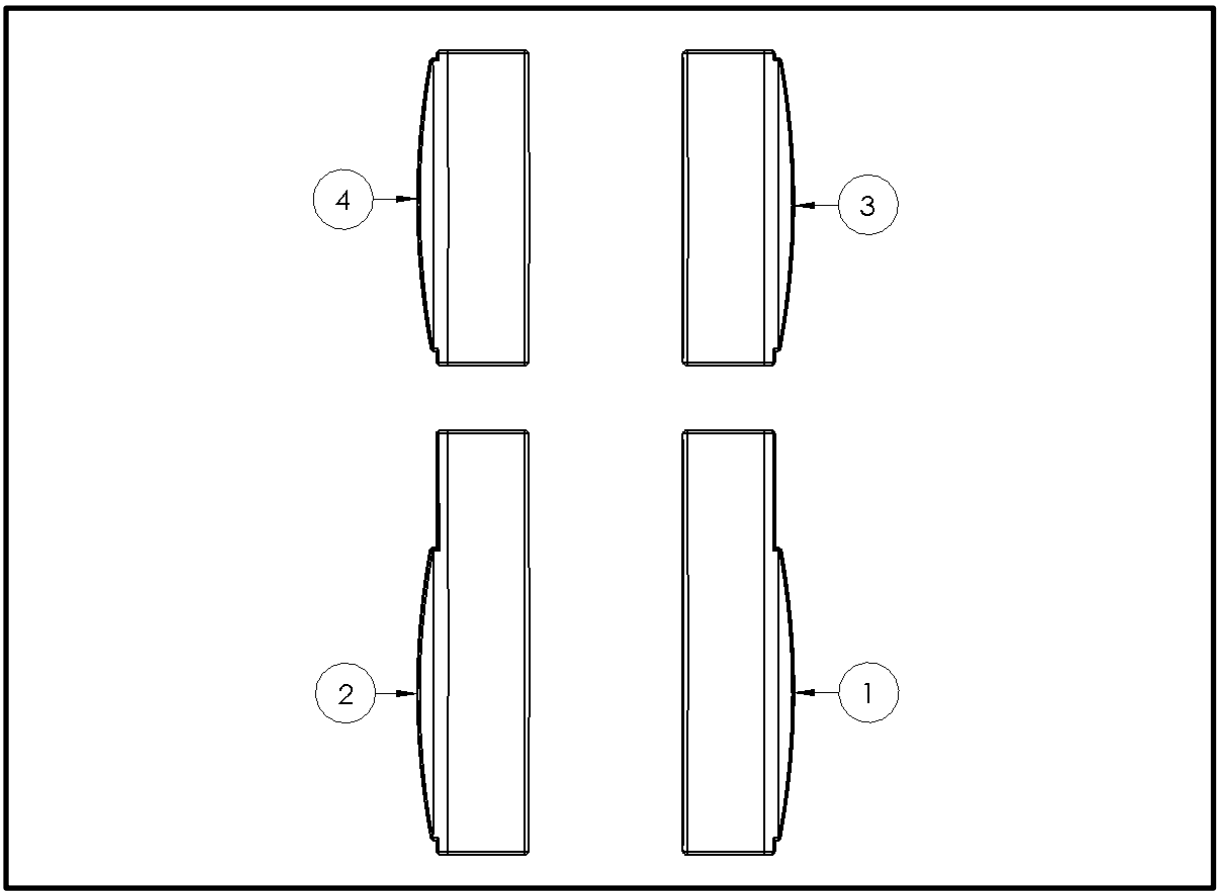
7.6 ERS Cover Caps

7.6.1 Spare parts

7.6.1.1 ERS Cover Caps



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	040306080001	-	Cover Cap Right High
2	040306080002	-	Cover Cap Left High
3	040306080003	-	Cover Cap Right Low
4	040306080004	-	Cover Cap Left Low

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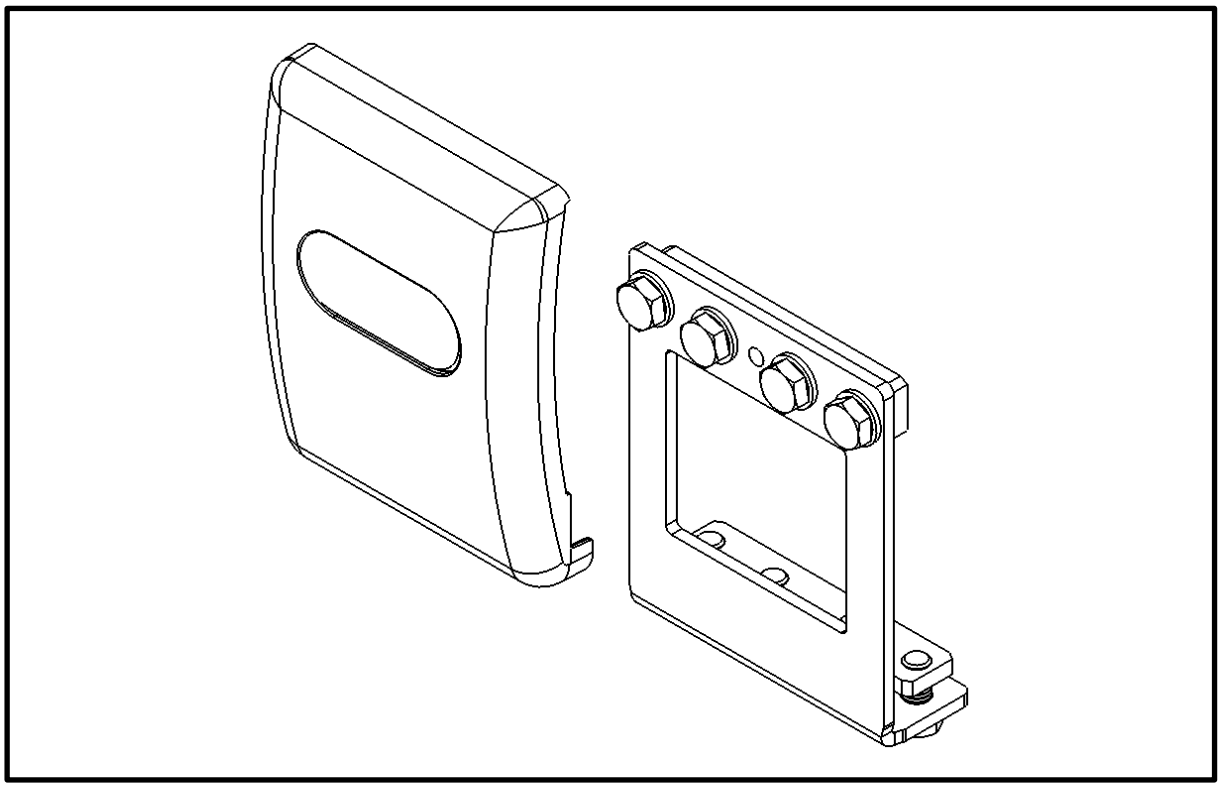
7.7 ERS Straight Connector

7.7.1 Spare parts

7.7.1.1 ERS Straight Connector



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS04030504000	-	ERS Straight Connector

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8 Storage and disposal

8.1 Storage

WARNING	**Storage** - Store the ERS Belt Driven Roller Conveyor Modules indoors. - Never store the ERS Belt Driven Roller Conveyor Modules outdoors, in a dusty or in a humid environment. - Do not add additional loads unto the packaged ERS Belt Driven Roller Conveyor Modules.

8.2 Disposal

NOTE	**Disposal** When the ERS belt driven roller conveyor modules reaches the end of its useful life, it can be removed from the system and dismantled and the materials can be disposed of properly by type. For the correct proposal please check your local waste disposal regulations!

9 Appendix

Attachments:

- Declaration of Incorporation of partly completed machinery

Manuals:

- Inductive Sensor, Leuze IS 212MM/4NC-4N0-S12
- Photoelectric Sensor, Leuze PRK5/4P-M8
- End Drive
- General Drive
- QuickMove 3.0 Product specification (Wiring diagrams)
- QuickMove 3.1: Hardware Description (incl. wiring)

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Declaration of Incorporation of partly completed machinery

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Original Declaration of Incorporation

Declaration of Incorporation

according to EC Machinery Directive 2006/42/EC, Annex II B

The manufacturer / company placing the product on the market:
Swisslog GmbH, Martin-Schmeißer-Weg 6-8, 44227 Dortmund, Germany

hereby declares that the product:

General designation	**QuickMove**
Model/type designation	**ERS 53, 400 Volt belt driven roller conveyor modules**
Unique identification number	

conforms to the requirements of EC Machinery Directive 2006/42/EC listed in Appendix 1 of this declaration. Furthermore, conformity with the following additional directives is declared:

EU EMC Directive 2014/30/EU
--

EU RoHS Directive 2011/65/EU
--

The following harmonized standards and, where appropriate, additional standards were applied:

- **EN 619:2002+A1:2010**
- **EN ISO 12100:2010**
- **EN 619:2019**
- **EN IEC 60204-1:2019**

Furthermore, we declare that the relevant technical documentation described in Annex VII, part B, has been prepared for this partly completed machinery. We undertake to transmit, in response to a duly reasoned request by the authorities responsible for market surveillance, the relevant technical documentation.

Authorized representative for the compilation of the technical documentation:
KUKA Aktiengesellschaft, CLD-PC, Zugspitzstrasse 140, 86165 Augsburg, Germany

The putting into service of the partly completed machinery is not allowed until the partly completed machinery has been incorporated into machinery, or has been assembled with other parts to form machinery, and this machinery complies with the terms of the EC Machinery Directive, and the EC declaration of conformity is present in accordance with Annex II A.

Dortmund, 10/23/2020

Heino Heitplatz, Head of LGCTC

Björn Eisbach, Product Manager LGCTC

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Appendix 1

List of essential requirements complied with in accordance with Annex I, Directive 2006/42/EC

General designation	**QuickMove**
Model/type designation	**ERS 53, 400 Volt belt driven roller conveyor modules**
Unique identification number	

Section	Requirements	Complied with for the scope of the partly completed machinery	To be complied with by the system integrator for the final machinery	Not relevant
1.1.	GENERAL			
1.1.1.	Definitions	☒	☐	☐
1.1.2.	Principles of safety integration	☒	☐	☐
1.1.3.	Materials and products	☐	☐	☒
1.1.4.	Lighting	☐	☐	☒
1.1.5.	Design of machinery to facilitate its handling	☒	☐	☐
1.1.6.	Ergonomics	☐	☒	☐
1.1.7.	Operating positions	☐	☐	☒
1.1.8.	Seating	☐	☐	☒
1.2.	CONTROL SYSTEMS			
1.2.1.	Safety and reliability of control systems	☒	☐	☐
1.2.2.	Control devices	☐	☒	☐
1.2.3.	Starting	☒	☒	☐
1.2.4.1.	Normal stop	☐	☒	☐
1.2.4.2.	Operational stop	☐	☒	☐
1.2.4.3.	Stopping the machine in an emergency	☐	☒	☐
1.2.4.4.	Assembly of machinery	☐	☒	☐
1.2.5.	Selection of control or operating modes	☐	☒	☐
1.2.6.	Failure of the power supply	☒	☒	☐
1.3.	PROTECTION AGAINST MECHANICAL HAZARDS			
1.3.1.	Risk of loss of stability	☒	☒	☐
1.3.2.	Risk of break-up during operation	☒	☐	☐
1.3.3.	Risks due to falling or ejected objects	☒	☐	☐
1.3.4.	Risks due to surfaces, edges or angles	☒	☒	☐
1.3.5.	Risks related to combined machinery	☐	☐	☒
1.3.6.	Risks related to variations in operating conditions	☐	☐	☒
1.3.7.	Risks related to moving parts	☒	☐	☐
1.3.8.	Choice of protection against risks arising from moving parts	☐	☒	☐
1.3.8.1.	Moving transmission parts	☐	☒	☐
1.3.8.2.	Moving parts involved in the process	☐	☒	☐
1.3.9.	Risks of uncontrolled movements	☒	☐	☐
1.4.	REQUIRED CHARACTERISTICS OF GUARDS AND PROTECTIVE DEVICES			
1.4.1.	General requirements	☐	☐	☒
1.4.2.	Special requirements for guards	☐	☐	☒
1.4.2.1.	Fixed guards	☐	☐	☒
1.4.2.2.	Interlocking movable guards	☐	☐	☒
1.4.2.3.	Adjustable guards restricting access	☐	☐	☒
1.4.3.	Special requirements for protective devices	☐	☐	☒

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Section	Requirements	Complied with for the scope of the partly completed machinery	To be complied with by the system integrator for the final machinery	Not relevant
1.5.	RISKS DUE TO OTHER HAZARDS			
1.5.1.	Electricity supply	☒	☐	☐
1.5.2.	Static electricity	☐	☒	☐
1.5.3.	Energy supply other than electricity	☐	☐	☒
1.5.4.	Assembly error	☒	☐	☐
1.5.5.	Extreme temperatures	☐	☐	☒
1.5.6.	Fire	☒	☐	☐
1.5.7.	Explosion	☐	☐	☒
1.5.8.	Noise	☒	☒	☐
1.5.9.	Vibrations	☐	☐	☒
1.5.10.	Radiation	☐	☐	☒
1.5.11.	External radiation	☐	☐	☒
1.5.12.	Laser radiation	☐	☐	☒
1.5.13.	Emissions of hazardous materials and substances	☐	☐	☒
1.5.14.	Risk of being trapped in a machine	☐	☐	☒
1.5.15.	Risk of slipping, tripping or falling	☐	☐	☒
1.5.16.	Lightning	☐	☐	☒
1.6.	MAINTENANCE			
1.6.1.	Machinery maintenance	☒	☒	☐
1.6.2.	Access to operating positions and servicing points	☐	☒	☐
1.6.3.	Isolation of energy sources	☐	☒	☐
1.6.4.	Operator intervention	☐	☒	☐
1.6.5.	Cleaning of internal parts	☐	☐	☒
1.7.	INFORMATION			
1.7.1.	Information and warnings on the machinery	☒	☒	☐
1.7.1.1.	Information and information devices	☐	☒	☐
1.7.1.2.	Warning devices	☐	☒	☐
1.7.2.	Warning of residual risks	☒	☒	☐
1.7.3.	Marking of machinery	☒	☐	☐
1.7.4.	Instructions	☒	☒	☐
1.7.4.1.	General principles for the drafting of instructions	☒	☒	☐
1.7.4.2.	Contents of the instructions	☒	☐	☐
1.7.4.3.	Sales literature	☒	☐	☐
2.	SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS FOR CERTAIN CATEGORIES OF MACHINERY			
2.1.	Foodstuffs machinery and machinery for cosmetics of pharmaceutical products	☐	☐	☒
2.2.	Portable hand-held and/or hand-guided machinery	☐	☐	☒
2.3.	Machinery for working wood and material with similar physical characteristics	☐	☐	☒
2.4.	Machinery for pesticide application	☐	☐	☒
3.	Supplementary essential health and safety requirements to offset hazards due to the mobility of machinery	☐	☐	☒
4.	Supplementary essential health and safety requirements to offset hazards due to lifting operations	☐	☐	☒
5.	Supplementary essential health and safety requirements for machinery intended for underground work	☐	☐	☒
6.	Supplementary essential health and safety requirements for machinery presenting particular hazards due to the lifting of persons	☐	☐	☒

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Appendix 2

Information pertaining to the assembly instructions described in Annex VI, Directive 2006/42/EC

General designation	**QuickMove**
Model/type designation	**ERS 53, 400 Volt belt driven roller conveyor modules**
Unique identification number	

The assembly instructions provide the person incorporating the partly completed machinery described above into machinery, or assembling it with other parts to form the final machinery, with the necessary information, relating in particular to the safety-relevant interfaces, for correct assembly without endangering the health and safety of persons.

In addition to these assembly instructions, the relevant European Directives and national regulations must be taken into account.

The complete compliance documentation to be provided by the manufacturer consists of
- the present document "Declaration of Incorporation",
- all accompanying documents in printed form.

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