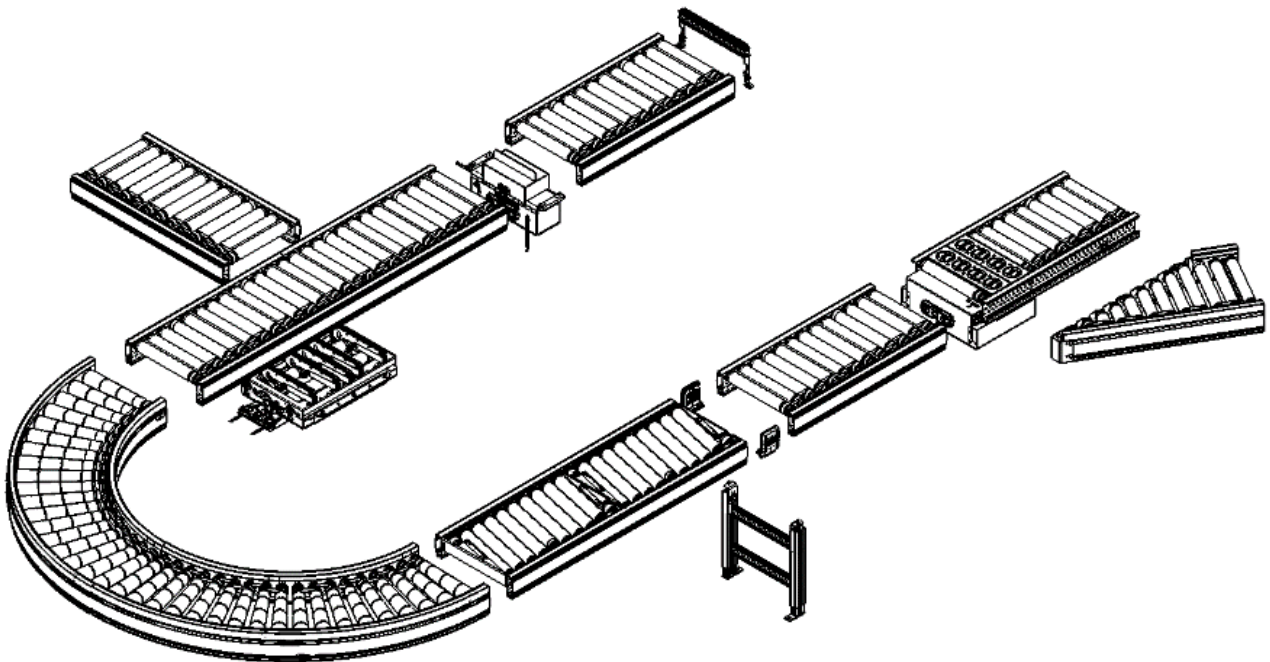


Assembly Instructions

ERS 51, 52 Roller driven Conveyor



Content:

- ERS 51, 52 STRAIGHT MODULE
- ERS 51, 52 CURVE MODULE
- ERS 51, 52 INFEEED - OUTFEED MODULE
- ERS 51, 52 ALIGNMENT MODULE
- ERS 51, 52 DIVERTER MODULE
- ERS 51, 52 TRANSFER MODULE
- ERS 51, 52 24V STOPPER MODULE
- ERS 61 STOPPER
- ERS 60 SUPPORT

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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



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

1.3 Requirements and Conditions

	<p>Supplement to the documentation</p> <ul style="list-style-type: none"> - Generally applicable and local rules for accident prevention. - Law on staff protection. - Regulations on the protection of the environment.
	<p>Qualification of staff</p> <ul style="list-style-type: none"> - You have the required training. - You are thoroughly familiar with the use of the plant. - You are familiar with the documentation contents.
	<p>Safe operation</p> <ul style="list-style-type: none"> - 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.
	<p>Explanation of terminology</p> <p>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:</p> <ul style="list-style-type: none"> - Inspection - Servicing - Repairs
	<p>Safe maintenance</p> <ul style="list-style-type: none"> - 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.



	<p>Correct maintenance</p> <ul style="list-style-type: none"> - 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

	<p>Protective measures</p> <ul style="list-style-type: none"> - 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.
	<p>Further safety devices</p> <ul style="list-style-type: none"> - See documentation on electrical system, controls.


1.3.2 Intended use and misuse

Intended use

	<p>General</p> <p>The ERS roller driven conveyor element was designed for industrial applications in industrial environments only to convey suitable goods such as packages, cartons, boxes or trays.</p> <p>The ERS roller driven conveyor element is an incomplete machine and must be integrated into a complete system prior to operation.</p> <p>The module is dimensioned only for a certain field of use and may not be operated outside of these specific limits. For additional information, see chapter "Technical data".</p>
	<p>Products to be transported</p> <ul style="list-style-type: none"> - 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.


	<p>Dimensions of transported goods</p> <p>The dimension of the transported goods depends on the width and length of the conveyor as well as the number of zones.</p>
	<p>Plant</p> <ul style="list-style-type: none"> - You must observe the generally valid safety notices. - You must observe the maintenance regulations.

Misuse

	<p>General</p> <p>Any other use as the above mentioned is considered inappropriate!</p> <p>Not permitted is</p> <p>The transport of:</p> <ul style="list-style-type: none"> - 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. - Goods that exceed the maximum load capacity.
---	--

1.3.3 Special Regulations

These regulations apply when working with the ERS roller driven conveyor modules.

	<p>Clothing & Appearance</p> <ul style="list-style-type: none"> - 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.).
---	--

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

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

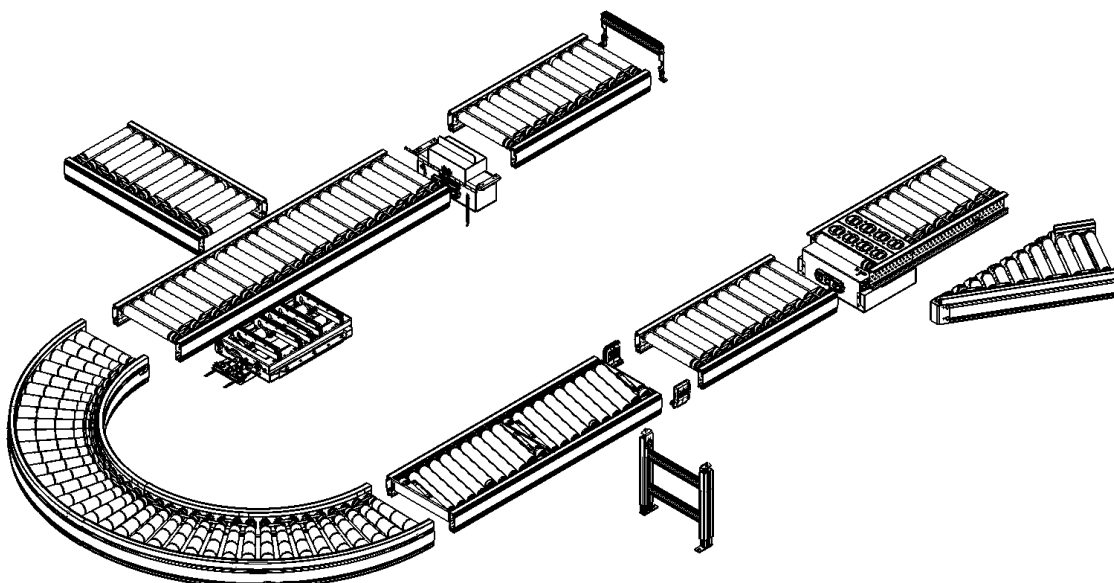
2 Product description

2.1 ERS 51, 52 Roller driven Conveyor System

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

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

- ERS 51, 52 Straight Module
- ERS 51, 52 Curve Module
- ERS 51, 52 Infeed - Outfeed Module
- ERS 51, 52 Alignment Module
- ERS 51, 52 Diverter Module
- ERS 51, 52 Transfer Module
- ERS 51, 52 24V Stopper Module
- ERS 61 Stopper
- ERS 60 Support



2.2 ERS 51, 52 Straight Module

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

2.3 ERS 51, 52 Curve Module

The ERS Curve Module is a curved roller conveyor, used to transport products in a curve. The ERS Curve Module provides a low noise, high volume solution. The throughput of the standard ERS Curve Module depends on the weight and dimensions of the transported products.

2.4 ERS 51, 52 Infeed - Outfeed Module

The ERS Infeed / Outfeed Module is a roller conveyor, used to merge / divide transport products. The ERS Infeed / Outfeed Module provides a low noise, high volume solution. The throughput of the standard ERS Infeed / Outfeed Module depends on the weight and dimensions of the transported products.

2.5 ERS 51, 52 Alignment Module

The ERS Alignment Module is a straight roller conveyor, used to align transported products. The ERS Alignment Module provides a low noise, high volume solution. The throughput of the standard ERS Alignment Module depends on the weight and dimensions of the transported products.

2.6 ERS 51, 52 Diverter Module

The Diverter Module is a module placed in between a roller conveyor and is used to divert the transported products in an angle of maximum 45° from its original direction of travel to another module. The Diverter Module provides a low noise, high volume solution. The throughput of the standard Diverter Module depends on the weight and dimensions of the transported products.

2.7 ERS 51, 52 Transfer Module

The Transfer Module is a module placed in between a roller conveyor and is used to transfer the transported products in an angle of 90° from its original direction of travel onto a parallel or perpendicular module. The Transfer Module provides a low noise, high volume solution. The throughput of the standard Transfer Module depends on the weight and dimensions of the transported products.

2.8 ERS 51, 52 24V Stopper Module

The 24V Stopper Module is used to stop and hold the transported products. The 24V Stopper Module provides a low noise, high volume solution and is easy to apply in the roller conveyor.

2.9 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.

2.10 ERS Support

The ERS Roller driven 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 Roller driven Conveyor System.

2.10.1 ERS 60 Support

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

2.11 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 Roller driven 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.

2.12 ERS Side Guide

The ERS Side Guide is used to guide conveyed objects on the ERS Roller driven 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.

2.13 ERS Side Cover Profile

The ERS Side Covers profiles are used to cover the sides of the ERS Roller driven Conveyor Module profiles.

2.14 ERS Cover Caps

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

2.15 ERS Straight Connector

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

2.16 ERS 90° Connector


The ERS 90° Connector is used to connect multiple ERS Roller driven Conveyor Modules. There are two connectors, one for the right side corner and one for the left side corner.

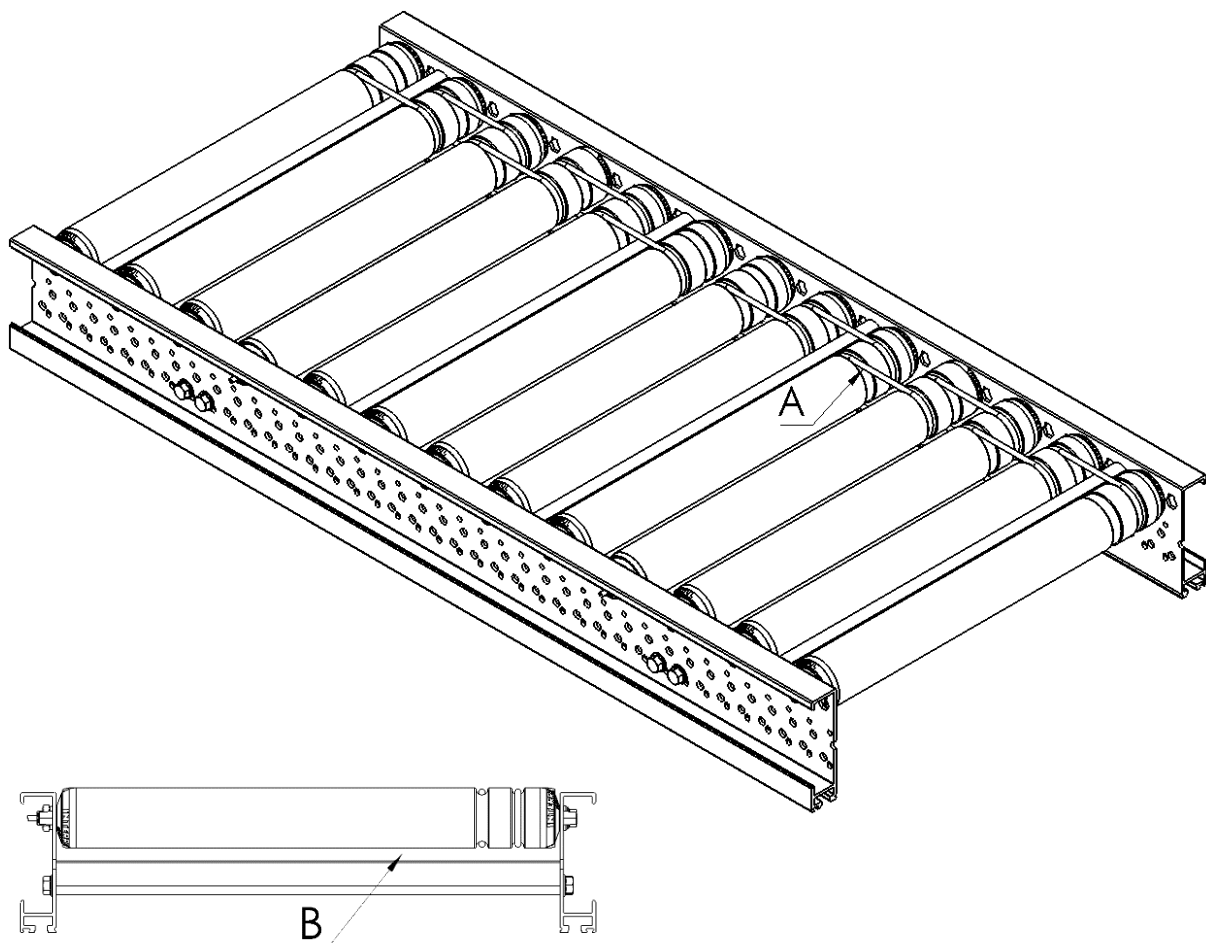
2.17 Finger Safety


The ERS Finger Safety is a reliable tool used to screen the fingers from the PolyVee Belt configuration.

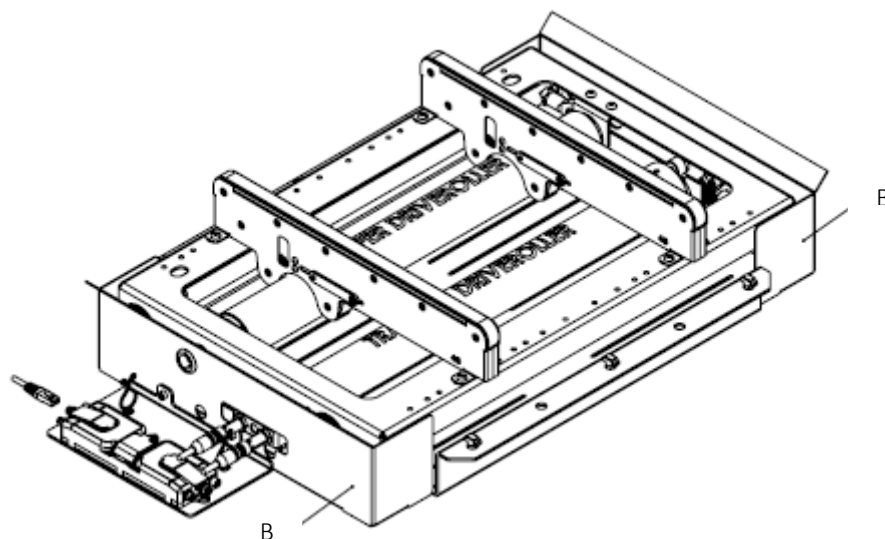
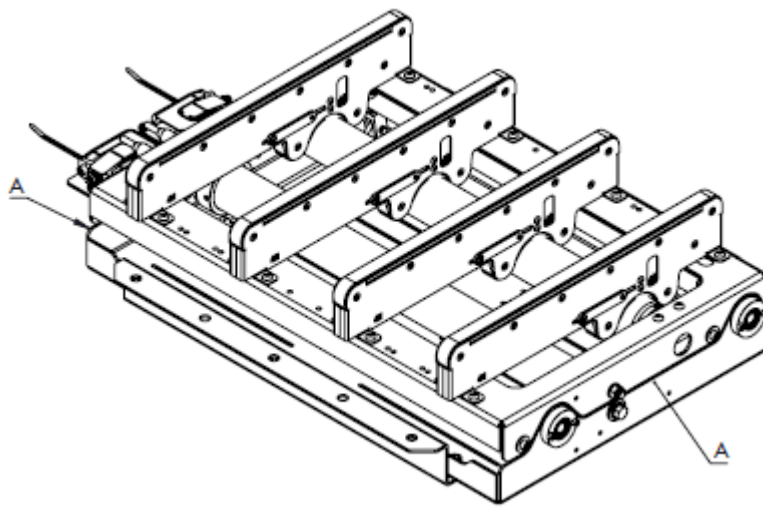
3 Safety

3.1 Dangerous areas

	<p>Dangerous areas</p> <p>Straight conveyors</p> <ul style="list-style-type: none"> - Do not touch the ERS Roller driven Conveyor System when connected to the power source - Never reach to or near any dangerous areas - Dangerous areas regarding the ERS Roller driven Conveyor System are: <p><u>A</u> Between the rollers and round belt/ PolyVee belt</p> <p><u>B</u> Between the rollers and support beam, underneath the conveyer</p>
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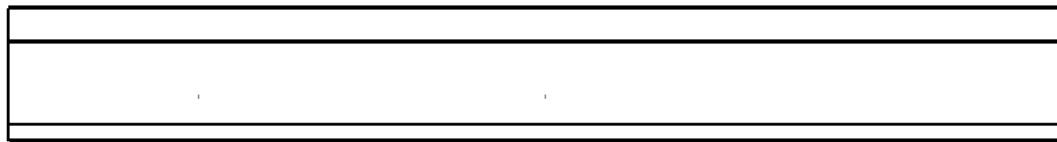
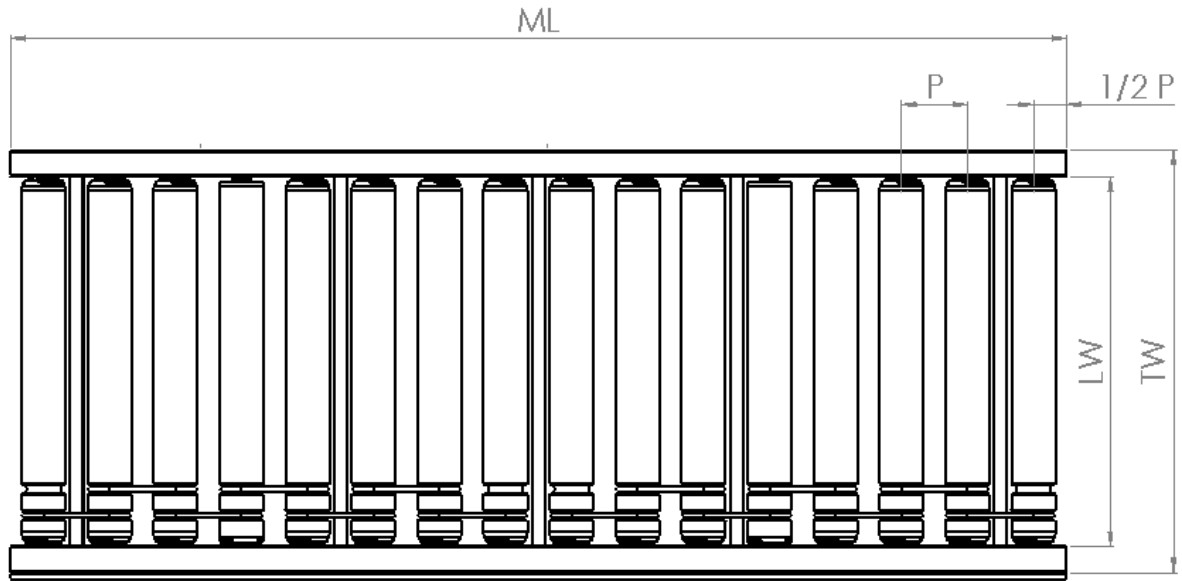
 WARNING	<p>Dangerous areas</p> <p>Transfer</p> <ul style="list-style-type: none">- Dangerous areas regarding the ERS Transfer are: <p><u>A</u> Between the lower section and the lift-up unit</p> <ul style="list-style-type: none">- To avoid the risk of serious crush injuries the ERS Transfers are equipped with a safety device B as standard
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4 Technical data


4.1 ERS 51, 52 Straight Module

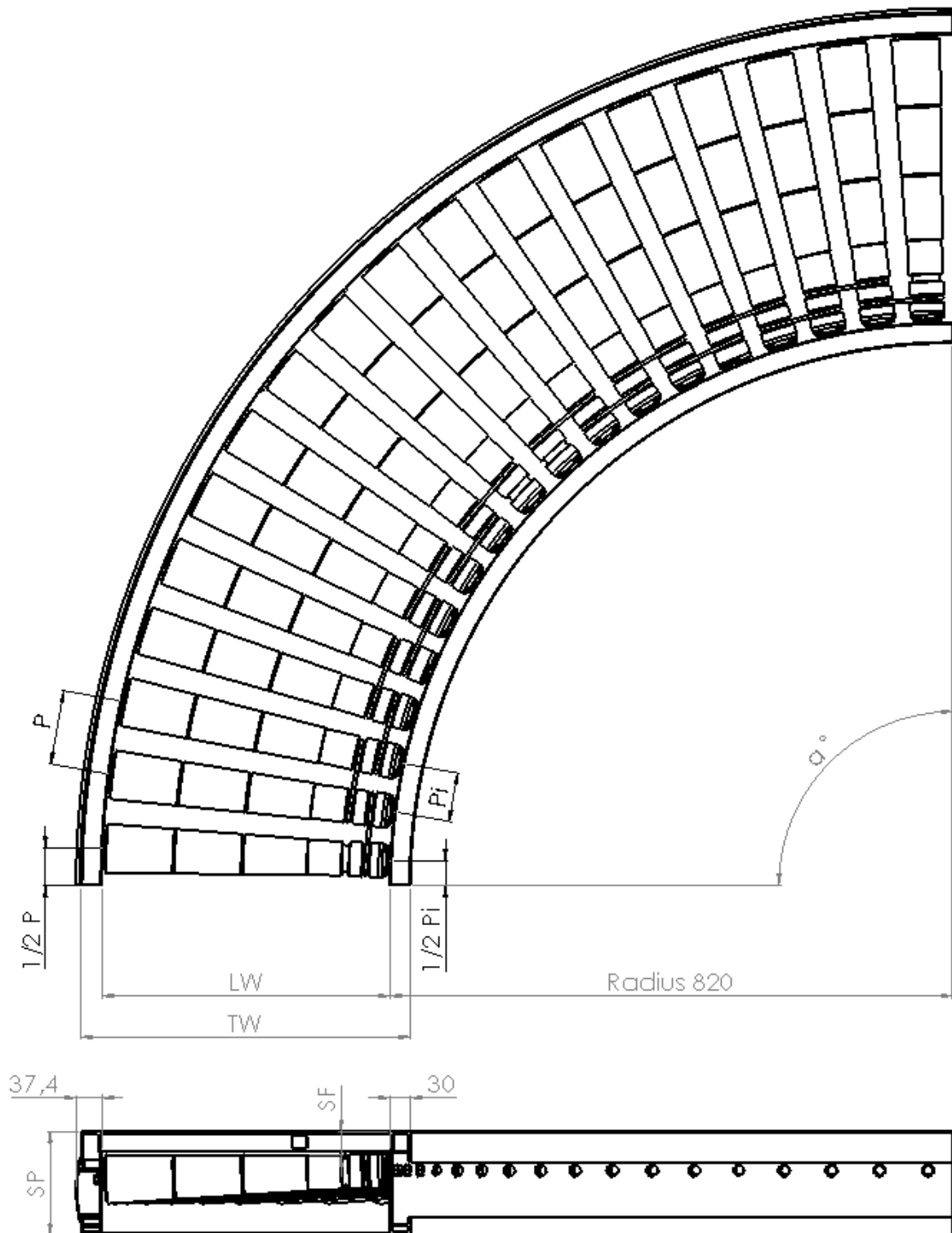
General technical data		
	Round belt	PolyVee belt
Max. load capacity	50 kg	80 kg
Conveyor speed	0.16 to 1.75 m/s	0.16 to 1.75 m/s
Inclined / Declined	Not Suitable	Not Suitable
Ambient temperature	+5°C to +40°C	+5°C to +40°C
Humidity	Maximum 90%, no condensation	Maximum 90%, no condensation
Noise emission	70 < dB(A) (value can vary on installation conditions)	70 < dB(A) (value can vary on installation conditions)
	Maximum load capacity is depending on the combination of speed & load	Maximum load capacity is depending on the combination of speed & load
Rollers		
Roller diameter	Ø 50 mm	Ø 50 mm
Roller material	Steel, galvanised	Steel, galvanised
Maximum number of rollers per conveyor/zone	11	20
Drive		
Rated voltage	24 VDC	24 VDC
Max. power consumption	0.04 kW (0.05 kW in boost mode)	0.04 kW (0.05 kW in boost mode)
Drive medium	PU round belt Ø 5mm	PolyVee belt
Torque transmission	Roller to roller	Roller to roller
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)	<div>HH </div> <div>HL </div> <div>LH </div> <div>LL </div>	
Dimensions		
LW dimension	420/520/620/820 mm	
ML - Module length	Maximum 3000 mm	
ZL - Zone length	Number of rollers x P	
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	
Weight	According to type plate	
Protection class		
IP	54	




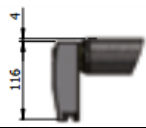

4.2 ERS 51, 52 Curve Module

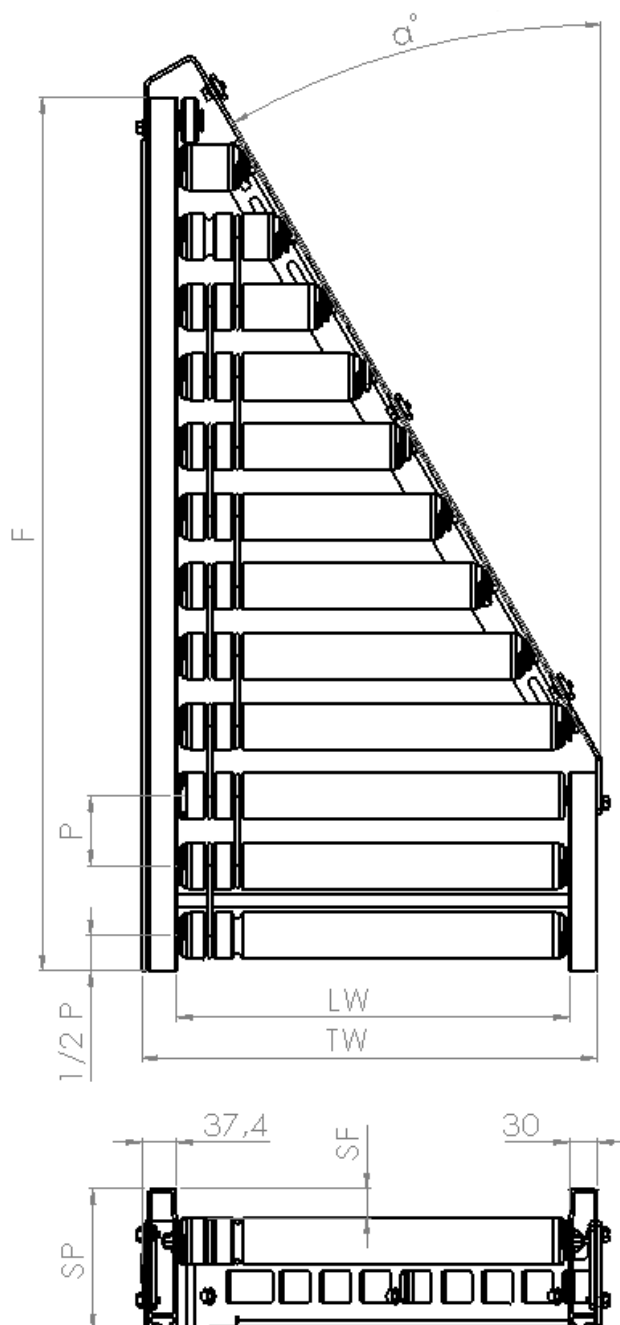
General technical data	
	Round belt
Max. load capacity	50 kg
Conveyor speed	0.16 to 1.75 m/s
Inclined / Declined	Not Suitable
Ambient temperature	+5°C to +40°C
Humidity	Maximum 90%, no condensation
Noise emission	70 < dB(A) (value can vary on installation conditions)
	Maximum load capacity is depending on the combination of speed & load
	Rollers
Roller diameter	Ø 50 mm
Roller material	Steel with grey conical plastic elements
Maximum number of rollers per conveyor/zone	9

Drive	
Rated voltage	24 VDC
Max. power consumption	0.04 kW (0.05 kW in boost mode)
Drive medium	PU round belt Ø 5mm
Torque transmission	Roller to roller
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
TW - Module width	LW + 75 mm
α -angle	30°/45°/60°/90°
P Roller separation, external	$\sim (0.087 \text{ mm} \times \text{LW}) + \text{Pi}$
Pi Roller separation, internal	$\sim 72 \text{ mm}$
Sp - Side profile	151.5 mm
SF - Side guide	31.5 mm
Weight	According to type plate
Protection class	
IP	54


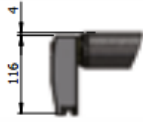






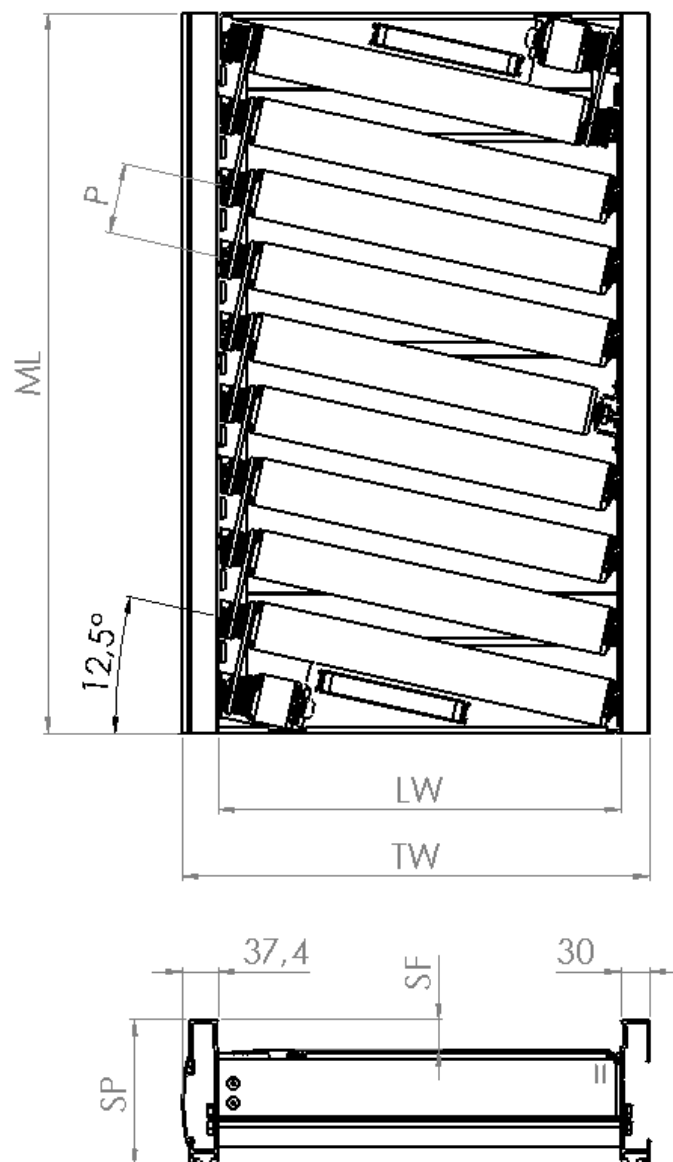
4.3 ERS 51, 52 Infeed - Outfeed Modul

General technical data		
	Round belt	PolyVee belt
Max. load capacity	35 kg	80 kg
Conveyor speed	0.16 to 1.75 m/s	0.16 to 1.75 m/s
Inclined / Declined	Not Suitable	Not Suitable
Ambient temperature	+5°C to +40°C	+5°C to +40°C
Humidity	Maximum 90%, no condensation	Maximum 90%, no condensation
Noise emission	70 < dB(A) (value can vary on installation conditions)	70 < dB(A) (value can vary on installation conditions)
	Maximum load capacity is depending on the combination of speed & load	Maximum load capacity is depending on the combination of speed & load
Rollers		
Roller diameter	Ø 50 mm	Ø 50 mm
Roller material	Steel, galvanised	Steel, galvanised
Maximum number of rollers per conveyor/zone	11	20
Drive		
Rated voltage	24 VDC	24 VDC
Max. power consumption	0.04 kW (0.05 kW in boost mode)	0.04 kW (0.05 kW in boost mode)
Drive medium	PU round belt Ø 5mm	PolyVee belt
Torque transmission	Roller to roller	Roller to roller
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	
TW - Module width	LW +75 mm	
F Front length	See attachment: Table sheet Infeed – Outfeed Module	
α-angle	30°/45°	
P Roller separation	75 mm	
Sp - Side profile	151.5 mm	
SF - Side guide	31.5 mm	
Weight	According to type plate	
Protection class		
IP	54	



4.4 ERS 51, 52 Alignment Module

General technical data	
	PolyVee belt
Max. load capacity	80 kg
Conveyor speed	0.16 to 1.75 m/s
Inclined / Declined	Not Suitable
Ambient temperature	+5°C to +40°C
Humidity	Maximum 90%, no condensation
Noise emission	70 < dB(A) (value can vary on installation conditions)
	Maximum load capacity is depending on the combination of speed & load
Scewed angle	
Angle of rollers	± 12.5°
Rollers	
Roller diameter	Ø 50 mm
Roller material	Steel, galvanised
Drive	
Rated voltage	24 VDC
Max. power consumption	0.04 kW (0.05 kW in boost mode)
Drive medium	PolyVee belt
Torque transmission	Roller to roller
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)	HH  HL  LH  LL 
Dimensions	
LW dimension	420/520/620/820 mm
ML - Module length	750 mm (standard)
TW - Module width	LW + 60 mm
P Roller separation	75 mm
Sp - Side profile	116/151.5 mm
SF - Side guide	31.5 mm
Weight	According to type plate
Protection class	
IP	54



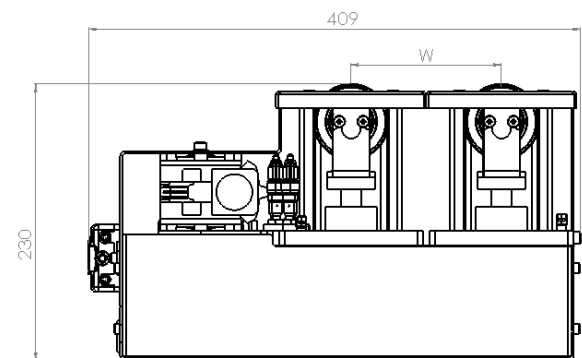
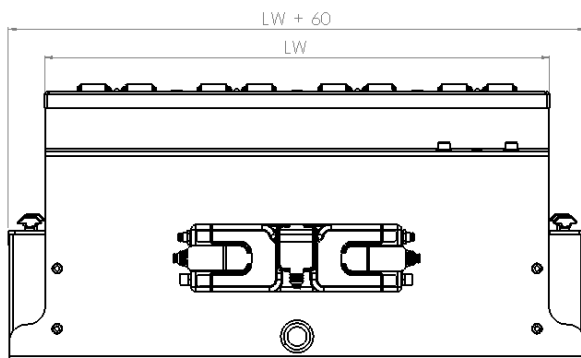
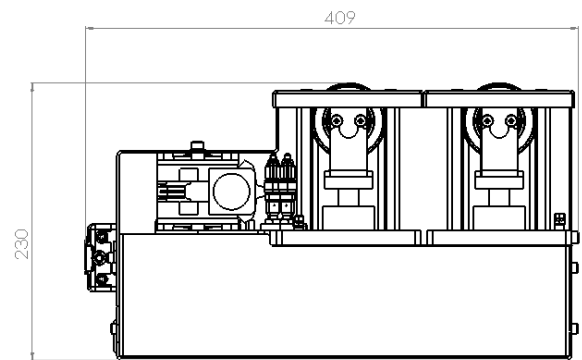
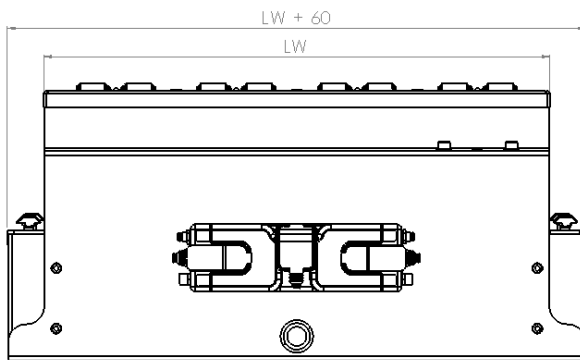
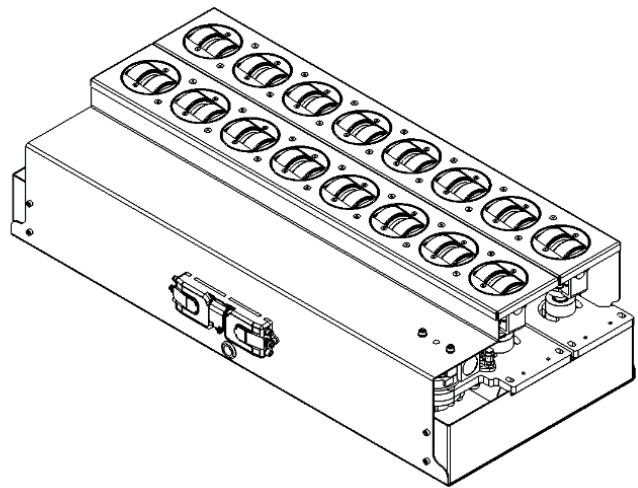
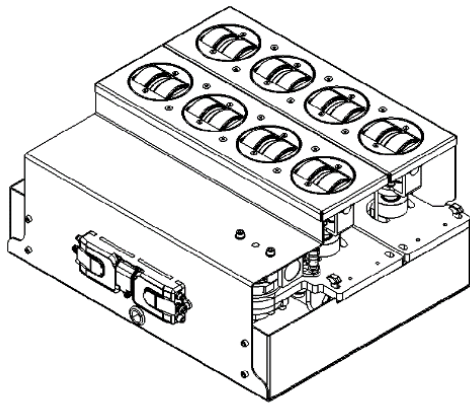
4.5 ERS 51, 52 Diverter Module

General technical data	
Max. load capacity	50 kg
Transfer speed	0,16 / 0,25 / 0,33 / 0,44 / 0,65 / 0,78 or 0,98 m/s
Swiveling time	0,3 m/s
Inclined / Declined	Not Suitable
Ambient temperature	+5 to + 40 °C
Humidity	Maximum 90%, no condensation
Noise emission	70 < dB(A) (value can vary on installation conditions)
Maximum load capacity is depending on the combination of speed & load	
Roller	
Roller bearing	Sealed precision ball bearing
Roller diameter	50 mm
Roller material	Steel, zinc-plated
Anlge Drive	
Operating medium	24 VDC
Swiveling time	0,3 s
Swiveling angle	45° - 0 - 45°
Transport Drive	
Rated Voltage	24 VDC
Power transmission	PolyVee belt
Zone Controller	
Rated Voltage	24 VDC
Max. power consumption	0.04 kW (0.05 kW in boost mode)
Dimensions	
LW Clearance	420 / 520 / 620 or 820 mm
Roller pitch	100 mm
W Row width	125 mm
Weight	37 – 68 kg (depending on configuration)
Protection class	
IP	54

4.5.1 Dimensions

Dimensions can differ depending on the type of the Diverter Module. The most important differences are:

- The width (LW) of the Diverter Module.
- The number of Diverter Wheels
 - LW 420, 8 Diverter Wheels
 - LW 520, 10 Diverter Wheels
 - LW 620, 12 Diverter Wheels
 - LW 820, 16 Diverter Wheels



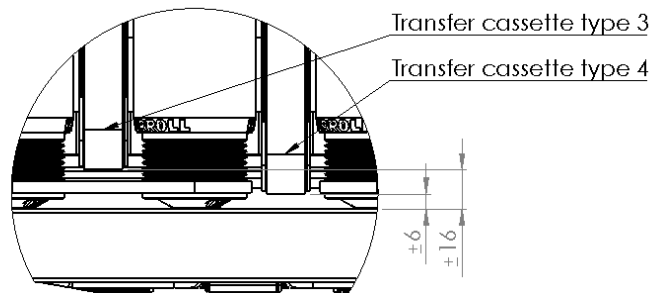
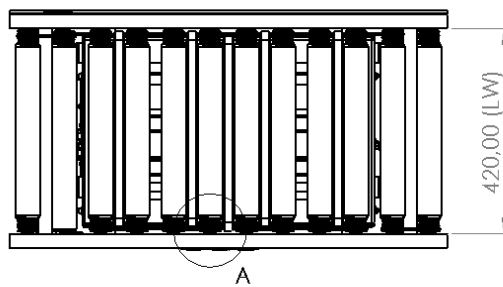
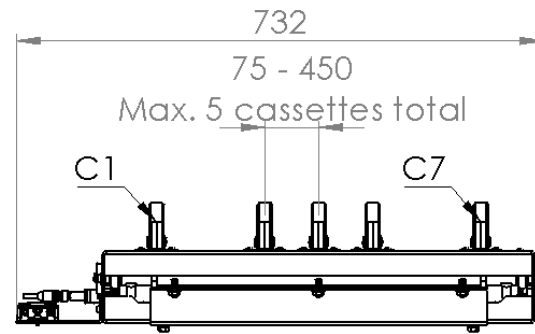
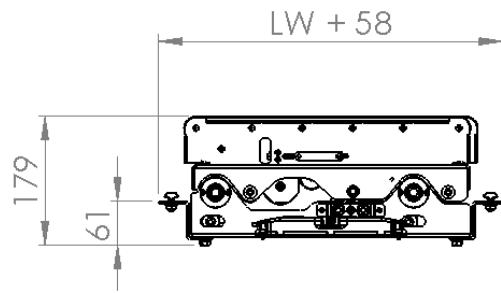
4.6 ERS 51, 52 Transfer Module

General technical data	
Max. load capacity	50 kg
Transfer speed	0,16 / 0,25 / 0,33 / 0,44 / 0,65 / 0,78 or 0,98 m/s
Stroke time	0,3 m/s
Inclined / Declined	Not Suitable
Ambient temperature	+5 to + 40 °C
Humidity	Maximum 90%, no condensation
Noise emission	70 < dB(A) (value can vary on installation conditions)
Maximum load capacity is depending on the combination of speed & load	
Roller	
Roller bearing	Sealed precision ball bearing
Roller diameter	50 mm
Roller material	Steel, zinc-plated
Lift Drive	
Operating medium	24 VDC
Stroke time	0,3 s
Stroke height	7,5 mm above top edge of roller
Cassette Drive	
Rated Voltage	24 VDC
Power transmission	Toothed belt with fiction top
Zone Controller	
Rated Voltage	24 VDC
Max. power consumption	0.04 kW (0.05 kW in boost mode)
Dimensions	
LW Clearance	420 / 520 / 620 or 820 mm
α Angle	90°
C1 first belt pitch	152,5 mm
C2 till C7	152,5 + n x 75 mm
Weight	15 – 45 kg (depending on configuration)
Protection class	
IP	54

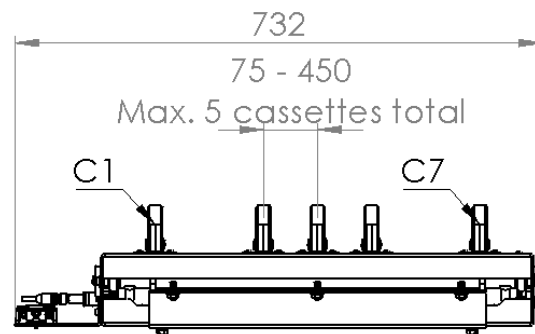
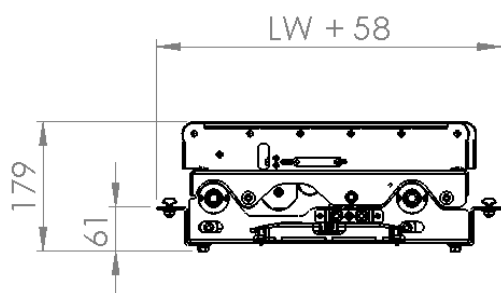
4.6.1 Dimensions

Dimensions can differ depending on the type of the Transfer Module and chosen Cassettes. The most important differences are:

- The length of the different types of cartridges and their distance to the side profile.
- The Transfer Module width, depending on the width of the roller conveyor.

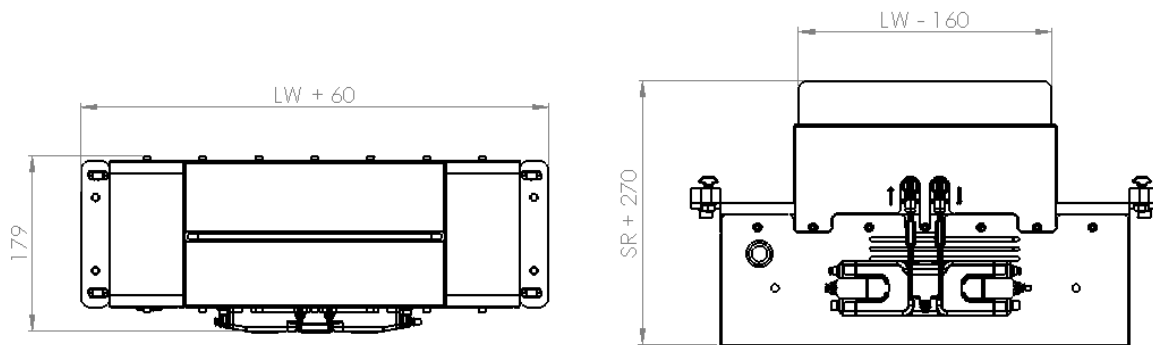


DETAIL A
SCALE 1 : 2







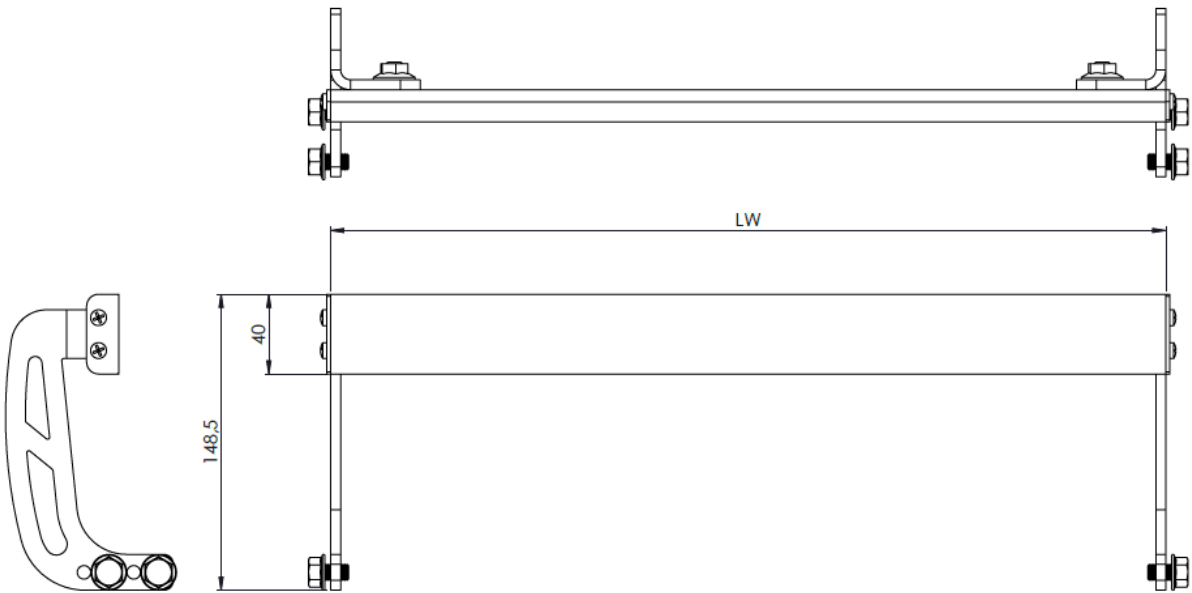
4.7 ERS 51, 52 24V Stopper Module

General technical data	
Moving time	0,3 s
Maximum force	50 kg at 0.98 m/s
SR Stopper Range	50 mm
Ambient temperature	+5 to + 40 °C
Humidity	Maximum 90%, no condensation
Noise emission	70 < dB(A) (value can vary on installation conditions)
Maximum load capacity is depending on the combination of speed & load	
Zone Controller	
Rated Voltage	24 VDC
Max. power consumption	0.04 kW (0.05 kW in boost mode)
Dimensions	
LW Clearance	420 / 520 / 620 or 820 mm (depending on configuration)
Weight	15 – 30 kg (depending on configuration)
Protection class	
IP	54




4.8 ERS 61 Stopper

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



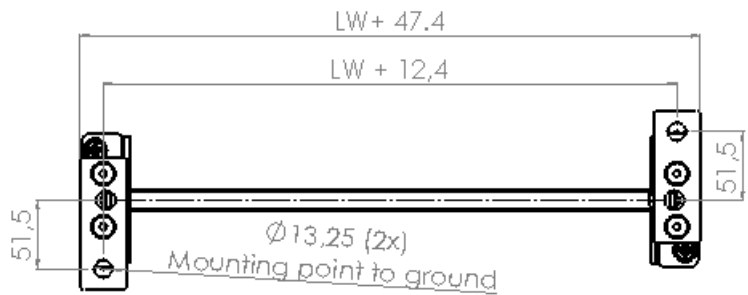
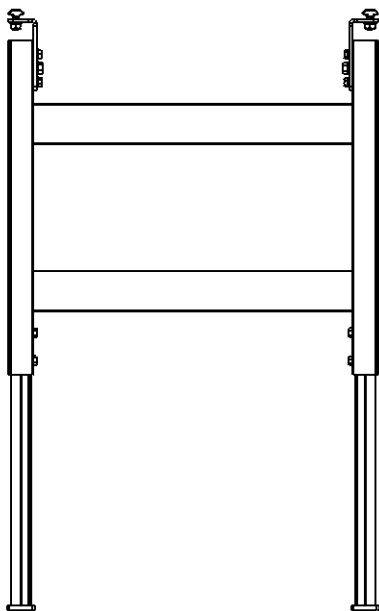
4.9 ERS Support

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

4.9.1 Technical Data ERS 60 Support

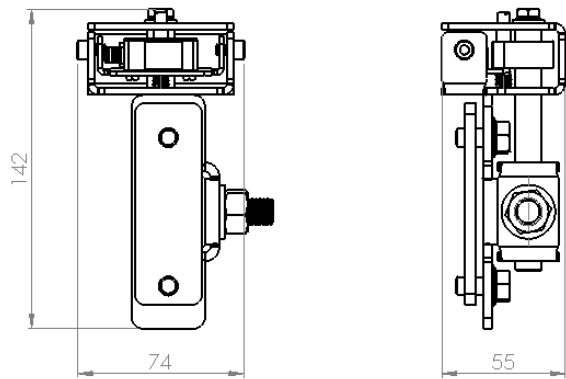
General technical data	
Max. load capacity	200 kg
Number of cross-members	1 with 350 to 800 mm top edge of roller
	2 with 800 to 1400 mm top edge of roller
	3 with 1400 to 2000 mm top edge of roller
Dimensions	
LW dimension	420/520/620/820 mm
Height to top side of rollers	362 to 2000 mm
Weight	According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



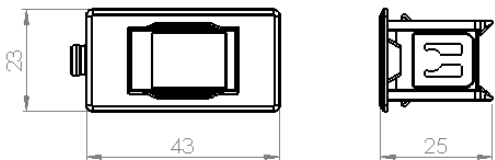
4.10 ERS Sensor and Reflector

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



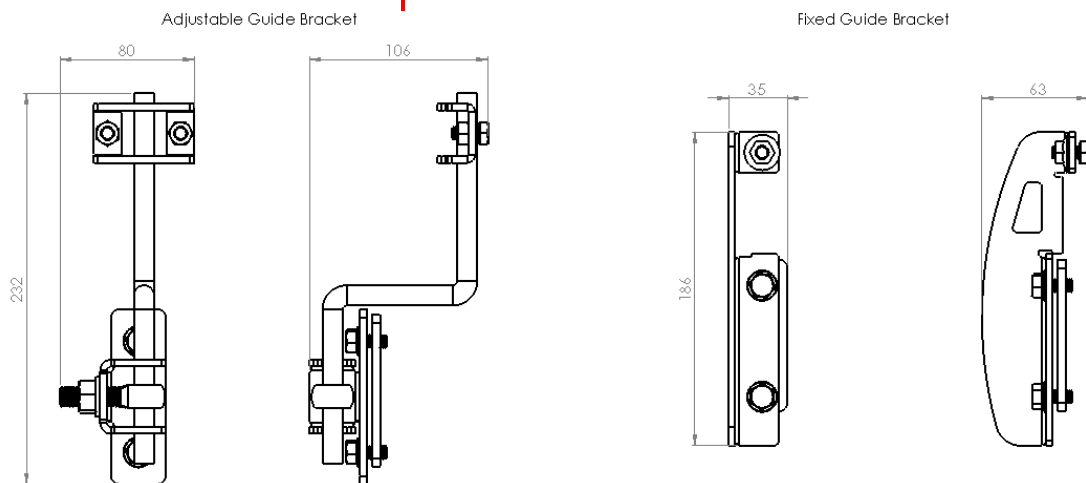
Sensor Clip



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

4.11 ERS Side Guide

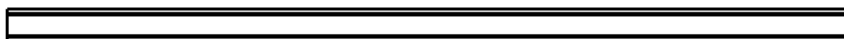
General technical data	
Adjustable Guide Bracket	
Roller conveyor profile	Low
Adjustability range (height)	50 mm
Adjustability range (track width)	50 mm
Suitable for curved conveyor track	Yes
Number of brackets in curve track	$90^\circ = 7 / 60^\circ = 5 / 45^\circ = 5 / 30^\circ = 4$
Number of brackets 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



Side Guide Profile



Guide Wear Strip



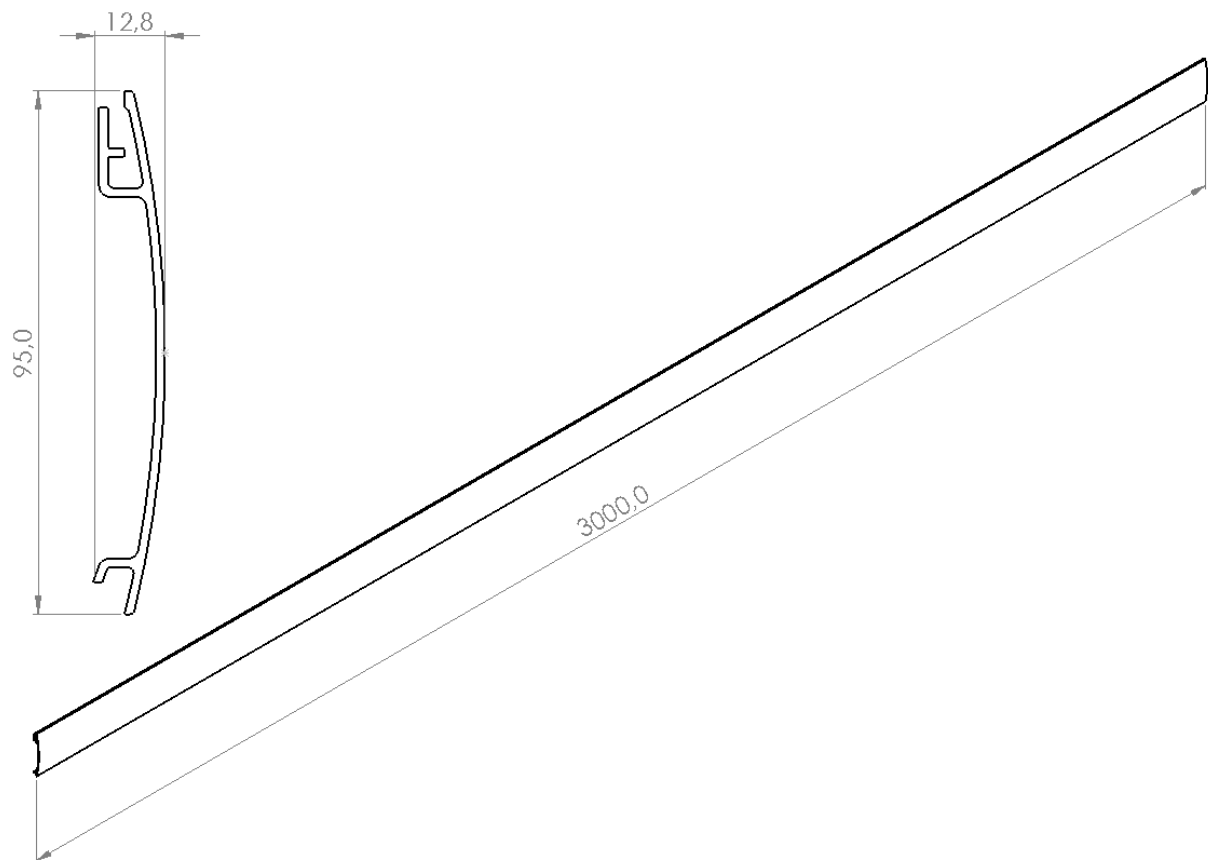
Guide End



	<p>More variations available, please refer to the Additional Parts Assembly Instruction.</p>
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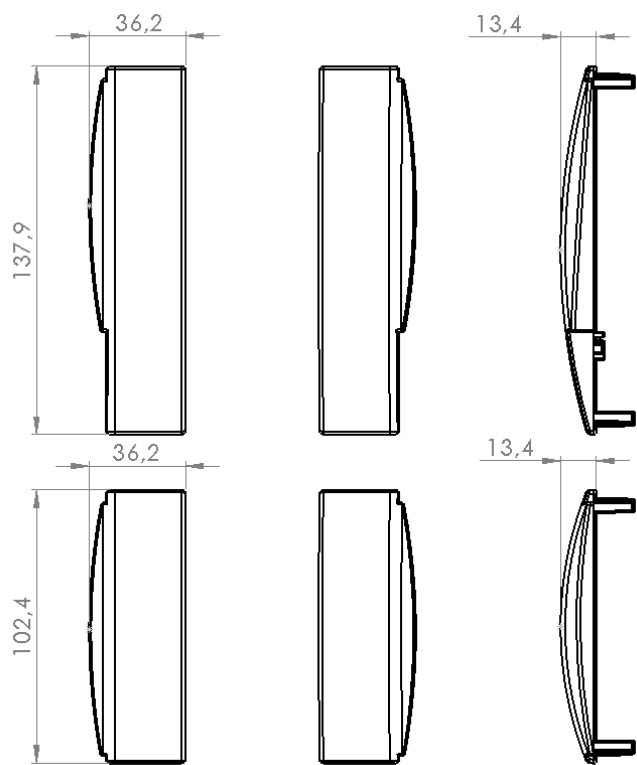
4.12 ERS Side Cover Profile

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



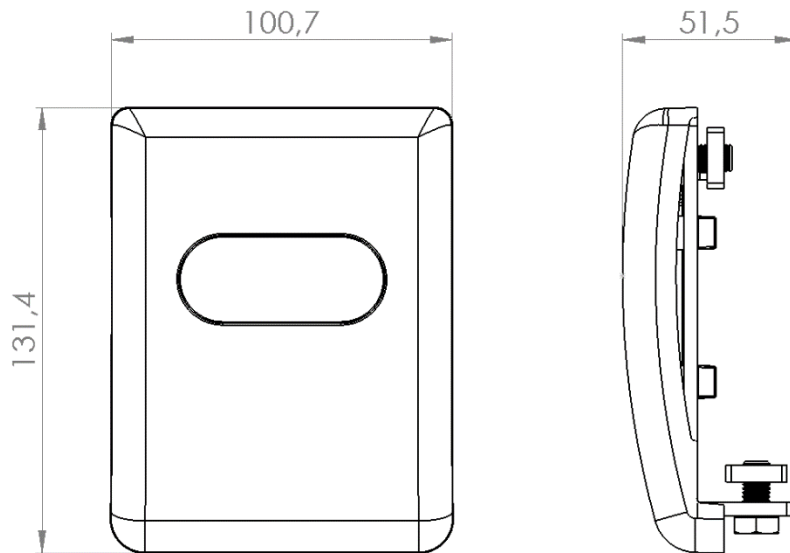
4.13 ERS Cover Caps

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



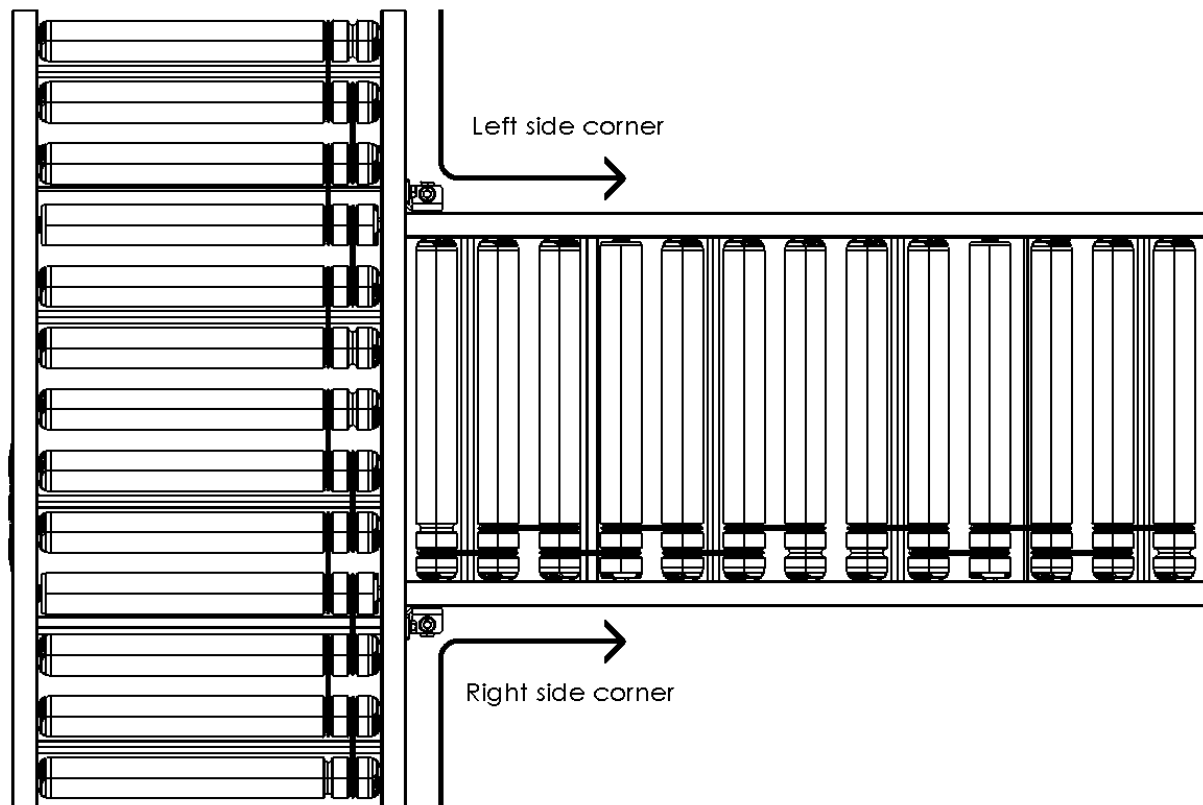
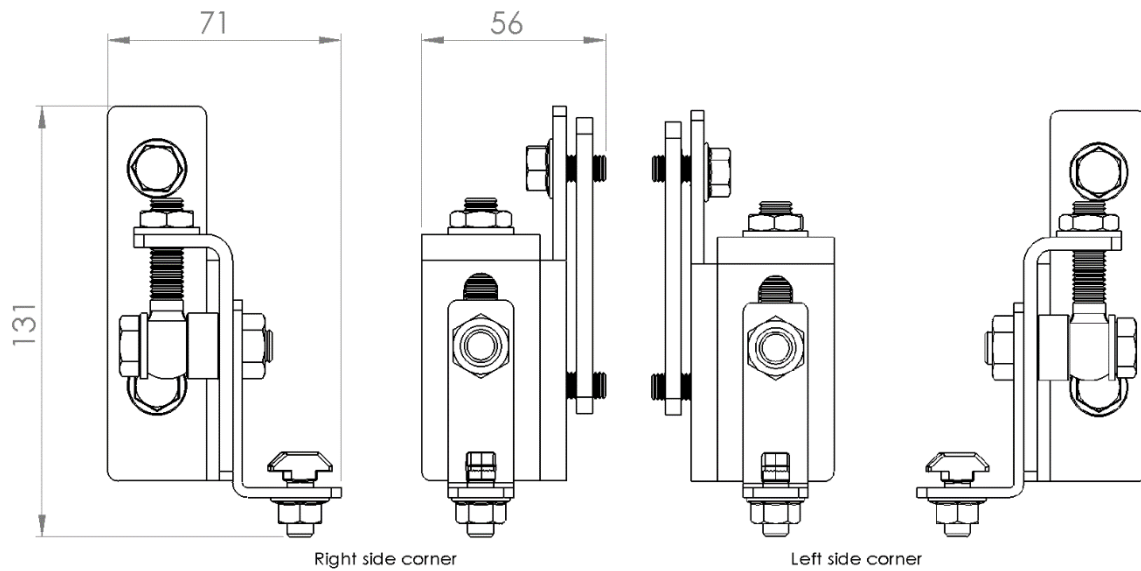
4.14 ERS Straight Connector

General technical data	
Dimensions	
Weight	476 g



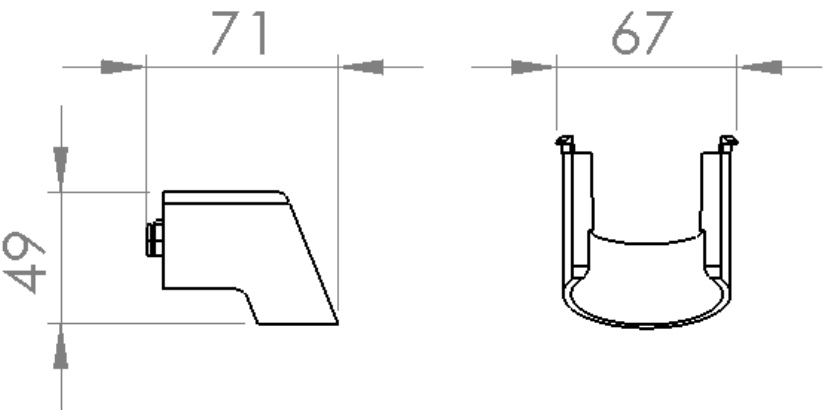
4.15 ERS 90° Connector

General technical data	
Dimensions	
Weight	413 g




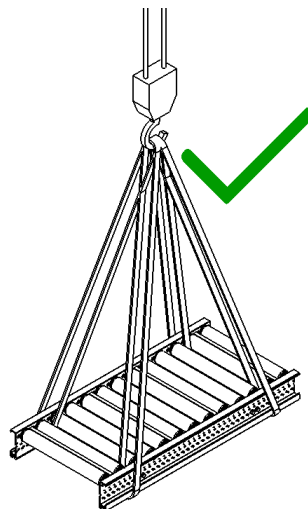
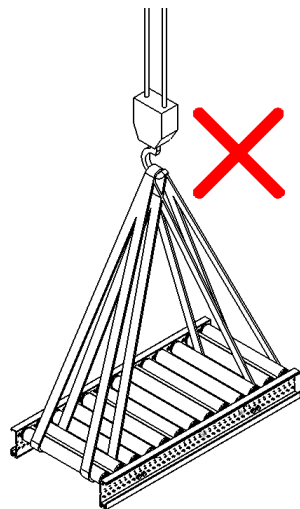
4.16 Finger Safety

General technical data	
Dimensions	
Applicable on	PolyVee belt Module configuration
Weight	20 g




5 Transportation

	<p>Transportation</p> <ul style="list-style-type: none"> - Only qualified and authorized personnel should transport the packaged ERS Roller driven Conveyor Modules. - 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


	<p>Installation</p> <ul style="list-style-type: none"> - As the ERS Roller driven Conveyor Modules is 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 Roller driven Conveyor Modules. - During assembly wear appropriate Personal Protective Equipment. - Always provide a control circuit with at least: <ul style="list-style-type: none"> - 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
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6.1 General Information

6.1.1 Assembly rules

The assembly method provided by Swisslog 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 Roller driven Conveyor Modules will always be delivered pre-assembled.

	<p>Edited components</p> <p>If any changes are made to the components or their location in the lanes, then Swisslog is no longer responsible for the product, as this represents unintended use of the ERS Roller driven Conveyor Modules.</p>
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6.1.2 Qualified Personnel

Assembly and installation of the ERS Roller driven 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.
- The dangers inherent in the assembly of heavy components.
- The risks related to incorrect assembly.
- The adjustments required for correct operation of the ERS Roller driven 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 Roller driven Conveyor Modules, use the same reference points to level the systems.
- Before unpacking the shipped ERS Roller driven Conveyor Modules, check the stability before remove packaging.
- Make sure you do not damage the ERS Roller driven 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 Roller driven 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 (Control) Units.

	<p>Mounting</p> <p>Always mount a support stand or similar to the ground or another solid part of a construction.</p>
	<p>Coupling</p> <p>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.</p>
	<p>Wiring</p> <p>For wiring instructions check manufactures website or check the dealer section on our website for applicable user manuals.</p>

6.1.5 Start-up checks

	<p>Visual safety check</p> <ul style="list-style-type: none"> - When connecting the ERS Roller driven 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).
	<p>Safety check</p> <ul style="list-style-type: none"> - Check all personnel are properly instructed before working with or near the ERS Roller driven Conveyor Modules. - Check for visible damage on the ERS Roller driven Conveyor Modules. - Check for foreign material preventing correct operation.

6.1.6 Operation

	<p>In operation</p> <p>Close down a system or ERS Roller driven Conveyor Modules Module if any of the following occurs:</p> <ul style="list-style-type: none"> - Suspicious noise from any of the component. - A visibly worn or damaged component. - Damage to structural components such as frame and support.
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6.1.7 In case of an accident

1. Stop the ERS Roller driven Conveyor Modules.
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 Roller driven Conveyor Modules until authorized by qualified maintenance personnel.

6.2 ERS 51, 52 Coupling Conveyor Modules

6.2.1 Couple/ uncouple of ERS Modules

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

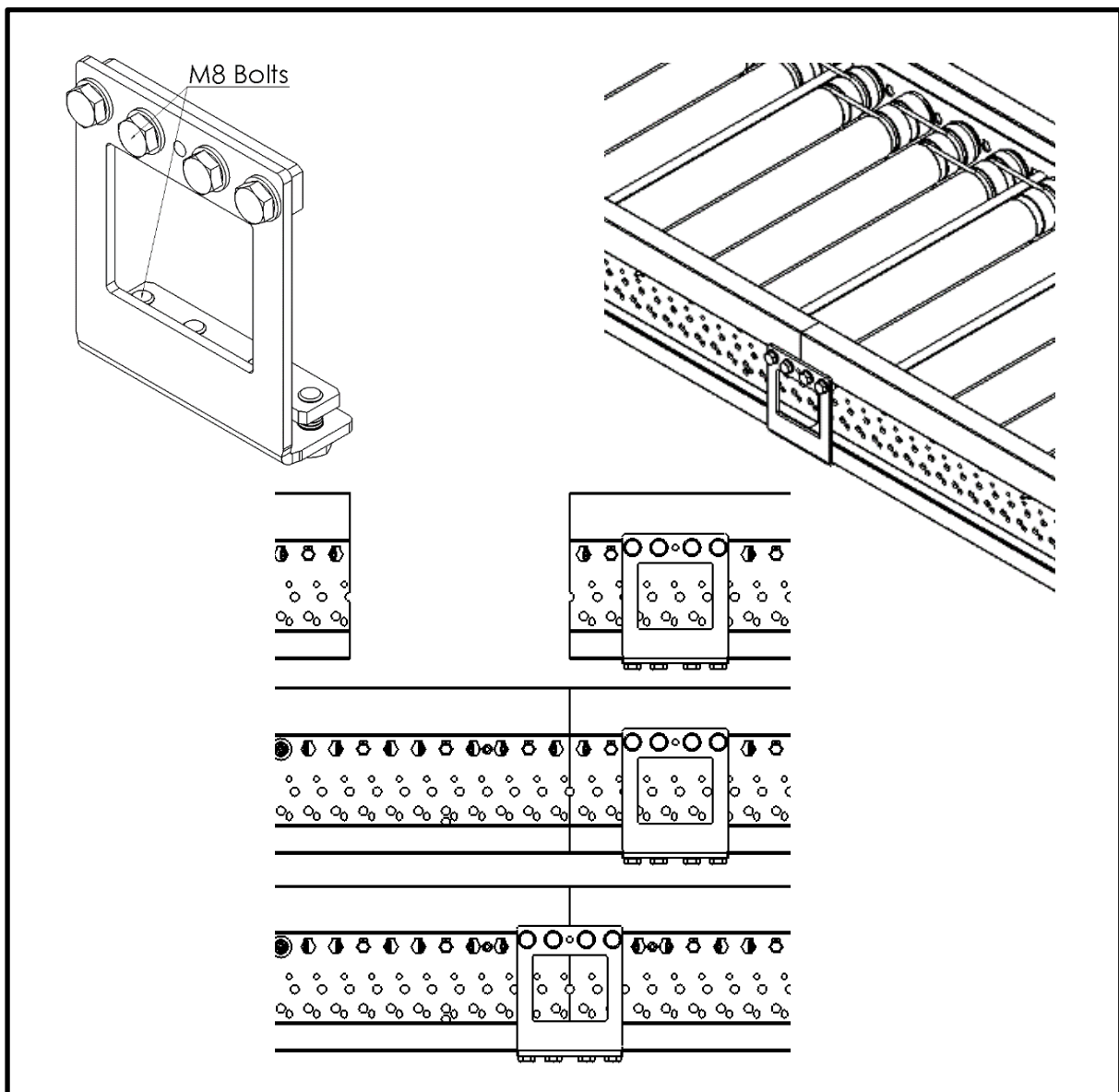
Step 1 Place two ERS Roller driven Conveyor Modules next to each other and slide Straight Connectors into both sides of the side profile of one of the ERS Roller driven Conveyor Modules.

Step 2 Align the ERS Roller driven 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.



6.2.2 Couple/ uncouple of ERS Modules - 90°

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

Step 1 Place two ERS Roller driven Conveyor Modules next to each other and slide the two connectors into the side profile of one of the ERS Roller driven Conveyor Modules.

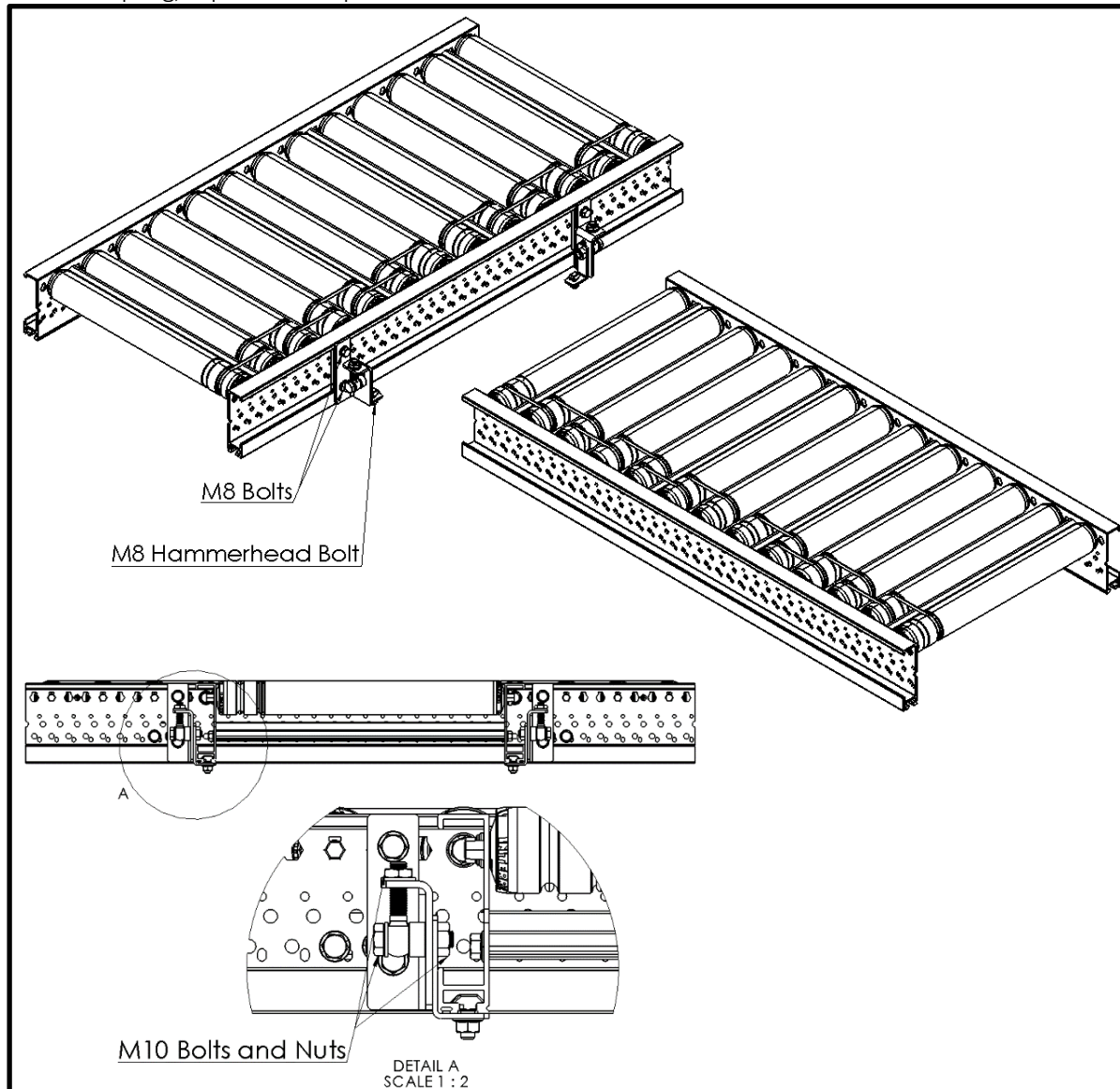
Step 2 Align the other ERS Roller driven Conveyor Module with the connectors.

Step 3 Slide the ERS Roller driven Conveyor Module onto the M8 Hammerhead Bolts of the connectors.

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

Step 5 The alignment of the two Conveyor Modules could be adjusted with the M10 bolts and nuts. The connected conveyor should be set 7,5 mm higher to receive a flush transition between transfer and connected conveyor. If necessary, other heights are possible.

For uncoupling, repeat the steps above in reverse order.



6.3 ERS 51, 52 Infeed – Outfeed Module

6.3.1 Mounting/ dismounting the ERS 51, 52 Infeed - Outfeed Module

The Infeed – Outfeed Module could be connected to the side profile of the Straight Module, using clamping plates. The Infeed – Outfeed Module could only be connected to the side where no zone controller is attached.

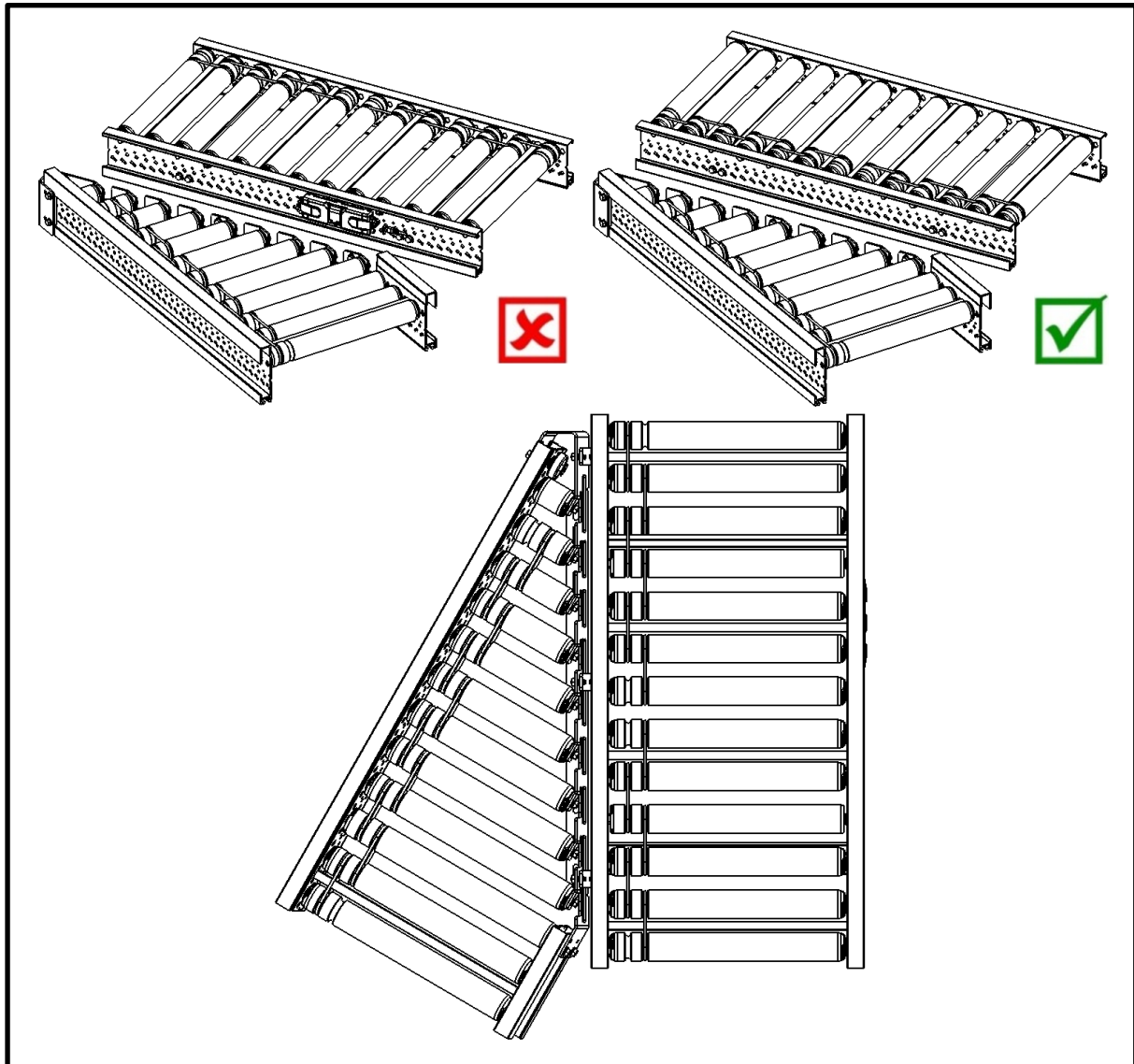
Step 1 Hoist and hang an Infeed – Outfeed Module next to a Straight Module, using appropriate lifting equipment.

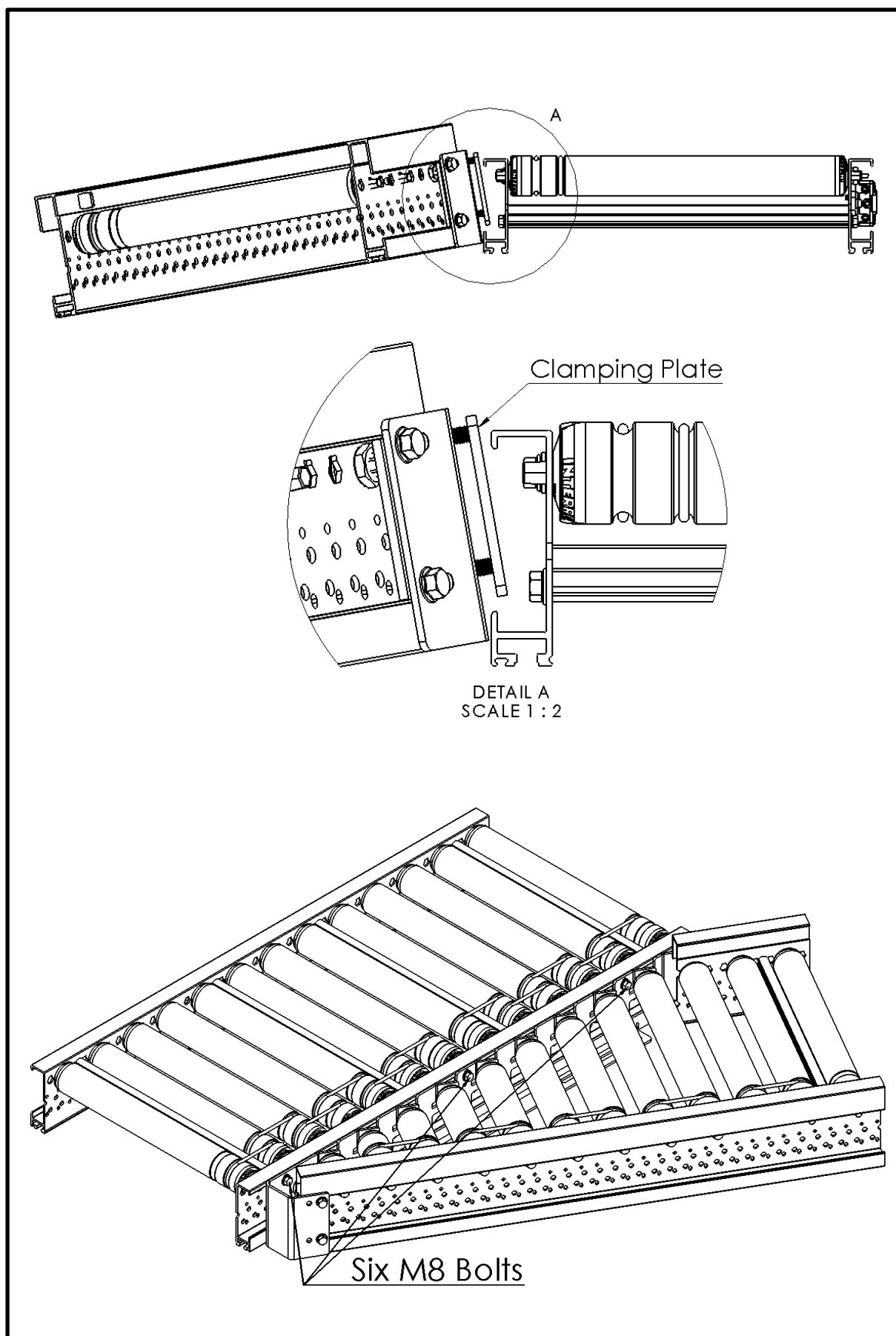
Step 2 Tilt the Infeed – Outfeed Module downward so the clamping plates fit into the side profile of the Straight Module.

Step 3 Tilt the Infeed – Outfeed Module horizontal.

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

For dismounting the Infeed – Outfeed Module, repeat the steps above in reverse order.





6.4 ERS 51, 52 Diverter Module

6.4.1 Mounting/ dismounting the Diverter Module

The Diverter Module is directly mounted underneath the roller conveyor and is attached with four M8 hammerhead bolts and torque nuts onto the side profiles.

Step 1 Place the Diverter Module with the bottom plate facing down on a clean table.

Step 2 Remove the eight M5 bolts holding the side covers of the Diverter Module.

Step 3 Remove the side covers of the Diverter Module.

Step 4 Hoist and hang a roller conveyor 150 mm above the Diverter Module using appropriate lifting equipment.

Step 5 Slide two M8 hammerhead bolts into each side profile of the roller conveyor.

Step 6 Align the hammerhead bolts with the mounting holes in the Diverter Module.

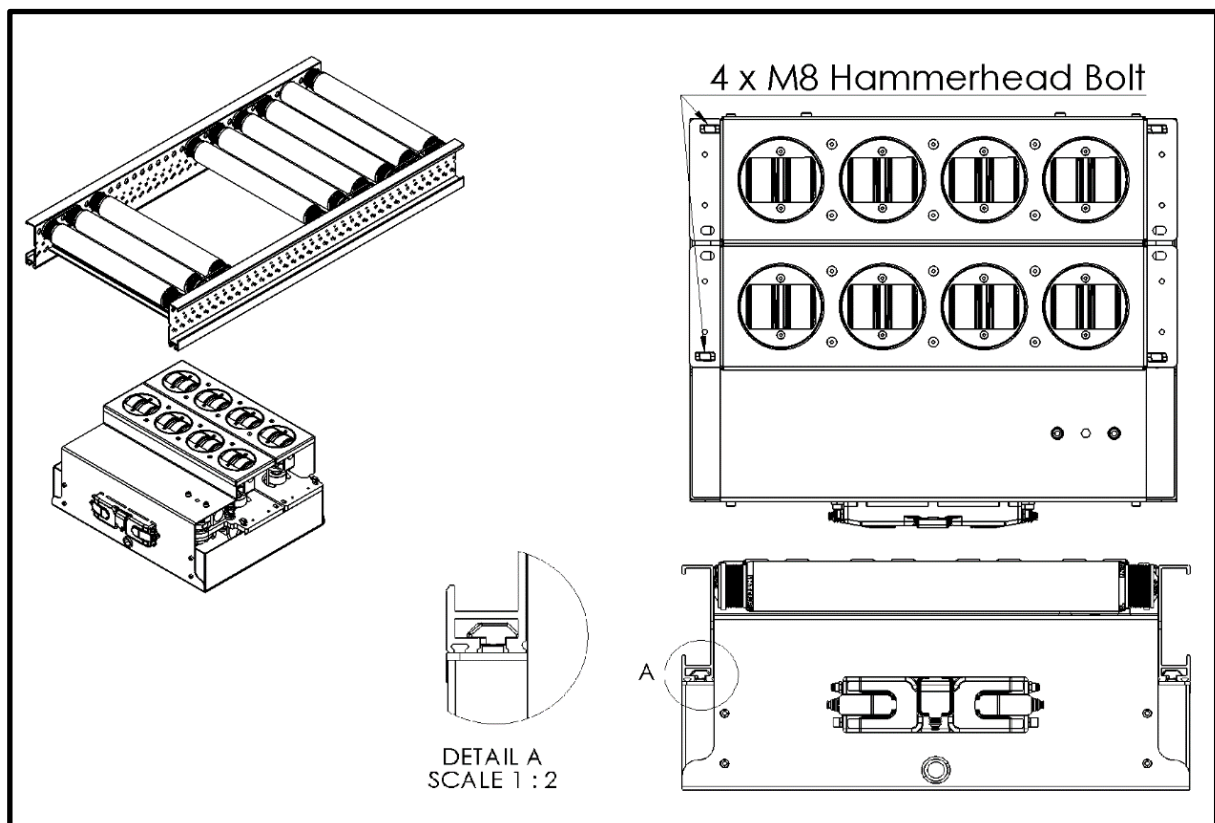
Step 7 Lower the roller conveyor onto the Diverter Module.

Step 8 Place all four M8 nuts and tighten them.

Step 9 Place the side covers onto the Diverter Module.

Step 10 Place all eight M5 bolts holding the side covers and tighten them.

For dismounting the Diverter Module, repeat the steps above in reverse order.



6.4.2 Aligning the Diverter Module with the roller conveyor

The Diverter Module is always located underneath a roller conveyor, after mounting the Diverter Module underneath a roller conveyor, the alignment has to be checked. The Diverter Module has to be placed parallel and spaced evenly with no contact to the rollers. If this is not the case the Diverter Module and the rollers could get damaged.

Step 1. The distance between the roller and the Diverter Module should be the same on both sides, measure distance 'X'. If distance 'X' is the same on both sides of the Diverter Module, and the Diverter Module is not touching the rollers, the alignment is done. If this is not the case, go to 'Step 2'.

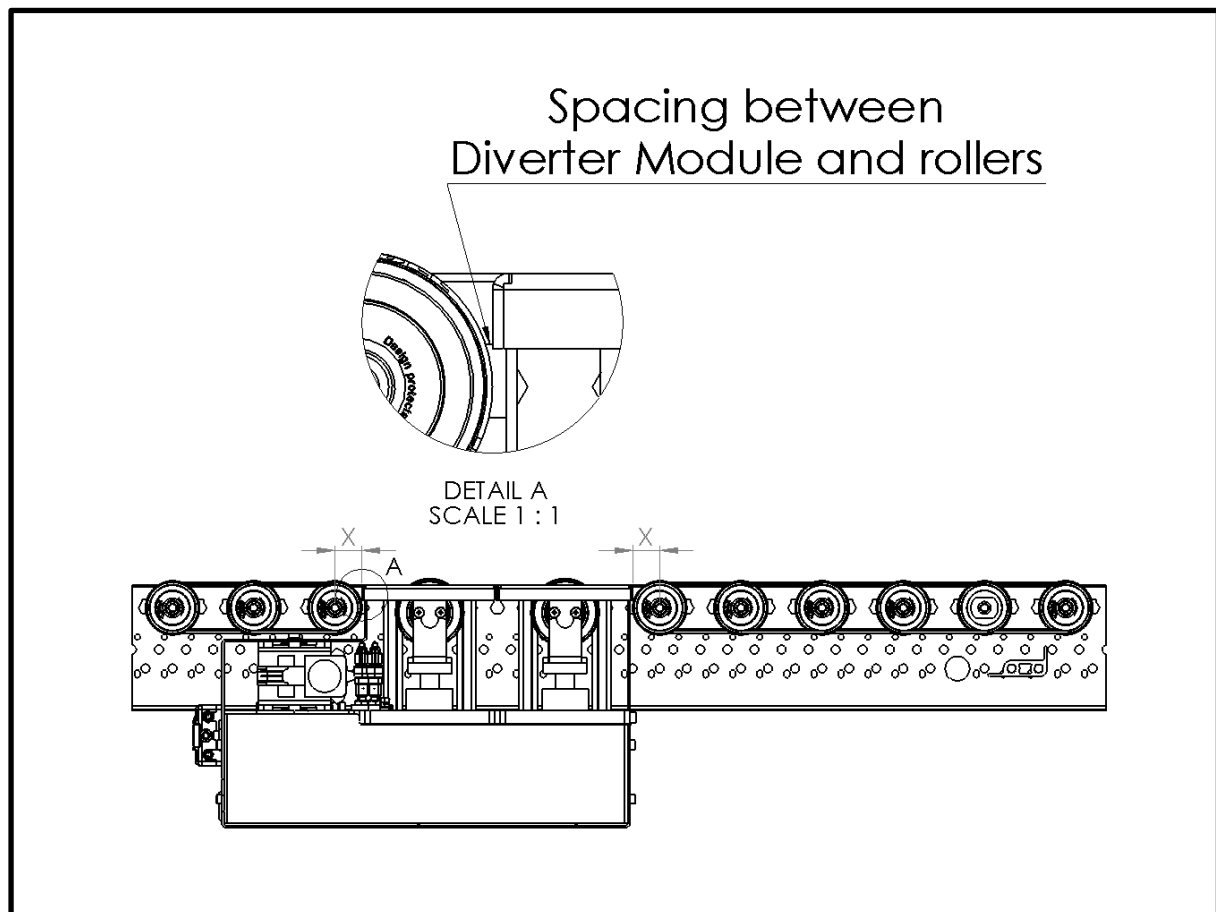
Step 2. Alignment could be done by slightly loosening the four M8 nuts which attach the Diverter Module and the roller conveyor.

Step 3. Align the roller conveyor correctly on the Diverter Module as described in 'Step 1'.

Step 4. Tighten the nuts.

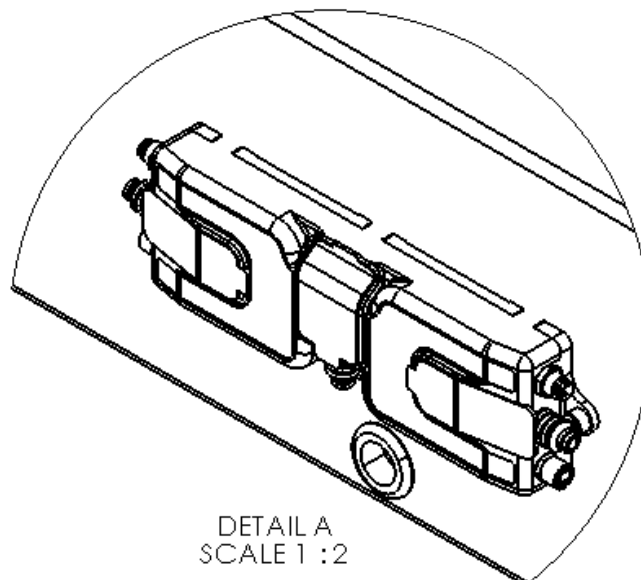
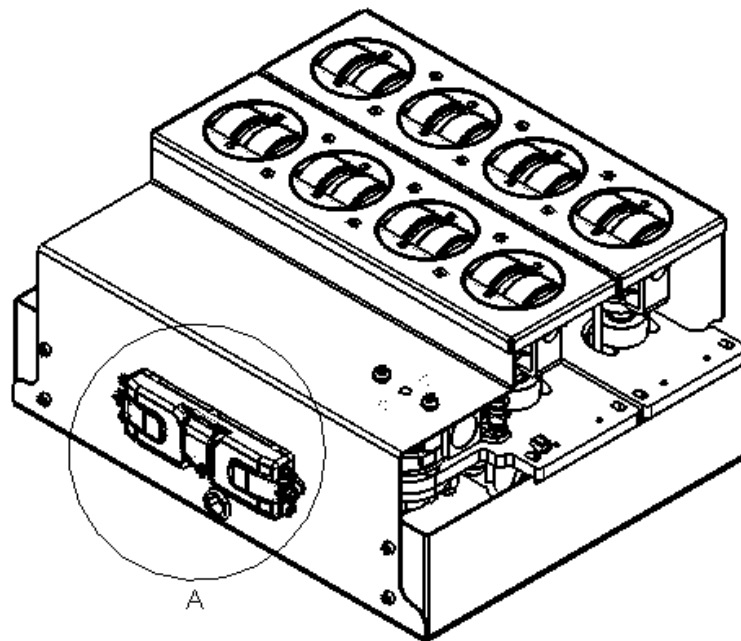
Step 5. Check the alignment, if distance 'X' is the same on both sides of the Diverter Module, and the Diverter Module is not touching the rollers, the alignment is done. If this is not the case, go back to 'Step 2'.

Incorrect alignment will cause wear and could result in unrepairable damage.



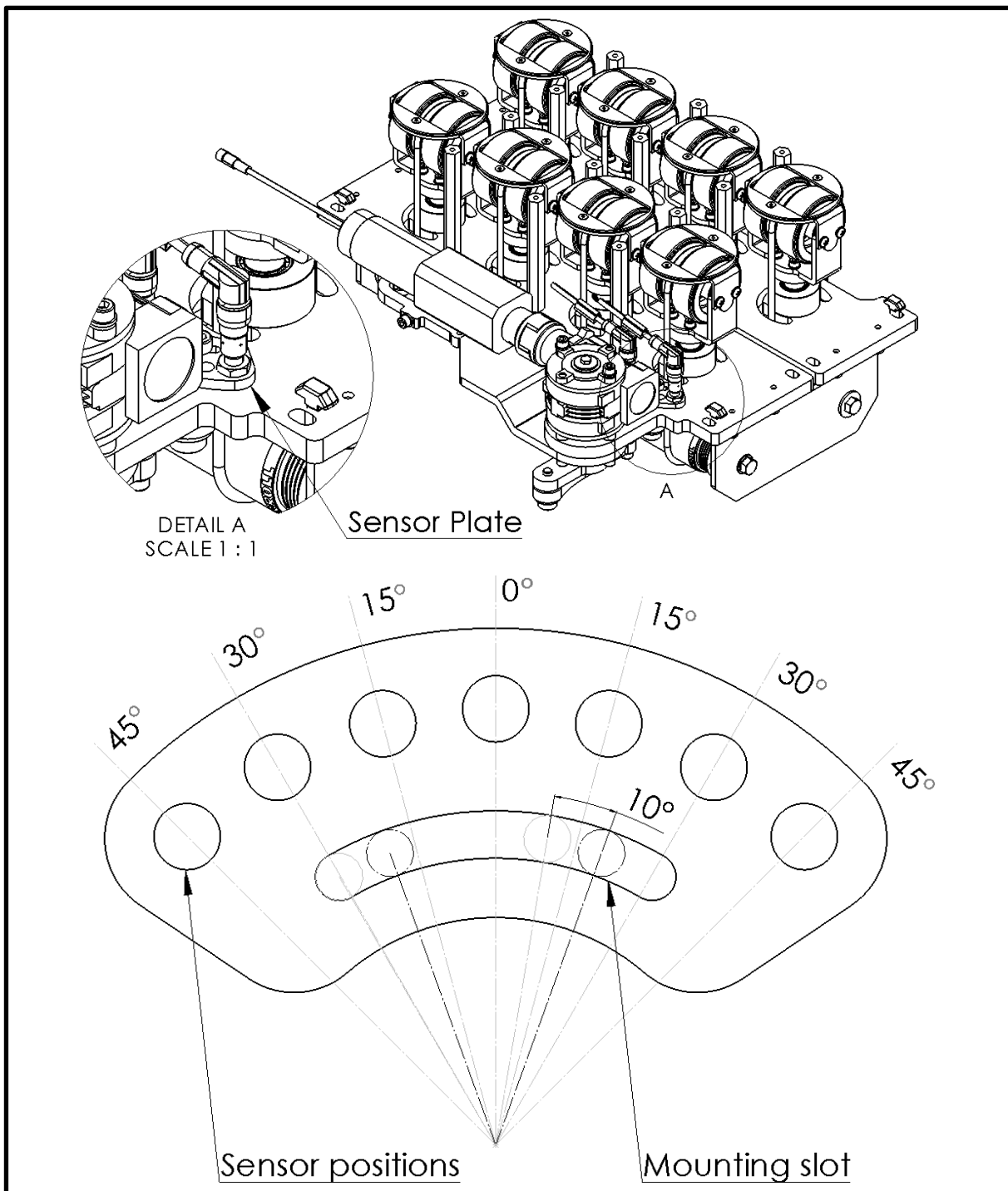
6.4.3 Wiring of the Zone Controller

The Zone Controller is located at the front of the Diverter Module. Wiring the drive control unit has to be done according to the user manual of the Zone Controller. Please check the appendix or visit the manufacturer's website for the user manual.



6.4.4 Setting the diverting angle

The diverting angle is determined by the position of the Inductive Sensors. The diverting angle is factory set according to the demanded angle. Changing the diverting angle could be done by changing the positions of the Inductive Sensors. The Inductive Sensors could be found inside the Diverter Module and are accessible after dismantling the Diverter Module housing. (See the replacements chapter for the dismantling instructions.) The Diverting angle could be set at 15°, 30° or 45° relative to the straight position. The straight position could be set with an offset of 0° to 10° by aligning the Sensor Plate in the mounting slot.



6.5 ERS 51, 52 Transfer Module

6.5.1 Mounting/ dismounting the Transfer Module

The Transfer Module is directly mounted underneath the roller conveyor and is attached with six M8 hammerhead bolts and torque nuts onto the side profiles.

Step 1 Place the Transfer Module with the bottom plate facing down on a clean table.

Step 2 Hoist and hang a roller conveyor 150 mm above the Transfer Module using appropriate lifting equipment.

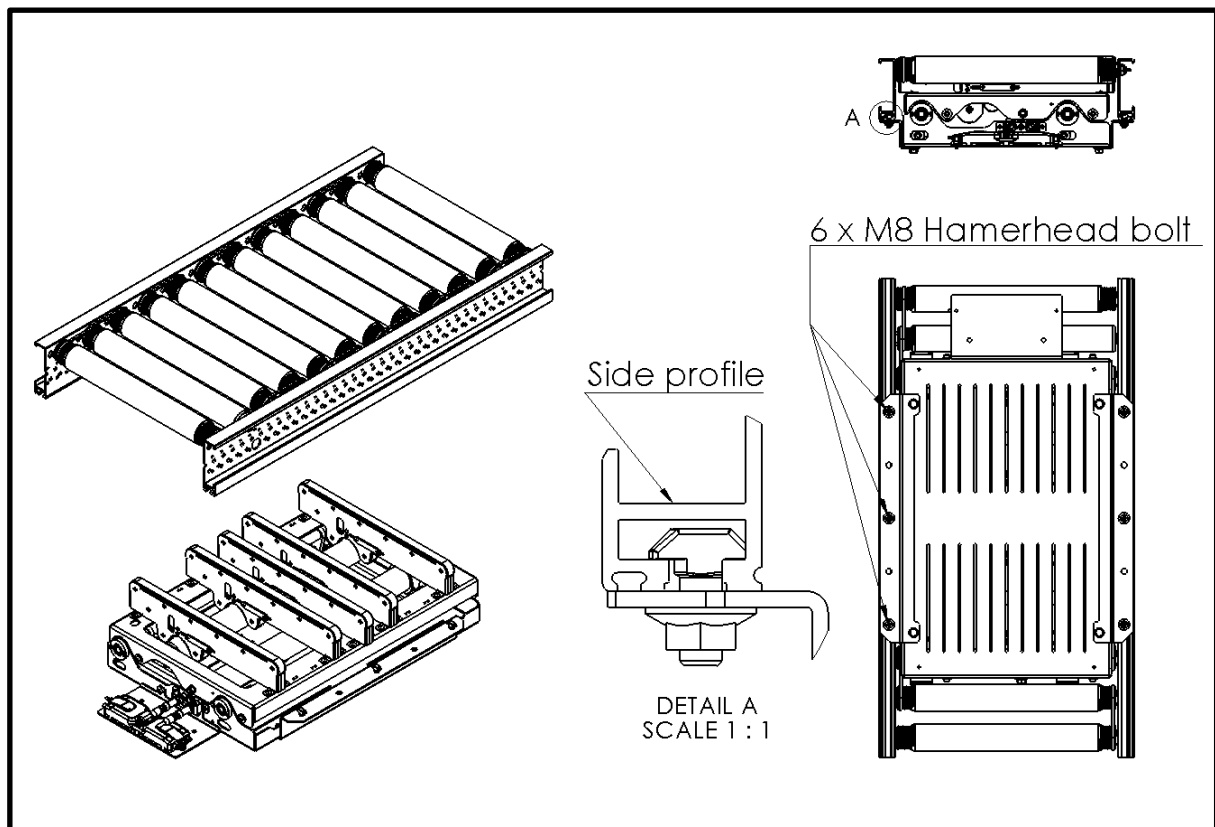
Step 3 Slide three M8 hammerhead bolts into each side profile of the roller conveyor.

Step 4 Align the hammerhead bolts with the mounting holes in the Transfer Module.

Step 5 Lower the roller conveyor onto the Transfer Module.

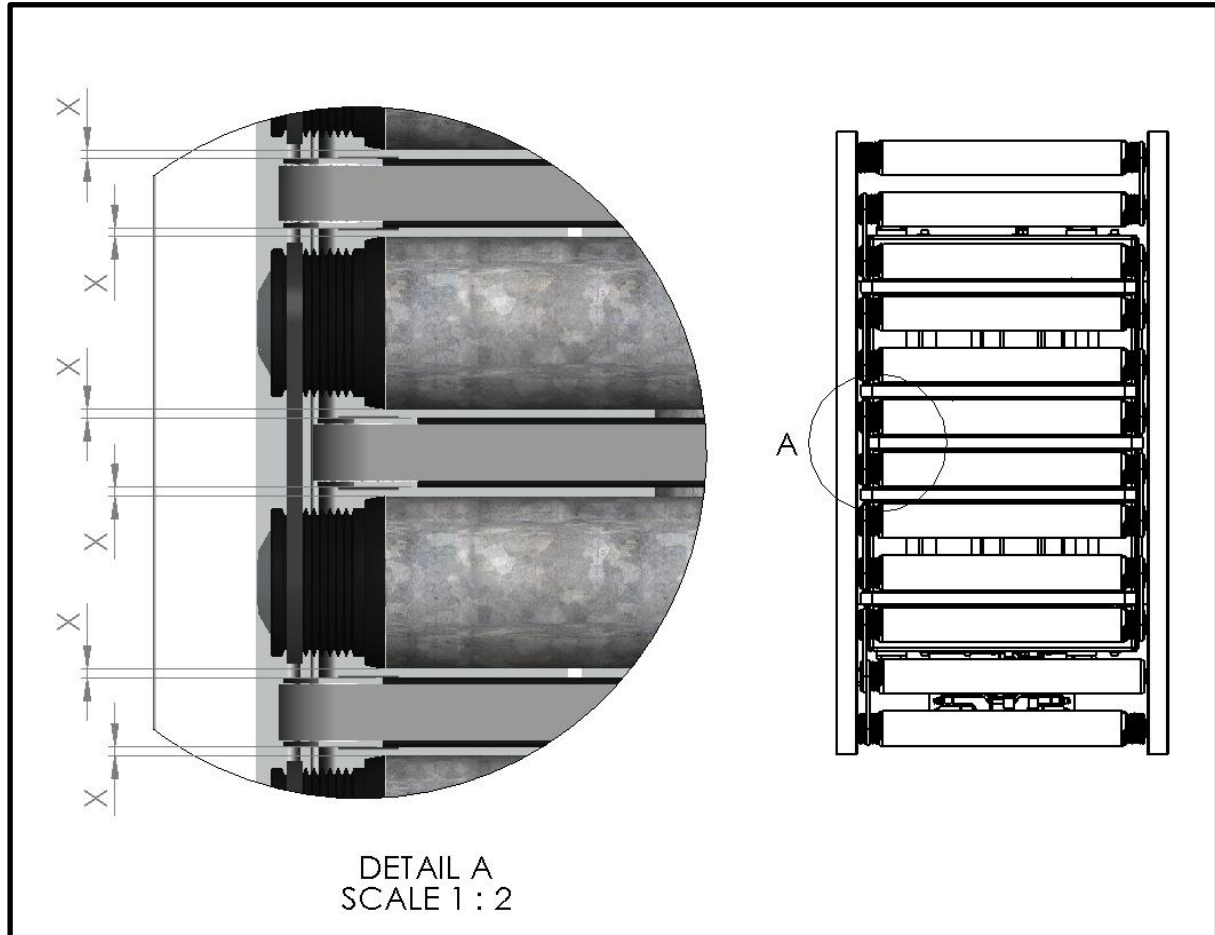
Step 6 Place all six M8 nuts and tighten them.

For dismounting the Transfer Module, repeat the steps above in reverse order.



6.5.2 Aligning the Transfer Module with the roller conveyor

The Transfer Module is always located underneath a roller conveyor, after mounting the Transfer Module underneath a roller conveyor, the alignment has to be checked. The Transfer Cassettes have to be aligned parallel to the rollers. If this is not the case the Transfer Cassettes and the rollers could get damaged.



Step 1. The distance between the roller and the Transfer Cassettes should be the same on both sides, measure distance 'X' shown on detail view 'A'. If distance 'X' is the same on both sides of all the Cassettes, and the Cassettes are not touching the rollers, the alignment is done. If this is not the case, go to 'Step 2'.

Step 2. Alignment could be done by slightly loosening the six M8 nuts which attach the Transfer Module and the roller conveyor.

Step 3. Align the roller conveyor correctly on the Transfer Module as described in 'Step 1'.

Step 4. Tighten the nuts.

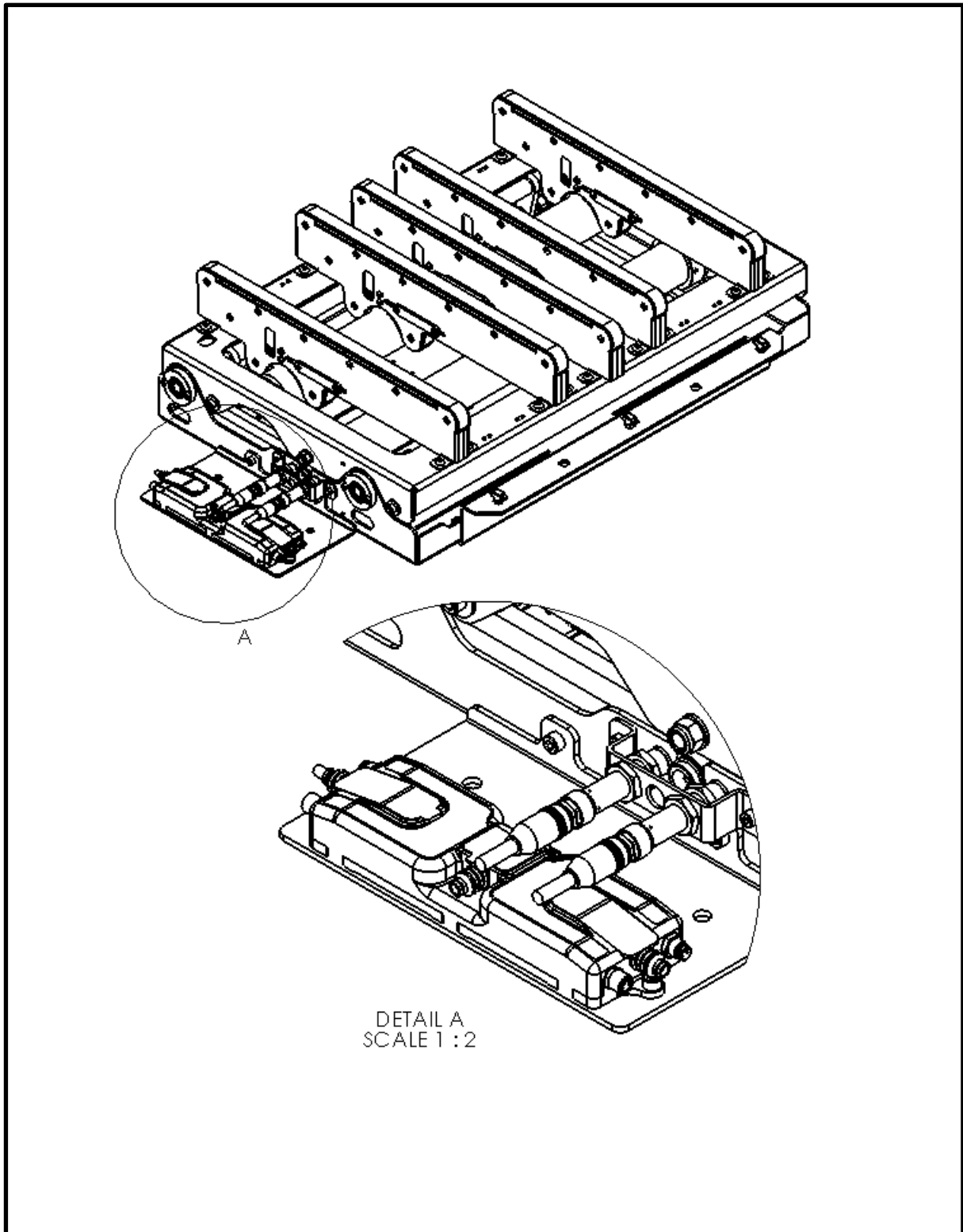
Step 5. Check the alignment, if distance 'X' is the same on both sides of all the Cassettes, and the Cassettes are not touching the rollers, the alignment is done. If this is not the case, go back to 'Step 2'.

Incorrect alignment will cause wear and could result in unrepairable damage.

6.5.3 Wiring of the Zone Controller

The Zone Controller is located at the front of the Transfer Module. Wiring the drive control unit has to be done according to the user manual of the Zone Controller. Please check the appendix or visit the manufacturer's website for the user manual.

When programming always make sure the lifting roller turns clockwise!



6.6 ERS 51, 52 24V Stopper Module

6.6.1 Mounting/ dismounting the 24V Stopper Module

The 24V Stopper Module is directly mounted underneath the roller conveyor and is attached with four M8 hammerhead bolts and torque nuts on the side profiles.

Step 1 Place the 24V Stopper Module with the bottom plate facing down on a clean table.

Step 2 Hoist and hang a roller conveyor 150 mm above the 24V Stopper Module using appropriate lifting equipment.

Step 3 Align the stopping plate between the rollers at the desired position.

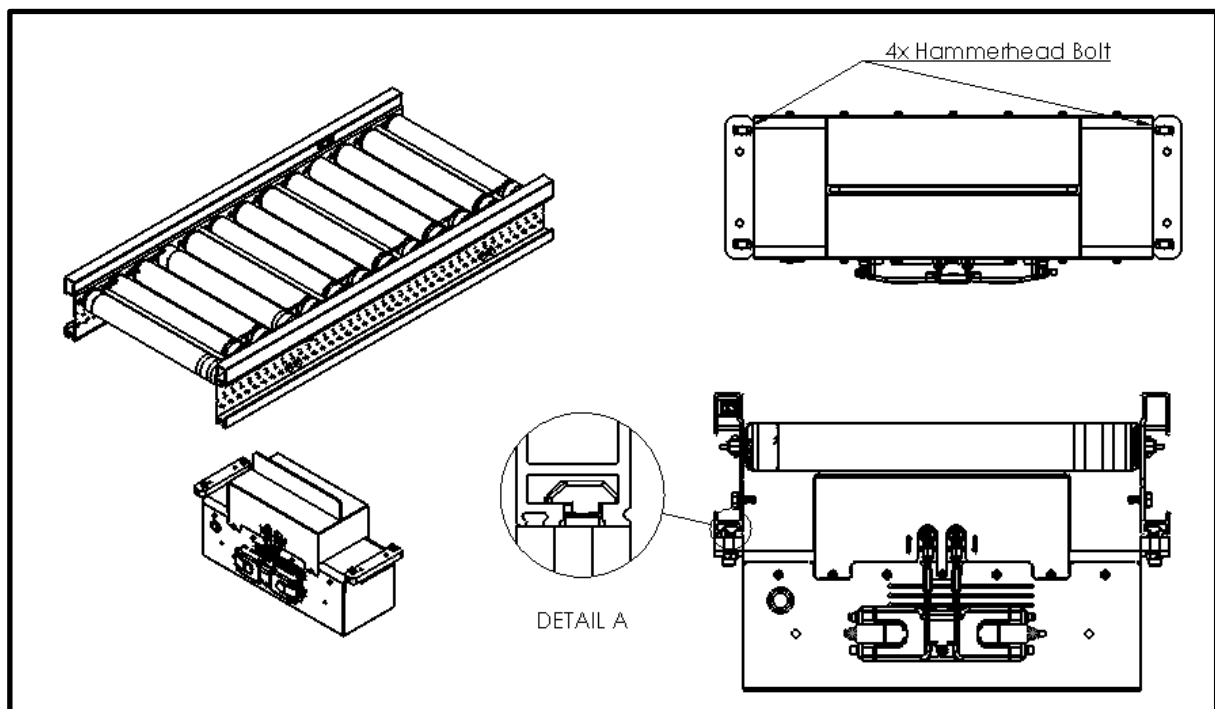
Step 4 Slide two M8 hammerhead bolts into each side profile of the roller conveyor.

Step 5 Align the hammerhead bolts with the mounting holes in the 24V Stopper Module.

Step 6 Lower the roller conveyor onto the 24V Stopper Module.

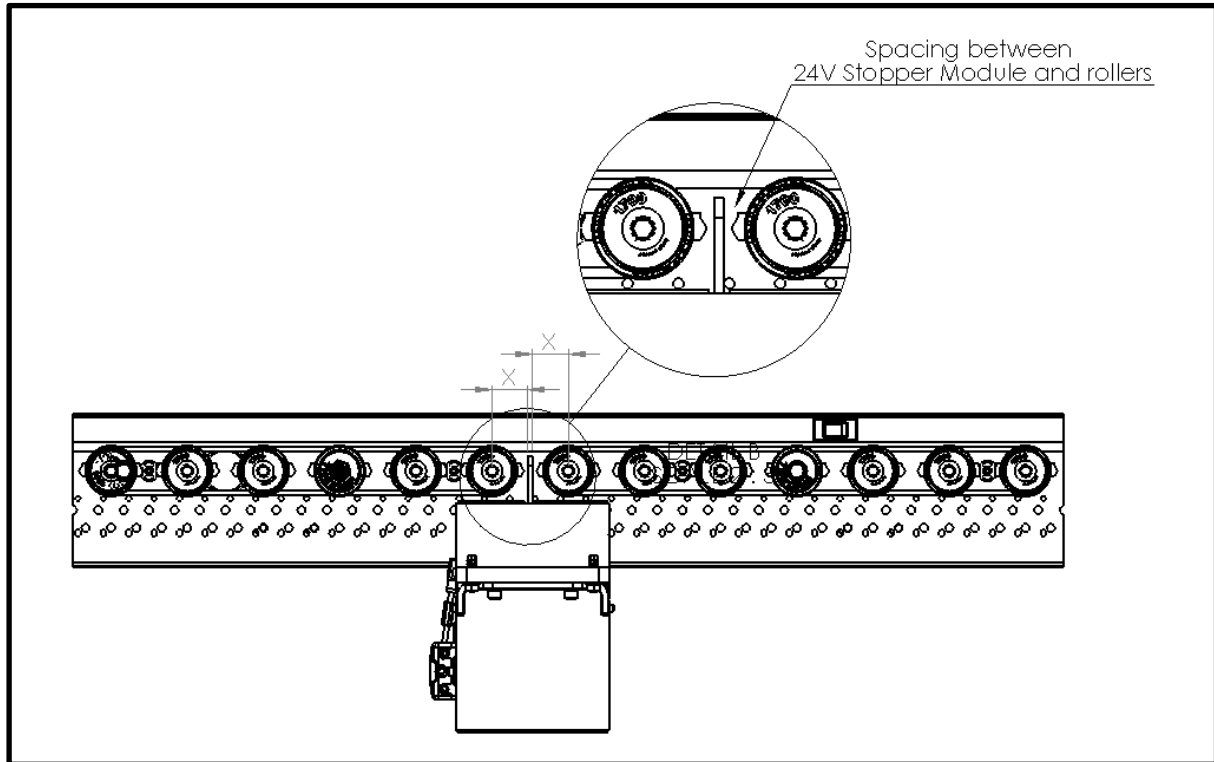
Step 7 Place and tighten the four M8 nuts.

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



6.6.2 Aligning the 24V Stopper Module with the roller conveyor

The 24V Stopper Module is located underneath the roller conveyor. After mounting the Module underneath a roller conveyor, the alignment needs to be verified. The Stopping Plate needs to be aligned between the rollers. If this is not the case the Module could get damaged.



Step 1. The distance between the roller and the Stopping Plate should be equal on both sides. Verify visually and by measuring distance 'X'. For alignment instructions follow 'Step 2' till 'Step 5'

Step 2. Alignment is done by slightly loosening the four M8 nuts which attach the 24V Stopper Module to the roller conveyor.

Step 3. Align the roller conveyor correctly on the Module as described in 'Step 1'.

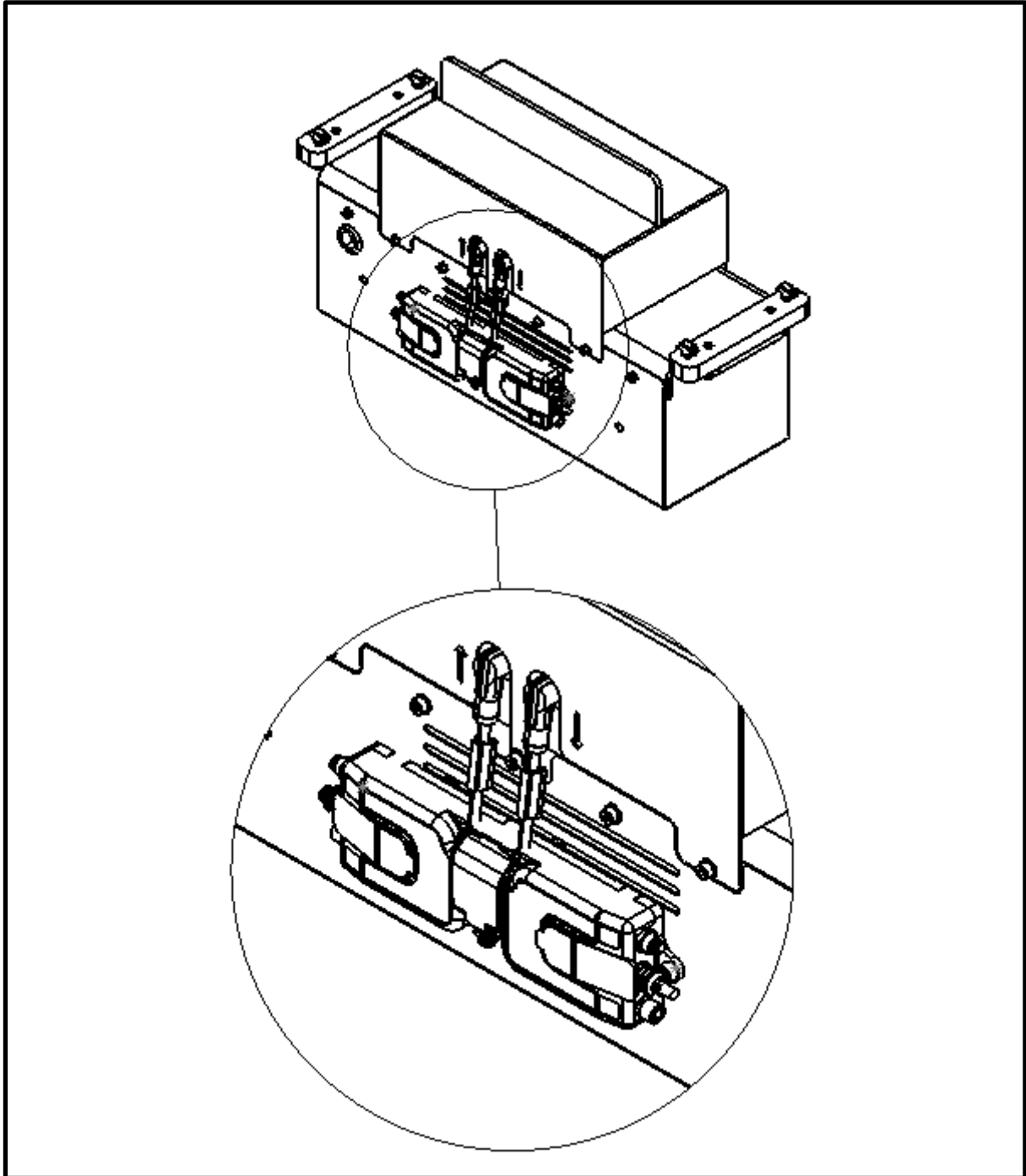
Step 4. Tighten the nuts.

Step 5. Check the alignment, if distance 'X' is the same on both sides of the Module, the alignment is done. If this is not the case, go back to 'Step 2'.

Incorrect alignment can cause unreparable damage.

6.6.3 Wiring of the Zone Controller

The Zone Controller is located in front of the Module. Wiring the control unit has to be done according to the user manual of the Zone Controller. Please check the appendix or visit the manufacturer's website for the user manual.



6.7 ERS 61 Stopper

6.7.1 Mounting/ dismounting the ERS 61 Stopper

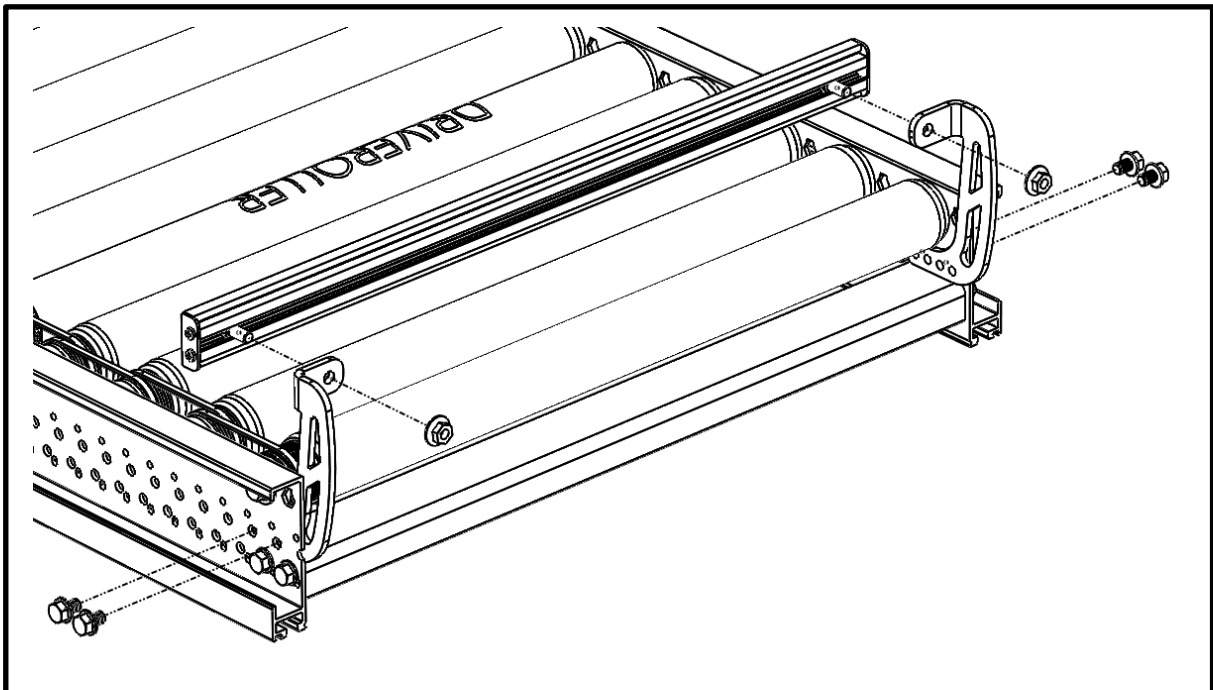
The Stopper is directly mounted to a roller conveyor and is attached with four M8 bolts onto the side profiles.

Step 1 Mount the stopper brackets on the inside of both profiles with 4 M8 flange bolts

Step 2 Slide in the stopper bar and set to desired position

Step 3 Fix the stopper bar with included M8 flange nuts

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



6.8 ERS 60 Support

6.8.1 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.

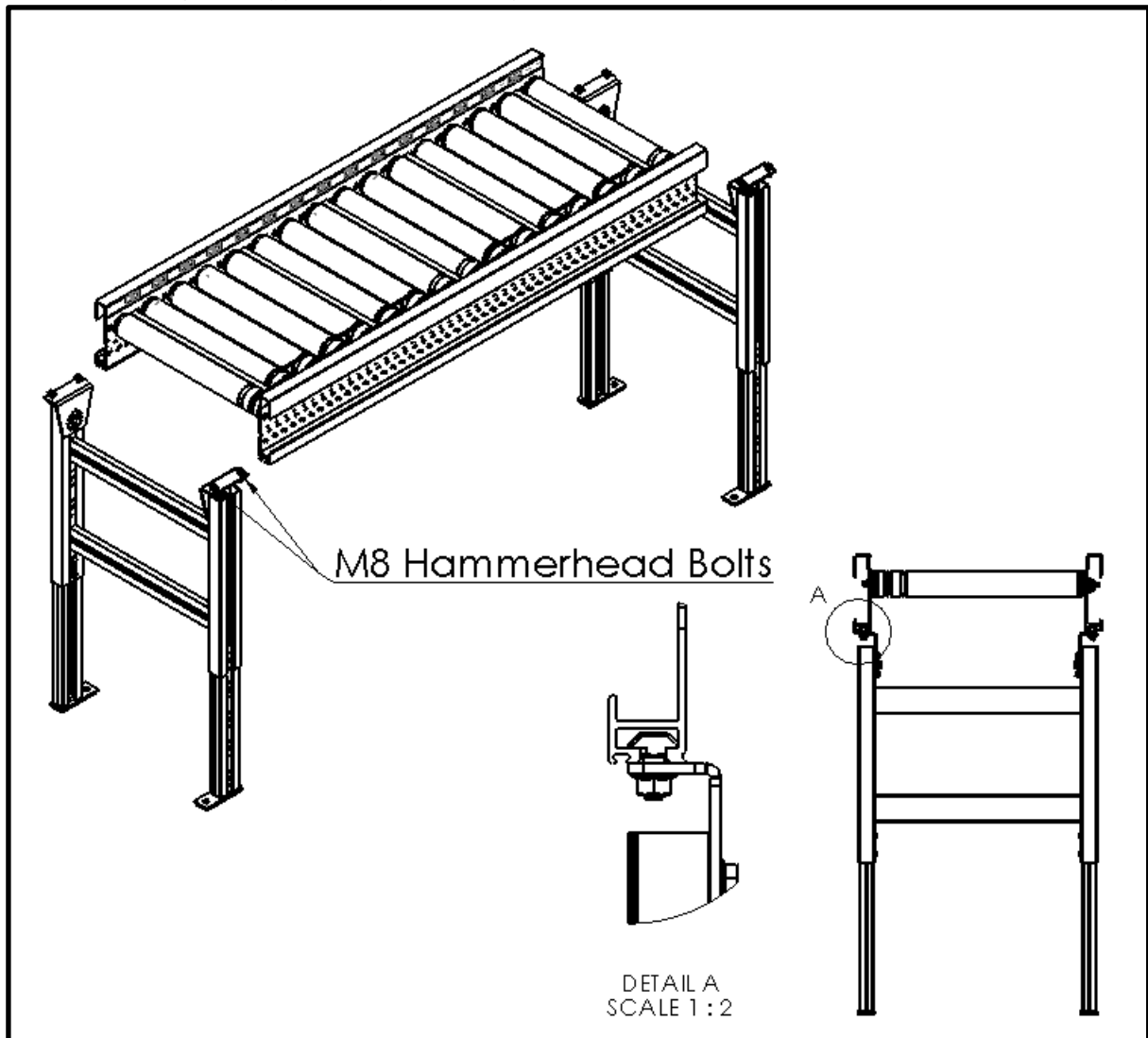
Step 2 Slide two Supports provided with M8 hammerhead bolts into each side of the roller conveyor module.

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.



6.9 ERS Sensor and Reflector

6.9.1 Mounting/ dismantling the ERS Sensor and Reflector – Sensor Clip

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

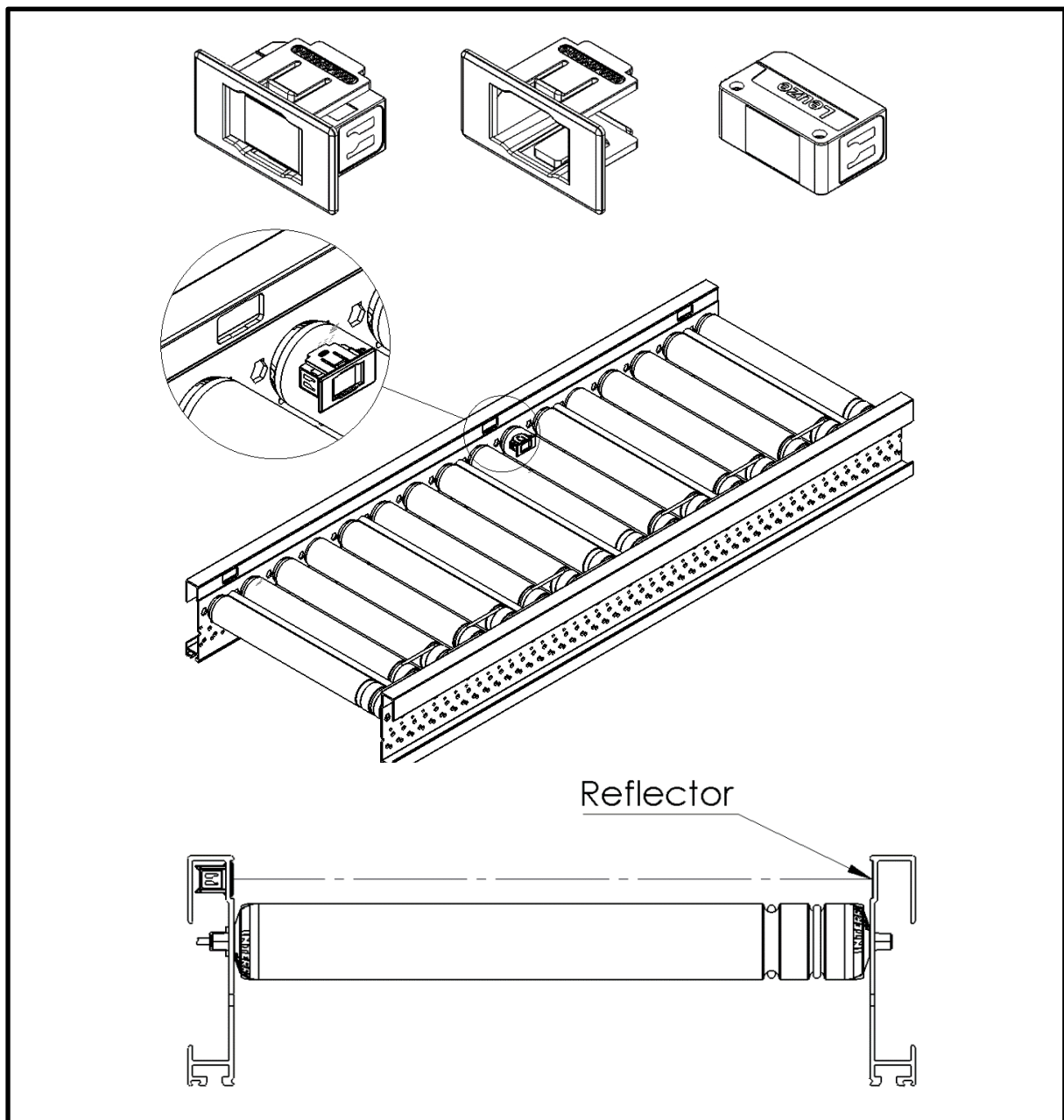
Step 1 Place the ERS Sensor in the Sensorclip as shown in the illustration

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



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

The Sensor bracket is suitable for Low Profile ERS Roller 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.

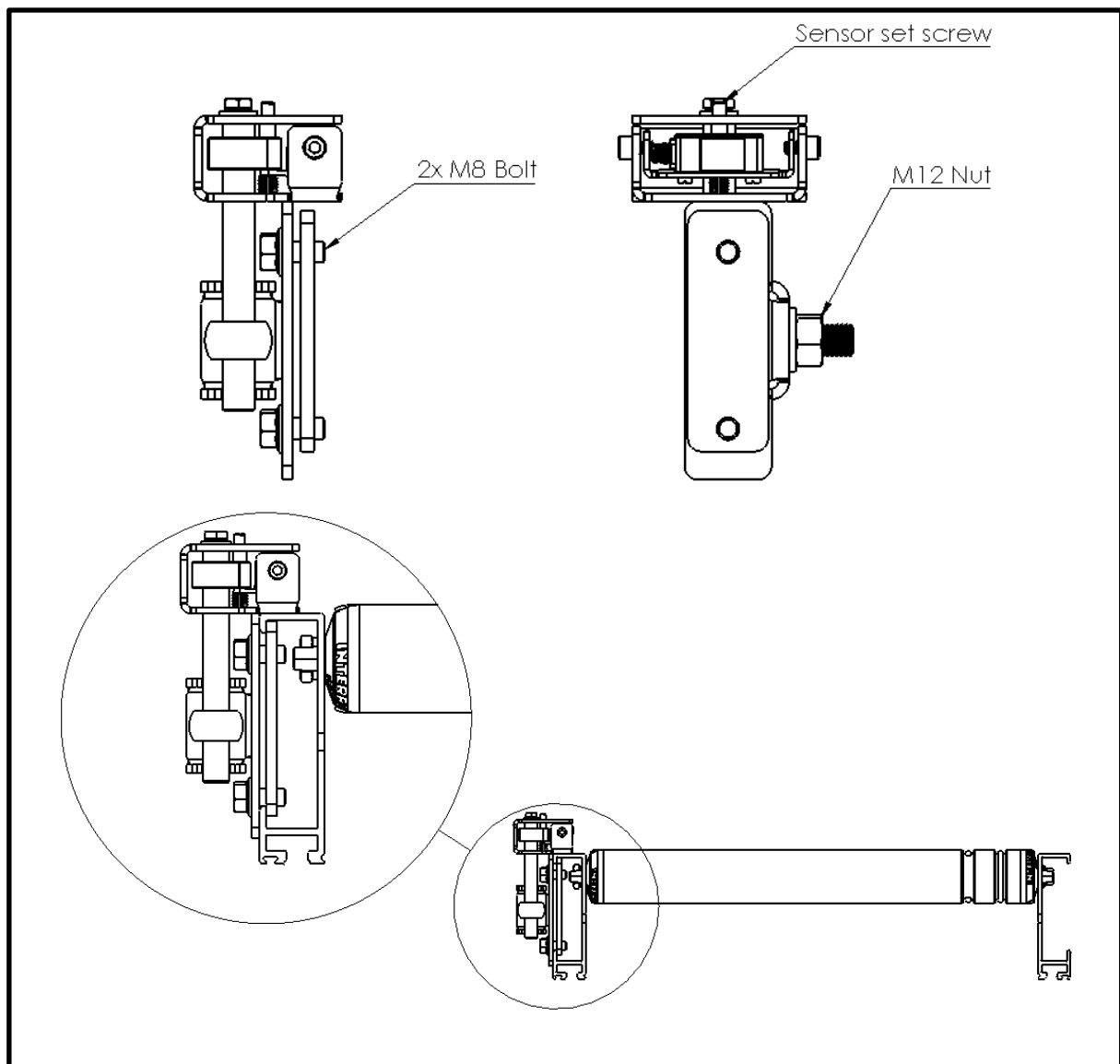
Step 4 Clamp the bracket to the Straight Module by tightening the M8 Bolts.

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.



6.10 ERS Side Guides

6.10.1 Mounting/ dismantling the ERS Side Guide – Fixed Bracket Type

The ERS Side Guide Fixed Bracket is mounted on the low profile ERS Roller driven Conveyor Modules. The Fixed Bracket is not suitable for bended ERS Roller 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 than the Side Guide Profile to properly assemble the Guide Ends.

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

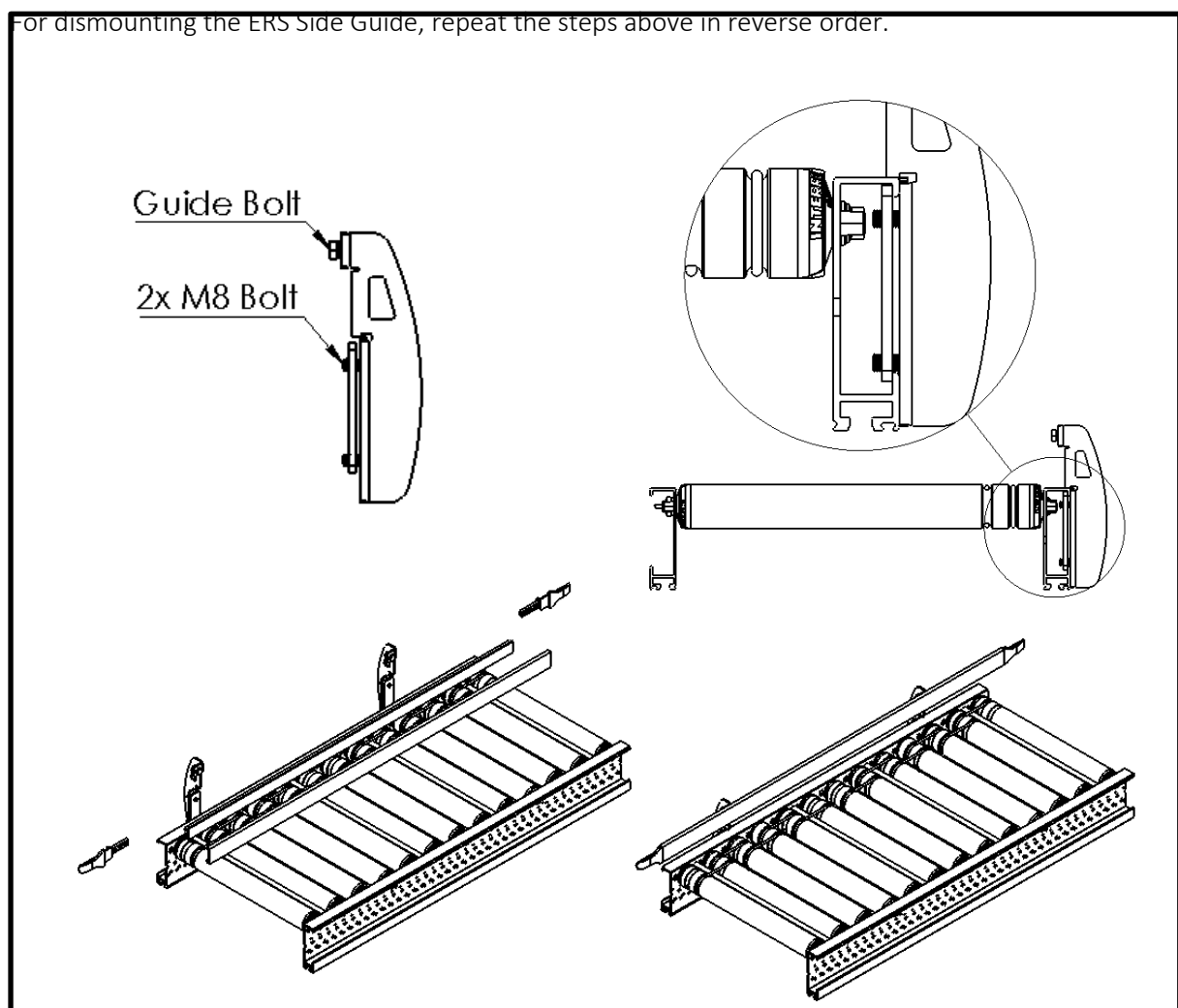
Step 2 Loosen the M8 Bolts of the fixed bracket(s).

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.



6.10.2 Mounting/ dismantling the ERS Side Guide – Adjustable Bracket Type

The ERS Side Guide Adjustable Bracket is mounted on the low profile ERS Roller driven Conveyor Modules. The Adjustable Bracket is suitable for curved ERS Roller driven Conveyor Modules. In case of a curved module, the ERS Side Guide Profile should be bent 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 than the Side Guide 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).

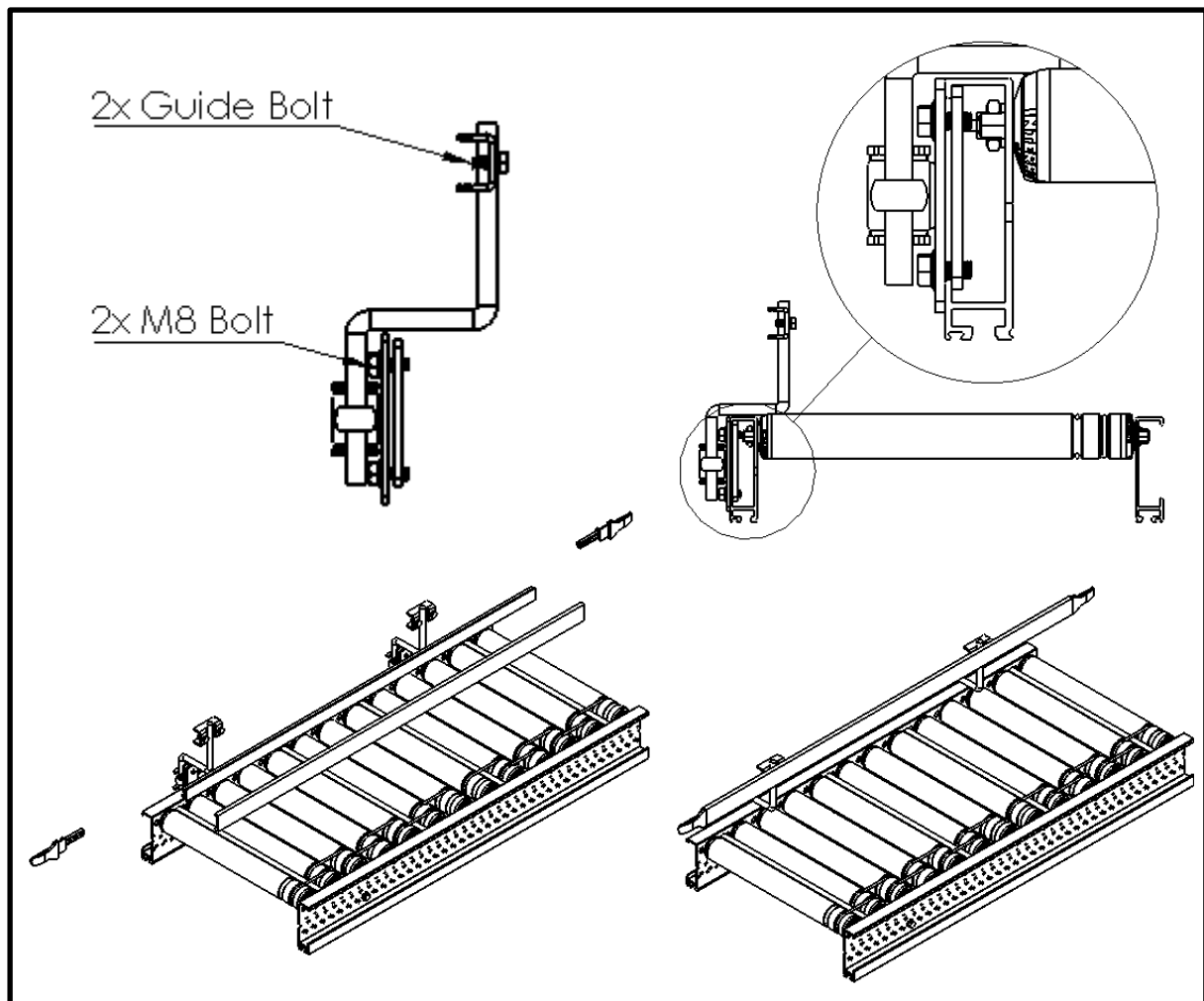
Step 3 Place the bracket(s) on the roller conveyor at the desired location and tighten the M8 Bolts.

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



6.11 ERS Side Cover Profile and ERS Cover Caps

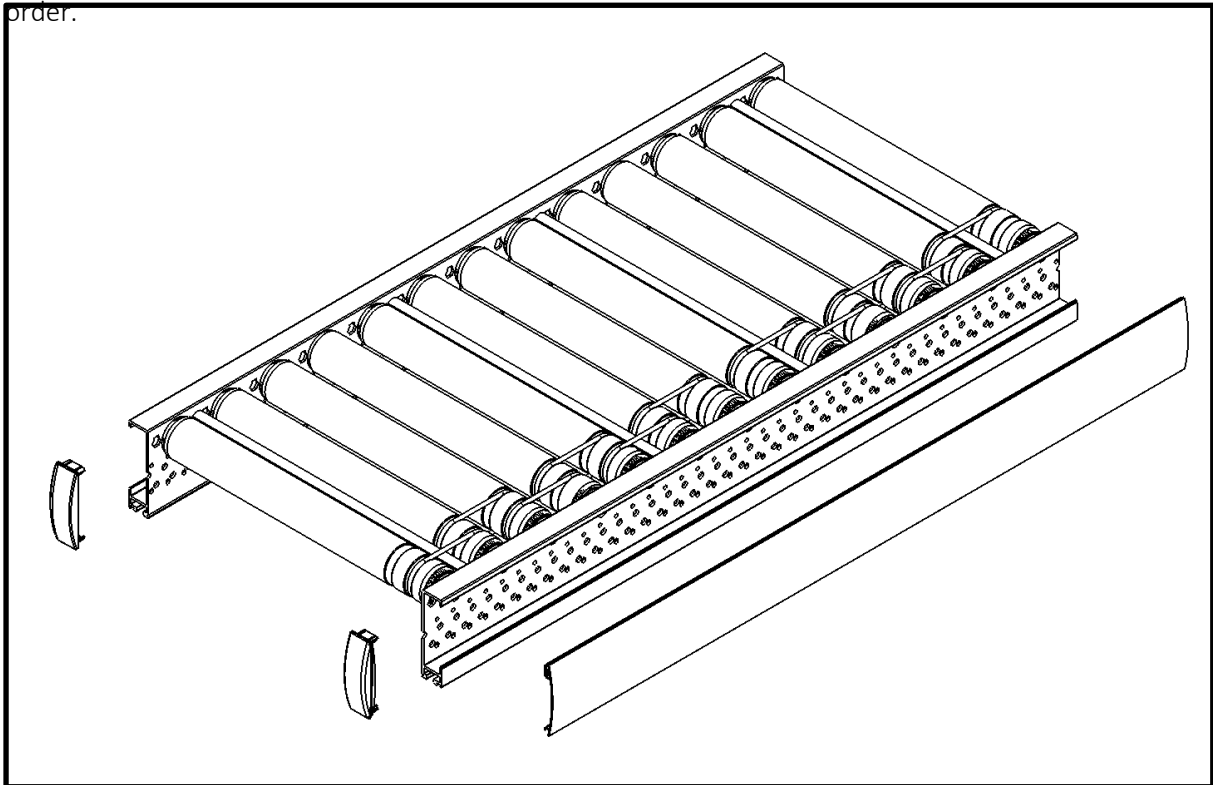
6.11.1 Mounting/ dismantling the ERS Side Cover Profile and ERS Cover Caps

The ERS Side cover Profile and ERS Cover Caps are mounted on the ERS Roller 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 dismantling the ERS Side Cover Profile and ERS Cover Caps, repeat the steps above in reverse order.



6.12 ERS 51, 52 Finger Safety

6.12.1 Mounting Finger Safety

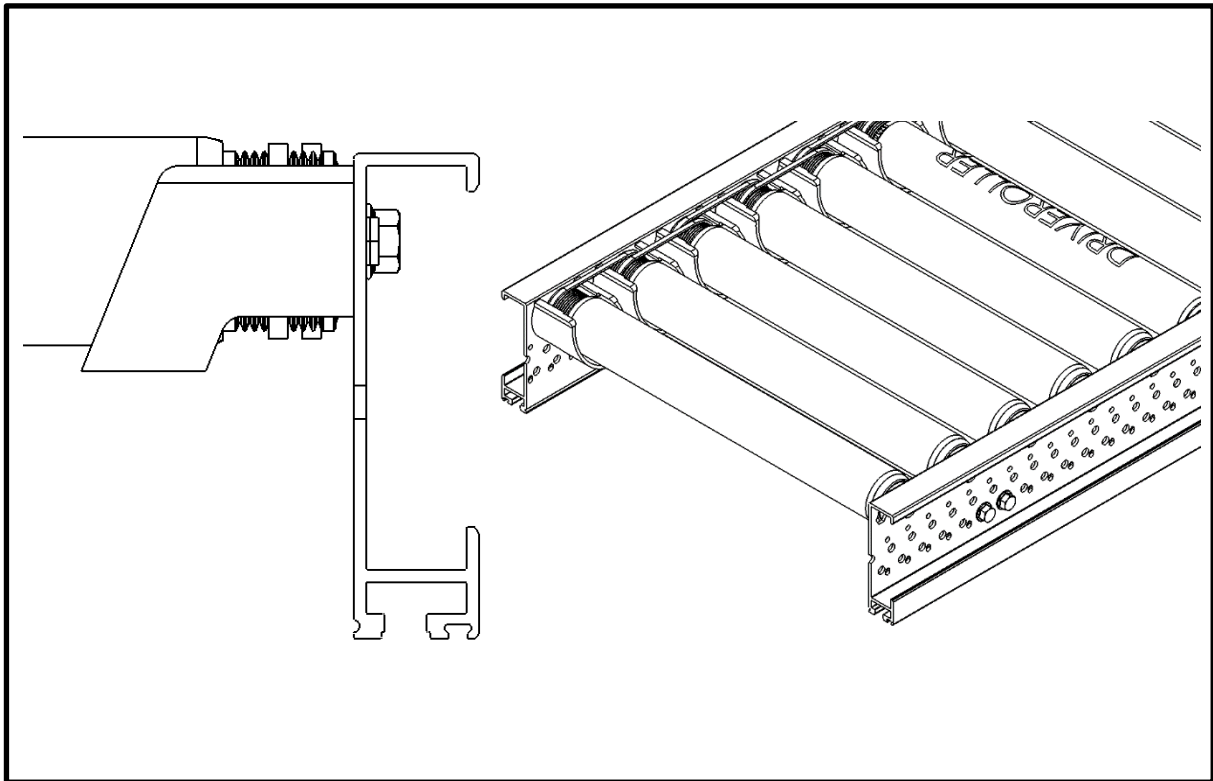
Fingersafety can be mounted with all rollers in place.

Step 1 Make sure the system is disconnected from its power source.

Step 2 Take the Finger Safety and bring it underneath the desired roller.

Step 3 Push and click the Finger Safety in the side profiles.

For dismounting, repeat the steps above in reverse order.



7 Cleaning, Maintenance and Replacements

Make sure the ERS Roller 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

<div data-bbox="272 656 521 703" data-label="Image"> </div>	<p>Products</p> <ul style="list-style-type: none"> - Do not use abrasive products, pressurized jets or products which may cause oxidization or damage the equipment. - Clean the ERS Roller driven Conveyor Modules using a dry cloth. - Do not use any chemical or aggressive cleaners like break cleaner for the cleaning of plastic surfaces in general. The use of chemical cleaners can permanently damage the parts. - Especially for cleaning belts and coated rollers use a scarf with lukewarm soapy water only.
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7.1.2 Maintenance Information

<div data-bbox="272 1184 521 1243" data-label="Image"> </div>	<p>Safety</p> <ul style="list-style-type: none"> - 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.
<div data-bbox="272 1666 521 1727" data-label="Image"> </div>	<p>Third party spare parts</p> <p>Some parts are used from third parties, mostly electronics. In case of the ERS Roller driven Conveyor Modules this can be:</p> <ul style="list-style-type: none"> - Drive rollers - Zone Controllers - Inductive Sensors - Geared Drives <p>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.</p>

7.1.3 Maintenance intervals

defines the maintenance intervals according to the **operating hours**. During these periods, The ERS Roller 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.

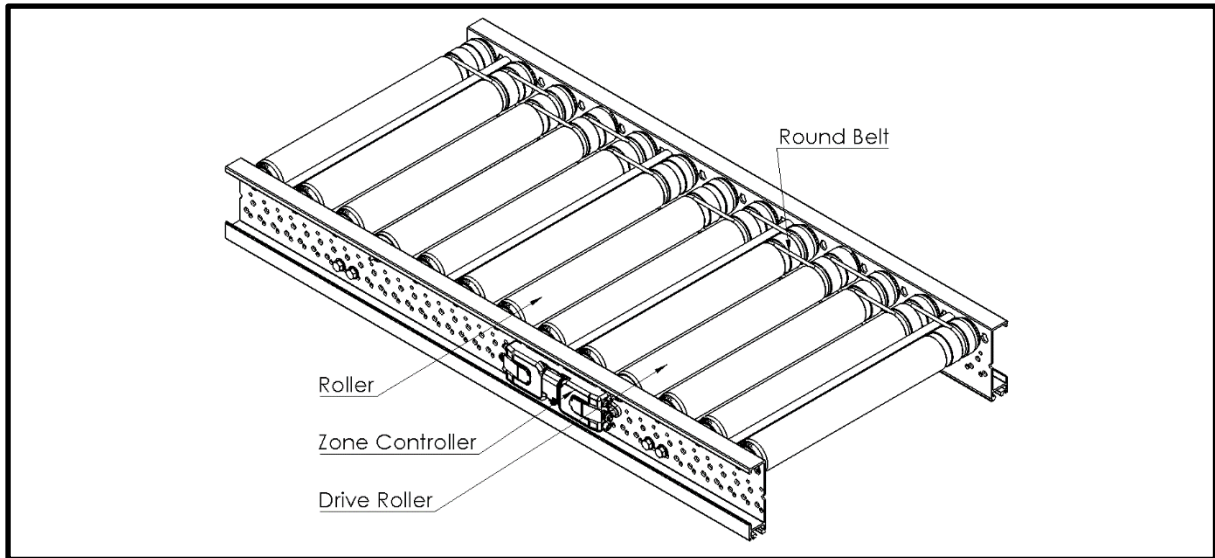
Working period In hours per day	Interval In months
0-8	3
8-16	2
16-24	1

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

Maintenance intervals may vary depending on the operational conditions. In case of dirt or high operational loads the intervals should be shortened!

7.2 ERS 51, 52 Straight / Curve / Infeed / Outfeed / Alignment Module

7.2.1 Maintenance



	Part	Inspection	Result	Action
1.	Drive Roller	Mounting check	Mounting bolt too loose	Tighten
		Acoustic check	Noise	Replace Drive Roller/ Geared Drive
		Visual check	Damaged Roller	Replace Drive Roller/ Geared Drive
			Damaged Motor Cable	Replace Drive Roller/ Geared Drive
2.	Zone Controller	Visual Check	Contamination	Clean
			Cables not connected	Reconnect cables
			No Power	Check Power Supply
			Damaged	Replace Zone Controller
3.	Round Belt/ PolyVee Belt	Visual check	Damaged belt	Replace Round Belt Replace PolyVee Belt
4.	Roller	Acoustic check	Noise	Replace Roller
		Visual check	Damaged Roller	Replace Roller
5.	Finger Safety	Visual check	Missing or damager	Replace
6.	Cabling	Visual check	Damage or loose cables	Replace, Tighten
7.	Sensors	Visual check	s. chapter 7.6	

7.2.2 Replacements

7.2.2.1 Zone Controller Replacement



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

Step 1.

Remove all the cables connected to the Zone Controller.

Step 2.

Remove the two M5 bolts holding the Zone Controller.

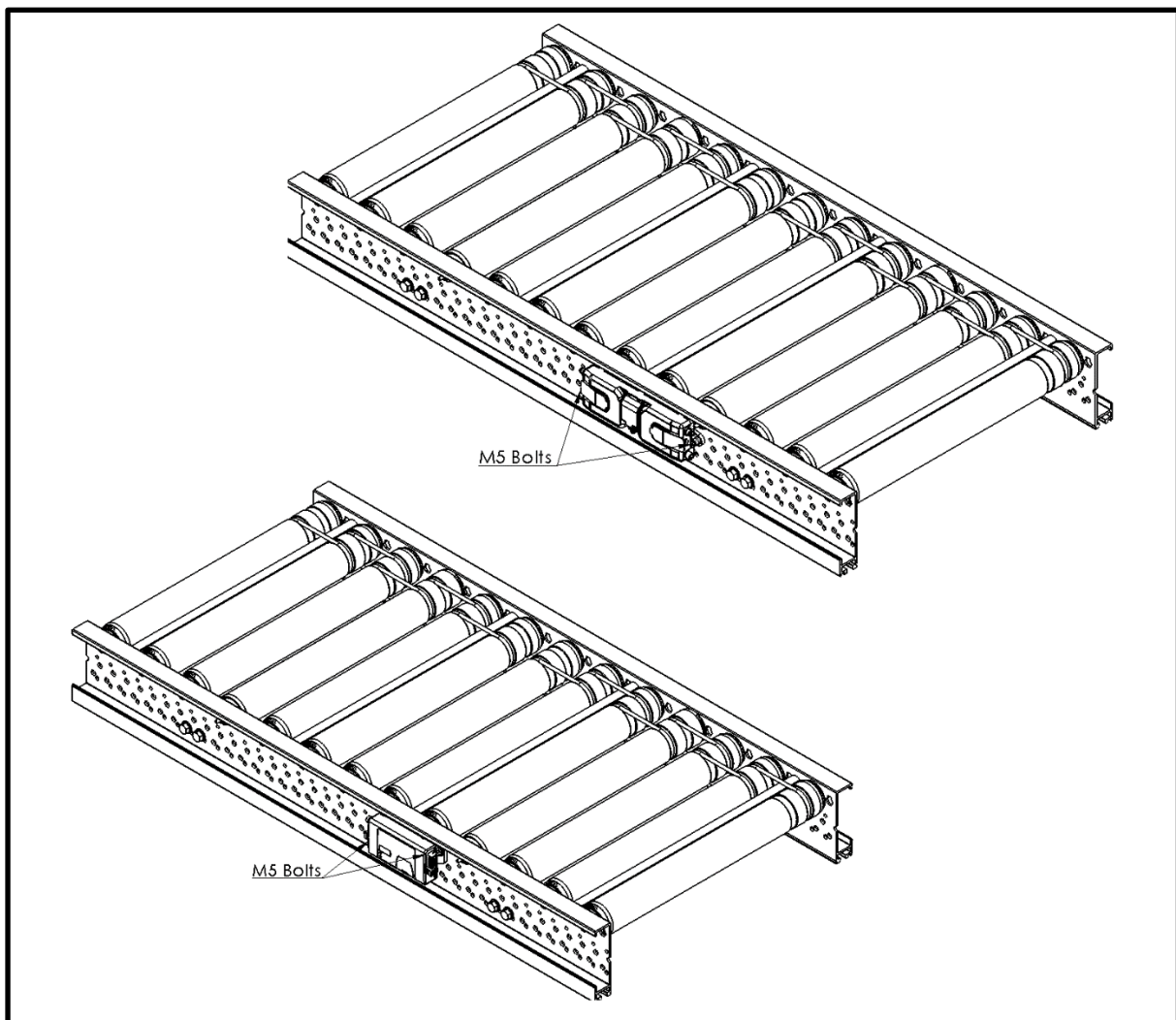
Step 3.

Remove the Zone Controller from the ERS Roller driven Conveyor Module

Step 4.

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

In case of doubt on the connection of the Zone Controller, advice the user manual of the Zone Controller.



7.2.2.2 Round Belt Drive Roller Replacement



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

Step 1.

Disconnect the power cable of the Drive Roller which is connected to the Zone Controller.

Step 2.

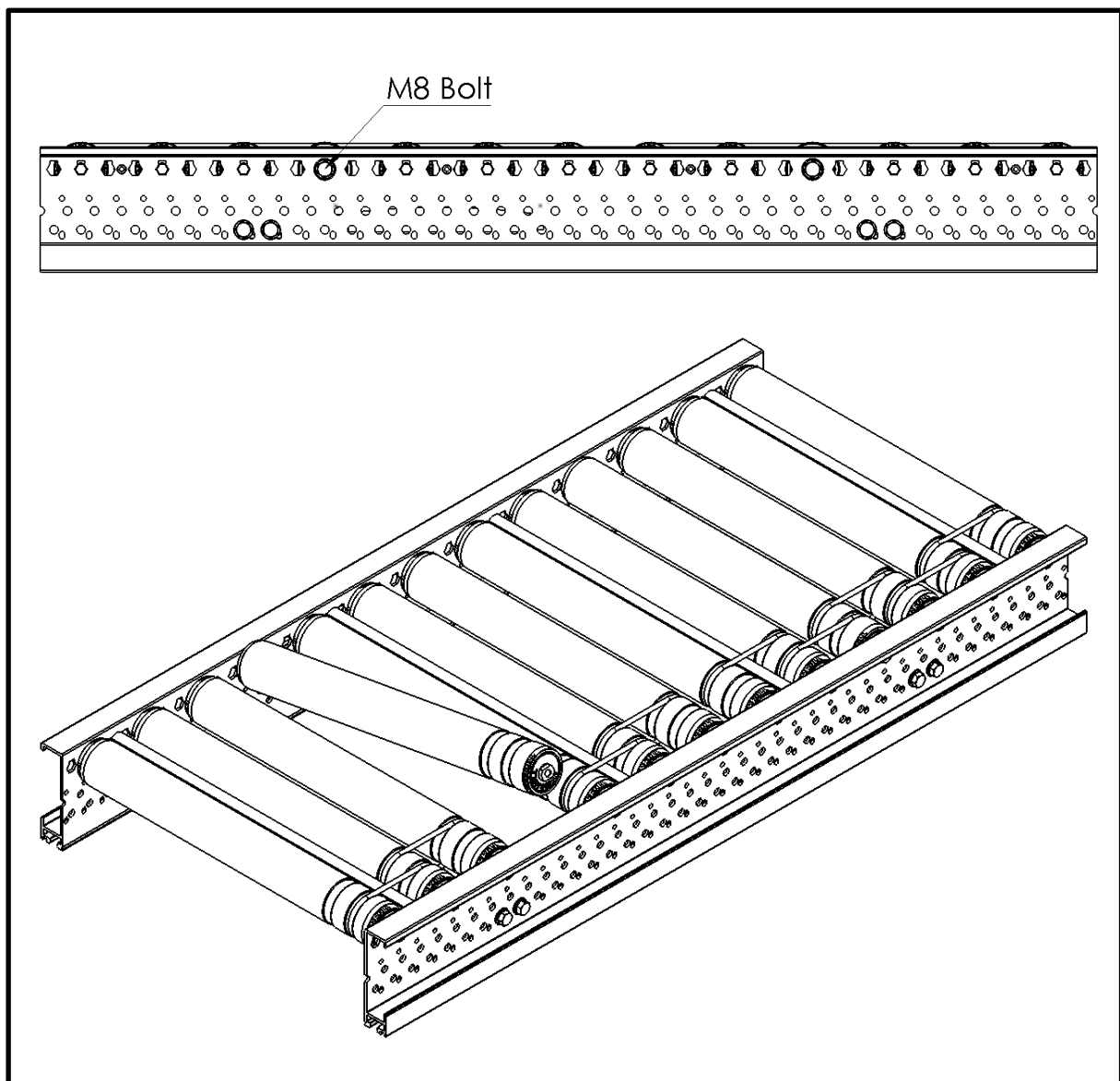
Remove the M8 bolt and the M12 nut on the opposite side of the bolt, holding the Drive Roller.

Step 3.

Remove the Drive Roller by tilting and lifting the Drive Roller, during this step, the Round belts have to be removed from the drive roller.

Step 4.

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



7.2.2.3 Round Belt Replacement



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

Step 1.

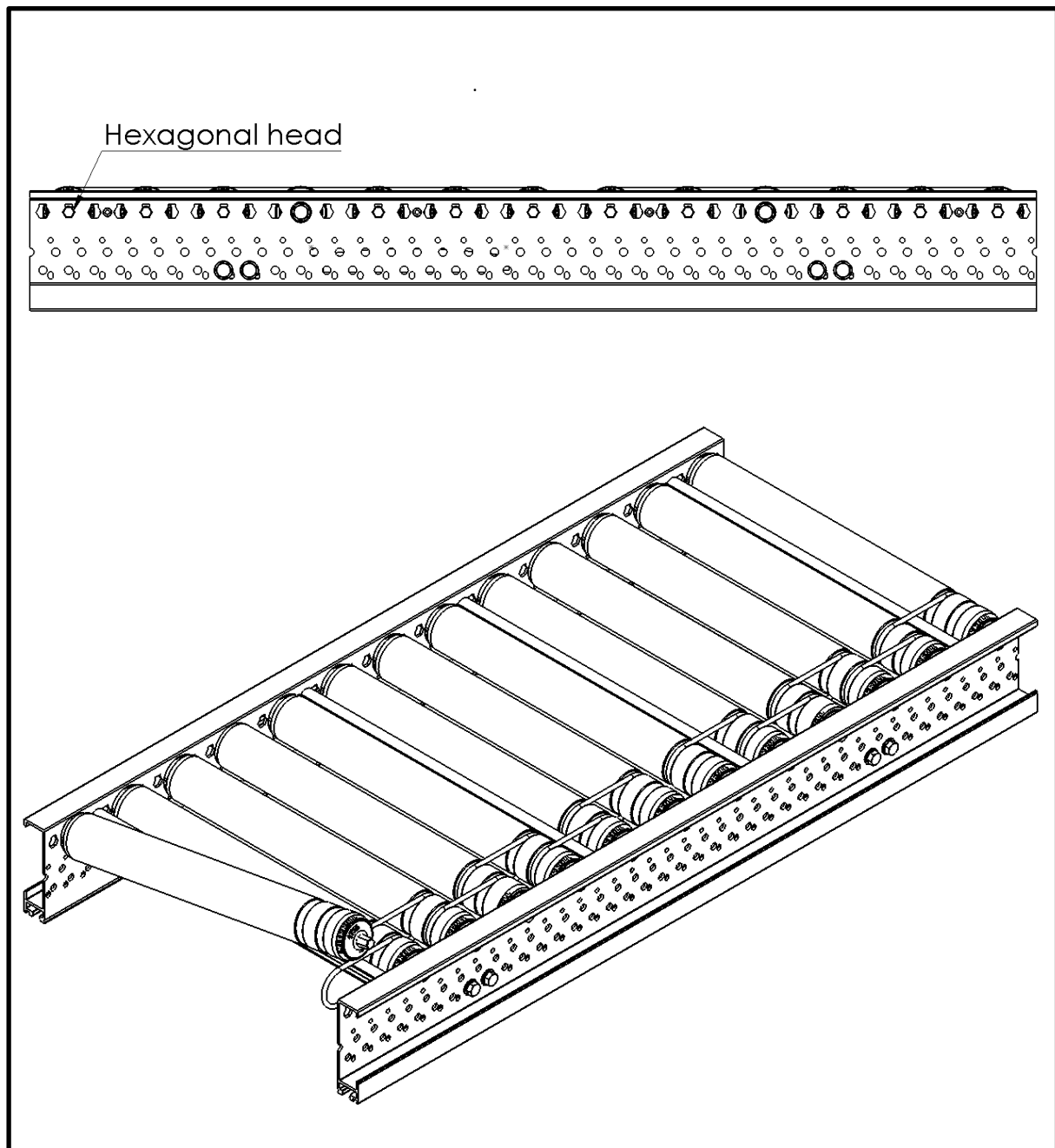
Push in the hexagonal head on one end of the roller.

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.



7.2.2.4 PolyVee Belt Drive Roller Replacement



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

Step 1.

Disconnect the power cable of the Drive Roller which is connected to the Zone Controller.

Step 2.

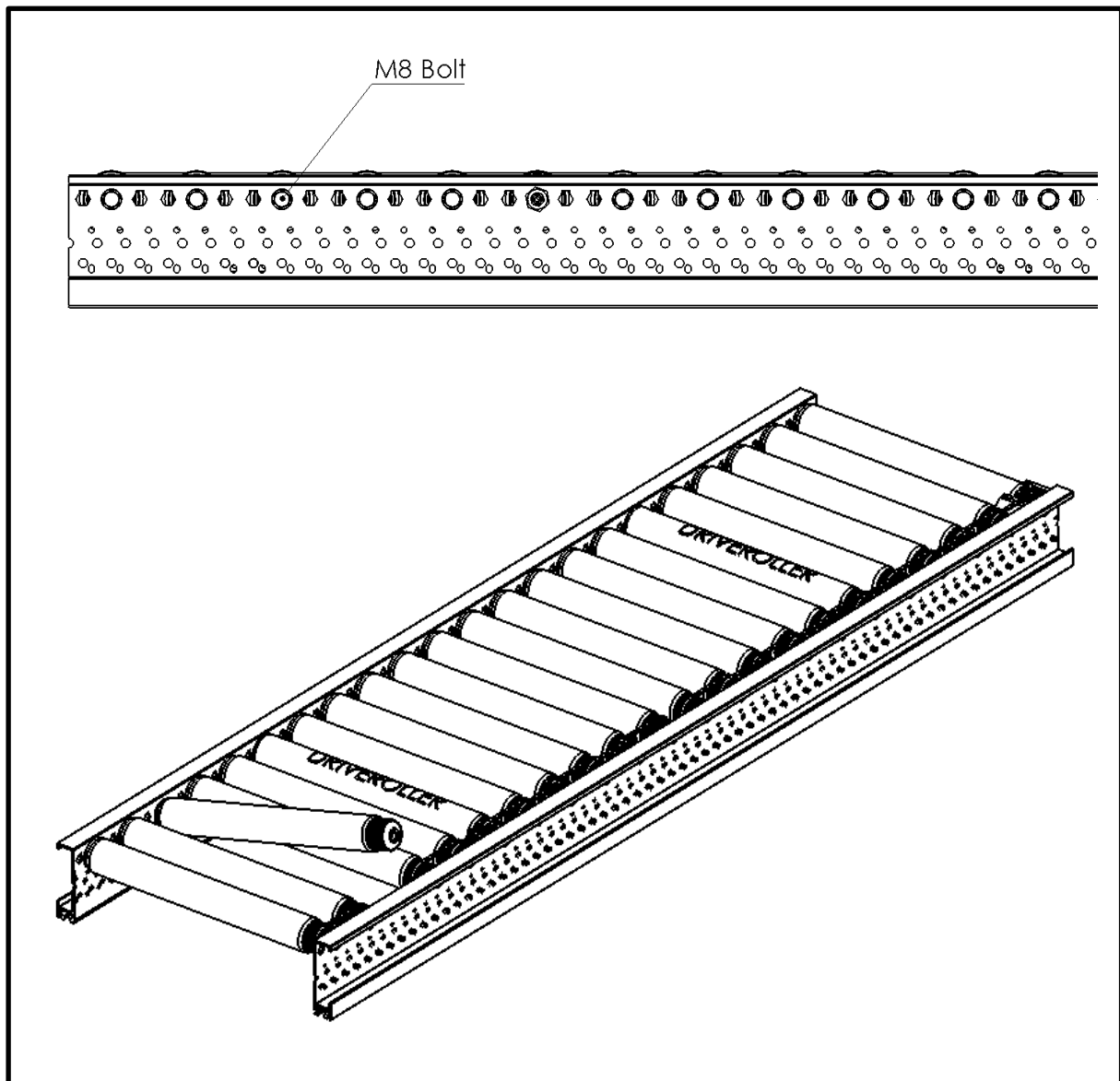
Remove the M8 bolts on both sides, holding the Drive Roller.

Step 3.

Remove the Drive Roller by tilting and lifting the Drive Roller, during this step, the PolyVee belts have to be removed from the drive roller.

Step 4.

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



7.2.2.5 PolyVee Belt Replacement



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

Step 1.

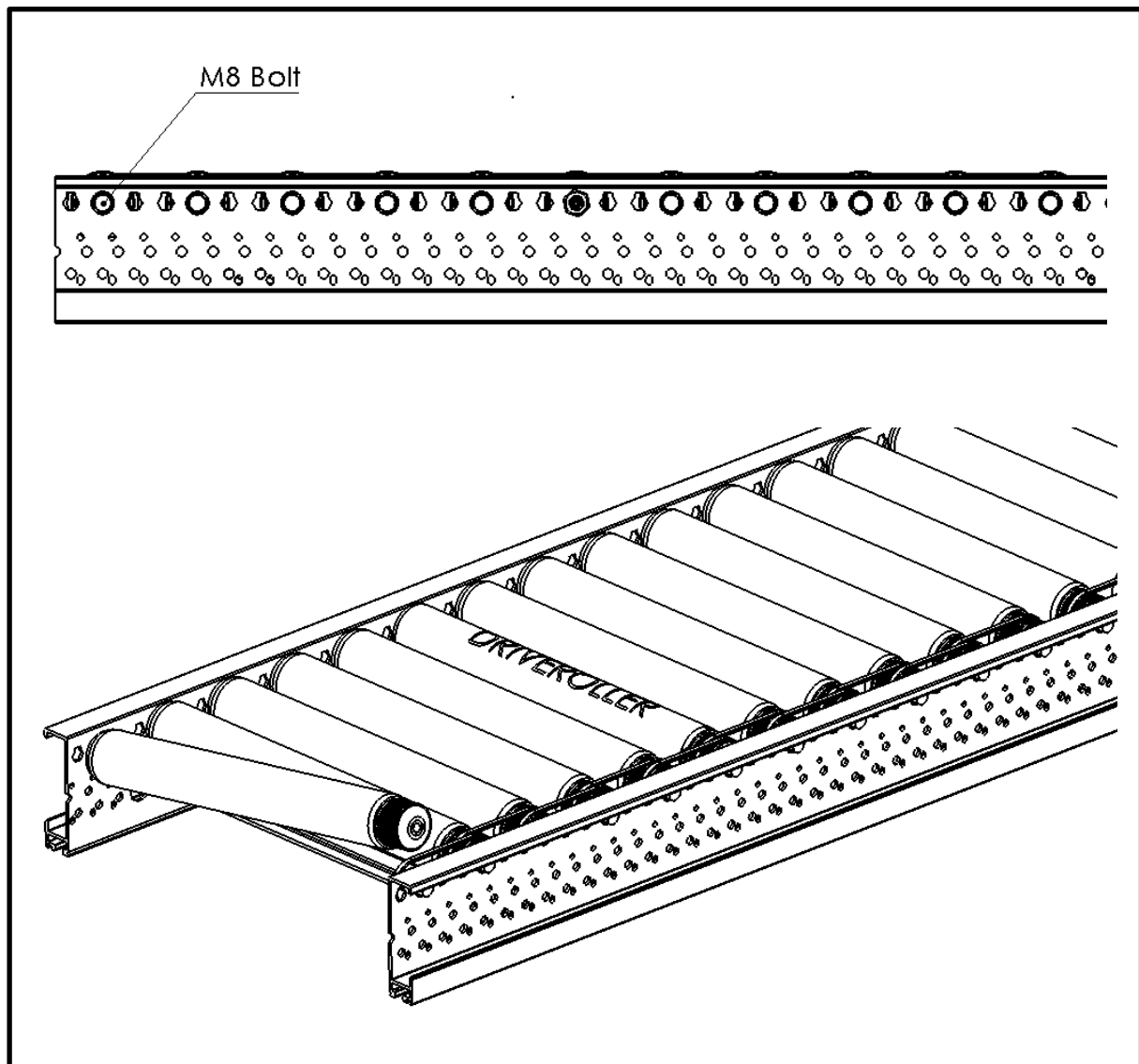
Remove the M8 bolts on both sides, holding the Drive Roller.

Step 2.

Tilt and lift the Roller and remove the PolyVee belt.

Step 3.

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

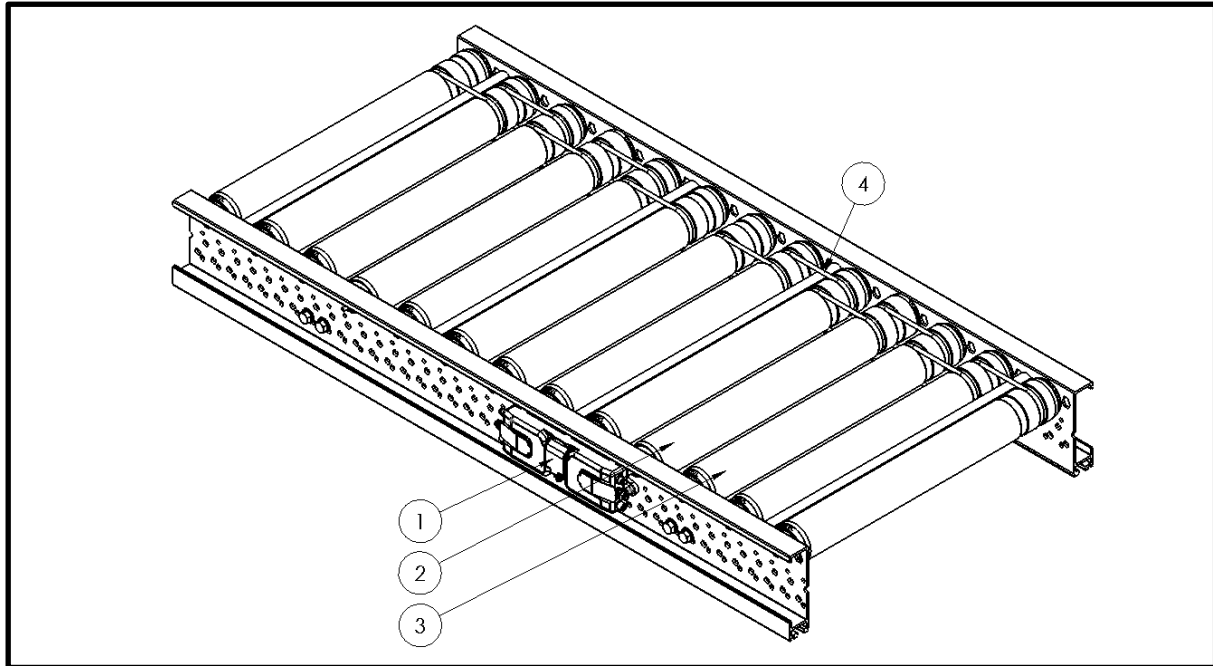


7.2.3 Troubleshooting

Failure	Cause	Correction
Transfer Unit		
Product flow is wrong	Product turns	Install side profile
	Product runs to one side	Check horizontal alignment of the ERS Roller driven Conveyor Module
Product does not move	Drive Roller does not turn	Check Failure: 'Driver Roller does not turn'
	Round Belt/ PolyVee Belt is damaged/ broken	Replace Round Belt/ PolyVee Belt
	The Roller bearings are damaged/ broken	Replace Roller
Drive Roller does not turn	The load on the Drive Roller is too high, which causes overheating of the Drive Roller	Lower load per drive roller
	The Drive Roller or the power cable is damaged	Replace Drive Roller
	Zone Controller in failure	Check Failure: 'Zone Controller is not working properly'
Zone Controller is not working properly	No power supply	Check 24V power supply
	Wrong position of the Inductive Sensors	Reposition the Inductive Sensors to their correct positions
	Zone Controller is defective because of damaging or triggering of the internal fuse	Replace Zone Controller
Zone Controller shows failure (check User Manual Pulseroller, ConveyLinx Ai2)	Overheating of the motor	A low RPM causes a decrease in torque, causing possible overheating
Drive Roller doesn't start	Start-up load is too large	Apply the boost mode in the Zone Controller

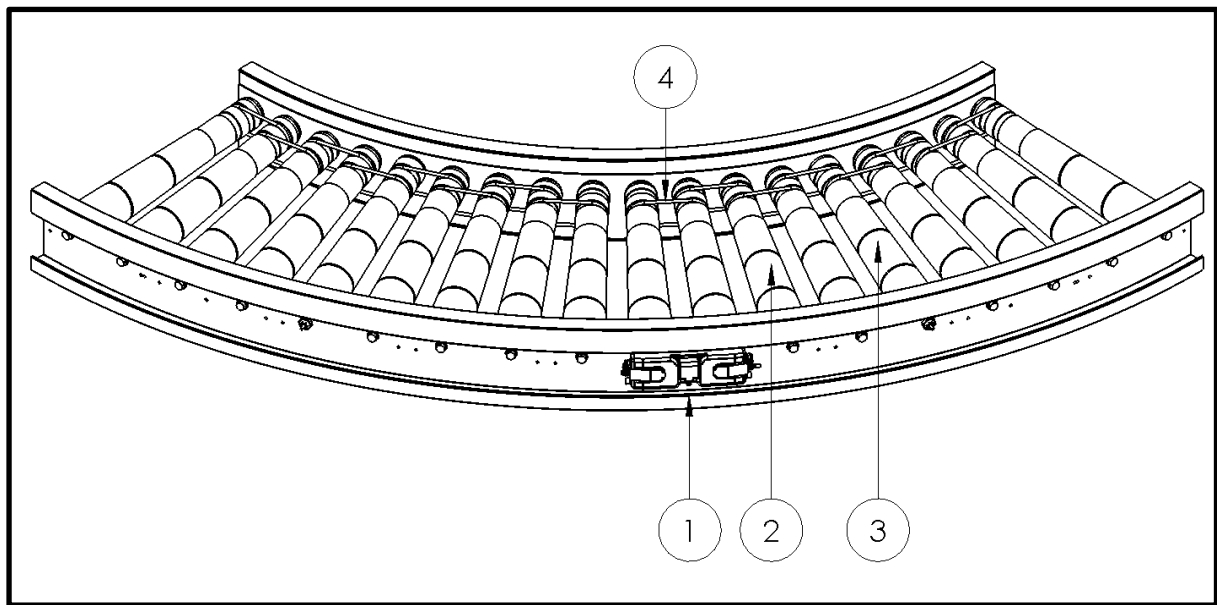
7.2.4 Spare parts

7.2.4.1 ERS Straight Module



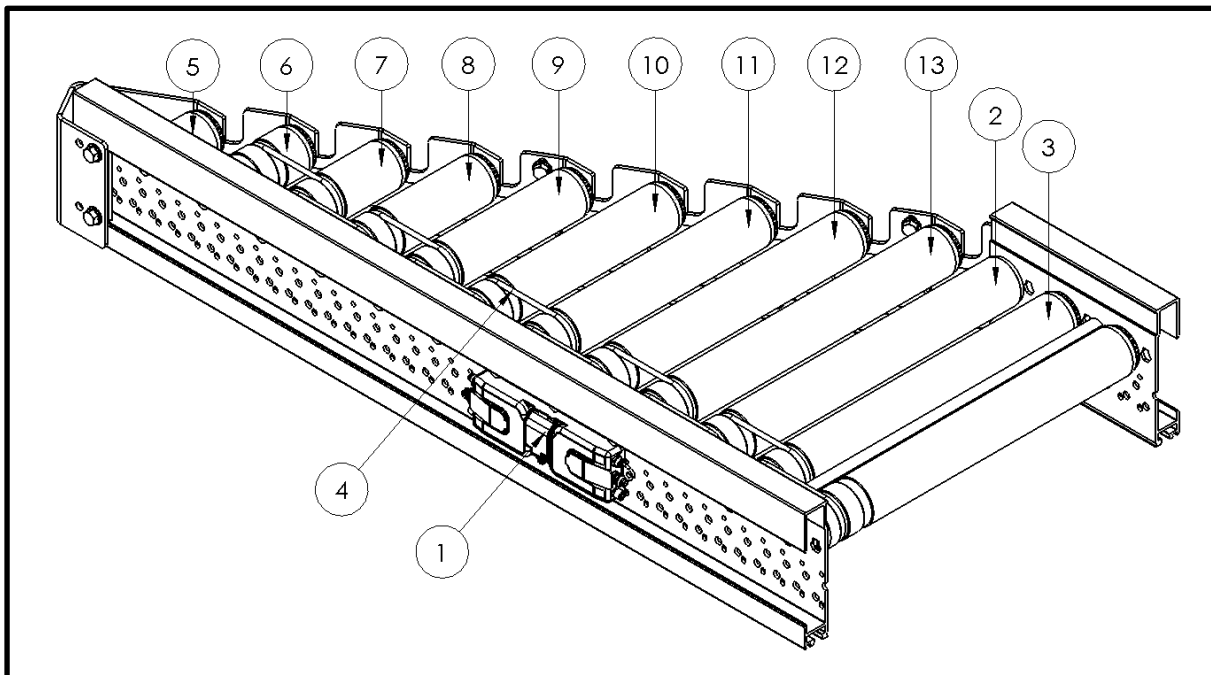
POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS040305010004	-	Zone Controller Profinet
	ERS040305010006	-	Zone Controller EtherCAT
	ERS040305010002	-	Zone Controller Zone Control
2	ERS04030102x420	420	Drive Roller - Round Belt*
	ERS04030102x520	520	Drive Roller - Round Belt*
	ERS04030102x620	620	Drive Roller - Round Belt*
	ERS04030102x820	820	Drive Roller - Round Belt*
	ERS04030112x420	420	Drive Roller - PolyVee*
	ERS04030112x520	520	Drive Roller - PolyVee*
	ERS04030112x620	620	Drive Roller - PolyVee*
	ERS04030112x820	820	Drive Roller - PolyVee*
3	ERS040308010420	420	Roller - Round Belt
	ERS040308010520	520	Roller - Round Belt
	ERS040308010620	620	Roller - Round Belt
	ERS040308010820	820	Roller - Round Belt
	ERS040318010420	420	Roller - PolyVee Belt
	ERS040318010520	520	Roller - PolyVee Belt
	ERS040318010620	620	Roller - PolyVee Belt
	ERS040318010820	820	Roller - PolyVee Belt
4	ERS040305030075	-	Round Belt (Pitch 75)
	ERS040305030100	-	Round Belt (Pitch 100)
	ERS040305031075	-	Poly - V Belt (Pitch 75)
	ERS040305031100	-	Poly - V Belt (Pitch 100)
*	v: 1,75 m/s x= 0	v: 0,78 m/s x= 3	v: 0,33 m/s x= 6
	v: 1,31 m/s x= 1	v: 0,65 m/s x= 4	v: 0,25 m/s x= 7
	v: 0,98 m/s x= 2	v: 0,44 m/s x= 5	v: 0,16 m/s x= 8

7.2.4.2 ERS Curve Module

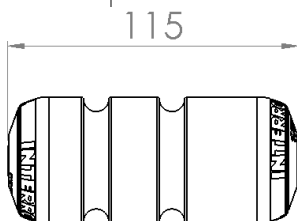


POS.	ART. NUMBER		WIDTH(LW)	COMMENT		
1	ERS040305010004		-	Zone Controller Profinet		
	ERS040305010006		-	Zone Controller EtherCAT		
	ERS040305010002		-	Zone Controller Zone Control		
2	ERS04030103x420		420	Drive Roller*		
	ERS04030103x520		520	Drive Roller*		
	ERS04030103x620		620	Drive Roller*		
	ERS04030103x820		820	Drive Roller*		
3	ERS040308040420		420	Roller		
	ERS040308040520		520	Roller		
	ERS040308040620		620	Roller		
	ERS040308040820		820	Roller		
4	ERS040305030071		-	Round Belt		
*	v: 1,75 m/s	x= 0	v: 0,78 m/s	x= 3	v: 0,33 m/s	x= 6
	v: 1,31 m/s	x= 1	v: 0,65 m/s	x= 4	v: 0,25 m/s	x= 7
	v: 0,98 m/s	x= 2	v: 0,44 m/s	x= 5	v: 0,16 m/s	x= 8

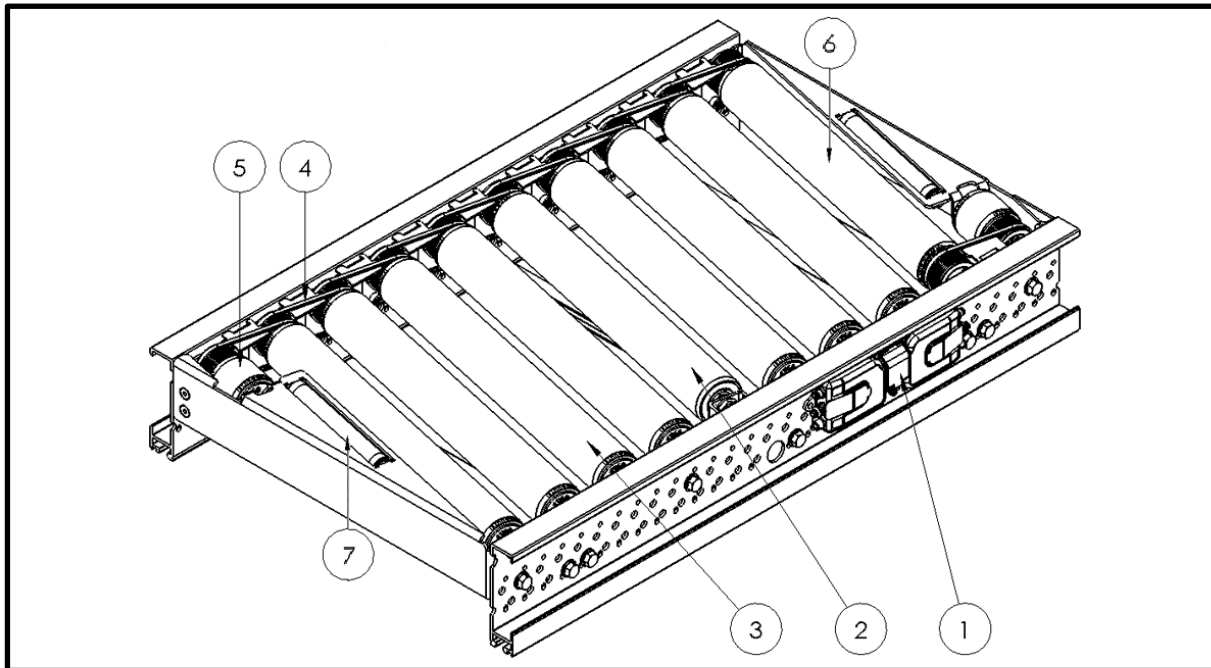
7.2.4.3 ERS Infeed - Outfeed Module



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS040305010004	-	Zone Controller Profinet
	ERS040305010006	-	Zone Controller EtherCAT
	ERS040305010002	-	Zone Controller Zone Control
2	ERS04030102x420	420	Drive Roller*
	ERS04030102x520	520	Drive Roller*
	ERS04030102x620	620	Drive Roller*
	ERS04030102x820	820	Drive Roller*
3	ERS040308010420	420	Roller
	ERS040308010520	520	Roller
	ERS040308010620	620	Roller
	ERS040308010820	820	Roller
4	ERS040305030075	-	Round Belt
5	ERS040308170072	72	Roller
6 - 13	ERS040308180xxx	xxx	Roller**
*	v: 1,75 m/s x= 0	v: 0,78 m/s	x= 3
	v: 1,31 m/s x= 1	v: 0,65 m/s	x= 4
	v: 0,98 m/s x= 2	v: 0,44 m/s	x= 5
			v: 0,33 m/s x= 6
			v: 0,25 m/s x= 7
			v: 0,16 m/s x= 8
**	<p>Example: Width of roller = 115 mm</p> <p> xxx = 115</p> <p> Art. number = ERS040308180<u>115</u></p>		



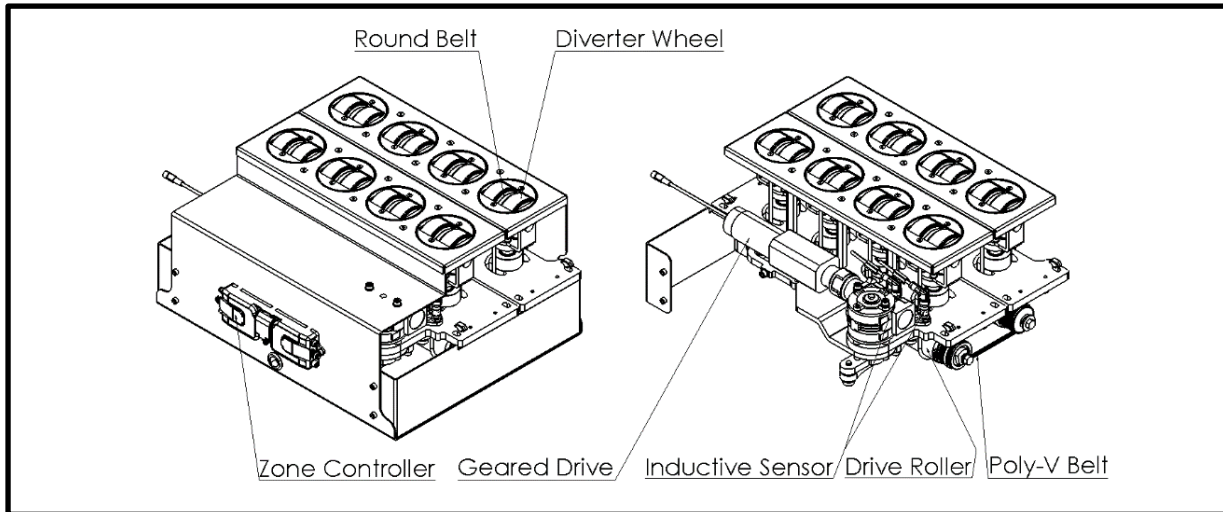
7.2.4.4 ERS Alignment Module



POS.	ART. NUMBER		WIDTH(LW)	COMMENT			
1	ERS040305010004		-	Zone Controller Profinet			
	ERS040305010006		-	Zone Controller EtherCAT			
	ERS040305010002		-	Zone Controller Zone Control			
2	ERS04030112x401		420	Drive Roller*			
	ERS04030112x501		520	Drive Roller*			
	ERS04030112x604		620	Drive Roller*			
	ERS04030112x808		820	Drive Roller*			
3	ERS040318010418		420	Roller			
	ERS040318010520		520	Roller			
	ERS040318010623		620	Roller			
	ERS040318010828		820	Roller			
4	ERS040305031073		-	PolyVee Belt			
5	ERS040318010082		420	Roller			
	ERS040318010088		520	Roller			
	ERS040318010359		620	Roller			
	ERS040318010117		820	Roller			
	ERS040318010461		820	Roller			
6	ERS040318020418		420	Roller			
	ERS040318020520		520	Roller			
	ERS040318020623		620	Roller			
	ERS040318020828		820	Roller			
7	ERS040308050154		420	Fill Roller			
	ERS040308050100		520	Fill Roller			
	ERS040308050154		520	Fill Roller			
	ERS040308050100		620	Fill Roller			
	ERS040308050100		820	Fill Roller			
*	v: 1,75 m/s	x= 0	v: 0,78 m/s	x= 3	v: 0,33 m/s	x= 6	
	v: 1,31 m/s	x= 1	v: 0,65 m/s	x= 4	v: 0,25 m/s	x= 7	
	v: 0,98 m/s	x= 2	v: 0,44 m/s	x= 5	v: 0,16 m/s	x= 8	

7.3 ERS 51, 52 Diverter Module

7.3.1 Maintenance



	Part	Inspection	Result	Action
1.	Drive Roller	Mounting check	Mounting bolt too loose	Tighten
2.	Geared Drive	Acoustic check	Noise	Replace Drive Roller/ Geared Drive
			Damaged Roller	Replace Drive Roller/ Geared Drive
			Damaged Motor Cable	Replace Drive Roller/ Geared Drive
3.	Inductive Sensor	Visual check	LED not burning	Check / Replace Wiring
				Check Power Supply
				Replace Sensor
4.	Zone Controller	Visual Check	Contamination	Clean
			Cables not connected	Reconnect cables
			No Power	Check Power Supply
			Damaged	Replace Zone Controller
5.	Diverter Wheel	Acoustic check	Noise	Replace Diverter Wheel
		Visual check	Damaged wheel	Replace Diverter Wheel
6.	Round Belt	Visual check	Damaged belt	Replace Round Belt
7.	PolyVee Belt			Replace PolyVee Belt

7.3.2 Replacements

7.3.2.1 Diverter Module housing dismounting/ mounting



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

Step 1.

Remove all cables connected to the Zone Controller.

Step 2.

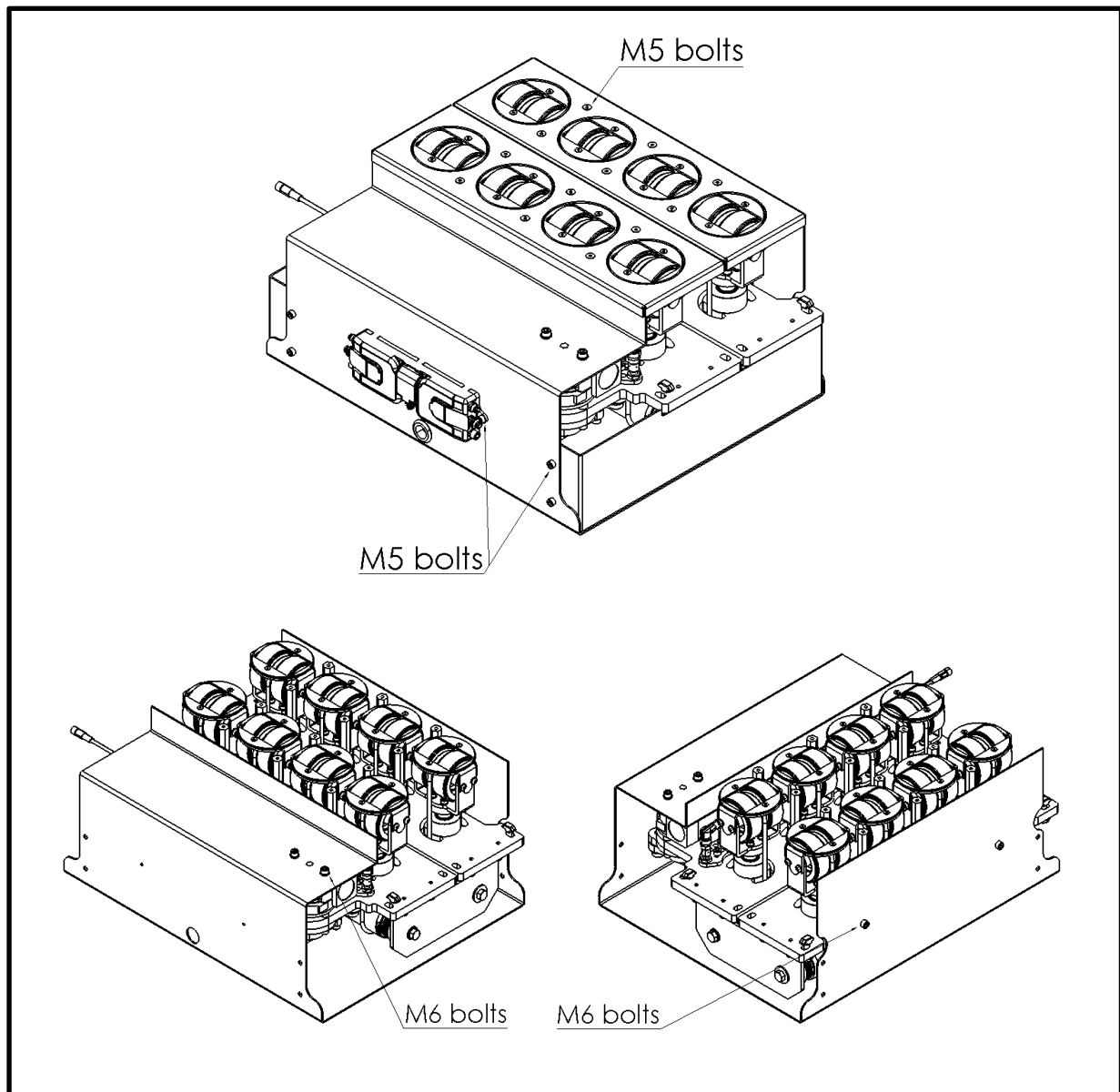
Remove the M5 bolts holding the Zone Controller, the side covers and the top covers.

Step 3.

Remove the Zone Controller, the side covers and the top covers.

Step 4.

Remove the M6 bolts holding the main cover.

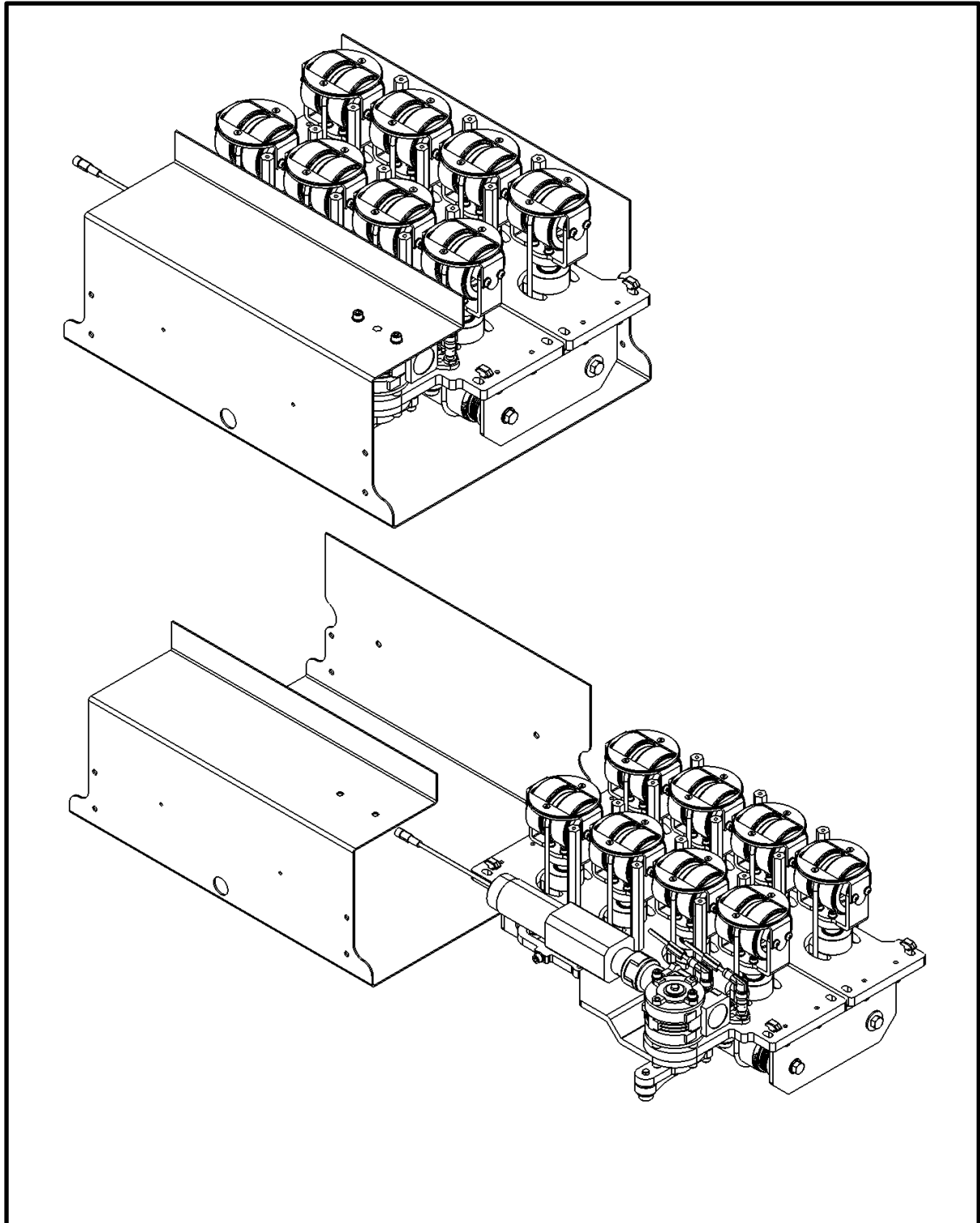


Step 5.

Remove the main cover, the main cover could be removed by sliding the internal of the Diverter Module out of the main cover.

Step 6.

Mounting the housing could be done by repeating the steps in reverse order.



7.3.2.2 Zone Controller Replacement



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

Step 1.

Remove all the cables connected to the Zone Controller.

Step 2.

Remove the two M5 bolts holding the Zone Controller.

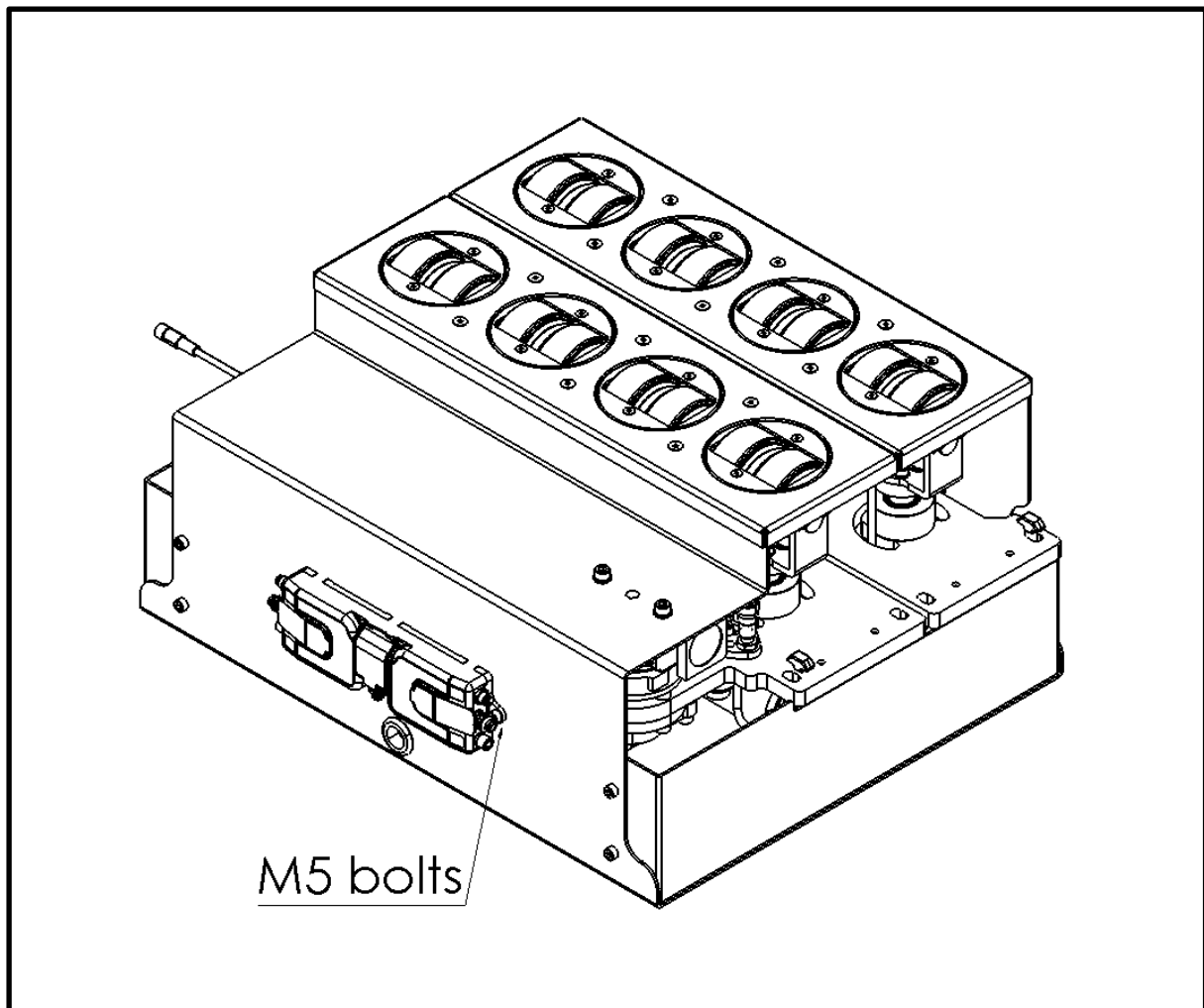
Step 3.

Remove the Zone Controller from the Diverter Module

Step 4.

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

In case of doubt on the connection of the Zone Controller, advice the user manual of the Zone Controller.



7.3.2.3 Drive Roller Replacement (Transport Drive)



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

Step 1.

Remove the M12 nut holding the Drive Roller.

Step 2.

Remove the four M6 bolts holding the roller bracket.

Step 3.

Remove the M8 bolt holding the roller and loosen the M8 bolt holding the Drive Roller.

Step 4.

Take out the Drive Roller and bracket.

Step 5.

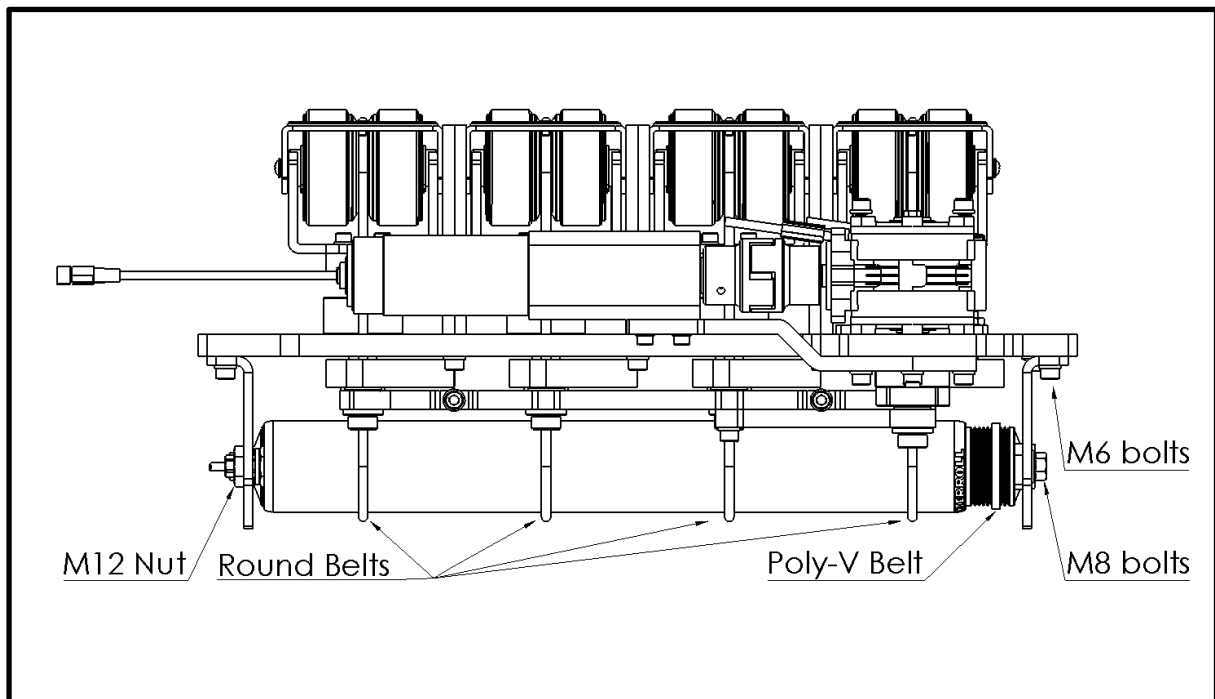
Remove the M8 bolt and bracket.

Step 6.

Remove the Drive Roller.

Step 7.

Replacing the Drive Roller could be done by repeating the steps in reverse order, make sure the Round Belt and PolyVee Belt are placed correct.



7.3.2.4 Geared Drive Replacement (Angle drive)



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

Step 1.

Remove the M5 bolt connecting the drive shaft with the shaft coupling.

Step 2.

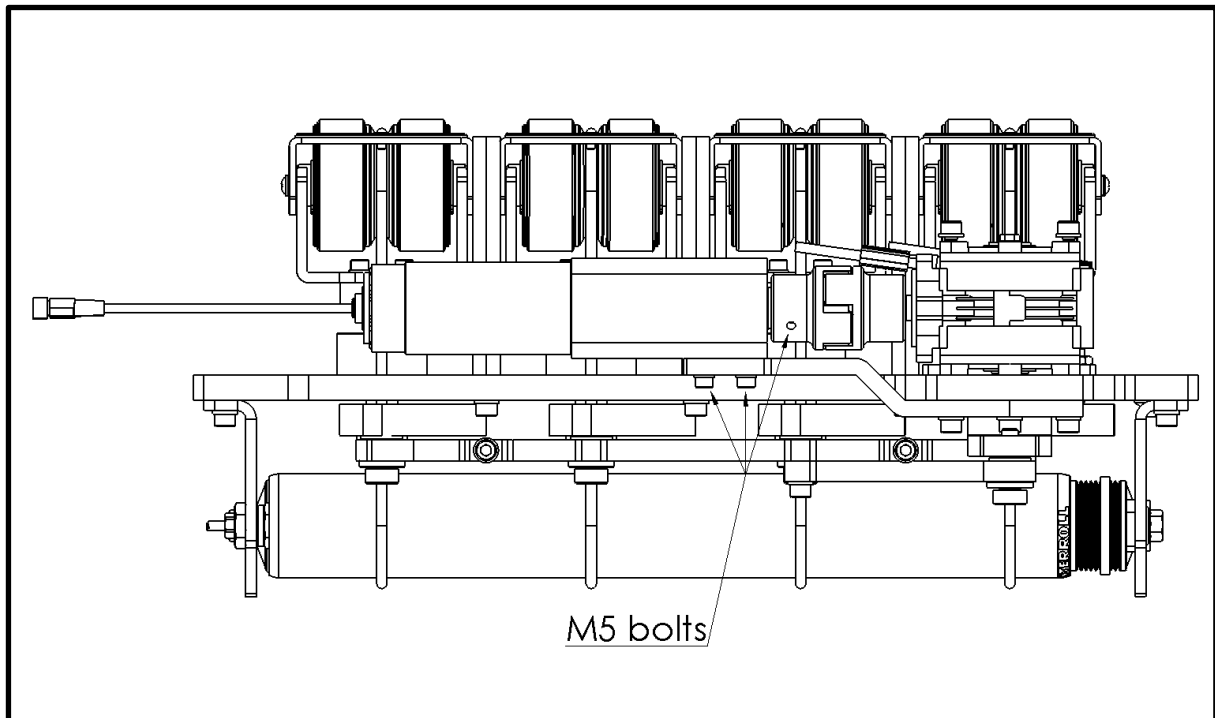
Remove the four M5 bolts connecting the Geared Drive with the mounting plate.

Step 3.

Remove the Geared Drive.

Step 4.

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



7.3.2.5 Inductive Sensor and Sensor Cable Replacement



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

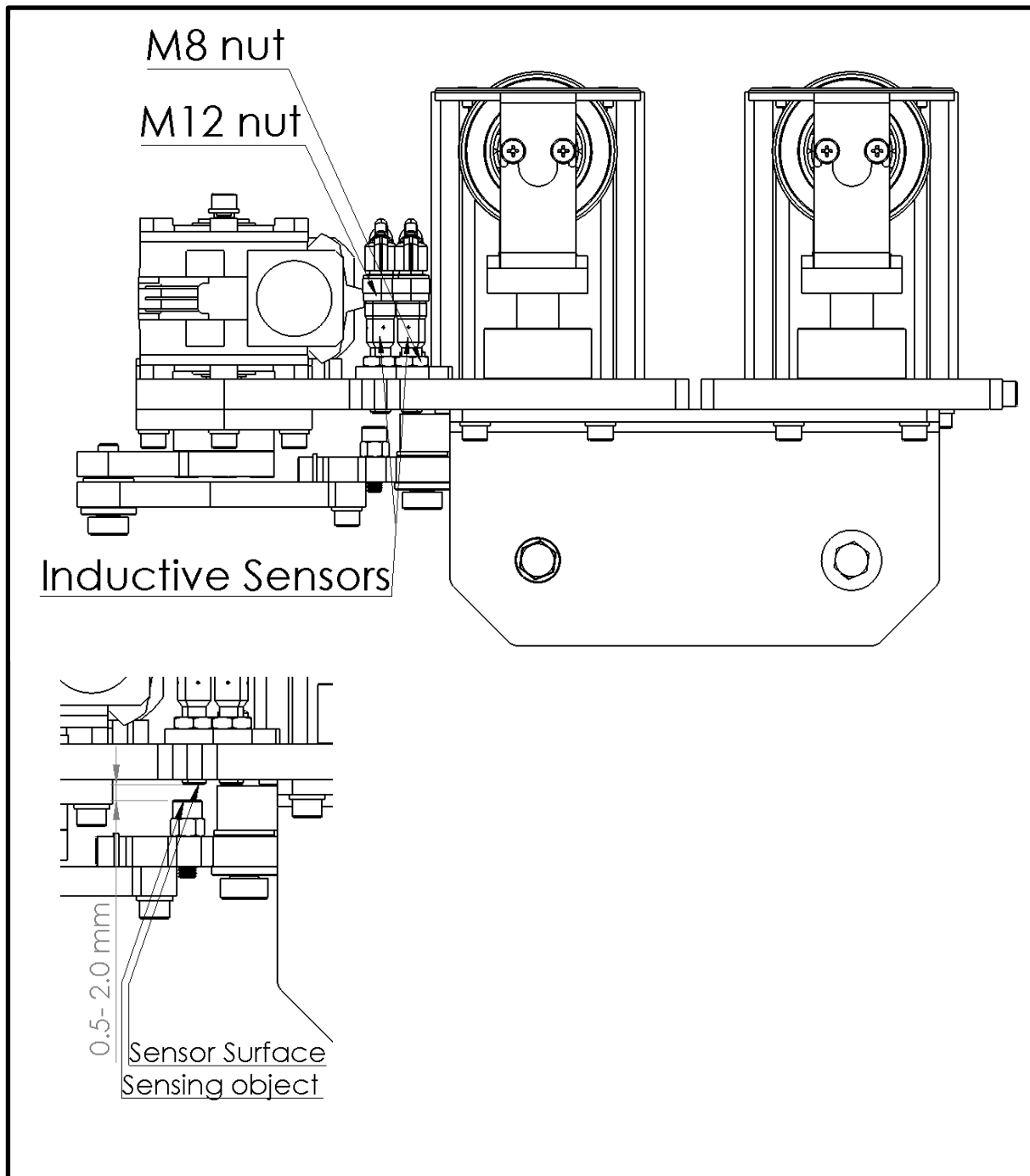
Step 1.

Remove the Inductive Sensor by loosening and removing the M12 and M8 nuts and unscrewing the sensor.

Step 2.

Replacing the Inductive Sensor or Sensor Cable could be done by repeating the steps in reverse order.

The distance between the Inductive Sensor and Sensing object has to be set between 0,5 – 2,0 mm.



7.3.2.6 Diverter Wheel Replacement



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

Step 1.

Remove the four M6 bolts holding the roller bracket.

Step 2.

Remove the tree M8 bolts and M12 nut holding the roller and the Drive Roller.

Step 3.

Take out the roller bracket, roller and Driver Roller.

Step 4.

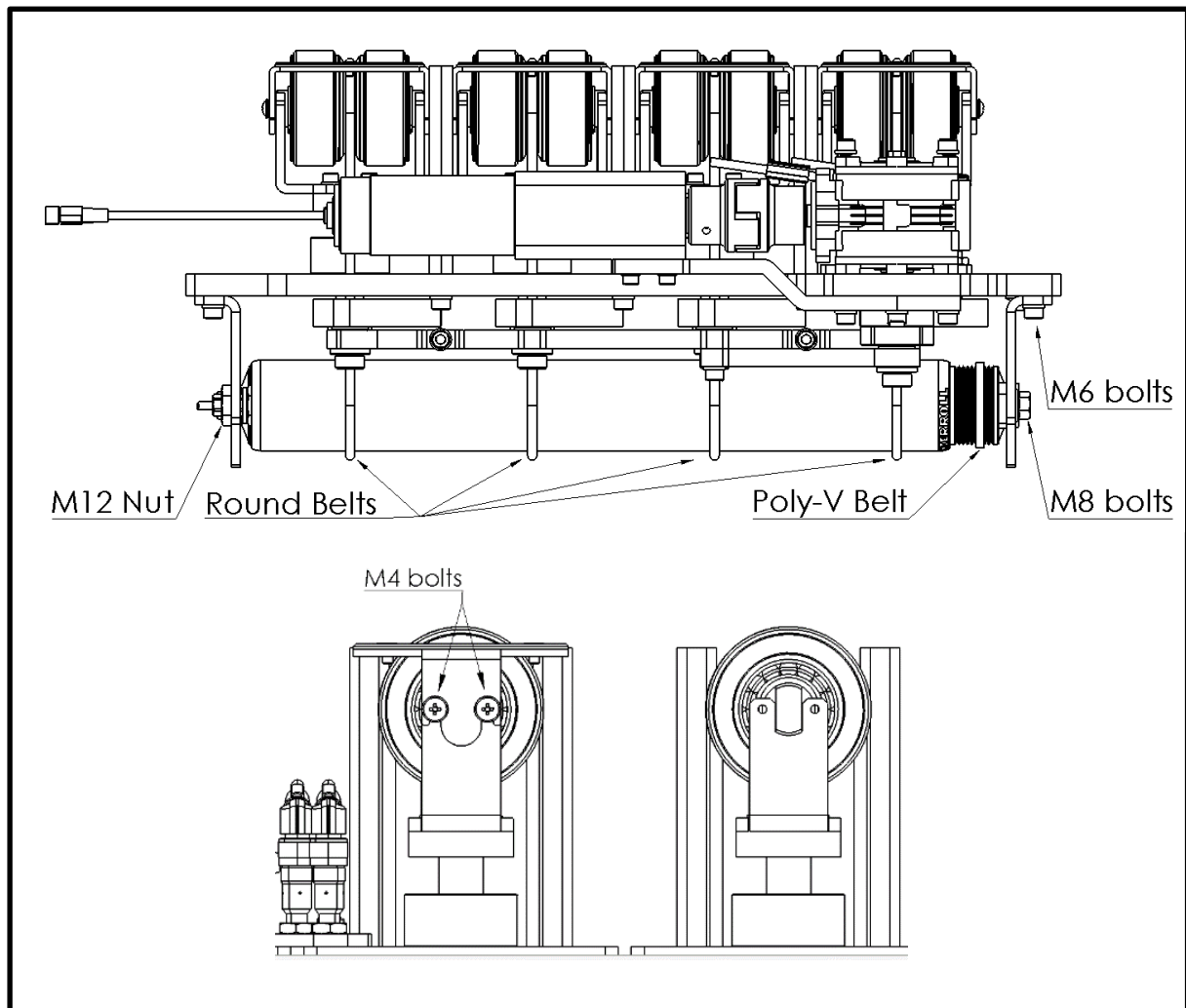
Remove the four M4 bolts and Diverter Wheel cover.

Step 5.

Remove the Diverter Wheel.

Step 6.

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



7.3.2.7 Round Belt Replacement



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

Step 1.

Remove the four M6 bolts holding the roller bracket.

Step 2.

Remove the M8 bolts and M12 nut holding the roller and the Drive Roller.

Step 3.

Take out the roller bracket, roller and Driver Roller.

Step 4.

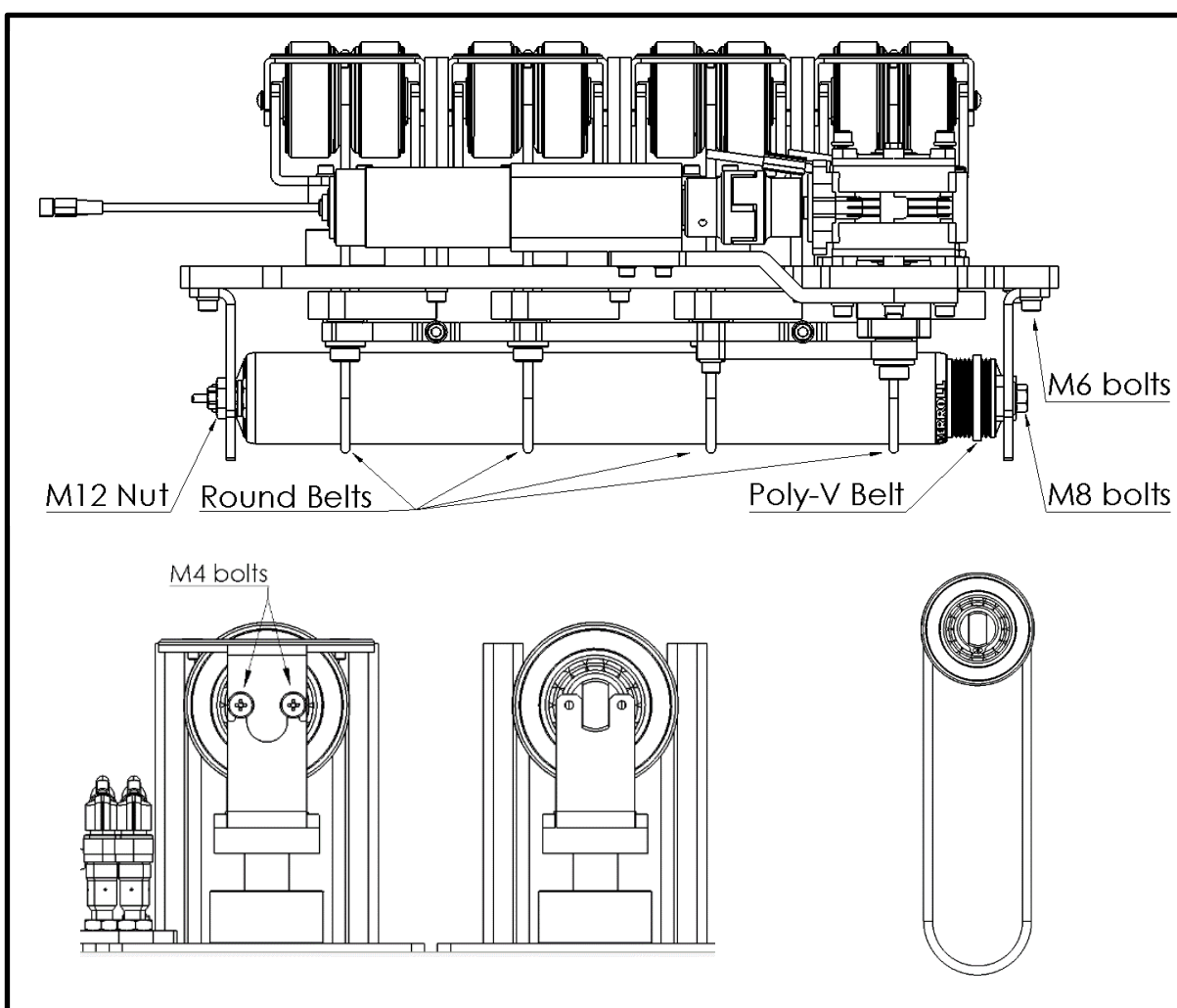
Remove the four M4 bolts and Diverter Wheel cover.

Step 5.

Remove the Diverter Wheel and Round Belt.

Step 6.

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



7.3.2.8 PolyVee Belt Replacement



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

Step 1.

Remove the four M6 bolts holding the roller bracket.

Step 2.

Remove the two M8 bolts holding the roller and the Drive Roller.

Step 3.

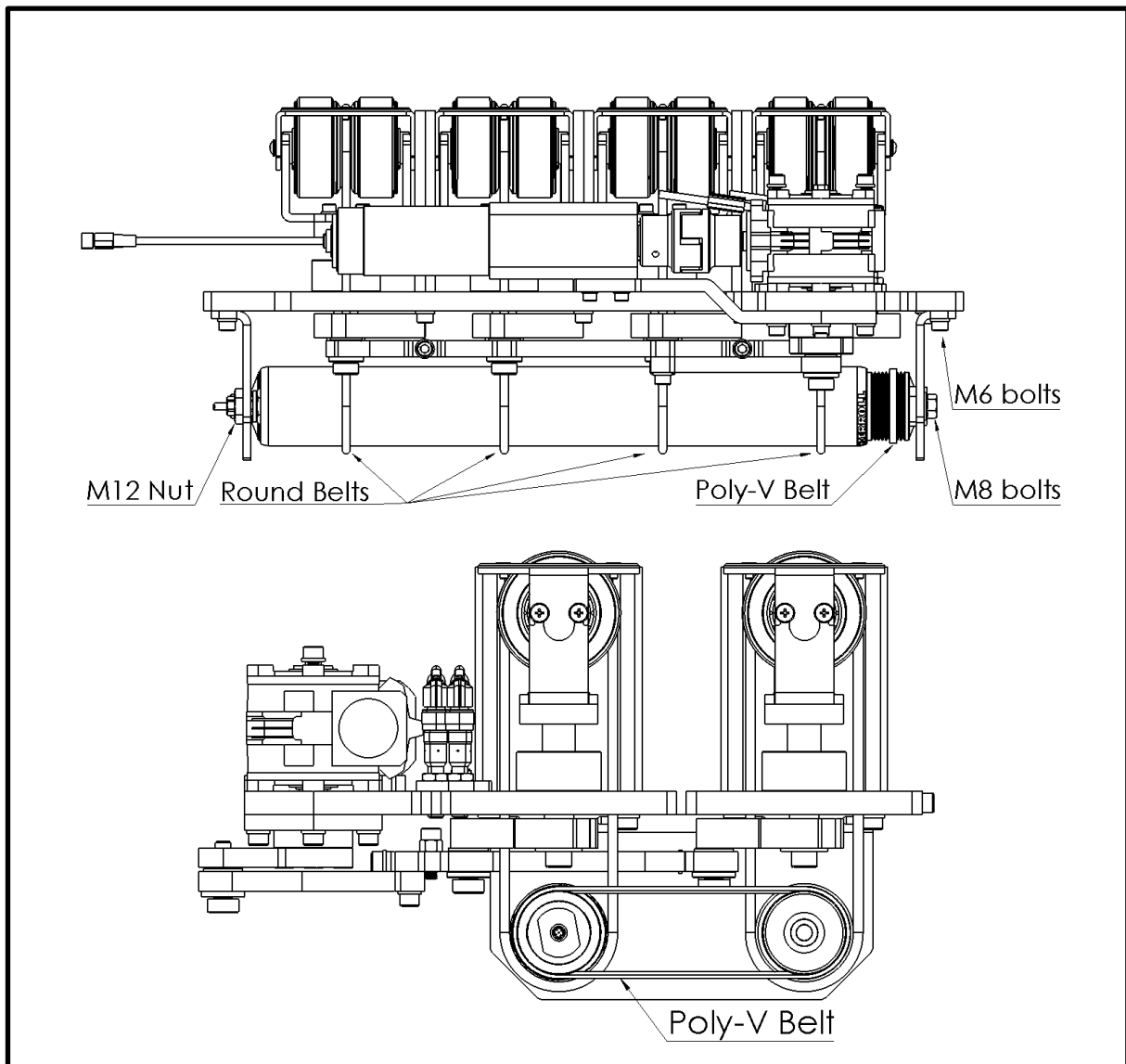
Take out the roller bracket.

Step 4.

Remove PolyVee Belt.

Step 5.

Replacing the Poly- V Belt could be done by repeating the steps in reverse order.

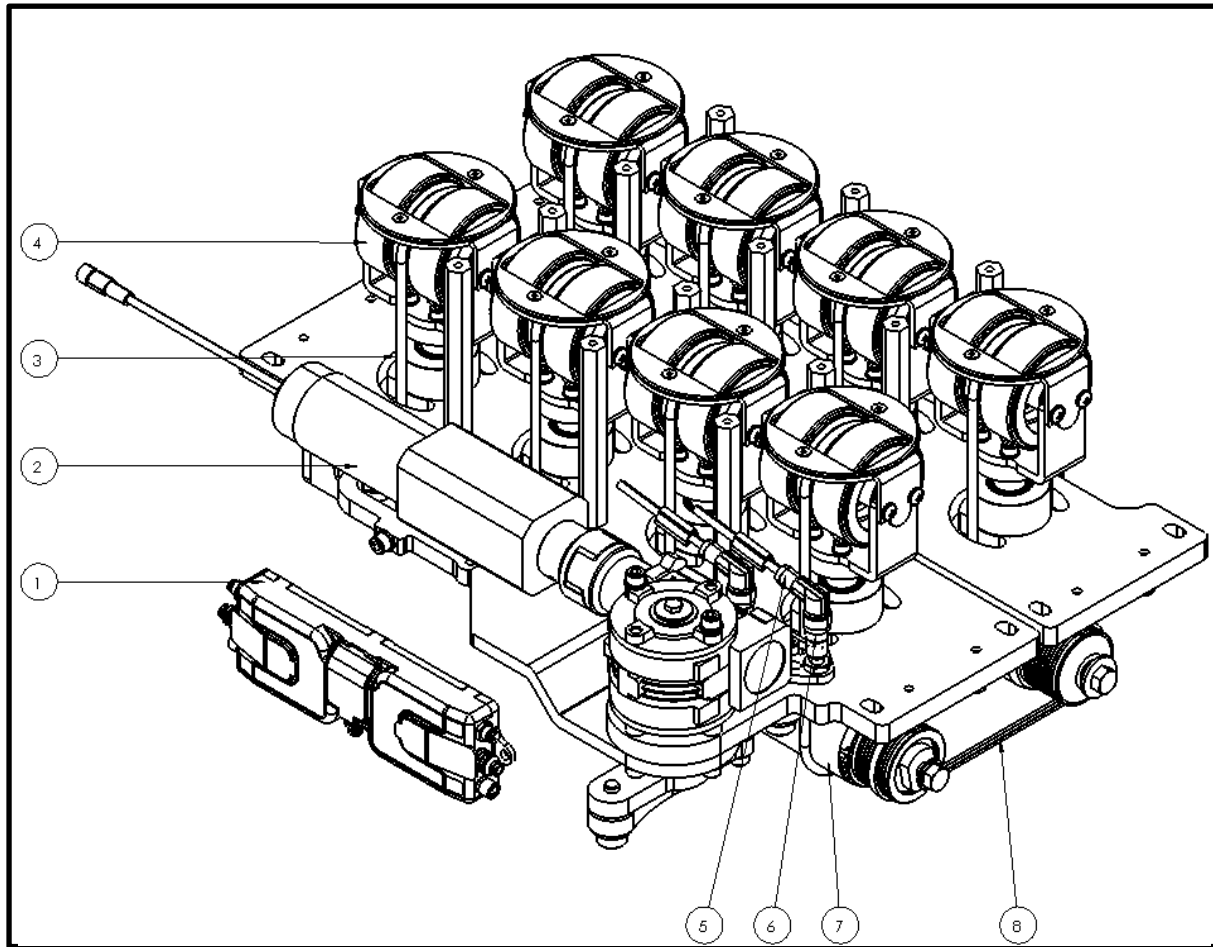


7.3.3 Troubleshooting

Failure	Cause	Correction
Diverter Module		
Product flow is wrong	Product leaves Diverter Module at wrong angle	Check Sensor Plate bolts
		Check adjustment Sensor Plate
Diverter Wheels does not turn	The load on the Drive Roller is too high, which causes overheating of the Drive Roller	Lower load per drive roller
	Round Belt or PolyVee belt is broken	Replace Round Belt or PolyVee belt
	The Drive Roller or the power cable is damaged	Replace Drive Roller
	Zone Controller in failure	Check Failure: 'Zone Controller is not working properly'
Zone Controller is not working properly	No power supply	Check 24V power supply
	Wrong position of the Inductive Sensors	Reposition the Inductive Sensors to their correct positions.
	Inductive Sensor is broken	Replace Inductive Sensor
	Zone Controller is defective because of damaging or triggering of the internal fuse	Replace Zone Controller
Zone Controller shows failure (check User Manual Pulseroller, ConveyLinx Ai2)	Overheating of the motor	A low RPM causes a decrease in torque, causing possible overheating
Drive Roller doesn't start	Start-up load is too large	Apply the boost mode in the Zone Controller
Diverter Wheels does not swivel	Inductive Sensor is broken	Replace Inductive Sensor
	The Geared Drive or the power cable is damaged	Replace Geared Drive
	Zone controller in failure	Check Failure: 'Zone Controller is not working properly'

7.3.4 Spare parts

7.3.4.1 ERS Diverter Module

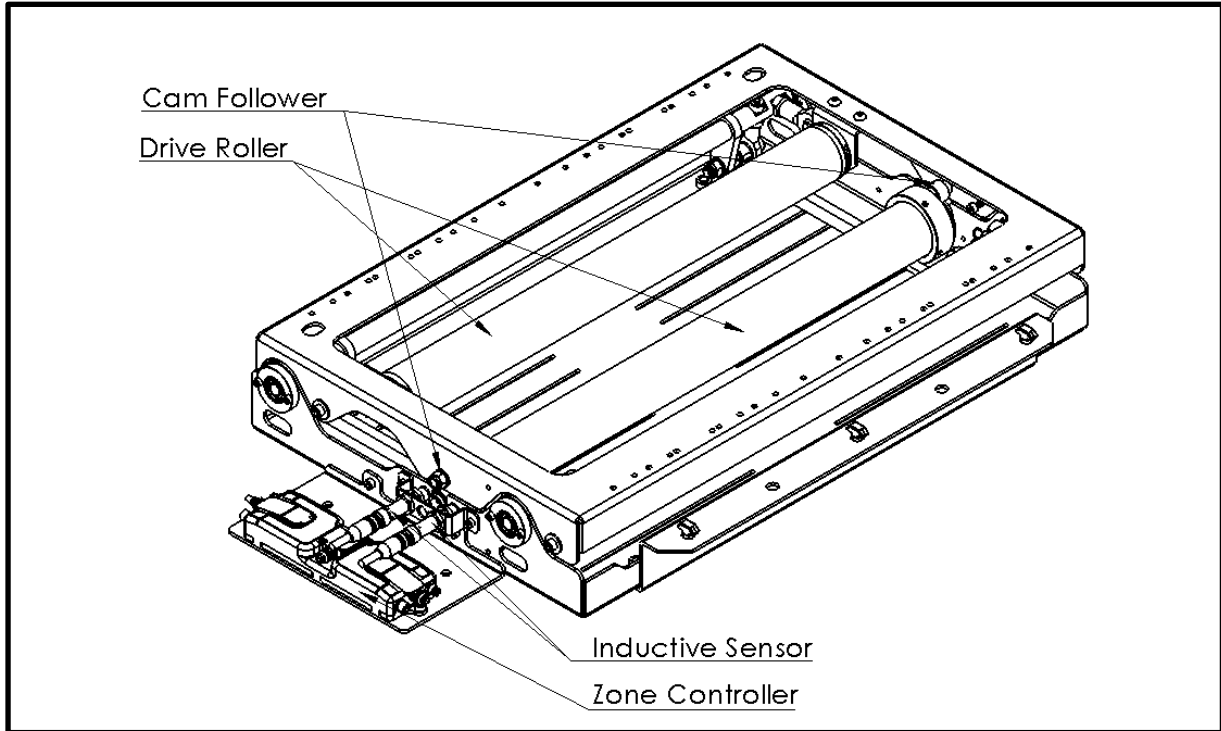


Pos.	Art. number	Width(LW)	Comment
1	ERS040305010004 ERS040305010006	- -	Zone Controller Profinet Zone Controller EtherCAT
2	ERS040301041001	-	Geared Drive
3	ERS040305030185	-	Round Belt
4	ERS040322001000	-	Diverter Wheel
5	040313000086	-	Sensor Cable
6	040313000085	-	Sensor, Leuze IS 208MM/4NO-1E5-S12
7	ERS04030112x420 ERS04030112x520 ERS04030112x620 ERS04030112x820	420 520 620 820	Drive Roller* Drive Roller* Drive Roller* Drive Roller*
8	ERS040305031125	-	PolyVee Belt
*	v: 1,75 m/s x= 0 v: 1,31 m/s x= 1 v: 0,98 m/s x= 2	v: 0,78 m/s x= 3 v: 0,65 m/s x= 4 v: 0,44 m/s x= 5	v: 0,33 m/s x= 6 v: 0,25 m/s x= 7 v: 0,16 m/s x= 8

7.4 ERS 51, 52 Transfer Module and Cassette

7.4.1 Maintenance

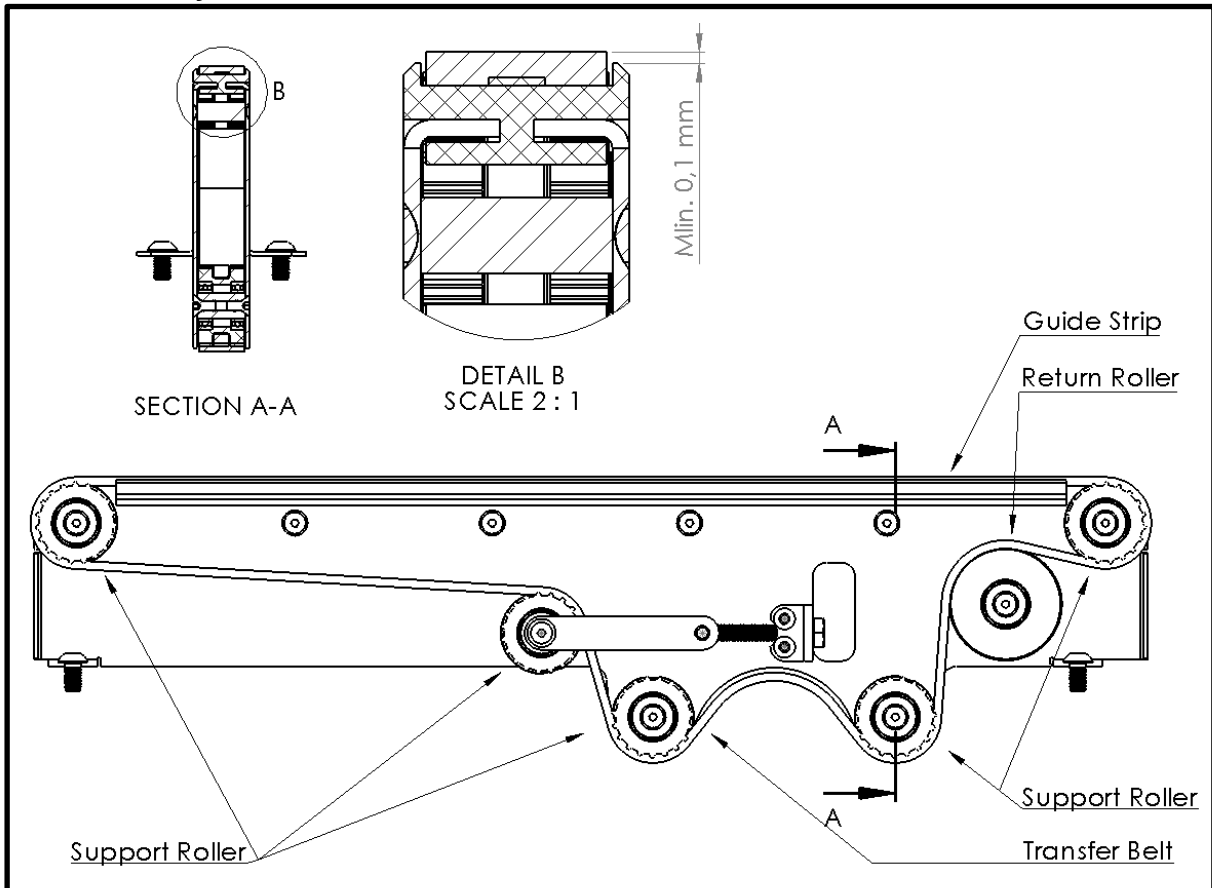
7.4.1.1 Transfer module



	Part	Inspection	Result	Action
1.	Drive Roller	Mounting check	Mounting bolt too loose	Tighten
		Acoustic check	Noise	Replace Drive Roller
		Visual check	Damaged Roller	Replace Drive Roller
			Damaged Motor Cable	Replace Drive Roller
2.	Inductive Sensor	Visual check	LED not burning	Check / Replace Wiring
				Check Power Supply
				Replace Sensor
3.	Zone Controller	Visual Check	Contamination	Clean
			Cables not connected	Reconnect cables
			No Power	Check Power Supply
			Damaged	Replace
4.	Cam Follower	Acoustic check	Noise	Replace

5.	Lifting Mechanism	Visual and acoustic check	Mechanism is not working free or is worn out	Adjust and / or replace related parts
6.	Deposits of foreign materials	Visual check	Contamination	Clean
7.	Earthing Cable	Visual check	Cable broken or missing	Replace

7.4.1.2 Transfer Cassette



	Part	Inspection	Result	Action
1.	Transfer Belt	Visual Check	Transfer Belt is damaged /torn or worn out	Replace Transfer Belt/ Cassette
			Belt surface is soiled	Clean the belt according to ch. 7.1.1
		Check belt tension (use Belt tensioning Kit, Art. No. 100343254)	Belt is out of limits	Adjust belt tension according to ch. 7.4.1.3
2.	Support Roller	Acoustic Check	Noise	Replace Support Roller/ Cassette
3.	Return Roller	Acoustic Check	Noise	Replace Return Roller/ Cassette

4.	Guid Strip	Measurement	Guide Strip is worn Guide Strip is damaged	Replace Guide Strip/ Cassette
		Visual Check	Guide Strip is worn Guide Strip is damaged	Replace Guide Strip/ Cassette
5.	Cassette frame	Visual Check	Frame is damaged or deformed	Replace cassette
6.	Screws	Visual Check	Screws are missing or not tightened	Replace or tightens the screws

7.4.1.3 Belt tensioning

Check belt tension by using the belt-tensioning kit, Art. No. 100343254..



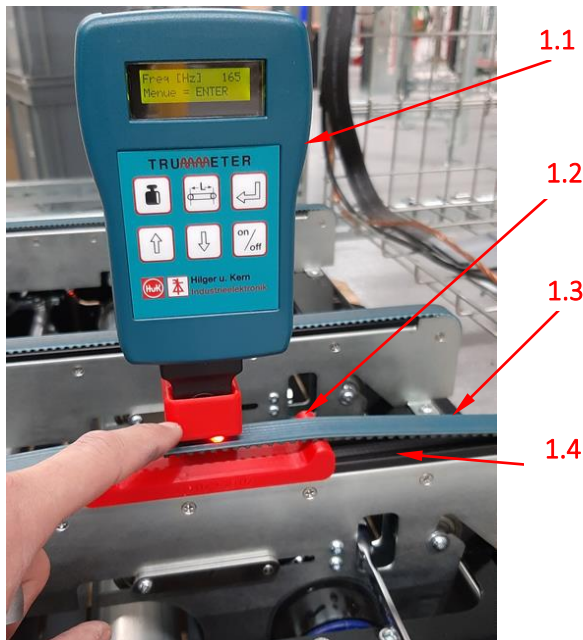
The transfer must be completely switched off.

The measurement of the tension is already possible when the transfer is still installed in the conveyor.

The belt-tensioning kit consists of a TRUMMETER measuring device (1.1) and an adapter (1.2, shown in the picture in red) in which the TRUMMETER is inserted during the measurement of the belt tension. The adapter has to be placed between belt (1.3) and the sliding strip (1.4) in the middle of the cassette on which the belt runs.

Please follow the manufacturer's operating instructions for the TRUMMETER.

The recommended belt tension parameters are shown in the table below.




Transfer belt tensioning depending on belt type and belt life phase

Transfer width		Belt tension [Hz]			
		Sleek belt (white)		High Grip Belt (blue)	
		Initial installation	maintenance	Initial installation	maintenance
420		230 ... 260	210 ... 240	200 ... 230	180 ... 210
520					
620					
Trummer settings	Belt weight	0,023kg/m		0,023kg/m	
	Trum length	0,1m, given by Trummer adapter			

Initial installation means first-time installation in production or replacement of an old belt with a new one.

7.4.2 Replacements

7.4.2.1 Transfer Cassette removal/ replacement

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

Step 1.

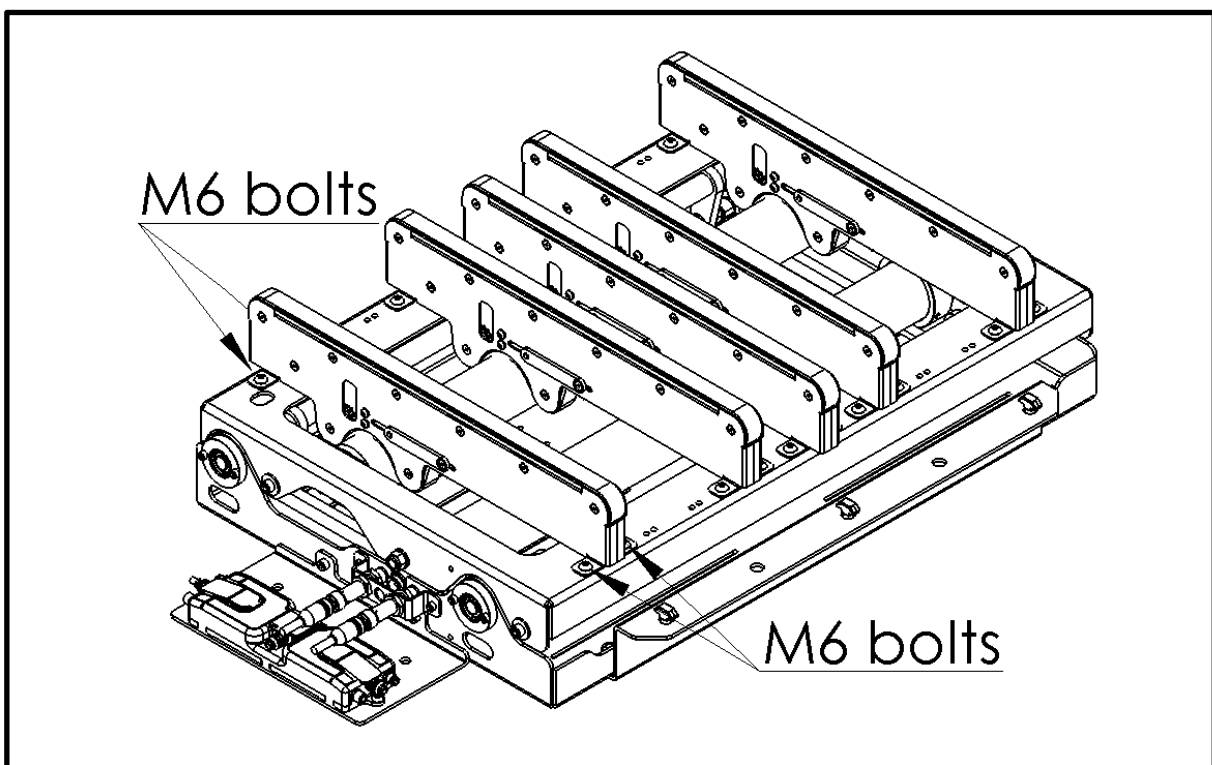
Remove the four M6 bolts holding the Transfer Cassette.

Step 2.

Remove the Transfer Cassette from the Transfer Module.

Step 3.

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



7.4.2.2 Zone Controller Replacement



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

Step 1.

Remove all the cables connected to the Zone Controller.

Step 2.

Remove the two M5 bolts holding the Zone Controller.

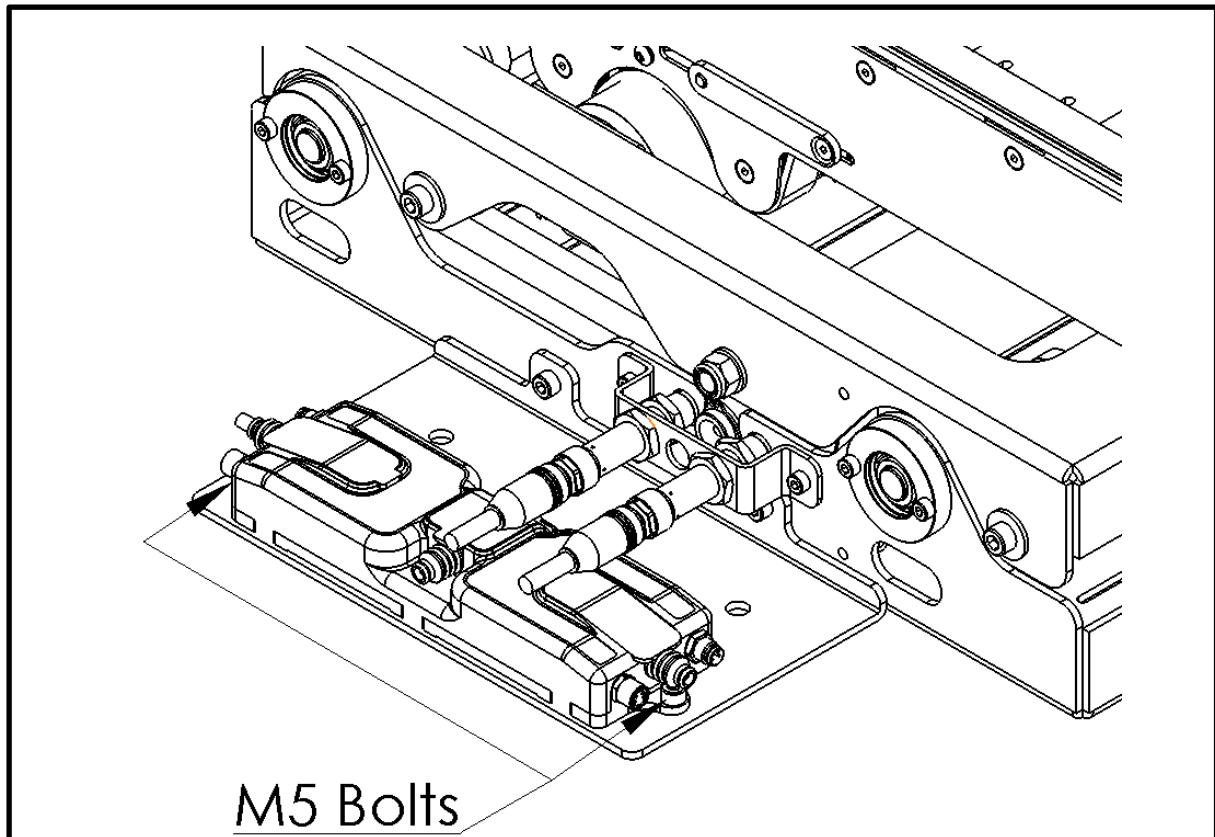
Step 3.

Remove the Zone Controller from the Transfer Module

Step 4.

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

In case of doubt on the connection of the Zone Controller, advice the user manual of the Zone Controller.



7.4.2.3 Drive Roller Replacement (Cassette Drive)



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

Step 1.

Remove the cable connected to the Zone Controller.

Step 2.

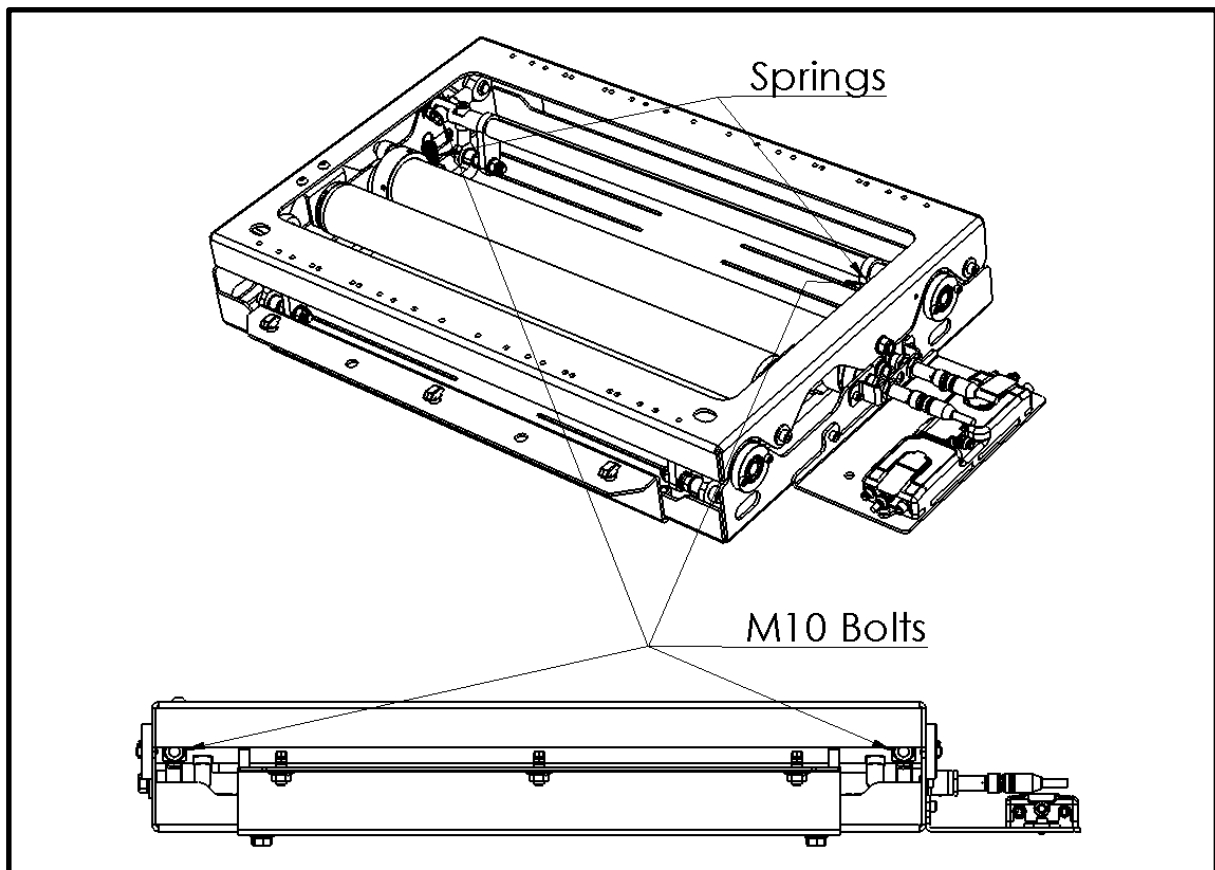
Remove the four M10 bolts connecting the upper half of the Transfer Module, with the bottom half.

Step 3.

Remove the two springs connecting the upper half of the Transfer Module, with the bottom half.

Step 4.

Remove the upper half of the Transfer Module, from the bottom half.



Step 5.

Remove the M12 bolt holding the Drive Roller.

Step 6.

Loosen the M8 bolt holding the Drive Roller.

Step 7.

Remove the two M6 bolts holding the Drive Roller bracket.

Step 8.

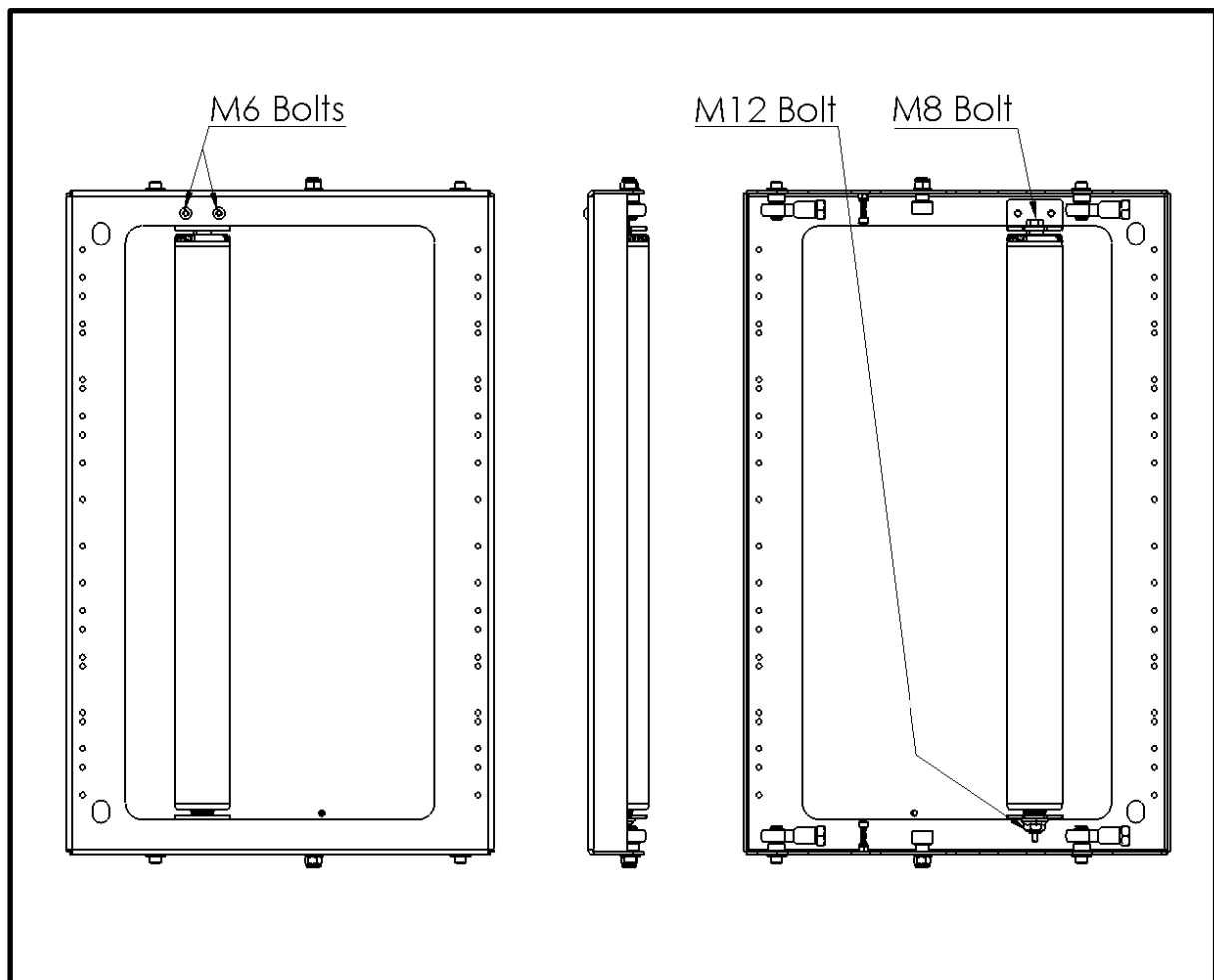
Take out the Drive Roller and bracket.

Step 9.

Remove the M8 bolt and bracket.

Step 10.

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



7.4.2.4 Drive Roller Replacement (Lift Drive)



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

Step 1.

Remove the cable connected to the Zone Controller.

Step 2.

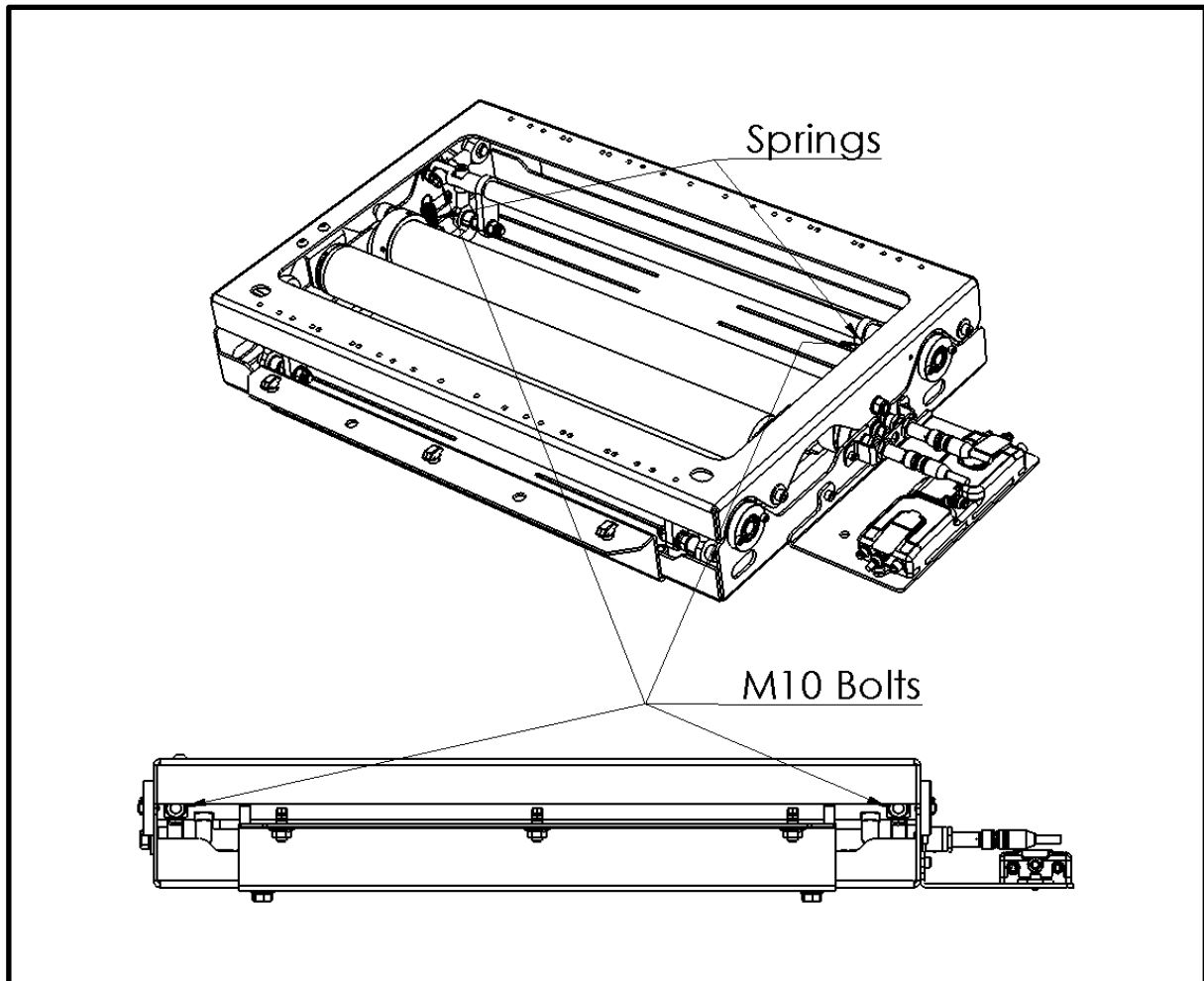
Remove the four M10 bolts connecting the upper half of the Transfer Module, with the bottom half.

Step 3.

Remove the two springs connecting the upper half of the Transfer Module, with the bottom half.

Step 4.

Remove the upper half of the Transfer Module, from the bottom half.



Step 5.

Remove the M8 bolt holding the Drive Roller assembly.

Step 6.

Remove the retaining ring holding the Drive Roller assembly.

Step 7.

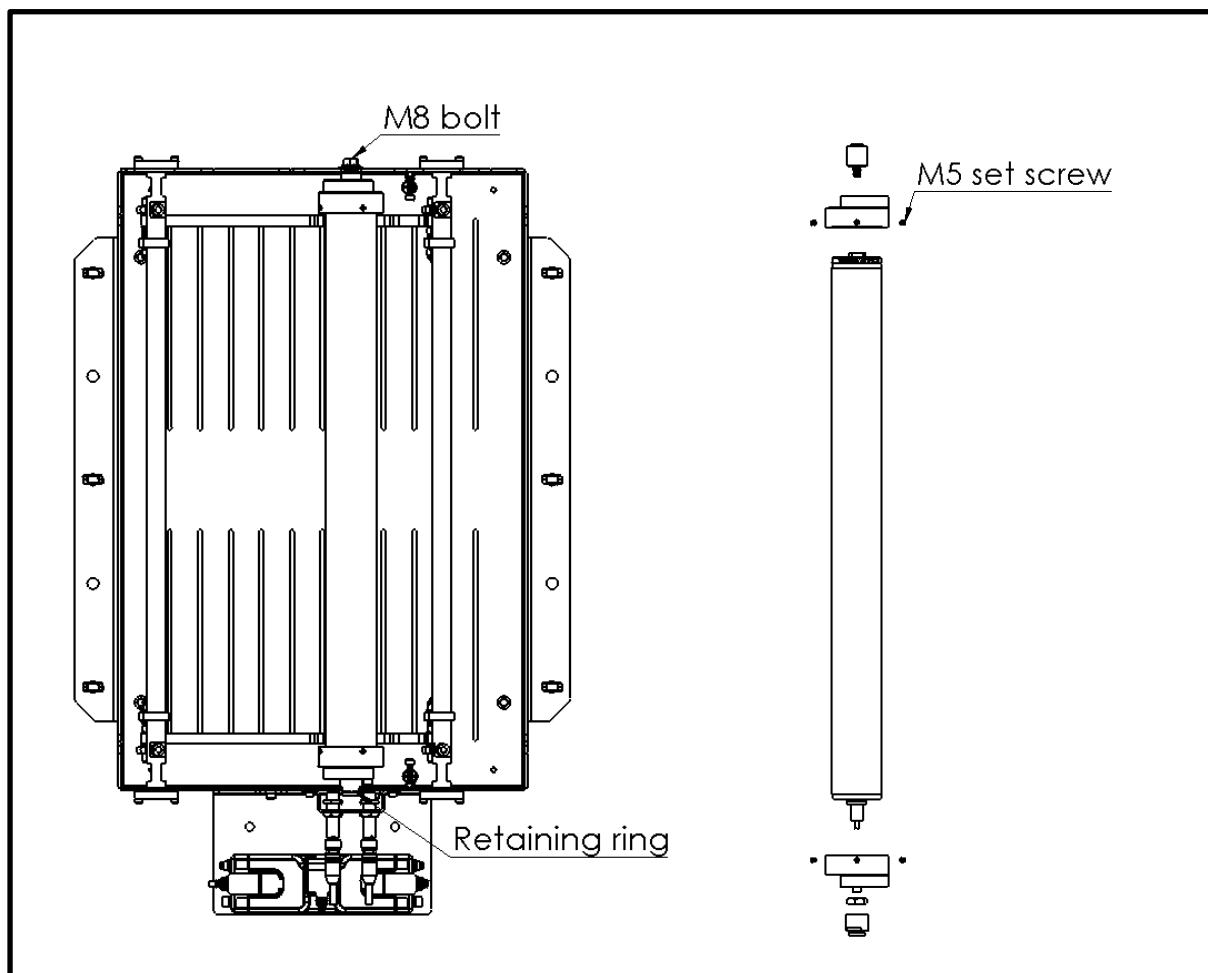
Take out the Drive Roller assembly.

Step 8.

Disassemble the Drive Roller assembly, the cam ends are assembled with threaded bushes and four M5 set screws on each end.

Step 9.

Replacing the Drive Roller could be done by repeating the steps in reverse order, be sure the cam ends are aligned in the same orientation.



7.4.2.5 Inductive Sensor and Sensor Cable Replacement



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

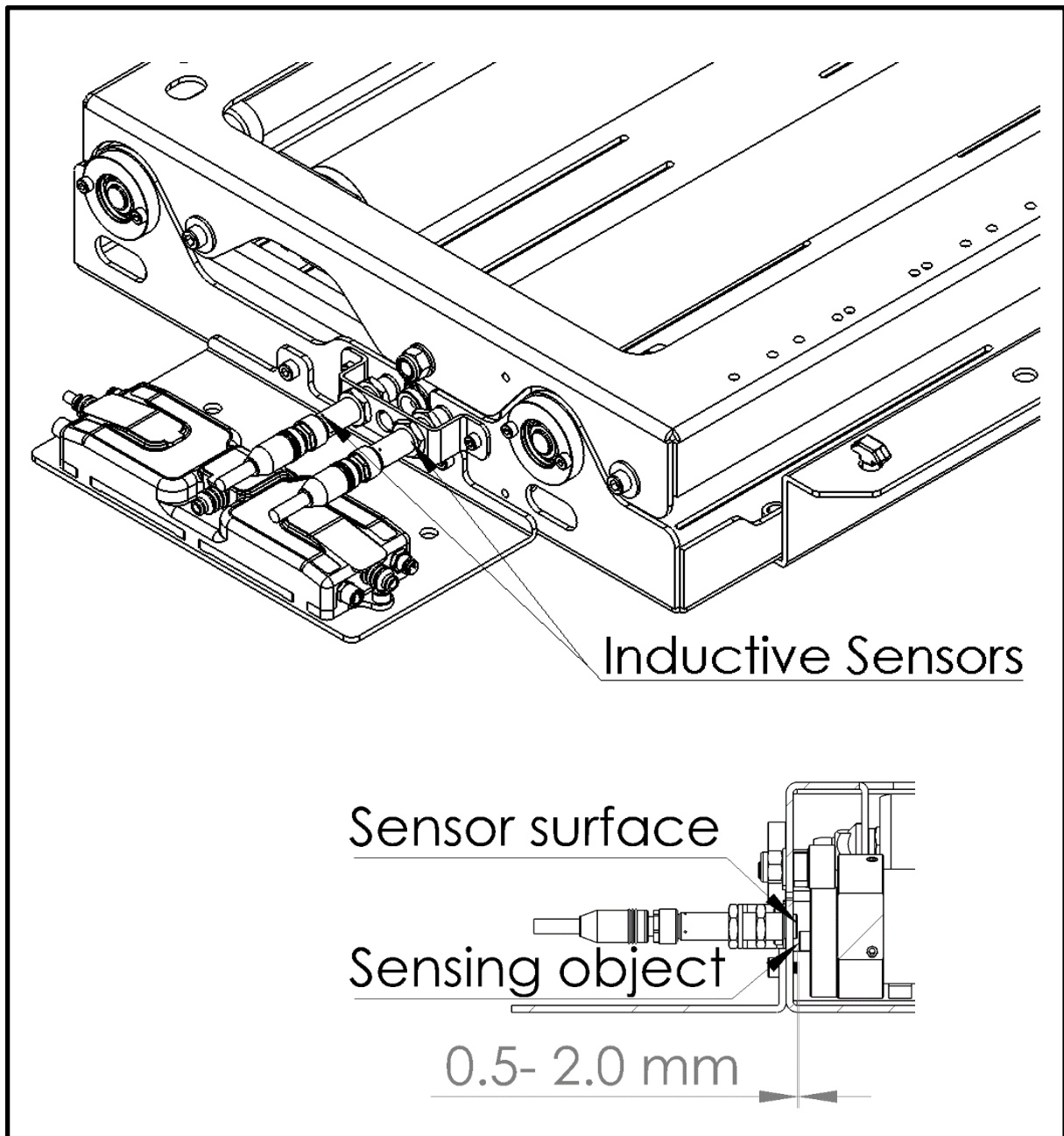
Step 1.

Remove the Inductive Sensor by loosening and removing the two M12 nuts.

Step 2.

Replacing the Inductive Sensor or Sensor Cable could be done by repeating the steps in reverse order.

The distance between the Inductive Sensor and Sensing object has to be set between 0,5 – 2,0 mm.



7.4.2.6 Cam Follower Replacement



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

Step 1.

Remove the cable connected to the Zone Controller.

Step 2.

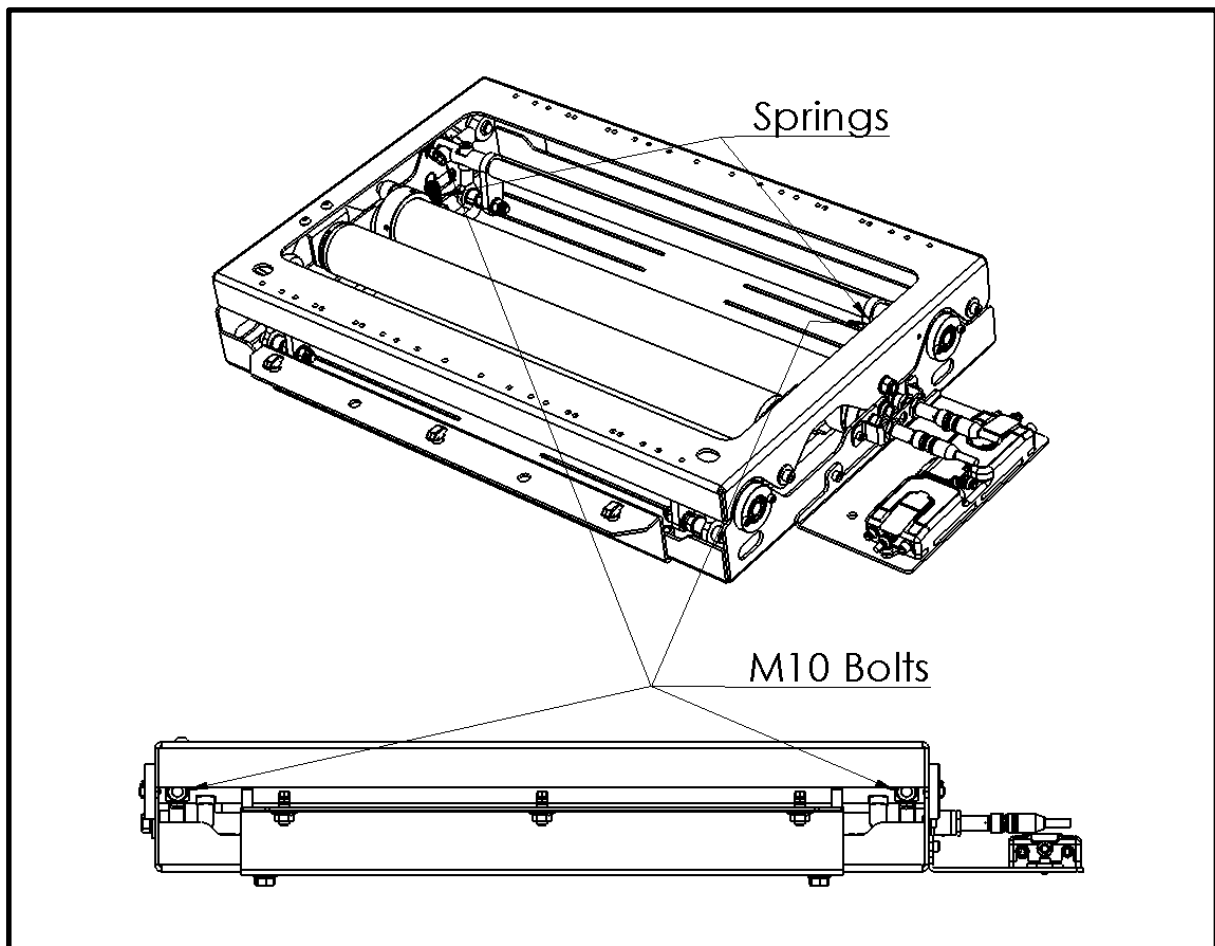
Remove the four M10 bolts connecting the upper half of the Transfer Module, with the bottom half.

Step 3.

Remove the two springs connecting the upper half of the Transfer Module, with the bottom half.

Step 4.

Remove the upper half of the Transfer Module, from the bottom half.



Step 5.

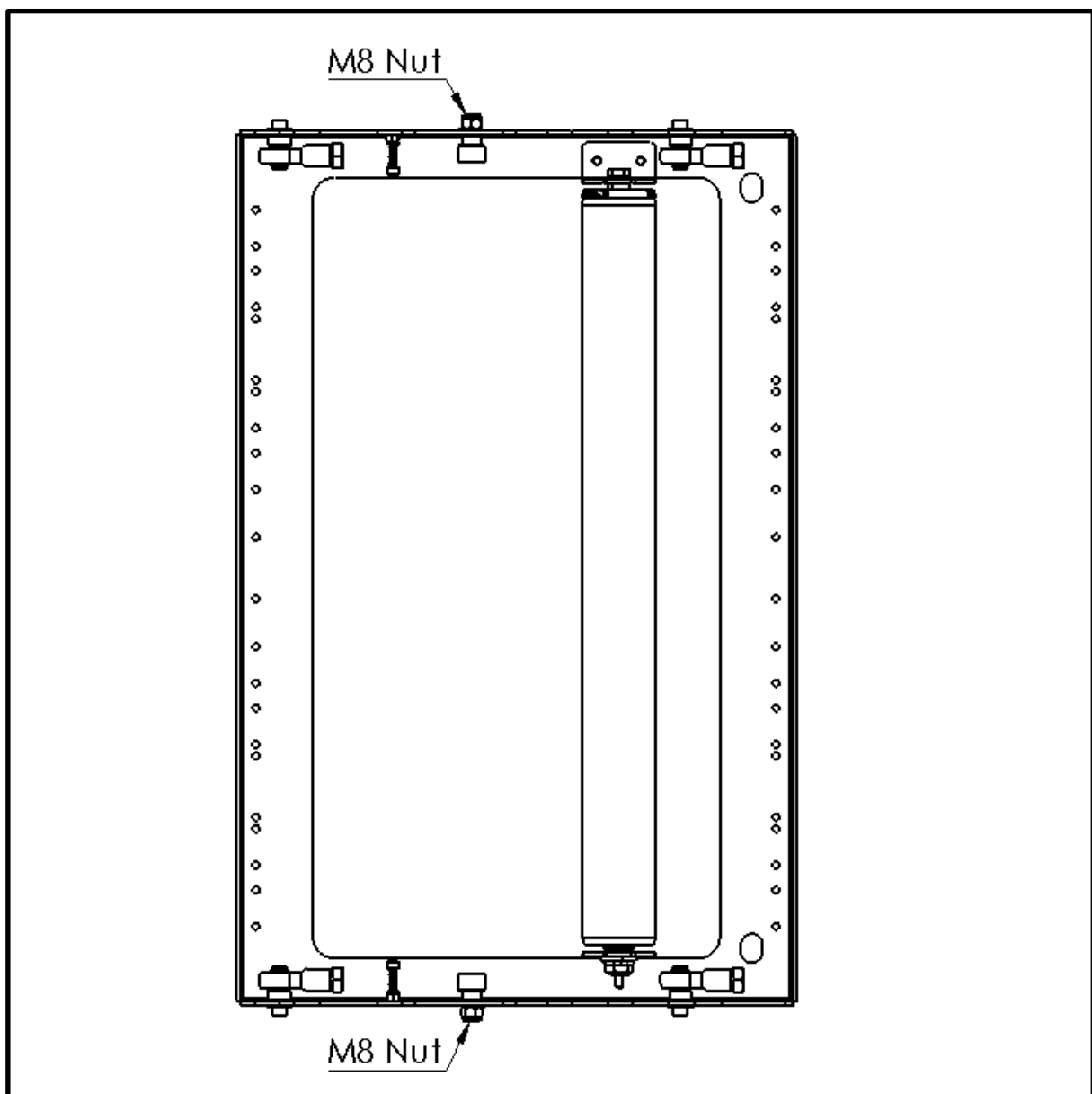
Remove the M8 bolt Holding the Cam Follower

Step 6.

Remove the Cam Follower.

Step 7.

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



7.4.2.7 Transfer Belt Replacement



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

Step 1.

Remove the Transfer Cassette from the Transfer Unit. See chapter: "Transfer Cassette removal/replacement"

Step 2.

Remove the twelve M4 bolts on one side of the Transfer Cassette.

Step 3.

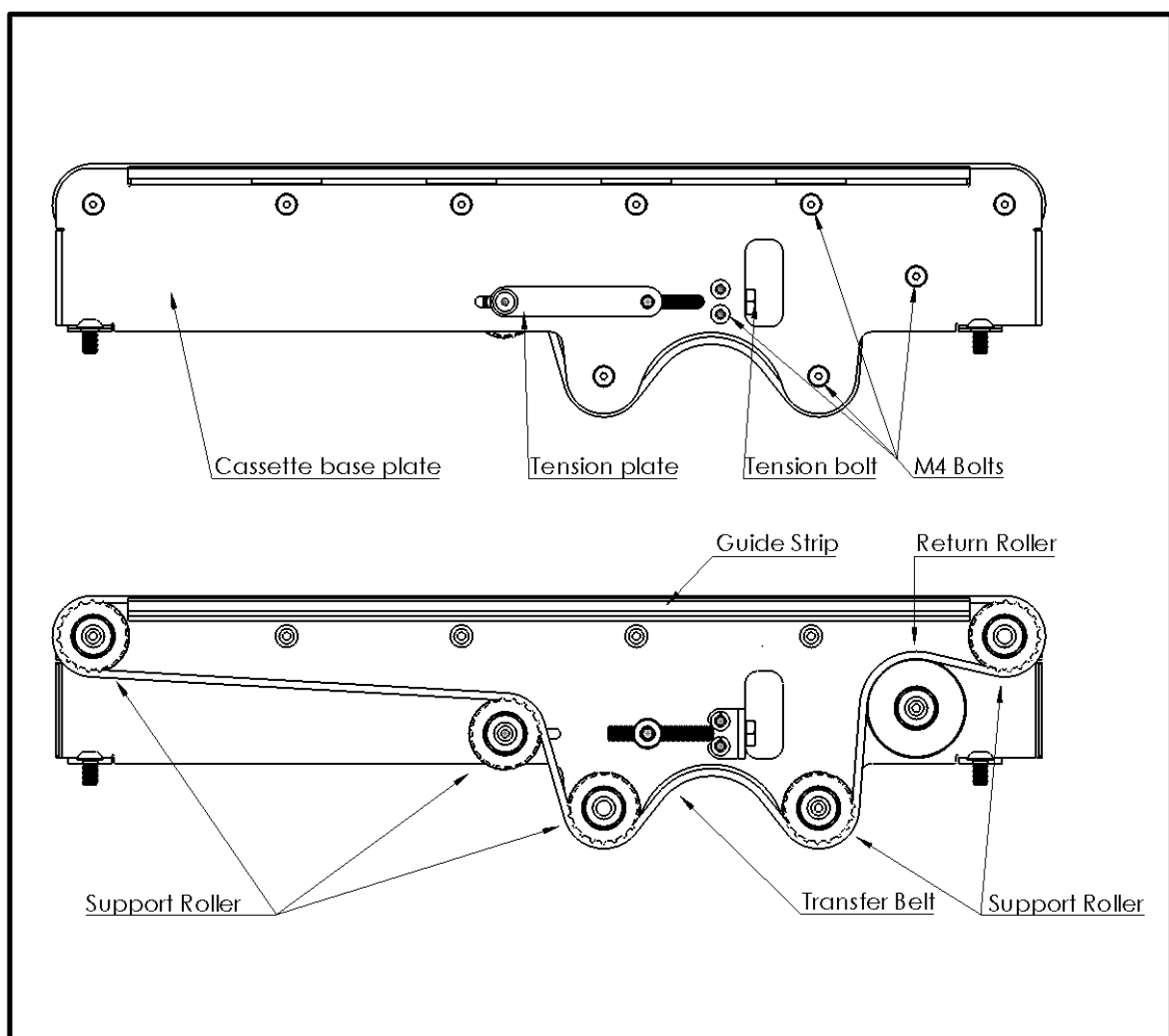
Remove the cassette base plate and tension plate.

Step 4.

Remove the Transfer Belt.

Step 5.

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



7.4.2.8 Return Roller Replacement



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

Step 1.

Remove the Transfer Cassette from the Transfer Unit. See chapter: "Transfer Cassette removal/replacement"

Step 2.

Remove the twelve M4 bolts on one side of the Transfer Cassette.

Step 3.

Remove the cassette base plate and tension plate.

Step 4.

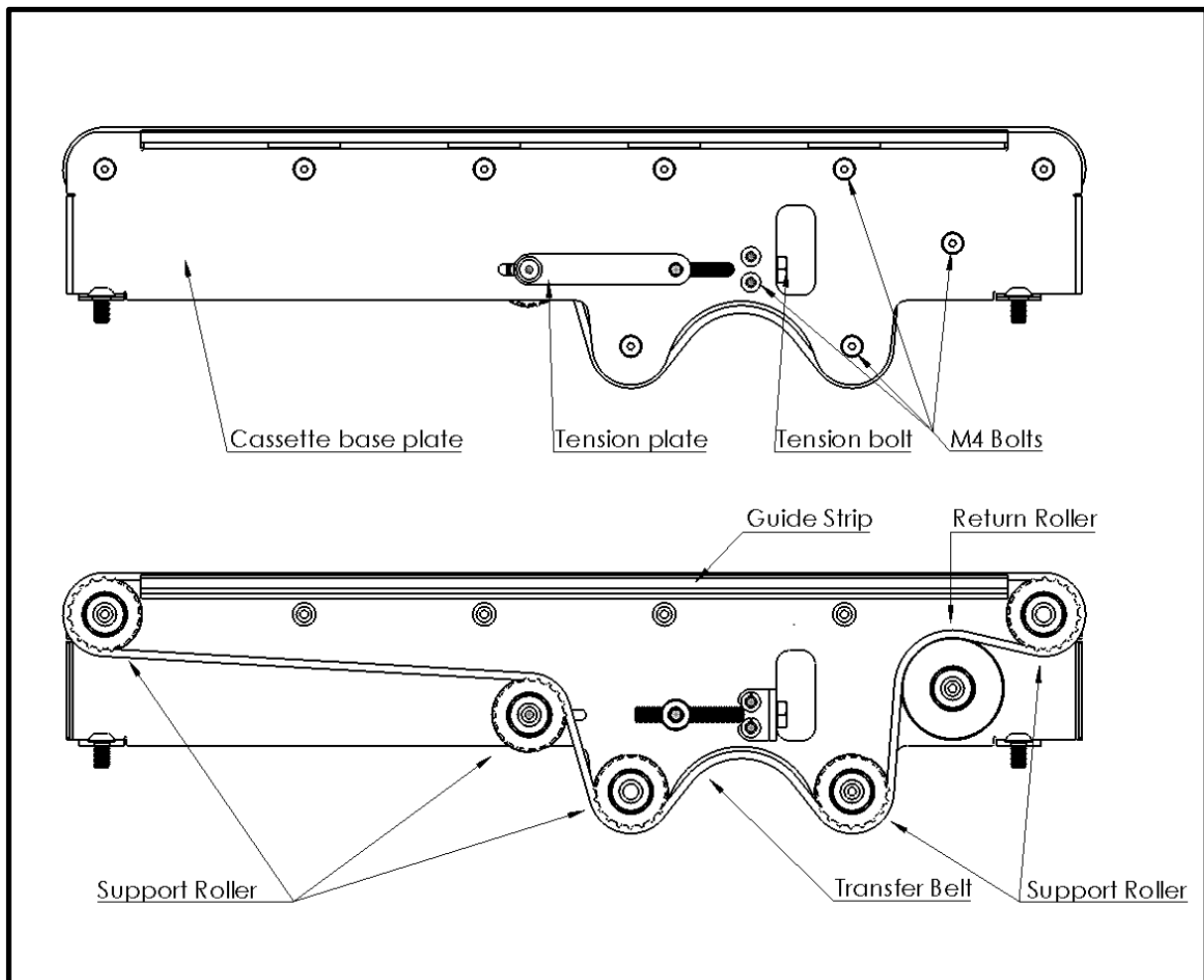
Remove the Transfer Belt.

Step 5.

Remove the M4 bolt on the other side of the Return Roller and remove the Return Roller.

Step 6.

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



7.4.2.9 Support Roller Replacement



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

Step 1.

Remove the Transfer Cassette from the Transfer Unit. See chapter: "Transfer Cassette removal/replacement"

Step 2.

Remove the twelve M4 bolts on one side of the Transfer Cassette.

Step 3.

Remove the cassette base plate and tension plate.

Step 4.

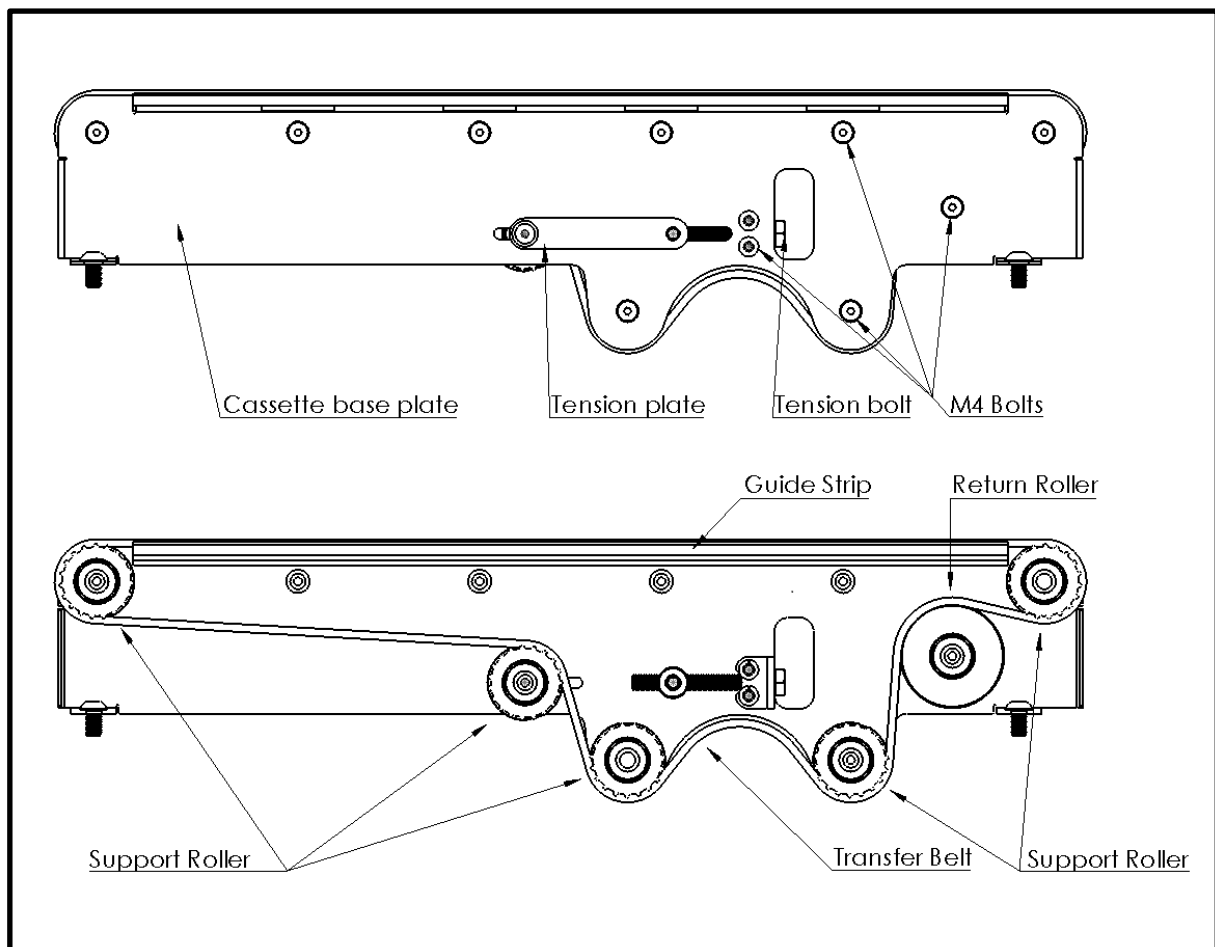
Remove the Transfer Belt.

Step 5.

Remove the M4 bolt on the other side of the Support Roller and remove the Support Roller.

Step 6.

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



7.4.2.10 Guide Strip Replacement



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

Step 1.

Remove the Transfer Cassette from the Transfer Unit. See chapter: "Transfer Cassette removal/replacement"

Step 2.

Remove the twelve M4 bolts on one side of the Transfer Cassette.

Step 3.

Remove the cassette base plate and tension plate.

Step 4.

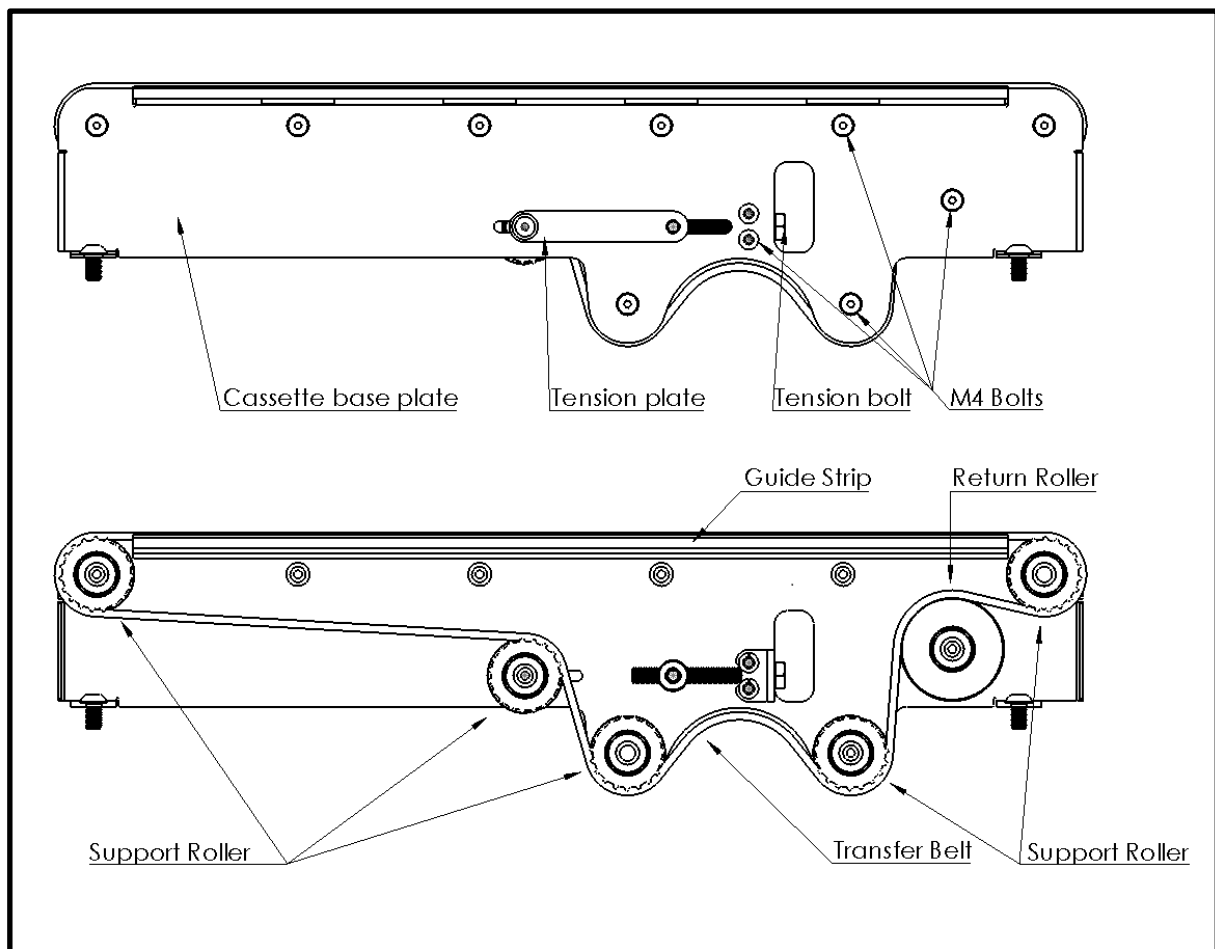
Remove the Transfer Belt.

Step 5.

Remove the Guide Strip.

Step 6.

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



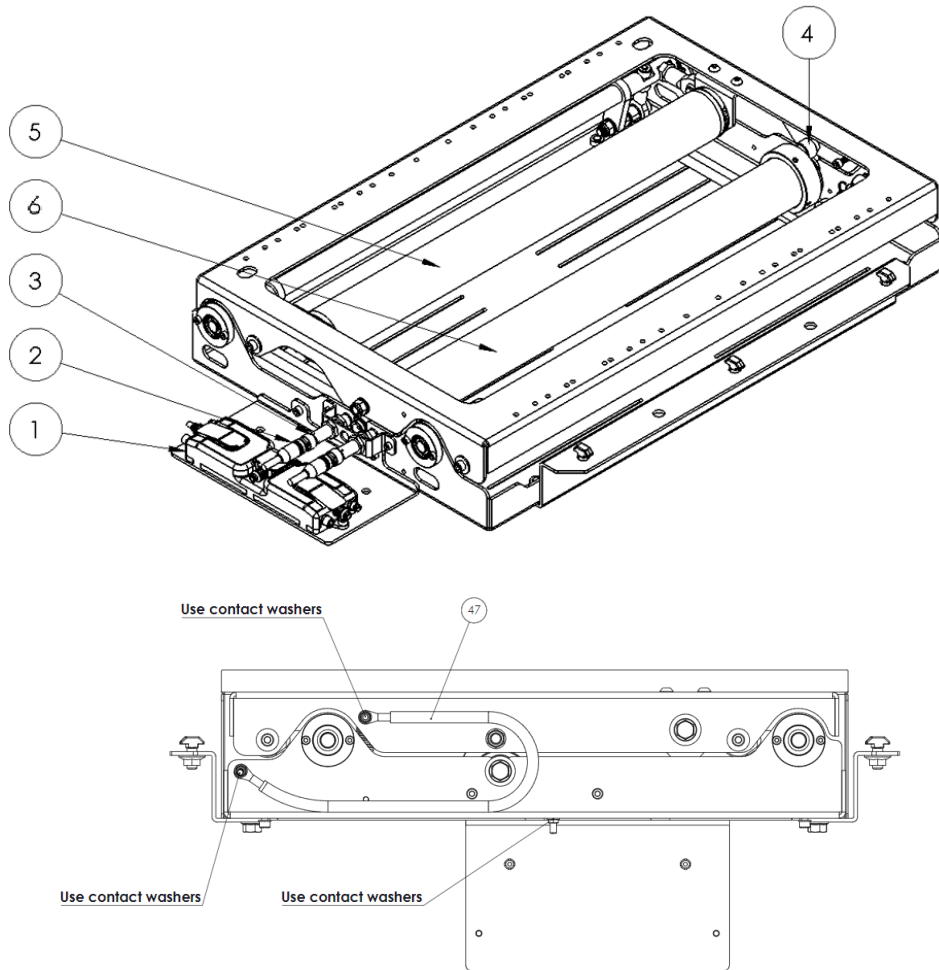
7.4.3 Troubleshooting

Failure	Cause	Correction
Transfer Unit		
Product flow is wrong	Product turns	Check height of Transfer Cassettes
		Check condition of the Transfer Belts
Drive Roller does not turn	The load on the Drive Roller is too high, which causes overheating of the Drive Roller	Lower load per drive roller
	The Drive Roller or the power cable is damaged	Replace Drive Roller
	Zone Controller in failure	Check Failure: 'Zone Controller is not working properly'
Zone Controller is not working properly	No power supply	Check 24V power supply
	Wrong position of the Inductive Sensors	Reposition the Inductive Sensors to their correct positions
	Inductive Sensor is broken	Replace Inductive Sensor
	Zone Controller is defective because of damaging or triggering of the internal fuse	Replace Zone Controller
Zone Controller shows failure	Overheating of the motor	A low RPM causes a decrease in torque, causing possible overheating
Drive Roller doesn't start	Start-up load is too large	Apply the boost mode in the Zone Controller
Drive Roller (Lift Drive) produce noise	Mounting nut loose, due to wrong direction of rotation	Drive Roller (Lift drive) direction of rotation should only be clockwise

Failure	Cause	Correction
Transfer Cassette		
Transfer Cassette doesn't reach desired speed	Load too high	Lower Load
		Change Drive roller
Product isn't transported	Load too high	Lower Load
		Change Drive roller
	Belt tension too low or too high	Check belt tension
	Transfer Belt is worn	Replace Cassette or Transfer Belt
Transfer Cassette produce noise	Transfer Cassette collides with roller	Align Transfer unit
Transfer Cassette don't reach desired height	Drive Roller (Lift Drive) doesn't work.	Check Inductive Sensors
		Check for blockage
		Check Zone Controller

7.4.4 Spare parts

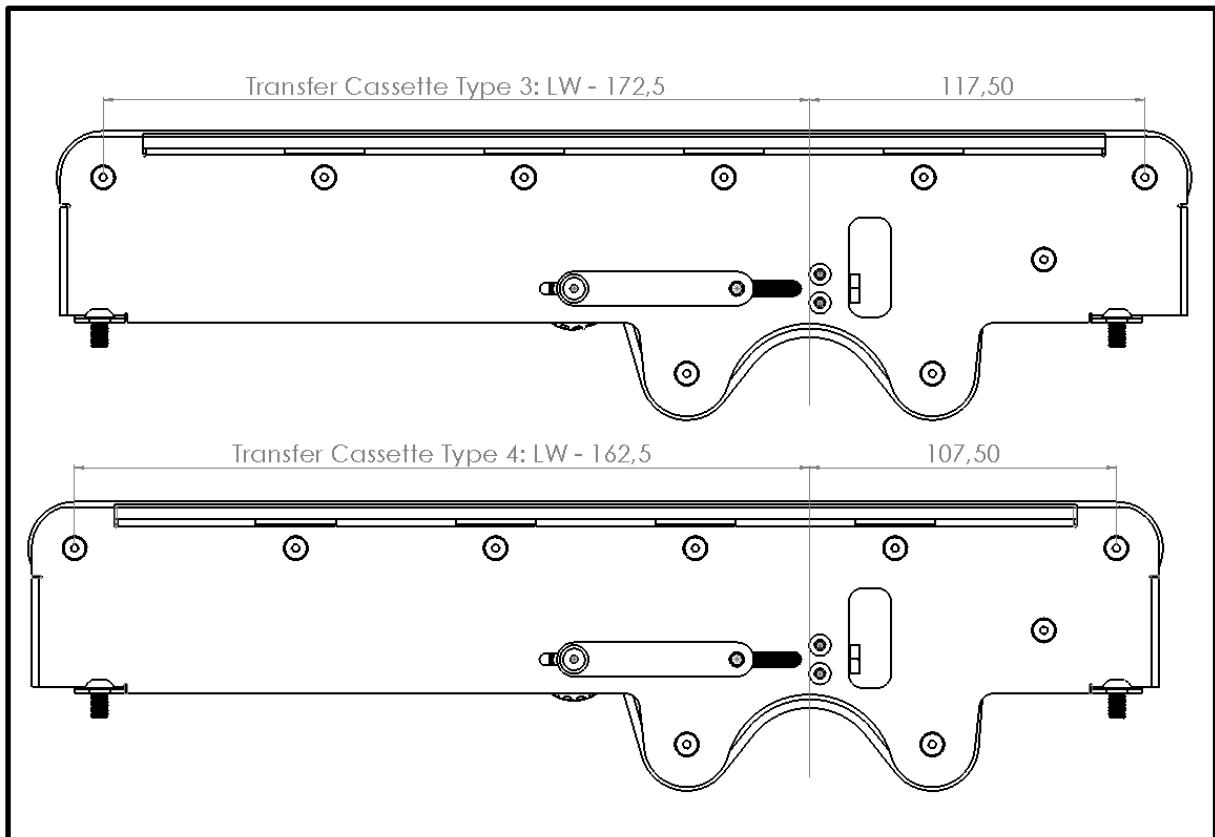
7.4.4.1 ERS Transfer Module



Pos.	Art. number	Width(LW)	Comment
1	ERS040305010004	-	Zone Controller Profinet
	ERS040305010006	-	Zone Controller EtherCAT
2	040310110024	-	Sensor Cable
3	040310010013	-	Sensor, Leuze IS
		-	212MM/4NO-4EO-S12
4	040310910000	-	Cam Follower
5	ERS040301050000	-	Drive Roller (Lift Drive)
6	ERS040301041528	-	Drive Roller (Cassette Drive)
		-	1,31 m/s
	ERS040301042528	-	Drive Roller (Cassette Drive)
		-	0,98 m/s
	ERS040301043528	-	Drive Roller (Cassette Drive)
		-	0,78 m/s
	ERS040301044528	-	Drive Roller (Cassette Drive)
		-	0,65 m/s

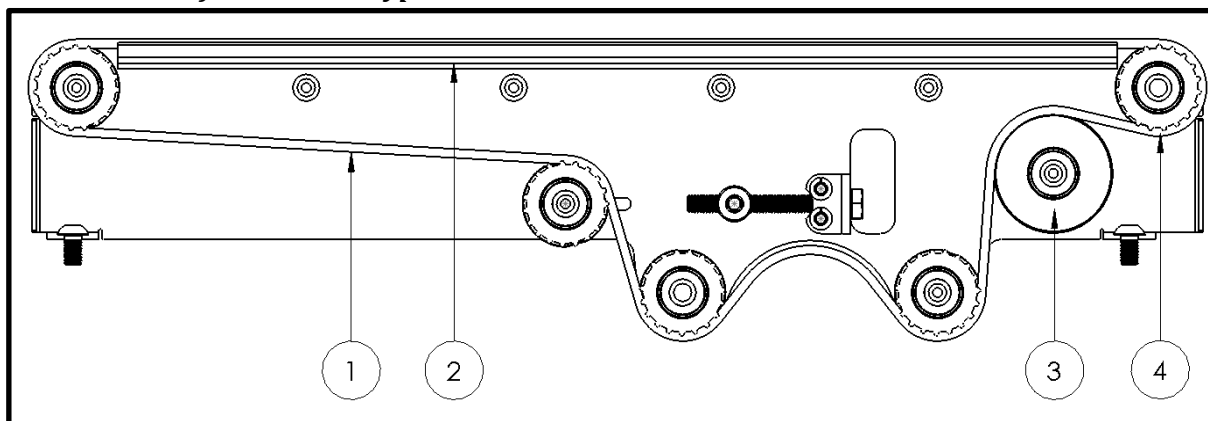
47		ERS040301045528	-	Drive Roller (Cassette Drive)
		ERS040301046528	-	0,44 m/s
		ERS040301047528	-	Drive Roller (Cassette Drive)
		100342260	-	0,33 m/s
				Drive Roller (Cassette Drive)
				0,25 m/s
				Grounding cable

7.4.4.2 Transfer Cassettes



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS040303033420	420	Type 3
2	ERS040303034420	420	Type 4
3	ERS040303033520	520	Type 3
4	ERS040303034520	520	Type 4
5	ERS040303033620	620	Type 3
6	ERS040303034620	620	Type 4
7	ERS040303033820	820	Type 3
8	ERS040303034820	820	Type 4

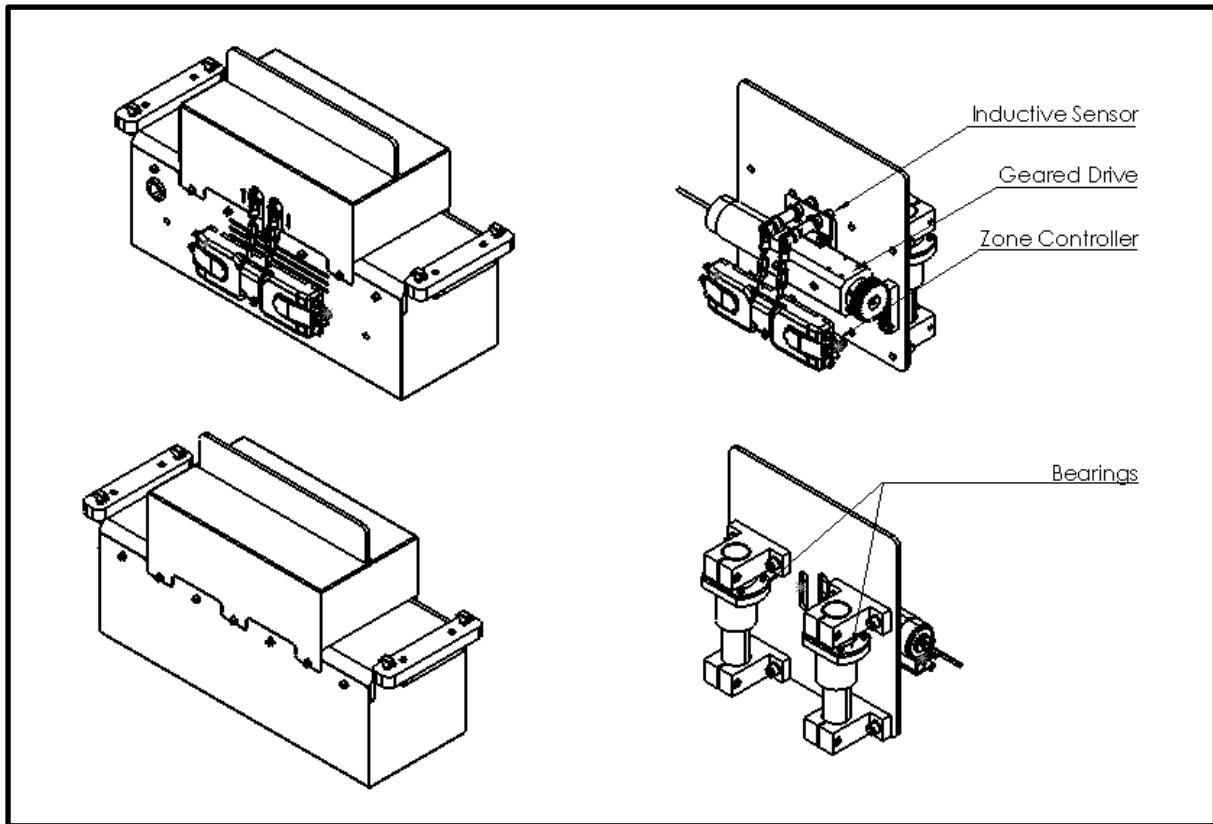
7.4.4.3 Transfer Cassettes type 3 and 4



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	100294899	420	Sleek Belt (white)
	100272624	520	Sleek Belt (white)
	100272625	620	Sleek Belt (white)
	100303005	420	High Grip Belt (blue)
	100305377	520	High Grip Belt (blue)
	100305378	620	High Grip Belt (blue)
2	040306700420	420	Guide Strip
	040306700520	520	Guide Strip
	040306700620	620	Guide Strip
	040306700820	820	Guide Strip
3	ERS040303040003	-	Return Roller
4	ERS040303040000	-	Support Roller

7.5 ERS 51, 52 24V Stopper Module

7.5.1 Maintenance



	Part	Inspection	Result	Action
1.	Geared Drive	Mounting check	Mounting bolt too loose	Tighten
		Acoustic check	Noise	Replace component
		Visual check	Damaged Roller	Replace component
			Damaged Motor Cable	Replace component
2.	Bearings	Acoustic check	Noise	Replace component
3.	Inductive Sensor	Visual check	LED not burning	Check / Replace Wiring
				Check Power Supply
				Replace Sensor
4.	Zone Controller	Visual Check	Contamination	Clean
			Cables not connected	Reconnect cables
			No Power	Check Power Supply
			Damaged	Replace component

7.5.2 Replacements

7.5.2.1 24V Stopper Module housing dismounting/ mounting



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

Step 1.

Remove all cables connected to the Zone Controller.

Step 2.

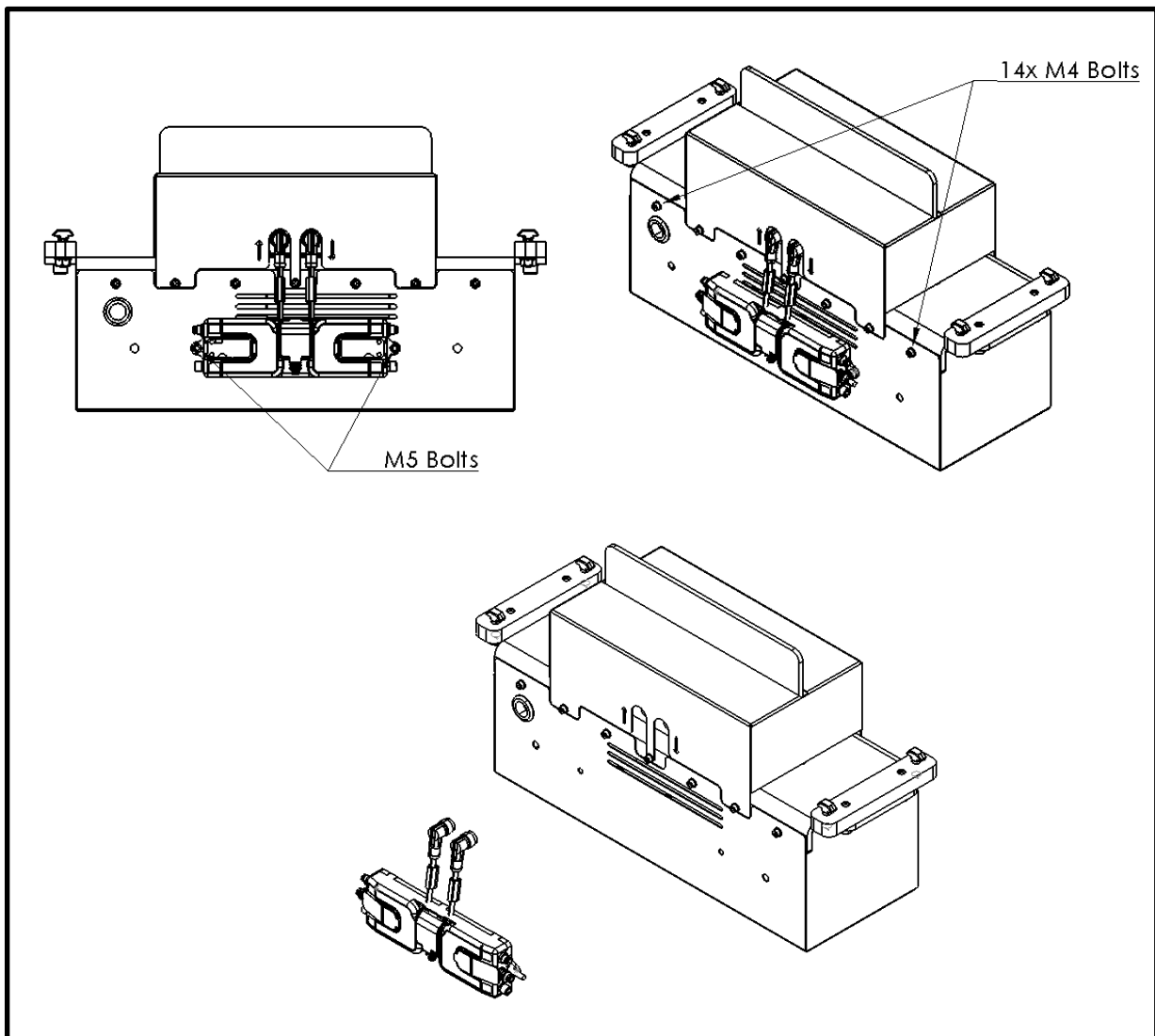
Remove the M5 bolts holding the Zone Controller.

Step 3.

Remove the Zone Controller.

Step 4.

Remove the M4 bolts around the Module; the bottom and top cover are now detached.



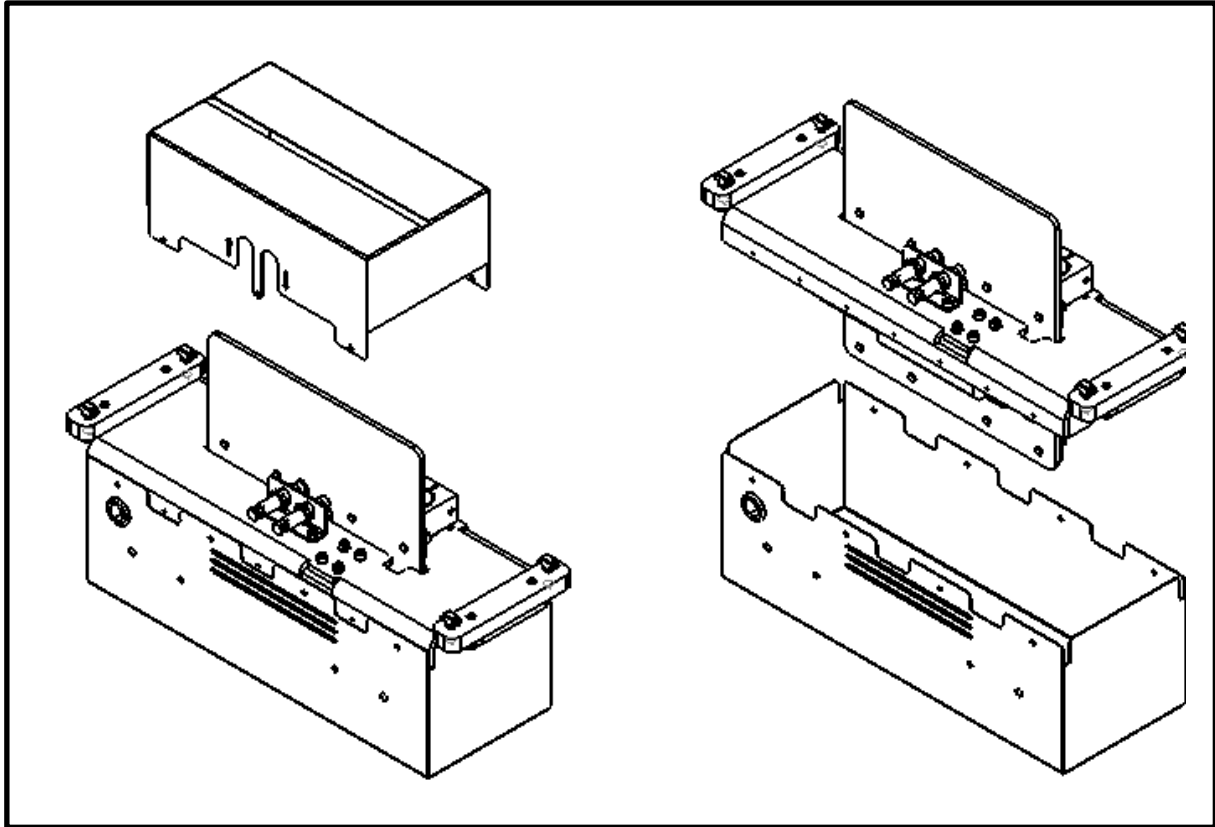
Step 5.

Remove the top cover.

Step 6.

Remove the bottom cover.

Mounting could be done by repeating the steps in reverse order.



7.5.2.2 Zone Controller Replacement



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

Step 1.

Remove all the cables connected to the Zone Controller.

Step 2.

Remove the two M5 bolts holding the Zone Controller.

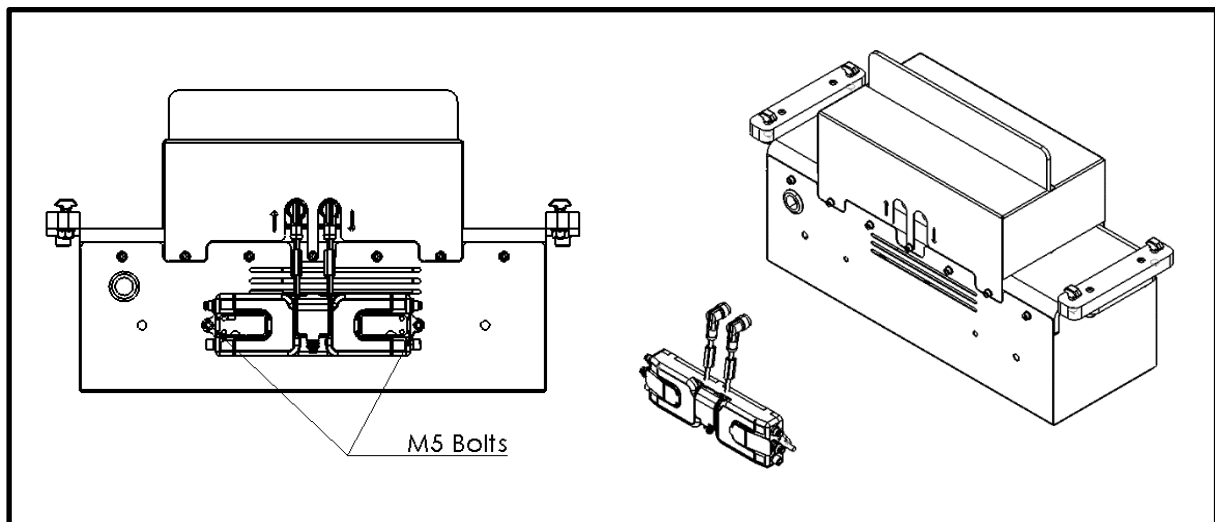
Step 3.

Remove the Zone Controller from the Module.

Step 4.

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

In case of doubt on the connection of the Zone Controller, advise the user manual of the Zone Controller.



7.5.2.3 Bearing Replacement



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

Step 1.

Remove the housing as described in '*24V Stopper Module housing dismounting/ mounting*'.

Step 2.

Remove the M8 bolts.

Step 3.

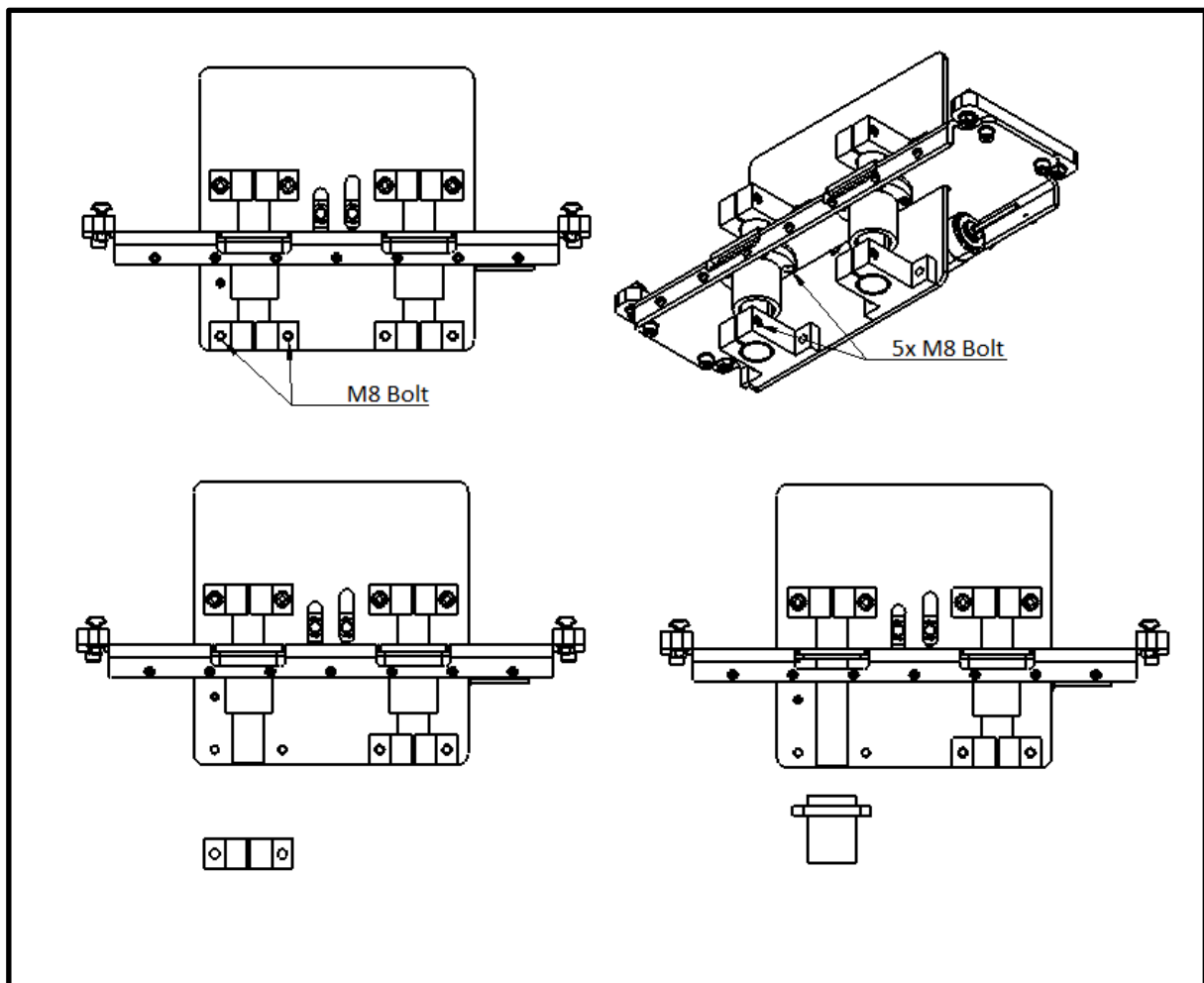
Remove the guidance fixation on the bottom side of the bearing.

Step 4.

Remove the bearing from the guidance.

Step 5.

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



7.5.2.4 Geared Drive Replacement



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

Step 1.

Remove the housing as described in '*24V Stopper Module housing dismounting/ mounting*'.

Step 2.

Remove the 4 M5 bolts on top of the Geared Drive; the Geared Drive is now detached.

Step 3.

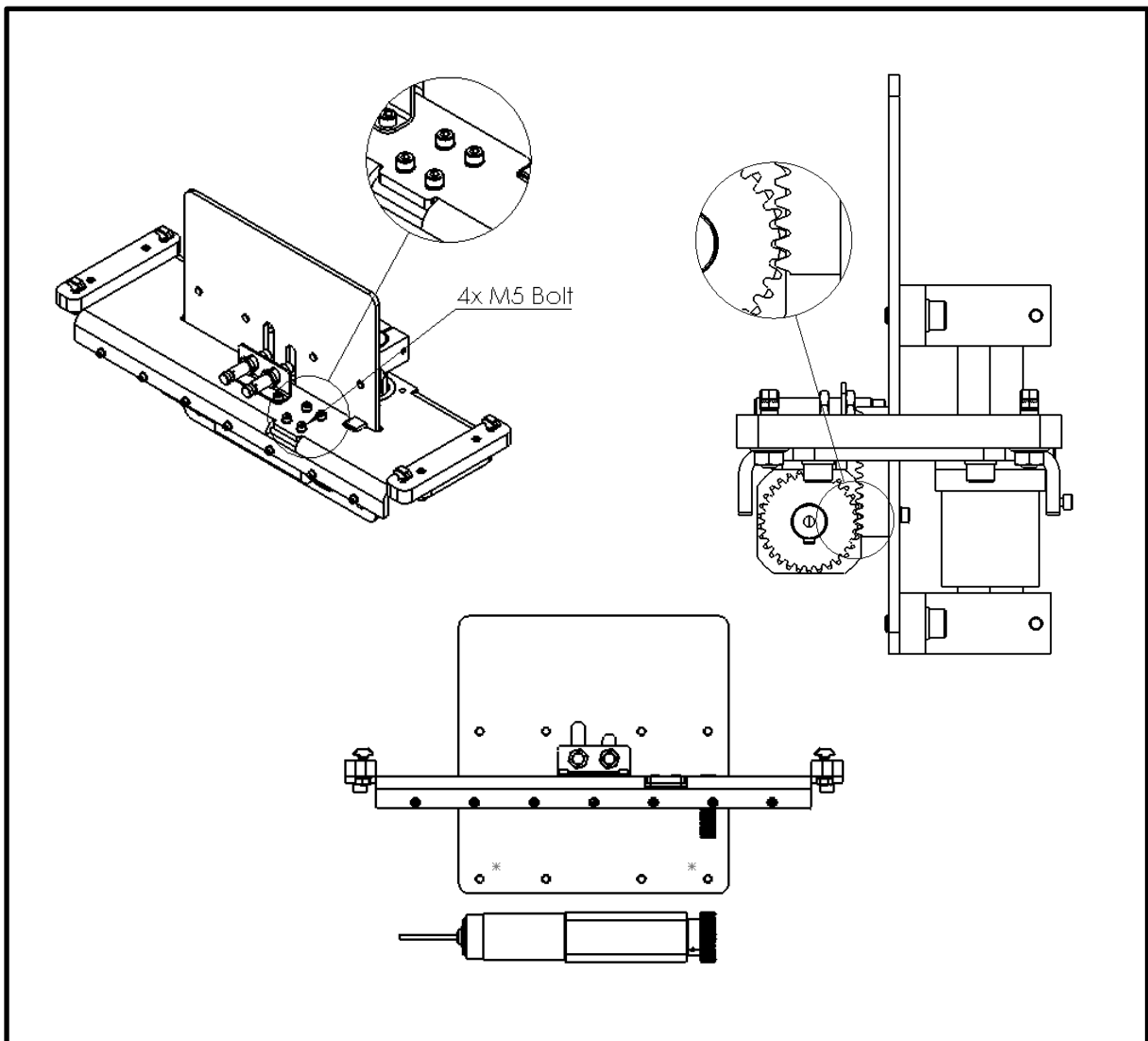
Carefully remove the Geared Drive from the rack guidance.

Step 4.

Remove the Gear.

Step 5.

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



7.5.2.5 Inductive Sensor and Sensor Cable Replacement



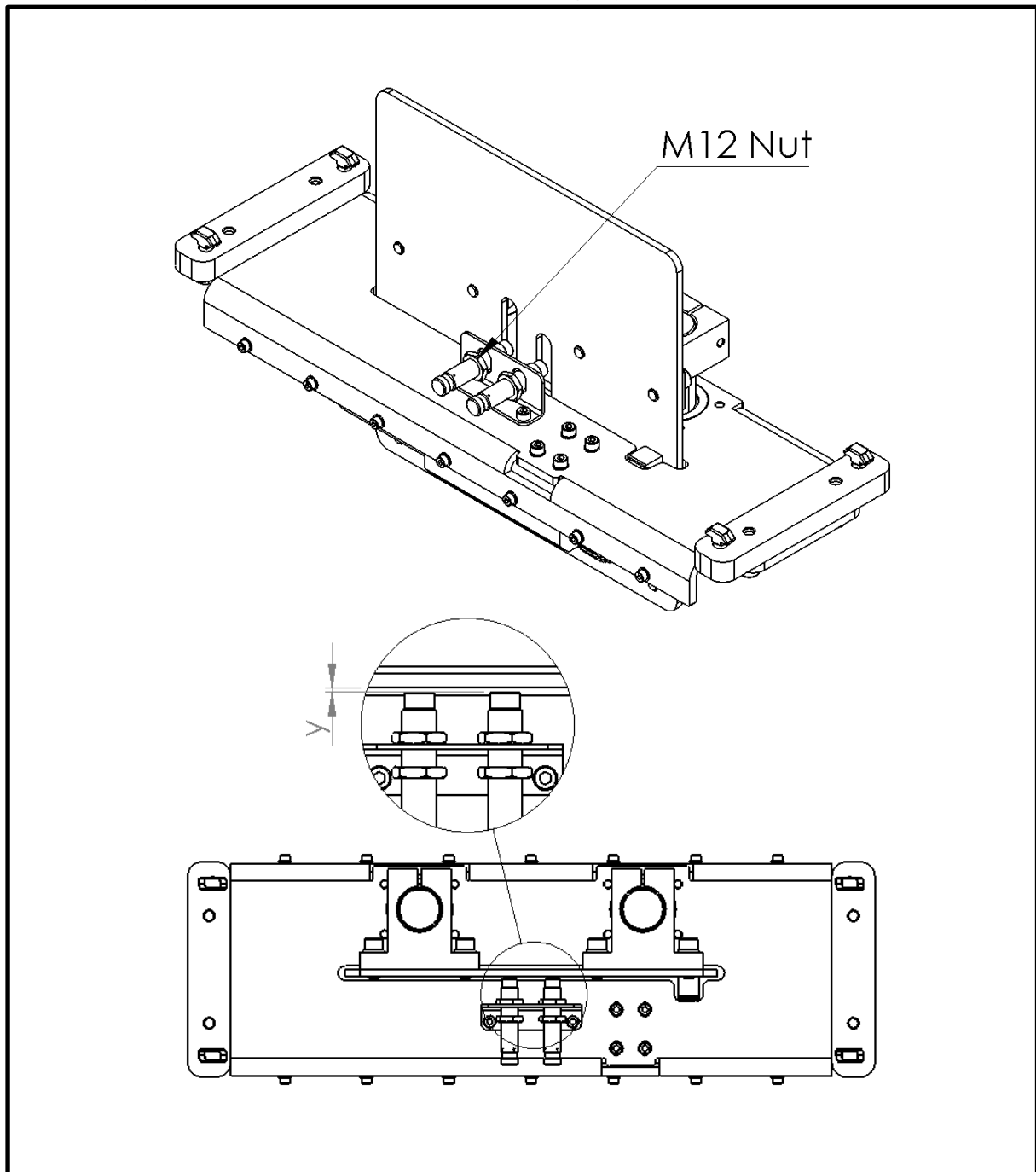
Make sure the Module is disconnected from the power source when carrying out cleaning, maintenance or replacements.

Step 1.

Remove the Inductive Sensor by removing the M12 nut.

Replacing the Inductive Sensor or Sensor Cable could be done by repeating the steps in reverse order.

The distance y between the Inductive Sensor and Sensing object has to be set between 0,5 – 2,0 mm.

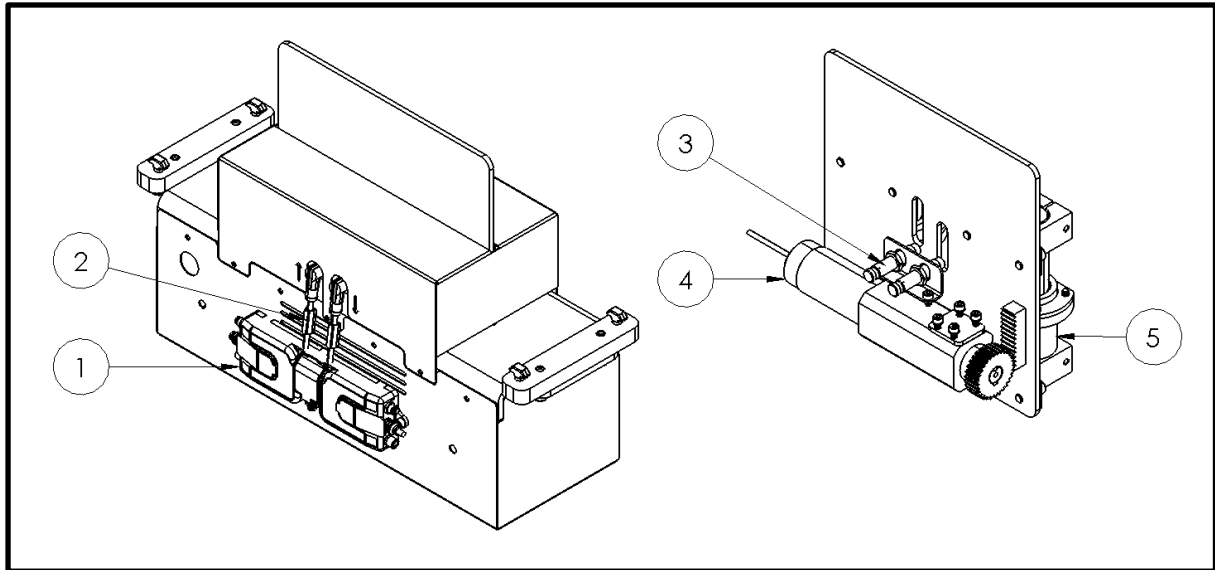


7.5.3 Troubleshooting

Failure	Cause	Correction
ERS 61 24V Stopper Module		
Stopping Plate is not working properly	Bearing is damaged	Replace Bearing
	Wrong position of the Inductive Sensors	Reposition the Inductive Sensors to their correct positions.
	Inductive Sensor is broken	Replace Inductive Sensor
	The Geared Drive or the power cable is damaged	Replace Geared Drive
	Zone controller in failure	Check Failure: 'Zone Controller is not working properly'
Zone Controller is not working properly	No power supply	Check 24V power supply
	Wrong position of the Inductive Sensors	Reposition the Inductive Sensors to their correct positions.
	Inductive Sensor is broken	Replace Inductive Sensor
	Zone Controller is defective because of damaging or triggering of the internal fuse	Replace Zone Controller
Zone Controller shows failure (check User Manual Pulseroller, ConveyLinx Ai2)	Overheating of the motor	A low RPM causes a decrease in torque, causing possible overheating

7.5.5 Spare parts

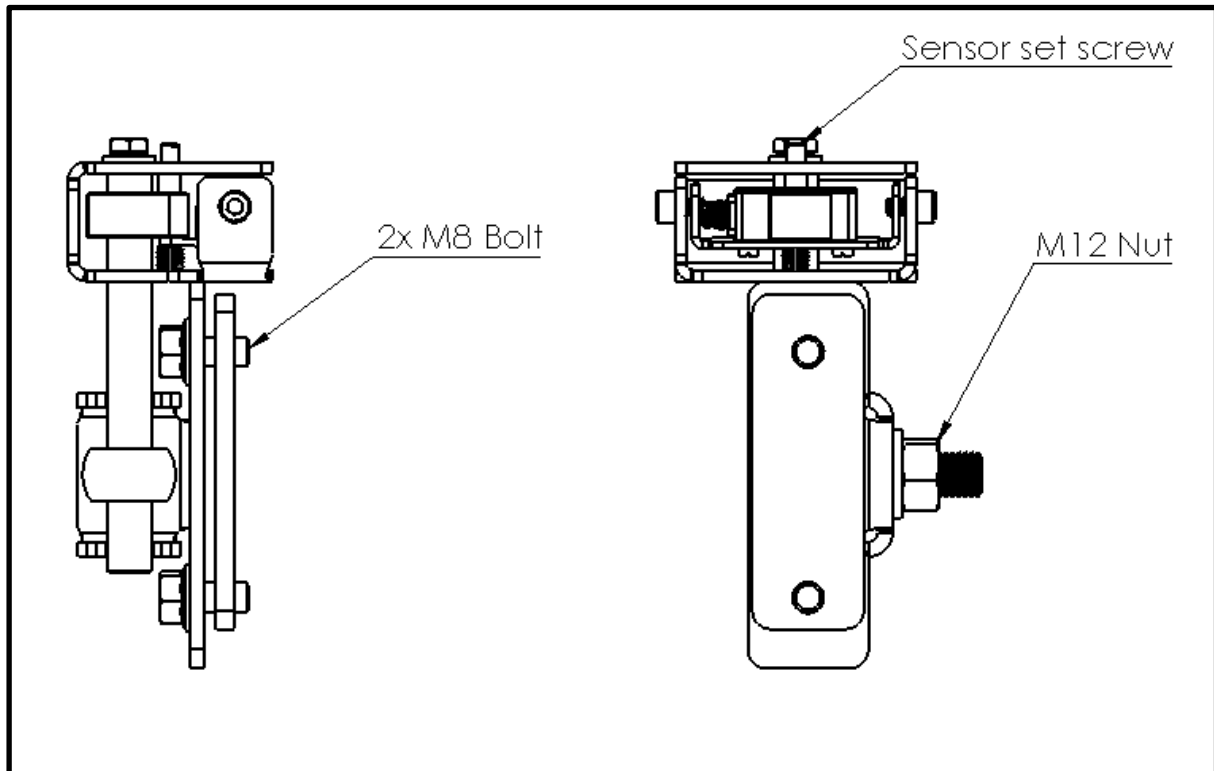
7.5.5.1 ERS 24V Stopper module



POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS040305010004	-	Zone Controller Profinet
	ERS040305010006	-	Zone Controller EtherCAT
2	040313000086	-	Sensor Cable
3	040310010004	-	Sensor, Leuze IS 212MM/4NC-4NO-S12
4	ERS040301041003	-	Geared Drive
5	040310930002	-	Bearing

7.6 ERS Sensor and Reflector

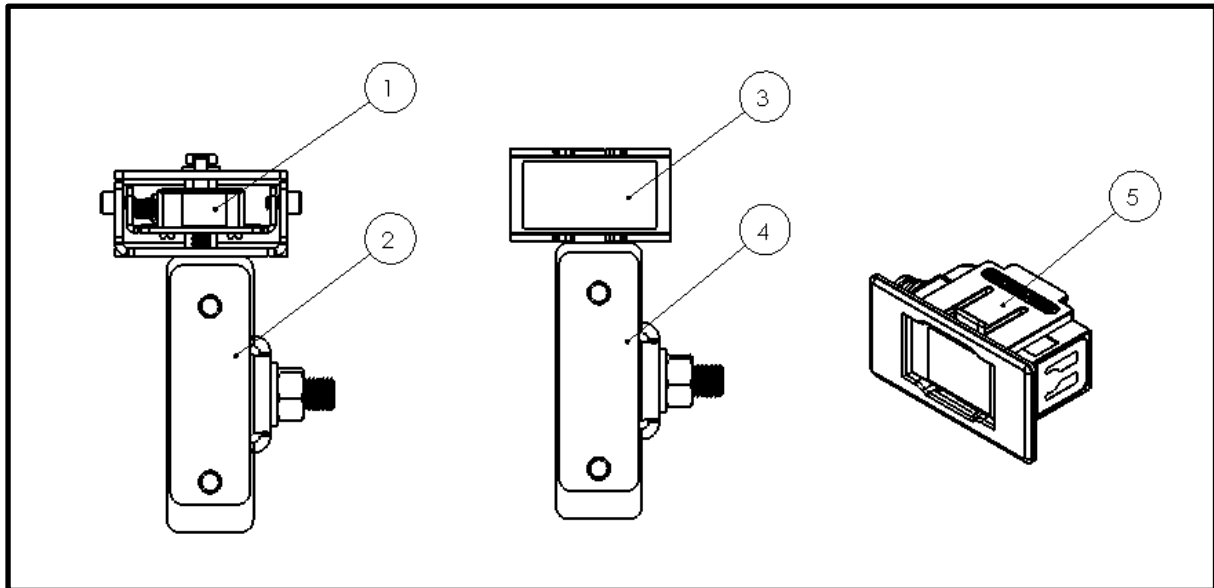
7.6.1 Maintenance



	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

7.6.2 Spare parts

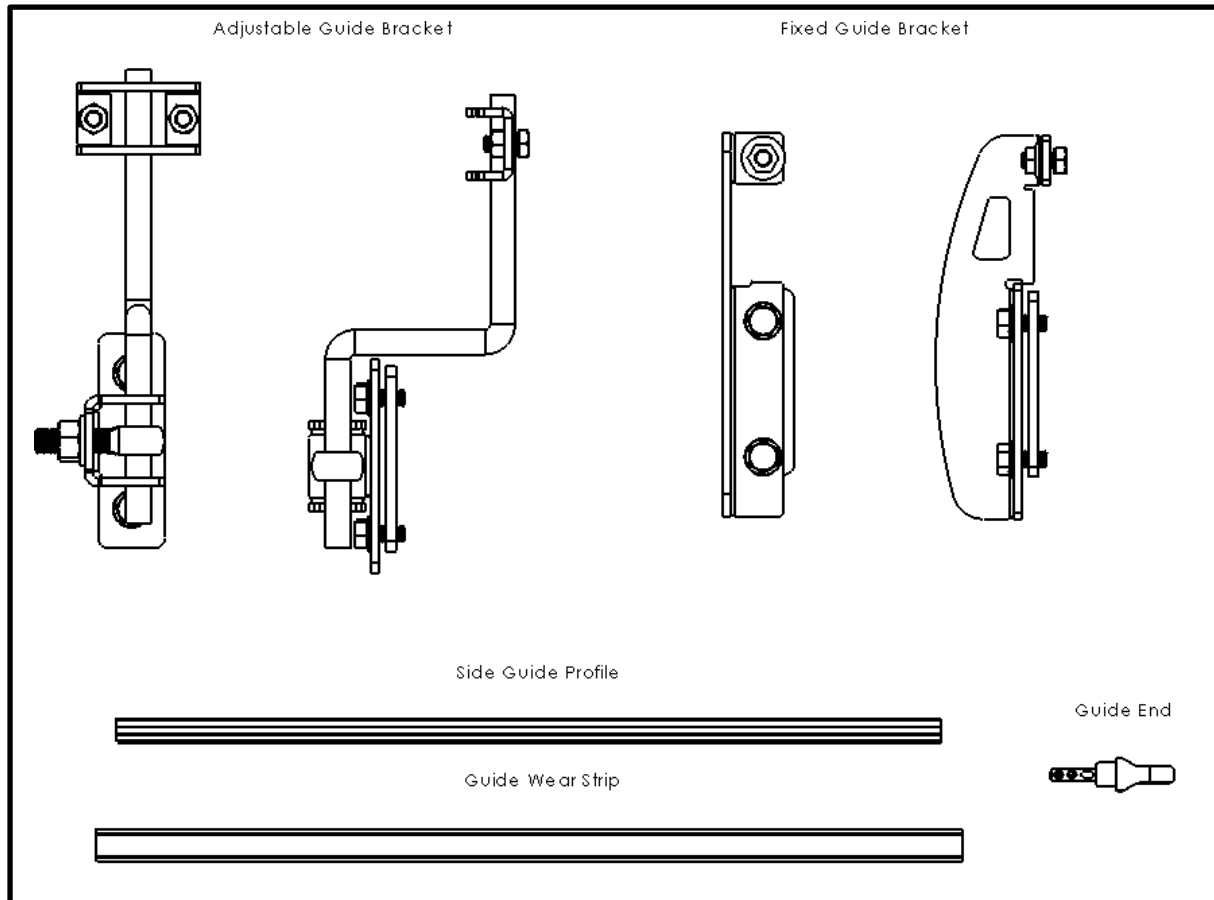
7.6.2.1 ERS Sensor and Reflector



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

7.7 ERS Side Guide

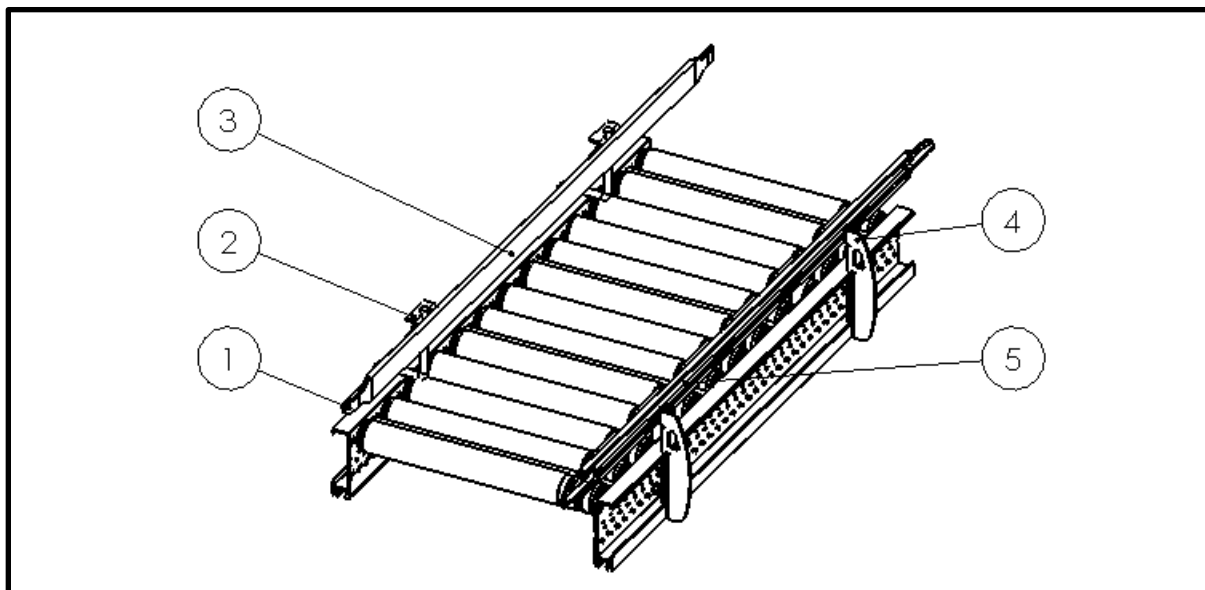
7.7.1 Maintenance



	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

7.7.2 Spare parts

7.7.2.1 ERS Side Guide

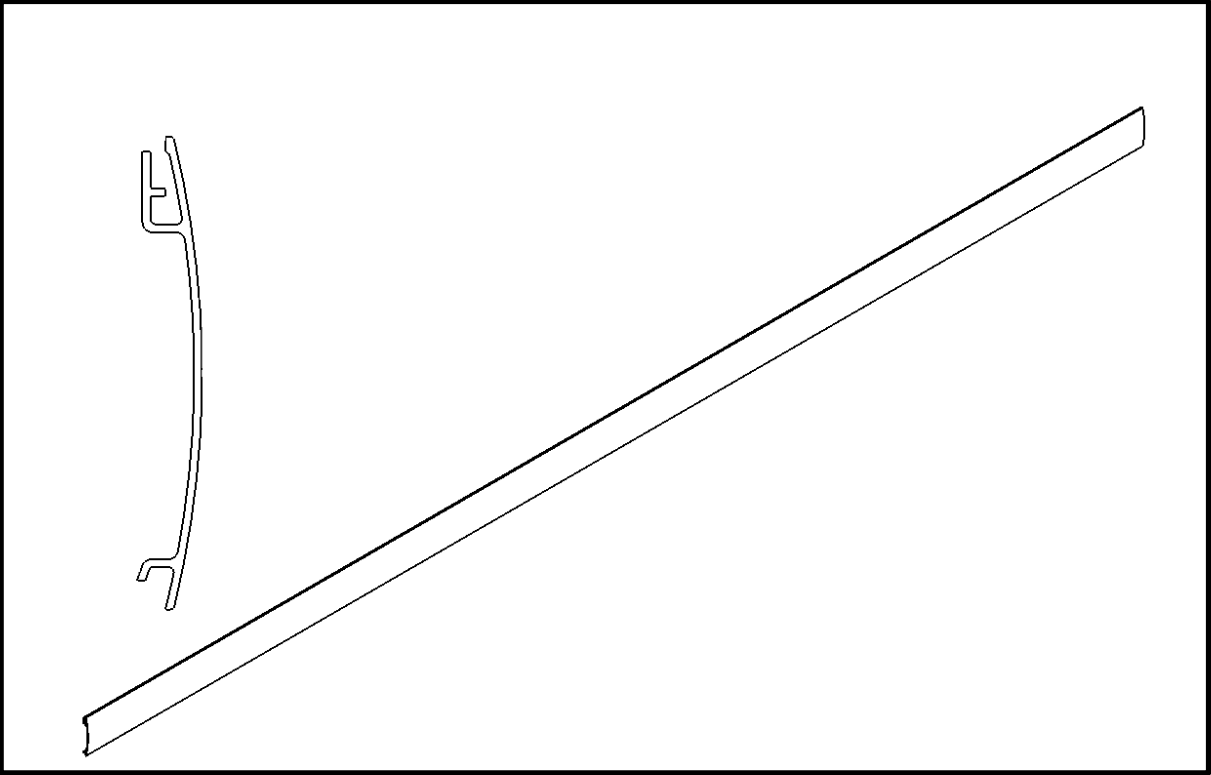


POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ETS040809050000	-	Guide End
2	ERS040311000002	-	Adjustable Guide Bracket
3	ECP040103000000	-	Guide Wear Strip (3000 mm)
4	ERS040311010000	-	Fixed Guide Bracket
5	ETS040809000000	-	Side Guide Profile (5600 mm)

7.8 ERS Side Cover Profile

7.8.1 Spare parts

7.8.1.1 ERS Side Cover Profile

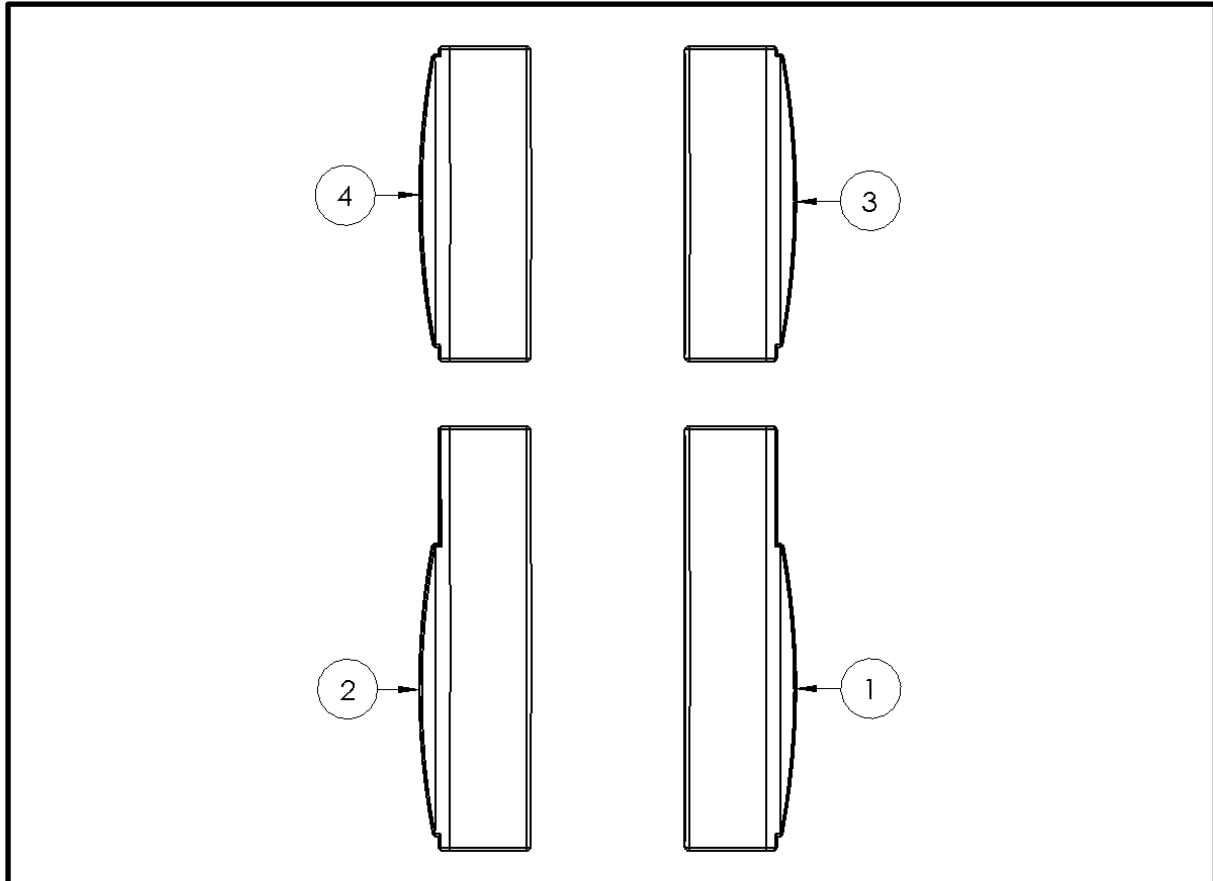


POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	040307000002	-	ERS Side Cover Profile (3000 mm)

7.9 ERS Cover Caps

7.9.1 Spare parts

7.9.1.1 ERS Cover Caps

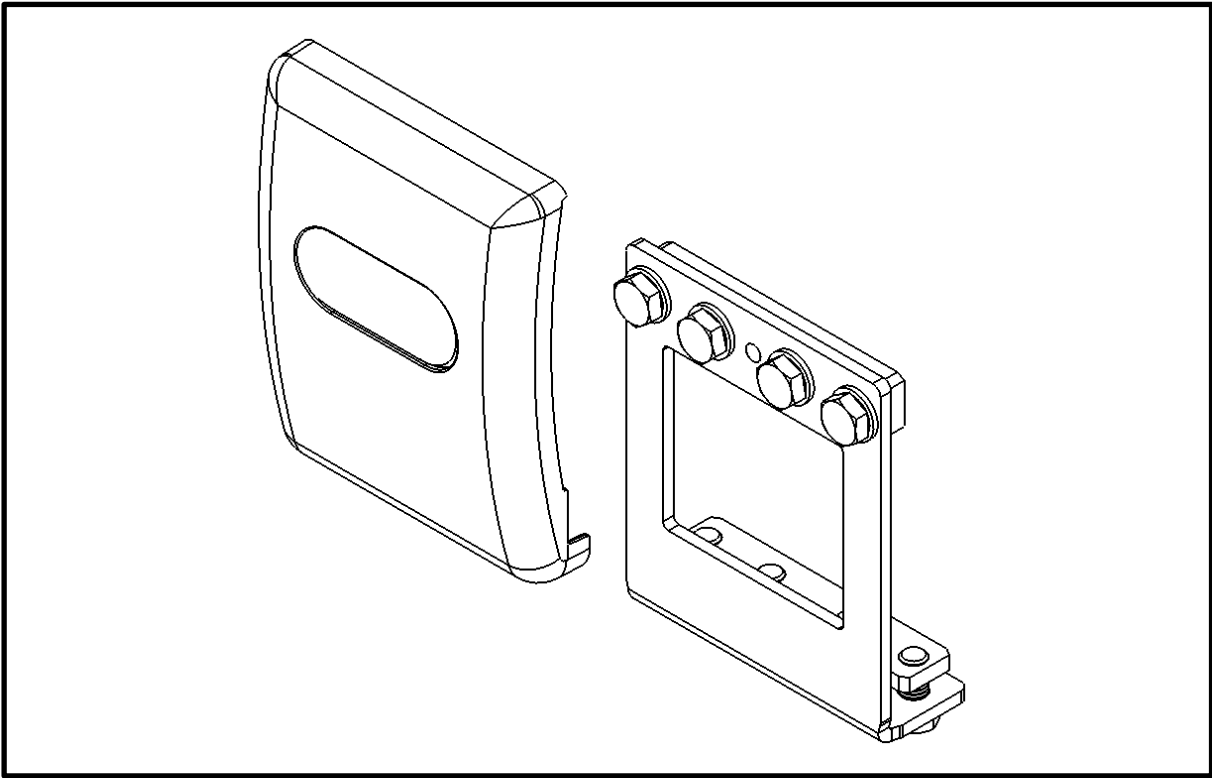


POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	040306080001	-	Cover Cap Right High
2	040306080002	-	Cover Cap Left High
3	040306080003	-	Cover Cap Right Low
4	040306080004	-	Cover Cap Left Low

7.10 ERS Straight Connector

7.10.1 Spare parts

7.10.1.1 ERS Straight Connector

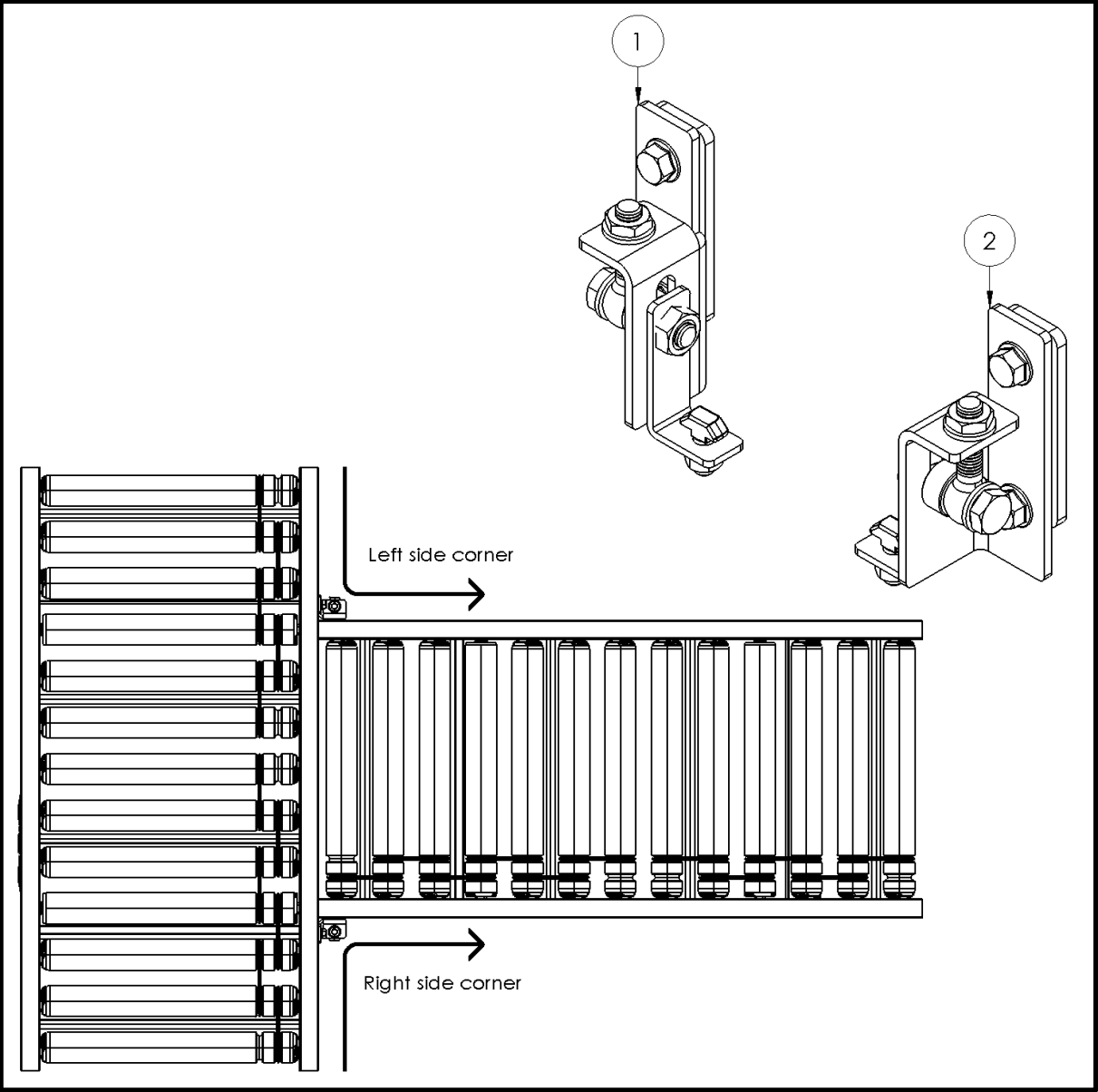


POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS04030504000	-	ERS Straight Connector

7.11 ERS 90° Connector

7.11.1 Spare parts

7.11.1.1 ERS 90° Connector

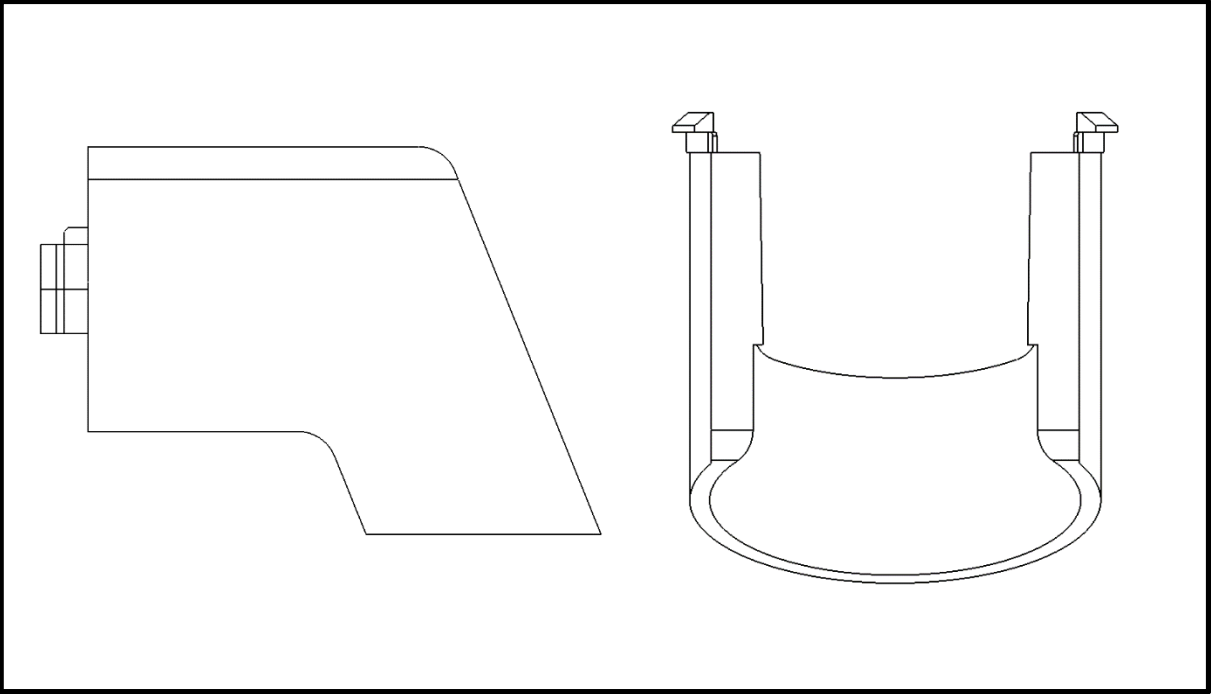


POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	ERS040305040002	-	ERS 90° Connector – Right side corner
2	ERS040305040005	-	ERS 90° Connector – Left Side corner

7.12 ERS Finger Safety

7.12.1 Spare parts


7.12.1.1 ERS Straight Connector




POS.	ART. NUMBER	WIDTH(LW)	COMMENT
1	040309060012	-	Finger Safety Guard

8 Storage and disposal

8.1 Storage

	<p>Storage</p> <ul style="list-style-type: none"> - Store the ERS Roller driven Conveyor Modules indoors. - Never store the ERS Roller driven Conveyor Modules outdoors, in a dusty or in a humid environment. - Do not add additional loads unto the packaged ERS Roller driven Conveyor Modules.
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8.2 Disposal

	<p>Disposal</p> <p>When the ERS roller driven Conveyors Module 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.</p> <p>For the correct proposal please check your local waste disposal regulations!</p>
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9 Appendix

Attachments:

- Declaration of Incorporation of partly completed machinery
- Table Sheet Infeed – Outfeed Module

Manuals:

- Zone Controller, Profinet
- Zone Controller, EtherCAT
- Zone Controller, Zone Controll.
- Drive Roller, Interrol RollerDrive EC310
- Inductive Sensor, Leuze IS 212MM/4NC-4NO-S12
- Inductive Sensor, Leuze IS 212MM/4NO-4EO-S12
- Inductive Sensor, Leuze IS208MM/4NO-1E5-S12
- Photoelectric Sensor, Leuze PRK5/4P-M8
- Geared Drive, Pulseroller, PGD Ai
- QuickMove 3.0 Product specification (Wiring diagrams)
- QuickMove 3.1: Hardware Description (incl. wiring)

Table sheet Infeed – Outfeed Module

Dimensions of Infeed – Outfeed Module

The angles and separations of an Infeed – Outfeed module define the dimensions of the module. The following tables show the standard dimensions for the modules.

Dimension LW in mm	Dimension LWT in mm	Module width ML in mm	Front length F in mm	Module width ML in mm	Front length F in mm
		with angle $\alpha = 45^\circ$ and roller pitch P = 75 mm		with angle $\alpha = 45^\circ$ and roller pitch P = 75 mm	
420	420	900	637.5	1200	937.5
520	420	900	637.5	1200	937.5
620	420	900	637.5	1200	937.5
820	420	900	637.5	1200	937.5
420	620	1200	787.5	1500	1312.5
520	620	1200	787.5	1500	1312.5
620	620	1200	787.5	1500	1312.5
820	620	1200	787.5	1500	1312.5
620	820	1500	1012.5	1950	1612.5
820	820	1500	1012.5	1950	1612.5

Declaration of Incorporation of partly completed machinery



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 51, 52 24 Volt roller driven 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

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

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

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, 11/10/2020

Heino Heitplatz, Head of LGCTC

Björn Eisbach, Product Manager LGCTC



Appendix 1

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

General designation	QuickMove
Model/type designation	ERS 51, 52 24 Volt roller driven conveyor modules
Unique identification number	

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



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



Appendix 2

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

General designation	QuickMove
Model/type designation	ERS 51, 52 24 Volt roller driven 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.