Operating instructions and spare parts list

Belt conveyor - straight
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Master document

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English (US) (Englisch)

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Variants contained:

- Drives (standard)
- Drives (standard)
- Supports
  - BE, BM, AM, HE, HM (standard)
- Accessories
  - Guiding- and storage structures (standard)

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1 General

1.1 Use and storage

Compliance with the following points is mandatory:

- These operating instructions are indispensable for the safe start-up, operation, and maintenance of the unit/machine in line with its intended purpose.
- These operating instructions apply solely to the product that is stated on the cover sheet.
- We reserve the right to change these operating instructions due to further technical developments.
- These operating instructions are part of the scope of supply.
- These operating instructions apply from the transport phase up to final disposal and must be observed.
- Maintain these operating instructions in a clearly legible state and keep them readily available to the operating personnel near the unit/machine. Hand over the document along with the machine if it is resold.
- These operating instructions are intended solely for briefed and authorized personnel with the necessary qualifications.
- The operator must ensure that all of the persons involved read and understand the operating instructions prior to commencing their work.
- The “Safety” chapter provides an overview of all of the important safety aspects in order to ensure the optimum protection of the operating personnel and the safe and trouble-free operation of the system.
- The manufacturer accepts no liability for damage resulting from non-compliance with these operating instructions.
- Substances that are harmful to the environment or hazardous to health must be correctly and separately disposed of.
- Reprints, translations or reproductions in any form, either entirely or in parts, are not permissible unless authorized in writing by the publisher.
- The copyright is held by the manufacturer.

1.2 Information about the manufacturer and contact address

MTF Technik
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1.3 Symbols and abbreviations

The following is a list of the most important abbreviations used in these operating instructions.

Abbreviation	Designation
Fig.	Figure
BA	Operating instructions
EC	European Community
EU	European Union
EEA	European Economic Area
IP	Ingress protection
Pos.	Position number
ProdSV	Ordinance to the Product Safety Law (Machine Directive)
pcs.	Pieces
Tab.	Table
VDE	Verband der Elektrotechnik Elektronik Informationstechnik e.V. (Association of Electrical Engineering, Electronics and Information Technology)

Tab. 1: Abbreviations

The following is a list of the most important units used in these operating instructions.

Unit	Designation	Physical quantity
°C	Degree Celsius	Temperature
rpm	Revolutions per minute	Speed
A	Ampere	Magnitude of the electric current
kW	Kilowatt	Power
mm	Millimeter	Length
Pa	Pascal	Pressure
V	Volt	Electrical voltage

Tab. 2: Units

The following elements form parts of these operating instructions:

Numbered lists in handling instructions:

1. Step 1
2. Step 2
3. …

Numbering in figures and legends:

1 Component 1
2 Component 2
3 …

Bullet point list for information without a particular sequence:

- Information
  - Sub-item
  - Sub-item

  …
- Information

…

NOTE

- The signal word **Note** marks additional information concerning the machine or its accessories.
- See the chapter **Depiction of Warning Instructions** for further signal words and symbols.

Internal reference:

This is used to mark references within the document leading to additional information.

External reference:

This is used to mark references to external documents in which additional information can be found.

Disposal of used electrical and electronic devices

The symbol on the product or packaging indicates that this product should not be treated as normal household waste. Instead, it must be handed over to a reception point for the recycling of electrical and electronic devices. Further information can be obtained from your local council, local waste disposal operators, or specialized traders.

1.4 Scope of application

- The product complies with the directives of the European Union.
- Please observe:
  - the enclosed CE declaration of conformity,
  - the information about the intended use and
  - the information about any improper use which is not in line with the intended purpose.

1.5 Other applicable documents

These further applicable documents are relevant for the utilization of this product and these operating instructions:

- CE declaration of conformity
- General terms and conditions, including warranty information
- Drawings
- Sound measurement report
- Information about accessories
- Documentation provided by third-party manufacturers
- Electrical documentation
- Safety data sheets
- Project drawings

1.6 Warranty

Warranty claims must be submitted to the manufacturer immediately after a defect or fault has been detected.

- The warranty becomes null and void in all cases in which liability claims cannot be enforced.
- The information, data and notes included in these operating instructions were up to date at the time of printing.
- No claims for the modification of systems and components that have already been supplied may be made on the basis of the information, illustrations and descriptions in these operating instructions.
- The information in these operating instructions describes the characteristics of the product without guaranteeing them.
- No liability will be accepted for damage and malfunctions resulting from:
  - Failure to observe the operating instructions
  - Unauthorized modifications to the system
  - Operating errors
  - Failure to perform the specified maintenance tasks

2 Safety

2.1 General safety information

The “Safety” chapter provides an overview of all of the important safety aspects for the optimum protection of the personnel and for the safe and trouble-free utilization of the machine from the transport phase and system operation up to its disposal.

Non-compliance with the instructions and safety notes in these instructions for use may lead to substantial hazards to persons and damage to the machine.

The machine has been designed and manufactured in line with the state of the art and the recognized safety regulations and standards. The machine is safe to operate.

The machine may present residual risks if

- the machine is not used in line with its intended use.
- the machine is operated improperly by untrained or uninstructed personnel.
- the machine is repaired or maintained improperly.
- the safety instructions and warnings that are stated in this instruction manual are not adhered to.
- the machine is modified or converted improperly.
- the prescribed maintenance tasks are not performed in due time.

2.2 Compliance with the instructions for use

NOTE

Any person who is ordered to work on or with the machine must have read and understood these operating instructions, in particular, the “Safety” chapter.

Knowledge of, and compliance with, the content of these instructions is absolutely necessary for the protection of persons against hazards and for avoiding machine faults.

- This is why compliance with all of the safety instructions is mandatory in the interest of your own safety.
- The operating instructions are an integral component of the machine and must be available at the machine at all times. The personnel must read, understand and follow the operating instructions when performing any tasks.
- Please contact the manufacturer without delay (see the chapter "**Information about the manufacturer and contact address**", page 6) if any questions are left open or if parts of these operating instructions are unclear.
- Apart from the safety instructions in this manual, compliance with the following rules and regulations is also mandatory:
  - Intended use
  - The relevant accident prevention regulations
  - Occupational health regulations
  - Generally recognized safety rules
  - Country-specific provisions
  - The documentation concerning any attachments or attachments
  - The documentation provided by third-party manufacturers that is supplied with the machine
  - The information (safety data sheets) provided by the various manufacturers and suppliers of process materials (oils and greases), auxiliary materials, and chemical substances

These rules and regulations can additionally be complemented by specific operating procedures to cover any intra-plant provisions or special operating features.

As a complement to these operating instructions, intra-company briefing must be provided, taking into consideration the professional qualification of the persons attending this briefing.

The product-accompanying documentation provided by MTF Technik does not invalidate the safety regulations of the operator of the overall system, which instead take precedence.

2.3 Intended use

The machine is intended solely for the following uses:

- The conveyor is used to transport unit loads and bulk goods with varying dimensions over a fixed conveying line. The conveying line is determined by the nominal length and angle of inclination.
- The conveyor is intended solely for **commercial use** and not for domestic and private use.

All of the products of MTF Technik as well as all of the other parts that are included in the scope of supply of MTF Technik are intended solely for the purpose that is described in this manual in combination with the technical specification. The technical specification is part of the contract. In particular, the technical data and the provisions concerning the permissible use (assembly, connection, ambient conditions and operating conditions) shall apply. They can be found on the type plate and in the further applicable documents (order documents).

The intended use also includes compliance with the operating instructions and the fulfillment of the inspection and maintenance conditions.

The product-specific documentation can only refer to the intended use of the machine on which the order is based. The operating instructions cannot cover any specific situations arising from special local conditions or special applications that the manufacturer was not aware of. In this case, the operator must ensure the safe operation of the machine or shut the machine down until appropriate measures for the safe operation have been coordinated or implemented in consultation with the manufacturer or other competent authorities.

2.4 Improper use

Any use other than the one described in the chapter "Intended use" and in these operating instructions, and any use going beyond these stipulations, shall be considered as improper use.

The machine is **NOT** intended for the following uses:

- Modifying the machine in any way is strictly prohibited.
- Using the machine if the safety devices and guards have been bypassed or disabled is strictly prohibited.
- Using the machine for the transport of persons is strictly prohibited.
- Transporting loads or materials other than the ones specified in this instruction manual is strictly prohibited.
- Using the machine in potentially explosive atmospheres is strictly prohibited.
- Using the machine in areas which may be subject to the ingress of water of any type (rain, splash water, flooding, etc.) is strictly prohibited.

The following fundamental rules apply at all times:

Any use other than the intended use is an improper use.

The manufacturer cannot be held liable for any resulting damage. The risk for such use shall be borne solely by the user/operator.

Moreover, the use of the device in compliance with applicable international and national safety instructions, and in compliance with the safety instructions in the operating instructions is classed as intended use.

2.5 Foreseeable misuse

The following points describe a foreseeable misuse of the system:

- Set-up on unsuitable surfaces.
- Attachment of transport equipment to the housing.
- Non-compliance with the operating data.
- Non-compliance with the maintenance intervals.
- Incorrect direction of rotation.
- Activation during the rundown of the machine.
- Speed below or above the limit speed.
- Operation without (or with damaged) components that ensure the safety of persons and of the machine.

2.6 Warnings in the instruction manual

Warning notes are marked by a signal word panel in this instruction manual. The warning notes are preceded by signal words indicating the severity of the hazard.

Compliance with the warning notes is imperative in order to avoid accidents, injuries and damage to property.

The following keywords and symbols are used in this instruction manual:

This is the general hazard symbol. It warns of life-threatening dangers.

Measures that are marked with this symbol indicate a danger to persons. Compliance with these warning notes is mandatory in order to avoid injuries or death.

⚠ DANGER

Death or **serious injuries *will result*** if the corresponding safety precautions are not taken.

⚠ WARNING

Death or **serious injuries *may result*** if the corresponding safety precautions are not taken.

⚠ CAUTION

This keyword indicates a potentially hazardous situation that may result in **minor injuries** if it is not avoided.

ATTENTION

This keyword indicates a potentially hazardous situation that may result in **damage to property** if it is not avoided.

2.7 Safety and warning signs on the machine

Any notes or symbols that are affixed to the machine, e.g. safety labels or signs, must be complied with. Do not remove them and ensure that they are legible at all times.

2.8 Operating requirements

As the manufacturer, MTF Technik has no information about any possible interdependence with other systems and devices. This has to be reviewed separately by the operator.

Furthermore, the following conditions must be fulfilled for the normal operation of the machine if they are not part of our area of responsibility:

- Assembly completed as specified.
- Successful test run, including all of the necessary adjustments.
- Briefing of the operating personnel concerning the operation of the machine and the relevant safety regulations.
- If hazards are caused by hot or cold machine parts, these machine parts must be provided with guards to prevent contact.
- Exclusion of hazards caused by electrical energy (see the relevant VDE regulations or the regulations of the utility companies for details).
- Easy access to the machine must be guaranteed.
- Appointment of a person who shall be responsible for the proper operation of the machine.

2.9 Safety devices and guards

There is an increased risk of injury if the safety devices and guards are damaged, modified, removed or disabled. Do not use the machine unless it is fully equipped with all of the protective devices and safety devices and guards.

- Ensure that the safety devices and guards are absolutely fault-free and in perfect working condition.
- The protective devices, safety devices and guards must not be removed, disabled or modified. This also applies to test runs.

NOTE

- Qualified personnel, must check for the trouble-free functioning of the safety equipment, especially after maintenance, repair or overhaul.
- If the machine must be run temporarily without a safety device during maintenance, repair or overhaul, it must be absolutely ensured that no persons are present in the cordoned-off hazard area.

The responsible person (shift supervisor, foreman, etc.) must be informed immediately of any faults concerning the safety devices and guards.

The machine is equipped with the following safety devices and guards:

- Mechanical protection and covers
- Emergency-STOP push-button (can be implemented using the mains switch).

2.10 Duties of the operator

2.10.1 General requirements

The machine must be operated in such a way that it reliably fulfills all of the requirements concerning its intended use and the expected load. The machine must be inspected by a qualified and competent person prior to its initial start-up and also after any type of maintenance, repair, overhaul or structural modification.

2.10.2 Operating instructions

The operating instructions are an integral part of the system. The operator must ensure that the operating instructions are read by every person working on or with the machine. The operating instructions must be accessible at the location of use of the machine at all times.

MTF Technik shall not accept any liability for damage resulting from non-compliance with the product-accompanying documentation.

The operator is required to complement the operating instructions with specific operating procedures in line with the applicable local regulations. Next to the regulations specified hereinafter, this also includes information about the supervisory responsibilities and reporting obligations. The aim is to take into consideration any operational peculiarities concerning the organization of work, the workflow and the appointed personnel.

2.10.3 Local statutory regulations

The operator is responsible for compliance with the binding laws, provisions and decrees and with the existing national regulations concerning the prevention of accidents and with any internal work, operating or safety instructions that are valid at the location of use of the machine.

The following points are part of the applicable local regulations and laws:

- Safety of personnel (accident prevention regulations)
- Safety of work equipment (protective equipment and maintenance)
- Product and material disposal (Waste Management Act)
- Cleaning (cleaning agents and disposal)
- Environmental protection requirements

The operator must ensure that the following tests are performed:

- Test of the machine in terms of its operational safety
- Functional test of the safety devices and guards
- All of the tests that are specified in the maintenance plan

2.10.4 Personnel requirements

The operator must ensure that the following conditions are fulfilled:

- Only trained personnel who are familiar with the fundamental occupational health and safety regulations and who have been instructed in the handling of the machine must be deployed.
- Compliance with the legal minimum age limit.
- Only personnel who have been charged by the operator to do so, are authorized to operate, maintain, repair, and overhaul the machine.
- The area of responsibility, scope of competence and supervision of the personnel must be clearly defined and specified by the operator in order to avoid any ambiguities concerning these points.
- No access to the area of the system for unauthorized persons.
- Compliance with the supervisory responsibilities and reporting obligations as well as with any operational peculiarities.
- Explanation of instructions governing the correct procedures in the event of an emergency. Among other things, knowledge of first-aid measures and the local emergency facilities must be ensured.
- Explanations concerning the handling of hazardous substances.

NOTE

The responsibility for the accident-free operation of the machine lies with the operator or with the personnel authorized by the operator. If the personnel lack the necessary knowledge, corresponding training and instruction must be provided.

2.10.5 Conversions and unauthorized modifications

Any additions or conversions to/of the machine by the operator must be checked for any significant changes. If the change in question is significant, the issued CE declaration of conformity is no longer valid and the operator legally becomes the machine manufacturer. In this respect, please see the machinery directive 2006/42/EC (EEA, Switzerland and Turkey) as well as the machine directive (9th ProdSV, Germany) and, as necessary, national laws and guidelines.

In addition, welding work on load bearing components is not permitted.

2.10.6 Testing

The operator must not start the machine unless a qualified and competent person has performed a test of the machine. This applies to the first start-up of the machine and also to the start of the machine after maintenance, repairs, overhauls or structural modifications.

Based on self-imposed or locally specified regulations, the operator must have the system checked in terms of its operational safety at regular, specified intervals by a qualified and competent person. The results must be recorded in a test log.

2.10.7 Cleaning, maintenance, repair and overhaul

The operator must ensure that the machine and safety devices and guards are kept in a functional state. The control devices as well as the safety devices and guards must be checked in terms of their effectiveness.

Only specialized and trained personnel are authorized to perform maintenance, repairs and overhauls.

The maintenance, repair and overhaul requirements are described in the instructions for use.

2.10.8 Briefing

The operator must protect personnel against any accidents and health hazards and instruct the personnel accordingly before the first performance of a task.

NOTE

The briefing must be repeated at specified intervals (at least once yearly).

- The personnel must read the operating instructions.
- The personnel must attend the briefing.
- The personnel must confirm awareness of the content through their signature.

2.11 Qualification of the personnel

Any work on the machine must be performed by qualified and instructed personnel and strictly in line with the existing rules and statutory regulations. The following points must be fulfilled:

- The personnel must have special knowledge and experience in the respective field of specialization. This applies, in particular, to overhauls and repairs of the electrical, mechanical, hydraulic and pneumatic systems of the machine.
- The personnel must have knowledge of the relevant standards, provisions, accident prevention regulations and operating conditions.
- The personnel must be appointed to perform the required tasks by the person responsible for safety.
- The personnel must be able to identify and avoid any potential hazards.

Depending on the location of use, the necessary qualification of the personnel may be subject to varying statutory provisions. The operator must ensure compliance with the relevant laws. Unless regulated by law, the following list is used to define the permissible personnel and their minimum qualification.

Persons	Task	Qualification	Phase (life cycle)
Qualified personnel for transporting loads	Lifting/lowering and transport of the system	Proven experience in the handling of suspended loads and in the securing of loads [1)]	Transport, assembly, disassembly and removal
Qualified personnel (mechanics)	Mechanical work during: installation, start-up, elimination of faults and malfunctions, maintenance and shutdown	Training as an industrial mechanic or an equivalent professional qualification (in-house training and/or external training) [1)]	Installation, start-up, elimination of faults and malfunctions, maintenance, shutdown, disassembly and removal
Qualified personnel (trained electricians)	Electrical work	Specialized electrical training or an equivalent professional qualification (in-house training and/or external training) [1)]	Installation, start-up, elimination of faults and malfunctions, maintenance, shutdown, disassembly and removal
Qualified personnel (machine operators and fitters)	Operation and set-up of the system	Person who has been trained and instructed by the operator based on the operating instructions	Start-up, operation, elimination of faults and malfunctions
Qualified personnel (disposal specialists)	Proper disposal of the system	Knowledge about the disposal regulations applicable on site	Shutdown, disassembly and removal, disposal
Qualified personnel (safety specialists)	Implementation of the applicable safety regulations	Knowledge about the safety regulations applicable on site	All phases
Visitors	Site inspection	Person under the supervision of a safety specialist	–

Tab. 3: Qualification of the personnel

[1)] Minimum of 3 years of work experience

2.12 Safety instructions for the personnel

Avoid any working practice that:

- puts the health and safety of the user or third parties at risk.
- is detrimental to the machine or other material assets.
- impairs the safety or functionality of the machine.
- does not comply with the safety instructions.

In addition:

- Do not perform any work on running machines.
- Do not perform any work on machine parts under electric voltage.
- Always wear personal protective equipment when working on the machine.

There is a risk of injury if the safety devices and guards are disabled. Never dismantle or disable any safety devices or guards.

- Check the safety devices and guards daily for correct operation.
- Report all the malfunctions and defects concerning the safety devices and guards to the operator without delay.
- Keep covers (e.g. panels, shields, housings) closed during operation.
- Observe the respective supplier's safety data sheets and disposal instructions as well as all of the local safety regulations when using chemicals.
- Wear protective clothing.
- Only perform tasks that you are familiar with, assigned to carry out and that belong to your working area.
- When handling process materials (e.g. oils, greases and other chemical substances), comply with the suppliers' specifications and safety information for the respective product.

There is a risk of damage to property if the machine is operated improperly.

- Comply with the description of any attachments or ancillary equipment (if included). See also the supplier documentation or the separate documentation provided by the third-party suppliers.

2.12.1 Operation of the system

- Operation is permissible only if all of the components are in a perfect technical state and proper operational condition and if they are used in line with the intended purpose.
- Avoid any operation that compromises the safety of the machine.
- The operator must ensure that unauthorized persons cannot work on the machine.
- Do not transport any persons with the machine.
- Prior to switching the machine on, the machine operator must ensure that no persons are put at risk by the start of the machine.
- During operation, the entire hazard area must be observed or closed off so that no one can enter this area without being noticed.
- Use the machine only if all of the guards and safety devices are present and fully functional.
- The machine operator must ensure a clean and clearly arranged workplace at and around the machine by issuing corresponding instructions and performing checks.
- The operating personnel must be briefed about the location and use of fire extinguishers. The fire detection and firefighting procedures must be observed.

2.12.2 Personal protective equipment

Failure to wear personal protective equipment may result in serious injuries or death.

- Wear the prescribed personal protective equipment, e.g. ear protection, eye protection, safety footwear, hard hats, protective clothing, safety gloves, and respiratory protective equipment, whenever working on the machine.

- Long hair must be tied back. Do not wear any loose-fitting clothes or jewelry. There is a risk of injury if these items get caught in or are pulled into any moving components of the machine.
- Ensure that no unauthorized persons are present in the hazard area.

2.13 Transport and installation

There is an increased risk of injury for persons who perform tasks for which they are neither qualified nor trained. Only appropriately trained persons should be entrusted with the fastening of loads and with acting as banksmen for the crane operators. Compliance with the accident prevention regulations is particularly important.

- The shipping company and MTF Technik must be informed immediately in writing about any damage that is noticed after the delivery. The start-up of the machine must be suspended, if necessary.
- Use only suitable lifting devices, transport equipment, load handling attachments and lifting accessories and ensure that they are in a perfect technical state and have a sufficient load-bearing capacity.
- Lift the machine or parts thereof only via the attachment points that are intended for this purpose.
- Check all of the suspension points, e.g. lifting eyes, prior to using them. This applies particularly to the later transport of the machine after a long period of utilization. suspension points that no longer correspond to the delivery state of the machine must not be used.
- Do not add any additional attachment points to the machine by welding, flame cutting or drilling. There is a risk of cracking due to the notch effect of the weld seam or flame-cutting spot or bore.
- Never work or stand under suspended loads. There is a risk of fatal injuries from falling loads.
- If parts of the system or large assemblies need to be replaced, fasten and secure them thoroughly on the lifting devices.
- The banksman must be within the range of vision of the operator or have voice contact with the operator.
- If parts of the system need to be disassembled for transport, they must be reinstalled and fastened properly prior to restarting the system.

2.14 Safety checks

There is an increased risk of injury for persons who perform tasks for which they are neither qualified nor trained.

- Only persons who are familiar with the tasks, who have been informed about the associated hazards and who have the necessary qualifications are authorized to start the machine.
- All technical safety conditions must be fulfilled prior to the start-up.

Safety checks to be performed for the start-up:

- Continuity check of the protective conductor system
- Functional check (check of the safety devices and guards, e.g. protective hoods)
- Insulation test
- Voltage test
- Protection against residual voltages
- Correct operation of the electrical equipment, particularly relating to the applicable safety and protection measures.

2.15 Notes concerning specific hazards and residual risks

The instructions and notes given here are to be considered as fundamental safety instructions and notes for specific types of hazards. These fundamental safety instructions must be observed during any type of work on the machine.

This is to prevent health hazards and dangerous situations. Special safety instructions and warnings are stated in the respective chapters and must also be observed.

Residual risks are determined by way of a risk assessment. Persons working on and with the machine must be informed about these residual risks. Intra-company briefing must be provided, taking into consideration the professional qualification of the persons attending this briefing. The instructions must be followed in order to avoid accidents or damage due to the residual risks.

2.15.1 Hazards caused by untrained personnel

Inexperienced and unqualified personnel put themselves and other persons at risk.

- Only persons who are familiar with the tasks that they are appointed to and who have been informed about the associated hazards are authorized to perform the tasks.
- The areas of responsibility of the personnel for the different life cycle phases must be clearly defined.
- Use only personnel who are sufficiently trained and authorized. The necessary qualifications are described in the personnel requirements.
- Personnel in training may work on the machine only under the permanent supervision of an experienced and qualified person.

2.15.2 Hazards caused by electrical energy

There is danger to life in the event of contact with live components. Serious injuries or even death may result. In addition, active electrical components may perform uncontrolled movements.

- Work on the electrical systems and operating equipment must be performed by qualified electricians and in accordance with the electrical engineering regulations. Prior to working on the electrical system:
  - Disconnect the machine from the power supply so that it is completely voltage-free.
  - Lock it so that it cannot be switched on again.
  - Ensure that the motors/drives and moving parts of the system are at a complete stop.
  - Close the working area off with a red-and-white barrier chain and mark the area with a warning sign.
  - Check whether the equipment is completely voltage-free.
  - Ground and short-circuit the equipment.
  - Cover any adjacent live parts.
- Only use insulated tools.
- Check the electrical equipment for signs of damage at regular intervals. Loose connections and scorched cables are a safety hazard. Eliminate any defects immediately.
- Keep the control cabinets closed at all times. Permit access only to authorized personnel.
- When working on live parts, always bring in a second person who can actuate the Emergency-STOP push-button or the mains switch to shut off the voltage supply in the event of an emergency. Immediately switch the machine off if there are malfunctions or faults concerning the energy supply.

2.15.3 Hazards caused by hot spots

There is a risk of burns due to the hot surface temperatures of motors and machine components.

- Keep a safe distance to hot components.

When working on or near hot spots of the machine:

- Wear suitable protective clothing.
- Switch parts of the machine off, if necessary.
- Let the components cool down.

2.15.4 Hazards when handling chemical substances

Contact with oils, greases and other auxiliary substances may cause chemical reactions.

- When handling chemical substances, observe and comply with the applicable regulations and safety data sheets of the suppliers.
- If there is contact with the skin or eyes, immediately rinse out the affected area with plenty of water. Suitable equipment (e.g. an eye wash bottle) must be available in the vicinity of the workplace.

2.15.5 Hazards caused by moving components

Moving machine parts that are freely accessible are dangerous spots that may lead to serious injuries or even death. There is an entanglement and crushing hazard caused be getting caught in or pulled into any moving components.

If the dangerous spots cannot be physically separated from the working area, the following safety measures must be taken:

- Maintain a safe distance from any moving parts.
- Wear tight-fitting clothes.
- Do not wear any rings, necklaces or other jewelry.
- In the case of long hair, wear a hairnet.
- Wait until the machine has stopped completely prior to performing any maintenance, repair or overhaul tasks. If necessary, depressurize the components.
- Lock the machine or parts of the machine so that they cannot be reactivated in order to prevent unintended movements of the machine parts. Close the working area off and mark it with a warning sign.

2.15.6 Hazards caused by environmental conditions

Insufficient lighting

Poor visibility due to insufficient lighting increases the risk of accidents.

- Ensure sufficient lighting prior to performing any tasks.

Insufficient access

Insufficient or unsafe access to the working area increases the risk of accidents, e.g. by falling.

- Access to hazard areas must be closed off by way of suitable measures.

Noise pollution

The noise level that could occur in the working area could increase the risk of accidents and harm the health of the personnel.

- When working with an increased noise level, wear effective ear protection.
- Only stay in the hazard area as long as this is absolutely necessary.

Contamination and soiling

The operation of the system leads to soiling, which presents a risk of slipping and injury to the personnel.

- Wear personal protective equipment and, in particular, safety shoes during all work.
- Eliminate any contamination and soiling immediately.

2.15.7 Hazards for the environment

Process materials, such as greases and oils, contain toxic substances that may contaminate the soil and groundwater. Process materials (grease, oil and other chemical substances) must not be released into the environment.

- Oils and greases must be disposed of in an environmentally sound manner.

The local disposal regulations must be observed.

- The disposal must be performed by a specialist disposal company.
- Observe the information provided by the suppliers and the safety data sheet of the substances.
- In addition, ensure to also observe the information in the supplier documentation.

2.16 Spare parts and wear parts

In the event of maintenance, repairs and overhauls, the operator must ensure that appropriate spare parts in compliance with the technical specifications of the manufacturer are used. This is ensured if original spare parts are used.

Spare parts and wear parts that are not supplied by MTF Technik have not been tested or approved. The installation or use of these components may have a negative effect on the specified design characteristics of the machine and thus compromise the safety of the machine.

MTF Technik shall not accept any liability for damage resulting from the use of non-original parts and accessories.

- Only use the original parts and original accessories that have been supplied by MTF Technik.
- We recommend keeping the most important spare parts and wear parts in stock on site.

2.17 Procedures in the event of an emergency

In the event of danger to life, the machine or parts thereof can be stopped by actuating an Emergency-STOP push-button (can also be implemented using the mains switch).

NOTE

In the event that a separate Emergency-STOP push-button and a mains switch are present:

- An Emergency-STOP push-button should be actuated only in situations in which the safety of persons or of the machine is at risk.
- An Emergency-STOP push-button must not be used for switching the machine off in normal situations.
- An Emergency-STOP push-button does not disconnect the machine from the power supply.

After an emergency stop, authorized personnel must be brought in immediately in order to determine and eliminate the cause of the emergency.

An emergency stop of the machine interrupts the automatic process sequence. The machine must not be switched on again until the cause of the emergency stop has been eliminated.

To restart the affected part of the system, proceed as follows:

- Eliminate the hazard or malfunction.
- Unlock the Emergency-STOP push-button that has been pressed.
- If necessary, acknowledge the fault message via the control unit.
- Start machine operation.

2.18 Procedures in the event of malfunctions

Malfunctions of the machine may be caused by a single, simple fault that can be localized and eliminated.

- In the event of an imminent danger, immediately press the Emergency-STOP push-button (can also be implemented using the mains switch).
- Switch the machine off and lock it so that it cannot be switched on again. The machine must also be switched off in case of any unusual behavior of the machine. For example:
  - unusual noise, vibrations, smells,
  - faulty behavior and false indications,
  - high temperature.
- Disconnect the machine from the power supply so that it is completely voltage-free and authorize only trained and qualified personnel to eliminate the faults and malfunctions.
- If the malfunction cannot be eliminated, contact the service of MTF Technik.

3 Product description

3.1 Technical data

Feature	Value
General technical data	
Product name	See the technical data in the product order confirmation!
Order confirmation no./pos.	
Nominal length [L]	
Nominal width [W]	
Usable width	
Usable belt width	
Guiding profile	
Guiding profile height above belt	
Carrying run	
Power supply	
Electrical connection data	See the technical data in the product order confirmation!
Drive motor	
Electrical connection data	See the technical data in the product order confirmation!
Noise emission	
Emission sound pressure level at workstations	See the sound measurement report for the product!
Operating conditions	Normal operation at rated power
Environmental conditions	
Operating range	-5 to +40°C
Humidity	< 80 %
Vibrations	Not applicable (2006/42/EC Machinery Directive)
Dimensions	
	See the technical data in the product order confirmation!

Tab. 4: Technical data

3.1.1 Type plate

The type plate is usually attached in the vicinity of the drive and contains information about the respective machine type and its technical details. Do NOT remove the type plate.

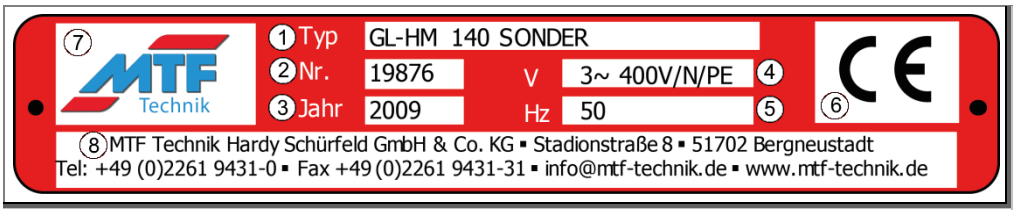


Fig. 1: Type plate (example)

No.	Description
1	Type designation
2	Serial no.
3	Year of manufacture
4	Supply voltage [V]
5	Connection frequency [Hz]
6	CE conformity marking
7	MTF Technik Logo
8	MTF Technik contact data

Tab. 5: Type plate descriptions

3.2 Functional description

3.2.1 Conveyor - straight

The conveyor is used to transport unit loads and bulk goods with varying dimensions over a fixed conveying line. The conveying line is determined by the nominal length and angle of inclination.

A belt (5) placed over the conveyor body is continuously tensioned using two pulleys at the end of the conveyor body. A (1) deflection pulley at one end of the conveyor body is used for belt tensioning and setting of the belt alignment. The drive pulley (2) at the other end of the conveyor body is used to drive the belt with the aid of the drive motor.

The belt conveyor essentially comprises the following components:

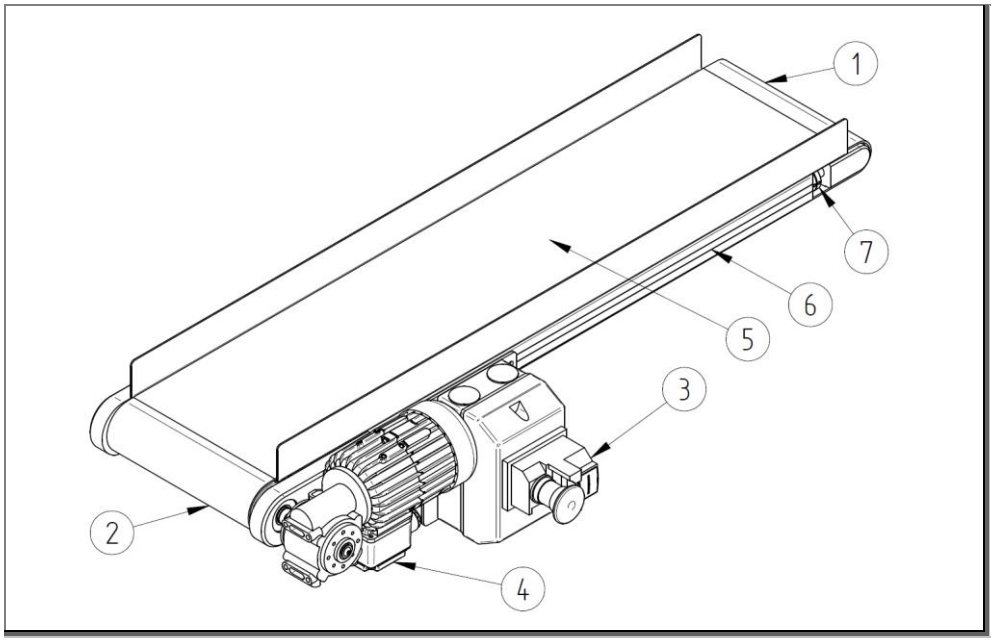


Fig. 2: Straight belt conveyor (typical)

1	Deflection pulley	5	Belt
2	Drive pulley	6	Conveyor body
3	Mains switch (typical)	7	Belt tensioner
4	Drive unit (typical)		

3.2.2 Operatingmodes

3.2.2.1 “Without”

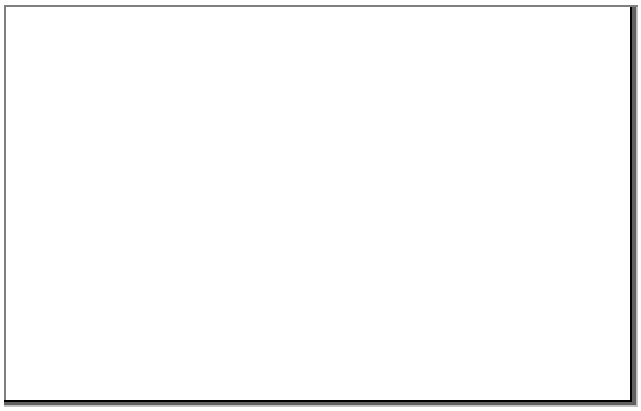


Fig. 3: Open cable connection

“Without” mode of operation

If, due to a customer requirement, the conveyor is supplied without a mains switch, the conveyor does not comply with the Machinery Directive 2006/42/EC. Insofar that a CE marking of the conveyor as an individual machine is necessary (possibly specified by the application), then prior to start-up, there is a duty to attach a mains switch and, if necessary, to carry out other measures. Conformity with the Machinery Directive must then to be evaluated. We will be happy to provide you with further information about this matter.

3.2.2.2 “Constant”

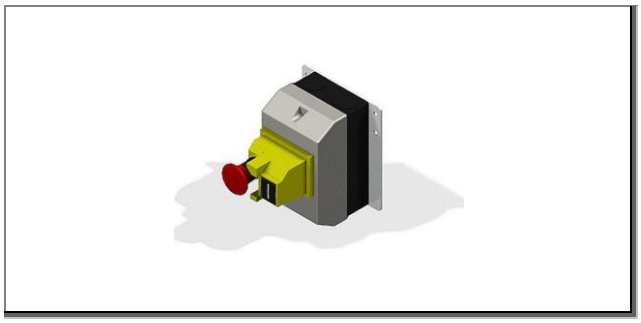


Fig. 4: Mains switch with detent function

“Constant” mode of operation

The speed of the drive is set to a fixed rpm in the “Constant” mode of operation. As a result, the conveying speed is constant. The actual speed can, depending on the motor load, differ from the theoretical speed. A mains switch with detent function is fitted as standard.

3.2.2.3 “Clocked”

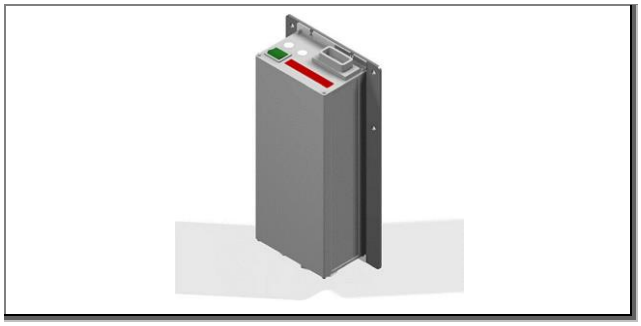


Fig. 5: Clock timer with mains switch

“Clocked” mode of operation

In the “clocked” mode of operation, a clock timer is used to start and stop the conveyor at set times. This allows the pause and running times of the conveyor to be defined.

Moreover, the speed of the drive is designed with a fixed rpm so that the conveying speed is constant. The actual speed can, depending on the motor load, differ from the theoretical speed.

3.2.2.4 “Continuously variable”

Fig. 6: Speed adjuster with mains switch

“Continuously variable” mode of operation

In the “continuously variable” mode of operation, a speed controller is installed together with a mains switch. Consequently the conveying speed can be set within an adjustment range dependent on the motor used. Similarly, a start-up ramp can be set via an externally connected control unit with a display, that enables gentle starting and braking of the conveyor belt.

The actual speed can, depending on the motor load, differ from the theoretical speed.

3.2.2.5 “Continuously variable and clocked”

Fig. 7: Combi-control unit with mains switch

“Continuously variable and clocked” mode of operation

A combi-control unit is used in the “continuously variable and clocked” mode of operation.

Both the speed and also the running and pause time of the conveyor can be set. Similarly, a start-up ramp can be set, which enables gentle starting and braking of the conveyor belt.

The actual speed can, depending on the motor load, differ from the theoretical speed.

3.2.3 Belt (belt cover)

A belt (**4**) placed over the conveyor body is continuously tensioned using two pulleys at the end of the conveyor body.

The belt tensioner (**6**) is used to adjust the belt tension so that the friction between the belt and drive pulley (**2**) is sufficient for transmitting the necessary drive torque. In addition, the belt tensioner can be used to compensate a change in length of the belt caused by its operation.

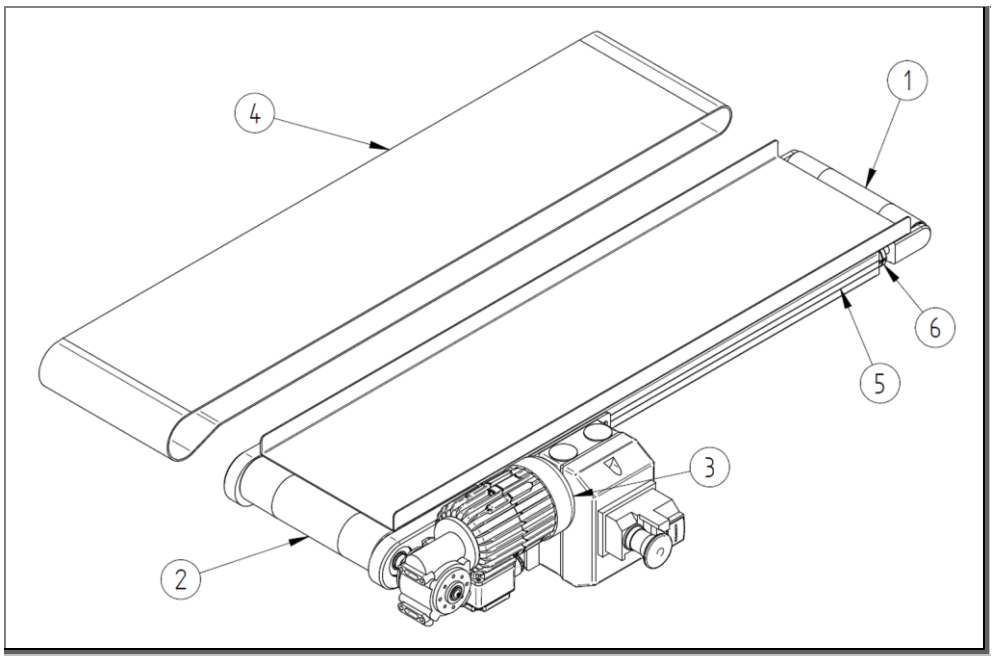


Fig. 8: Exploded view of a straight belt conveyor (typical conveyor)

1	Deflection pulley	4	Belt (=belt cover)
2	Drive pulley	5	Conveyor body
3	Drive unit (typical)	6	Belt tensioner

3.2.3.1 Designations of the belt

The top of the belt is designed dependent on the transported material. Thefollowing figure shows an overview of possible belt designs.

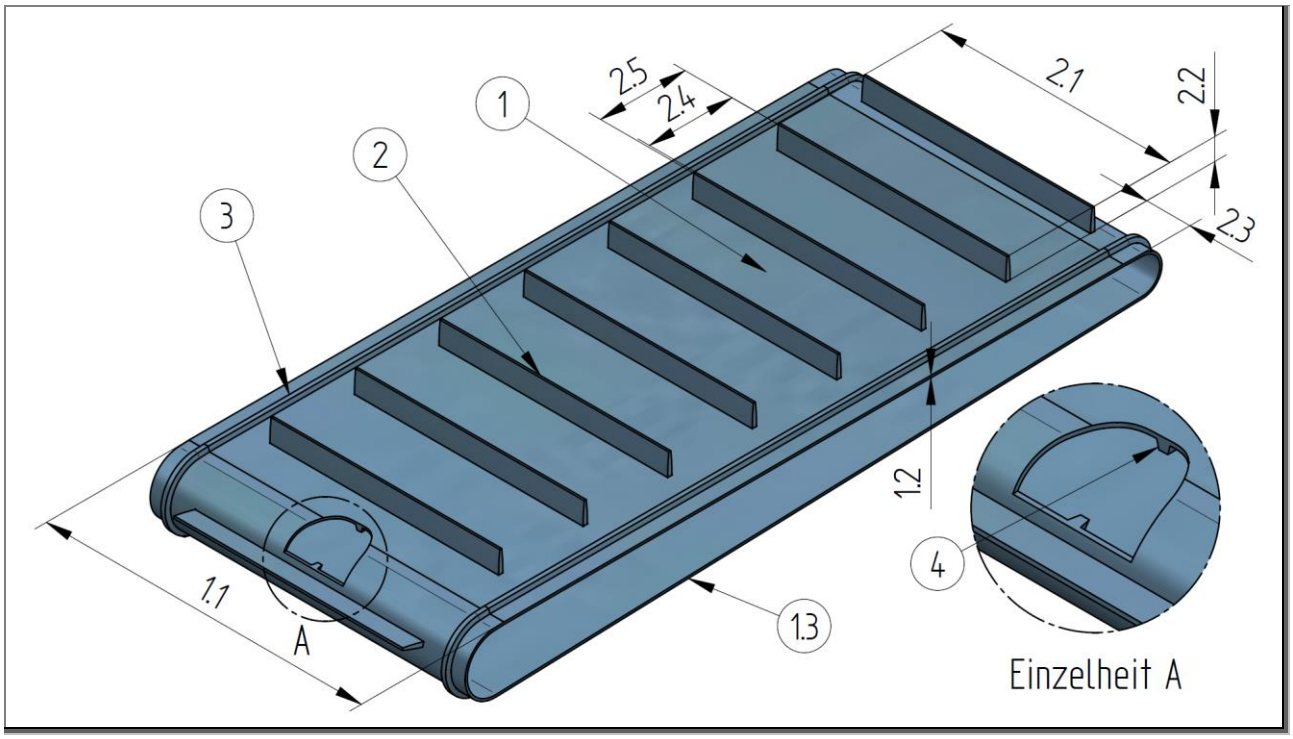


Fig. 9: Designations of the belt designs

1	Belt	2.2	Cleat height
1.1	Belt width	2.3	Lateral clearance (on both sides)
1.2	Belt thickness	2.4	Cleat shelf width
1.3	Endless belt length	2.5	Cleat distance (center to center)
2	Follower cleat	3	Carrying side-v-guide
2.1	Cleat length	4	Running side-v-guide

External reference

The belt no. and the properties of the belt are contained in the order confirmation (see “Belt cover no.”).

NOTE

- Not all of the versions shown here can be combined with every conveyor.

3.2.4 Lateral guide

An edged sheet tray is used as a lateral guide with the I–Tech small conveyor belt. It (largely) limits the conveyor relative to the outside and ensures uniform guidance of the transported material.

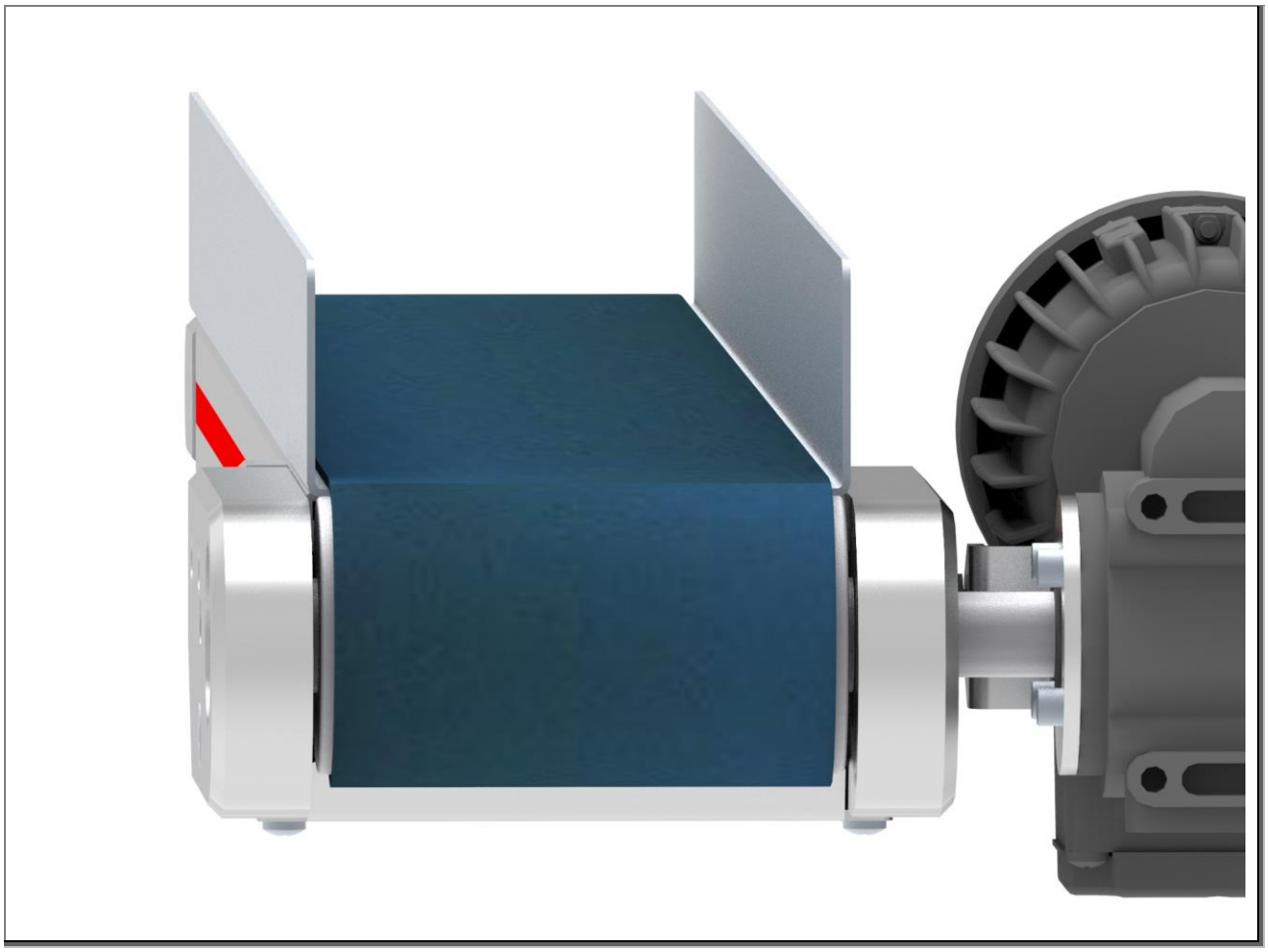
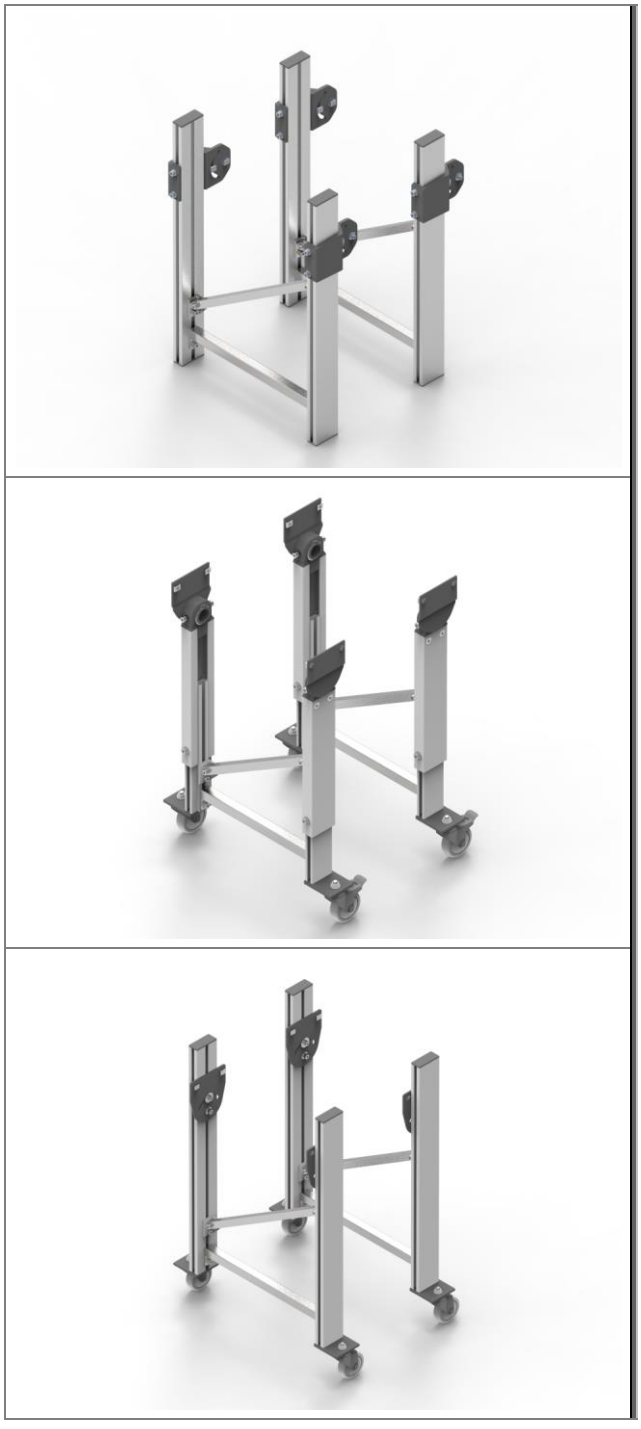


Fig. 10: I-Tech small conveyor belt with lateral guide

3.2.5 Support types

3.2.5.1 AM-series

The AM-series is a compromise between a medium height adjustment range with heights down to close to the ground and has a stable stand. This series has at least four individual supports, which, dependent on requirements, can be fastened individually on the conveyor belt.



AM 140

- Fixed height of the individual supports
- Lateral assembly on the conveyor body
- Lateral projecting individual supports

Angle adjustment range: -60° to 60°

AM 920

- Telescopic individual supports
- Lateral assembly on the conveyor body with minimal width projection
- Support pillars flush with the conveyor body

Angle adjustment range: -90° to 90°

AM 1030

- Fixed height of the individual supports
- Lateral assembly of the conveyor body
- Lateral projecting individual supports

Angle adjustment range: -60° to 60°

Fig. 11: AM support

3.2.5.2 H-series

The H-series has a stable H-shaped base frame, on which the supports are secured. One or more supports are necessary depending on the application. Therefore the series are differentiated into the “H-series (individual)” and the “HM-series (multiple)”.

3.2.5.3 HE-series

The HE-series has one support. It can be adjusted in terms of height and angle and has a stable design.

HE 050

- Standard H base frame
- Telescopic individual supports
- Lateral assembly on the conveyor body with minimal width projection
- Support pillars flush with the conveyor body

Angle adjustment range: -90° to 90°

HE 050 B

- Expanded H base frame
- Telescopic individual supports
- Lateral assembly on the conveyor body with minimal width projection
- Support pillars flush with the conveyor body
- Use with narrow conveyors to increase the stability

Angle adjustment range: -90° to 90°

Fig. 12: HE 010 support

Fig. 13: HE 030 support

HE 060

- Standard H base frame
- Fixed height of the individual supports
- Lateral assembly of the conveyor body
- Lateral projecting individual supports

Angle adjustment range: -60° to 60°

HE 060 B

- Expanded H base frame
- Fixed height of the individual supports
- Lateral assembly of the conveyor body
- Lateral projecting individual supports
- Use with narrow conveyors to increase the stability

Angle adjustment range: -60° to 60°

3.2.5.4 HM-series

The HM-series has at least two supports. It can be adjusted in terms of height and angle and has a stable design.

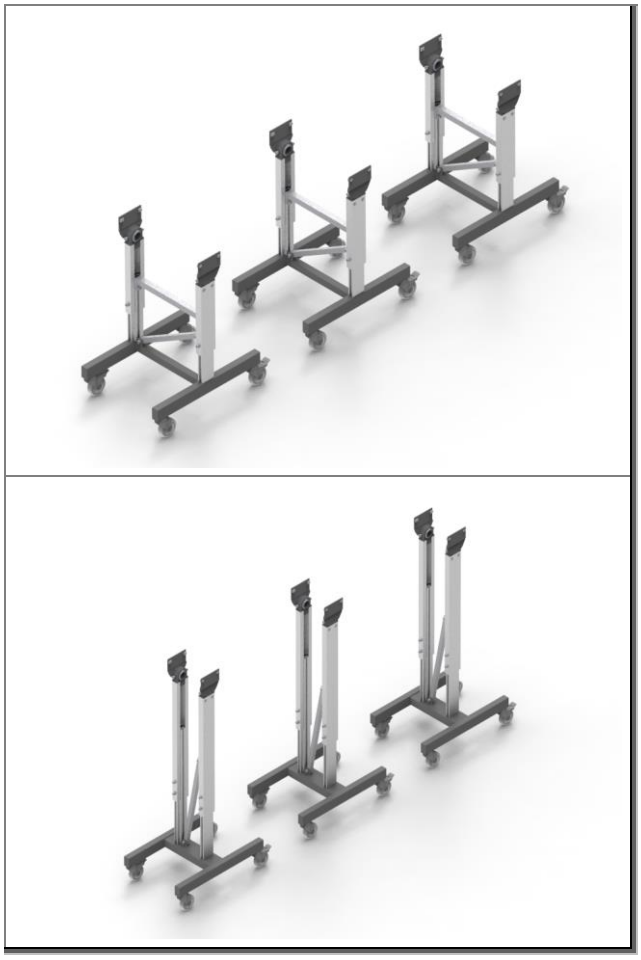


Fig. 14: HM 010 support

HM 010

- Standard H base frame
- Telescopic individual supports
- Lateral assembly on the conveyor body with minimal width projection
- Support pillars flush with the conveyor body

Angle adjustment range: -90° to 90°

HM 010 B

- Expanded H base frame
- Telescopic individual supports
- Lateral assembly on the conveyor body with minimal width projection
- Support pillars flush with the conveyor body
- Use with narrow conveyors to increase the stability

Angle adjustment range: -90° to 90°

Fig. 15: HM 590 support

HM 590

- Standard H base frame
- Fixed height of the individual supports
- Lateral assembly of the conveyor body
- Lateral projecting individual supports

Angle adjustment range: -60° to 60°

HM 590 B

- Expanded H base frame
- Fixed height of the individual supports
- Lateral assembly of the conveyor body
- Lateral projecting individual supports
- Use with narrow conveyors to increase the stability

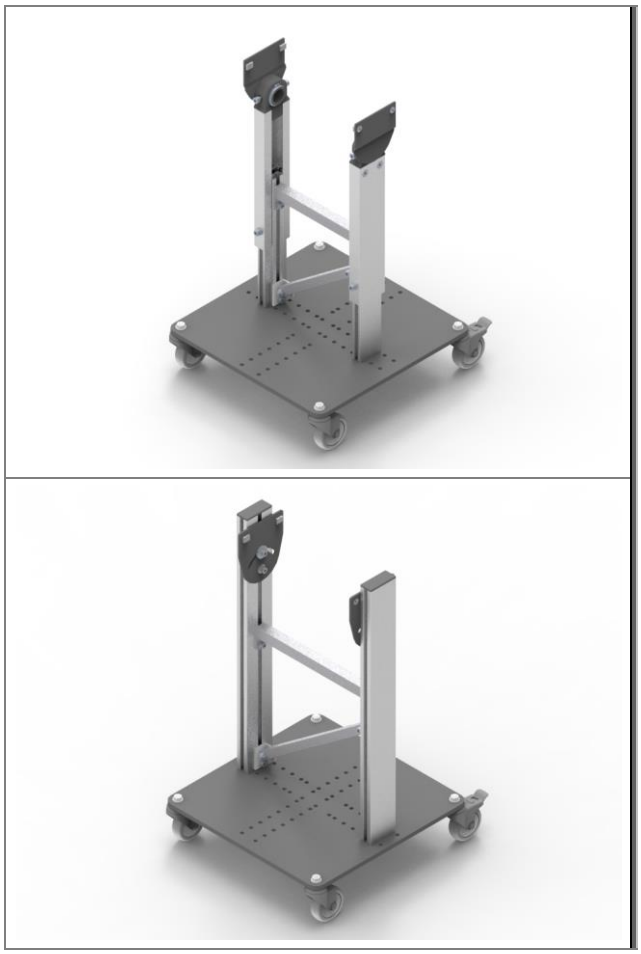
Angle adjustment range: -60° to 60°

3.2.5.5 B-series

The B-series has a solid base plate to which the supports are secured. It gives the conveyor a low gravity and consequently secure footing. One or more supports are necessary depending on the application. Therefore the series are differentiated into the “BE-series (individual)” and the “BM-series (multiple)”.

3.2.5.6 BE-series

The BE-series has one support. It can be adjusted in terms of height and angle and has a stable design.



BE 010

- Standard base plate
- Telescopic individual supports
- Lateral assembly on the conveyor body with minimal width projection
- Support pillars flush with the conveyor body

Angle adjustment range: -90° to 90°

BE 020

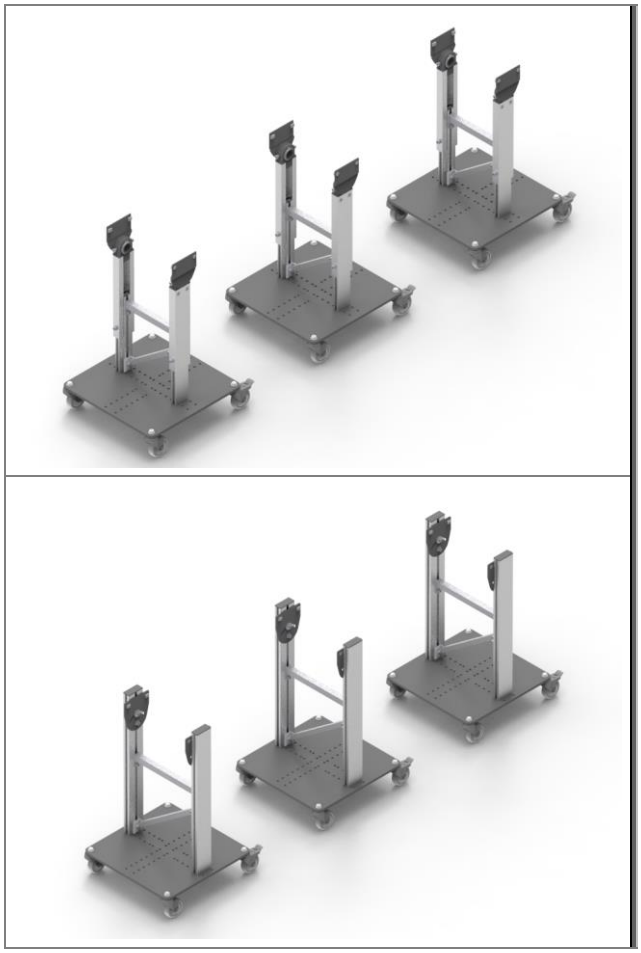
- Standard base plate
- Fixed height of the individual supports
- Lateral assembly of the conveyor body
- Lateral projecting individual supports

Angle adjustment range: -60° to 60°

Fig. 16: BE support

3.2.5.7 BM-series

The BM-series has at least two supports. It can be adjusted in terms of height and angle and has a stable design.



BM 010

- Standard base plate
- Telescopic individual supports
- Lateral assembly on the conveyor body with minimal width projection
- Support pillars flush with the conveyor body

Angle adjustment range: -90° to 90°

BM 120

- Standard base plate
- Fixed height of the individual supports
- Lateral assembly of the conveyor body
- Lateral projecting individual supports

Angle adjustment range: -60° to 60°

Fig. 17: BM support

NOTE

The following information about the support is contained in the order confirmation:

- Type
- Design
- Number of supports
- Conveying height
- Position of the conveyor (e.g. conveyor inlet and conveyor outlet top edges)

3.2.6 Accessories: Attachments (optional)

Attachments are structures that are assembled on the conveyor.

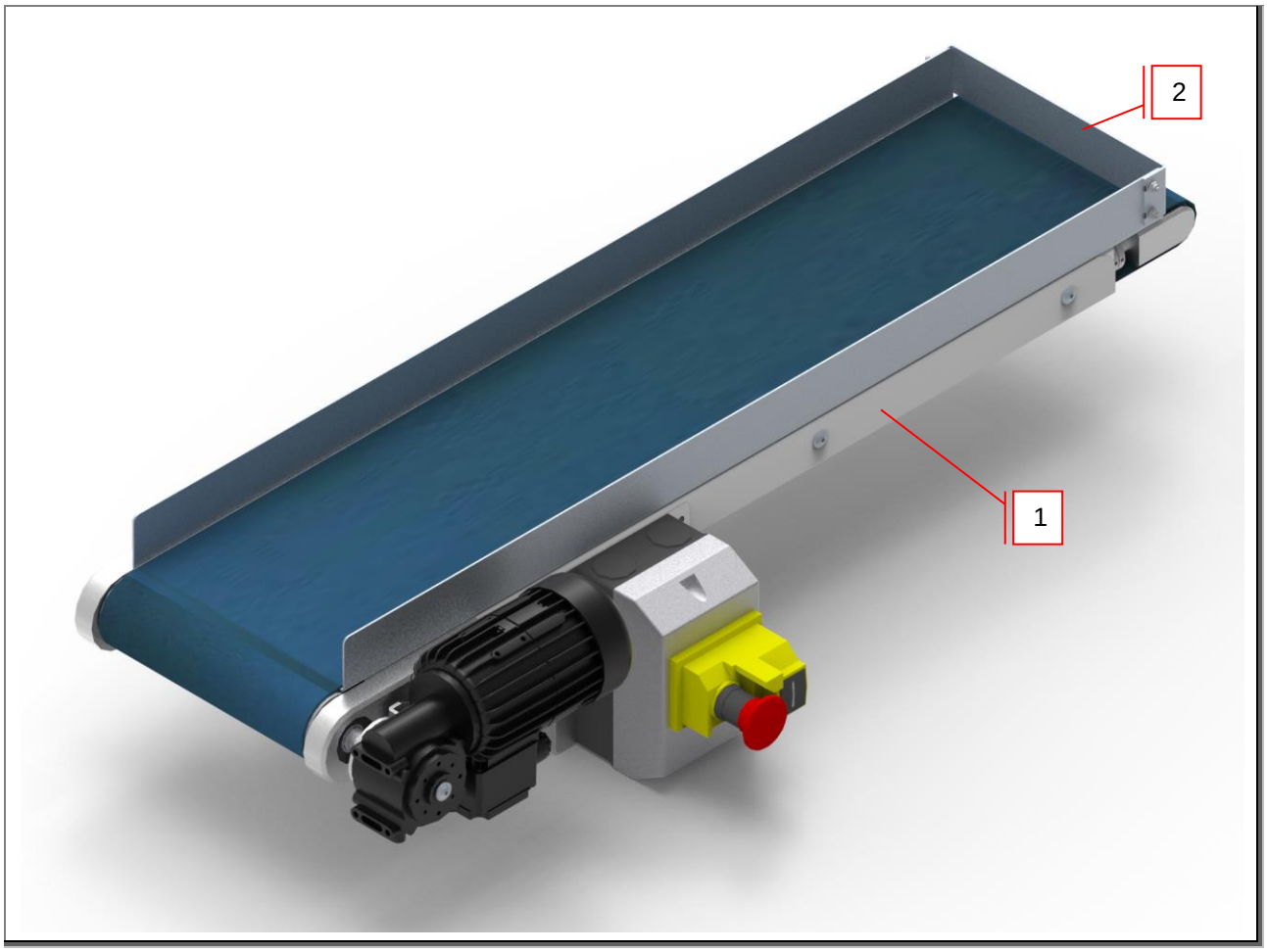


Fig. 18: Conveyor with rear wall and return tray (typical)

1 Return tray 2 Rear wall

3.2.6.1 Rear wall

A rear wall shuts off the conveyor relative to the conveyor inlet and prevents transported material from falling down from the conveyor.

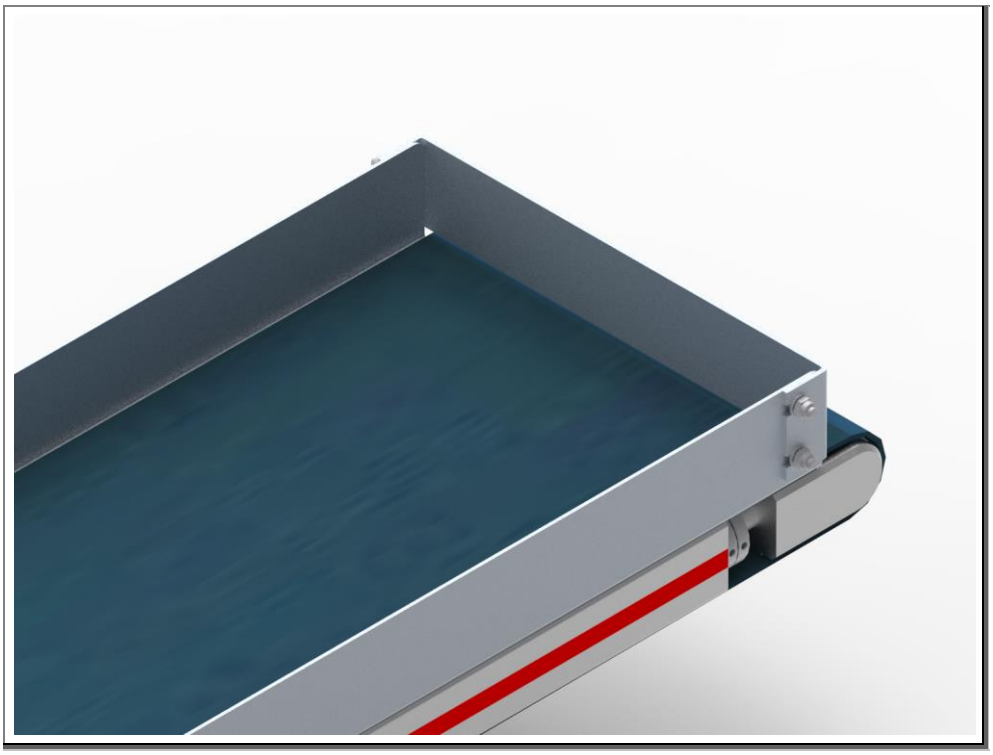


Fig. 19: Rear wall

3.2.6.2 Catch flap

A catch flap shuts off the conveyor to the conveyor inlet and prevents transported material from falling down from the conveyor.

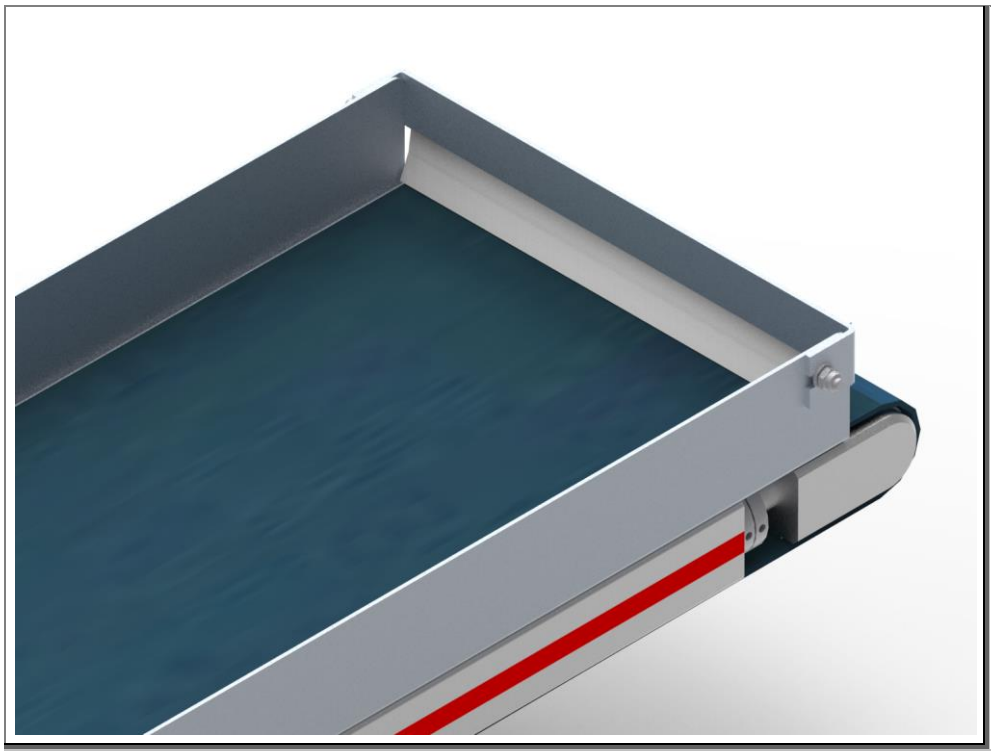


Fig. 20: Catch flap

3.2.6.3 Return tray

A return tray is fastened below the conveyor and limits the sag of the lower belt run. The conveyor can be placed on it. This is useful in narrow tool shafts from which the transported material is to be conveyed out.

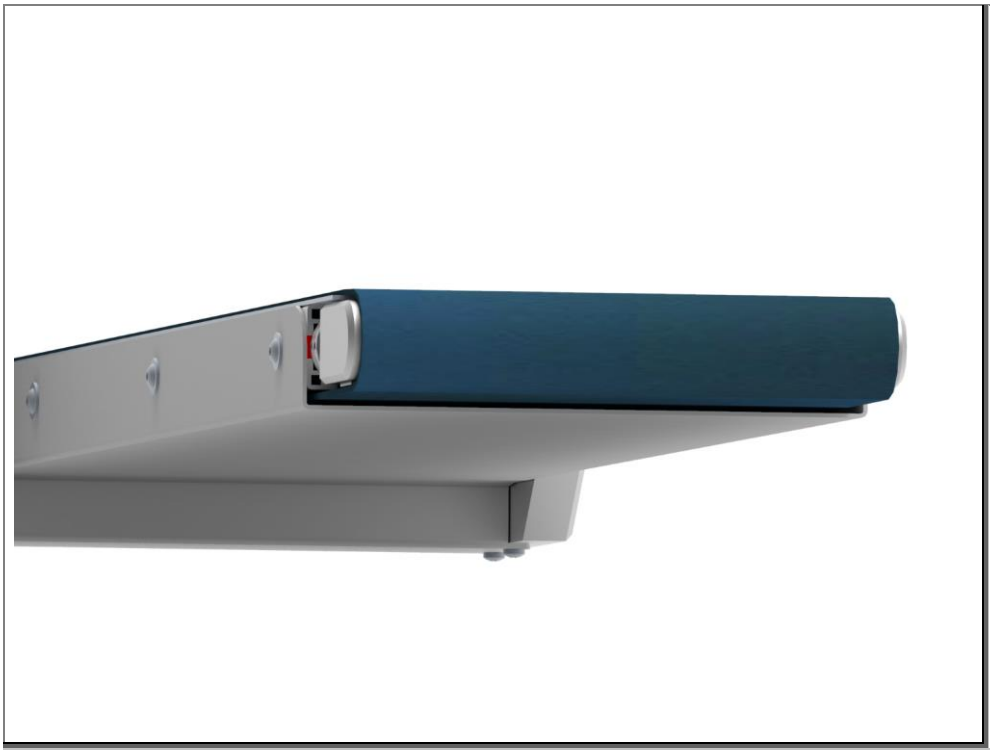


Fig. 21: Return tray

4 Packaging and transport

4.1 Safety

Only specialized personnel with proven qualification (see the “Safety” chapter) are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

There is an increased risk of injury and damage to property if unqualified personnel and unsuitable or damaged lifting devices, lifting accessories and transport equipment are used. This is why the persons responsible for the transport must be trained at regular intervals.

Compliance with the safety instructions in the “Safety” chapter is mandatory for transport.

NOTE

The transport must be performed by the operator or by personnel who are appointed by the operator. When transporting the system to its destination, all of the applicable local regulations and laws must be observed.

⚠ DANGER

Suspended loads

Tipping or falling loads may cause serious or even fatal injuries.

- Never step or stand under suspended loads.
- Only use approved lifting devices and lifting accessories that are rated for the total weight of the suspended load.
- Keep the suspension points and the center of gravity of the load in mind.
- Only use lifting accessories and load-handling equipment that are in a perfect technical state.
- Secure the loads with suitable means.
- If transport locks are used, do not remove them until the assembly is complete.
- Close the loading areas off against unauthorized access.
- Ensure sufficient lighting of the loading areas.
- Move loads only under supervision.
- Set the load down when leaving the workplace.

⚠ WARNING

Crushing of limbs between components

Loads falling down during transport may crush limbs and cause serious injuries.

- Only use suitable means of transport.
- Secure the loads adequately during transport.
- Wear personal protective equipment.

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

ATTENTION

Damage to property due to improper load handling

Improper handling of the load during loading or unloading may cause damage to property.

- Use suitable lifting devices.
- Loads that can be dismounted or mounted and that are too heavy to be carried manually must be kept in place using suitable devices (ropes or a block and tackle).
- Chafing of ropes and webbing slings on sharp edges and corners must be prevented by way of special devices, e.g. intermediate layers of a softer material, corner protectors or edge protectors.
- Components and their attachments must not be compressed by ropes or chains pulling at angles.
- Avoid strong impacts when setting the load down.
- Loads may be set down only on firm and level ground.

4.2 Check of the delivery

1. Remove the transport packaging of the machine or of the individual components.
2. Check the machine for signs of transport damage.
   – Notify the shipping company and the manufacturer immediately in writing of any damage.
   – Provide protection against further damage.
3. Check the delivery for completeness against the bill of delivery.

4.3 Unloading, transport into a building, setting-down

1. Only use suitable lifting devices with a load-bearing capacity that corresponds to twice the total weight of the load.
2. Check the integrity of the ropes and chains.
3. Position the crane centrally above the goods to be transported.
4. Attach ropes to the attachment points that are intended for this purpose.
5. Lift the load slowly and keep an eye on the environment.
6. If necessary, use additional control ropes in order to hold the load in position.
7. Set the conveying goods safely down on a sufficiently load bearing surface.

4.4 Unpacking

ATTENTION

Risk of environmental damage

The environment will be harmed if the disposal is not performed properly.

– Comply with the local regulations and statutory provisions for the disposal.

1. Remove the packaging material prior to the installation.
2. Dispose of the packaging material in a proper manner.

5 Set-up and installation

5.1 Safety

Only specialized personnel with proven qualification are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

NOTE

The manufacturer does not accept any liability for damage resulting from faulty installation or assembly.

DANGER

Danger to life due to electric current

There is danger to life in the event of contact with live components.
Active electrical components may perform uncontrolled movements. Serious injuries or even death may result.

- All work on the electrical components of this machine must only be carried out by qualified specialist personnel (electricians or persons trained in electrical engineering in accordance with DIN EN 60204-1).
- Switch the machine off during maintenance and repair work and secure to prevent unexpected switching back on.
- Close the working area off and mark it with a warning sign.

DANGER

Use of suspension points

A damaged or loose suspension point can result in severe injuries or even death.

- Satisfy yourself that the suspension points are in a fault-free condition
- Before using the suspension points, retighten the screws.

WARNING

Fall hazard when working at height

Work at height may cause slipping, falling, and serious injuries.

- Wear personal protective equipment.
- Ensure safe working conditions in time.
- Always use fall protection equipment when secure footing cannot be guaranteed.
  - Use, for example, work platforms, scaffolds, personnel elevators, or cherry pickers.
- Protect the installation area against falling objects.
- Never work alone.

⚠ WARNING

Risk of crushing and impacts

During adjustment work on the support, the conveyor may lower due to insufficient safeguards.

- Secure the conveyor with suitable load handling equipment (crane, etc.) to prevent unintentional and sudden lowering.
- The retaining screws may only be released, if the conveyor has been correctly secured to prevent the aforementioned hazard.
- Never remain under suspended loads when loosening/fastening the retaining screws.
- Maintain a sufficient distance from the danger locations.
- Carry out height adjustment using several persons.
- Wear personal protective equipment.

⚠ WARNING

Hazards caused by rotating or moving components

Rotating and moving components may crush or sever limbs and cause serious injuries.

- Stay within the defined working area.
- Keep a safe distance to the components.
- Heed any warning signs in the working area.
- Wear personal protective equipment.
- Wear tight-fitting clothes.
- Knot long hair together and wear a hair net as necessary.

⚠ CAUTION

Risk of crushing and shearing

Danger due to sudden swiveling movement of the casters when changing the machine location.

- During positioning of the conveyor, do not reach in close to the swivel casters.
- After completed positioning of the conveyor, always apply all arresters of the swivel casters.

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

⚠ CAUTION

Risk of injury due to moveable support

When moving the conveyor, the casters on the support can roll over feet or other body parts.

- Wear sturdy shoes with steel toecaps
- When moving do not step in the moving area of the casters

⚠ CAUTION

Sharp edges

Sharp edges may cause cutting.

- Wear personal protective equipment.
- Be careful when handling objects with sharp edges.

ATTENTION

Damage to property due to improper load handling

Improper handling of the load during loading or unloading may cause damage to property.

- Use suitable lifting devices.
- Loads that can be dismounted or mounted and that are too heavy to be carried manually must be kept in place using suitable devices (ropes or a block and tackle).
- Chafing of ropes and webbing slings on sharp edges and corners must be prevented by way of special devices, e.g. intermediate layers of a softer material, corner protectors or edge protectors.
- Components and their attachments must not be compressed by ropes or chains pulling at angles.
- Avoid strong impacts when setting the load down.
- Loads may be set down only on firm and level ground.

ATTENTION

Damage to the equipment due to incorrect voltage

If the equipment is connected to an incorrect voltage supply, the electrical equipment may be destroyed.

- The voltage supply should be connected by skilled electricians only.
- Observe the local rules and regulations concerning the energy supply. The electrical equipment complies with the European safety standards.

ATTENTION

Damage to the equipment due to an incorrect direction of rotation of the motors

Prolonged movement of the belt in the wrong direction may damage the system.

- Work on the system should be performed by authorized and specialized personnel only.
- Check the direction of movement of the conveyor belt by visual inspection.
- If necessary, change the direction of rotation of the motors. To do so, change the phases of the power supply.
- Attach a conveying direction arrow.

ATTENTION

Damage to the equipment due to an incorrect alignment of the belt

Lateral mistracking or slipping of the belt may cause equipment damage.

- Work on the system should be performed by authorized and specialized personnel only.
- Adjust the belt alignment.
- Adjust the belt tension.

ATTENTION

Damage to the machine due to unsuitable cleaning agents

The conveyor and belt may be damaged if solvents are used for cleaning.

- Do not use solvents for cleaning.
- Remove normal dirt with lukewarm water.
- Remove greasy stains with white spirit.
- Contact the manufacturer if you have any questions concerning suitable cleaning agents.

5.2 Set-up location

The following measures must be taken prior to the set-up:

- The set-up location must have level ground with a sufficient load-bearing capacity.
- The system must be set up in line with the specifications of the project drawings (floor plan, foundation plan).
- All of the supply lines must be present and their sizes and dimensions must be sufficient.
- Suitable lifting devices must be available and ready for use.
- Process materials (oils, greases and chemicals substances) are available in the specified qualities and quantities.

5.3 Suspension points for lifting gear

⚠ DANGER

Suspended loads

Tipping or falling loads may cause serious or even fatal injuries.

- Never step or stand under suspended loads.
- Only use approved lifting devices and lifting accessories that are rated for the total weight of the suspended load.
- Keep the suspension points and the center of gravity of the load in mind.
- Only use lifting accessories and load-handling equipment that are in a perfect technical state.
- Secure the loads with suitable means.
- If transport locks are used, do not remove them until the assembly is complete.
- Close the loading areas off against unauthorized access.
- Ensure sufficient lighting of the loading areas.
- Move loads only under supervision.
- Set the load down when leaving the workplace.

⚠ WARNING

Risk of crushing and impacts

During adjustment work on the support, the conveyor may lower due to insufficient safeguards.

- Secure the conveyor with suitable load handling equipment (crane, etc.) to prevent unintentional and sudden lowering.
- The retaining screws may only be released, if the conveyor has been correctly secured to prevent the aforementioned hazard.
- Never remain under suspended loads when loosening/fastening the retaining screws.
- Maintain a sufficient distance from the danger locations.
- Carry out height adjustment using several persons.
- Wear personal protective equipment.

ATTENTION

Damage to property due to improper load handling

Improper handling of the load during loading or unloading may cause damage to property.

- Use suitable lifting devices.
- Loads that can be dismounted or mounted and that are too heavy to be carried manually must be kept in place using suitable devices (ropes or a block and tackle).
- Chafing of ropes and webbing slings on sharp edges and corners must be prevented by way of special devices, e.g. intermediate layers of a softer material, corner protectors or edge protectors.
- Components and their attachments must not be compressed by ropes or chains pulling at angles.
- Avoid strong impacts when setting the load down.
- Loads may be set down only on firm and level ground.

5.3.1 Attachment areas for lifting gear

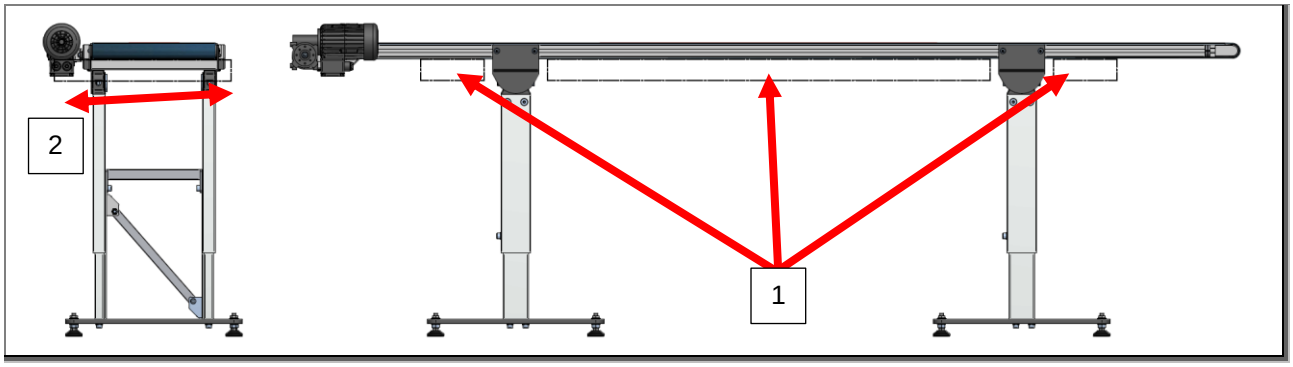


Fig. 22: Attachment areas for lifting gear (e.g. forklifts)

1 Length 2 Width

- The conveyor can be lifted at the marked attachment areas using forklift, hoisting slings, etc. Ensure that the conveyor is supported over its whole width and a sufficient length so that toppling or falling down is not possible.
- Be aware of the center of gravity of the load.
- Secure the load to prevent falling down.
- In the raised state, the conveyor lies on the lower belt run of the belt. Therefore the belt must be protected against damage, e.g. by placing underneath of a protective rubber element.

5.4 Installation of the supports

⚠ WARNING

Risk of crushing and impacts

During adjustment work on the support, the conveyor may lower due to insufficient safeguards.

- Secure the conveyor with suitable load handling equipment (crane, etc.) to prevent unintentional and sudden lowering.
- The retaining screws may only be released, if the conveyor has been correctly secured to prevent the aforementioned hazard.
- Never remain under suspended loads when loosening/fastening the retaining screws.
- Maintain a sufficient distance from the danger locations.
- Carry out height adjustment using several persons.
- Wear personal protective equipment.

5.4.1 Support - AM

5.4.1.1 Assembly of the support – AM 920

Prerequisites

- The support has been removed from the packaging.

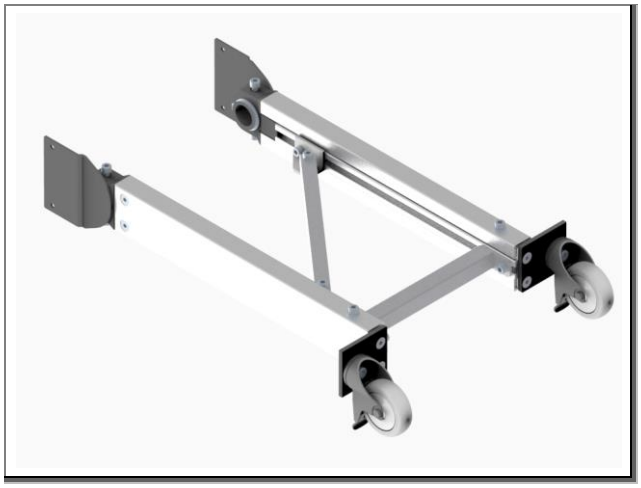


Fig. 23: Assembly of the support – AM 920 (typical)

The support is supplied in pre-assembled condition as shown on the left.

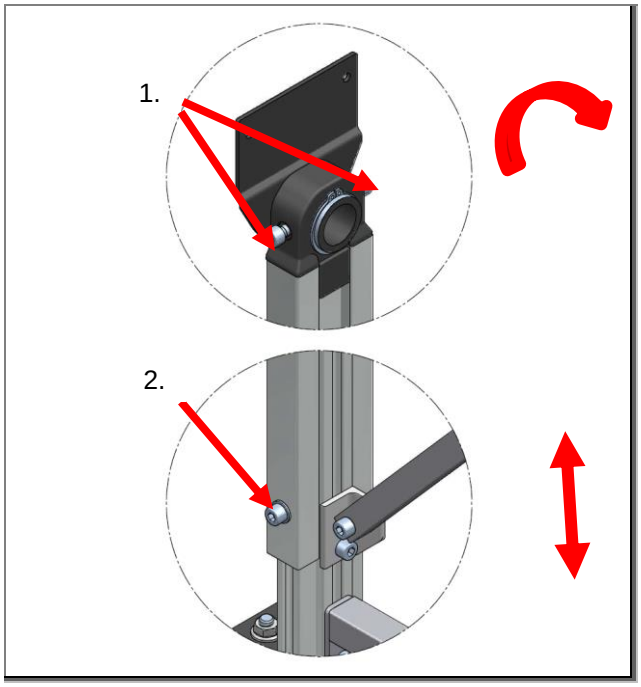


Fig. 24: Adjustment options of the support – AM 920

You can carry out the following adjustments on the support:

1. Set the desired angle of inclination.
2. Set the desired height of the support.
3. Tighten all screws correctly.

Result: The height and angle of the support are adjusted to match your requirements.

5.4.1.2 Assembly of the conveyor body on the support - AM 920

Prerequisites

- All supports are fully assembled.

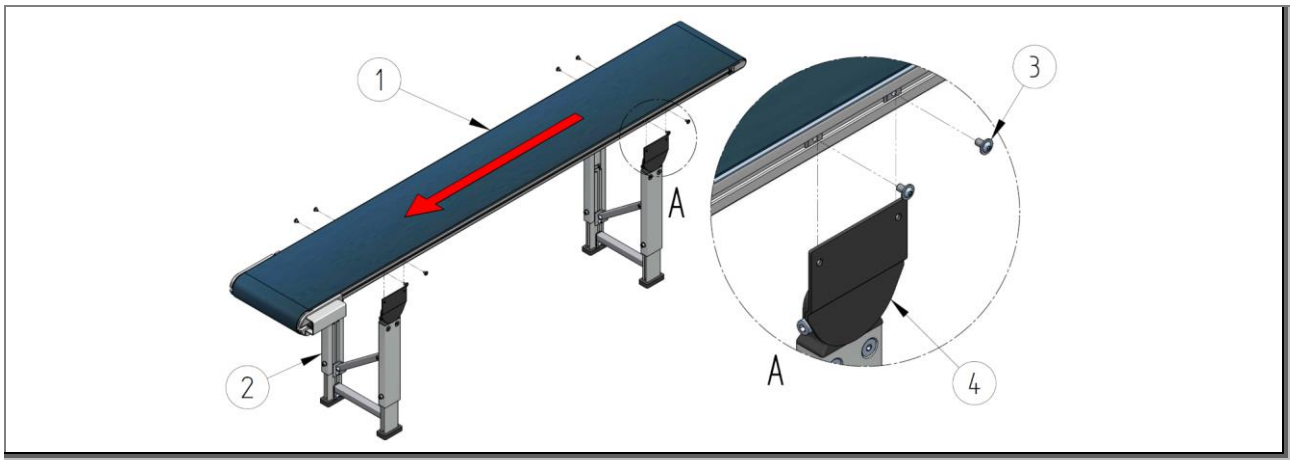


Fig. 25: Assembly, conveyor with support AM 920 (typical)

1	Conveyor	3	Erection screws
2	Support(s)	4	Fastener

1. Undo the displaceable erection screws (3) (2 x 2 pieces per support) in the frame profile to the side of the conveyor body and place them ready in the vicinity of the fasteners (4).
2. Lower the conveyor body between the fasteners (4) of the support and tighten the screws correctly, as shown in the figure below [detail B].

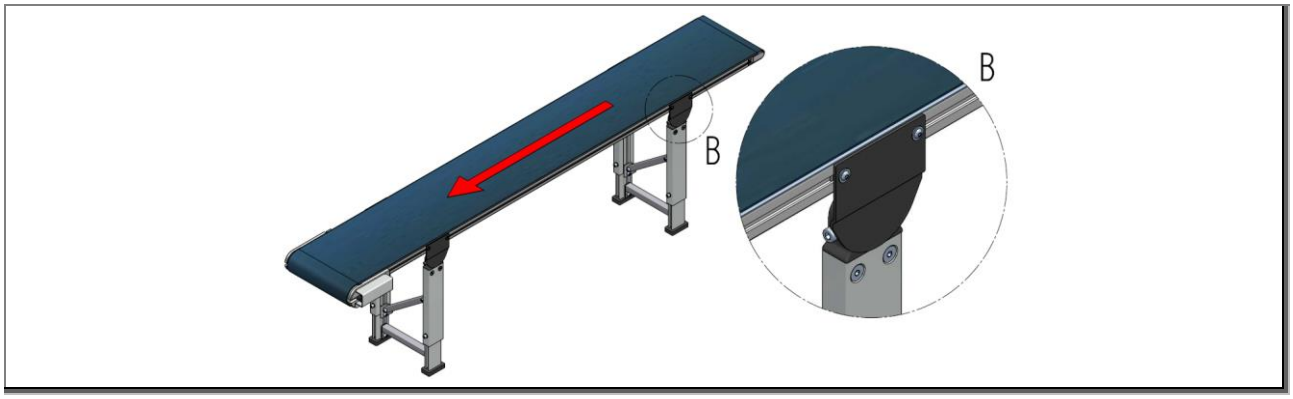


Fig. 26: Overall construction assembly, conveyor with support AM 920 (typical)

Result: The conveyor is assembled on the support.

5.4.1.3 Assembly of the support – AM 140

Prerequisites

- The support has been removed from the packaging.

The support is supplied in pre-assembled condition as shown on the left.

Fig. 27: Assembly of the support – AM 140 (typical)

5.4.1.4 Installation of the conveyor body on the support - AM 140

Prerequisites

- All supports are fully assembled.

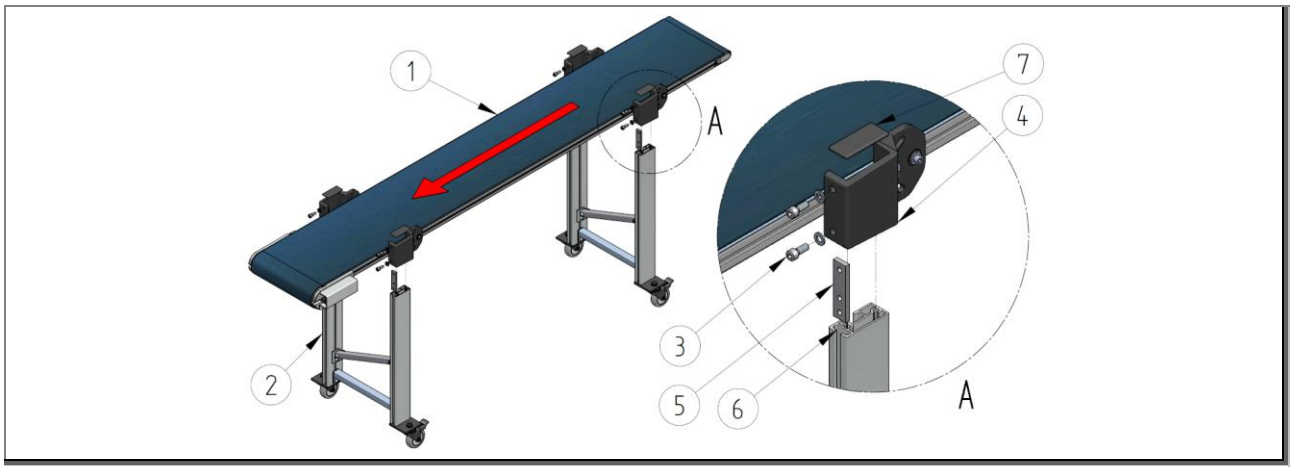


Fig. 28: Assembly, conveyor with support AM 140 (typical)

1	Conveyor	5	Slot nut
2	Support(s)	6	Support groove
3	Erection screws	7	Covers
4	Angle adjustment device		

1. Undo the erection screws(3) (2 x 2 pieces per support) on the angle adjustment device (4) and insert the now projecting slot nut (5) in the provided support groove(6).
2. Fit the conveyor body on the support, as shown in the figure below [detail B] and correctly tighten the screws.
3. Set the desired angle of inclination and the height of the conveyor.
4. Tighten all screws (3) correctly.
5. Close off the facing profile ends with the black covers (7).

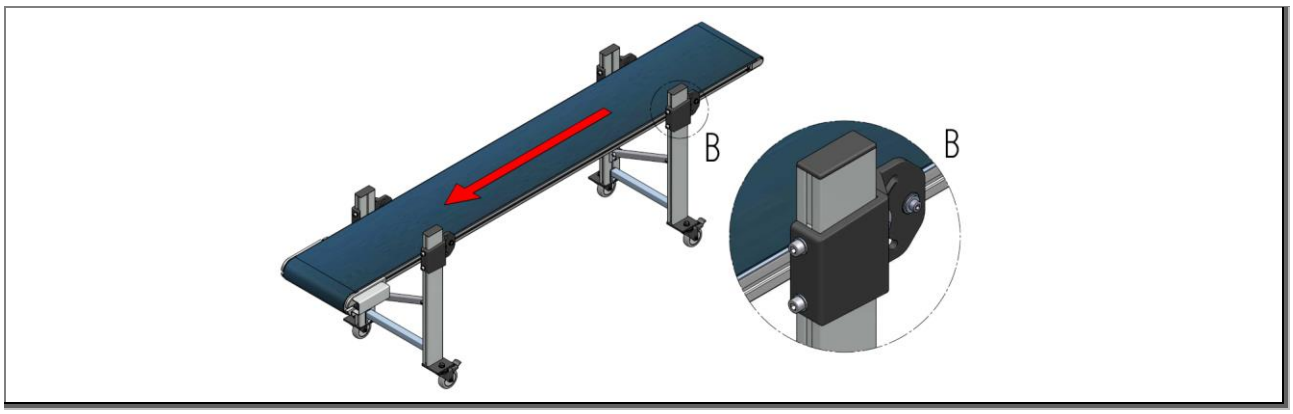


Fig. 29: Overall construction assembly, conveyor with support AM 140 (typical)

Result: The conveyor is assembled on the support.

5.4.1.5 Assembly of the support – AM 1030

Prerequisites

- The support has been removed from the packaging.

Fig. 30: Assembly of the support – AM 1030 (typical)

The support is supplied in pre-assembled condition as shown on the left.

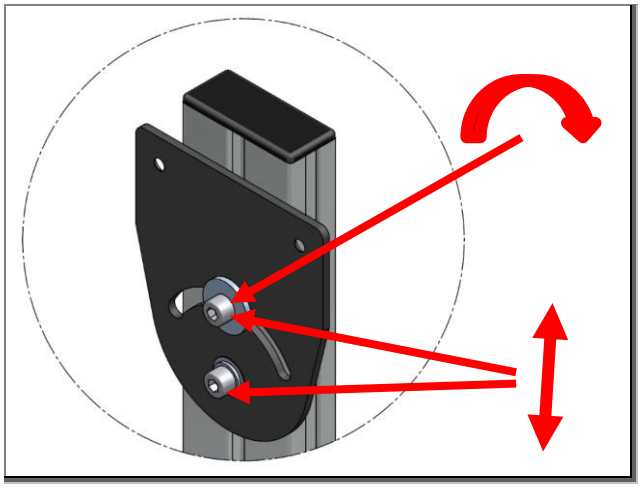


Fig. 31: Adjustment options of the support – AM 1030

1 Set the desired angle of inclination, by loosening the top screw.

2. Set the desired height of the support by loosening both screws.

3. Once the support has been correctly set up, tighten all screws correctly.

Result: The height and angle of the support are adjusted to match your requirements.

5.4.1.6 Assembly of the conveyor body on the support - AM 1030

Prerequisites

- All supports are fully assembled.

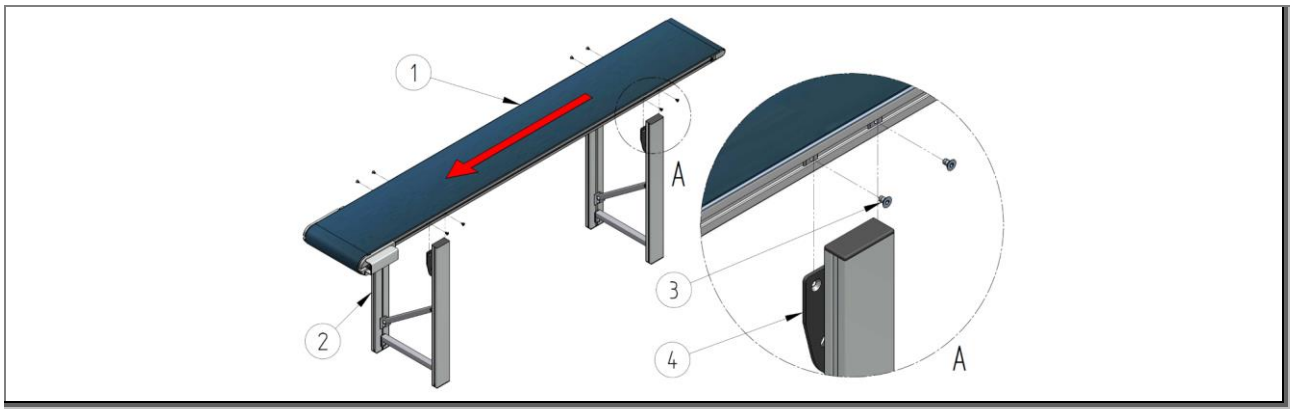


Fig. 32: Assembly, conveyor with support AM 1030 (typical)

1	Conveyor	3	Erection screws
2	Support(s)	4	Fastener

1. Undo the displaceable erection screws (3) (2 x 2 pieces per support) in the frame profile to the side of the conveyor body and place them ready in the vicinity of the fasteners (4).
2. Fit the conveyor body on the support, as shown below [detail B] and correctly tighten the screws.

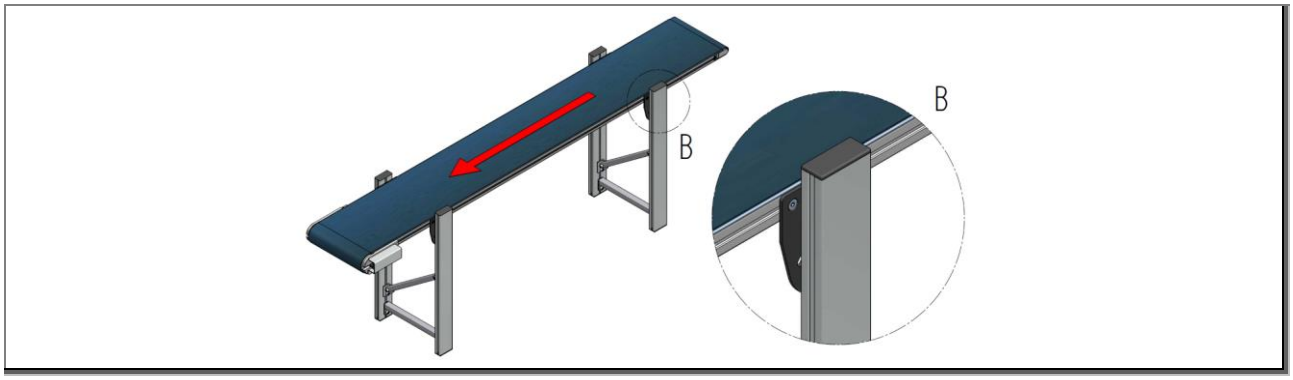


Fig. 33: Overall construction assembly, conveyor with support AM 1030 (typical)

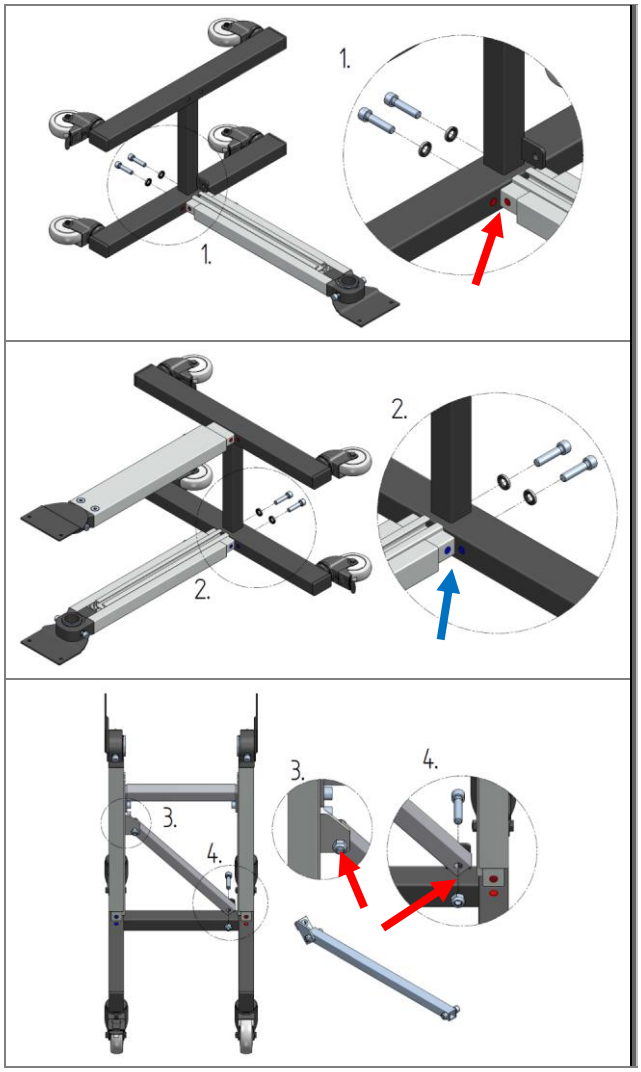
Result: The conveyor is assembled on the support.

5.4.2 Support - HE / HM

5.4.2.1 Assembly of the support – HE 050 / HM 480

Prerequisites

- The support has been removed from the packaging.



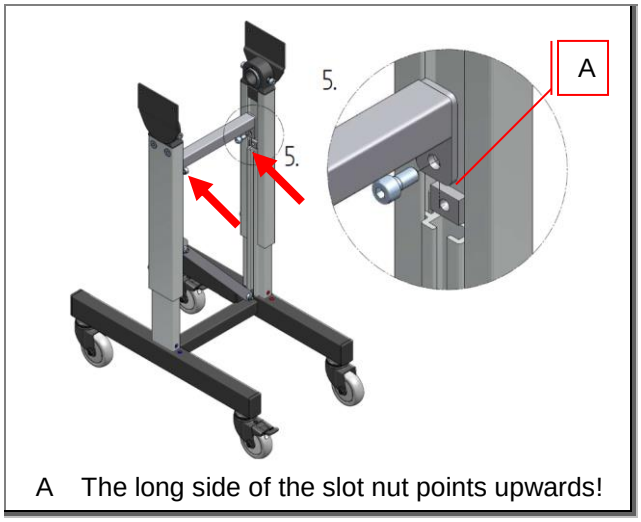
Check that the **red** and **blue** glue dots are correctly matched during the assembly and both dots are visible, as shown in the figure on the left.

1. Place the base frame and a telescopic profile (IP5) on the side on a level, clean surface as shown in the figure. Now tighten the screws correctly, as shown.

2. Now rotate the base frame onto the other side and place the 2nd profile on the base frame. Now screw in the screws correctly, as shown.

If a diagonal strut is supplied:

3. Now fit the diagonal strut: To do so, undo the screw connection at 3. so that the strut can be moved.
4. Fit the diagonal strut as shown and correctly tighten the screws.



A The long side of the slot nut points upwards!

Fig. 34: Assembly of the support – HE 050/ HM 480

If a cross strut is supplied:

5. Now fit the cross strut, by inserting the slot nut in the groove and then screwing this is place. In doing so, ensure that the cross strut sits as close as possible to the profile end. Tighten the screws correctly.

Result: The support is assembled.

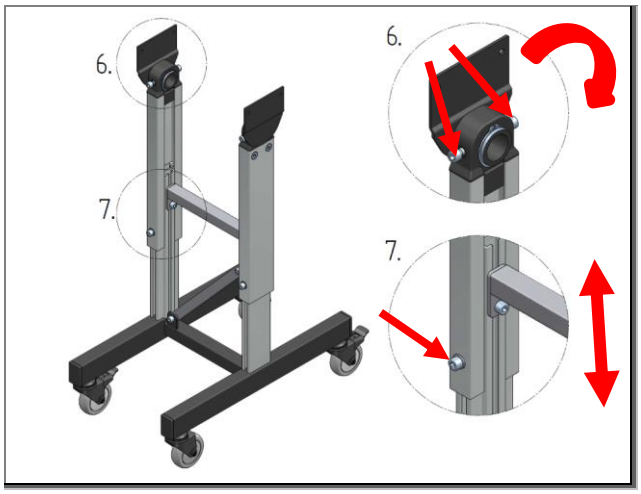


Fig. 35: Adjusting the support – HE 050/ HM 480

6. Set the desired angle of inclination.
7. Set the desired height of the support.
8. Tighten all screws correctly.

Result: The height and angle of the support are adjusted to match your requirements.

5.4.2.2 Assembly of the conveyor body on the support - HE 050-HM 480

Prerequisites

- All supports are fully assembled.

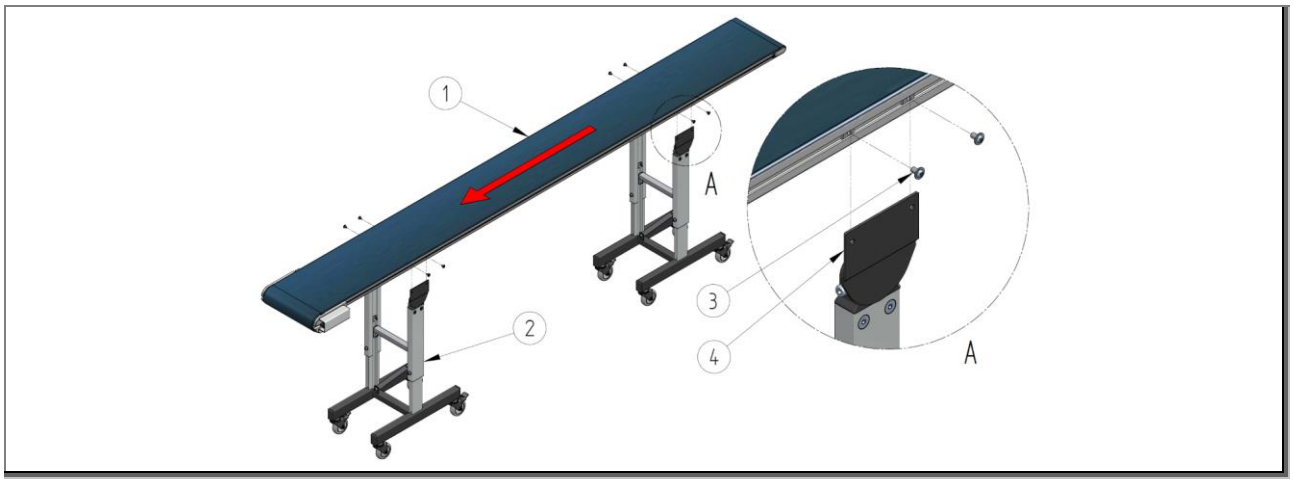


Fig. 36: Assembly, conveyor with support HE 050 – HM 480 (typical)

1	Conveyor	3	Erection screws
2	Support(s)	4	Fastener

1. Undo the displaceable erection screws (3) (2 x 2 pieces per support) in the side groove of the conveyor body and insert them in the provided fasteners (4).
2. Fit the conveyor body on the support, as shown below [detail B] and correctly tighten the screws.

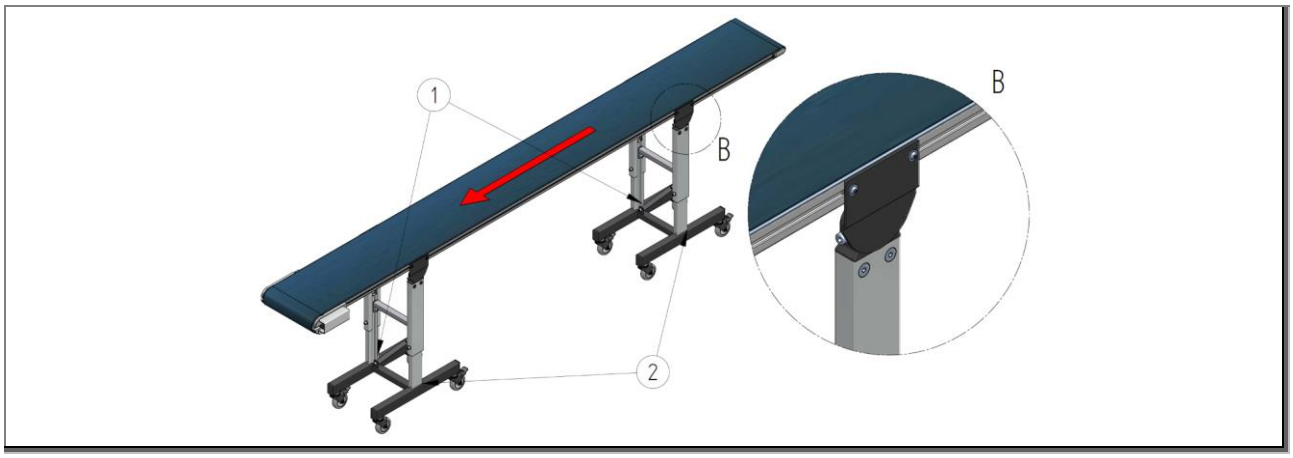


Fig. 37: Overall construction assembly conveyor with support HE 050 – HM 480 (typical)

1	Red glue dot	2	Blue glue dot

Result: The conveyor is assembled on the support.

5.4.2.3 Assembly of the support – HE 060 / HM 590

Prerequisites

- The support has been removed from the packaging.

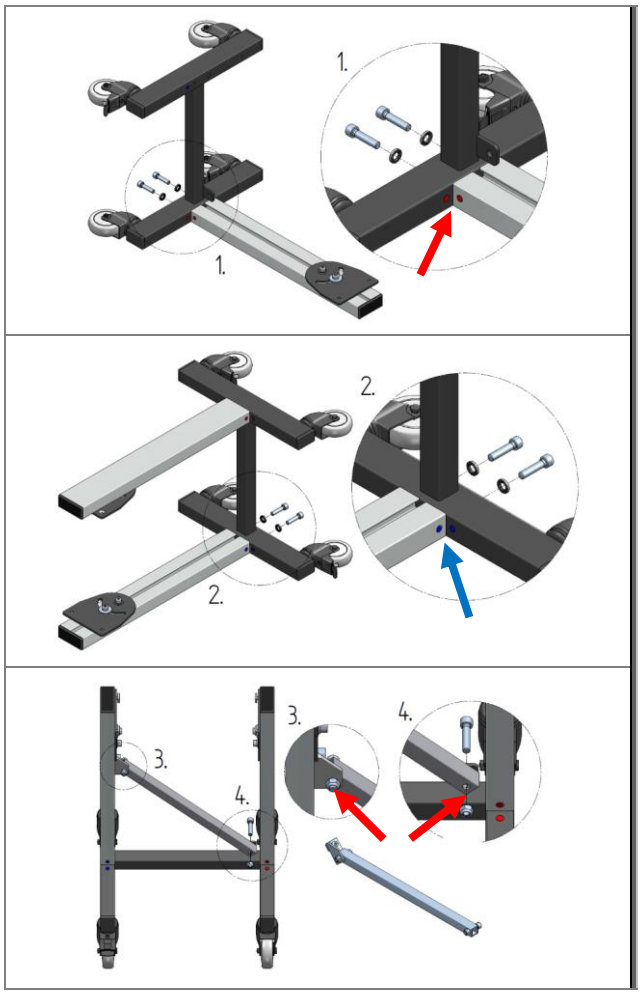


Fig. 38: Assembly of the support – HE 060/ HM 590

Check that the **red** and **blue** glue dots are correctly matched during the assembly and both dots are visible, as shown in the figure on the left.

1. Place the base frame and a profile (IP6) on the side on a level, clean surface as shown in the figure. Now tighten the screws correctly, as shown.

2. Now rotate the base frame onto the other side and place the 2nd profile on the base frame. Now tighten the screws correctly, as shown.

If a diagonal strut is supplied:

3. Now fit the diagonal strut: To do so, undo the screw connection at 3. and 4. so that the diagonal strut can be moved.
4. Fit the diagonal strut as shown in the figure and correctly tighten the screws.

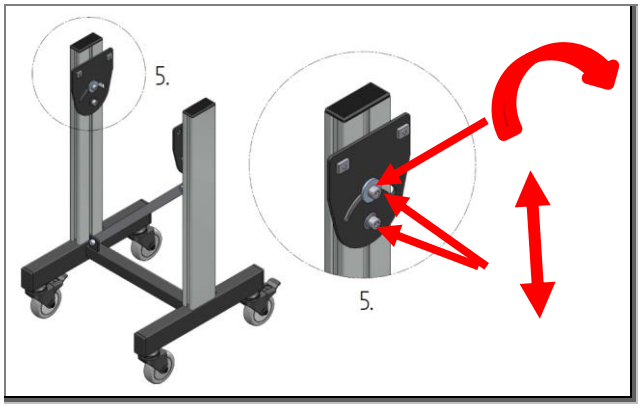


Fig. 39: Adjusting the support – HE 060/ HM 590

5. Set the desired angle of inclination, by undoing the top screw.
6. Set the desired height of the support by loosening both screws.
7. Once the support has been correctly set up, tighten all screws correctly.

Result: The height and angle of the support are adjusted to match your requirements.

5.4.2.4 Assembly of the conveyor body on the support - HE 060-HM 590

Prerequisites

- All supports are fully assembled.

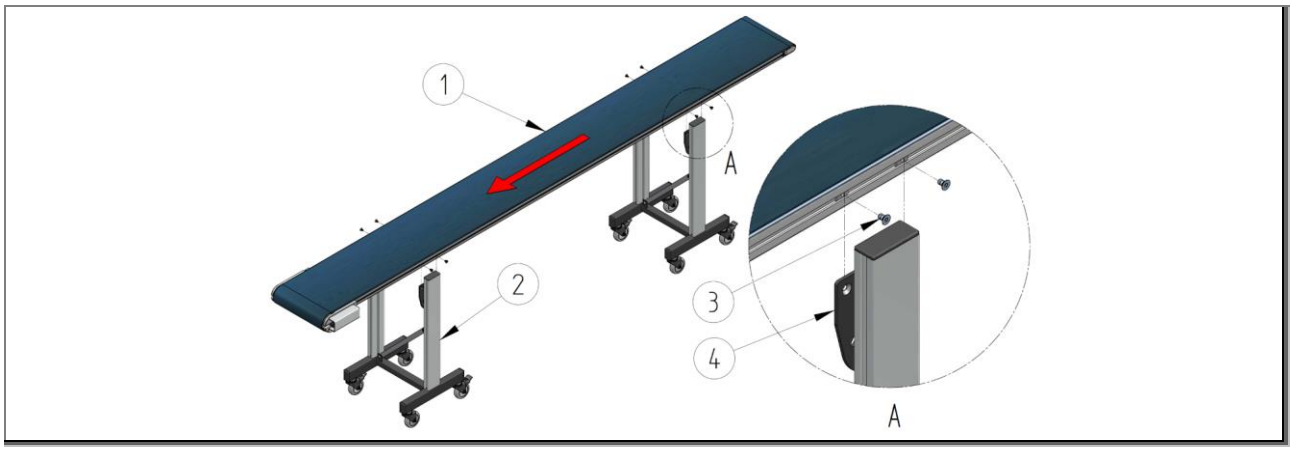


Fig. 40: Assembly, conveyor with support HE 060 – HM 590 (typical)

1	Conveyor	3	Erection screws
2	Support(s)	4	Fastener

1. Undo the displaceable erection screws (3) (2 x 2 pieces per support) in the side groove of the conveyor body and insert them in the provided fasteners (4).
2. Fit the conveyor body on the support, as shown below [detail B] and correctly tighten the screws.

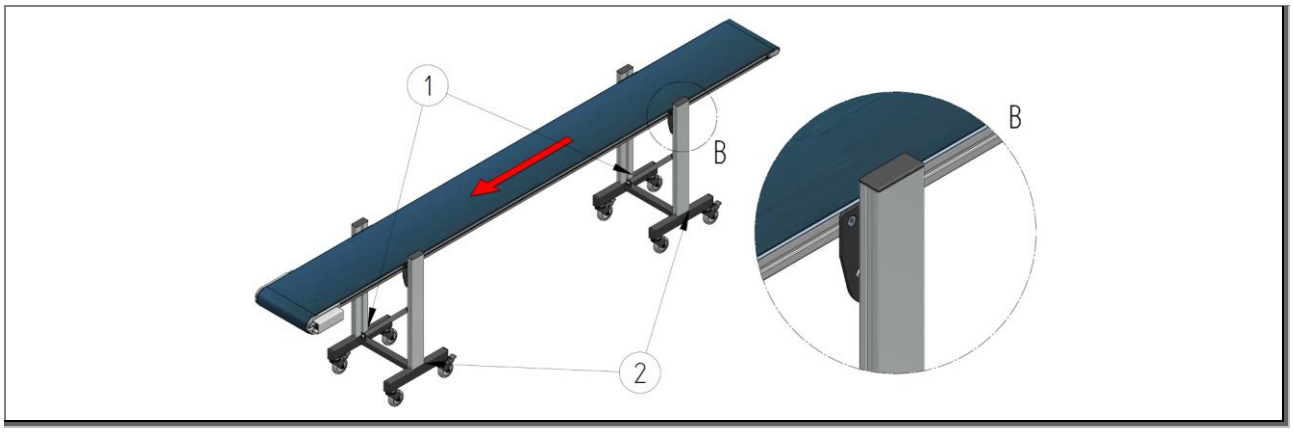


Fig. 41: Overall construction assembly conveyor with support HE 030 – HM 590 (typical)

1	Red glue dot	2	Blue glue dot

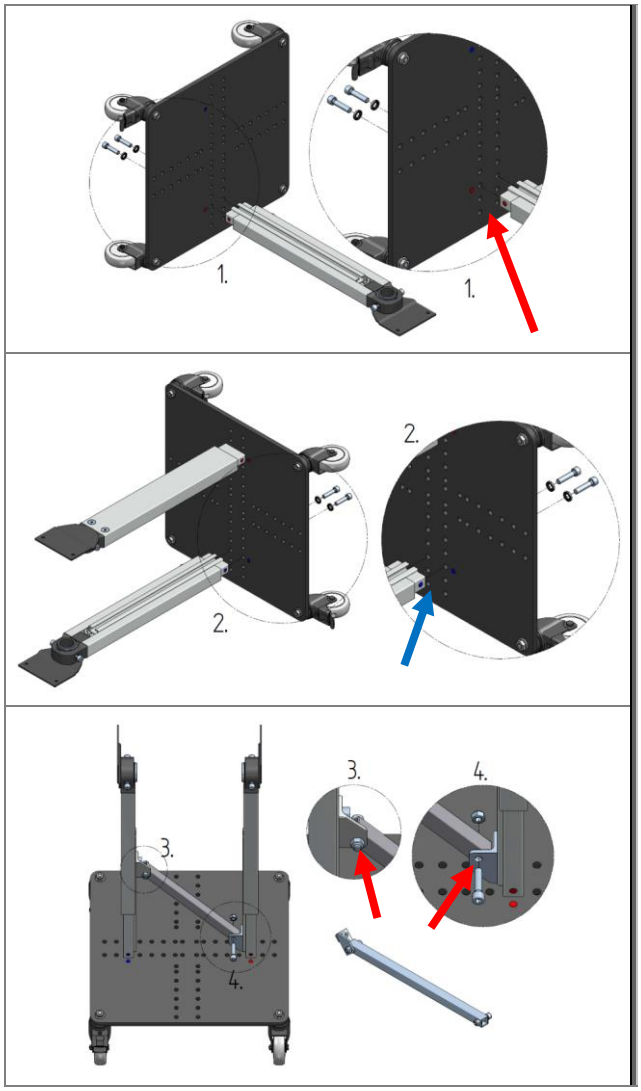
Result: The conveyor is assembled on the support.

5.4.3 Support - BE / BM

5.4.3.1 Assembly of the support – BE 010 / BM 010

Prerequisites

- The support has been removed from the packaging.



Check that the **red** and **blue** glue dots are correctly matched during the assembly and both dots are visible, as shown in the figure on the left.

1. Place the base frame and a telescopic profile (IP5) on the side on a level, clean surface as shown in the figure. Now tighten the screws correctly, as shown. Use the screw through holes next to the glue dots

2. Now rotate the base frame onto the other side and place the 2nd profile on the base frame. Now screw in the screws correctly, as shown.

If a diagonal strut is supplied:

3. Now fit the diagonal strut: To do so, undo the screw connection at 3.und 4. so that the strut can be moved.
4. Fit the diagonal strut as shown and correctly tighten the screws.

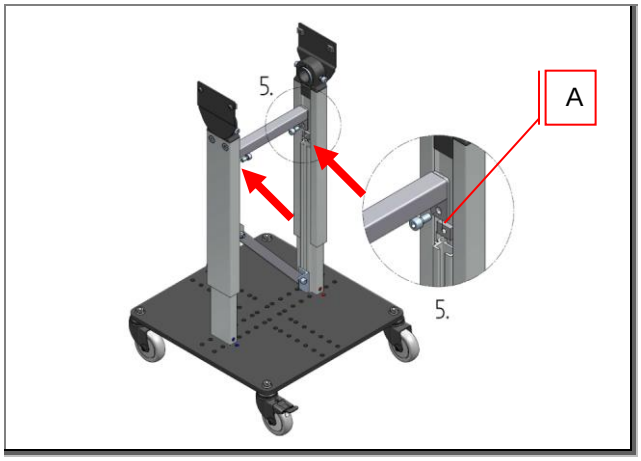


Fig. 42: Assembly of the support – BE 010/ BM 010

If a cross strut is supplied:

5. Now fit the cross strut, by inserting the slot nut in the groove and then screwing this is place. In doing so, ensure that the cross strut sits as close as possible to the profile end. Tighten the screws correctly.

A Long side of the slot nut points upwards!

Result: The support is assembled.

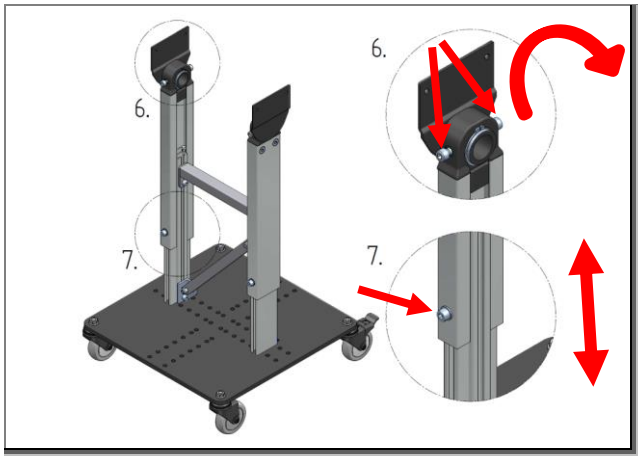


Fig. 43: Adjusting the support – BE 010/ BM 010

6. Set the desired angle of inclination.
7. Set the desired height of the support.
8. Tighten all screws correctly.

Result: The height and angle of the support are adjusted to match your requirements.

5.4.3.2 Assembly of the conveyor body on the support - BE 010-BM 010

Prerequisites

- All supports are fully assembled.

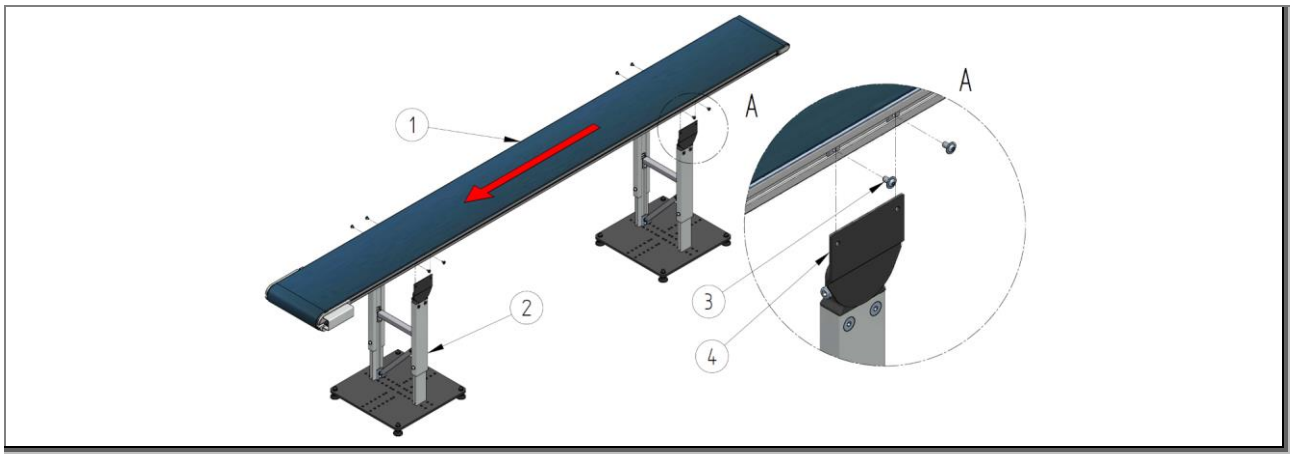


Fig. 44: Assembly, conveyor with support BE 010 – BM 010 (typical)

1	Conveyor	3	Erection screws
2	Support(s)	4	Fastener

1. Undo the displaceable erection screws (3) (2 x 2 pieces per support) in the side groove of the conveyor body and insert them in the provided fasteners (4).
2. Fit the conveyor body on the support, as shown below [detail B] and correctly tighten the screws.

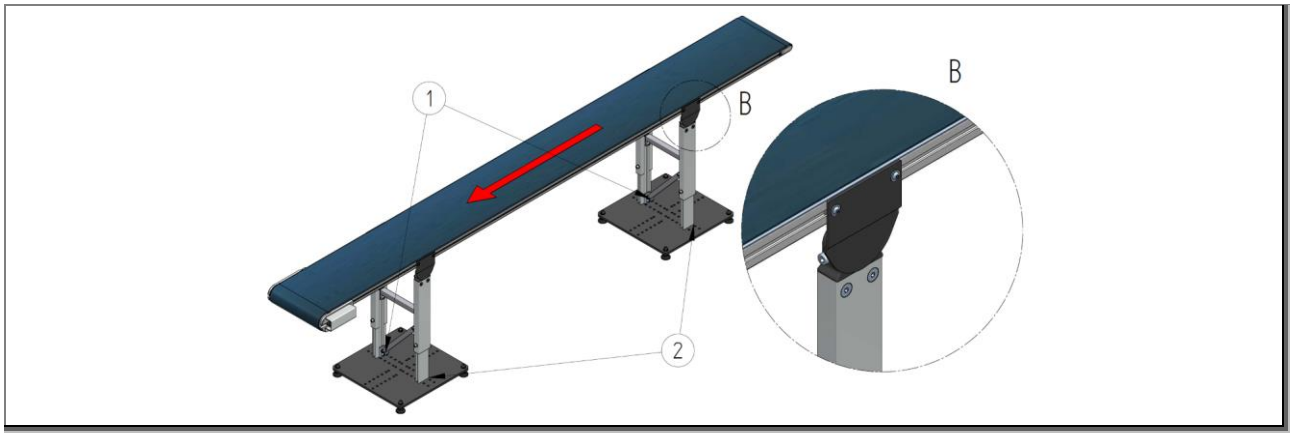


Fig. 45: Overall construction assembly conveyor with support BE 010 – BM 010 (typical)

1	Red glue dot	2	Blue glue dot

Result: The conveyor is assembled on the support.

5.4.3.3 Assembly of the support – BE 020 / BM 120

Prerequisites

- The support has been removed from the packaging.

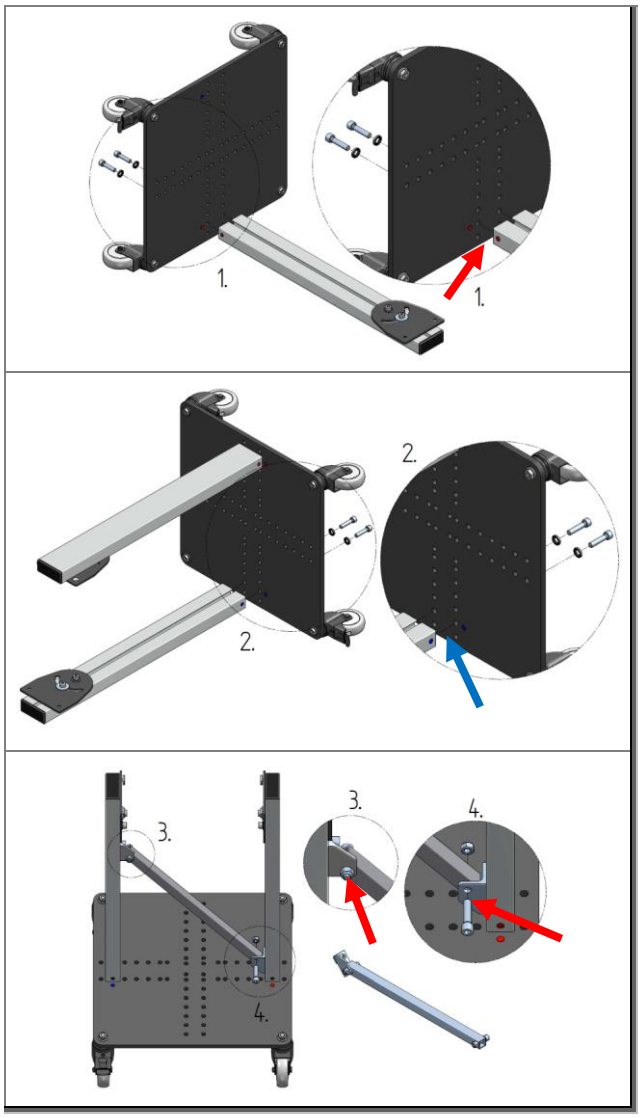


Fig. 46: Assembly of the support – BE 020/ BM 120

Check that the **red** and **blue** glue dots are correctly matched during the assembly and both dots are visible, as shown in the figure on the left.

1. Place the base frame and a profile (IP6) on the side on a level, clean surface as shown in the figure. Now tighten the screws correctly, as shown.

2. Now rotate the base frame onto the other side and place the 2nd profile on the base frame. Now tighten the screws correctly, as shown.

If a diagonal strut is supplied:

3. Now fit the diagonal strut: To do so, undo the screw connection at 3. and 4. so that the diagonal strut can be moved.

4. Fit the diagonal strut as shown in the figure and correctly tighten the screws.

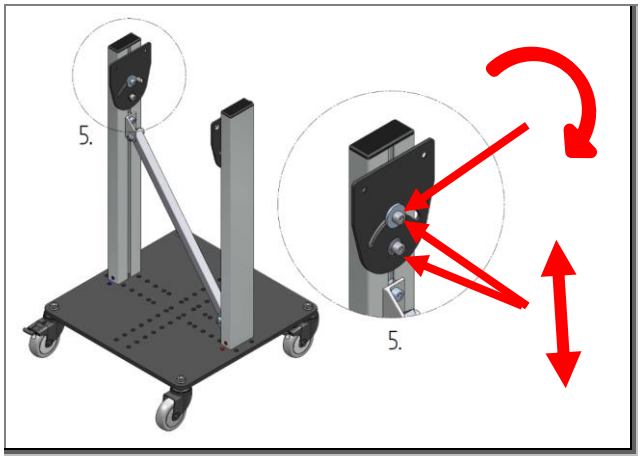


Fig. 47: Adjusting the support – BE 020/ BM 120

5. Set the desired angle of inclination, by undoing the top screw.
6. Set the desired height of the support by loosening both screws.
7. Once the support has been correctly set up, tighten all screws correctly.

Result: The height and angle of the support are adjusted to match your requirements.

5.4.3.4 Assembly of the conveyor body on the support - BE 020-BM 120

Prerequisites

- All supports are fully assembled.

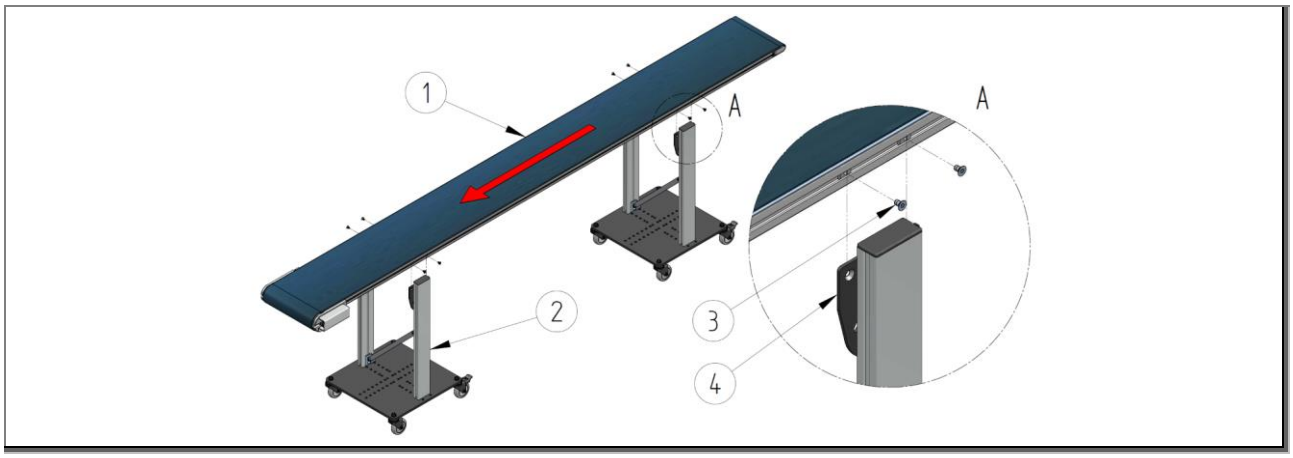


Fig. 48: Assembly, conveyor with support BE 020 – BM 120 (typical)

1	Conveyor	3	Erection screws
2	Support(s)	4	Fastener

1. Undo the displaceable erection screws (3) (2 x 2 pieces per support) in the side groove of the conveyor body and insert them in the provided fasteners (4).
2. Fit the conveyor body on the support, as shown below [detail B] and correctly tighten the screws.

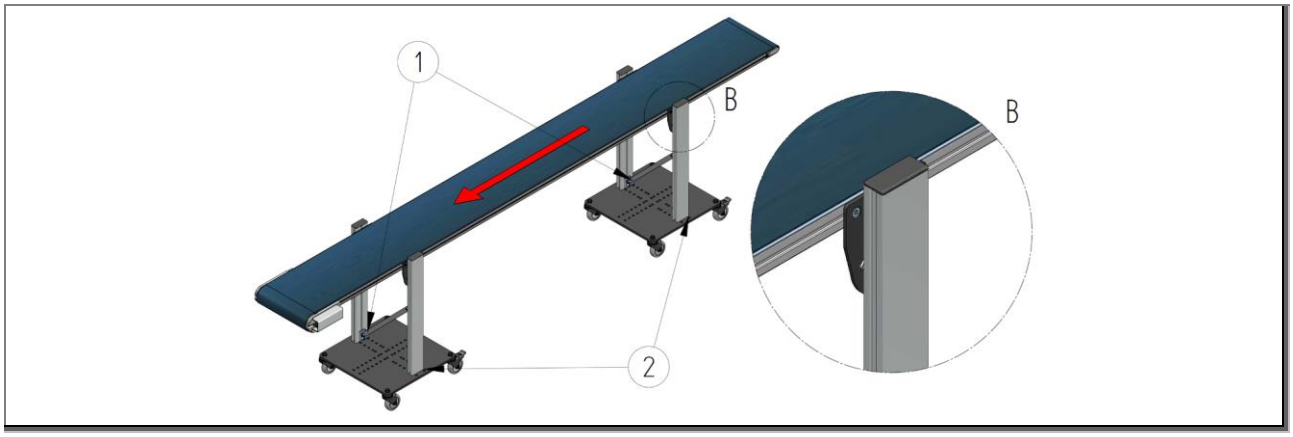


Fig. 49: Overall construction assembly conveyor with support BE 020 – BM 120 (typical)

1	Red glue dot	2	Blue glue dot

Result: The conveyor is assembled on the support.

5.5 Set-up of the conveyor

5.5.1 Conveyor positioning

⚠ CAUTION

Risk of injury due to moveable support

When moving the conveyor, the casters on the support can roll over feet or other body parts.

- Wear sturdy shoes with steel toecaps
- When moving do not step in the moving area of the casters

⚠ CAUTION

Risk of crushing and shearing

Danger due to sudden swiveling movement of the casters when changing the machine location.

- During positioning of the conveyor, do not reach in close to the swivel casters.
- After completed positioning of the conveyor, always apply all arresters of the swivel casters.

Prerequisites

- The conveyor is assembled on the support and position on its installation location.

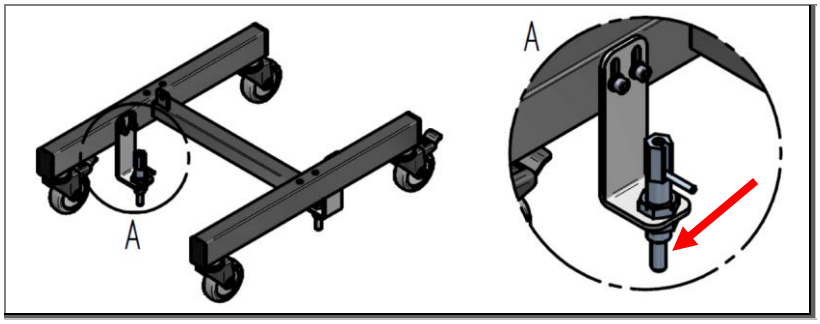


Fig. 50: Floor locking

Positioning the conveyor with floor locking:

- The conveyor is pushed into the specified position, so that the locking bolts engage in a device in the floor.

Result: The conveyor is positioned.

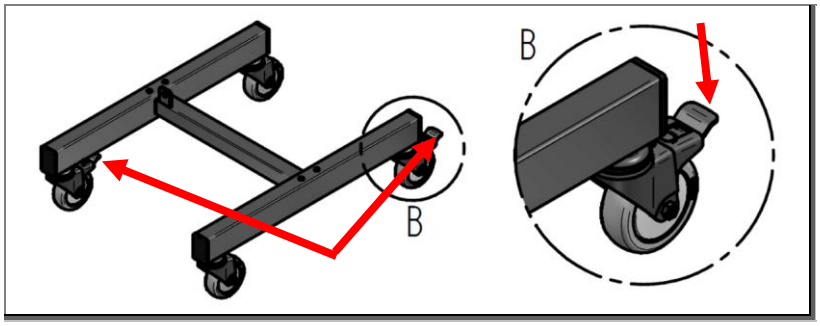


Fig. 51: Locking the casters

Locking the casters:

- Press the arresters of all casters down until they engage.

Result: The conveyor is secured to prevent it rolling away under its own weight.

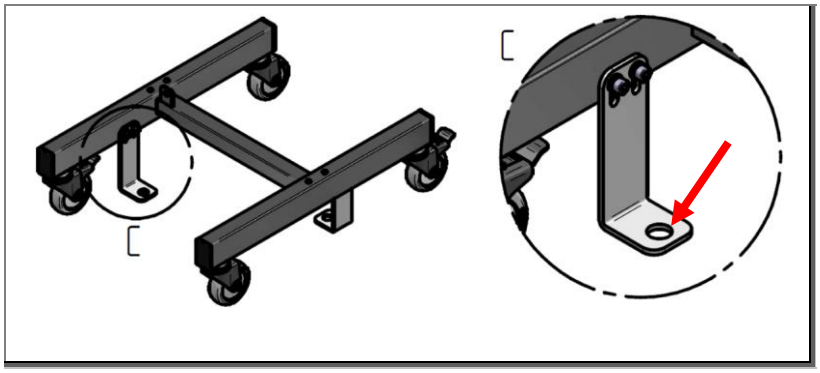
5.5.2 Securing the conveyor against tipping over

⚠ WARNING

Risk of injury due to machine toppling over

Risk of tipping due to insufficient floor fixation.

- If available, always screw the floor clips of the floor fixation systems securely to the floor in the correct manner. Otherwise do not start-up!
- Ensure there is uniform loading!
- Use screws of sufficient strength!
- Do not exceed the floor strength!
- Before removing the floor fixation systems, ensure there is a low center of gravity, adjust as necessary:
  - Set the lowest support position
  - Check the stability, if necessary, remove the support



Secure the conveyor with floor fixation:

- Assembly the floor fixation system in the ground with suitable bolting.

Result: The conveyor is secured to prevent it toppling over under its own weight.

Fig. 52: Floor fixation

5.6 Electrical connection

1. Plug the connecting plug of the power cable into a suitable socket.
2. Route the power cable so that no one can trip over it.

5.7 Cleaning after the installation

1. Ensure that there are no tools, lifting accessories or other foreign objects left in the area of the machine after its assembly.
2. Remove any moisture that may be present (condensation, cleaning solutions, etc.).

6 Start-up

6.1 Safety

Only specialized personnel with proven qualification are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

NOTE

The manufacturer does not accept any liability for damage resulting from improper start-up.

⚠ DANGER

Entanglement and crushing hazard

Loose clothing, loose jewelry or long unfastened hair can become entangled and cause severe injuries.

- Never operate the machine without chain protective cover.
- Wear tight-fitting clothes.
- Do not wear any loose jewelry.
- Tie up long hair.
- Maintenance work: Check machine is completely voltage-free and secure to prevent switching back on. Only then remove protective covers. Prior to starting up again, fit the protective covers.

⚠ DANGER

Danger to life due to electric current

There is danger to life in the event of contact with live components.
Active electrical components may perform uncontrolled movements. Serious injuries or even death may result.

- All work on the electrical components of this machine must only be carried out by qualified specialist personnel (electricians or persons trained in electrical engineering in accordance with DIN EN 60204-1).
- Switch the machine off during maintenance and repair work and secure to prevent unexpected switching back on.
- Close the working area off and mark it with a warning sign.

⚠ DANGER

Danger to life

Transporting of persons is dangerous and can cause fatal injuries.

- Transporting of persons is expressly forbidden.

⚠ DANGER

Lack of avoidability of dangers

Avoidance and reduction of personal injury will not be possible if switching off devices are rendered inaccessible.

- Do not block or otherwise render inaccessible switching off devices.

⚠ WARNING

Risk of crushing and impacts

During adjustment work on the support, the conveyor may lower due to insufficient safeguards.

- Secure the conveyor with suitable load handling equipment (crane, etc.) to prevent unintentional and sudden lowering.
- The retaining screws may only be released, if the conveyor has been correctly secured to prevent the aforementioned hazard.
- Never remain under suspended loads when loosening/fastening the retaining screws.
- Maintain a sufficient distance from the danger locations.
- Carry out height adjustment using several persons.
- Wear personal protective equipment.

⚠ WARNING

Risk of injury due to machine toppling over

Risk of tipping due to insufficient floor fixation.

- If available, always screw the floor clips of the floor fixation systems securely to the floor in the correct manner. Otherwise do not start-up!
- Ensure there is uniform loading!
- Use screws of sufficient strength!
- Do not exceed the floor strength!
- Before removing the floor fixation systems, ensure there is a low center of gravity, adjust as necessary:
  - Set the lowest support position
  - Check the stability, if necessary, remove the support

⚠ WARNING

Hazards caused by rotating or moving components

Rotating and moving components may crush or sever limbs and cause serious injuries.

- Stay within the defined working area.
- Keep a safe distance to the components.
- Heed any warning signs in the working area.
- Wear personal protective equipment.
- Wear tight-fitting clothes.
- Knot long hair together and wear a hair net as necessary.

⚠ CAUTION

Entanglement and scraping hazard in the conveyor inlet and outlet as well as on the return idler on the lower belt run

Loose clothing, loose jewelry or long unfastened hair can become entangled and cause injuries.

- Wear tight-fitting clothes.
- Do not wear any loose jewelry.
- Knot long hair together and wear a hair net as necessary.
- Do not reach into the danger areas.
- Maintain a sufficient distance from the danger points/areas.

⚠ CAUTION

Risk of crushing and shearing

Danger due to sudden swiveling movement of the casters when changing the machine location.

- During positioning of the conveyor, do not reach in close to the swivel casters.
- After completed positioning of the conveyor, always apply all arresters of the swivel casters.

⚠ CAUTION

Risk of injury due to moveable support

When moving the conveyor, the casters on the support can roll over feet or other body parts.

- Wear sturdy shoes with steel toecaps
- When moving do not step in the moving area of the casters

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

ATTENTION

Damage to the equipment due to incorrect voltage

If the equipment is connected to an incorrect voltage supply, the electrical equipment may be destroyed.

- The voltage supply should be connected by skilled electricians only.
- Observe the local rules and regulations concerning the energy supply. The electrical equipment complies with the European safety standards.

ATTENTION

Damage to the equipment due to an incorrect direction of rotation of the motors

Prolonged movement of the belt in the wrong direction may damage the system.

- Work on the system should be performed by authorized and specialized personnel only.
- Check the direction of movement of the conveyor belt by visual inspection.
- If necessary, change the direction of rotation of the motors. To do so, change the phases of the power supply.
- Attach a conveying direction arrow.

ATTENTION

Damage to the equipment due to an incorrect alignment of the belt

Lateral mistracking or slipping of the belt may cause equipment damage.

- Work on the system should be performed by authorized and specialized personnel only.
- Adjust the belt alignment.
- Adjust the belt tension.

6.2 Points to be checked prior to the initial start-up

The following general points must be checked PRIOR to the initial start-up:

1. Ensure that the area around the machine is free from tools or other foreign objects that had to be used for the installation or assembly.
2. Ensure that the conveyor is correctly positioned and secured in the ground as necessary.
3. Clean the system to remove all traces of moisture and dirt.
4. Ensure that grid power is available on site.
5. Switch the machine on via the main switch.
6. Ensure that all of the safety devices and guards are fully functional from an electrical point of view.
7. Check whether all of the safety devices and guards have been installed correctly.
8. Close all of the inspection openings, covers and doors.
9. Check the direction of rotation of the drive motor once again.
9. Check all of the points listed above a second time.

6.3 Start-up

ATTENTION

Risk of belt damage

Increased abrasion up to and including belt damage is possible

- After the first start-up, the belt can lengthen due to the running-in characteristics and change in temperature.
- Therefore, check the belt alignment and belt tension frequently, especially during the first two weeks of use.

1. Ensure that the conveyor is correctly positioned and secured in the ground as necessary.
2. Ensure that grid power is available on site.
3. Switch the machine on via the main switch.
4. Check the power supply.
5. Ensure that all of the safety switches, safety devices and guards are fully functional from an electrical point of view.

   Following an intervention triggering the safety system, the warning lamps must illuminate to indicate a potential hazard. Repeat the triggering intervention for all of the safety elements:

   – emergency stop buttons,
   – emergency off buttons,
   – safety doors,
   – main switch etc.
6. Check the direction of rotation of the motors.
7. Check the belt alignment. If necessary, adjust the belt alignment and tension.

NOTE

▶ Following the successful completion of the aforementioned tasks and checks, the machine is ready for operation with the goods to be conveyed.

6.4 Start-up after a planned shutdown

NOTE

▶ If the machine is restarted after a longer period of non-utilization, repeat the start-up procedure.

7 Operation

The chapter “Operation” describes the operation of the system under normal operating conditions and provides an overview of the controls and warning devices.

After the activation of the system under normal conditions, it runs fully automatically without needing any interventions by the system operator.

7.1 Safety

Only specialized personnel with proven qualification are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

⚠ DANGER

Entanglement and crushing hazard

Loose clothing, loose jewelry or long unfastened hair can become entangled and cause severe injuries.

- Never operate the machine without chain protective cover.
- Wear tight-fitting clothes.
- Do not wear any loose jewelry.
- Tie up long hair.
- Maintenance work: Check machine is completely voltage-free and secure to prevent switching back on. Only then remove protective covers. Prior to starting up again, fit the protective covers.

⚠ DANGER

Danger to life due to electric current

There is danger to life in the event of contact with live components.
Active electrical components may perform uncontrolled movements. Serious injuries or even death may result.

- All work on the electrical components of this machine must only be carried out by qualified specialist personnel (electricians or persons trained in electrical engineering in accordance with DIN EN 60204-1).
- Switch the machine off during maintenance and repair work and secure to prevent unexpected switching back on.
- Close the working area off and mark it with a warning sign.

⚠ DANGER

Danger to life

Transporting of persons is dangerous and can cause fatal injuries.

- Transporting of persons is expressly forbidden.

⚠ DANGER

Lack of avoidability of dangers

Avoidance and reduction of personal injury will not be possible if switching off devices are rendered inaccessible.

- Do not block or otherwise render inaccessible switching off devices.

⚠ WARNING

Hazards caused by rotating or moving components

Rotating and moving components may crush or sever limbs and cause serious injuries.

- Stay within the defined working area.
- Keep a safe distance to the components.
- Heed any warning signs in the working area.
- Wear personal protective equipment.
- Wear tight-fitting clothes.
- Knot long hair together and wear a hair net as necessary.

⚠ WARNING

Risk of injury due to machine toppling over

Risk of tipping due to insufficient floor fixation.

- If available, always screw the floor clips of the floor fixation systems securely to the floor in the correct manner. Otherwise do not start-up!
- Ensure there is uniform loading!
- Use screws of sufficient strength!
- Do not exceed the floor strength!
- Before removing the floor fixation systems, ensure there is a low center of gravity, adjust as necessary:
  - Set the lowest support position
  - Check the stability, if necessary, remove the support

⚠ CAUTION

Entanglement and scraping hazard in the conveyor inlet and outlet as well as on the return idler on the lower belt run

Loose clothing, loose jewelry or long unfastened hair can become entangled and cause injuries.

- Wear tight-fitting clothes.
- Do not wear any loose jewelry.
- Knot long hair together and wear a hair net as necessary.
- Do not reach into the danger areas.
- Maintain a sufficient distance from the danger points/areas.

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

NOTE

The accident prevention regulations as well as any internal operating procedures and safety instructions must be observed in addition to the other regulations and instructions.

7.2 Prior to operation

ATTENTION

Risk of belt damage

Increased abrasion up to and including belt damage is possible

- Check the belt alignment before the start of each shift.

Improper use of the system or misconduct may cause life-threatening injuries and damage to property. This is why the information in the “Safety” chapter must be strictly followed when using and operating the system. The persons responsible for the operation of the system must be trained at regular intervals.

Prior to using or operating the system, the following points must be checked and considered:

- Have I read and understood the instructions for use?
- Am I authorized to operate the system based on my training and qualification?
- Have I been authorized to operate the system by the operator?

Moreover, undertake the following preparations for operation and use of the machine:

- Have available and wear personal protective equipment.
- Familiarize yourself with the entire system.
- Familiarize yourself with the applicable rules and regulations.
- Coordinate the operating procedures with all of the persons involved.
- Check the state of the machine for signs of damage prior to starting any work.

7.3 Operating and display elements

7.3.1 Operation - “Without” mode of operation

If, due to a customer requirement, the conveyor is supplied without a mains switch, the conveyor does not comply with the Machinery Directive 2006/42/EC and **no operating elements** are available. Insofar that a CE marking of the conveyor as an individual machine is necessary (possibly specified by the application), then prior to start-up, there is a duty to attach a mains switch and, if necessary, to carry out other measures. Conformity with the Machinery Directive must then to be evaluated. We will be happy to provide you with further information about this matter.

7.3.2 Operation - “Constant” mode of operation

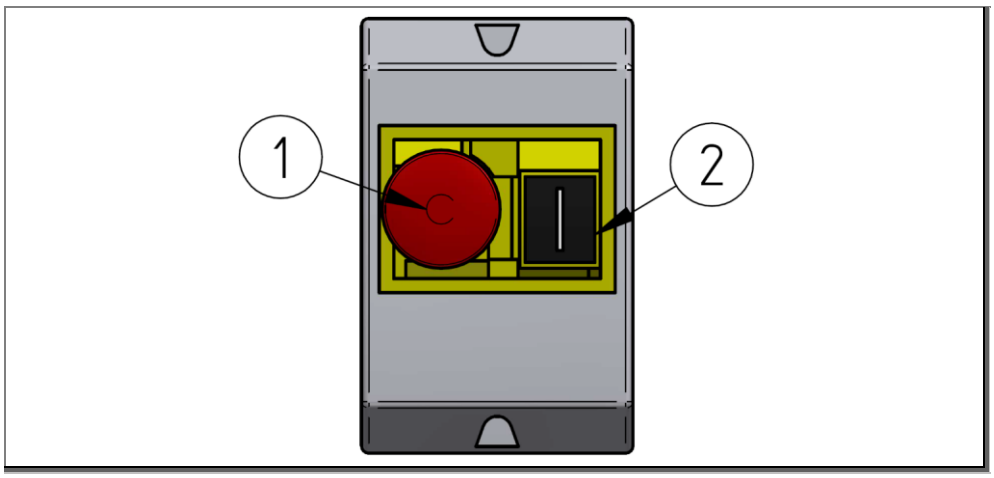


Fig. 53: Mains switch

No.	Control	Function
1	Locking mushroom push-button (red)	Switch off
2	Push-button (black)	Switch on

Tab. 6: Operating elements of the mains switch

7.3.2.1 Switch on

Perform the following steps to switch the machine on:

1. Check that the mushroom push-button (1) is not locked.
   If the mushroom push-button is locked, unlock by rotating to the right.
2. Press on the black push-button (2) so that the on switch of the mains switch engages.

Result: The machine is switched on and the conveyor runs.

7.3.2.2 Switch off

Perform the following step to switch the machine off:

1. Press forcefully on the mushroom push-button (1) so that it locks.

Result: The machine is switched off.

7.3.3 Operation - “Continuously variable” mode of operation

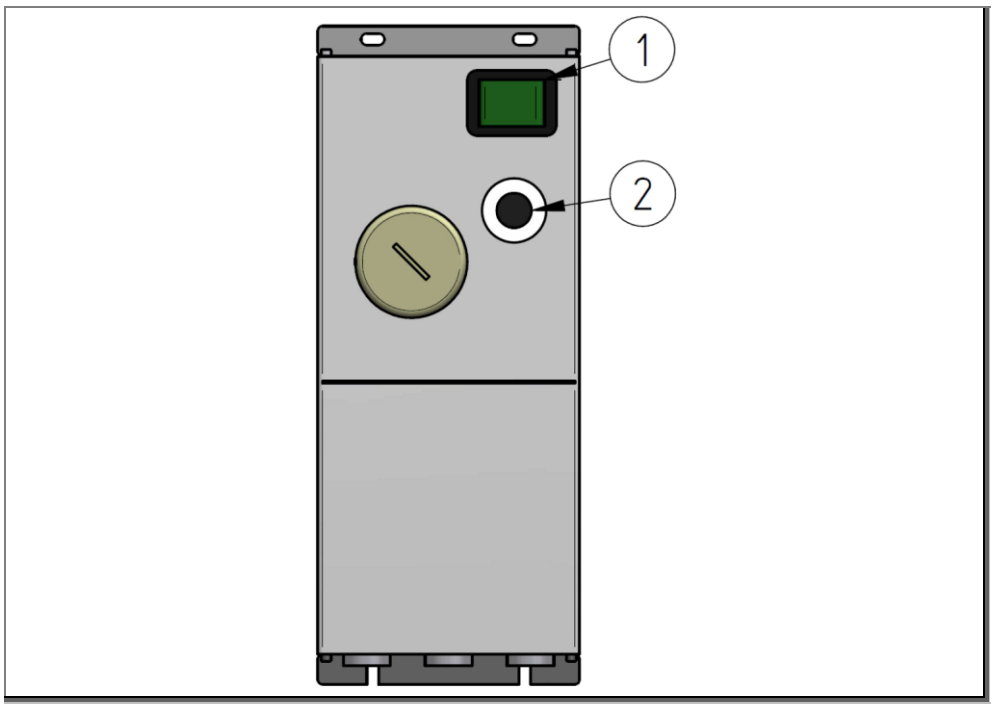


Fig. 54: Speed controller

No.	Control	Function
1	Mains switch (green)	Switch on/switch off
2	Rotary knob (black)	Speed adjustment

Tab. 7: Operating elements of the speed controller

7.3.3.1 Switch on

Perform the following steps to switch the machine on:

1. Press on the green switch (1) to enter switch position I. The green lamp comes on.

Result: The machine is switched on and the conveyor runs.

7.3.3.2 Switch off

Perform the following step to switch the machine off:

1. Press on the green switch (1) to enter switch position O. The green lamp goes off.

Result: The machine is switched off.

7.3.3.3 Speed adjustment

Perform the following steps to adjust the machine speed:

Increase speed:

1. Turn the black rotary knob (2) to the right, until the desired drive speed is reached.

Reduce speed:

1. Turn the black rotary knob (2) to the left, until the desired drive speed is reached.

Result: The machine works with the set speed.

External reference

The speed controller is provided by a third-party supplier. Further information about operation of and the circuit diagram for the control unit can be found in the operating instructions provided by the third-party supplier.

7.3.4 Operation - “Clocked” mode of operation

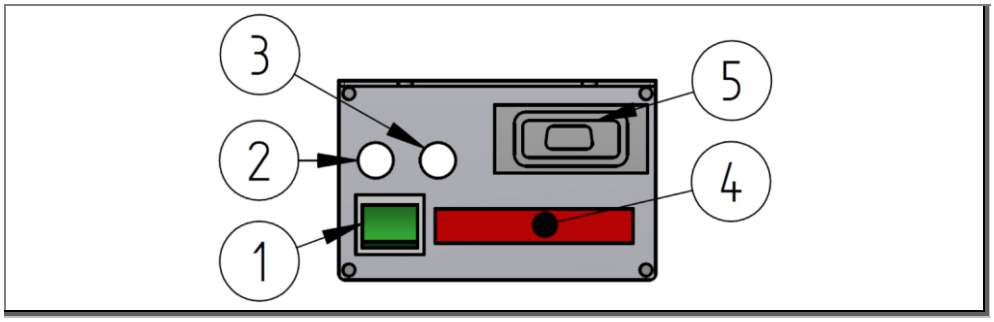


Fig. 55: Clock timer

No.	Control	Function
1	Mains switch (green)	Switch on/switch off
2	Setting button	E.g. select time
3	Mode button	Select mode
4	Display	
5	Sub-D-9 socket	

Tab. 8: Operating elements of the clock timer

External reference

The clock timer is provided by a third-party supplier. Further information about operation and the circuit diagram can be found in the operating instructions of the clock timer provided by the third-party supplier.

7.3.5 Operation - “Continuously variable and clocked” mode of operation

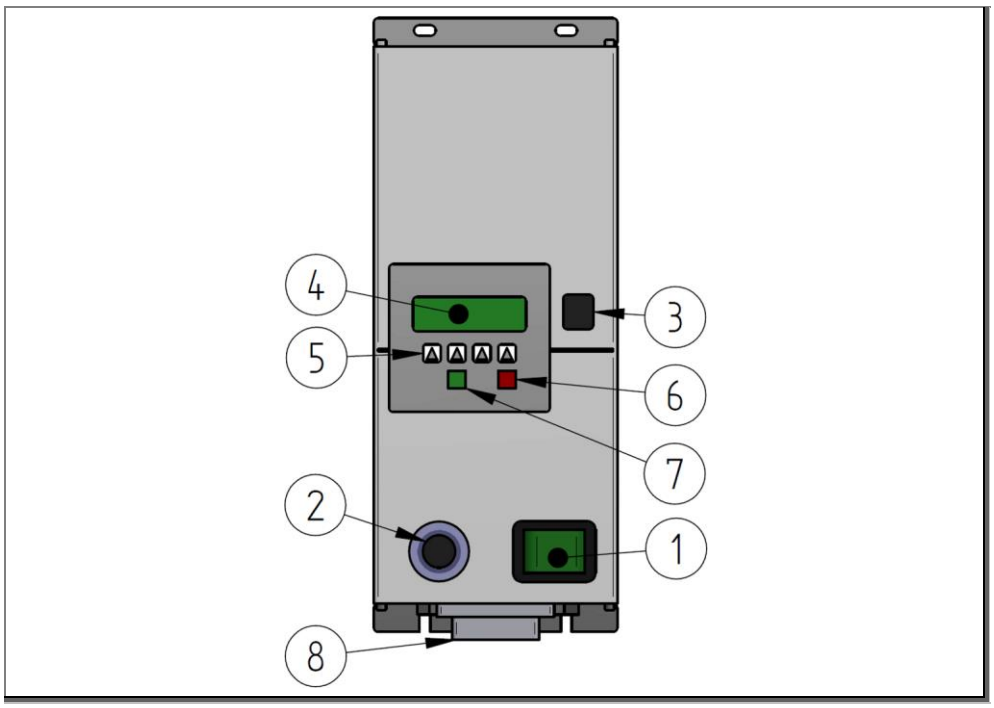


Fig. 56: Combi-control unit

No.	Control	Function
1	Mains switch (green)	Switch on/switch off
2	Rotary knob (black)	Speed adjustment
3	Operating lights	• Green - Operation • Red - Fault
4	Display	
5	Multi-function buttons	Function is shown on the display
6	Push-button	No function ex works
7	Push-button	No function ex works
8	Sub-D-9 socket	**NOTE** • Plug in sub-D-9 plug prior to start-up

Tab. 9: Operating elements of the combi-control unit

External reference

The combi-control unit is provided by a third-party supplier. Further information about operation of and the circuit diagram for the combi-control unit can be found in the operating instructions provided by the third-party supplier.

8 Troubleshooting

8.1 Safety

Only specialized personnel with proven qualification are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

⚠ DANGER

Entanglement and crushing hazard

Loose clothing, loose jewelry or long unfastened hair can become entangled and cause severe injuries.

- Never operate the machine without chain protective cover.
- Wear tight-fitting clothes.
- Do not wear any loose jewelry.
- Tie up long hair.
- Maintenance work: Check machine is completely voltage-free and secure to prevent switching back on. Only then remove protective covers. Prior to starting up again, fit the protective covers.

⚠ DANGER

Danger to life due to electric current

There is danger to life in the event of contact with live components.
Active electrical components may perform uncontrolled movements. Serious injuries or even death may result.

- All work on the electrical components of this machine must only be carried out by qualified specialist personnel (electricians or persons trained in electrical engineering in accordance with DIN EN 60204-1).
- Switch the machine off during maintenance and repair work and secure to prevent unexpected switching back on.
- Close the working area off and mark it with a warning sign.

⚠ DANGER

Danger to life

Transporting of persons is dangerous and can cause fatal injuries.

- Transporting of persons is expressly forbidden.

⚠ DANGER

Lack of avoidability of dangers

Avoidance and reduction of personal injury will not be possible if switching off devices are rendered inaccessible.

- Do not block or otherwise render inaccessible switching off devices.

⚠ WARNING

Fall hazard when working at height

Work at height may cause slipping, falling, and serious injuries.

- Wear personal protective equipment.
- Ensure safe working conditions in time.
- Always use fall protection equipment when secure footing cannot be guaranteed.
  - Use, for example, work platforms, scaffolds, personnel elevators, or cherry pickers.
- Protect the installation area against falling objects.
- Never work alone.

⚠ WARNING

Risk of injury due to machine toppling over

Risk of tipping due to insufficient floor fixation.

- If available, always screw the floor clips of the floor fixation systems securely to the floor in the correct manner. Otherwise do not start-up!
- Ensure there is uniform loading!
- Use screws of sufficient strength!
- Do not exceed the floor strength!
- Before removing the floor fixation systems, ensure there is a low center of gravity, adjust as necessary:
  - Set the lowest support position
  - Check the stability, if necessary, remove the support

⚠ CAUTION

Risk of crushing and shearing

Danger due to sudden swiveling movement of the casters when changing the machine location.

- During positioning of the conveyor, do not reach in close to the swivel casters.
- After completed positioning of the conveyor, always apply all arresters of the swivel casters.

⚠ CAUTION

Entanglement and scraping hazard in the conveyor inlet and outlet as well as on the return idler on the lower belt run

Loose clothing, loose jewelry or long unfastened hair can become entangled and cause injuries.

- Wear tight-fitting clothes.
- Do not wear any loose jewelry.
- Knot long hair together and wear a hair net as necessary.
- Do not reach into the danger areas.
- Maintain a sufficient distance from the danger points/areas.

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

⚠ CAUTION

Risk of injury due to moveable support

When moving the conveyor, the casters on the support can roll over feet or other body parts.

- Wear sturdy shoes with steel toecaps
- When moving do not step in the moving area of the casters

⚠ CAUTION

Sharp edges

Sharp edges may cause cutting.

- Wear personal protective equipment.
- Be careful when handling objects with sharp edges.

ATTENTION

Damage to the equipment due to incorrect voltage

If the equipment is connected to an incorrect voltage supply, the electrical equipment may be destroyed.

- The voltage supply should be connected by skilled electricians only.
- Observe the local rules and regulations concerning the energy supply. The electrical equipment complies with the European safety standards.

ATTENTION

Damage to the equipment due to an incorrect direction of rotation of the motors

Prolonged movement of the belt in the wrong direction may damage the system.

- Work on the system should be performed by authorized and specialized personnel only.
- Check the direction of movement of the conveyor belt by visual inspection.
- If necessary, change the direction of rotation of the motors. To do so, change the phases of the power supply.
- Attach a conveying direction arrow.

ATTENTION

Damage to the equipment due to an incorrect alignment of the belt

Lateral mistracking or slipping of the belt may cause equipment damage.

- Work on the system should be performed by authorized and specialized personnel only.
- Adjust the belt alignment.
- Adjust the belt tension.

ATTENTION

Damage to the machine due to unsuitable cleaning agents

The conveyor and belt may be damaged if solvents are used for cleaning.

- Do not use solvents for cleaning.
- Remove normal dirt with lukewarm water.
- Remove greasy stains with white spirit.
- Contact the manufacturer if you have any questions concerning suitable cleaning agents.

8.2 Procedures in the event of malfunctions

The following fundamental rules apply at all times:

1. In the case of malfunctions or faults presenting a direct danger to persons or property, switch the system off immediately.

   The operator is responsible for the integration of the system into the safety system of the overall system.
2. Determine the cause of the malfunction or fault.
3. If work must be performed in the hazard area in order to eliminate the malfunction or fault, switch the system off and lock it so that it cannot be switched on again.
4. The person at charge on site must be informed about the malfunction or fault immediately.
5. Depending on the type of malfunction or fault, it must be eliminated by authorized personnel with a qualification in the respective field.
6. If components need to be replaced, ensure that they are installed correctly.
   - Adhere to standard-compliant tightening torques.
   - Observe the required lock washers.

8.3 Preparations for troubleshooting

1. Switch the mains switch off prior to performing any work on the system.
2. Do not perform any work on the system unless it is at a complete stop.
   - Disconnect the system from the power supply
   - Disconnect the compressed air supply
3. Lock the system so that it cannot be switched on again.
   - Padlock the mains switch
   - Attach a warning sign
   - Cordon off a wide area
4. Empty the conveying line and/or remove transported material.

8.4 Restart after a malfunction

Do no use the system if there are defects that compromise the safe operation of the system.

1. Ensure that all of the protective covers and guards are in place.
2. Check the safety devices and guards.

NOTE

Follow the instructions and information provided in the supplier documentation.

8.5 Troubleshooting

NOTE

- Do not perform any work on the machine unless it is at a complete stop. To do so, disconnect the machine from the power supply.
- Prior to commencing any tasks, ensure that the machine cannot be switched on by mistake or by unauthorized persons.
- Please contact our after-sales service if you encounter malfunctions or faults that are not described in this manual.

Malfunctions or faults in the form of unsatisfactory conveyance and/or noise variations can be eliminated based on the following troubleshooting table:

Malfunction/fault	Possible cause	Remedy
Belt alignment incorrect	• Belt alignment is set incorrectly.	• Set the belt alignment and belt tension correctly
	• Belt is dirty and therefore slides on the drive pulley	• Clean the belt surface (running side)
	• Dirt deposits on the drive pulley and deflection pulley	• Clean drive pulley and deflection pulley.
	• Coefficient of friction between drive pulley and belt is too low	• Increase the belt tension
	• Run marks/damage on the belt	• Replace the belt
	• Rolling bearing is damaged.	• Repair the rolling bearing.
Alignment of the transported material is incorrect	• The angle of inclination of the conveyor has changed.	• Adjust the angle of inclination of the conveyor
	• Misalignment of the angle of the lateral guides (optional)	• Adjust the angle of the side guides
Transported material is not correctly transported on the belt	• Belt surface (carrying side) is dirty	• Clean the belt surface (carrying side)
	• Belt surface (carrying side) is worn	• Replace the belt

Tab. 10: Troubleshooting table

Malfunction/fault	Possible cause	Remedy
The system does not start or remains stationary	• No power supply.	• Check the position of the main switch • Check the RCD • Check the external fuse • Check whether the mains cable is damaged or improperly connected • Check the mains supply • Check the fuses • Check the terminal boxes for signs of moisture
	• Motor defective	• Replace the motor
	• Overload (there is too much transported material on the conveyor)	• Reduce the load (clear transported material from the conveyor)
	• Transported material has, for example, become clamped between belt and lateral guide	• Carefully remove transported material
	• Cleat collides with a component or the ground	• Free the cleats • Maintain the ground clearance
	• Chain is severely stretched	• Replace component
	• Chain links are stiff	• Adjust the chain tension
System stationary, but the motor is turning	• Drive pulley spins under the belt	• Increase the belt tension
	• Sprocket has come loose on the motor shaft	• Check the sprocket seating on the motor and, if necessary, align the sprocket and tighten the screw
	• Sprocket is worn	• Replace component
	• Chain cracked	• Replace chain
Damage to electrical components. Malfunctions of the machine.	• Damaged cables, switches, or motors • Exposed live components • Damaged electrical components	• Shut the system down immediately and repair it.

Tab. 11: Continued: Troubleshooting table

9 Maintenance

9.1 Safety

Only specialized personnel with proven qualification are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

⚠ DANGER

Entanglement and crushing hazard

Loose clothing, loose jewelry or long unfastened hair can become entangled and cause severe injuries.

- Never operate the machine without chain protective cover.
- Wear tight-fitting clothes.
- Do not wear any loose jewelry.
- Tie up long hair.
- Maintenance work: Check machine is completely voltage-free and secure to prevent switching back on. Only then remove protective covers. Prior to starting up again, fit the protective covers.

⚠ DANGER

Danger to life due to electric current

There is danger to life in the event of contact with live components.
Active electrical components may perform uncontrolled movements. Serious injuries or even death may result.

- All work on the electrical components of this machine must only be carried out by qualified specialist personnel (electricians or persons trained in electrical engineering in accordance with DIN EN 60204-1).
- Switch the machine off during maintenance and repair work and secure to prevent unexpected switching back on.
- Close the working area off and mark it with a warning sign.

⚠ DANGER

Danger to life

Transporting of persons is dangerous and can cause fatal injuries.

- Transporting of persons is expressly forbidden.

⚠ DANGER

Lack of avoidability of dangers

Avoidance and reduction of personal injury will not be possible if switching off devices are rendered inaccessible.

- Do not block or otherwise render inaccessible switching off devices.

⚠ WARNING

Fall hazard when working at height

Work at height may cause slipping, falling, and serious injuries.

- Wear personal protective equipment.
- Ensure safe working conditions in time.
- Always use fall protection equipment when secure footing cannot be guaranteed.
  - Use, for example, work platforms, scaffolds, personnel elevators, or cherry pickers.
- Protect the installation area against falling objects.
- Never work alone.

⚠ WARNING

Risk of crushing and impacts

During adjustment work on the support, the conveyor may lower due to insufficient safeguards.

- Secure the conveyor with suitable load handling equipment (crane, etc.) to prevent unintentional and sudden lowering.
- The retaining screws may only be released, if the conveyor has been correctly secured to prevent the aforementioned hazard.
- Never remain under suspended loads when loosening/fastening the retaining screws.
- Maintain a sufficient distance from the danger locations.
- Carry out height adjustment using several persons.
- Wear personal protective equipment.

⚠ WARNING

Risk of injury due to machine toppling over

Risk of tipping due to insufficient floor fixation.

- If available, always screw the floor clips of the floor fixation systems securely to the floor in the correct manner. Otherwise do not start-up!
- Ensure there is uniform loading!
- Use screws of sufficient strength!
- Do not exceed the floor strength!
- Before removing the floor fixation systems, ensure there is a low center of gravity, adjust as necessary:
  - Set the lowest support position
  - Check the stability, if necessary, remove the support

⚠ CAUTION

Risk of crushing and shearing

Danger due to sudden swiveling movement of the casters when changing the machine location.

- During positioning of the conveyor, do not reach in close to the swivel casters.
- After completed positioning of the conveyor, always apply all arresters of the swivel casters.

⚠ CAUTION

Entanglement and scraping hazard in the conveyor inlet and outlet as well as on the return idler on the lower belt run

Loose clothing, loose jewelry or long unfastened hair can become entangled and cause injuries.

- Wear tight-fitting clothes.
- Do not wear any loose jewelry.
- Knot long hair together and wear a hair net as necessary.
- Do not reach into the danger areas.
- Maintain a sufficient distance from the danger points/areas.

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

⚠ CAUTION

Risk of injury due to moveable support

When moving the conveyor, the casters on the support can roll over feet or other body parts.

- Wear sturdy shoes with steel toecaps
- When moving do not step in the moving area of the casters

⚠ CAUTION

Sharp edges

Sharp edges may cause cutting.

- Wear personal protective equipment.
- Be careful when handling objects with sharp edges.

ATTENTION

Damage to the equipment due to incorrect voltage

If the equipment is connected to an incorrect voltage supply, the electrical equipment may be destroyed.

- The voltage supply should be connected by skilled electricians only.
- Observe the local rules and regulations concerning the energy supply. The electrical equipment complies with the European safety standards.

ATTENTION

Damage to the equipment due to an incorrect direction of rotation of the motors

Prolonged movement of the belt in the wrong direction may damage the system.

- Work on the system should be performed by authorized and specialized personnel only.
- Check the direction of movement of the conveyor belt by visual inspection.
- If necessary, change the direction of rotation of the motors. To do so, change the phases of the power supply.
- Attach a conveying direction arrow.

ATTENTION

Damage to the equipment due to an incorrect alignment of the belt

Lateral mistracking or slipping of the belt may cause equipment damage.

- Work on the system should be performed by authorized and specialized personnel only.
- Adjust the belt alignment.
- Adjust the belt tension.

ATTENTION

Damage to the machine due to unsuitable cleaning agents

The conveyor and belt may be damaged if solvents are used for cleaning.

- Do not use solvents for cleaning.
- Remove normal dirt with lukewarm water.
- Remove greasy stains with white spirit.
- Contact the manufacturer if you have any questions concerning suitable cleaning agents.

NOTE

The manufacturer does not accept any liability for damage resulting from faulty maintenance, repair or overhaul.

9.2 Maintenance instructions

The purpose of maintenance, repair and overhaul is to maintain the functionality of the machine or to restore it after a malfunction or failure.

The machine must be maintained regularly. Inadequate maintenance may cause malfunctions or damage which in turn will lead to downtimes and repair costs.

The section on maintenance, repair and overhaul includes information about the necessary inspections, maintenance and repairs.

The section on maintenance, repair and overhaul includes information that is intended for trained, qualified, and specialized personnel.

Contact the manufacturer immediately in the event of problems or if anything is unclear.

When submitting a query, please provide the following:

- You can find the information on the type plate of the machine (see chapter "**3.1.1 Type plate**", page 29)
  - **Serial no.**
  - **Type designation**
  - **Year of manufacture**
- **A precise description of the fault/malfunction.**
- **Troubleshooting measures taken so far.**

If the machine is sent in to the manufacturer, refer to the chapters "Shutdown", "Disassembly" and "Transport".

9.3 Prior to any maintenance, repair and overhaul

Prior to performing any maintenance, repair, or overhaul tasks on the system, observe the following points:

1. Inform the operating personnel prior to commencing the tasks.

   A supervisor must be appointed.
2. Comply with the maintenance intervals that are stated in the maintenance plan.
3. The working area must be closed off against unauthorized access and marked with a warning sign.
4. Do not perform any work on the system unless it is at a complete stop.
   - Disconnect the system from the power supply.
5. In order to perform the necessary tasks, switch the system or the affected part of the system off and then lock it so that it cannot be switched on again.
   - Padlock the main switch.
   - Set up a warning sign.
   - Close a wide area off.
6. To avoid electric shock, do not open any electric components, housings or covers. Do not touch any damaged or live parts.
7. Work on the electrical system must be performed exclusively by an authorized and qualified person who has undergone special training in this field.
8. If it is necessary to remove any of the safety devices or guards, they must be reinstalled and checked for correct operation immediately after the completion of the work.
9. If parts of the system or large assemblies need to be replaced, fasten and secure them thoroughly on the lifting devices. Use only suitable lifting devices and load-handling attachments and ensure that they are in a perfect technical state and have a sufficient load-bearing capacity.
10. Use adequate climbing aids and working platforms, which are in line with the safety requirements, when performing overhead installation work. Do not climb or step on any parts of the system.

9.4 Maintenance plan

NOTE

- Do not perform any maintenance or repairs unless the machine/system is switched off and at a complete stop. Adjustment of the belt alignment is the only task that may be performed while the belt is running. For all other maintenance tasks, ensure that the machine cannot be switched on by mistake or by unauthorized persons. Failure to do so presents a risk of injury or damage.
- We recommend maintaining the machine/system at the specified intervals. The intervals are based on normal, average operating conditions. Depending on the actual ambient conditions and operating conditions, other intervals may be necessary. Please contact MTF-Technik in these cases.
- The intervals apply to single-shift operation (8 hours/day). In the case of more shifts, the intervals must be shortened accordingly.
- To achieve a long service life and optimized operating conditions, the maintenance tasks in the table must be performed at the specified intervals.

Intervals	Component	Measures	Measures in the event of a defect
	Drives	• See the manual provided by the manufacturer.	
Daily	Overall machine	• General visual inspection.	• Shutdown of the machine. Elimination of the defect.
	Safety equipment	• General visual inspection.	• Shutdown of the machine. Elimination of the defect.
	Conveyor body	• Transported material build-up	• Readjust the angle of inclination • Adjust the conveying speed • Optimize the transported material feeding
		• Check the belt alignment	• Adjust the belt alignment
Weekly	Belt	• Visual inspection for soiling	• Clean belt
		• Check the belt tension	• Retension the belt
		• Visual check of the belt alignment	• Readjust the belt
		• Check the belt for damage and wear.	• Replace the belt
	Mechanical components	• General inspection for signs of damage	• Replace component

Tab. 12:Maintenance plan

Intervals	Component	Measures	Measures in the event of a defect
Monthly	Mechanical components	• Check all screws and nuts for tightness and retighten if necessary	• Replace component
		• Check drive, return, deflection and carrying pulleys/idlers for smooth running	• Replace component
	Electrical installation	General inspection, in particular for damaged cables, connectors, light barriers	• Replace component
	Overall machine	• Visual inspection for soiling	• Clean the overall machine
Every six months	Drive, return, deflection and carrying pulleys/idlers	• General inspection, in particular for rolling bearing/slide bearing wear	• Replace rolling bearing/slide bearing
	Drive	• Check chain tension	• Retension chain
		• Check chain lubrication	• Lubricate chain
		• Check chain and sprocket for wear	• Replace component

Tab. 13:Continued: Maintenance plan

9.5 Repairs and overhauls

9.5.1 Belt adjustment options

The following figure shows an overview of the designations of the conveyor:

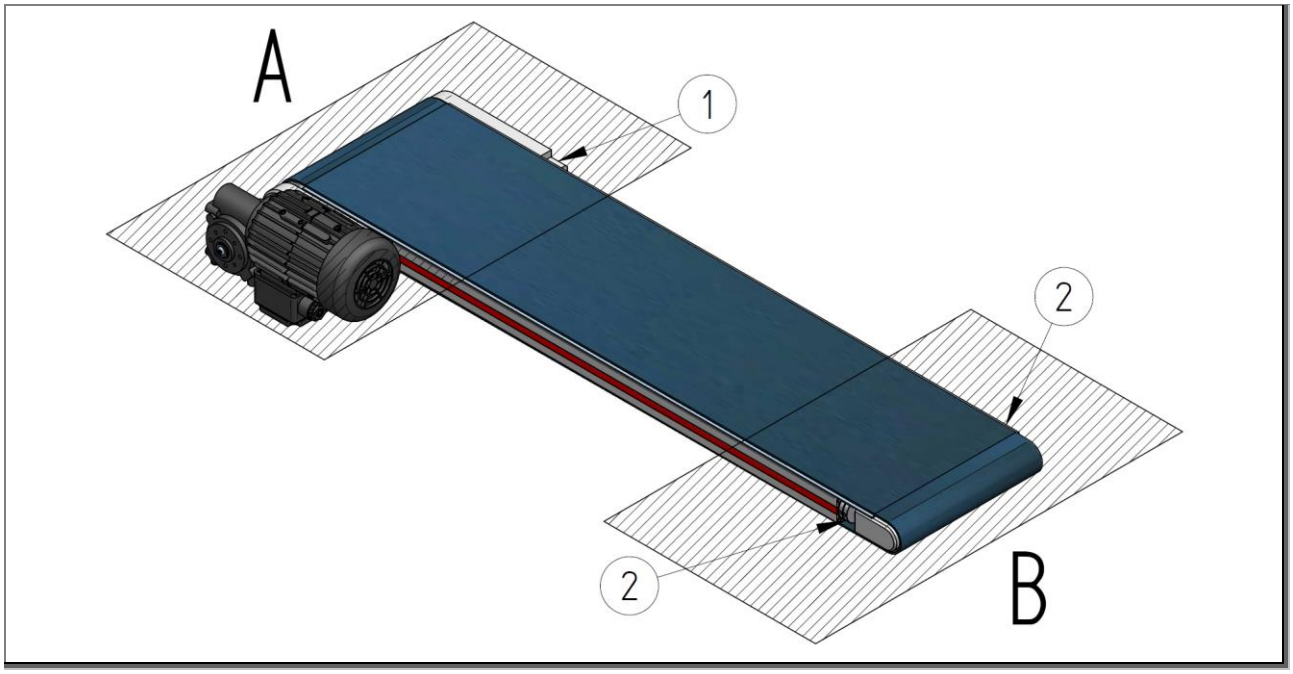


Fig. 57: Adjustment ranges and component designations

A Drive unit area
- Adjustable belt alignment

B Deflection area
- Adjustable belt alignment
- Adjustable the belt tension

1 Alignment tensioner

2 Belt tensioner

9.5.1.1 Checking the belt alignment on the conveyor

NOTE

- Before starting work, examine both the belt alignment in the drive unit area as well as the deflection area of the conveyor.
- Note that each adjustment can effect the opposing area.
- After adjustment of the belt alignment, reexamine both areas.
- Correct belt alignment is critical in achieving a long belt life.

9.5.1.2 Adjusting the belt alignment in the drive unit area

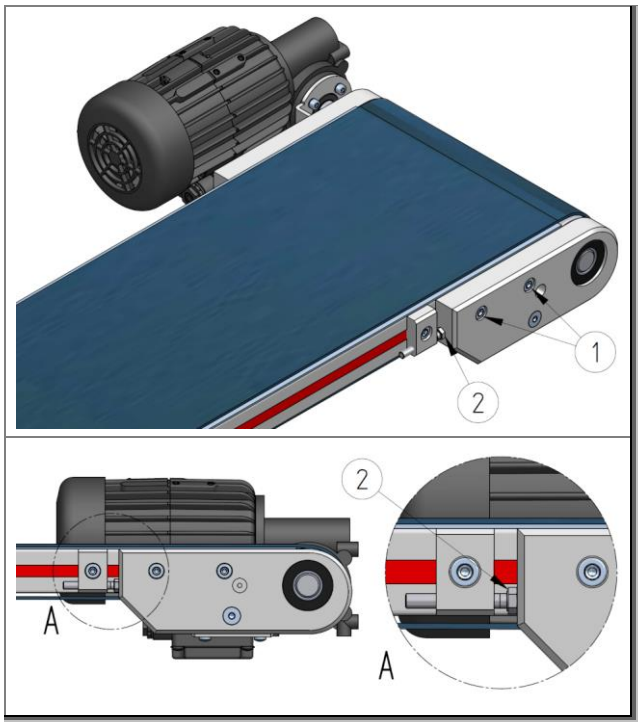
NOTE

Read the maintenance instructions completely prior to commencing the tasks.

This chapter describes how you can adjust the belt alignment in the drive unit area of the conveyor.

Prerequisites:

- The belt tension must be set.
- The conveyor must run continuously during adjustment.
- Provided the speed controller is present, allow the conveyor to run at the maximum conveying speed
- Provided a clock control is present, set the mode of operation to “Continuous”.
- The belt alignment is unsatisfactory



Perform the following steps to adjust the belt:

1. Undo the fastening screws (1), so that the drive pulley bracket can be moved with the adjustment screw (2).

1 Fastening screws

2 Adjustment screw

Fig. 58: Preparations for adjusting the belt alignment (drive unit area)

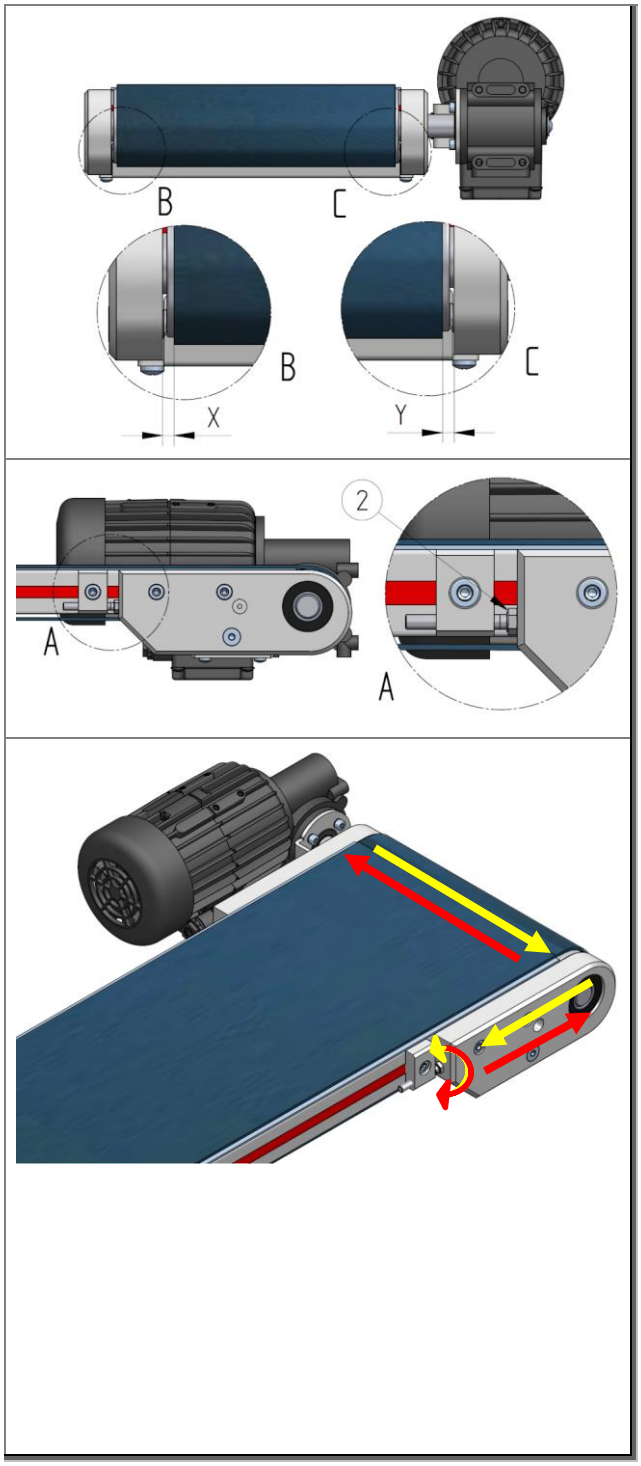


Fig. 59: Adjusting the belt alignment in the drive unit area

2. Observe the belt alignment (X≈Y).

NOTE

- **It is quite sufficient if the belt does not contact any drive pulley bracket.** Here it is unimportant whether the belt runs precisely in the center.

3. Using the adjusting screw (2), adjust the drive pulley bracket by one nut rotation (approx. 3 to 5 stops) in the desired direction.

In doing so, the following rules apply:

- If the drive pulley bracket is pushed away from the deflection area, the belt moves away from this drive pulley bracket (red arrows).
- If the belt tensioner is pushed towards the deflection area, the belt moves towards this end piece (yellow arrows).

4. Observe the belt alignment (X/Y) over multiple complete circulations full circulations of the belt.

NOTE

- Note that with conveyors running at low conveying speed, the full belt circulation can take a certain amount of time.

- If the belt alignment is constant, approximately central, tighten the drive pulley bracket again using the fastening screws (1).
- If the belt alignment is not constant, but approximately central, repeat step 4.

Result: The belt alignment in the drive unit area is set.

9.5.1.3 Adjusting the belt alignment in the deflection area

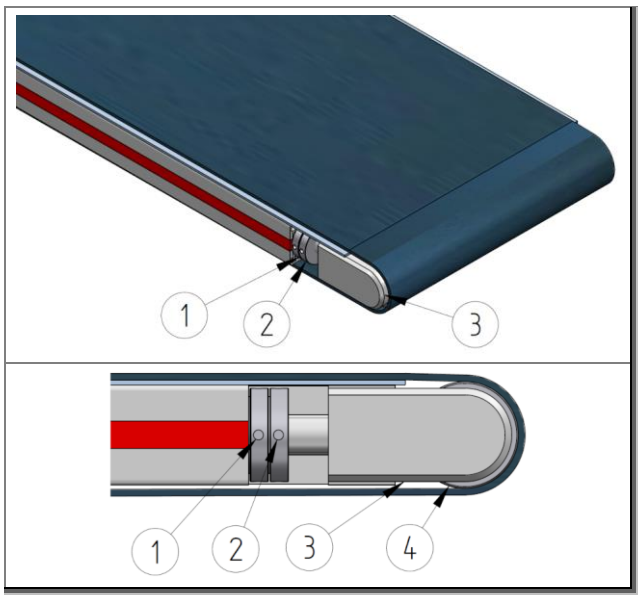
NOTE

Read the maintenance instructions completely prior to commencing the tasks.

This chapter describes how you can adjust the belt alignment in the deflection area of the conveyor.

Prerequisites:

- The belt tension must be set.
- The conveyor must run continuously during adjustment.
- Provided the speed controller is present, allow the conveyor to run at the maximum conveying speed.
- Provided a clock control is present, set the mode of operation to “Continuous”.
- The alignment is unsatisfactory.



Perform the following steps to adjust the belt:

1. Undo the locknuts (2)

1	Adjusting nut	3	Belt tensioner
2	Locknut	4	Deflection pulley

Fig. 60: Preparations for adjusting the belt alignment (deflection area)

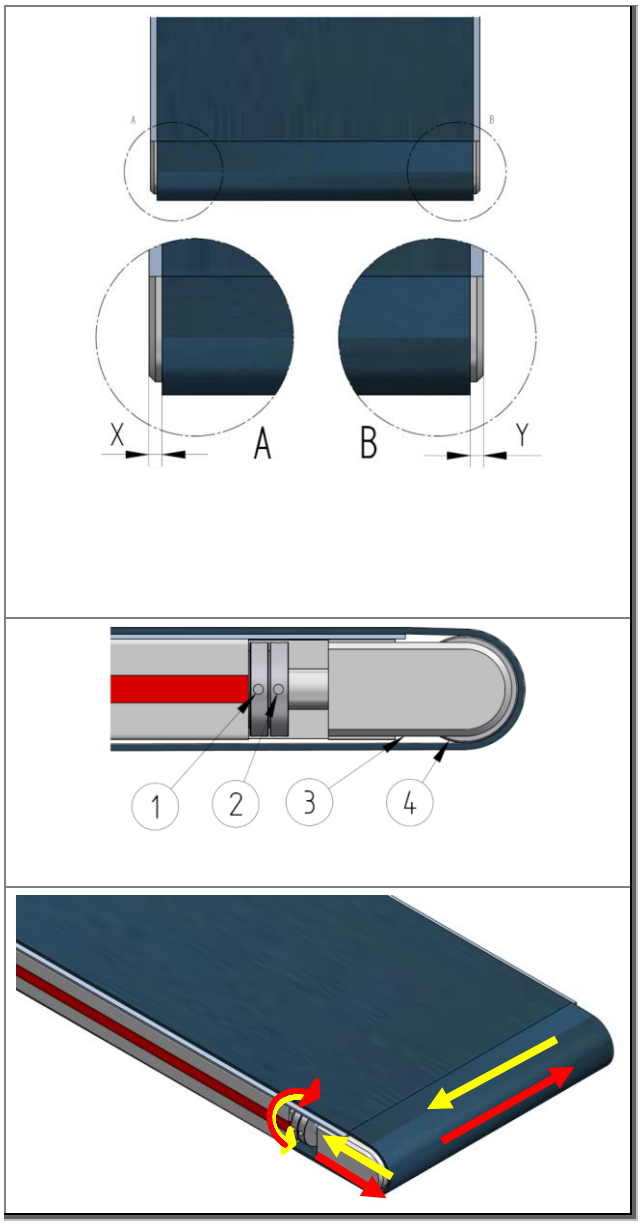


Fig. 61: Adjusting the belt alignment in the deflection area

2. Observe the belt alignment (X≈Y).

NOTE

It is quite sufficient if the belt does not contact any lateral limitation or similar. Here it is unimportant whether the belt runs precisely in the center.

3. Using the adjusting nut (1), adjust the belt tensioner (3) by one nut rotation (approx. 3 to 5 stops) in the desired direction.

   In doing so, the following rules apply:

   - If the belt tensioner is pushed towards the end piece, the belt moves away from this belt tensioner (red arrows).
   - If the belt tensioner is pushed away from the end piece, the belt moves towards this belt tensioner (yellow arrows).

4. Observe the belt alignment (X/Y) over multiple complete circulations full circulations of the belt.

NOTE

- Note that with conveyors running at low conveying speed, the full belt circulation can take a certain amount of time.

   - If the belt alignment is constant, approximately central, tighten the locknut (2) on the belt tensioner.
   - If the belt alignment is not constant, but approximately central, repeat step 3.

Result: The belt alignment in the deflection area is set.

9.5.1.4 Checking the drive pulley for perpendicularity and adjusting

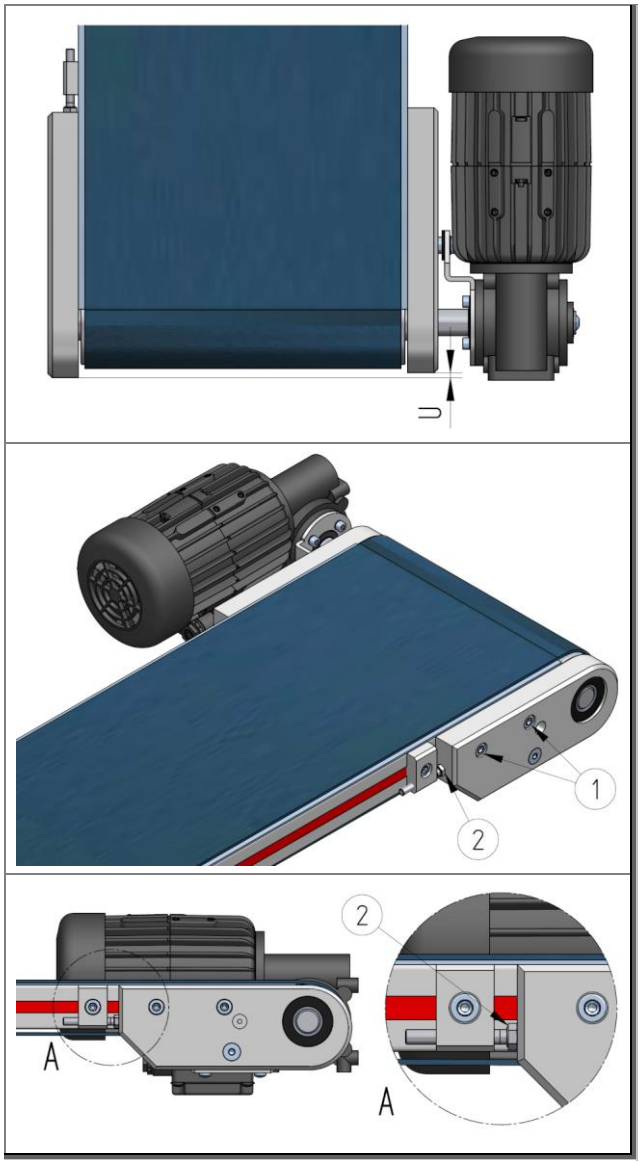
NOTE

Read the maintenance instructions completely prior to commencing the tasks.

NOTE

- The drive pulleys are adjusted in the factory.
- After a belt replacement, checking of the perpendicularity with possible subsequent adjustment is necessary.

This chapter describes how you can check the perpendicularity of the drive pulley in the drive unit area of the conveyor.



1. Disconnect the mains cable from the mains and secure the conveyor to prevent switching back on.
2. Remove all transported material from the conveyor.
3. Place a correspondingly long angle on the drive pulley brackets and measure the distance between the end faces. The distance (U) should be nearly zero.
4. If the distance is large, continue with the next step.
5. Undo the fastening screws (1), so that the drive pulley bracket can be moved with the adjustment screw (2)

1 Fastening screws

2 Adjustment screw

6. Using the adjustment screw (2) adjust the drive pulley bracket until the end faces are approximately parallel and the distance (U) is nearly zero.
7. Retighten the drive pulley bracket with the fastening screws (1).

Result: The drive pulley has been checked for perpendicularity.

Fig. 62: Checking the drive pulley for perpendicularity and adjusting

9.5.1.5 Adjusting the belt tension in the deflection area

NOTE

Read the maintenance instructions completely prior to commencing the tasks.

NOTE

- The belt tension is set in the factory
- The belt tension is only adjusted in the deflection area
- After a belt replacement, checking of the belt tension with possible subsequent adjustment is necessary.
- The conveyor must run continuously during adjustment
- Monitor the belt alignment

This chapter describes how you adjust the belt tension in the deflection area of the conveyor.

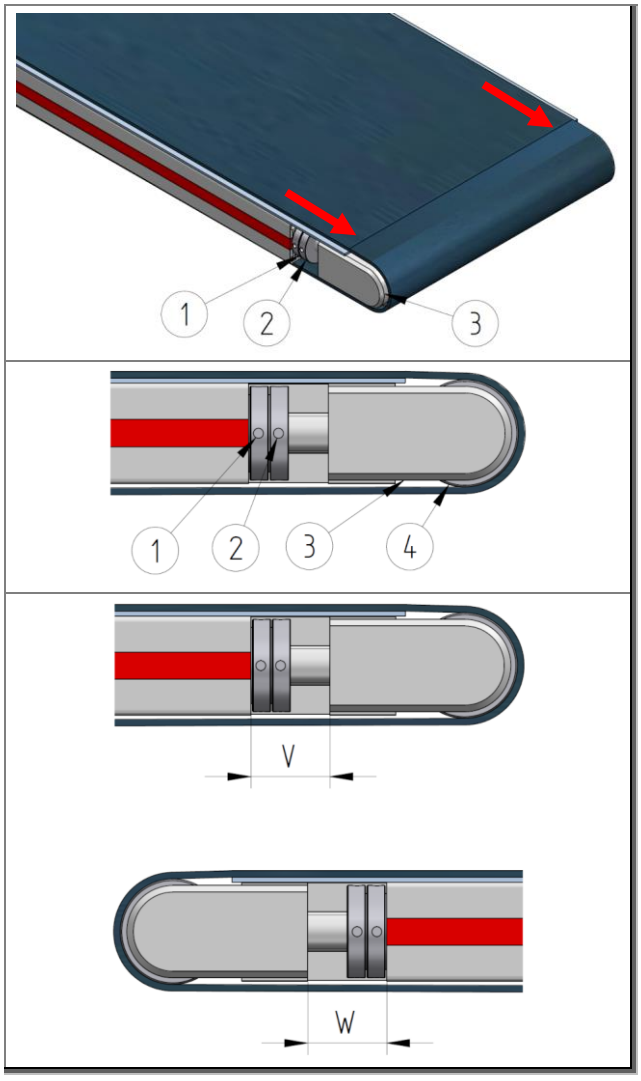


Fig. 63: Adjusting the belt tension in the deflection area

1. Check whether the belt tension is sufficient by visually checking that there is no slip between belt and deflection pulley. If this is not the case, perform the following steps:
2. Undo the locknuts (2).

1	Adjusting nut	3	Belt tensioner
2	Locknut	4	Deflection pulley

3. Tension the belt uniformly and in an alternating manner on both sides (in this way, the distances (V≈W) remain approximately the same). To do so, using the adjusting nuts (1), adjust the belt tensioners (3) by moving the deflection pulley relative to the conveyor end (red arrow).

V, W	Distance between deflection unit and the frame of conveyor end

4. Check whether the belt tension is sufficient by visually checking that there is no slip between belt and deflection pulley. Otherwise repeat the preceding step.
5. Tighten the locknuts (2).

Result: The belt tension is set.

9.5.2 Belt replacement

NOTE

Read the maintenance instructions completely prior to commencing the tasks.

This chapter describes the replacement of the belt of a straight conveyor.

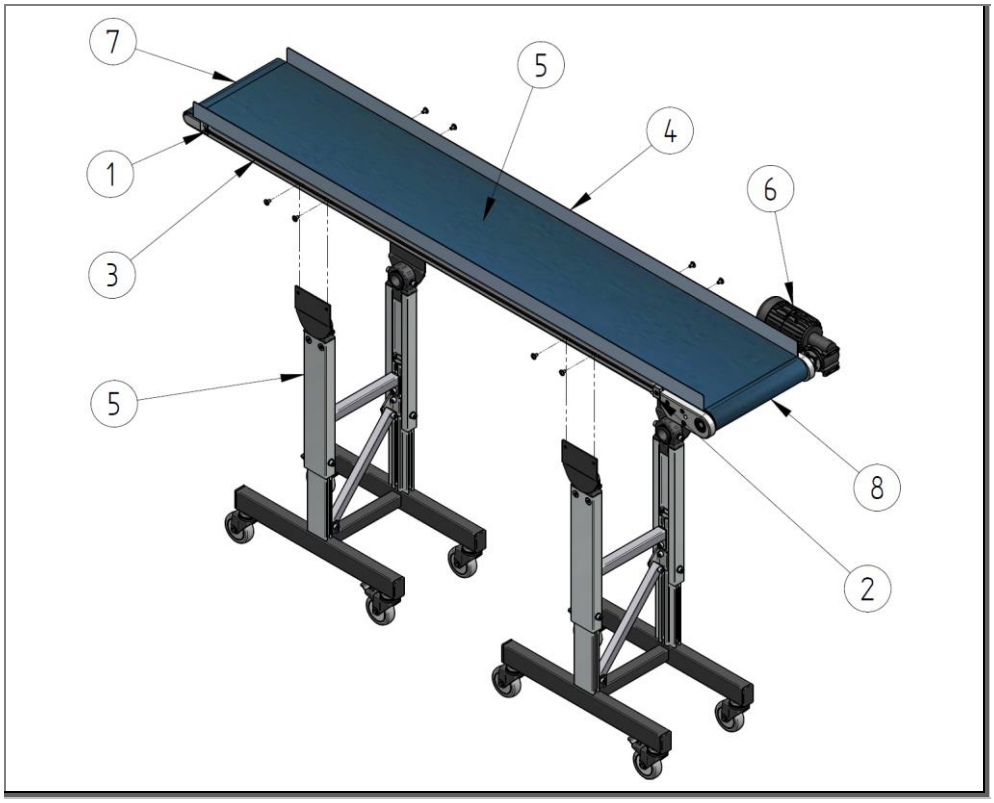


Fig. 64: Conveyor designations

1	Belt tensioner	5	Belt
2	Alignment tensioner	6	Drive unit
3	Longitudinal profile (drive-free-side)	7	Deflection pulley
4	Lateral guide (drive-side)	8	Drive pulley

Perform the following steps for belt replacement:

1. Disconnect the mains cable from the mains and secure the conveyor to prevent switching back on.
2. Remove all transported material from the conveyor.
3. Remove all of the components, attachments and accessory parts from the longitudinal profiles (separating attachments, hoppers, discharge chutes, separating plates, etc.).
   The drive unit does not need to be removed.
4. Relieve the weight on the support and secure it to prevent lowering.
5. Remove the support from the conveyor body.
6. Untighten the belt (5) completely only via the two belt tensioners (1) in the deflection area. To do so, move the deflection pulley (7) towards the middle of the belt.

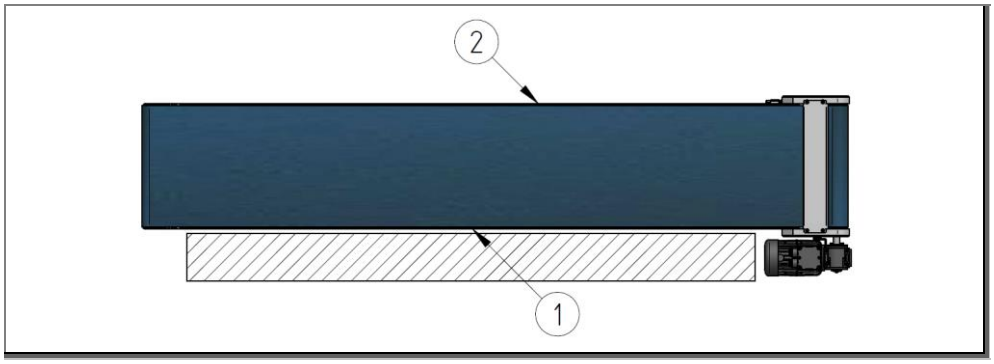


Fig. 65: Positioning the conveyor body laterally

1	Longitudinal profile (drive-side)	2	Longitudinal profile (drive-free-side)

7. Tilt the entire conveyor body until it is upright and rests on the outer surface of the longitudinal profile (1) of the drive-side. In doing so, ensure that the body does not rest on the drive. Secure the conveyor to prevent falling down.

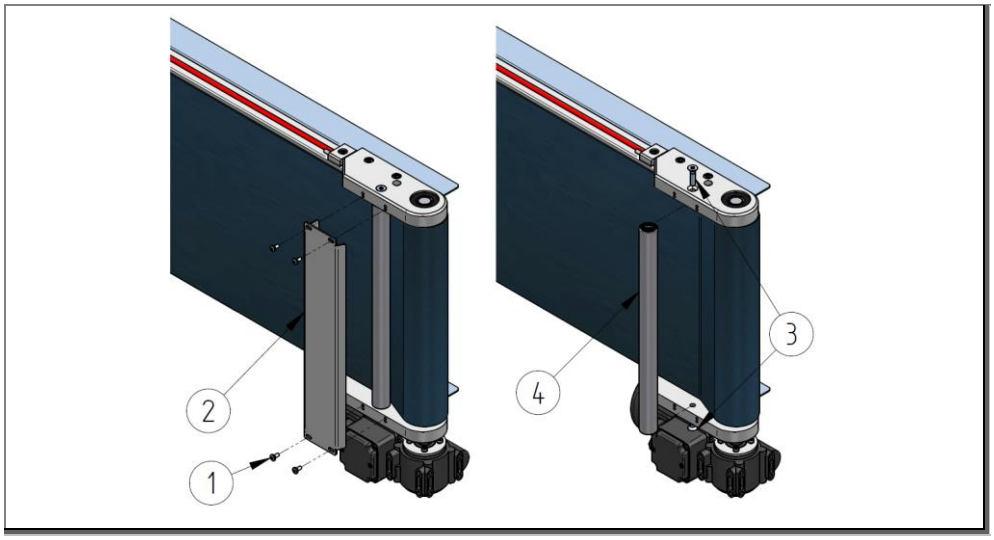


Fig. 66: Disassembly of the contraction idler

1	Oval head screw	3	Countersunk screws
2	Protective cover	4	Contraction idler

8. Screw the oval head screws (1) out and remove the protective cover (2).
9. Remove the countersunk screws (3) and withdraw the contraction idler (4).

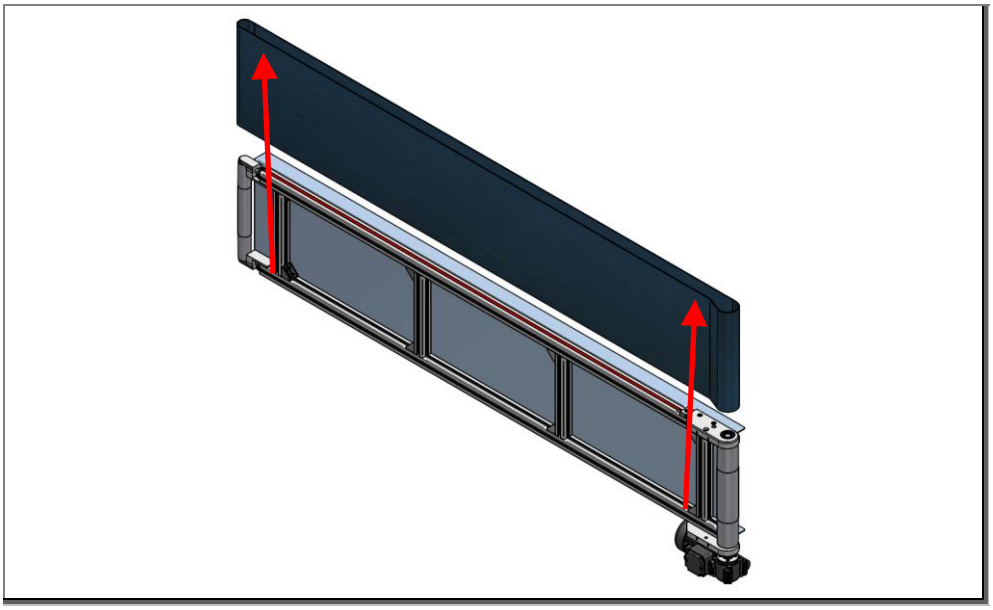


Fig. 67: Pulling off of the belt

10. Pull the belt (5) off the conveyor body (do not loosen any other of the bolted joints in the conveyor frame during belt replacement). Check the screws and tighten them, if necessary).

NOTE

- Note the conveying direction of the belt, if this is marked. The conveying direction can be determined by an arrow (→) on the belt surface (running side).

11. Push the new belt in an upright position over the conveyor body.
12. Fit the contraction idler and secure it by tightening the countersunk screws.
13. Retighten the protective cover with the oval head screws.

14. Uniformly adjust the basic belt tension using the two belt tensioners.
15. Uniformly adjust the fine belt tension using the two belt tensioners. --- fehlender Linktext ---
16. Correctly fit the conveyor body on the support.
17. Position the conveyor with support on a level and sufficiently load bearing surface.
18. Reinstall all of the attachments on the conveyor body.
19. Adjust the belt alignment in the drive unit area. --- fehlender Linktext ---
20. Adjust the belt alignment in the deflection area. --- fehlender Linktext ---

Result: The belt has been changed.

9.5.3 Checking the belt run for smooth running

Possible causes of a sticking belt run

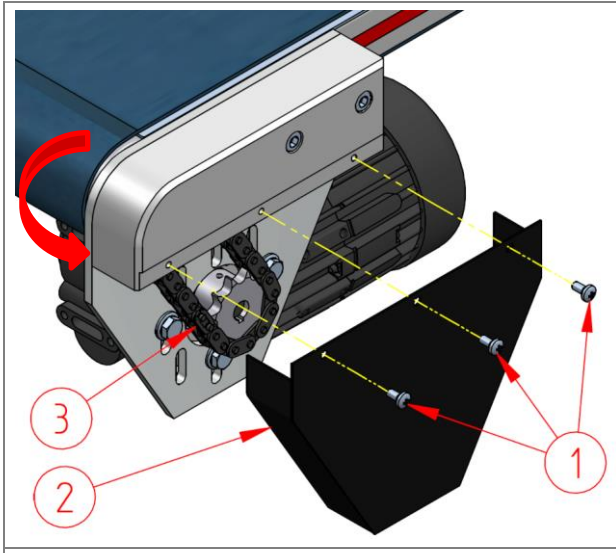
- Sticking of the belt on the carrying sheet (e.g. with resinous oils)
- Transported material is jammed
- Belt runs to the side
- Gap between belt and lateral guide is too narrow
  - E.g. due to arching upwards of the carrying sheet
- Belt tension too high (belt stretches/shortens due to water adsorption)
- Damage to the drive pulley or deflection pulley

9.5.3.1 Chain drive: checking the belt run for smooth running

NOTE

Read the maintenance instructions completely prior to commencing the tasks.

This chapter describes how you can check the ease of running of the belts, if the conveyor has a chain drive.



1	Screw	3	Chain lock link
2	Chain protection		

Perform the following steps:

1. Disconnect the mains cable from the mains and secure the conveyor to prevent switching back on.
2. Remove all transported material from the conveyor.
3. Remove the screws (1) and the chain protection (2).
4. Undo the chain lock link (3) and remove the chain.
5. Now manually rotate the belt through the drive unit area so that the total belt circumference passes through several times. No unusual resistance should be apparent.
6. Correctly fit the chain using the chain lock link (3).
7. Correctly fit the chain protection (2) using screws (1).

Result: The smooth running of the belt run has been checked.

Fig. 68: Chain drive: checking the belt run for smooth running

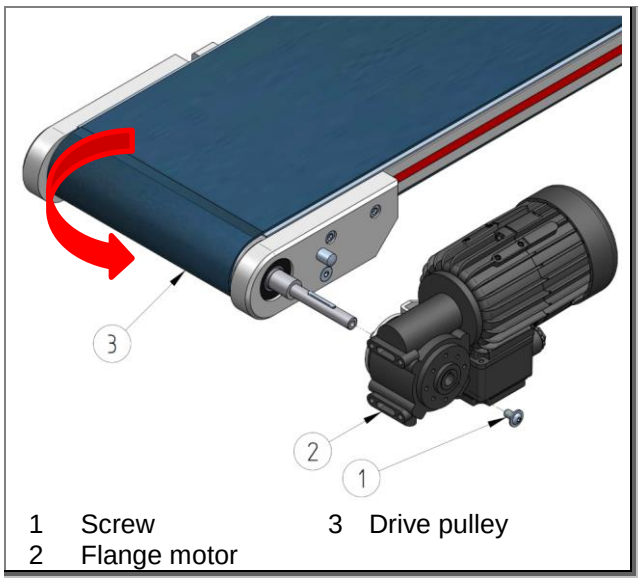
--- fehlender Linktext ---

9.5.3.2 Flange drive unit: checking the belt run for smooth running

NOTE

Read the maintenance instructions completely prior to commencing the tasks.

This chapter describes how you can check the ease of running of the belts, if the conveyor has a flange drive unit.



1 Screw
2 Flange motor
3 Drive pulley

Fig. 69: Flange drive unit: checking the belt run for smooth running

Perform the following steps:

1. Disconnect the mains cable from the mains and secure the conveyor to prevent switching back on.
2. Remove all transported material from the conveyor.
3. Remove screw (1)
4. Remove the flange motor (2)
5. Now manually rotate the belt through the drive unit area so that the total belt circumference passes through several times. No unusual resistance should be apparent.
6. Fit the flange motor in the inverse sequence

Result: The smooth running of the belt run has been checked.

--- fehlender Linktext ---

9.5.4 Lubricating the chain

NOTE

Read the maintenance instructions completely prior to commencing the tasks.

This chapter describes how you lubricate a drive chain.

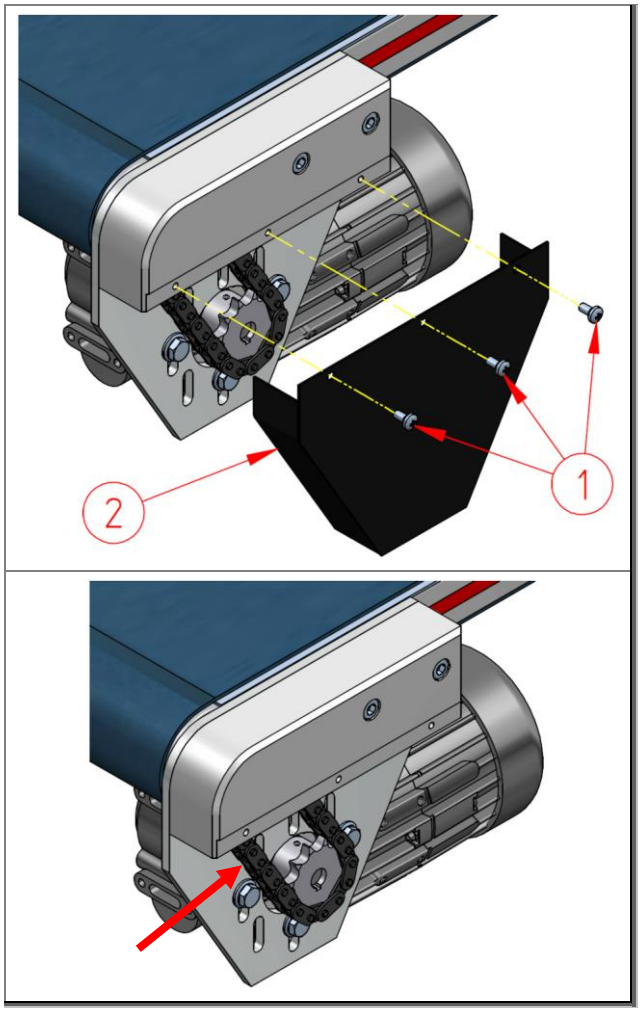


Fig. 70: Lubricating the chain

Perform the following steps to lubricate the chain:

1. Disconnect the mains cable from the mains and secure the conveyor to prevent switching back on.
2. Remove all transported material from the conveyor.
3. Remove the screws (1) and the chain protection (2).

1	Screw	2	Chain protection

4. Lubricated the chain with grease or a chain spray lubricant.
5. Fit the chain protection (2) and screws (1).

Result: The chain is lubricated.

9.5.5 Adjusting the chain tension

NOTE

Read the maintenance instructions completely prior to commencing the tasks.

This chapter describes how you tension the chain of a drive.

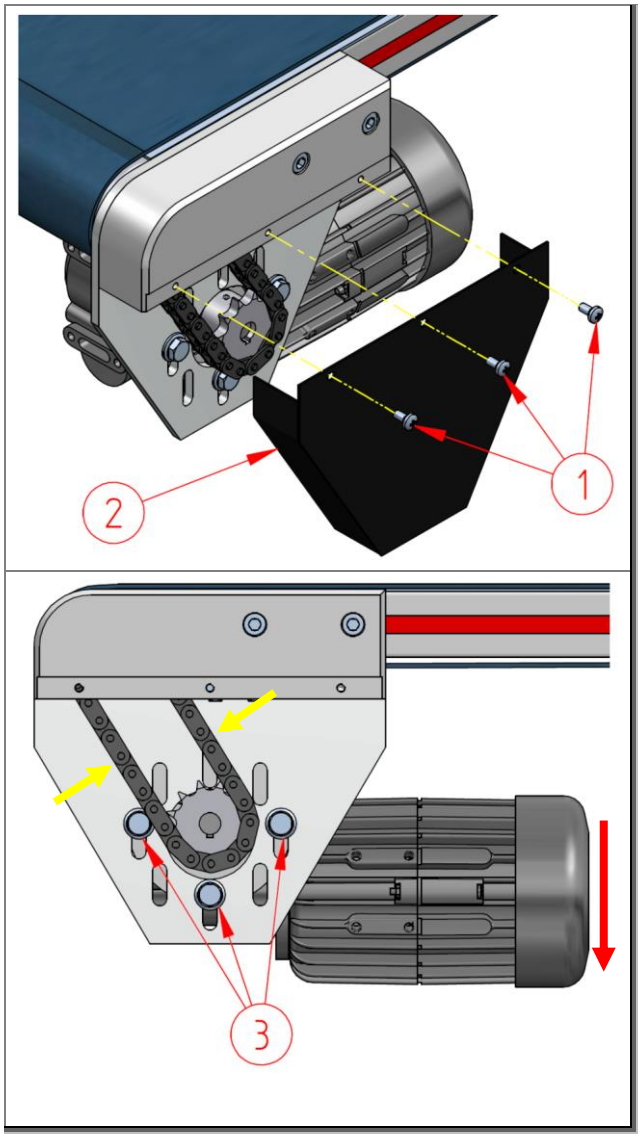


Fig. 71: Adjusting the chain tension

Perform the following steps to tension the chain:

1. Disconnect the mains cable from the mains and secure the conveyor to prevent switching back on.
2. Remove all transported material from the conveyor.
3. Remove the screws (1) and the chain protection (2).

1	Screw	2	Chain protection

4. Check the chain tension
   - The top and bottom parts of the chain should have a maximum play of about 3 mm.
5. Slightly undo the three screws (3) that secure the drive unit on the motor plate.
6. Push the drive down away from the conveyor (red arrow) so that the top and bottom parts of the chain (yellow arrows) are uniformly and moderately tensioned. If necessary, turn the drive pulley up to the apex, so that the chain is the same length on both sides.
7. Tighten the screws (3).
8. Correctly fit the chain protection (2) using screws (1).

Result: The chain is tensioned.

9.6 Restart after maintenance, repair and overhaul

Do not use the machine if there are defects that compromise the safe operation of the machine. After the completion of maintenance and prior to starting the machine, the following points must be observed:

1. Check whether all of the screw connections are tight.
2. Ensure that all of the safety devices, guards and covers that had to be removed are properly reinstalled.
3. Ensure that all of the tools, material and other equipment have been removed from the working area.
4. Clean the working area and remove any fluids or similar substances that may have leaked out.
5. Check whether all of the safety devices and guards of the machine operate correctly.
6. Check the safety devices and guards.

10 Shutdown and storage

10.1 Safety

Only specialized personnel with proven qualification are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

There is a risk of injury and damage to property if the operator fails to shut the system down in due form and in line with the applicable regulations.

NOTE

The shutdown must be performed by the operator or by persons who are appointed by the operator.
Compliance with the applicable local regulations and laws is mandatory for the shutdown of the system.

⚠ DANGER

Danger to life due to electric current

There is danger to life in the event of contact with live components.
Active electrical components may perform uncontrolled movements. Serious injuries or even death may result.

- All work on the electrical components of this machine must only be carried out by qualified specialist personnel (electricians or persons trained in electrical engineering in accordance with DIN EN 60204-1).
- Switch the machine off during maintenance and repair work and secure to prevent unexpected switching back on.
- Close the working area off and mark it with a warning sign.

⚠ WARNING

Hazards caused by rotating or moving components

Rotating and moving components may crush or sever limbs and cause serious injuries.

- Stay within the defined working area.
- Keep a safe distance to the components.
- Heed any warning signs in the working area.
- Wear personal protective equipment.
- Wear tight-fitting clothes.
- Knot long hair together and wear a hair net as necessary.

⚠ WARNING

Risk of crushing and impacts

During adjustment work on the support, the conveyor may lower due to insufficient safeguards.

- Secure the conveyor with suitable load handling equipment (crane, etc.) to prevent unintentional and sudden lowering.
- The retaining screws may only be released, if the conveyor has been correctly secured to prevent the aforementioned hazard.
- Never remain under suspended loads when loosening/fastening the retaining screws.
- Maintain a sufficient distance from the danger locations.
- Carry out height adjustment using several persons.
- Wear personal protective equipment.

⚠ WARNING

Risk of injury due to machine toppling over

Risk of tipping due to insufficient floor fixation.

- If available, always screw the floor clips of the floor fixation systems securely to the floor in the correct manner. Otherwise do not start-up!
- Ensure there is uniform loading!
- Use screws of sufficient strength!
- Do not exceed the floor strength!
- Before removing the floor fixation systems, ensure there is a low center of gravity, adjust as necessary:
  - Set the lowest support position
  - Check the stability, if necessary, remove the support

⚠ CAUTION

Risk of crushing and shearing

Danger due to sudden swiveling movement of the casters when changing the machine location.

- During positioning of the conveyor, do not reach in close to the swivel casters.
- After completed positioning of the conveyor, always apply all arresters of the swivel casters.

⚠ CAUTION

Risk of injury due to moveable support

When moving the conveyor, the casters on the support can roll over feet or other body parts.

- Wear sturdy shoes with steel toecaps
- When moving do not step in the moving area of the casters

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

ATTENTION

Damage to property due to improper load handling

Improper handling of the load during loading or unloading may cause damage to property.

- Use suitable lifting devices.
- Loads that can be dismounted or mounted and that are too heavy to be carried manually must be kept in place using suitable devices (ropes or a block and tackle).
- Chafing of ropes and webbing slings on sharp edges and corners must be prevented by way of special devices, e.g. intermediate layers of a softer material, corner protectors or edge protectors.
- Components and their attachments must not be compressed by ropes or chains pulling at angles.
- Avoid strong impacts when setting the load down.
- Loads may be set down only on firm and level ground.

10.2 Shutting the machine down

If the machine remains unused for more than three days, observe the following points:

1. When it is used for the last time before the period of nun-utilization, let the machine run until there are no longer any goods for conveyance in or on the machine.
2. Switch the machine off via the main switch.
3. Disconnect the machine from the line power supply.
4. Remove any coarse soiling and dust from the machine with water.
5. Apply a preserving agent, e.g. a corrosion prevention agent, to any uncoated metal parts.
6. Cover the machine if it is set up outdoors.
7. Treat the drive unit in line with the information provided by the manufacturer.

11 Disassembly

11.1 Safety

Only specialized personnel with proven qualification are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

There is a risk of injury and damage to property if the operator fails to disassemble the system in due form and in line with the applicable regulations.

NOTE

The disassembly must be performed by the operator or by persons who are appointed by the operator.
Compliance with the applicable local regulations and laws is mandatory for the disassembly of the machine.

⚠ DANGER

Danger to life due to electric current

There is danger to life in the event of contact with live components.
Active electrical components may perform uncontrolled movements. Serious injuries or even death may result.

- All work on the electrical components of this machine must only be carried out by qualified specialist personnel (electricians or persons trained in electrical engineering in accordance with DIN EN 60204-1).
- Switch the machine off during maintenance and repair work and secure to prevent unexpected switching back on.
- Close the working area off and mark it with a warning sign.

⚠ DANGER

Suspended loads

Tipping or falling loads may cause serious or even fatal injuries.

- Never step or stand under suspended loads.
- Only use approved lifting devices and lifting accessories that are rated for the total weight of the suspended load.
- Keep the suspension points and the center of gravity of the load in mind.
- Only use lifting accessories and load-handling equipment that are in a perfect technical state.
- Secure the loads with suitable means.
- If transport locks are used, do not remove them until the assembly is complete.
- Close the loading areas off against unauthorized access.
- Ensure sufficient lighting of the loading areas.
- Move loads only under supervision.
- Set the load down when leaving the workplace.

⚠ WARNING

Fall hazard when working at height

Work at height may cause slipping, falling, and serious injuries.

- Wear personal protective equipment.
- Ensure safe working conditions in time.
- Always use fall protection equipment when secure footing cannot be guaranteed.
  - Use, for example, work platforms, scaffolds, personnel elevators, or cherry pickers.
- Protect the installation area against falling objects.
- Never work alone.

⚠ WARNING

Risk of crushing and impacts

During adjustment work on the support, the conveyor may lower due to insufficient safeguards.

- Secure the conveyor with suitable load handling equipment (crane, etc.) to prevent unintentional and sudden lowering.
- The retaining screws may only be released, if the conveyor has been correctly secured to prevent the aforementioned hazard.
- Never remain under suspended loads when loosening/fastening the retaining screws.
- Maintain a sufficient distance from the danger locations.
- Carry out height adjustment using several persons.
- Wear personal protective equipment.

⚠ WARNING

Hazards caused by rotating or moving components

Rotating and moving components may crush or sever limbs and cause serious injuries.

- Stay within the defined working area.
- Keep a safe distance to the components.
- Heed any warning signs in the working area.
- Wear personal protective equipment.
- Wear tight-fitting clothes.
- Knot long hair together and wear a hair net as necessary.

⚠ CAUTION

Risk of crushing and shearing

Danger due to sudden swiveling movement of the casters when changing the machine location.

- During positioning of the conveyor, do not reach in close to the swivel casters.
- After completed positioning of the conveyor, always apply all arresters of the swivel casters.

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

⚠ CAUTION

Risk of injury due to moveable support

When moving the conveyor, the casters on the support can roll over feet or other body parts.

- Wear sturdy shoes with steel toecaps
- When moving do not step in the moving area of the casters

⚠ CAUTION

Sharp edges

Sharp edges may cause cutting.

- Wear personal protective equipment.
- Be careful when handling objects with sharp edges.

ATTENTION

Damage to property due to improper load handling

Improper handling of the load during loading or unloading may cause damage to property.

- Use suitable lifting devices.
- Loads that can be dismounted or mounted and that are too heavy to be carried manually must be kept in place using suitable devices (ropes or a block and tackle).
- Chafing of ropes and webbing slings on sharp edges and corners must be prevented by way of special devices, e.g. intermediate layers of a softer material, corner protectors or edge protectors.
- Components and their attachments must not be compressed by ropes or chains pulling at angles.
- Avoid strong impacts when setting the load down.
- Loads may be set down only on firm and level ground.

11.2 Prerequisites for the disassembly

ATTENTION

Risk of environmental damage

Damage to the environment due to leaking process fluids (oil, grease and other chemical substances).

- Clean soiled components prior to removing them.
- Collect any harmful substances in suitable collecting vessels and ensure their proper disposal.
- Comply with the local regulations and statutory provisions for disposal.

NOTE

The manufacturer does not accept any liability for damage resulting from improper disassembly.

1. Shut the machine down prior to the disassembly and comply with the relevant shutdown procedures.
2. Switch the main switch off and lock it so that it cannot be switched on again.
3. Disconnect the machine from the energy supply and secure this state.
4. Disconnect the entire machine physically from the power supply.
5. Remove any coarse soiling from the machine parts.
6. Disconnect any connections, e.g. pipes.
7. Collect any process fluids and other hazardous substances.
8. Seal any open connections, e.g. pipes.

11.3 Disassembly of the electrical system

1. Switch the machine off via the main switch.
2. Ensure that the operator’s grid power supply is deactivated.
3. Check whether the machine is completely voltage-free.
4. Disconnect the machine from the line power supply.

11.4 Disassembly of the mechanical system

Based on the assembly drawing and set-up plan:

1. Install the transport locks.
2. Release the floor anchors of the machine.
3. Disassemble and remove the modules of the machine based on their respective dimensions and other data.
4. Be aware of low center of gravity, adjust as necessary:
   - Set the lowest support position
   - Check the stability, if necessary, remove the support
5. See chapters “Packaging and transport” and “Set-up and Assembly” if the machine needs to be transported to another location.

12 Disposal

12.1 Safety

⚠ CAUTION

Risk of tripping and falling

There is a risk of tripping and falling at the supports due to projecting frame parts.

- The machine, and in particular the support, must not be set up and operated near to walkways.
- If necessary, existing walkways must be changed accordingly.

ATTENTION

Risk of environmental damage

The environment will be harmed if the disposal is not performed properly.

– Comply with the local regulations and statutory provisions for the disposal.

Only specialized personnel with proven qualification are authorized to perform work on the system. Compliance with the following is mandatory:

- this instruction manual
- all other instruction manuals pertaining to the system (further applicable documents, including the documents provided by the suppliers)
- the applicable local regulations and laws.

Knowingly or unknowingly using used/worn components, e.g. rolling bearings, toothed belts, etc., may present a hazard to persons, the environment and the system.

The following points must be observed:

- The operator is responsible for proper disposal.
- Only specialized and qualified personnel are authorized to perform the disposal.
- Drain any process fluids (oils, greases, chemical substances) and other consumables off into suitable collecting vessels and ensure their proper disposal.
- At the end of its life cycle, separate the machine into different recyclable materials and hand them over to a professional recycling company.

13 Spare parts

13.1 Spare part orders

NOTE

The manufacturer does not accept any liability for damage resulting from the use of third-party parts.

- If parts need to be replaced, use only original parts. The use of third-party parts may cause damage.
- Please contact the service department if you want to order spare parts. Orders can be submitted by e-mail, fax, or phone.
- Please have the data of the type plate (e.g. serial number), order confirmation and/or spare parts list ready.
- MTF Technik recommends keeping the spare parts and wear parts, which are stated on the spare parts list, in stock on site in order to reduce or avoid waiting times and downtimes in the event of faults or malfunctions.
- In all other cases, spare parts should be ordered in good time in order to ensure that they are available for the next scheduled maintenance. Spare parts have varying delivery times. This is why an extensive spare parts order based on the longest delivery time is recommended.

13.1.1 Abbreviations in the spare parts list

The following is a list of the abbreviations used in the spare parts list.

Abbreviation	Designation
Pos.	Position number
Qty	Quantity
Unit	Unit
ID no.	ID no.
Drwg no.	Drawing no.
pcs.	Pieces

Tab. 14: Abbreviations

13.2 Viewing the spare parts list

The spare parts list of the described conveyor can be accessed online:

https://mtf-technik.de/de/service/download/download-sprachen/download-daten/d-a-ch

Fig. 72: Spare parts list: GL conveyor

13.3 Spare parts - explanation of the portrayal

The spare parts are subdivided into 2 groups:

13.3.1 Independent from technical data

– Can be directly selected and ordered

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Component		1234567	ZZ.999.9999

Tab. 15: Parts list: Independent from technical data (typical)

13.3.2 Dependent on technical data (see also order confirmation)

– Are labeled with a star “*”
– The selection is made based on at least one technical attribute that is specified in the order confirmation
– For example in the ID no. or drawing no. field there is a reference to a table

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Component		Table	Table

Tab. 16: Parts list: Dependent on technical data (see also order confirmation) (typical)

– The Selection attribute is found on the left side in the table
– The corresponding ID no./drawing no. are read off in the right side of the table

Pos. 1* selection: Motor bracket		
Motor power	**Motor bracket 1**	**Motor bracket 2**
	T.800.XXXX	**T.800.XXXX**
	ID no.	**ID no.**
180 W	XXXX	-
250 W	-	XXXX

Tab. 17 Attribute selection of a component (typical)

13.4 Spare parts and wear parts

13.4.1 Conveyor body

13.4.1.1 Parts list: Conveyor body

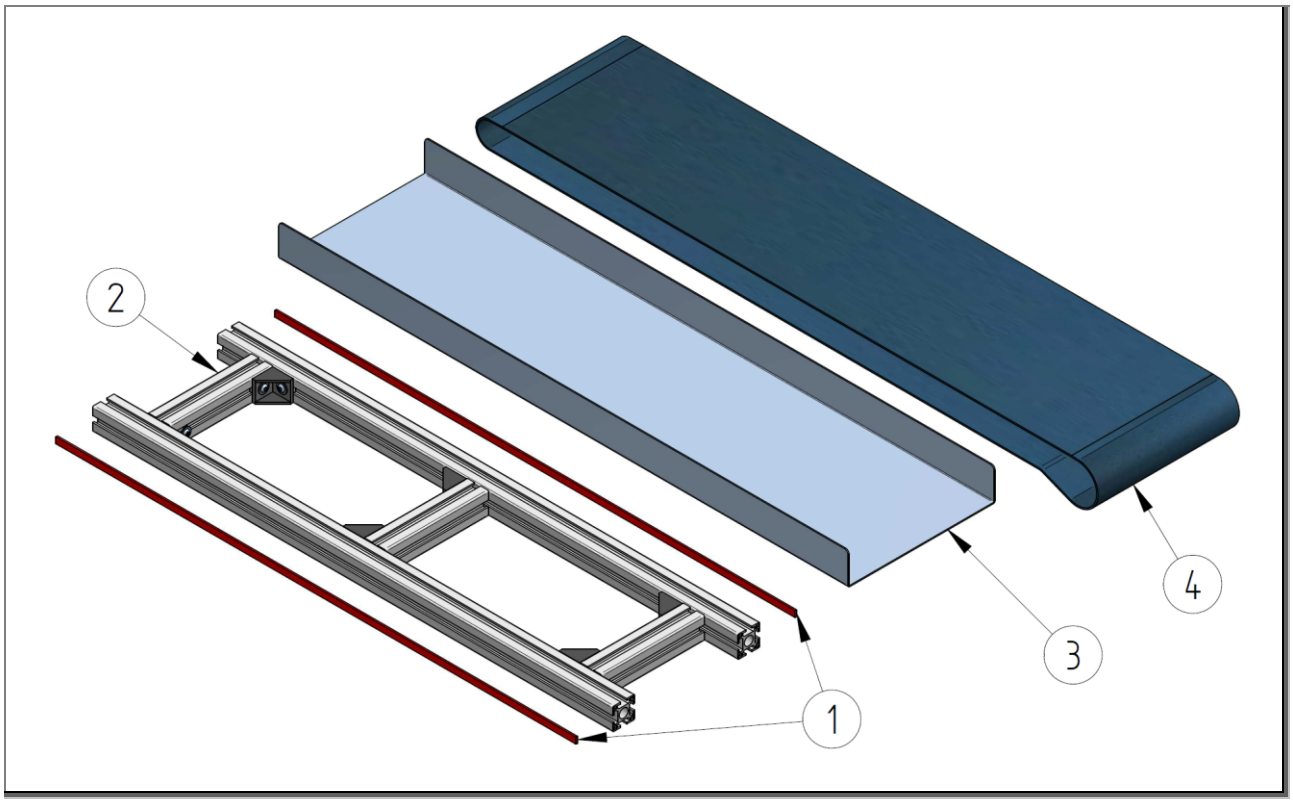


Fig. 73: Parts list: Conveyor body

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	2	pcs.	Groove cover	RAL 3020 red	1010070	

Tab. 18: Parts list: Conveyor body 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
2	1	pcs.	Base frame		Specify the serial number of the type plate	
3	1	pcs.	Belt			
4	X	pcs.	Carrying sheet		Table	M.800.0256

Tab. 19: Parts list: Conveyor body 2

Pos. 4 selection: Carrying sheet		
Material	**Surface**	**ID no.**
Steel	uncoated	1006026
Stainless steel	uncoated	1006710
Stainless steel	pattern-rolled 5WL 5SE5	1006760

Tab. 3: Selection: Carrying sheet

13.4.2 Deflection units

13.4.2.1 Parts list: Deflection Ø32 – ZZ.800.0234

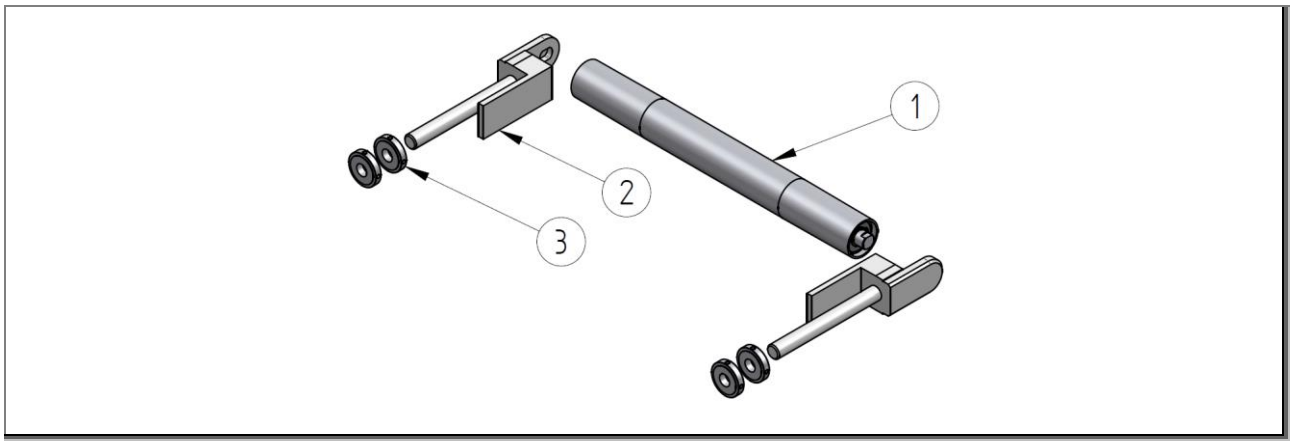


Fig. 74: Parts list: Deflection Ø32 – ZZ.800.0234

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
2	2	pcs.	Deflection pulley side part		1010132	T.800.0293
3	4	pcs.	Capstan nut	DIN 1816 - M12x1.5 - galvanized	1007785	

Tab. 20: Parts list: Deflection Ø32 – ZZ.800.0234 – 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Deflection pulley KF-32		Table	U.910.0007

Tab. 21: Parts list: Deflection Ø32 – ZZ.800.0234 – 2

Pos. 1* selection: Deflection pulley - U.910.0007		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1007173	1008387
100	1006898	1008388
150	1006899	1008389
200	1006900	1008390
250	1006906	1008391
300	1006907	1008392
350	1006908	1008393
400	1007339	1008394
450	1007340	1008395
500	1007341	1007130

Tab. 22: Selection: Deflection Ø32 – contraction idler

13.4.2.2 Parts list: Deflection Ø22 – ZZ.800.0220

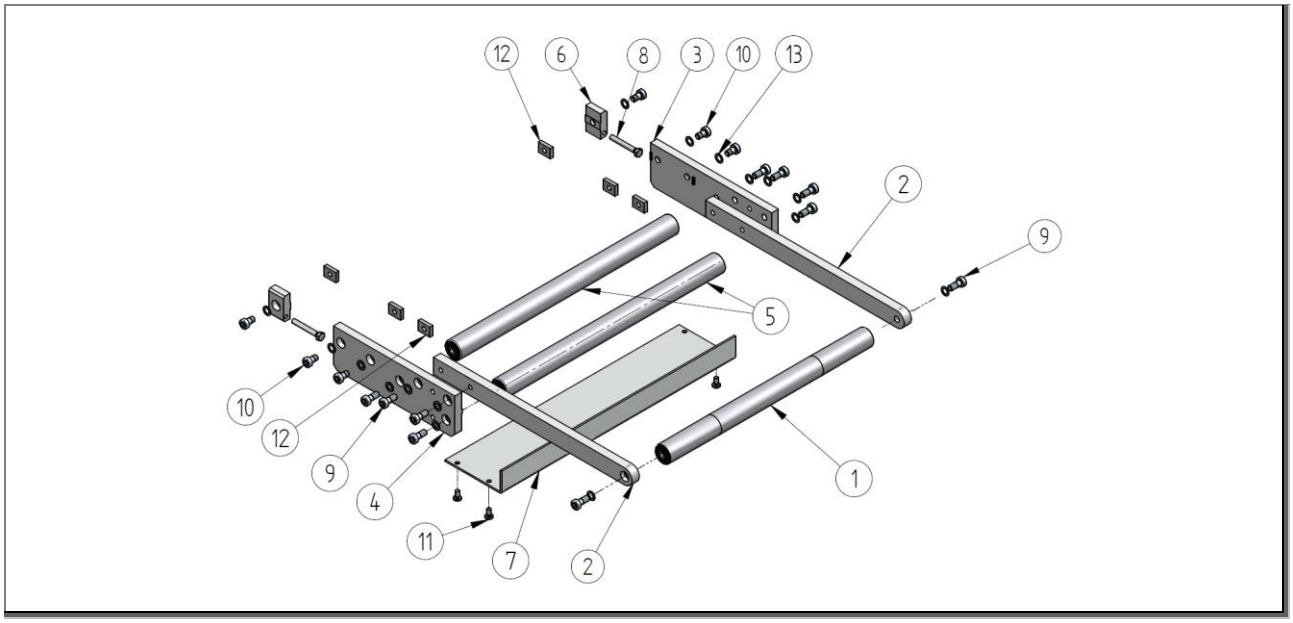


Fig. 75: Parts list: Deflection Ø22 – ZZ.800.0220

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
3	1	pcs.	Connection plate	Version: Left	1014228	E.800.1264
4	1	pcs.	Connection plate	Version: Right	1014229	E.800.1264
6	2	pcs.	Tensioning element		1006434	E.990.0029
8	2	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
9	11	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x16 galvanized	1000494	
10	6	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
11	4	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	
12	6	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
13	17	pcs.	Lock washer	Schnorr S6	1000499	

Tab. 23: Parts list: Deflection Ø22 – ZZ.800.0220 – 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Deflection pulley KF-22		Table	U.910.0015
2*	2	pcs.	Side molding		Table	M.800.0131
5*	2	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
7*	1	pcs.	Access prevention guard		Table	M.800.0260

Tab. 24: Parts list: Deflection Ø22 – ZZ.800.0220 – 2

Pos. 1* selection: Deflection pulley - U.910.0015		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1012641	1016608
100	1011349	1016609
150	1010580	1016611
200	1011920	1011342
250	1016607	1011343
300	1011344	1016610
350	1011345	1016612
400	1011346	1016613
450	1011347	1016614
500	1011348	1016615

Tab. 25: Selection: Deflection Ø22 – deflection pulley

Pos. 2* selection: Side molding - M.800.0131	
Contraction idler [mm]	**AlMg 3 ID no.**
100	1011872
200	1016616
300	1016617
400	1011873

Tab. 26: Selection: Deflection Ø22 – contraction idler

Pos. 5* selection: Contraction idler - U.910.0002		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 27: Selection: Deflection Ø22 – contraction idler

Pos. 7* selection: Access prevention guard - M.800.0260	
Contraction idler [mm]	**AlMg 3 ID no.**
70	1016926
100	1016927
150	1016928
200	1016929
250	1016930
300	1016931
350	1016932
400	1016933
450	1016934
500	1016935

Tab. 28: Selection: Deflection Ø22 – access prevention guard

13.4.2.3 Parts list: Rolling knife edge Ø16– U.910.0030

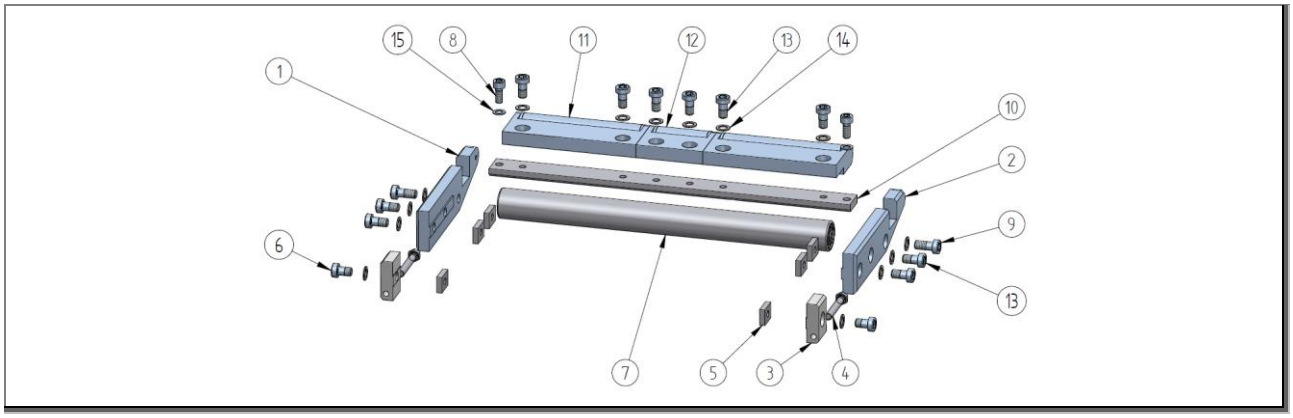


Fig. 76: Parts list: Rolling knife edge Ø16– U.910.0030

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Knife edge bracket RMK 16	Version: left	1014828	E.995.4159
2	1	pcs.	Knife edge bracket RMK 16	Version: right	1014829	E.995.4159
3	2	pcs.	Tensioning element		1006434	E.990.0029
4	2	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
5	6	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
6	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
8	2	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M5x12	1009272	
9	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x16 galvanized	1000494	
14	14	pcs.	Lock washer	Schnorr S6	1000499	
15	2	pcs.	Lock washer	Schnorr S5	1006876	

Tab. 29: Parts list: Rolling knife edge Ø16 – U.910.0030 – 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
7*	1	pcs.	Contraction idler	IL22	Table	U.910.0002
10*	1	pcs.	Knife mounting 16 RMK		Table	Table
11	Table	pcs.	Knife edge	RMK 16-100	1010121	Müssel
12	Table	pcs.	Knife edge	RMK 16-50	1010120	Müssel
13	Table	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x12 galvanized	1005472	

Tab. 30: Parts list: Rolling knife edge Ø16 – U.910.0030 – 2

Pos. 7* selection: Contraction idler - U.910.0002		
Nominal width [mm]	IL [steel] ID no.	IL [V2A] ID no.
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 31: Selection: Rolling knife edge Ø16 – contraction idler

Pos. 10* selection: Knife mounting		
Contraction idler [mm]	1.4301 (V2A)	
	Drawing no.	ID no.
100	E.995.8728	1016618
150	E.995.5992	1014830
200	E.995.4160	1016399
250	E.910.0087	1015532
300	E.910.0088	1016619
350	E.910.0089	1016620
400	E.995.8431	1016621
450	E.910.0085	1016622
500	E.910.0086	1016623

Tab. 32: Selection: Rolling knife edge Ø16 – side molding

Pos. 11, 12 and 13: Number according to nominal width			
Item	**11**	**12**	**13**
Name 1	**Knife edge**	**Knife edge**	**Hexagon socket head cap screw with low head**
Name 2	**RMK 16 100**	**RMK 16 50**	**DIN 6912 - M6x12**
ID no.	**1010121**	**1010120**	**1005472**
Nominal width [mm]	**Number**		
100	1	0	2
150	0	3	6
200	2	0	4
250	2	1	6
300	3	0	6
350	2	3	10
400	4	0	8
450	4	1	10
500	5	0	10

Tab. 33: Selection: Rolling knife edge Ø16 – contraction idler

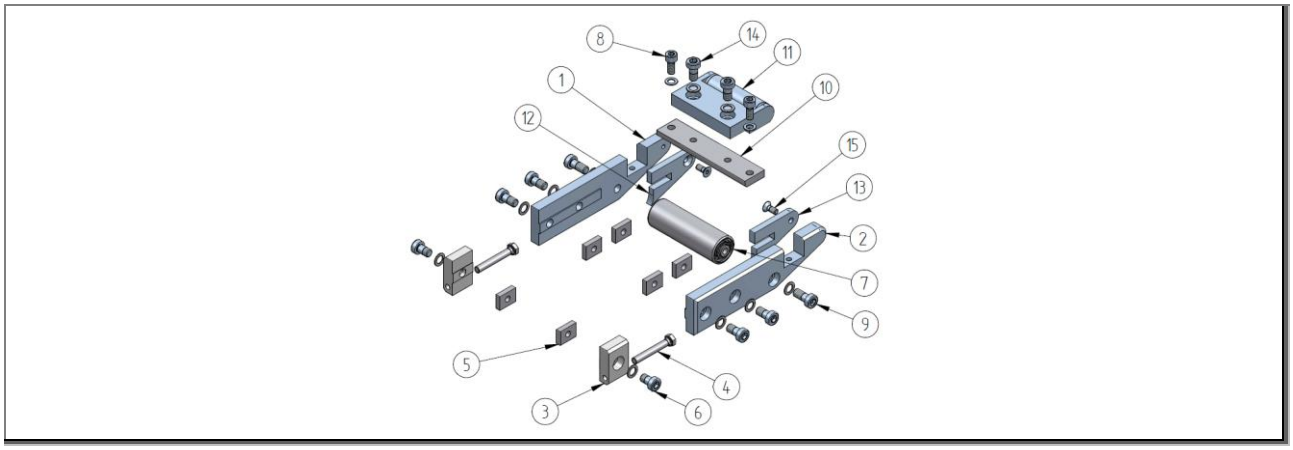


Fig. 77: Parts list: Deflection Ø16 , nominal width 70 – U.910.0030

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Knife edge bracket RMK 16	Version: left	1014828	E.995.4159
2	1	pcs.	Knife edge bracket RMK 16	Version: right	1014829	E.995.4159
3	2	pcs.	Tensioning element		1006434	E.990.0029
4	2	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
5	6	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
6	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
7	1	pcs.	Contraction idler KF-22	IL22	See above	U.910.0002
8	2	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M5x12	1009272	
9	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x16 galvanized	1000494	
10	1	pcs.	Knife mounting 16 RMK	NW = 70 mm	1016400	E.910.0090
11	1	pcs.	Knife edge	RMK 16-60	1010119	Müssel
12	1	pcs.	Contour piece	LEFT	1016398	E.910.0098
13	1	pcs.	Contour piece	RIGHT	1016397	E.910.0098
14	6	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x12 galvanized	1005472	
15	2	pcs.	Countersunk screw	DIN 7991 - M4x10 stainless steel	1008190	
16	10	pcs.	Lock washer	Schnorr S6	1000499	
17	2	pcs.	Lock washer	Schnorr S5	1006876	

Tab. 34: Parts list: Deflection Ø16 , nominal width 70 – U.910.0030

13.4.2.4 Parts list: Deflection Ø8 – U.910.0031

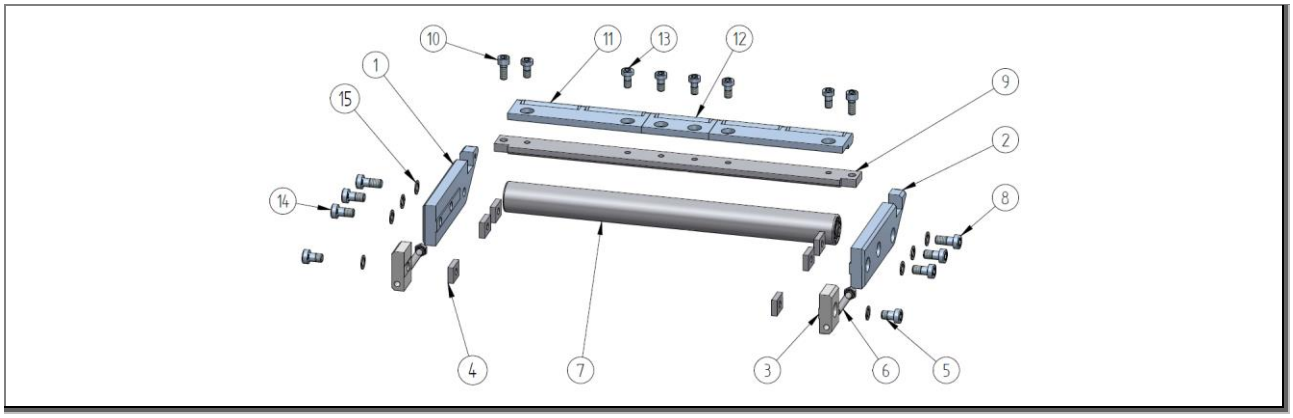


Fig. 78: Parts list: Deflection Ø8 – U.910.0031

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Knife edge bracket RMK 8	Version: left	1010399	E.995.2927
2	1	pcs.	Knife edge bracket	Mirror-inverted version: right	1010399	E.995.2927
3	2	pcs.	Tensioning element		1006434	E.990.0029
4	6	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
5	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
6	2	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
8	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x16 galvanized	1000494	
10	2	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M5x12	1009272	
14	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x12 galvanized	1005472	
15	8	pcs.	Lock washer	Schnorr S6	1000499	

Tab. 35: Parts list: Deflection Ø8 – U.910.0031 – 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
7*	1	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
9*	1	pcs.	Knife mounting			See table
11	Table	pcs.	Knife edge	RMK 8-100	1001650	
12	Table	pcs.	Knife edge	RMK 8-50	1006752	
13	Table	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M5x12	1003904	

Tab. 36: Parts list: Deflection Ø8 – U.910.0031 – 2

Pos. 7* selection: Contraction idler - U.910.0002		
Nominal width [mm]	IL [steel] ID no.	IL [V2A] ID no.
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 37: Selection: Deflection Ø8 – contraction idler

Pos. 10* selection: Knife mounting		
Contraction idler [mm]	1.4301 (V2A)	
	Drawing no.	ID no.
100	E.995.7944	1016624
150	E.910.0091	1016625
200	E.910.0092	1015241
250	E.995.2928	1016626
300	E.910.0093	1016627
350	E.910.0094	1016628
400	E.910.0095	1016629
450	E.910.0096	1016630
500	E.910.0097	1016631

Tab. 38: Selection: Deflection Ø8 – contraction idler

Pos. 11, 12 and 13: Number according to nominal width			
Item	**11**	**12**	**13**
Name 1	**Knife edge**	**Knife edge**	**Hexagon socket head cap screw with low head**
Name 2	**RMK 8-100**	**RMK 8-50**	**DIN 6912 - M5x12**
ID no.	**1001650**	**1006752**	**1003904**
Nominal width [mm]	**Number**		
100	1	0	2
150	0	3	6
200	2	0	4
250	2	1	6
300	3	0	6
350	2	3	10
400	4	0	8
450	4	1	10
500	5	0	10

Tab. 39: Selection: Deflection Ø8 – contraction idler

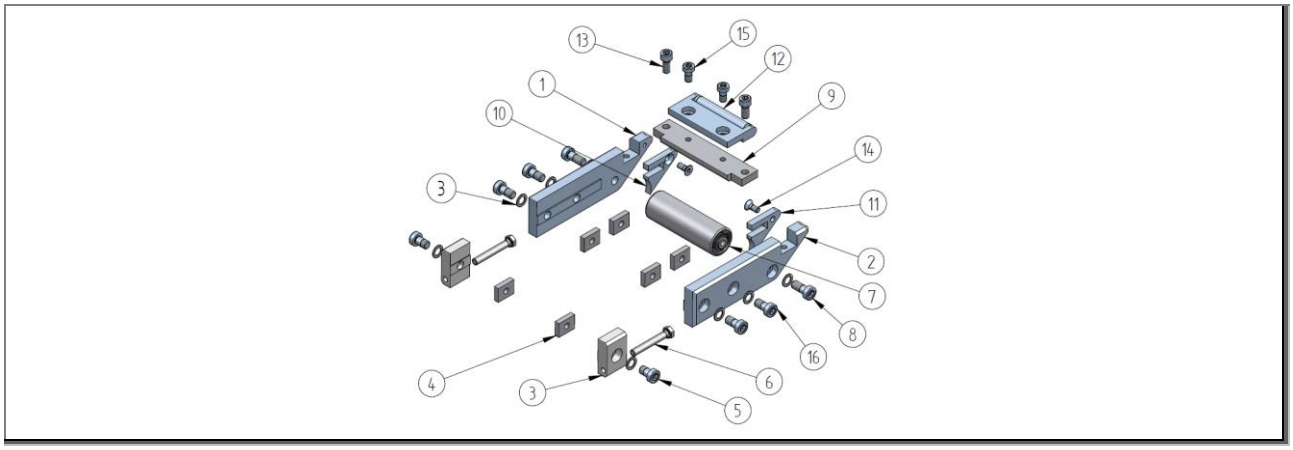


Fig. 79: Parts list: Deflection Ø8 , nominal width 70 – U.910.0031

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Knife edge bracket RMK 8	Version: left	1010399	E.995.2927
2	1	pcs.	Knife edge bracket	Mirror-inverted version: right	1010399	E.995.2927
3	2	pcs.	Tensioning element		1006434	E.990.0029
4	6	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
5	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
6	2	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
7	1	pcs.	Contraction idler KF-22	IL22	See above	U.910.0002
8	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x16 galvanized	1000494	
9	1	pcs.	Knife mounting	NW = 70 mm		E.995.4008
10	1	pcs.	Contour piece	LEFT		E.995.4012
11	1	pcs.	Contour piece	RIGHT		E.995.4012
12	1	pcs.	Knife edge	RMK 8-60	1006753	Müssel
13	2	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M5x12	1009272	
14	2	pcs.	Countersunk screw	DIN 7991 - M4x10 stainless steel	1008190	
15	2	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M5x12	1003904	
16	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x12 galvanized	1005472	
17	8	pcs.	Lock washer	Schnorr S6	1000499	

Tab. 40: Parts list: Deflection Ø8 , nominal width 70 – U.910.0031

13.4.3 Flange drive unit

13.4.3.1 Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 1234 - ZZ.900.0146 (90W / 230V) and ZZ.900.0158 (90W / 24V DC)

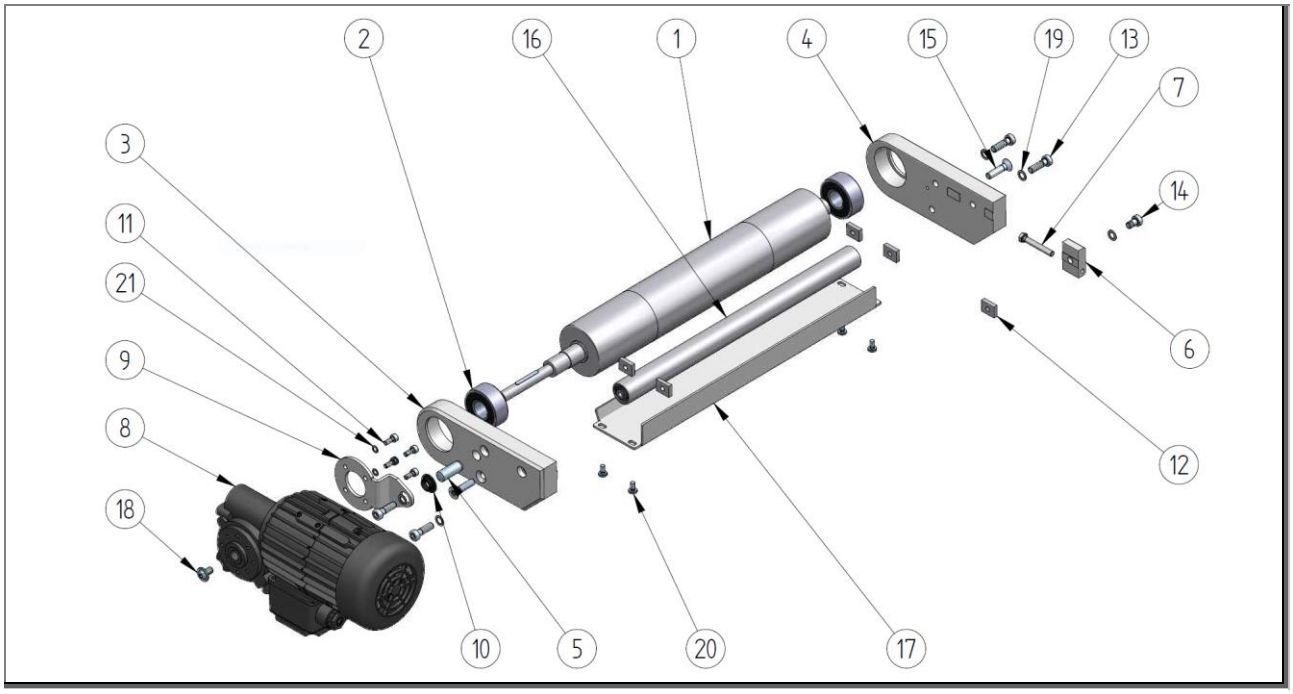


Fig. 80: Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 1234 - ZZ.900.0146

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
2	2	pcs.	Self-aligning ball bearing di = 17, do = 40, w = 16	2203 E-2RS1TN9	1006952	
3	1	pcs.	Drive bracket	F-drive, version: left	1006971	E.990.0105
4	1	pcs.	Drive bracket	F-drive, version: right	1006970	E.990.0106
5	1	pcs.	Cylindrical pin	DIN 6325 - st. 10x26	1004692	
6	1	pcs.	Tensioning element		1006434	E.990.0029
7	1	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
9	1	pcs.	Torque support		1012185	E.990.0417
10	1	pcs.	Slide bearing	GFM-1012-05	1014315	
11	4	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M4x10	1008368	
12	5	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
13	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x20	1000496	
14	1	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
15	2	pcs.	Countersunk screw	DIN 7991-M6x25	975344	
18	1	pcs.	Oval head screw with flange	ISO 7380-2 - M6 x 10	1010810	
19	5	pcs.	Lock washer	Schnorr S6	1000499	
20	4	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	
21	4	pcs.	Lock washer	Schnorr S4	1005474	

Tab. 41: Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 1234 – 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drive pulley		Table	M.910.1077
8*	1	pcs.	Worm gear motor	SN18HSo - 90W - B, Ruhrgetriebe	Table	
16*	1	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
17*	1	pcs.	Access prevention guard	F drive	Table	M.800.0152

Tab. 42: Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 1234 – 2

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [Steel – uncoated] M.910.1077**	**ILF-N [Steel – keyway] M.910.1080**	**ILF-G [Steel– rubberized] M.910.1142**	**ILF-R [Steel– knurled] M.910.1084**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1012245	1012590	1015274	1014622
100	1012246	1012591	1015275	1013674
150	1012183	1012592	1015276	1014568
200	1012247	1012593	1015277	1014238
250	1012248	1012594	1015278	1016633
300	1012249	1012417	1015279	1013250
350	1012250	1012277	1015280	1016634
400	1012251	1012597	1015281	1014673
450	1012252	1012598	1015282	1013716
500	1012253	1012599	1015283	1016635

Tab. 43: Selection: Flange drive unit – drive pulley steel

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [V2A – uncoated] M.910.1077**	**ILF-N [V2A – keyway] M.910.1080**	**ILF-G [V2A– rubberized] M.910.1142**	**ILF-R [V2A– knurled] M.910.1084**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1016638	1016648	1016657	1016667
100	1016639	1016649	1016658	1014021
150	1016640	1016650	1016659	1016668
200	1016641	1016651	1016660	1016669
250	1015103	1016652	1016661	1016670
300	1014308	1016653	1016662	1016671
350	1016644	1016654	1016663	1016672
400	1016645	1016655	1016664	1016673
450	1016646	1013439	1016665	1015404
500	1016647	1016656	1016666	1016674

Tab. 44: Selection: Flange drive unit - drive pulley stainless steel V2A

Pos. 8* selection: Worm gear motor		
Gear ratio i	**230V ID no.**	**24V DC ID no.**
25:1 (230V) / 24:1 (24V)	1012303	1016675
38 : 1	1012282	1016676
50 : 1	1012293	1016677
75 : 1	1012216	1012470
100 : 1	1012296	1016678

Tab. 45: Selection: Flange drive unit - motor

Pos. 16* selection: Contraction idler - U.910.0002		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 46: Selection: Flange drive unit – contraction idler

Pos. 17* selection: Access prevention guard - M.800.0152	
Nominal width [mm]	**ID no.**
70	1010418
100	1010419
150	1010420
200	1010421
250	1010422
300	1010423
350	1010424
400	1010425
450	1010426
500	1010427

Tab. . 47: Selection: Flange drive unit - access prevention guard

13.4.3.2 Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 1234 - ZZ.900.0057 (180W, 250W / 230V)

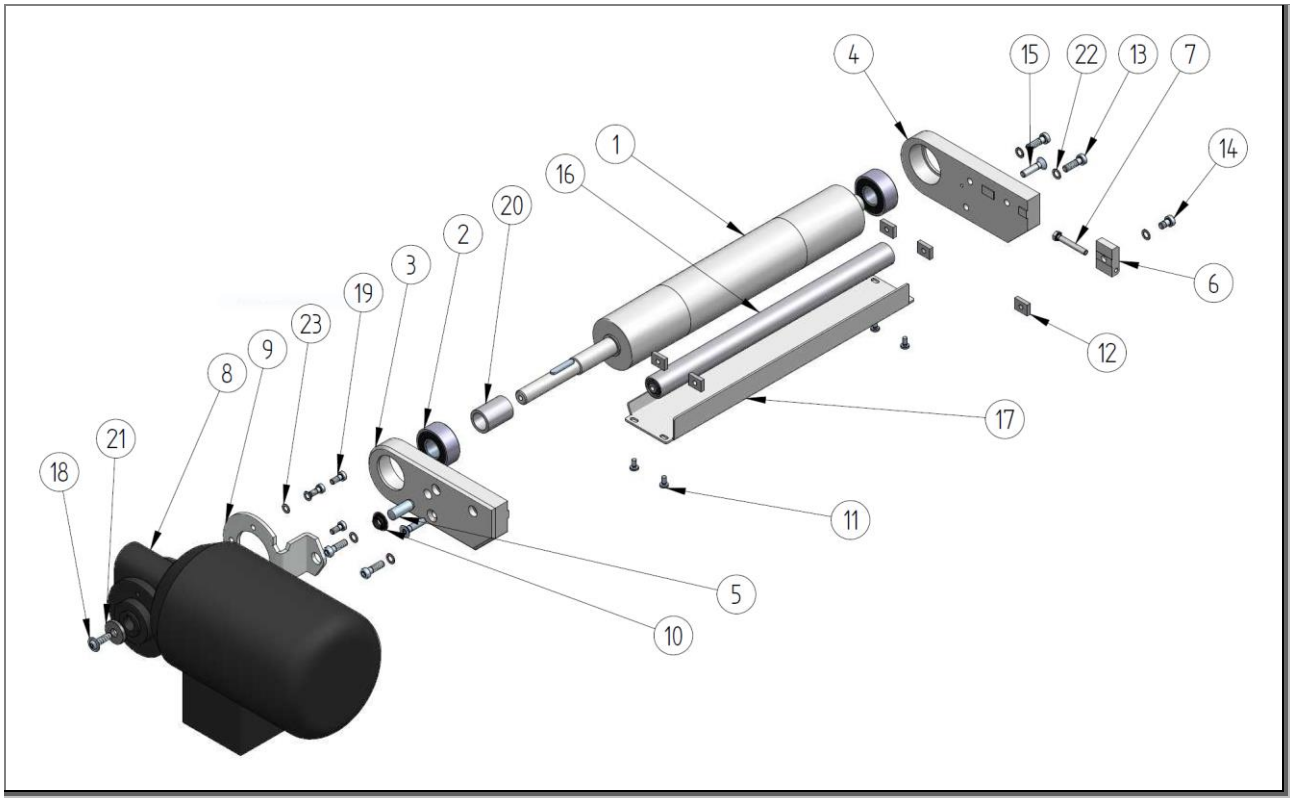


Fig. 81: Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 1234 - ZZ.900.0057

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
2	2	pcs.	Self-aligning ball bearing di = 17, do = 40, w = 16	2203 E-2RS1TN9	1006952	
3	1	pcs.	Drive bracket	F-drive, version: left	1006971	E.990.0105
4	1	pcs.	Drive bracket	F-drive, version: right	1006970	E.990.0106
5	1	pcs.	Cylindrical pin	DIN 6325 - st. 10x26	1004692	
6	1	pcs.	Tensioning element		1006434	E.990.0029
7	1	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
9	1	pcs.	Torque support		1008635	E.800.0922
10	1	pcs.	Slide bearing	GFM-1012-05	1014315	
11	8	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	
12	5	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
13	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x20	1000496	
14	1	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
15	2	pcs.	Countersunk screw	DIN 7991-M6x25	975344	
18	1	pcs.	Oval head screw with flange	ISO 7380-2 - M6 x 20	1011494	
19	3	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M5x12	1003904	

20	1	pcs.	Spacer ring		1005694	E.900.0003
21	1	pcs.	U-washer	DIN 6340 - 8.4	1007036	
22	5	pcs.	Lock washer	Schnorr S6	1000499	
23	3	pcs.	Lock washer	Schnorr S5	1006876	

Tab. 48: Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 1234 – 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drive pulley		Table	Table
8*	1	pcs.	Worm gear motor	SN 3 BFH - 180W/250W - B, Ruhrgetriebe	Table	
16*	1	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
17*	1	pcs.	Access prevention guard	F drive	Table	M.800.0152

Tab. 49: Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 1234 – 2

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [Steel – uncoated] M.910.1002**	**ILF-N [Steel – keyway] M.910.1009**	**ILF-G [Steel– rubberized] M.910.1019**	**ILF-R [Steel– knurled] M.910.1119**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1008216	1009344	1008971	1014264
100	1008217	1009345	1008972	1013671
150	1008218	1009346	1008973	1014129
200	1008219	1009347	1008974	1013977
250	1008220	1009348	1008975	1013576
300	1008221	1009349	1008976	1013515
350	1008222	1009350	1008977	1016679
400	1008223	1009351	1008978	1016680
450	1008224	1009352	1008979	1013714
500	1008225	1009353	1008980	1013523

Tab. 50: Selection: Flange drive unit – drive pulley steel

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [V2A – uncoated] M.910.1002**	**ILF-N [V2A – keyway] M.910.1009**	**ILF-G [V2A– rubberized] M.910.1019**	**ILF-R [V2A– knurled] M.910.1119**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1008642	1016681	1008960	1016691
100	1008643	1016682	1008961	1016692
150	1008644	1016683	1008962	1016693
200	1008645	1016684	1008963	1016694
250	1008646	1016685	1008964	1016695
300	1008647	1016686	1008965	1016696
350	1008648	1016687	1008966	1016697
400	1008649	1016688	1008967	1016698
450	1008650	1016689	1008968	1016699
500	1008651	1016690	1008969	1016700

Tab. 51: Selection: Flange drive unit - drive pulley stainless steel V2A

Pos. 8* selection: Worm gear motor		
Gear ratio i	**180W ID no.**	**250W ID no.**
11 : 1	1008656	1008693
20 : 1	1010397	1012351
24 : 1	1014370	1010227
30 : 1	1016701	1011007
38 : 1	1008682	1008299
75 : 1	1010261	1009252

Tab. 52: Selection: Flange drive unit - motor

Pos. 16* selection: Contraction idler - U.910.0002		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 53: Selection: Flange drive unit – contraction idler

Pos. 17* selection: Access prevention guard - M.800.0152	
Nominal width [mm]	**ID no.**
70	1010418
100	1010419
150	1010420
200	1010421
250	1010422
300	1010423
350	1010424
400	1010425
450	1010426
500	1010427

Tab. 54: Selection: Flange drive unit - access prevention guard

13.4.4 External drive unit (positioned underneath)

13.4.4.1 Parts list: Drive underneath - drive unit/motor unit - position of drive unit 14 - ZZ.900.0147 (90W / 230V) and ZZ.900.0153 (90W / 24V DC)

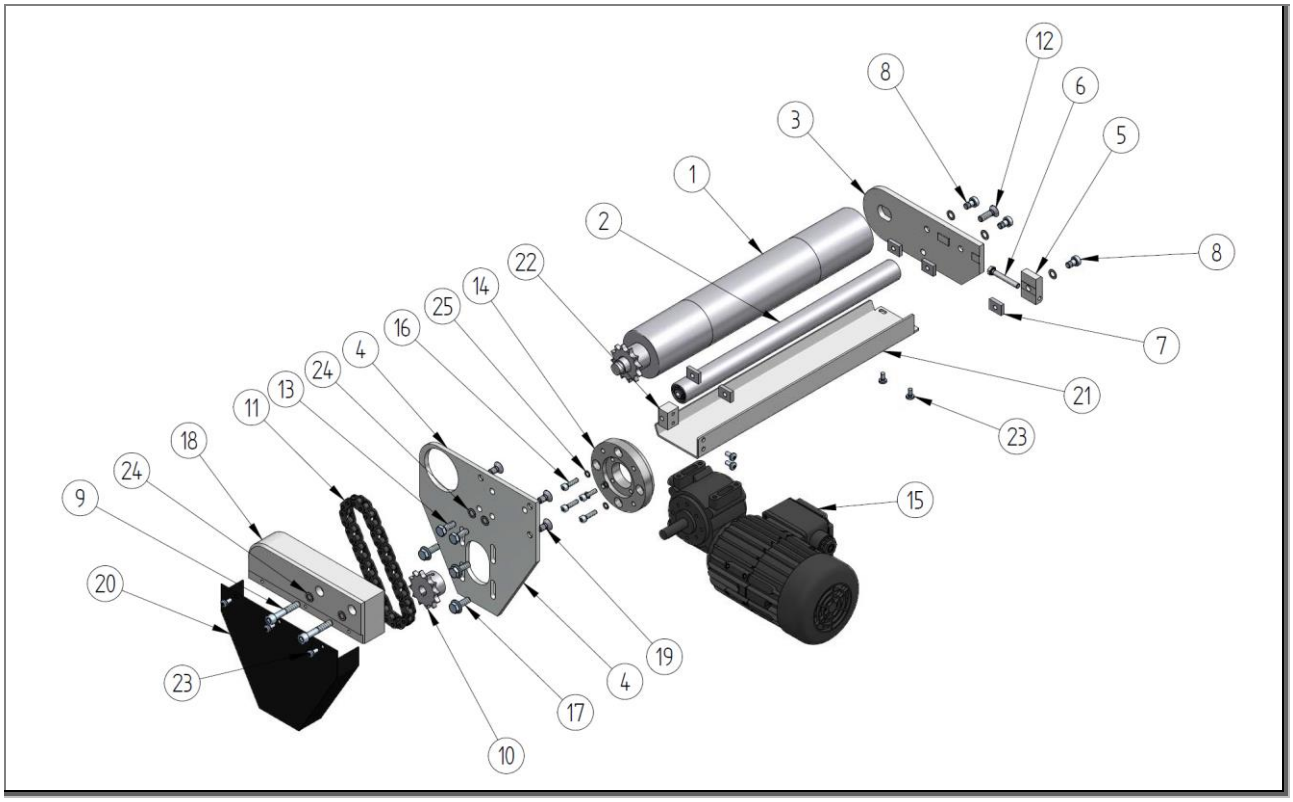


Fig. 82: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 14 - ZZ.900.0147

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
3	1	pcs.	Drive bracket	A-drive, version: Left	1006430	E.990.0026
4	1	pcs.	Motor plate GL-30	A-drive (motor underneath)	1016919	E.990.0706
5	1	pcs.	Tensioning element		1006434	E.990.0029
6	1	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
7	5	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
8	3	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
9	2	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M6x35 ; galvanized	975054	
12	1	pcs.	Countersunk screw	DIN 7991 - M6x20 galv.	1000644	
13	2	pcs.	Hexagon head screw	DIN 933 M6x16	1000716	
14	1	pcs.	Spacing flange		1019538	E.990.0707
16	4	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M4x16	1005797	
17	3	pcs.	Lock screw	Hex. with flange ribs M6 x 16	1014190	
18	1	pcs.	Drive mounting	Version: Left	1006429	E.990.0028
19	3	pcs.	Countersunk screw	DIN 7991-M6x12	1005475	
20	1	pcs.	Chain protection		1003988	T.990.0003

22	1	pcs.	Connection	I-Tech (contraction idler access prevention guard)	1010359	E.800.1029
23	8	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	
24	7	pcs.	Lock washer	Schnorr S6	1000499	
25	4	pcs.	Lock washer	Schnorr S4	1005474	

Tab. 55: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 14 - 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drive pulley		Table	Table
2*	1	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
10*	1	pcs.	Sprocket 3/8x7/32"	With flange	Table	Table
11*	1	pcs.	Drive chain	DIN 8187-06 B-1; 32 links	Table	E.916.0066
15*	1	pcs.	Worm gear motor	SN18So - 90W - A2, Ruhrgetriebe	Table	
21*	1	pcs.	Access prevention guard	A-drive, AP 14	Table	M.800.0141

Tab. 56: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 14 - 2

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILK [Steel – uncoated] U.910.0003**	**ILK-N [Steel – keyway] U.910.0006**	**ILK-G [Steel– rubberized] U.910.0037**	**ILK-R [Steel– knurled] U.910.0027**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1014241	1008938	1016703	1016713
100	1006895	1008939	1016704	1016714
150	1006896	1008940	1016705	1016715
200	1006897	1008941	1016706	1016716
250	1006902	1008942	1016707	1013969
300	1006903	1008943	1016708	1013251
350	1006904	1008944	1016709	1016717
400	1007336	1008945	1016710	1013526
450	1007337	1008946	1016711	1016718
500	1007338	1008947	1016712	1016719

Tab. 57: Selection: Flange drive unit – drive pulley steel

Pos. 1* selection: Drive pulley				
Nominal width [mm]	ILK [V2A – uncoated] U.910.0003	ILK-N [V2A – keyway] U.910.0006	ILK-G [V2A– rubberized] U.910.0037	ILK-R [V2A– knurled] U.910.0027
	ID no.	ID no.	ID no.	ID no.
70	1016720	1016731	1016742	1016753
100	1016721	1016732	1016744	1016754
150	1016722	1016733	1016745	1016755
200	1016723	1016734	1016746	1016756
250	1016725	1016735	1016747	1016757
300	1016726	1016736	1016748	1016758
350	1016727	1016737	1016749	1016759
400	1016728	1016738	1016750	1016760
450	1016729	1016739	1016751	1016761
500	1016730	1016740	1016752	1016762

Tab. 58: Selection: Flange drive unit - drive pulley stainless steel V2A

Pos. 2* selection: Contraction idler - U.910.0002		
Nominal width [mm]	IL [steel]	IL [V2A]
	ID no.	ID no.
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 59: Selection: Drive underneath – contraction idler

Pos. 10*/ Pos. 11* selection: Chain drive					
Gear ratio i	Sprocket pos. 10			Roller chain pos. 11	
	Number of teeth Z	ID no.	Drawing no.	Number of teeth (including locking link)	ID no.
1 : 1	12	1005699	E.916.0044	32	1011575
1 : 2	24	1005698	E.916.0048	40	1013214

Tab. 60: Selection: Drive underneath - drive pulley

Pos. 15* selection: Worm gear motor		
Gear ratio i	230V ID no.	24V DC ID no.
25:1 (230V) / 24:1 (24V)	1012304	1016768
38 : 1	1012289	1016769
50 : 1	1012297	1016770
75 : 1	1012283	1016771
100 : 1	1012291	1016772

Tab. 61: Selection: Drive underneath – motor

Pos. 21* selection: Access prevention guard - M.800.0141	
Nominal width [mm]	**ID no.**
70	1010428
100	1010429
150	1010430
200	1010431
250	1010432
300	1010433
350	1010434
400	1010435
450	1010436
500	1010437

Tab. 62: Selection: Drive underneath – access prevention guard

13.4.4.2 Parts list: Drive underneath – drive unit/motor unit - position of drive unit 14 - ZZ.900.0062 (180W / 250W)

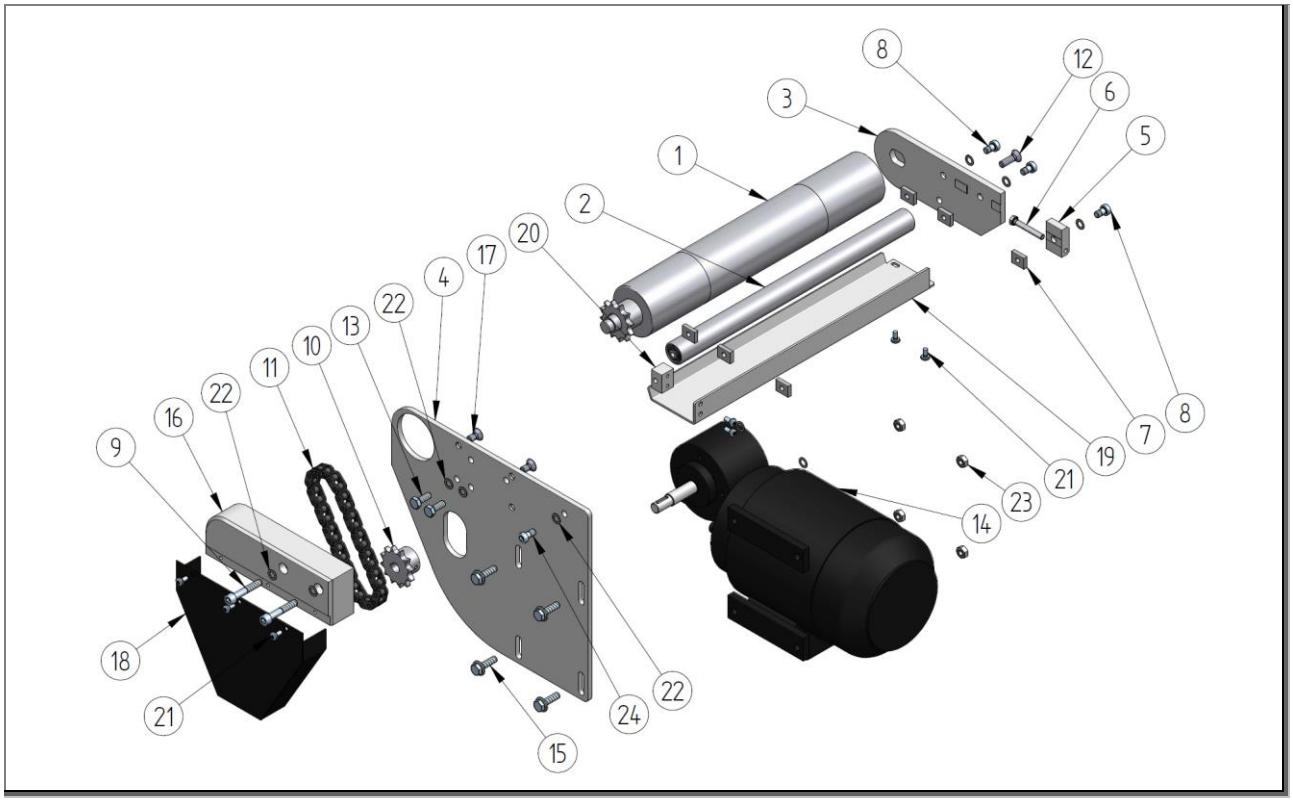


Fig. 83: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 14 - ZZ.900.0062

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
3	1	pcs.	Drive bracket	A-drive, version: Left	1006430	E.990.0026
4	1	pcs.	Motor plate	A-drive, Ruhrgetriebe P=180/250W left	1009794	E.990.0182
5	1	pcs.	Tensioning element		1006434	E.990.0029
6	1	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
7	6	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
8	3	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
9	2	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M6x35 ; galvanized	975054	
12	1	pcs.	Countersunk screw	DIN 7991 - M6x20 galv.	1000644	
13	2	pcs.	Hexagon head screw	DIN 933 M6x16	1000716	
15	4	pcs.	Lock screw	Hex. with flange ribs M6 x 20		
16	1	pcs.	Drive mounting	Version: Left	1006429	E.990.0028
17	3	pcs.	Countersunk screw	DIN 7991-M6x12	1005475	
18	1	pcs.	Chain protection		1003988	T.990.0003
20	1	pcs.	Connection	I-Tech (contraction idler access prevention guard)	1010359	E.800.1029

21	8	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	
22	12	pcs.	Lock washer	Schnorr S6	1000499	
23	4	pcs.	Hexagon nut	DIN 934 - M6	975107	
24	1	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x12 galvanized	1005472	

Tab. 63: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 14 - 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drive pulley		Table	Table
2*	1	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
10*	1	pcs.	Sprocket 3/8x7/32"	With flange	Table	Table
11*	1	pcs.	Drive chain	DIN 8187-06 B-1; 32 links	Table	E.916.0066
14*	1	pcs.	Worm gear motor	SN3BSo - 180W/250W - A2, Ruhrgetriebe	Table	E.898.0042
19*	1	pcs.	Access prevention guard	A-drive, AP 14	Table	M.800.0141

Tab. 64: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 14 - 2

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILK [Steel – uncoated] U.910.0003**	**ILK-N [Steel – keyway] U.910.0006**	**ILK-G [Steel– rubberized] U.910.0037**	**ILK-R [Steel– knurled] U.910.0027**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1014241	1008938	1016703	1016713
100	1006895	1008939	1016704	1016714
150	1006896	1008940	1016705	1016715
200	1006897	1008941	1016706	1016716
250	1006902	1008942	1016707	1013969
300	1006903	1008943	1016708	1013251
350	1006904	1008944	1016709	1016717
400	1007336	1008945	1016710	1013526
450	1007337	1008946	1016711	1016718
500	1007338	1008947	1016712	1016719

Tab. 65: Selection: Flange drive unit – drive pulley steel

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILK [V2A – uncoated] U.910.0003**	**ILK-N [V2A – keyway] U.910.0006**	**ILK-G [V2A– rubberized] U.910.0037**	**ILK-R [V2A– knurled] U.910.0027**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1016720	1016731	1016742	1016753
100	1016721	1016732	1016744	1016754
150	1016722	1016733	1016745	1016755
200	1016723	1016734	1016746	1016756
250	1016725	1016735	1016747	1016757
300	1016726	1016736	1016748	1016758
350	1016727	1016737	1016749	1016759
400	1016728	1016738	1016750	1016760
450	1016729	1016739	1016751	1016761
500	1016730	1016740	1016752	1016762

Tab. 66: Selection: Flange drive unit - drive pulley stainless steel V2A

Pos. 2* selection: Contraction idler - U.910.0002		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 67: Selection: Drive underneath – contraction idler

Pos. 10*/ Pos. 11* selection: Chain drive					
Gear ratio i	**Sprocket pos. 10**			**Roller chain pos. 11**	
	Number of teeth Z	**ID no.**	**Drawing no.**	**Number of teeth (including locking link)**	**ID no.**
1 : 1	12	1005699	E.916.0044	32	1011575
1 : 2	24	1005698	E.916.0048	40	1013214

Tab. 68: Selection: Drive underneath - drive pulley

Pos. 14* selection: Worm gear motor		
Gear ratio i	**180W ID no.**	**250W ID no.**
11 : 1	1016925	1014584
20 : 1	1016923	1016921
24 : 1	1013682	1016794
30 : 1	1016924	1016922
38 : 1	1016791	1016795
75 : 1	1016793	1016797

Tab. 69: Selection: Drive underneath – motor

Pos. 19* selection: Access prevention guard - M.800.0141	
Nominal width [mm]	**ID no.**
70	1010428
100	1010429
150	1010430
200	1010431
250	1010432
300	1010433
350	1010434
400	1010435
450	1010436
500	1010437

Tab. 70: Selection: Drive underneath – access prevention guard

13.4.4.3 Parts list: Drive underneath - drive unit/motor unit - position of drive unit 23 - ZZ.900.0160 (90W / 230V) and ZZ.900.0159 (90W / 24V DC)

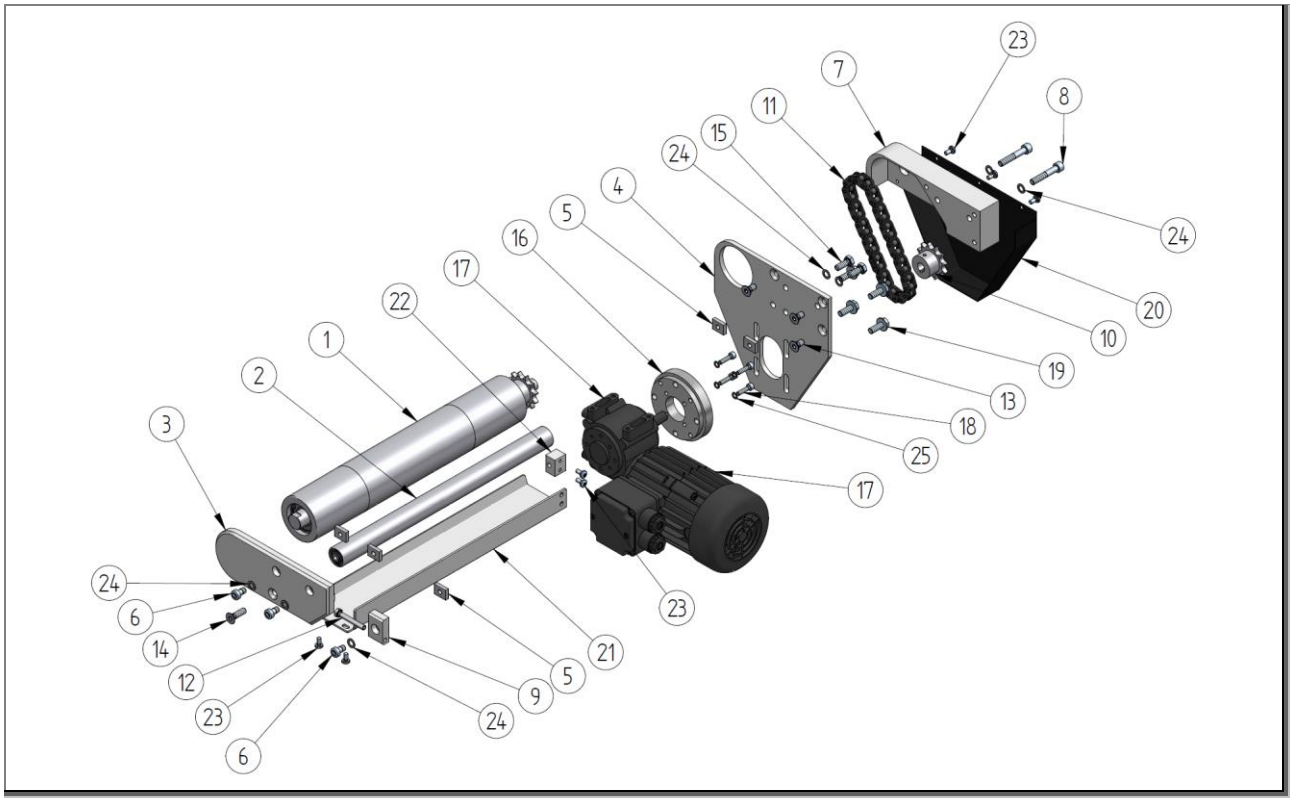


Fig. 84: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 23 - ZZ.900.0160

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
3	1	pcs.	Drive bracket	A-drive, version right	1006740	E.990.0026
4	1	pcs.	Motor plate GL-30	A-drive (motor underneath)	1016919	E.990.0706
5	5	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
6	3	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
7	1	pcs.	Drive mounting	Version RIGHT	1006739	E.990.0028
8	2	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M6x35 ; galvanized	975054	
9	1	pcs.	Tensioning element		1006434	E.990.0029
12	1	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
13	3	pcs.	Countersunk screw	DIN 7991-M6x12	1005475	
14	1	pcs.	Countersunk screw	DIN 7991 - M6x20 galv.	1000644	
15	2	pcs.	Hexagon head screw	DIN 933 M6x16	1000716	
16	1	pcs.	Spacing flange		1019538	E.990.0707
18	4	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M4x16	1005797	
19	3	pcs.	Lock screw	Hex. with flange ribs M6 x 16	1014190	
20	1	pcs.	Chain protection		1003988	T.990.0003

22	1	pcs.	Connection	I-Tech (contraction idler access prevention guard)	1010359	E.800.1029
23	7	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	
24	7	pcs.	Lock washer	Schnorr S6	1000499	
25	4	pcs.	Lock washer	Schnorr S4	1005474	

Tab. 71: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 23 - 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drive pulley		Table	Table
2*	1	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
10*	1	pcs.	Sprocket 3/8x7/32"	With flange	Table	Table
11*	1	pcs.	Drive chain	DIN 8187-06 B-1; 32 links	Table	E.916.0066
17*	1	pcs.	Worm gear motor	SN18So - 90W - C1, Ruhrgetriebe	Table	
21*	1	pcs.	Access prevention guard	A-drive, AP 23		M.800.0255

Tab. 72: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 23 - 2

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [Steel – uncoated] U.910.0003**	**ILF-N [Steel – keyway] U.910.0006**	**ILF-G [Steel– rubberized] U.910.0037**	**ILF-R [Steel– knurled] U.910.0027**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1014241	1008938	1016703	1016713
100	1006895	1008939	1016704	1016714
150	1006896	1008940	1016705	1016715
200	1006897	1008941	1016706	1016716
250	1006902	1008942	1016707	1013969
300	1006903	1008943	1016708	1013251
350	1006904	1008944	1016709	1016717
400	1007336	1008945	1016710	1013526
450	1007337	1008946	1016711	1016718
500	1007338	1008947	1016712	1016719

Tab. 73: Selection: Flange drive unit – drive pulley steel

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [V2A – uncoated] U.910.0003**	**ILF-N [V2A – keyway] U.910.0006**	**ILF-G [V2A– rubberized] U.910.0037**	**ILF-R [V2A– knurled] U.910.0027**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1016720	1016731	1016742	1016753
100	1016721	1016732	1016744	1016754
150	1016722	1016733	1016745	1016755
200	1016723	1016734	1016746	1016756
250	1016725	1016735	1016747	1016757
300	1016726	1016736	1016748	1016758
350	1016727	1016737	1016749	1016759
400	1016728	1016738	1016750	1016760
450	1016729	1016739	1016751	1016761
500	1016730	1016740	1016752	1016762

Tab. 74: Selection: Flange drive unit - drive pulley stainless steel V2A

Pos. 2* selection: Contraction idler - U.910.0002		
Nominal width [mm]	IL [steel] ID no.	IL [V2A] ID no.
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 75: Selection: Drive underneath – contraction idler

Pos. 10*/ Pos. 11* selection: Chain drive					
Gear ratio i	Sprocket pos. 10			Roller chain pos. 11	
	Number of teeth Z	ID no.	Drawing no.	Number of teeth (including locking link)	ID no.
1 : 1	12	1005699	E.916.0044	32	1011575
1 : 2	24	1005698	E.916.0048	40	1013214

Tab. 76: Selection: Drive underneath - drive pulley

Pos. 17* selection: Worm gear motor		
Gear ratio i	230V ID no.	24V DC ID no.
25 : 1	1012305	
38 : 1	1012290	
50 : 1	1012298	
75 : 1	1012286	
100 : 1	1012292	

Tab. 77: Selection: Drive underneath – motor

Pos. 21* selection: Access prevention guard - M.800.0255	
Nominal width [mm]	ID no.
70	1016774
100	1016777
150	1016779
200	1016780
250	1016781
300	1016782
350	1016784
400	1016785
450	1016786
500	1016788

Tab. 78: Selection: Drive underneath – access prevention guard

13.4.4.4 Parts list: Drive underneath – drive unit/motor unit - position of drive unit 23 - ZZ.900.0183 (180W / 250W)

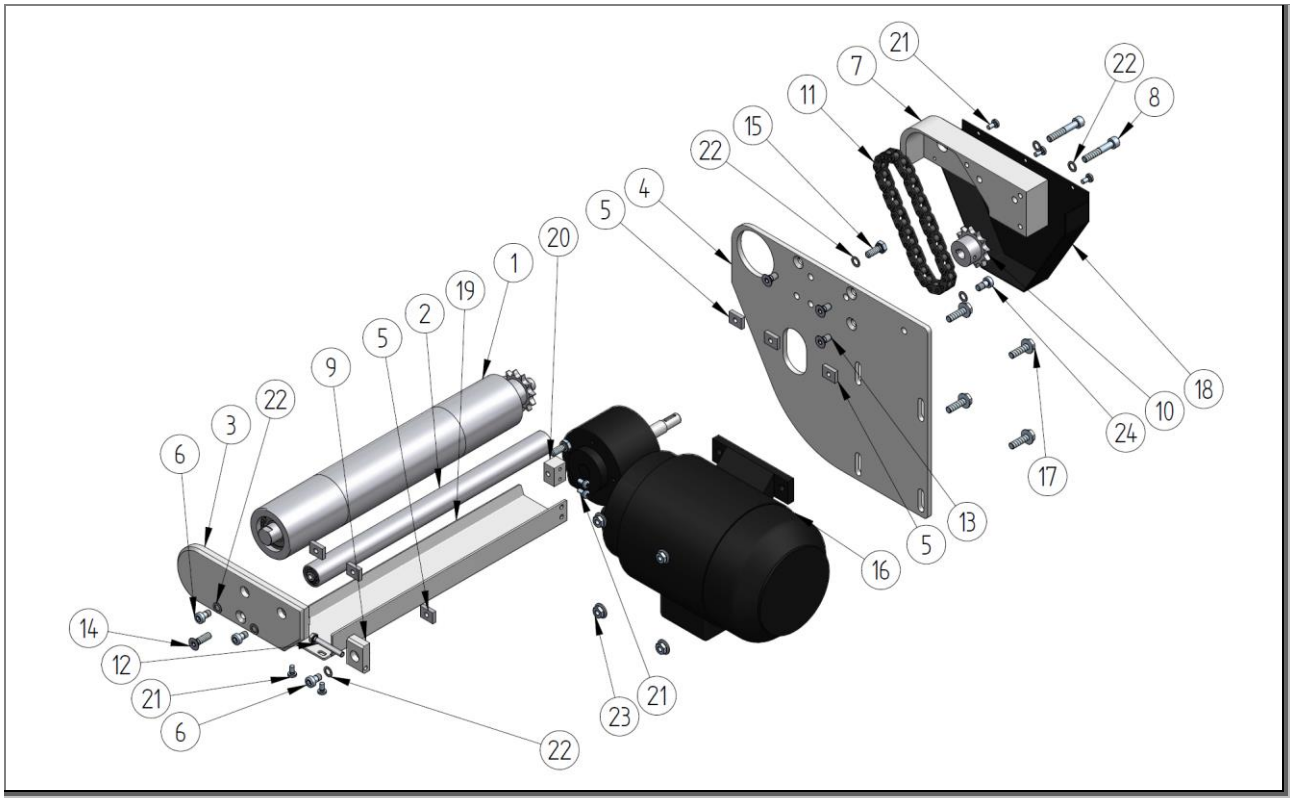


Fig. 85: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 23 - ZZ.900.0183

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
3	1	pcs.	Drive bracket	A-drive, right	1006740	E.990.0026
4	1	pcs.	Motor plate	A-drive, Ruhrgetriebe P=180/250W, right	1009794	E.990.0182
5	6	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
6	3	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
7	1	pcs.	Drive mounting	Version RIGHT	1006739	E.990.0028
8	2	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M6x35 ; galvanized	975054	
9	1	pcs.	Tensioning element		1006434	E.990.0029
12	1	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
13	3	pcs.	Countersunk screw	DIN 7991-M6x12	1005475	
14	1	pcs.	Countersunk screw	DIN 7991 - M6x20 galv.	1000644	
15	2	pcs.	Hexagon head screw	DIN 933 M6x16	1000716	
17	4	pcs.	Lock screw	Hex. with flange ribs M6 x 20		
18	1	pcs.	Chain protection		1003988	T.990.0003
20	1	pcs.	Connection	I-Tech (for access prevention guard)	1010359	E.800.1029

21	7	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	
22	8	pcs.	Lock washer	Schnorr S6	1000499	
23	4	pcs.	Lock nut	Hex. with flange ribs M6		
24	1	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x12 galvanized	1005472	

Tab. 79: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 23 - 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drive pulley		Table	Table
2*	1	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
10*	1	pcs.	Sprocket 3/8x7/32"	With flange	Table	Table
11*	1	pcs.	Drive chain	DIN 8187-06 B-1; 32 links	Table	E.916.0066
16*	1	pcs.	Worm gear motor	SN3BSo - 180W/250W - C1, Ruhrgetriebe	Table	E.898.0055
19*	1	pcs.	Access prevention guard	A-drive, AP 23	Table	M.800.0255

Tab. 80: Parts list: Drive underneath – drive unit/motor unit - position of drive unit 23 - 2

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILK [Steel – uncoated] M.910.1077**	**ILK-N [Steel – keyway] M.910.1080**	**ILK-G [Steel– rubberized] M.910.1142**	**ILK-R [Steel– knurled] M.910.1084**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1014241	1008938	1016703	1016713
100	1006895	1008939	1016704	1016714
150	1006896	1008940	1016705	1016715
200	1006897	1008941	1016706	1016716
250	1006902	1008942	1016707	1013969
300	1006903	1008943	1016708	1013251
350	1006904	1008944	1016709	1016717
400	1007336	1008945	1016710	1013526
450	1007337	1008946	1016711	1016718
500	1007338	1008947	1016712	1016719

Tab. 81: Selection: Flange drive unit – drive pulley steel

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILK [V2A – uncoated] M.910.1077**	**ILK-N [V2A – keyway] M.910.1080**	**ILK-G [V2A– rubberized] M.910.1142**	**ILK-R [V2A– knurled] M.910.1084**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1016720	1016731	1016742	1016753
100	1016721	1016732	1016744	1016754
150	1016722	1016733	1016745	1016755
200	1016723	1016734	1016746	1016756
250	1016725	1016735	1016747	1016757
300	1016726	1016736	1016748	1016758
350	1016727	1016737	1016749	1016759
400	1016728	1016738	1016750	1016760
450	1016729	1016739	1016751	1016761
500	1016730	1016740	1016752	1016762

Tab. 82: Selection: Flange drive unit - drive pulley stainless steel V2A

Pos. 2* selection: Contraction idler - U.910.0002		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 83: Selection: Drive underneath – contraction idler

Pos. 10*/ Pos. 11* selection: Chain drive					
Gear ratio i	**Sprocket pos. 10**			**Roller chain pos. 11**	
	Number of teeth Z	**ID no.**	**Drawing no.**	**Number of teeth (including locking link)**	**ID no.**
1 : 1	12	1005699	E.916.0044	32	1011575
1 : 2	24	1005698	E.916.0048	40	1013214

Tab. 84: Selection: Drive underneath - drive pulley

Pos. 16* selection: Worm gear motor		
Gear ratio i	**180W ID no.**	**250W ID no.**
24 : 1	1016790	1016794
38 : 1	1016791	1016795
50 : 1	1016792	1016796
75 : 1	1016793	1016797

Tab. 85: Selection: Drive underneath – motor

Pos. 19* selection: Access prevention guard - M.800.0255	
Nominal width [mm]	**ID no.**
70	1016774
100	1016777
150	1016779
200	1016780
250	1016781
300	1016782
350	1016784
400	1016785
450	1016786
500	1016788

Tab. 86: Selection: Drive underneath – access prevention guard

13.4.5 Central drive unit with flange-mounted motor

13.4.5.1 Parts list: Central motor flange drive unit - drive unit/motor unit - position of drive unit 56 - ZZ.900.0161 (90W / 230V) and ZZ.900.0184 (90W / 24V DC)

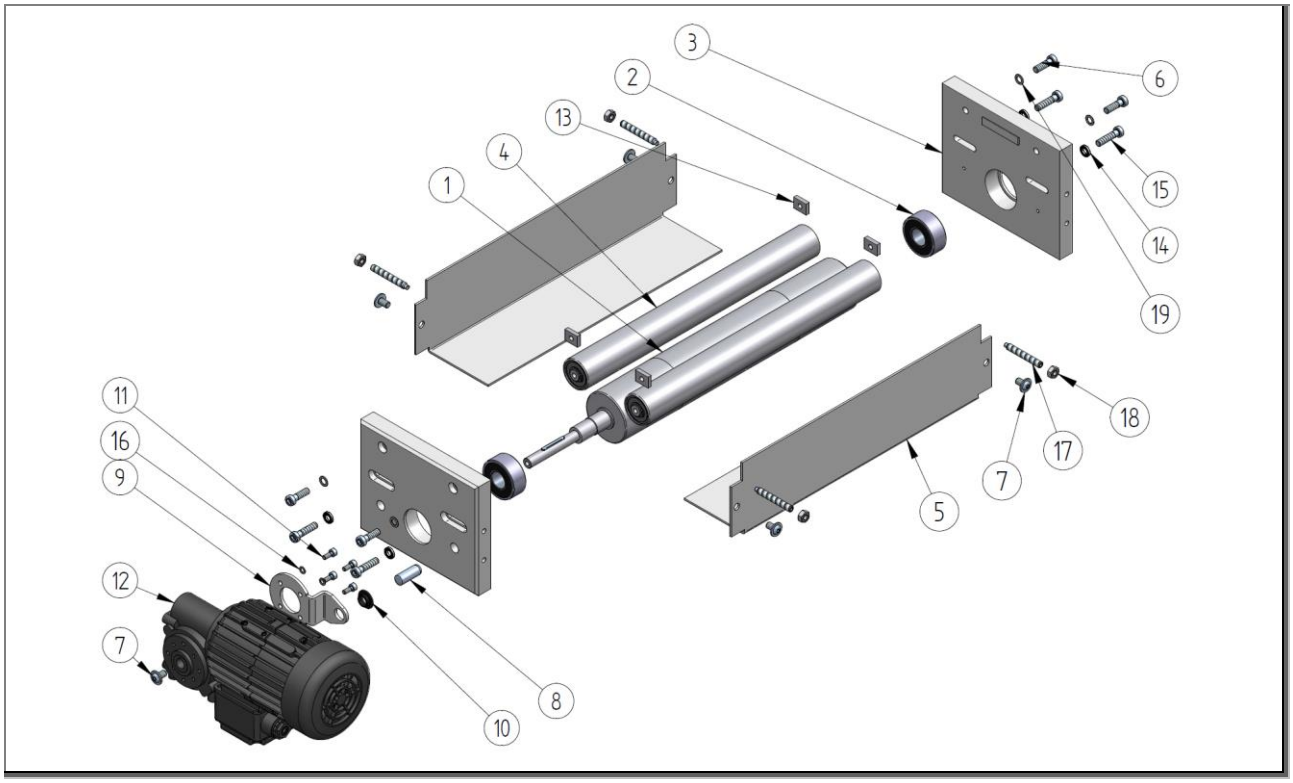


Fig. 86: Parts list: Flange drive unit - drive unit/motor unit - position of drive unit 56 - ZZ.900.0161

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
2	2	pcs.	Self-aligning ball bearing di = 17, do = 40, w = 16	2203 E-2RS1TN9	1006952	
3	2	pcs.	Drive bracket	MF drive	1007182	E.800.0870
6	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x20	1000496	
7	5	pcs.	Oval head screw with flange	ISO 7380-2 - M6 x 10	1010810	
8	1	pcs.	Cylindrical pin	DIN 6325 - st. 10x26	1004692	
9	1	pcs.	Torque support		1012185	E.990.0417
10	1	pcs.	Slide bearing	GFM-1012-05	1014315	
11	4	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M4x10	1008368	
13	4	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
14	4	pcs.	Lock washer	with ribs 6.4-small-ST	1014189	
15	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x25	1014225	
16	4	pcs.	Lock washer	Schnorr S4	1005474	
17	4	pcs.	Grub screw	DIN 915 - ISO 4028 - M6x45	1015662	
18	4	pcs.	Hexagon nut	DIN 934 - M6	975107	
19	4	pcs.	Lock washer	Schnorr S6	1000499	

Tab. 87: Parts list: Central motor flange drive unit - drive unit/motor unit - position of drive unit 56 – 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drive pulley		Table	Table
4*	2	pcs.	Contraction idler KF-32	IL32-300	Table	U.910.0009
5*	2	pcs.	Access prevention guard	MF drive	Table	M.800.0132
12*	1	pcs.	Worm gear motor	SN18HSo - 90W - B, Ruhrgetriebe	Table	

Tab. 88: Parts list: Central motor flange drive unit - drive unit/motor unit - position of drive unit 56 – 2

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [Steel – uncoated] M.910.1077**	**ILF-N [Steel – keyway] M.910.1080**	**ILF-G [Steel– rubberized] M.910.1142**	**ILF-R [Steel– knurled] M.910.1084**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1012245	1012245	1012245	1014622
100	1012246	1012246	1012246	1013674
150	1012183	1012183	1012183	1014568
200	1012247	1012247	1012247	1014238
250	1012248	1012248	1012248	1016633
300	1012249	1012249	1012249	1013250
350	1012250	1012250	1012250	1016634
400	1012251	1012251	1012251	1014673
450	1012252	1012252	1012252	1013716
500	1012253	1012253	1012253	1016635

Tab. 89: Selection: Flange drive unit – drive pulley steel

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [V2A – uncoated] M.910.1077**	**ILF-N [V2A – keyway] M.910.1080**	**ILF-G [V2A– rubberized] M.910.1142**	**ILF-R [V2A– knurled] M.910.1084**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1016638	1016648	1016657	1016667
100	1016639	1016649	1016658	1014021
150	1016640	1016650	1016659	1016668
200	1016641	1016651	1016660	1016669
250	1015103	1016652	1016661	1016670
300	1014308	1016653	1016662	1016671
350	1016644	1016654	1016663	1016672
400	1016645	1016655	1016664	1016673
450	1016646	1013439	1016665	1015404
500	1016647	1016656	1016666	1016674

Tab. 90: Selection: Flange drive unit - drive pulley stainless steel V2A

Pos. 4* selection: Contraction idler - U.910.0009		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1008653	1008657
100	1008654	1008658
150	1007702	1008659
200	1007703	1008660
250	1007293	1008661
300	1007704	1008662
350	1007646	1008663
400	1007706	1008664
450	1007707	1008665
500	1007708	1008666

Tab. 91: Selection: Central motor flange drive unit - contraction idler

Pos. 5* selection: Access prevention guard - M.800.0152	
Nominal width [mm]	**ID no.**
70	1010418
100	1010419
150	1010420
200	1010421
250	1010422
300	1010423
350	1010424
400	1010425
450	1010426
500	1010427

Tab. . 92: Selection: Central motor flange drive unit - access prevention guard

Pos. 12* selection: Worm gear motor		
Gear ratio i	**230V ID no.**	**24V DC ID no.**
25 : 1	1012303	1016675
38 : 1	1012282	1016676
50 : 1	1012293	1016677
75 : 1	1012216	1012470
100 : 1	1012296	1016678

Tab. 93: Selection: Central motor flange drive unit - motor

13.4.5.2 Parts list: Central motor flange drive unit - drive unit/motor unit - position of drive unit 56 - ZZ.900.0064 (180W / 250W)

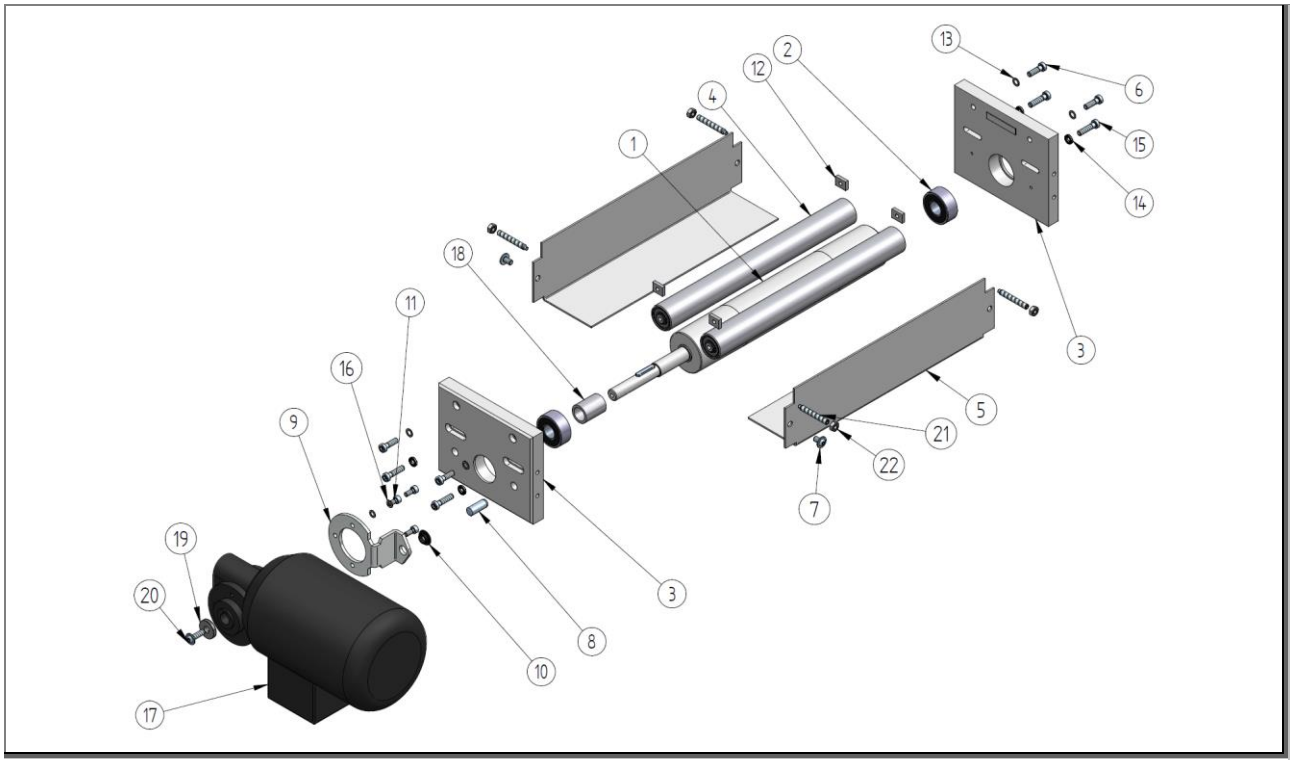


Fig. 87: Parts list: Central motor flange drive unit - drive unit/motor unit - position of drive unit 56 - ZZ.900.0064

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
2	2	pcs.	Self-aligning ball bearing di = 17, do = 40, w = 16	2203 E-2RS1TN9	1006952	
3	2	pcs.	Drive bracket	MF drive	1007182	E.800.0870
6	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x20	1000496	
7	4	pcs.	Oval head screw with flange	ISO 7380-2 - M6 x 10	1010810	
8	1	pcs.	Cylindrical pin	DIN 6325 - st. 10x26	1004692	
9	1	pcs.	Torque support		1008635	E.800.0922
10	1	pcs.	Slide bearing	GFM-1012-05	1014315	
11	3	pcs.	Hexagon socket head cap screw with low head	DIN 912 - M5x12	1009272	
12	4	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
13	4	pcs.	Lock washer	Schnorr S6	1000499	
14	4	pcs.	Lock washer	with ribs 6.4-small-ST	1014189	
15	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x25	1014225	
16	3	pcs.	Lock washer	Schnorr S5	1006876	
18	1	pcs.	Spacer ring		1005694	E.900.0003

19	1	pcs.	U-washer	DIN 6340 - 8.4	1007036	
20	1	pcs.	Oval head screw with flange	ISO 7380-2 - M6 x 20	1011494	
21	4	pcs.	Grub screw	DIN 915 - ISO 4028 - M6x45	1015662	
22	4	pcs.	Hexagon nut	DIN 934 - M6	975107	

Tab. 94: Parts list: Central motor flange drive unit - drive unit/motor unit - position of drive unit 56 – 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drive pulley		Table	Table
4*	2	pcs.	Contraction idler KF-32	IL32-300	Table	U.910.0009
5*	2	pcs.	Access prevention guard	MF drive	Table	M.800.0132
17*	1	pcs.	Worm gear motor	SN 3 BFH - 180W/250W - B, Ruhrgetriebe	Table	

Tab. 95: Parts list: Central motor flange drive unit - drive unit/motor unit - position of drive unit 56 - 2

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [Steel – uncoated] M.910.1002**	**ILF-N [Steel – keyway] M.910.1009**	**ILF-G [Steel– rubberized] M.910.1019**	**ILF-R [Steel– knurled] M.910.1119**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1008216	1009344	1008971	1014264
100	1008217	1009345	1008972	1013671
150	1008218	1009346	1008973	1014129
200	1008219	1009347	1008974	1013977
250	1008220	1009348	1008975	1013576
300	1008221	1009349	1008976	1013515
350	1008222	1009350	1008977	1016679
400	1008223	1009351	1008978	1016680
450	1008224	1009352	1008979	1013714
500	1008225	1009353	1008980	1013523

Tab. 96: Selection: Flange drive unit – drive pulley steel

Pos. 1* selection: Drive pulley				
Nominal width [mm]	**ILF [V2A – uncoated] M.910.1002**	**ILF-N [V2A – keyway] M.910.1009**	**ILF-G [V2A– rubberized] M.910.1019**	**ILF-R [V2A– knurled] M.910.1119**
	ID no.	**ID no.**	**ID no.**	**ID no.**
70	1008642	1016681	1008960	1016691
100	1008643	1016682	1008961	1016692
150	1008644	1016683	1008962	1016693
200	1008645	1016684	1008963	1016694
250	1008646	1016685	1008964	1016695
300	1008647	1016686	1008965	1016696
350	1008648	1016687	1008966	1016697
400	1008649	1016688	1008967	1016698
450	1008650	1016689	1008968	1016699
500	1008651	1016690	1008969	1016700

Tab. 97: Selection: Flange drive unit - drive pulley stainless steel V2A

Pos. 4* selection: Contraction idler - U.910.0009		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1008653	1008657
100	1008654	1008658
150	1007702	1008659
200	1007703	1008660
250	1007293	1008661
300	1007704	1008662
350	1007646	1008663
400	1007706	1008664
450	1007707	1008665
500	1007708	1008666

Tab. 98: Selection: Central motor flange drive unit - contraction idler

Pos. 5* selection: Access prevention guard - M.800.0152	
Nominal width [mm]	**ID no.**
70	1010418
100	1010419
150	1010420
200	1010421
250	1010422
300	1010423
350	1010424
400	1010425
450	1010426
500	1010427

Tab. . 99: Selection: Central motor flange drive unit - access prevention guard

Pos. 17* selection: Worm gear motor		
Gear ratio i	**180W ID no.**	**250W ID no.**
11 : 1	1008656	1008693
20 : 1	1010397	1012351
24 : 1	1014370	1010227
30 : 1	1016701	1011007
38 : 1	1008682	1008299
75 : 1	1010261	1009252

Tab. 100: Selection: Flange drive unit - motor

13.4.6 Drum motor

13.4.6.1 Parts list: Drum motor - drive unit/motor unit - position of drive unit 1234 - ZZ.900.163

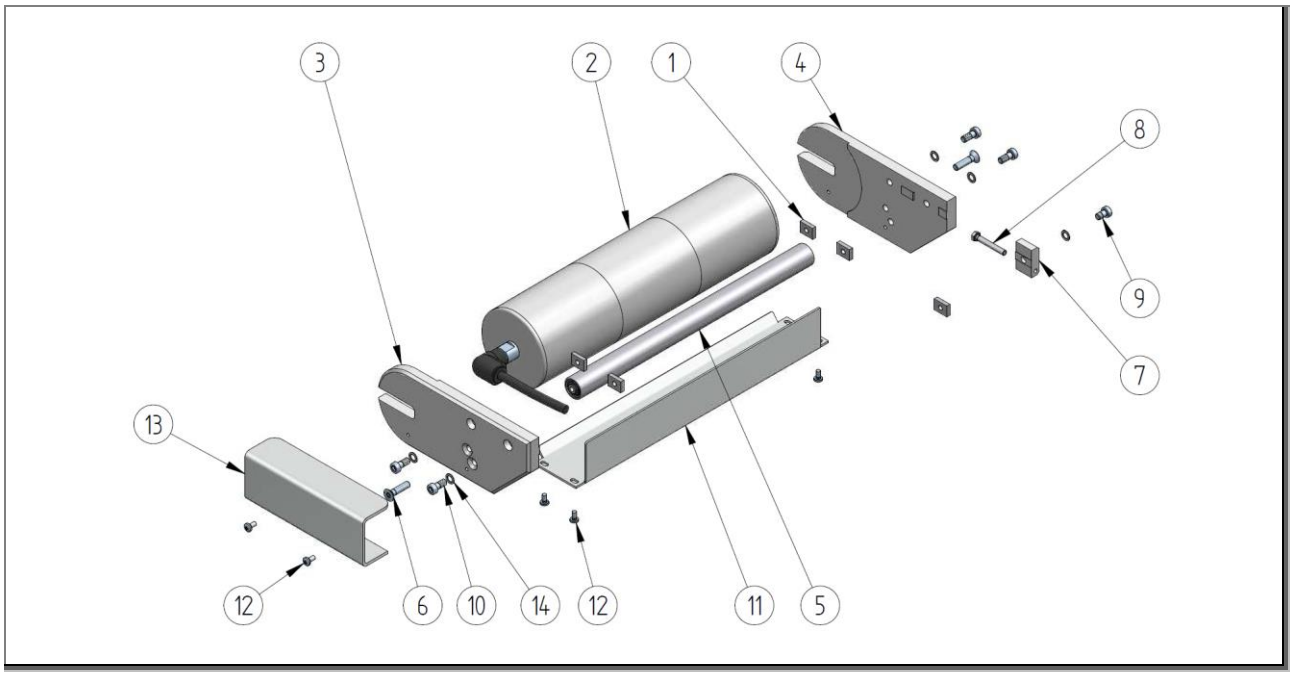


Fig. 88: Parts list: Drum motor - drive unit/motor unit - position of drive unit 1234 - ZZ.900.163

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	5	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
3	1	Pieces	Drive bracket	T-drive, version: left	1007792	E.990.0142
4	1	Pieces	Drive bracket	T-drive, version: right	1007793	E.990.0143
6	2	pcs.	Countersunk screw	DIN 7991-M6x25	975344	
7	1	pcs.	Tensioning element		1006434	E.990.0029
8	1	pcs.	Hexagon head screw	ISO 4017 - M5x35	1005895	
9	1	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x10	1005748	
10	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x16 galvanized	1000494	
12	6	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	
14	5	pcs.	Lock washer	Schnorr S6	1000499	

Tab. 101: Parts list: Drum motor - drive unit/motor unit - position of drive unit 1234 - 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
2*	1	pcs.	Drum motor DM 0080 spherical		On request	
5*	1	pcs.	Contraction idler KF-22	IL22	Table	U.910.0002
11*	1	pcs.	Cover plate (drum motor)	I-Tech (contraction idler access prevention guard)	Table	M.800.0155
13*	1	pcs.	Protective plate	Drum motor I-Tech	Table	E.800.1262

Tab. 102: Parts list: Drum motor - drive unit/motor unit - position of drive unit 1234 - 2

Pos. 5* selection: Contraction idler - U.910.0002		
Nominal width [mm]	**IL [steel]**	**IL [V2A]**
	ID no.	**ID no.**
70	1007899	1008669
100	1006901	1008670
150	1006910	1008671
200	1006909	1008672
250	1006911	1008673
300	1006912	1008674
350	1006913	1008675
400	1007342	1008676
450	1007343	1008677
500	1007129	1007172

Tab. 103: Selection: Drum motor - contraction idler

Pos. 11* selection: Access prevention guard - M.800.0155	
Nominal width [mm]	**ID no.**
70	1010408
100	1010409
150	1010410
200	1010411
250	1010412
300	1010413
350	1010414
400	1010415
450	1010416
500	1010417

Tab. . 104: Selection: Drum motor - access prevention guard

Pos. 13* selection: Access prevention guard - E.800.1262	
Position of drive unit	**ID no.**
14	1012660
23	1012661

Tab. . 105: Selection: Drum motor - access prevention guard

13.4.6.2 Parts list: Central motor drum motor - drive unit/motor unit - position of drive unit 56 - ZZ.900.0186 (90W / 230V)

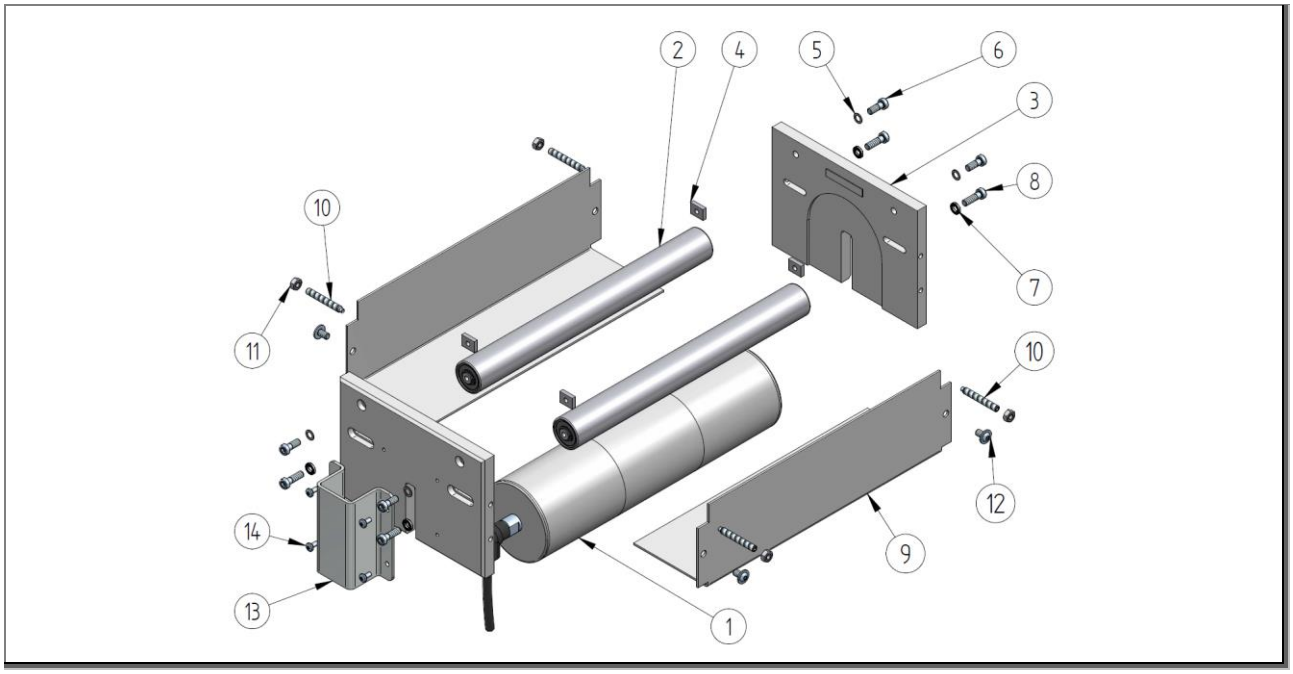


Fig. 89: Parts list: Central motor drum motor - drive unit/motor unit - position of drive unit 56 - ZZ.900.0186

Parts list: Independent from technical data						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
3	2	pcs.	Locating plate	Drum motor - central drive unit - I-Tech	1012495	E.902.0004
4	4	pcs.	Square nut	M6, AF16x12x4	1009473	E.975.0057
5	4	pcs.	Lock washer	Schnorr S6	1000499	
6	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x16	1000494	
7	4	pcs.	Lock washer	with ribs 6.4-small-ST	1014189	
8	4	pcs.	Hexagon socket head cap screw with low head	DIN 6912 - M6x20	1000496	
10	4	pcs.	Grub screw	DIN 915 - ISO 4028 - M6x45	1015662	
11	4	pcs.	Hexagon nut	DIN 934 - M6	975107	
12	4	pcs.	Oval head screw with flange	ISO 7380-2 - M6 x 10	1010810	
13	1	pcs.	Protective plate	Drum motor I-Tech MP56	1016798	E.800.1334
14	4	pcs.	Pan head screw with Philips recessed head	ISO 7045 - M4 x 8 - 4.8 - H	1007482	

Tab. 106: Parts list: Central motor drum motor - drive unit/motor unit - position of drive unit 56 - 1

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1*	1	pcs.	Drum motor DM 0080 spherical		On request	
2*	2	pcs.	Contraction idler KF-32	IL32-300	Table	U.910.0009
9*	2	pcs.	Access prevention guard	MF drive	Table	M.800.0258

Tab. 107: Parts list: Central motor drum motor - drive unit/motor unit - position of drive unit 56 - 2

Pos. 4* selection: Contraction idler - U.910.0009		
Nominal width [mm]	**IL [steel] ID no.**	**IL [V2A] ID no.**
70	1008653	1008657
100	1008654	1008658
150	1007702	1008659
200	1007703	1008660
250	1007293	1008661
300	1007704	1008662
350	1007646	1008663
400	1007706	1008664
450	1007707	1008665
500	1007708	1008666

Tab. 108: Selection: Central motor drum motor - contraction idler

Pos. 5* selection: Access prevention guard - M.800.0258	
Nominal width [mm]	**ID no.**
200	1016802
250	1016803
300	1016804
350	1016805
400	1016806
450	1016807
500	1016808

Tab. 109: Selection: Central motor drum motor - access prevention guard

13.4.7 Support

13.4.7.1 Parts list: Support AM 920 - ZZ.982.0084

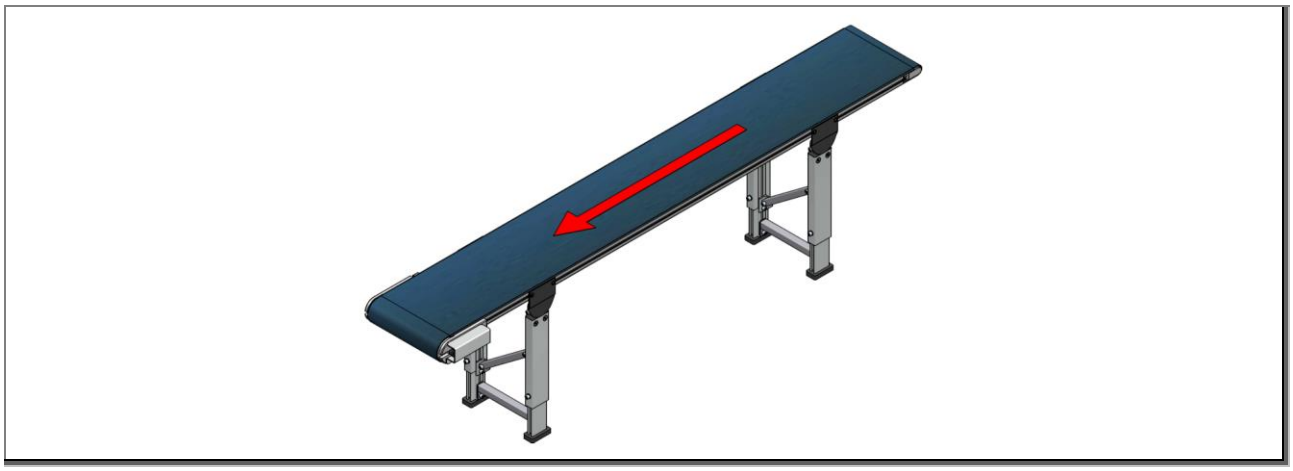


Fig. 90: Parts list: Support AM 920 - ZZ.982.0084

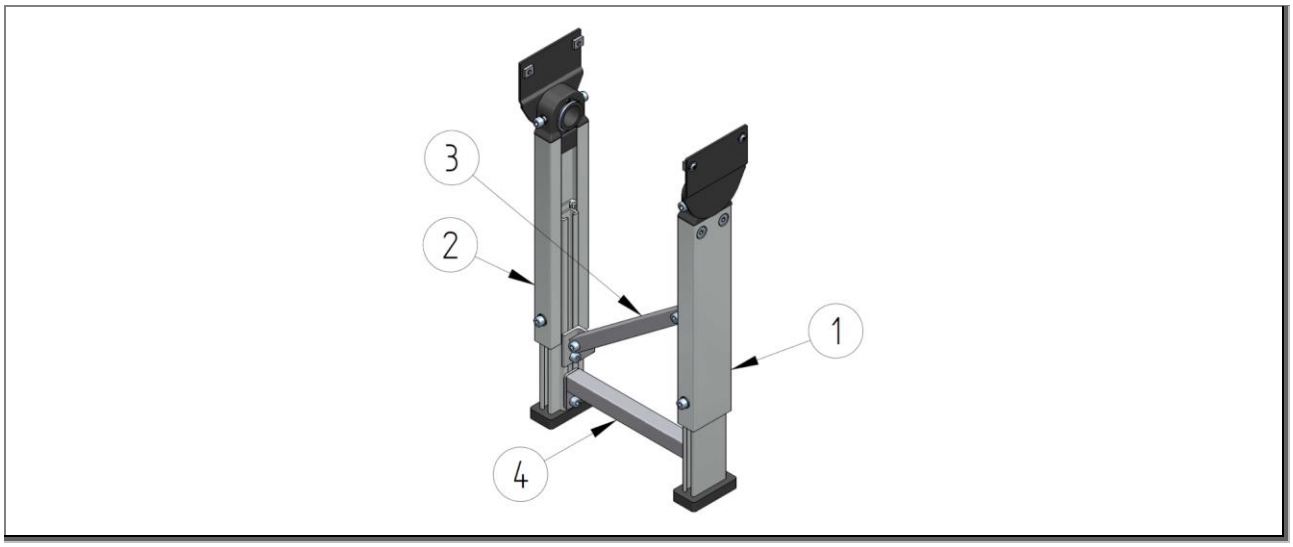


Fig. 91: Conveyor support AM 920 - ZZ.982.0084

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Model code IP5	left		U.800.0289
2	1	pcs.	Model code IP5	right		U.800.0289
3	1	pcs.	Diagonal strut		Table	U.800.0174
4	1	pcs.	Cross strut	Cons.-KIT, IP1	Table	U.800.0134

Tab. 110: Parts list: Support AM 920

Pos. 3 selection: Diagonal strut, cons.-KIT		
Length [mm]	Fixed	Variable
	DV-1-W 2 angle	DV-2-W 2 angle
	U.800.0174	U.800.0128
	ID no.	
150	1016809	-
200	1016810	1016827
250	1016811	-
300	1016812	1016828
350	1016813	-
400	1016814	1016829
450	1016815	-
500	1016816	1016830
550	1016817	-
600	1016818	1016831
650	1016819	-
700	1016820	1016832
750	1016821	-
800	1016822	1016833
850	1016823	-
900	1016824	1016834
950	1016825	-
1000	1016826	1016835

Tab. 111: Selection: Diagonal strut variable and fixed, cons.-KIT

Pos. 4 selection: Cross strut, cons.-KIT for IP5- U.800.0134	
Nominal width [mm]	ID no.
300	1016836
350	-
400	1016837
450	-
500	1016838

Tab. 112: Selection: Cross strut, cons.-KIT

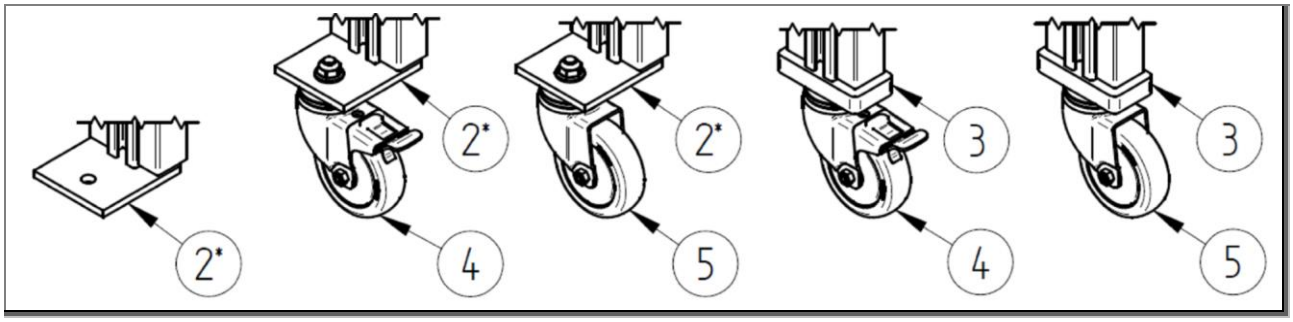


Fig. 92: Parts list: Conveyor support, components ZZ.982.0106.00

Selection: Support AM 920 - components						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
2	1	pcs.	Floor plate	Model code IP1, lateral	Table	Table
3	1	pcs.	Floor plate	Model code IP1, central	1016840	E.800.1178
4	1	pcs.	Swivel caster with total lock	TPE Ø 75 mm - 60 kg (cons.-KIT)	1004574	
5	1	pcs.	Swivel caster without lock	TPE Ø 75 mm - 60 kg (cons.-KIT)	1004573	

Tab. 113: Selection: Support AM 920 - components

Pos. 2 selection: Floor plate		
Alignment	**ID no.**	**Drwg no.**
left	1007840	E.800.0891
right	1011180	E.800.1162

Tab. 114: Selection: Support AM 920 - floor plate

13.4.7.2 Parts list: Support AM 1030 - ZZ.982.0084

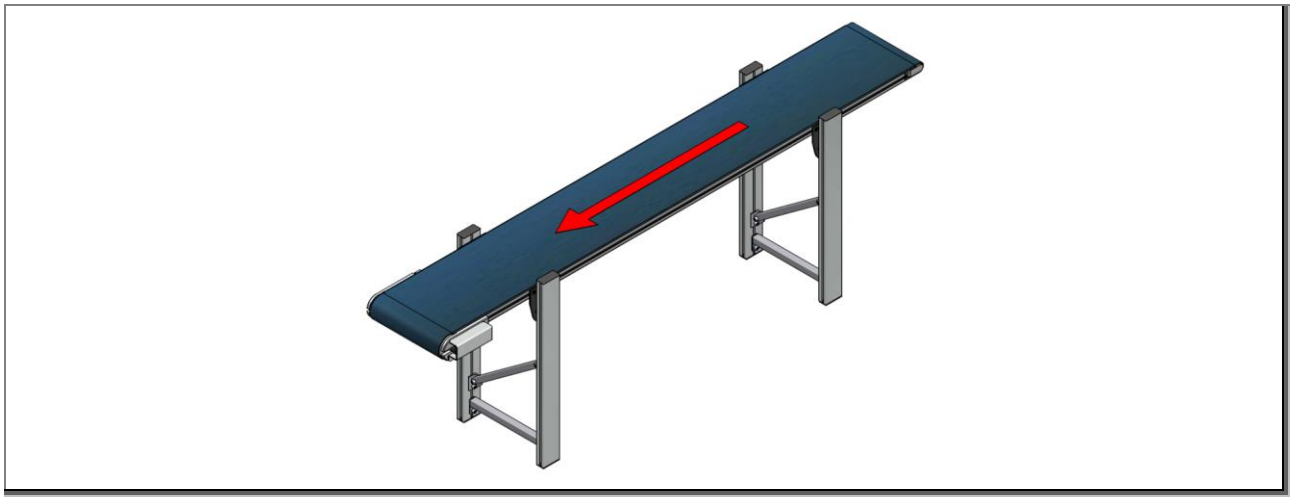


Fig. 93: Support AM 1030 - ZZ.982.0084

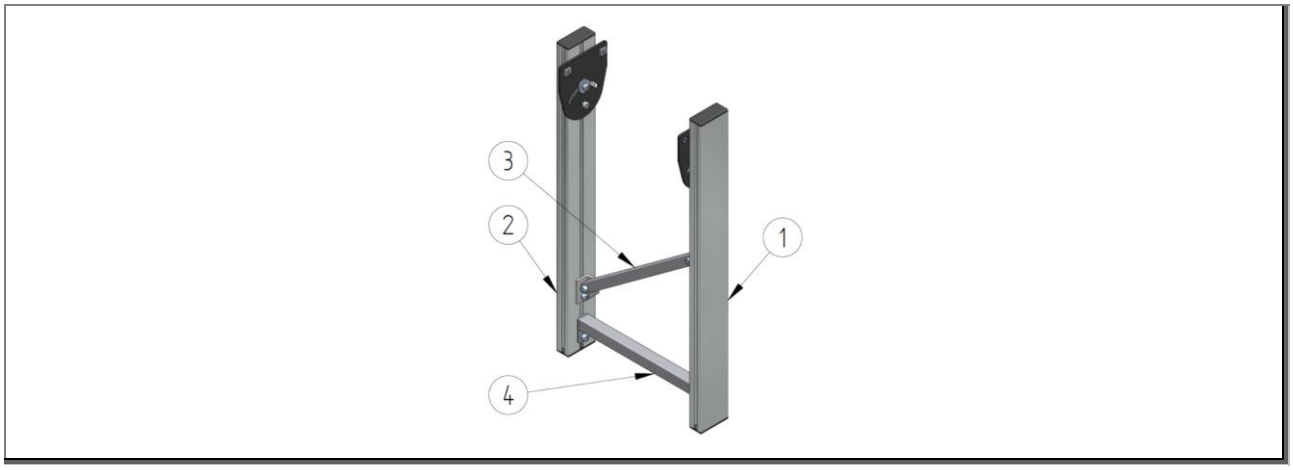


Fig. 94: Conveyor support AM 1030 - ZZ.982.0084

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Model code IP6	left		U.800.0290
2	1	pcs.	Model code IP6	right		U.800.0290
3	1	pcs.	Diagonal strut, fixed	DV-2-W	Table	U.800.0174
4	1	pcs.	Cross strut	Cons.-KIT, IP1	Table	U.800.0133

Tab. 115: Parts list: Support AM 1030

Pos. 3 selection: Diagonal strut, cons.-KIT		
Length [mm]	Fixed	Variable
	DV-1-W 2 angle	DV-2-W 2 angle
	U.800.0174	U.800.0128
	ID no.	
150	1016809	-
200	1016810	1016827
250	1016811	-
300	1016812	1016828
350	1016813	-
400	1016814	1016829
450	1016815	-
500	1016816	1016830
550	1016817	-
600	1016818	1016831
650	1016819	-
700	1016820	1016832
750	1016821	-
800	1016822	1016833
850	1016823	-
900	1016824	1016834
950	1016825	-
1000	1016826	1016835

Tab. 116: Selection: Diagonal strut variable and fixed, cons.-KIT

Pos. 4 selection: Cross strut, cons.-KIT for IP6- U.800.0288	
Nominal width [mm]	ID no.
300	1016851
350	-
400	1016852
450	-
500	1016853

Tab. 117: Selection: Cross strut, cons.-KIT

13.4.7.3 Parts list: Support AM 140 - ZZ.982.0084

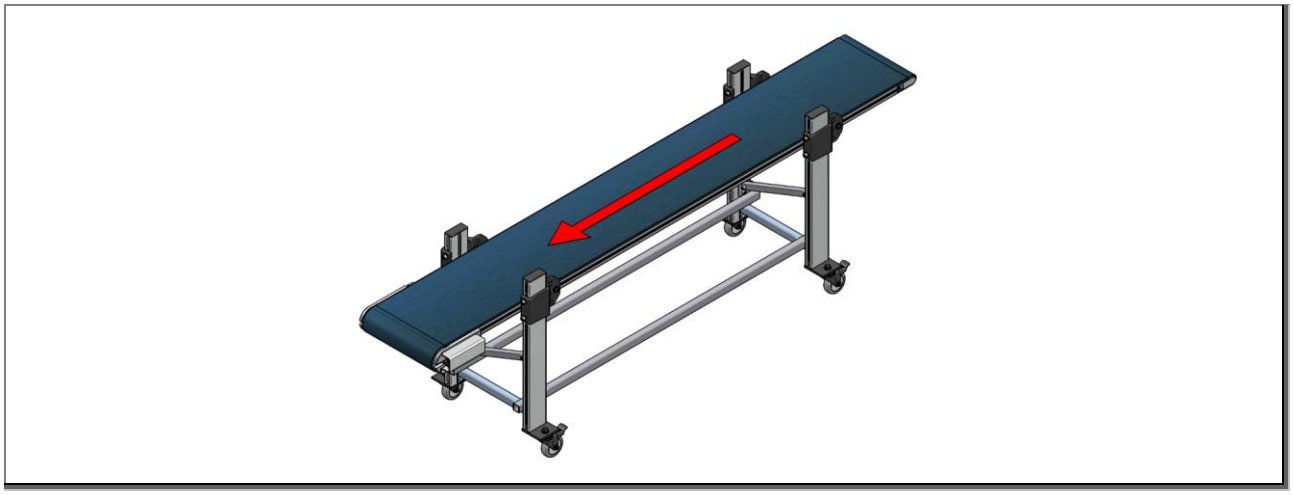


Fig. 95: Parts list: Support AM 140 - ZZ.982.0084

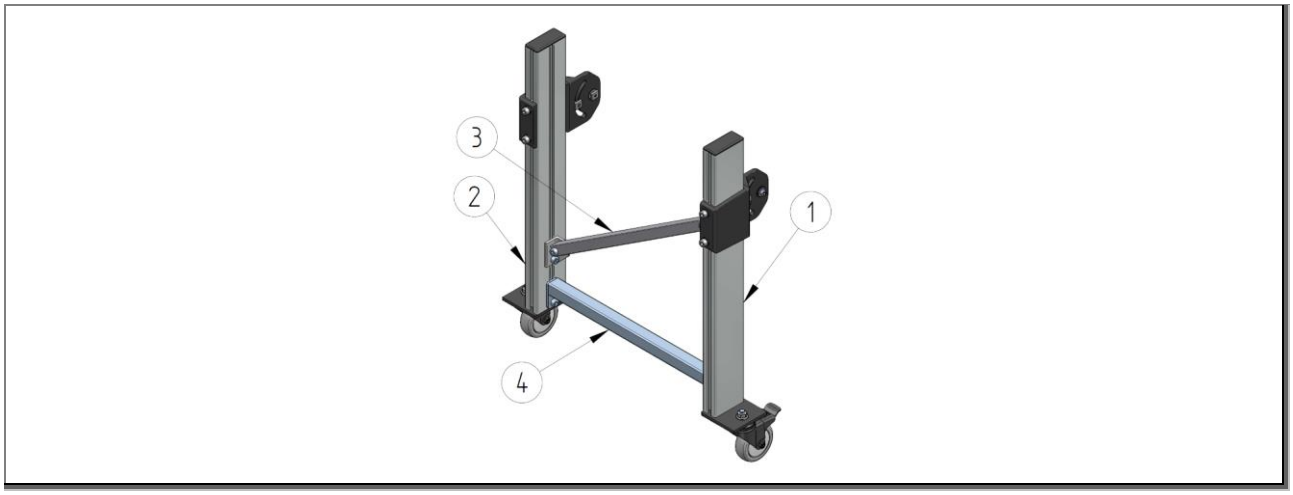


Fig. 96: Conveyor support AM 140 - ZZ.982.0084

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Model code IP2	left		U.800.0171
2	1	pcs.	Model code IP2	right		U.800.0171
3	1	pcs.	Diagonal strut		Table	U.800.0174
4	1	pcs.	Cross strut	Cons.-KIT, IP1	Table	U.800.0133

Tab. 118: Parts list: Support AM 140

Pos. 3 selection: Diagonal strut, cons.-KIT		
Length [mm]	Fixed	Variable
	DV-1-W 2 angle	DV-2-W 2 angle
	U.800.0174	U.800.0128
	ID no.	
150	1016809	-
200	1016810	1016827
250	1016811	-
300	1016812	1016828
350	1016813	-
400	1016814	1016829
450	1016815	-
500	1016816	1016830
550	1016817	-
600	1016818	1016831
650	1016819	-
700	1016820	1016832
750	1016821	-
800	1016822	1016833
850	1016823	-
900	1016824	1016834
950	1016825	-
1000	1016826	1016835

Tab. 119: Selection: Diagonal strut variable and fixed, cons.-KIT

Pos. 4 selection: Cross strut, cons.-KIT for IP2- U.800.0133	
Nominal width [mm]	ID no.
300	1004982
350	-
400	1004983
450	-
500	1004984

Tab. 120: Selection: Cross strut, cons.-KIT

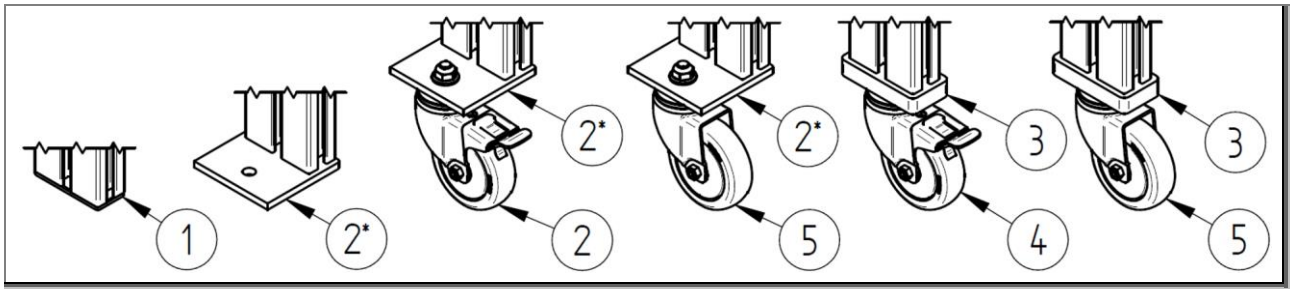


Fig. 97: Parts list conveyor support

Selection: Support AM 140 & AM 1030 - components						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Cover cap	25x25x2 (black)	1000831	
2	1	pcs.	Floor plate	Model code IP2/IP3, lateral	Table	Table
3	1	pcs.	Floor plate	Model code IP2/IP3, central	1016855	E.995.5053
4	1	pcs.	Swivel caster with total lock	TPE Ø 75 mm - 60 kg (cons.-KIT)	1004574	
5	1	pcs.	Swivel caster without lock	TPE Ø 75 mm - 60 kg (cons.-KIT)	1004573	

Tab. 121: Selection: Support AM 140 & AM 1030 – components

Pos. 2 selection: Floor plate		
Alignment	**ID no.**	**Drwg no.**
left	1006921	E.800.0859
right	1006922	E.800.1161

Tab. 122: Selection: Support AM 140 & AM 1030 - floor plate

13.4.7.4 Parts list: Support HE 050- ZZ.982.0080 / HM 480 - ZZ.982.0081

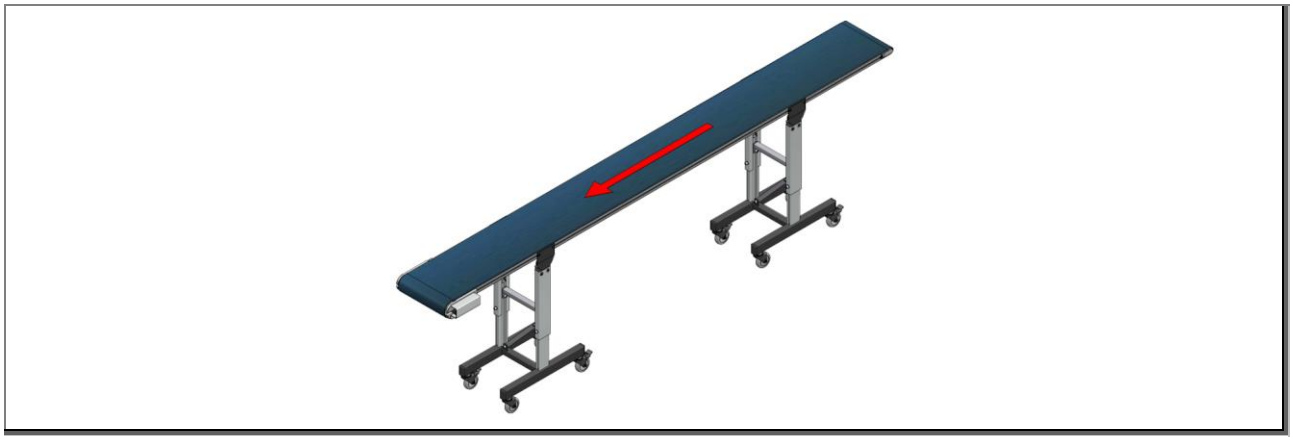


Fig. 98: Support HE 050- ZZ.982.0080 / HM 480 - ZZ.982.0081

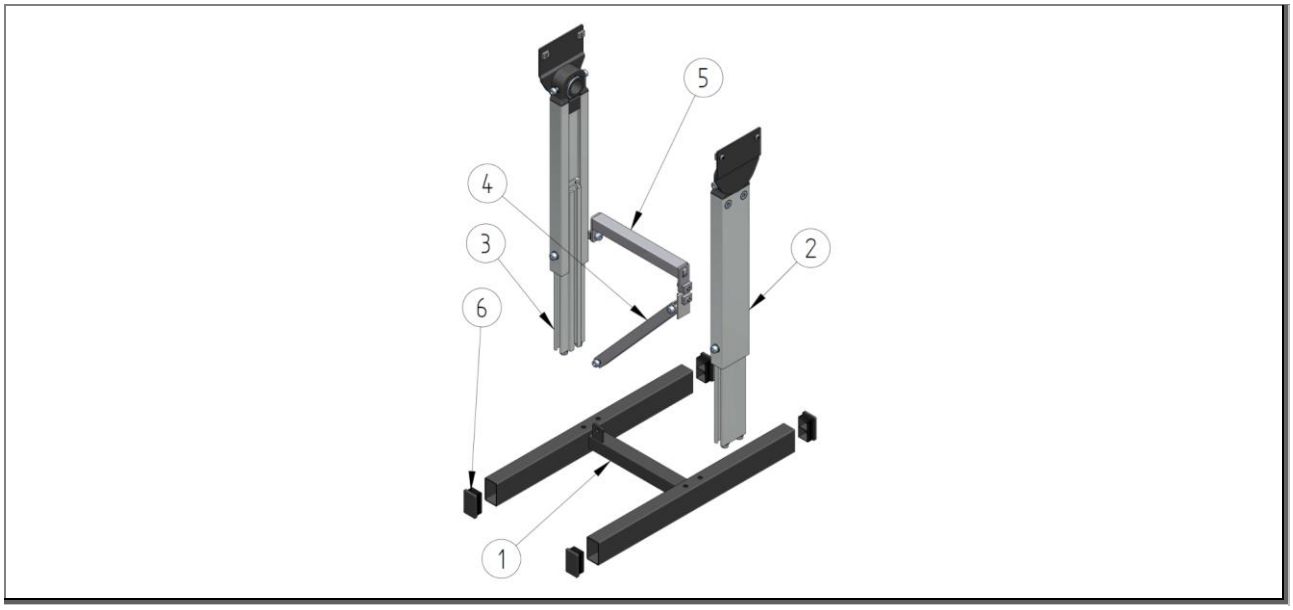


Fig. 99: Parts list: Support HE 050- ZZ.982.0080 / HM 480 - ZZ.982.0081

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Base frame		Table	U.800.0009
2	1	pcs.	Model code IP5	left		U.800.0284
3	1	pcs.	Model code IP5	right		U.800.0284
4	1	pcs.	Diagonal strut		Table	U.800.0168
5	1	pcs.	Cross strut	Cons.-KIT	Table	U.800.0134
6	4	pcs.	Cover cap	50x30x2 (black)	1000679	

Tab. 123: Parts list: Support AM 920

Pos. 1 selection: Base frame - U.800.0009	
Nominal width [mm]	Base frame ID no.
200	1001214
250	1011451
300	1001215
350	1011452
400	1001216
450	1011453
500	1001217

Tab. 124: Selection: Base frame

Pos. 3 selection: Diagonal strut, cons.-KIT				
Length [mm]	Fixed		Variable	
	DV-1 1 angle	DV-1-W 2 angle	DV-2 1 angle	DV-2-W 2 angle
	U.800.0168	U.800.0174	U.800.0131	U.800.0128
	ID no.			
150	1016856	1016809	-	-
200	1016857	1016810	1016874	1016827
250	1016858	1016811	-	-
300	1016859	1016812	1016875	1016828
350	1016860	1016813	-	-
400	1016861	1016814	1016876	1016829
450	1016862	1016815	-	-
500	1016863	1016816	1016877	1016830
550	1016864	1016817	-	-
600	1016865	1016818	1016878	1016831
650	1016866	1016819	-	-
700	1016867	1016820	1016879	1016832
750	1016868	1016821	-	-
800	1016869	1016822	1016880	1016833
850	1016870	1016823	-	-
900	1016871	1016824	1016881	1016834
950	1016872	1016825	-	-
1000	1016873	1016826	1016882	1016835

Tab. 125: Selection: Diagonal strut variable and fixed, 1 and 2 angle, cons.-KIT

For the bottom cross link, a cons.-KIT with an angle is required. For any further cross link, a cons.-KIT with two angles is required.

Pos. 4 selection: Cross strut, cons.-KIT for IP5- U.800.0134	
Nominal width [mm]	ID no.
300	1016836
350	-
400	1016837
450	-
500	1016838

Tab. 126: Selection: Cross strut, cons.-KIT

13.4.7.5 Parts list: Support HE 060- ZZ.982.0080 / HM 590 - ZZ.982.0081

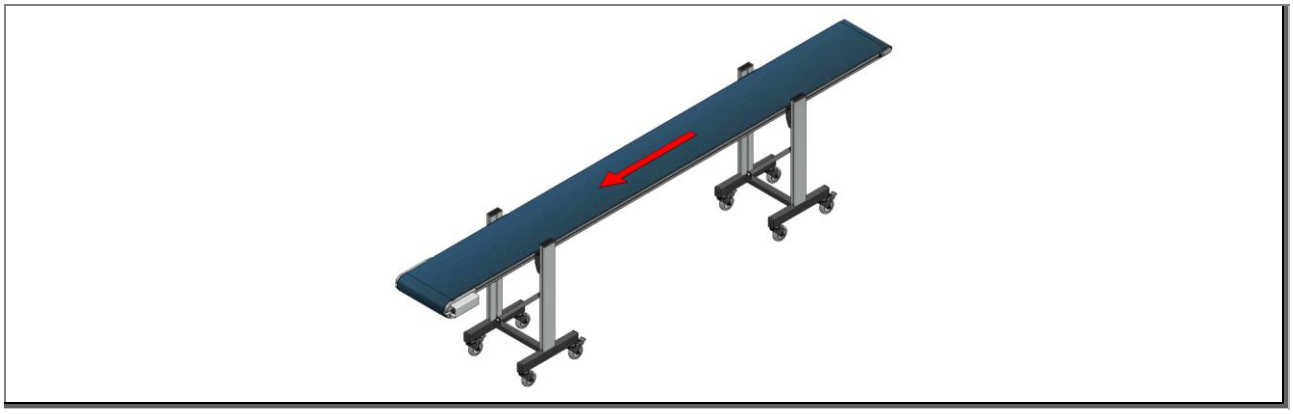


Fig. 100: Support HE 060- ZZ.982.0080 / HM 590 - ZZ.982.0081

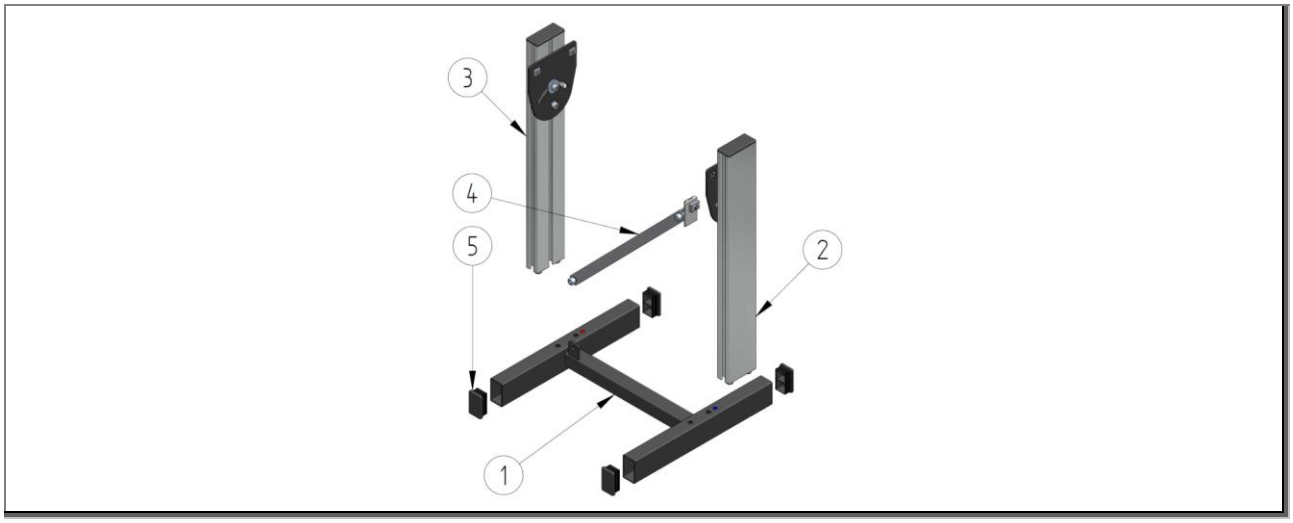


Fig. 101: Parts list: Support HE 060- ZZ.982.0080 / HM 590 - ZZ.982.0081

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Base frame		Table	U.800.0198
2	1	pcs.	Model code IP6	left		U.800.0201
3	1	pcs.	Model code IP6	right		U.800.0201
4	1	pcs.	Diagonal strut		Table	U.800.0131
5	1	pcs.	Cross strut	Cons.-KIT	Table	U.800.0133
6	4	pcs.	Cover cap	50x30x2 (black)	1000679	

Tab. 127: Parts list: Support HE 060- ZZ.982.0080 / HM 590 - ZZ.982.0081

Pos. 1 selection: Base frame - U.800.0198	
Nominal width [mm]	Base frame ID no.
200	1016890
250	1016891
300	1016892
350	1016893
400	1016894
450	1016895
500	1016896

Tab. 128: Selection: Base frame

Pos. 3 selection: Diagonal strut, cons.-KIT				
Length [mm]	Fixed		Variable	
	DV-1 1 angle	DV-1-W 2 angle	DV-2 1 angle	DV-2-W 2 angle
	U.800.0168	U.800.0174	U.800.0131	U.800.0128
	ID no.			
150	1016856	1016809	-	-
200	1016857	1016810	1016874	1016827
250	1016858	1016811	-	-
300	1016859	1016812	1016875	1016828
350	1016860	1016813	-	-
400	1016861	1016814	1016876	1016829
450	1016862	1016815	-	-
500	1016863	1016816	1016877	1016830
550	1016864	1016817	-	-
600	1016865	1016818	1016878	1016831
650	1016866	1016819	-	-
700	1016867	1016820	1016879	1016832
750	1016868	1016821	-	-
800	1016869	1016822	1016880	1016833
850	1016870	1016823	-	-
900	1016871	1016824	1016881	1016834
950	1016872	1016825	-	-
1000	1016873	1016826	1016882	1016835

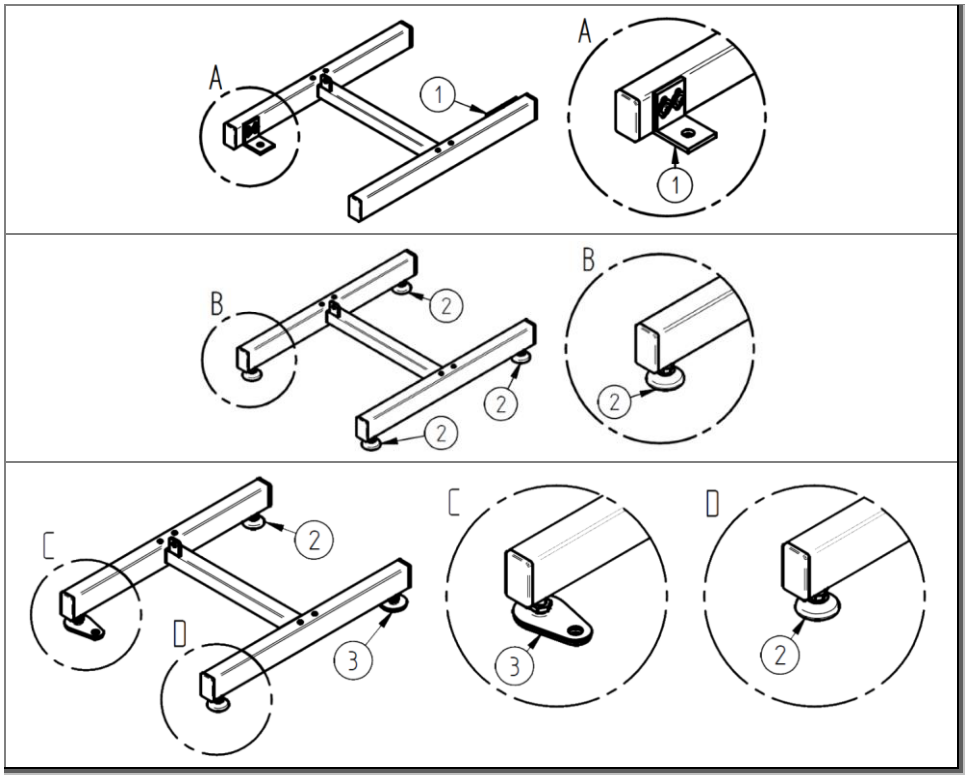
Tab. 129: Selection: Diagonal strut variable and fixed, 1 and 2 angle, cons.-KIT

For the bottom cross link, a cons.-KIT with an angle is required. For any further cross link, a cons.-KIT with two angles is required.

Pos. 4 selection: Cross strut, cons.-KIT for IP6- U.800.0288	
Nominal width [mm]	ID no.
300	1016851
350	-
400	1016852
450	-
500	1016853

Tab. 130: Selection: Cross strut, cons.-KIT

13.4.7.6 Parts list: Support placement options HE/HM ZZ.982.0068.01



Floor fixation

Stationary

Stationary with floor fixation

Fig. 102: Parts list: Support placement options HE/HM ZZ.982.0068.01

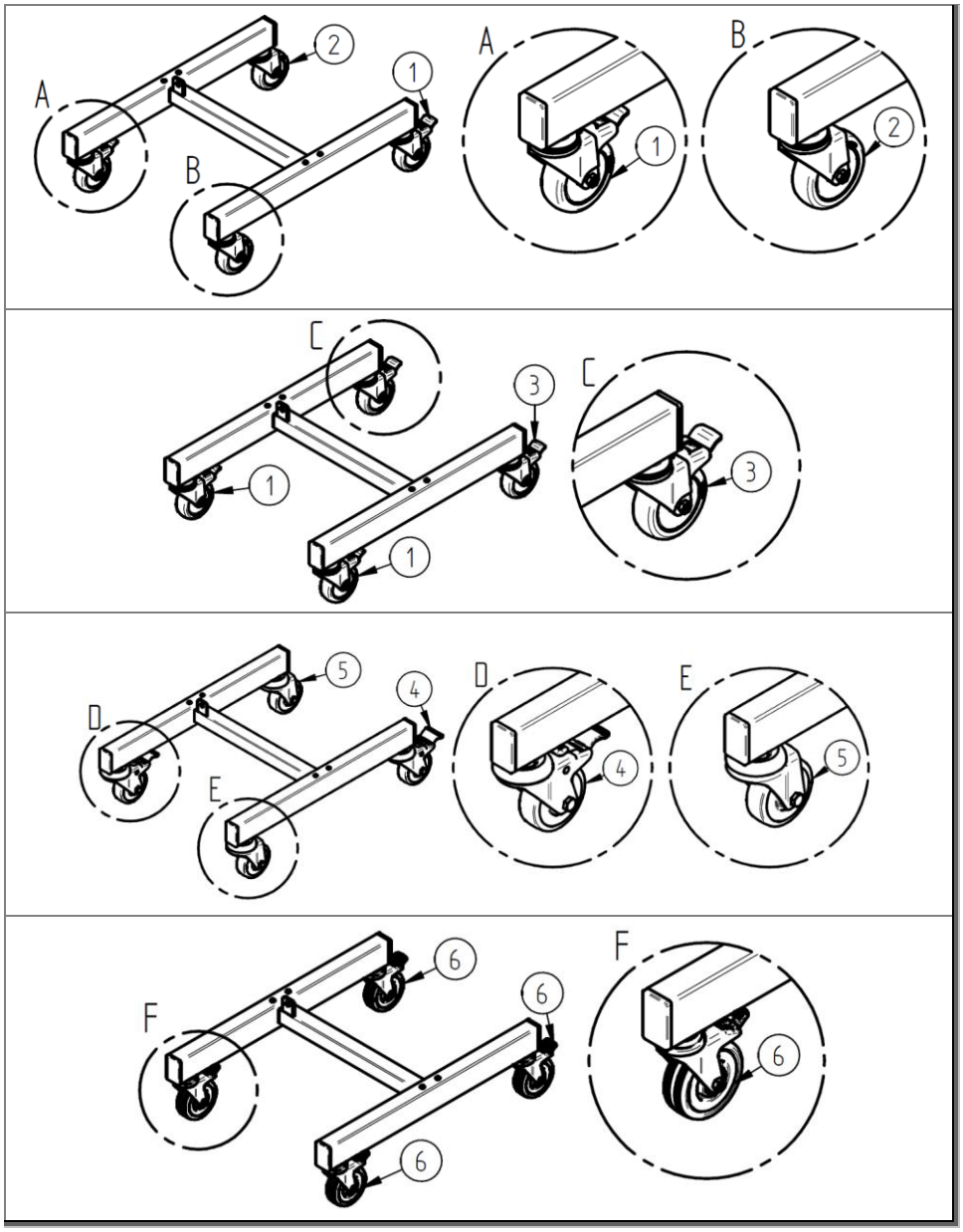
Selection: Support HE/HM - stationary/floor fixation - cons.-KIT						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drawing no.**
1		pcs.	Floor fixation	Cons.-KIT, type BF-3	1016897	U.800.0137
2		pcs.	Leveling foot	Cons.-KIT	1016898	T.800.0312
3		pcs.	Leveling foot with clip	Cons.-KIT, (floor fixation)	1016899	T.800.0313

Tab. 131: Selection: Support HE/HM - components - stationary/floor fixation - cons.-KIT

Selection: Support HE/HM - stationary/floor fixation - components						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drawing no.**
1		pcs.	Fastening angle		1007838	
2		pcs.	Leveling foot		1003490	
3		pcs.	Leveling foot	With fastening link	1010268	

Tab. 132: Selection: Support HE/HM - stationary/floor fixation - components

13.4.7.7 Parts list: Support placement options HE/HM ZZ.982.0068



Moveable
L Ø 75 TPE

Color: gray

Moveable
B Ø 75 TPE

Color: gray

Moveable
L Ø 75 PT

Color: white

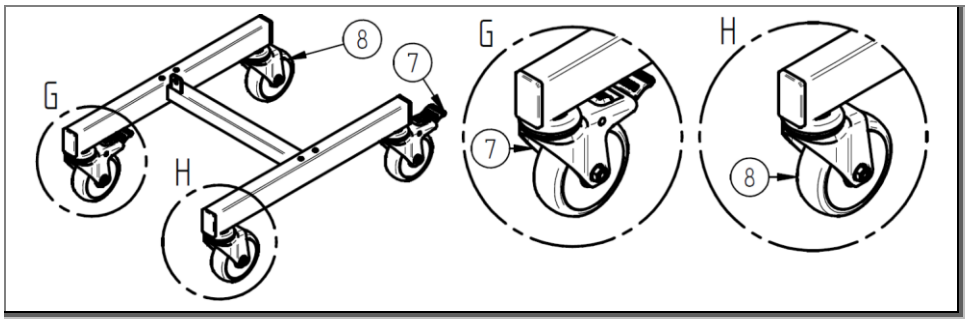
Moveable
L Ø 75 ESD

Color: black

Fig. 103: Parts list: Support placement option HE/HM casters with bolt hole ZZ.982.0068

Selection: Support HE/HM - casters Ø75- components						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drawing no.**
1		pcs.	Swivel caster with total lock	TPE Ø 75 mm - 60 kg	1004574	
2		pcs.	Swivel caster without lock	TPE Ø 75 mm - 60 kg	1004573	
3		pcs.	Fixed caster with wheel lock	TPE Ø 75 mm - 60 kg	1001131	
4		pcs.	Swivel caster with total lock	PT Ø 75 mm - 60 kg	1009806	
5		pcs.	Swivel caster without lock	PT Ø 75 mm - 60 kg	1009807	
6		pcs.	Swivel caster with total lock	ESD Ø 75 mm - 60 kg	1009967	

Tab. 133: Selection: Support HE/HM - casters Ø75- components



Moveable
L Ø 100 TPE

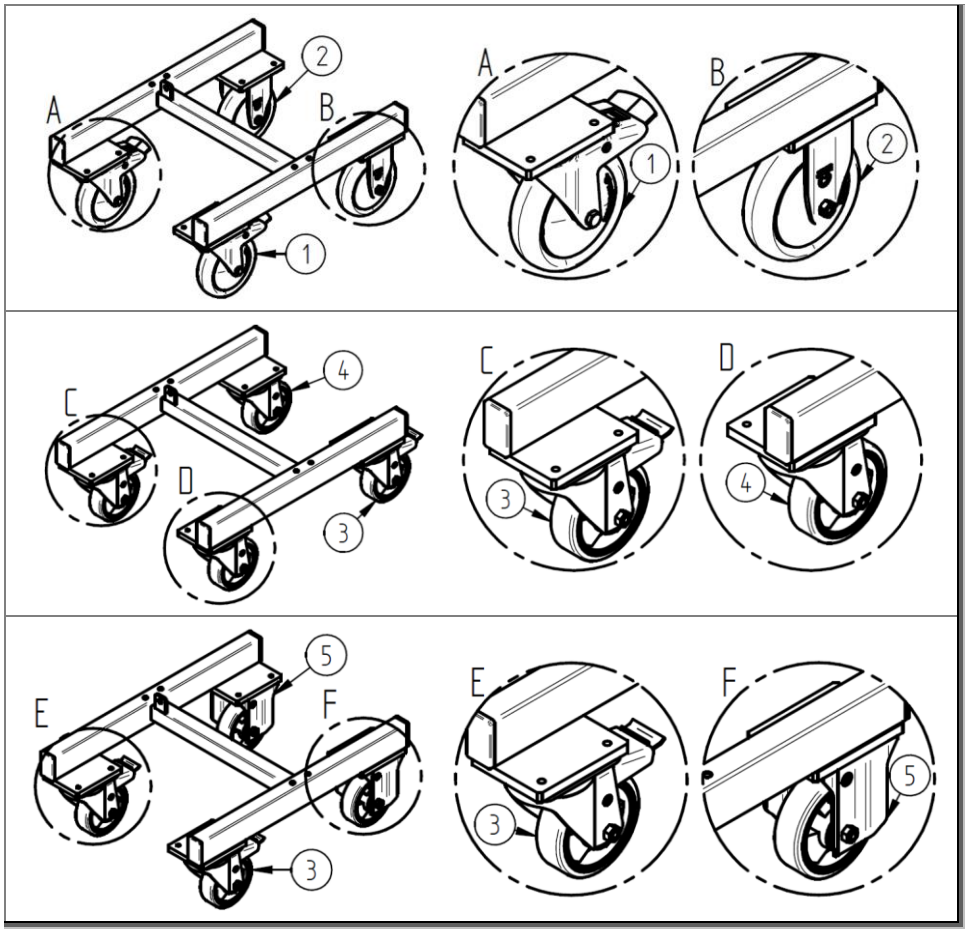
Color: gray

Fig. 104: Parts list: Support placement option HE/HM casters with bolt hole ZZ.982.0068

Selection: Support HE/HM - casters Ø100 - components						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drawing no.**
7		pcs.	Swivel caster with total lock	TPE Ø 100 mm - 90 kg	1007208	
8		pcs.	Swivel caster without lock	TPE Ø 100 mm - 90 kg	1007209	

Tab. 134: Selection: Support HE/HM - casters Ø100 - components

13.4.7.8 Parts list: Support placement options HE/HM ZZ.982.0068



Moveable
B Ø 125 PU

Color: blue

Moveable
L Ø 100 PU S

Color: sand yellow

Moveable
B Ø 100 PU S

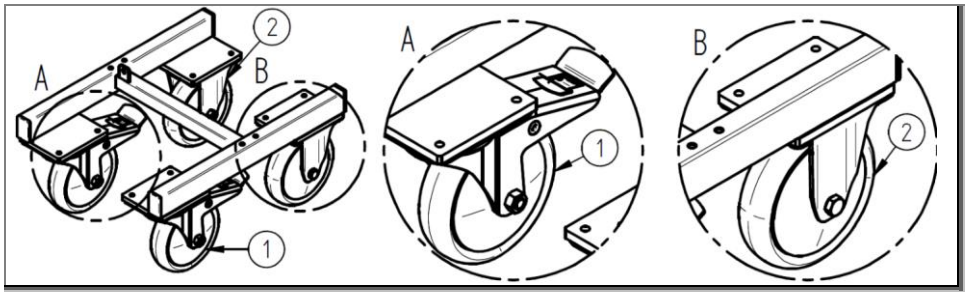
Color: sand yellow

Fig. 105: Parts list: Support placement option HE/HM casters with bolt hole ZZ.982.0068

Selection: Support HE/HM - casters Ø100/Ø125 with plate - components						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drawing no.**
1		pcs.	Swivel caster with total lock	PU Ø 125 mm - 200 kg	1011080	
2		pcs.	Fixed caster without lock	PU Ø 125 mm - 200 kg	1011081	
3		pcs.	Swivel caster with total lock	PU S Ø 100 mm - 250 kg	1007667	
4		pcs.	Swivel caster without lock	PU S Ø 100 mm - 250 kg	1007594	
5		pcs.	Fixed caster without lock	PU S Ø 100 mm - 250 kg	1011170	

Tab. 135: Selection: Support HE/HM - casters Ø100/Ø125 with plate - components

13.4.7.9 Parts list: Support placement options HE/HM ZZ.982.0068



Moveable
B Ø 160 PU

Color: blue

Fig. 106: Parts list: Support placement option HE/HM casters with bolt hole ZZ.982.0068

Selection: Support HE/HM - casters Ø160 with plate - components						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drawing no.**
1		pcs.	Swivel caster with total lock	PU Ø 160 mm - 250 kg	1010056	
2		pcs.	Fixed caster without lock	PU Ø 160 mm - 250 kg	1010057	

Tab. 136: Selection: Support HE/HM - casters Ø160 with plate - components

13.4.7.10 Parts list: Support BE 010- ZZ.982.0079 / BM 110 - ZZ.982.0121

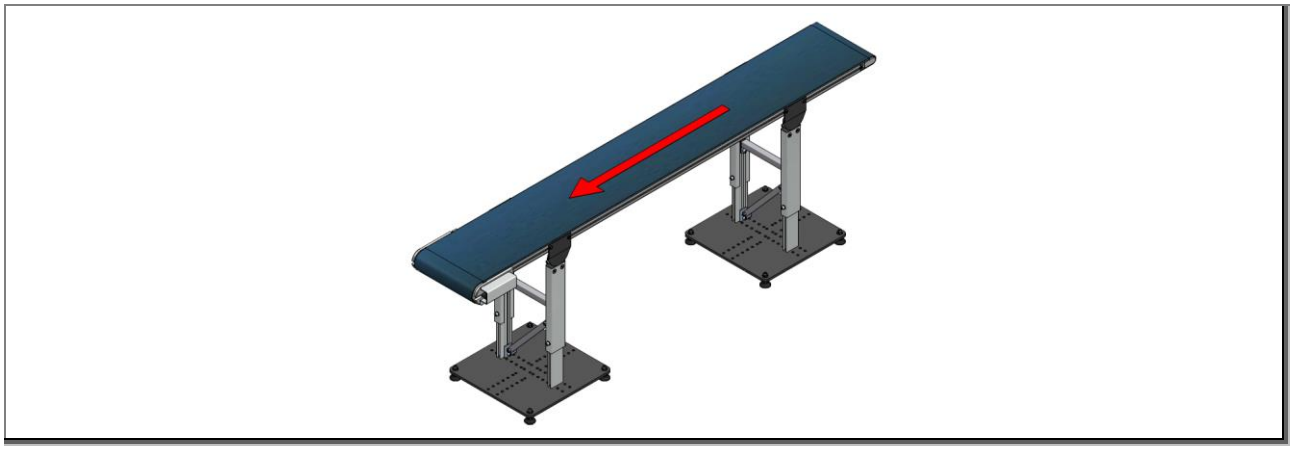


Fig. 107: Support BE 010- ZZ.982.0079 / BM 110 - ZZ.982.0121

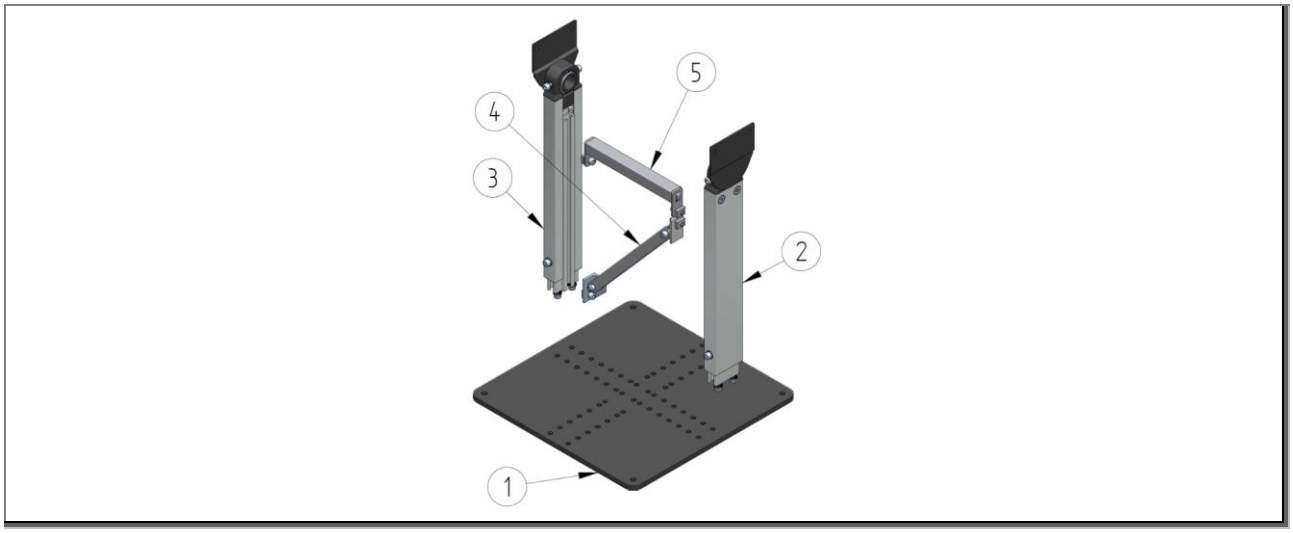


Fig. 108: Parts list: Support BE 010- ZZ.982.0079 / BM 110 - ZZ.982.0121

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Base plate		1006973	E.990.0122
2	1	pcs.	Model code IP5	left		U.800.0284
3	1	pcs.	Model code IP5	right		U.800.0284
4	1	pcs.	Diagonal strut		Table	U.800.0168
5	1	pcs.	Cross strut	Cons.-KIT	Table	U.800.0134

Tab. 137: Parts list: Support BE 010- ZZ.982.0079 / BM 110 - ZZ.982.0121

Pos. 3 selection: Diagonal strut, cons.-KIT		
Length [mm]	Fixed	Variable
	DV-1-W 2 angle	DV-2-W 2 angle
	U.800.0174	U.800.0128
	ID no.	
150	1016809	-
200	1016810	1016827
250	1016811	-
300	1016812	1016828
350	1016813	-
400	1016814	1016829
450	1016815	-
500	1016816	1016830
550	1016817	-
600	1016818	1016831
650	1016819	-
700	1016820	1016832
750	1016821	-
800	1016822	1016833
850	1016823	-
900	1016824	1016834
950	1016825	-
1000	1016826	1016835

Tab. 138: Selection: Diagonal strut variable and fixed, cons.-KIT

Pos. 4 selection: Cross strut, cons.-KIT for IP5- U.800.0134	
Nominal width [mm]	ID no.
300	1016836
350	-
400	1016837
450	-
500	1016838

Tab. 139: Selection: Cross strut, cons.-KIT

13.4.7.11 Parts list: Support BE 020- ZZ.982.0079 / BM 120 - ZZ.982.0121

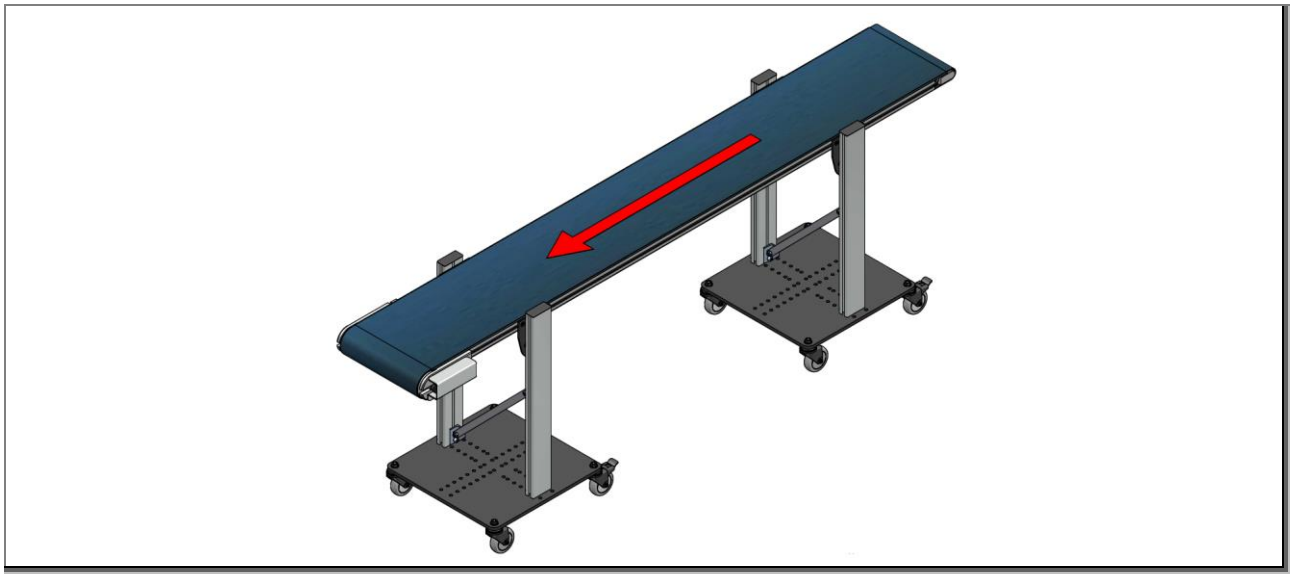


Fig. 109: Support BE 020- ZZ.982.0079 / BM 120 - ZZ.982.0121

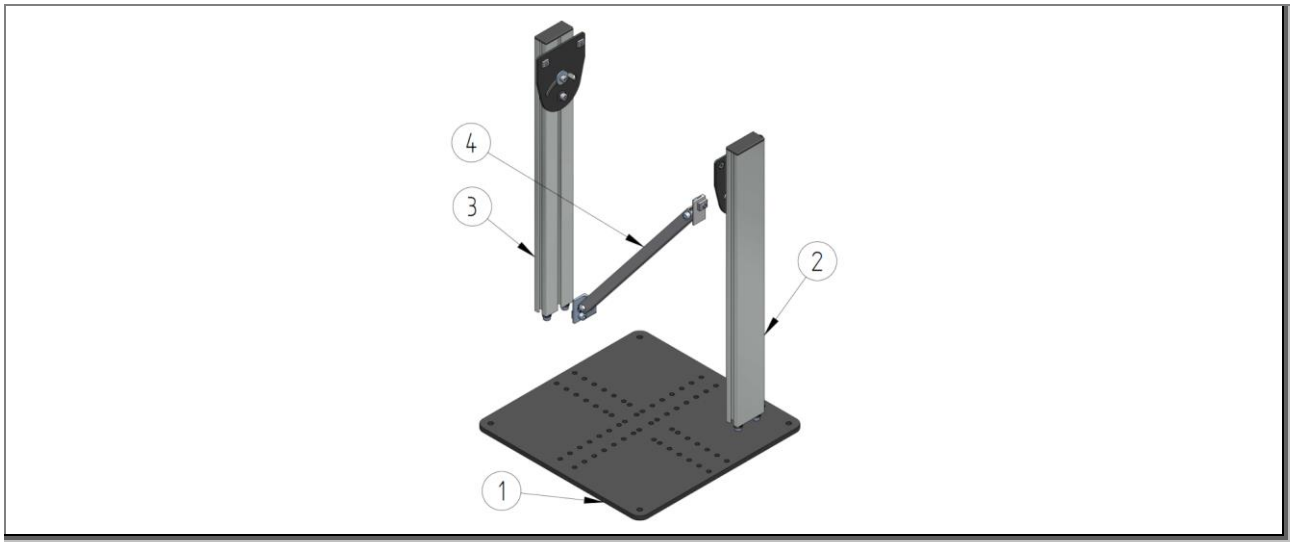


Fig. 110: Parts list: Support BE 020- ZZ.982.0079 / BM 120 - ZZ.982.0121

Parts list: Dependent on technical data (see also order confirmation)						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1	1	pcs.	Base plate		1006973	E.990.0122
2	1	pcs.	Model code IP6	left		U.800.0201
3	1	pcs.	Model code IP6	right		U.800.0201
4	1	pcs.	Diagonal strut		Table	U.800.0128
5	1	pcs.	Cross strut	Cons.-KIT	Table	U.800.0133
6	4	pcs.	Cover cap	50x30x2 (black)	1000679	

Tab. 140: Parts list: Support BE 020- ZZ.982.0079 / BM 120 - ZZ.982.0121

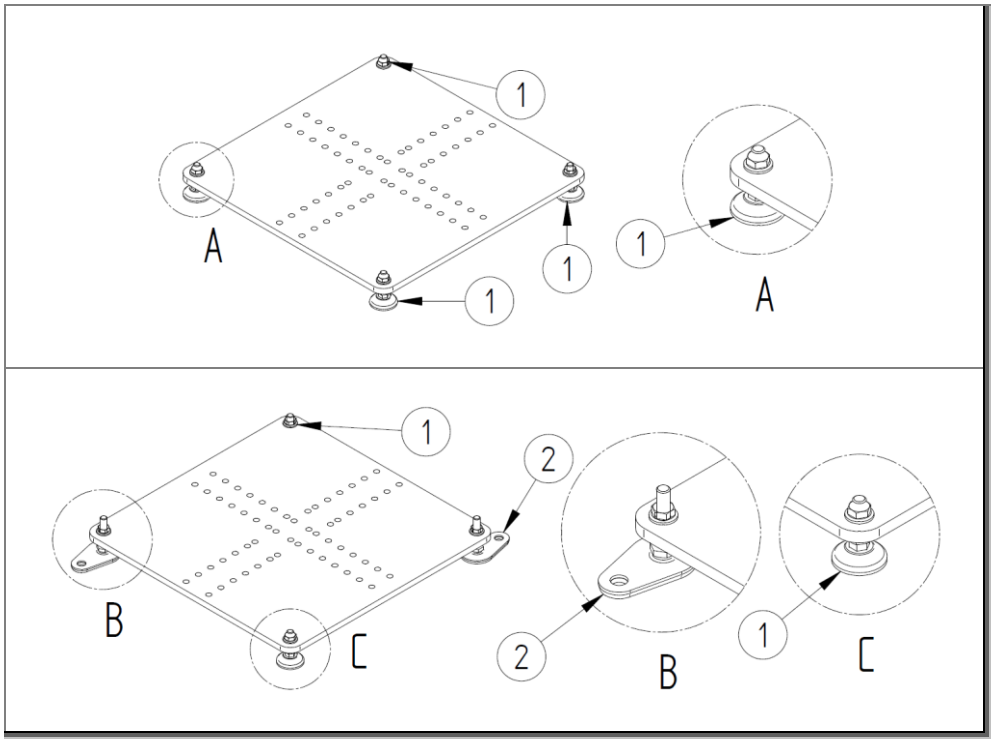
Pos. 3 selection: Diagonal strut, cons.-KIT		
Length [mm]	Fixed	Variable
	DV-1-W 2 angle	DV-2-W 2 angle
	U.800.0174	U.800.0128
	ID no.	
150	1016809	-
200	1016810	1016827
250	1016811	-
300	1016812	1016828
350	1016813	-
400	1016814	1016829
450	1016815	-
500	1016816	1016830
550	1016817	-
600	1016818	1016831
650	1016819	-
700	1016820	1016832
750	1016821	-
800	1016822	1016833
850	1016823	-
900	1016824	1016834
950	1016825	-
1000	1016826	1016835

Tab. 141: Selection: Diagonal strut variable and fixed, cons.-KIT

Pos. 4 selection: Cross strut, cons.-KIT for IP6- U.800.0288	
Nominal width [mm]	ID no.
300	1016851
350	-
400	1016852
450	-
500	1016853

Tab. 142: Selection: Cross strut, cons.-KIT

13.4.7.12 Parts list: Support placement options BE - ZZ.982.0079 / BM - ZZ.982.0121



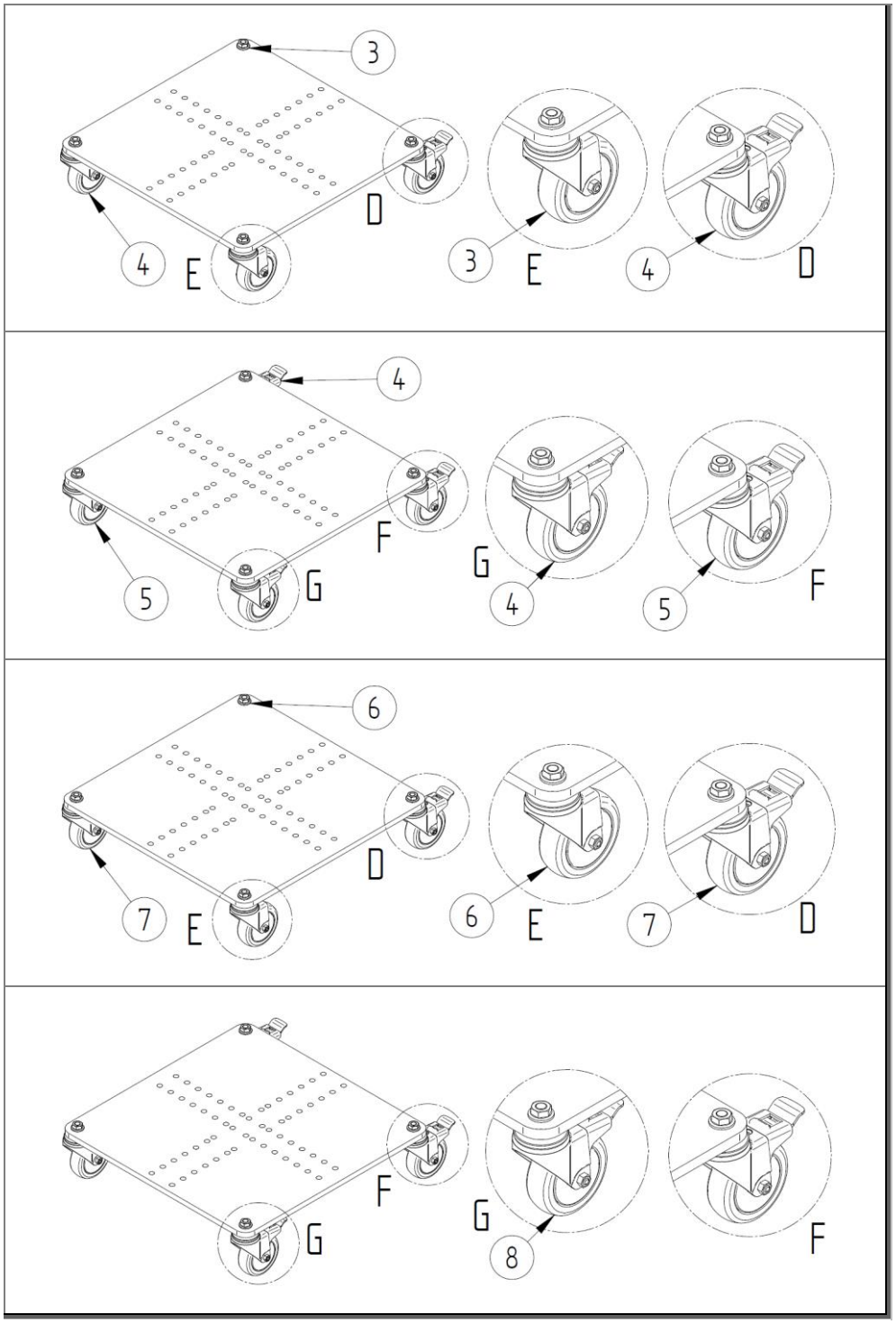
Stationary

Stationary with floor fixation

Fig. 111: Parts list: Support placement options BE - ZZ.982.0079 / BM - ZZ.982.0121

Selection: Support BE/BM - stationary/floor fixation - cons.-KIT						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
1		pcs.	Leveling foot	Cons.-KIT	1016898	T.800.0312
2		pcs.	Leveling foot with clip	Cons.-KIT, (floor fixation)	1016899	T.800.0313

Tab. 143: Selection: Support BE/BM - components - stationary/floor fixation - cons.-KIT



Moveable
L Ø 75 TPE

Color: gray

Moveable
B Ø 75 TPE

Color: gray

Moveable
L Ø 75 PT

Color: white

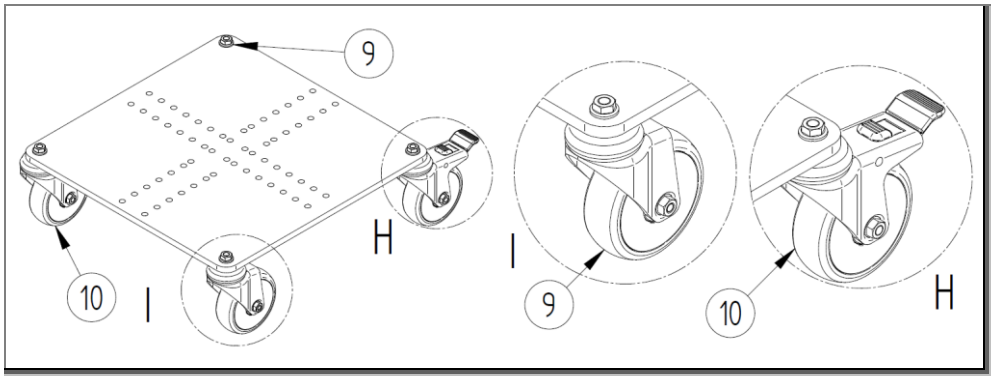
Moveable
L Ø 75 ESD

Color: black

Fig. 112: Parts list: Support placement options casters with bolt hole
BE - ZZ.982.0079 / BM - ZZ.982.0121

Selection: Support BE/BM - casters Ø75 - cons.-KIT						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
3		pcs.	Swivel caster without lock	TPE Ø 75 mm - 60 kg	1004573	
4		pcs.	Swivel caster with total lock	TPE Ø 75 mm - 60 kg	1004574	
5		pcs.	Fixed castor with wheel lock	TPE Ø 75 mm - 60 kg	1001131	
6		pcs.	Swivel caster without lock	PT Ø 75 mm - 60 kg	1009807	
7		pcs.	Swivel caster with total lock	PT Ø 75 mm - 60 kg	1009806	
8		pcs.	Swivel caster with total lock	ESD Ø 75 mm - 60 kg	1009967	

Tab. 144: Selection: Support BE/BM - casters Ø75 - cons.-KIT



Moveable
L Ø 100 TPE

Color: gray

Fig. 113: Parts list: Support placement options casters with bolt hole
BE - ZZ.982.0079 / BM - ZZ.982.0121

Selection: Support BE/BM - casters Ø100 - cons.-KIT						
Pos.	**Qty**	**Unit**	**Name 1**	**Name 2**	**ID no.**	**Drwg no.**
9		pcs.	Swivel caster without lock	TPE Ø 100 mm - 90 kg	1007209	
10		pcs.	Swivel caster with total lock	TPE Ø 100 mm - 90 kg	1007208	

Tab. 145: Selection: Support BE/BM - casters Ø100 - cons.-KIT

13.4.8 Accessories: Guiding- and storage structures (optional)

NOTE

- Spare parts for attachments are available by consultation with our sales team.

13.4.8.1 Return tray

Return trays in positions of drive unit 1234

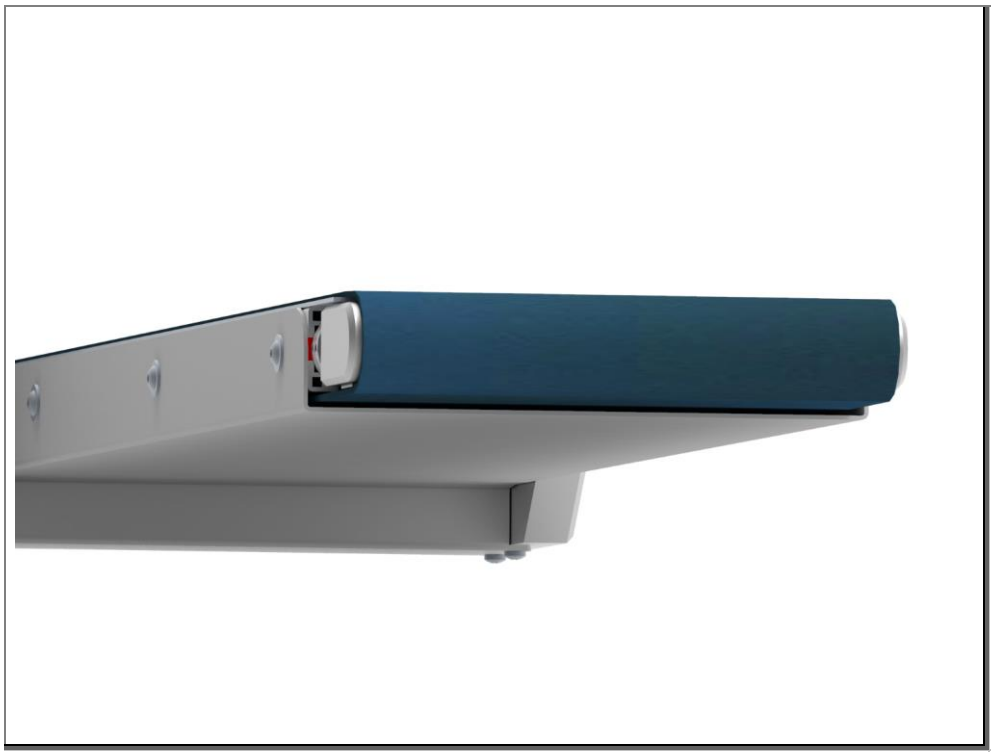


Fig. 114: Typical image of a standard return tray
based on drawing number: M.800.0257

Return trays in positions of central drive unit 56

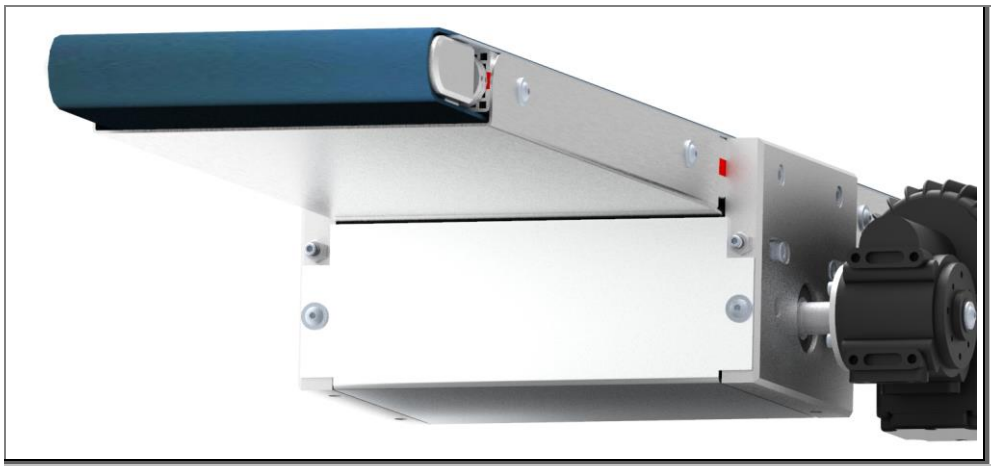


Fig. 115: Typical image of a standard return tray with central motor
based on drawing number: M.800.0263

When ordering a return tray as a replacement part, please enter conveyor belt data.

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