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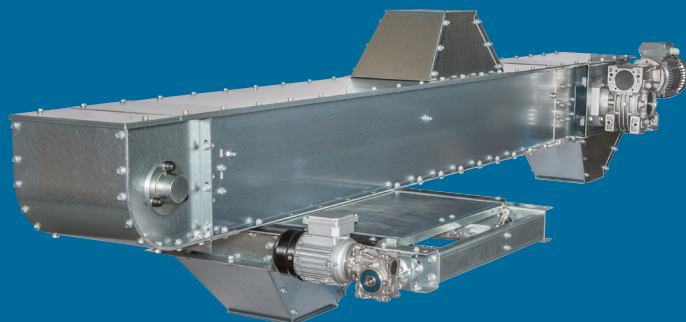


User Instruction

SR25-40

Thank you for choosing SØBY
In order for the machine to function
optimally, it is important to forllow the
instructions in this manual.

Enjoy.



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General Instructions



Please read the entire user instructions before assembling and operating the installation.

If the purchaser makes technical modifications to the machine, any warranty from SØBY is cancelled. The declaration will then lose its validity.

The guarantee is only granted, if the following conditions are met:

- The unit may only be used as described in this manual. Replacement of parts or changing in the construction of the unit may require the equipment to be re-certified.
- Assembly, putting into service and operation only by using this user manual.
- Documentable compliance with maintenance intervals, cf. instructions.
- Operation of the chain elevator only by using motor protection-connection or star-delta connection with motor-protection.
- Only use the original spare parts of the manufacturer.
- In order to avoid dust emissions, all joints must be sealed by silicone.
- Emergency stops must be installed according to current standard EN 60204-1.
- By normal operation at the machine, see the pictogram devices and read the User/Assembly Instructions.
- When performing operations in areas where there might be a risk of explosion, the safety of persons and equipment is subject to compliance with the relevant safety regulations. Performing installation and maintenance work in such areas, implies a special responsibility for the people performing the work. This work requires that the assembly and maintenance personnel have a thorough knowledge of laws, regulations and standards within the area. This construction gives a brief review of the most important safety conditions in connection with installation, maintenance and use of the equipment. Please pay attention to the fact that the end user has the final responsibility of identifying any potential explosive areas according to current regulations, with the following requirements for zone classification and, if applicable, reporting to the local authorities.
- Repair, service and maintenance must be performed carefully in accordance with the instructions of SØBY and must be performed by personnel who possess the qualifications required in relation to the explosion safety of the equipment. Inspection and maintenance in respect of the electrical equipment must be based on the instructions in EN60079-17.

- During the life of the chain conveyor and in connection with use, special attention concerning the mechanical parts must be paid to the following:
 - Lifetime (see diagram)
 - Damages to parts and screens
 - Corrosion
 - After tensioning of bolts and screws
 - Control of belts, including after tensioning

- Modifications or alterations of the equipment, which influence the explosion safety of the equipment, are not allowed. Before using the equipment, check that the equipment is undamaged, assembled and installed as directed by SØBY.

Special attention is drawn to:

- National Security Rules
- National Requirements to Safety and Health at place of work
- National Rules of Installation for the type of installation in question
- Recognized standards
- Safety Information in this manual
- Data and information on the permissible installation and operating conditions of the rating plate
- Directions in any type certificates for equipment installed on the unit

The manufacturer reserves the right to making technical changes.

The machine can be used in ATEX zone 21 or zone 22, for transportation of feedstuff, which give reason for an inner Zone 21. If the machine is installed in zone 21 or 22, a suitable gear and motor etc. for this purpose must be selected.

The machine can be used for transportation of the following material with data as shown below:

- Grain, mixed dust
- Flour/meal
- Minerals
- Soya bean meal
- Rape/beans
- Feed pellets and wooden pellets, up to 8mm in diameter

	Particle Size [µm] [Microns]	Ignition temperature Cloud of Dust [°C]	Ignition Temperature 5mm Layer of Dust [°C]	LEL [g/m ³]	MIE [mJ]	Kst [bar m/s]	Reference
Limit Values	12	400	280	30	50	131	-

If the medium transported, contains stones or metal parts, the explosion safety of the equipment cannot be guaranteed.

Must comply with EN 60079-10-2:2015 concerning explosive atmospheres/atmosphere of dust.

Safety Instructions



The manual and especially information concerning safety must be read carefully prior to assembly, operation, service and maintenance.

All installations and components must be assembled in accordance with the applicable accident prevention rules.

The machine must be shielded correctly in relation to the current Machinery Directive and as such make it impossible to get in touch with moving parts. The shielding may only be removed by using tools. These must be mounted before the machine is put into operation.

The motor must be properly protected through overload protection equipment, and the chain conveyor must be properly ensured a suitable potential equalization.

For any repair or maintenance, disconnect the power source from the drive motor.

Intermediate outlet may start automatically. Mind fingers and limbs. The intermediate outlet must be connected to lockable main switch.

When the chain conveyor is running, you should not be able to put your hand or your fingers into the drive device or elsewhere.

Shielding must always be placed over pit to the inlet, and here there is a requirement of an applicable mesh size of up to 120mm, with a safety minimum distance of minimum 850mm. This must be observed in relation to DS/EN ISO 13857.

Shielding, like belt guards for inlet covers for preventing or elimination of risks, must be maintained on a regular basis.

The machine must be installed in a way that provides ergonomic good conditions of service on the machine.

The safety equipment, which have been removed during repair, cleaning or maintenance work must be re-established before the installation is put back into service again.

All screws, bolts and attachments must be properly tightened.

If the machine is stuck/clogged, the transmission might be overheated.

The chain conveyor may only be put into operation, when it is assured that it is not defect. The operator is obliged to only operating the installation when it is in perfect condition.

SØBY is not liable for damages arising from abuse or technical modifications to the installation and breach of the instructions given in this manual.

If the chain conveyor is placed in areas classified as potentially explosive, specially approved motor and gearbox for the zone in question must be used. In case of doubt, please contact SØBY for further information. It must be ensured that the ambient temperature in the area where the equipment is installed, remains within the permitted limit values of the equipment $-20^{\circ}\text{C} \leq \text{TA} \leq 40^{\circ}$. Therefore, when installing the unit, it is necessary to consider any external heat sources that may affect the ambient temperature in the area where the equipment is installed.

During any kind of work with the chain conveyor, adequate work lighting must be available.

Respiratory protection, safety shoes, hearing protection and other required precautions must be used during any work with the machine, where the chain conveyor is installed, as this may be required by the local workplace assessment. Furthermore, a helmet must be used during installation, service and assembly/disassembly.

When assembling machines, heavy lifting might occur. People setting up the machine must read the assembly/user manual at first. Suitable lifting equipment must be used in connection with installation and assembly.

Gloves must be used while handling the machine as there is a risk of sharp edges.

The equipment must not be exposed to more dust impact (dust layers) than permitted in EN60079-14.

Please be aware that if the chain conveyor is expected to run empty for more than 5 minutes, a dry-running sensing device must be mounted, which ensures that the machine stops. Also, it is ensured that the machine outlet is not clogged. As model SR25-40 chain conveyors as standard are not mounted with overflow sensors, it will depend on the motor protection if the chain conveyor is clogged.

Use of the Machine

The chain conveyor is designed to convey grain and almost all seeds and flour products within agriculture (see material specifications in general references).

The chain conveyor **may not** be used for tasks beyond these.

The chain conveyor is driven by a gear motor. It moves the conveying material from an inlet to an outlet.

The complete installation must be observed in accordance with the applicable regulations in this manual and in accordance with the applicable Machine Directive 2006/42/EC.

The chain conveyor can have a speed of 0,56-0,84 m/second.

Maximum length for model SR25 is 55 m, and for model SR40, 50 m.

The chain conveyor may not be used for tasks beyond what is described in this manual.

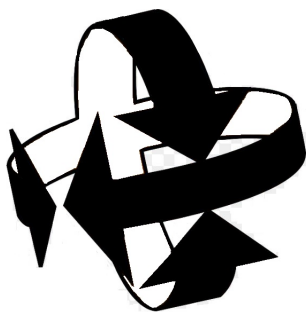
Explanation of the Pictograms



Prior to repair, maintenance and cleaning work, turned off the motor and unplug the power cord. Hearing protection is mandatory. Moving parts can be dangerous. They are only to be touched when they are completely at ease. All shielding must be mounted before starting up of the machine.



Grease injector



Sealing for belt guard can be turned and rotated according to the position of the motor, in relation to the belt guard. (See description of the parts of sealings).

Specifications

Conveying capacity (0,75t/m³ dry and cleaned grain)

SR25 Chain Conveyor = 25 tons/hour

SR40 Chain Conveyor = 40 tons/hour

Construction of module

Chain conveyors type SR25-40 are constructed in modules so that the required lengths always can be achieved with a tolerance of 25 cm.

Outlet sections

If you want to use the intermediate outlet, the outlet section can be placed between the extensions.

Opening and closing of the outlets can take place on the spot either by manually operated outlets or by outlet for remote control. Operation then takes place via wire from an accessible position. Can also be automatically/electrically operated.

Ascending conveying

Standard chain conveyors may be used for slightly ascending conveying of up to 7°.

If larger ascending than normally is needed, it is recommended to use a chain conveyor (10°-30°), which is supplied with high carriers and an intermediate bottom.

For conveying with ascending of more than 30° it is recommended to use chain elevators type SE25-40.

Reversible conveyors

In many cases it might be appropriate that the conveyor can convey in both directions, i.e., that the inlet is in the centre of the conveyor and this conveys to one side and to the other side respectively. At chain conveyors under 20m this can be done immediately simply by mounting a polarity reverser in the electric installation and by mounting of an outlet section just before the tail section. In these cases, please note that the chain must be kept tighter than usual, as a slack chain can cause damage to the conveyor.

Pipework

All chain conveyors can be supplied in all kinds of pipework to inlet and from outlet.

SR25 in- and outlet are Q16.

SR40 in- and outlet are Q20.

The pipework requires a 45° fall in order to enable grain and the like to slide. When working with seeds and other hard flowing products the skid angle is somewhat larger.

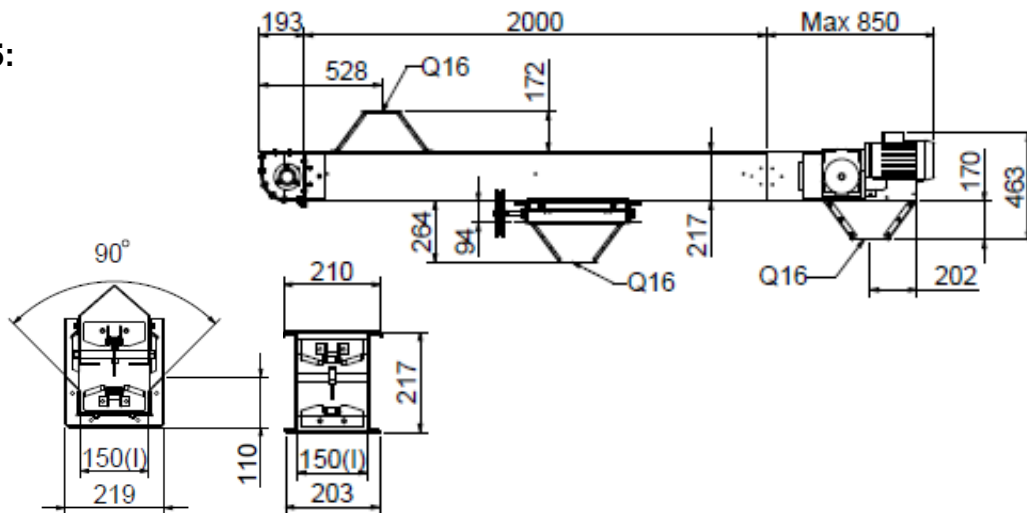
If round pipes are to be used, the minimum dimension for model SR25 is Ø150mm/OK160, for model SR40 minimum Ø200mm/OK200.

Technical Data

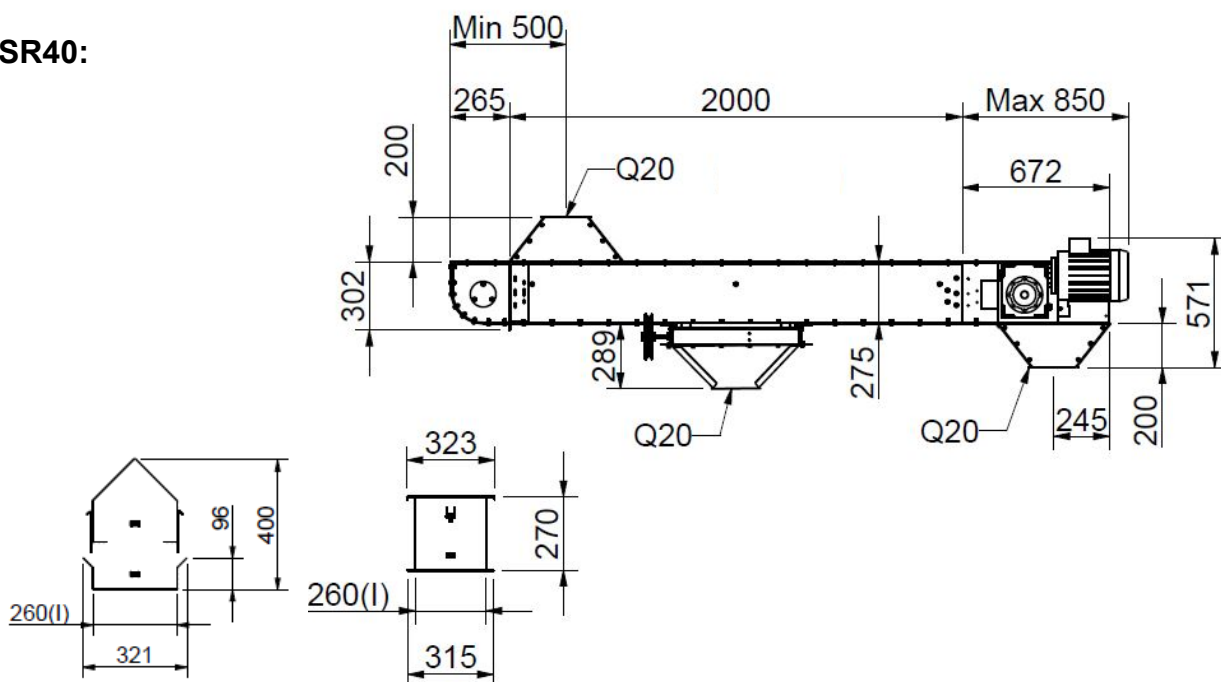
- Noise Level: Operation w/ grain 76 dB(A)
Without grain 70 dB(A)
- Motor Capacity: Between 1,1 kW and 5,5 kW. See nameplate of the motor for further information.
- Gear: Varvel RT/RS
Synthetic gear oil ISO VG 320 "long-life" oil
- Transport Capacity: SR25 up to 25 t/h SR40 up to 40 t/h

Extension with side inlet

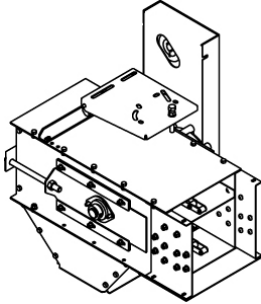
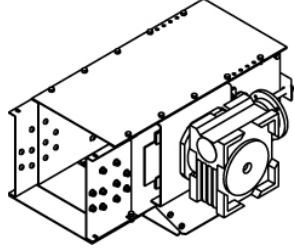
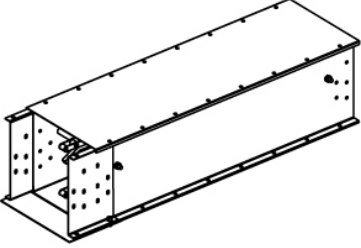
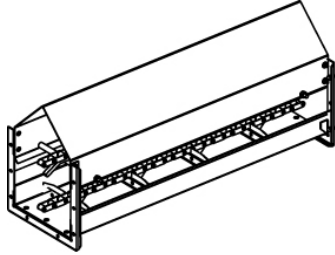
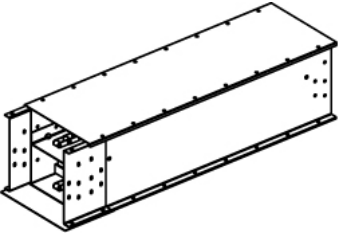
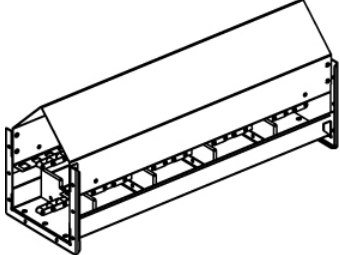
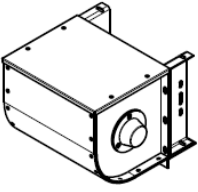
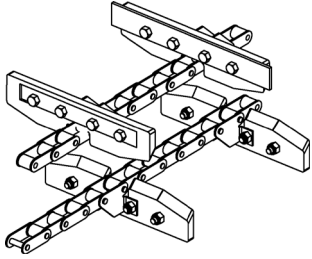
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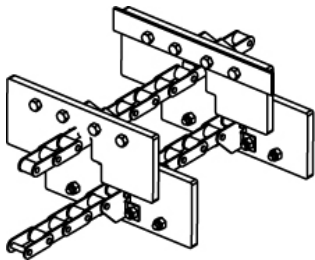
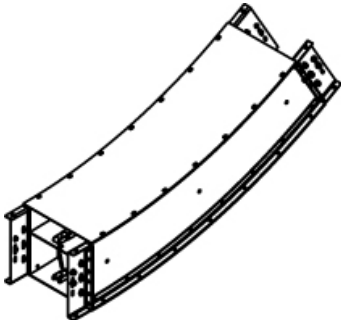
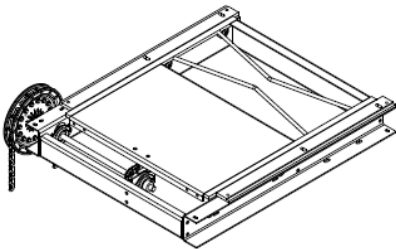
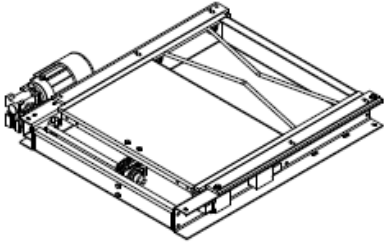
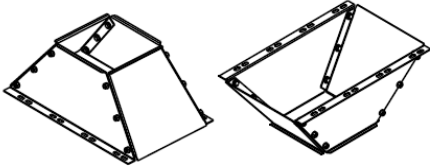
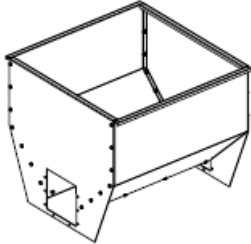
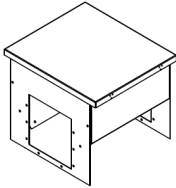



SR40:



Description of the components

<p>Drive-tension section w/belt drive</p> 	<p>Drive-tension section w/worm gear</p> 
<p>Extension including chain</p> 	<p>Extension w/ side inlet including chain</p> 
<p>Extension w/ intermediate plate including chain with extended carriers (10°-30°)</p> 	<p>Extension w/ side inlet including chain with extended carriers</p> 
<p>Tail section</p> 	<p>Chain for straight chain conveyor</p> 

<p>Chain for chain conveyor (10°-45°) and chain conveyor with bend</p> 	<p>Extension with bend</p> 
<p>Intermediate outlet, manually operated</p> 	<p>Intermediate outlet, motor operated</p> 
<p>Inlet/outlet</p> 	<p>Tip box</p> 
<p>Inlet box</p> 	<p>Sealing for belt guard</p> 

Assembly of SR25-40

The assembly of chain conveyors as referred to in this section, is a guideline from SØBY. If this is followed, a safe and uniform assembly of the chain conveyor is ensured. The machine can also be assembled in other ways. Assembly of the chain conveyor may only be carried out by specially instructed staff.

The SR25-40 chain conveyors are delivered in separate parts. Before starting up the assembly, it must be controlled that all parts are complete and delivered according to the order.

Calculate the assembly order of the drive-tension sections, of the extensions and of the outlet sections.

When the assembly order is determined, dismantle all covers from the extension and from the outlet sections and remove the chain and the assembly components.

The chain conveyor must be supported for minimum every 6 meters.

If the chain conveyor is going to be mounted at the top of a building, the supports possibly can be constructed as hangers hanging down from the rafters, or the conveyor can be placed directly on the beams of the roof construction.

The extensions and the outlets are assembled in suitable lengths and put in place and assembled with the other pieces.

Standard extensions are bolted together with the assembly plate at the side and in the bottom, (see figure 1)

At the tail section and at the extensions with side inlet angle brackets are mounted instead of plates (see figure 2).

The drive-tension section is mounted at the end of the outlet and the tail section at the opposite end.

Figure 1

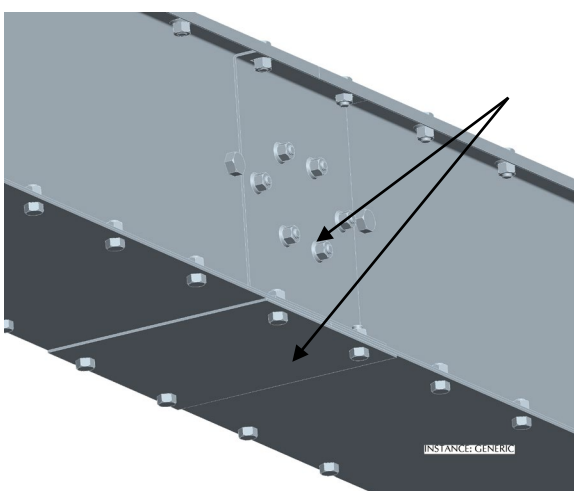
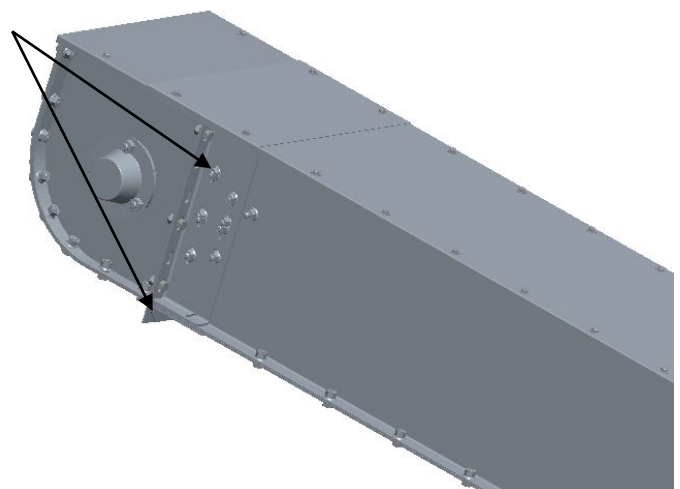
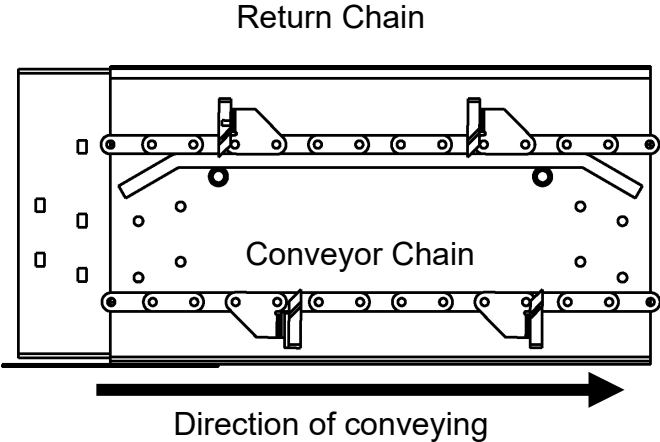


Figure 2



When the sections have been assembled and put into place, the chain is put in and pulled around the chain wheels at the ends. Please note the assembly of the chain in relation to the direction of rotation (see figure 3).

Figure 3

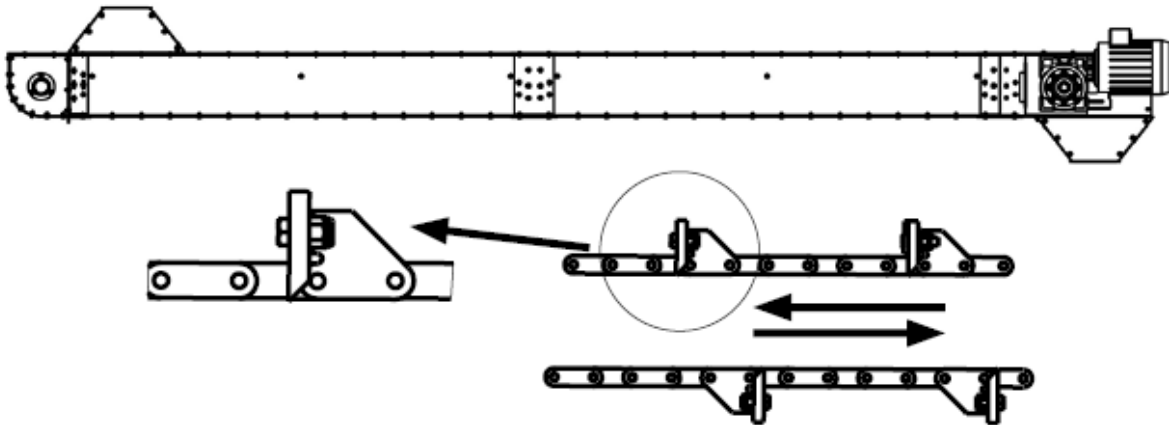


Mounting of return buckets

Below is a description of when it is necessary to mount return buckets and when it is not necessary.

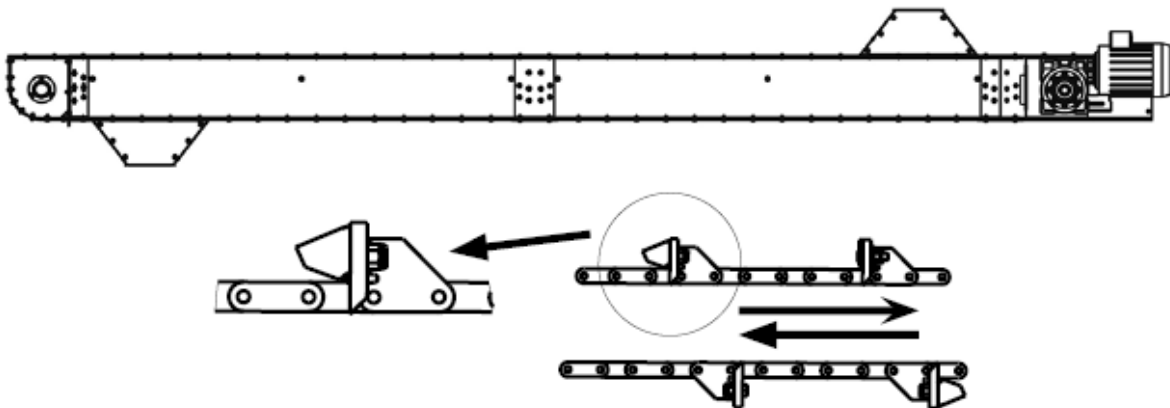
When return buckets are mounted, normally one bucket per 4 m meter of chain is mounted.

Standard chain conveyor without return buckets.



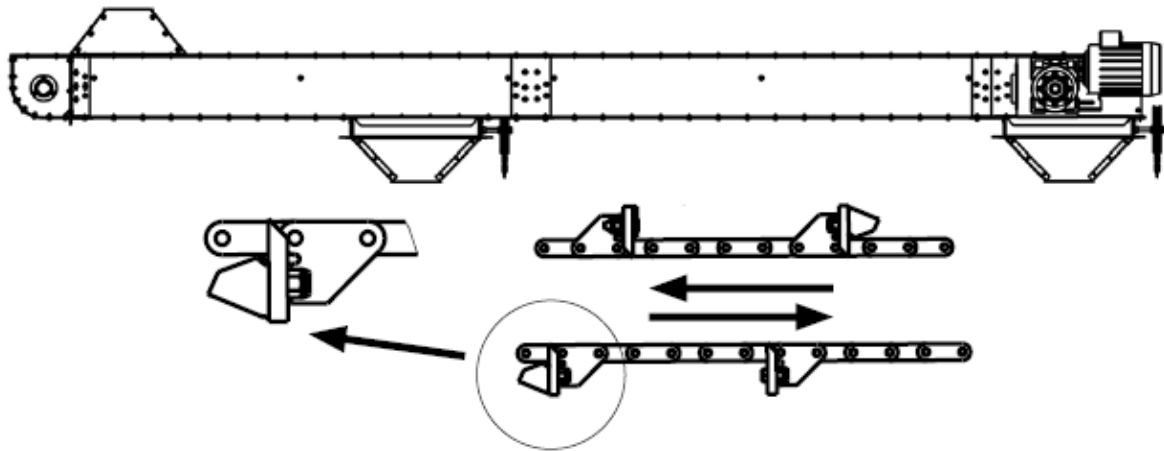
Standard chain conveyor with reverse direction of conveying. Mounted with return buckets.

Please note that the chain direction is the same as standard.

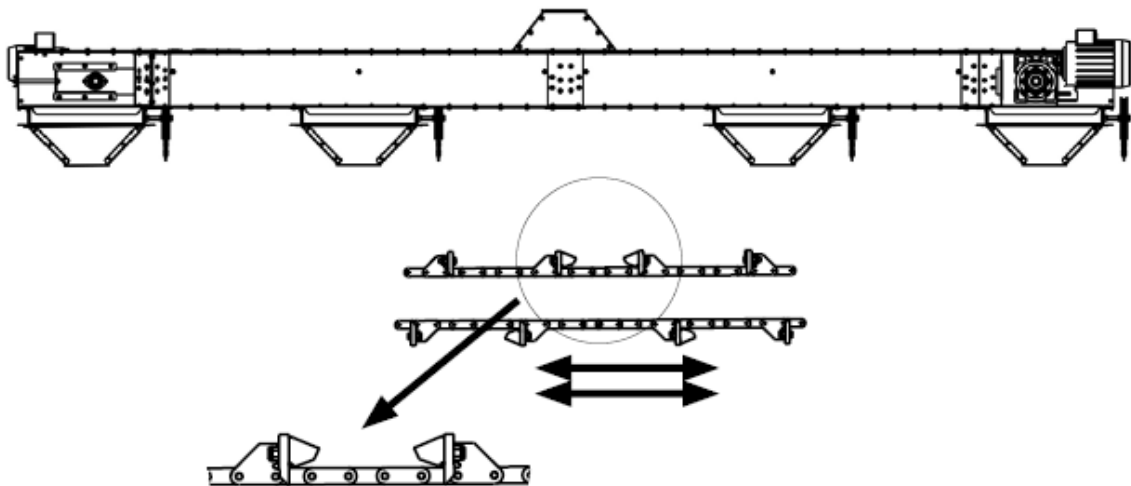


Chain conveyor with intermediate outlet, and with intermediate outlet under the drive-tension section. Mounted with return buckets.

Please note that the chain is turned proportional to standard chain conveyor.



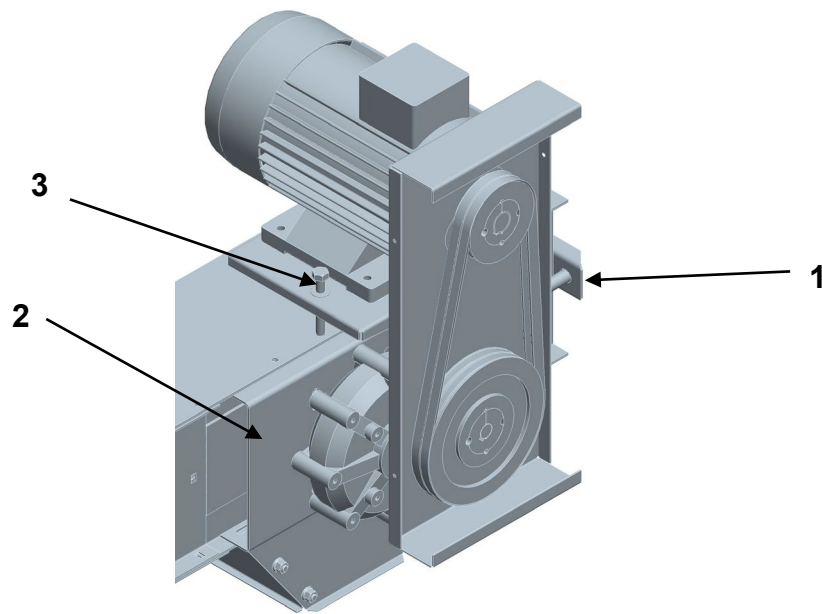
Chain conveyor reversible with intermediate outlet at both drive-tension sections.
Mounted at return buckets.
Please note that every 4 m chain is reversed.



With Belt Drive

The chain tensioning bolts are loosened completely, the chain is tensioned with a tackle or with a clamp, and the chain must be assembled with the supplied connectors. The chain is then adjusted with the tensioning bolts (figure 4 position 1). Do not forget to loosen the gear console (figure 4, position 2) while the chain is being tensioned.

Figure 4



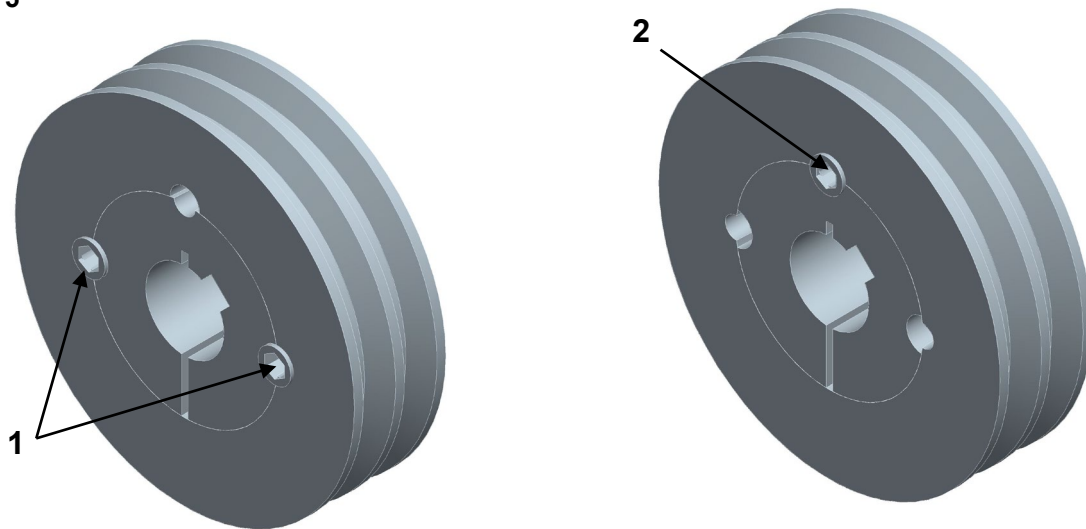
Motor and motor pulley are mounted, using a taper lock for attachment of the pulley (see figure 5). It might be necessary to move the motor bracket in the holes in the drive section, for the belt drive and the motor to match. The V-belts are tensioned with tensioning bolt (figure 4 position 3) and they are secured with a lock nut.

Taperlock

In order to tighten the pulley to the shaft, tighten the threaded pins in the 2 holes opposite each other position 1

In order to loosen the taperlock sleeves, the threaded pins are unscrewed, one of these threaded pins is turned into the third hole again, position 2 and is tightened.

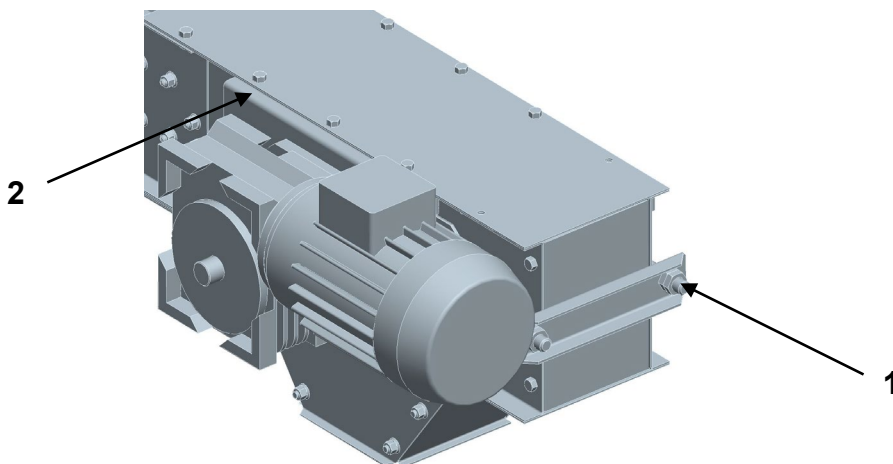
Figure 5



With gear motor

The chain tensioning bolts are loosened to the maximum and the chain is tightened with tackle or with screw clamp, and the chain is assembled with the supplied connectors. Thereafter the chain is adjusted with the tensioning bolts (figure 6 position 1). Remember to loosen the motor console (figure 6, position 2)

Figure 6

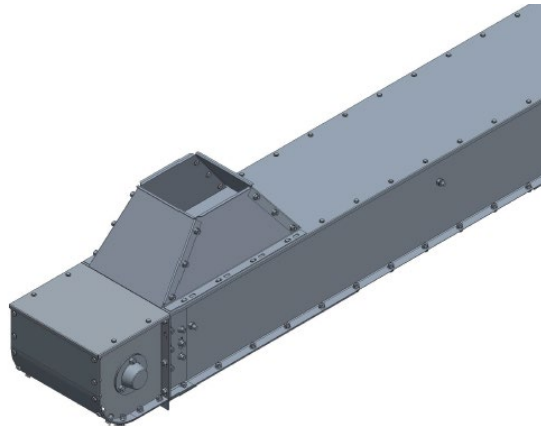


If the chain conveyor is to be placed outside, the electric motors can be protected from moisture; for this purpose, rain covers can be supplied.

Figure 7 shows a horizontal chain conveyor.

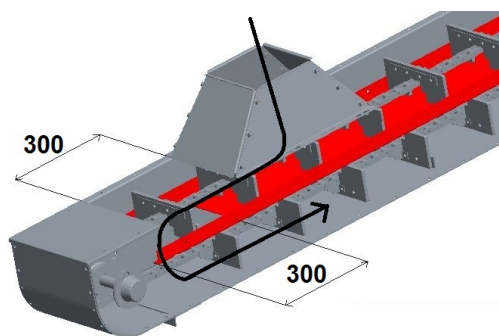
The covers for the extension sections and the outlet sections are mounted. On the places where the inlets are to be positioned, cut a hole in the cover, so it fits with the adaptor in question (See figure 7).

Figure 7



If the chain conveyor must be placed in angle 10° - 30° , a chain conveyor with intermediate plate and extended flights is used. The inlet hopper is positioned minimum 300 mm from the tail section. A hole, 300 mm long, must be cut in the intermediate plate, so that the conveying material (grain) comes through the inlet hopper, lands on the intermediate plate and is conveyed down through the hole to the lower chamber by the return flights (see figure 8)

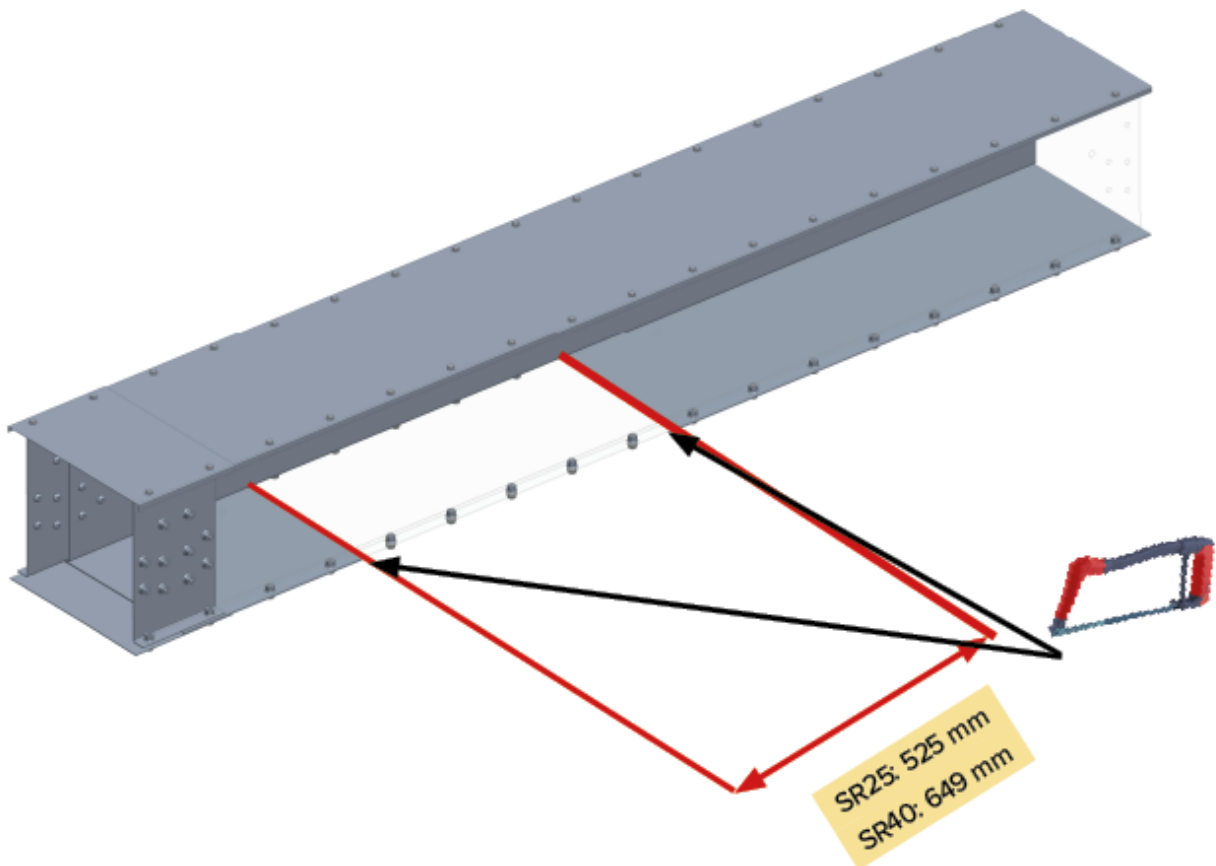
Figure 8



Mounting of intermediate outlet

In this section you will find a small explanation with text and pictures, where an intermediate outlet is mounted on a chain conveyor. An intermediate outlet is available both as manual, remote- and motor controlled. The intermediate outlet can be supplied with end stop switch set, which gives signal to the conveying system's control of the slide position open/closed). The end stop switch set is always included in a motor operated intermediate outlet.

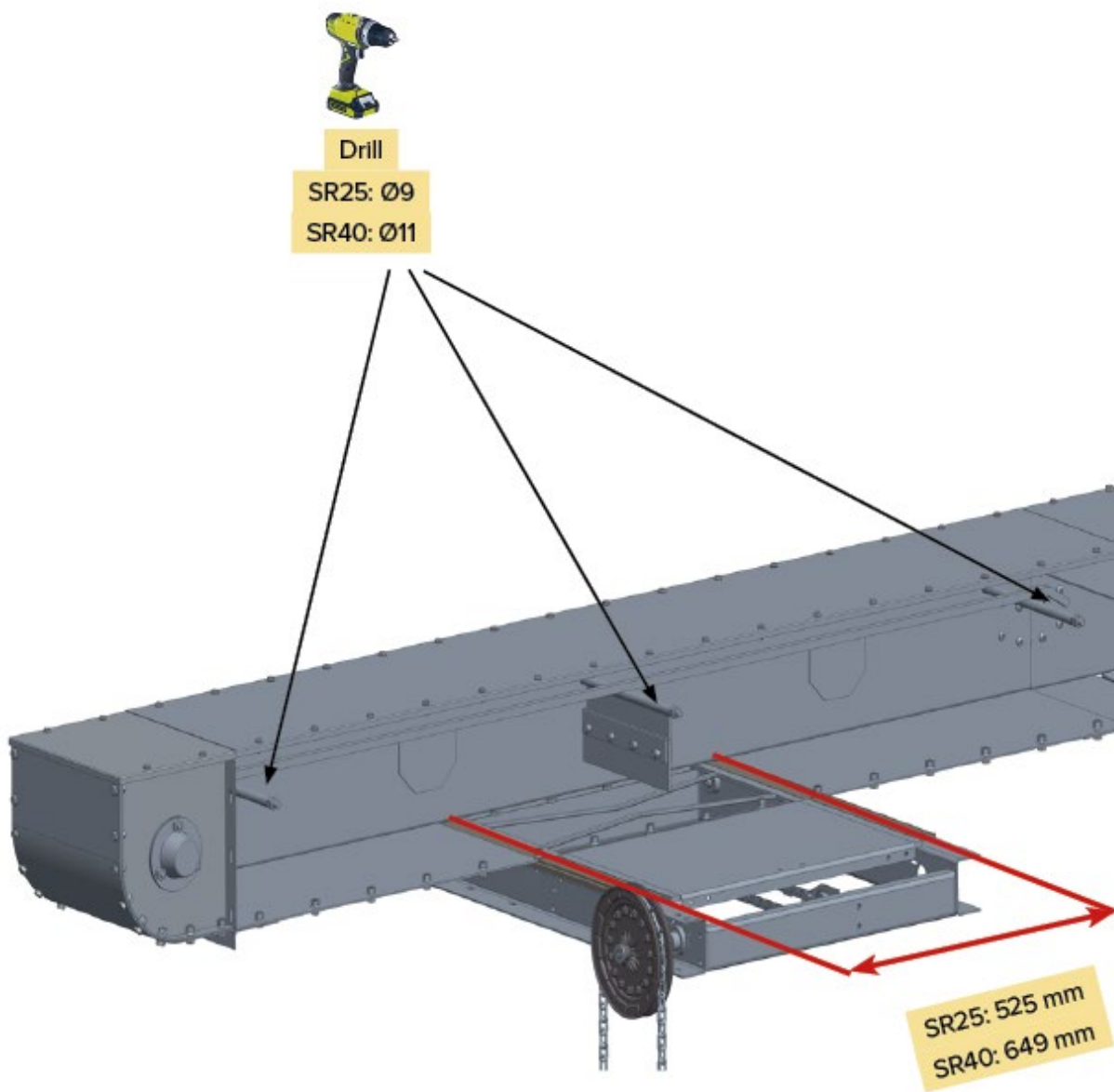
Figure 9



When mounting the intermediate outlet, the bottom plate must be cut out and removed where the intermediate outlet should be. The dimension of the hole to be cut for the intermediate outlet should be the same as the width of the intermediate outlet + 5 mm (see drawing below).

The intermediate outlet must be mounted directly upon the flanges at the sides of the chain conveyor. This give a flat bottom when the slide is closed. The outlet cleaner must be placed above the place where the intermediate outlet is mounted, in the same height as the chain guard, and in the middle above the intermediate outlet. (see picture).

Fig. 10



If end stop switches are to be mounted, these should be mounted as shown in the picture below. The arms of the contacts must be installed in a way that a signal is given both in case of open and closed position.

When ordering a motor operated intermediate outlet, the end stop switches are mounted in a standard position here from SØBY. When the electricity has been connected, the contacts are adjusted to the position desired.

OBS: It is important to emphasize that the slide at the intermediate outlet must not come to a physical stop, da as this could damage the motor.

Fig. 11

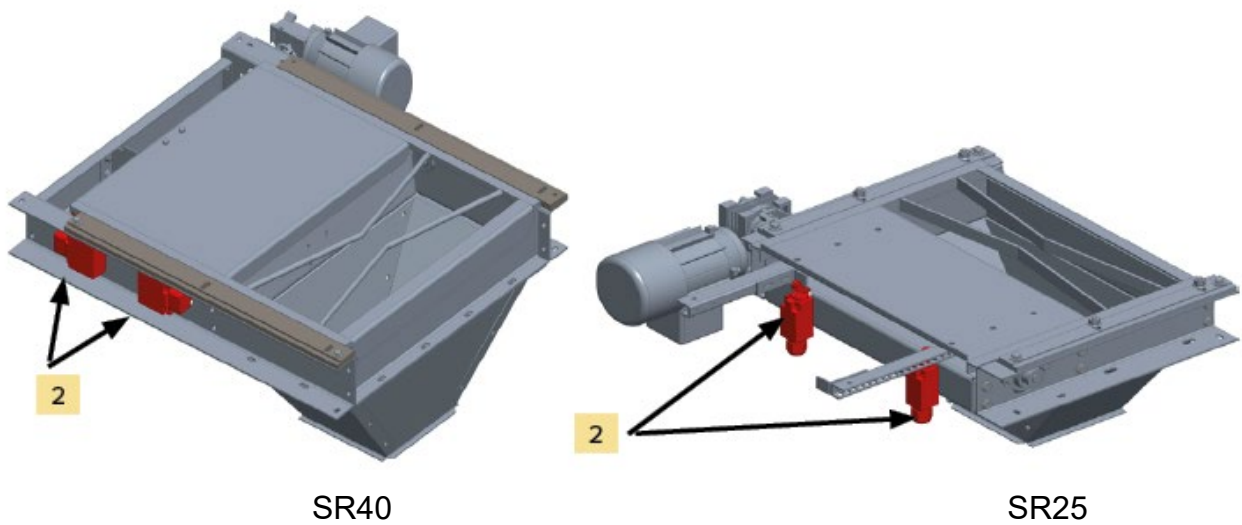
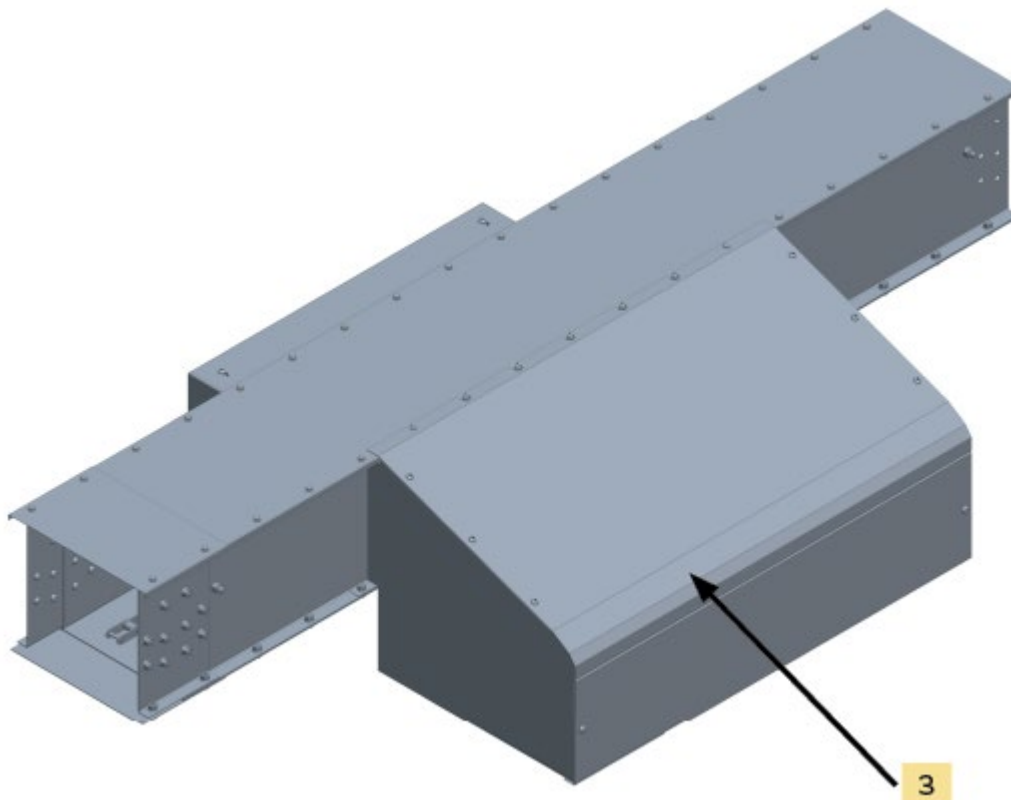


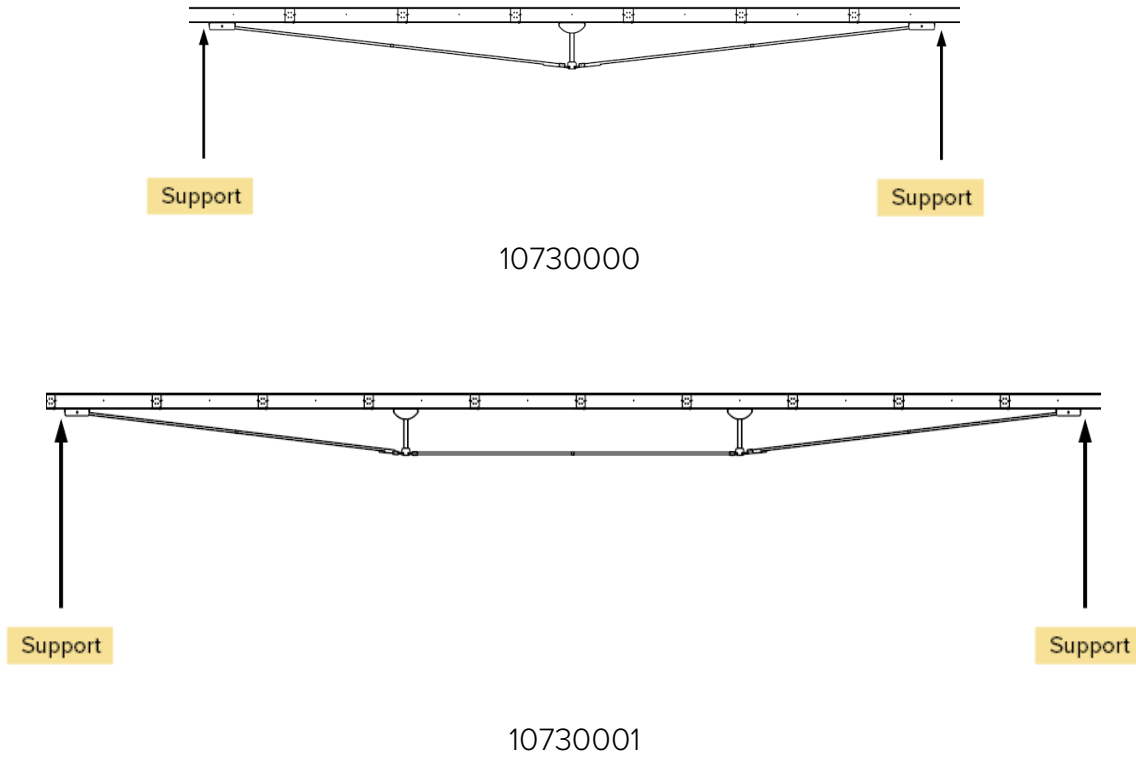
Fig. 12



Mounting of bracing support

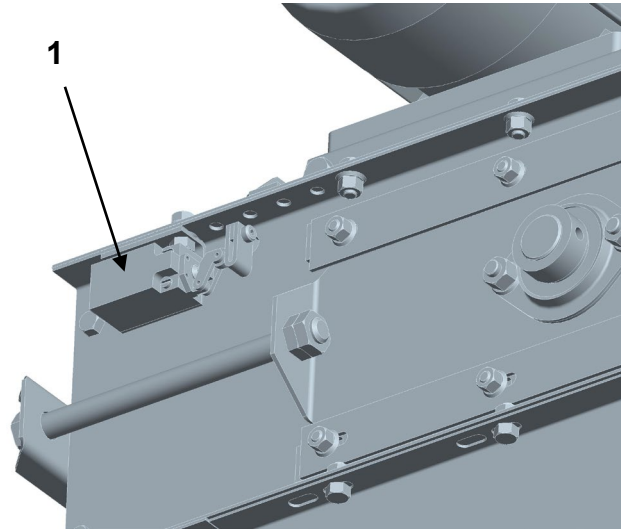
Figure 13 shows how a SØBY chain conveyor must be supported when mounting bracing supports.

Fig. 13



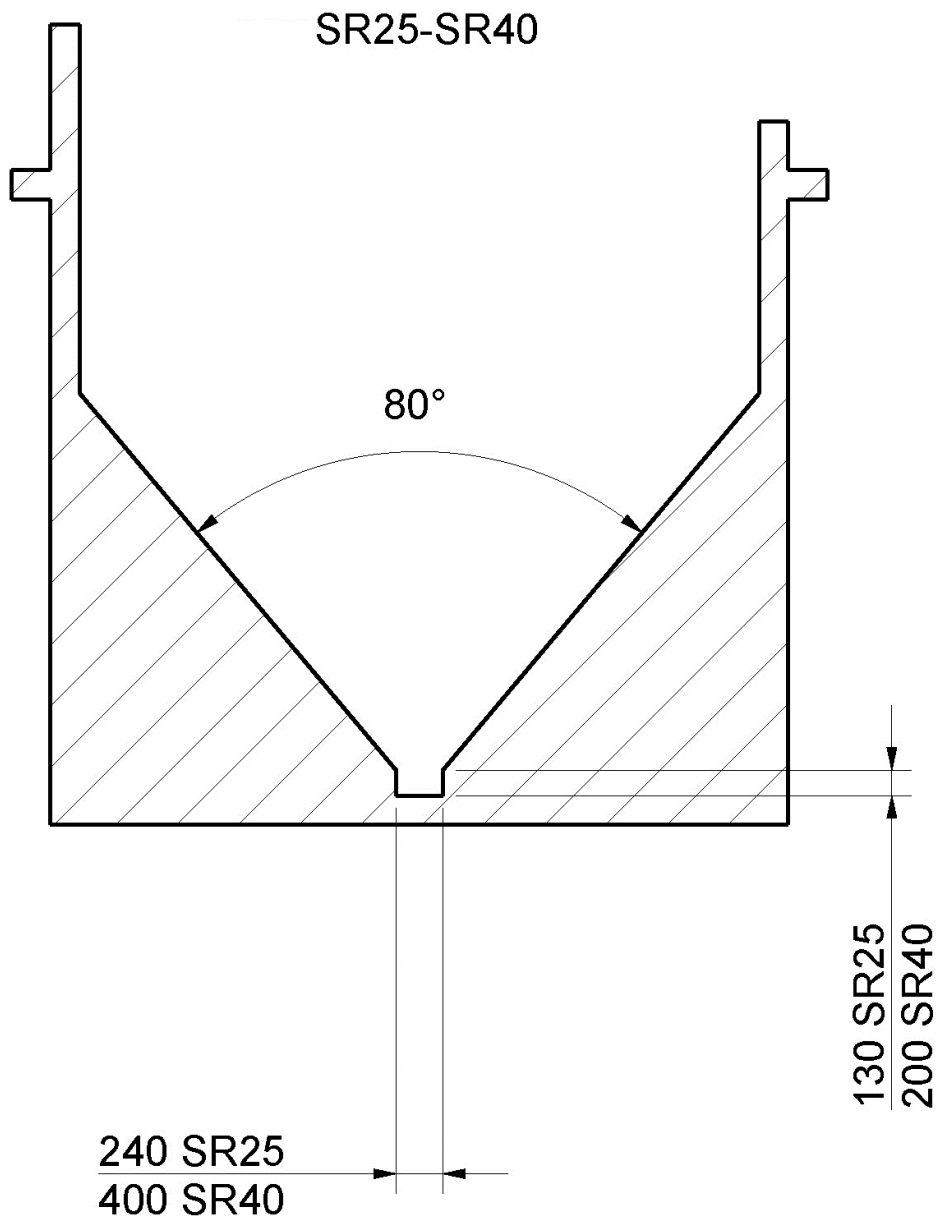
If the chain conveyor has been ordered with overload switch (overflow sensor), this is positioned at the drive station (see figure 14, position1). Concerning electricity connection, see supplier instructions.

Figure 14



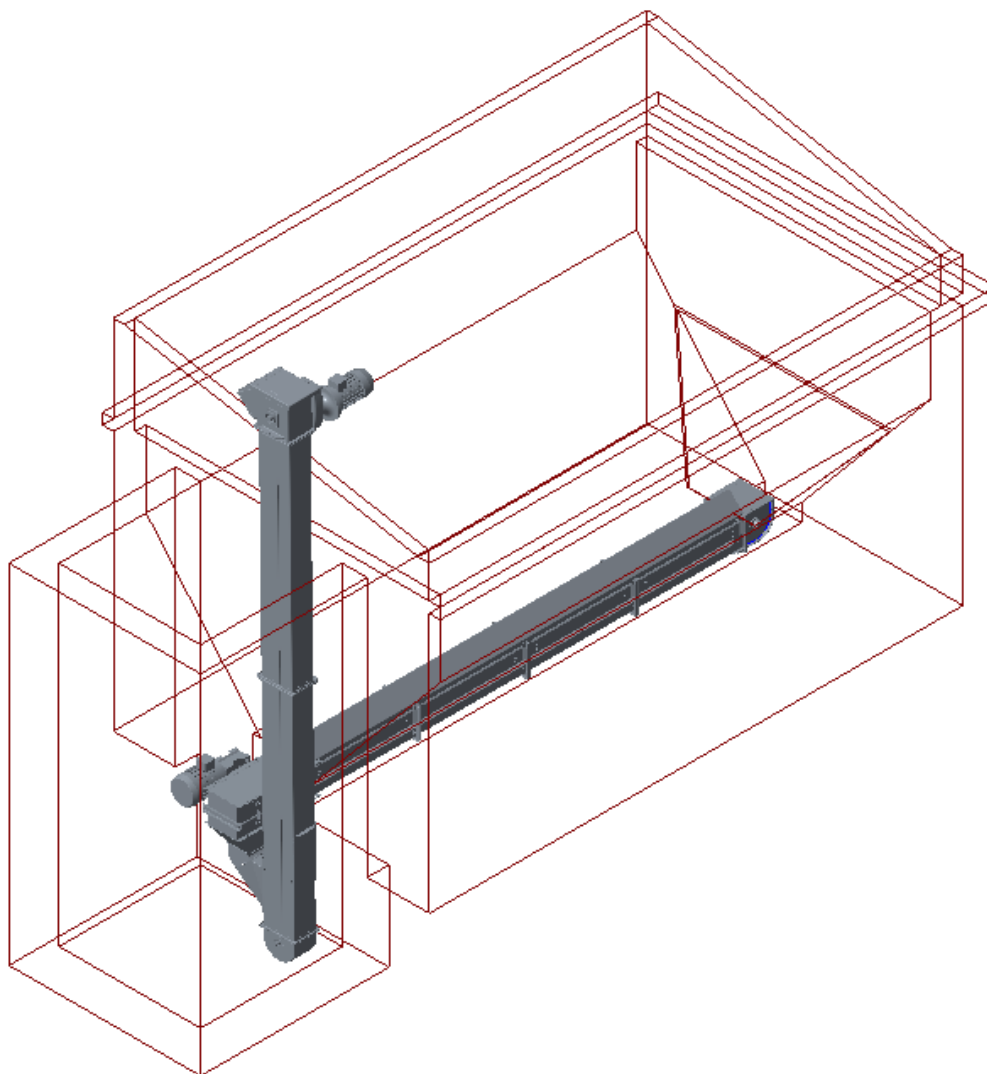
Pit conveyors are assembled in the same way as the standard chain conveyor.
 Regarding pit, it is important that the slope of the sides is maximum 80° for the crops to slip freely to the chain conveyor.
 Between the inclined sides of the chain conveyor and the concrete, cover plates, which are fastened to the concrete, must be mounted.
 Dimensions for casting are as shown in figure 15.

Figure 15



Normally a service pit is established in the continuation of the pit, where interconnection with e.g. an elevator can be made. This pit must be constructed as large as possible enabling you to service the chain conveyor as well as also the elevator (See figure 16).

Figure 16

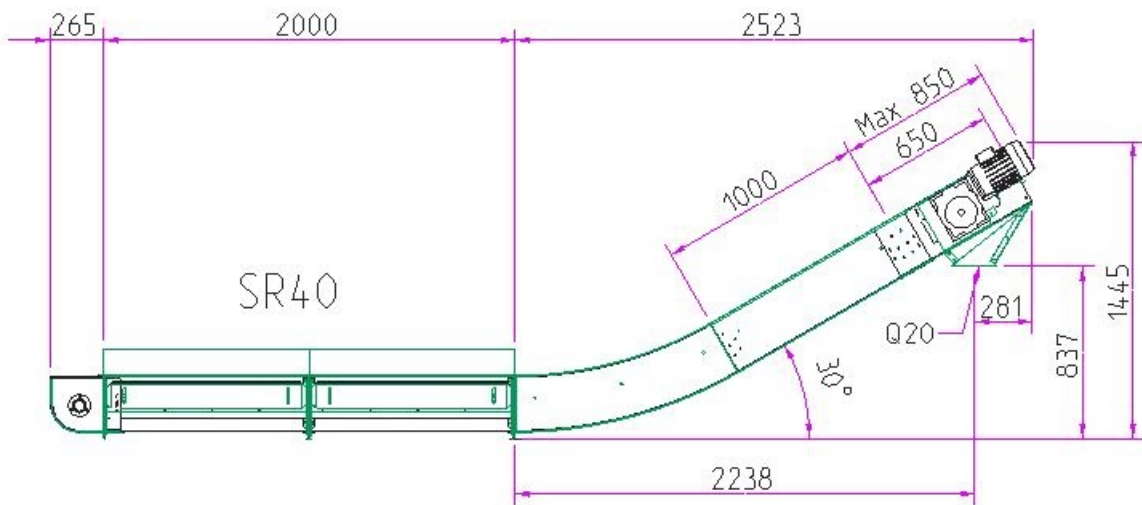


If there are problems with groundwater when digging a service pit, or if you want to use a pit conveyor together with a tip box placed on a level floor, you can use an extension with bend and a modified outlet, thereby raising the outlet at the chain conveyor (See figure 17).



When using bend, you use chain with extended flights and extensions with intermediate plate.

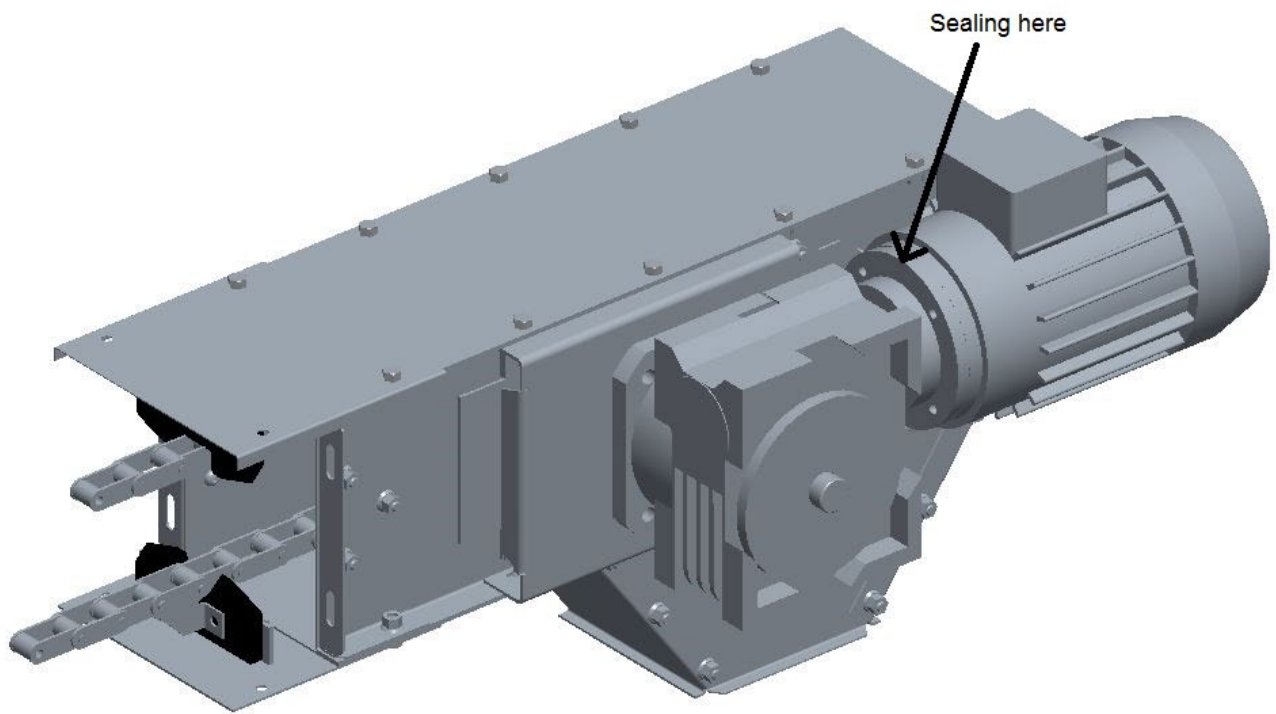
Figure 17



Sealing of flange between gear and motor

The assembly is to be jointed at the upper side, in order to avoid entering of water.

Figure 18



Electrical Equipment

The electrical connection to machinery delivered by us may only be performed by specially trained staff.



During installation, be aware of the voltage and data indicated on the data plate.

The terminals of the motor are connected according to the instructions on the data plate of the motor. The motor is secured with thermal protection and a lockable circuit breaker, as otherwise the warranty from the motor manufacturer will be cancelled (This equipment is not included in the delivery).

Installation and connection of the unit must take place in accordance with national rules of installation, supplemented by the demands stated in the heavy current regulations EN60204-1 and EN60079-14. Starting up of the electrical parts and subsequent maintenance must be in accordance with the instructions in EN60079-17.

If a frequency converter is installed, it is necessary to observe data from the converter and the data plate. Please be aware of the labelling of electrical components in classified areas.

When connecting the chain conveyor make sure that the direction of rotation of the chain conveyor fits with the conveying direction you want.

Potential equalization:

The connection must be carried out in accordance with the instructions in EN60079-14.

Operating and starting up

During operation of the chain conveyor, the applicable regulations for prevention of accidents must be observed.

Add the conveying material to the chain conveyor and check if this can run off freely.

Avoid as far as possible operating with an empty chain conveyor as this causes considerable wear of material and bearings, also it will also generate significantly more noise from the chain conveyor.

During normal operation, the chain conveyor will only be filled to the middle of the chain conveyor. The filling height will, however, depend on the crop.

Maintenance



During maintenance works, the safety regulations, which are described in the section Safety Instructions, must be observed.

The tension of the V-belt must be checked every 3 months. The belt shielding is removed, the tension is checked and if applicable, the V-belt must be tightened using the levelling screw of the motor bracket. By frequent use of the chain conveyor check the tension of the V-belt every month. If it is no longer possible to re-tighten, the V-belt must be replaced.

The chain conveyor is worn, depending on amount of dirt in the material conveyed and must be checked once a year for abrasion or damages. Foreign objects, such as pieces of wood, stone or iron, may cause damages. If foreign objects are stuck inside the chain conveyor, these can be removed by using appropriate tools, but under no circumstances by your own hands. If this is necessary, disassemble the chain conveyor. Parts that might be worn are replaced at the same time. Foreign objects must, however, always be avoided.

Please note that safety of motors, gears and bearings is subject to compliances with maintenance intervals/replacement.

The electrical motors are dimensioned so that they cannot be overloaded during normal operations, if they have been correctly mounted and installed. The motor protection will disconnect the power supply if the motor is overloaded or in case of power supply fault. Fuses and the motor protection must be controlled and replaced by special instructed staff if necessary.

The chain tension should be checked regularly at an interval of every 100 hours; this is done by dismantling the covering plate of one of the center sections, and thus you can lift up the chain and check the tension and the tightening of the chain.

Maintenance table

Equipment	Manufacturer	Maintenance requirements	Intervals of maintenance
Bearing at drive-tension section	PTI	Control of abrasion, packing and discoloration	Must be replaced for every 10.000 operating hours
Bearing at tail	PTI	Control of abrasion, packing and discoloration	Must be replaced for every 10.000 operating hours
Belt	PTI	Control of V-belt every 3. month. By frequent use every month, and re-tighten if necessary. Is it no longer possible to re-tighten the V-belt	Must be replaced for every 1.000 operation hours
Belt pulleys	PTI	Control of signs of abrasion	Must be replaced for every 10.000 operating hours
Traction chain	SØBY	Control of tension	Tension is controlled for every 100 operating hours
Traction chain	SØBY	Sign of abrasion or weakness in chain locks	Controlled for every 1.000 operating hours or once a year if there should be signs of abrasion or weakness in chain lock. Must be replaced for every 20.000 hours.
Motor	Cantoni /techtop	Inspect motor and remove layer of dust or similar on a regular basis	Bearings must be replaced for every 25.000 operating hours
Wormgear	Varvel	Control of abrasion, layers of dust and leak	It is important to emphasize that the explosion safety is subject to the maintenance required below: Dust layer more than 5 mm must be removed with a vacuum cleaner. For every 6 months, a visual inspection of oil seals must be carried out, and in case of signs of abrasion, the seals must be replaced. Also, a regular control of noise is carried out.

Cleaning

The chain conveyor should be cleaned regularly to avoid product mixtures, formation of bacteria and damages of the product



In order to avoid overheating, dust layers at motor and gears must be removed regularly.

At least once a year the whole chain conveyor should be cleaned and inspected for faults and abrasion.

Cleaning is necessary when changing of crops in order not to mix these together.

When conveying highly adhesive products, such as rape, corn, soya bean meals and the like, all inlets and outlets must be controlled of free passage.

Check that the carriers are in good condition and that the cleaning tape (belt) at every fourth carrier is not defect, otherwise it should be replaced. It must be checked also that the chain is not stuck.

During cleaning the precautions described under safety instructions are carried out.

Troubleshooting

Error	Possible cause	Advice
The chain conveyor does not start	Electricity supply is disconnected	Check electric power cable and replace if necessary
	The fuses of the motor are defect	Replace fuses
	The safety switch of the motor is defect	Replace the safety switch of the motor
	The motor is defect	Replace the motor
	A foreign object blocks the chain conveyor	Remove the foreign object by suitable means
The motor stops / is overloaded	A foreign object blocks the chain conveyor	Remove the foreign object by suitable means
	The outlet is blocked	Clean the outlet
	Too much conveying material in the chain conveyor	Adjust admission to smaller quantities of conveying material
	Electricity supply is disconnected	Check electric power cable and replace if necessary
	The fuses of the motor are defect	Replace the fuses
The chain conveyor does not convey / conveys irregularly	The drive shaft is broken	Replace the drive shaft
	The tension of the V-belt is too weak	Re-tighten the V-belt, replace if necessary
	The conveying material is too polluted	Clean the conveying material
	The conveying material is too moist	Dry the conveying material
	Insufficient conveying material available	Add conveying material

Residual Risk

The chain conveyor is produced in accordance with the health and safety requirements, which are set out in the ATEX and in the Machinery Directive, and in accordance with the consequently harmonized standards. If these regulations are disregarded, the chain conveyor might be a danger to the operator or to the life and limb of a third party. See Declaration of Conformity

Supplier Instructions

Potential equalization:

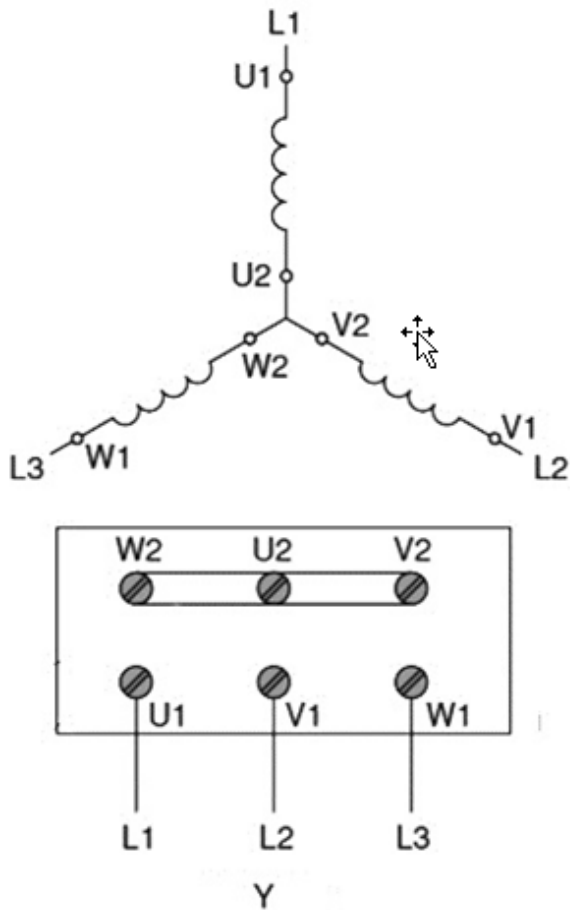
There is a terminal for connecting the equalization connection in the terminal box of the motor. The connection must be carried out in accordance with the instructions in EN60079-14.

Connection diagram for Cantoni motors for either star or triangle connection.

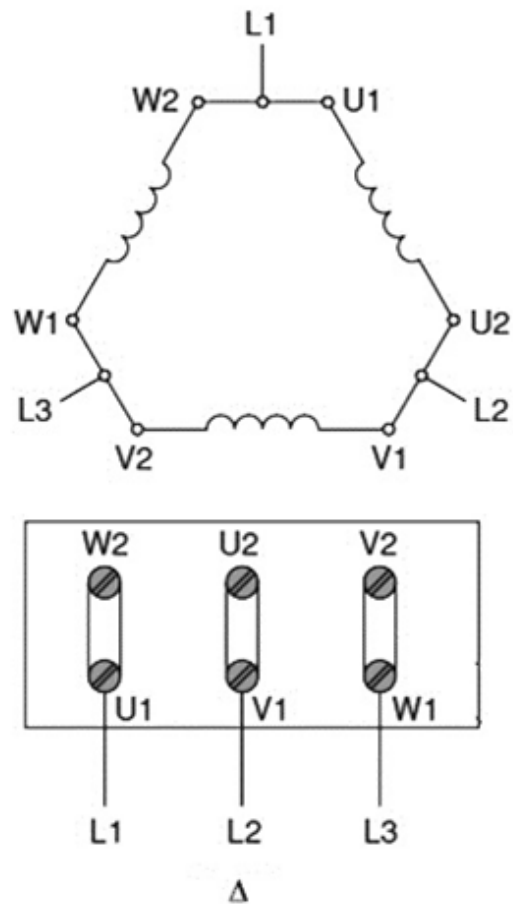
Standard motor terminal connection diagrams

3-phase single-speed motors:

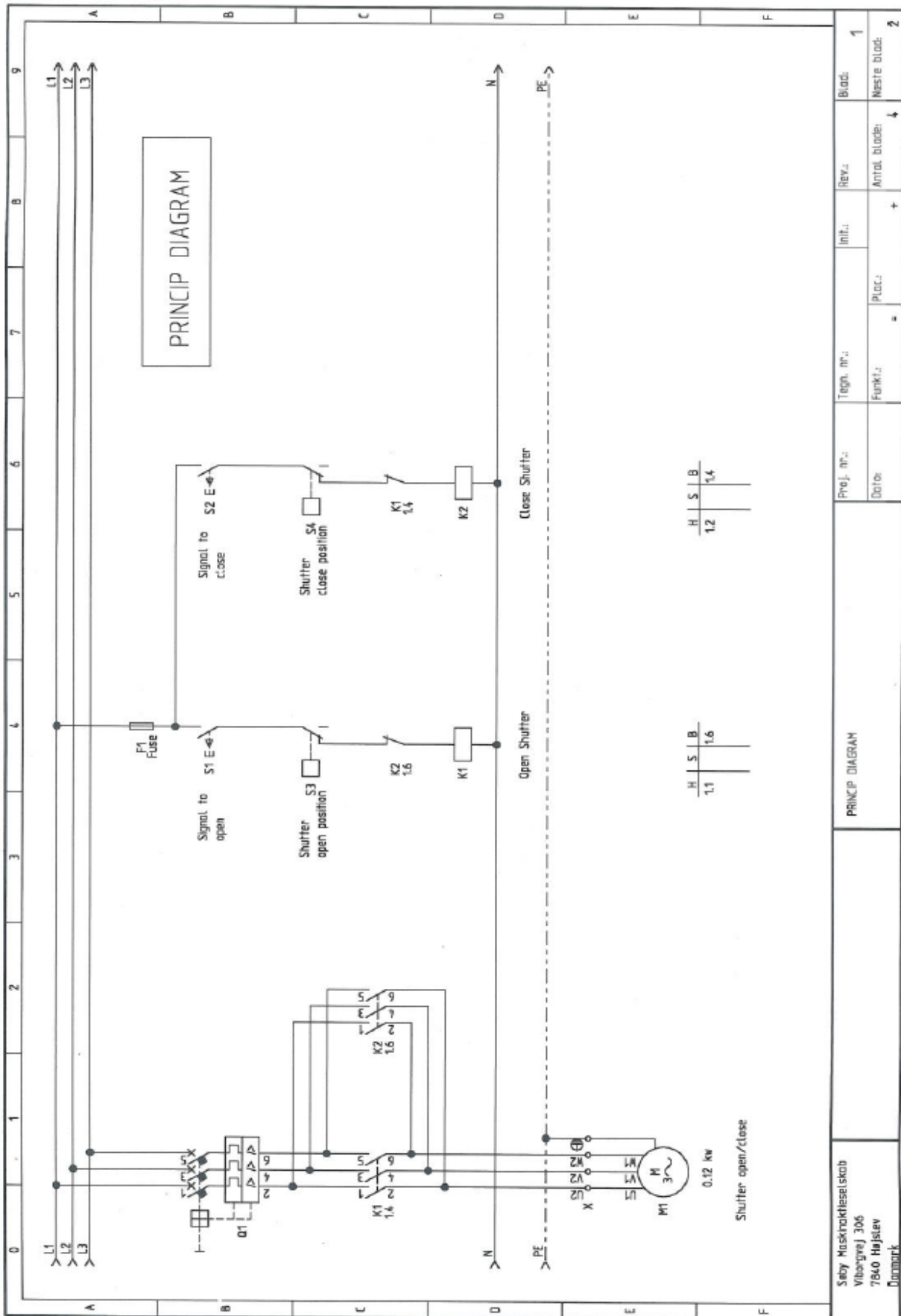
Connection in a Y



Connection in a Δ



Intermediate outlet circuit diagram



Sely MaskroMeseLstak Viborgvej 306 7840 Højstev Danmark	PRINCIP DIAGRAM			Proj. nr.:	Tegn. nr.:	Init.:	Rev.:	Blad:
				Dato:	Funk.:	Plac.:	Anr. blad:	Neste blad:
								1
								2

Working Instructions & Maintenance

Lubricants

LUBRICANTS

Recommended Types

All the units are delivered already filled with synthetic long-life oil.

The safe operation of the units with ISO VG 320 grade lubricant is recommended in the ambient temperature range
-20 to +55 °C (-4 to 131 °F)

Other temperatures require specific recommendations for low or high temperatures to ask the Customer Service.

Temperature range	ISO VG								
	* 320	Degol GS 320	Energyn SG:XP320	Alphasyn PG 320	Glycolube 320	Glygoyle HE 320	Synlube CLP 320	Carter SY 320	Tivela SC 320
	** 320	Eural Gear 320	---	Vitalube GS 320	Gear Oil FM 320	Mobil DTE FM 320	---	Nevastane EP 320	Cassida Fluid GL 320

* - Synthetic oil

** - Food Industry Approved Oil

Quantity [litres]

RC	2c			3c	3c			4c	4c		
	l ₁	l ₂	l ₃		l ₁	l ₂	l ₃		l ₁	l ₂	l ₃
RC205	0.13	0.15	0.15	RC305	0.17	0.30	0.30	RC305	0.21	0.40	0.40
RC210	0.17	0.25	0.17	RC310	0.25	0.50	0.35	RC310	0.35	0.70	0.50
RC220	0.50	0.60	0.50	RC320	0.60	0.80	0.60	RC320	0.85	1.10	0.85
RC230	0.70	1.15	0.80	RC330	1.15	1.50	1.15	RC330	1.25	1.60	1.25
RC240	1.15	2.25	2.00	RC340	1.50	3.00	2.25	RC340	2.75	5.00	3.50
RC250	2.25	4.40	4.00	RC350	3.75	6.00	5.00	RC350	6.50	10.0	8.00
RC260	6.00	8.80	8.00	RC360	8.00	10.0	8.80	RC360	12.0	15.0	13.5
2c - Two stages				3c - Three stages				4c - Four stages			

l₁ = B3, B6, B7, B8, B5 l₂ = V1, V5

l₃ = V3, V6

RD	2c		3c	3c	
	H	V		H	V
RD02	0.20	0.28	RD03	0.30	0.38
RD12	0.50	0.70	RD13	0.50	0.70
RD22	0.80	1.00	RD23	0.80	1.00
RD32	1.30	1.80	RD33	1.60	2.10
RD42	2.20	3.00	RD43	2.20	3.40
RD52	4.50	5.50	RD53	4.50	6.50
RD62	7.00	9.00	RD63	7.00	11.00
2c - Two stages			3c - Three stages		

H = H1, H2, H3, H4 V = V5, V6



Declaration of Conformity



The Company

Søby Maskinaktieselskab
Viborgvej 306
DK-7840 Højslev
Denmark

Herewith declares that under the provisions of EC directives
2014/34/EU, potentially explosive atmospheres
2006/42/EC, machine directive
2004/108/EC, EMC directive
In its current form.

The model supplied by Søby Maskinaktieselskab of the following product type

type: SR25-SR40

As referred to in this declaration
Complies with the following standards and normative documents
In their currently valid form:

EN 60079-0:2012	Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-14:2014	Explosive atmospheres - Part 14: Electrical installations design, selection and erection
EN 60079-31:2014	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
EN 1127-1:2011	Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology
EN ISO 80079-36:2016	Non-electrical equipment for use in potentially explosive atmospheres Part 1: Basic method and requirements
EN ISO 80079-37:2016	Non-electrical equipment for use in potentially explosive atmospheres Part 5: Protection by constructional safety 'c'
EN ISO 12100:2011	Safety of machinery - Risk assessment - Part 1: Principles
EN 60034-1:2010	Rotating electrical machines - Part 1; Rating and performance
EN 60034-5:2007	Rotating electrical machines - Part 5; Classification of degrees of protection provided by enclosure for rotating machinery
EN ISO 12100:2011	Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology
EN ISO 12100:2011	Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles
EN 13857:2008	Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
EN 60034-30-1:2014	Rotating electrical machines - Part 30; Efficiency classes of single-speed, three-phase-induction motors (IE-code)
EN 61000-6-2:2005	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61000-6-3:2011	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
BGR 132	Avoiding ignition dangers due to electrostatic charges

The product are marked additionally with the following characteristic:



II 2 D Ex h IIIB T85°C Db

If the unit is to be installed in potentially explosive atmospheres, the outside mounted equipment must be selected according to 2014/34/EU. This unit is only intended for handling materials which gives an internal explosive atmosphere.

Højslev, Feb, 2017

Director
Frants Frantsen



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SINCE 1961

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