



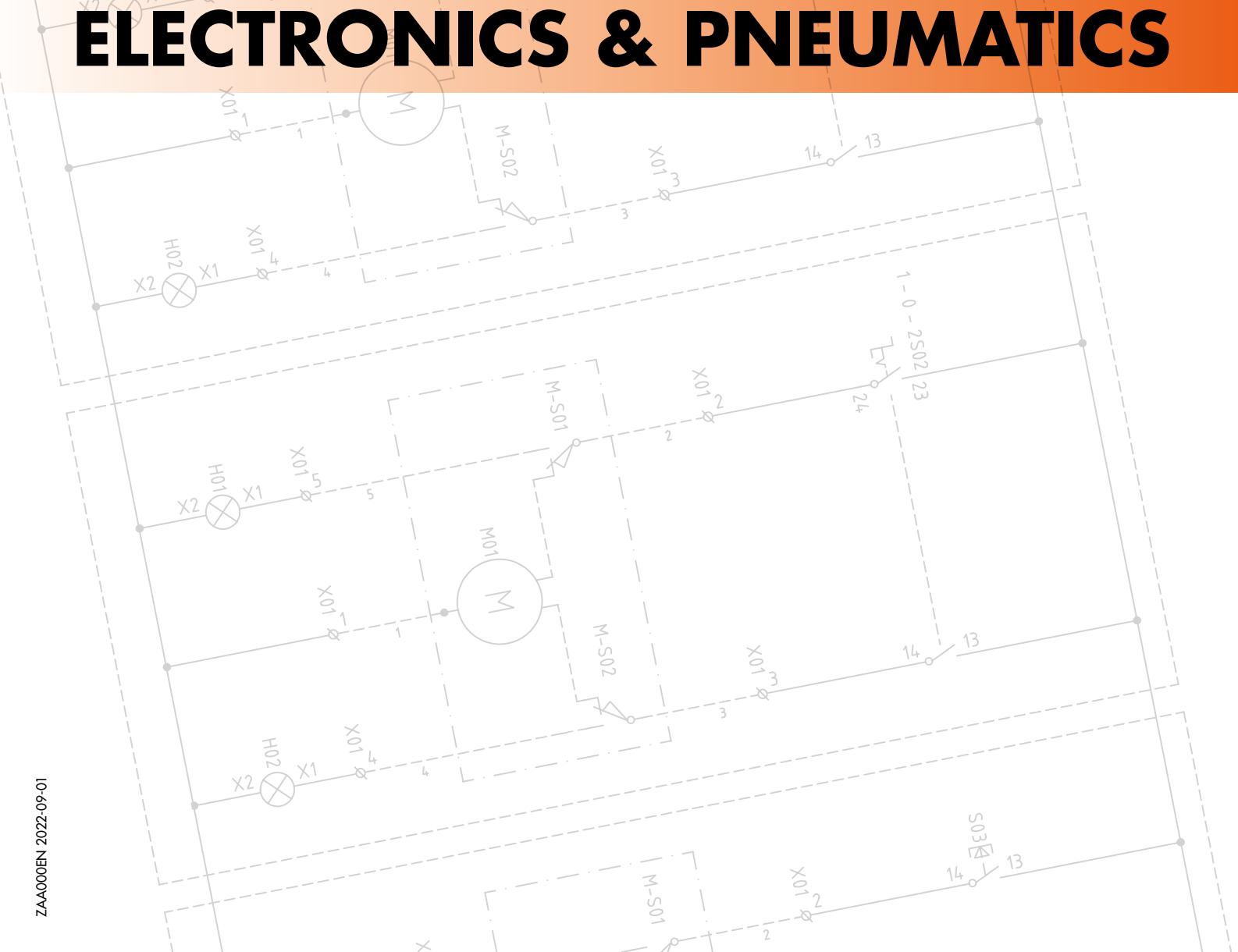
SKANDIA
ELEVATOR

CONNECTING INSTRUCTIONS

L/I/H-LINE



ELECTRONICS & PNEUMATICS



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Warranty

The warranty applies to electronic equipment that has been damaged or found to have been faulty during manufacture, assembly at the factory or during transport. Damaged or faulty electronic equipment shall be returned and replaced. Damage or faults arising from incorrect connection, incorrect handling, user made changes and/or deficient maintenance are not covered by the warranty.

The owner of the transport equipment is responsible for these connecting directions always being available to the electricians concerned.

Incorrect connection procedure may lead to personal injury or damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

Read the connecting directions carefully before making the electrical connection. If any part of these instructions should be difficult to comprehend, please get in touch with your reseller for assistance.

The safety information is presented and interpreted as follows:

WARNING!

Disregarding instructions given in warnings can cause serious personal injury or death.

IMPORTANT!

Ignoring the instructions given in important texts may cause damage to the conveyor equipment and/or other equipment. It can also cause malfunctions or a reduction in capacity.

OBS! En obs-text innehåller information som förenklar monteringsförfarandet.

General

WARNING!

- Ensure that everyone responsible for assembly, electrical connection, maintenance and operation of the conveyor equipment has read and understood the instructions and safety information.
- Use protective gloves, helmet, steel-toed boots, ear defenders, protective goggles and high-vis vest when carrying out assembly, electrical connection, maintenance and operation of conveyor equipment.



WARNING!

- Stop the machinery and turn off electric power before attempting any type of assembly, electrical connection or maintenance work.
- Do not start the machinery without the elevator hood and all hatches, covers, lids and guards fitted in such a way they can only be opened with tools.
- Ensure the safety switch for the inspection cover (optional accessory) is engaged during operation.

IMPORTANT!

- If the machine is being assembled outdoors, the motors and transmissions must be fitted with a weather cover.
- If a short circuit should occur, ensure that the electrical equipment is in working order before continuing operation.
- Ensure that the electrical and pneumatic equipment is kept free from dirt, dust, moisture and electrostatic charge.
- The machine is not designed to stand or walk on.

Electrical and pneumatic connection

WARNING!

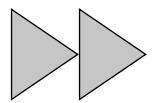
- All electronics and pneumatics must be connected by a qualified and authorised technician for the area.
- Follow the national and international regulations that apply when connecting electronics and pneumatics.
- The power switch must be permanently mounted and located to allow easy access when carrying out maintenance work.
- Ensure that all sensors and switches (see list of contents in these connecting instructions) are active when in operation. NB! Certain sensors/switches are optional accessories only on certain machines.
- Remove the back stop from the drive shaft before an elevator is test started for the first time. Read the "Back stop" section in the elevator assembly instructions thoroughly. Ensure the bucket belt is running in the correct direction and then refit the back stop correctly.

IMPORTANT!

- Ensure the motor protection is set to the correct ampere setting for the motor.

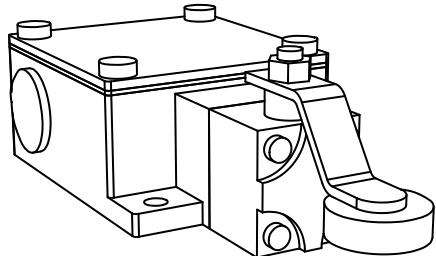
ELECTRONICS

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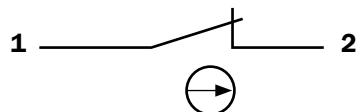
Mechanical Limit Switch

Part number: 91933914



Technical specifications and connections

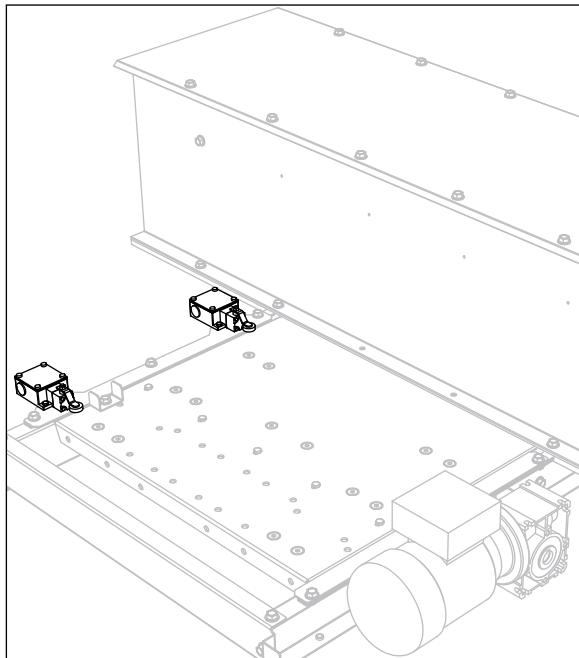
Electric version	AC/DC
Outlet function	NC
Thermal current	2,5 lth (A)
User category	AC 15: C600 DC 13: R300
Short circuit test	Conforms to IEC 947.5.1 § 8.34
Current peak	1000 A at 250 VAC $0.5 < \cos \phi < 0.7$
Temperature range	-20 °C → +70 °C
Short circuit protection (SCPD)	Fuse 10 AgF



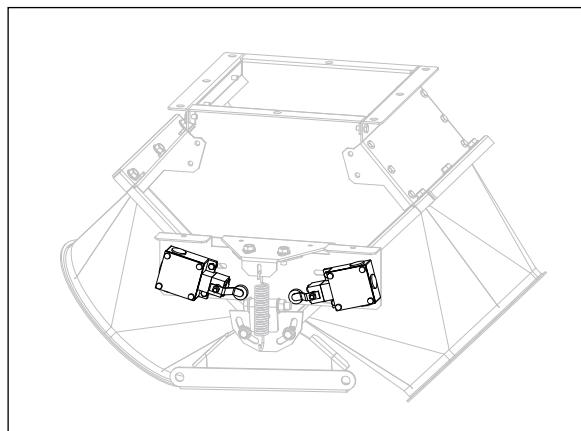
Use and example wiring diagram

A wiring diagram (example) can be found in the chapter on electric motors, worm gear motors section, page 34.

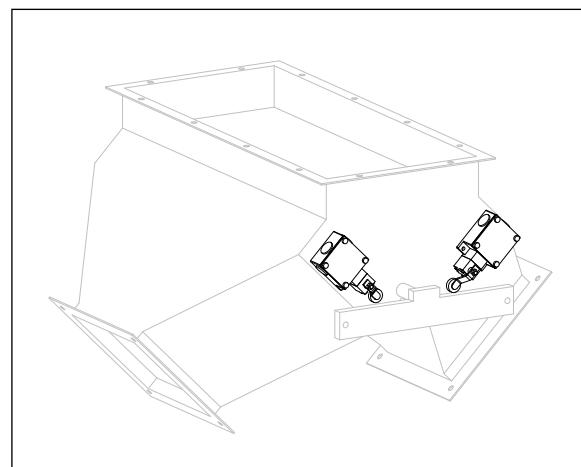
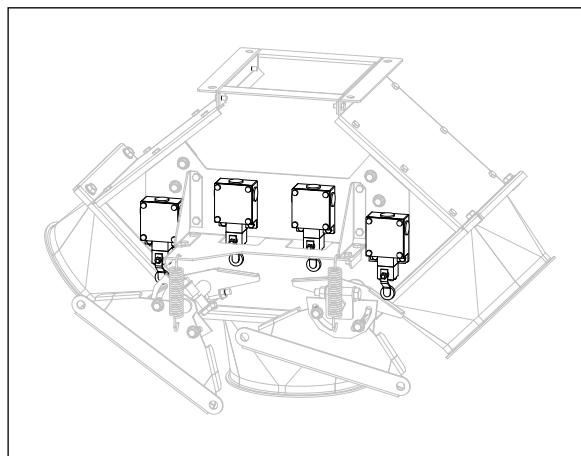
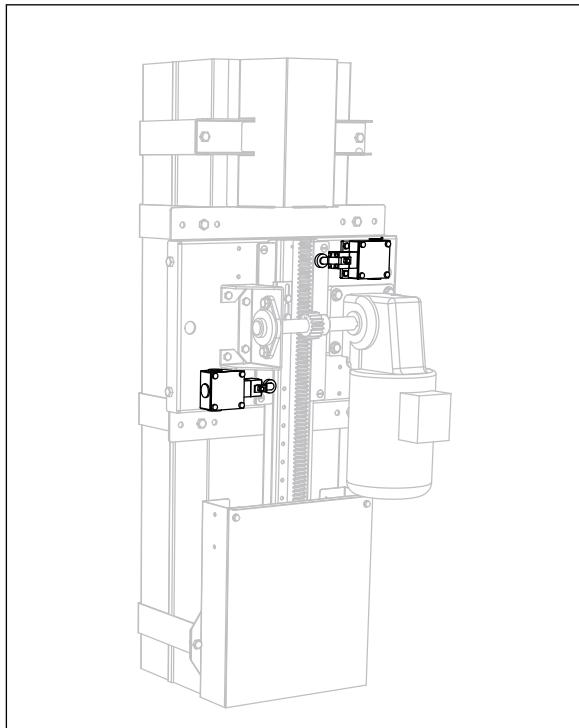
Outlet slide conveyor L-line - 34



Manual with indication, -transverse outlet slide conveyor L-line/-valve/-2-way outlet

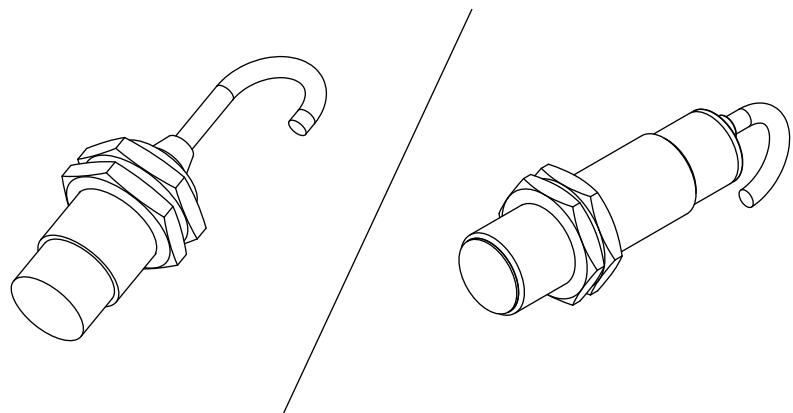


Inlet slide elevator - 34



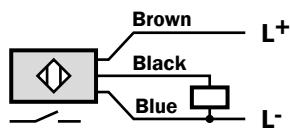
Inductive Limit Switch

Part number: 91934210 / 91934211



Technical specifications and connections

Part number:	91934210	91934211
Electric version	PNP	PNP
Terminal voltage	10→30 DC	10→30 V DC (-15/+10%)
Outlet function	NO	NO
Sensing distance	12 mm	8 mm
Load current (continuous)	100 mA DC	200 mA DC
Short circuit protected	Yes	Yes
Polarity protected	Yes	Yes
Load limited	Yes	Yes
Voltage drop	2,5 V DC	<1,2 V DC (I=100 mA)
Hysteresis	3→15% of Sr	<10 % of Sr
Coupling frequency	300 Hz DC	400 Hz DC
Temperature range	-40 °C→+85 °C	-25 °C→+70 °C
Function display	Outlet status LED yellow	Outlet status LED yellow
Connection	PUR cable 2 m; Cable diameter 4 mm	Cable 2 m; Cable diameter 3x0,14 mm ²



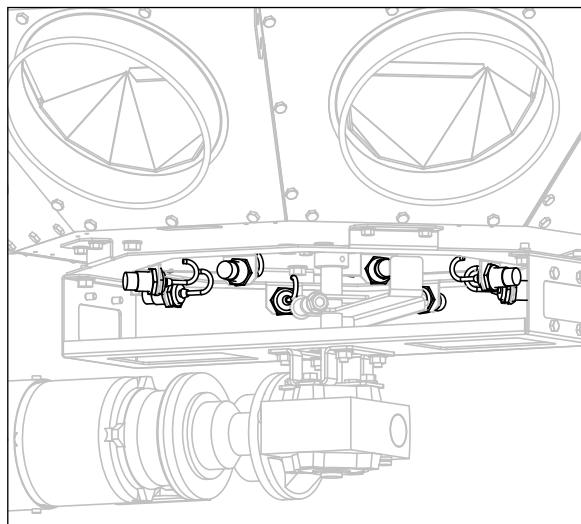
Use and example wiring diagram

A wiring diagram (example) can be found in the chapter on electric motors, worm gear motors section, page 36, 40, 42, 44.

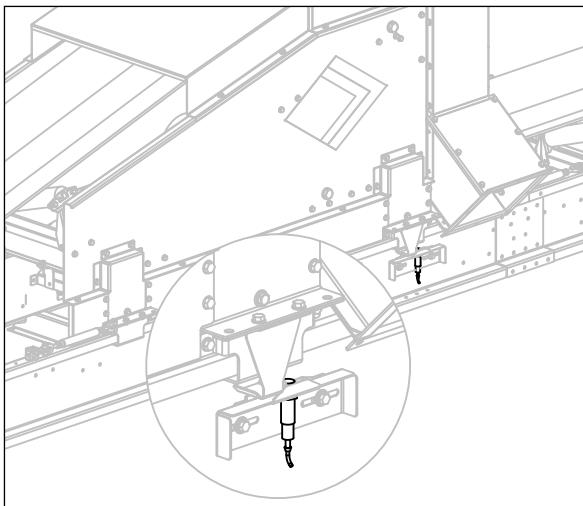
Outlet slide conveyor - I-& H-Line - 36



6-8-way valve - 42, 44

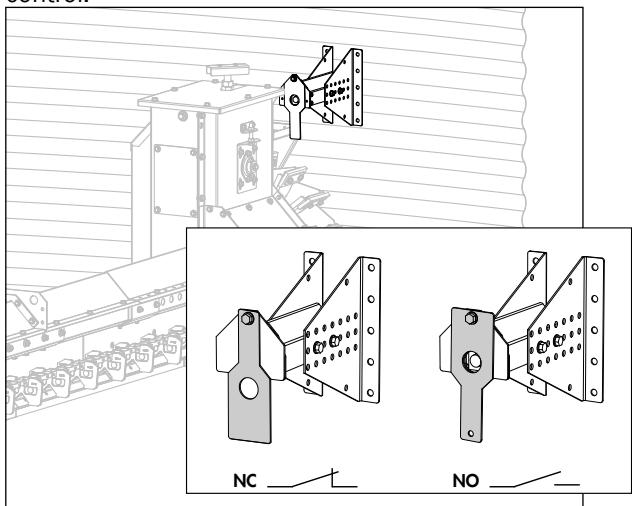


Tripper winch drive-Discharge tripper

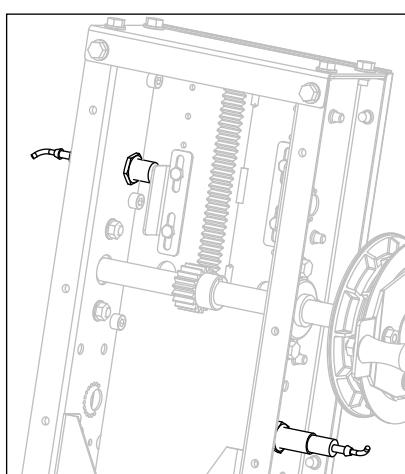


Rotation switch, sweep conveyor

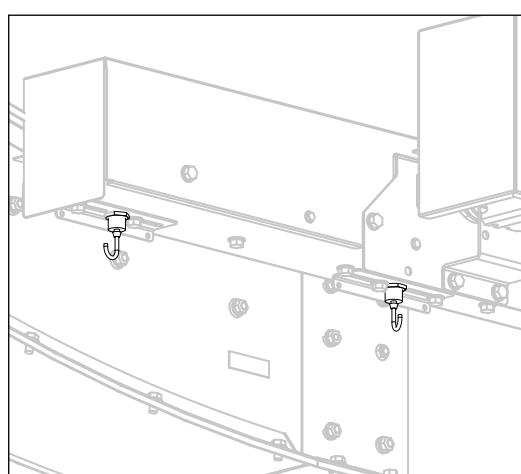
NB! Connect the time relay with power-off delay (five to ten minutes) to the rotation switch without PLC control.



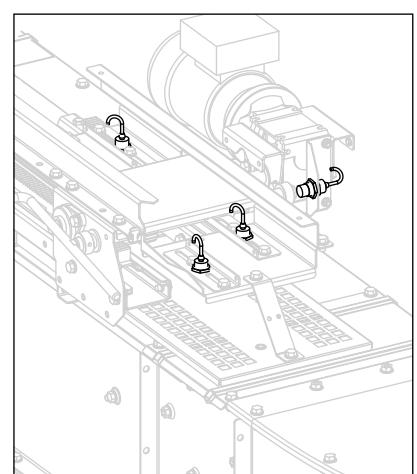
Silo slide - 36



Silo slide Direct connection KTIS-KTBU - 36

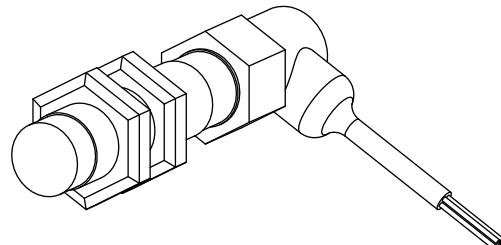


Silo slide KTIS -KTFb/-KTIFb/-KTBU/-KTIBU - 40



Inductive Limit Switch ATEX

Part number: 91934450A / 91934460AA



Technical specifications and connections

	ATEX Zone 22	ATEX Zone 21										
Part number:	91934450A	91934460AA										
Electric version	DC	DC										
Outlet function	NC	NC										
Terminal voltage	10→36 V (DC)	10→36 V (DC)										
Load current (continuous)	100 mA	40 mA										
Polarity protected	Yes	Yes										
Load limited	Yes	Yes										
Voltage drop	< 2,5 V	< 2,5 V										
Current consumption	< 10 mA (24 V)	< 20 mA (24 V)										
Sensing distance	7 mm ± 10%	10 mm ± 10%										
Tolerance, connecting point	-10→10% of Sr	—										
Hysteresis	1→20% of Sr	1→20% of Sr										
Coupling frequency	700 Hz	50 Hz										
Temperature range	0°C→+60°C	-40°C→+60°C										
Function display	Outlet status LED yellow (4 x 90°)	Outlet status LED yellow (4 x 90°)										
Connecting plug	M12, gold-plated pin	M30, gold-plated pin										
	 <table border="1"> <tr><td>1</td><td>Brown</td></tr> <tr><td>2</td><td>White</td></tr> <tr><td>3</td><td>Blue</td></tr> <tr><td>4</td><td>Black</td></tr> <tr><td>5</td><td></td></tr> </table>	1	Brown	2	White	3	Blue	4	Black	5		
1	Brown											
2	White											
3	Blue											
4	Black											
5												
		<p>When using in an Ex-environment, a fuse must be connected in series at the voltage unit (40mA slow, in accordance with EN60127-2). The fuse must be fitted in the L+ circuit outside the Ex-area.</p>										

Use

When a piece of machinery is ATEX classified, an inductive limit switch is used instead of a mechanical one for the following mechanical functions:

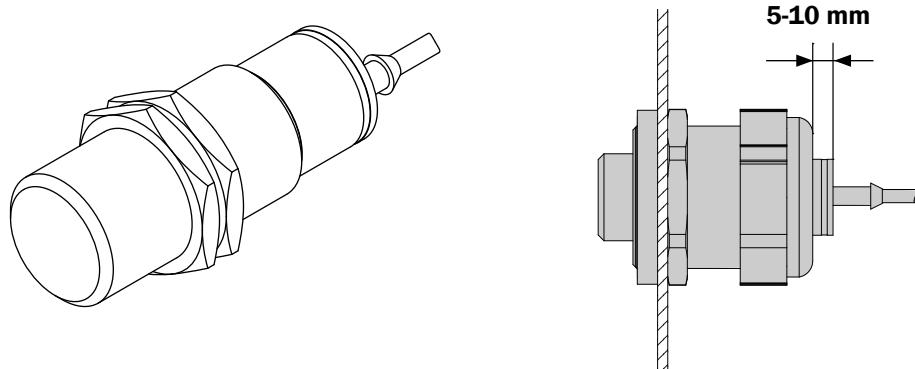
- Electric motor-driven, -outlet slide conveyor /-inlet slide elevator
- Manual with indication, -outlet slide conveyor/valve/-2-way outlet
- Rotation switch, sweep conveyor
- Silo slide
- Discharge tripper

Rotation switch, sweep conveyor

NB! Connect the time relay with power-off delay (five to ten minutes) to the rotation switch without PLC control.

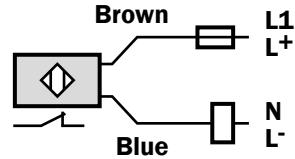
Capacitive overload sensor

Part number: 349100



Technical specifications and connections

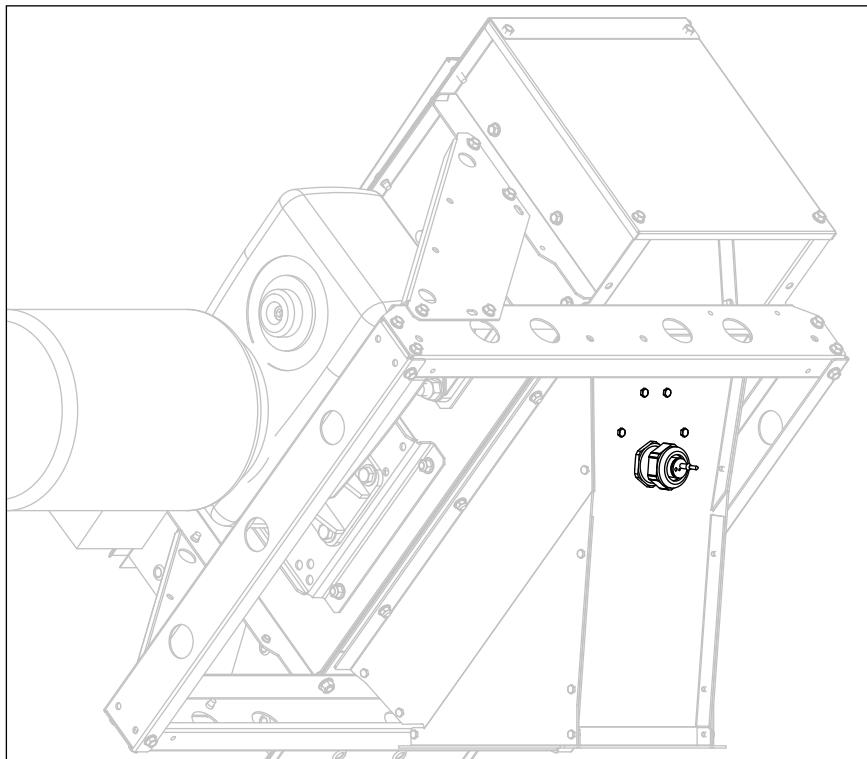
Electric version	AC/DC
Outlet function	NC
Sensing distance	15 mm
Nominal voltage	20→250 V AC/DC
Load current (continuous)	250 mA AC(→50 °C)/ 200 mA DC(→70 °C)
Load current (short-term)	ī: 1500 mA (20 ms/ 0,5 Hz)
Minimum load current	5 mA
Short circuit protected	No
Polarity protected	Polarity protected
Load limited	No
Voltage drop	< 10 V AC/< 8 V DC
Leak current	< 2,5 mA (250 V AC)/< 1,7 mA (110 V AC)/<1,5 mA (24 V DC)
Hysteresis	1→15% of Sr
Coupling frequency	25 Hz AC /40 Hz DC
Temperature range	-25 °C→+70 °C
Function display	Outlet status LED yellow
Connection	PVC-kabel 2 m; 2x 0,5 mm ²



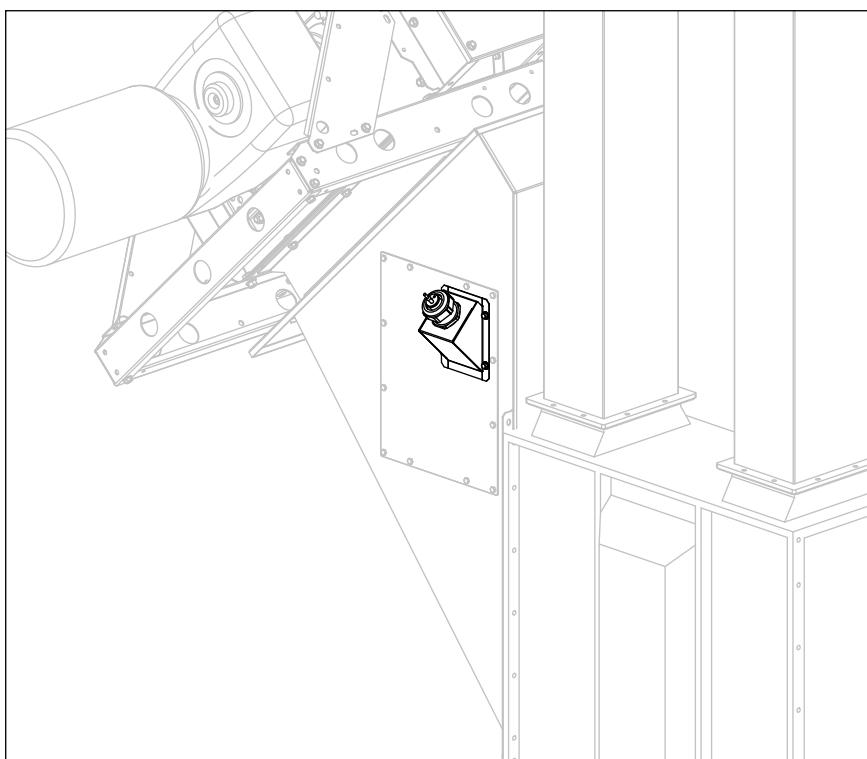
Reference: MCB in accordance with IEC60127-2 sheet 1 ≤ 2 A (fast).

Use

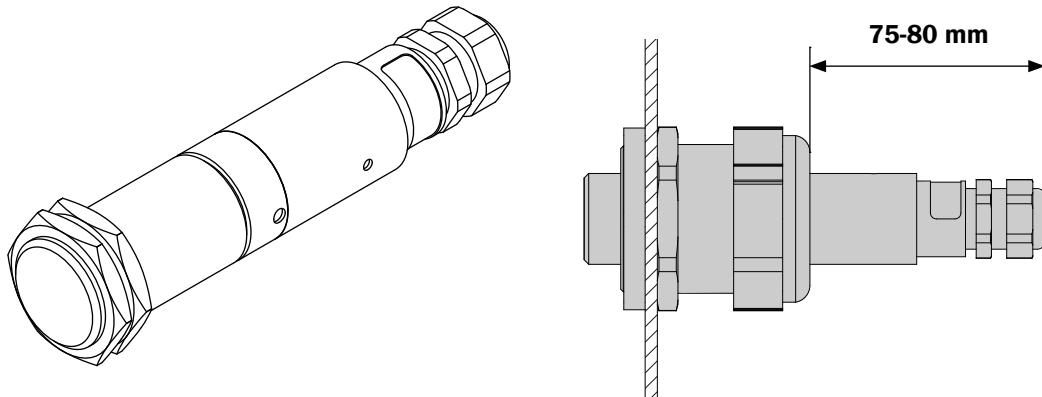
Outlet hopper



Connecting hopper

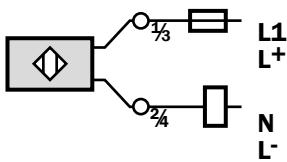


Part number: 349105



Technical specifications and connections

Electric version	AC/DC
Outlet function	NO/NC, programmable
Sensing distance	15 mm, adjustable
Nominal voltage	20→250 V AC/DC
Load current (continuous)	250 mA AC ($\rightarrow 40^\circ\text{C}$)/130 mA DC ($\rightarrow 60^\circ\text{C}$)*
Load current (short-term)	$\hat{\imath}$: 1500 mA (20 ms/0,5 Hz)
Minimum load current	5 mA
Short circuit protected	No
Polarity protected	Polarity protected
Load limited	No
Voltage drop	< 10 V AC/< 8 V DC
Leak current	< 2,5 mA (250 V AC)/< 1,7 mA (110 V AC)/< 1,5 mA (24 V DC)
Hysteresis	1→15% of Sr
Coupling frequency	25 Hz AC /50 Hz DC
Temperature range	-20 °C→+60 °C **
Function display	Outlet status LED yellow
Tightening torque, cable fitting	2,7; 3,5 Max Nm
Connection	Connection 2.5 mm ² Cable diameter 5,5→13 mm Cable fitting M20 x 1.5



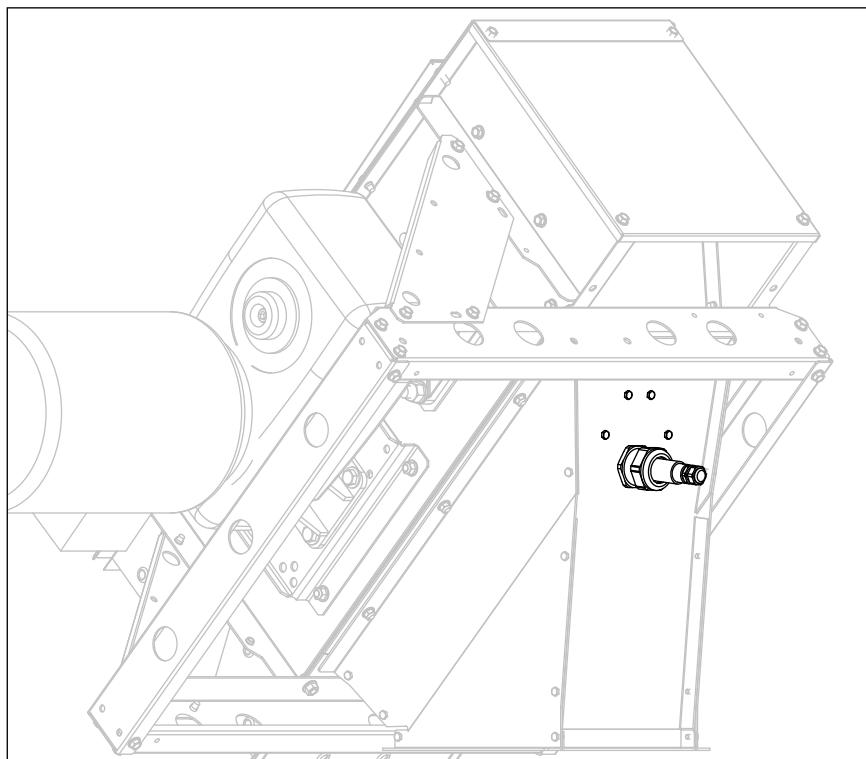
* 250 mA AC($\rightarrow 50^\circ\text{C}$)/ 200 mA DC($\rightarrow 70^\circ\text{C}$) for use outside explosion area.

**-25 °C→+70 °C for use outside explosion area.

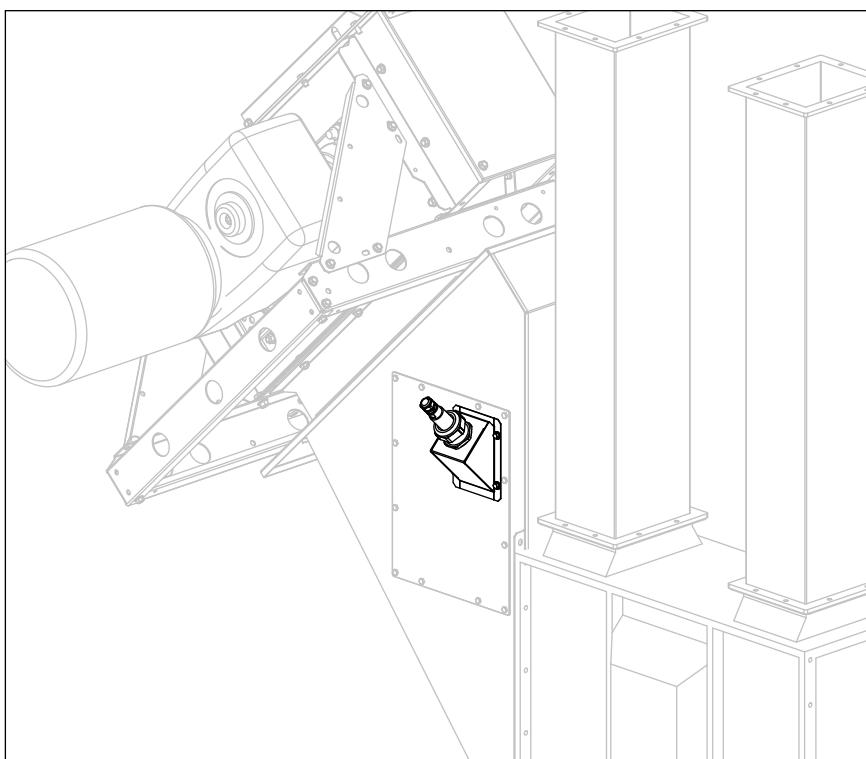
Reference: MCB according to IEC60127-2 sheet 1 ≤ 2 A (fast). Place the breaker outside the area of explosive danger.

Use

Outlet hopper

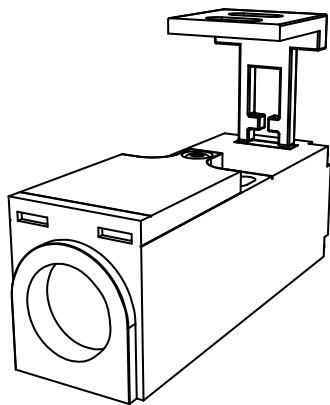


Connecting hopper



Key switch

Part number: 91933911



Technical specifications and connections

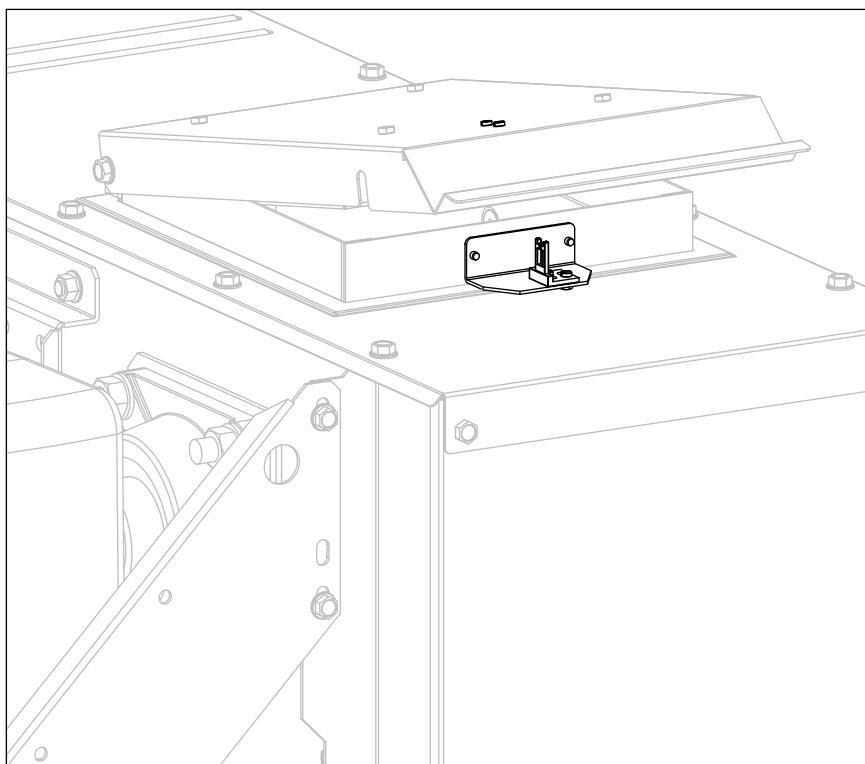
Electric version	AC/DC
Outlet function	NC
Contact function	2 NC
Maximum frequency	1 cycles/s
Maximum contact voltage	600 V
Maximum contact current	10 A (resistive load)
Minimum contact voltage/current	10 V/10 mA
Temperature range	-20 °C → +80 °C
Cable connection	1xM16 or M12 connector

21 ————— T ————— 22

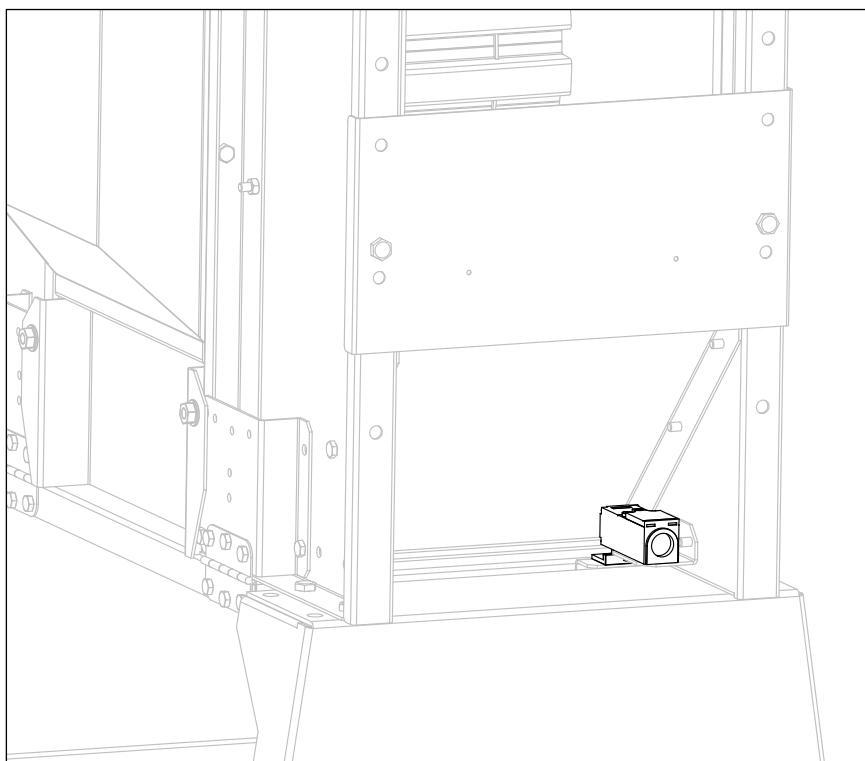
11 ————— T ————— 12

Use

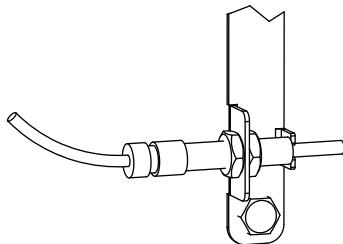
Pop up overloading flap/Inspection hatch conveyor



Seed boot elevator



Part number: Indicator explosion panel II 2D 191175

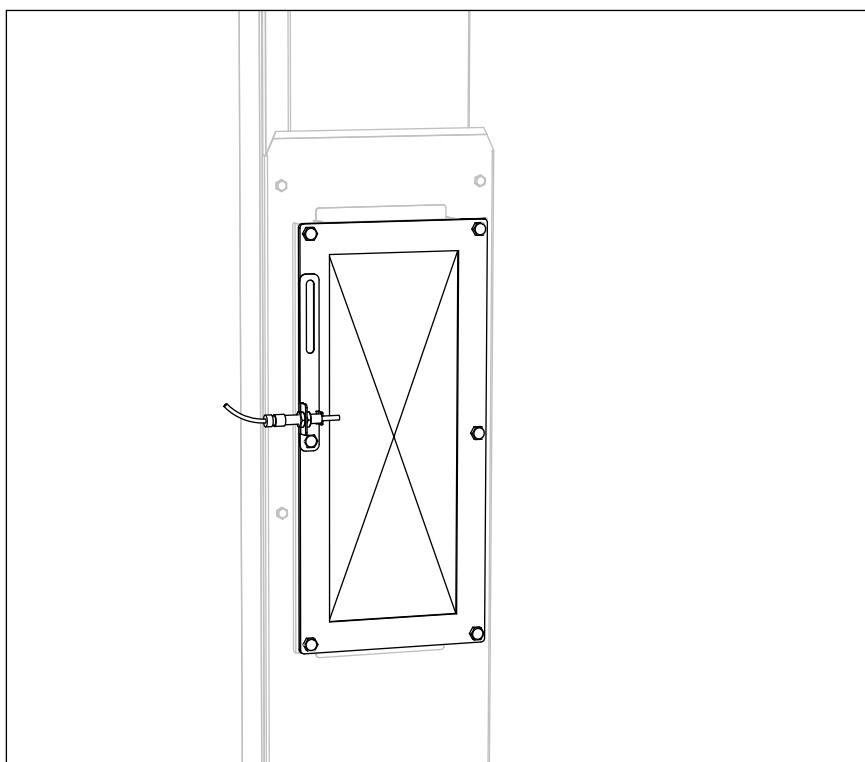
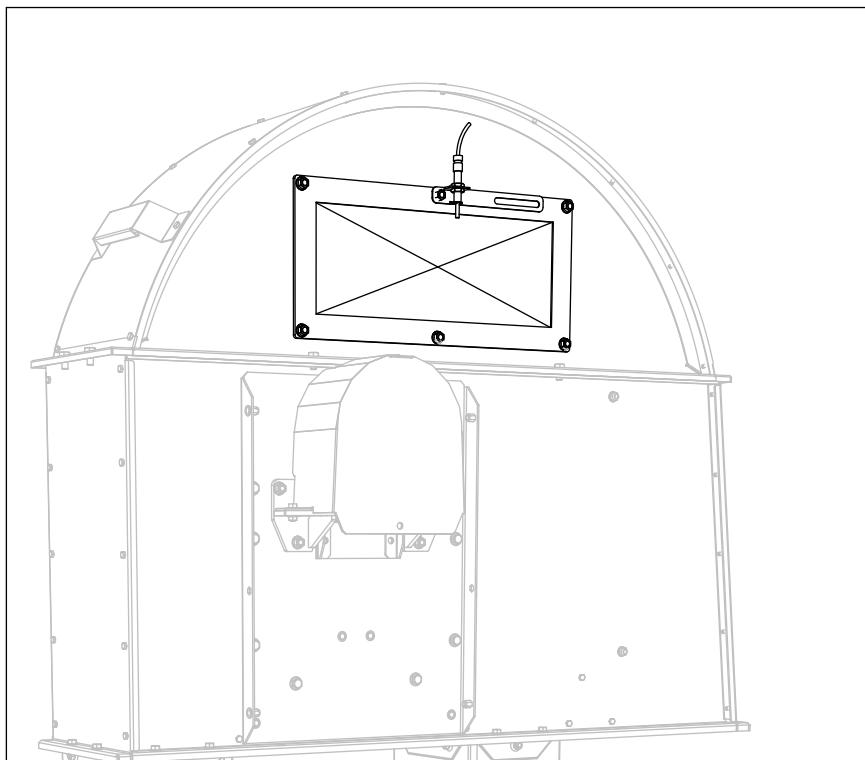


Technical specifications and connections

Current consumption	< 50 mA (24 V)
Ui	40 V
Voltage drop	$\leq \dots < V$ at $I_e = 50$ mA
Internal resistance	0 Ohm
Bursting limit (impact energy)	Min. 0,12 Joule
Temperature range	-25 °C → +80 °C
Cable connection	PUR cable 2 m; 2x 0,34 mm ²

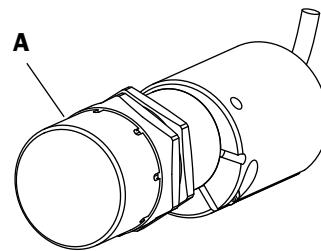
Use

Explosion relief panel



Impulses:

260	111001
225	111002
189	111006
175	111003
156	111007
130	111004
112	111010
85	111005
35	111008

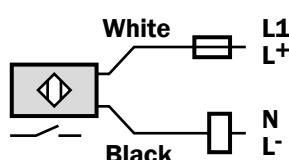
Part number:


Technical specifications and connections


⚠️ IMPORTANT!

The speed monitor is factory set on delivery. The set screw is sealed with paint and must remain untouched or there is a risk that the speed monitor setting will be incorrect.

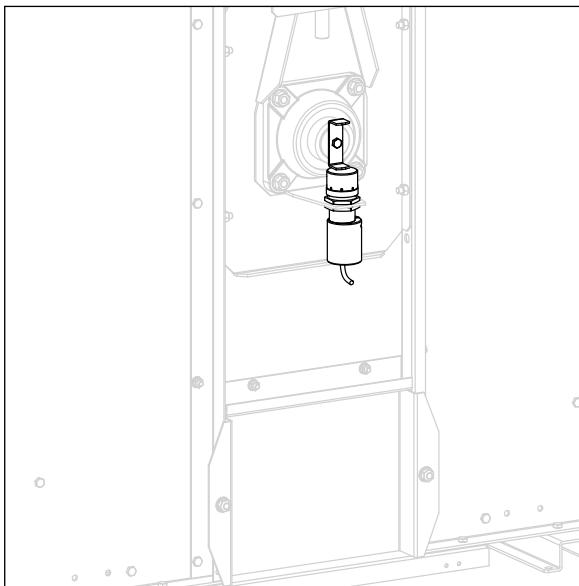
Electric version	AC/DC
Outlet function	NO
Sensing distance	7 mm with protective cap 10 mm without protective cap
ATEX-classed	Only if protective cap (A) is fitted.
Setting range	5→3600 rpm
Nominal voltage	20→250 V AC/DC (45...65 Hz, AC)
Load current (continuous)	200 mA AC/100 mA DC
Load current (short-term)	1: 2200 mA (20 ms/ 0,5 Hz)
Minimum load current	> 6 mA
Short circuit protected	No
Polarity protected	Yes
Load limited	No
Voltage drop	< 7,5 V
Leak current	< 1,5 mA
Hysteresis	10% of Sr
Start delay	12 sec
Switching function	The outlet is triggered during the start up period and if the actual value is greater than the desired value.
Adjustment of coupling point	Multiturn potentiometer
Coupling frequency (max.)	4800 rpm
Temperature range	-20 °C→+60 °C
Function display	2 x Outlet status LED yellow
Connection	PUR cable 2 m; 2x 0,5 mm ²



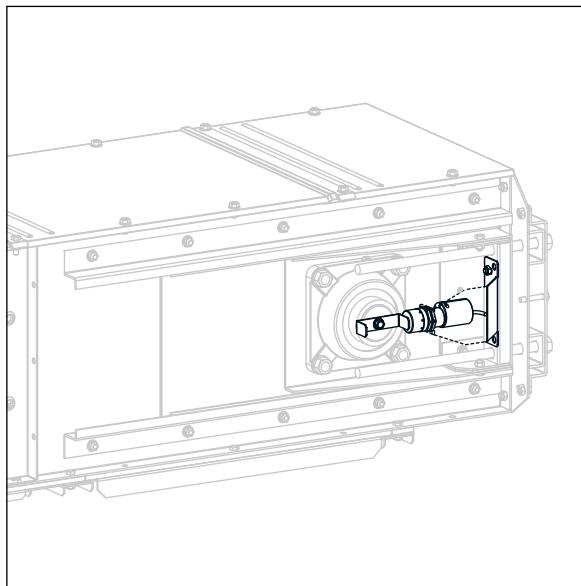
Reference: MCB according to IEC60127-2 sheet 1 ≤ 2 A (fast). Place the breaker outside the area of explosive danger.

Use

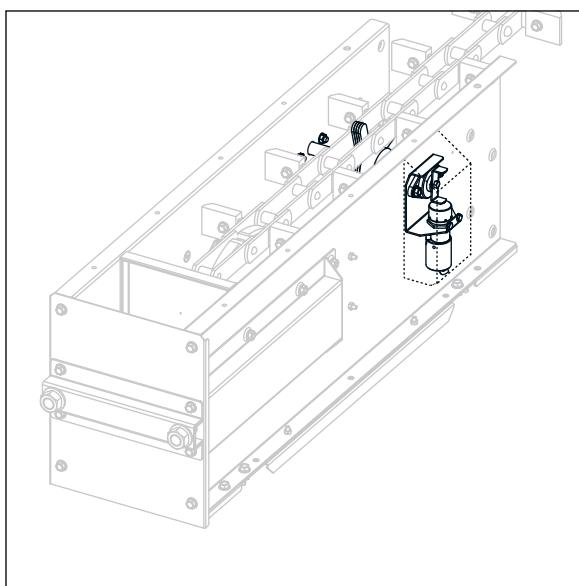
Elevator



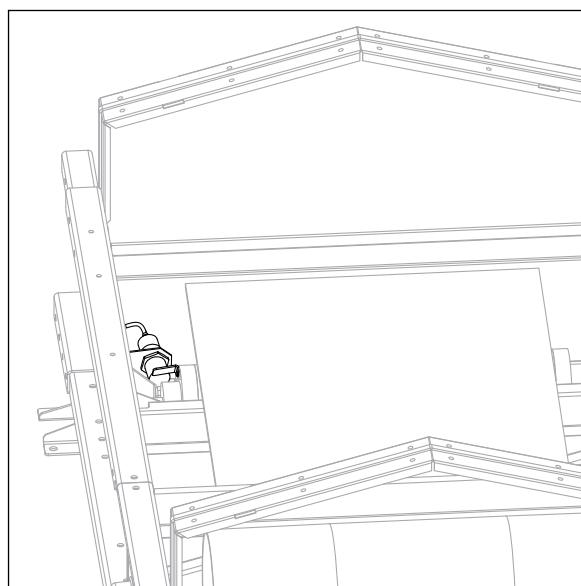
Conveyors H-Line



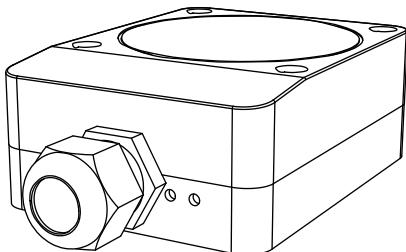
Conveyors I-Line



Belt conveyor



Part number: 91934400

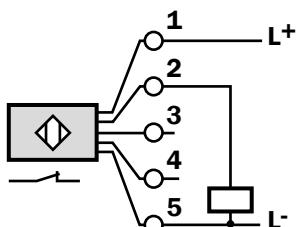


⚠️ IMPORTANT!

The belt must be able to move 10-15 mm to both sides without the belt alignment switch cutting the power.

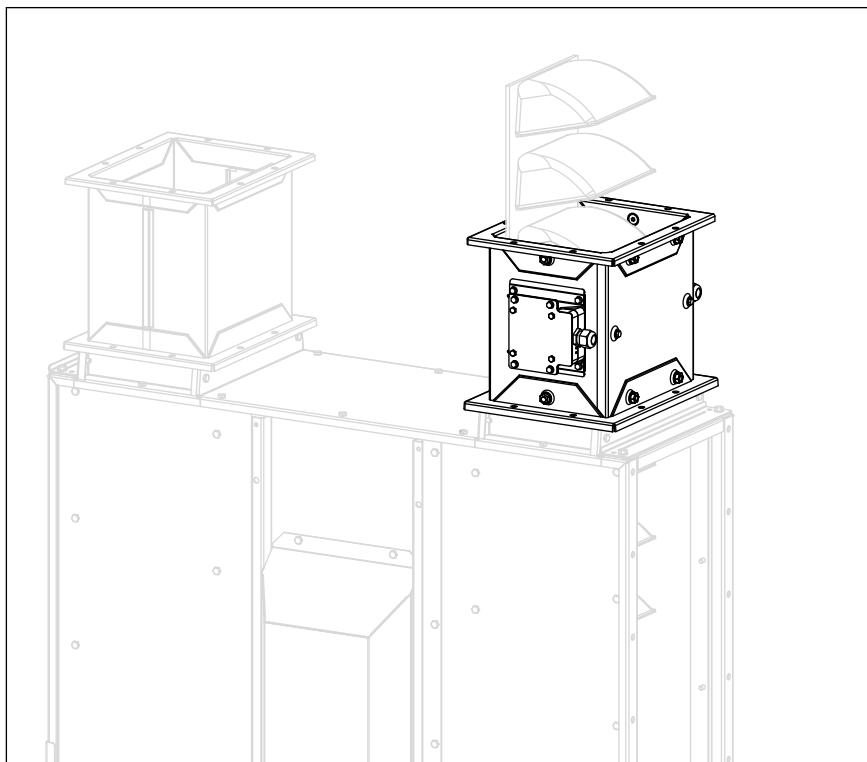
Technical specifications and connections

Electric version	DC
Outlet function	NC
Sensing distance	60 mm ± 10%
Terminal voltage	10→30 V DC
Load current (continuous)	200 mA
Load current (short-term)	200 mA
Short circuit protected	Pulsing
Polarity protected	Yes
Load limited	Yes
Voltage drop	< 2,5 V
Current consumption	< 15 mA (24 V)
Hysteresis	1→15% of Sr
Tolerance, connecting point	-10→10% of Sr
Coupling frequency	100 Hz
Temperature range	-20 °C→+60 °C
Function display	Outlet status LED yellow
Connection	Connection clamps 0,34→2.5 mm ² Cable diameter 5→9 mm Cable fitting M20 x 1.5

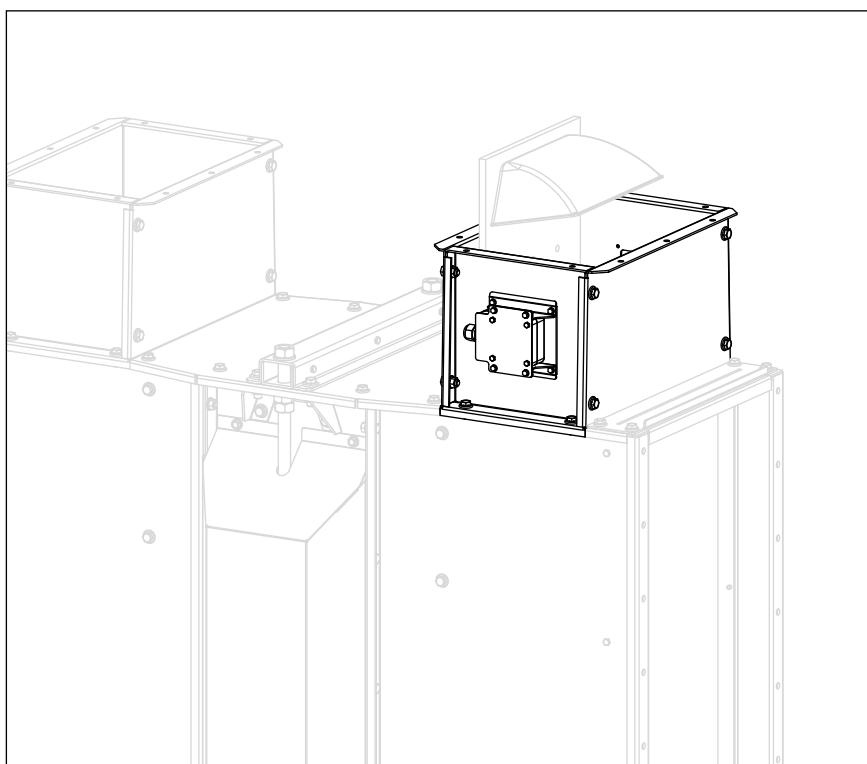


Use

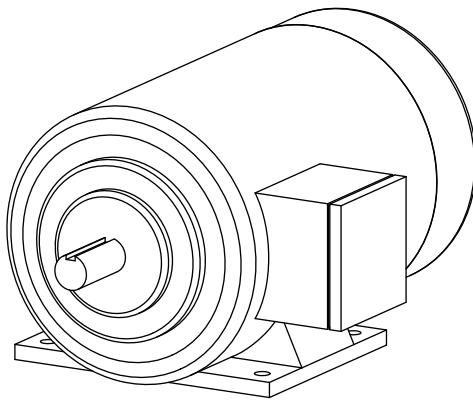
Elevator - Accessory



Elevator - Integrated



Part number: See product list.



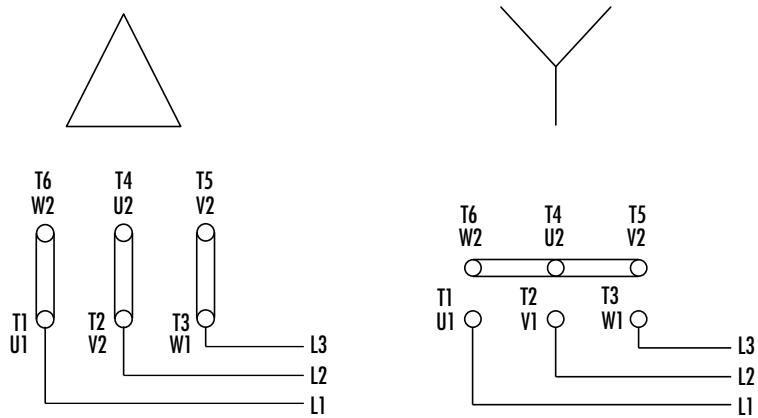
Technical specifications and connections

See motor rating plate for technical specifications.

⚠️ IMPORTANT!

- Ensure the motor protection is set to the correct ampere setting for the motor.
- Ensure that the motor's built-in thermistors are connected during operation via frequency converters in the event of another risk of overheating (e.g. high ambient temperature). When operating at less than 25 Hz, the motor must be equipped with a separate cooling fan.

Connect the motor (Δ/Y) according to the motor rating plate.

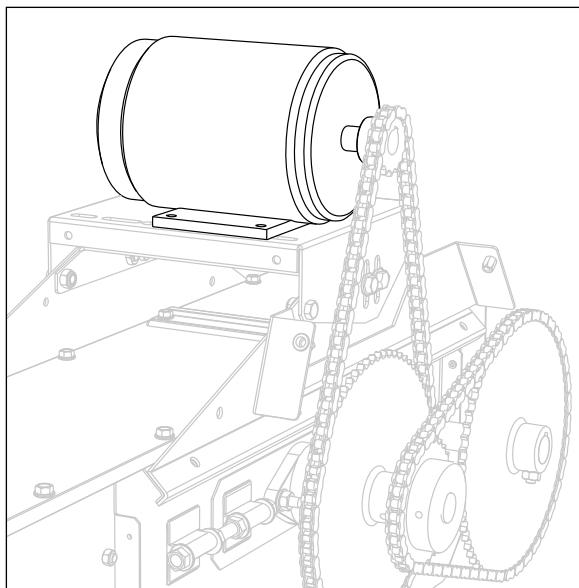


Smooth start for large motors

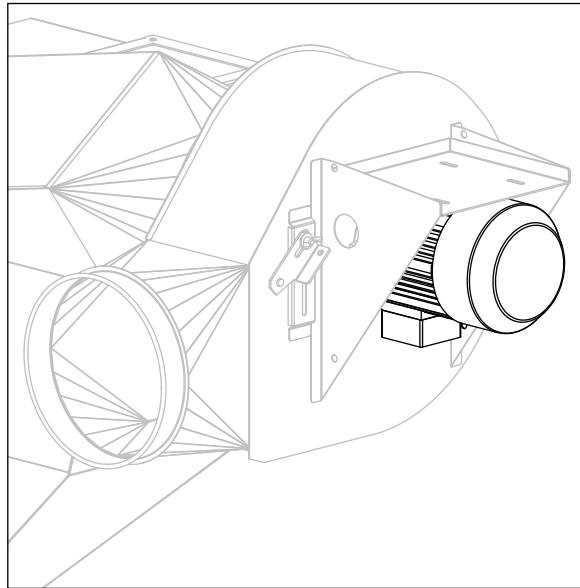
It is recommended that all motors of 5.5 kW or more are equipped with soft-start devices in order to increase the service life and limit the impact on the electricity grid. Consult your power distribution company as local regulations may apply.

Use

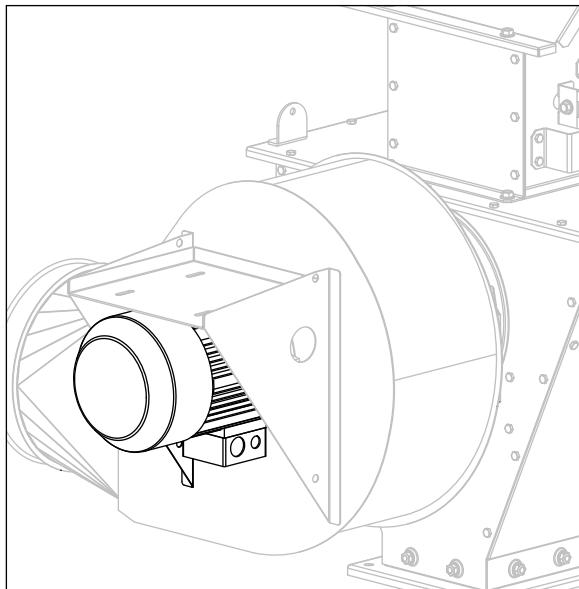
Chain transmission conveyor & chain elevator



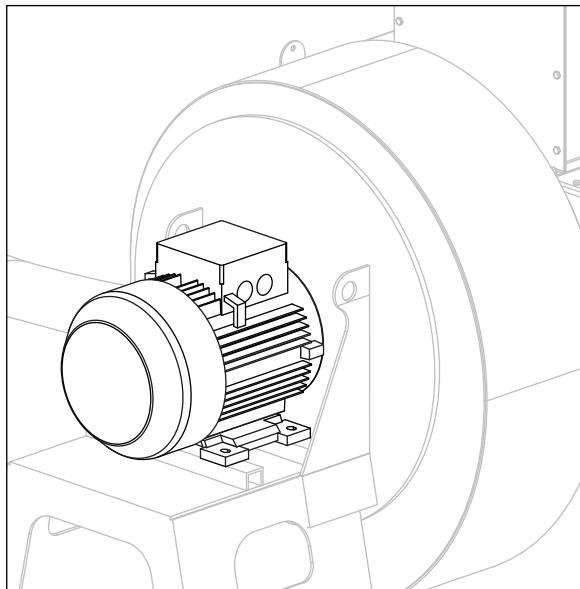
Dust & chaff extractor L-line 30 & 60 t/h



I-line 40/60 t/h



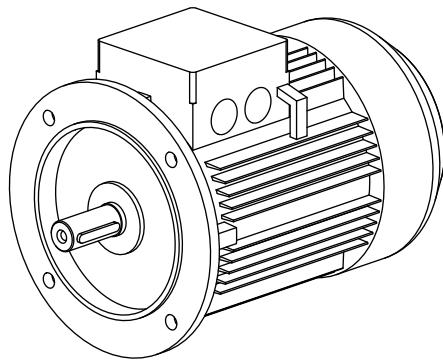
I-line 120/150 t/h



⚠️ IMPORTANT!

Ensure the motor is connected with the correct direction of rotation so that the fan draws air from the cleaning unit, see the arrow on the fan unit.

Part number: See product list.



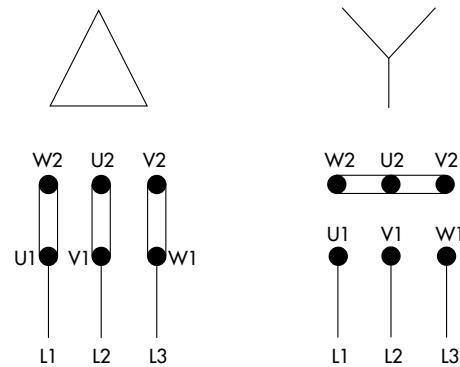
Technical specifications and connections

See motor rating plate for technical specifications.

⚠️ IMPORTANT!

Ensure the motor protection is set to the correct ampere setting for the motor.

Connect the motor (Δ/Y) according to the motor rating plate.

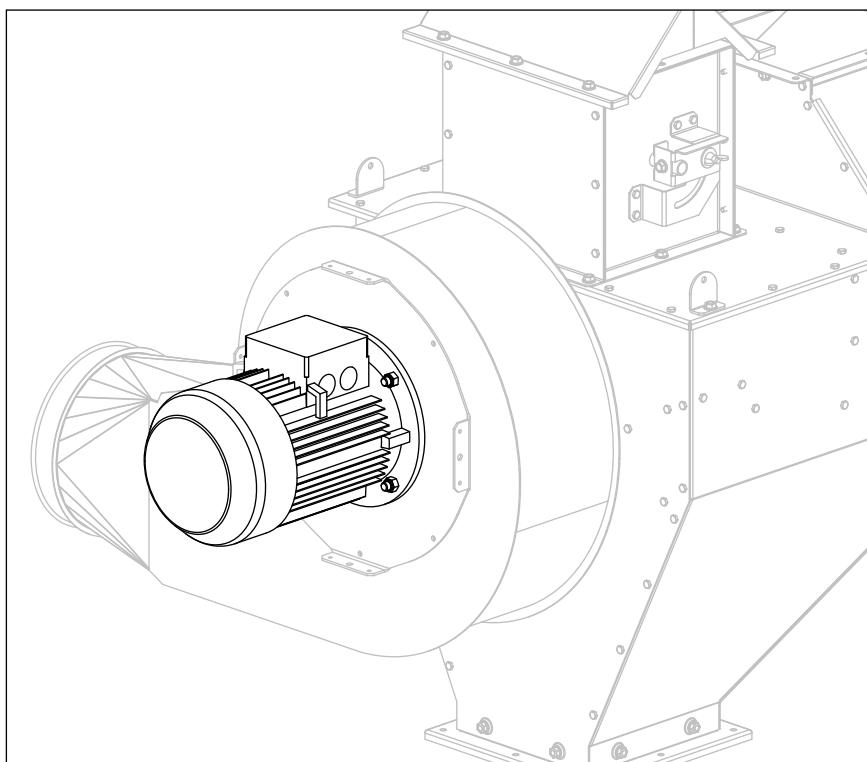


Smooth start for large motors

It is recommended that all motors of 5.5 kW or more are equipped with soft-start devices in order to increase the service life and limit the impact on the electricity grid. Consult your power distribution company as local regulations may apply.

Use

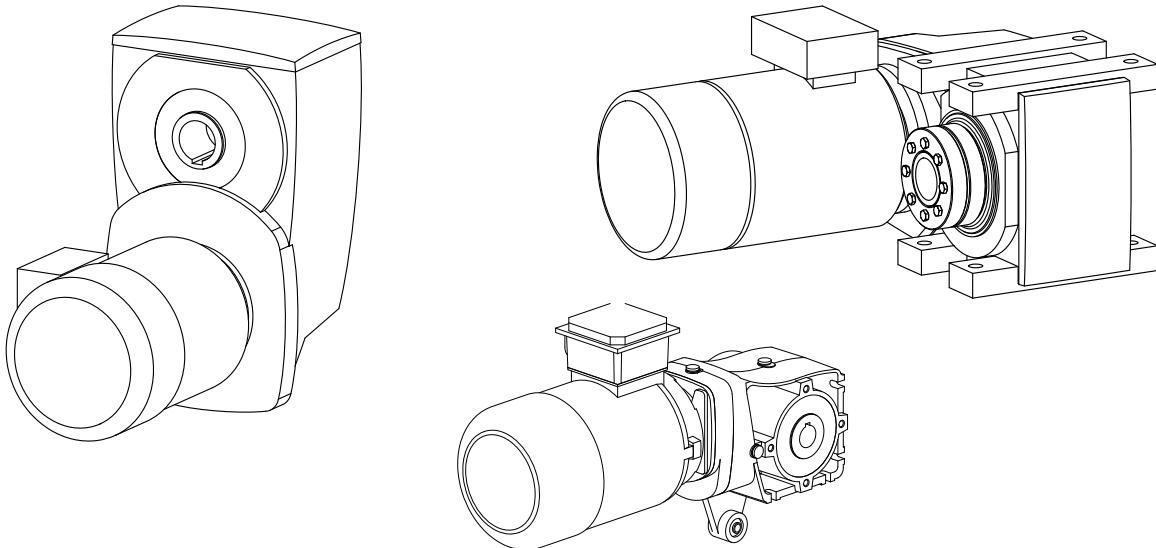
DC-Remover I-line 80/100 t/h



⚠️ IMPORTANT!

Ensure the motor is connected with the correct direction of rotation so that the fan draws air from the cleaning unit, see the arrow on the fan unit.

Part number: See product list.



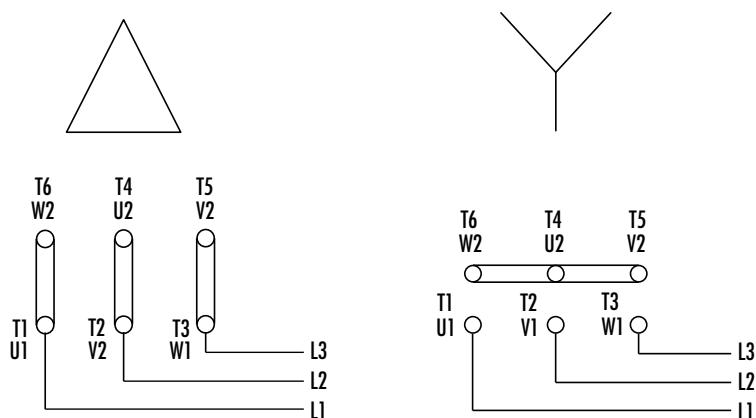
Technical specifications and connections

See motor rating plate for technical specifications.

⚠️ IMPORTANT!

- Ensure the motor protection is set to the correct ampere setting for the motor.
- Ensure that the motor's built-in thermistors are connected during operation via frequency converters in the event of another risk of overheating (e.g. high ambient temperature). When operating at less than 25 Hz, the motor must be equipped with a separate cooling fan.

Connect the motor (Δ/Y) according to the motor rating plate.

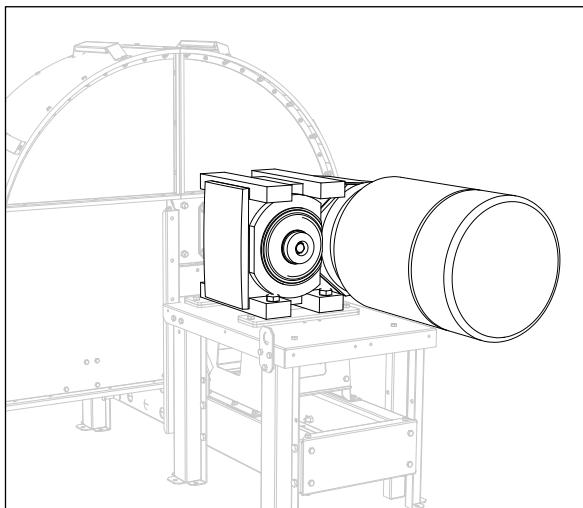


Smooth start for large motors

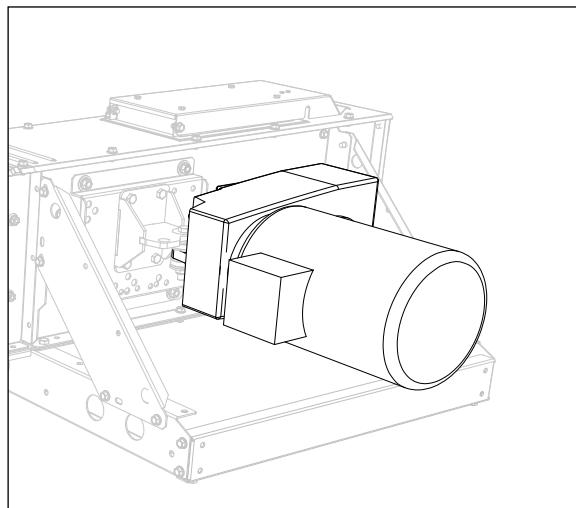
It is recommended that all motors of 5.5 kW or more are equipped with soft-start devices in order to increase the service life and limit the impact on the electricity grid. Consult your power distribution company as local regulations may apply.

Use

Elevator



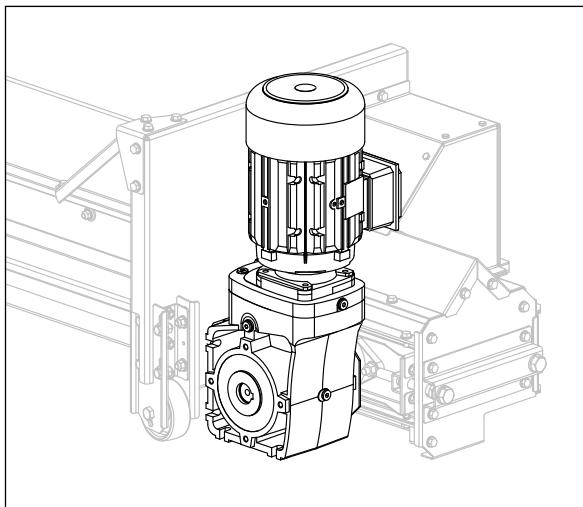
Chain conveyor



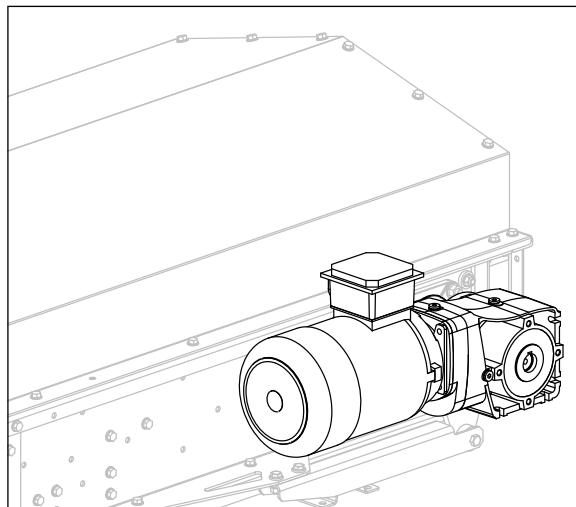
⚠️ WARNING! & IMPORTANT!

Remove the back stop from the drive shaft before an elevator is test started for the first time. Read the "Back stop" section in the elevator assembly instructions thoroughly. Ensure the bucket belt is running in the correct direction and then refit the back stop correctly.

Sweep conveyor



Belt conveyor



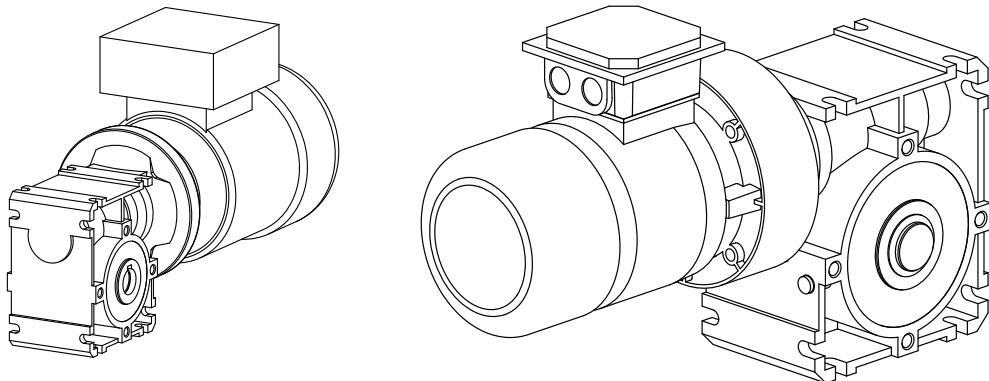
Worm gear motor

Use:

6-8-way valve
Inlet & outlet slide / Silo slide
Tripper winch drive-Discharge tripper

Part number:

9600102003
9600201022
9600371023



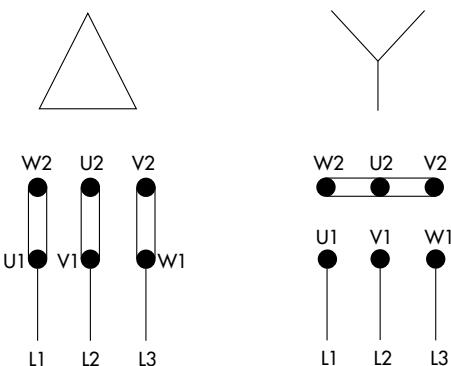
Technical specifications and connections

See motor rating plate for technical specifications.

⚠️ IMPORTANT!

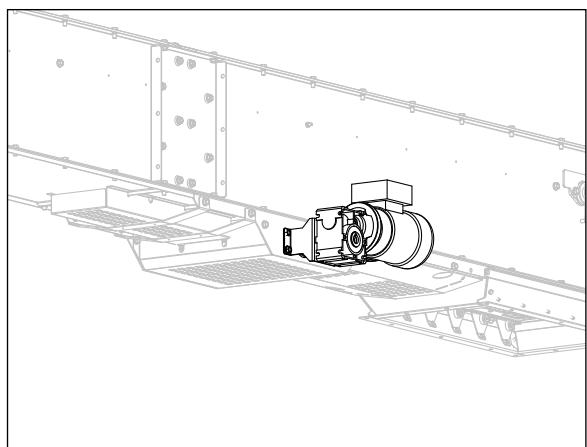
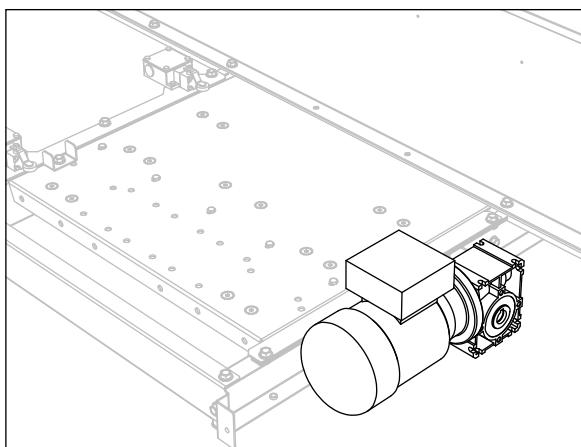
Ensure the motor protection is set to the correct ampere setting for the motor.

Connect the motor (Δ/Y) according to the motor rating plate.

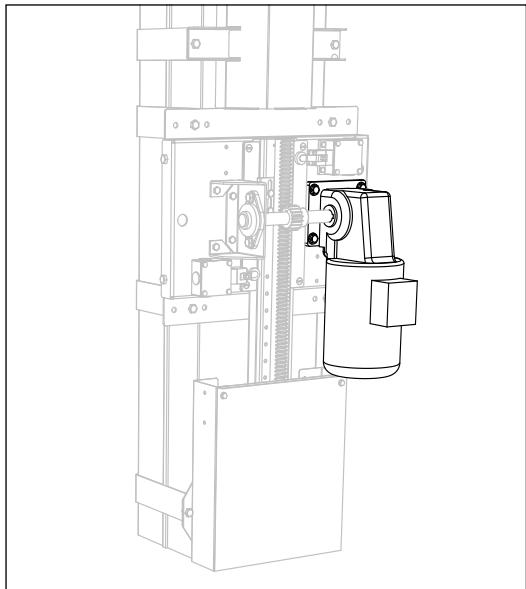


Use and example wiring diagram

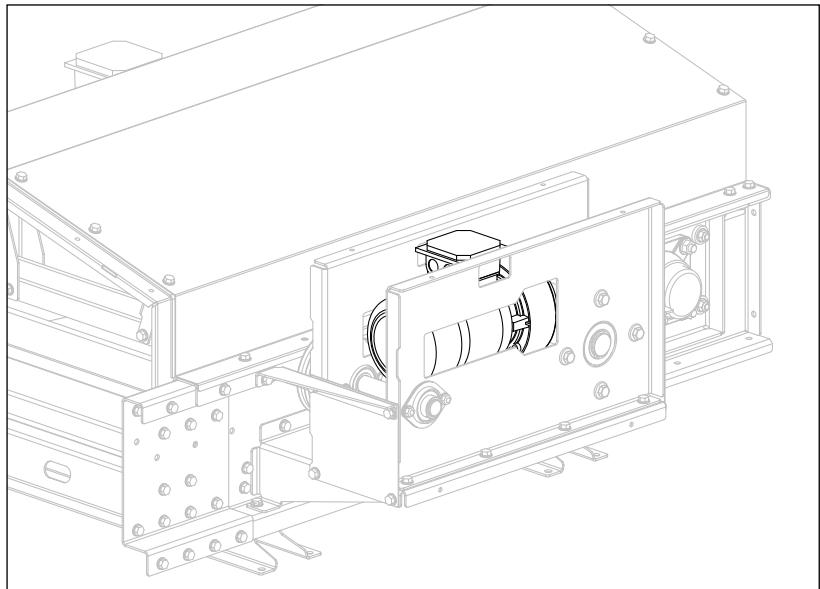
Outlet slide conveyor - L-line 34, I-&H-line 36



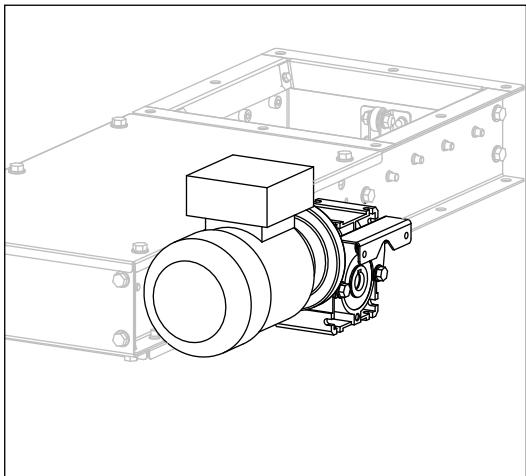
Inlet slide elevator - 34



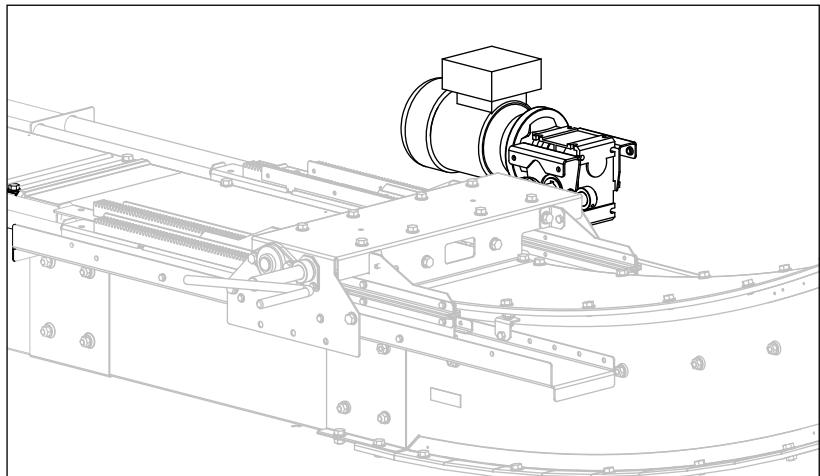
Tripper winch drive-Discharge tripper



Silo slide - 36

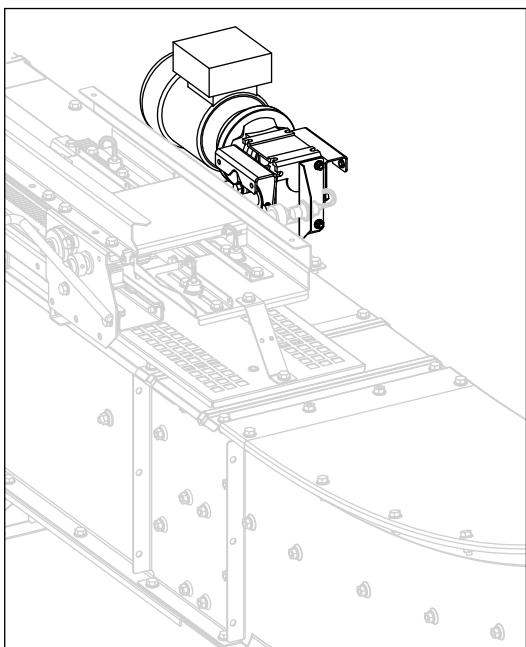


Silo slide - Direct connection KTIS-KTBU - 36

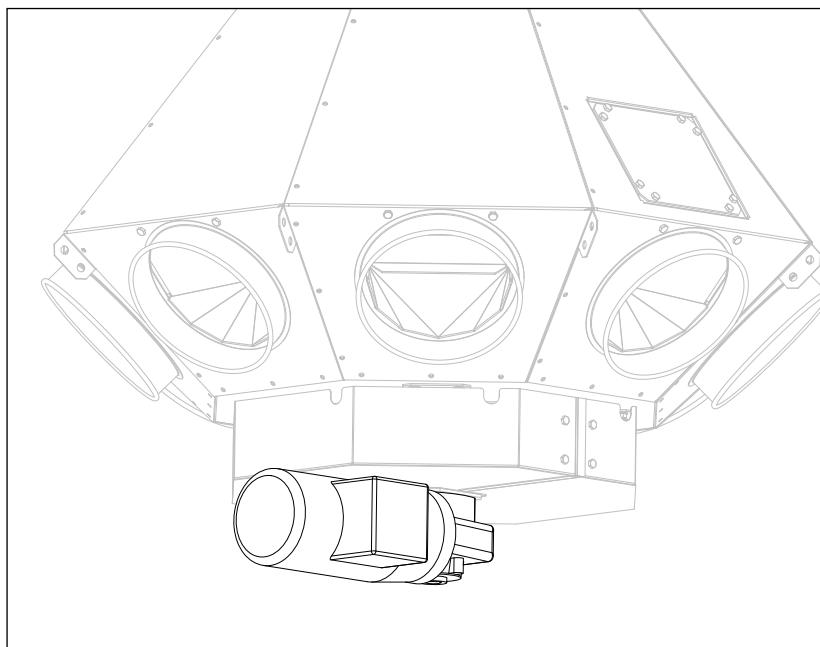


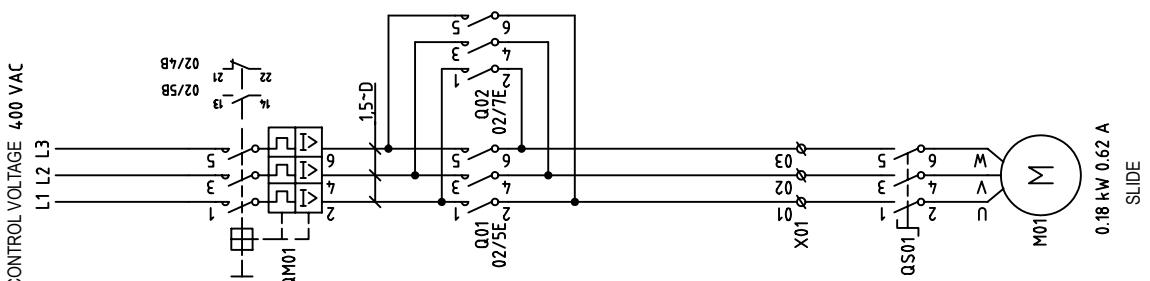
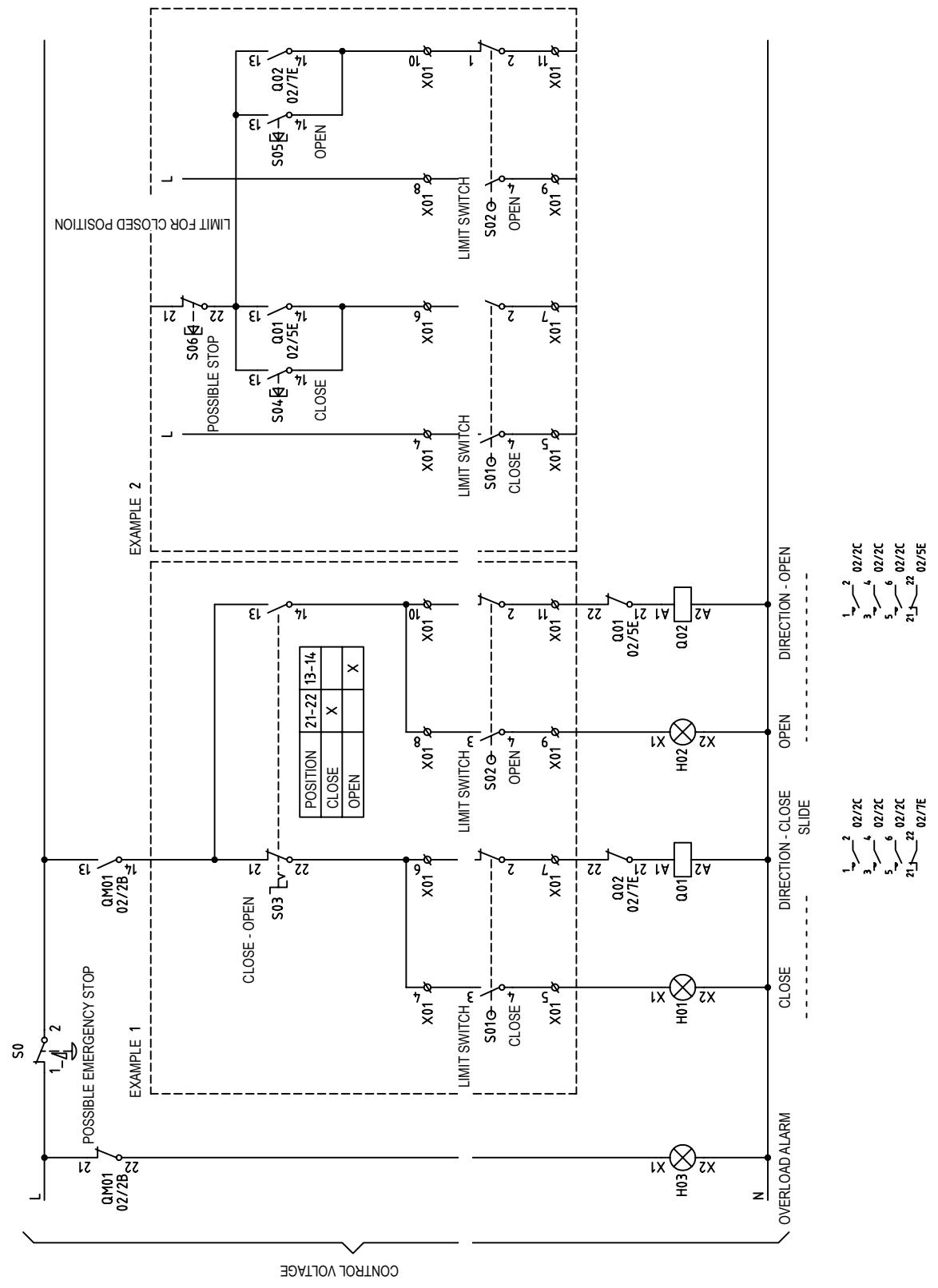
Silo slide

KTIS -KTFb/-KTIFb/-KTBU/-KTIBU - 40

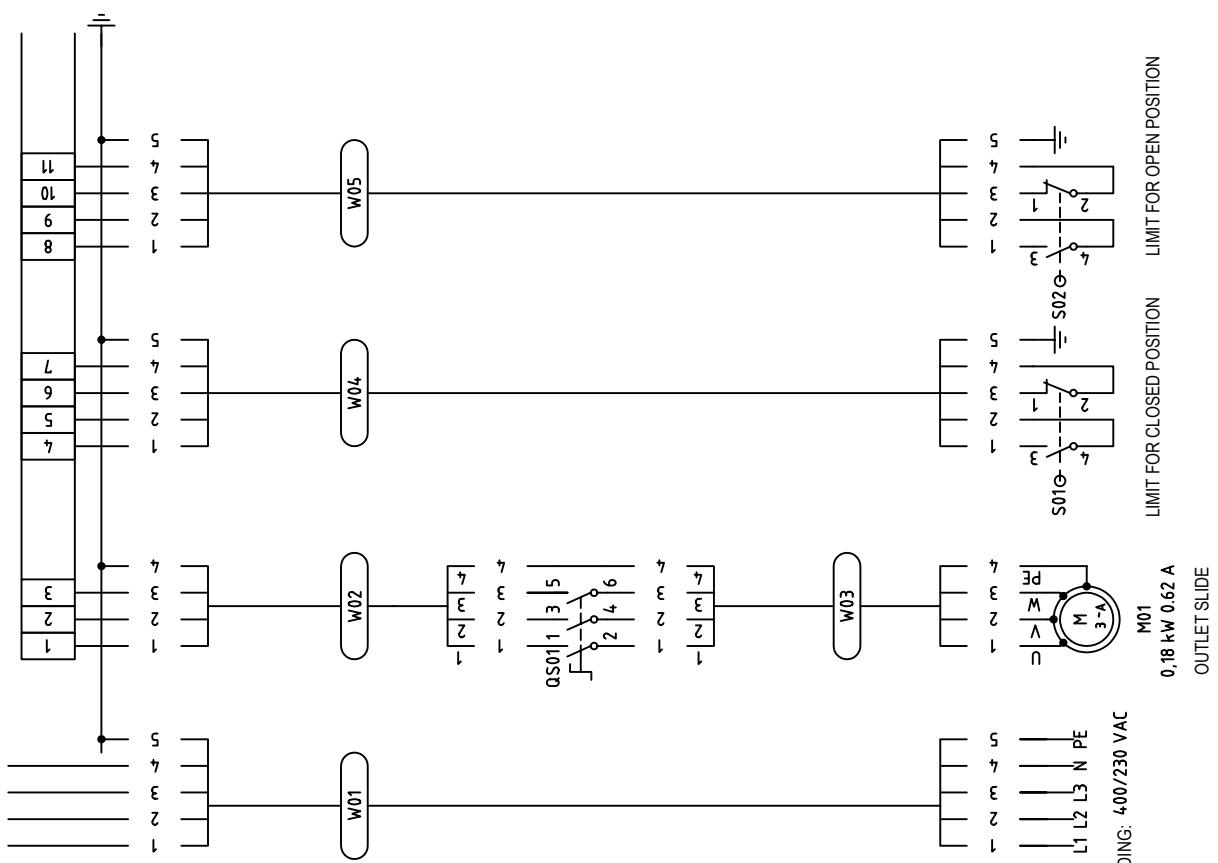


6-8-way valve - 42, 44





Outlet slide conveyor L-line/ Inlet slide elevator



DETAIL NO	NAME	QUANTITY	COMMENT
X01	TERMINAL BLOCK	11	
QS01	SAFETY BREAKER	1	SLIDE
QM01	MOTOR PROTECTION BREAKER	1	SLIDE
Q01	CONTACTOR	1	CLOSE
Q02	CONTACTOR	1	OPEN
H01	INDICATOR LIGHT	1	SLIDE CLOSED
H02	INDICATOR LIGHT	1	SLIDE OPEN
H03	INDICATOR LIGHT	1	OVERLOAD SLIDE
S01	LIMIT	1	FOR CLOSED POSITION
S02	LIMIT	1	FOR OPEN POSITION
S03	2-POLE SWITCH	1	CLOSE - OPEN
S04	PUSHBUTTON	1	CLOSE
S05	PUSHBUTTON	1	OPEN
S06	PUSHBUTTON	1	STOP (POSSIBLE)
W01-W02	CABLES		

EXAMPLE 1

EXAMPLE 2

EXAMPLE 3

EXAMPLE 3

EXAMPLE 4

EXAMPLE 5

EXAMPLE 6

FEEDING: 400/230 VAC

M01

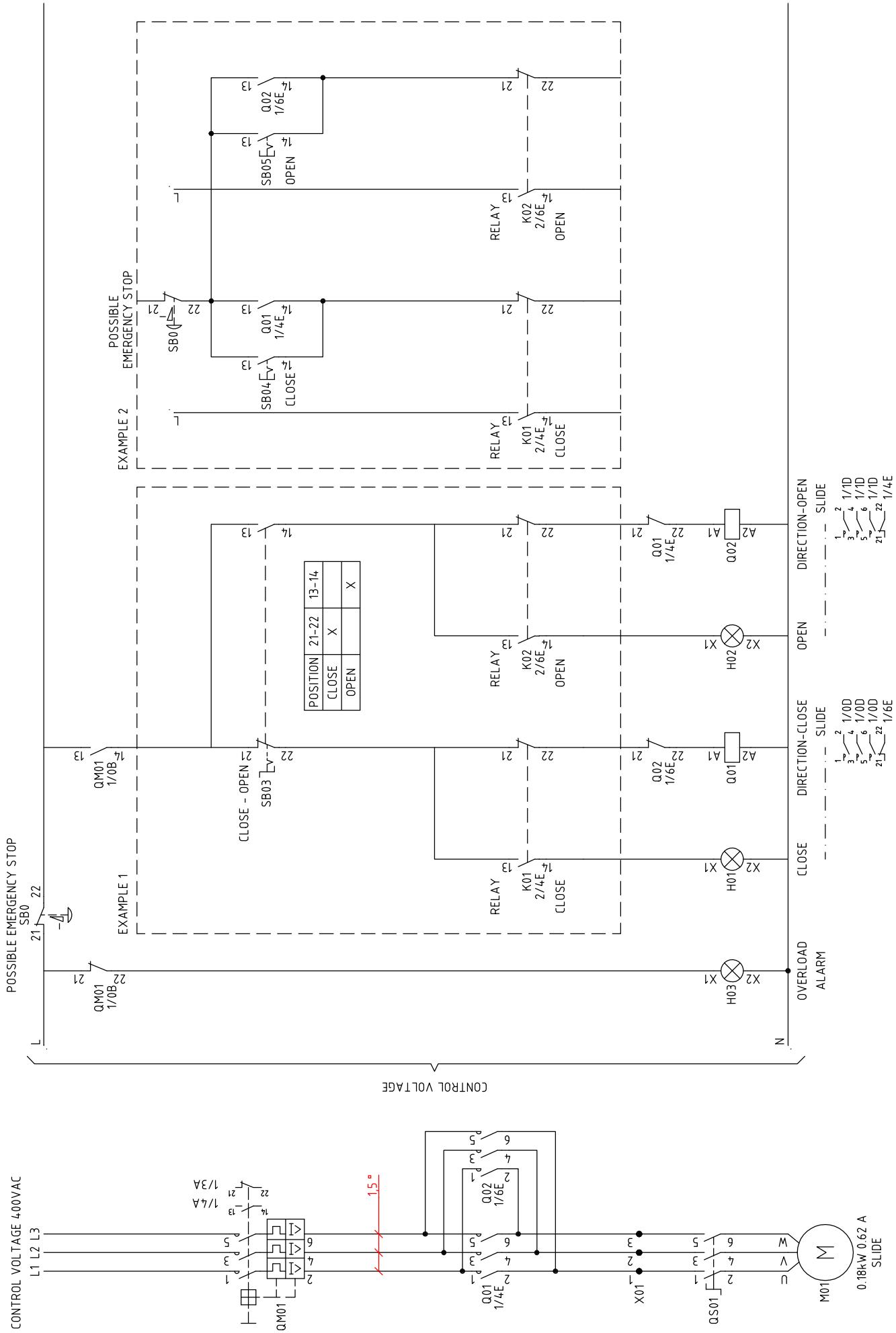
OUTLET SLIDE
0,18 kW 0,62 A

LIMIT FOR OPEN POSITION

LIMIT FOR CLOSED POSITION

LIMIT FOR OPEN POSITION

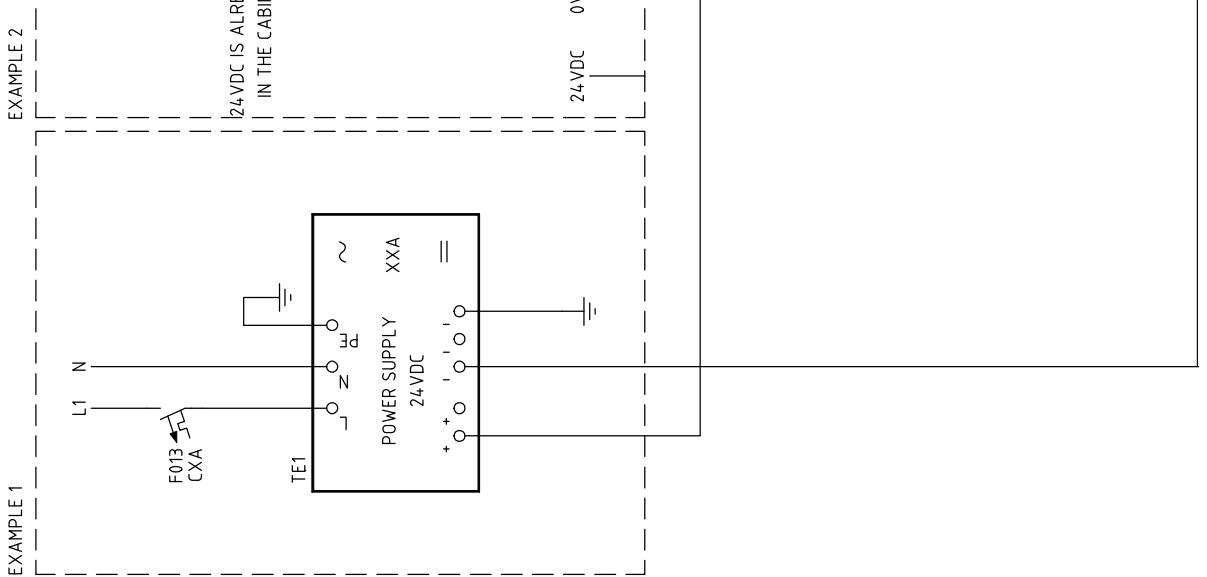
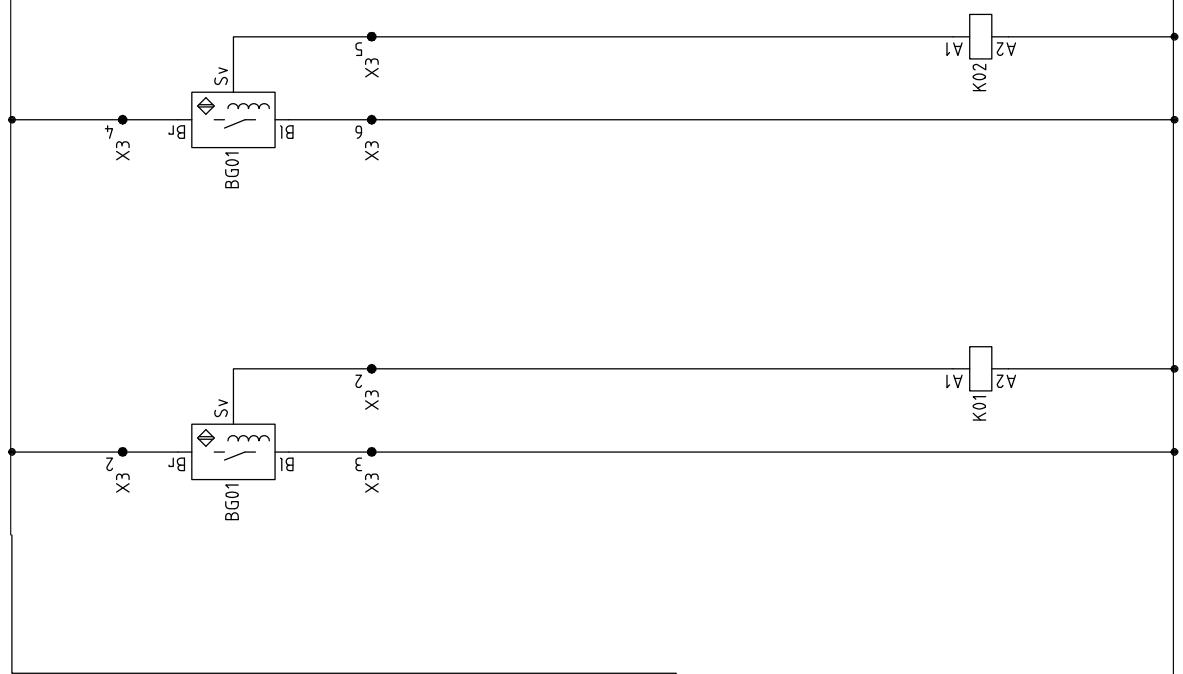
Outlet slide conveyor I- & H-line/ Silo slide



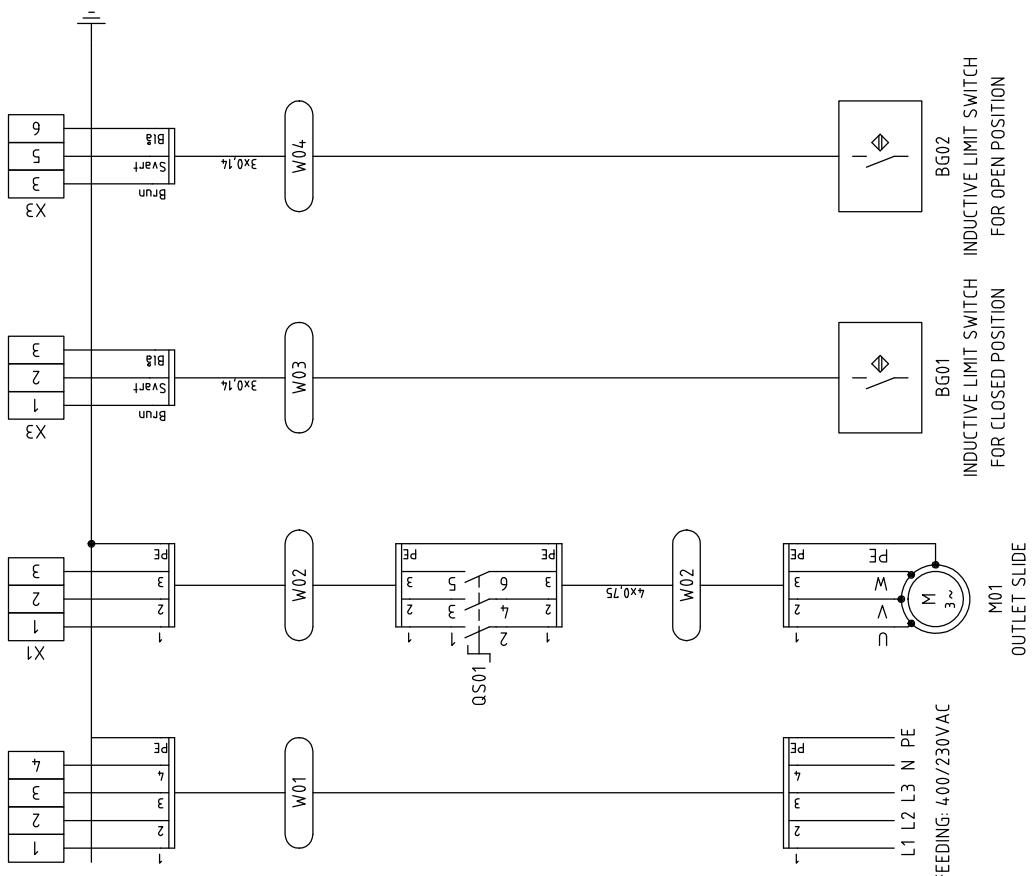
Outlet slide conveyor I- & H-line/ Silo slide

LIMIT SENSOR
OPENED

LIMIT SENSOR
CLOSED

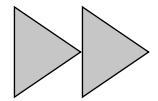


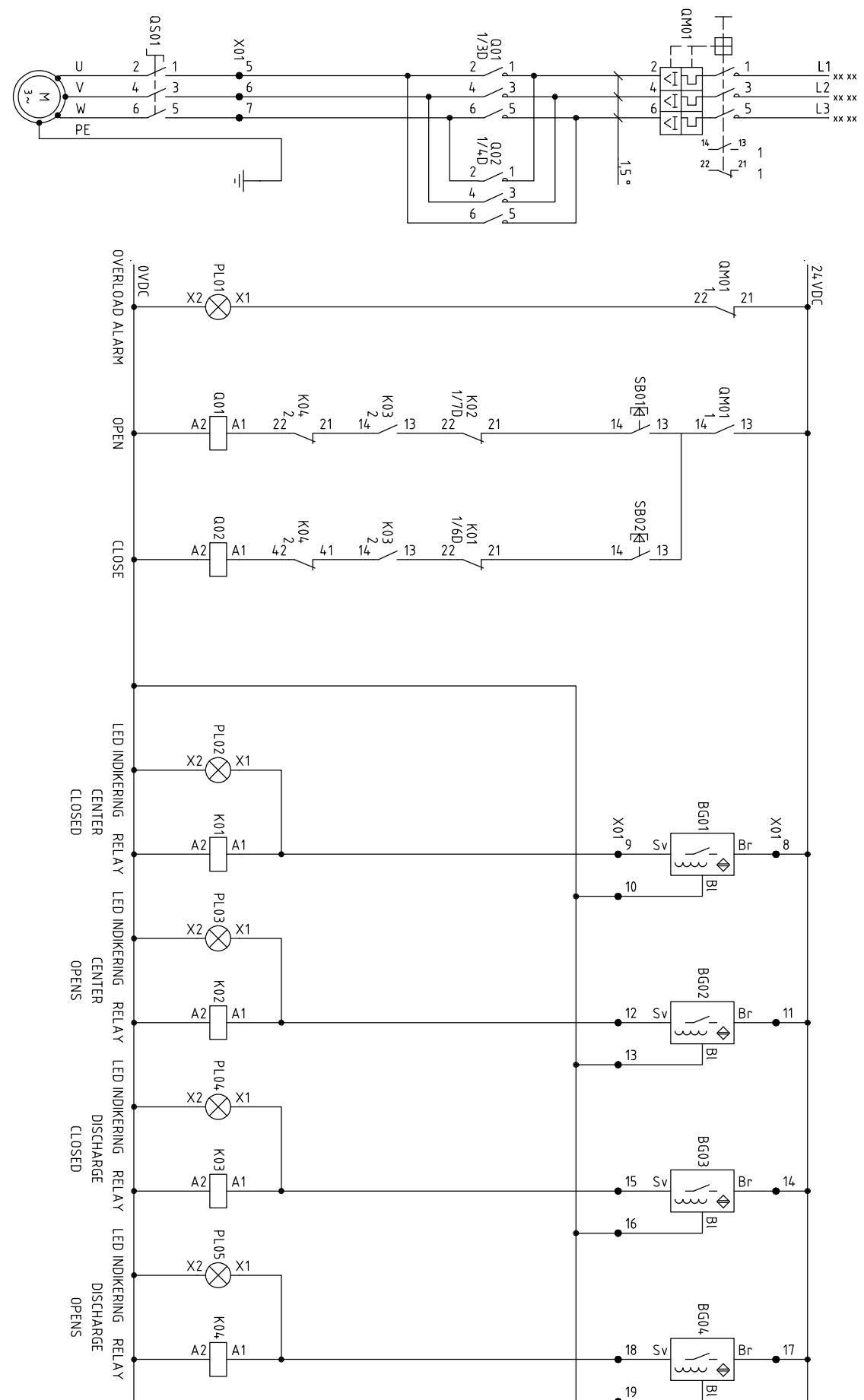
Outlet slide conveyor I- & H-line/ Silo slide

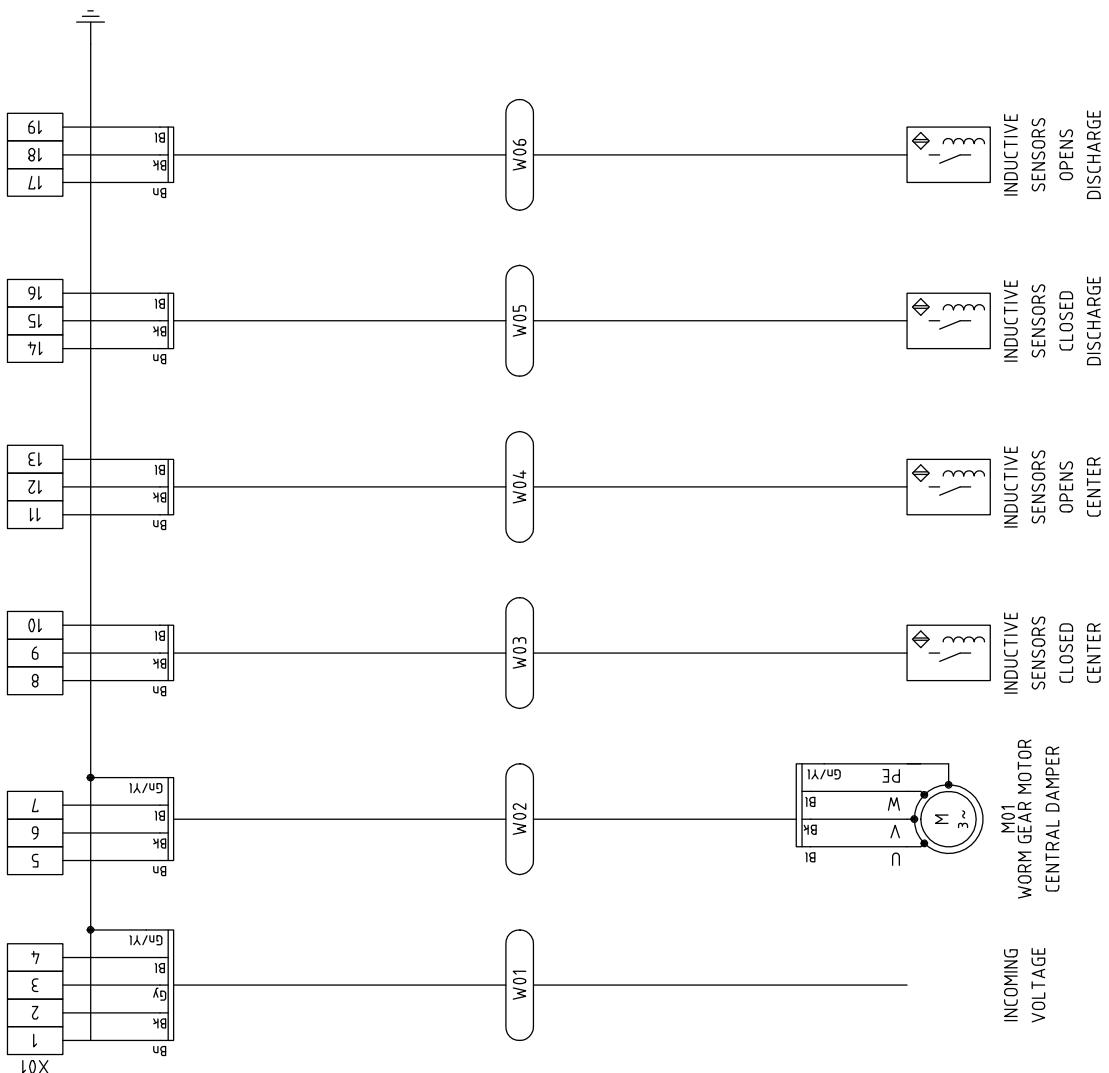


DETAIL NO	NAME	QUANTITY	COMMENT
X01	TERMINAL BLOCK	3	
X02	TERMINAL BLOCK	6	
QS01	SAFETY BRAKER	1	SLIDE
QM01	MOTOR PROTECTION BREAKER	1	SLIDE
Q01	CONTACTOR	1	CLOSE
Q02	CONTACTOR	1	OPEN
PL01	INDICATOR LIGHT	1	SLIDE CLOSED
PL02	INDICATOR LIGHT	1	SLIDE OPEN
PL03	INDICATOR LIGHT	1	OVERLOAD SLIDE
K01	RELAY	1	FOR CLOSED POSITION
K02	RELAY	1	FOR OPEN POSITION
SB0	MUSHROOM HEAD PUSHBUTTON	1	EMERGENCY STOP SLIDE
SB03	2-POLE SWITCH	1	CLOSE-OPEN
SB04	PUSHBUTTON	1	CLOSE
SB05	PUSHBUTTON	1	OPEN
SB06	PUSHBUTTON	1	STOP (POSSIBLE)
BG01	LIMIT SENSORS	1	FOR CLOSED POSITION
BG02	LIMIT SENSORS	1	FOR OPEN POSITION
W01-W02	CABLES		

Silo slide -KTIS -KTFb/-KTIFb/-KTBU/-KTIBU

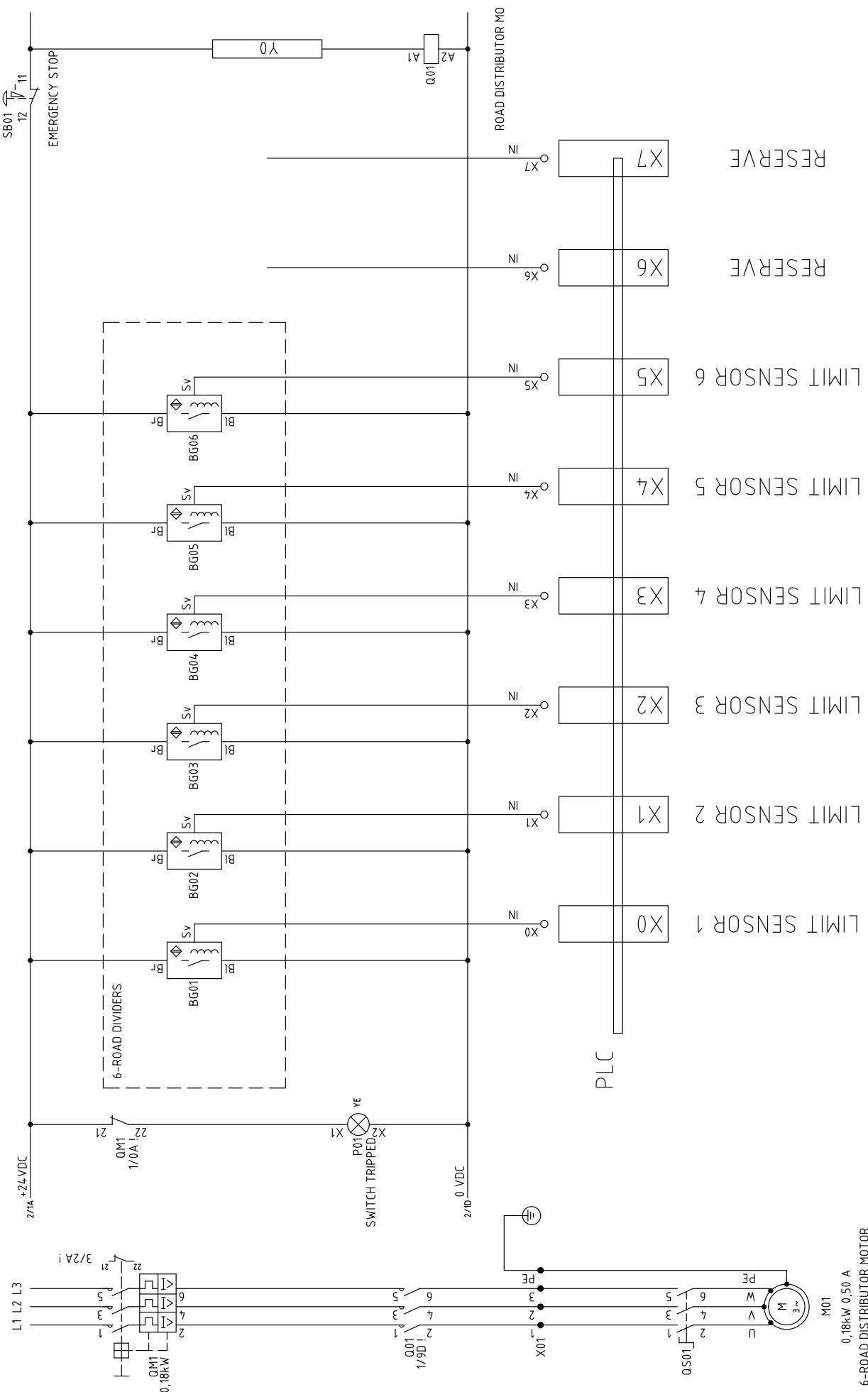


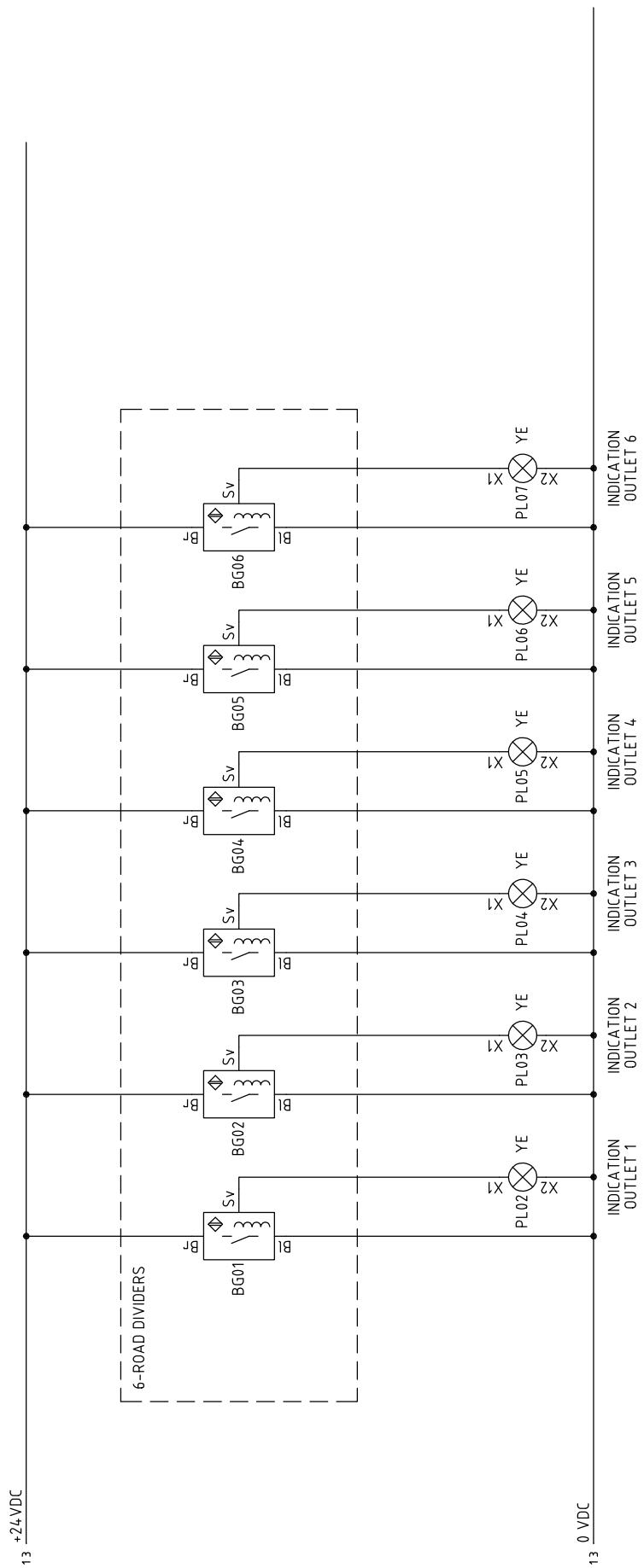




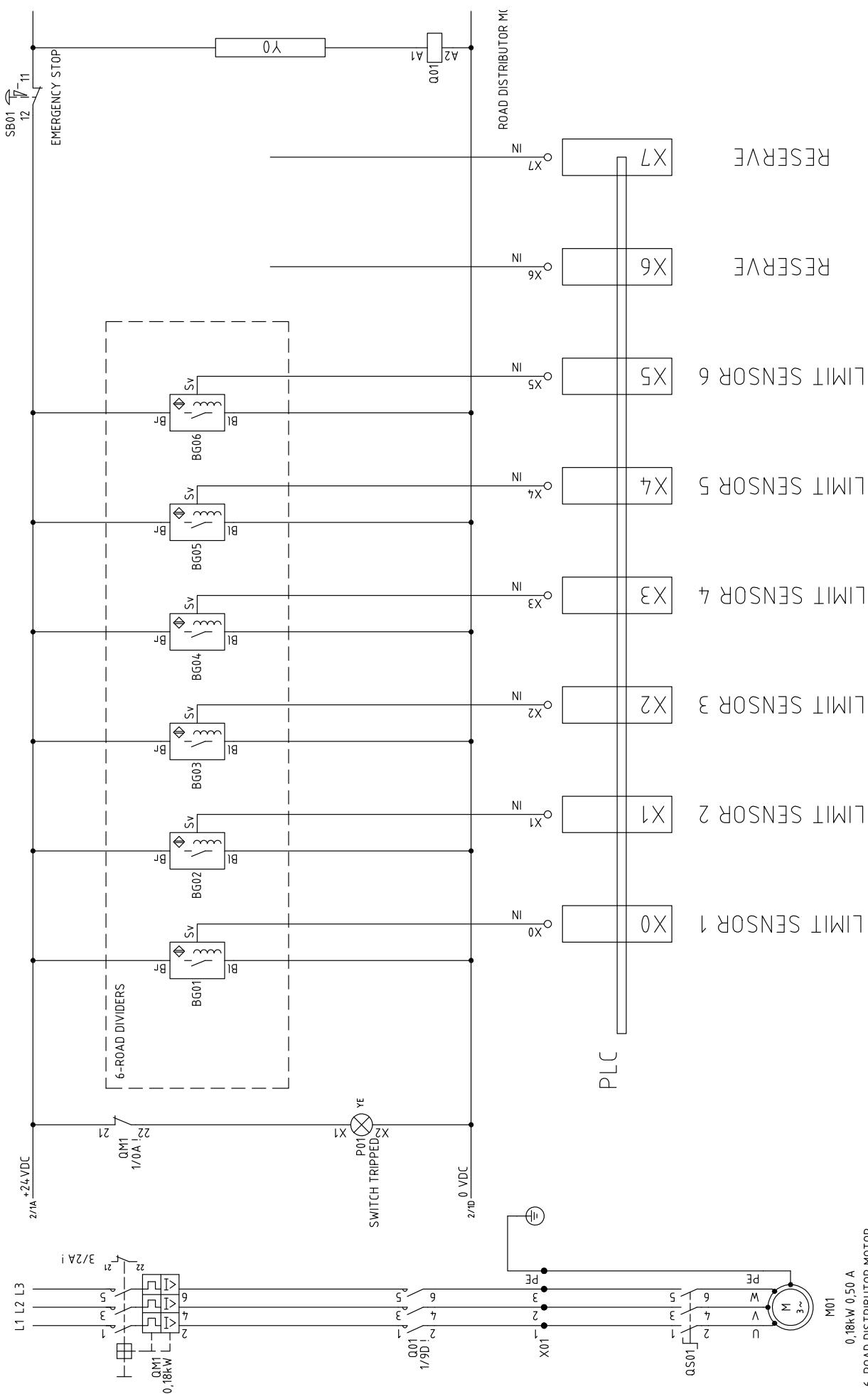
DETAIL NO:	NAME	QUANTITY	REMARK
X01	TERMINALS	19	
PL01	LED INDICATION	1	OVERLOAD ALARM
PL02	LED INDICATION	1	CENTER CLOSED
PL03	LED INDICATION	1	CENTER OPENS
PL04	LED INDICATION	1	DISCHARGE CLOSED
PL05	LED INDICATION	1	DISCHARGE OPENS
K01	RELAY	1	CENTER CLOSED
K02	RELAY	1	CENTER OPENS
K03	RELAY	1	DISCHARGE CLOSED
K04	RELAY	1	DISCHARGE OPENS
BG01	INDUCTIVE SENSORS	1	CENTER CLOSED
BG02	INDUCTIVE SENSORS	1	CENTER OPENS
BG03	INDUCTIVE SENSORS	1	DISCHARGE CLOSED
BG04	INDUCTIVE SENSORS	1	DISCHARGE OPENS
Q01	CONTACTOR	1	OPENS
Q02	CONTACTOR	1	CLOSE
QM1	ENGINE PROTECTION	1	CENTRAL DAMPER
SB01	PUSH BUTTON OPEN	1	OPEN
SB02	PUSH BUTTON CLOSING	1	CLOSING
M01	WORM GEAR MOTOR	1	CENTRAL DAMPER
W01-W06	CABLES		
			INCORNING VOLTAGE M01 WORM GEAR MOTOR CENTRAL DAMPER
			INDUCTIVE SENSORS CLOSED CENTER
			INDUCTIVE SENSORS OPENS DISCHARGE
			INDUCTIVE SENSORS OPENS DISCHARGE

6-way valve

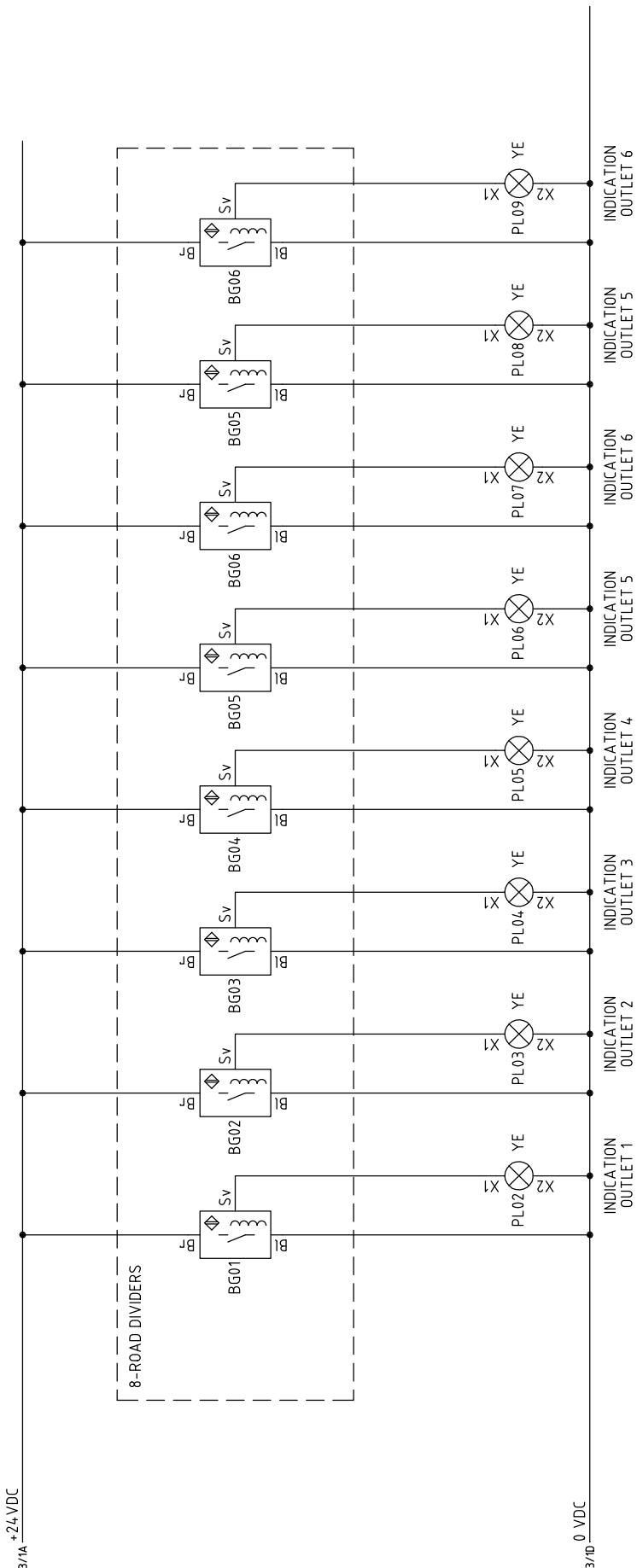




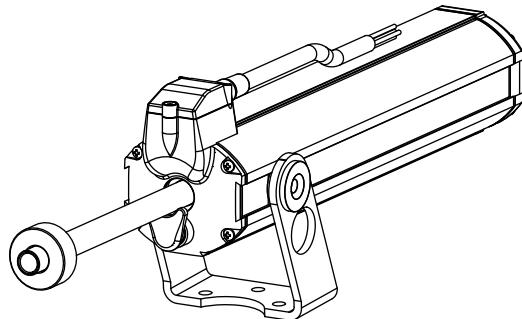
8-way valve



8-way valve



Part number: See product list.

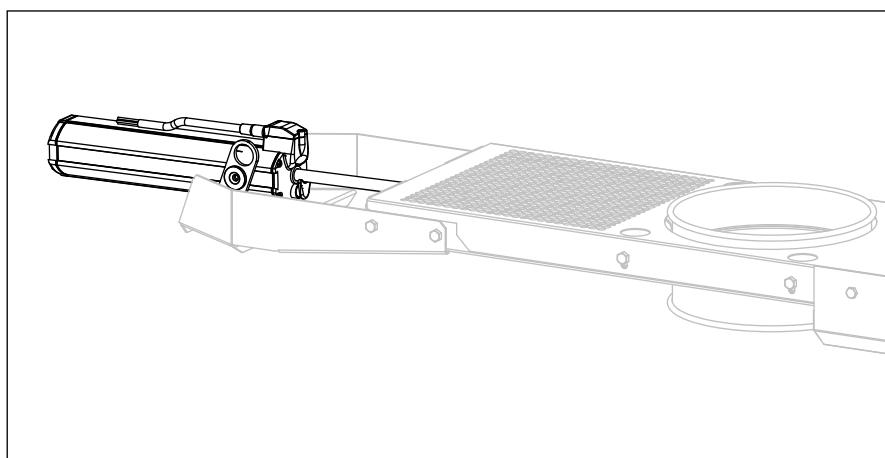


Technical specifications

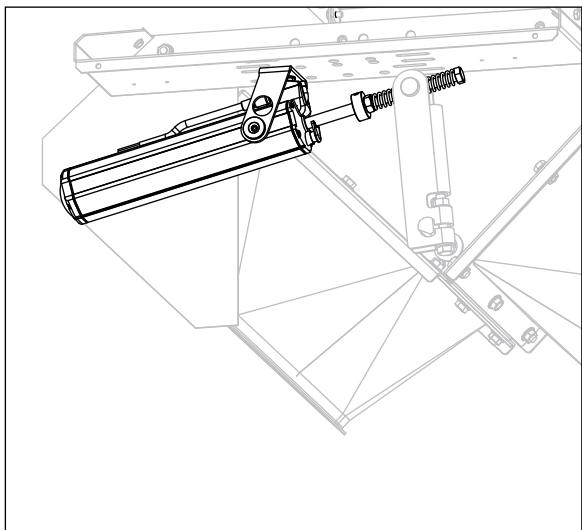
Terminal voltage	230 V AC
Frequency	50 Hz
Actuator consumption at max tensile load	175 W
Limit switch type	Micro breaker
Parallel connection	Yes
Thermal overload protection	Yes

Use and example wiring diagram

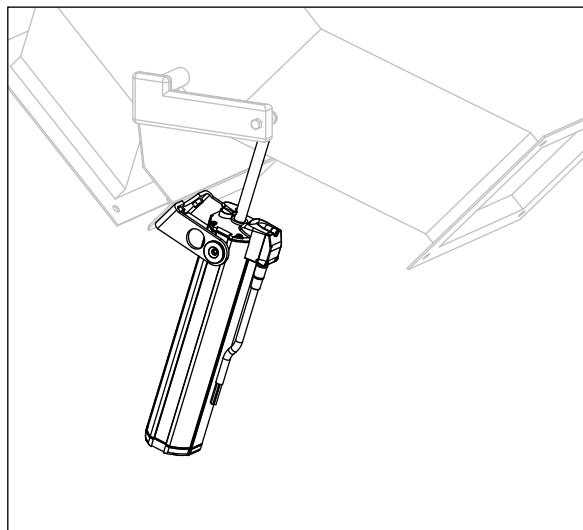
Blade slide - 48



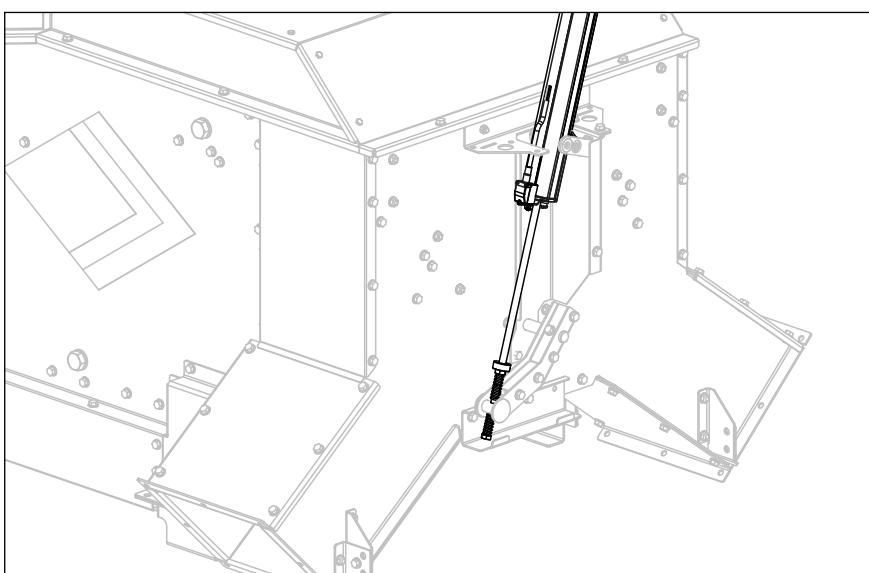
2-way valve - 48



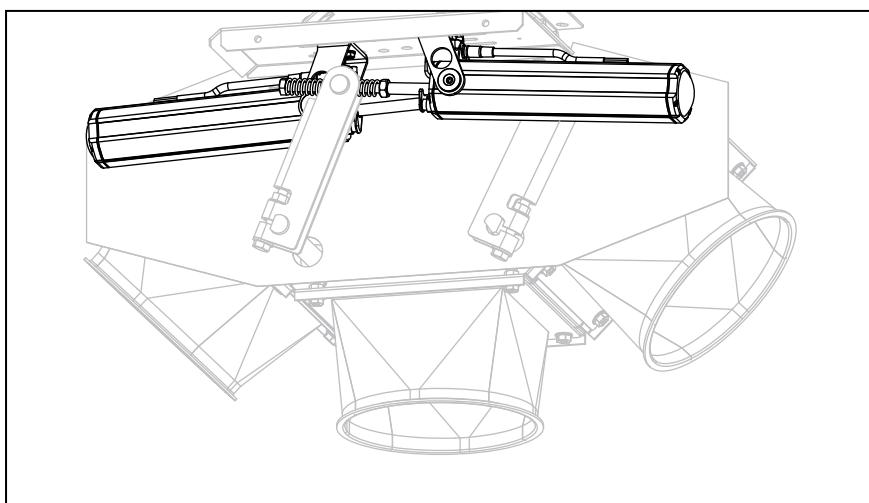
2-way outlet - 48



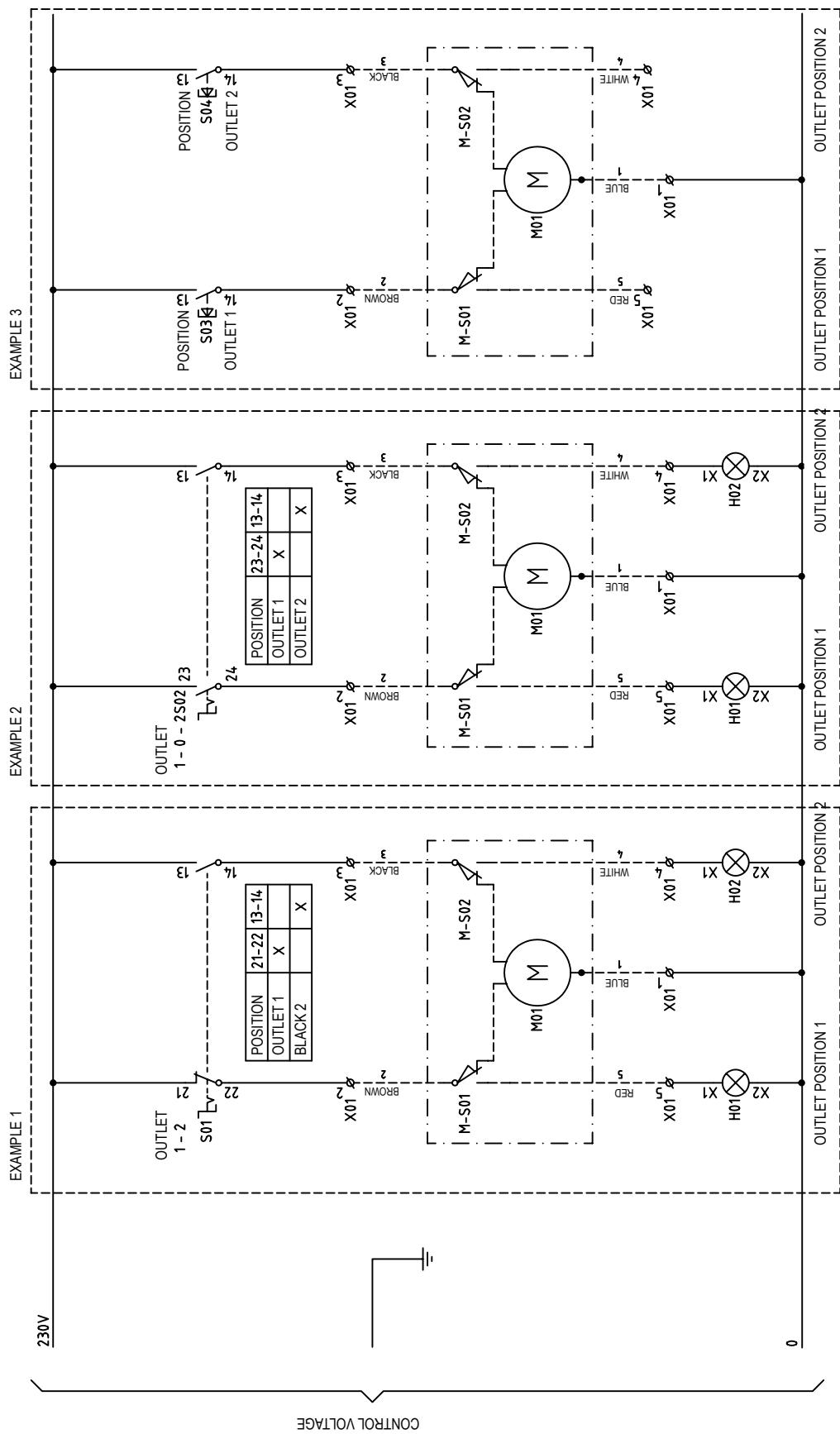
2-way outlet - Discharge tripper - 48



3-way valve - 50

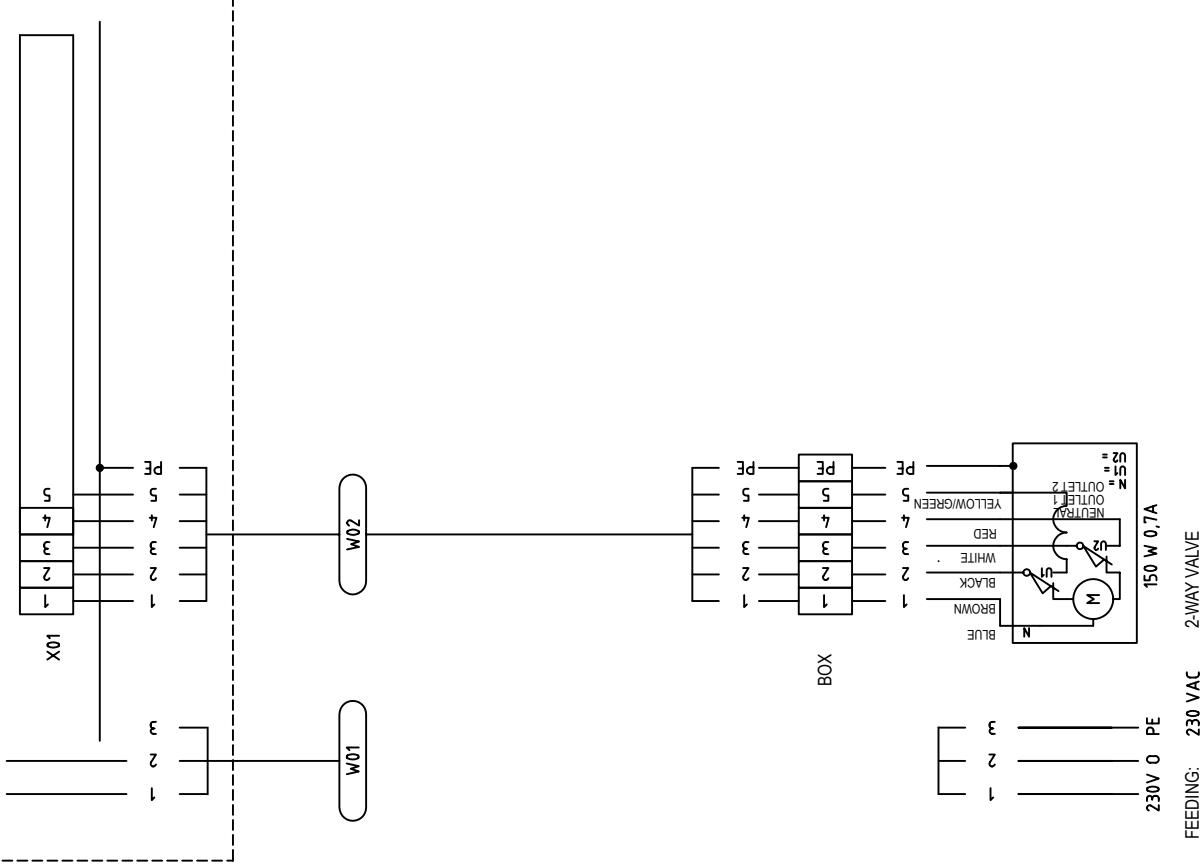


2-way valve / 2-way outlet / 2-way outlet -Discharge tripper / Blade slide



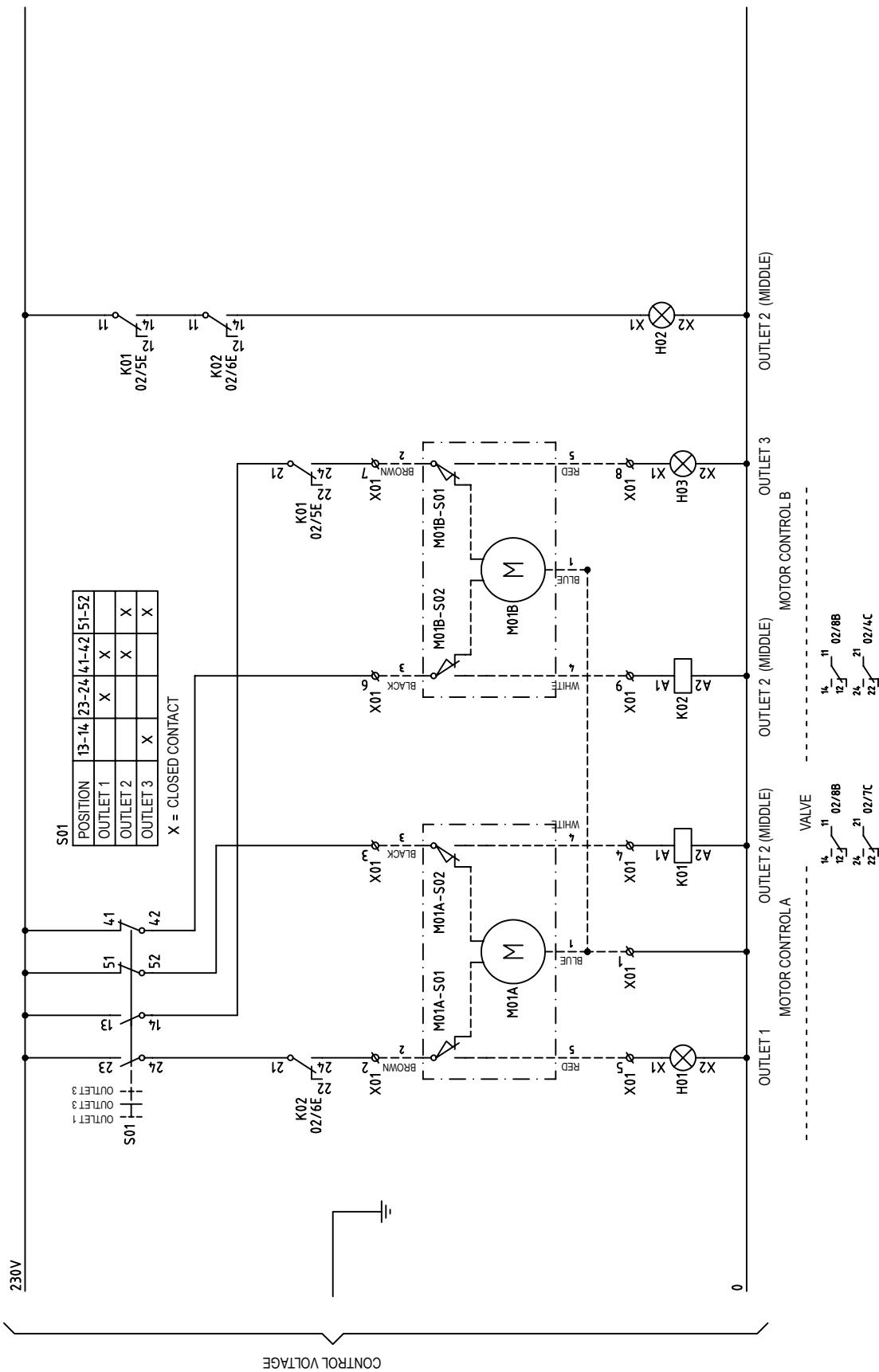
CONTROL CABINET

DETAIL NO	NAME	QUANTITY	COMMENT
X01	TERMINAL BLOCK	5	
H01	INDICATOR LIGHT	1	OUTLET 1
H02	INDICATOR LIGHT	1	OUTLET 2
M-S01	INTERNAL LIMIT SWITCH IN MOTOR	1	FOR OUTLET 1
M-S02	INTERNAL LIMIT SWITCH IN MOTOR	1	FOR OUTLET 2
S01	2-POLE SWITCH	1	OUTLET 1 - 2
S03	3-POLE SWITCH	1	OUTLET 1 - 0 - 2
S04	PUSHBUTTON	1	TO OUTLET POSITION 1
S06	PUSHBUTTON	1	TO OUTLET POSITION 2
W01-W02	CABLES		

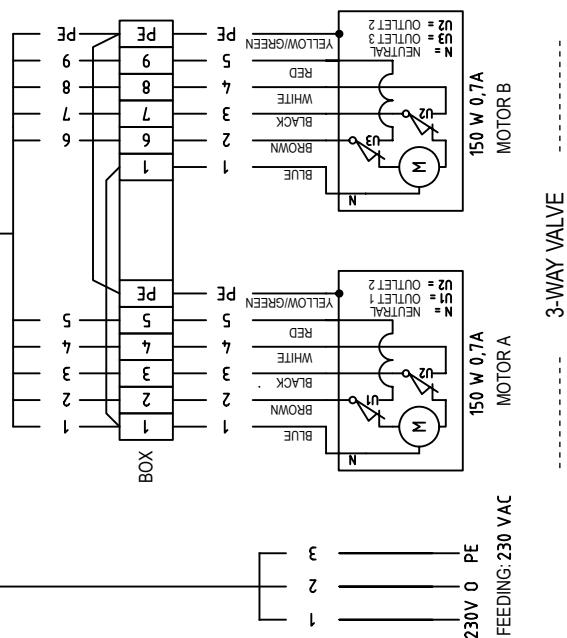


2-way valve / 2-way outlet / 2-way outlet -Discharge tripper / Blade slide

3-way valve



3-way valve

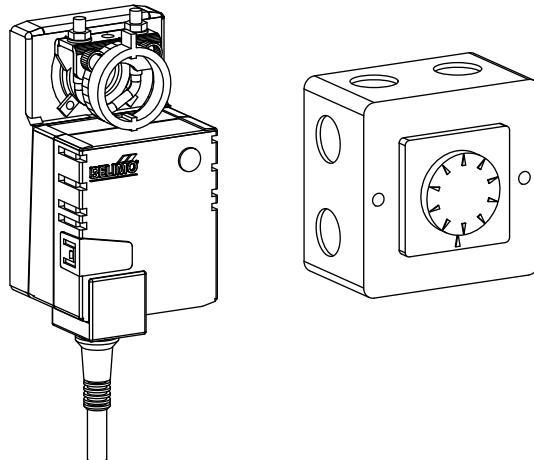


CONTROL CABINET

DETAIL NO	NAME	QUANTITY	COMMENT
X01	TERMINAL_BLOCK	9	
H01	INDICATOR LIGHT	1	OUTLET 1
H02	INDICATOR LIGHT	1	OUTLET 2
H03	LIMIT	1	OUTLET 3
M01A-S02	INTERNAL LIMIT SWITCH IN MOTOR (U1)	1	FOR OUTLET 1
M01B-S02	INTERNAL LIMIT SWITCH IN MOTOR (U2)	1	FOR OUTLET 2
M01B-S02	INTERNAL LIMIT SWITCH IN MOTOR (U3)	1	FOR OUTLET 3
M01B-S02	INTERNAL LIMIT SWITCH IN MOTOR (U2)	1	FOR OUTLET 3
S01	3-POLE SWITCH	1	OUTLET 1 - 2 - 3
W01-W02	CABLES		

Part number:

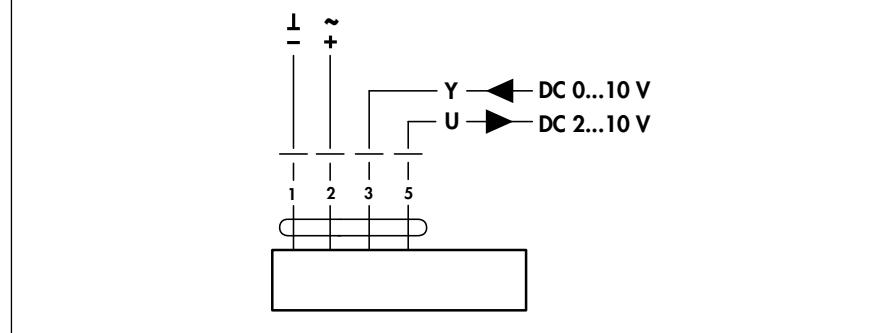
Damper motor	91933700
Remote controlled potentiometer	91933720



Technical specifications

Damper motor

Electric version	AC/DC
Torque	5 Nm at rated voltage
Nominal voltage	AC 24 V, 50/60 Hz DC 24 V
Voltage range	AC/DC 19.2... 28.8 V
Power consumption:	
- in operation	1 W at nominal torque
- in standby	0.4 W
- for dimensioning	2 VA
Control signal:	
- Input Y	DC 0 → 10 V, input resistance 100 kΩ
- Working range	DC 2 → 10 V
Measuring voltage	DC 0 → 10 V, Max 1 mA
Temperature range	-30 °C → +50 °C
Connection	Cable 1 m, 4 x 0.75 mm²

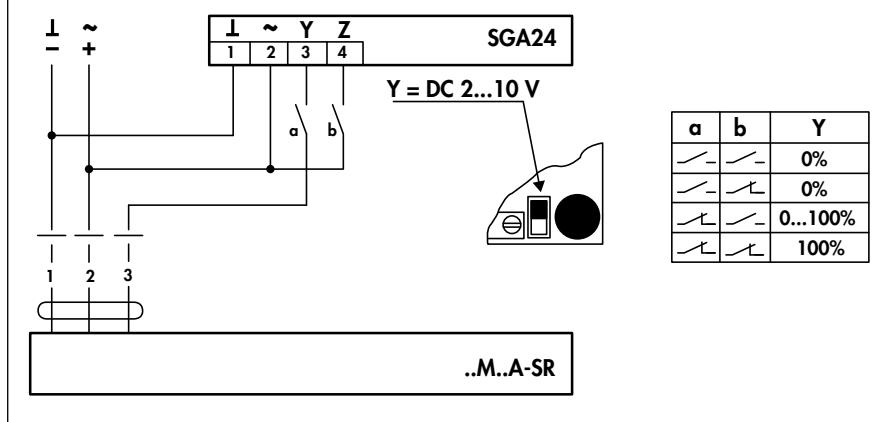


⚠️ IMPORTANT!

Ensure that the connection is made over the safety isolating transformer.

Remote controlled potentiometer

Electric version	AC/DC
Nominal voltage	AC 24 V, 50/60 Hz DC 24 V
Voltage range	AC/DC 19.2.. 28.8 V
Power consumption:	0.3 W
- for dimensioning	1 VA
Control signal Y:	DC 2... 10 V @ Max 0.5 mA (DC 0... 10 V, connectable with slide switch, fitted on the circuit board.)
Scale	0... 100% (mechanical limitation in the control knob)
Temperature range	-20°C...+50°C
Connection	Terminal (for max. 1.5 mm ²)

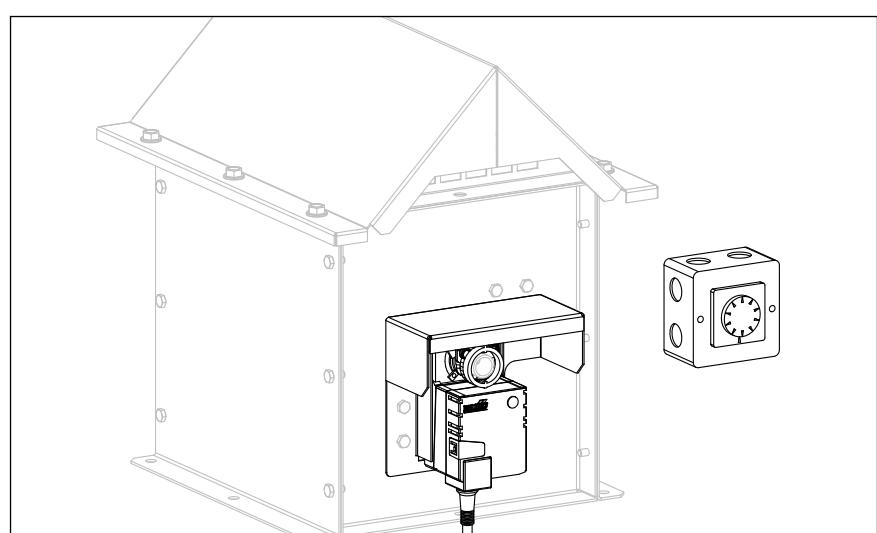


⚠️ IMPORTANT!

Ensure that the connection is made over the safety isolating transformer.

Use

DC Remover



Part number: See product list.

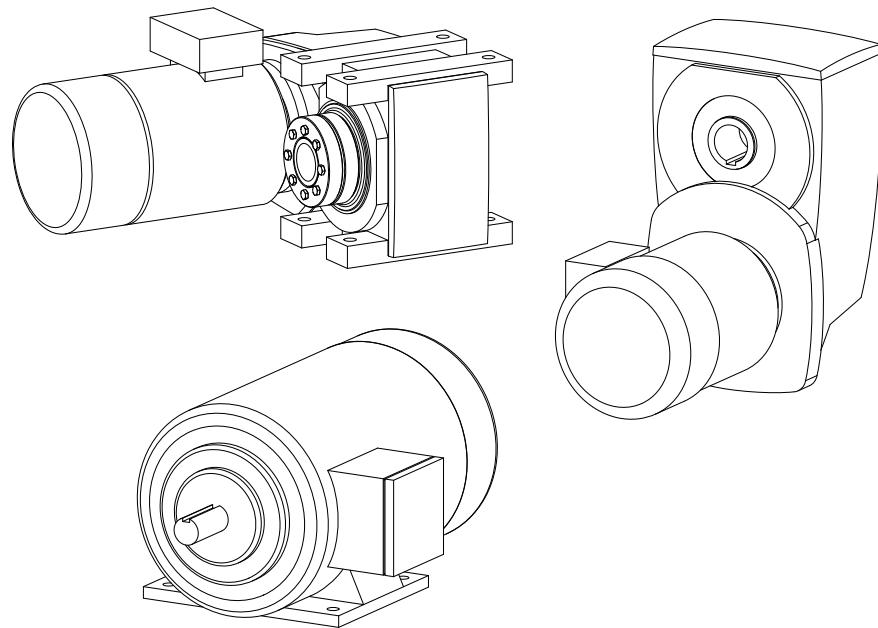
Output frequency	0,0→400,0 Hz
Pulse frequency	3,0→16,0 Hz
Typical overload capacity	150% in 60 sec 200% in 3.5 sec
Efficiency frequency converter	> 95 %
Ambient temperature	0°C→+40°C (S1- 100 % Operating time) 0°C→+50°C (S3- 70 % Operating time 10 min)
Adjustment and control	Sensorless current vector control (ISD), linear U/f curve
Motor temperature monitoring	I2t motor (UL approved), PTC/bi-metal (not UL approved).

⚠️ **IMPORTANT!**

- A screened cable must be used in order that applicable EMC requirements shall be met.
- Maximum cable length is 25-30 metres. For a cable length up to 70 metres, an output choke must be used directly after the frequency converter.
- Ensure that the motor's built-in thermistors are connected during operation via frequency converters. When operating at less than 25 Hz, the motor must be equipped with a separate cooling fan.

Use

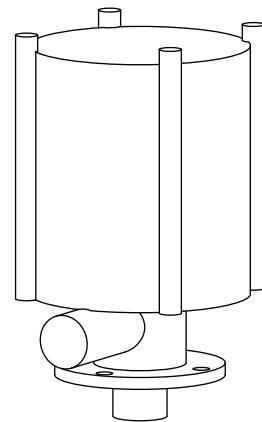
Foot mounted motor/Gerabox motor



Slip ring

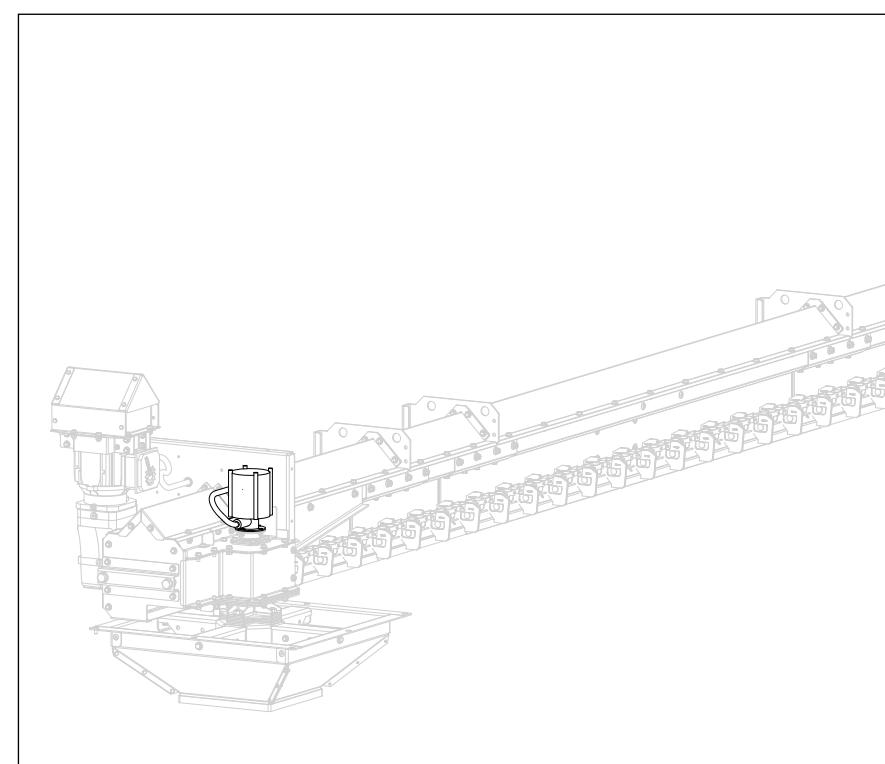
Part number: 330720

Part number: ATEX 330725



Use

Sweep conveyor



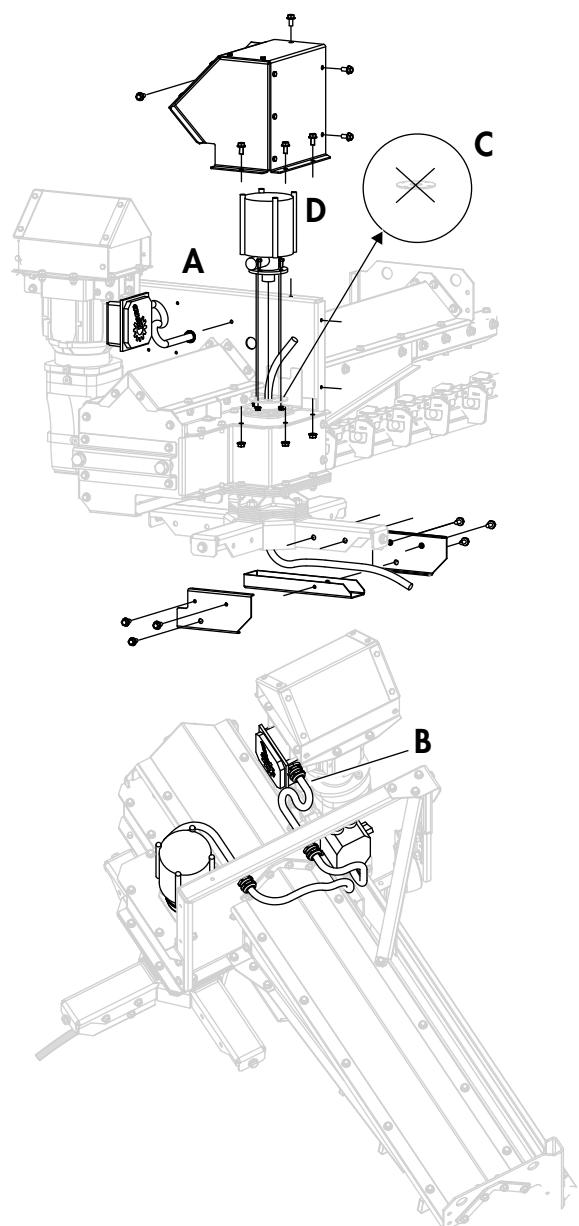
Assembly

Holes for fitting electrical connection components and routing-through of cables are located on the drive end's frame plate (A).

⚠️ IMPORTANT!

- Ensure that the cable coil (B) is long enough to be able to tension the conveyor chain (pull the angle gear back towards the end of the drive end).
- Avoid having loose hanging cables and protect them from moving parts.
- Ensure that all protectors for cables and electrical components are fitted.

NB! The cover (C) (for cable entry) must not be used when fitting the slip ring (D).

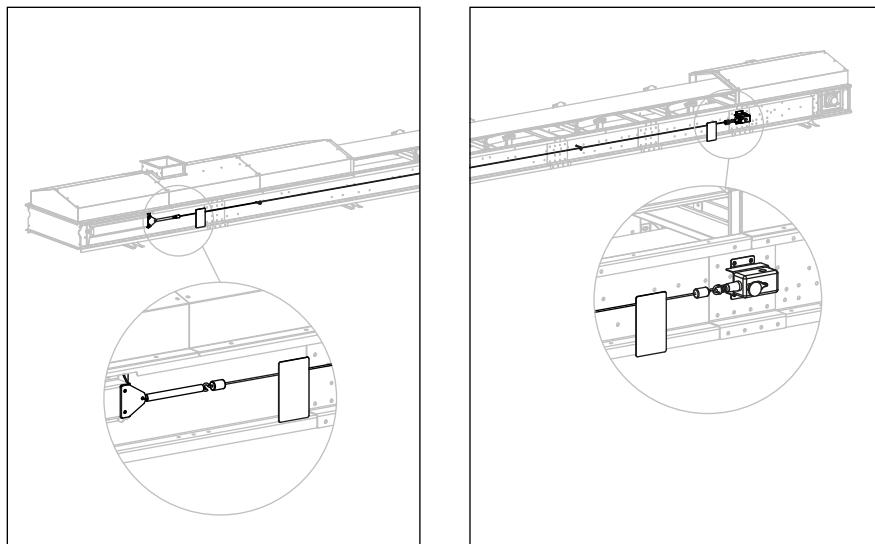


Cable-operated emergency stop

Part number: 700430

Use

Belt conveyor

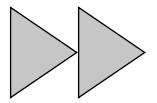


Assembly

⚠️ WARNING!

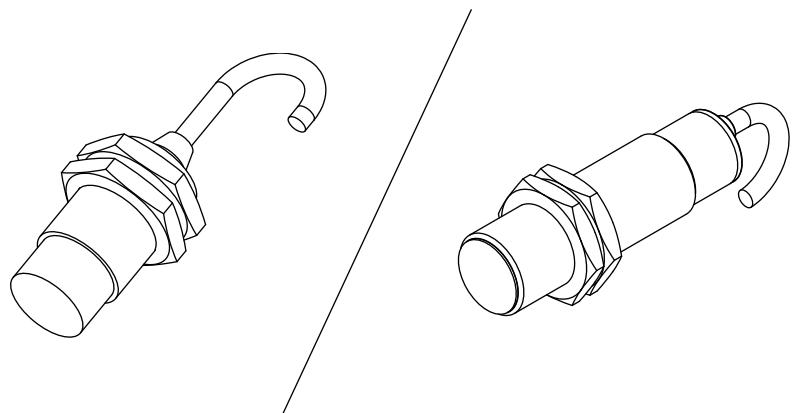
Fit inlet cable-operated emergency stop according to the manufacturer's instructions. Cable-operated emergency stop is a requirement for CE certification of the machine if it is accessible during operation.

PNEUMATICS

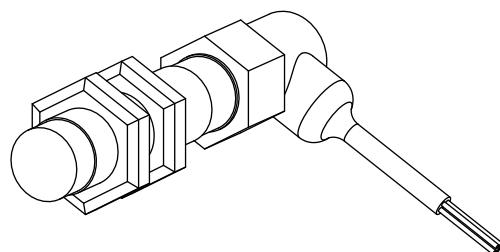
Sensors	60	
Valves	64	
Cylinders	70	

Inductive Limit Switch

Part number: 91934210 / 91934211



Part number: ATEX 91934450A / 91934460AA

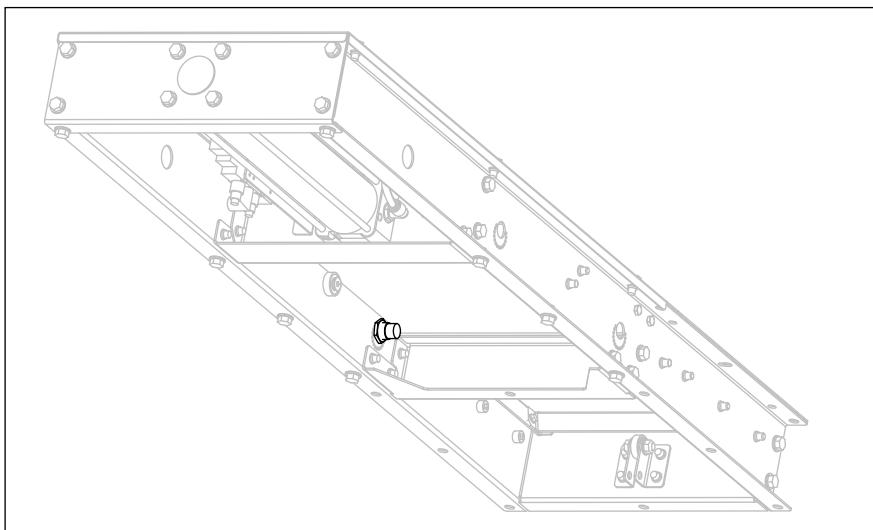


Technical specifications and connections

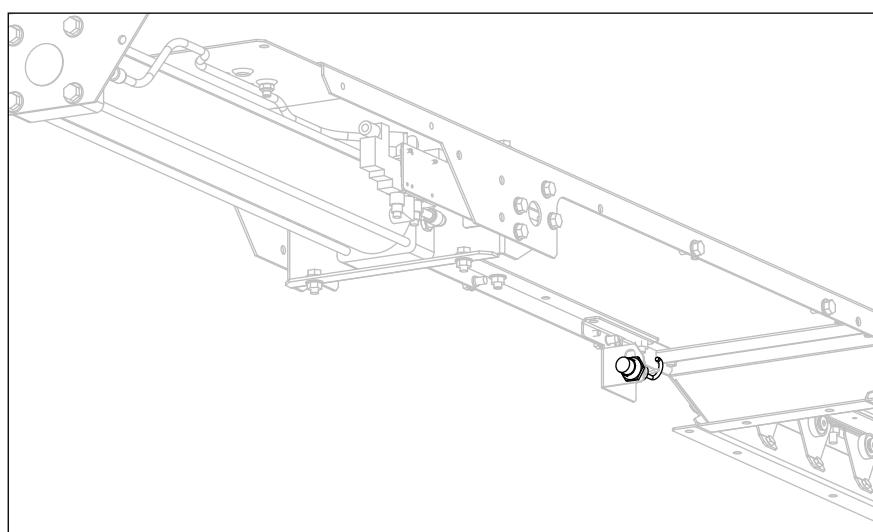
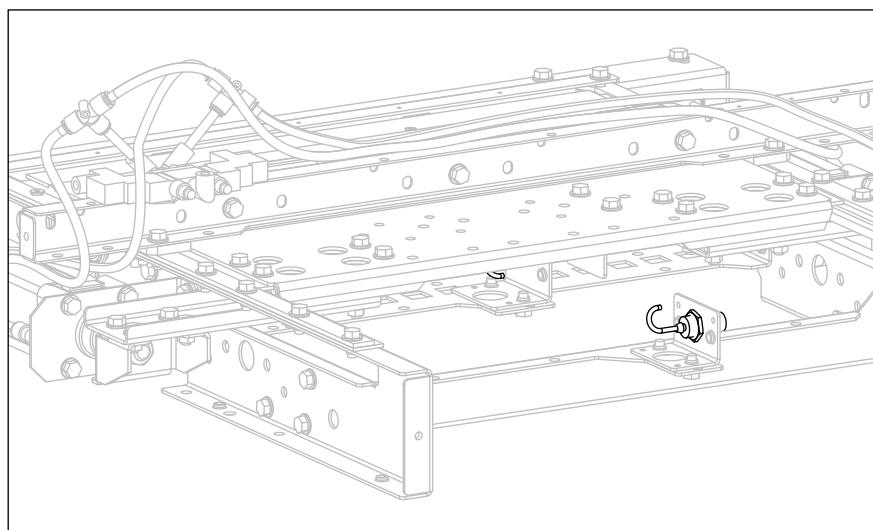
See pages 10-11 and pages 12-13 for ATEX.

Use

Silo slide



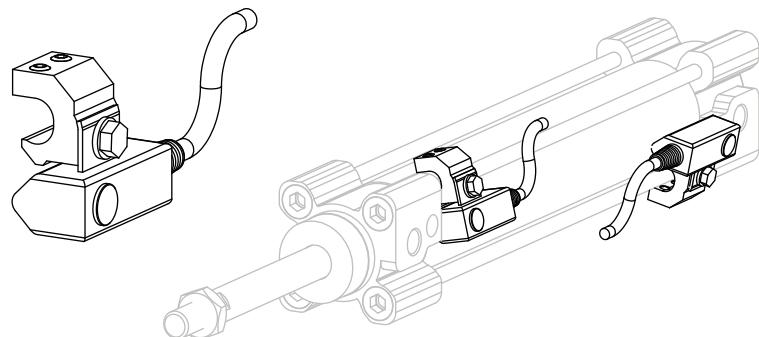
Outlet slide conveyor I- & H-line



Capacitive limit switch

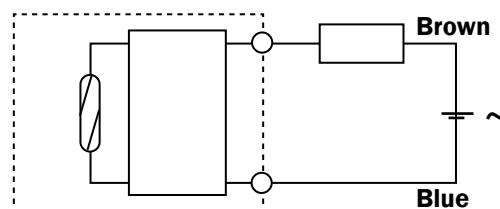
Part number: 903520

Part number: ATEX 903520A



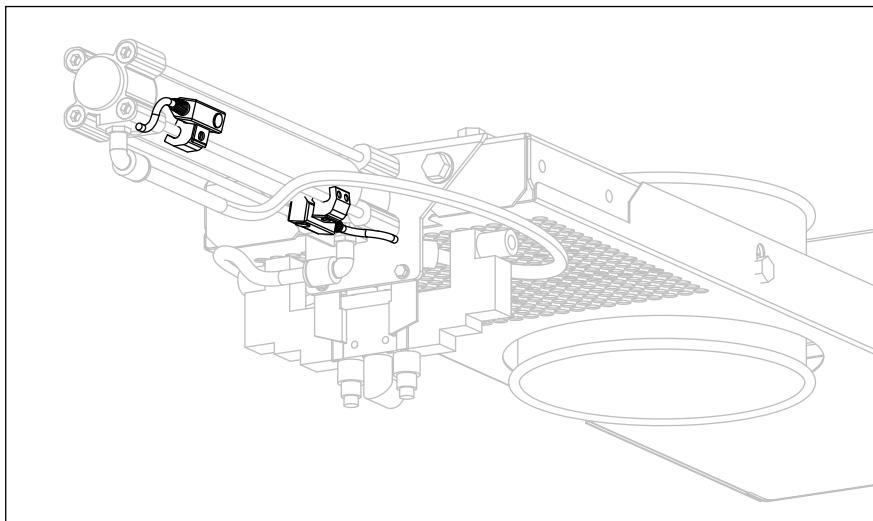
Technical specifications and connections

Part number:	903520	903520A (ATEX)
Load voltage	24 V DC	
Operating time	1.2 ms	
Leak current	None	
Contact protection circuit	Built-in	
Ambient temperature	-10 °C → +60 °C	
Maximum load current and range	5 → 25 mA	5 → 50 mA
Internal voltage drop	2.4 V	2.4 V or less (up to 20 mA) / 3.5 V or less (up to 50 mA)
Contact protection circuit	Built-in	
Connection	Lead wire Oilproof vinyl heavy insulation cable, Cable diameter 4, 0.3 mm ² , 2 cores (Brown, Blue), 0.5m	
Indicator light	ON: When red light emitting	

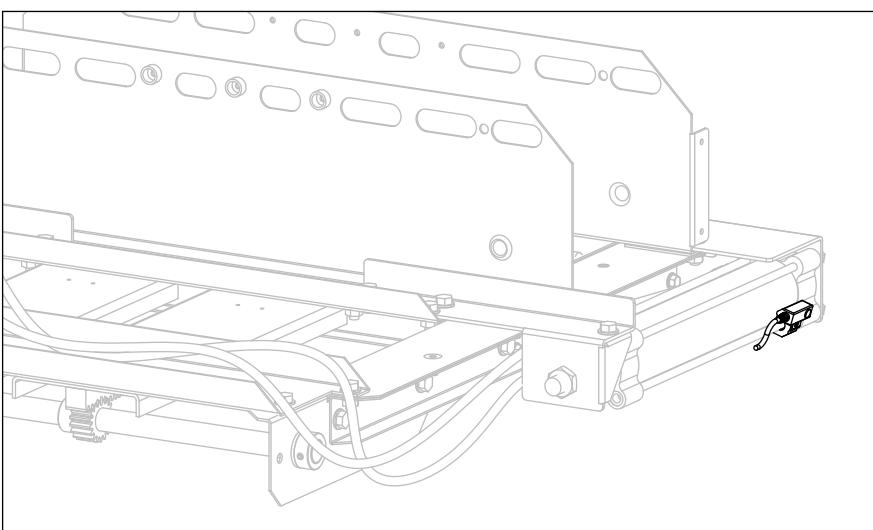


Use

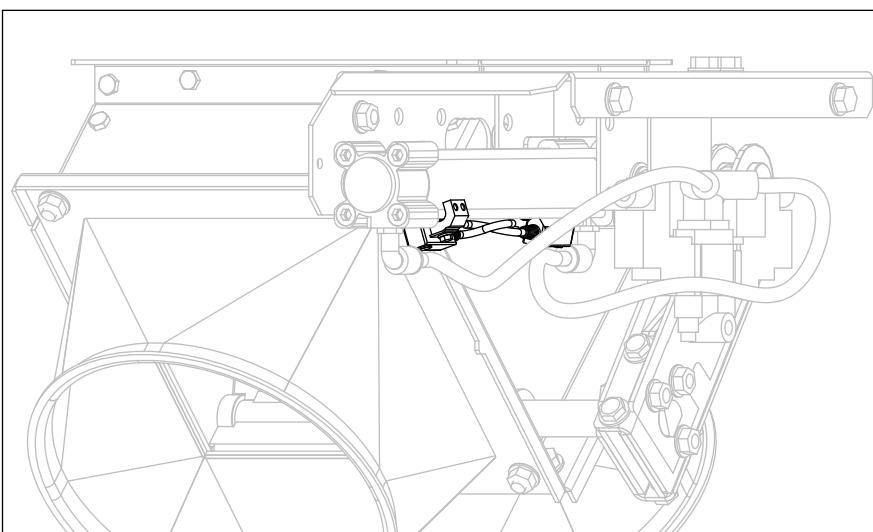
Blade slide



Outlet slide conveyor L-line



2-way valve / 3-way valve

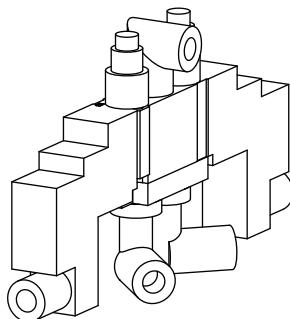


Wiring diagram for pneumatic 3-way valve can be found on page 66.

Solenoid valve bi-stable

Part number: 903222

Part number: ATEX 9032220A

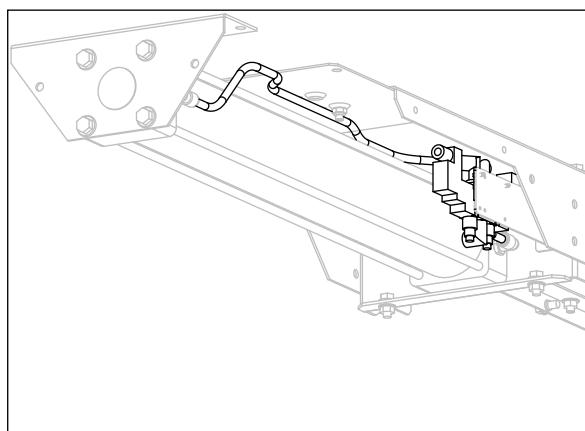
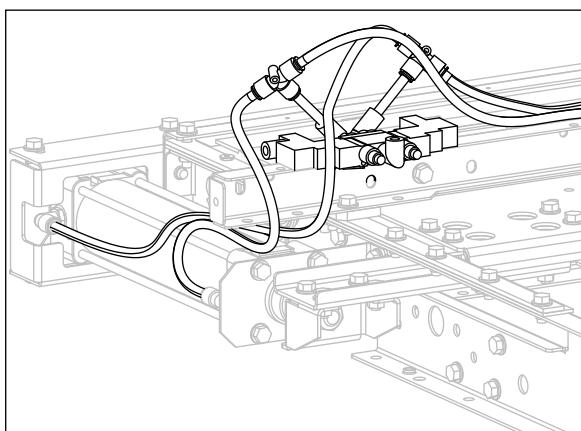


Technical specifications and connections

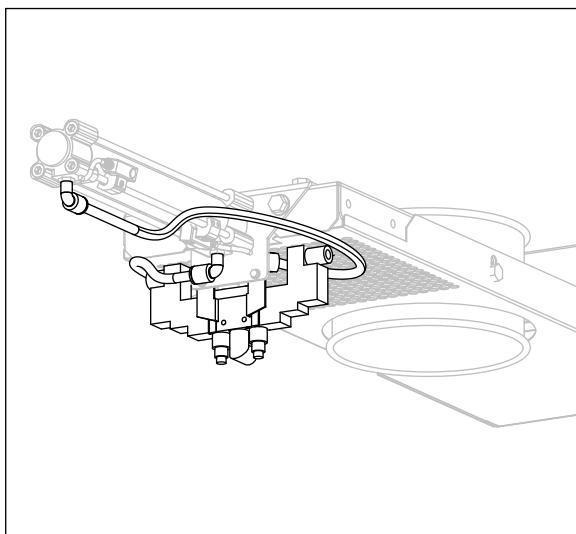
Part number:	903222	903222A (ATEX)
Fluid	Air	
Pilot exhaust method	Common exhaust type for main and pilot valve	
Proof pressure	1.5 MPa	
Max. operation pressure	0.7 MPa	
Min. operation pressure	0.1 MPa	0.15 MPa
Ambient and fluid temperature	- 10 °C → +50 °C (No freezing)	
Lubrication	Non required (Non lube)	
Solenoid Specifications		
Coil rated voltage	24 V DC	
Power consumption	Power consumption	
Connection	M8 connector	

Use and example wiring diagram

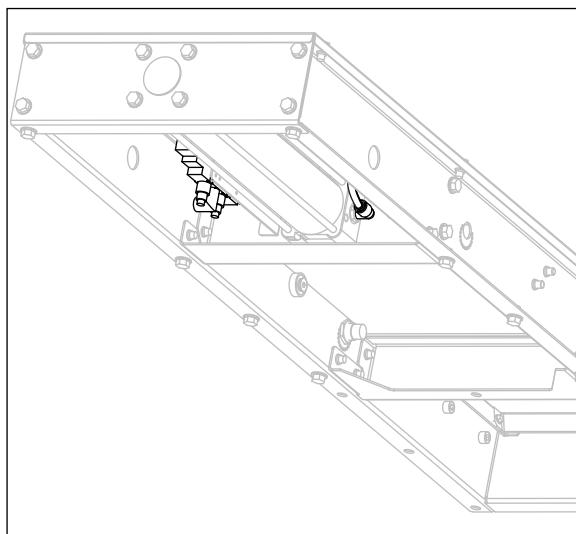
Outlet slide conveyor



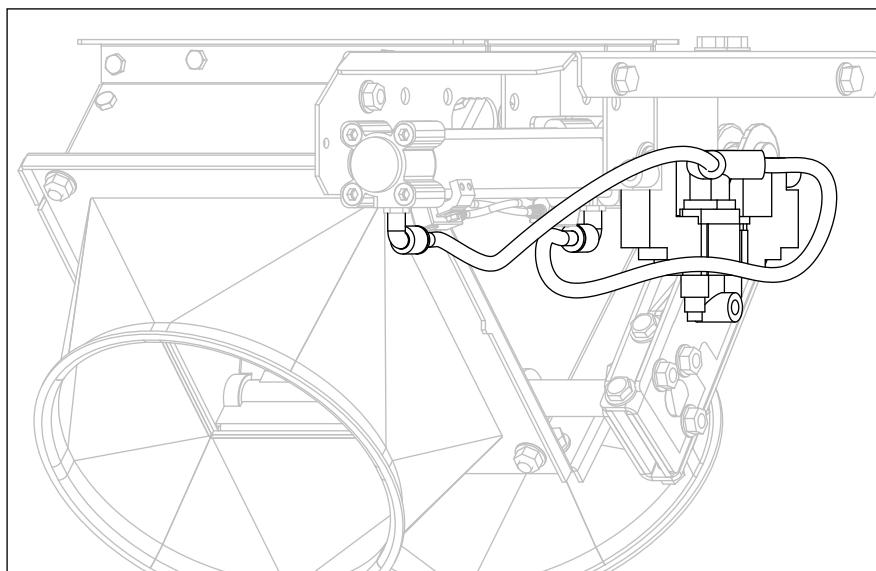
Blade slide



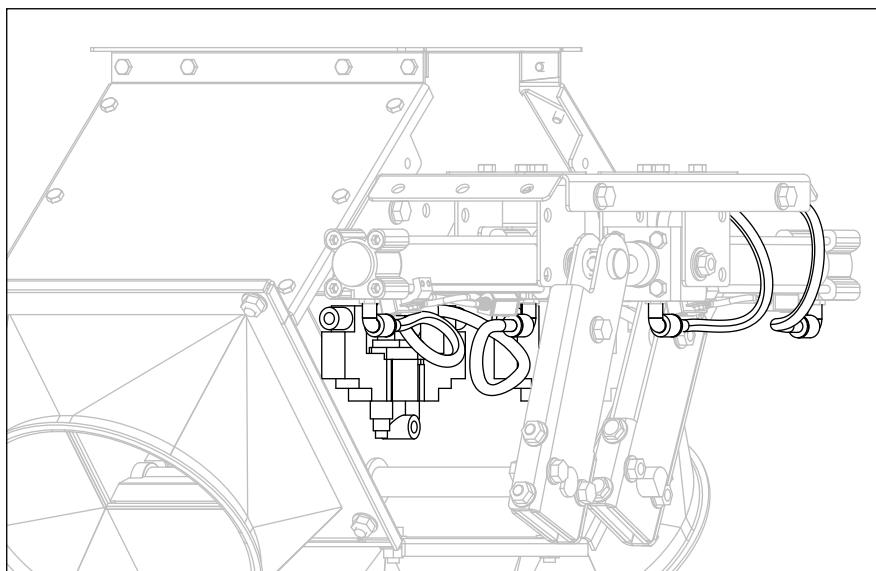
Silo slide



2-way valve

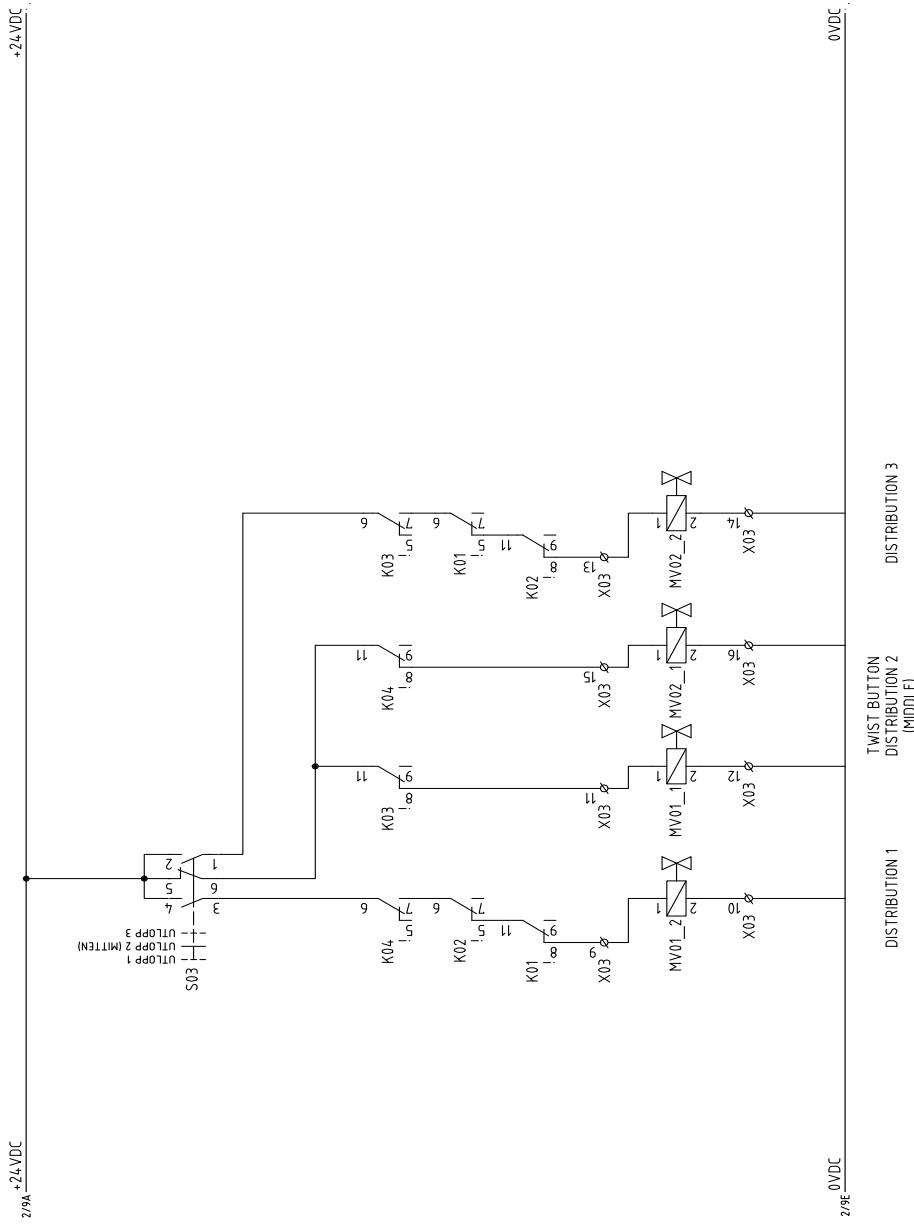


3-way valve



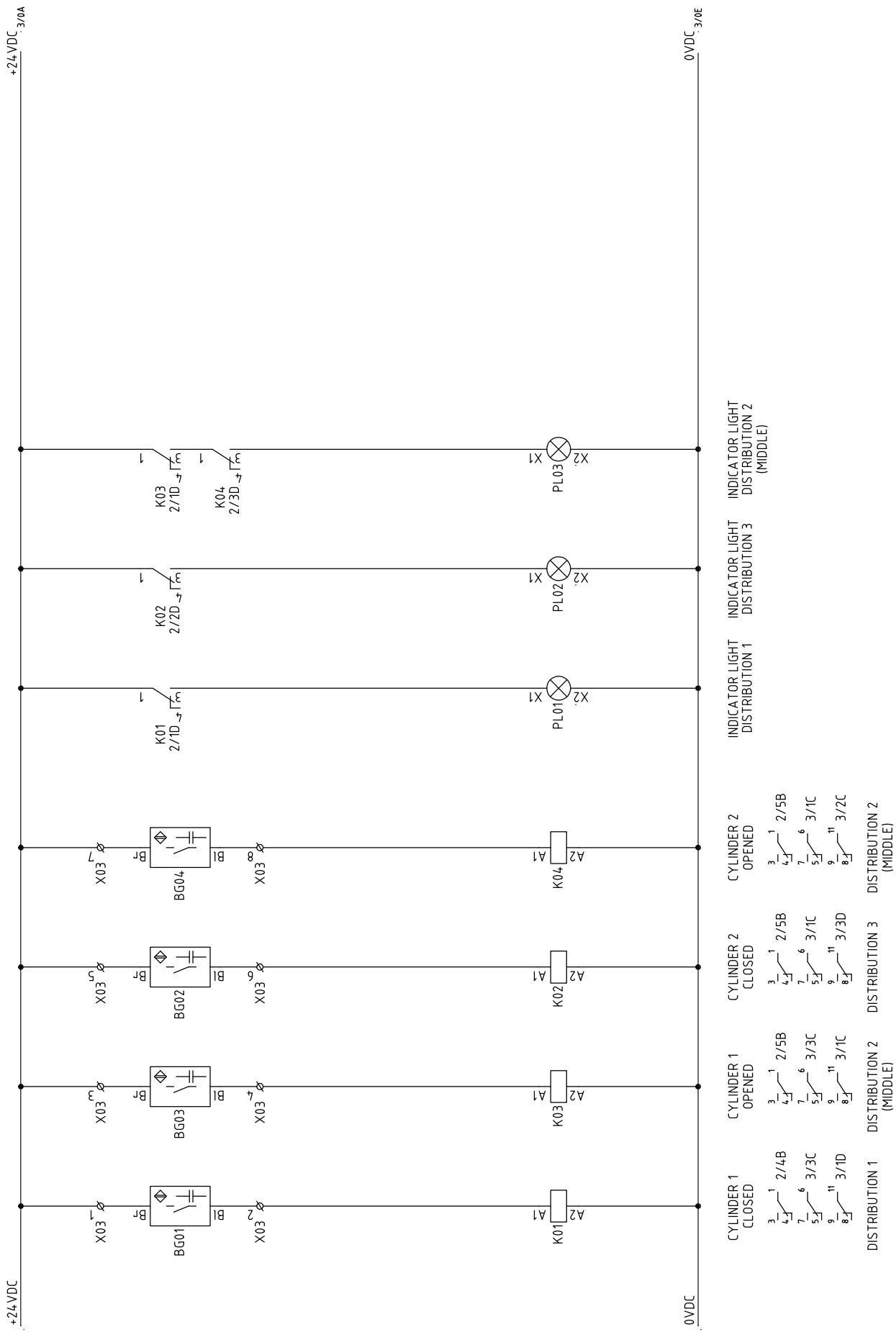
Wiring diagram for
pneumatic 3-way valve
can be found on page
66.

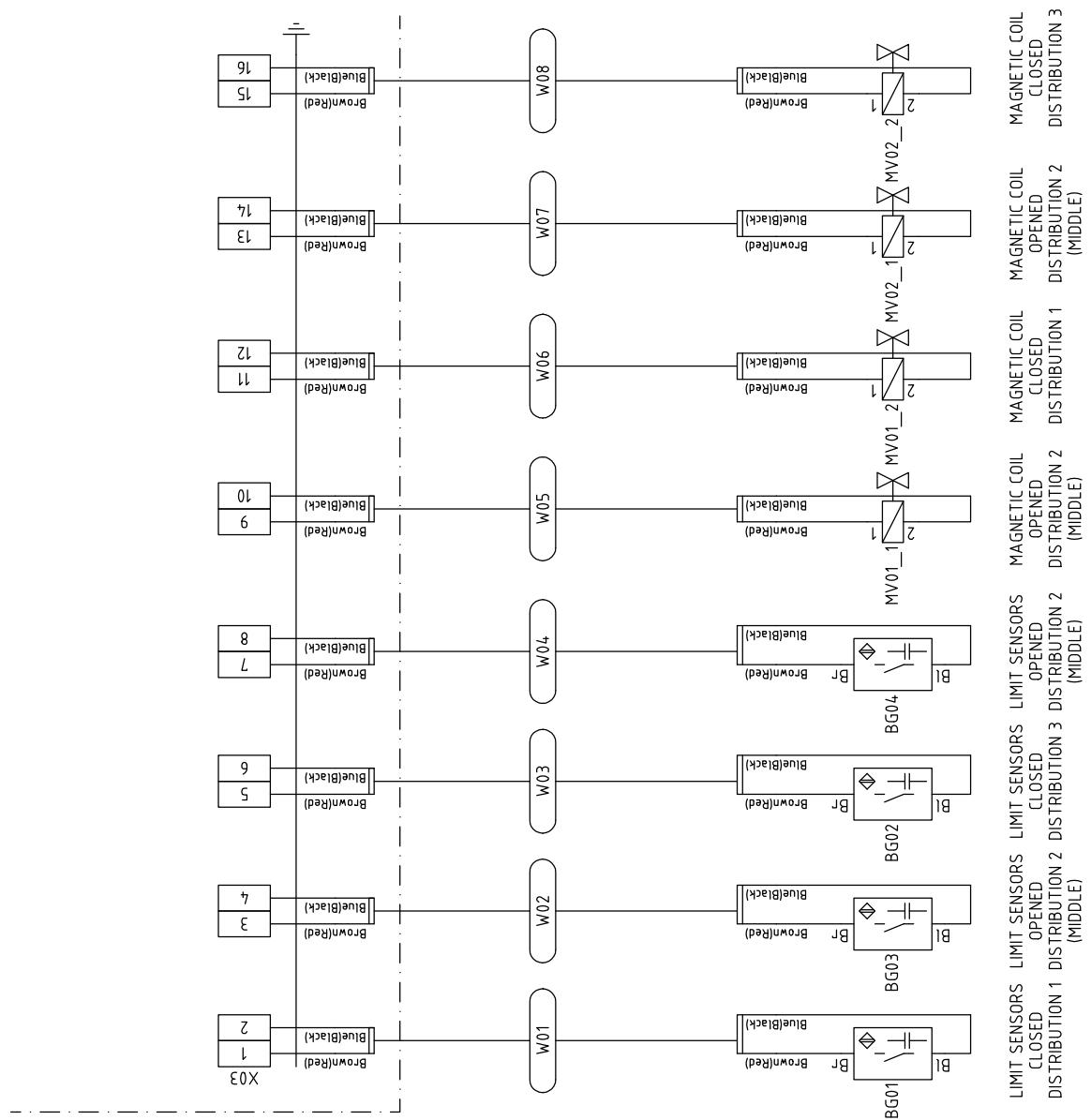
Pneumatic 3-way valve



Pneumatic 3-way valve

67

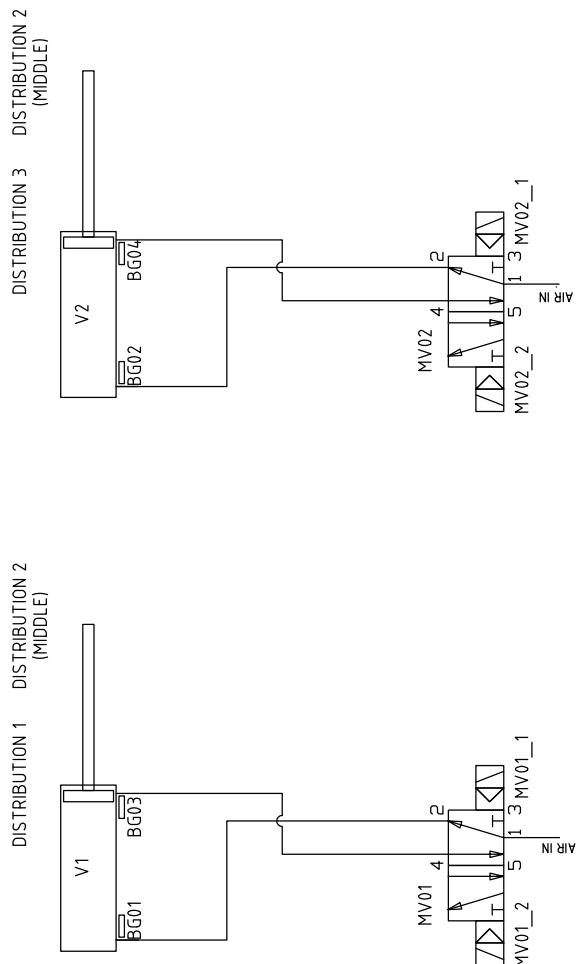




DETAIL NO	NAME	QUANTITY	COMMENT
X03	TERMINAL BLOCK	16	
K01	RELAY	1	DISTRIBUTION 1
K02	RELAY	1	DISTRIBUTION 2 (MIDDLE)
K03	RELAY	1	DISTRIBUTION 3
K04	RELAY	1	DISTRIBUTION 2 (MIDDLE)
PL01	INDICATOR LIGHT	1	DISTRIBUTION 1
PL02	INDICATOR LIGHT	1	DISTRIBUTION 3
PL03	INDICATOR LIGHT	1	DISTRIBUTION 2 (MIDDLE)
SB01	PUSHBUTTON	1	DISTRIBUTION 1
SB02	PUSHBUTTON	1	DISTRIBUTION 3
SB03	PUSHBUTTON	1	DISTRIBUTION 2 (MIDDLE)
	CYLINDER	2	
MV01_02	MAGNETIC VALVE	2	
BG01	LIMIT SENSORS	1	CYLINDER 1 IN
BG02	LIMIT SENSORS	1	CYLINDER 2 IN
BG03	LIMIT SENSORS	1	CYLINDER 1 OUT
BG04	LIMIT SENSORS	1	CYLINDER 2 OUT
W02-W09	CABLES	9	

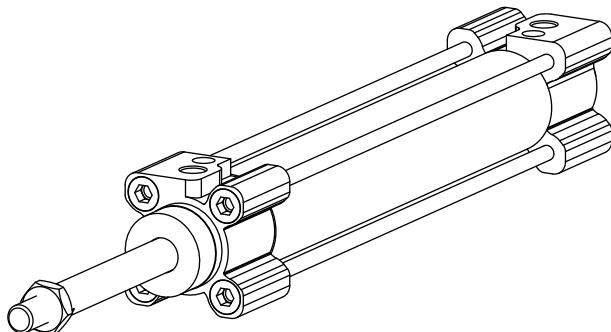
Pneumatic 3-way valve

Pneumatic 3-way valve



Pneumatic cylinder

Part number: See product list.

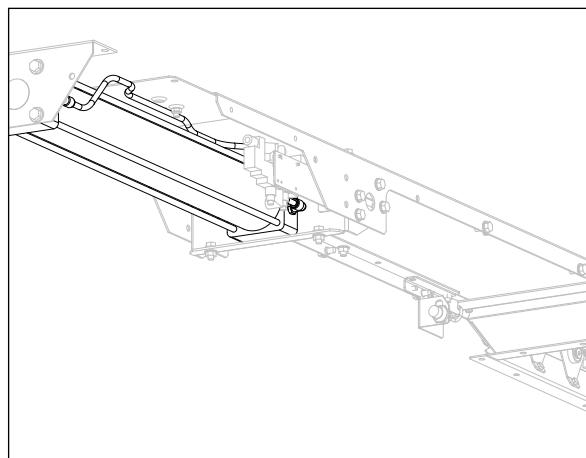
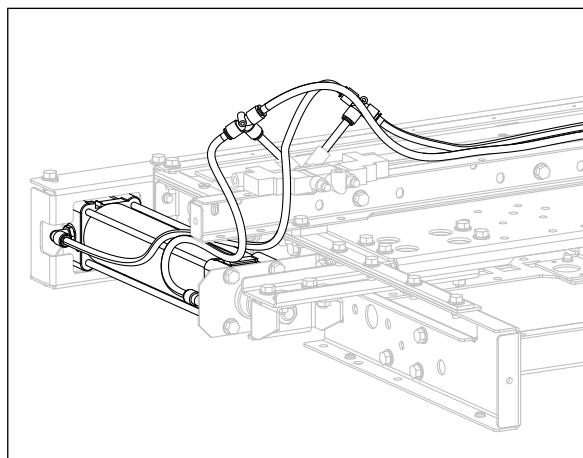


Technical specifications

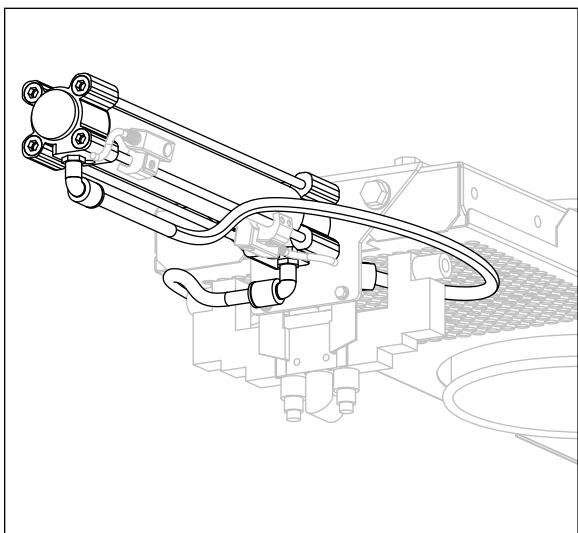
Bore size (mm)	32	40	50	63	80	100	125
Action	Double acting						
Fluid	Air						
Proof pressure	1.5 MPa						
Max. operation pressure	1.0 MPa						
Min. operation pressure	0.05 MPa						
Ambient and fluid temperature	Without auto switch: - 20 °C → +70 °C						
Lubrication	Non required (Non lube)						
Operation piston speed	50 → 1000 mm/s				50 → 700 mm/s		
Cushion	Both ends (Air cushion)						
Pneumatic connection	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
Mounting	Basic, Axial foot, Rod and flange, Head and flange, Single clevis, Double Clevis, Centre trunnion						

Use

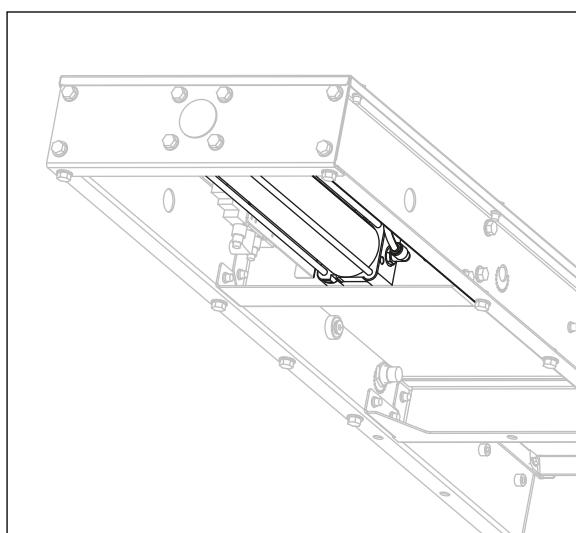
Outlet slide conveyor



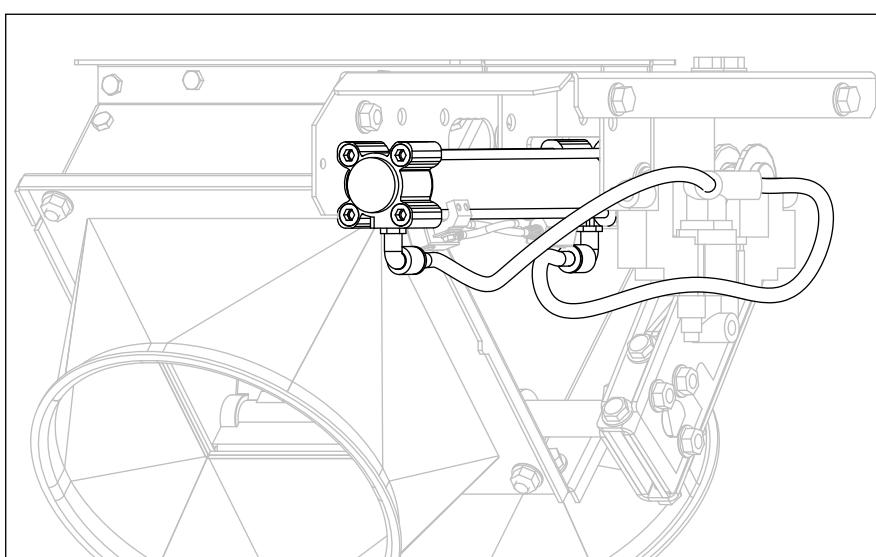
Blade slide



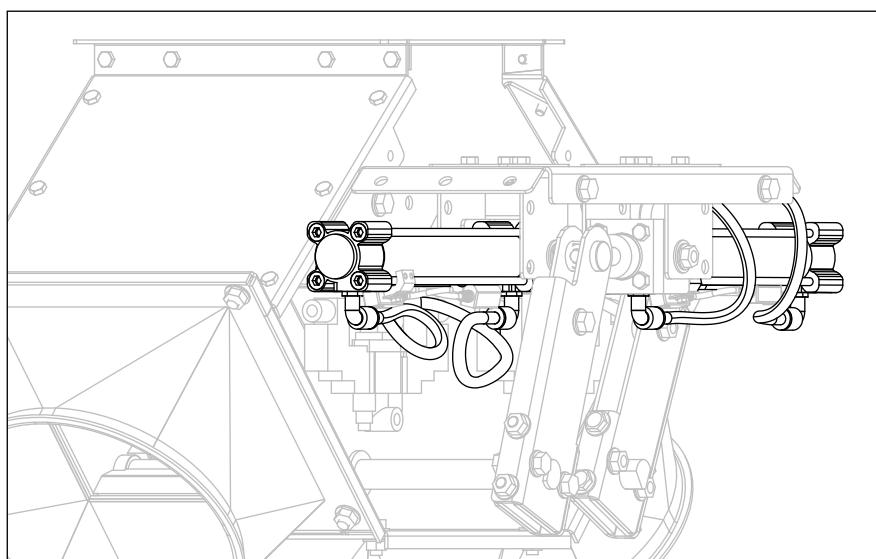
Silo slide



2-way valve



3-way valve





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