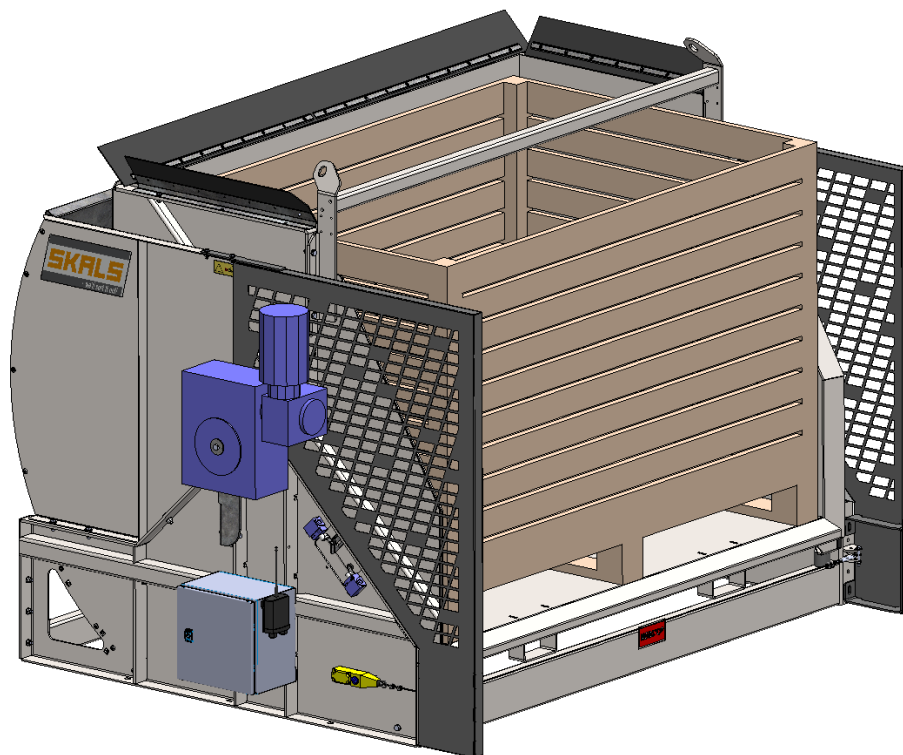


Manual

Box tipper
KCS



A/S SKALS MASKINFABRIK
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2 Introduction

Read this user manual thoroughly before using the machine.

The machine is designed to empty large boxes that contain potatoes, onions or carrots.

The machine may be operated in a temperature range of -10 to +40 °C.

The information plate and CE label are positioned on the side of the machine, close to the control panel.

3 Safety

PEOPLE MUST STAY CLEAR OF THE MACHINE AT ALL TIMES WHILE IT IS OPERATING.

NB: The fall arrester moves automatically when the machine is operating.

3.1 Pictograms

Two types of pictograms are positioned on the machine.

Warnings



CRUSH HAZARD.

Avoid touching or coming into contact with the machine's moving parts. This applies to fingers and clothing, since this can lead to mutilation.

Instructions



HOOK

Describes where the hook must be positioned when the machine is to be lifted by a crane.



STRAP HERE

Describes where the machine shall be secured during transport.

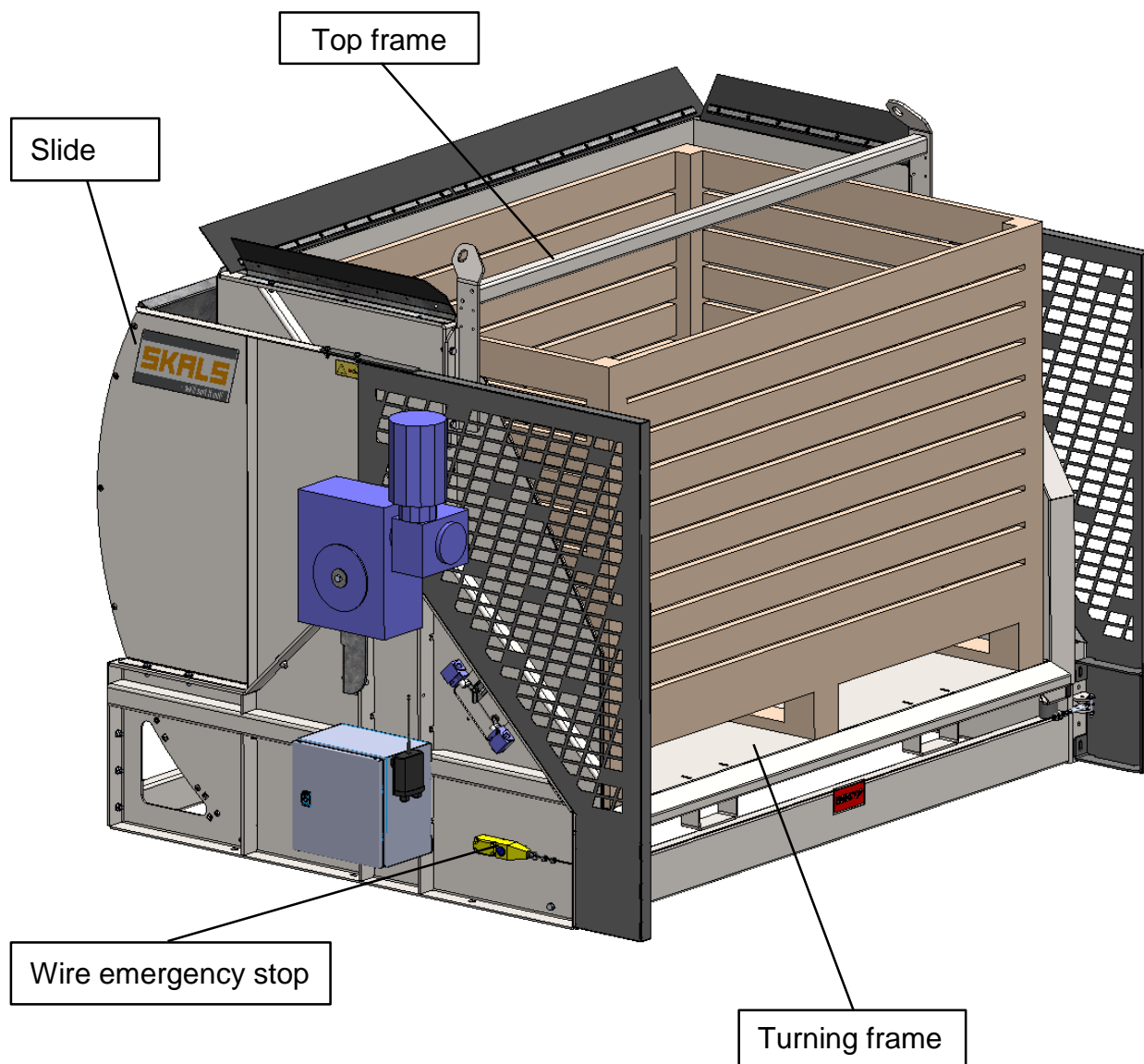


FORKLIFT TRUCK

Describes where the forks must be positioned when lifting with a forklift truck.

4 In general

Description of machine



5 Operation

Before commissioning the machine, check to ensure it has not been damaged during transport. Any defects must be reported to the dealer immediately.

5.1 Setting up

It is important that the machine is fitted safely above the machine it is to tip into.

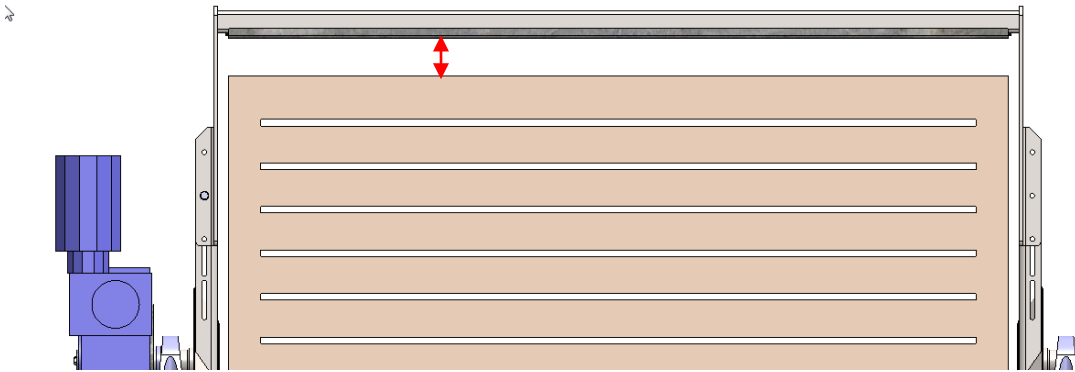
5.2 Electrical connection

The electrical connection must comply with applicable national regulations.

Single-Phase 230 V - N + PE

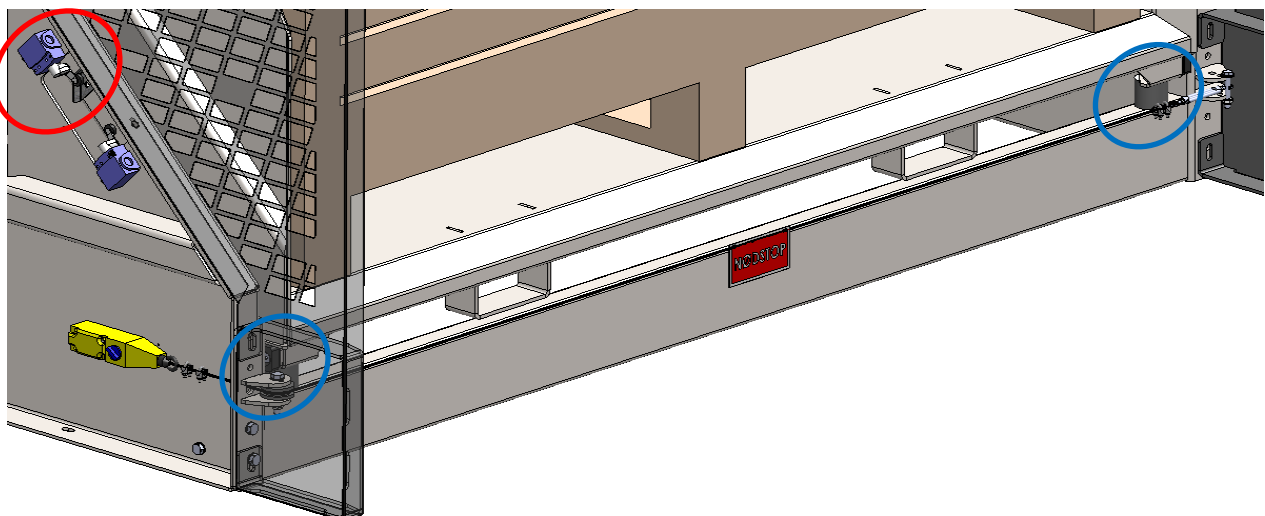
5.3 Setting

The top frame must be set so that it is positioned at a height that is approx. 10-12 cm above the box.



The turning frame's start and stop position is set on switch 2 fitting (marked with the red circle). The turning frame must rest on the rubber shock absorbers in the start position (marked with the blue circles).

It is important that the turning frame is stable when a box is being changed.



5.4 Control unit

The machine may only be operated with the accompanying remote control.

Button functions:

- (1) Empty
- (2): Return
- (1) or (2): Pause
- (3) and (4) are not used, but can be programmed for another machine.



When the operator presses button (1), the box turner will automatically flip 180 degrees and return to the starting position.

When the box turner is operating, the operator can make it pause by pressing button (1) or (2).

5.5 Service and maintenance

DURING SERVICE AND MAINTENANCE, POWER MUST BE DISCONNECTED FROM THE MACHINE

The machine must be re-tightened after the first 24 hours of operation and as needed from then on.

Lubrication

There are a total of four lubrication points on the machine.

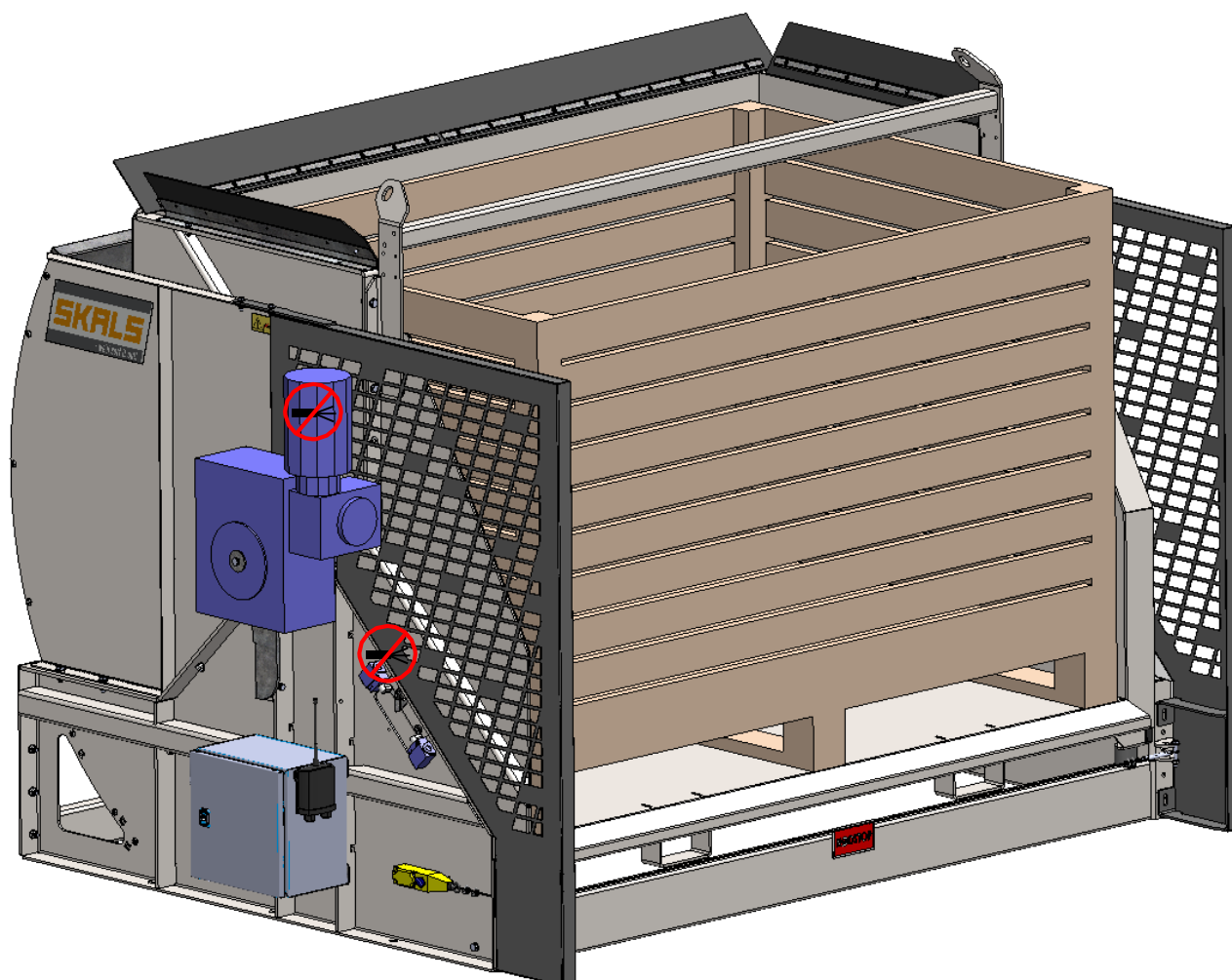
There are two bearings on the turning frame and two bearings on the fall arrester.

These must be lubricated every 200 hours of operation.


5.6 Cleaning

Clean the machine when necessary.

When using a high-pressure cleaner, do not point the jet directly at the bearings, gears, or control unit.



6 Troubleshooting

Error:	Cause:	Solution:
Box tipper will not operate	The wire emergency stop has been activated. 	Turn the blue switch to 1. If the switch cannot hold in position, adjust the wire.
Box tipper will not operate	Dead battery in the remote control	Replace battery

7 Wiring diagrams



Kassevender 15076 FRONTPAGE GENEREL INFO

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Kasse vender

FRONTPAGE GENEREL INFO

Project
Kassevender

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Technical Specifications

Manufacturer	Micromatic Aps
Identification no.	15076
Harmonised Standards:	EN60204-1 & EN60439-1
Frequency:	50/60Hz
Rated operational voltages:	1x230V+N+PE
Rated insulation voltages:	L-L:500V L-N:250V
Rated current (In max):	16A
Current (I _{1/1}):	4A
Max fuse:	16A
Rated voltage of auxiliary:	24V DC
Short-circuit level (Icc)	6KA
Protection of persons Direct contact:	IP55
Protection of persons Indirect contact:	TN-C-S/TT w/itc relay
Degree of protection:	IP55
Types of system earthing:	TN-C-STT w/itc relay
Dimensions H x W x D:	
Weight:	



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 Kasse vender

TECHNICAL SPECIFICATIONS

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Wiring standards

POWER CIRCUITS WIRE COLOURS		
AC	NEUTRAL	LIGHT BLUE / >2,5mm ² BLACK
	PHASE	BLACK
	PE	GREEN/YELLOW
DC	+	BLACK
	-	BLACK
	PE	GREEN/YELLOW

CONTROL CIRCUITS WIRE COLOURS		
AC	PHASE	RED
	SIGNAL	RED
	NEUTRAL	RED
DC	+	DARK BLUE
	SIGNAL	DARK BLUE
	OV	DARK BLUE
ANALOG SIGNALS	ALL WIRING	DARK BLUE
	EXTERNAL ENERGIZED WIRING	ORANGE
PE	PROTECTIVE EARTH	GREEN/YELLOW



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WIRING STANDARDS

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Color code cables

Wire	DK	UK	Short
1	hvid	white	wh
2	brun	brown	bn
3	grøn	green	gn
4	gul	yellow	ye
5	grå	grey	gy
6	rosa	pink	pk
7	blå	blue	bu
8	rød	red	rd
9	sort	black	bk
10	violet	violet	vt
11	grå/rosa	grey/pink	gy/pk
12	blå/rød	blue/red	bu/rd
13	hvid/grøn	white/green	wh/gn
14	brun/grøn	brown/green	bn/gn
15	hvid/gul	white/yellow	wh/ye
16	gul/brun	yellow/brown	ye/bn
17	hvid/grå	white/grey	wh/gy
18	grå/brun	grey/brown	gy/bn
19	hvid/rosa	white/pink	wh/pk
20	rosa/brun	pink/brown	pk/bn
21	hvid/blå	white/blue	wh/bu
22	brun/blå	brown/blue	bn/bu
23	hvid/rød	white/red	wh/rd
24	brun/rød	brown/red	bn/rd
25	hvid/sort	white/black	wh/bk
26	brun/sort	brown/black	bn/bk
27	grå/grøn	grey/green	gy/gn
28	gul/grå	yellow/grey	ye/gy
30	rosa/grøn	pink/green	pk/gn
30	gul/rosa	yellow/pink	ye/pk
31	grøn/blå	green/blue	gn/bu
32	gul/blå	yellow/blue	ye/bu
33	grøn/rød	green/red	gn/rd
34	gul/rød	yellow/red	ye/rd

Reference letter code

LETTER CODE	PURPOSE OR TASK OF OBJECTS	EXAMPLES OF TYPICAL ELECTRICAL PRODUCTS
A	Two or more purposes or task	Touch screen
B	Converting an input variable (physical property, condition or event) into a signal for further processing	Sensor, Position switch, Temperature sensor
C	Storing material, energy, or information	Capasitor, Hard disc, Memory
D	Reserved for future standardization	
E	Providing radiant or thermal heating	Heater, Boiler, Radiator
F	Direct protection (safecting) of a flow of energy, signals, personnel or equipment from dangerous or unwanted conditions	Fuse, Circuit breaker, Thermal overload release
G	Initiating a flow of energy or material - Producing a new kind of energy, material or product	Generator, Dynamo, Fuel cell
H	Reserved for future standardization	
I	Not to be applied	
J	Not to be applied	
K	Processing (receiving, treating and providing) signals or information (excluding objects for protective purposes, see class F)	Contactor relay, Microprocessor, Programmable computer
L	Reserved for future standardization	
M	Providing mechanical energy (rotational or linear mechanical motion) for driving purposes	Actuator, Actuating coil, Electric motor, Linear motor
N	Reserved for future standardization	
O	Not to be applied	
P	Presenting information	Signal lamp, Display unit, Bell, Printer, Voltmeter
Q	Controlled switching or varying a flow of energy, of signals or of material	Circuit breaker, Disconnecter Fuse switch, Thyristor
R	Restricting or stabilizing motion or a flow of energy, information or material	Resistor, Diode, Inductor, Limiter
S	Converting a manual operation into a signal for further processing	Control switch, Push botton switch, Keyboard
T	Conversion of energy maintaining the kind of energy - Conversion of an established signal maintaining the content or information	Amplifier, AC/DC converter, Signal converter
U	Keeping objects in a defined position	Insulator
V	Processing (treating) of material or products (including preparatory and post-treatment	Filter
W	Guiding or transporting energy, signals, material or products from one place to another	Busbar, Cable, Conductor
X	Connecting objects	Connector, Terminal, Terminal strip
Y	Reserved for future standardization	
Z	Reserved for future standardization	

	Skals Maskinfabrik A/S Hovedgaden 56, 8832 Skals, Denmark Kasse vender	REFERENCE LETTER CODE	
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**Kassevender
15076
FRONTPAGE CABINET A00**

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Kasse vender

FRONTPAGE CABINET A00

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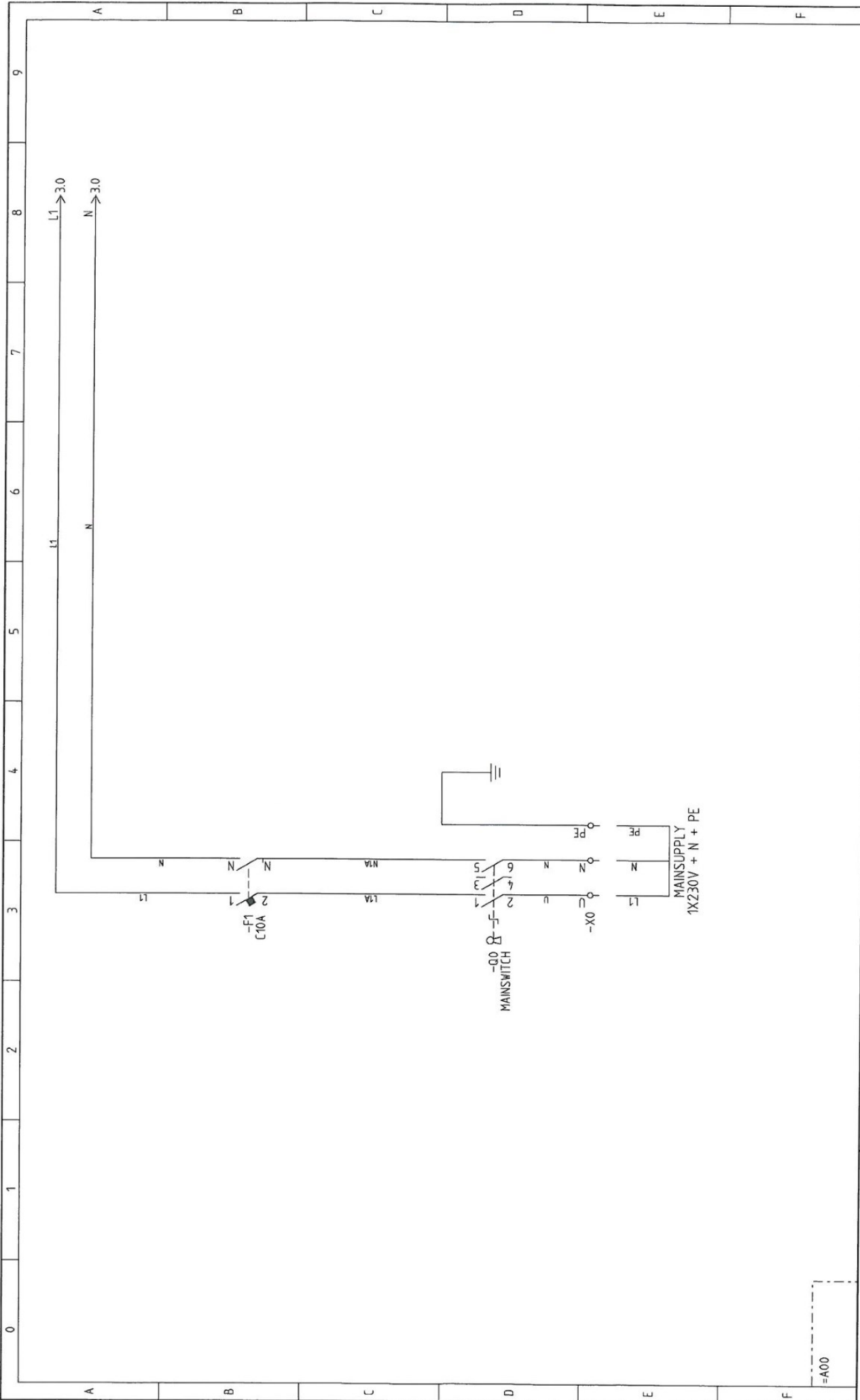
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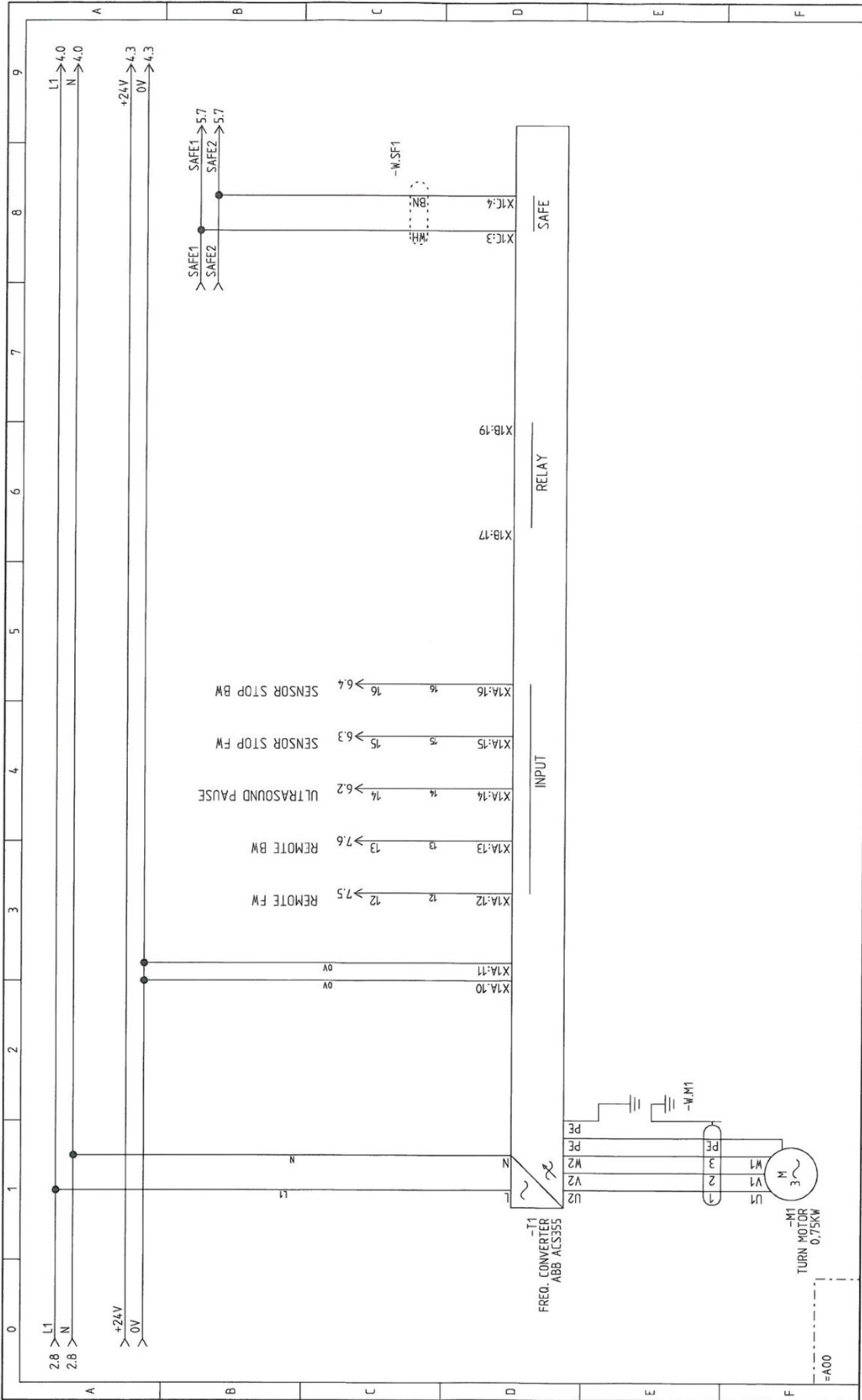
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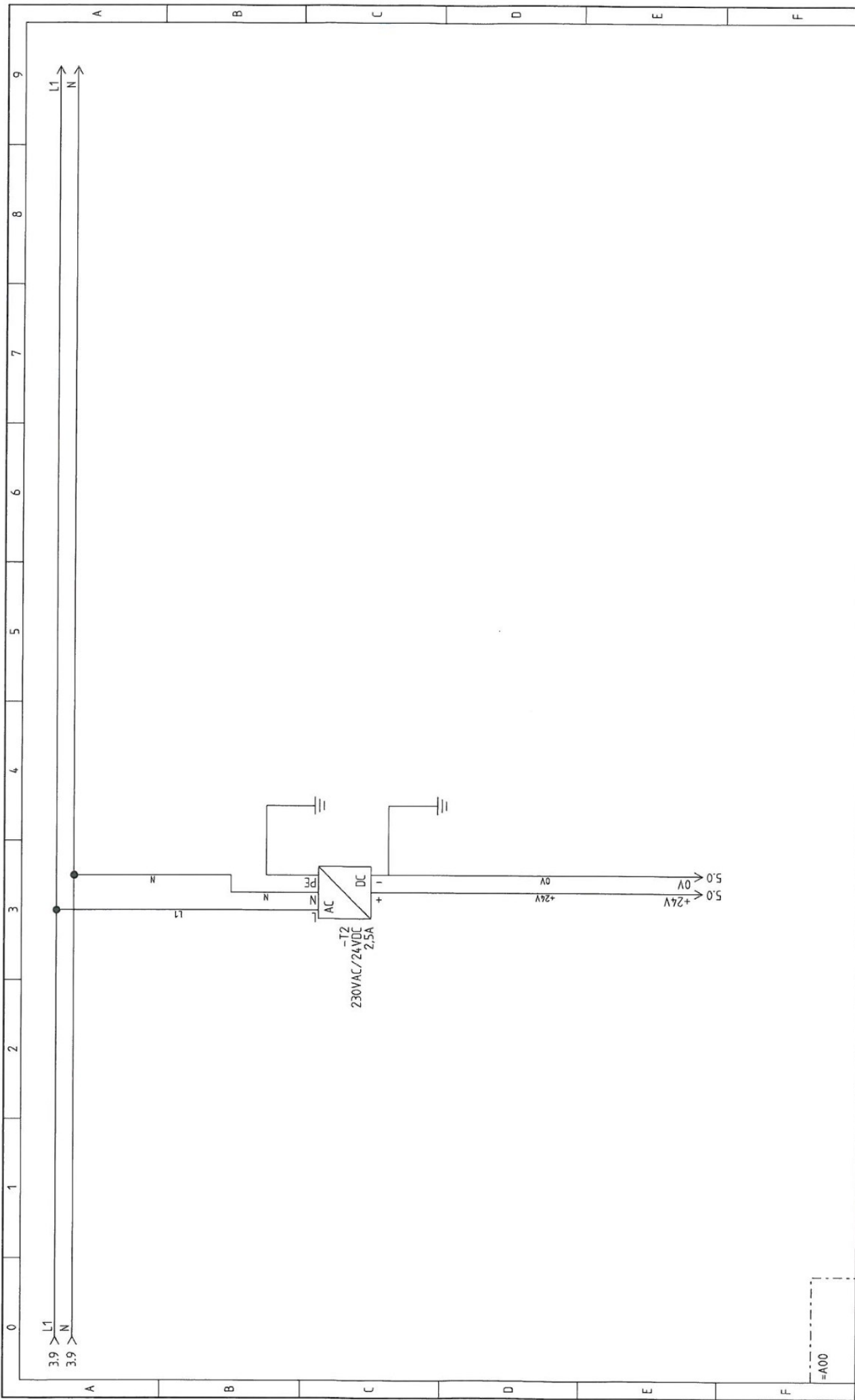
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 Hovedgaden 56, 8832 Skals, Danmark
 Kasse vender

SUPPLY CABINET

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FREQ. CONVERTER		Skals Maskinfabrik A/S Hovedgaden 56, 8832 Skals, Denmark Kasse vender		



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 Kasse vender

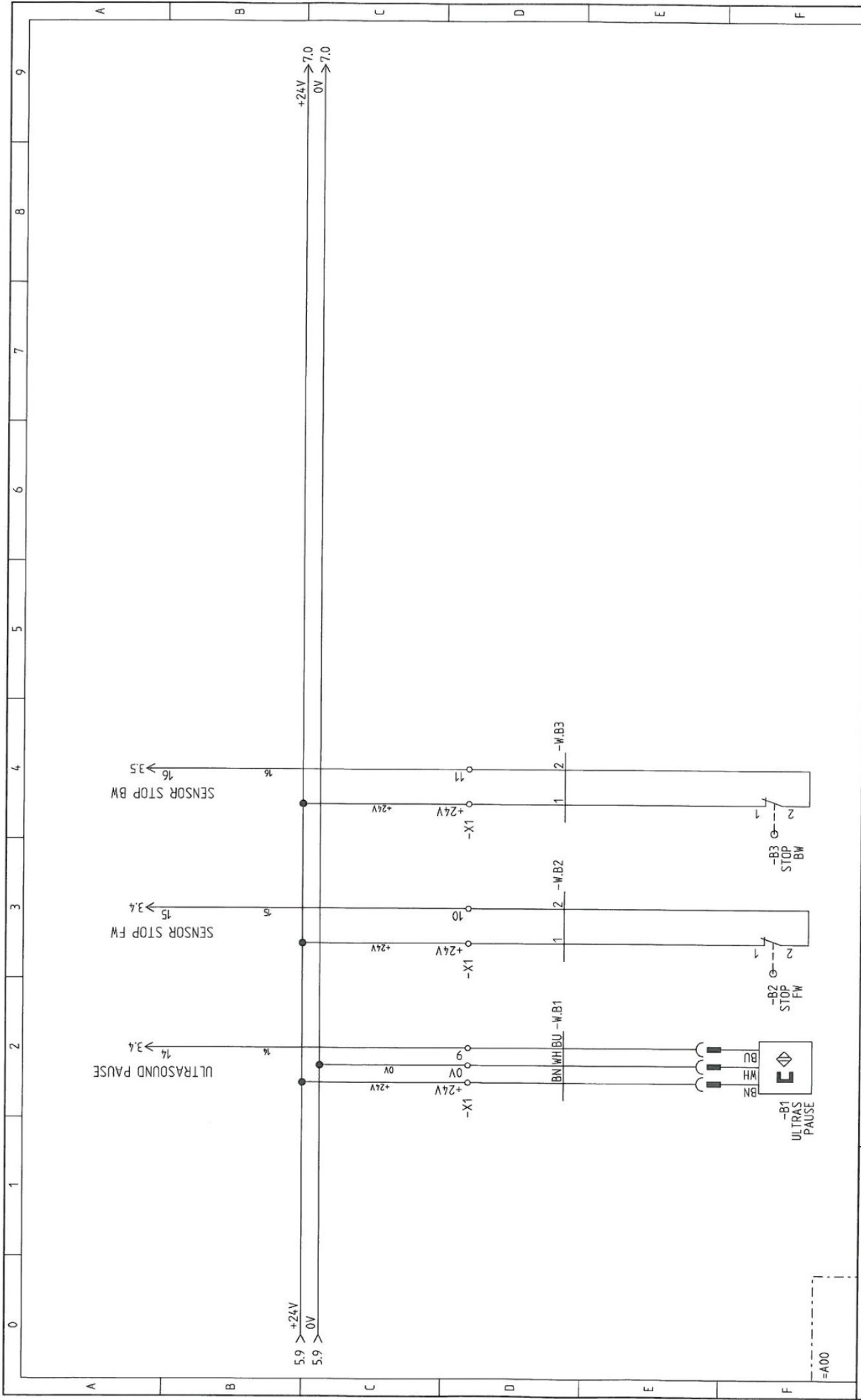
24V DC CONTROL

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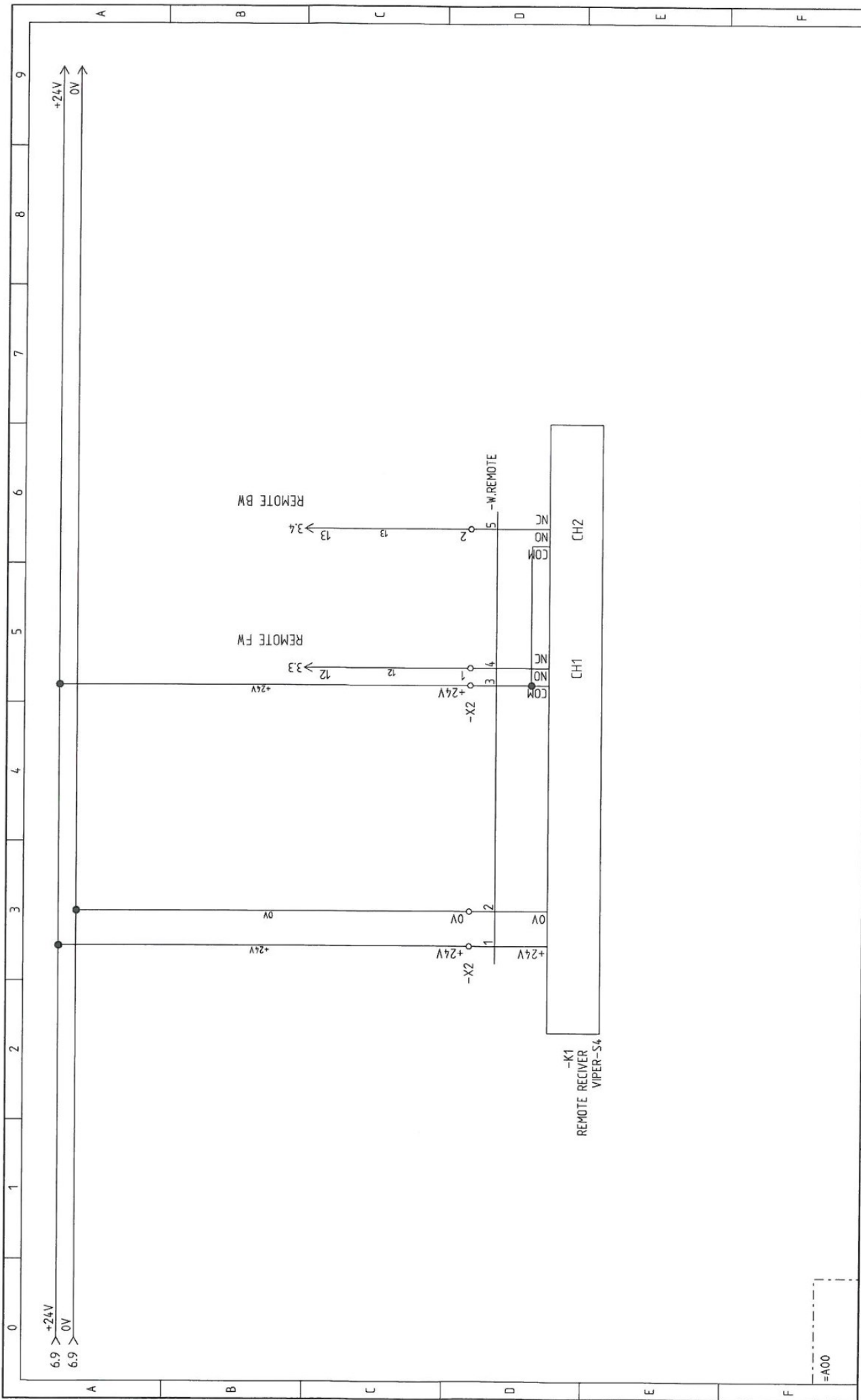
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 Kasse vender

SENSORS

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REMOTE

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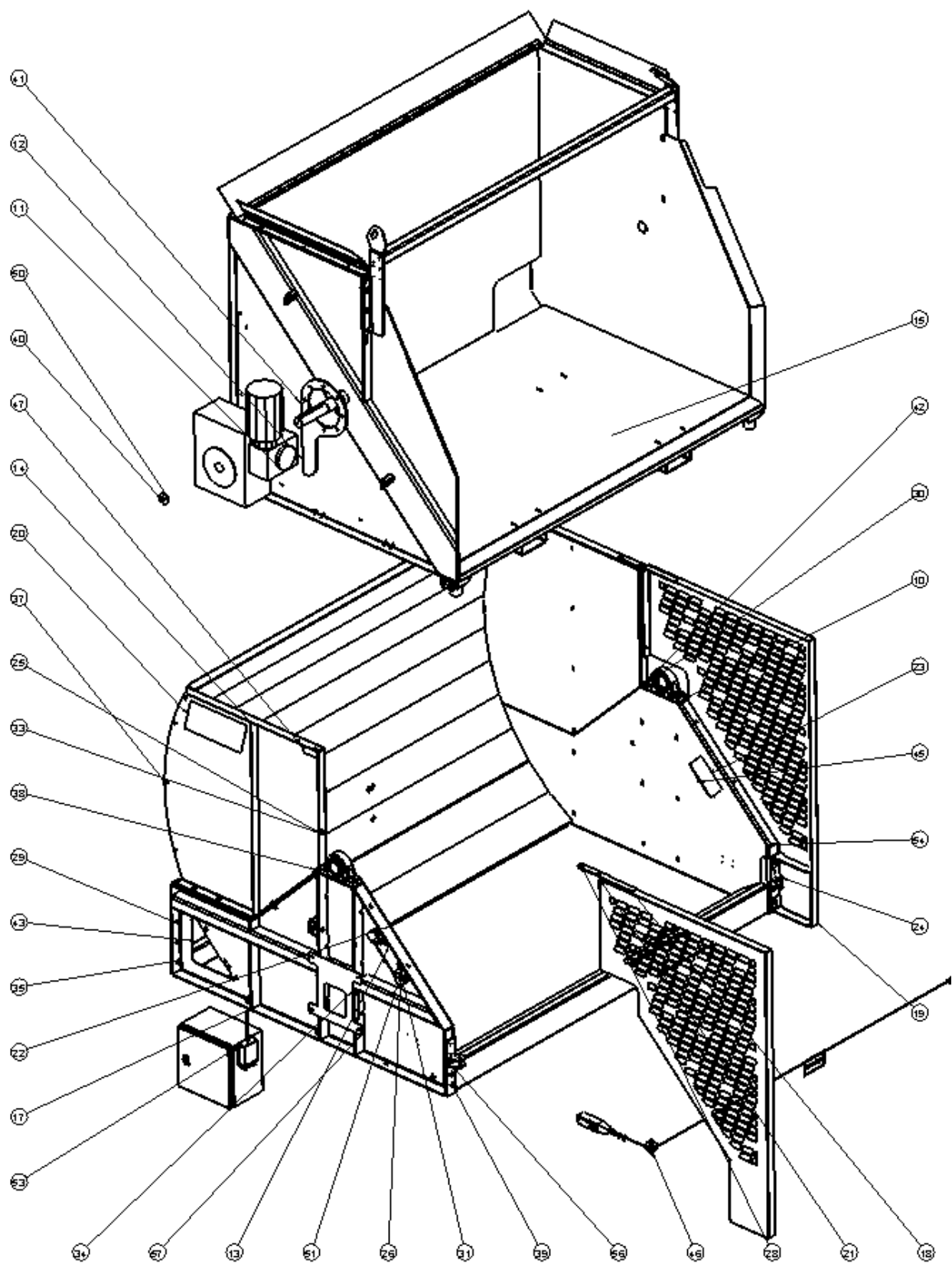
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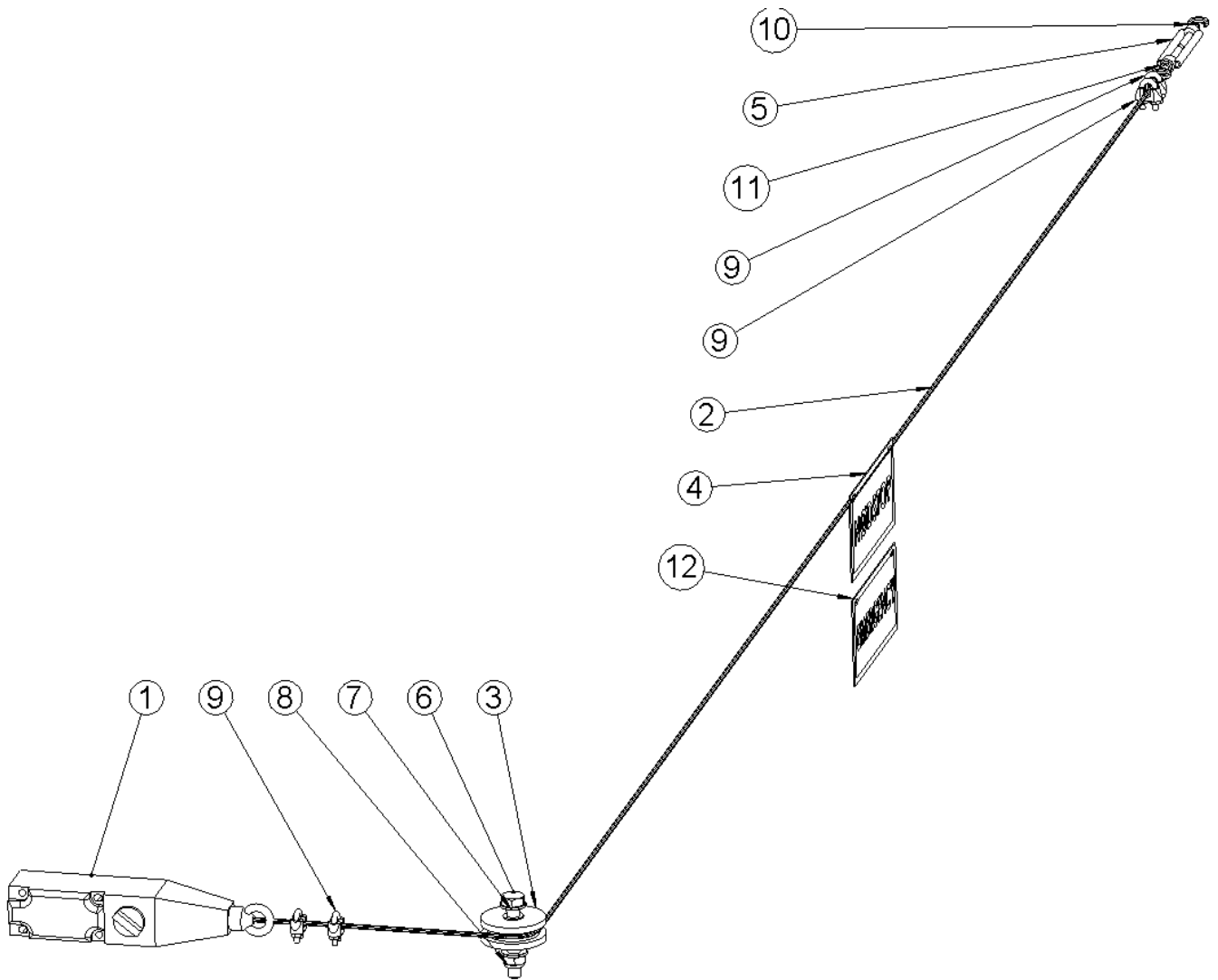
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8 Spare parts list

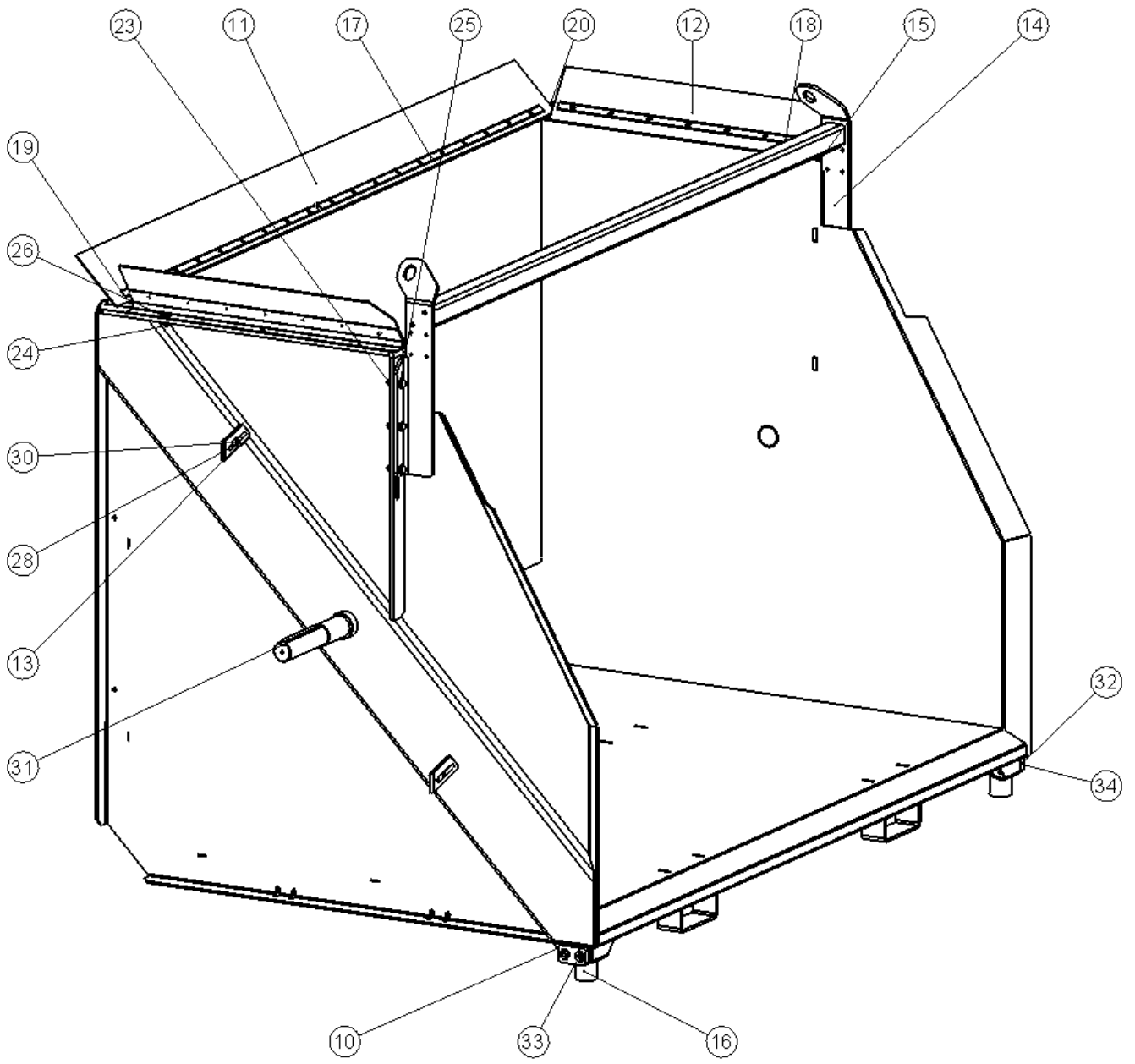
When ordering spare parts, please state machine type, serial number and any product number.



NO.	PART NO.	DESCRIPTION	Description GB
10	15400058	Lejehus SAP210 m.leje	Bearing housing
11	15188842	GEARMOTOR NMRV130/63 0,75kW 750:1	Gearmotor
12	60001074	Momentarm f. kassevender v. galv.	Moment arm
13	10024353	Endestop KompletXCKT2118P16	Switch with arm
14	60001156	Vendeskærm samlet	Turning plate
15	60001160	Vendekasse samlet	Turning frame
16	16047040	Gummioph. vibrationsdæmper	Vibration absorber
17	60001161	Side t. kassevender sv. h/v	Side frame, right
18	60001163	Afskærmning t. kassevender sv. h/v	Side protection
19	60001163	Afskærmning t. kassevender sv. h/v	Side protection
20	19980010	Label Skals logo STR:150x310MM	Label- Skals logo
21	16910260	Stålsætskrue M8x25	Set Screw
22	16910258	Stålsætskrue M8x20	Set Screw
23	16910252	Stålsætskrue M8x12	Set Screw
24	16910272	Stålsætskrue M8x55	Set Screw
25	17160008	SKIVE Ø8 Centerfjeder STÅLZ DIN 128	Spring washer DIN 128
26	17160002	SKIVE Ø4 Centerfjeder STÅLZ DIN 128	Spring washer DIN 128
27	17160012	SKIVE Ø12 Centerfjeder STÅLZ DIN 128	Spring washer DIN 128
28	17095066	Skive M8 Facet	Washer
29	17095068	Skive M10 Facet	Washer
30	17095074	Skive M16 Facet	Washer
31	17095058	Skive M4 Facet	Washer
32	17095070	Skive M12 Facet	Washer
33	17016252	Blindnitterstrik 6 kt. M8 FZB	blind rivet nut
34	17000062	Låsemstrik M8	Lock nut
35	17000064	Låsemstrik M10	Lock nut
36	17000070	Låsemstrik M16	Lock nut
37	16761817	Gevindform. skrue M8x12	thread-forming screw
38	16910318	Stålsætskrue M10x30	Set Screw
39	16910320	Stålsætskrue M10x35	Set Screw
40	16910316	Stålsætskrue M10x25	Set Screw
41	16910380	Stålsætskrue M12x40	Set screw
42	16910482	Stålsætskrue M16x55	Set Screw
43	60001068	Tværprofil til bundramme sv.	Cross bar
44	20003400	L/B Skærm over switch	Switch cover
45	20003395	L/B Blændplade t. kassevender	Cover
46	60001164	Nødstopwire t. kassev. samlet	Wire emergency stop, assembled
47	19980013	FARE klemningsfare	Label- crushing hazard
48	11000373	RØRHOLDER 1 X Ø17,1	Pipe clamp
49	10024302	Ultralydssensor Digital BUS W18-GPXI-12	Ultrasonic Sensor Digital
50	17095011	SKIVE 10 SPÆNDPLADE RUND 440 FZV 10X50MM	Washer
51	16720146	Maskinskrue CHJ M4x35	Cap screw
52	20003539	L/B Sensorbeslag til kassevender	Sensor bracket
53	60001182	Styring samlet til kassevender KCF / KCS	Control box
54	60001161	Side t. kassevender sv. venstre	Sideframe, left
55	10024300	Ultralydssensor pico+35/WK/I	Ultrasonic Sensor
56	60001187	Tværprofil til bundramme sv.	Cross bar
57	20003540	L/B Plade til styreskab	Bracket for controlbox



NO.	PART NO.	DESCRIPTION	Description GB
1	10022714-1	Wirenødstop lifeline	Emergency stop
2	20003396	Sikkerhedslinje	Wire, red
3	20003397	Portrulle	Roll
4	19980017	Skilt f. wire - NØDSTOP	Sign DK NØDSTOP
5	16090110	Badunstrammer galv. M5	Turnbuckle
6	16910330	Stålsætskrue M10x60	Set Screw
7	17095068	Skive M10 Facet	Washer
8	17000064	Låsemøtrik M10	Locknut
9	16095120	Wirelås 3mm	wirelock
10	16970075	Møtrik M5	Nut M5
11	16970076	Møtrik LINKS Z M5 KV. 8	Nut M5 LINKS
12	19980019	Skilt f. wire - Emergency	Sign, GB, Emergency



NO.	PART NO.	DESCRIPTION	Description GB
10	60001159	Vendekasse svejst	Turning frame, welded
11	20003381	Tværgummi t. vendekasse	Rubber
12	20003382	Sidegummi t. vendekasse	Rubber
13	20003383	L/B Switch beslag t. vendekas.	Bracket for switch
14	60001158	Topramme t. vendekasse sv.	Top frame
15	20003384	L/B Plade profil t. sidegummi	Profile
16	16047055	Gummioph. vibrationsdæmper	vibration damper
17	20002253-1000	L/B Universal skinne til gummiplade	Universal rail
18	20002253-675	L/B Universal skinne til gummiplade	Universal rail
19	20002253-875	L/B Universal skinne til gummiplade	Universal rail
20	16762636	Gevindformede skrue undersænket M6x16	thread-forming screw
21	16910320	Stålsætskrue M10x35	Set Screw
22	16910312	Stålsætskrue M10x16	Set Screw
23	17000064	Låsemøtrik M10	Locknut
24	17000062	Låsemøtrik M8	Locknut
25	17095068	Skive M10 Facet	Washer
26	17095066	Skive M8 Facet	Washer
27	17160010	SKIVE Ø10 Centerfjeder STÅL Z DIN 128	Spring washer DIN 128
28	17160008	SKIVE Ø8 Centerfjeder STÅL Z DIN 128	Spring washer DIN 128
29	16910260	Stålsætskrue M8x25	Set Screw
30	16910254	Stålsætskrue M8x16	Set Screw
31	16105184	PASFEDER 14X9X160	Parallel key
32	20003541	Glidestyr på transportør. ABF	Plastic block
33	16926180	Unbracoskrue UH M8x35	Allen screw
34	20003543	L/B Sims for plastklods	Sims

EC Declaration of Conformity

Manufacturer	
Company name:	A/S Skals Maskinfabrik
Address:	Hovedgaden 56
	8832 Skals, Denmark
Telephone:	+45 87256200

Hereby declares that


Machine:	Box tipper
Type:	KCS
Type, serial no., year:	

Has been manufactured in conformity with the:

1. Machinery Directive 2006/42/EC
2. Low Voltage Directive (LVD) 2006/95/EC
3. Electromagnetic Compatibility (EMC) Directive 89/336/EEC and the amended 93/68/EEC.

Title:	Production Manager
Name:	Søren Lund Madsen
Company:	A/S Skals Maskinfabrik

Date _____ Signature



Søren Lund Madsen