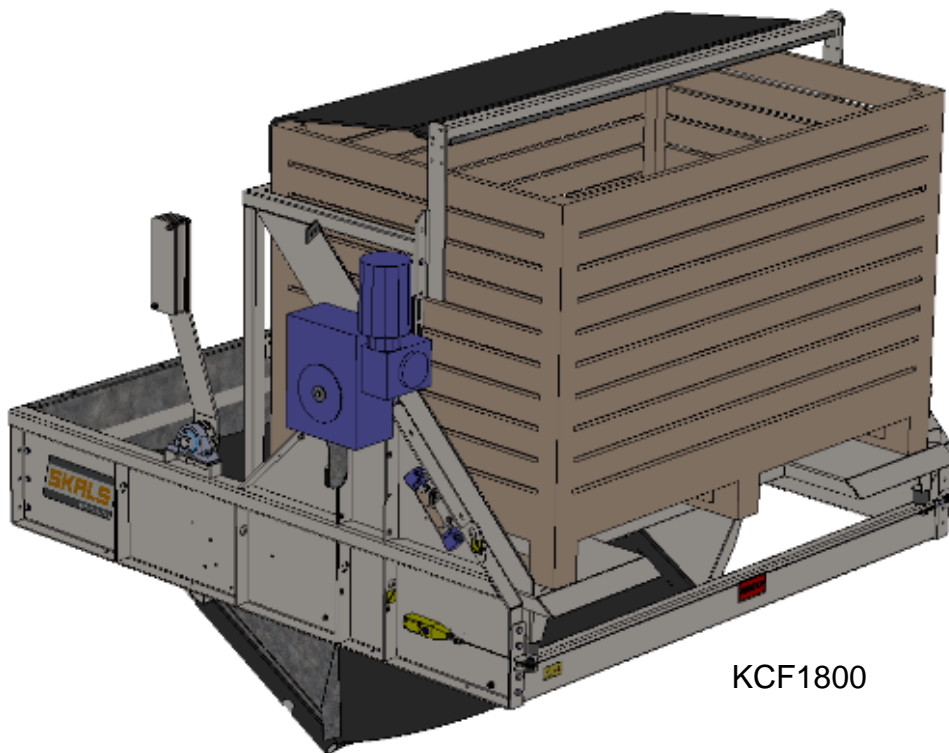


Manual

Boxtipper KCF



KCF1800

A/S SKALS MASKINFABRIK
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2 Introduction

Read this user manual thoroughly before using the machine.

The machine may be used for tipping boxes with 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

In a standard application, the Box tipper is fitted to another machine. When using this machine, always follow the safety instructions.

Any persons working in the close vicinity of the machine must not wear loose-fitting clothing as this may be hazardous.

3.1 3.1 Pictograms

Two types of pictograms are positioned on the machine. Warnings and instructions.

Warnings



HAZARD - ROTATING PARTS.

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



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.

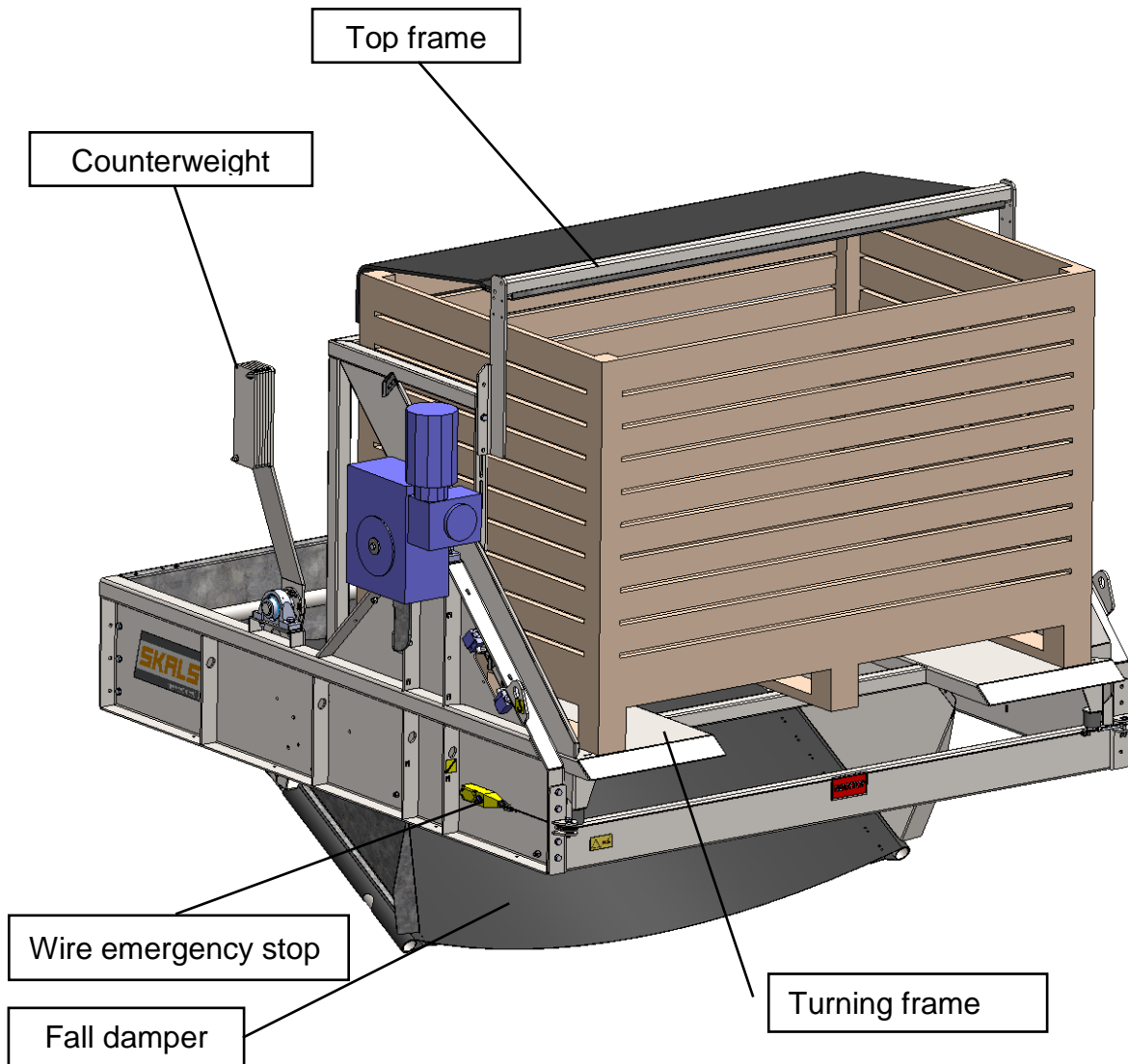


FORKLIFT TRUCK

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

4 In general

Description of machine



5 Operation

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

5.1 Set-up

It is important that the machine is securely mounted and fastened to the machine interface.

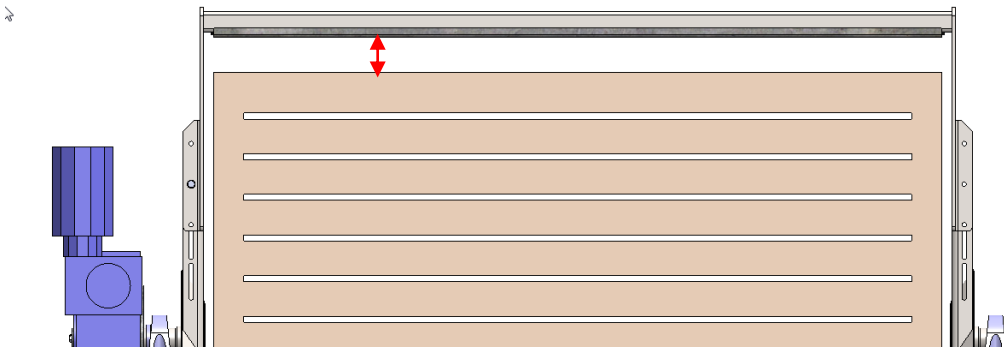
5.2 Electrical connection

The electrical connection must comply with applicable national regulations.

Single phase 230V +N +PE

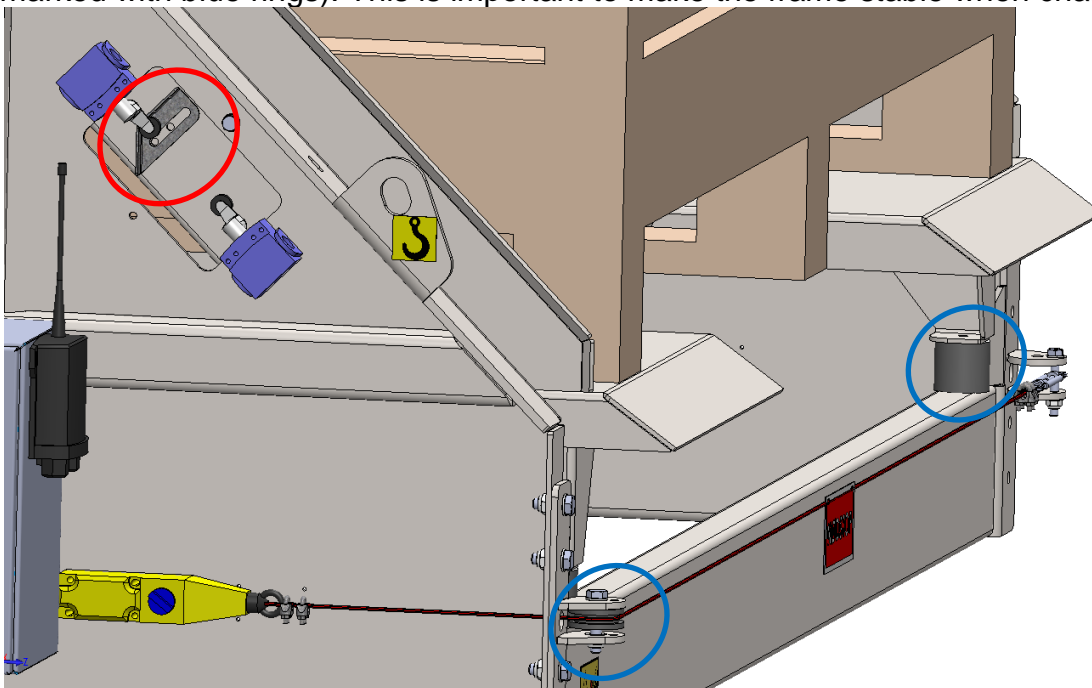
5.3 Setting

The top frame must be placed 10-12cm above the box.



The turning frame start and stop position can be set at 2 switch bracket (one is marked w. Red ring)

In the starting position, it is important to turn the frame so it rests on the rubber dampers (marked with blue rings). This is important to make the frame stable when changing the boxes.



5.4 Service and maintenance

Before starting service and maintenance work, disconnect the machine from the main electricity supply.

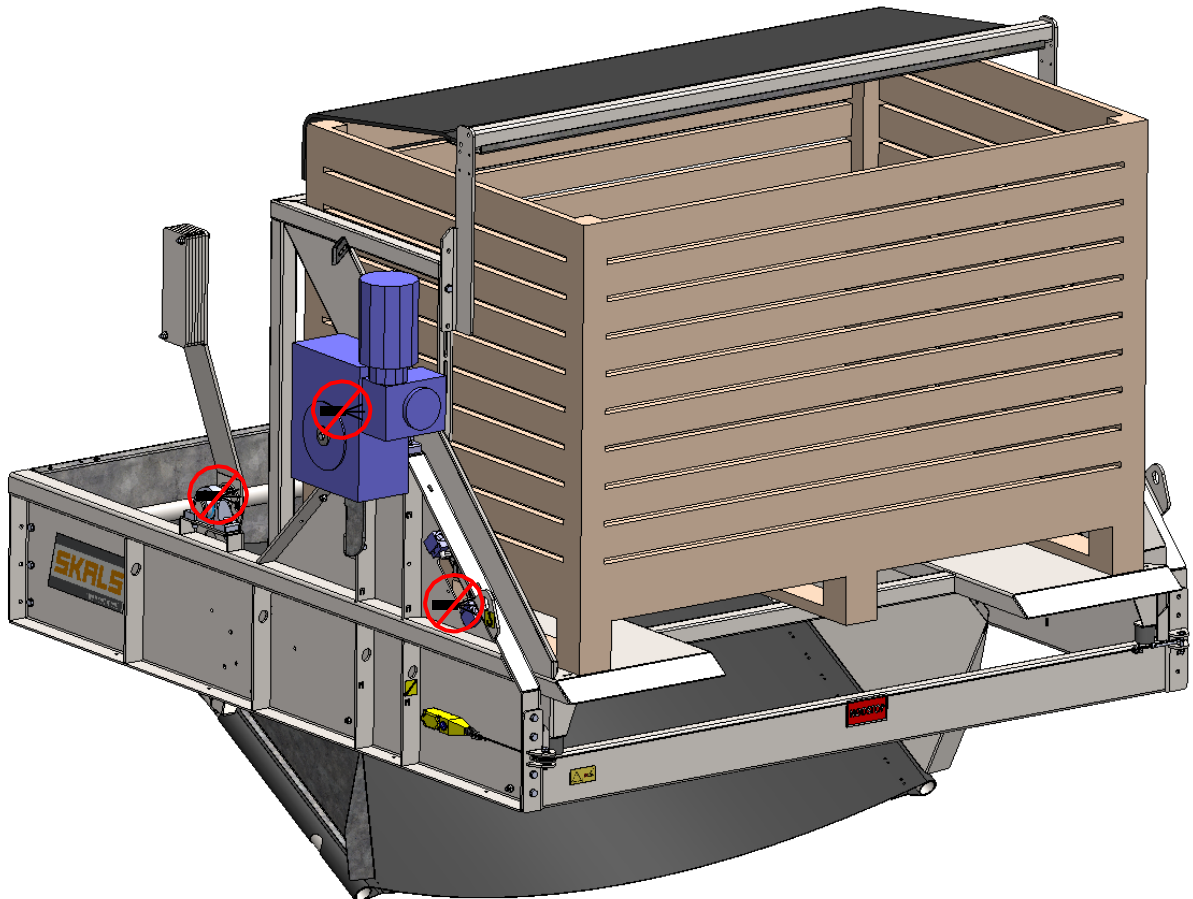
The machine must be re-tightened after the first 20 hours of operation and then as needed.

NB: The bolts in the load cell should be tightened at 16Nm.

5.5 Cleaning

The machine should be cleaned when needed.

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



6 Diagram



**Kassevender
15076
FRONTPAGE GENEREL INFO**

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8832 Skals
Denmark
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Fax: +45 86 69 49 99
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www.skals.dk**



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

FRONTPAGE GENEREL INFO

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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 /I ₂):	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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 Hovedgaden 56, 8832 Skals, Denmark
 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	Capacitor, Hard disc, Memory
D	Reserved for future standardization	
E	Providing radiant or thermal heating	Heater, Boiler, Radiator
F	Direct protection (safeguarding) 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 on 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 button 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**

**Hovedgaden 56
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Skals Maskinfabrik A/S
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Kasse vender

FRONTPAGE CABINET A00

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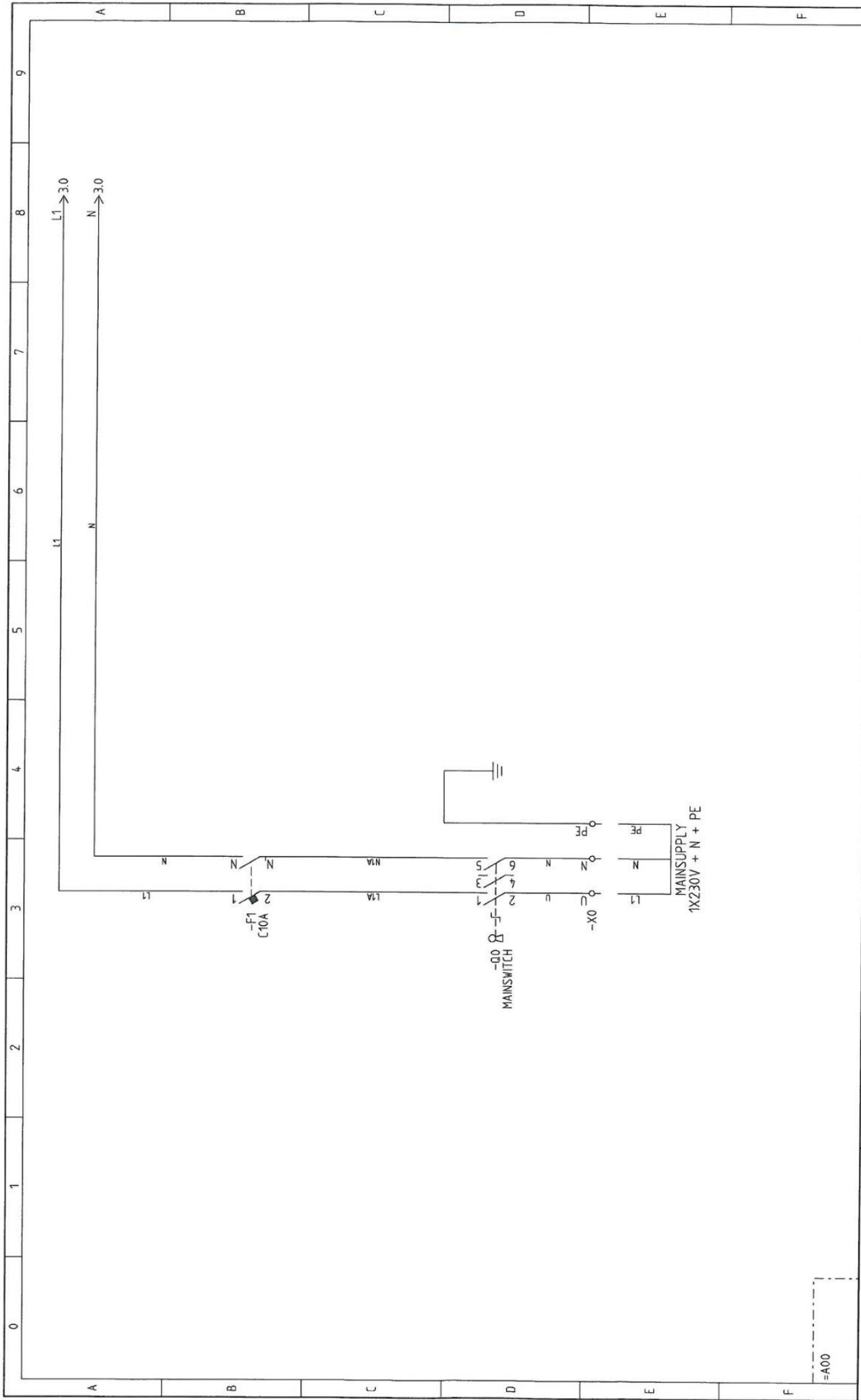
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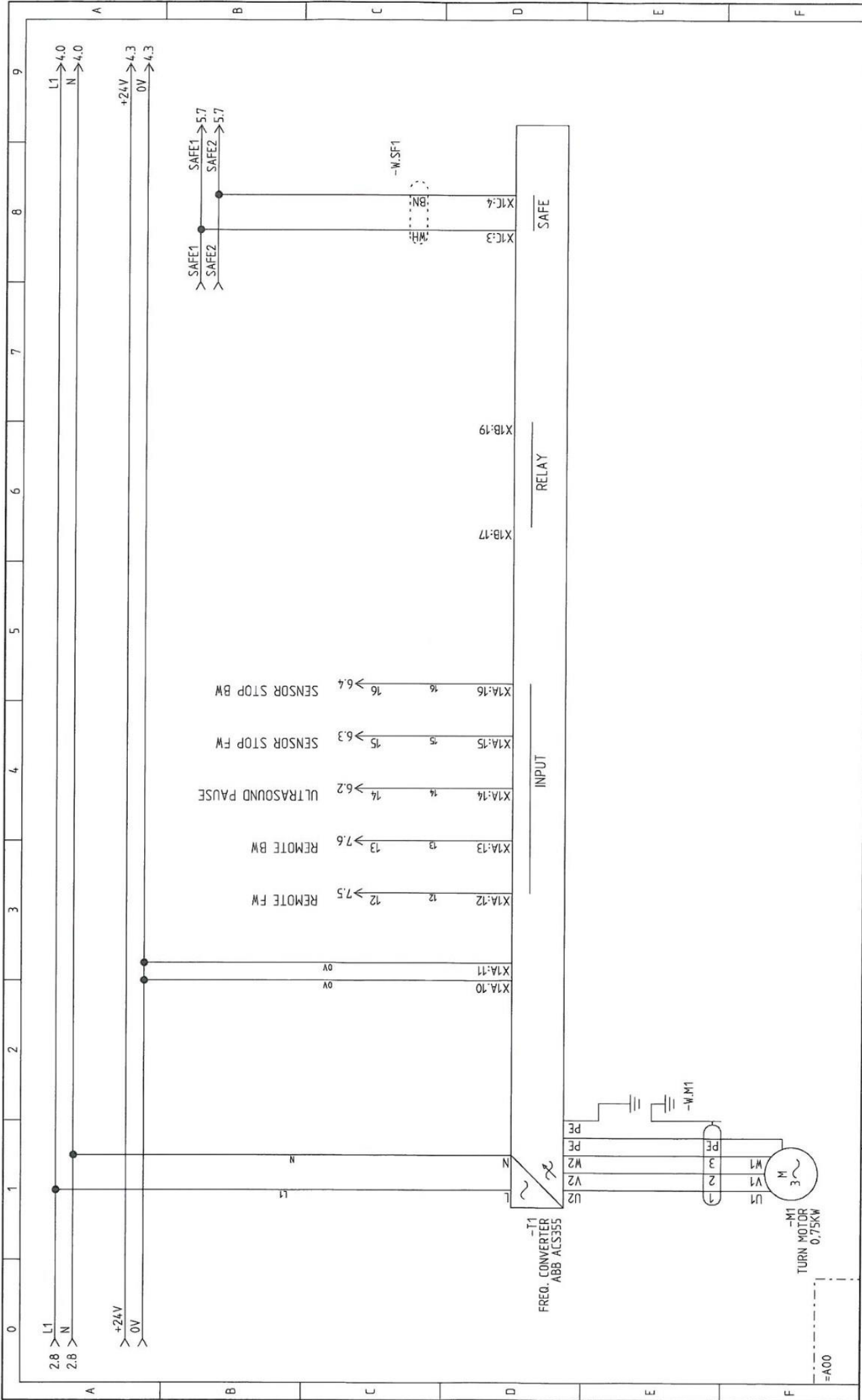
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SUPPLY CABINET

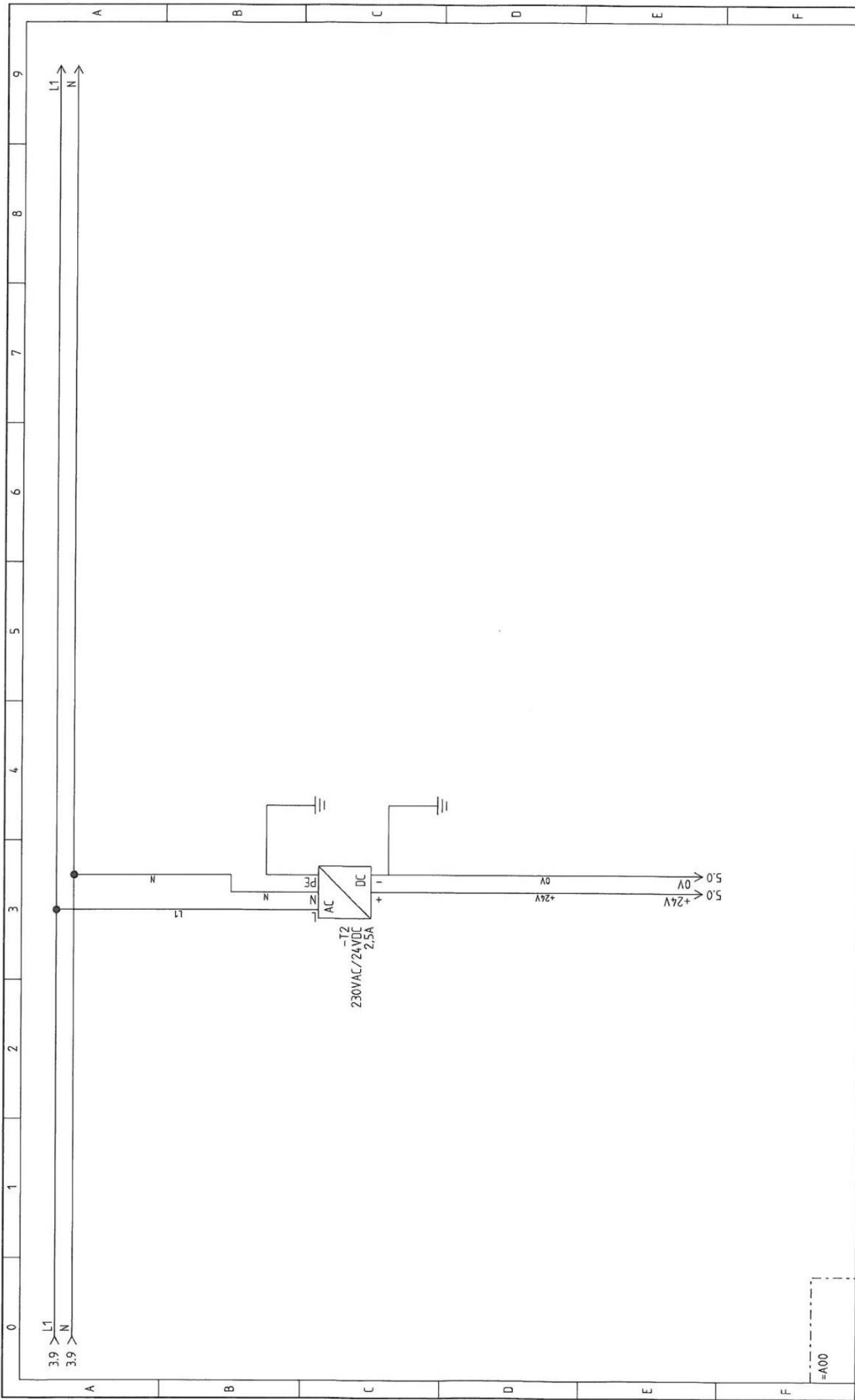
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 Kasse vender





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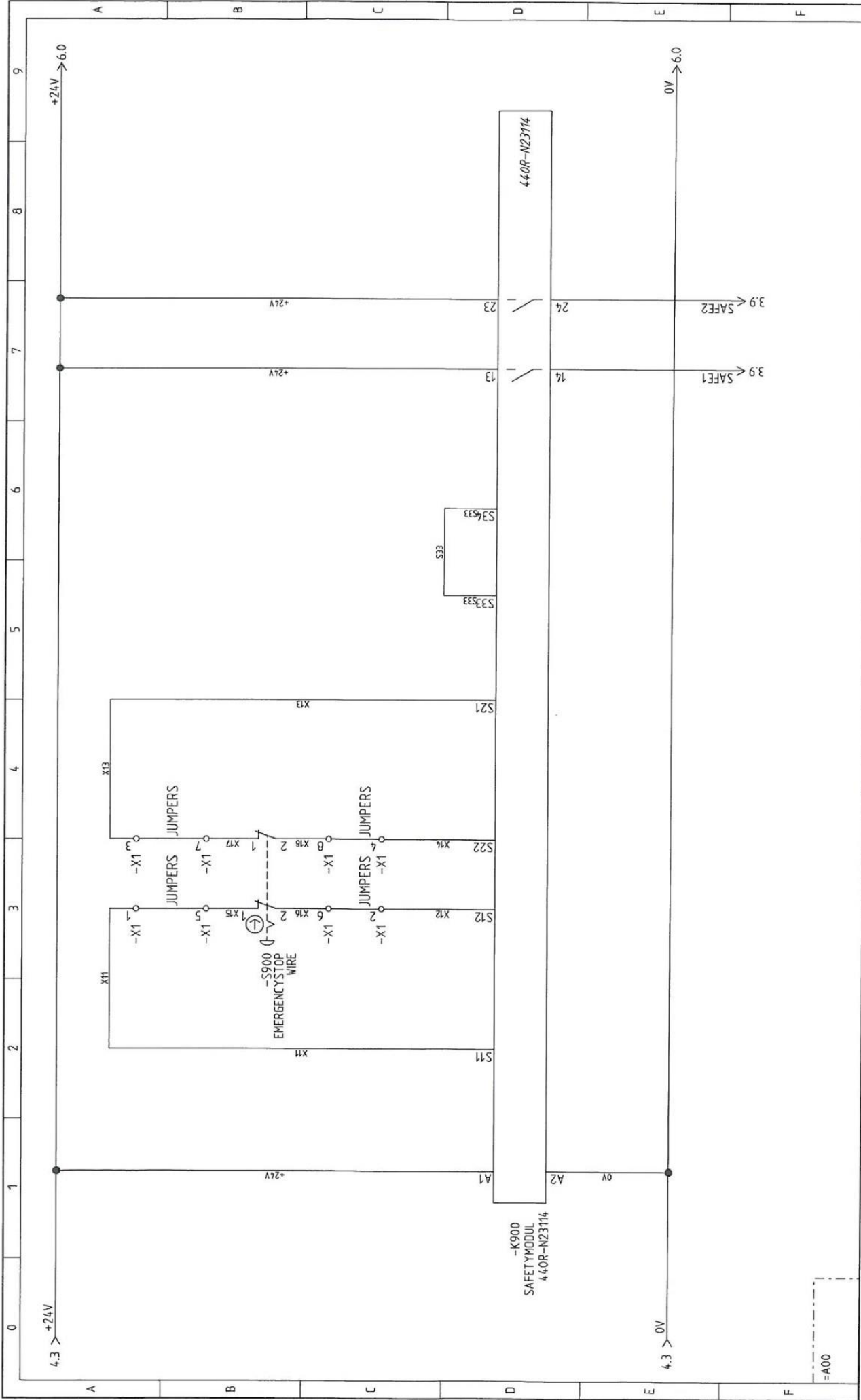
24V DC CONTROL


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 Date: 27-05-2015

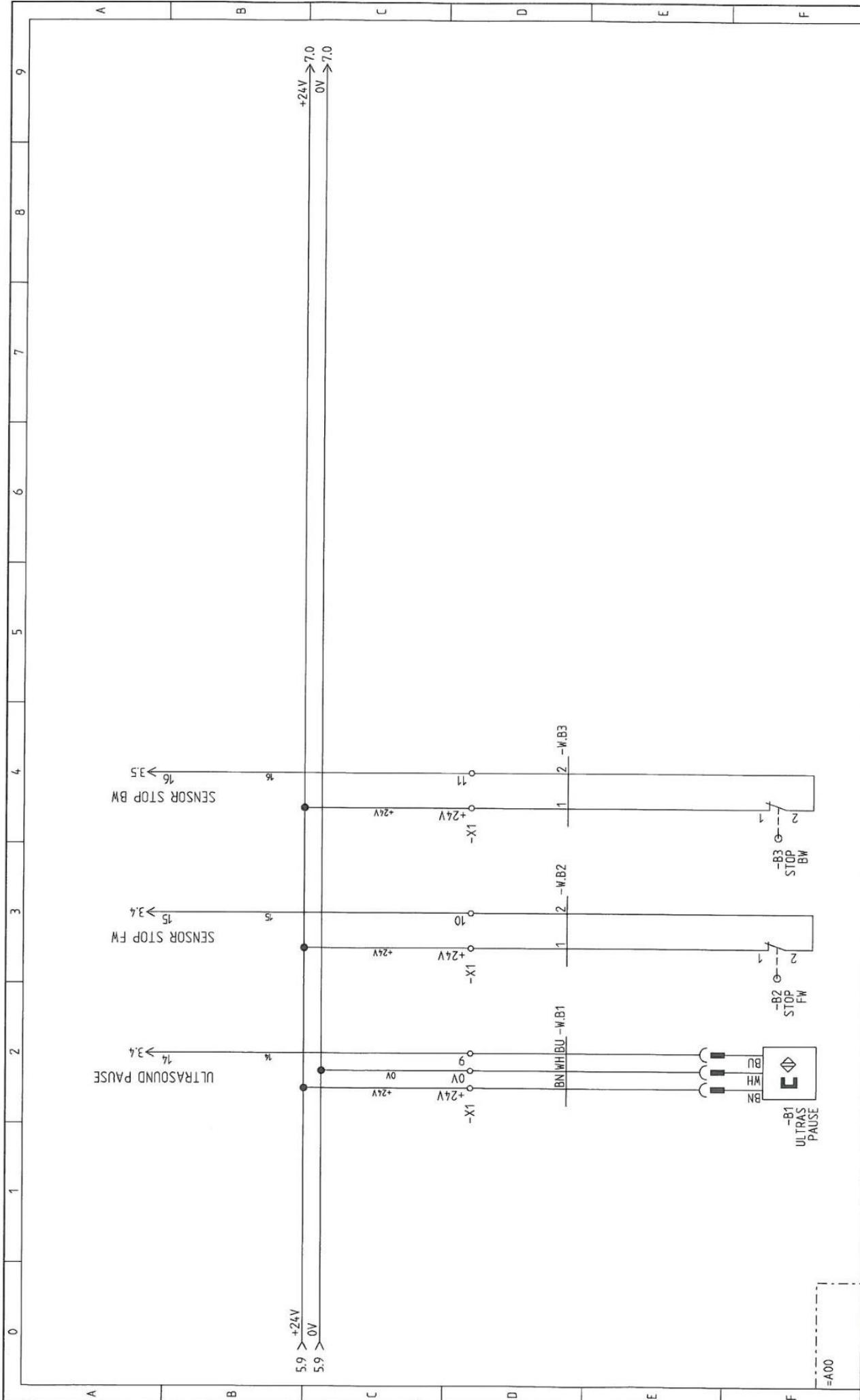
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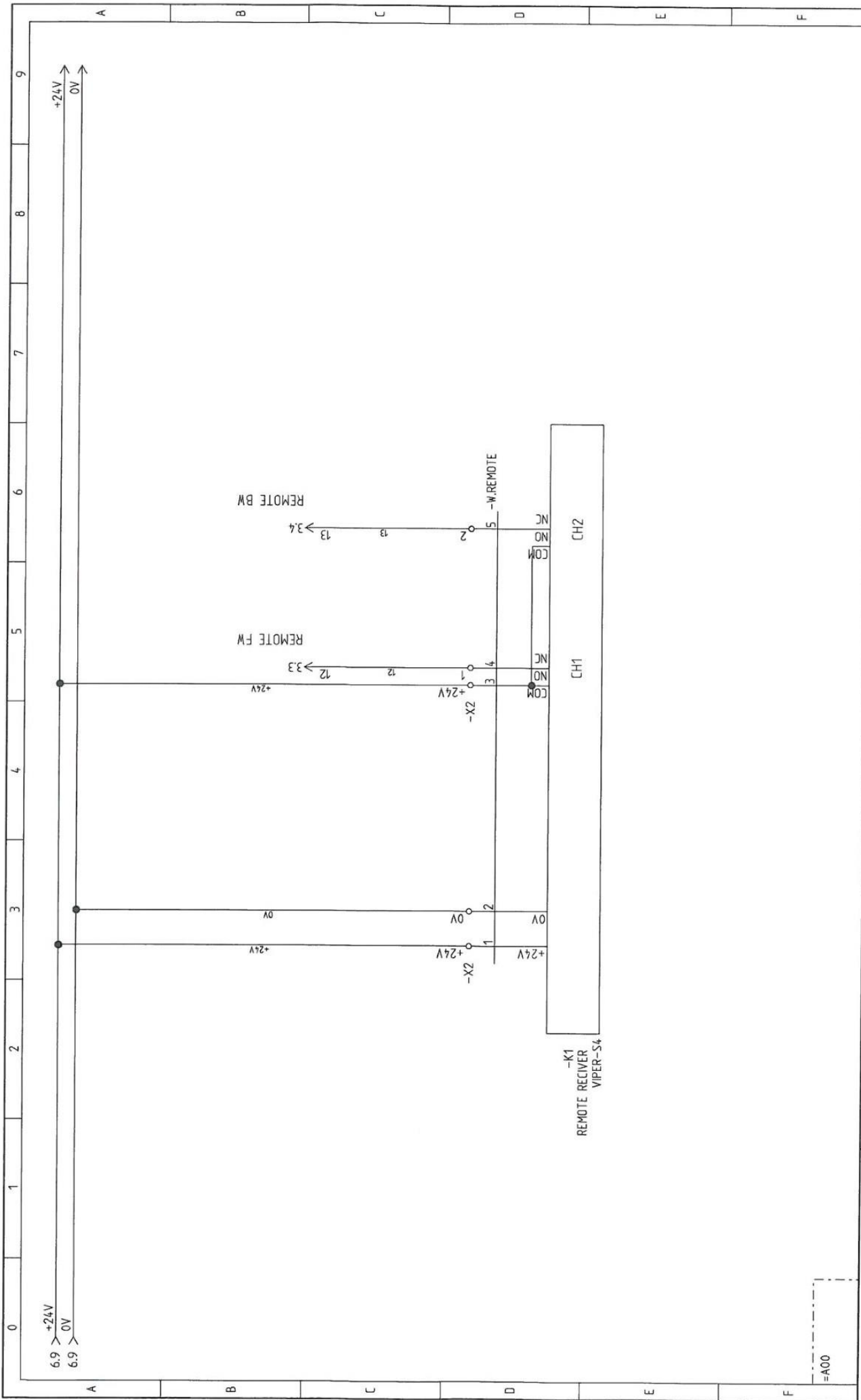
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 Hovedgaden 56, 8632 Skals, Denmark
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SENSORS

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REMOTE

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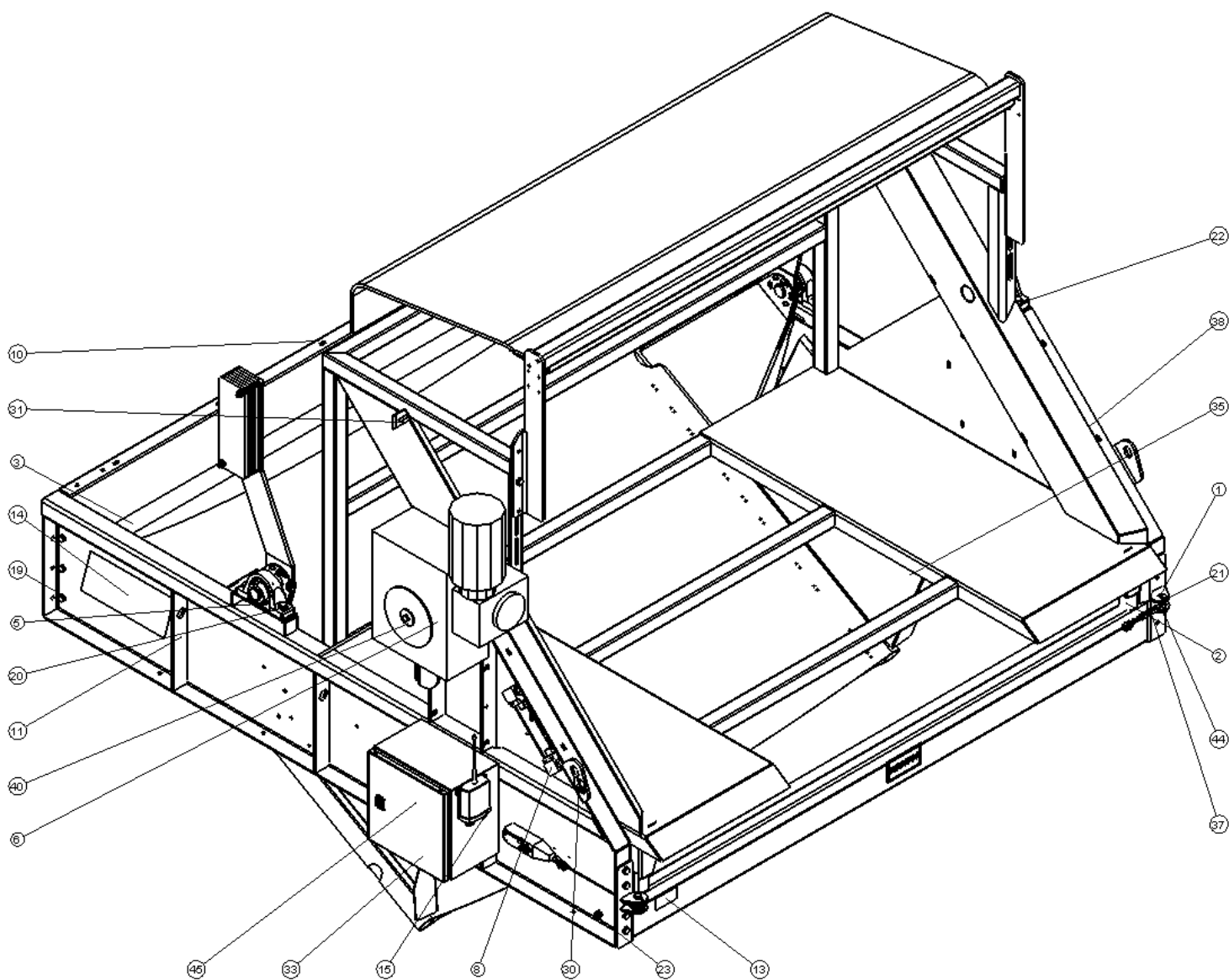
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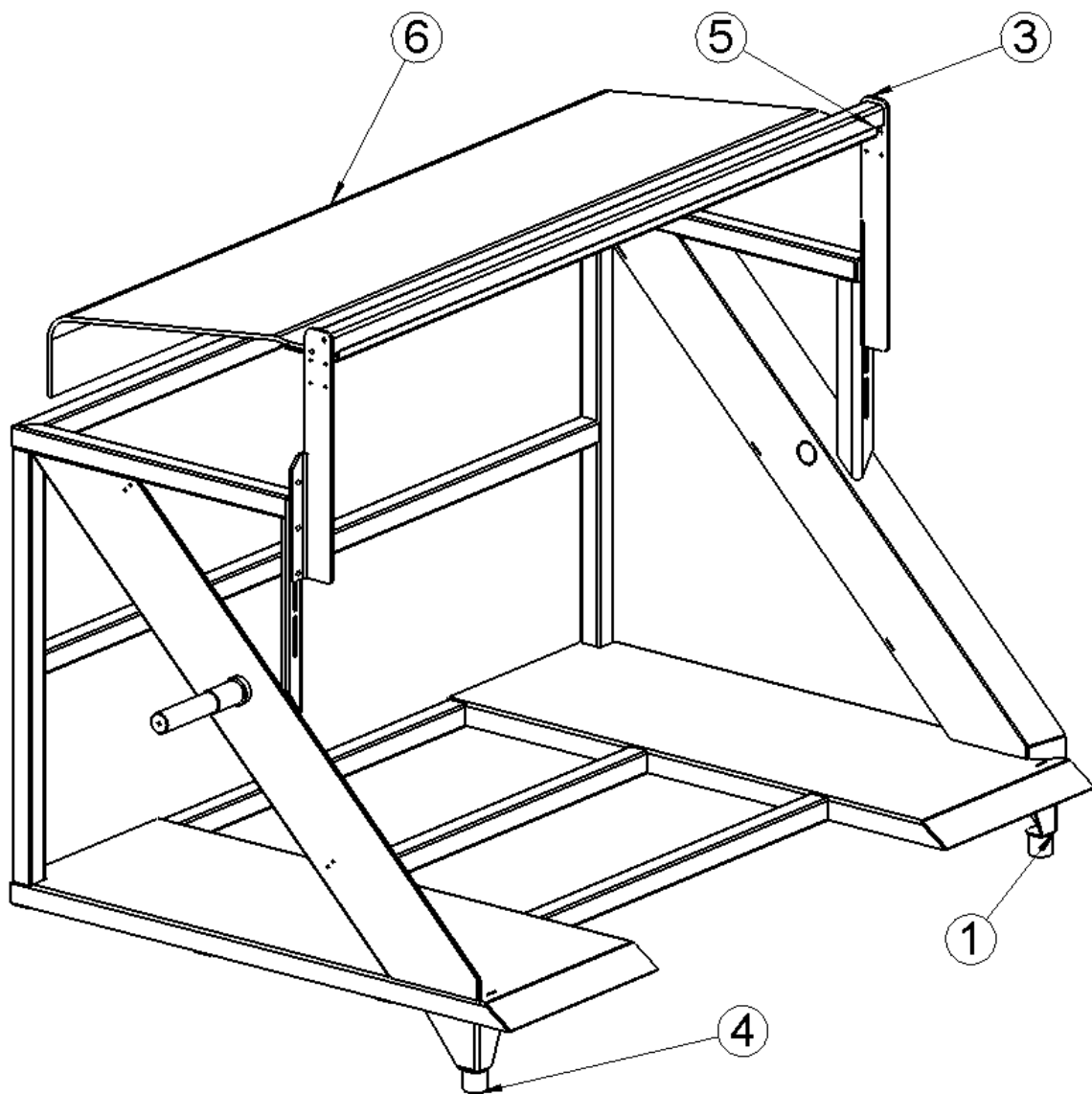
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7 Spare parts list

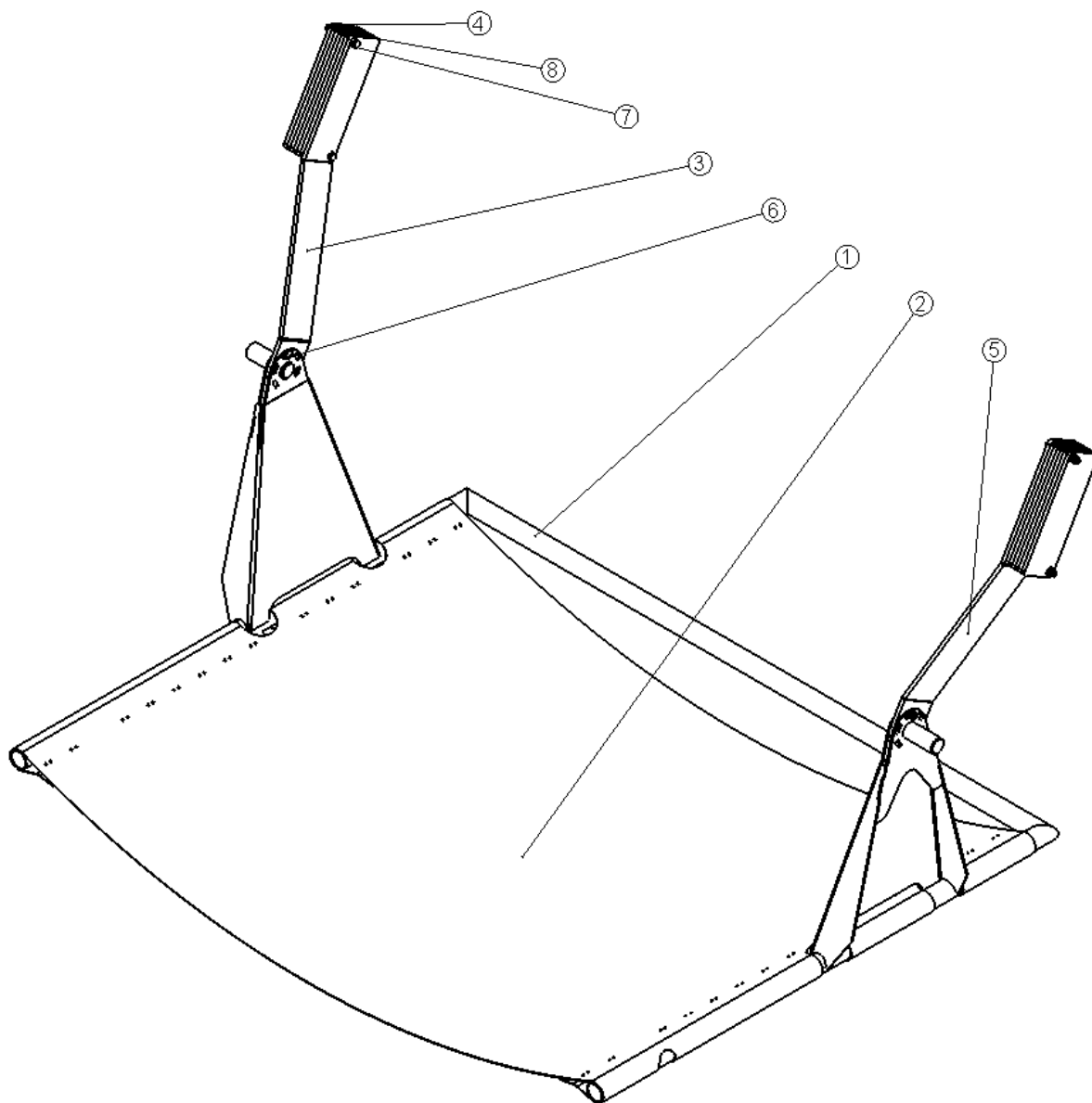
When ordering spare parts, please state machine type, serial number and any product number.



NO.	QTY.	PART NO.	DESCRIPTION	MATERIAL
1	1	60001197	Tværprofil til bundramme sv.	Svejsesamling
2	1	60001060	Venderamme samlet	Samling
3	1	60001070	Falddæmper t. kassevender samlet	Samling
4	2	15400058	Lejehus SAP210 m.leje	Samling
5	2	15400055	LEJEHUS TASE40-N	
6	1	15188842	GEARMOTOR NMR V130V63 0,75kW 750:1	
7	1	60001074	Momentarm f. kassevender v. galv.	8mm. stålplade Domex 240 eller tilsv.
8	2	10024353	Endestop Komplet XCKT2118P16	
9	2	16047040	Gummioph. vibrations dæmper	Type 5 ø30h17 M8
10	1	20003412	L/B Tværplade t. bundramme	3mm. galv. stålplade
11	1	60001196	Side t. kassevender sv. H/V	Samling
12	1	16900108	Stålbolt M8x55	8,8 Elforz. HFC 472
13	1	19980013	FARE klemningsfare	Label
14	2	19980010	Label Skals logo STR:150x310MM	Klistermærke
15	4	19980014	LABEL - STROPPE HER	Klistermærke
16	5	16910318	Stålsætskrue M10x30	8,8 Elforz. HFC 473
17	1	16910320	Stålsætskrue M10x35	8,8 Elforz. HFC 473
18	5	16910316	Stålsætskrue M10x25	8,8 Elforz. HFC 473
19	22	17095068	Skive M10 F acet	HFC 9167 8.8 Elforz.
20	4	17095070	Skive M12 F acet	HFC 9167 8.8 Elforz.
21	7	17095066	Skive M8 F acet	HFC 9167 8.8 Elforz.
22	2	17095074	Skive M16 F acet	HFC 9167 8.8 Elforz.
23	11	17000064	Låsemstrik M10	HFC 840 ELF ORZ.
24	2	17000066	Låsemstrik M12	HFC 840 ELF ORZ.
25	1	17000070	Låsemstrik M16	HFC 840 ELF ORZ.
26	2	16910394	Stålsætskrue M12x50	8,8 Elforz. HFC 473
27	2	16910258	Stålsætskrue M8x20	8,8 Elforz. HFC 473
28	4	17160008	SKIVE Ø8 Centerfjeder STÅLZ DIN 128	
29	1	20003400	L/B Skærm over switch	1,5mm. galv. stålplade
30	2	19980006	Label- Krog	
31	2	20003383	L/B Switch beslag t. vendekas.	2mm. galv. stålplade
32	1	60001167	Stop t. falddæmper hvv galv.	5mm. stålplade Domex 240 el. tilsv.
33	1	20003415	L/B Side t. falddæmper hvv	2mm. galv. stålplade
34	2	16047055	Gummioph. vibrations dæmper	Type 5 ø50h45 M10
35	1	20003415	L/B Side t. falddæmper	2mm. galv. stålplade
36	1	20003414	Stop t. falddæmper hvv galv.	5mm. stålplade Domex 240 el. tilsv.
37	1	60001164	Nædstopwire t. kassev. samlet	Samling
38	1	fromparen t+600011 96	fromparent+Side t. kassevender sv. venstre	fromparent+Samling
39	1	20003395	L/B Blændplade t. kassevender	1,5mm. galv. stålplade
40	1	17095011	SKIVE 10 SPÆND PLADE RUND 440 FZV 10X50MM	Indkøbt
41	1	16910482	Stålsætskrue M16x55	8,8 Elforz. HFC 473
42	1	16910252	Stålsætskrue M8x12	8,8 Elforz. HFC 473
43	1	16910254	Stålsætskrue M8x16	8,8 Elforz. HFC 473
44	2	17000062	Låsemstrik M8	HFC 840 ELF ORZ.
45	1	16930100	Unbraco flangehoved M8x20	FZB
46	1	60001182	Styring samlet til kassevender KCF/ KCS	



NO.	QTY.	PART NO.	DESCRIPTION	MATERIAL	Description GB
1	1	60001059	Venderamme svejst	Svejsesamling	Frame
2	18	16762637	Gevindformede skrue M6x20	Indkøbt	Screw
3	1	60001166	Topramme t. vendekasse sv.	Samling	Topframe
4	2	16047055	Gummioph. vibrationsdæmper	Type 5 ø50h45 M10	Damper
5	1	20003512	L/B Plade t. gummi o. kasse	3mm. galv. stålplade	Sheet
6	1	20003206	Gummi over kasse	Y403 4+2 9,6mm	Rubber



NO.	QTY.	PART NO.	DESCRIPTION	MATERIAL	Description GB
1	1	60001069	Falddæmper ramme svejst.	Samling	Frame
2	1	20003225	Dug til falddæmper	PVC 1M12B	shock absorber
3	1	60001071	Arm t. kontravægt h/v galv.	10mm. stålplade Domex 240 el. tilsv.	Arm
4	12	60001072	Kontravægt t. falddæmper galv.	10mm. stålplade Domex 240 el. tilsv.	counterweight
5	1	60001071	Arm t. kontravægt h/v galv.		Arm
6	2	16930155	Unbraco flangehoved M10x35	FZB	Bolt
7	12	17095068	Skive M10 Facet	HFC 9167 8.8 Elforz.	Washer
8	6	17000064	Låsemøtrik M10	HFC 840 ELFORZ.	Nut
9	4	16900168	Stålbolt M10x90	8,8 Elforz. HFC 472	Bolt

8 EC Declaration of Conformity

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

Hereby declares that

Machine:	Boxtipper
Type:	KCF
Type, serial no., year:	KCF. 16031. 2015

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

