Diamatic

SERVICE MANUAL
BMG-780 ULTRAPRO
VERSION 1.0

Index

1. Tools

Diamag grinding wings

Part number	Description	Remarks
BG707301	Diamag wing red box 9 pieces 18/20	For hard concrete
BG707302	Diamag wing red box 9 pieces 30/40	For hard concrete
BG707303	Diamag wing red box 9 pieces 60/80	For hard concrete
BG707304	Diamag wing red box 9 pieces 120/150	For hard concrete
BG707311	Diamag wing green box 9 pieces 18/20	For medium concrete
BG707312	Diamag wing green box 9 pieces 30/40	For medium concrete
BG707313	Diamag wing green box 9 pieces 60/80	For medium concrete
BG707314	Diamag wing green box 9 pieces 120/150	For medium concrete
BG707321	Diamag wing blue box 9 pieces 18/20	For soft concrete
BG707322	Diamag wing blue box 9 pieces 30/40	For soft concrete
BG707341	Diamag wing black box 9 pieces	For hard concrete/coatings
BG200995/set	Wing PCD 1 x 1 (9 pieces)	For removing coatings
BG200997/set	Wing PCD split (9 pieces)	For removing coatings
BG200999/set	Wing PCD 2 x ¼ (9pieces)	For removing coatings
E07240	Diamag 240mm adapter plate	
E06447	Diamag adapter plate for polishing dots	
E06862/set	Bush hammer set (9 pieces)	
BG300109	Star wheel cutters	
E07455	Cutter plate 240 complete with bush hammer tools	
E0300117	Cutter plate 240mm complete with star wheel cutters	

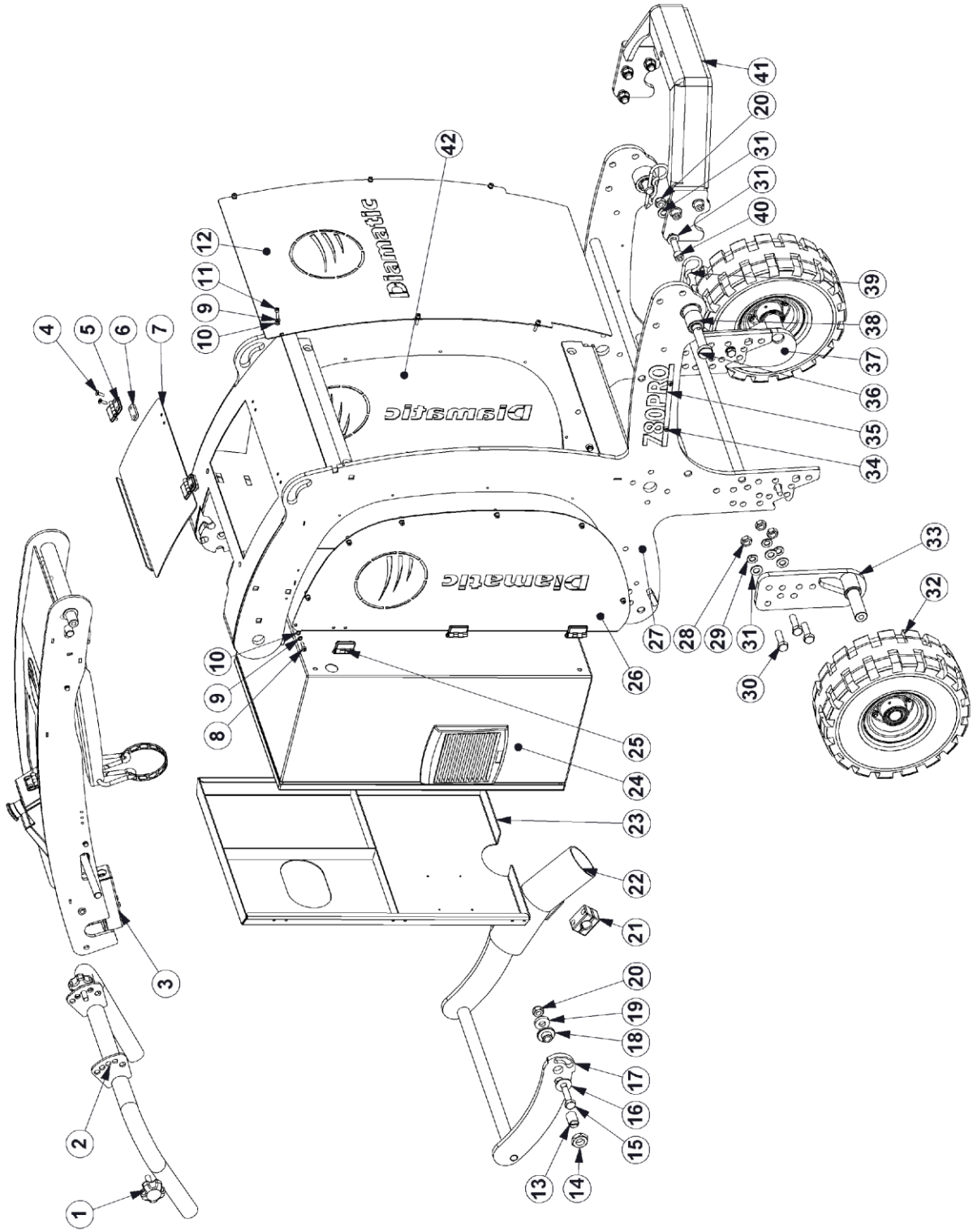
Diamag polishing dots

Part number	Description	Remarks
BG200982	Dry polish dot black #100	<180kg head pressure
BG200983	Dry polish dot blue #200	<180kg head pressure
BG200984	Dry polish dot red #400	<180kg head pressure
BG200985	Dry polish dot white #800	<180kg head pressure
BG200986	Dry polish dot yellow #1500	<180kg head pressure
BG200987	Dry polish dot green #3000	<180kg head pressure
BG7170100	Diamag dry polishing dot black #100 (9 pieces)	>150kg head pressure
BG7170200	Diamag dry polishing dot blue #200 (9 pieces)	>150kg head pressure
BG7170400	Diamag dry polishing dot red #400 (9 pieces)	>150kg head pressure
BG7170800	Diamag dry polishing dot white #800 (9 pieces)	>150kg head pressure
BG7171500	Diamag dry polishing dot yellow #1800 (9 pieces)	>150kg head pressure
BG7173000	Diamag dry polishing dot green #3000 (9 pieces)	>150kg head pressure
BG7110050	Diamag wet polishing dot orange #50 (9 pieces)	
BG7110100	Diamag wet polishing dot black #100 (9 pieces)	
BG7110200	Diamag wet polishing dot blue #200 (9 pieces)	
BG7110400	Diamag wet polishing dot red #400 (9 pieces)	
BG7110800	Diamag wet polishing dot white #800 (9 pieces)	
BG7111800	Diamag wet polishing dot yellow #1800 (9 pieces)	
BG7113000	Diamag wet polishing dot green #3000 (9 pieces)	

Diamatic

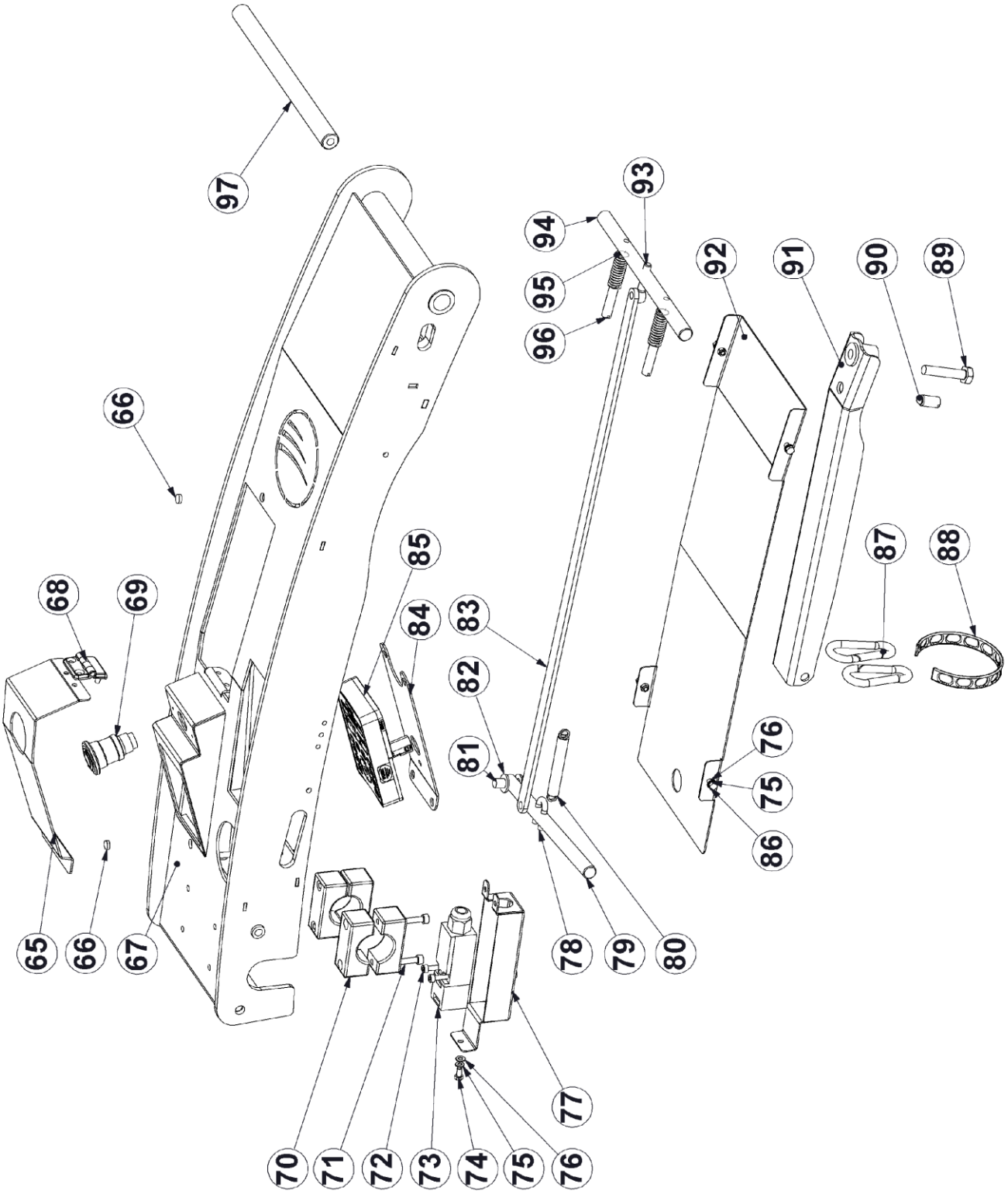
Spare parts

Frame complete



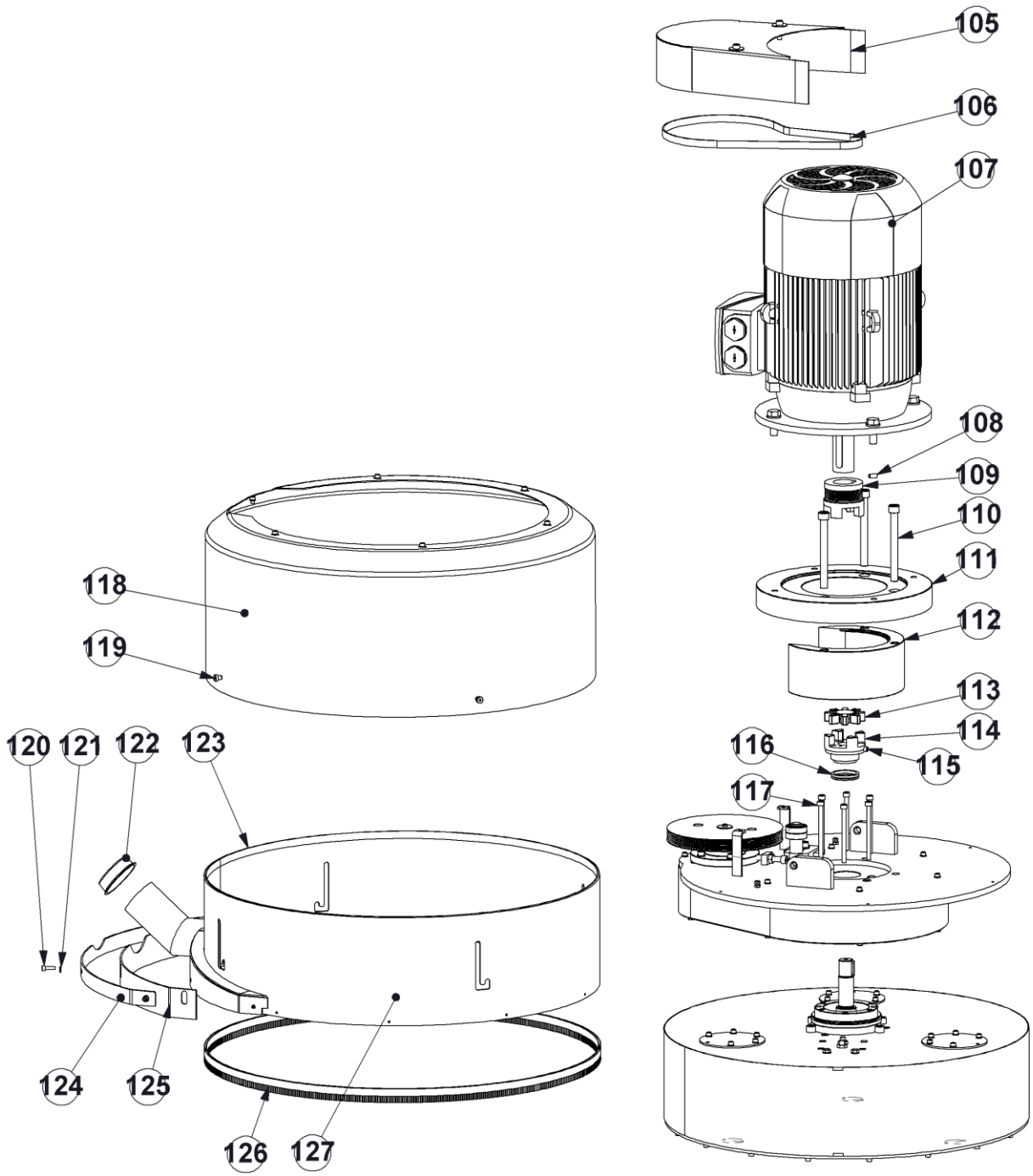
Item	Part number	Description	Remarks	Qty.
1		Knob M10x25		2
2	E11229/RD	Steerhandle		1
3	E12375	Main handle		1
4		M5x16 Countersunk head screw		4
5	E12404	Hinge		2
6	E11537	Distance plate		2
7	E11536	Bonnet		1
8		M5x16 Hexagon Socket Head		14
9		M5 Spring Lock Washer		20
10		M5 washer		20
11		M5x20 Hexagon Socket Head		6
12	E12274	Front cover Diamatic		1
13	BE1068	Spring gland M20x30		1
14		Low nut M20		1
15		M12x45 Bolt		2
16		M12 Ø32-Washer		2
17	E11542	Tilting support		1
18	E11543	Mounting bush		2
19		M12 Washer heavy		2
20		M12 Plastic Insert Nut		8
21	999-9154	Pipe clamp (set) 20mm		1
22	E12341	Hose connection 75mm		1
23	E12407	Electro box cover		1
24	E12366	Electro box		1
25	E10558	Hinge		3
26	E12289	RH electro box side plate Diamatic		1
27	E12268	MKII frame		1
28		M12 Nut		6
29		M12 Spring Lock Washer		6
30		M12x40 Bolt		6
31		M12 Washer		18
32	E12319	Wheel 305mm		2
33	E11558	Wheel axle right		1
34		M5x8 Hexagon Socket Head		4
35	E06893_RD	780PRO logo RED		2
36	E11121	Hinge bolt		2
37	E11559	Wheel axle left		1
38	E01492	Megi bush		2
39	E11119	Spring lock 5mm		2
40		M12x40 Hexagon socket head		6
41	E12288	Front support grinders		1
42	E11529	LH electro box side plate Diamatic		1

Handle complete



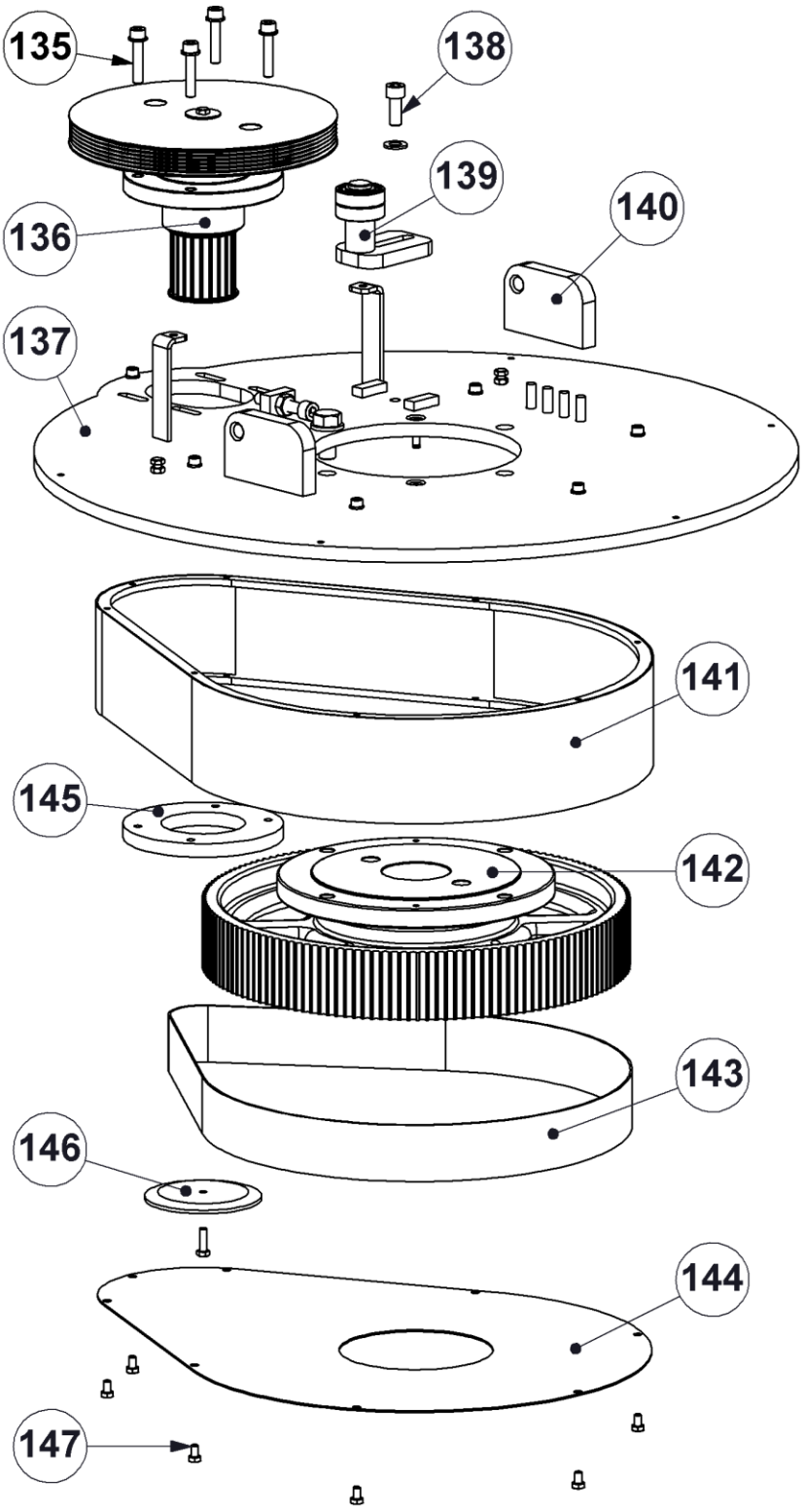
Item	Part number	Description	Remarks	Qty.
65	E12380	Keypad cover		1
66	E06446	Magnet		2
67	E12375	Handle		1
68	E12404	Hinge		1
69		Emergency stop		1
70	999-9156	Pipe clamb 35mm		4
71		M6x50 Hexagon socket head		4
72		M5x30 Hexagon socket head		2
73	BG11760	Deadman switch		1
74		M5x10 hexagon bolt		1
75		M5 Spring lock washer		5
76		M5 Washer		5
77	E11226	Deadman switch cover		1
78	BE0712	Wire rope clamp 8mm DIN741_555		1
79	E11227	Unlocking handle		1
80	E10388	Tension spring		1
81		M10x30 Hexagon Socket Head Cap		1
82		M10 Washer		2
83	E10380	Push strip		1
84	E12379	Cover plate		1
85	E12369	Keypad		1
86		M5x15 hexagon bolt		4
87	BE0566	Snap hook		2
88	E07008	Chain for dusthose		1
89		M10x50 hexagon bolt		1
90	E11284	Baal attachment		1
91	E11222	Hose arm		1
92	E11557	Cover steer handle		1
93		M8x40 eye bolt		1
94	E11220	Locking axle		1
95	E09237	Spring 14,8x64x2,0		2
96	E10556	Spring axle		2
97	E12282	Axle steer handle		1

Machine complete



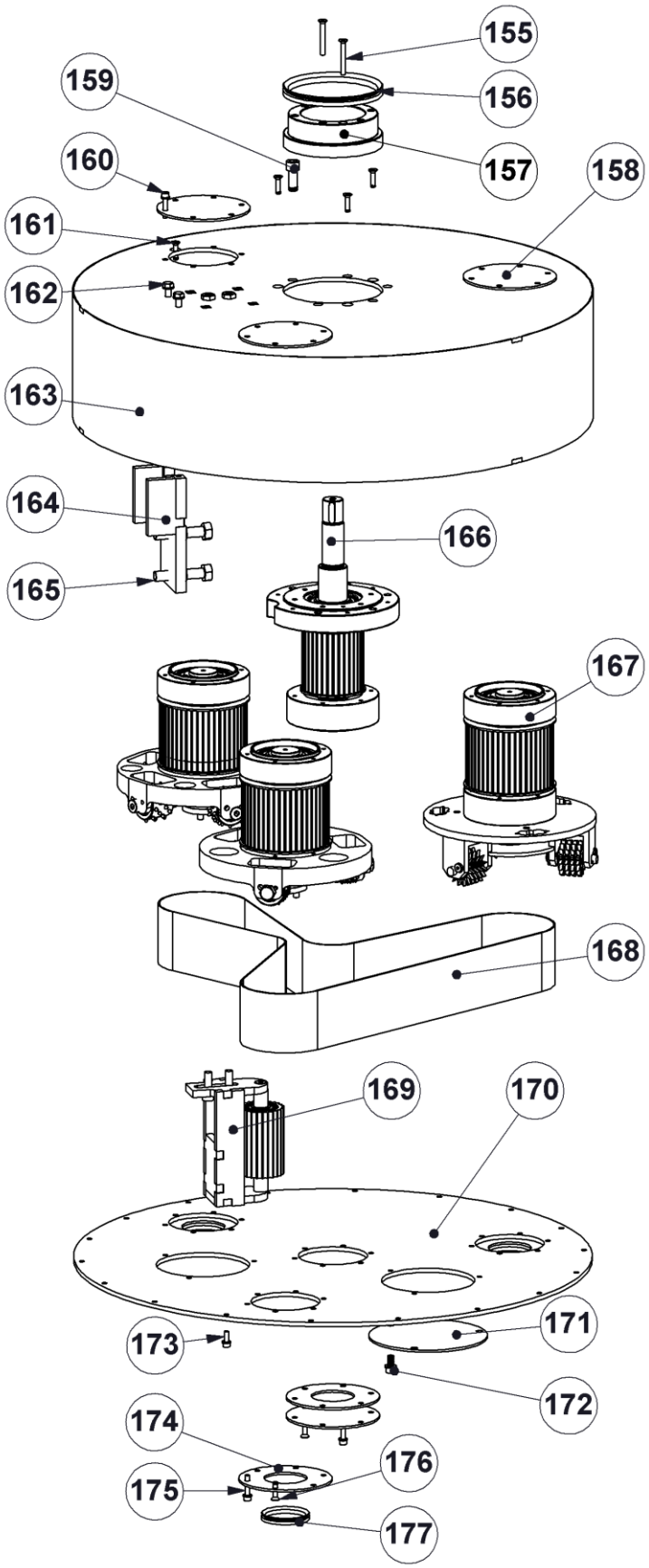
Item	Part number	Description	Remarks	Qty.
105	BG005847	Protection cap		1
106	BG11924	Upper belt		1
107	BG11899-1/RD	Motor 230V/480V		1
108	BE0654	M8x16 set screw	DIN 916	4
109	BG007808_2	Coupling upper part		1
110	BE0656	M14x140 hexagon socket head bolt	DIN 912	3
111	BG007810	Flange motor seat		1
112	BG007811	Motor seat		1
113	BG005844	Coupling plastic star		1
114	BG007808_1	Coupling under part		1
115	BE0188	M6x25 hexagon socket head bolt		1
116	BG11829	V-seal		1
117	BE0635	M8x110 hexagon socket head bolt	DIN 912	6
118	BG007839-2	Protection cover		1
119	BE0642	M6 8x8hex.socket head shoulde screw		4
120		M6x20 Hexagon Socket Head		4
121		M6 Washer		4
122	E04551	Plastic cup		1
123	E06897	Slide strip		3,0mtr
124	E11508	Tightening steel strip		1
125	E11507	Rubber seal of floating shroud		1
126	BG-BRUSH 20MM	Brush for floating shroud		2,5mtr
127	E11504	Floating shroud BMG-780		1

Upper drive



Item	Part number	Description	Remarks	Qty.
135	BE0631	M8x40 hexagon socket head bolt	DIN 7984	4
136	BG007866	Contra pulley		1
137	BG007809-1	Motorplate compl		1
138	BE0443	M10x25 hexagon socket head bolt		1
139	BG005860	Upper tensioner		1
140	E12358	Holder with Ø18		2
141	BG007838	Motor housing		1
142	BG007867	Centre pulley		1
143	BG11980	Middle belt		1
144	BG005834	Lower plate upper drive		1
145	BG005807	Ring		1
146	BG007804	Flange		1
147	BE0350	M6x10 hexagon head screw		8

Lower drive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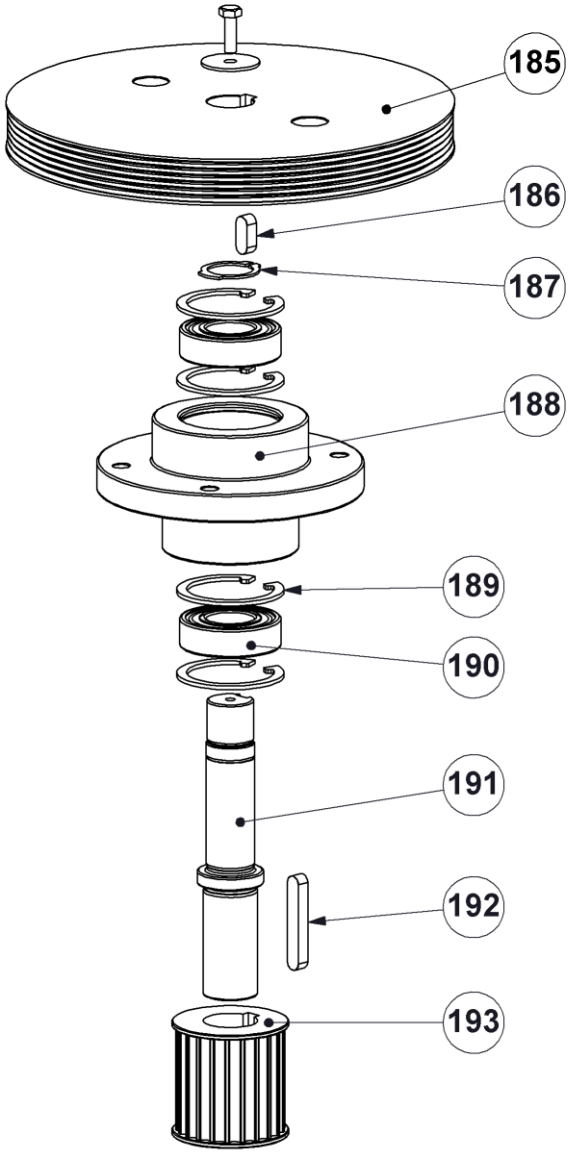
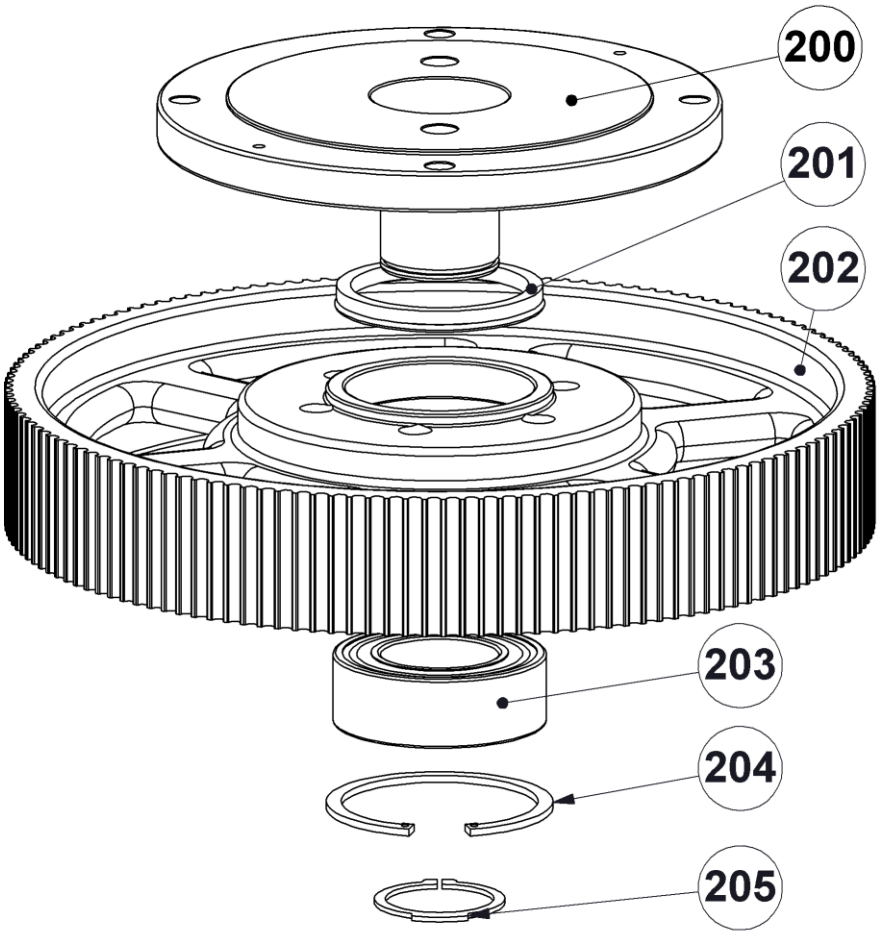
Item	Part number	Description	Remarks	Qty.
155	BE0617	M6x50 countersunk screw	DIN 7991	2
156	BG11849	V-seal		1
157	BG007814	Ring		1
158	BG007827	Cover		4
159	BE0198	M12x30 hexagon socket head bolt	DIN 912	5
160	BE0189	M6x30 hexagon head bolt	DIN 933	15
161	BE0502	M6x25 countersunk screw	DIN 7991	6
162	BE0030	M8x25 hexagon head bolt	DIN 933	2
163	BG007822-1	Housing complete		1
164	BG007832	Tensioner plate		1
165	BE0122	M14x75 hexagon head bolt	DIN 933	2
166	BG007868	Drive pulley		1
167	BG007869	Pulley		3
168	BG11866	Lower belt		1
169	BG007865	Lower tensioner		1
170	BG007824	Lower plate		1
171	BG007850	Inspection cover		2
172	BE0082	M8x12 hexagon socket head bolt	DIN 912	6
173	BE0035	M6x16 hexagon socket head bolt	DIN 912	18
174	BG0007826	Ring		4
175	BE0189	M6x30 hexagon head bolt	DIN 933	20
176	BE0502	M6x25 countersunk screw	DIN 7991	4
177	BG11797	V-seal		3

Contra pulley BG007866



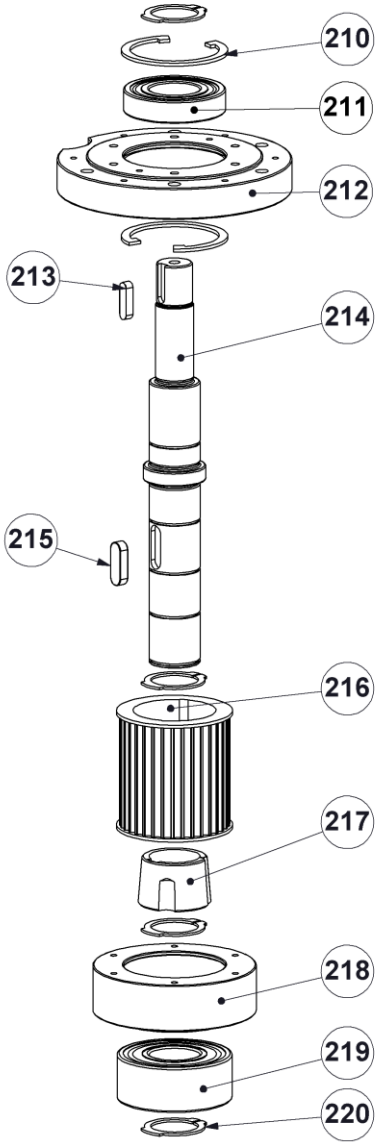
Item	Part number	Description	Remarks	Qty.
185	BG005803	Belt pulley		1
186	BE0109	Key 8x7x20	DIN 6885A	1
187	BE0076	Retaining ring for shaft Ø25	DIN 471	1
188	BG005802	Bearing house		1
189	BE0077	Retaining ring for bore Ø52	DIN 472	4
190	222-2331-E	Bearing		2
191	BG007801	Axle		1
192	BE0657	Key 8x7x50	DIN 6885A	1
193	BG007805	Pulley		1

Centre pulley BG007867



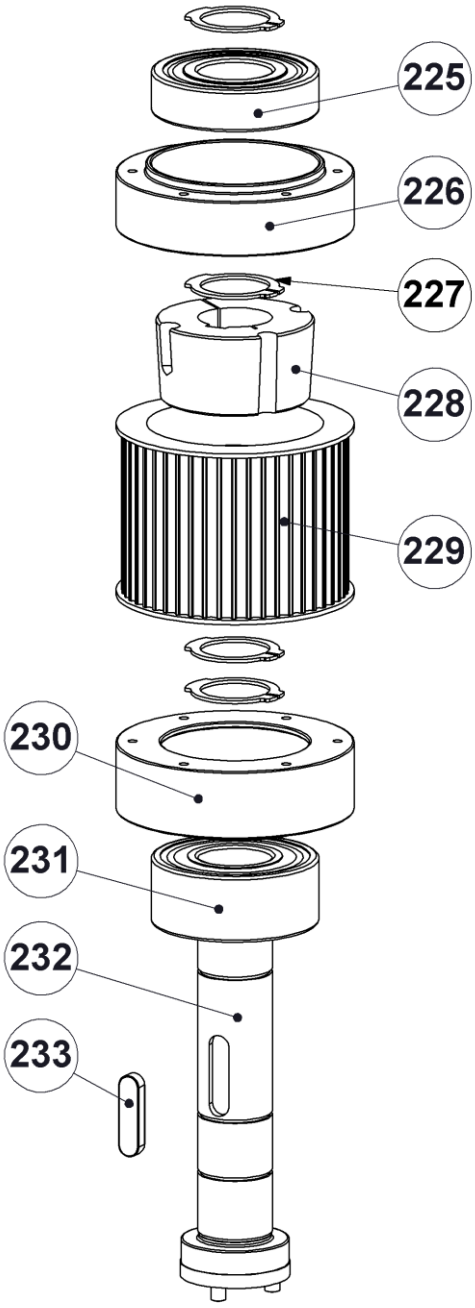
Item	Part number	Description	Remarks	Qty.
200	BG007812	Sprocket		1
201	E03703	V-seal		1
202	BG007806-1	Pulley		1
203	E01490	Bearing		1
204	E03993	Retaining ring for bore Ø90	DIN 472	1
205	BE0126	Retaining ring for shaft Ø50	DIN 471	1

Drive pulley BG007868



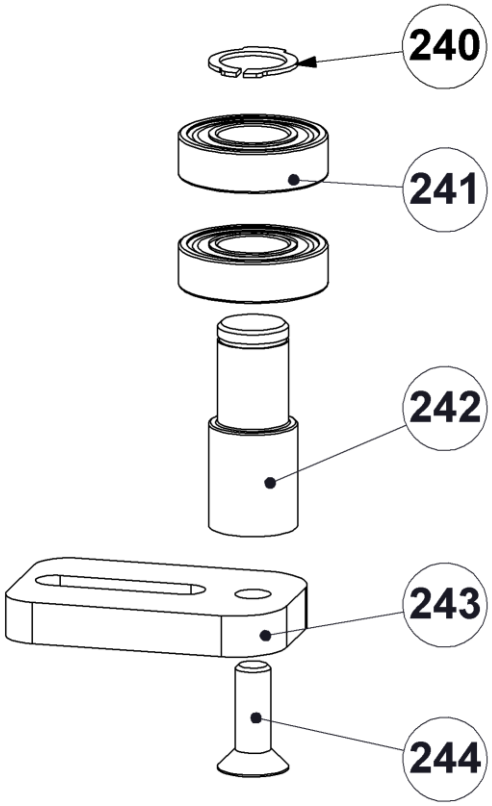
Item	Part number	Description	Remarks	Qty.
210	BE0107	Retaining ring for bore Ø80	DIN 472	2
211	BG11933	Bearing		1
212	BG007815	Bearing house		1
213	BE0256	Key 8x7x30	DIN 6885A	1
214	BG007818	Axle		1
215	BE0658	Key 12x8x35	DIN 6885A	1
216	BG11867	Pulley		1
217	BG11868	Taperlock		1
218	BG007817	Bearing house		1
219	BG11871	Bearing		1
220	BE0607	Retaining ring for shaft Ø40	DIN 471	4

Pulley (3x) BG007869



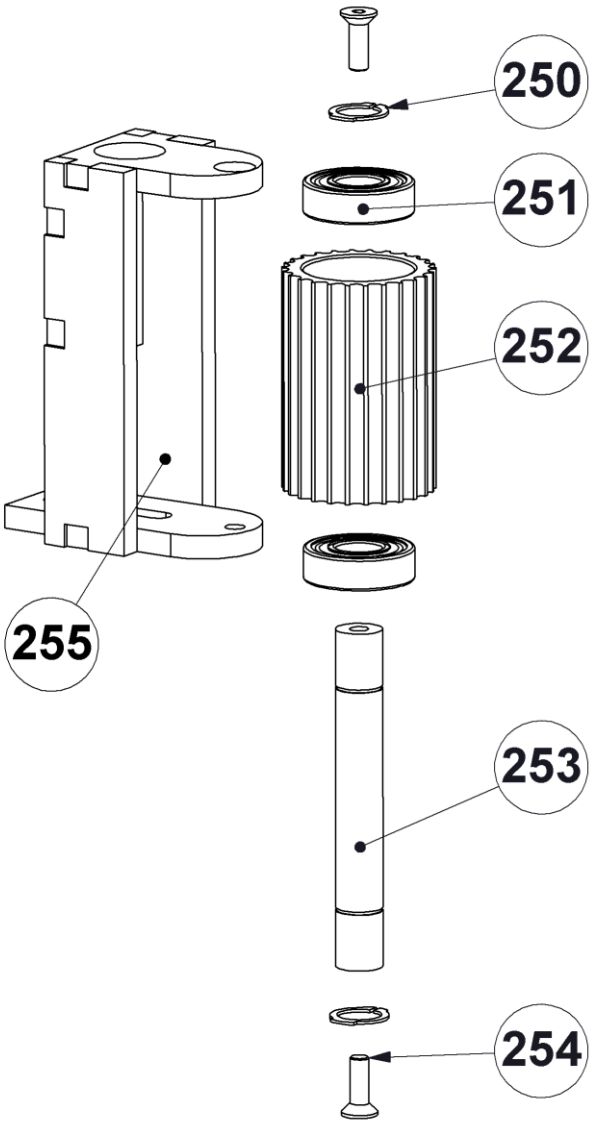
Item	Part number	Description	Remarks	Qty.
225	BG11887	Bearing		1
226	BG007819	Bearing house		1
227	BE0607	Retaining ring for shaft Ø40	DIN 471	4
228	BG11889	Taperlock		
229	BG11888	Pulley		
230	BG007817	Bearing house		
231	BG11871	Bearing		
232	BG007816	Axle		
233	BE0659	Key 12x8x45	DIN 6885A	1

Upper tensioner BG005860



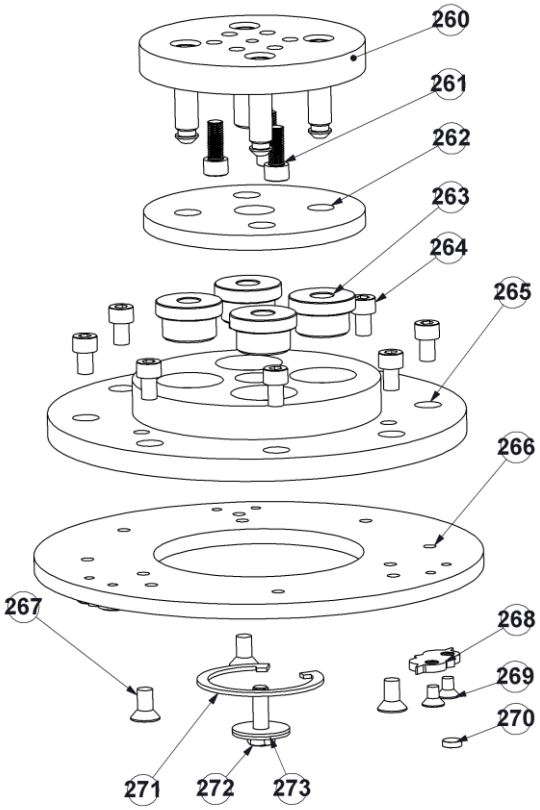
Item	Part number	Description	Remarks	Qty.
240	BE0074	Retaining ring for shaft Ø20	DIN 471	1
241	222-2245	Bearing		2
242	BG005830	Axle for tensioner		1
243	BG005831	Tension plate		1
244	BE0130	M10x25 countersunk screw	DIN 7991	1

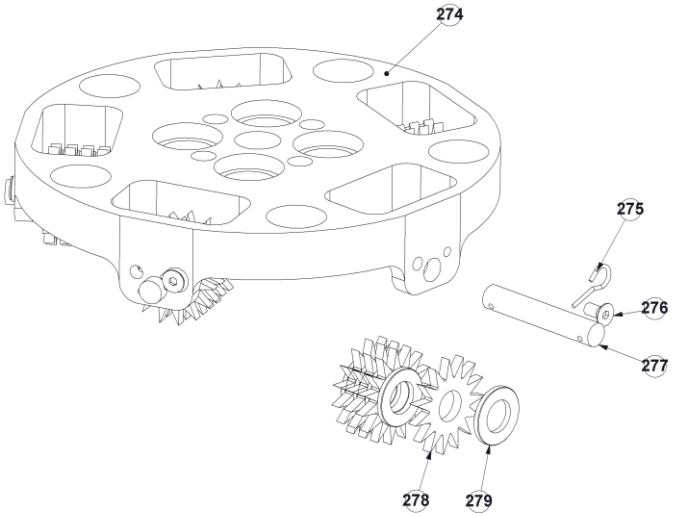
Lower tensioner BG007865

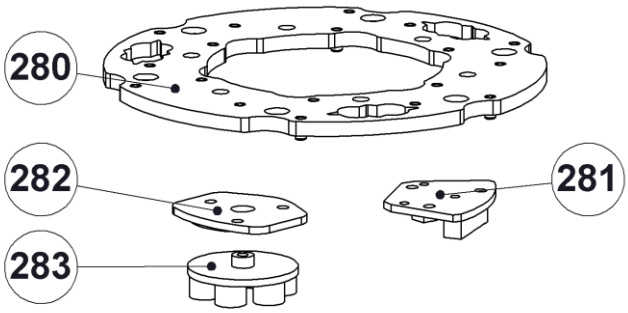


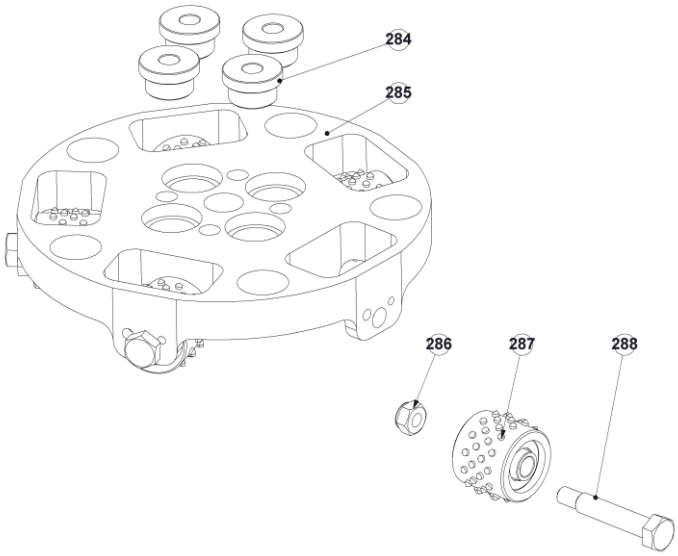
Item	Part number	Description	Remarks	Qty.
250	BE0074	Retaining ring for shaft Ø20	DIN 471	2
251	BG11884	Bearing		2
252	BG007836	Pulley		1
253	BG007837	Axle tensioner		1
254	BE0458	M8x25 countersunk screw	DIN 7991	2
255	BG007833-1	Tensioner		1

Buffer plate for surface preparation (3x)



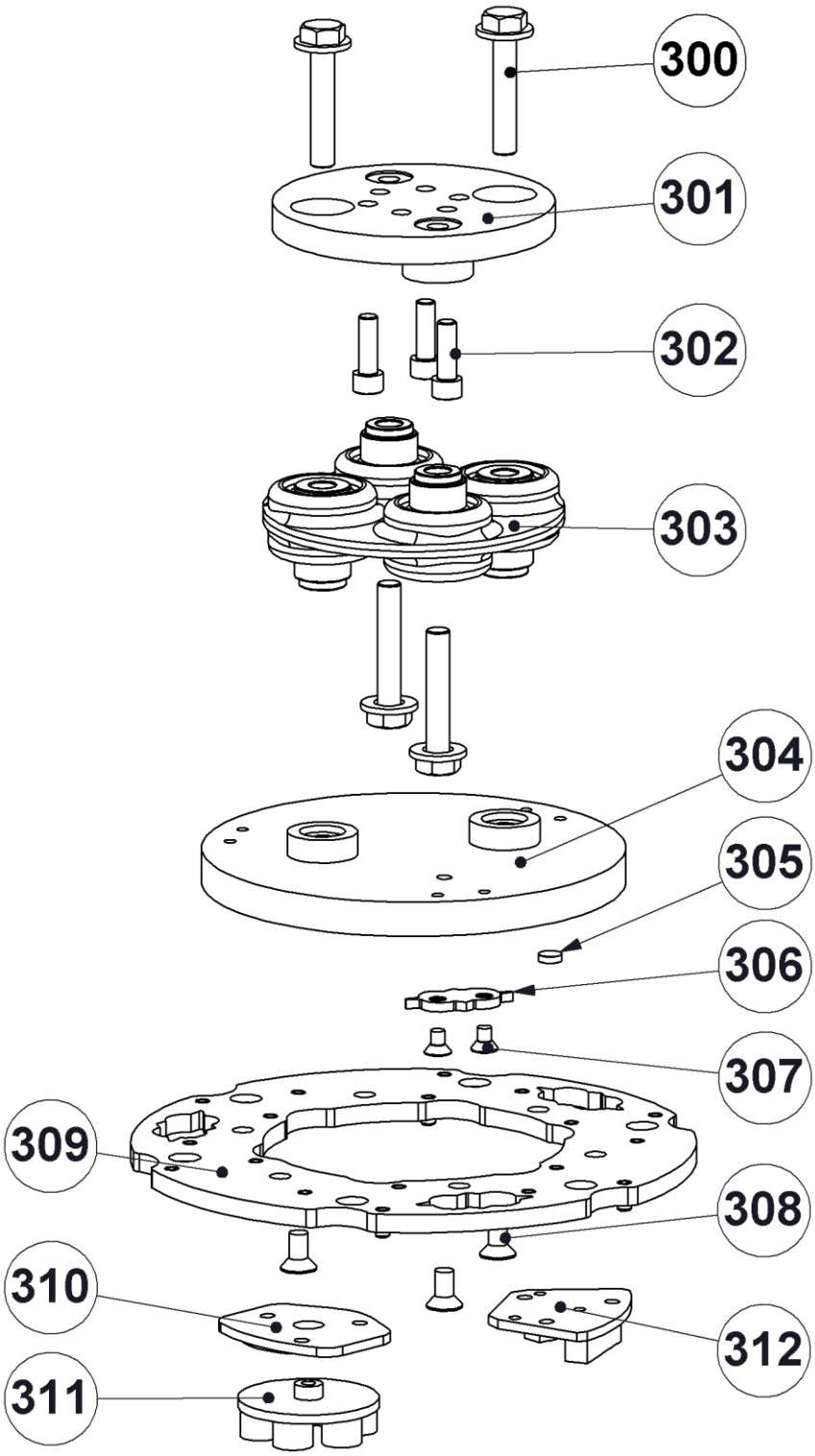






Item	Part number	Description	Remarks	Qty.
260-273	BG240190-1	240mm diamond holder complete		1
266-273	BG2401901-1	240mm diamond holder		1
260	BG11880	Fork		1
261	BE0204 + BE0584	M8x25 hexagon socket head bolt small + M8 spring washer small	DIN 7984 DIN 7980	3
262	BG11879	Buffer disc		1
263	BG11878	Buffer hard		4
264	BE0082	M8x12 hexagon socket head bolt	DIN 912	8
265	BG11877	Magnet plate holder 240mm		1
266	BG2401901-1	Only complete with parts 157 - 160		1
267	BE0456	M8x16 countersunk screw	DIN 7991	3
268	BG11811	Centering star		3
269	BG11810	M6x10 countersunk screw	DIN 7991	6
270	E06446	Magnet		3
271	BE0608	Retaining ring for bore Ø58	DIN 472	1
272	BE0030	M8x25 hexagon head bolt	DIN 933	1
273	BE0314	M8x30x1,5 washer		2
274-279	E10240/SW	PLATE Ø240 MM WITH STAR WHEELS		1
274	E09580	Cutter plate 240mm for 5 tools		1
275+276	BG300133	Locking pin & screw		6
277	BG300130	Axle		6
278	BG300109	Cutter		20
279	MPL48	Washer		25
280	E07240-2	DIAMAG 240mm adapter plate		1
	BG200993-1	Plate for 6 wings 240mm		1
	BG200988-1	Dry polish dot holder 240mm		1
281		DIAMAG grinding wings		6
282	E06447	DIAMAG adapter plate for dots		6
283		Dry polish dots		6
284	BG11878	Buffer hard		4
285	E09580	Cutter plate 240mm for 5 tools		1
286	E09119-1/NUT	Nut for bush hammer E09119-1		5
287	E09119-1	Bush hammer tool heavy only		5
288	E09119-1/BOLT	Bolt for bush hammer E09119-1		5
285-288	E10240	Cutter plate 240 complete with bush hammer tools		1

Buffer plate for polishing (3x)



Item	Part number	Description	Remarks	Qty.
300	BE0579	7/16 x 2"½ hexagon UNC bolt		4
301	BG2402001	Flexplate adapter for axle		1
302	BE0012	M8x25 hexagon socket head bolt	DIN 912	3
303	BG400310	Morflex coupling		1
304-307	BG2402002-1	Flexplate diamond holder		1
304	BG24020021-1	Flexplate diamond holder only		1
305	E06446	Magnet		3
306	BG11811	Centering star		3
307	BG11810	M6x10 countersunk screw		6
308	BE0456	M8x16 countersunk screw	DIN 7991	3
309	E07240-2	DIAMAG 240mm adapter plate		1
	BG200993-1	Plate for wings 240mm		1
	BG200988-1	Dry polish dot holder 240mm		1
310	E06447	DIAMAG adapter plate for dots		3
311		Dry polish dots		3
312		DIAMAG grinding wings		3

WIRE COLOR

Main Voltage 400V

Phase	Colors
L1	- Black
L2	- Black
L3	- Black
Earth / PE	- Yellow/Green

Control Voltage

Plus (24VDC)	- Dark Blue
Hook-up wire	- Dark Blue
Minus / Ground (24VDC)	- White/Blue

SYMBOL CODE

11 F 11

- Running number
- Symbol letter
- Schedule page

CORE CODE

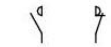
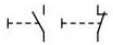
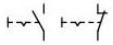
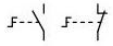
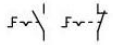
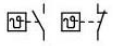
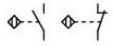
11 11

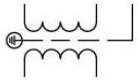
- Running number

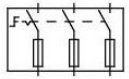
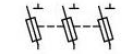
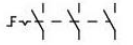
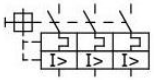
DRAWING NUMBER

PJ##.####.##

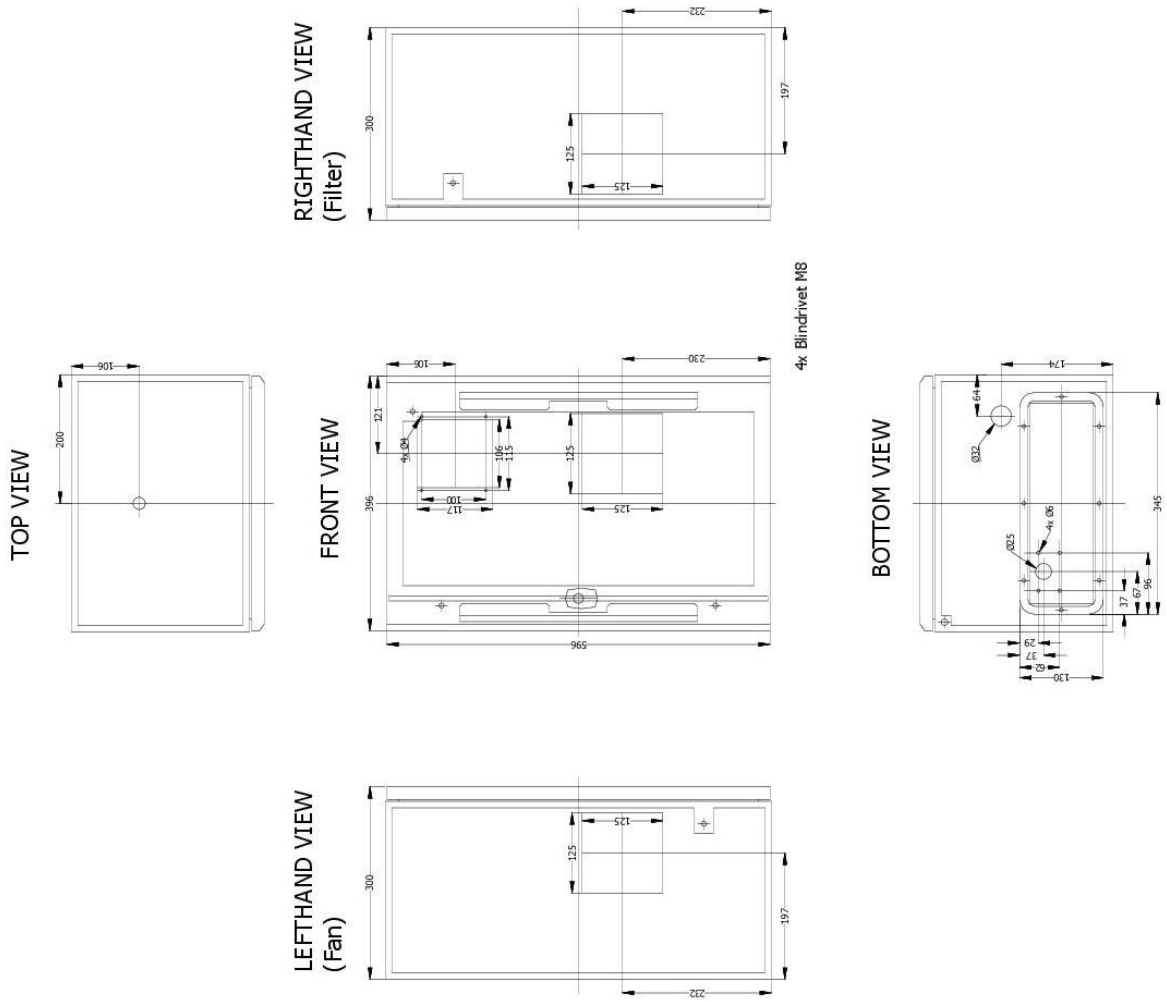
- Revision number
- Archive number
- Year

	auxiliary contact	hulpcontact
	Power contact	vermogenscontact
	NO contact, opens with time delay	maakcontact, vertraagd open
	NO contact, closes with time delay	maakcontact, vertraagd sluitend
	NC contact, opens with time delay	verbreekcontact, vertraagd open
	NC contact, closes with time delay	verbreekcontact, vertraagd sluitend
	Pushbotton rebound	drukknop terugverend
	Pushbotton locking	drukknop blijvend
	Rotary switch rebound	tip draaischakelaar
	Rotary switch locking	draaischakelaar
	Emergency stop rotary unlock	noodstop met draaibare vrijgave
	Thermostatic switch	thermostaat hygrostaat
	Pressure switch	drukschakelaar
	Limit switch	eindschakelaar
	Proximity switch	naderingsschakelaar

	signal light	signaallamp
	horn	hoorn
	apm.meter	amperemeter
	runninghour counter	urenteller
	transformer	transformator
	Contactor coil relay coil	spoel
	Contactor/relay coil, with pick-up delay	Spoel met opkomvertraging
	Contactor/relay coil, with drop-out delay	spoel met afvalvertraging
	Contactor pulse coil relay pulse coil,	spoel puls
	Tube light	TL verlichting
	Resistor / Heating	weerstand verwarming
	Socket	wandcontactdoos
	Current transformer	stroomtransformator

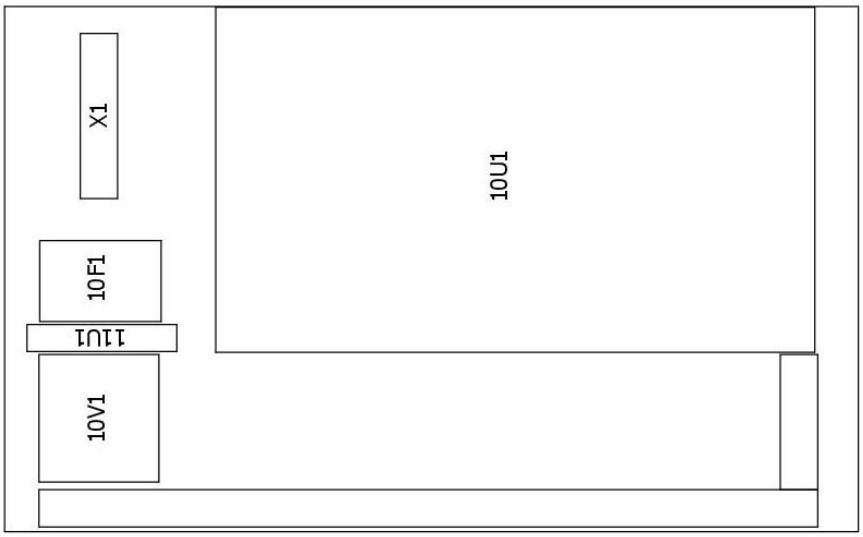
	Safety fuse	smeltveiligheid
	Fused switch, three-pole	schakelbare scheider
	Fused disconnect, three-pole	scheider "klapbak"
	Main switch	hoofdschakelaar
	Circuit breaker, single-pole	installatieautomaat 1-polig
	Circuit breaker, two-pole	installatieautomaat 2-polig
	Circuit breaker, three-pole	installatieautomaat 3-polig
	Power circuit breaker motor overload switch with switch mechanism	motorbeveiligingsschakelaar
	Valve	elektrisch bediende klep
	Resistor with movable contact	regelbare weerstand
	Terminal	rijgklem
	Terminal with fuse	rijgklem met zekering
	Rectifier	gelijkrichter

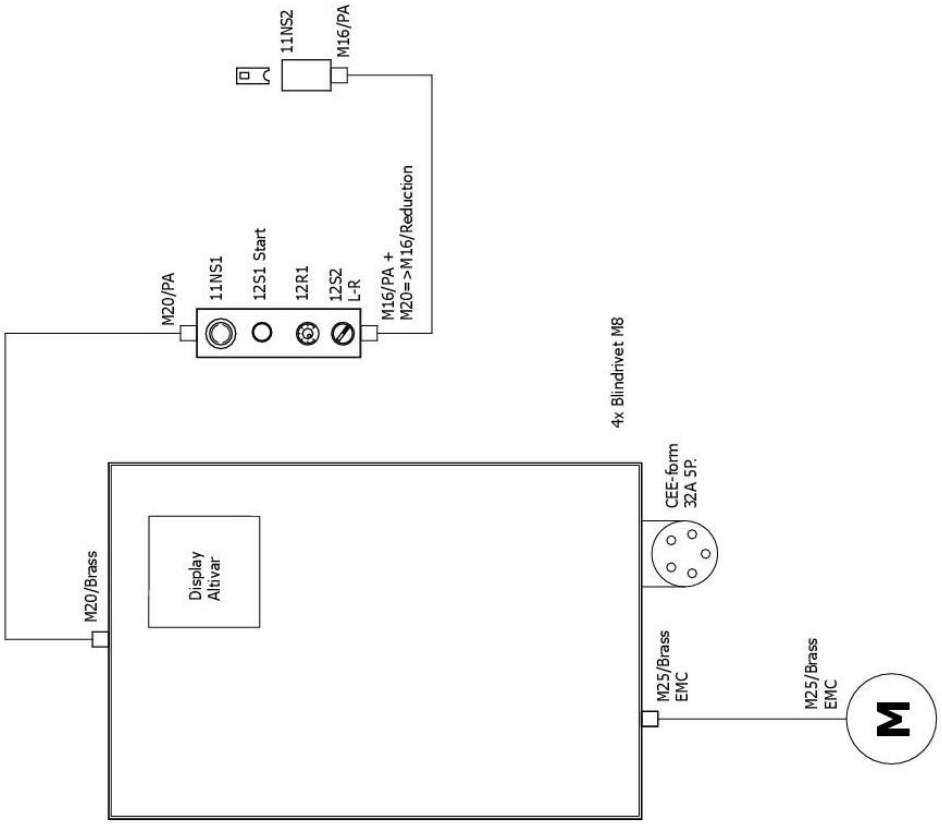
Diamatic


RIGHTHAND VIEW
(Filter)
TOP VIEW
FRONT VIEW
4x Blindrivet M8
BOTTOM VIEW
LEFTHAND VIEW
(Fan)

Diamatic

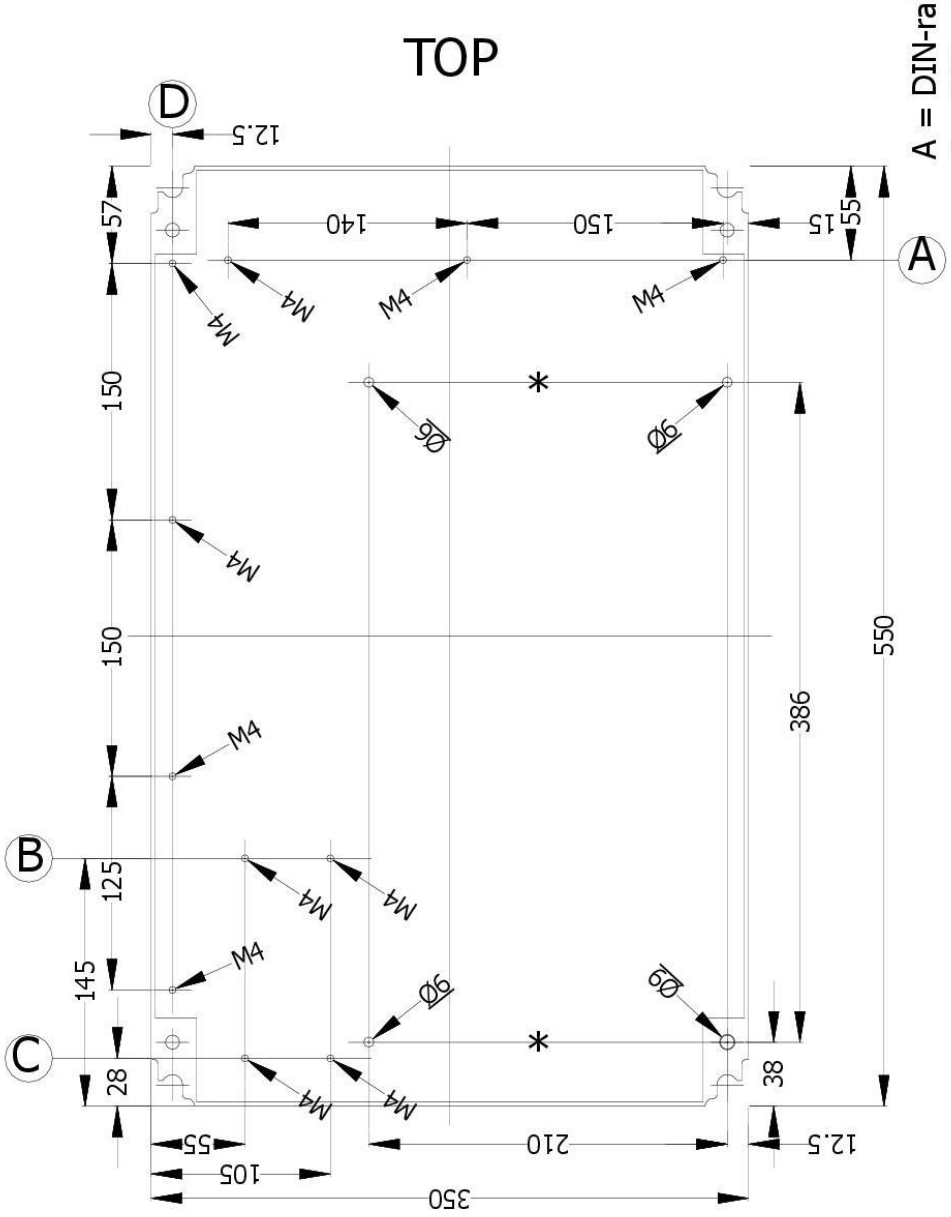
Mounting plate



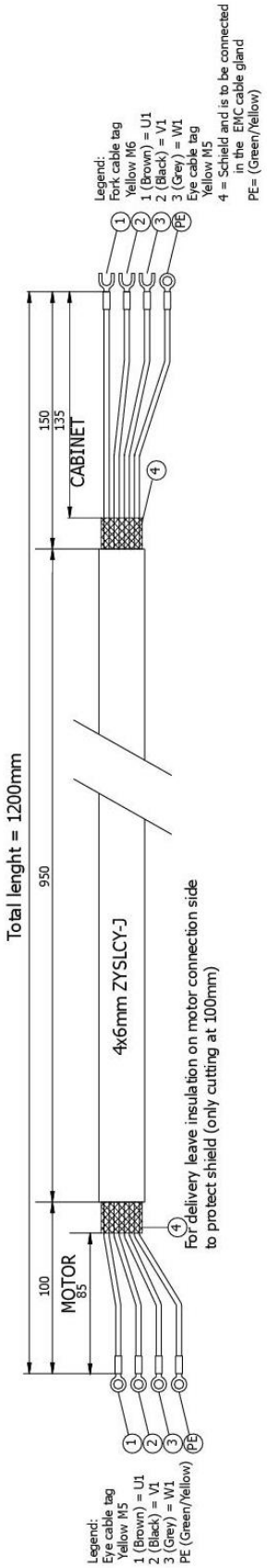


Diamatic

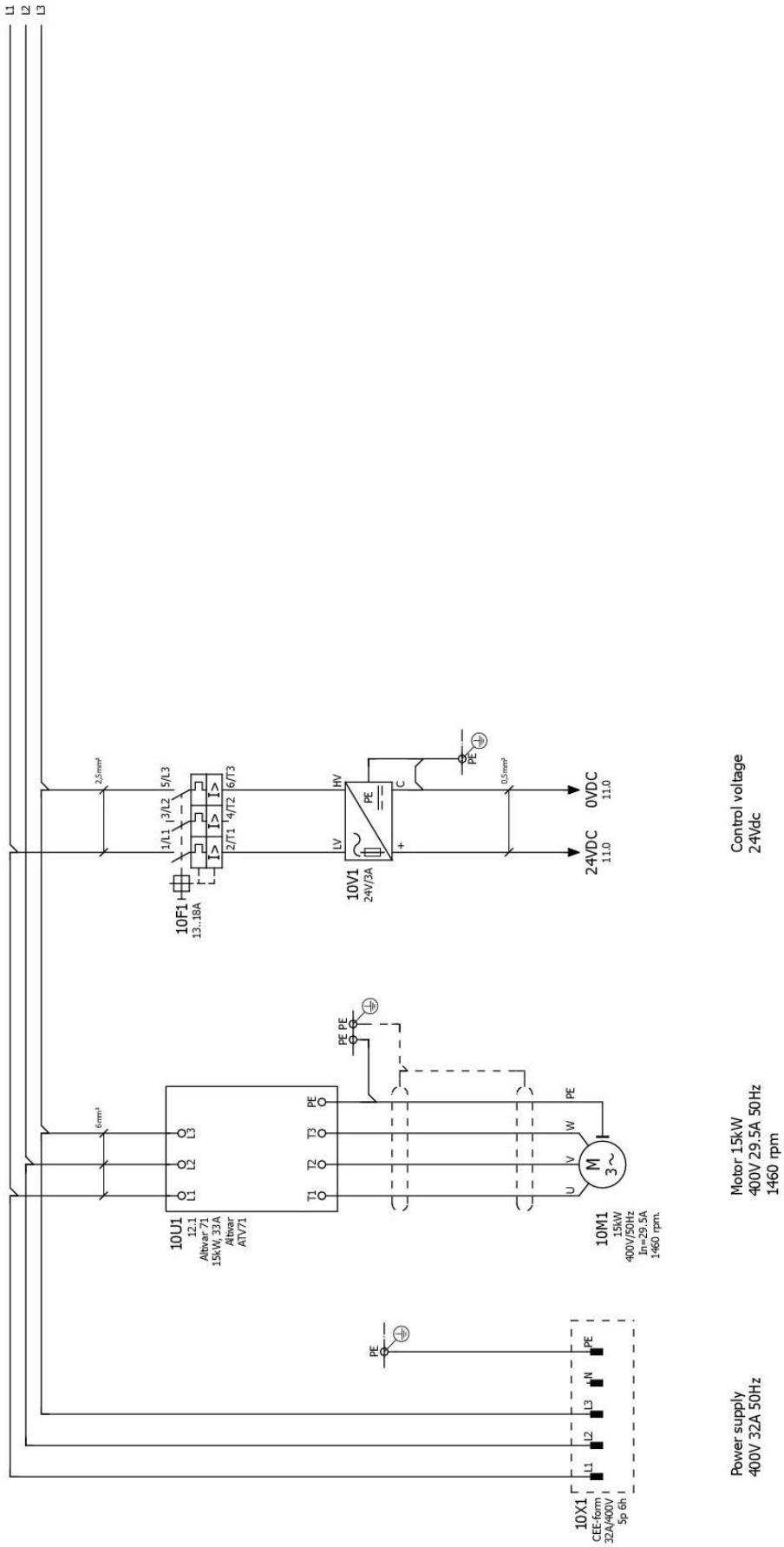
A = DIN-rail L=320mm
B = DIN-rail L=90mm (optional)
C = Cable conduit 25x60mm L=90mm
D = Cable conduit 25x60mm L=520mm



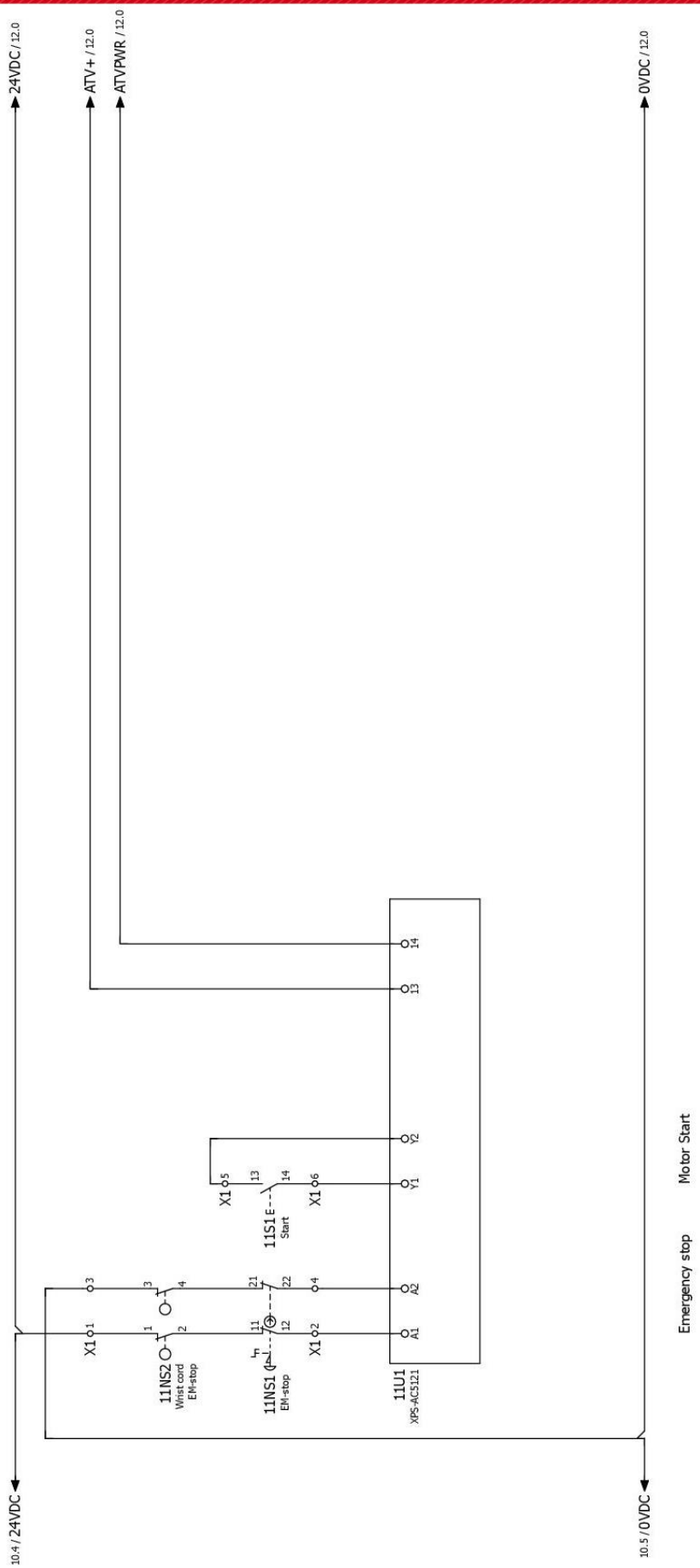
Diamatic


Legend:
Fork cable tag
Yellow M6
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
Eye cable tag
Yellow M5
4 = Schield and is to be connected
in the EMC cable gland
PE= (Green/Yellow)
Total lenght = 1200mm
150
135
CABINET
950
4x6mm ZYSLCY-J
For delivery leave insulation on motor connection side
to protect shield (only cutting at 100mm)
100
MOTOR
85
Legend:
Eye cable tag
Yellow M5
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
PE (Green/Yellow)

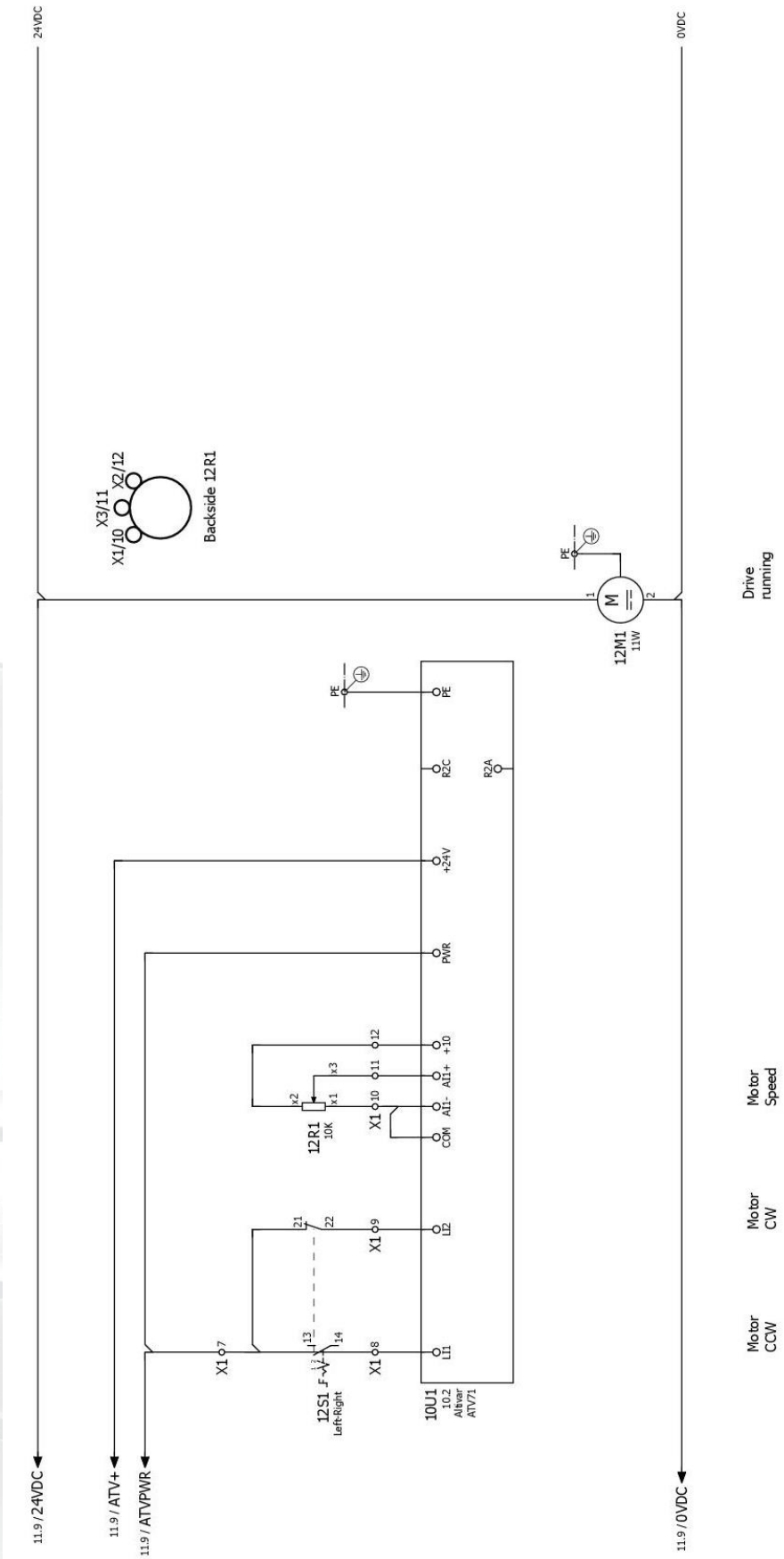
Diamatic


L1
L2
L3
2,5mm²
1/L1
3/L2
5/L3
2/T1
4/T2
6/T3
10F1
13..18A
HV
LV
PE
C
+
10V1
24V/3A
PE
0,5mm²
0VDC
11.0
24VDC
11.0
Control voltage
24Vdc
6mm²
10U1
12.1
Altivar 71
15kW, 33A
Altivar
ATV71
PE PE
PE
T3
T2
T1
W
V
U
M
3~
10M1
15kW
400V/50Hz
In=29.5A
1460 rpm.
Motor 15kW
400V 29.5A 50Hz
1460 rpm
PE
PE
N
L3
L2
L1
10X1
CEE-form
32A/400V
5p 6h
Power supply
400V 32A 50Hz

Diamatic


24VDC / 12.0
ATV+ / 12.0
ATVPWR / 12.0
0VDC / 12.0
X1
11NS2
Wrist cord
EM-stop
11NS1
EM-stop
11S1
Start
11U1
XPS-AC5121
Emergency stop
Motor Start
10.4 / 24VDC
10.5 / 0VDC

Diamatic


24VDC
0VDC
X3/11
X2/12
X1/10
Backside 12R1
PE
M
1
2
12M1
11W
Drive
running
PE
R2C
R2A
+24V
PWR
12
11
10
+10
AI1+
AI1-
COM
x2
x3
x1
12R1
10K
X1
21
22
LO
X1
13
14
X1
7
8
LI1
12S1
Left-Right
10U1
10.2
Altivar
ATV71
Motor
Speed
Motor
CW
Motor
CCW
11.9 / 24VDC
11.9 / ATV+
11.9 / ATVPWR
11.9 / 0VDC

Terminal diagram

F13_001

function text									Cable name	Strip X1 Terminals 24Vdc					Cable name					Page / column
									cable type	Target designation	Connection point	terminal	jumper	Target designation	Connection point	cable type					
Motor Speed												PE		10U1	PE						12.5
=												PE		12M1							12.6
Emergency stop										11NS2	1	1	,	10V1	+						11.1
														12M1	1						
Emergency stop										11NS1	12	2	,	11U1	A1						11.1
=										11NS2	3	3	,	10V1	C						11.1
															PE						
														12M1	2						
Emergency stop										11NS1	22	4	,	11U1	A2						11.1
Motor Start										11S1	13	5	,	11U1	Y2						11.2
=										11S1	14	6	,	11U1	Y1						11.2
Motor CCW												7		11U1	14						12.1
														10U1	PWR						
Motor CCW											21	8		10U1	LI1						12.1
Motor CW											22	9	,	10U1	LI2						12.2
Motor Speed										12R1	x1	10	,	10U1	AI1-						12.2
=										12R1	x3	11	,	10U1	AI1+						12.3
=										12R1	x2	12	,	10U1	+10						12.3

Parts list

device tag	Quantity	designation	Type number	Brand	Blastrac number
CAB	1	Kastwand 600x400x300MM Ral 7035 met gaten BMG-780	NSYW09120029GHL/BO	Schneider Electric	E07874
CAB	1	M.rail galvanized,7,5x35MM 2M	TS35 MOUNT.RAIL GROOVE	Generic	E07835
CAB	1	Mount.drain BxH 25x60 MM vpp=60	T1-E 25X60 MOUNT.DRAIN	Generic	E07972
CAB	1	Spiraalsl. wit 15-80MM P4 per mtr.	SPIRAALSLANG 15-80MM	Generic	E07901
CAB	1	spiral hose white 12-50 mm P3 25m	SPIRAL HOSE 12-50MM		E08123
CAB	60	Internal wire 0.5mm2 white	30-309000506	Helukabel	
CAB	2	Internal wire 1.5mm2 yellow/green 90 degr.	30-309001502	Helukabel	E08133
CAB	2	Internal wire 2.5mm2 black, 90 degr.	30-309002501	Helukabel	E08137
CAB	16	Internal wire 6mm2 black, 90 degr.	30-309006001	Helukabel	E08138
CAB	8	Internal wire 6mm2 yellow/green, 90 degr.	30-309006002	Helukabel	E08139
CAB	1	controlbox voor bmg speed control kast compleet	BMG CONTROLBOX SC	Art4 Tecnical Systems	E07882
CAB	6	2YSLCY-J 0.6 4*6 EMC AWG10	MOTORKABEL EMV 4*6 MM		
CAB	52	Terminal marker for weidmuller terminals blanc	WEID DEK5/5MC	Weidmuller	E07949
PG	1	Cabel gland M20*1.5 (PG11/13.5/16) brass, nickel-plated	WARTEL M20*1.5	Jacob	E00406
PG	1	Cable gland nut M16*1.5 brass, nickel-plated	WARTELMOER M16*1.5	Jacob	E00405_1
PG	1	Cable gland nut M25 EMC/EMV brass, nickel-plated	JACO 50.225 POT	Jacob	E08121
PG	1	Reducer M32*1.5 ext. M25*1.5 int. brass, nickel plated	REDUCTIERING M32-M25		E10142
PG	1	Cable gland nut M32 EMC/EMV brass, nickel-plated	JACO 50.232 POT	Jacob	E08150
CRB	1	Enclosure RAL7035/7016 for 4 buttons	TEL.XAL.D04.gray	Télémecanique	
10X1	1	32A CEE-form male wall outlet socket 6h	CEE 32A 4P+PE 400V MALE		
10U1	1	Frequency drive 15KW 480V with graphic terminal	ATV71HD15N4	Schneider Electric	E08260
10U1	1	Door mountingset for programdisplay for altivar 71	VW3A1102	Schneider Electric	E07875
10U1	1	Door IP 65 for display for altivar 71	VW3A1103	Schneider Electric	E07876
10U1	1	cable for altivar 1M	VW3A1104R10	Schneider Electric	E07877
10F1	1	Motor circuit breaker GV2-RT - 1.1.6 A - 3 3d - thermomagnet	GV2-RT06	Schneider Electric	E07878
10V1	1	Power supply 24Vdc 3A 200-520Vac	ABL8-RPS24030	Schneider Electric	E05193
11U1	1	Module XPSAC - Emergency stop - 24 V AC DC	XPS-AC5121	Schneider Electric	E08060
12M1	1	VENTILATOR119*119*38MM 24Vdc 250M3/H 4184NXHH	FAN 119*119*38 24VDC 250M3/H	PABST	E07879
12M1	1	Outlet grid cut-out 125X125MM Ral 7035	NSYCAG125LPF	Schneider Electric	E07881
12M1	1	Finger gaurd tbv ventilator 119*119*38	LZ30-4	PABST	E07880
X1	2	Eindsteun V4 klein 9708/2S35	EINDSTEUN V4 CON.ACC	Wieland	E07828
X1	1	Earth terminal for ZDU 2.5 2*2.5(4)mm	WEID ZPE 2.5	Weidmuller	E05167
X1	12	Tension clamp terminal 2*2.5 beige	WEID ZDU 2.5	Weidmuller	E05166
X1	1	End plate Beige for ZDU 2.5	WEID ZAP/TW 1	Weidmuller	E05168

WIRE COLOR All wiring AWG

Main Voltage 230V

Phase	Colors
L1	- Black
L2	- Black
L3	- Black
Earth / PE	- Yellow/Green

Control Voltage

Plus (24VDC)	- White
Hook-up wire	- White
Minus / Ground (24VDC)	- White

SYMBOL CODE

11 F 11

- Running number
- Symbol letter
- Schedule page

CORE CODE

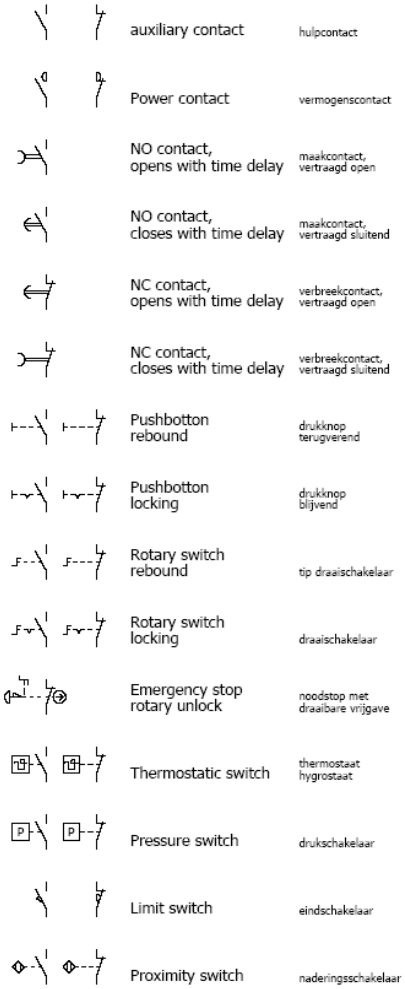
11 11

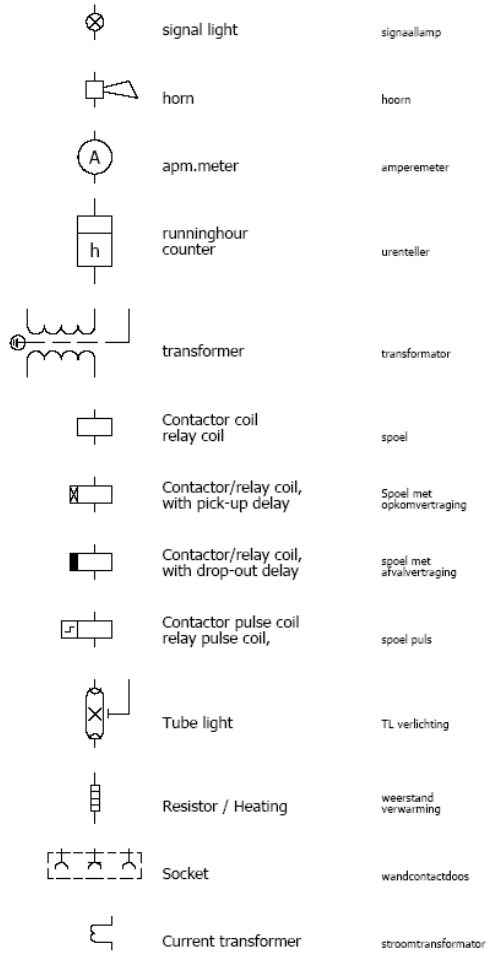
- Running number

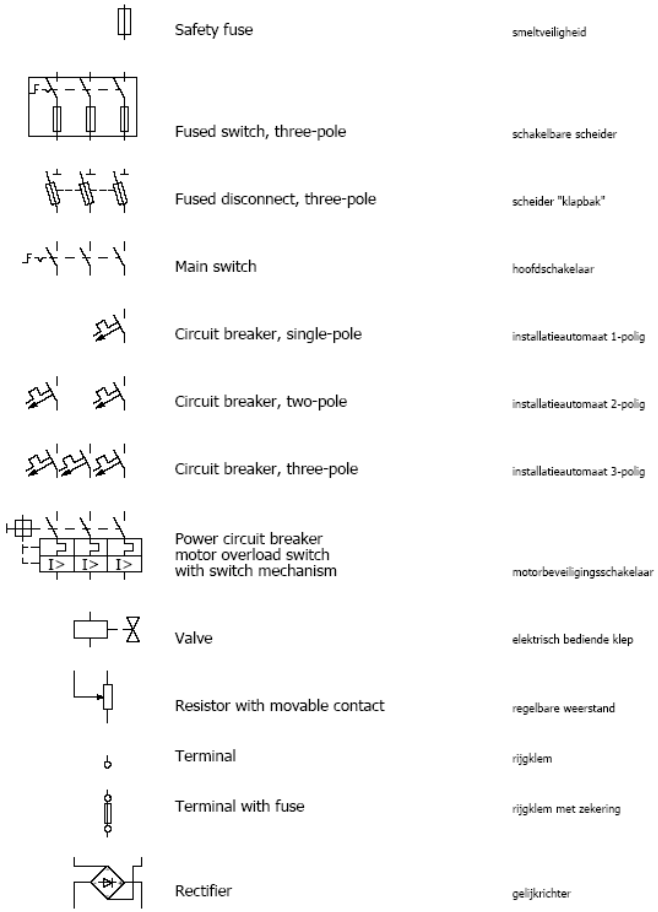
DRAWING NUMBER

PJ##.####.##

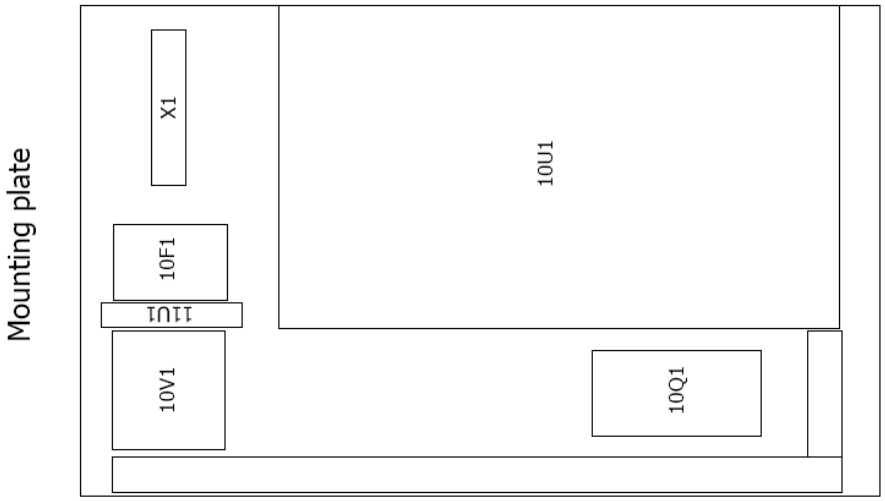
- Revision number
- Archive number
- Year

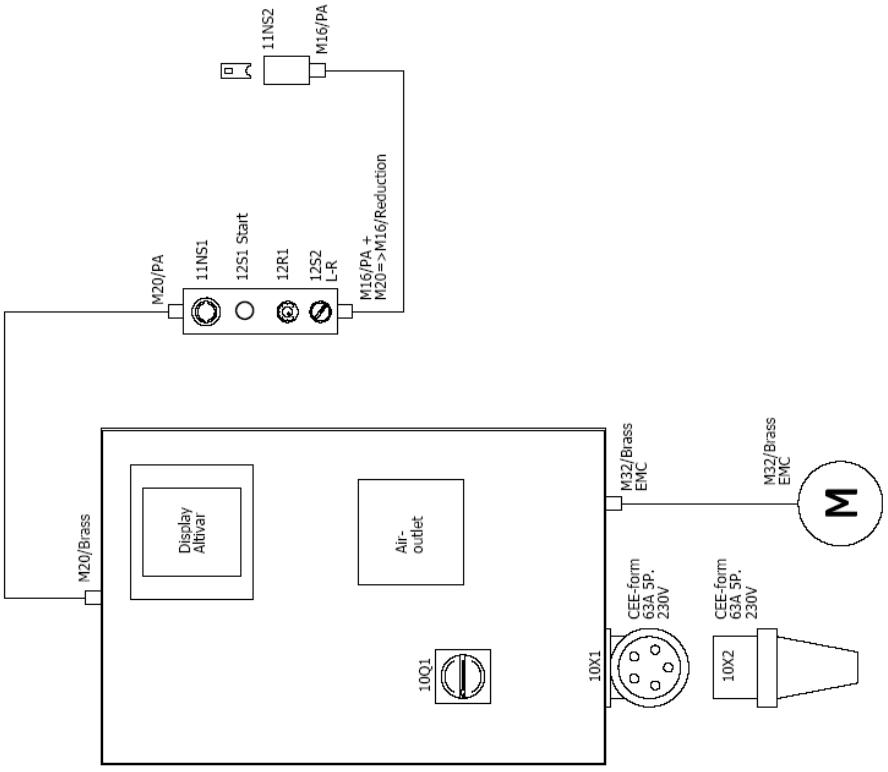




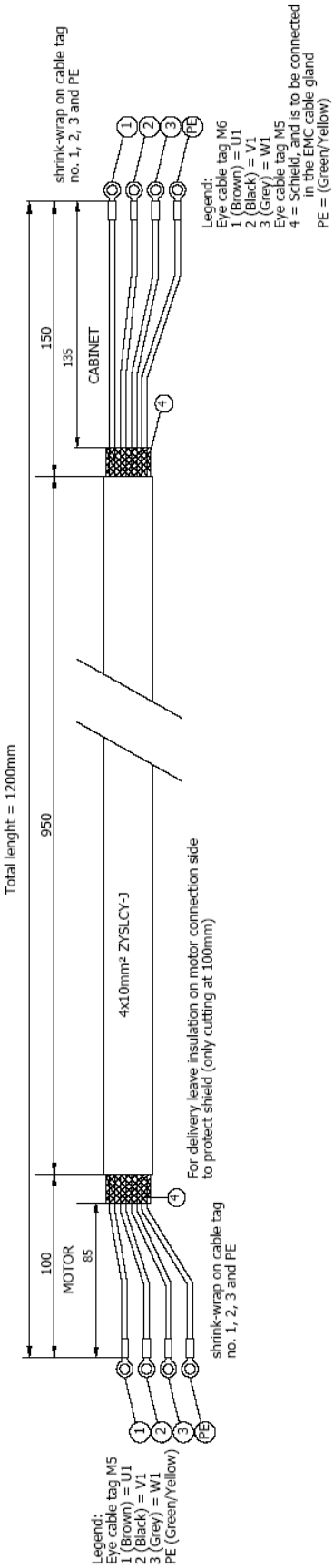


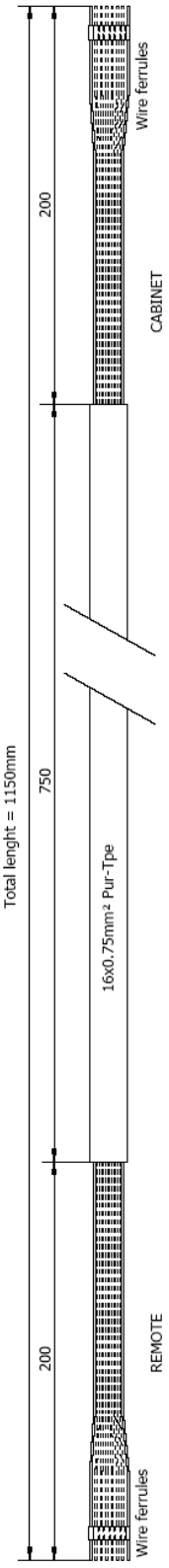
Diamatic

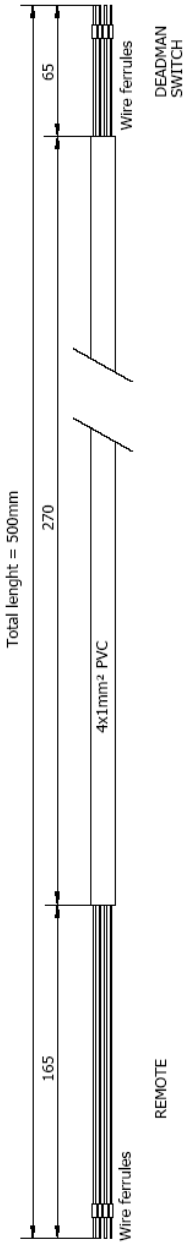

Mounting plate
X1
10U1
10F1
11U1
10V1
10Q1

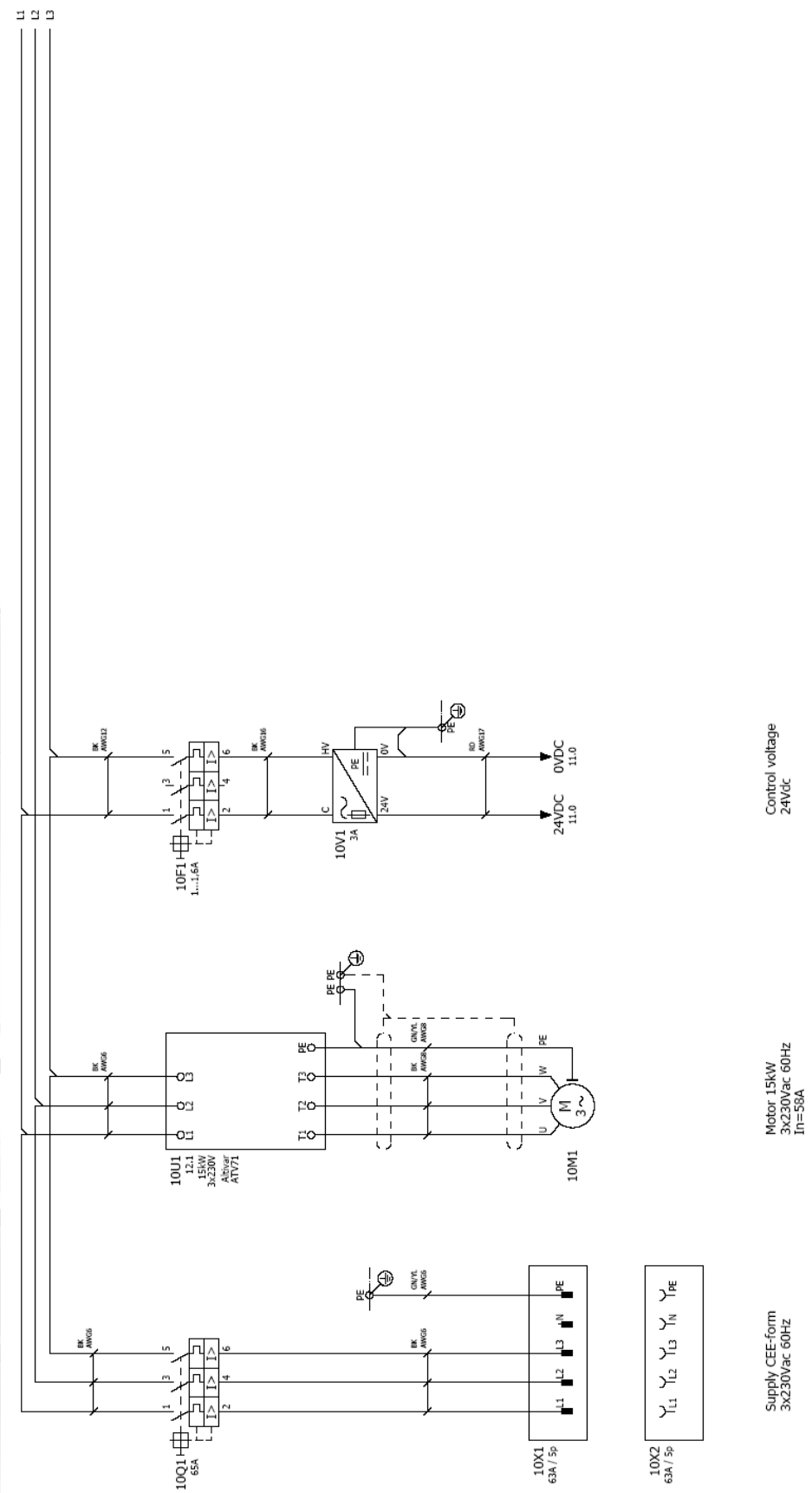

11NS2
M16/PA
M16/PA +
M20=>M16/Reduction
12S2
L-R
12R1
12S1 Start
11NS1
M20/PA
M20/Brass
Display
Altivar
Air-
outlet
10Q1
10X1
CEE-form
63A 5P.
230V
10X2
CEE-form
63A 5P.
230V
M32/Brass
EMC
M32/Brass
EMC
M

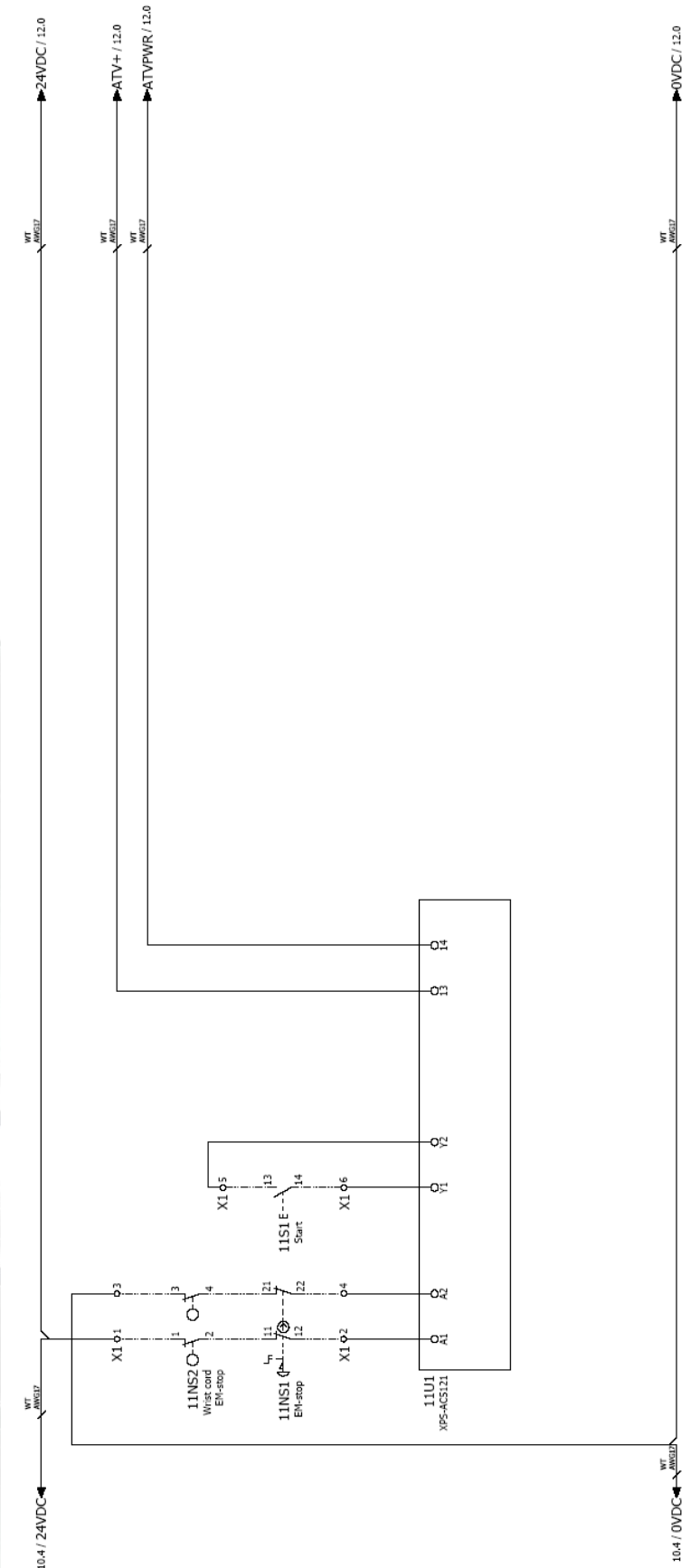
Diamatic

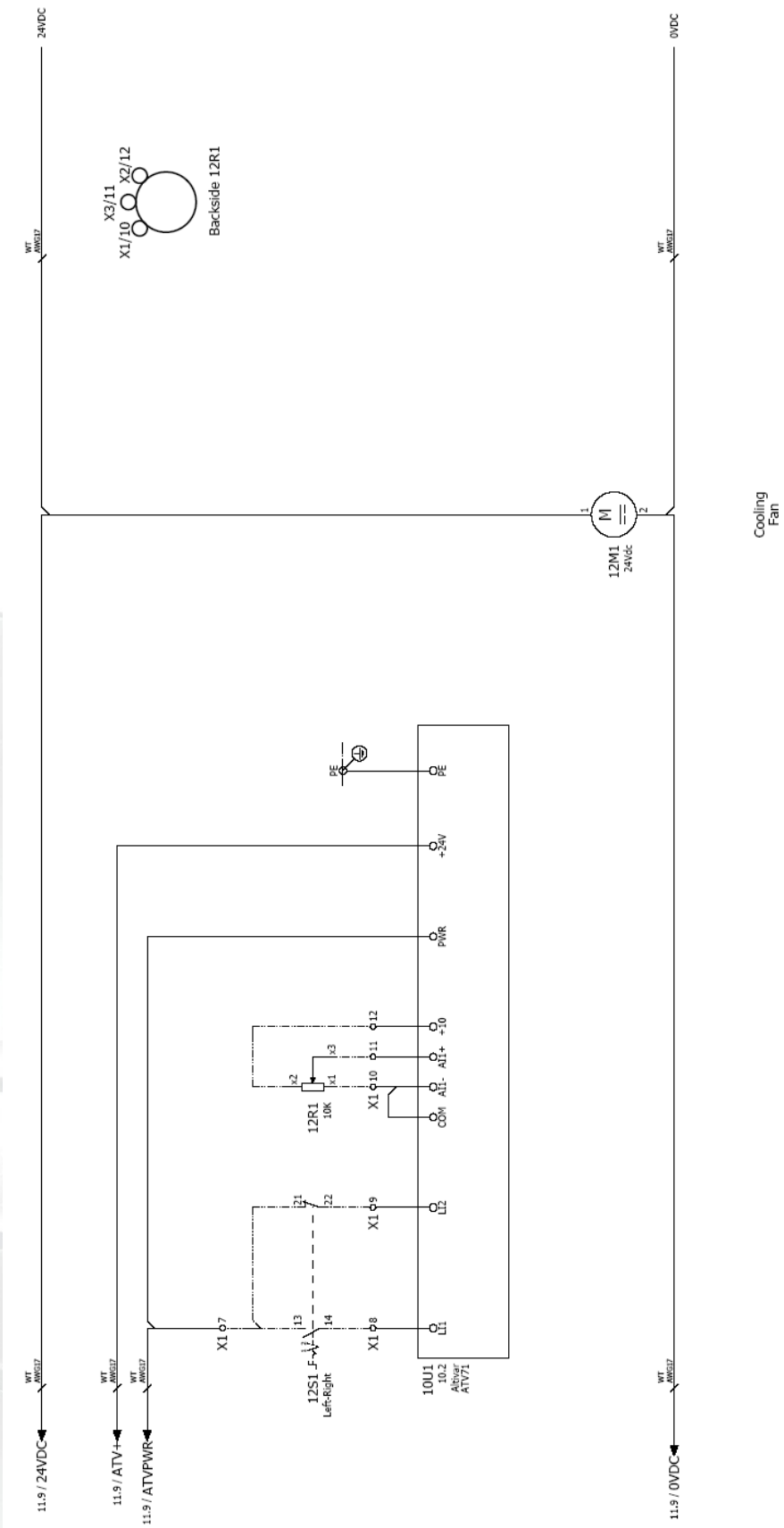

Total lenght = 1200mm
950
150
135
CABINET
100
MOTOR
85
4x10mm² ZYSLCY-J
shrink-wrap on cable tag
no. 1, 2, 3 and PE
For delivery leave insulation on motor connection side
to protect shield (only cutting at 100mm)
shrink-wrap on cable tag
no. 1, 2, 3 and PE
Legend:
Eye cable tag M5
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
PE (Green/Yellow)
Legend:
Eye cable tag M6
1 (Brown) = U1
2 (Black) = V1
3 (Grey) = W1
Eye cable tag M5
4 = Schield, and is to be connected
in the EMC cable gland
PE = (Green/Yellow)


Total lenght = 1150mm
200
750
200
16x0.75mm² Pur-Tpe
Wire ferrules
REMOTE
Wire ferrules
CABINET


Total lenght = 500mm
65
270
165
4x1mm² PVC
Wire ferrules
REMOTE
Wire ferrules
DEADMAN
SWITCH


L1
L2
L3
10F1
1...1,6A
10V1
3A
0VDC
11.0
24VDC
11.0
Control voltage
24Vdc
10U1
ATV71
10M1
Motor 15kW
3x230Vac 60Hz
In=58A
10Q1
65A
10X1
63A / 5p
10X2
63A / 5p
Supply CEE-form
3x230Vac 60Hz


24VDC / 12.0
ATV+ / 12.0
ATVPWR / 12.0
0VDC / 12.0
WT AWG17
X1 3
X1 1
X1 5
X1 6
X1 4
X1 2
11NS2
Wrist cord EM-stop
11NS1
EM-stop
11S1
Start
11U1
XPS-AC5121
A2
A1
Y2
Y1
13
14
21
22
11
12
10.4 / 24VDC
10.4 / 0VDC


24VDC
0VDC
X3/11
X2/12
X1/10
Backside 12R1
12M1
24Vdc
Cooling
Fan
PE
+24V
PWR
+10
AI1+
AI1-
COM
LI2
LI1
12R1
10K
12S1 F-R
Left-Right
10U1
10.2
Altivar
ATV71
11.9 / 24VDC
11.9 / ATV+
11.9 / ATVPWR
11.9 / 0VDC

Diamatic

Terminal diagram

function text									Cable name / cable type	Target designation	Connection point	terminal	jumper	Target designation	Connection point	Cable name / cable type					Page / column
														Strip X1 Terminals 24Vdc							
										11NS2	1	1	•	10V1;12M1	24V;1						11.1
										11NS1	12	2	•	11U1	A1						11.1
										11NS2	3	3	•	10V1;12M1	0V;PE;2						11.1
										11NS1	22	4	•	11U1	A2						11.1
										11S1	13	5	•	11U1	Y2						11.2
										11S1	14	6	•	11U1	Y1						11.2
										12S1	13	7	•	11U1;10U1	14;PWR						12.1
										12S1	14	8	•	10U1	LI1						12.1
											22	9	•	10U1	LI2						12.2
										12R1	x1	10	•	10U1	AI1-						12.2
										12R1	x3	11	•	10U1	AI1+						12.3
										12R1	x2	12	•	10U1	+10						12.3

Parts list

device tag	Quantity	designation	Type number	part number
CAB	1	Enclosure 400x600x300 with mounting plate 350x550	84002 - ENNW09120029	84002 - ENNW09120029
PG	1	Cable Gland M32*1.5 Nickel-plated EMC	50.632 M/EMV	50.632 M/EMV
PG	1	Locknut M32*1.5 Nickel-plated EMC	50.232 M/POT	50.232 M/POT
PG	1	Cable Gland M20*1.5 Nickel-plated	WARTEL L-M20*1.5	50.620 M-L
PG	1	Locknut M20*1.5 Nickel-plated	WARTELMOER M20	50.220 M
PG	1	Cable Gland M20*1.5	WARTEL PA M20*1.5	50.620 PA7035
PG	2	Locknut M20*1.5	WARTELMOER M20	50.220 PA7035
PG	2	Cable Gland M16*1.5	WARTEL PA M16*1.5	50.616 PA7035
PG	1	Locknut M16*1.5	WARTELMOER M16	50.216 PA7035
PG	1	Reduction M20 -> M16*1.5	Reduction PA M20->M16*1.5	M20M16PA
PG	1	Locknut M25*1.5 Nickel-plated EMC	50.225 M/POT	50.225 M/POT
PG	1	Cable Gland M25*1.5 Nickel-plated EMC	50.625 M/EMV	50.625 M/EMV
CRB	1	Enclosure RAL7035/7016 for 4 buttons	XAL D04	XAL D04
10X1	1	63A CEE-form Wall outlet socket 9h IP67	ABL G53S25	G53S25
10X2	1	63A CEE-form Socket 9h IP67	ABL K53S25	K53S25
10Q1	1	Motor circuit breaker 65A 3p	TELE GV3-P65	GV3 P65
10Q1	1	Large spacing UL	TELE GV3-G66	GV3 G66
10Q1	1	Axle + black ON/OFF handle	TELE GV3AP03	GV3AP03
10U1	1	Frequency controller 15kW 3x230V	ATV71 HD15 M3X 3*230V	ATV71 HD15 M3X
10F1	1	Transformer circuit breaker 1..1.6A	GV2 RT06	GV2RT06
10V1	1	Power Supply 400/24V 3A	ABL8RPS24030	ABL8RPS24030
11U1	1	Emergency stop relay	XPS-AC5121	XPS-AC5121
11NS2	1	Safety switch + Pin	XCS-PA792 + XCS-Z11	XCS-PA792 + XCS-Z11
11NS1	1	Emergency stop	ZB5 AS844	ZB5 AS844
11NS1	2	element NC XAL	ZEN L1121	ZEN L1121
11S1	1	Pushbutton GREEN "START"	ZB5 AA333	08.01.0237
11S1	1	element NO XAL	ZEN L1111	ZEN L1111
12S1	1	Switch handle	ZB5 AD2	ZB5 AD2
12S1	1	element NC XAL	ZEN L1121	ZEN L1121
12S1	1	element NO XAL	ZEN L1111	ZEN L1111
12R1	1	Trim-pot 10K	Potmeterset 10K ZB4	Potmeterset 10K ZB4
12R1	1	Pot,meter	ZB5 AD912	ZB5 AD912
12M1	1	Fan 24Vdc	FAN 119*119*38 24VDC	4414 N
12M1	1	Fan finger guard	FG LZ30-4	LZ30-4

WIRE COLOR All wiring AWG

Main Voltage 480Vac

Phase	Colors
L1	- Black
L2	- Black
L3	- Black
Earth / PE	- Yellow/Green

Control Voltage

Plus (24VDC)	- White
Hook-up wire	- White
Minus / Ground (24VDC)	- White

SYMBOL CODE

11 F 11

- Running number
- Symbol letter
- Schedule page

CORE CODE

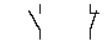
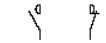
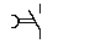
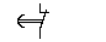
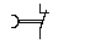
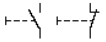
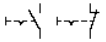
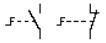
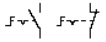
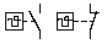
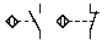
11 11

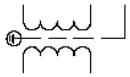
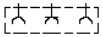
- Running number

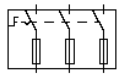
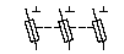
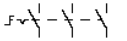
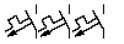
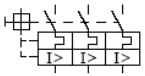
DRAWING NUMBER

PJ##.####.##

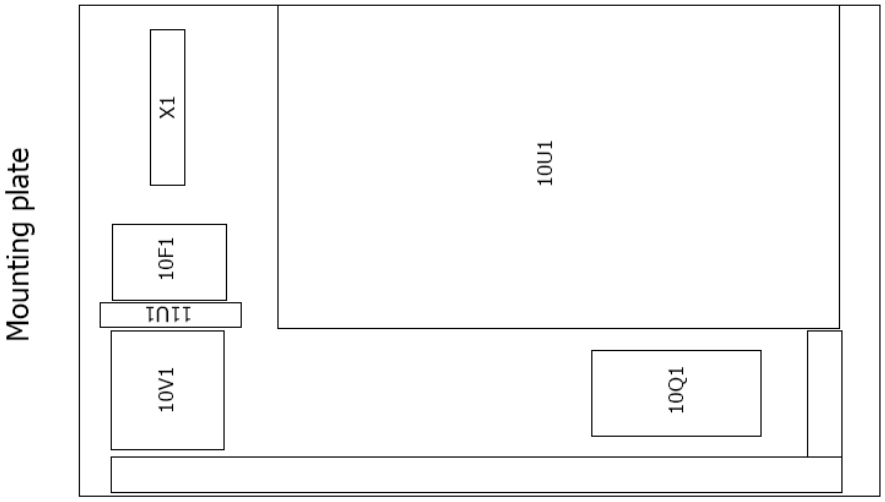
- Revision number
- Archive number
- Year

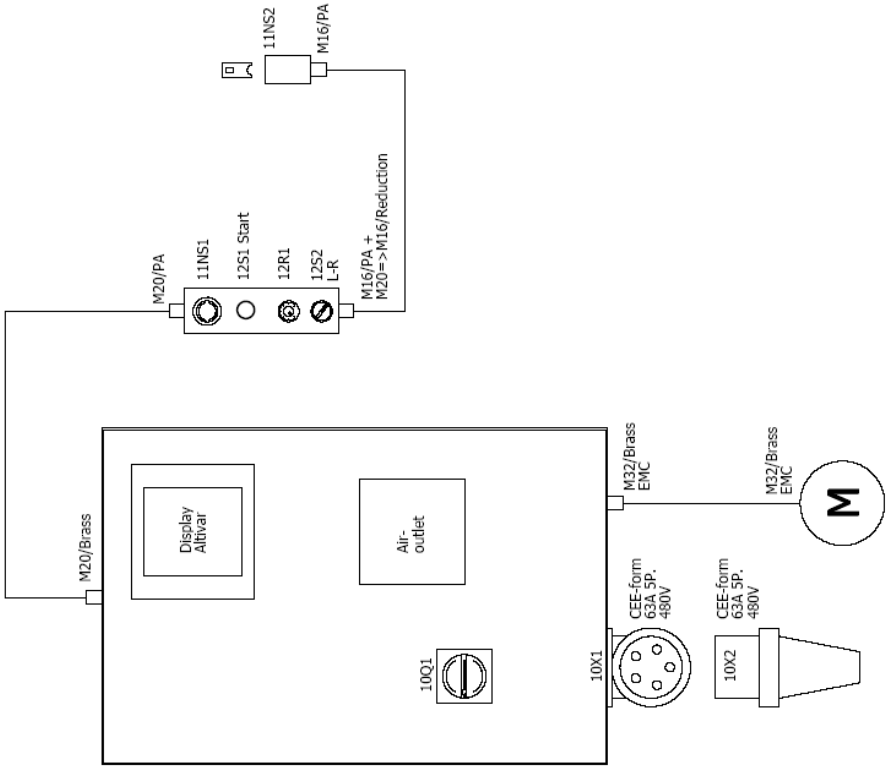
	auxiliary contact	hulpcontact
	Power contact	vermogenscontact
	NO contact, opens with time delay	maakcontact, vertraagd open
	NO contact, closes with time delay	maakcontact, vertraagd sluitend
	NC contact, opens with time delay	verbreekcontact, vertraagd open
	NC contact, closes with time delay	verbreekcontact, vertraagd sluitend
	Pushbotton rebound	drukknop terugverend
	Pushbotton locking	drukknop blijvend
	Rotary switch rebound	tip draaischakelaar
	Rotary switch locking	draaischakelaar
	Emergency stop rotary unlock	noodstop met draaibare vrijgave
	Thermostatic switch	thermostaat hygrostaat
	Pressure switch	drukschakelaar
	Limit switch	eindschakelaar
	Proximity switch	naderingsschakelaar

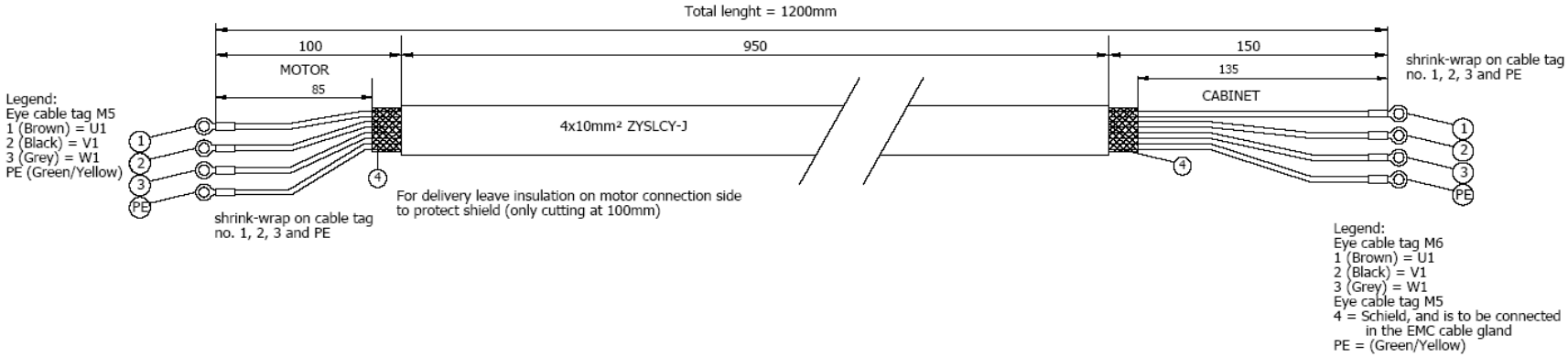
	signal light	signaallamp
	horn	hoorn
	apm.meter	amperemeter
	runninghour counter	urenteller
	transformer	transformator
	Contactor coil relay coil	spoel
	Contactor/relay coil, with pick-up delay	Spoel met opkomvertraging
	Contactor/relay coil, with drop-out delay	spoel met afvalvertraging
	Contactor pulse coil relay pulse coil,	spoel puls
	Tube light	TL verlichting
	Resistor / Heating	weerstand verwarming
	Socket	wandcontactdoos
	Current transformer	stroomtransformator

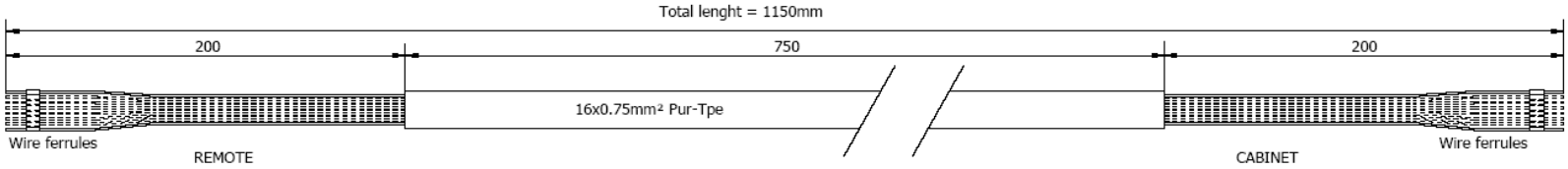
	Safety fuse	smeltveiligheid
	Fused switch, three-pole	schakelbare scheider
	Fused disconnect, three-pole	scheider "klapbak"
	Main switch	hoofdschakelaar
	Circuit breaker, single-pole	installatieautomaat 1-polig
	Circuit breaker, two-pole	installatieautomaat 2-polig
	Circuit breaker, three-pole	installatieautomaat 3-polig
	Power circuit breaker motor overload switch with switch mechanism	motorbeveiligingsschakelaar
	Valve	elektrisch bediende klep
	Resistor with movable contact	regelbare weerstand
	Terminal	rijgklem
	Terminal with fuse	rijgklem met zekering
	Rectifier	gelijkrichter

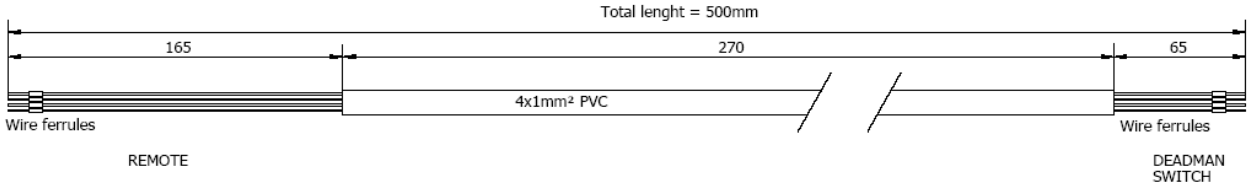
Diamatic

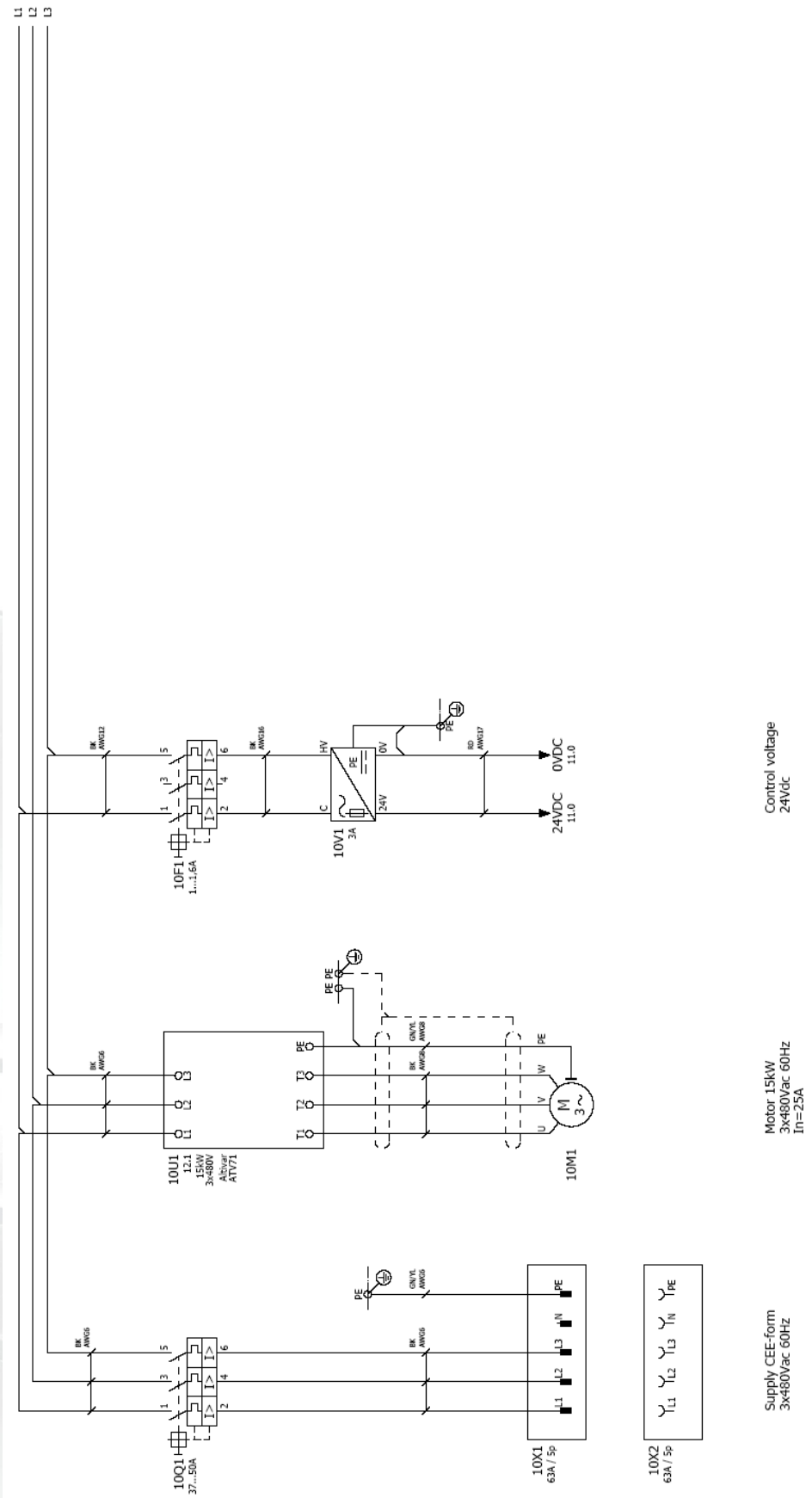

Mounting plate
X1
10U1
10F1
11U1
10V1
10Q1


11NS2
M16/PA
M16/PA +
M20=>M16/Reduction
M20/PA
11NS1
12S1 Start
12R1
12S2
L-R
M20/Brass
Display
Altivar
Air-
outlet
10Q1
10X1
CEE-form
63A 5P.
480V
10X2
CEE-form
63A 5P.
480V
M32/Brass
EMC
M32/Brass
EMC
M

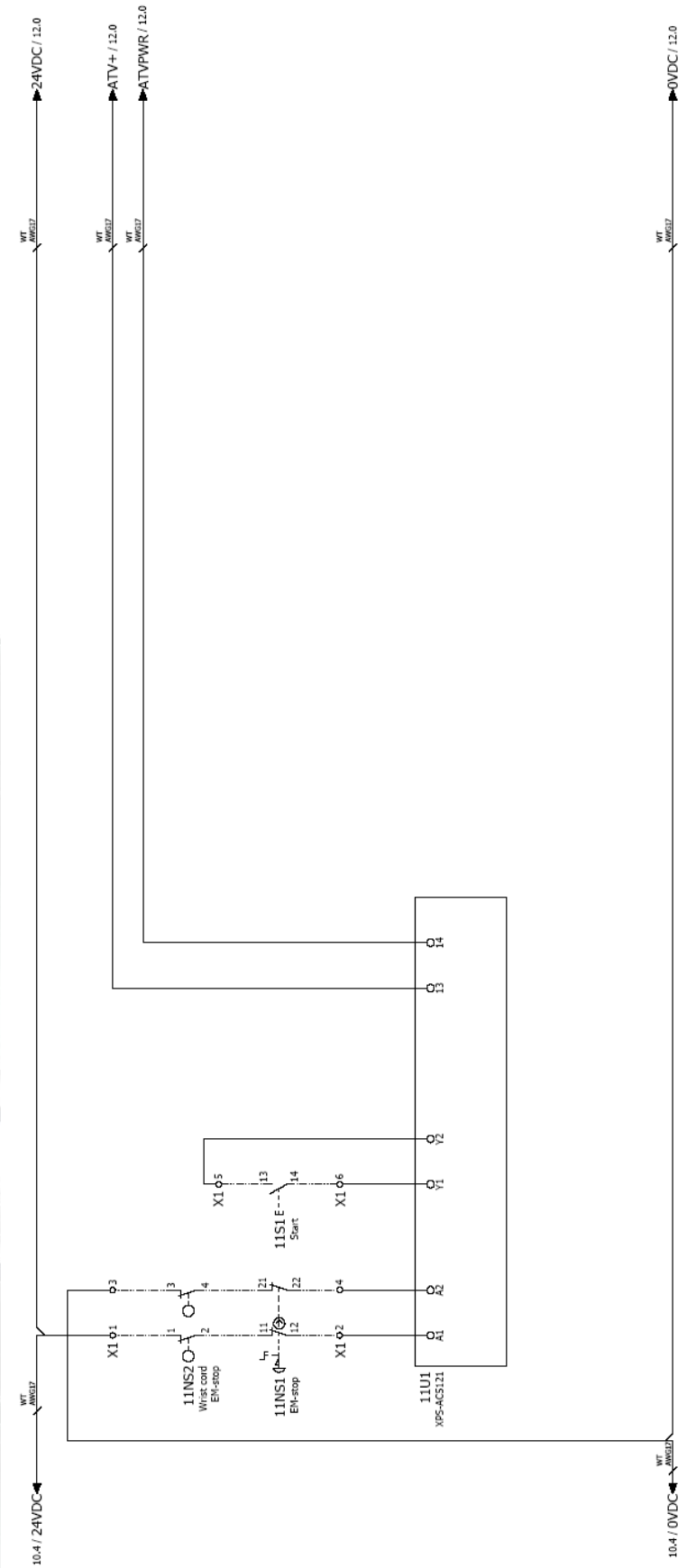




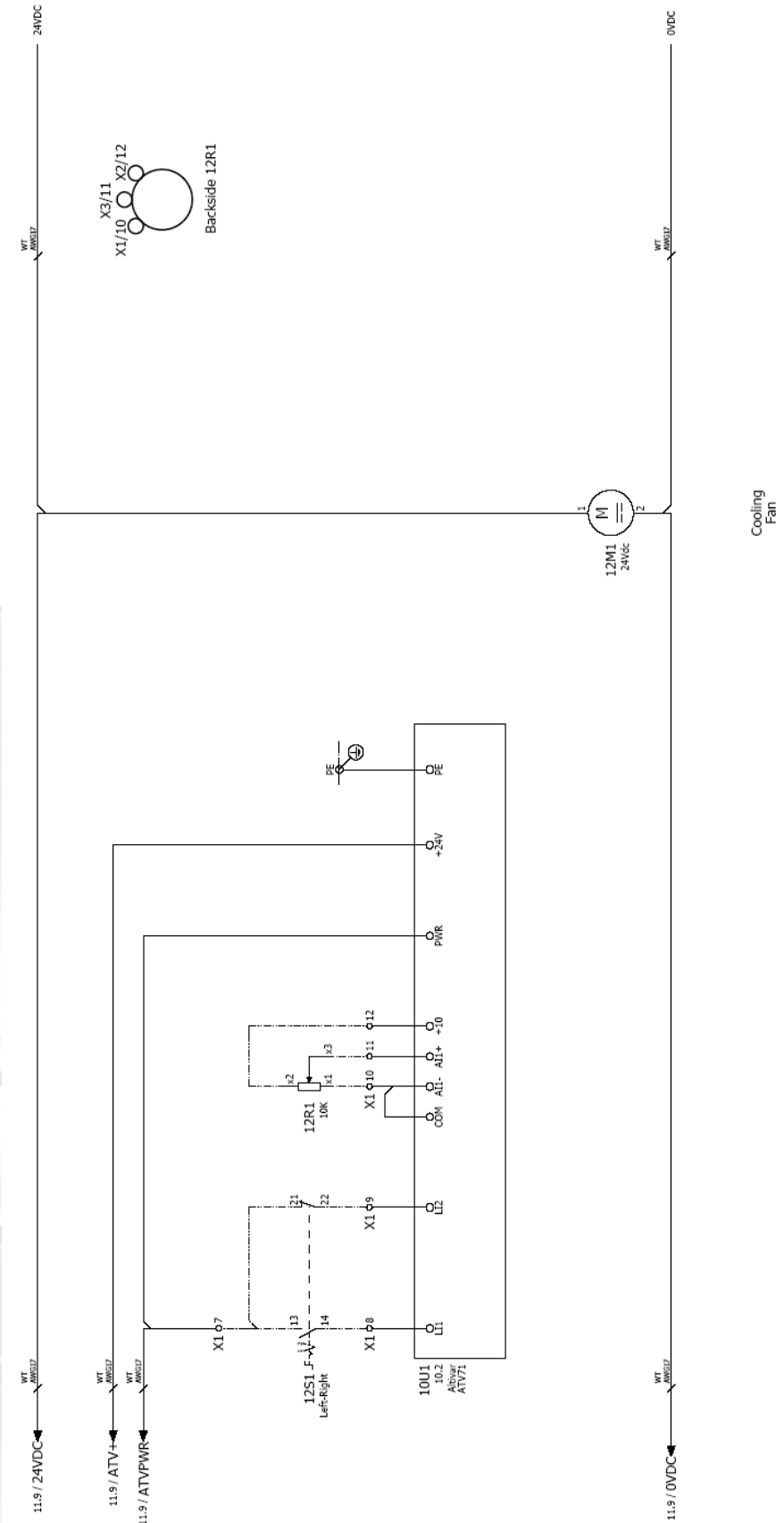



L1
L2
L3
10F1
1...1.6A
10V1
3A
24VDC
11.0
0VDC
11.0
Control voltage
24Vdc
10U1
12.1
15kW
3x480V
Altivar
ATV71
10M1
Motor 15kW
3x480Vac 60Hz
In=25A
10Q1
37...50A
10X1
63A / 5p
10X2
63A / 5p
Supply CEE-form
3x480Vac 60Hz

Diamatic


24VDC / 12.0
ATV+ / 12.0
ATVPWR / 12.0
0VDC / 12.0
WT AWG17
X1
11NS2
Wrist cord
EM-stop
11NS1
EM-stop
11S1
Start
11U1
XPS-ACS121
A1
A2
Y1
Y2
10.4 / 24VDC
10.4 / 0VDC

Diamatic


24VDC
0VDC
X3/11
X2/12
X1/10
Backside 12R1
12M1
24Vdc
Cooling
Fan
PE
+24V
PWR
+10
AI1+
AI1-
COM
LI2
LI1
12R1
10K
12S1
Left-Right
10U1
10.2
ATV71
11.9 / 24VDC
11.9 / ATV+
11.9 / ATVPWR
11.9 / 0VDC

Terminal diagram

Strip **X1** – Terminals 24Vdc

function text	Cable name / cable type	Target designation	Connection point	terminal	jumper	Target designation	Connection point	Cable name / cable type	Page / column
		11NS2	1	1	•	10V1;12M1	24V;1		11.1
		11NS1	12	2	•	11U1	A1		11.1
		11NS2	3	3	•	10V1;12M1	0V;PE;2		11.1
		11NS1	22	4	•	11U1	A2		11.1
		11S1	13	5	•	11U1	Y2		11.2
		11S1	14	6	•	11U1	Y1		11.2
		12S1	13	7	•	11U1	14		12.1
		12S1	14	8	•	10U1	LI1		12.1
			22	9	•	10U1	LI2		12.2
		12R1	x1	10	•	10U1	AI1-		12.2
		12R1	x3	11	•	10U1	AI1+		12.3
		12R1	x2	12	•	10U1	+10		12.3

Parts list

device tag	Quantity	designation	Type number	part number
CAB	1	Enclosure 400x600x300 with mounting plate 350x550	84002 - ENNW09120029	84002 - ENNW09120029
PG	1	Cable Gland M32*1.5 Nickel-plated EMC	50.632 M/EMV	50.632 M/EMV
PG	1	Locknut M32*1.5 Nickel-plated EMC	50.232 M/POT	50.232 M/POT
PG	1	Cable Gland M20*1.5 Nickel-plated	WARTEL L-M20*1.5	50.620 M-L
PG	1	Locknut M20*1.5 Nickel-plated	WARTELMOER M20	50.220 M
PG	1	Cable Gland M20*1.5	WARTEL PA M20*1.5	50.620 PA7035
PG	2	Locknut M20*1.5	WARTELMOER M20	50.220 PA7035
PG	2	Cable Gland M16*1.5	WARTEL PA M16*1.5	50.616 PA7035
PG	1	Locknut M16*1.5	WARTELMOER M16	50.216 PA7035
PG	1	Reduction M20 -> M16*1.5	Reduction PA M20->M16*1.5	M20M16PA
PG	1	Cable Gland M25*1.5 Nickel-plated EMC	50.625 M/EMV	50.625 M/EMV
PG	1	Locknut M25*1.5 Nickel-plated EMC	50.225 M/POT	50.225 M/POT
CRB	1	Enclosure RAL7035/7016 for 4 buttons	XAL D04	XAL D04
10X1	1	63A CEE-form Wall outlet socket 7h IP67	ABL G53S5S	G53S5S
10X2	1	63A CEE-form Socket 7h IP67	ABL K53S5S	K53S5S
10Q1	1	Motor circuit breaker 50A 3p	TELE GV3-P50	GV3 P50
10Q1	1	Large spacing UL	TELE GV3-G66	GV3 G66
10Q1	1	Axle + black ON/OFF handle	TELE GV3AP03	GV3AP03
10U1	1	Frequency controller 15kW	ATV71 HD15 N4	ATV71 HD15 N4
10F1	1	Transformer circuit breaker 1..1.6A	GV2 RT06	GV2RT06
10V1	1	Power Supply 100...120Vac -200...500Vac/24Vdc 3A	ABL8RPS24030	ABL8RPS24030
11U1	1	Emergency stop relay	XPS-AC5121	XPS-AC5121
11NS2	1	Safety switch + Pin	XCS-PA792 + XCS-Z11	XCS-PA792 + XCS-Z11
11NS1	1	Emergency stop	ZB5 AS844	ZB5 AS844
11NS1	2	element NC XAL	ZEN L1121	ZEN L1121
11S1	1	Pushbutton GREEN "START"	ZB5 AA333	08.01.0237
11S1	1	element NO XAL	ZEN L1111	ZEN L1111
12S1	1	Switch handle	ZB5 AD2	ZB5 AD2
12S1	1	element NC XAL	ZEN L1121	ZEN L1121
12S1	1	element NO XAL	ZEN L1111	ZEN L1111
12R1	1	Trim-pot 10K	Potmeterset 10K ZB4	Potmeterset 10K ZB4
12R1	1	Pot.meter	ZB5 AD912	ZB5 AD912
12M1	1	Fan 24Vdc	FAN 119*119*38 24VDC	4414 N
12M1	1	Fan finger guard	FG LZ30-4	LZ30-4

4. Fault diagnose frequency drive

For a complete overview of faults and how to resolve them, check the operating manual of the frequency drive or the CD, which are delivered with the machine.
If you put the CD in the computer, it will automatically go to the manuals.

Does the inverter shows an "INF" fault, reset the machine.
If the machine does not work after that, call you distributor.

To reset the machine, put out the power supply and wait 5 minutes.
Then start up the machine again. Call a technician if the machine still not works.

Fault	Name	Probable cause	Remedy
AI2F	[AI2 input]	• Non-conforming signal on analog input AI2	• Check the wiring of analog input AI2 and the value of the signal
AnF	[Load slipping]	• The encoder speed feedback does not match the reference	• Check the motor, gain and stability parameters • Add a braking resistor • Check the size of the motor/drive/load • Check the encoder's mechanical coupling and its wiring
bOF	[DBR overload]	• The braking resistor is under excessive stress	• Check the size of the resistor and wait for it to cool down • Check the [DB Resistor Power] (brP) and [DB Resistor value] (brU) parameters, page 211
brF	[Brake feedback]	• The brake feedback contact does not match the brake logic control	• Check the feedback circuit and the brake logic control circuit • Check the mechanical state of the brake
bUF	[DB unit sh. Circuit]	• Short-circuit output from braking unit	• Check the wiring of the braking unit and the resistor • Check the braking resistor
CrF1	[Precharge]	• Load relay control fault or charging resistor damaged	• Switch the drive off and then back on again • Check the internal connections • Inspect/repair the drive
CrF2	[Thyr. soft charge]	• DC bus charging fault (thyristors)	
ECF	[Encoder coupling]	• Break in encoder's mechanical coupling	• Check the encoder's mechanical coupling
EEF1	[Control Eeprom]	• Internal memory fault, control card	• Check the environment (electromagnetic compatibility) • Turn off, reset, return to factory settings • Inspect/repair the drive
EEF2	[Power Eeprom]	• Internal memory fault, power card	
EnF	[Encoder]	• Encoder feedback fault	• Check [Number of pulses] (PGI) and [Encoder type] (EnS), page 72 • Check that the encoder's mechanical and electrical operation, its power supply and connections are all correct • If necessary, reverse the direction of rotation of the motor ([Output Ph rotation] (PHr) parameter, page 88) or the encoder signals
FCF1	[Out. contact. stuck]	• The output contactor remains closed although the opening conditions have been met	• Check the contactor and its wiring • Check the feedback circuit

Fault	Name	Probable cause	Remedy
HdF	[IGBT desaturation]	• Short-circuit or grounding at the drive output	• Check the cables connecting the drive to the motor, and the insulation of the motor • Perform the diagnostic tests via the [1.10 DIAGNOSTICS] menu
ILF	[internal com. link]	• Communication fault between option card and drive	• Check the environment (electromagnetic compatibility) • Check the connections • Check that no more than 2 option cards (max. permitted) have been installed on the drive • Replace the option card • Inspect/repair the drive
InF1	[Rating error]	• The power card is different from the card stored	• Check the reference of the power card
InF2	[Incompatible PB]	• The power card is incompatible with the control card	• Check the reference of the power card and its compatibility
InF3	[Internal serial link]	• Communication fault between the internal cards	• Check the internal connections • Inspect/repair the drive
InF4	[Internal MFG area]	• Internal data inconsistent	• Recalibrate the drive (performed by Schneider Electric Product Support)
InF6	[Internal-option]	• The option installed in the drive is not recognized	• Check the reference and compatibility of the option
InF7	[Internal-hard init.]	• Initialization of the drive is incomplete	• Turn off and reset
InF8	[Internal-ctrl supply]	• The control power supply is incorrect	• Check the control power supply
InF9	[Internal- I measure]	• The current measurements are incorrect	• Replace the current sensors or the power card • Inspect/repair the drive
InFA	[Internal-mains circuit]	• The input stage is not operating correctly	• Perform the diagnostic tests via the [1.10 DIAGNOSTICS] menu • Inspect/repair the drive
InFb	[Internal- th. sensor]	• The drive temperature sensor is not operating correctly	• Replace the temperature sensor • Inspect/repair the drive
InFC	[Internal-time meas.]	• Fault on the electronic time measurement component	• Inspect/repair the drive
InFE	[internal- CPU]	• Internal microprocessor fault	• Turn off and reset. Inspect/repair the drive
OCF	[Overcurrent]	• Parameters in the [SETTINGS] (SEt-) and [1.4 MOTOR CONTROL] (drC-) menus are not correct • Inertia or load too high • Mechanical locking	• Check the parameters • Check the size of the motor/drive/load • Check the state of the mechanism
PrF	[Power removal]	• Fault with the drive's "Power removal" safety function	• Inspect/repair the drive
SCF1	[Motor short circuit]	• Short-circuit or grounding at the drive output • Significant earth leakage current at the drive output if several motors are connected in parallel	• Check the cables connecting the drive to the motor, and the insulation of the motor • Perform the diagnostic tests via the [1.10 DIAGNOSTICS] menu • Reduce the switching frequency • Connect chokes in series with the motor
SCF2	[Impedant sh. circuit]		
SCF3	[Ground short circuit]		
SOF	[Overspeed]	• Instability or driving load too high	• Check the motor, gain and stability parameters • Add a braking resistor • Check the size of the motor/drive/load
SPF	[Speed fdback loss]	• Encoder feedback signal missing	• Check the wiring between the encoder and the drive • Check the encoder
tnF	[Auto-tuning]	• Special motor or motor whose power is not suitable for the drive • Motor not connected to the drive	• Check that the motor/drive are compatible • Check that the motor is present during auto-tuning • If an output contactor is being used, close it during auto-tuning

Fault	Name	Probable cause	Remedy
APF	[Application fault]	• Controller Inside card fault	• Please refer to the card documentation
bLF	[Brake control]	• Brake release current not reached • Brake engage frequency threshold [Brake engage freq] (bEn) only regulated when brake logic control is assigned	• Check the drive/motor connection • Check the motor windings • Check the [Brake release I FW] (Ibr) and [Brake release I Rev] (Ird) settings, page 148. • Apply the recommended settings for [Brake engage freq] (bEn)
CnF	[Com. network]	• Communication fault on communication card	• Check the environment (electromagnetic compatibility) • Check the wiring • Check the time-out • Replace the option card • Inspect/repair the drive
COF	[CAN com.]	• Interruption in communication on the CANopen bus	• Check the communication bus • Check the time-out • Refer to the CANopen user's manual
EPF1	[External flt-LI/Bit]	• Fault triggered by an external device, depending on user	• Check the device, which caused the fault, and reset
EPF2	[External fault com.]	• Fault triggered by a communication network	• Check for the cause of the fault and reset
FCF2	[Out. contact. open.]	• The output contactor remains open although the closing conditions have been met	• Check the contactor and its wiring • Check the feedback circuit
LCF	[input contactor]	• The drive is not turned on even though [Mains V. time out] (LCt) has elapsed	• Check the contactor and its wiring • Check the time-out • Check the line/contactor/drive connection
LFF2 LFF3 LFF4	[AI2 4-20mA loss] [AI3 4-20mA loss] [AI4 4-20mA loss]	• Loss of the 4-20 mA reference on analog input AI2, AI3 or AI4	• Check the connection on the analog inputs
ObF	[Overbraking]	• Braking too sudden or driving load	• Increase the deceleration time • Install a braking resistor if necessary • Activate the [Dec ramp adapt.] (brA) function, page 127, if it is compatible with the application
OHF	[Drive overheat]	• Drive temperature too high	• Check the motor load, the drive ventilation and the ambient temperature. Wait for the drive to cool down before restarting
OLF	[Motor overload]	• Triggered by excessive motor current	• Check the setting of the motor thermal protection, check the motor load. Wait for the drive to cool down before restarting
OPF1	[1 output phase loss]	• Loss of one phase at drive output	• Check the connections from the drive to the motor

Fault	Name	Probable cause	Remedy
OPF2	[3 output phase loss]	• Motor not connected or motor power too low • Output contactor open • Instantaneous instability in the motor current	• Check the connections from the drive to the motor • If an output contactor is being used, parameterize [Output Phase Loss] (OPL) = [Output cut] (OAC), page 201 • Test on a low power motor or without a motor: In factory settings mode, motor phase loss detection is active [Output Phase Loss] (OPL) = [Yes] (YES). To check the drive in a test or maintenance environment, without having to use a motor with the same rating as the drive (in particular for high power drives), deactivate motor phase loss detection [Output Phase Loss] (OPL) = [No] (nO) • Check and optimize the following parameters: [IR compensation] (UFr), page 70, [Rated motor volt.] (UnS) and [Rated mot. current] (nCr), page 65, and perform [Auto tuning] (tUn), page 66
OSF	[Mains overvoltage]	• Mains voltage too high • Disturbed mains supply	• Check the mains voltage
OtF1	[PTC1 overheat]	• Overheating of the PTC1 probes detected	• Check the motor load and motor size • Check the motor ventilation • Wait for the motor to cool before restarting • Check the type and state of the PTC probes
OtF2	[PTC2 overheat]	• Overheating of the PTC2 probes detected	
OtFL	[LI6=PTC overheat]	• Overheating of PTC probes detected on input LI6	
PtF1	[PTC1 probe]	• PTC1 probes open or short-circuited	• Check the PTC probes and the wiring between them and the motor/drive
PtF2	[PTC2 probe]	• PTC2 probes open or short-circuited	
PtFL	[LI6=PTC probe]	• PTC probes on input LI6 open or short-circuited	
SCF4	[IGBT short circuit]	• Power component fault	• Perform a diagnostic test via the [1.10 DIAGNOSTICS] menu • Inspect/repair the drive
SCF5	[Motor short circuit]	• Short-circuit at drive output	• Check the cables connecting the drive to the motor, and the motor's insulation • Perform diagnostic tests via the [1.10 DIAGNOSTICS] menu • Inspect/repair the drive
SLF1	[Modbus com.]	• Interruption in communication on the Modbus bus	• Check the communication bus • Check the time-out • Refer to the Modbus user's manual
SLF2	[PowerSuite com.]	• Fault communicating with PowerSuite	• Check the PowerSuite connecting cable • Check the time-out
SLF3	[HMI com.]	• Fault communicating with the graphic display terminal	• Check the terminal connection • Check the time-out
SrF	[Torque time-out]	• The time-out of the torque control function is attained	• Check the function's settings • Check the state of the mechanism
SSF	[Torque/current lim]	• Switch to torque limitation	• Check if there are any mechanical problems • Check the parameters of [TORQUE LIMITATION] (tLA-) page 171 and the parameters of fault [TORQUE OR I LIM. DETECT.] (tId-), page 210)
tJF	[IGBT overheat]	• Drive overheated	• Check the size of the load/motor/drive • Reduce the switching frequency • Wait for the motor to cool before restarting

Fault	Name	Probable cause	Remedy
CFF	[Incorrect config.]	• Option card changed or removed	• Check that there are no card errors • In the event of the option card being changed/removed deliberately, see the remarks below
		• Control card replaced by a control card configured on a drive with a different rating	• Check that there are no card errors • In the event of the control card being changed deliberately, see the remarks below
		• The current configuration is inconsistent	• Return to factory settings or retrieve the backup configuration, if it is valid (see page 223)
CFI	[Invalid config.]	• Invalid configuration The configuration loaded in the drive via the bus or communication network is inconsistent	• Check the configuration loaded previously • Load a compatible configuration
HCF	[Cards pairing]	• The [CARDS PAIRING] (PPI-) function, page 212, has been configured and a drive card has been changed	• In the event of a card error, reinsert the original card • Confirm the configuration by entering the [Pairing password] (PPI) if the card was changed deliberately
PHF	[Input phase loss]	• Drive incorrectly supplied or a fuse blown • Failure of one phase • 3-phase ATV71 used on a single-phase line supply • Unbalanced load This protection only operates with the drive on load	• Check the power connection and the fuses • Use a 3-phase mains supply • Disable the fault by [Input phase loss] (IPL) = [No] (nO) (page 202)
USF	[Undervoltage]	• Line supply too low • Transient voltage dip • Damaged pre-charge resistor	• Check the voltage and the parameters of [UNDERVOLTAGE MGT] (USb-), page 205 • Replace the pre-charge resistor • Inspect/repair the drive