

## Service manual

# *Diamatic 735PRO*

*Service manual  
Version 1.0*



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## Table of contents

<b>1. Tools</b>	<b>03</b>
<b>2. Spare parts</b>	<b>04</b>
<b>3. Electric schedules</b>	
E06866 / 3x 400V / 11kW / Frequency drive	24
E06866/UL230 / 3x 230V / 11kW / Frequency drive	33
<b>4. Fault diagnose frequency drive</b>	<b>42</b>

## 1. Tools

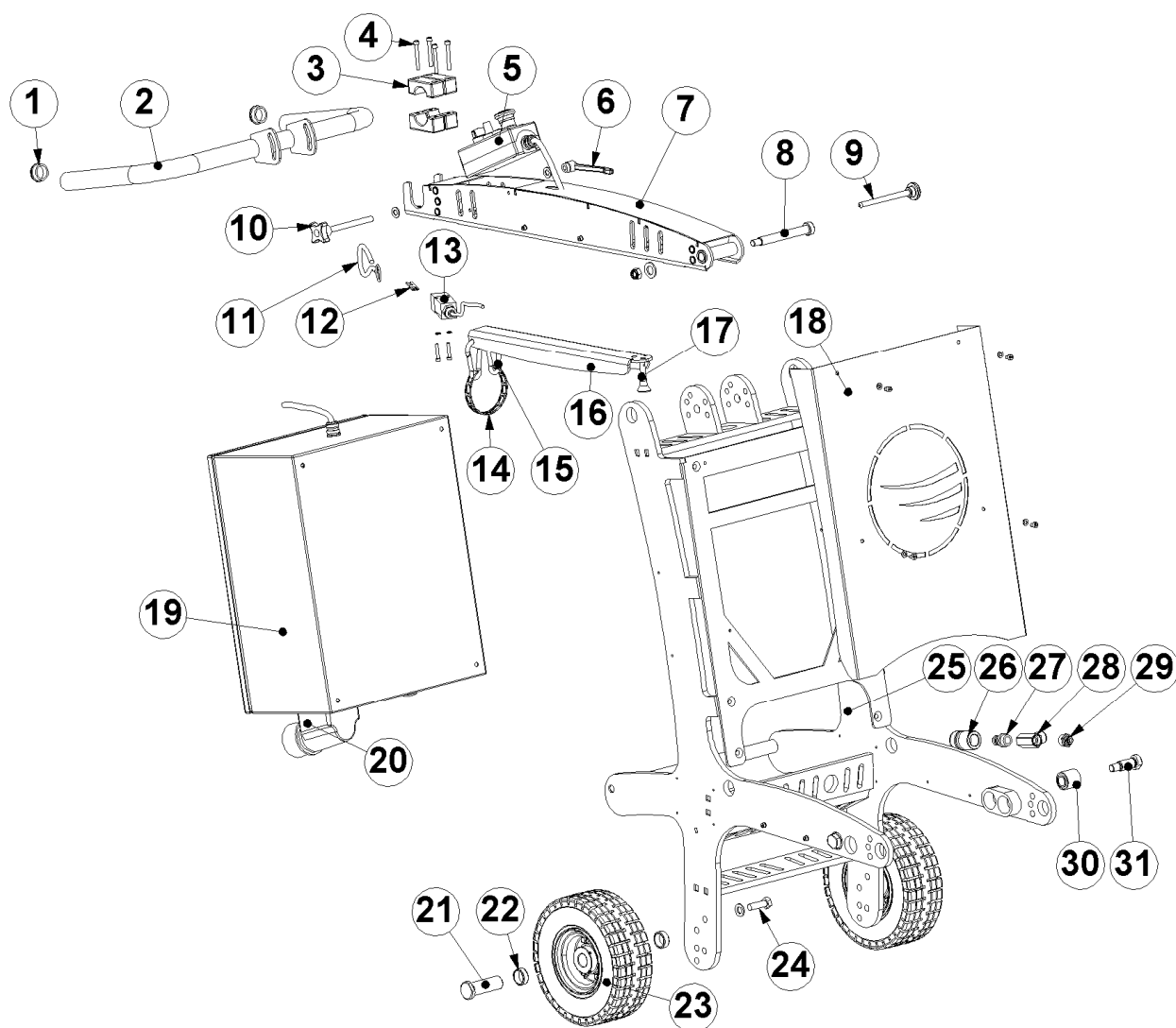
### Diamag grinding wings

Item	Part number	Description	Remarks	Qty.
	BG707301	Diamag wing red box 9 pieces 18/20		1
	BG707302	Diamag wing red box 9 pieces 30/40		1
	BG707303	Diamag wing red box 9 pieces 60/80		1
	BG707304	Diamag wing red box 9 pieces 120/150		1
	BG707311	Diamag wing green box 9 pieces 18/20		1
	BG707312	Diamag wing green box 9 pieces 30/40		1
	BG707313	Diamag wing green box 9 pieces 60/80		1
	BG707314	Diamag wing green box 9 pieces 120/150		1
	BG707321	Diamag wing blue box 9 pieces 18/20		1
	BG707322	Diamag wing blue box 9 pieces 30/40		1
	BG200995/SET	Wing PCD 1 x 1	(set of 9)	1
	BG200997/SET	Wing PCD split	(set of 9)	1

### Diamag polishing dots

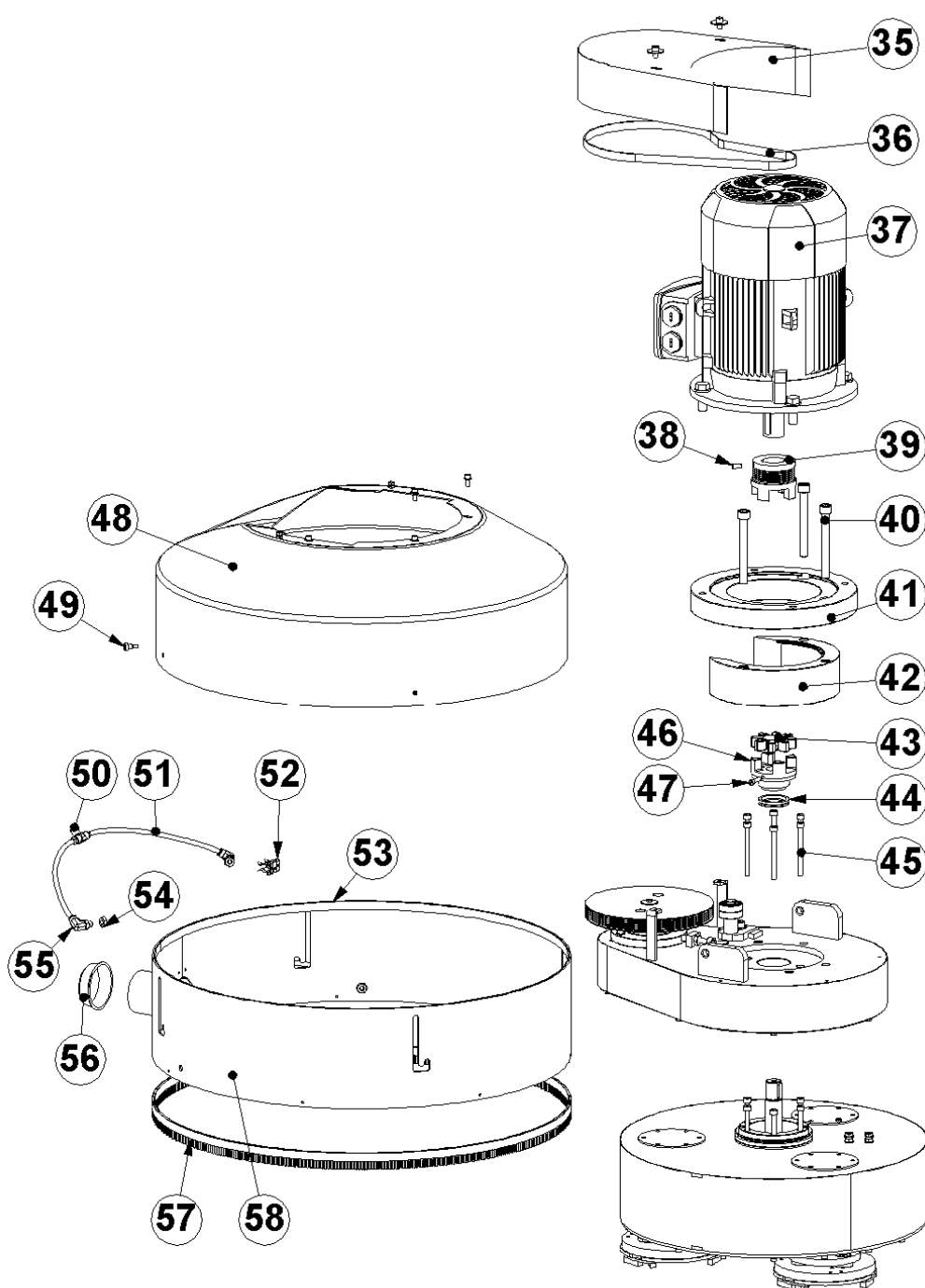
Item	Part number	Description	Remarks	Qty.
	BG7100100	Diamag dry polishing dot black #100	(set of 9)	1
	BG7100200	Diamag dry polishing dot blue #200	(set of 9)	1
	BG7100400	Diamag dry polishing dot red #400	(set of 9)	1
	BG7100800	Diamag dry polishing dot white #800	(set of 9)	1
	BG7101800	Diamag dry polishing dot yellow #1800	(set of 9)	1
	BG7103000	Diamag dry polishing dot green #3000	(set of 9)	1
	BG707303	Diamag wing red box 9 pieces 60/80		1
	BG707304	Diamag wing red box 9 pieces 120/150		1
	BG7110050	Diamag wet polishing dot orange #50	(set of 9)	1
	BG7110100	Diamag wet polishing dot black #100	(set of 9)	1
	BG7110200	Diamag wet polishing dot blue #200	(set of 9)	1
	BG7110400	Diamag wet polishing dot red #400	(set of 9)	1
	BG7110800	Diamag wet polishing dot white #800	(set of 9)	1
	BG7111800	Diamag wet polishing dot yellow #1800	(set of 9)	1
	BG7113000	Diamag wet polishing dot green #3000	(set of 9)	1

## 2. Spare parts Frame complete



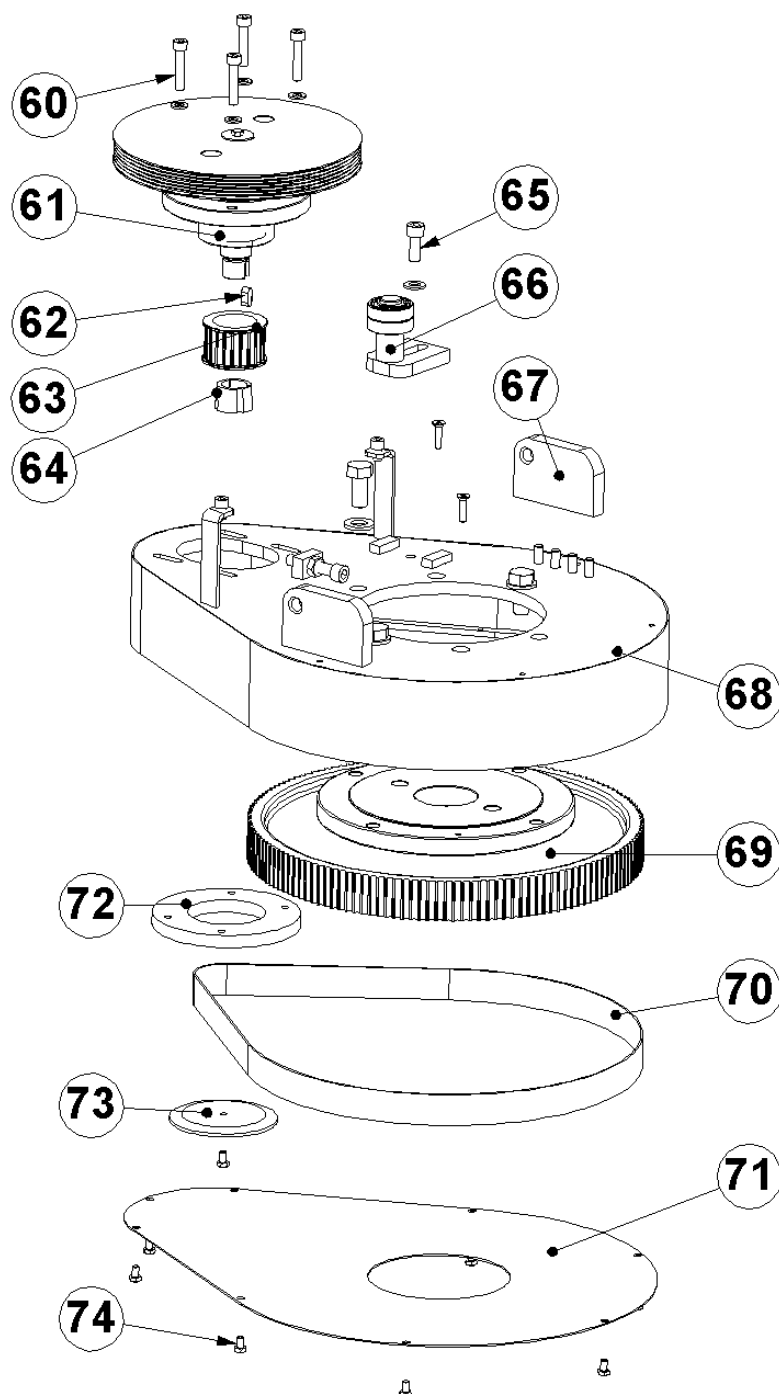
Item	Part number	Description	Remarks	Qty.
1	BE0643	Tube cap round		2
2	BG005845/RD	Handle for steer		1
3	999-9156	Pipe clamp (set)		2
4	BE0191	M6x50 hexagon socket head bolt	DIN 912	4
5	E06861	Operating box complete		1
	E01543	Emergency stop		
	E01318	Start button		
	E01351/1	Potential meter (speed switch)		
	E01323	Left / right switch		
	E05130	Make contact (green)		
	E05131	Brake contact (red)		
6	BE0641	M10 clamp lever		1
7	BG005835	Steer handle		1
8	BE0640	M12 hexagon shoulder screw		1
9	BG11751-1	Handle locking pin		1
10	E06860	Clamping pin steer		1
11	BG11758	Cord for deadman switch		1
12	BG11759	Key for deadman switch		1
13	BG11760	Deadman switch		1
14	E07008	Chain (11links)		1
15	BE0653	Hook		2
16	E06883	Swing arm for dusthose		1
17	478198	Quick release pin		1
18	BG005338	Cover plate electro box		1
19	BG11917	Electrobox 15kW complete		1
	BG11917/UL230	Electrobox 15kW complete 230UL		1
20	E05135	Electrical inlet 3x400V 32A		1
	E05134	Electrical inlet 3x230V 63A		1
21	E06904	Wheel bolt long		2
22	BG11850-1/1	Wheel spacers		4
23	BG11850-1	Wheel		2
24	BE0036	M12x40 hexagon bolt		2
25	BG005825	Frame		1
26	E06286	Water coupling		1
27	E06285	Waterhose connection		1
28	E06282	Ball valve mini		1
29	E06279	Water reducing coupling		1
30	E01492	Megi bush		2
31	BG11752	Hinge bolt		2
	E06892_RD	735PRO logo red		2
	E06820	Diamatic logo		4

## Machine complete



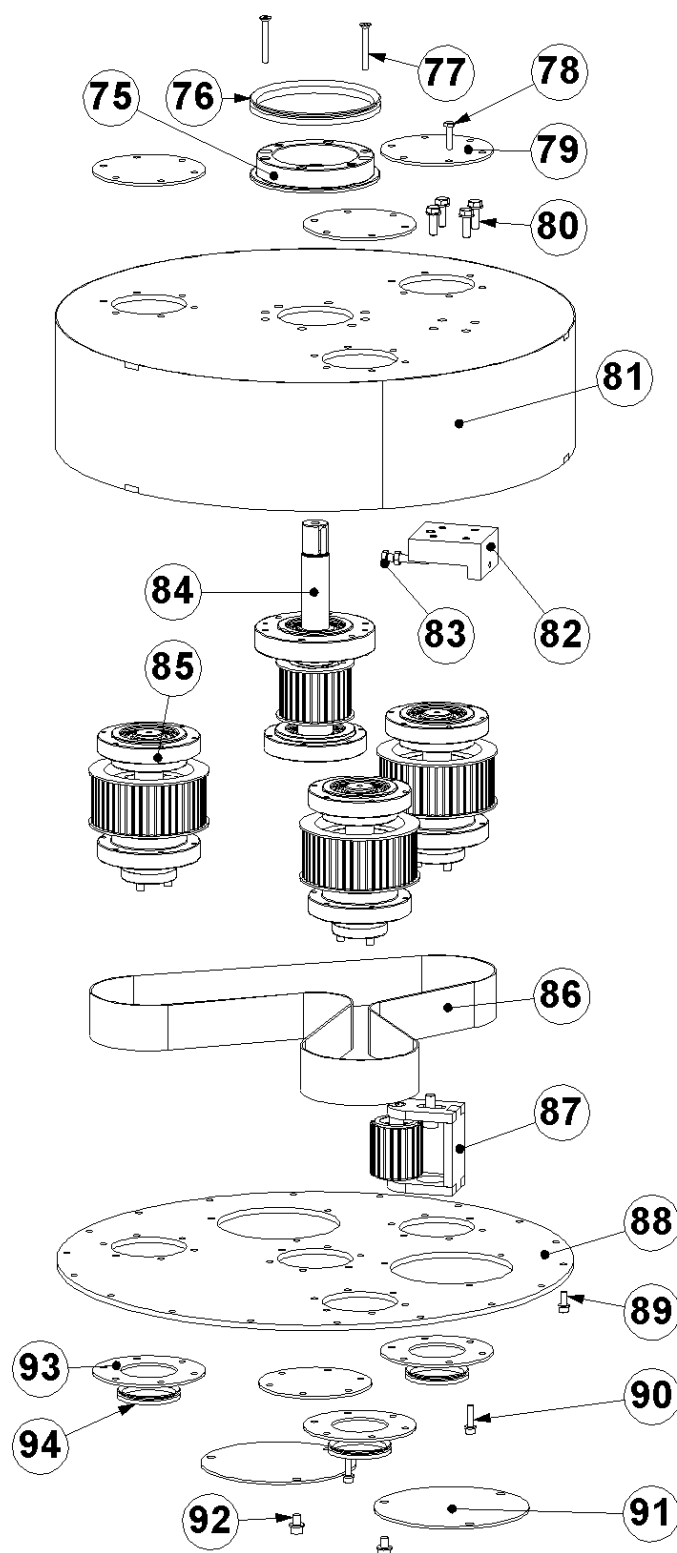
Item	Part number	Description	Remarks	Qty.
35	BG005847	Protection cap		1
36	BG11924	Upper belt		1
37	BG11960-1	Motor 400V/690V		1
38	BE0654	M8x16 set screw	DIN 916	4
39	BG007808_2	Coupling upper part		1
40	BE0656	M14x140 hexagon socket head bolt	DIN 912	3
41	BG007810	Flange motor seat		1
42	BG007811	Motor seat		1
43	BG005844	Coupling plastic star		1
44	BG11829	V-seal		1
45	BE0635	M8x110 hexagon socket head bolt	DIN 912	6
46	BG007808_1	Coupling under part		1
47	BE0188	M6x25 hexagon socket head bolt	DIN 912	1
48	BG007339	Protection cover		1
49	BE0655	M6x12 hexagon shoulder screw		4
50	E06281	Water T-coupling		1
51	E06278	Waterhose		1,5m
52	E06276	Pipe clamp		2
53	E06897	Slide strip		2,5m
54	E06293	Nut for knee coupling		2
55	E06280	Water knee coupling		2
56	E04551	Plastic cap		1
57	BG007349	Brush for floating shroud		1
58	BG007355	Floating shroud		1
59				

## Upper drive



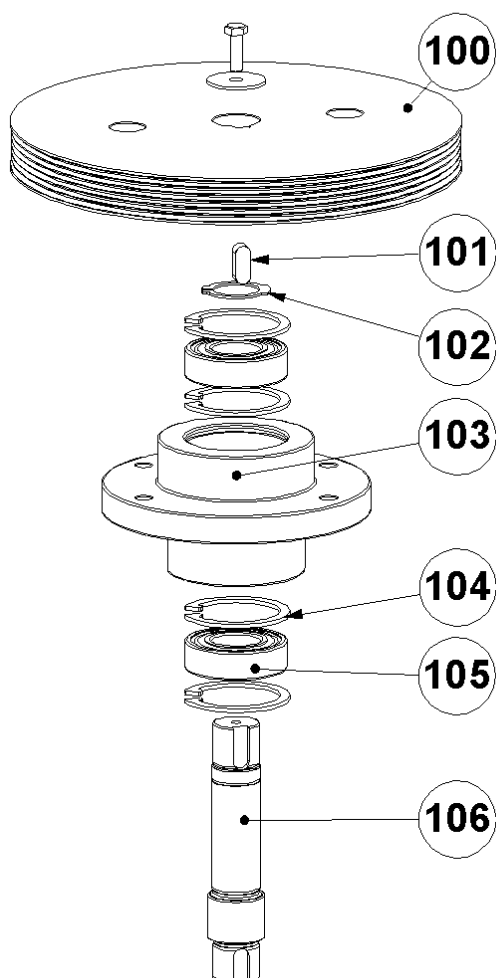
Item	Part number	Description	Remarks	Qty.
60	BE0631	M8x40 hexagon socket head bolt	DIN 7984	4
61	BG005856	Contra pulley		1
62	BE0648	Key 8x7x18	DIN 6885A	1
63	BG005805-1	Pulley		1
64	E01560	Taperlock		1
65	BE0443	M10x25 hexagon socket head bolt		
66	BG005860	Upper tensioner		1
67	BG005813	Holder		2
68	BG005809	Motorplate complete		1
69	BG005857	Centre pulley		1
70	BG11904	Middle belt		1
71	BG005834	Lower plate upper drive		1
72	BG005807	Ring		1
73	BG007804	Flange		1
74	BE0350	M6x10 hexagon head screw		8

## Lower drive



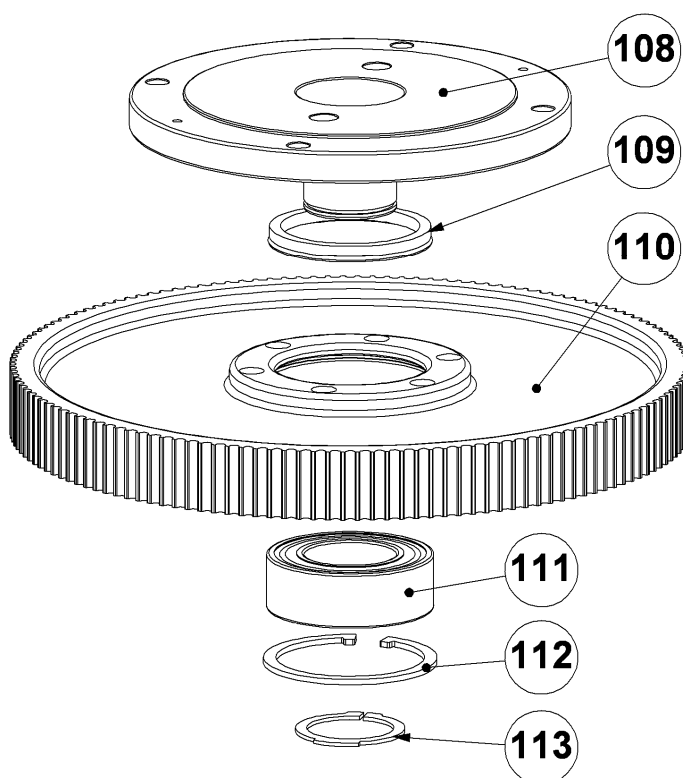
Item	Part number	Description	Remarks	Qty.
75	BG005814	Ring		1
76	BG11849	V-seal		1
77	BE0617	M6x50 countersunk screw	DIN 7991	2
78	BE0051	M6x25 hexagon head bolt	DIN 933	18
79	BG005827	Cover		4
80	BE0030	M8x25 hexagon head bolt	DIN 933	4
81	BG007322	Housing complete		1
82	BG005832-1	Holder		1
83	BE0090	M8x40 hexagon head bolt	DIN 933	1
84	BG005858	Drive pulley		1
85	BG005859	Pulley		3
86	BG11940	Lower belt		1
87	BG005861	Lower tensioner		1
88	BG007324	Lower plate 735PRO		1
89	BE0035	M6x16 hexagon socket head bolt	DIN 912	18
90	BE0188	M6x25 hexagon socket head bolt	DIN 912	24
91	BG007850	Inspection cover		2
92	BE0082	M8x12 hexagon socket head bolt	DIN 912	6
93	BG0005826	Ring		3
94	BG11797	V-seal		3
95				
96				
97				
98				

### Contra pulley BG005856



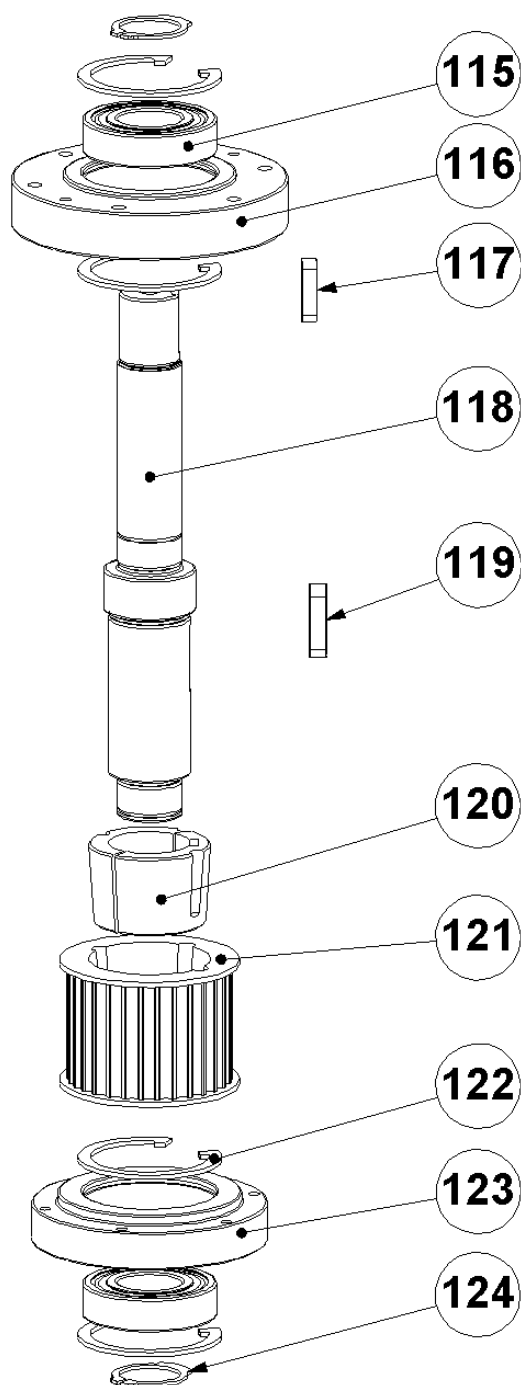
Item	Part number	Description	Remarks	Qty.
100	BG005803	Belt pulley		1
101	BE0109	Key 8x7x20	DIN 6885A	1
102	BE0076	Retaining ring for shaft Ø25	DIN 471	1
103	BG005802	Bearing house		1
104	BE0077	Retaining ring for bore Ø52	DIN 472	4
105	222-2331-E	Bearing		2
106	BG005801	Axle		1

### Centre pulley BG005857



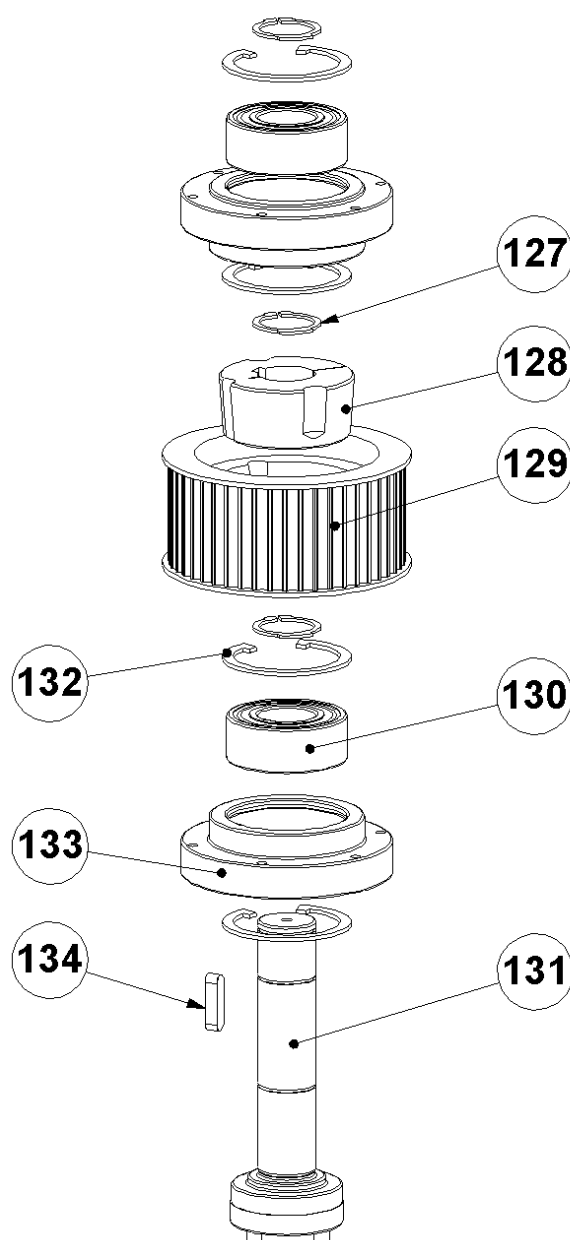
Item	Part number	Description	Remarks	Qty.
108	BG005812	Sprocket		1
109	E03703	V-seal		1
110	BG005806	Pulley		1
111	E01490	Bearing		1
112	E03993	Retaining ring for bore Ø90	DIN 472	1
113	BE0126	Retaining ring for shaft Ø50	DIN 471	1

## Drive pulley BG005858



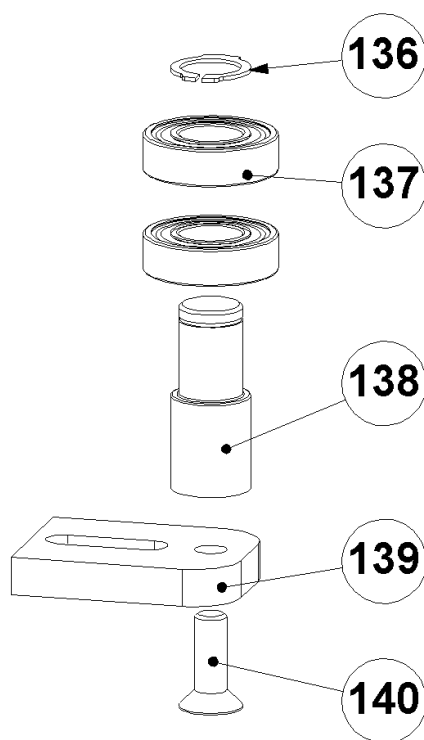
Item	Part number	Description	Remarks	Qty.
115	B20404	Bearing		2
116	BG005815	Bearing house		1
117	BE0256	Key 8x7x30	DIN 6885A	1
118	BG005818	Axle		1
119	BE0269	Key 10x8x32	DIN 6885A	1
120	E00718	Taperlock		1
121	BG005820	Pulley		1
122	E00951	Retaining ring for bore Ø62	DIN 472	4
123	BG005821	Bearing house		1
124	B21631	Retaining ring for shaft Ø30	DIN 471	2
125				
126				

## Pulley (3x) BG005859



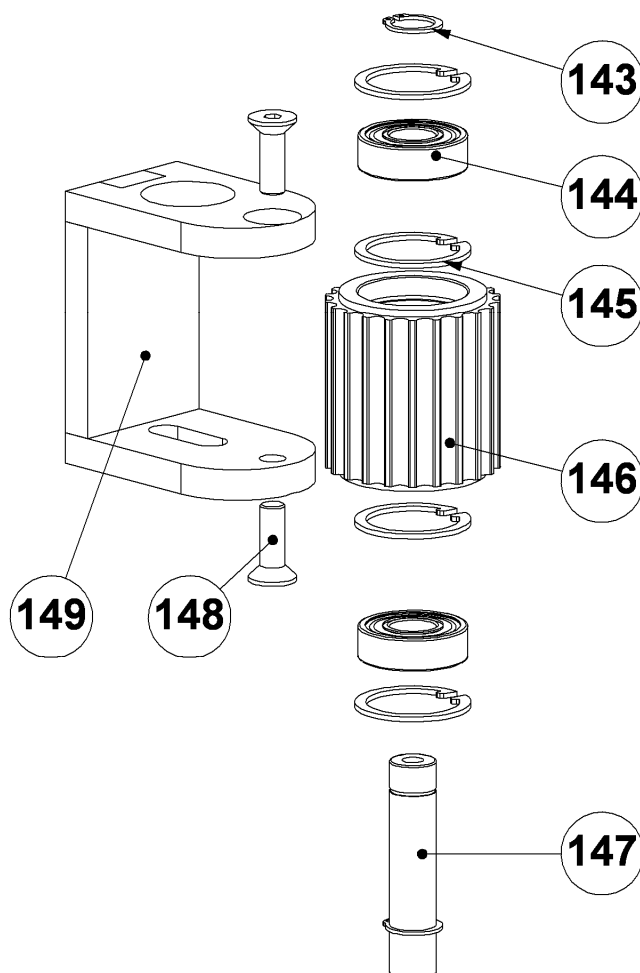
Item	Part number	Description	Remarks	Qty.
127	B21631	Retaining ring for shaft Ø30	DIN 471	3
128	RB100A3-350	Taperlock		1
129	RB165-2	Pulley		1
130	BG11817	Bearing		2
131	BG005816	Axle		1
132	E00951	Retaining ring for bore Ø62	DIN 472	4
133	BG005817	Bearing house		1
134	BE0256	Key 8x7x30	DIN 6885A	1
135				

### Upper tensioner BG005860



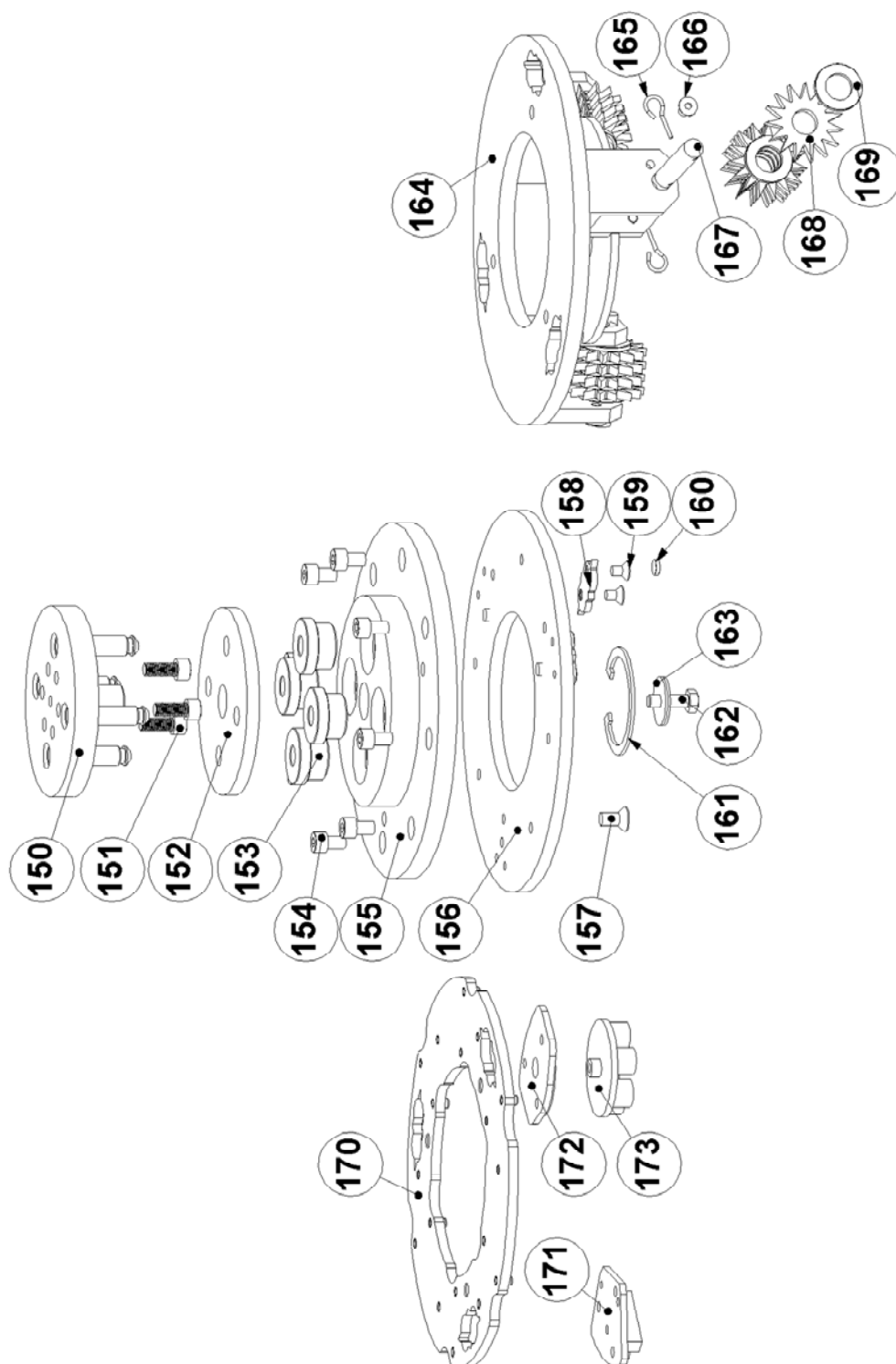
Item	Part number	Description	Remarks	Qty.
136	BE0074	Retaining ring for shaft Ø20	DIN 471	1
137	222-2245	Bearing		2
138	BG005830	Axle for tensioner		1
139	BG005831	Tension plate		1
140	BE0130	M10x25 countersunk screw	DIN 7991	1
141				
142				

## Lower tensioner BG005861



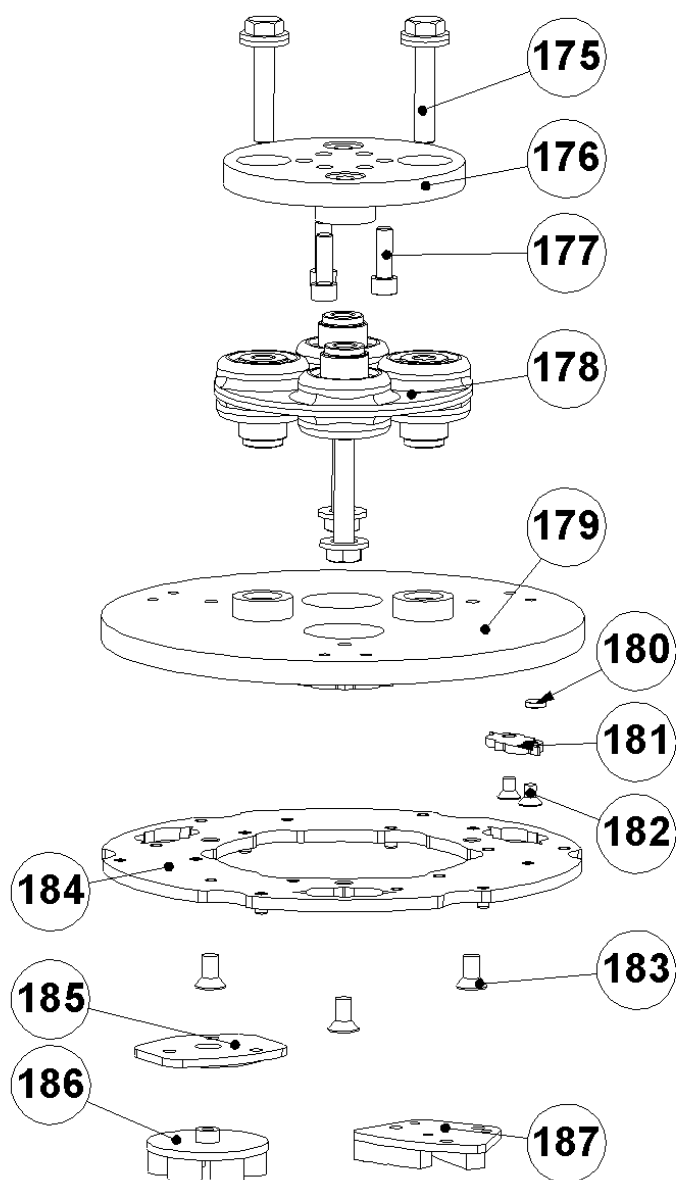
Item	Part number	Description	Remarks	Qty.
143	BE0070	Retaining ring for shaft Ø15	DIN 471	2
144	BG11792	Bearing		2
145	BE0618	Retaining ring for bore Ø35	DIN 472	4
146	BG005836	Pulley		1
147	BG005837	Axle tensioner		1
148	BE0458	M8x25 countersunk screw	DIN 7991	2
149	BG005833	Tensioner		1

## Buffer plate for surface preparation (3x)



Item	Part number	Description	Remarks	Qty.
153-160	BG240190-1	240mm diamond holder complete		1
156-160	BG2401901-1	240mm diamond holder		1
150	BG11880	Fork		1
151	BE0204 + BE0584	M8x25 hexagon socket head bolt small + M8 spring washer small	DIN 7984 DIN 7980	3
152	BG11879	Buffer disc		1
153	BG11878	Buffer hard		4
154	BE0082	M8x12 hexagon socket head bolt	DIN 912	8
155	BG11877	Magnet plate holder 240mm		1
156	BG11876-1	Magnet plate 240mm		1
157	BE0456	M8x16 countersunk screw	DIN 7991	3
158	BG11811	Centering star		3
159	BG11810	M6x10 countersunk screw	DIN 7991	6
160	E06446	Magnet		3
161	BE0608	Retaining ring for bore Ø58	DIN 472	1
162	BE0030	M8x25 hexagon head bolt	DIN 933	1
163	BE0314	M8x30x1,5 washer		2
164-169	BG300117	240mm cutter housing complete		1
164	BG300501-1	185mm cutter housing		1
165+166	BG300133	Locking pin & screw		6
167	BG300130	Axle		3
168	BG300109	Cutter		12
169	MPL48	Washer		15
170	E07240	DIAMAG 240mm adapter plate		1
	BG200993-1	Plate for wings 240mm		1
	BG200988-1	Dry polish dot holder 240mm		1
171		DIAMAG grinding wings		3
172	E06447	DIAMAG adapter plate for dots		3
173		Dry polish dots		3

## Buffer plate for polishing (3x)



Item	Part number	Description	Remarks	Qty.
175	BE0579	7/16 x 2"½ hexagon UNC bolt		4
176	BG2402001	Flexplate adapter for axle		1
177	BE0012	M8x25 hexagon socket head bolt	DIN 912	3
178	BG400310	Morflex coupling		1
179- 182	BG2402002-1	Flexplate diamond holder		1
179	BG24020021-1	Flexplate diamond holder only		1
180	E06446	Magnet		3
181	BG11811	Centering star		3
182	BG11810	M6x10 countersunk screw		6
183	BE0456	M8x16 countersunk screw	DIN 7991	3
184	E07240	DIAMAG 240mm adapter plate		1
	BG200993-1	Plate for wings 240mm		1
	BG200988-1	Dry polish dot holder 240mm		1
185		DIAMAG grinding wings		3
186	E06447	DIAMAG adapter plate for dots		3
187		Dry polish dots		3

### 3. Electric schedules

E06866 / 3x 400V / 11kW / frequency drive

SYMBOL CODE		CORE CODE		DRAWING NUMBER	
11 F 11		11 11		PJ###.###.###	
	- Running number		- Running number		- Revision number
	- Symbol letter				- Archive number
	- Schedule page				- Year

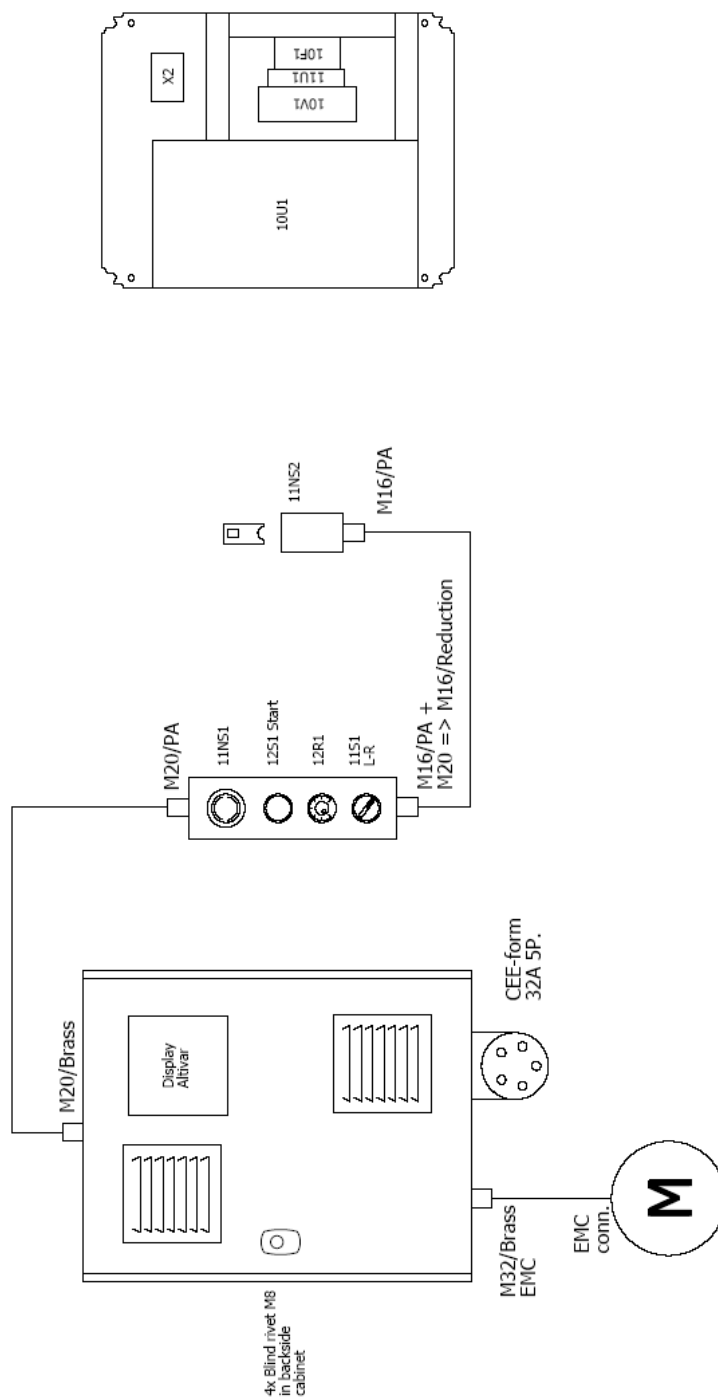
  

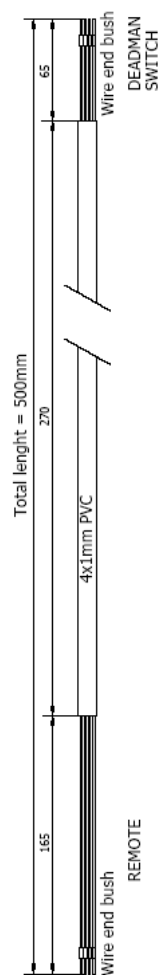
WIRE COLOR	
Main Voltage 400V	
<u>Phase</u>	<u>Colors</u>
L1	- Black
L2	- Black
L3	- Black
Earth / PE	- Yellow/Green

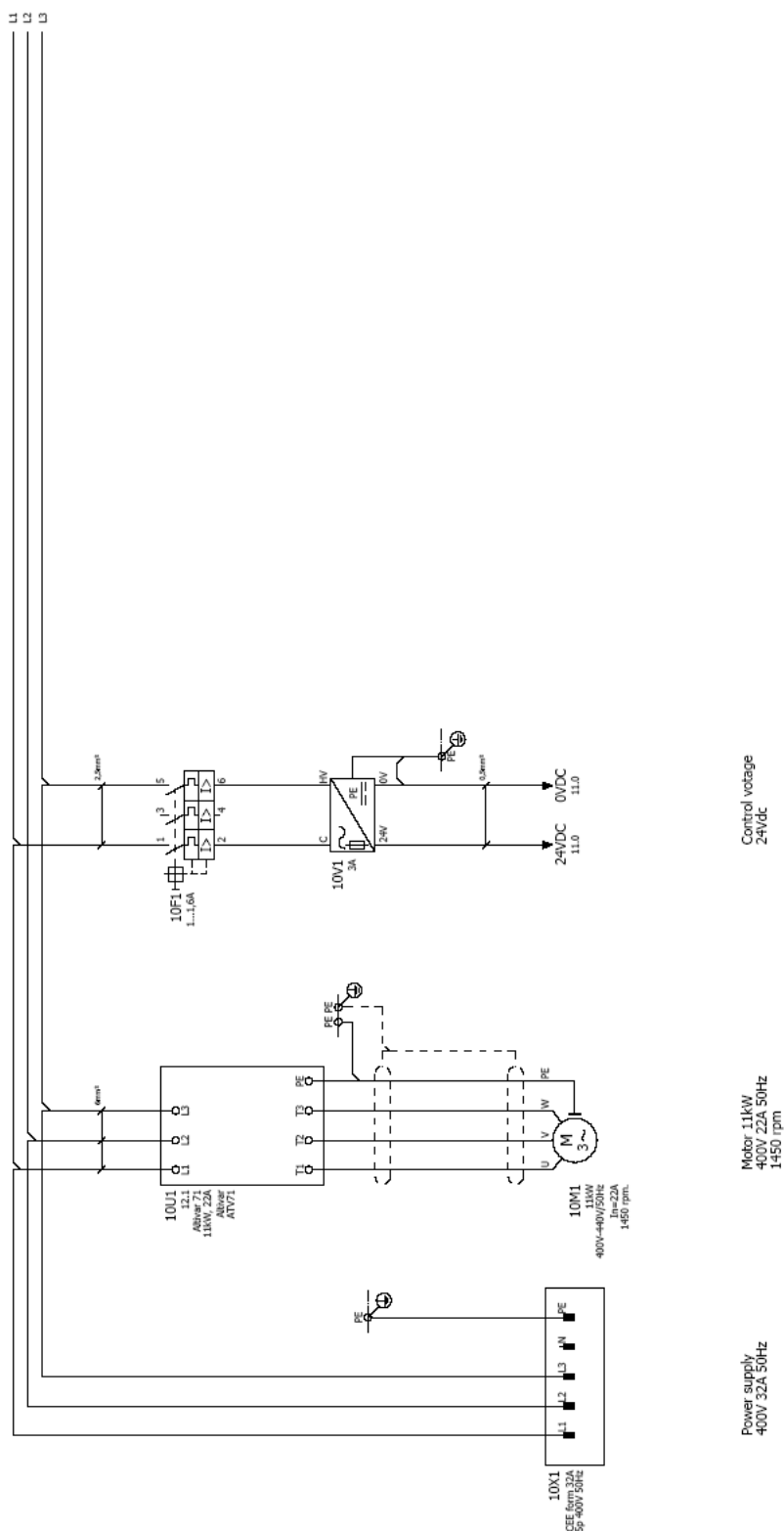
  

Control Voltage	
Plus (24VDC)	- White
Hook-up wire	- White
Minus / Ground (24VDC)	- White

	auxiliary contact	hulpcontact		signal light	signaallamp		Safety fuse	smeltveiligheid
	Power contact	vermogenscontact		horn	hoorn		Fused switch, three-pole	schakelaar schieder
	NO contact, opens with time delay	makcontact, vertraagd open		a.p.m. meter	ampere-meter		Fused disconnect, three-pole	schieder "klopak"
	NO contact, closes with time delay	makcontact, vertraagd sluitend		running hour counter	urenmeter		Main switch	hoofdschakelaar
	NC contact, opens with time delay	verbreukcontact, vertraagd open		transformer	transformator		Circuit breaker, single-pole	installatieautomaat 1-pool
	NC contact, closes with time delay	verbreukcontact, vertraagd sluitend		Contactor coil relay coil	spoel		Circuit breaker, two-pole	installatieautomaat 2-pool
	Pushbutton rebound	drukknop terugveerd		Contactor/relay coil, with pick-up delay	spoel met opbouwvertraging		Circuit breaker, three-pole	installatieautomaat 3-pool
	Pushbutton locking	drukknop blijftend		Contactor/relay coil, with drop-out delay	spoel met afbouwvertraging		Power circuit breaker motor overload switch with switch mechanism	motorbeveiligingsschakelaar
	Rotary switch rebound	top draaischakelaar		Contactor pulse coil relay pulse coil,	spoel puls		Valve	elektrisch bediende klep
	Rotary switch locking	draaischakelaar		Tube light	T.L. verlichting		Resistor with movable contact	regelbare weerstand
	Emergency stop rotary unlock	noodstop met draaibare vrijgave		Resistor / Heating	weerstand verwarming		Terminal	riggelen
	Thermostatic switch	thermostaat hygrostaat		Socket	wandcontactdoos		Terminal with fuse	riggelen met zekering
	Pressure switch	druckschakelaar		Current transformer	stroombandformator		Rectifier	geijlrichter
	Limit switch	eindschakelaar						
	Proximity switch	naderingsschakelaar						











[illegible]

device tag	Quantity	designation	Type number	part number
CAB	1	Steel enclosure 500x400x250 with mounting plate 450x350	87234 STEEL	87234
CAB	1	Blind rivet M8x16	Blindrivier M8	POPRC M8x16 af vericht
PG	1	Cable Gland M20*1.5 Nickel-plated	WARTTEL L402*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	WARTTEL PA M20*1.5	50.620 PA2035
PG	2	Locknut M20*1.5	WARTELMOER M20	50.220 PA2035
PG	2	Cable Gland M16*1.5	WARTTEL PA M16*1.5	50.616 PA2035
PG	1	Reduction M20 -> M16*1.5	Reduction PA M20->M16*1.5	M20M16PA
PG	1	Locknut M16*1.5	WARTELMOER M16	50.216 PA2035
PG	2	Locknut M25*1.5 Nickel-plated EMC	50.225 MJPOT	50.225 MJPOT
PG	2	Cable Gland M25*1.5 Nickel-plated EMC	50.625 MJBW	50.622 MJBW
CRB	1	Enclosure GAL7035/7036 for 4 buttons	XAL D04	XAL D04
10U1	1	32A CEE-form male wall outlet socket 6h	GS2520 6h	GS2530
10U1	1	Frequency controller 11kW	ATV71 HD11 NH	ATV71 HD11 NH
10U1	1	Transformer circuit breaker 1..1.6A	G/2 RT06	G/2RT06
11U1	1	Power Supply 400/24V 3A	ABL BR52-4030	ABL BRFS24030
11HS2	1	Emergency stop relay	XPS-ACS121	XPS-ACS121
11HS1	1	Safety switch + Pin	XCS-PA792 + XCS-211	XCS-PA792 + XCS-211
11HS1	1	Emergency stop	ZBF A5844	ZBF A5844
11HS1	2	element MC XAL	ZEN L1121	ZEN L1121
11S1	1	Pushbutton GREEN "START"	ZBF A0333	00.01.0237
11S1	1	element MO XAL	ZEN L1111	ZEN L1111
12S1	1	Switch handle	ZBF A02	ZBF A02
12S1	1	element MC XAL	ZEN L1121	ZEN L1121
12S1	1	element MO XAL	ZEN L1111	ZEN L1111
13A1	1	Pin-socket 10A	Pin-socket 10W 284	Pin-socket 10W 284
13A1	1	Pin-socket	ZBF A0312	ZBF A0312
13M1	1	Pin-Header	PAW 0314	PAW 0314
13M1	1	Pin-Header		
13M1	1	Pin finger guard	WEID 20W 35	250-1632 best 61.rah.
X1	2	End bracket	WEID 2PE 2.5f	9540100000
X1	1	2 Wire PE terminal 2.5mm²	WEID 2DU 2.5	1608440000
X1	12	2 Wire terminal 2.5mm²	WEID 2DU 2.5	1608510000
X1	1	End plate 2DU 2.5	WEID 2DU/TW 1	1600740000

E06866/UL230 / 3x 230V / 11kW / frequency drive

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









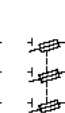




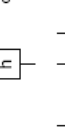
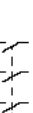


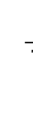


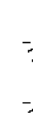




















WIRE COLOR All wiring AWG

Main Voltage 230V

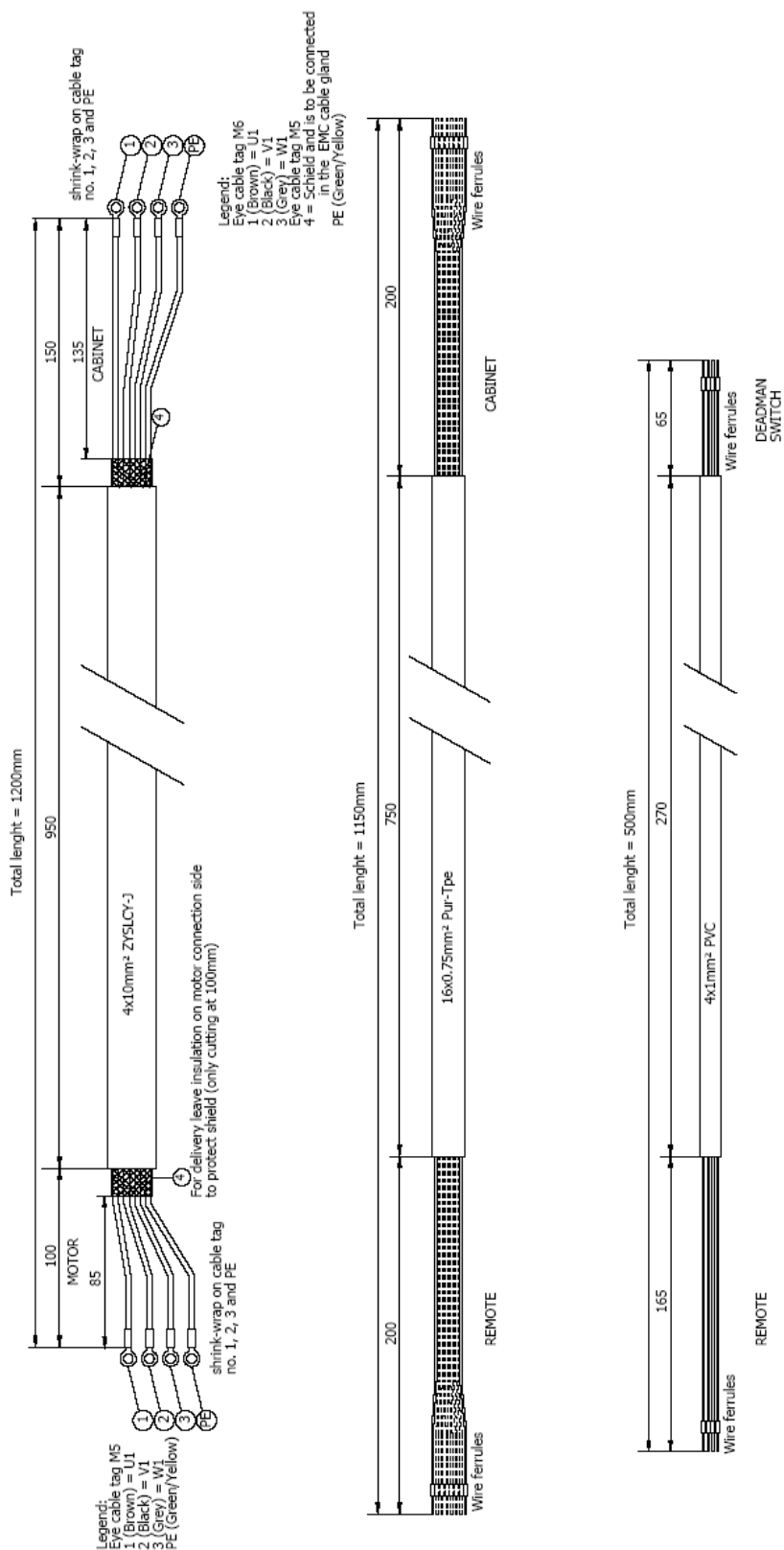
Phase	Colors
L1	- Black
L2	- Black
L3	- Black
Earth / PE	- Yellow/Green

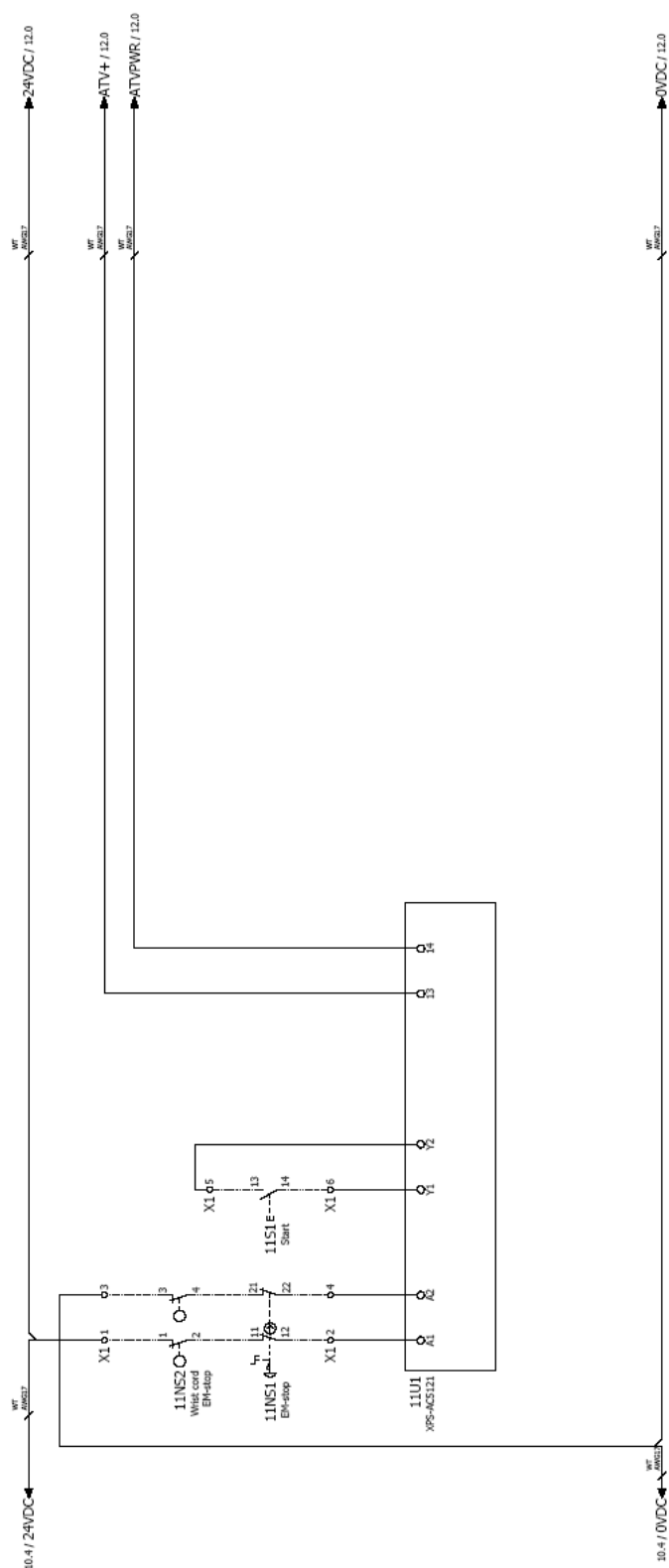
Control Voltage	- White
Plus (24VDC)	- White
Hook-up wire	- White
Minus / Ground (24VDC)	- White

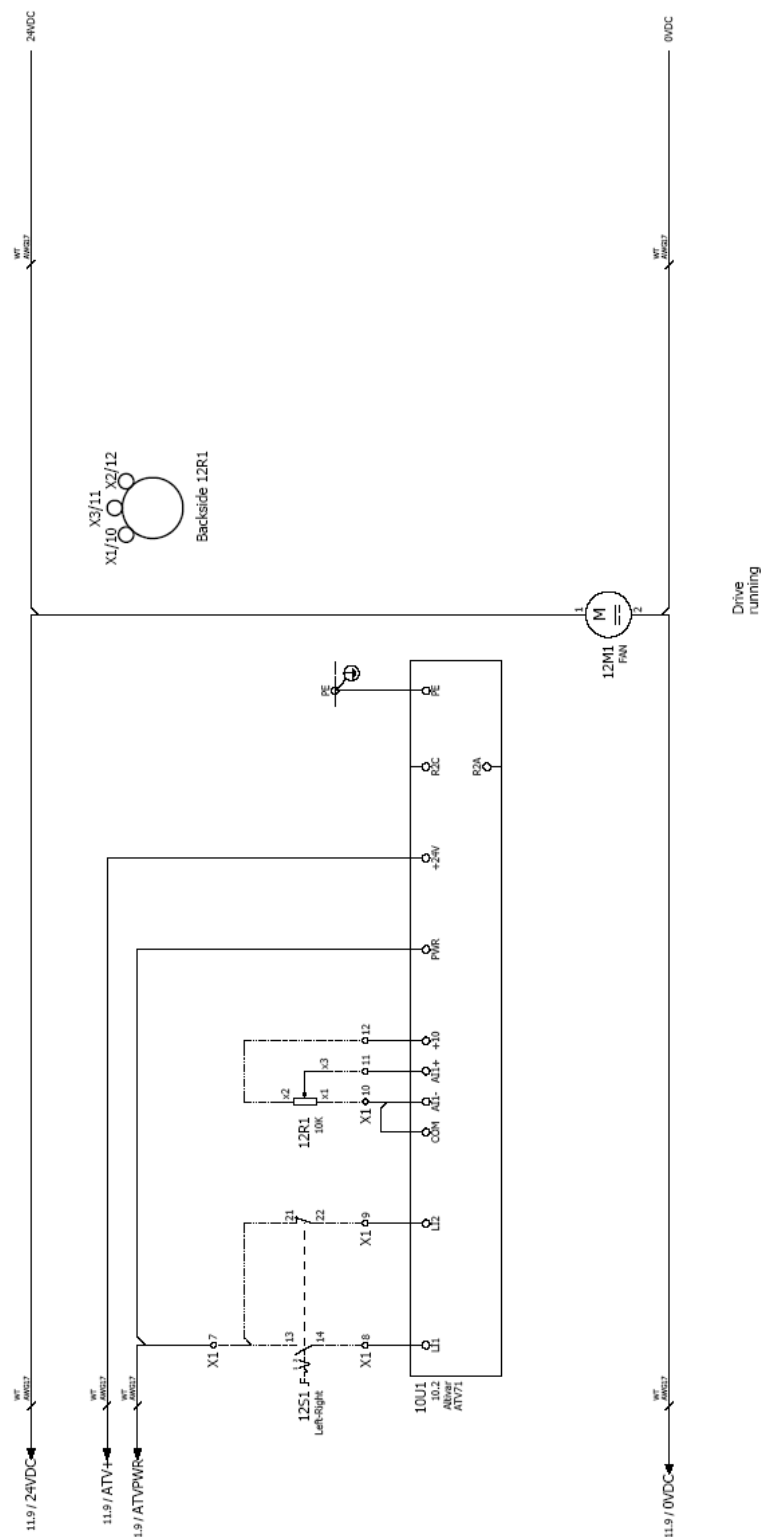
	auxiliary contact	hulpcontact		signal light	signaallamp		Safety fuse	smeltveiligheid
	Power contact	vermogencontact		horn	hoorn		Fused switch, three-pole	schakelbare schakelaar
	NO contact, opens with time delay	maakcontact, vertraagd open		apm.meter	ampere-meter		Fused disconnect, three-pole	schakelaar "klopak"
	NO contact, closes with time delay	maakcontact, vertraagd sluitend		running hour counter	urenreeller		Main switch	hoofdschakelaar
	NC contact, opens with time delay	verbrekcontact, vertraagd open		transformer	transformator		Circuit breaker, single-pole	installatieautomaat 1-polig
	NC contact, closes with time delay	verbrekcontact, vertraagd sluitend		Contactor coil relay coil	spoel		Circuit breaker, two-pole	installatieautomaat 2-polig
	Pushbutton rebound	duelstop terugterend		Contactor/relay coil, with pick-up delay	spoel met opklimvertraging		Circuit breaker, three-pole	installatieautomaat 3-polig
	Pushbutton locking	duelstop blokkerend		Contactor/relay coil, with drop-out delay	spoel met afklimvertraging		Power circuit breaker motor overload switch with switch mechanism	motorbedrijvingschakelaar
	Rotary switch rebound	toe draaischakelaar		Contactor pulse coil relay pulse coil	spoel puls		Valve	elektrisch bediende klep
	Rotary switch locking	draaischakelaar		Tube light	TL verlichting		Resistor with movable contact	regelbare weerstand
	Emergency stop rotary unlock	nodstop met draaiende vrijgave		Resistor / Heating	weerstand verwarming		Terminal	rijkleem
	Thermostatic switch	thermostaat		Socket	wandcontactdoos		Terminal with fuse	rijkleem met zekering
	Pressure switch	druckschakelaar		Current transformer	stroomtransformator		Rectifier	geleijrichter
	Limit switch	endschakelaar						
	Proximity switch	naedingschakelaar						











[illegible]

device tag	Quantity	designation	Type number	part number
CAB	1	Enclosure 600x400x200 with mounting plate 570x359	MKS 084030	MKS 084030
PG	1	Cable Gland M32*1.5 Nickel-plated EMC	50.632 MEMV	50.632 MEMV
PG	1	Locknut M32*1.5 Nickel-plated EMC	50.232 MPOT	50.232 MPOT
PG	1	Cable Gland M20*1.5 Nickel-plated	WARTTEL L4020*1.5	50.620 M-L
PG	1	Locknut M20*1.5 Nickel-plated	WARTELMODER M20	50.220 M
PG	1	Cable Gland M20*1.5	WARTTEL PA I420*1.5	50.620 PA02035
PG	2	Locknut M20*1.5	WARTELMODER M20	50.220 PA02035
PG	2	Cable Gland M16*1.5	WARTTEL PA I416*1.5	50.216 PA02035
PG	1	Locknut M16*1.5	WARTELMODER M16	M20M16PA
PG	1	Reduction M20 -> M16*1.5	Reduction PA M20->M16*1.5	
PG	1	Locknut M25*1.5 Nickel-plated EMC	50.225 MPOT	50.225 MPOT
PG	1	Cable Gland M25*1.5 Nickel-plated EMC	50.625 MEMV	50.625 MEMV
CRB	1	Enclosure RAL7035/7016 for 4 buttons	XAL D04	XAL D04
1001	1	63A CEE-form Wall outlet socket 9h IP67	ABL G53525	G53525
1002	1	Motor circuit breaker 63A 3p	ABL K53525	K53525
10Q1	1	Large spacing UL	TELE GYG-P65	GYG P65
10Q1	1	Axle + block ON/OFF handle	TELE GYG-G66	GYG G66
10U1	1	Frequency controller 11kW 3x230V	TELE GY3AP03	GY3AP03
10F1	1	Transformer circuit breaker 1..1.6A	ATY71 HD11 HXK 3*230V	ATY71 HD11 MDX
10V1	1	Power Supply 400/24V 2A	GYZ RT06	GYZ RT06
11U1	1	Emergency stop relay	ABL JRP52-4030	ABLJRP52-4030
11H51	1	Safety switch + Pin	XPS-AC5121	XPS-AC5121
11H61	1	Emergency stop element MC XAL	KCS-PA792 + ACS-211	KCS-PA792 + ACS-211
11H61	2	Pullstation GREEN "START"	ZBN L1121	ZBN L1121
11S1	1	Springe RO XAL	ZBS AQ33	ZBS AQ33
12S1	1	Stop button MC XAL	ZBN L1111	ZBN L1111
12S1	1	element NO XAL	ZBN L1121	ZBN L1121
12S1	1	element NC XAL	ZBN L1111	ZBN L1111
12R1	1	Trim-pot 10k	Potmeteret 10K 2B4	Potmeteret 10K 2B4
12R1	1	Pot-meter	ZBS A2912	ZBS A2912
12H1	1	Fan	FAN B314	FAN B010D*32 24VDC
12H1	1	Fan filter		221-338 watt 11.bwh.
12H1	1	Fan finger guard		250-1512 watt 11.bwh.

## 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
<b>A I 2 F</b>	[AI2 input]	<ul style="list-style-type: none"> <li>Non-conforming signal on analog input AI2</li> </ul>	<ul style="list-style-type: none"> <li>Check the wiring of analog input AI2 and the value of the signal</li> </ul>
<b>A n F</b>	[Load slipping]	<ul style="list-style-type: none"> <li>The encoder speed feedback does not match the reference</li> </ul>	<ul style="list-style-type: none"> <li>Check the motor, gain and stability parameters</li> <li>Add a braking resistor</li> <li>Check the size of the motor/drive/load</li> <li>Check the encoder's mechanical coupling and its wiring</li> </ul>
<b>b D F</b>	[DBR overload]	<ul style="list-style-type: none"> <li>The braking resistor is under excessive stress</li> </ul>	<ul style="list-style-type: none"> <li>Check the size of the resistor and wait for it to cool down</li> <li>Check the [DB Resistor Power] (brP) and [DB Resistor value] (brU) parameters, page 211</li> </ul>
<b>b r F</b>	[Brake feedback]	<ul style="list-style-type: none"> <li>The brake feedback contact does not match the brake logic control</li> </ul>	<ul style="list-style-type: none"> <li>Check the feedback circuit and the brake logic control circuit</li> <li>Check the mechanical state of the brake</li> </ul>
<b>b U F</b>	[DB unit sh. Circuit]	<ul style="list-style-type: none"> <li>Short-circuit output from braking unit</li> </ul>	<ul style="list-style-type: none"> <li>Check the wiring of the braking unit and the resistor</li> <li>Check the braking resistor</li> </ul>
<b>C r F 1</b>	[Precharge]	<ul style="list-style-type: none"> <li>Load relay control fault or charging resistor damaged</li> </ul>	<ul style="list-style-type: none"> <li>Switch the drive off and then back on again</li> <li>Check the internal connections</li> </ul>
<b>C r F 2</b>	[Thyr. soft charge]	<ul style="list-style-type: none"> <li>DC bus charging fault (thyristors)</li> </ul>	<ul style="list-style-type: none"> <li>Inspect/repair the drive</li> </ul>
<b>E C F</b>	[Encoder coupling]	<ul style="list-style-type: none"> <li>Break in encoder's mechanical coupling</li> </ul>	<ul style="list-style-type: none"> <li>Check the encoder's mechanical coupling</li> </ul>
<b>E E F 1</b>	[Control Eeprom]	<ul style="list-style-type: none"> <li>Internal memory fault, control card</li> </ul>	<ul style="list-style-type: none"> <li>Check the environment (electromagnetic compatibility)</li> <li>Turn off, reset, return to factory settings</li> </ul>
<b>E E F 2</b>	[Power Eeprom]	<ul style="list-style-type: none"> <li>Internal memory fault, power card</li> </ul>	<ul style="list-style-type: none"> <li>Inspect/repair the drive</li> </ul>
<b>E n F</b>	[Encoder]	<ul style="list-style-type: none"> <li>Encoder feedback fault</li> </ul>	<ul style="list-style-type: none"> <li>Check [Number of pulses] (PGI) and [Encoder type] (EnS), page 72</li> <li>Check that the encoder's mechanical and electrical operation, its power supply and connections are all correct</li> <li>If necessary, reverse the direction of rotation of the motor ([Output Ph rotation] (PHr) parameter, page 88) or the encoder signals</li> </ul>
<b>F C F 1</b>	[Out. contact. stuck]	<ul style="list-style-type: none"> <li>The output contactor remains closed although the opening conditions have been met</li> </ul>	<ul style="list-style-type: none"> <li>Check the contactor and its wiring</li> <li>Check the feedback circuit</li> </ul>

Fault	Name	Probable cause	Remedy
<b>H d F</b>	[IGBT desaturation]	<ul style="list-style-type: none"> <li>Short-circuit or grounding at the drive output</li> </ul>	<ul style="list-style-type: none"> <li>Check the cables connecting the drive to the motor, and the insulation of the motor</li> <li>Perform the diagnostic tests via the <a href="#">[1.10 DIAGNOSTICS]</a> menu</li> </ul>
<b>IL F</b>	[internal com. link]	<ul style="list-style-type: none"> <li>Communication fault between option card and drive</li> </ul>	<ul style="list-style-type: none"> <li>Check the environment (electromagnetic compatibility)</li> <li>Check the connections</li> <li>Check that no more than 2 option cards (max. permitted) have been installed on the drive</li> <li>Replace the option card</li> <li>Inspect/repair the drive</li> </ul>
<b>I n F 1</b>	[Rating error]	<ul style="list-style-type: none"> <li>The power card is different from the card stored</li> </ul>	<ul style="list-style-type: none"> <li>Check the reference of the power card</li> </ul>
<b>I n F 2</b>	[Incompatible PB]	<ul style="list-style-type: none"> <li>The power card is incompatible with the control card</li> </ul>	<ul style="list-style-type: none"> <li>Check the reference of the power card and its compatibility</li> </ul>
<b>I n F 3</b>	[Internal serial link]	<ul style="list-style-type: none"> <li>Communication fault between the internal cards</li> </ul>	<ul style="list-style-type: none"> <li>Check the internal connections</li> <li>Inspect/repair the drive</li> </ul>
<b>I n F 4</b>	[Internal MFG area]	<ul style="list-style-type: none"> <li>Internal data inconsistent</li> </ul>	<ul style="list-style-type: none"> <li>Recalibrate the drive (performed by Schneider Electric Product Support)</li> </ul>
<b>I n F 5</b>	[Internal-option]	<ul style="list-style-type: none"> <li>The option installed in the drive is not recognized</li> </ul>	<ul style="list-style-type: none"> <li>Check the reference and compatibility of the option</li> </ul>
<b>I n F 7</b>	[Internal-hard init.]	<ul style="list-style-type: none"> <li>Initialization of the drive is incomplete</li> </ul>	<ul style="list-style-type: none"> <li>Turn off and reset</li> </ul>
<b>I n F 8</b>	[Internal-ctrl supply]	<ul style="list-style-type: none"> <li>The control power supply is incorrect</li> </ul>	<ul style="list-style-type: none"> <li>Check the control power supply</li> </ul>
<b>I n F 9</b>	[Internal- I measure]	<ul style="list-style-type: none"> <li>The current measurements are incorrect</li> </ul>	<ul style="list-style-type: none"> <li>Replace the current sensors or the power card</li> <li>Inspect/repair the drive</li> </ul>
<b>I n F A</b>	[Internal-mains circuit]	<ul style="list-style-type: none"> <li>The input stage is not operating correctly</li> </ul>	<ul style="list-style-type: none"> <li>Perform the diagnostic tests via the <a href="#">[1.10 DIAGNOSTICS]</a> menu</li> <li>Inspect/repair the drive</li> </ul>
<b>I n F b</b>	[Internal- th. sensor]	<ul style="list-style-type: none"> <li>The drive temperature sensor is not operating correctly</li> </ul>	<ul style="list-style-type: none"> <li>Replace the temperature sensor</li> <li>Inspect/repair the drive</li> </ul>
<b>I n F c</b>	[Internal-time meas.]	<ul style="list-style-type: none"> <li>Fault on the electronic time measurement component</li> </ul>	<ul style="list-style-type: none"> <li>Inspect/repair the drive</li> </ul>
<b>I n F E</b>	[Internal- CPU ]	<ul style="list-style-type: none"> <li>Internal microprocessor fault</li> </ul>	<ul style="list-style-type: none"> <li>Turn off and reset. Inspect/repair the drive</li> </ul>
<b>O C F</b>	[Overcurrent]	<ul style="list-style-type: none"> <li>Parameters in the <a href="#">[SETTINGS] (SE-)</a> and <a href="#">[1.4 MOTOR CONTROL] (drC-)</a> menus are not correct</li> <li>Inertia or load too high</li> <li>Mechanical locking</li> </ul>	<ul style="list-style-type: none"> <li>Check the parameters</li> <li>Check the size of the motor/drive/load</li> <li>Check the state of the mechanism</li> </ul>
<b>P r F</b>	[Power removal]	<ul style="list-style-type: none"> <li>Fault with the drive's "Power removal" safety function</li> </ul>	<ul style="list-style-type: none"> <li>Inspect/repair the drive</li> </ul>
<b>S C F 1</b>	[Motor short circuit]	<ul style="list-style-type: none"> <li>Short-circuit or grounding at the drive output</li> </ul>	<ul style="list-style-type: none"> <li>Check the cables connecting the drive to the motor, and the insulation of the motor</li> <li>Perform the diagnostic tests via the <a href="#">[1.10 DIAGNOSTICS]</a> menu</li> </ul>
<b>S C F 2</b>	[Impedant sh. circuit]	<ul style="list-style-type: none"> <li>Significant earth leakage current at the drive output if several motors are connected in parallel</li> </ul>	<ul style="list-style-type: none"> <li>Reduce the switching frequency</li> <li>Connect chokes in series with the motor</li> </ul>
<b>S C F 3</b>	[Ground short circuit]		
<b>S O F</b>	[Overspeed]	<ul style="list-style-type: none"> <li>Instability or driving load too high</li> </ul>	<ul style="list-style-type: none"> <li>Check the motor, gain and stability parameters</li> <li>Add a braking resistor</li> <li>Check the size of the motor/drive/load</li> </ul>
<b>S P F</b>	[Speed fdbck loss]	<ul style="list-style-type: none"> <li>Encoder feedback signal missing</li> </ul>	<ul style="list-style-type: none"> <li>Check the wiring between the encoder and the drive</li> <li>Check the encoder</li> </ul>
<b>t n F</b>	[Auto-tuning ]	<ul style="list-style-type: none"> <li>Special motor or motor whose power is not suitable for the drive</li> <li>Motor not connected to the drive</li> </ul>	<ul style="list-style-type: none"> <li>Check that the motor/drive are compatible</li> <li>Check that the motor is present during auto-tuning</li> <li>If an output contactor is being used, close it during auto-tuning</li> </ul>

Fault	Name	Probable cause	Remedy
<b>R P F</b>	[Application fault]	<ul style="list-style-type: none"> <li>Controller inside card fault</li> </ul>	<ul style="list-style-type: none"> <li>Please refer to the card documentation</li> </ul>
<b>b L F</b>	[Brake control]	<ul style="list-style-type: none"> <li>Brake release current not reached</li> <li>Brake engage frequency threshold [Brake engage freq] (bEn) only regulated when brake logic control is assigned</li> </ul>	<ul style="list-style-type: none"> <li>Check the drive/motor connection</li> <li>Check the motor windings</li> <li>Check the [Brake release I FW] (lbr) and [Brake release I Rev] (lrd) settings, page 148.</li> <li>Apply the recommended settings for [Brake engage freq] (bEn)</li> </ul>
<b>C n F</b>	[Com. network]	<ul style="list-style-type: none"> <li>Communication fault on communication card</li> </ul>	<ul style="list-style-type: none"> <li>Check the environment (electromagnetic compatibility)</li> <li>Check the wiring</li> <li>Check the time-out</li> <li>Replace the option card</li> <li>Inspect/repair the drive</li> </ul>
<b>C D F</b>	[CAN com.]	<ul style="list-style-type: none"> <li>Interruption in communication on the CANopen bus</li> </ul>	<ul style="list-style-type: none"> <li>Check the communication bus</li> <li>Check the time-out</li> <li>Refer to the CANopen user's manual</li> </ul>
<b>E P F 1</b>	[External flt-LI/Bit]	<ul style="list-style-type: none"> <li>Fault triggered by an external device, depending on user</li> </ul>	<ul style="list-style-type: none"> <li>Check the device, which caused the fault, and reset</li> </ul>
<b>E P F 2</b>	[External fault com.]	<ul style="list-style-type: none"> <li>Fault triggered by a communication network</li> </ul>	<ul style="list-style-type: none"> <li>Check for the cause of the fault and reset</li> </ul>
<b>F C F 2</b>	[Out. contact. open.]	<ul style="list-style-type: none"> <li>The output contactor remains open although the closing conditions have been met</li> </ul>	<ul style="list-style-type: none"> <li>Check the contactor and its wiring</li> <li>Check the feedback circuit</li> </ul>
<b>L C F</b>	[input contactor]	<ul style="list-style-type: none"> <li>The drive is not turned on even though [Mains V. time out] (LCt) has elapsed</li> </ul>	<ul style="list-style-type: none"> <li>Check the contactor and its wiring</li> <li>Check the time-out</li> <li>Check the line/contactor/drive connection</li> </ul>
<b>L F F 2</b> <b>L F F 3</b> <b>L F F 4</b>	[AI2 4-20mA loss] [AI3 4-20mA loss] [AI4 4-20mA loss]	<ul style="list-style-type: none"> <li>Loss of the 4-20 mA reference on analog input AI2, AI3 or AI4</li> </ul>	<ul style="list-style-type: none"> <li>Check the connection on the analog inputs</li> </ul>
<b>D b F</b>	[Overbraking]	<ul style="list-style-type: none"> <li>Braking too sudden or driving load</li> </ul>	<ul style="list-style-type: none"> <li>Increase the deceleration time</li> <li>Install a braking resistor if necessary</li> <li>Activate the [Dec ramp adapt.] (brA) function, page 127, if it is compatible with the application</li> </ul>
<b>D H F</b>	[Drive overheat]	<ul style="list-style-type: none"> <li>Drive temperature too high</li> </ul>	<ul style="list-style-type: none"> <li>Check the motor load, the drive ventilation and the ambient temperature. Wait for the drive to cool down before restarting</li> </ul>
<b>D L F</b>	[Motor overload]	<ul style="list-style-type: none"> <li>Triggered by excessive motor current</li> </ul>	<ul style="list-style-type: none"> <li>Check the setting of the motor thermal protection, check the motor load. Wait for the drive to cool down before restarting</li> </ul>
<b>D P F 1</b>	[1 output phase loss]	<ul style="list-style-type: none"> <li>Loss of one phase at drive output</li> </ul>	<ul style="list-style-type: none"> <li>Check the connections from the drive to the motor</li> </ul>

Fault	Name	Probable cause	Remedy
<b>D P F 2</b>	[3 output phase loss]	<ul style="list-style-type: none"> <li>Motor not connected or motor power too low</li> <li>Output contactor open</li> <li>Instantaneous instability in the motor current</li> </ul>	<ul style="list-style-type: none"> <li>Check the connections from the drive to the motor</li> <li>If an output contactor is being used, parameterize <b>[Output Phase Loss] (OPL) = [Output out] (OAC)</b>, page 201</li> <li>Test on a low power motor or without a motor: In factory settings mode, motor phase loss detection is active <b>[Output Phase Loss] (OPL) = [Yes] (YES)</b>. 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 <b>[Output Phase Loss] (OPL) = [No] (nO)</b></li> <li>Check and optimize the following parameters: <b>[IR compensation] (UFR)</b>, page 70, <b>[Rated motor volt.] (UnS)</b> and <b>[Rated mot. current] (nCr)</b>, page 85, and perform <b>[Auto tuning] (tUn)</b>, page 88</li> </ul>
<b>D S F</b>	[Mains overvoltage]	<ul style="list-style-type: none"> <li>Mains voltage too high</li> <li>Disturbed mains supply</li> </ul>	<ul style="list-style-type: none"> <li>Check the mains voltage</li> </ul>
<b>D E F 1</b>	[PTC1 overheat]	<ul style="list-style-type: none"> <li>Overheating of the PTC1 probes detected</li> </ul>	<ul style="list-style-type: none"> <li>Check the motor load and motor size</li> <li>Check the motor ventilation</li> <li>Wait for the motor to cool before restarting</li> <li>Check the type and state of the PTC probes</li> </ul>
<b>D E F 2</b>	[PTC2 overheat]	<ul style="list-style-type: none"> <li>Overheating of the PTC2 probes detected</li> </ul>	
<b>D E F L</b>	[LI8=PTC overheat]	<ul style="list-style-type: none"> <li>Overheating of PTC probes detected on input LI8</li> </ul>	
<b>P E F 1</b>	[PTC1 probe]	<ul style="list-style-type: none"> <li>PTC1 probes open or short-circuited</li> </ul>	
<b>P E F 2</b>	[PTC2 probe]	<ul style="list-style-type: none"> <li>PTC2 probes open or short-circuited</li> </ul>	<ul style="list-style-type: none"> <li>Check the PTC probes and the wiring between them and the motor/drive</li> </ul>
<b>P E F L</b>	[LI8=PTC probe]	<ul style="list-style-type: none"> <li>PTC probes on input LI8 open or short-circuited</li> </ul>	
<b>S C F 4</b>	[IGBT short circuit]	<ul style="list-style-type: none"> <li>Power component fault</li> </ul>	<ul style="list-style-type: none"> <li>Perform a diagnostic test via the <b>[1.10 DIAGNOSTICS]</b> menu</li> <li>Inspect/repair the drive</li> </ul>
<b>S C F 5</b>	[Motor short circuit]	<ul style="list-style-type: none"> <li>Short-circuit at drive output</li> </ul>	<ul style="list-style-type: none"> <li>Check the cables connecting the drive to the motor, and the motor's insulation</li> <li>Perform diagnostic tests via the <b>[1.10 DIAGNOSTICS]</b> menu</li> <li>Inspect/repair the drive</li> </ul>
<b>S L F 1</b>	[Modbus com.]	<ul style="list-style-type: none"> <li>Interruption in communication on the Modbus bus</li> </ul>	<ul style="list-style-type: none"> <li>Check the communication bus</li> <li>Check the time-out</li> <li>Refer to the Modbus user's manual</li> </ul>
<b>S L F 2</b>	[PowerSuite com.]	<ul style="list-style-type: none"> <li>Fault communicating with PowerSuite</li> </ul>	<ul style="list-style-type: none"> <li>Check the PowerSuite connecting cable</li> <li>Check the time-out</li> </ul>
<b>S L F 3</b>	[HMI com.]	<ul style="list-style-type: none"> <li>Fault communicating with the graphic display terminal</li> </ul>	<ul style="list-style-type: none"> <li>Check the terminal connection</li> <li>Check the time-out</li> </ul>
<b>S r F</b>	[Torque time-out]	<ul style="list-style-type: none"> <li>The time-out of the torque control function is attained</li> </ul>	<ul style="list-style-type: none"> <li>Check the function's settings</li> <li>Check the state of the mechanism</li> </ul>
<b>S S F</b>	[Torque/current lim]	<ul style="list-style-type: none"> <li>Switch to torque limitation</li> </ul>	<ul style="list-style-type: none"> <li>Check if there are any mechanical problems</li> <li>Check the parameters of <b>[TORQUE LIMITATION] (tLA-)</b> page 171 and the parameters of fault <b>[TORQUE OR LIM. DETECT.] (tld-)</b>, page 210</li> </ul>
<b>t J F</b>	[IGBT overheat]	<ul style="list-style-type: none"> <li>Drive overheated</li> </ul>	<ul style="list-style-type: none"> <li>Check the size of the load/motor/drive</li> <li>Reduce the switching frequency</li> <li>Wait for the motor to cool before restarting</li> </ul>

Fault	Name	Probable cause	Remedy
<b>C F F</b>	[Incorrect config.]	<ul style="list-style-type: none"> <li>Option card changed or removed</li> <li>Control card replaced by a control card configured on a drive with a different rating</li> <li>The current configuration is inconsistent</li> </ul>	<ul style="list-style-type: none"> <li>Check that there are no card errors</li> <li>In the event of the option card being changed/removed deliberately, see the remarks below</li> <li>Check that there are no card errors</li> <li>In the event of the control card being changed deliberately, see the remarks below</li> <li>Return to factory settings or retrieve the backup configuration, if it is valid (see page 223)</li> </ul>
<b>C F I</b>	[Invalid config.]	<ul style="list-style-type: none"> <li>Invalid configuration</li> <li>The configuration loaded in the drive via the bus or communication network is inconsistent</li> </ul>	<ul style="list-style-type: none"> <li>Check the configuration loaded previously</li> <li>Load a compatible configuration</li> </ul>
<b>H C F</b>	[Cards pairing]	<ul style="list-style-type: none"> <li>The [CARDS PAIRING] (PPI-) function, page 212, has been configured and a drive card has been changed</li> </ul>	<ul style="list-style-type: none"> <li>In the event of a card error, reinsert the original card</li> <li>Confirm the configuration by entering the [Pairing password] (PPI) if the card was changed deliberately</li> </ul>
<b>P H F</b>	[Input phase loss]	<ul style="list-style-type: none"> <li>Drive incorrectly supplied or a fuse blown</li> <li>Failure of one phase</li> <li>3-phase ATV71 used on a single-phase line supply</li> <li>Unbalanced load</li> </ul> <p>This protection only operates with the drive on load</p>	<ul style="list-style-type: none"> <li>Check the power connection and the fuses</li> <li>Use a 3-phase mains supply</li> <li>Disable the fault by [Input phase loss] (IPL) = [No] (nO) (page 202)</li> </ul>
<b>U S F</b>	[Undervoltage]	<ul style="list-style-type: none"> <li>Line supply too low</li> <li>Transient voltage dip</li> <li>Damaged pre-charge resistor</li> </ul>	<ul style="list-style-type: none"> <li>Check the voltage and the parameters of [UNDERVOLTAGE MGT] (USb-), page 205</li> <li>Replace the pre-charge resistor</li> <li>Inspect/repair the drive</li> </ul>

