



The Choice of Professionals

# Service Instructions

## *Diamatic-735PRO*

Original Service Instructions  
Version 1.0



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## Table of contents

<b>1. Tools .....</b>	<b>3</b>
<b>2. Spare parts.....</b>	<b>4</b>
<b>3. 735-LP Spare Parts .....</b>	<b>24</b>
<b>4. Electric schedules.....</b>	<b>28</b>
E06866 / 3x 400V / 11kW / frequency drive .....	28
E06866/UL230 / 3x 230V / 11kW / frequency drive .....	36
<b>5. Fault diagnose frequency drive .....</b>	<b>45</b>

## 1. Tools

### Diamag grinding wings & Accessories



#### E07240-2

DIAMAG  
ADAPTER PLATE  
Ø240 MM

**BG707321** #18 - 20  
**BG707322** #30 - 40  
BLUE GRINDING WING

**BG707311** #18 - 20  
**BG707312** #30 - 40  
**BG707313** #60 - 80  
**BG707314** #120 - 150  
GREEN GRINDING WING

**BG707301** #18 - 20  
**BG707302** #30 - 40  
**BG707303** #60 - 80  
**BG707304** #120 - 150  
RED GRINDING WING

**BG707341-2** #30 - 40  
BLACK GRINDING WING



#### E10692

DIAMAG  
ADAPTER PLATE  
WINGS PCD  
Ø240 MM

**BG200997-1/SET**  
PCD SPLIT WING  
**BG200995-1/SET**  
PCD 1x1 WING

**E09580** ROTARY  
PLATE ONLY Ø240 MM  
**E10240** PLATE Ø240  
MM COMPLETE WITH  
BUSH HAMMER ROLLERS  
**E10240/SW** PLATE  
Ø240 MM COMPLETE  
WITH STAR WHEELS

**E09119-1**  
BUSH HAMMER  
ROLLER  
Ø50 MM  
**BG300109**  
CUTTER WHEEL  
Ø50 MM

**E09368/FINE**  
VELCRO PLATE Ø240 MM  
For Polishing pads  
**E09368/COARSE**  
VELCRO PLATE Ø240 MM  
For Maintenance pads



**BG240001** #40 #1 - orange  
**BG240002** #100 #2 - Black  
**BG240003** #200 #3 - Blue  
**BG240004** #400 #4 - Red  
**BG240005** #800 #5 - White  
**BG240006** #1500 #6 - Yellow  
**BG240007** #3000 #7 - Green

POLISHING PADS Ø240 MM

**BG240M004** #400 #4  
**BG240M005** #800 #5  
**BG240M006** #1500 #6  
**BG240M007** #3000 #7

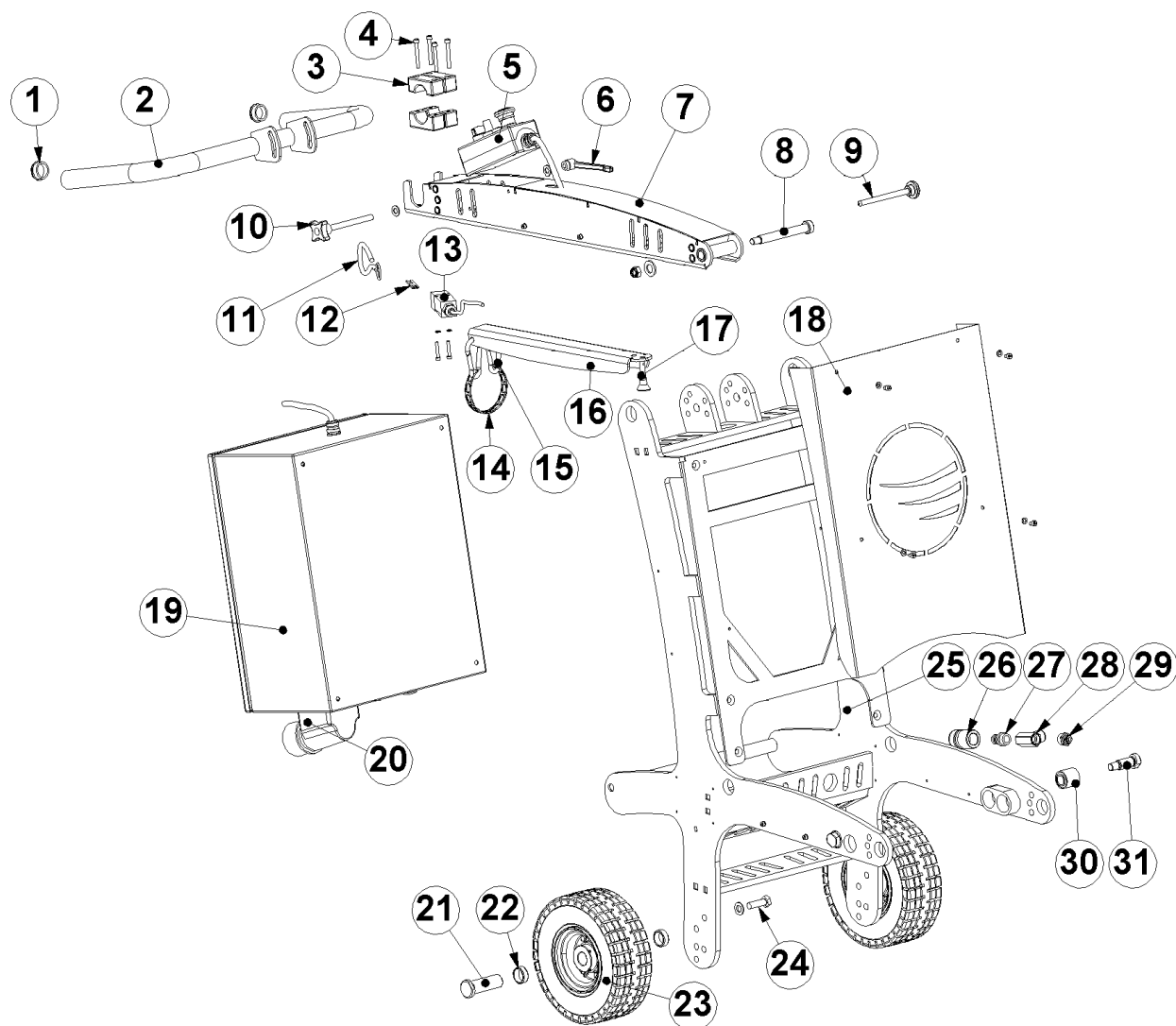
MAINTENANCE PADS Ø240 MM

#### 005014

10 M SUCTION HOSE  
Ø76 MM

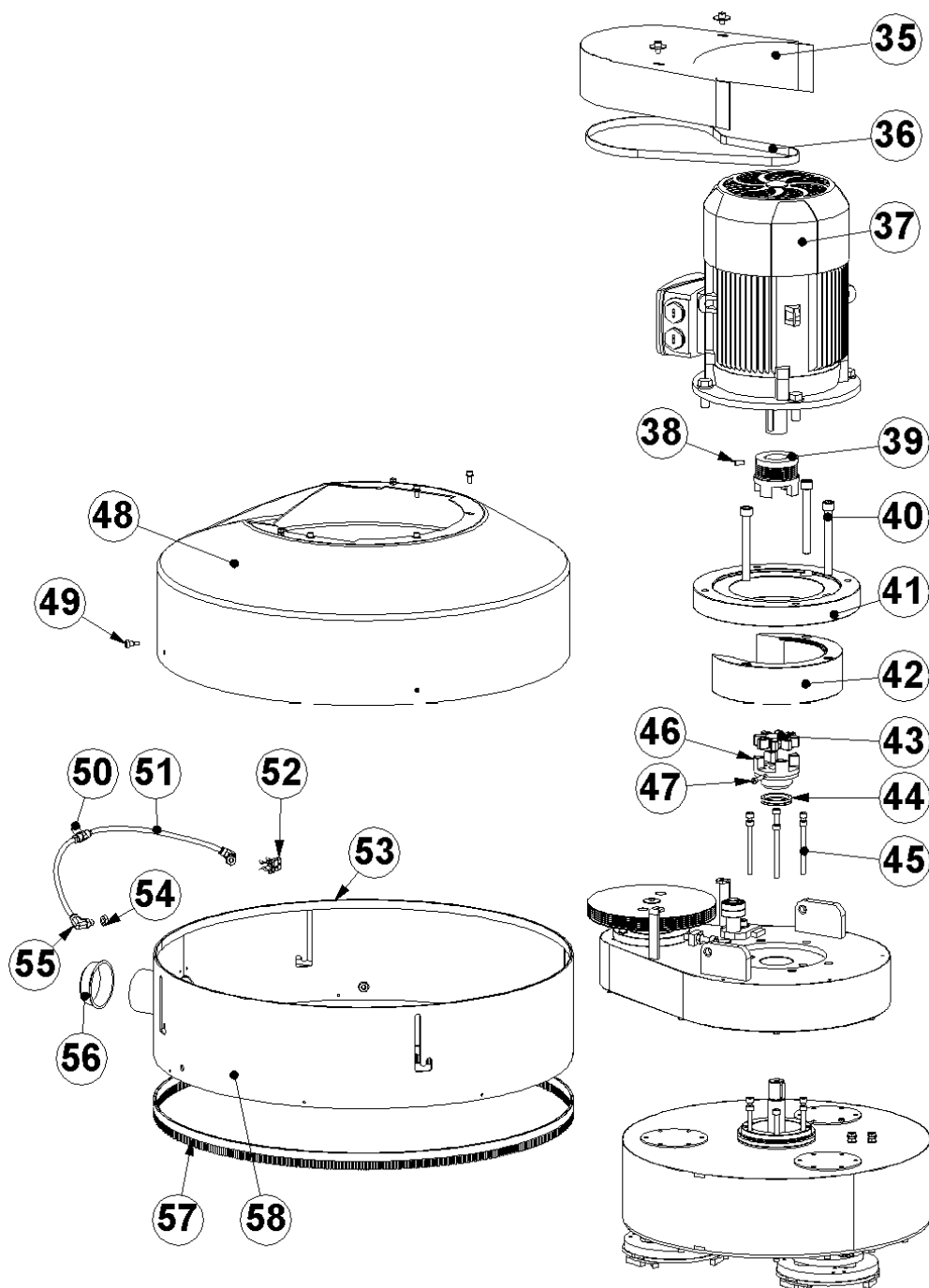
## 2. Spare parts

### Frame complete



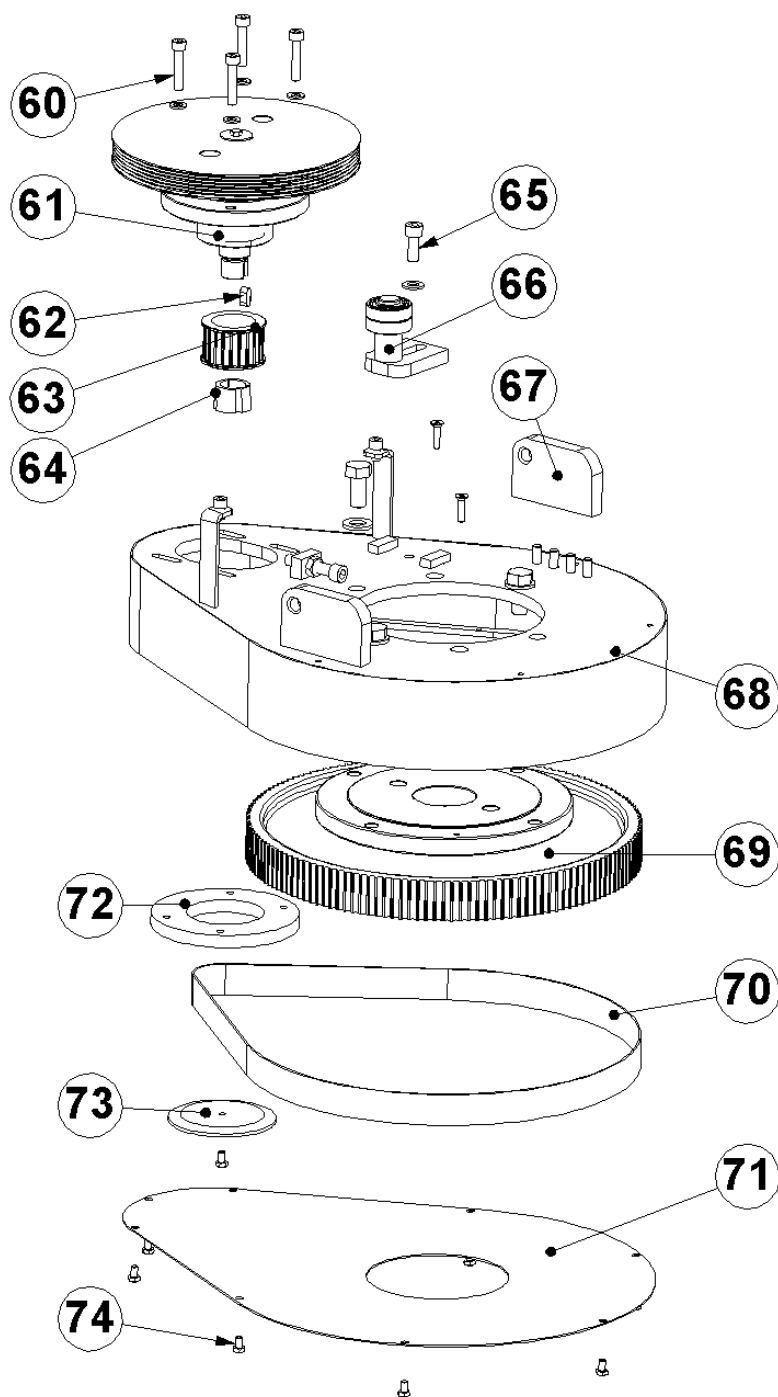
Item	Part number	Description	Remarks	Qty.
1	BE0643	Tube cap round		2
2	E07032/RD	Handle for steer long		1
3	999-9156	Pipe clamp (set)		2
4	BE0191	M6x50 hexagon socket head bolt	DIN 912	4
5	E07882	Operating box complete		1
	E01543	Emergency stop		
	E01318	Start button		
	E01351	Potential meter complete (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



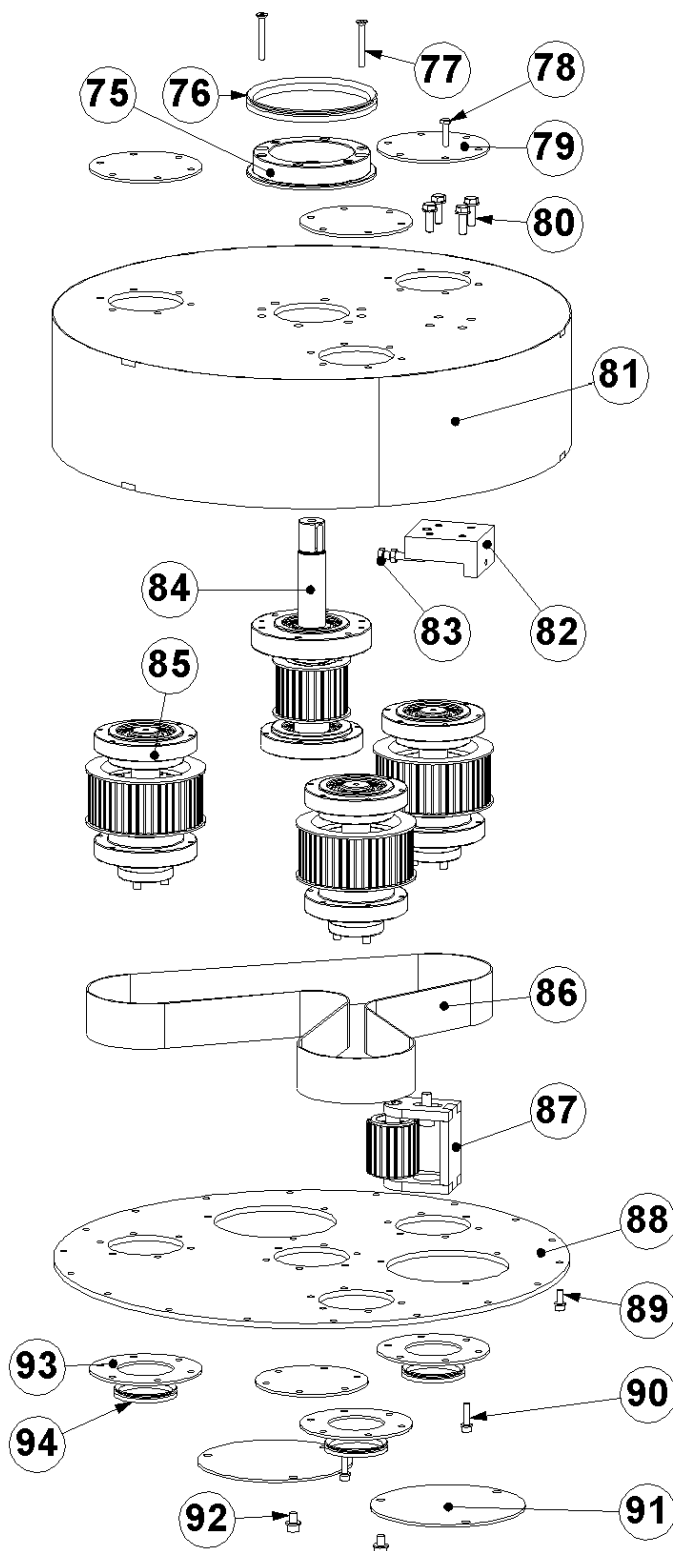
Item	Part number	Description	Remarks	Qty.
35	BG005847	Protection cap		1
36	BG11924	Upper belt		1
37	BG11923-1IE2	Motor 230V/400V		1
38	BE0654	M8x16 set screw	DIN 916	4
39	BG007808_2	Coupling upper part		1
40	BE0656	M14x140 hexagon socket head bolt	DIN 912	3
41	BG007810	Flange motor seat		1
42	BG007811	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



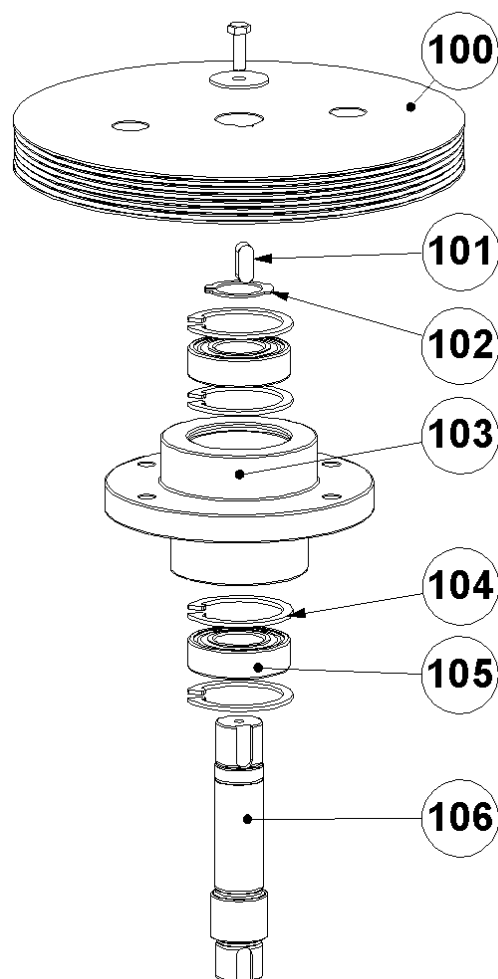
Item	Part number	Description	Remarks	Qty.
60	BE0631	M8x40 hexagon socket head bolt	DIN 7984	4
61	BG005856	Contra pulley		1
62	BE0648	Key 8x7x18	DIN 6885A	1
63	BG005805-1	Pulley		1
64	E01560	Taperlock		1
65	BE0443	M10x25 hexagon socket head bolt		
66	BG005860	Upper tensioner		1
67	BG005813	Holder		2
68	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



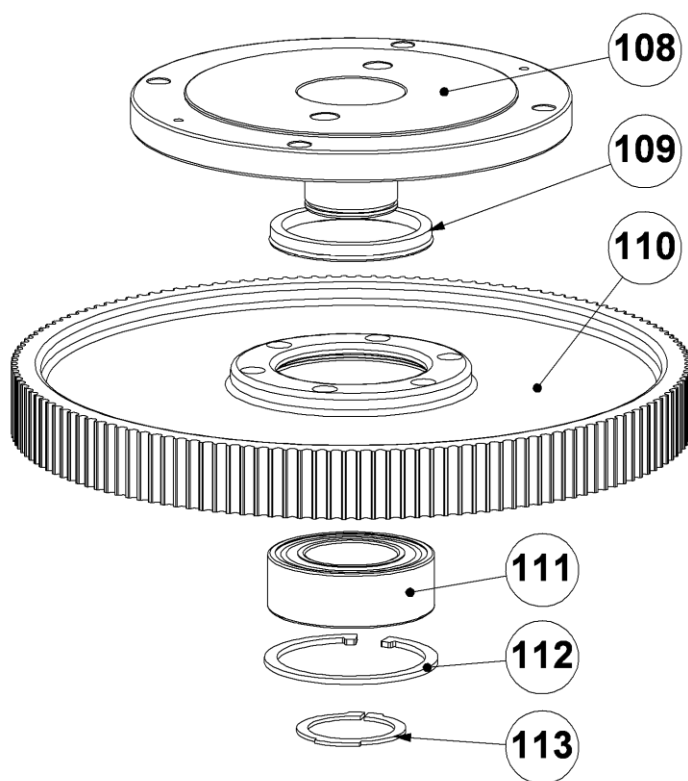
Item	Part number	Description	Remarks	Qty.
75	BG005814	Ring		1
76	BG11849	V-seal		1
77	BE0617	M6x50 countersunk screw	DIN 7991	2
78	BE0051	M6x25 hexagon head bolt	DIN 933	18
79	BG005827	Cover		4
80	BE0030	M8x25 hexagon head bolt	DIN 933	4
81	BG007322	Housing complete		1
82	BG005832-1	Holder		1
83	BE0090	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



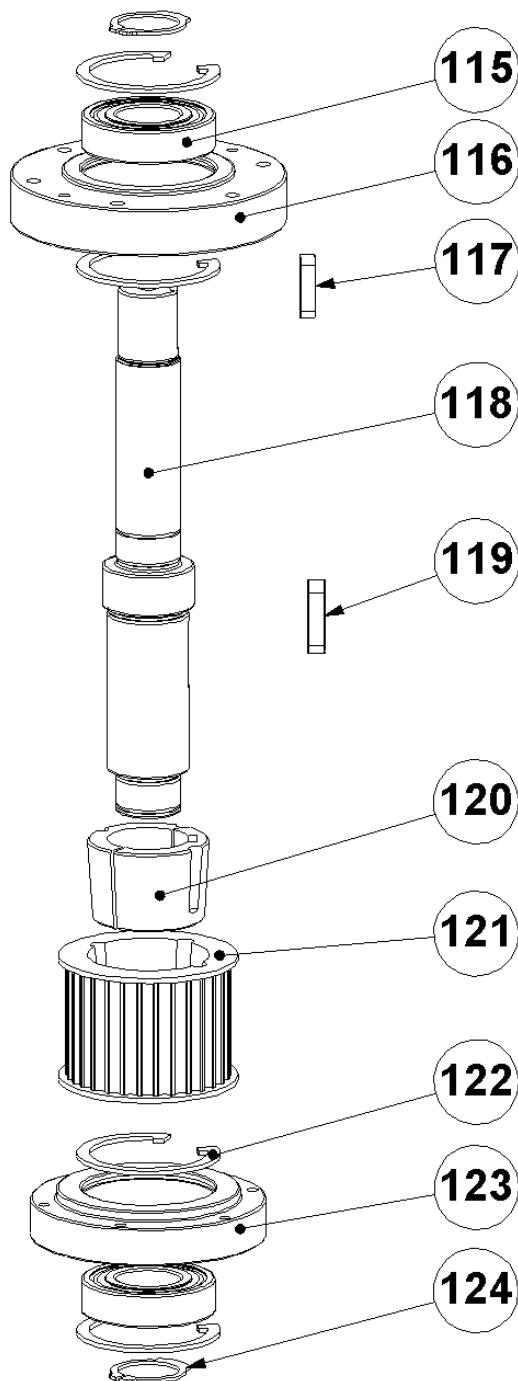
Item	Part number	Description	Remarks	Qty.
100	BG005803	Belt pulley		1
101	BE0109	Key 8x7x20	DIN 6885A	1
102	BE0076	Retaining ring for shaft Ø25	DIN 471	1
103	BG005802	Bearing house		1
104	BE0077	Retaining ring for bore Ø52	DIN 472	4
105	222-2331-E	Bearing		2
106	BG005801	Axle		1

## Centre pulley BG005857



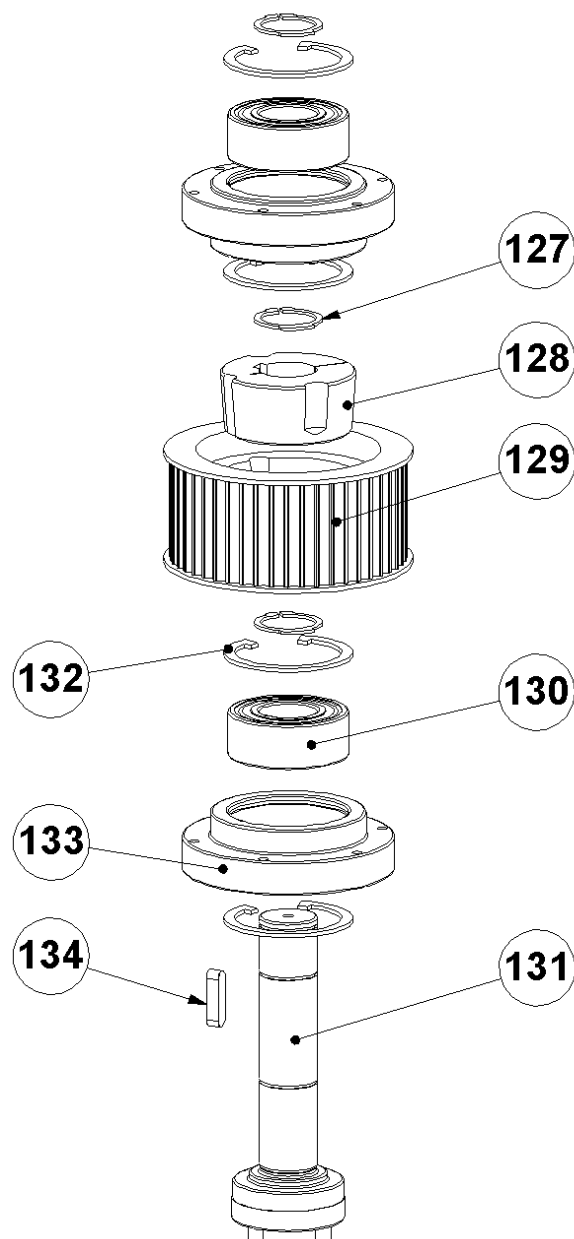
Item	Part number	Description	Remarks	Qty.
108	BG005812	Sprocket		1
109	E03703	V-seal		1
110	BG005806	Pulley		1
111	E01490	Bearing		1
112	E03993	Retaining ring for bore Ø90	DIN 472	1
113	BE0126	Retaining ring for shaft Ø50	DIN 471	1

## Drive pulley BG005858



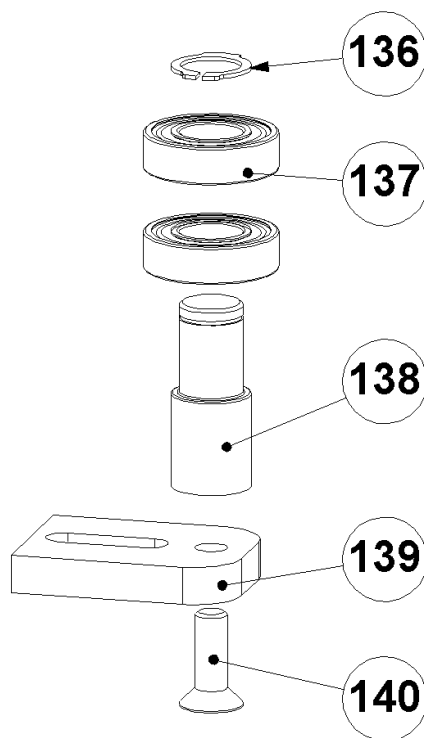
Item	Part number	Description	Remarks	Qty.
115	B20404	Bearing		2
116	BG005815	Bearing house		1
117	BE0256	Key 8x7x30	DIN 6885A	1
118	BG005818	Axle		1
119	BE0269	Key 10x8x32	DIN 6885A	1
120	E00718	Taperlock		1
121	BG005820	Pulley		1
122	E00951	Retaining ring for bore Ø62	DIN 472	4
123	BG005821	Bearing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

## Pulley (3x) BG005859



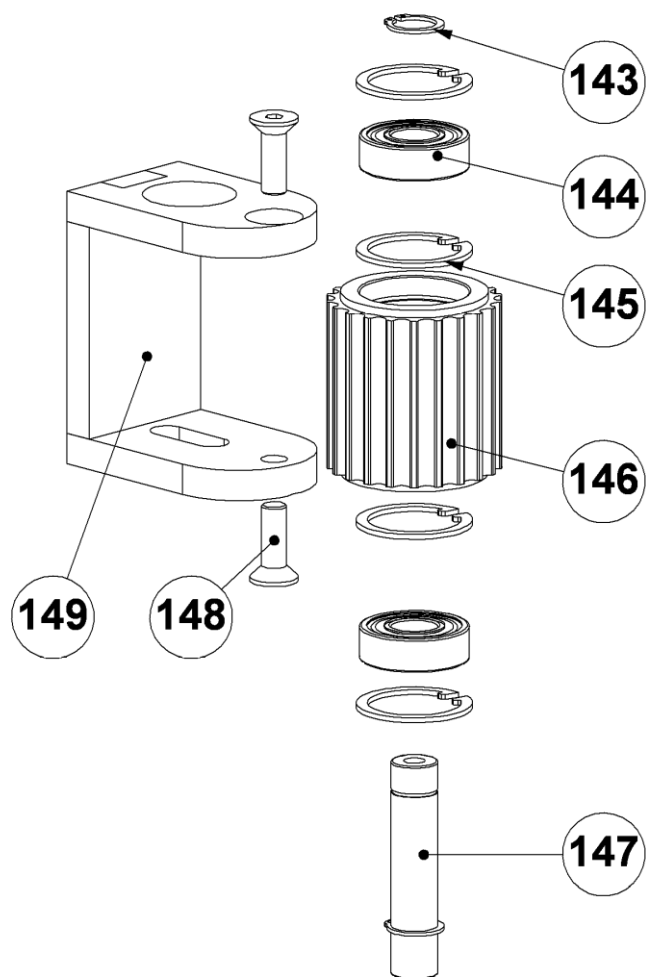
Item	Part number	Description	Remarks	Qty.
127	B21631	Retaining ring for shaft Ø30	DIN 471	3
128	RB100A3-350	Taperlock		1
129	RB165-2	Pulley		1
130	BG11817	Bearing		2
131	BG005816	Axle		1
132	E00951	Retaining ring for bore Ø62	DIN 472	4
133	BG005817	Bearing house		1
134	BE0256	Key 8x7x30	DIN 6885A	1
135				

## Upper tensioner BG005860



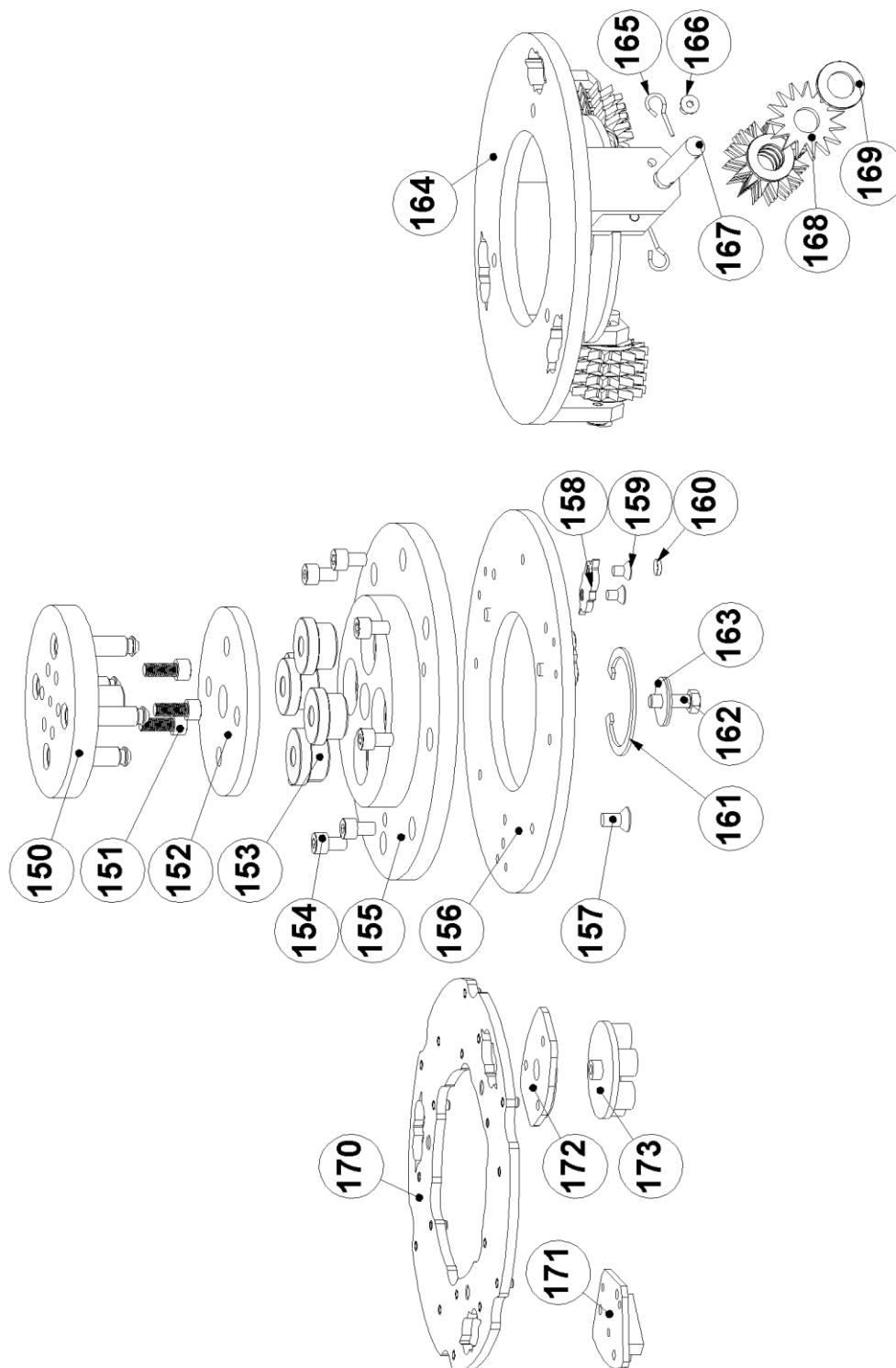
Item	Part number	Description	Remarks	Qty.
136	BE0074	Retaining ring for shaft Ø20	DIN 471	1
137	222-2245	Bearing		2
138	BG005830	Axle for tensioner		1
139	BG005831	Tension plate		1
140	BE0130	M10x25 countersunk screw	DIN 7991	1
141				
142				

## Lower tensioner BG005861



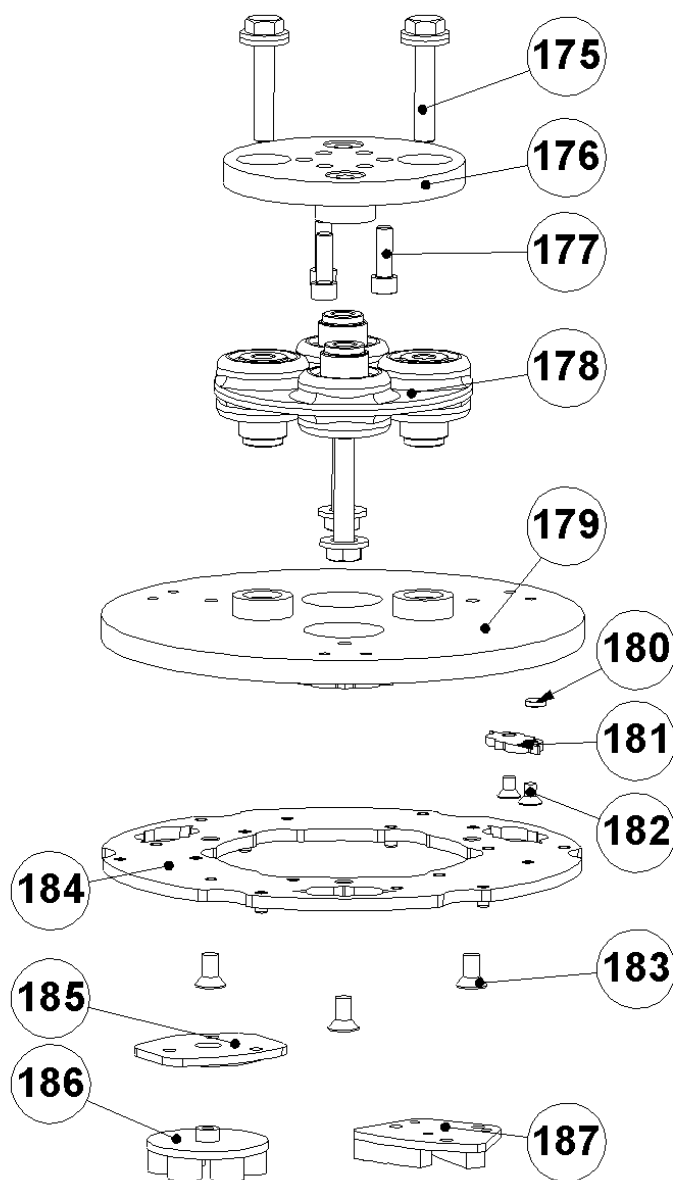
Item	Part number	Description	Remarks	Qty.
143	BE0070	Retaining ring for shaft Ø15	DIN 471	2
144	BG11792	Bearing		2
145	BE0618	Retaining ring for bore Ø35	DIN 472	4
146	BG005836	Pulley		1
147	BG005837	Axle tensioner		1
148	BE0458	M8x25 countersunk screw	DIN 7991	2
149	BG005833	Tensioner		1

## Buffer plate for surface preparation (3x)



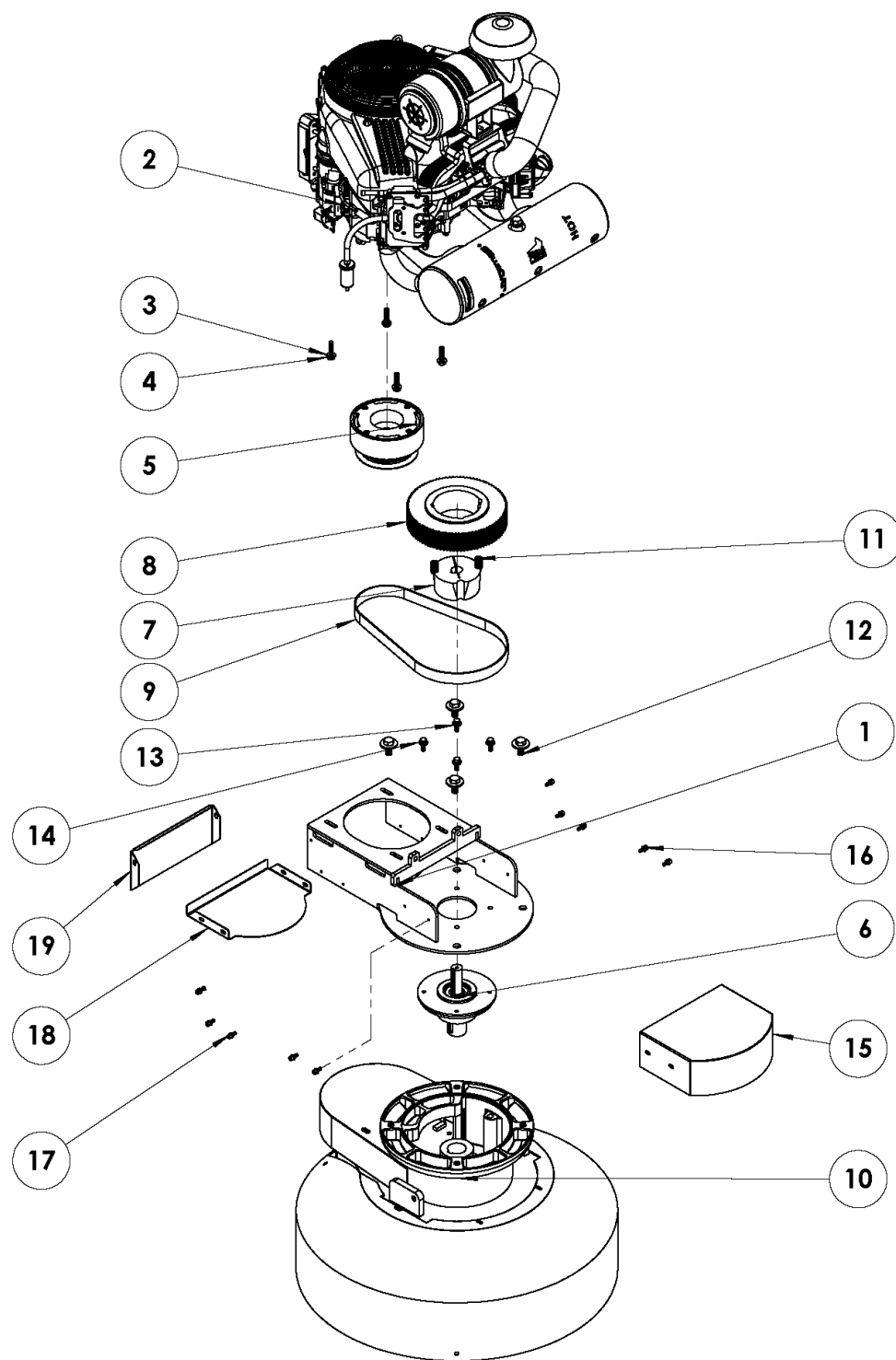
Item	Part number	Description	Remarks	Qty.
153-160	BG240190-1	240mm diamond holder complete		1
156-160	BG2401901-1	240mm diamond holder		1
150	BG11880-HD	Fork		1
151	BE0204 + BE0584	M8x25 hexagon socket head bolt small + M8 spring washer small	DIN 7984 DIN 7980	3
152	BG11879	Buffer disc		1
153	BG11878	Buffer hard		4
154	BE0082	M8x12 hexagon socket head bolt	DIN 912	8
155	BG11877	Magnet plate holder 240mm		1
156	BG2401901-1	Only complete with parts 157 - 160		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)



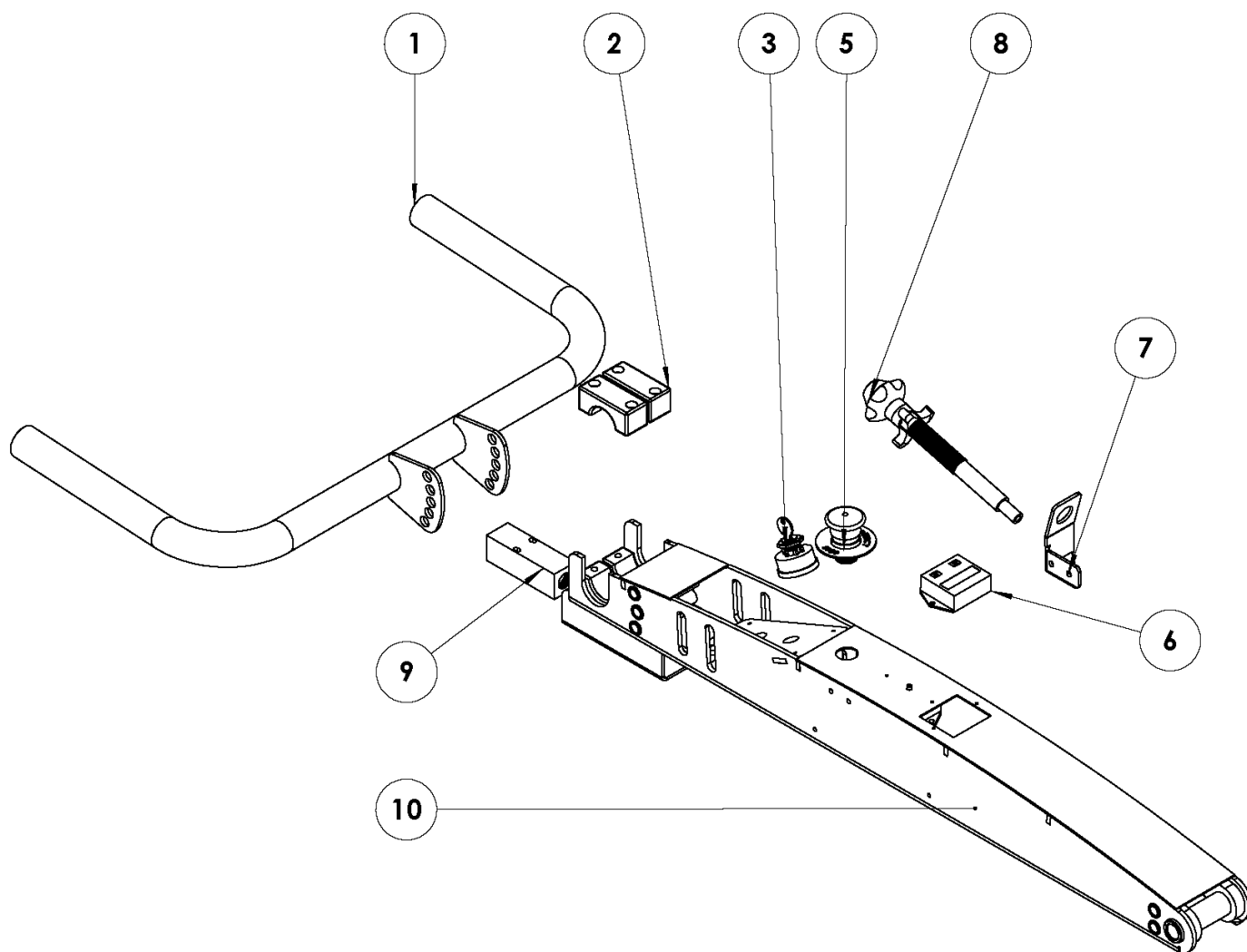
Item	Part number	Description	Remarks	Qty.
175	BE0589	7/16 x 2"½ hexagon UNC bolt		4
176	BG2402001	Flexplate adapter for axle		1
177	BE0012	M8x25 hexagon socket head bolt	DIN 912	3
178	BG400310	Morflex coupling		1
179-182	BG2402002-1	Flexplate diamond holder		1
179	BG24020021-1	Flexplate diamond holder 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. 735-LP Spare Parts Engine Mount Spare Parts



ITEM	PART NUMBER	DESCRIPTION	REMARKS	QTY.
1	LP735013	ENGINE MOUNTING BRACKET / BMG-735LP		1
2	LP735005	35HP Briggs LP Engine		1
3	11137084	3/8" Washer		4
4	11241199	3/8"-16-1.5" HCS		4
5	LP735001	Clutch / Centrifugal		1
6	E12425	Bearing unit compl. 735Propane		1
7	LP735003	Taper lock bushing		1
8	LP735002	Bearing Unit Sprocket		1
9	LP735004	Belt / Clutch to Bearing Unit		1
10	N/A	Grinding Head Assembly		1
12	91375A796	5/8"-11-1.25" Set Screw		2
13	BHF081025121	M8 X 1.25 X 25 Metri-Torq Hex Cap Screw		8
14	WFM061000520125A	M6 Thru-Hardened Steel Flat Washer		18
15	WLR081000220127B	M8 Lock washer		4
16	LP735021	Belt guard front		1
20	SRS061016220	M6-1.0X16 Gr 12.9 Socket Head C/S		10
21	WLR061000220	M6 Lock washer		10
22	LP735020	Lower Belt Guard/Rear - BMG-735LP		1
23	LP735022	Upper belt Guard/Rear-BMG-735LP		1

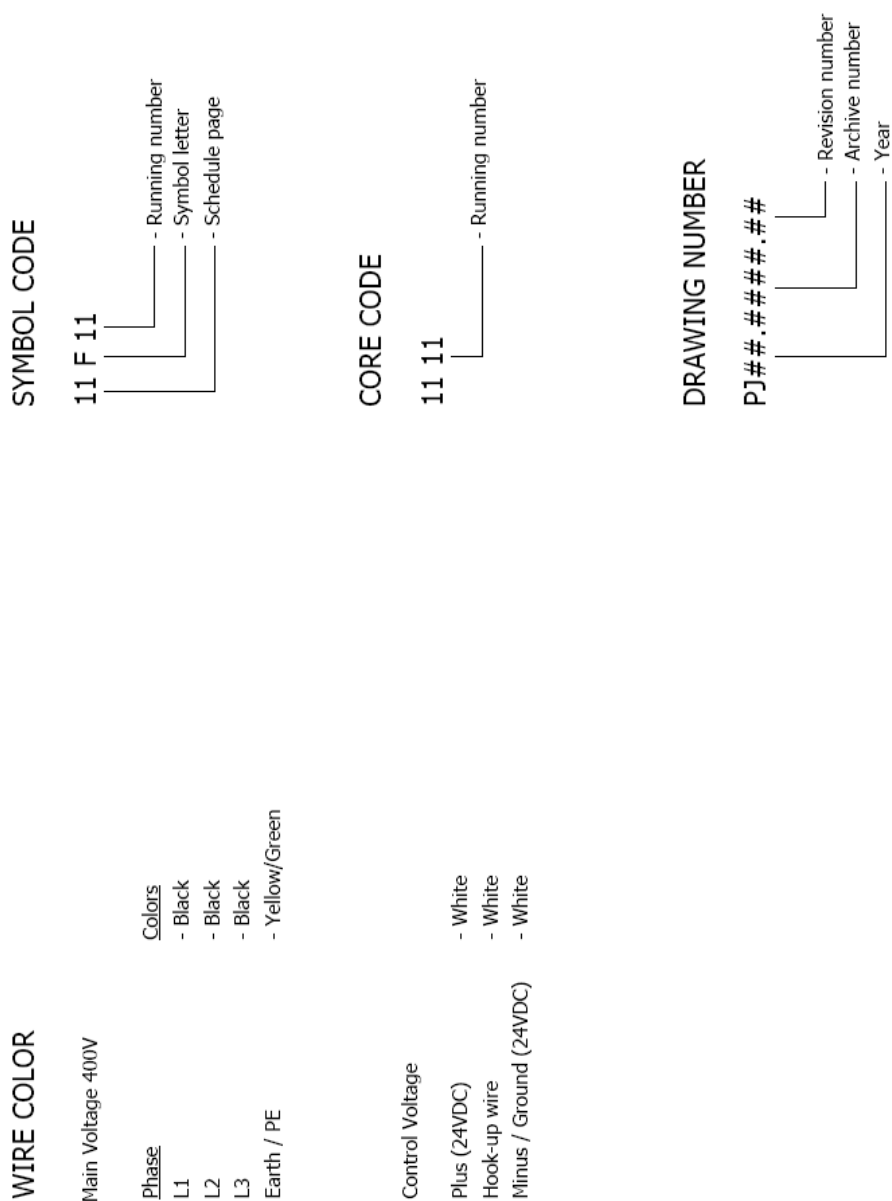
## 735-LP Handle:



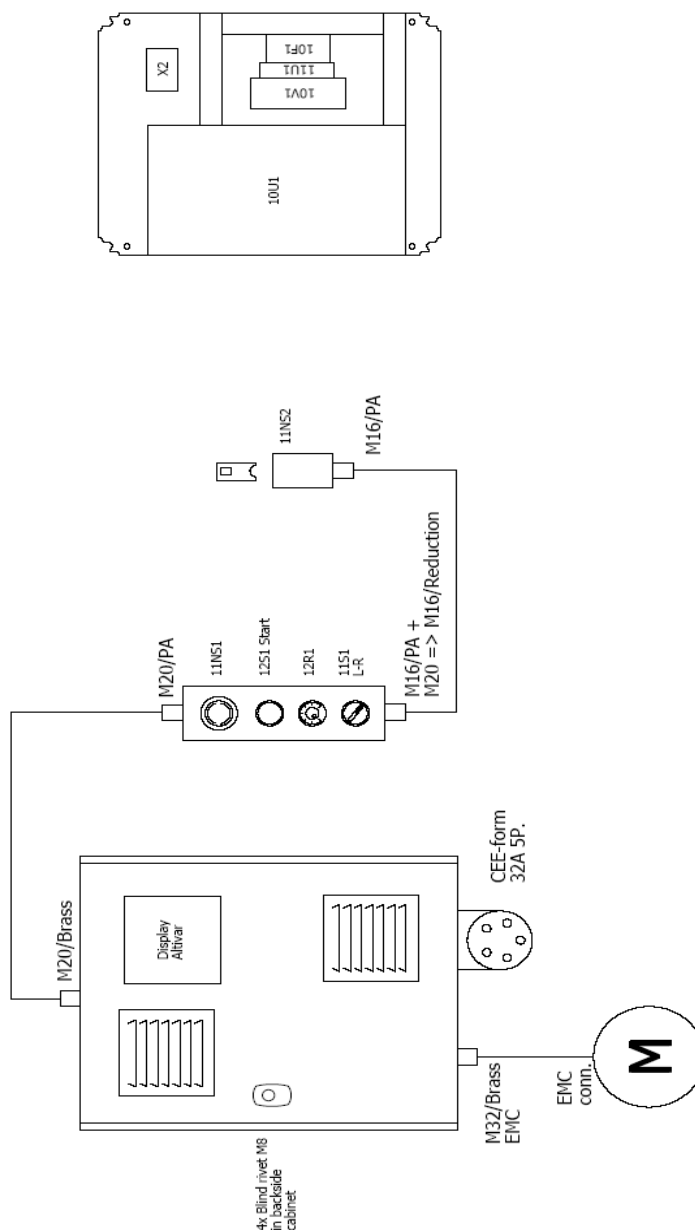
ITEM	PART NUMBER	DESCRIPTION	Remarks	QTY.
1	BG005845-RD	Steer handle Red		1
2	999-9156	Pipe clamp 35mm (set)		4
3	MP10011	ignition switch		1
4	LP735069	Emissions light		1
5	LP735017	Emergency stop		1
6	MP10010	Tachometer		1
7	LP735078	Throttle cable bracket		1
8	LP735008	Throttle cable		1
9	BG11760	Deadman switch		1
10	BG005835	Steer handle		1

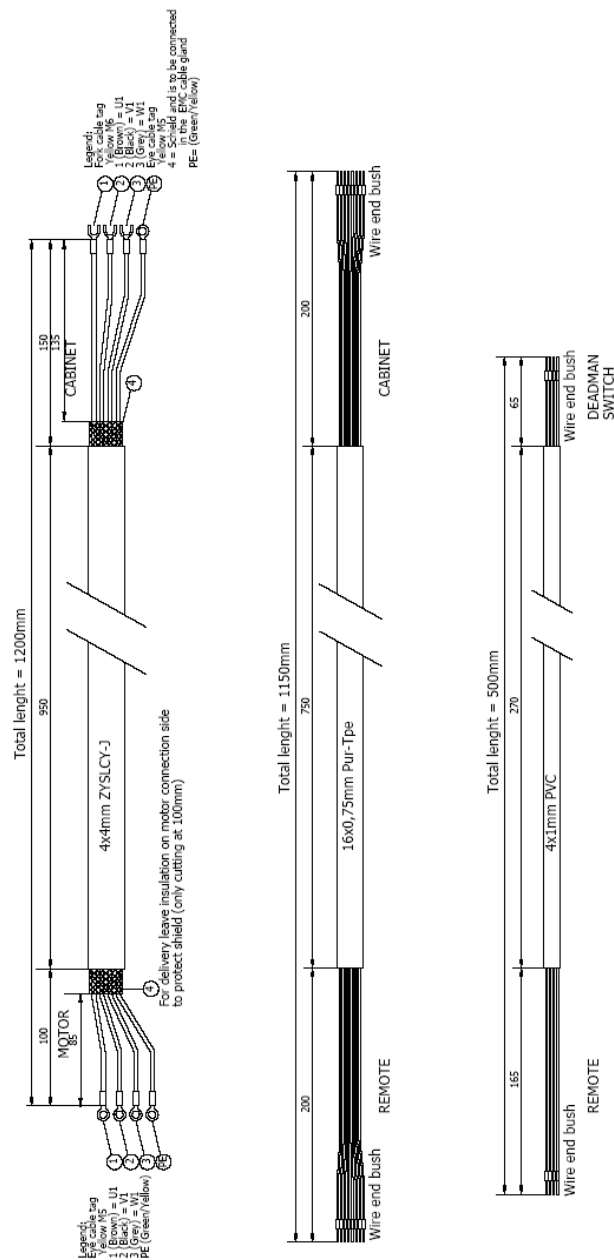
## 4. Electric schedules

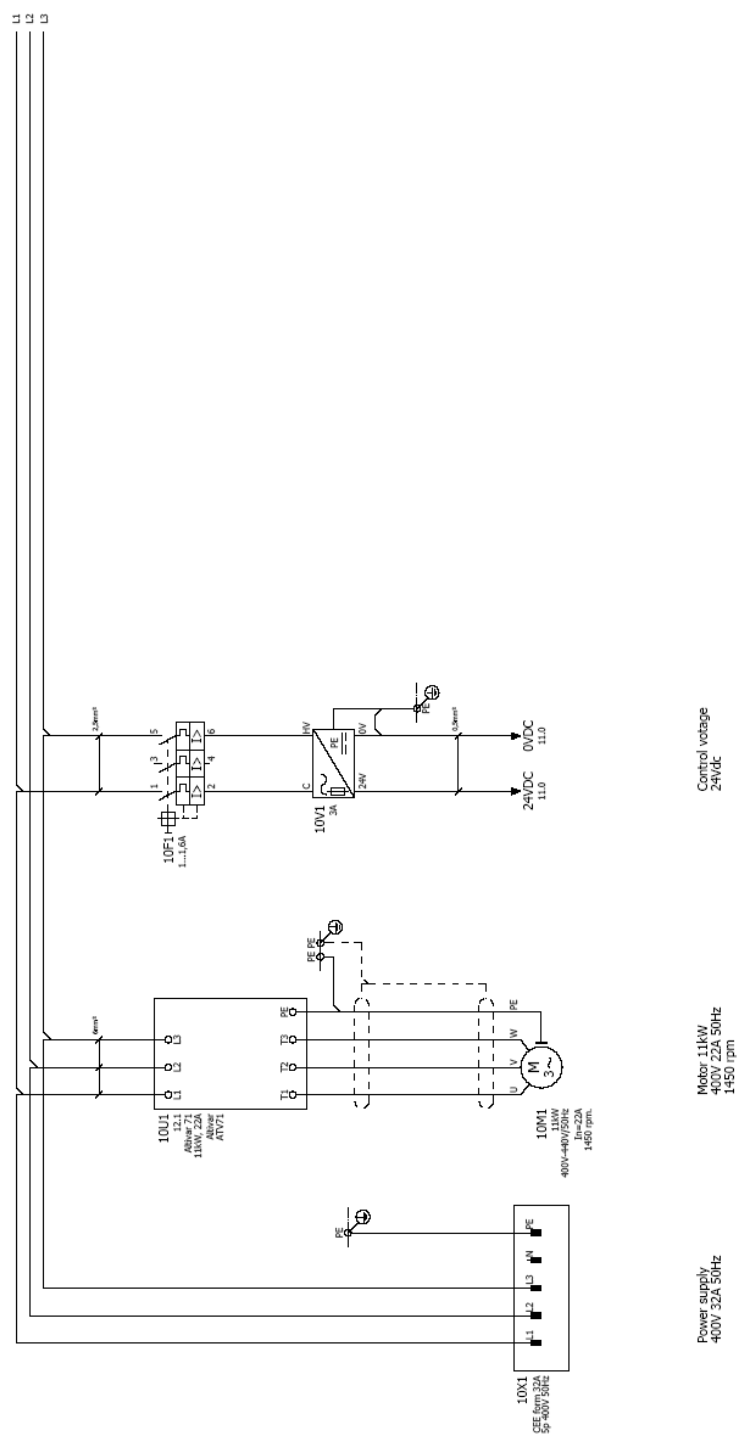
E06866 / 3x 400V / 11kW / frequency drive



	auxiliary contact	hulpcontact		signal light	signaallamp		Safety fuse	smekveiligheid
	Power contact	vermogenscontact		horn	hoorn		Fused switch, three-pole	schakelbare schakelaar
	NO contact, opens with time delay	makcontact, vertraagd open		apm.meter	ampere-meter		Fused disconnect, three-pole	schakelaar "kapsluit"
	NO contact, closes with time delay	makcontact, vertraagd sluitend		running hour counter	urenreeller		Main switch	hoofdschakelaar
	NC contact, opens with time delay	veerbrekcontact, vertraagd open		transformer	transformator		Circuit breaker, single-pole	invalschakelaar 1-poolig
	NC contact, closes with time delay	veerbrekcontact, vertraagd sluitend		Contactor coil relay coil	spoel		Circuit breaker, two-pole	invalschakelaar 2-poolig
	Pushbutton rebound	duikknop terugveerend		Contactor/relay coil, with pick-up delay	spoel met opkomvertraging		Circuit breaker, three-pole	invalschakelaar 3-poolig
	Pushbutton locking	duikknop blijvend		Contactor/relay coil, with drop-out delay	spoel met afvalvertraging		Power circuit breaker motor overload switch with switch mechanism	motorbeveiligingsschakelaar
	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	noodstop met draaiende vrijgave		Resistor / Heating	weerstand verwarming		Terminal	rijgklem
	Thermostatic switch	thermostaat hygrostaat		Socket	wandcontactdoos		Terminal with fuse	rijgklem met bekering
	Pressure switch	drukschakelaar		Current transformer	stroombekwaamtransformator		Rectifier	gelijkrichter
	Limit switch	eindschakelaar						
	Proximity switch	naderingsschakelaar						









[illegible]

device tag	Quantity	designation	Type number	part number
CAB	1	Steel enclosure 500x400x250 with mounting plate 400x350	87294 STEEL	87294
CAB	1	Blind rivet M6x16	Blindeinnietter M6	POPRC MB616 at variant
PG	1	Cable Gland M20*1.5 Nickel-plated	WARTTEL L-M20*1.5	50.620 M-L
PG	1	Locknut M20*1.5 Nickel-plated	WARTTEL-MOER M20	50.220 M
PG	1	Cable Gland M20*1.5	WARTTEL PA M20*1.5	50.620 PA7035
PG	2	Locknut M20*1.5	WARTTEL-MOER M20	50.220 PA7035
PG	2	Cable Gland M16*1.5	WARTTEL PA M16*1.5	MQ004BPA
PG	1	Reduction M20 -> M16*1.5	Reduktion PA M20->M16*1.5	50.216 PA7035
PG	1	Locknut M16*1.5	WARTTEL-MOER M16	50.225 MPOT
PG	2	Locknut M25*1.5 Nickel-plated EMC	50.225 MPOT	50.225 NPO7
PG	2	Cable gland M25*1.5 Nickel-plated EMC	50.625 MEPMV	50.625 NERNV
G8B	1	Indicator RAL7035/7016 for 4 buttons	XAL CO-4	XAL CO4
IO1	1	SAA CEE-terminals for 16-wire socket 6n	CECterminals 6n	CECterminals 6n
IO11	1	Fuse holder 11kVA	AT721-HQ11 H4	AT721-HQ11 H4
IO11	1	Transformer circuit breaker 1.1.6A	GTP RT06	GTP RT06
IO11	1	Power Supply 400/24V 3A	ABJ-BPS24030	ABJ-BPS24030
IO11	1	Emergency stop relay	VPS-ACS121	VPS-ACS121
11N62	1	Safety switch + Pin	XCS-PA792 + XCS-Z11	XCS-PA792 + XCS-Z11
11N61	1	Emergency stop	ZBS AS844	ZBS AS844
11N61	2	effluent NC VAL	ZBN L1121	ZBN L1121
11S1	1	Punchdown GREEN "START"	ZBS AA331	08.01.0227
11S1	1	effluent NO VAL	ZBN L1111	ZBN L1111
11S1	1	Switch handle	ZBS A02	ZBS A02
12S1	1	effluent NC VAL	ZBN L1121	ZBN L1121
12S1	1	effluent NO VAL	ZBN L1111	ZBN L1111
12S1	1	effluent NO VAL	Potmeterstop ENK Z84	Potmeterstop ENK Z84
12R1	1	17mm-pot 10k	ZBS AL912	ZBS AL912
12R1	1	Pd-meister	PMH GS14	PMH GS14
12R1	1	Pin Bgr		
12R1	1	Pin Bgr guard		
12M1	2	End bracket	NEID ZBW 35	964050000
X1	2	2 Wire PE terminal 2.5mm²	NEID ZPE 2.5f	9608540000
X1	12	2 Wire terminal 2.5mm²	NEID ZDU 2.5	9608510000
X1	1	End plate ZDU 2.5	NEID ZAP/TW 1	960740000

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

WIRE COLOR

All wiring AWG

Main Voltage 230V

Phase

L1

L2

L3

Earth / PE

Colors

- Black

- Black

- Black

- Yellow/Green

SYMBOL CODE

11 F 11

- Running number

- Symbol letter

- Schedule page

CORE CODE

11 11

- Running number

























































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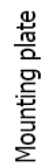
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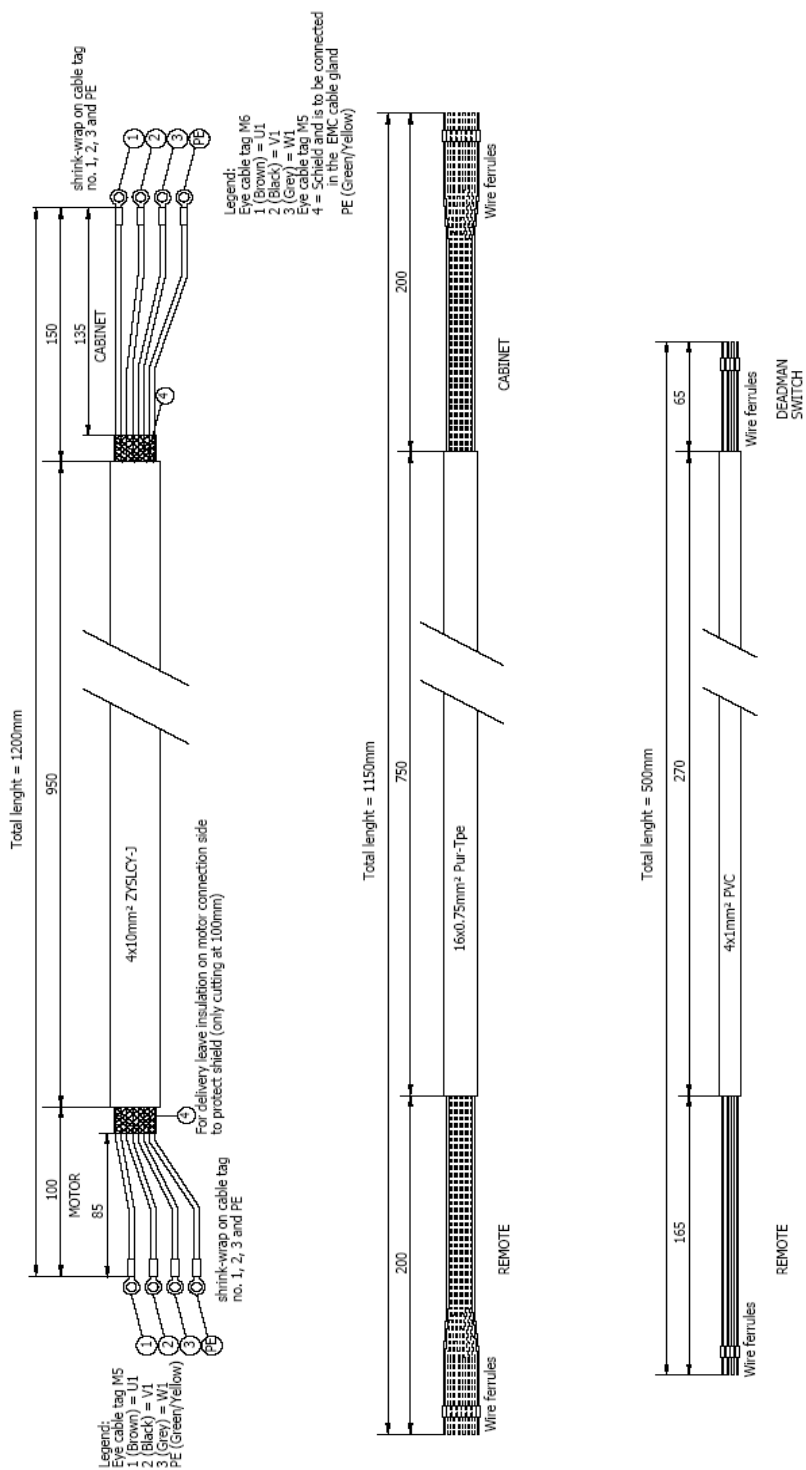
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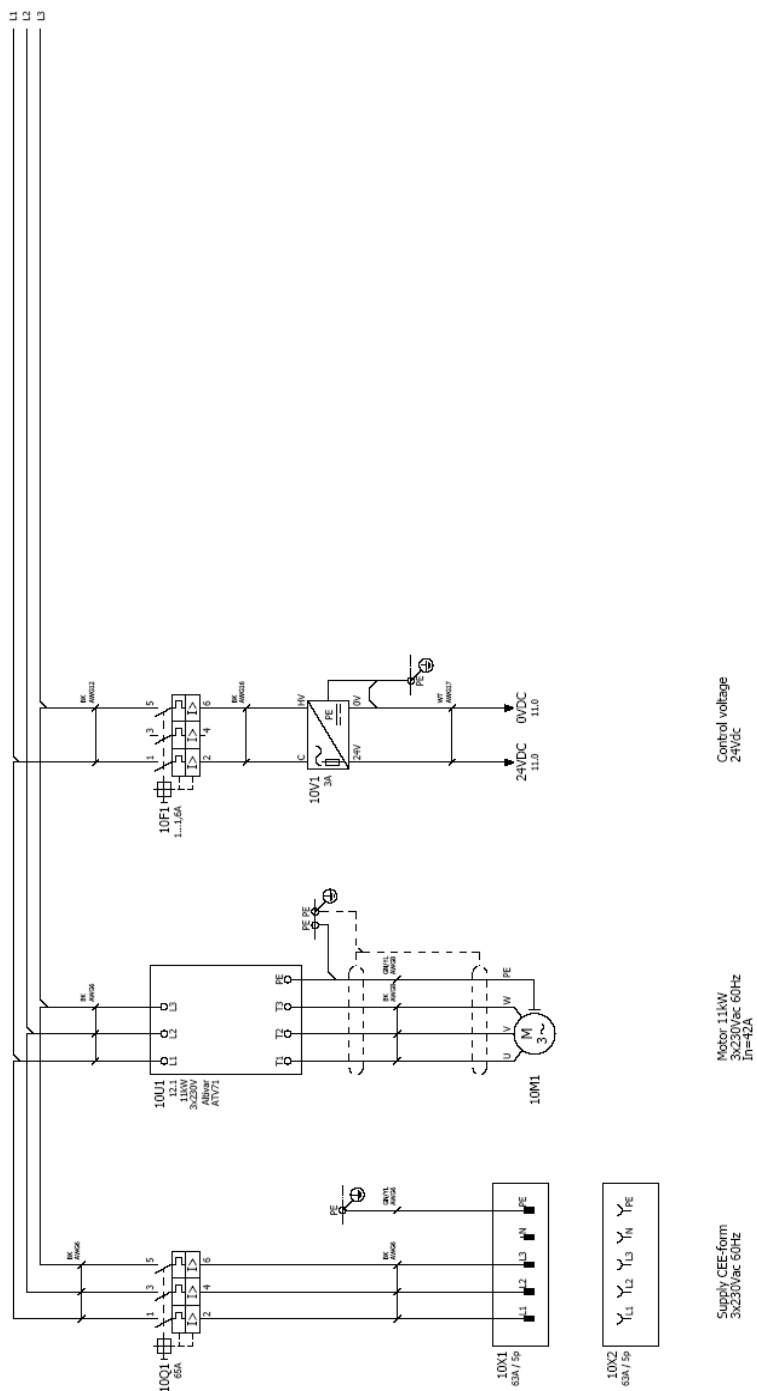
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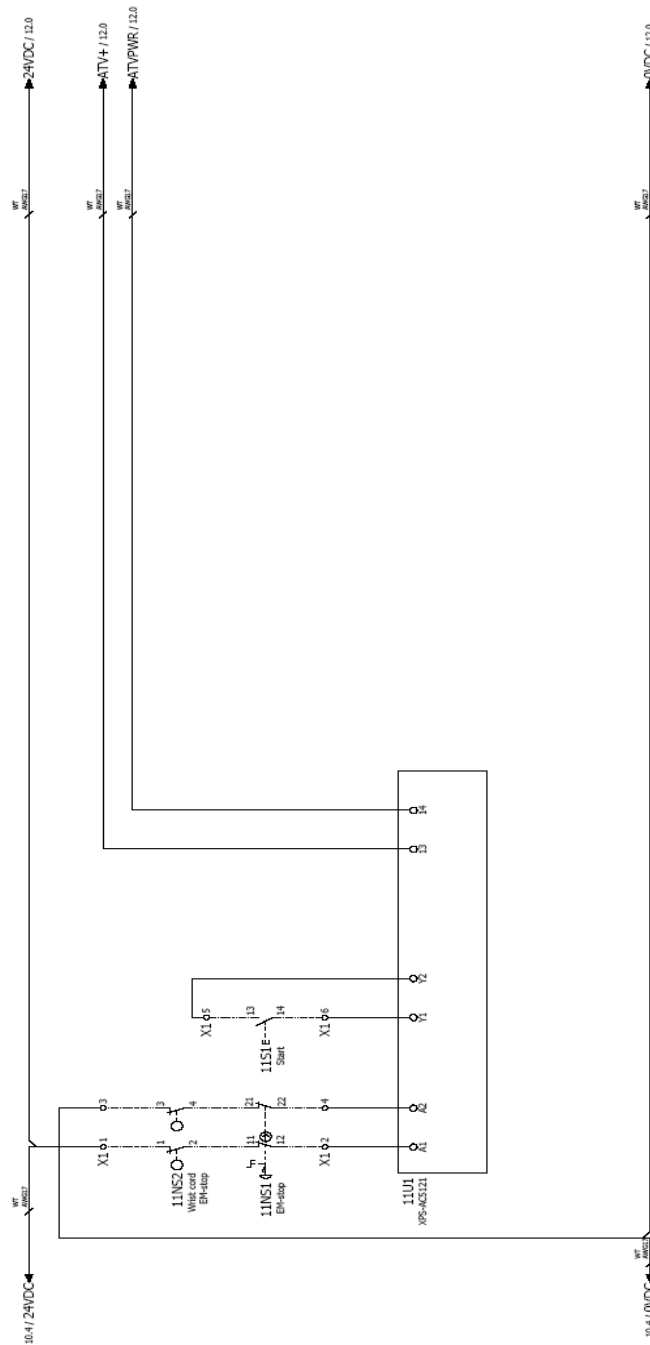
- Year

	auxiliary contact		signal light		Safety fuse		smeltvlugheid
	Power contact		horn		Fused switch, three-pole		schakelaars schiever
	NO contact, opens with time delay		apm.meter		Fused disconnect, three-pole		schiever "tupbak"
	NO contact, closes with time delay		running/hour counter		Main switch		hoofdschakelaar
	NC contact, opens with time delay		transformer		Circuit breaker, single-pole		installatieautomaat 1-poolig
	NC contact, closes with time delay		Contactor coil relay coil		Circuit breaker, two-pole		installatieautomaat 2-poolig
	Pushbutton rebound		Contactor/relay coil, with pick-up delay		Circuit breaker, three-pole		installatieautomaat 3-poolig
	Pushbutton locking		Contactor/relay coil, with drop-out delay		Power circuit breaker motor overload switch with switch mechanism		motorbeveiligingsschakelaar
	Rotary switch rebound		Contactor pulse coil relay pulse coil		Valve		elektrisch bediende klep
	Rotary switch locking		Tube light		Resistor with movable contact		reguleerbare weerstand
	Emergency stop rotary unlock		Resistor / Heating		Terminal		rijgklem
	Thermostatic switch		Socket		Terminal with fuse		rijgklem met zekering
	Pressure switch		Current transformer		Rectifier		gelijkrichter
	Limit switch						
	Proximity switch						











[illegible]

device tag	Quantity	designation	Type number	part number
CAB	1	Enclosure 500x400x300 with mounting plate 570x350	MKS 0604030	MKS 0604030
PG	1	Cable Gland M20*1.5 Nickel-plated EMC	50.632 M20M	50.632 M20M
PG	1	Locknut M20*1.5 Nickel-plated EMC	50.232 M20POT	50.232 M20POT
PG	1	Cable Gland M20*1.5 Nickel-plated EMC	WARTTEL M20*1.5	50.620 M4L
PG	1	Locknut M20*1.5 Nickel-plated EMC	WARTTEL M20	50.220 M
PG	1	Cable Gland M20*1.5 Nickel-plated EMC	WARTTEL PA M20*1.5	50.620 PA0305
PG	2	Locknut M20*1.5	WARTTEL M20	50.220 PA0305
PG	2	Cable Gland M20*1.5	WARTTEL PA M20*1.5	50.616 PA0305
PG	1	Locknut M20*1.5	WARTTEL M20	50.216 PA0305
PG	1	Reduction M20 -> M16*1.5	Reduction PA M20->M16*1.5	M20M20PA
PG	1	Locknut M20*1.5 Nickel-plated EMC	50.225 M20POT	50.225 M20POT
PG	1	Cable Gland M20*1.5 Nickel-plated EMC	50.632 M20M	50.632 M20M
CSB	1	Emergency stop 11kW 3x230V	ATV71 M011 M03	ATV71 M011 M03
1001	1	63A CEE-form Wall outlet socket 9H IP67	ABE G53525	ABE G53525
1002	1	63A CEE-form Socket 9H IP67	ABE K53525	K53525
1001	1	Motor circuit breaker 65A 3p	TELE G03-466	G03 P65
1001	1	Large socketing UL	TELE G03-466	G03 P66
1001	1	Axle + block ON/OFF handle	TELE G03A003	G03A003
1001	1	Frequency controller 11kW 3x230V	ATV71 M011 M03 3*230V	ATV71 M011 M03
10F1	1	Transformer circuit breaker 1..1.5A	G/2 RT06	G/2RT06
10V1	1	Power Supply 400/24V 3A	ABE-B0952-4030	ABE-B0952-4030
11U1	1	Emergency stop relay	XPS-AC5121	XPS-AC5121
11H52	1	Safety switch + Pin	XCS-PA392 + XCS-211	XCS-PA392 + XCS-211
11H53	1	Emergency stop	285 A5844	285 A5844
11H51	2	element MC 2AL	28N L1121	28N L1121
1151	1	Purification GREEN START*	28N L1121	08.01.0237
1151	1	element MO 2AL	28N L1111	28N L1111
1151	1	Switch 11kW 3x230V	28N L1111	28N L1111
1251	1	element MC 2AL	28N L1121	28N L1121
1251	1	element MO 2AL	28N L1111	28N L1111
1281	1	Trim pot 10K	Powermeter 10K 284	Powermeter 10K 284
1281	1	Pot.meter	285 A2912	285 A2912
1291	1	Fan	FAN 8314	FAN 80/80*32 24VDC
1291	1	Fan filter		221-336 heat kl.benh.
1291	1	Fan finger guard		250-1612 heat kl.benh.

## 5. 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>R 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>R 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 [1.10 DIAGNOSTICS] 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 [1.10 DIAGNOSTICS] 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 [SETTINGS] (SE+) and [1.4 MOTOR CONTROL] (drC-) 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> </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>Perform the diagnostic tests via the [1.10 DIAGNOSTICS] menu</li> </ul>
<b>S C F 3</b>	[Ground short circuit]		<ul style="list-style-type: none"> <li>Reduce the switching frequency</li> <li>Connect chokes in series with the motor</li> </ul>
<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>A 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>O 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>O 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>O 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>O 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 35, 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>	[LI6=PTC overheat]	<ul style="list-style-type: none"> <li>Overheating of PTC probes detected on input LI6</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>	[LI6=PTC probe]	<ul style="list-style-type: none"> <li>PTC probes on input LI6 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 I 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>



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