



EBARA



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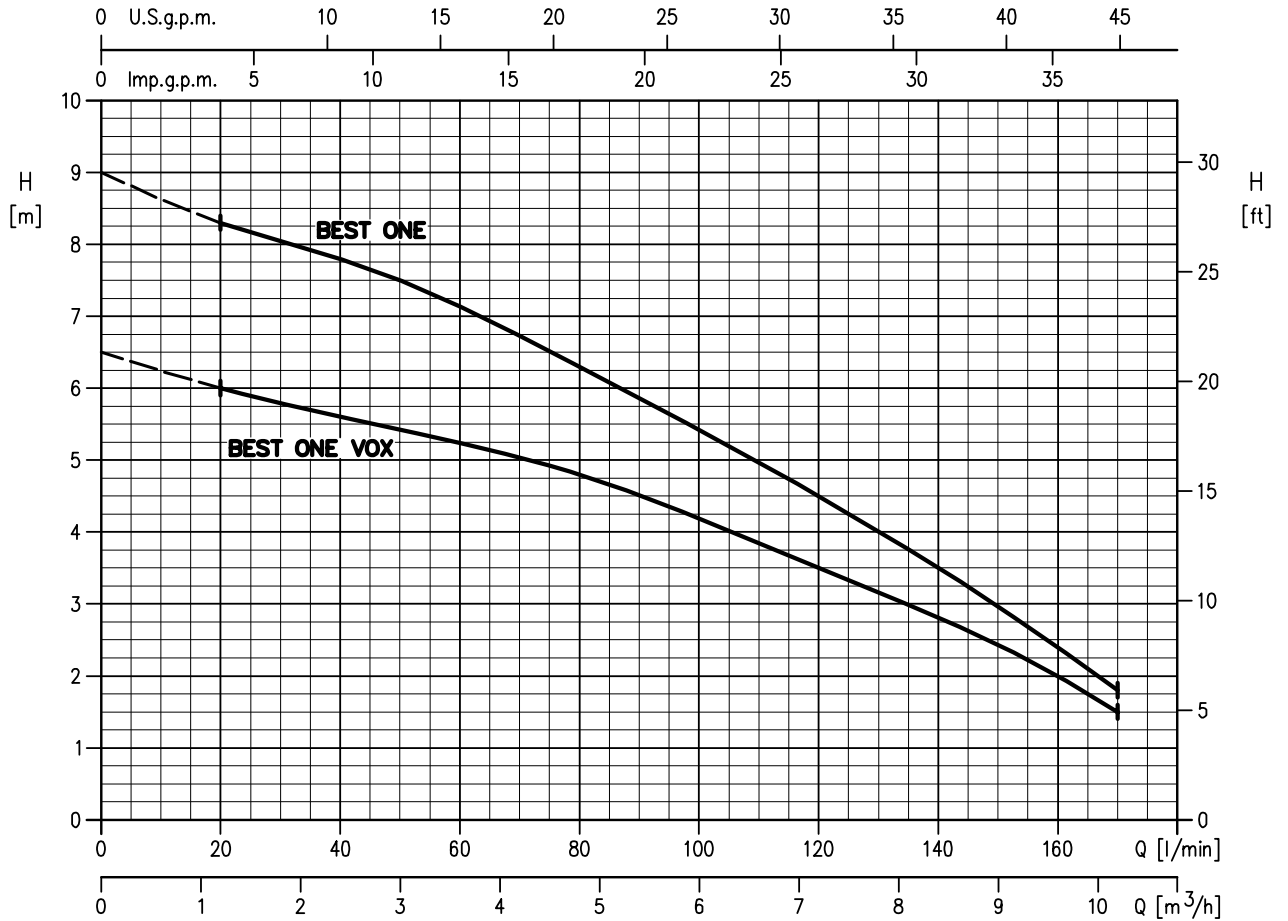
SPECIFICATION

50Hz

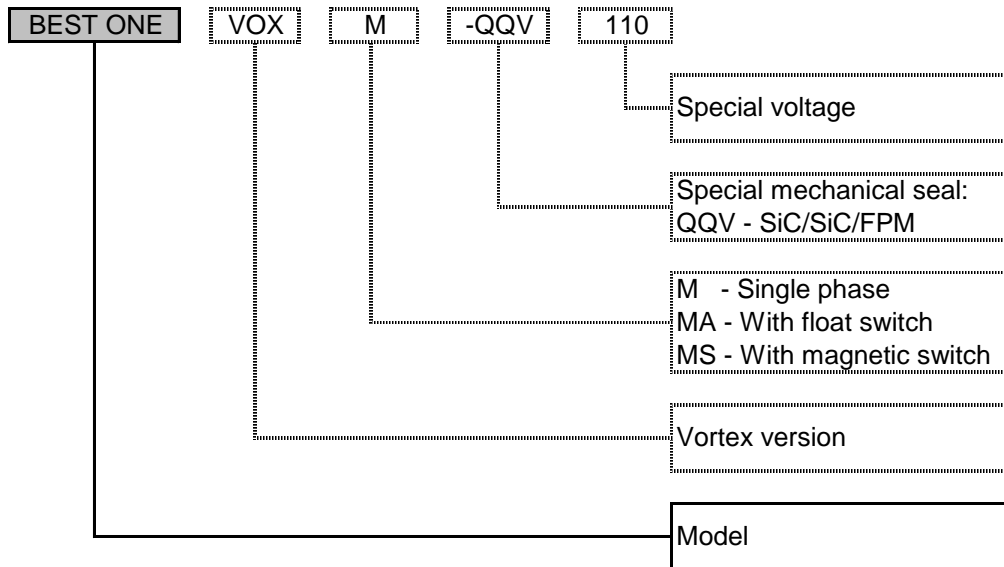
Rev F

PUMP		
Liquid Handled	Type of liquid	Clean water
	Max temperature [°C]	50
	Max solids size [mm]	10 20 (for Vortex version)
Maximum immersion		[m] 5
Construction	Impeller	Semi-open centrifugal type (BEST ONE) Vortex type (BEST ONE VOX)
	Shaft seal type	Oil lubricated mechanical seal (pump side) + lip seal (motor side)
	Bearing	Sealed ball bearing
Pipe Connection	Suction	Strainer
	Discharge nozzle [inch]	G1¼": UNI ISO 228
Material	Pump casing	AISI 304
	Impeller	AISI 304
	Shaft seal	Mechanical seal: Ceramic/Carbon/NBR Lip seal: NBR
	Casing cover	AISI 304
	Shaft	AISI 303 + AISI 303 ceramic coated shaft sleeve
	Lubricating liquid	White mineral oil: Esso Marcol 172
Applicable standard of test		ISO 9906 – Annex A

MOTOR			
Type		Submersible dry type	
		Single Phase	Three Phase
No. of Poles		2	
Rotation speed	[min ⁻¹]	≈2800	
Insulation Class		F	
Protection degree		IP 68	
Power rating	[kW]	0.25	
	[HP]	0.33	
Frequency	[Hz]	50	
Voltage	[V]	230 ±10%	400 ±10%
Capacitor		Built in	-
Over load protection		Built in	-
Casing material		AISI 304	
Switch	float	MA version (no maintenance required)	-
	magnetic	MS version (maintenance required)	-
Float/magnetic switch cable	material	H07RN-F	
	size	3G1	
Power cable	length [m]	5 (only for internal usage)	
	material	H05RN-F	H07RN-F
	size	3G0.75	4G1
Cable entry		Cable Gland	



Type pumps		Power		Q=Capacity						
Single Phase	Three Phase	kW	HP	l/min 0	20	40	80	120	160	170
				m³/h 0	1,2	2,4	4,8	7,2	9,6	10,2
H=Total manometric head in meters										
BEST ONE M	BEST ONE	0,25	0,33	9,0	8,3	7,8	6,3	4,5	2,4	1,8
BEST ONE VOX M	BEST ONE VOX	0,25	0,33	6,5	6,0	5,6	4,8	3,5	2,0	1,5



Curve specifications

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906 Annex A

The curves refer to effective speed of asynchronous motors at 50 Hz

Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt)

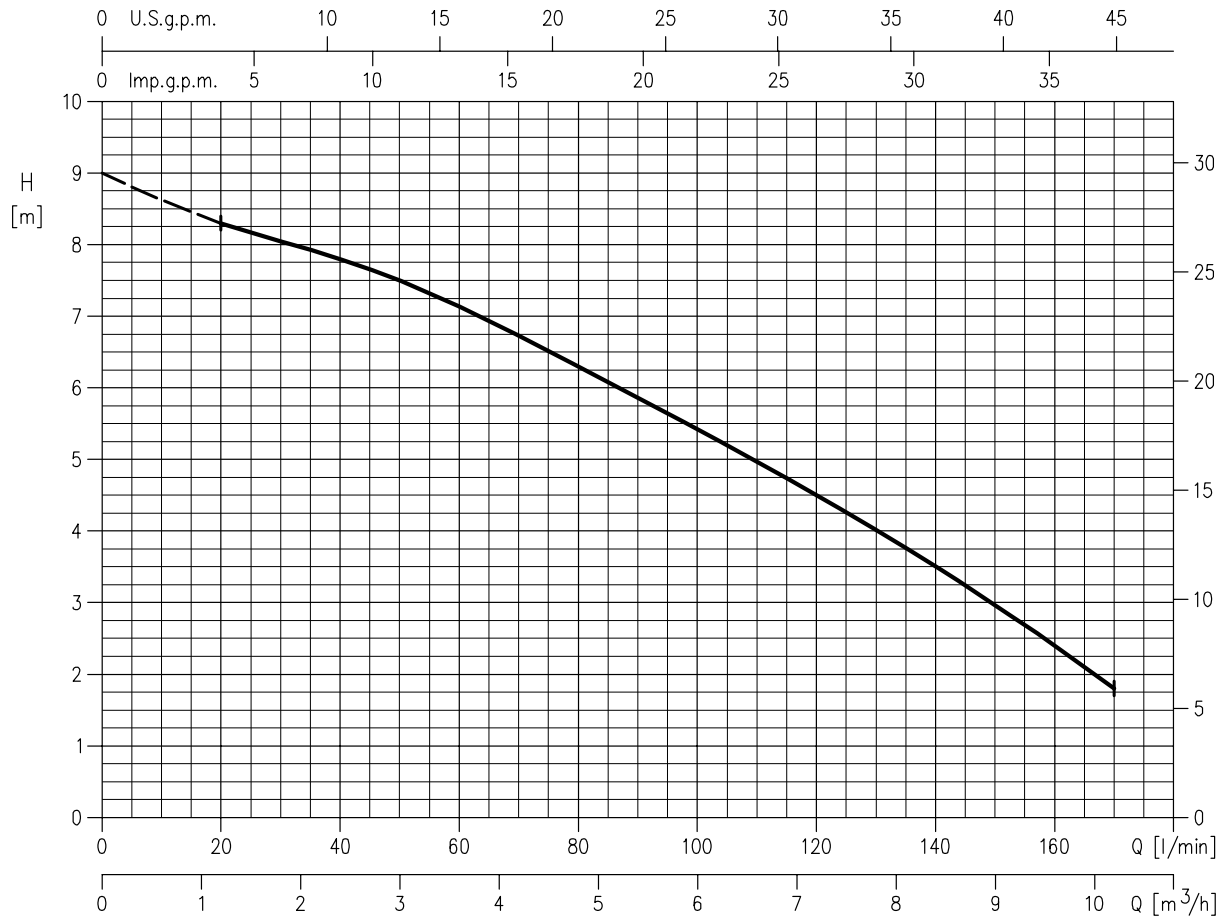
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

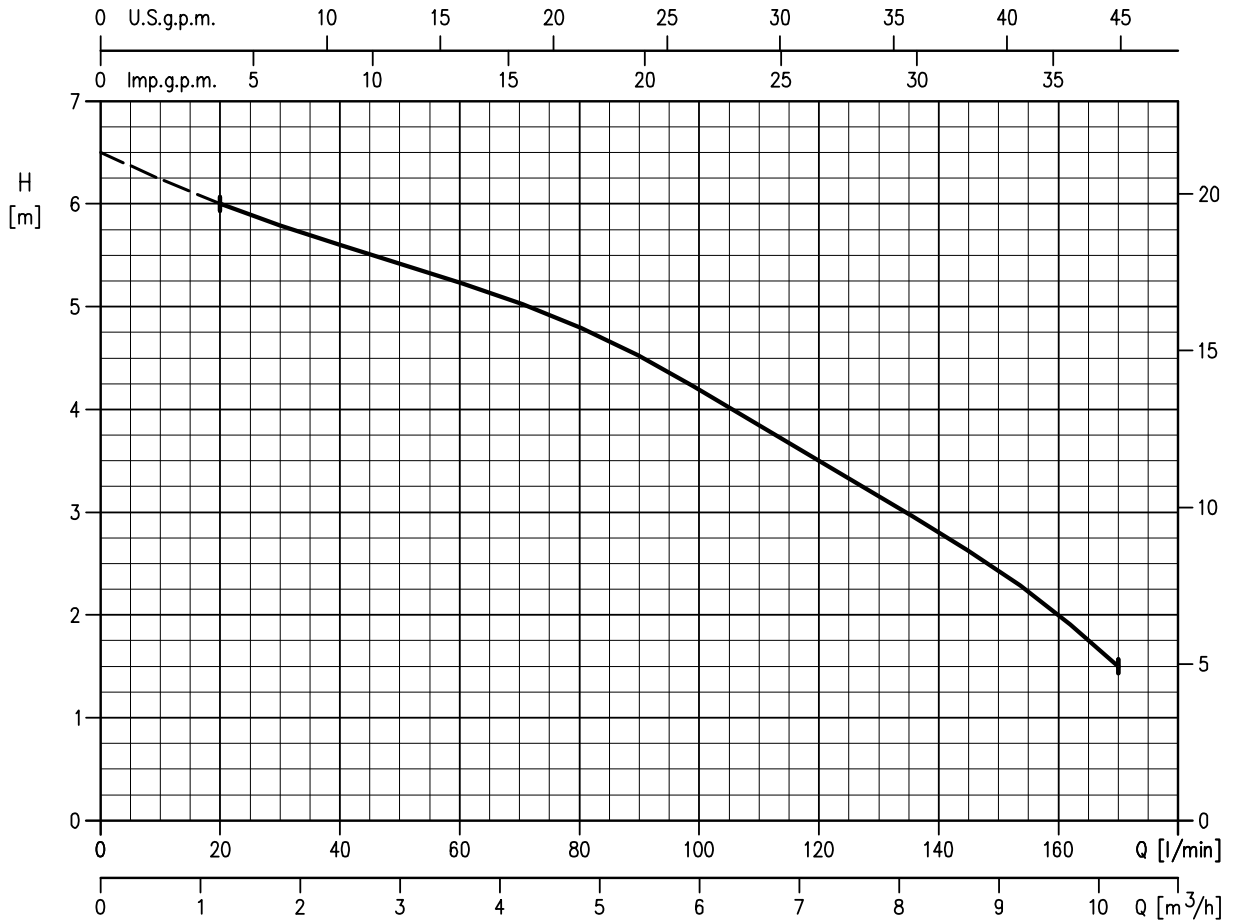
Q = volume flow rate

H = total head

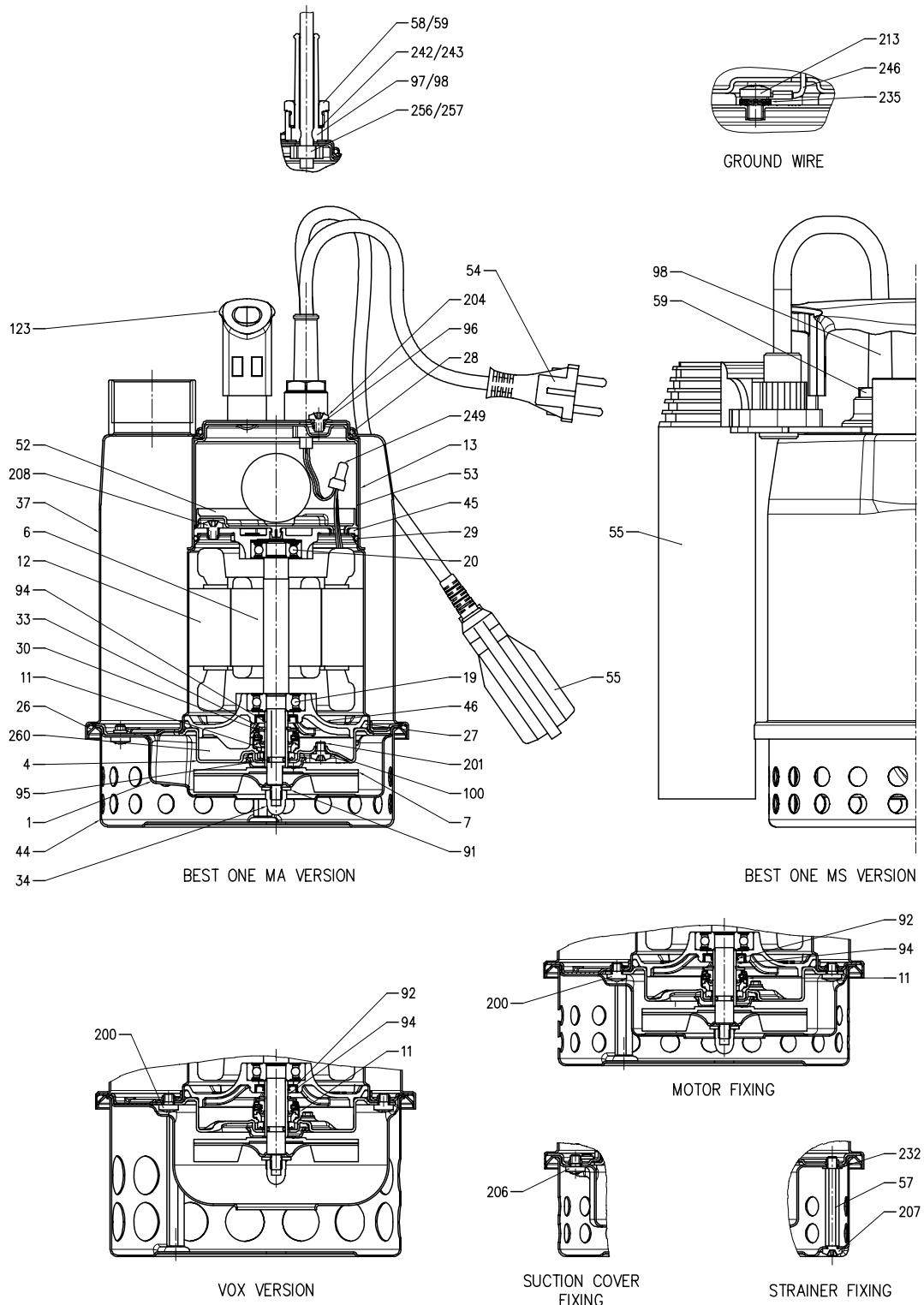
BEST ONE



BEST ONE VOX



SECTIONAL VIEW



SECTIONAL VIEW TABLE

N°	PART NAME	MATERIAL	DIMENSIONS	STANDARD	Q.ty
1	Suction cover	EN 1.4301 (AISI 304)	-	-	1
4	Casing cover	EN 1.4301 (AISI 304)	-	-	1
6	Shaft with rotor	EN 1.4305 (AISI 303)	-	-	1
7	Impeller	EN 1.4301 (AISI 304)	-	-	1
11	Mechanical seal [1]	[1]	[1]	-	1
12	Motor frame with stator	EN 1.4301 (AISI 304)	-	-	1
13	Motor cover	EN 1.4301 (AISI 304)	-	-	1
19	Lower ball bearing	-	-	-	1
20	Upper ball bearing	-	-	-	1
21	Adjusting ring	-	-	-	1
23	Capacitor [2]	-	-	-	1
26	O-ring	NBR	159,5x3	-	1
27	O-ring	NBR	88,5x3,53	-	1
28	O-ring	NBR	75,87x2,62	-	1
29	O-ring	NBR	75,87x2,62	-	1
30	Washer	EN 1.4301 (AISI 304)	12x21x1	-	1
33	Seeger ring	Carbon steel TC80	12	UNI 7435	1
34	Impeller nut	A2 - 70 UNI 7323	M6	UNI 5721	1
37	Pump casing	EN 1.4301 (AISI 304)	-	-	1
44	Strainer	EN 1.4301 (AISI 304)	-	-	1
45	Upper bearing housing	EN 1706 AC-46000 D	-	-	1
46	Lower bearing housing	EN 1706 AC-46000 D	-	-	1
52	Terminal insulating base	PA6	-	-	1
53	Terminal insulating box	PA6	-	-	1
54	Power cable	-	-	-	1
55	Switch [3] [4]	-	-	-	1
57	Spacer	EN 1.4301 (AISI 304)	-	-	2
58	Power cable connector	OT 58 UNI 5705-65 Nickel-plated Brass	-	-	1
59	Switch cable connector [3] [4]	OT 58 UNI 5705-65 Nickel-plated Brass	-	-	1
91	Washer	EN 1.4301 (AISI 304)	-	-	1
92	Lip seal	NBR	22x12x4	-	1
94	Shaft sleeve	EN 1.4305 (AISI 303) ceramic coated	-	-	1
95	O-ring	NBR	6,07x1,78	-	1
96	O-ring	NBR	4,48x1,78	-	1
97	Power cable connector	NBR	-	-	1
98	Switch cable connector [3]	NBR	-	-	1
100	O-ring	NBR	4,48x1,78	-	1
123	Handle	PP	-	-	1
200	Screw	A2 - 70 UNI 7323	M5x6	UNI 7687	4
201	Screw	A2 - 70 UNI 7323	M5x6	UNI 7687	1
204	Screw	A2 - 70 UNI 7323	M5x6	UNI 7687	1
206	Screw	A2 - 70 UNI 7323	M5x6	UNI 7687	3
207	Screw	A2 - 70 UNI 7323	M5x8	UNI 7687	2
208	Screw	A2 - 70 UNI 7323	M5x6	UNI 7687	3
213	Screw	A2 - 70 UNI 7323	M4x6	UNI 7687	1
232	Washer	PA6	5,5x10x1	-	1
235	Washer	Zinked Steel	4	UNI 8842	1
242	Washer	EN 1.4301 (AISI 304)	13,4x15,9x1	-	1
243	Washer [3]	EN 1.4301 (AISI 304)	13,4x15,9x1	-	1
246	Ground wire	-	-	-	1
256	Strain relief	-	-	-	1
257	Strain relief [3]	-	-	-	1
260	Oil	Esso Marcol 172	-	-	40 cc

[1] See pag. 303

[2] Only for single phase

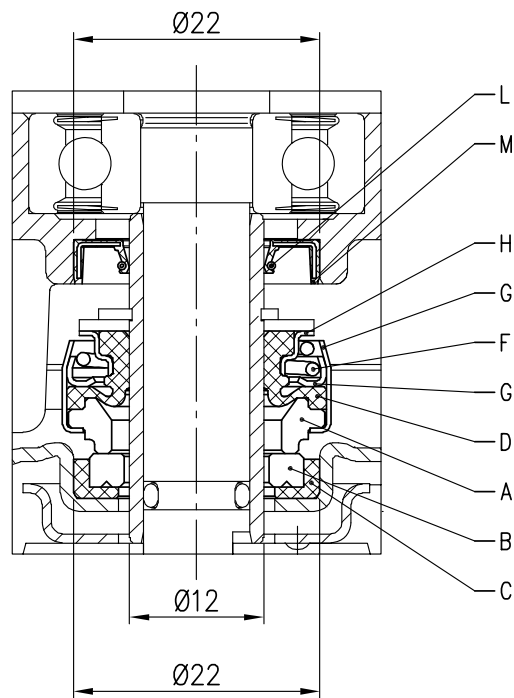
[3] Only for automatic version

[4] It could be floating or magnetic type

BEARINGS

Type pumps		Ball Bearing	
Single Phase	Three Phase	Lower side	Upper side
BEST ONE M	BEST ONE	6200 ZZ C3	6000 ZZ C3

MECHANICAL SEAL

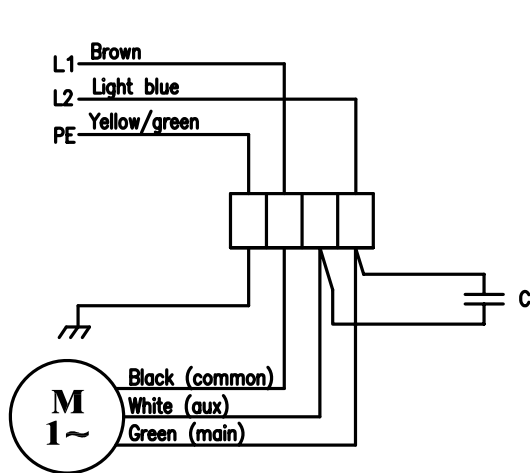


REF	PART NAME	MATERIAL product standard	MATERIAL optional
A	Rotary seal ring	Carbon graphite	SiC
B	Stationary seal ring	Ceramic	SiC - Q6 (*)
C	Gasket	NBR	FPM
D	Bellows	NBR	FPM
F	Self driving spring	EN 1.4301 (AISI 304)	
G	Frame	EN 1.4301 (AISI 304)	
H	Retainer ring	EN 1.4301 (AISI 304)	
L	Spring	EN 1.4318 (AISI 302)	
M	Lip	NBR	

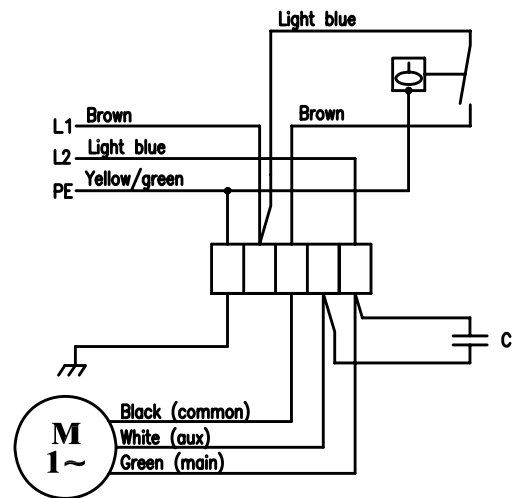
(*) Special grade of SiC with microporosities filled with graphite

SINGLE PHASE MOTOR DIAGRAM AND ELECTRIC CONNECTIONS

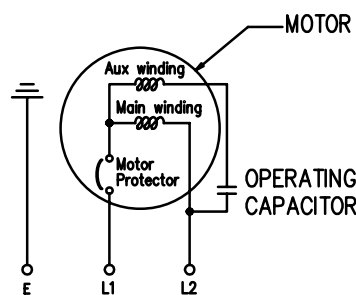
WITHOUT FLOAT SWITCH



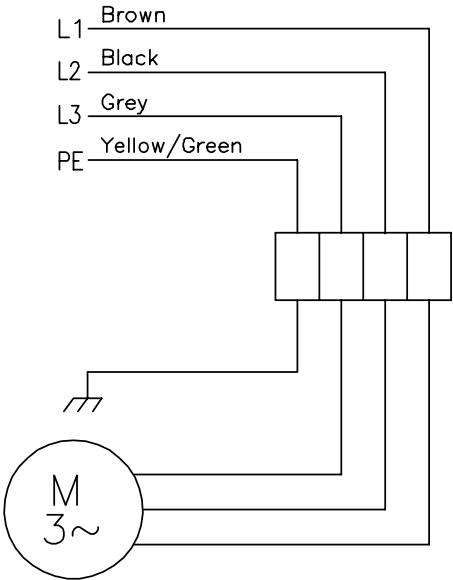
WITH FLOAT SWITCH

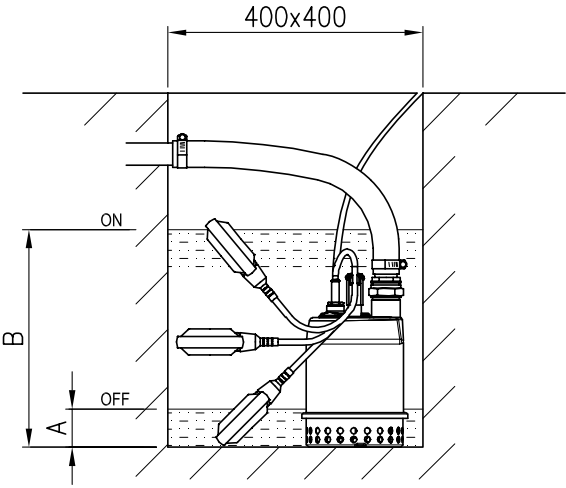
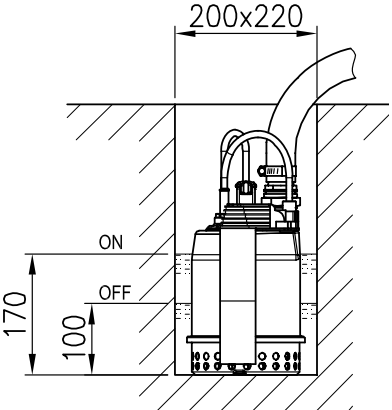


230 V
INTERNAL MOTORPROTECTOR

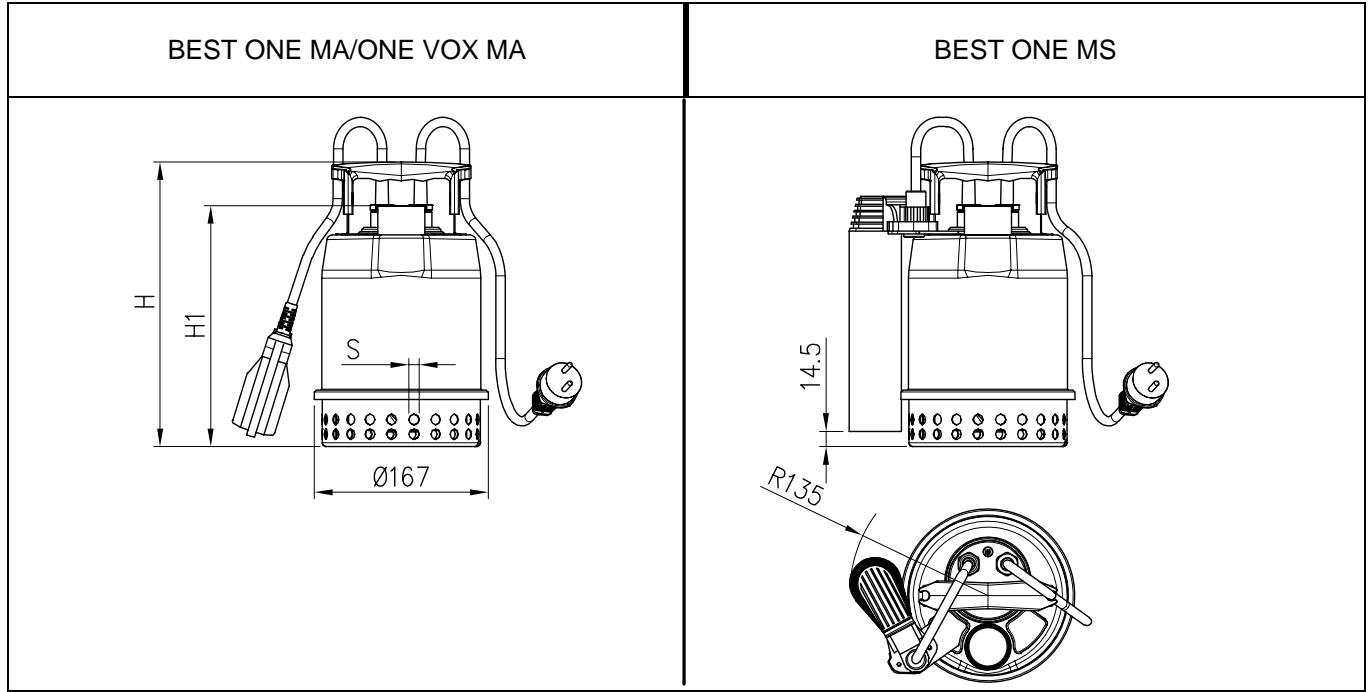


TREE PHASE MOTOR DIAGRAM AND ELECTRIC CONNECTIONS



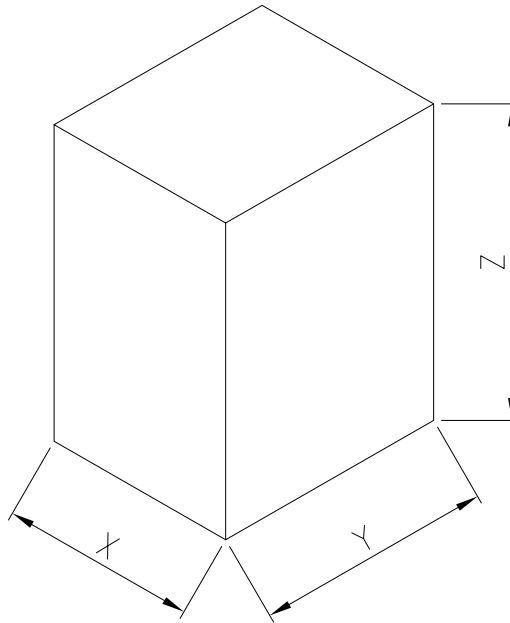
BEST ONE MA/ONE VOX MA	BEST ONE MS									
										
<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Pump</th> <th style="padding: 5px;">A</th> <th style="padding: 5px;">B</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">BEST ONE MA</td> <td style="padding: 5px;">60</td> <td style="padding: 5px;">340</td> </tr> <tr> <td style="padding: 5px;">BEST ONE VOX MA</td> <td style="padding: 5px;">90</td> <td style="padding: 5px;">370</td> </tr> </tbody> </table>		Pump	A	B	BEST ONE MA	60	340	BEST ONE VOX MA	90	370
Pump	A	B								
BEST ONE MA	60	340								
BEST ONE VOX MA	90	370								

PUMP



Type Pumps	Dimensions [mm]			Weight [kgf]
	H	H1	S	
BEST ONE	273	231	10	4,3
BEST ONE M				4,4
BEST ONE MA				4,6
BEST ONE MS				4,8
BEST ONE VOX	304	262	20	4,4
BEST ONE VOX M				4,5
BEST ONE VOX MA				4,7

PACKING



Type Pumps	Dimensions [mm]			Weight [kgf]
	X	Y	Z	
BEST ONE	180	220	330	4.8
BEST ONE M				4.9
BEST ONE MA				5.1
BEST ONE MS				5.3
BEST ONE VOX				4.9
BEST ONE VOX M				5.0
BEST ONE VOX MA				5.2

ELECTRIC DATA											
Type pumps		kW	HP	Capacitor Single Phase		Input [kW]		Full load current [A]		Locked rotor current	
Single Phase	Three Phase			μF	Vc [V]	Single Phase	Three Phase	Single Phase 230 V	Three Phase 400 V	Single Phase 230 V	Three Phase 400 V
Best One M	Best One	0,25	0,33	8	450	0,51	0,47	2,3	0,8	5,8	2,7
Best One Vox M	Best One Vox	0,25	0,33	8	450	0,50	0,44	2,2	0,8	5,6	2,7