



**EBARA**

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**Worldwide**

Technische Datensammlung  
**DATA BOOK**

Baureihe **IDROGO**  
(Revision H)

Over 120 Countries

*Your Life, our Quality. Worldwide.*

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**SPECIFICATIONS**

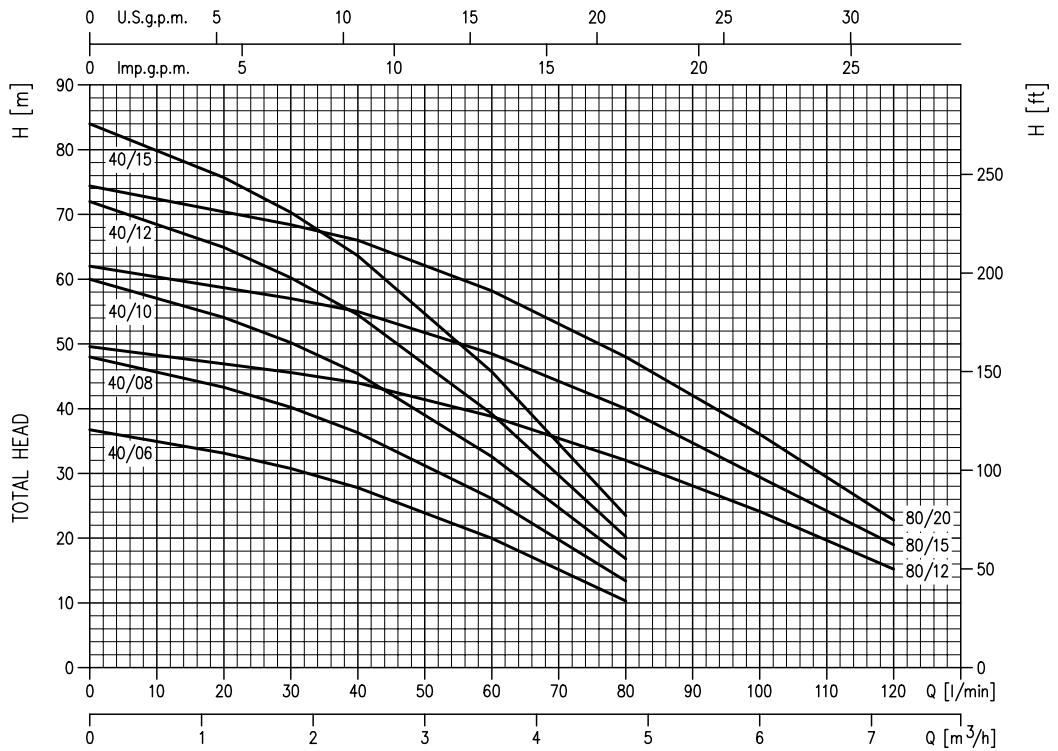
50 Hz

<b>PUMP</b>		
Liquid Handled	Type of liquid	Clean water
	Max temperature [°C]	40
	Max solids size [mm]	2,5
Maximum immersion [m]		20 10 (with float switch)
Construction	Impeller	Closed centrifugal type (multiple stages)
	Shaft Seal Type	Double mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction-Flange	Strainer
	Discharge-Flange	G 1¼ UNI ISO 228
Material	Casing	AISI 304
	Casing cover	AISI 304
	Impeller	PPO mod. glass fibre reinforced
	Diffuser	PPO mod. glass fibre reinforced
	Shaft	AISI 431
	Shaft seal	Pump side: Sic/Carbon/NBR Motor side: Carbon/Ceramic/NBR
Lubricating liquid		White mineral oil: Esso Marcol 172 (90 cc)
Applicable standard of test		ISO 9906 – Annex A

<b>MOTOR</b>		
Type	Submersible dry type	
	Single Phase	Three Phase
No. of Poles	2	
Rotation speed [min <sup>-1</sup> ]	≈2800	
Insulation Class	Class F	
Protection degree	IP 68	
Power rating	[kW]	0.45 ÷ 1.1
	[HP]	0.6 ÷ 1.5
Frequency [Hz]	50 Hz	
Voltage [V]	230 ±10%	400 ±10%
Capacitor	Built in	-
Over load protection	Built in	Provided by the user
Float Switch	Optional	-
Float Switch material	H07RN-F	-
Cable size	3 G 1	-
Upper bearing bracket	Aluminium	
Lower bearing bracket	Brass	
Motor frame	AISI 304	
Motor frame material	H07RN-F	
Power cable	size	3 G 1.5
	length [m]	20 (5 for IDROGO 40/6 M)
Type of cable entry	Cable Gland	

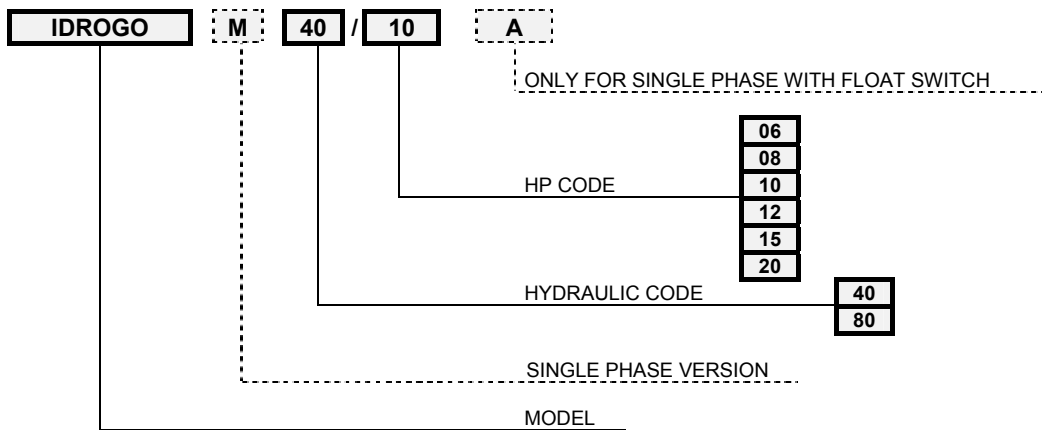
SELECTION CHART

50 Hz



Pump type IDROGO	Power		Q=Capacity							
	kW	HP	l/min	20	30	40	60	80	100	120
			m <sup>3</sup> /h	1.2	1.8	2.4	3.6	4.8	6	7.2
H=Total manometric head in meters										
40/06	0.45	0.6	33.1	30.8	27.8	20	10.3	-	-	-
40/08	0.6	0.8	43.3	40.2	36.3	26.1	13.4	-	-	-
40/10	0.75	1	54.1	50.2	45.4	32.6	16.8	-	-	-
40/12	0.9	1.2	64.9	60.2	54.5	39.2	20.2	-	-	-
40/15	1.1	1.5	75.7	70.3	63.6	45.7	23.5	-	-	-
80/12	0.9	1.2	-	45.6	44	38.8	32	23.2	15.2	-
80/15	1.1	1.5	-	57	55	48.5	40	28	19	-
80/20	1.5	2	-	68.4	66	58.2	48	34.8	22.8	-

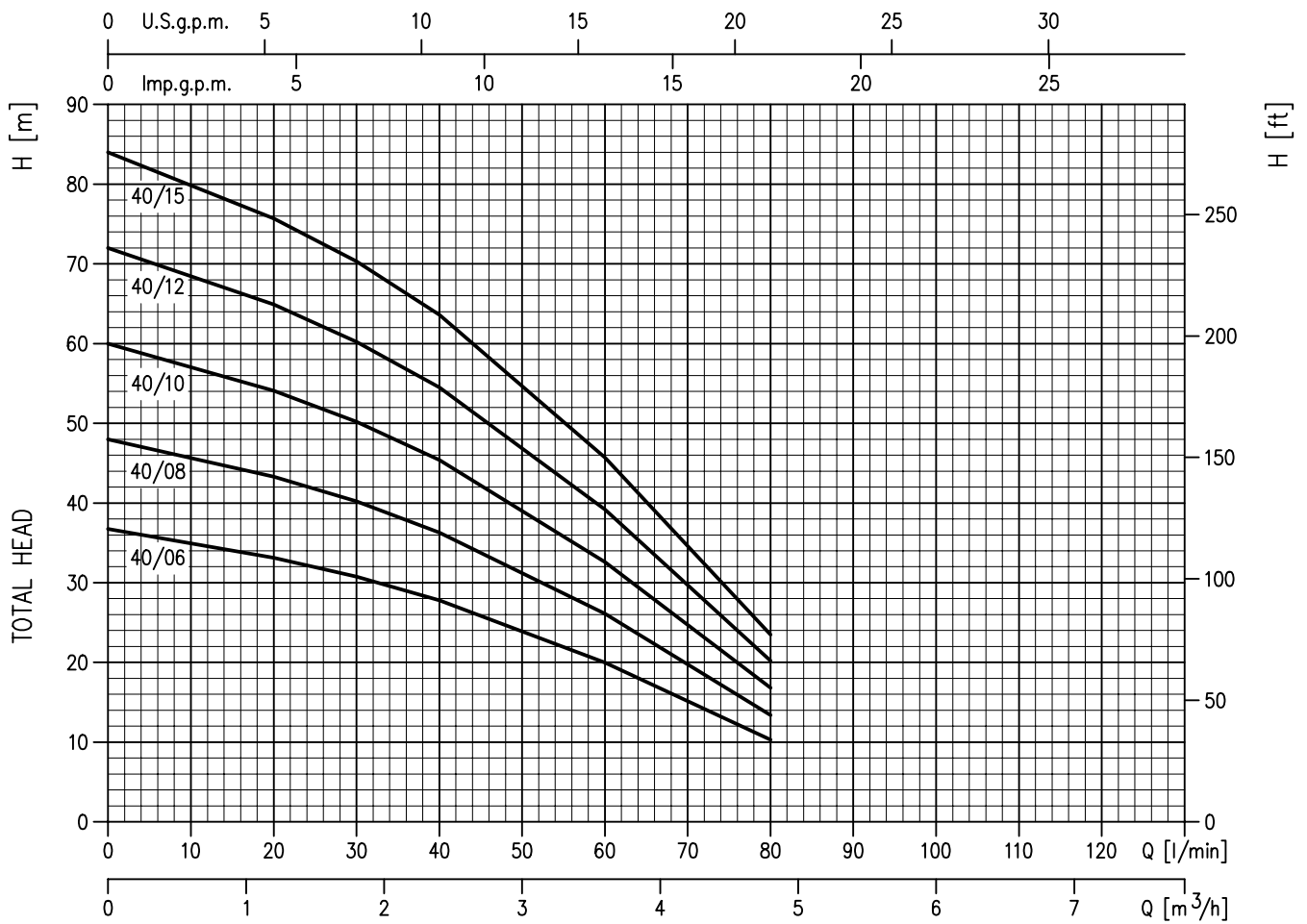
**TYPE KEY:**



**PERFORMANCE CURVES**

50 Hz

**IDROGO 40/06 (0.45 kW) - Impeller diameter = 104**  
**IDROGO 40/08 (0.60 kW) - Impeller diameter = 104**  
**IDROGO 40/10 (0.75 kW) - Impeller diameter = 104**  
**IDROGO 40/12 (0.90 kW) - Impeller diameter = 104**  
**IDROGO 40/15 (1.10 kW) - Impeller diameter = 104**

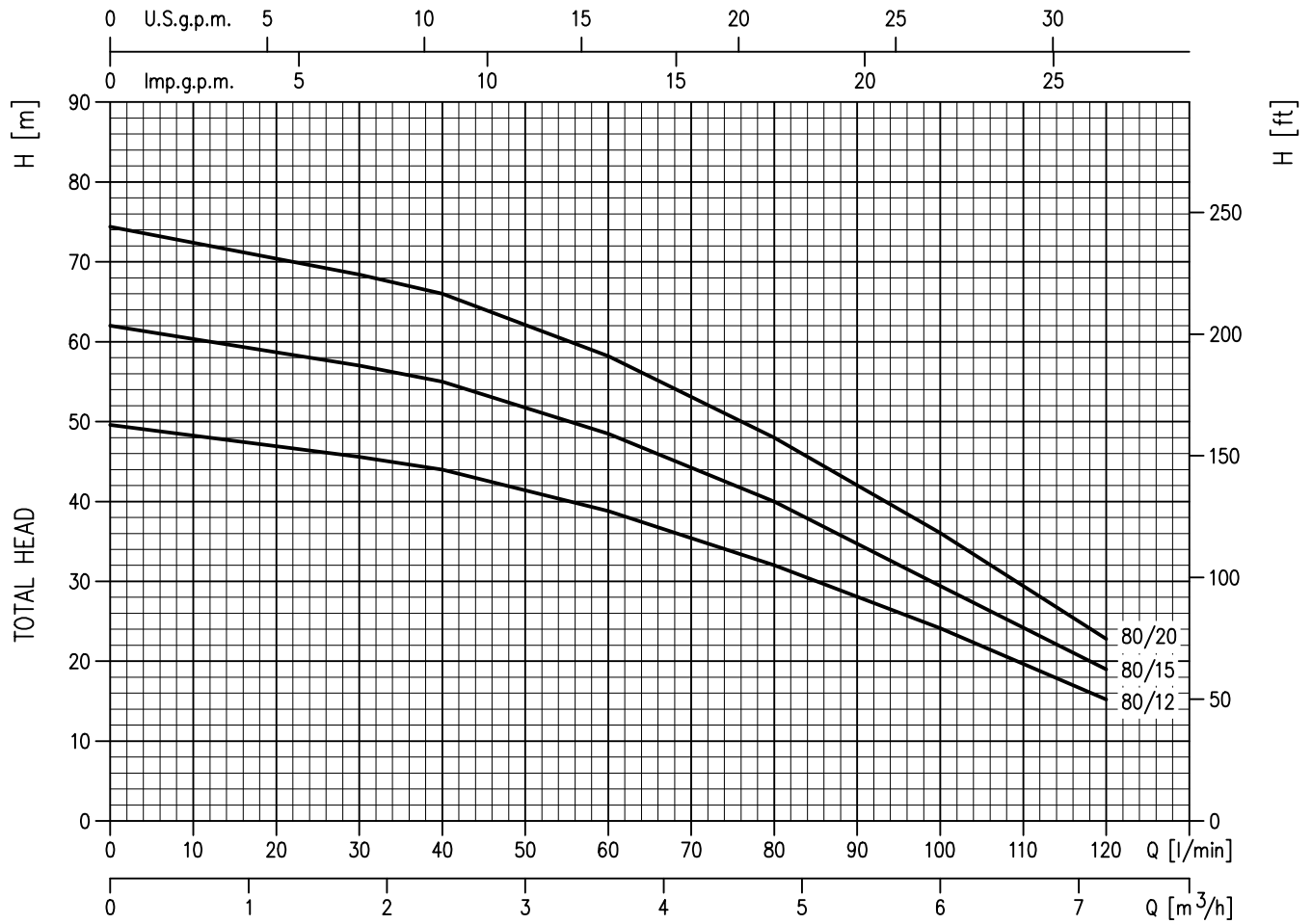


Rotation speed:  $\approx 2800 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 – Annex A

PERFORMANCE CURVES

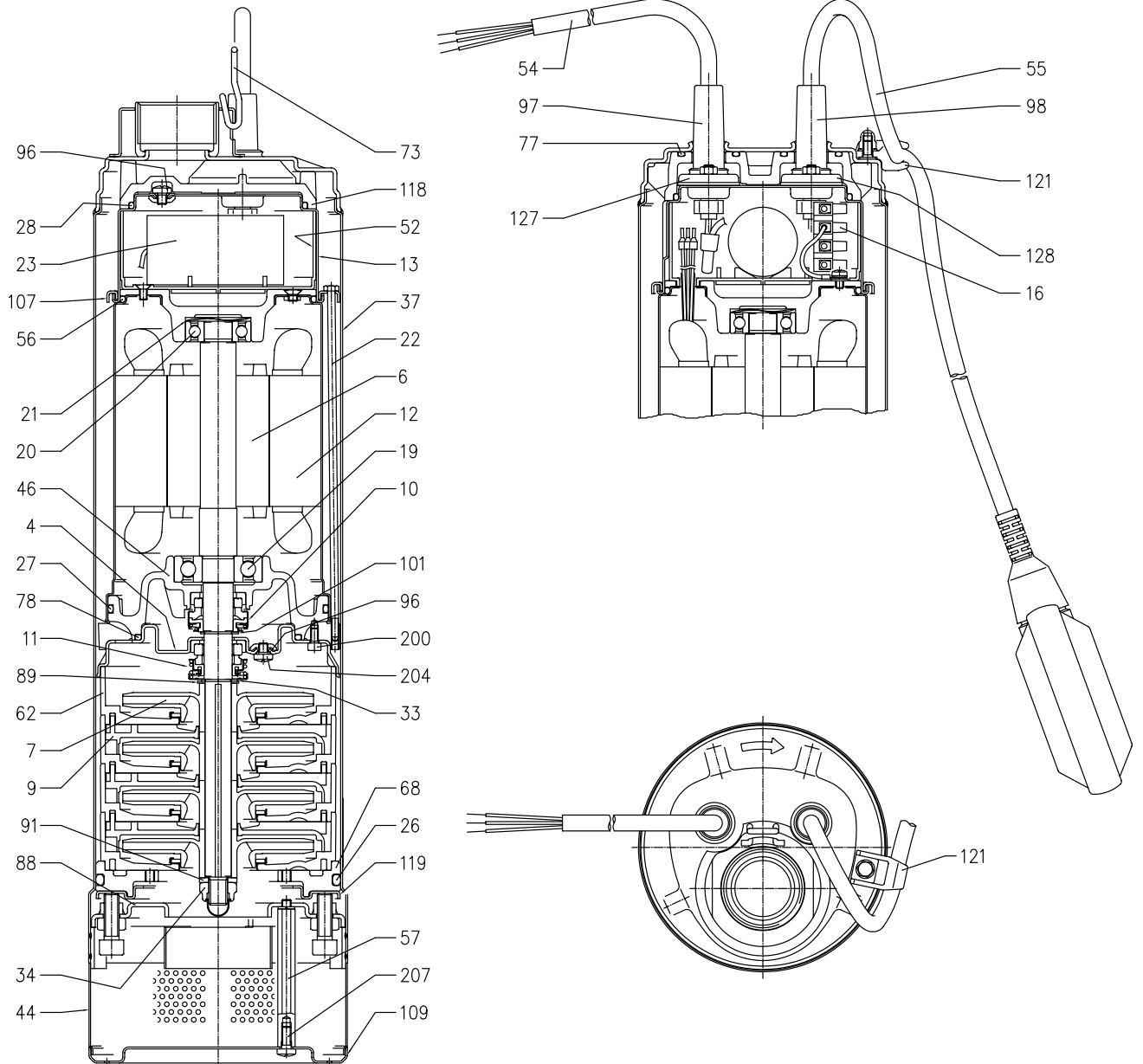
50 Hz

IDROGO 80/12 (0.9 kW) - Impeller diameter = 102  
 IDROGO 80/15 (1.1 kW) - Impeller diameter = 102  
 IDROGO 80/20 (1.5 kW) - Impeller diameter = 102



Rotation speed:  $\approx 2800 \text{ min}^{-1}$   
 Test fluid: clean water at  $20^\circ\text{C}$   
 Applicable standard of test: ISO 9906 – Annex A

SECTIONAL VIEW



**CONSTRUCTIONS**

50 Hz

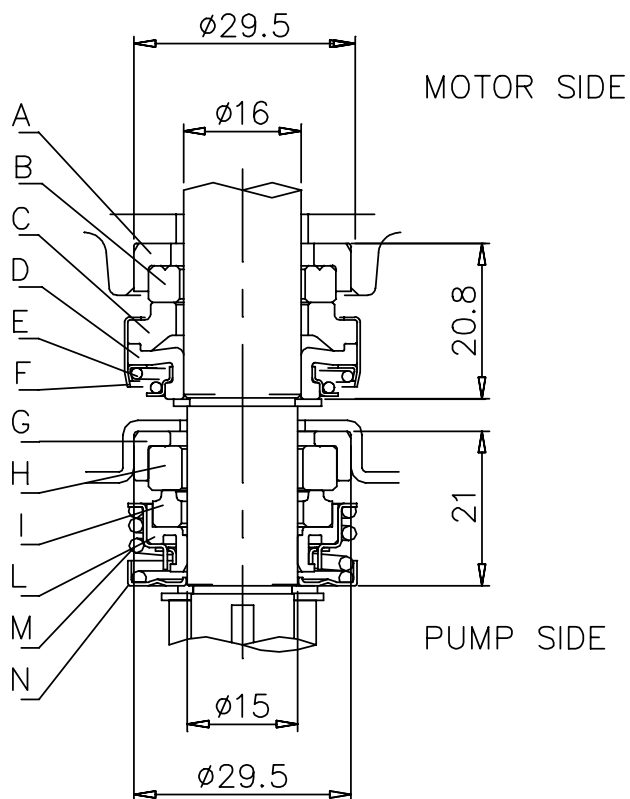
N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
4	Casing cover	AISI 304	1	56	"O" ring	NBR	1
6	Shaft with rotor	AISI 431	1	57	Bolt	AISI 303	2
7	Impeller	PPO mod. glass fibre reinforced	[4]	62	Stage housing	PPO mod. glass fibre reinforced	[4]
9	Diffuser	PPO mod. glass fibre reinforced	[4]	68	Lower spacer	PPO mod. glass fibre reinforced	1
10	Motor side mechanical seal [3]	Carbon/Ceramic/NBR	1	73	Lifting holder	AISI 304	1
11	Pump side mechanical seal [3]	SiC/Carbon/NBR	1	77	O ring	NBR	2
12	Motor frame with stator	-	1	78	O ring	NBR	2
13	Motor cover	AISI 304	1	89	Washer	AISI 304	1
16	Terminal	-	1	91	Washer	AISI 304	1
19	Lower side ball bearing	-	1	96	O ring	NBR	3
20	Upper side ball bearing	-	1	97	Cable entry	NBR	1
21	Adjusting ring	Steel C70	1	98	Cable entry [2]	NBR	1
22	Tie rod	AISI 303	3	101	Seeger ring	AISI 420	1
23	Capacitor [1]	-	1	107	Retainer ring	AISI 304	1
26	O ring	NBR	1	109	Strainer cover	AISI 304	1
27	O ring	NBR	1	118	Upper spacer	PPO mod. glass fibre reinforced	1
28	O ring	NBR	1	119	Flange	AISI 304	1
33	Seeger ring	AISI 304	1	120	Retainer ring	AISI 304	1
34	Impeller nut	AISI 304	1	121	Support for float switch [2]	PPO mod. glass fibre reinforced	1
37	External pump casing	AISI 304	1	127	Cable connector	AISI 304	1
44	Strainer	AISI 304	1	128	Cable connector	AISI 304	1
46	Bearing housing	Brass	1	200	Screw	Stainless steel A2 UNI 7323	3
52	Terminal insulating box	PA66 glass fibre reinforced	1	204	Screw	Stainless steel A2 UNI 7323	3
54	Power cable	-	1	207	Screw	Stainless steel A2 UNI 7323	2
55	Float switch [2]	-	1	-	-	-	-

- [1] Only for single phase
- [2] Only for single phase with float switch
- [3] See constructions mechanical seal page 302
- [4] See table below

Type pumps	QUANTITY FOR MODEL		
	N°7 Impeller	N°9 Diffuser	N°62 Stage housing
IDROGO 40/06	3	3	4
IDROGO 40/08	4	3	4
IDROGO 40/10	5	4	5
IDROGO 40/12	6	5	6
IDROGO 40/15	7	6	7
IDROGO 80/12	4	3	4
IDROGO 80/15	5	4	5



**MECHANICAL SEAL**



REF	PART NAME	MATERIAL product standard IDROGO
A	Rubber seat	NBR
B	Stationary ring	Ceramic
C	Rotary ring	Carbon
D	Rotary seal	NBR
E	Coil spring	AISI 304
F	Seal cover	AISI 304
G	Rubber seat	NBR
H	Stationary ring	Silicon carbide
I	Rotary ring	Carbon
L	Rotary seal	NBR
M	Coil spring	AISI 304
N	Seal cover	AISI 304

DIAGRAM AND ELECTRIC CONNECTIONS

**SINGLE PHASE MOTOR  
WITH FLOAT SWITCH**

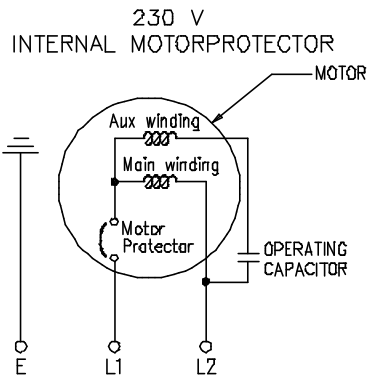
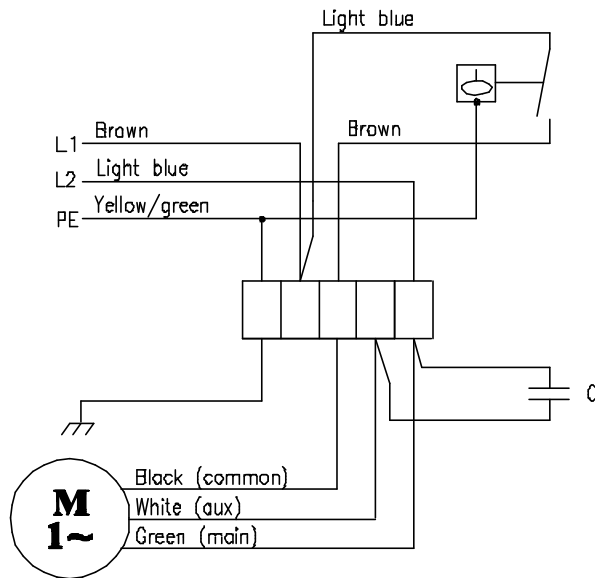


DIAGRAM AND ELECTRIC CONNECTIONS

**SINGLE PHASE MOTOR  
WITHOUT FLOAT SWITCH**

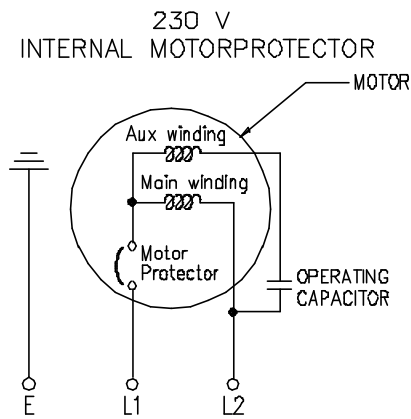
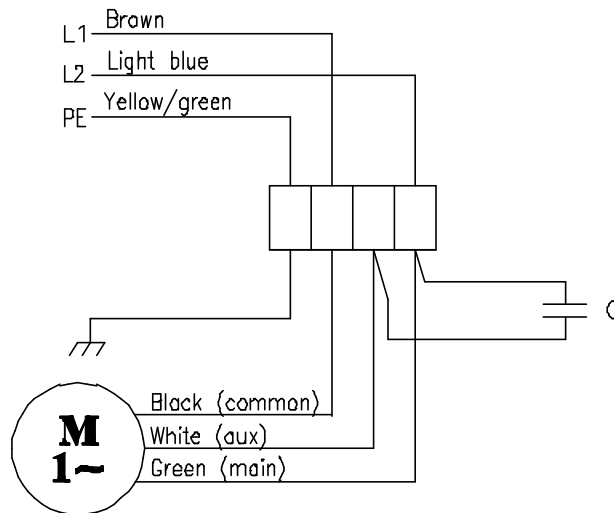
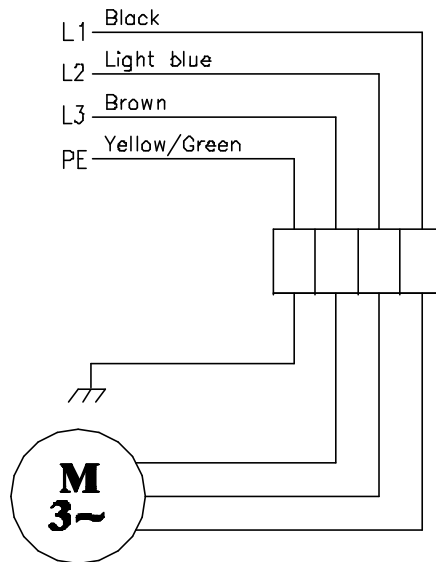
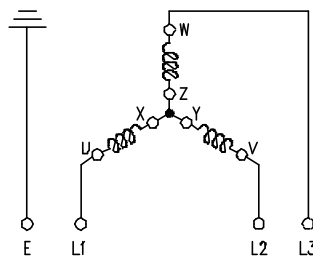


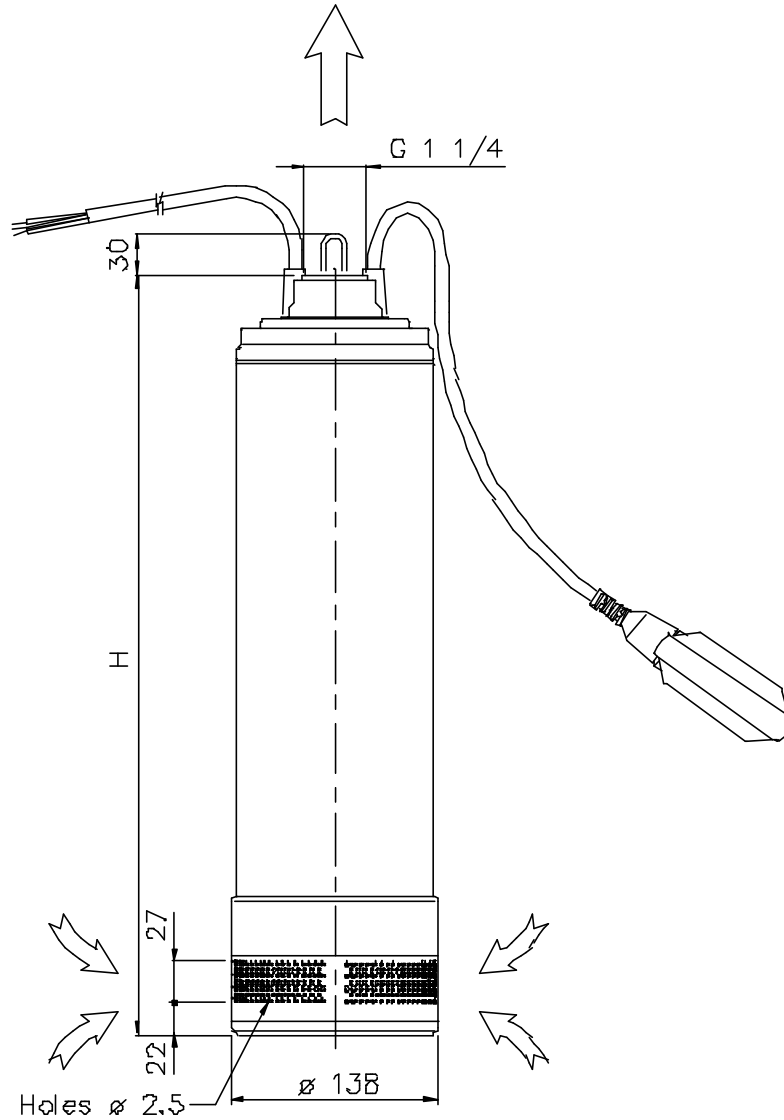
DIAGRAM AND ELECTRIC CONNECTIONS

THREE PHASE MOTOR

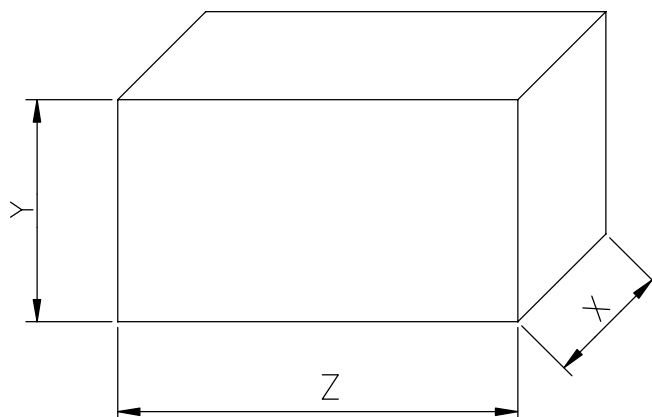


400 V  
STAR CONNECTION





Pump type IDROGO	H [mm]
40/06	513
40/08	513
40/10	539
40/12	590
40/15	616
80/12	540
80/15	564
80/20	590



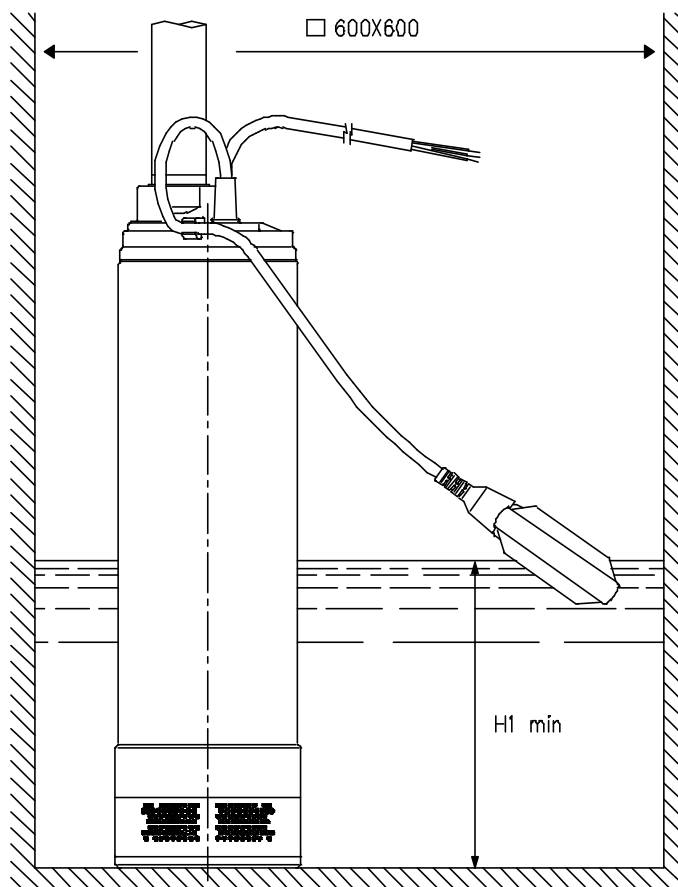
Type pumps		PACKING [mm]			WEIGHT [kg]	
Single Phase	Three Phase	Z	X	Y	Single Phase	Three Phase
IDROGO 40/06 M	-	585	195	175	13	-
IDROGO 40/08 M	IDROGO 40/08	585	195	175	15	15
IDROGO 40/10 M	IDROGO 40/10	585	195	175	16	16
IDROGO 40/12 M	IDROGO 40/12	685	195	175	17	17
IDROGO 40/15 M	IDROGO 40/15	685	195	175	18	18
IDROGO 80/12 M	IDROGO 80/12	585	195	175	16	16
IDROGO 80/15 M	IDROGO 80/15	685	195	175	17	17
-	IDROGO 80/20	685	195	175	-	18

**TECHNICAL DATA**

50 Hz

Type pumps		Power		Capacitor		Input		Full load current		Locked rotor current	
Single Phase 230 V 50 Hz	Three Phase 230/400 V 50 Hz	kW	HP	Single Phase μF	VI	[kW]		[A]		Single Phase 230 V 50 Hz	Single Phase 400 V 50 Hz
						Single Phase	Three Phase	Single Phase	Three Phase		
IDROGO 40/06 M	-	0,45	0,6	16	450	0,82	-	3,8	-	16	-
IDROGO 40/08 M	IDROGO 40/08	0,6	0,8	16	450	1	0,95	4,3	1,9	16	10
IDROGO 40/10 M	IDROGO 40/10	0,75	1	20	450	1,25	1,18	5,7	2,2	20	12
IDROGO 40/12 M	IDROGO 40/12	0,9	1,2	20	450	1,42	1,33	6,8	2,4	23	14
IDROGO 40/15 M	IDROGO 40/15	1,1	1,5	31,5	450	1,6	1,55	7,3	3	25	16,5
IDROGO 80/12 M	IDROGO 80/12	0,9	1,2	20	450	1,33	1,22	6,4	2,3	23	14
IDROGO 80/15 M	IDROGO 80/15	1,1	1,5	31,5	450	1,62	1,52	7,5	3,1	25	16,5
-	IDROGO 80/20	1,5	2	-	-	-	1,9	-	3,5	-	16,5

Type pumps		Ball Bearing	
Single Phase 230 V 50 Hz	Three Phase 230/400 V 50 Hz	Pump side	Fan side
IDROGO 40/06 M	-	6303 ZZ	6202 ZZ
IDROGO 40/08 M	IDROGO 40/08	6303 ZZ	6202 ZZ
IDROGO 40/10 M	IDROGO 40/10	6303 ZZ	6202 ZZ
IDROGO 40/12 M	IDROGO 40/12	6303 ZZ	6202 ZZ
IDROGO 40/15 M	IDROGO 40/15	6303 ZZ	6202 ZZ
IDROGO 80/12 M	IDROGO 80/12	6303 ZZ	6202 ZZ
IDROGO 80/15 M	IDROGO 80/15	6303 ZZ	6202 ZZ



Pump type	H1 [mm]
40/06	250
40/08	250
40/10	275
40/12	300
40/15	325
80/12	250
80/15	275
80/20	300