

EBARA



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SPECIFICATION

50Hz

Rev. A

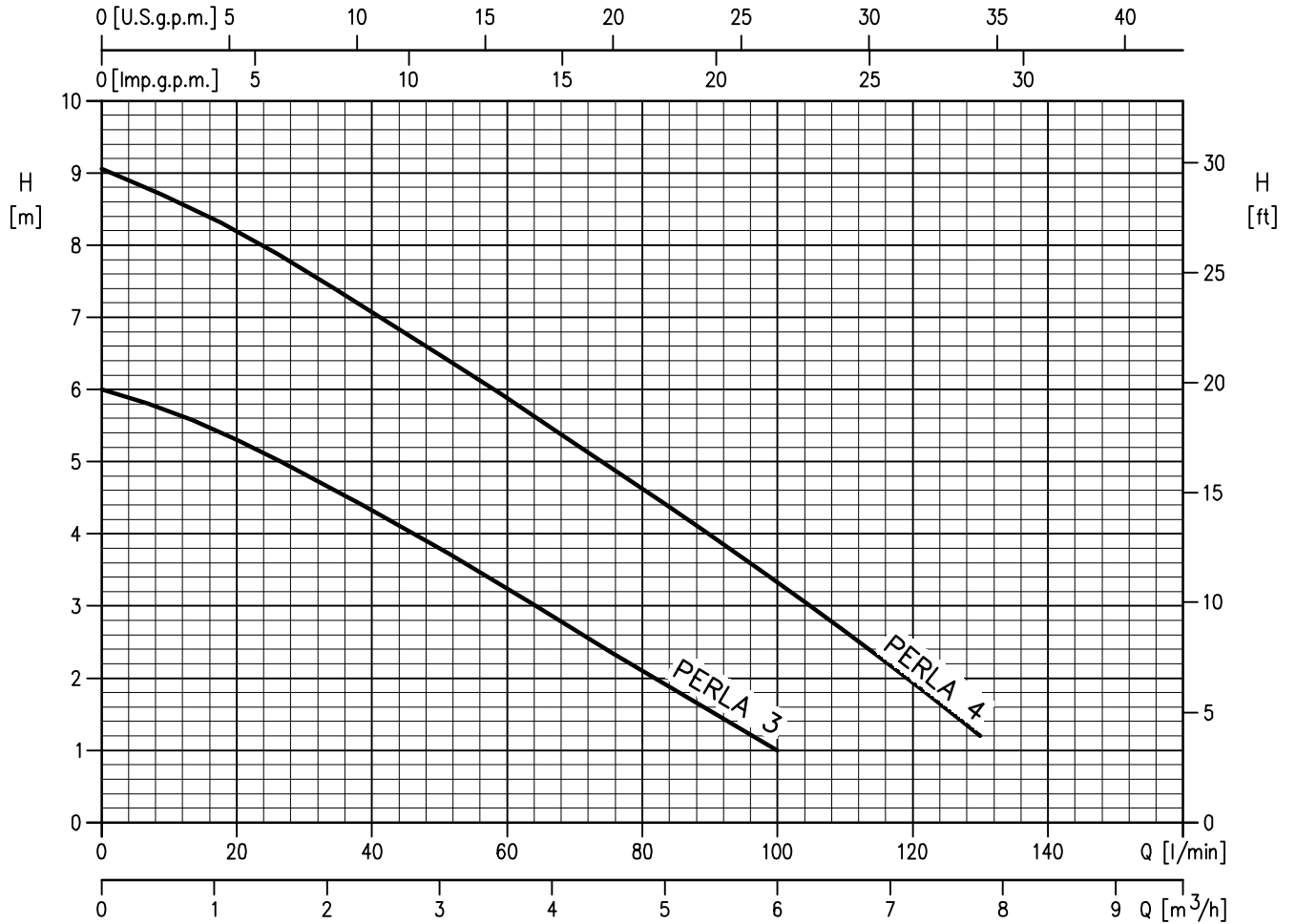
PUMP			PERLA 3 M	PERLA 4 M
Liquid Handled	Type of liquid		Clean water	Clean /dirty water
	Max liquid Temp	[°C]	40	
	Max solids size	[mm]	/	25
Maximum immersion		[m]	3	
Construction	Impeller		OPEN	
	Shaft seal type		Mechanical seal	
	Bearing		ball bearing	
Pipe Connection	Suction		/	
	Discharge	[inch]	G1¼: UNI ISO 228	
Material	Pump casing		PPE+30% fb	
	Impeller		PPE+PS glass fibre reinforced	
	Shaft seal		Ceramic/Carbon/NBR Lip seal: NBR	
	Casing cover		PPE+30% fb	
	Shaft		Aisi 420	
Applicable standard of test			ISO 9906 – Annex A	

MOTOR			PERLA 3 M	PERLA 4 M
Type			Submersible dry type	
			Single Phase	
No. of Poles			2	
Rotation speed	[min ⁻¹]		/	
Insulation Class			F	
Protection degree			IP 68	
Power rating	[kW]		0.15	0.37
	[HP]		0.20	0.5
Frequency	[Hz]		50	
Voltage	[V]		230 ±10%	
Capacitor			Built in	
Over load protection			Built in	
Casing material			Aluminium	
Switch	float		MA version (no maintenance required)	
Float/magnetic switch cable	material		H07RN-F	
	size		3G1	
Power cable	length	[m]	10	
	material		H05RN-F	H07RNF
	size		3G1	
Cable entry			Cable Gland	

SELECTION CHART

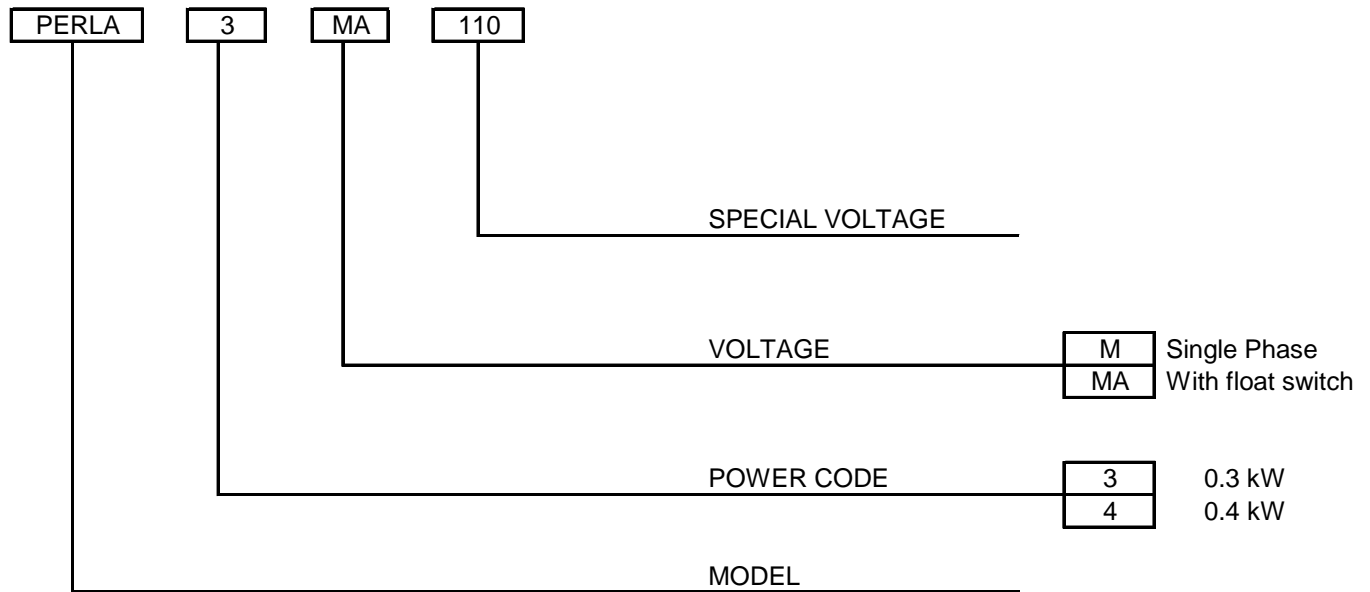
50Hz

Rev. A



Type pumps	kW	HP	Q=Capacity								
			l/min	0	20	40	60	80	100	120	130
Single Phase			m³/h	0.0	1.2	2.4	3.6	4.8	6.0	7.2	7.8
				H=Total manometric head in meters							
PERLA 3 M(A)	0.15	0.2		6.0	5.3	4.3	3.2	2.1	1.0		
PERLA 4 M(A)	0.37	0.5		9.0	8.2	7.0	5.8	4.6	3.4	2.0	1.2

TYPE KEY



PERFORMANCE 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).

The continuous curves indicate the recommended working range. The dotted curve is only a guide.

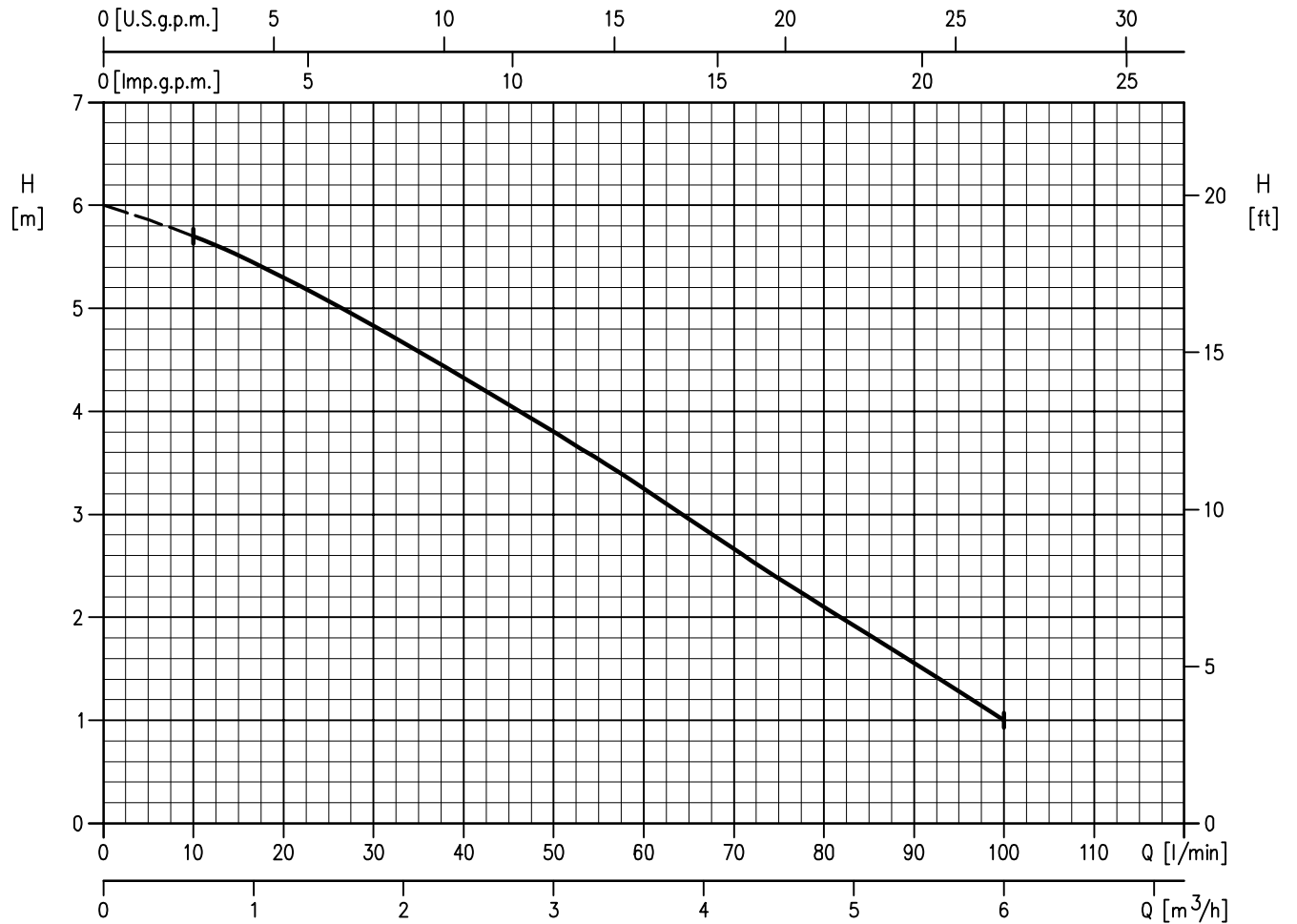
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

Q = volume flow rate

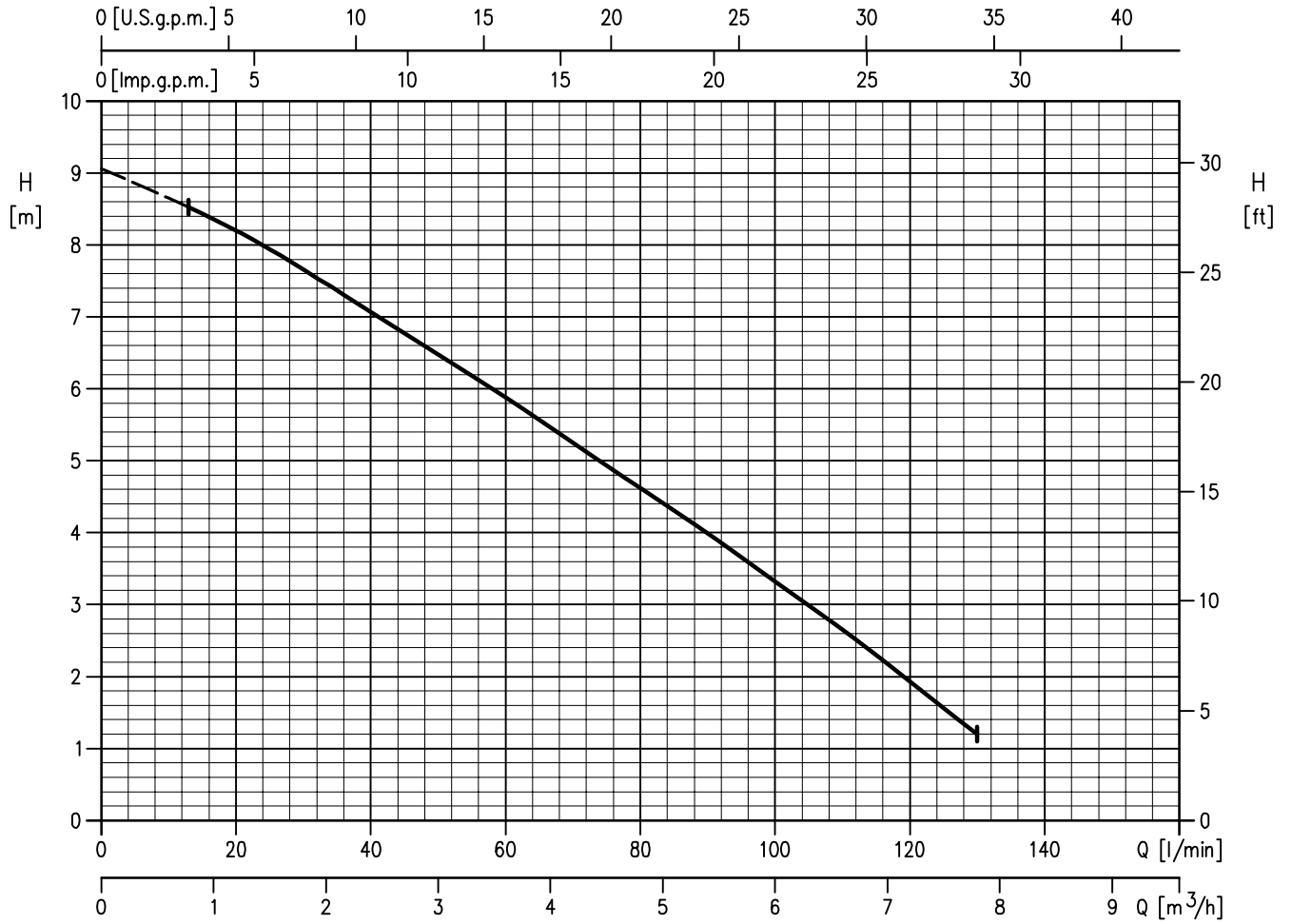
H = total head

PERLA 3 M(A) (0.15 kW)



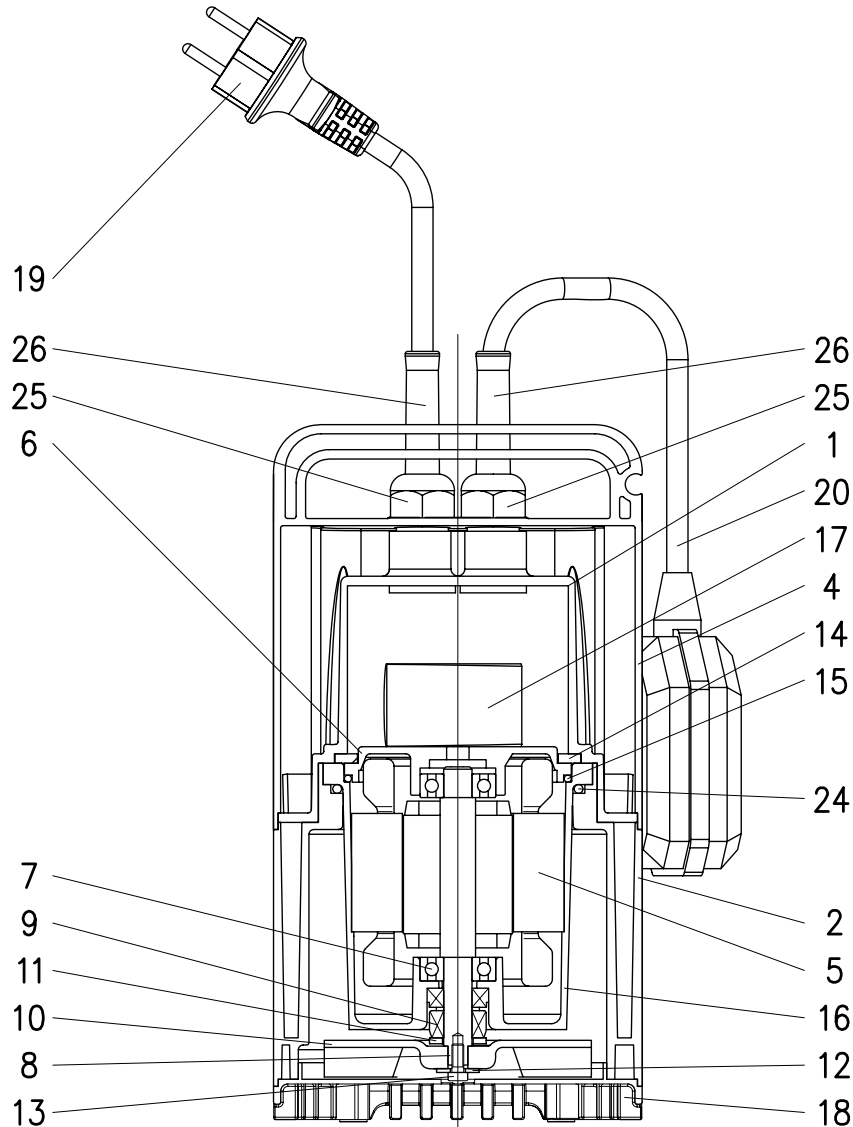
Test standard: ISO 9906 – Annex A

PERLA 4 M(A) (0.37 kW)



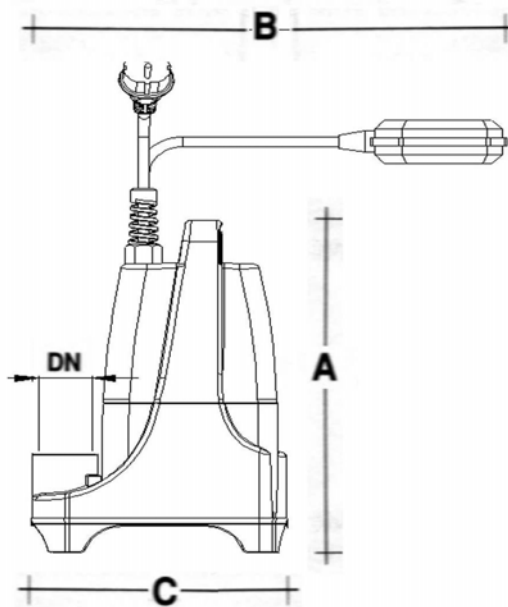
Test standard: ISO 9906 – Annex A

SECTIONAL VIEW



N°	DESCRIZIONE SEA LAND	PART.NAME	MATERIAL	No.FOR UNIT	N°	DESCRIZIONE SEA LAND	PART.NAME	MATERIAL	No.FOR UNIT
1	CALOTTA COPERCHIO MOTORE	Motor cover	PPE + 40 % F.V.	1	13	VITE FISSAGGIO GIRANTE	Screw	DIN 933 A2 10,9	1
2	CORPO ACQUE PULITE	Pump casing	PPE + 30 % F.V.	1	14	GUARNIZIONE SUPERIORE PIANA	Gasket	NBR 70 sh	1
4	CALOTTA TESTATA BLU	Casing cover	PPE + 30 % F.V.	1	15	O-RING INTERNO FLANGIA	O-ring	NBR 70 sh	1
5	STATORE	Stator	Lam. P01 / Rame HD 200*	1	16	BICCHIERE ALLUMINIO	Motor frame	Aluminum EN AB-46100	1
6	FLANGIA MOTORE	Upper bearing seat	PC+ 20% F.V.	1	17	CONDENSATORE	Capacitor	-	1
7	CUSCINETTO	Bearing	-	2	18	FILTRO ASPIRAZIONE	Strainer	PPE + 30 % F.V.	1
8	ALBERO+ROTORE	Shaft with rotor	AISI 420	1	19	CAVO ALIMENTAZIONE	Power cable	H05 Perla 3 H07 Perla 4	1
9	TENUTA COMPLETA	Mechanical seal	Carbon / Ceramic/NBR	1	20	GALLEGGIANTE	Floating -switch	H07 RN-F	1
10	GIRANTE	Impeller	GE Noryl	1	24	O-RING INFERIORE	O-ring	NBR 70 sh	1
11	RONDELLA SPESSORE TENUTA	Mechanical seal spacer	DIN 125 A2 140 HV	1	25	DADO PRESSACAVO	Nut for cable boot	Polyamid PA6 V-2	2
12	RONDELLA BLOCCA GIRANTE	Impeller spacer	DIN 9021 A2 100 HV	1	26	PRESSACAVO	Cable boot	EPDM 65 sh	2

DIMENSIONS AND WEIGHT

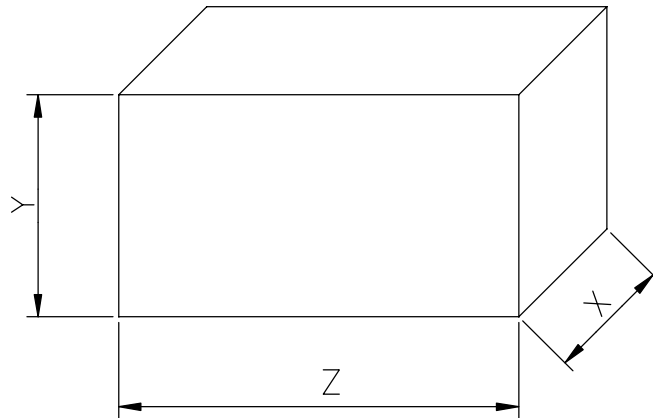


Type pumps Single Phase	Dimensions [mm]			Weight [kgf]
	A	B	C	
PERLA 3 M(A)	300	400	190	4.6
PERLA 4 M(A)	300	400	190	5.8

ELECTRICAL DATA

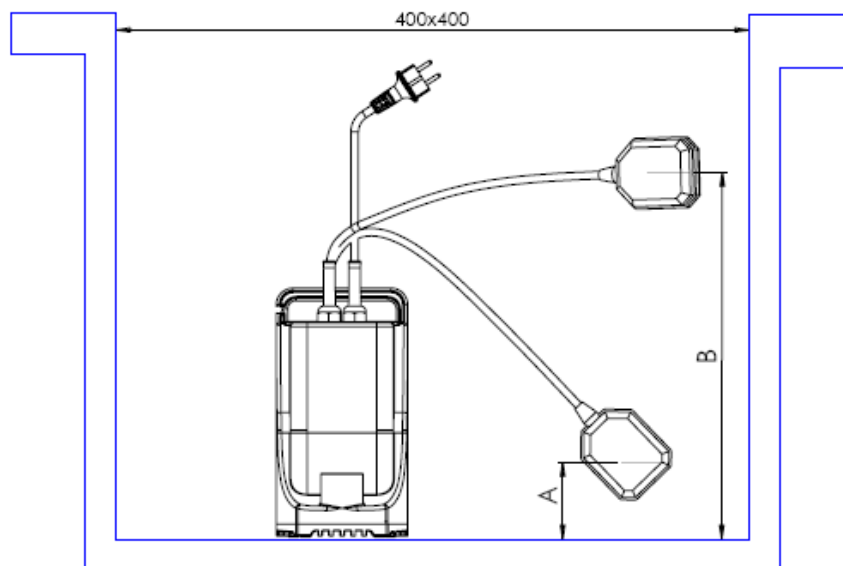
Type pumps Single Phase	kW	HP	Capacitor Single Phase		Input Power [kW]	Full load current [A]	Locked rotor current [A]	Ball Bearing	
			[μF]	[V]				Pump side	Up side
PERLA 3 M(A)	0.15	0.2	6.3	450	0.31	1.4	1.8	6201 ZZ	6201 ZZ
PERLA 4 M(A)	0.37	0.5	8	450	0.50	2.3	5	6201 ZZ	6201 ZZ

PACKING



Type pumps	Packing [mm]			Weight [kgf]
	Z	X	Y	
PERLA 3 M(A)	240	190	390	5.2
PERLA 4 M(A)	240	190	390	6.4

INSTALLATION



Pump type	Dimensions mm	
	A	B
PERLA 3 M(A)	100	450+A
PERLA 4 M(A)	100	450+A