SPECIFICATION 50Hz

Rev. K

PUMP			
Liquid Handled	Type of liquid		Clean water
	Temperature	[℃]	min. +5 max. +80
Maximum working pressure		[MPa]	0.6 (PRA 0.50) 0.75 (PRA 0.80) 1.2 (PRA 1.00-1.50-2.00)
Construction	Impeller		Peripheral turbine type
	Shaft seal type		Mechanical seal
	Bearing		Sealed ball bearing
Pipe Connection	Suction	[inch]	G 1 UNI ISO 228
	Discharge	[inch]	G 1 UNI ISO 228
Material	Casing		Cast iron
	Impeller		Brass
	Shaft seal		Ceramic/Carbon/NBR
	Shaft		Carbon steel - AISI 303 (wet extension)
	Bracket		Cast iron
Applicable standard of test			ISO 9906:2012 – Grade 3B

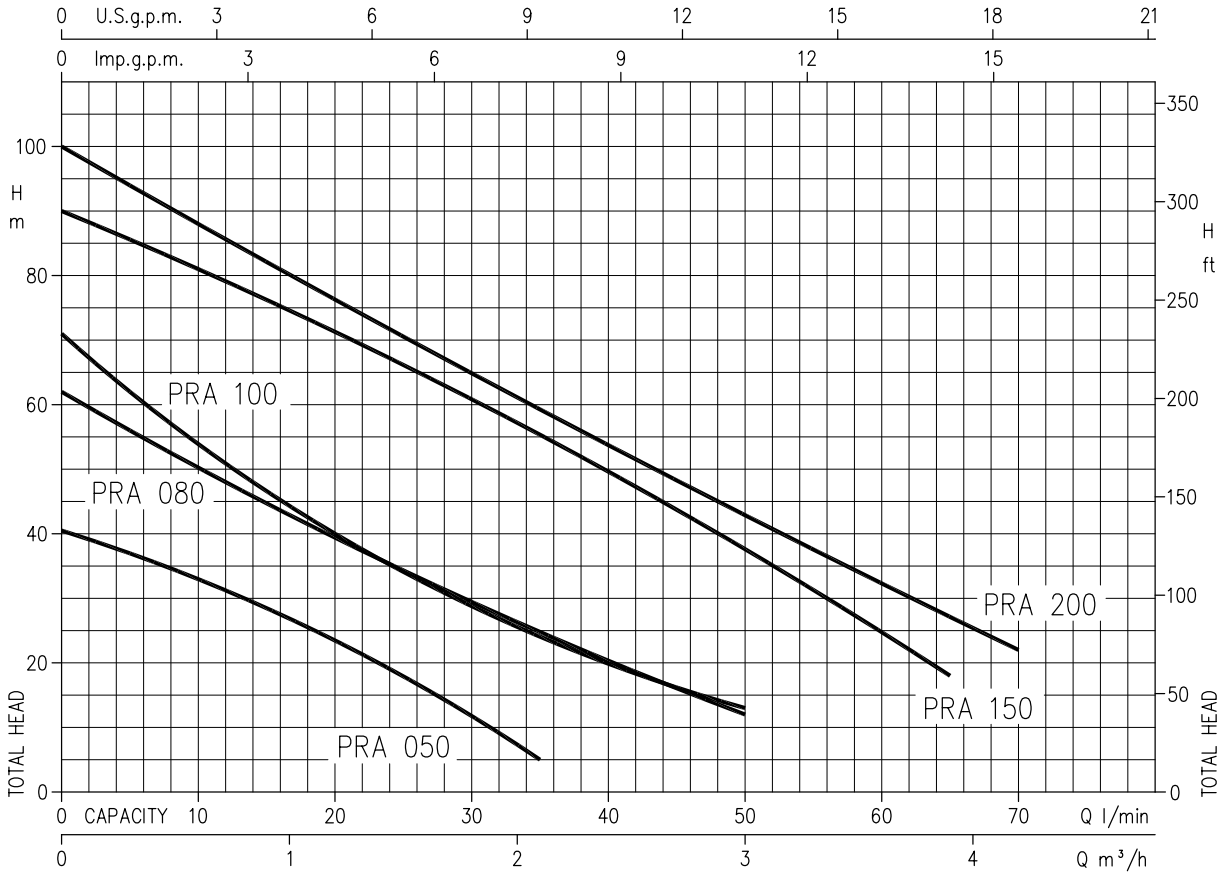
MOTOR			
Type		Electric - TEFC	
		Single Phase	Three Phase
Efficiency level (Reg. 640/2009)		-	- from 0.37 kW up to 0.6 kW IE2 from 0.75 kW up to 1.5 kW IE3 from 0.75 kW up to 1.5 kW
No. of Poles		2	
Rotation speed	[min^{-1}]	≈ 2850	
Insulation Class		Class F	
Protection degree (CEI EN 60034-5)		IP 44	
Power rating	[kW]	0.37 ÷ 1.5	
	[HP]	0.5 ÷ 2	
Frequency	[Hz]	50	
Voltage	[V]	230 ±10%	230/400 ±10%
Capacitor		Built in	-
Over load protection		Built in	Provided by the user
Casing material		Aluminium	
Base material		Aluminium	
Dimensions of cable entry		PG 11 - PG 13.5 - M16x1.5 - M20x1.5 (see dimensions page 400)	

SELECTION CHART

50Hz

Rev. K

PERFORMANCE RANGE



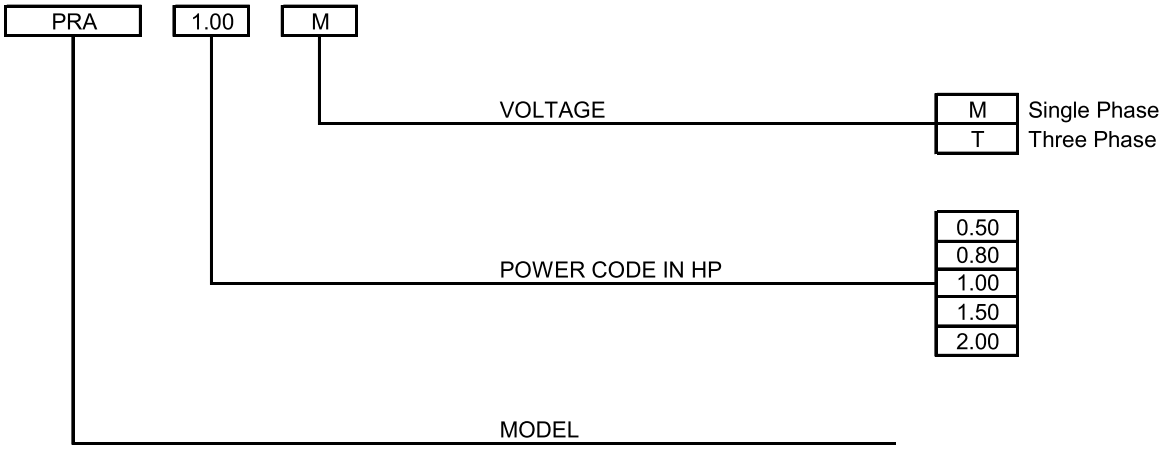
SELECTION CHART

Pump Type		Power		Q=Capacity								
				l/min	0	5	10	15	20	35	50	65	70
Single phase	Three phase	[kW]	[HP]	m³/h	0	0.3	0.6	0.9	1.2	2.1	3	3.9	4.2
				H=Total manometric head in meters									
PRA 0.50 M	PRA 0.50 T	0.37	0.5		40.5	37	33.3	28.7	23.7	5	-	-	-
PRA 0.80 M	PRA 0.80 T	0.6	0.8		62	56	50.7	45.1	39.8	25	12	-	-
PRA 1.00 M	PRA 1.00 T	0.75	1		71	62	54.4	47	40.4	24.3	13	-	-
PRA 1.50 M	PRA 1.50 T	1.1	1.5		90	-	81	76.9	71.9	55.8	37.9	18	-
PRA 2.00 M	PRA 2.00 T	1.5	2		100	-	88	82.9	77	59.8	43.3	27.4	22

TYPE KEY AND CURVE SPECIFICATIONS 50Hz

Rev. K

TYPE KEY



PERFORMANCE CURVE SPECIFICATIONS

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

Tolerances according to ISO 9906:2012 – Grade 3B
The curves refer to effective speed of asynchronous motors at 50 Hz, 2 poles.
Measurements were carried out with clean water at 20℃ of temperature and with a kinematic viscosity of $\nu = 1\ mm^2/s$ (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:

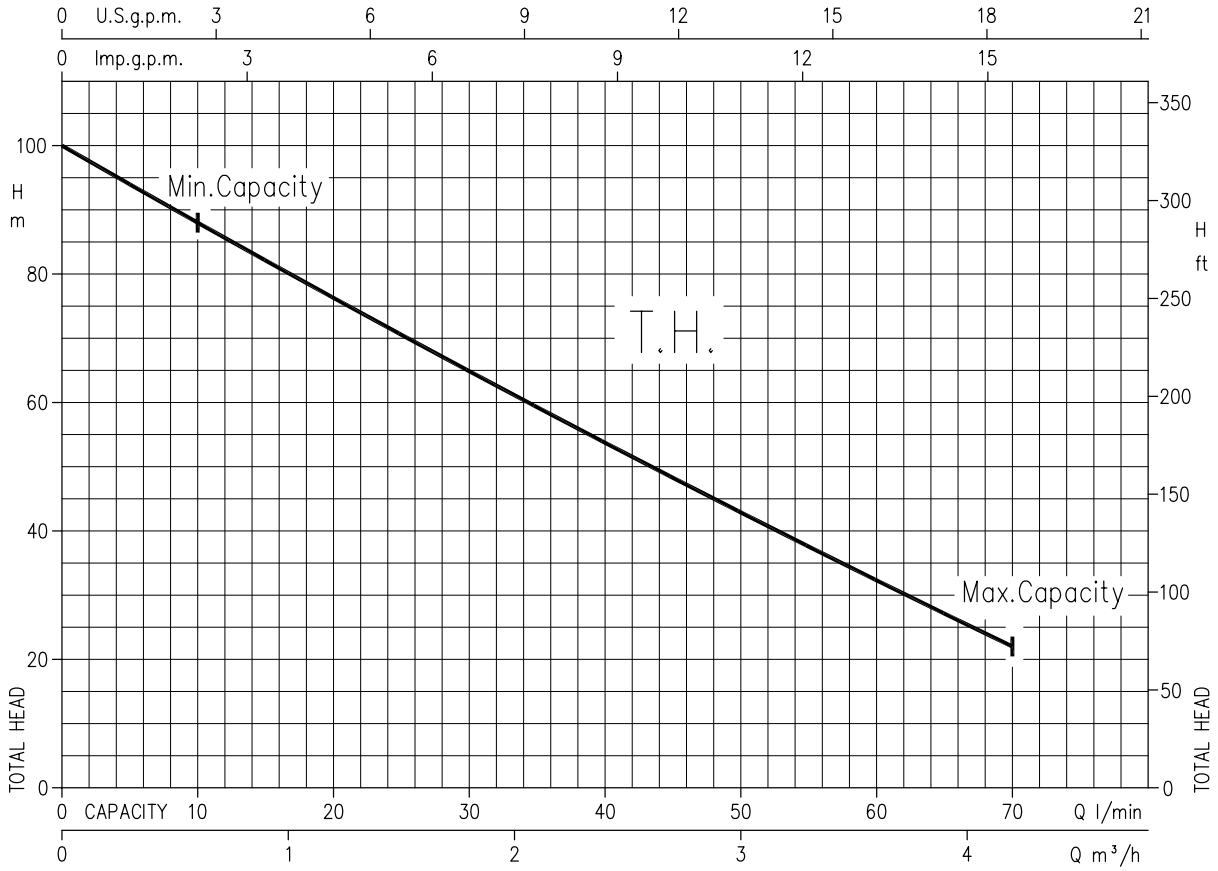
Q = volume flow rate
H = total head

PERFORMANCE CURVE

50Hz

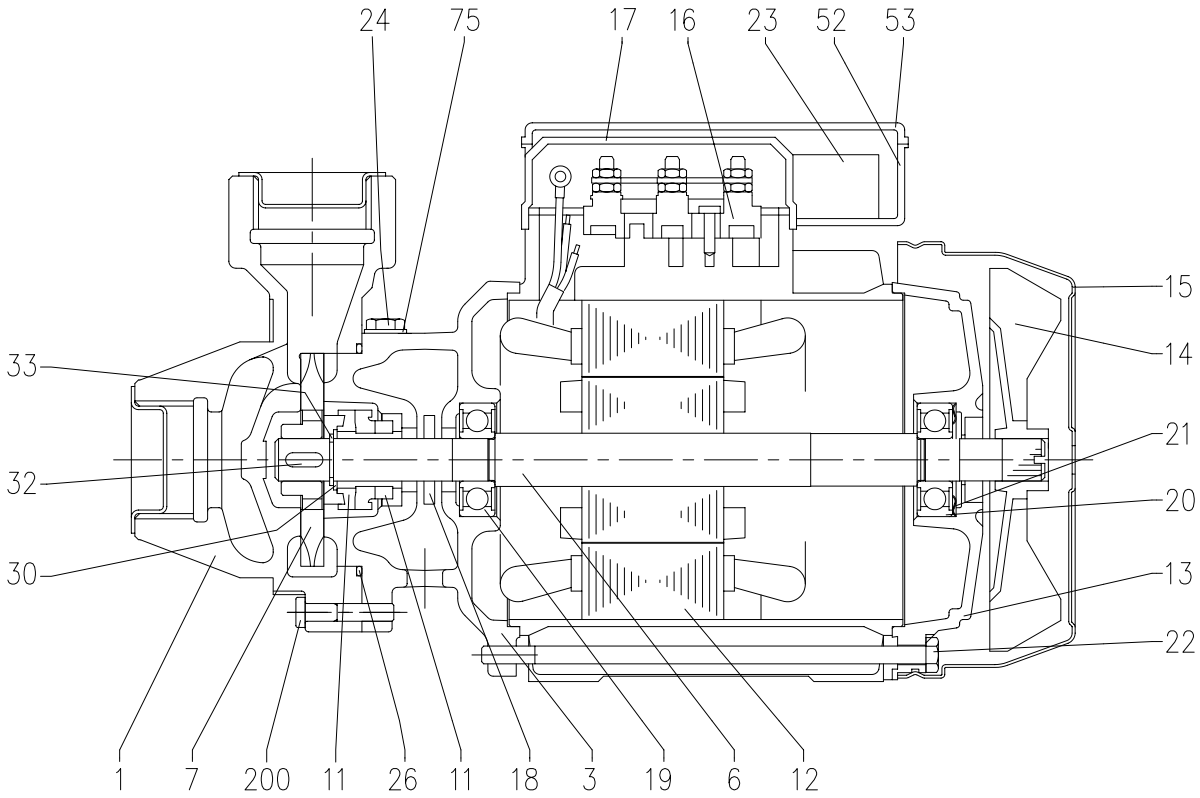
Rev. K

PRA 2.00 (1.5 kW)- Impeller diameter = 78.2 mm



Rotation speed ≈ 2850 min^{-1}
Test standard: ISO 9906:2012 – Grade 3B

SECTIONAL VIEW DRAWING



CONSTRUCTION 50Hz

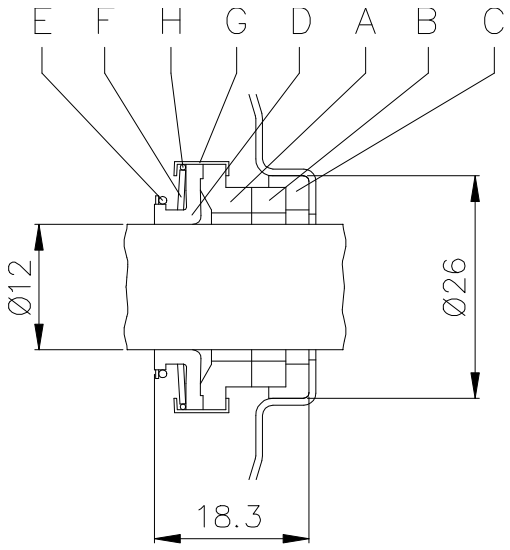
Rev. K

SECTIONAL VIEW TABLE

N°	PART NAME		MATERIAL	DIMENSIONS	STANDARD	Q.TY
1	Casing		Cast iron			1
3	Motor bracket		Cast iron			1
6	Shaft with rotor		[1]		UNI 7846	1
7	Impeller		Brass			1
11	Mechanical seal [2]		Carbon/Ceramic/NBR	See pag.302-303		1
12	Motor frame with stator		-			1
13	Motor cover		Aluminium			1
14	Fan		PP			1
15	Fan cover		Fe P04 Galvanized			1
16	Terminal box		-			1
17	Terminal box cover [3]		Aluminium			1
18	Splash ring		NBR			1
19	Pump side ball bearing		-			1
20	Fan side ball bearing		-			1
21	Adjusting ring		Steel C70			1
22	Tie rod		Fe 42 Galvanized			4
23	Capacitor [4]		-			1
24	Priming plug		Brass	G 1/8"	UNI 338	1
26	O-Ring		NBR			1
30	Washer		AISI 304			1
32	Key		AISI 316			1
33	Seeger ring		AISI 304		UNI 7435	1
52	Capacitor box [4]		ABS class V-0			1
53	Capacitor box cover [4]		ABS class V-0			1
75	Washer		Aluminium			1
200	Screw	0.37 kW	Zn Steel Cl. 8.8	M5X25	UNI 5938	3
		0.6-0.75 kW		M5X40	ISO 898-1	
		1.1-1.5 kW		M6X45		

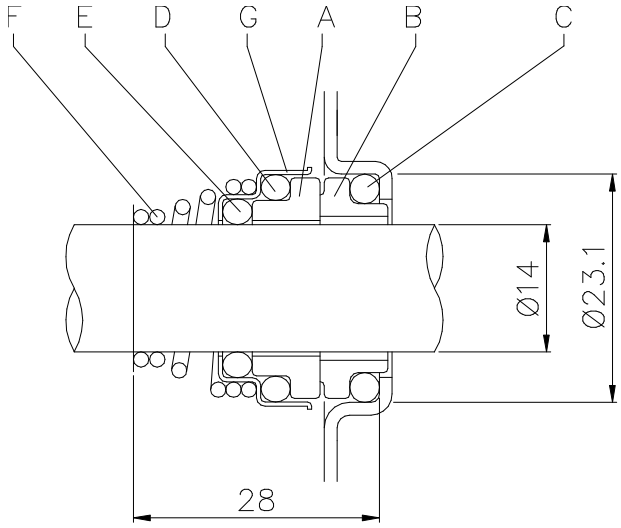
[1] Material: AVZ for version PRA 0.50
AISI 303 (wet extension) for the other version
[2] See constructions mechanical seal page 301-302
[3] Only for three phase
[4] Only for single phase

MECHANICAL SEAL (UP TO 0.75 kW)



REF	PART NAME	MATERIAL
A	Rotary seal ring	Carbon graphite
B	Stationary seal ring	Ceramic
C	Gasket	NBR
D	Bellows	NBR
E	Ring	AISI 304
F	Self driving spring	AISI 304
G	Frame	AISI 304
H	Retainer ring	AISI 304

MECHANICAL SEAL (1.1 kW AND ABOVE)



REF	PART NAME	MATERIAL
A	Rotary seal ring	Ceramic
B	Stationary seal ring	Carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

BEARINGS

Pump Type		Ball bearing			
			(*)		(*)
Single phase	Three phase	Pump side	Pump side	Fan side	Fan side
PRA 0.50 M	PRA 0.50	6201 2RSH	-	6201 2RSH	-
PRA 0.80 M	PRA 0.80	6202 2RSH	-	6202 2RSH	-
PRA 1.00 M	PRA 1.00	6202 2RSH	6202-ZZ C3	6202 2RSH	6202-ZZ C3
PRA 1.50 M	PRA 1.50	6204 2RSH	6204-ZZ C3	6203 2RSH	6203-ZZ C3
PRA 2.00 M	PRA 2.00	6204 2RSH	6204-ZZ C3	6203 2RSH	6203-ZZ C3

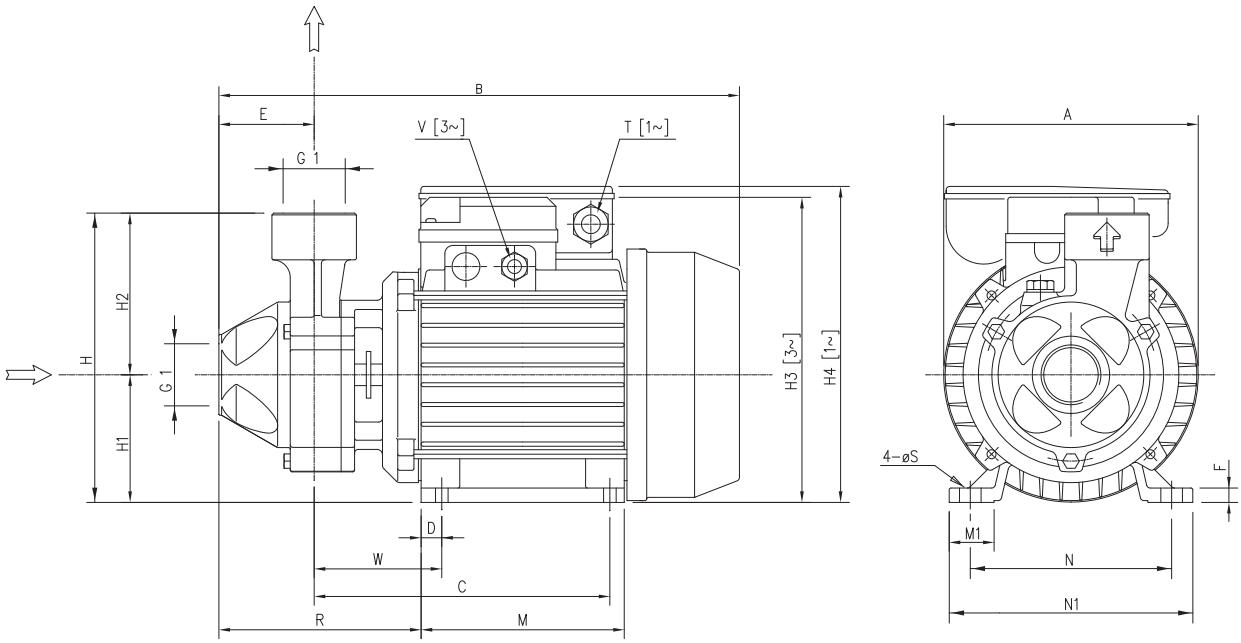
(*) Only for IE3 Motors

DIMENSIONS AND WEIGHT

50Hz

Rev. K

PUMP



Pump Type	Dimensions [mm]																						Weight [kgf]	
	A	B	(*)	C	D	E	F	H	H1	H2	H3	H4	M	M1	N	N1	R	[1~] T	[3~] (*) V	[3~] V	W	S		(*)
PRA 0.50M	130	264	-	149	10	50	7	143	63	80	-	160	100	23	100	120	119	PG11	-	-	69	7	5.6	-
PRA 0.50T	130	264	-	149	10	50	7	143	63	80	150	-	100	23	100	120	119	-	-	PG11	69	7	5.6	-
PRA 0.80M	130	291	-	159	11	54	9	161	71	90	-	178	112	25	112	135	122	PG11	-	-	69	7	9.2	-
PRA 0.80T	150	291	-	159	11	54	9	161	71	90	168	-	112	25	112	135	122	-	-	PG11	69	7	9.2	-
PRA 1.00M	150	291	-	159	11	54	9	161	71	90	-	178	112	25	112	135	122	PG11	-	-	69	7	9.7	-
PRA 1.00T	150	291	291	159	11	54	9	161	71	90	168	-	112	25	112	135	122	-	M16x1.5	PG11	69	7	10.5	10.5
PRA 1.50M	162	331	-	188	12	57	12	175	80	95	-	212	124	28	125	152	144	PG13.5	-	-	88	9	14.5	-
PRA 1.50T	162	331	356	188	12	57	12	175	80	95	187	-	124	28	125	152	144	-	M20x1.5	PG11	88	9	15.5	16.4
PRA 2.00M	162	331	-	188	12	57	12	175	80	95	-	212	124	28	125	152	144	PG13.5	-	-	88	9	15.8	-
PRA 2.00T	162	344	357	188	12	57	12	175	80	95	187	-	124	28	125	152	144	-	M20x1.5	PG11	88	9	16.4	17.3

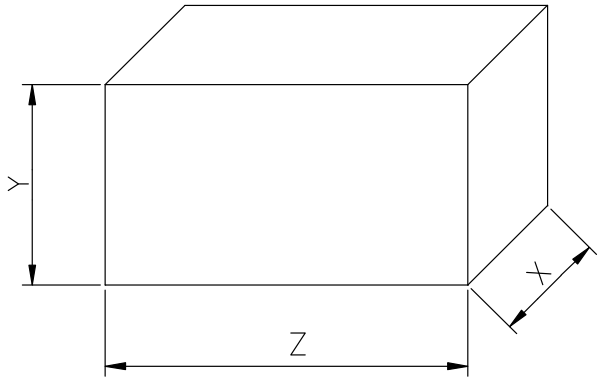
[1~] Single Phase
[3~] Three Phase
(*) Only for IE3 Motors

DIMENSIONS AND WEIGHT

50Hz

Rev. K

PACKING



Pump Type		Packing [mm]						Weight [kgf]		
		X		Y		Z				
Single Phase	Three Phase	[1~]	[3~]	[1~]	[3~]	[1~]	[3~]	[1~]	[3~]	(*) [3~]
PRA 0.50 M	PRA 0.50	155	155	195	195	285	285	6.1	6.1	-
PRA 0.80 M	PRA 0.80	180	180	200	200	305	305	9.4	9.4	-
PRA 1.00 M	PRA 1.00	180	180	200	200	305	305	10.5	9.9	9.9
PRA 1.50 M	PRA 1.50	195	160	230	205	372	355	15.4	13.7	14.6
PRA 2.00 M	PRA 2.00	195	160	230	205	372	355	16.5	17	17.9

[1~] Single Phase
[3~] Three Phase
(*) Only for IE3 Motors

TECHNICAL DATA 50Hz

Rev. K

MOTOR DATA

Pump type		Power		Efficiency		Capacitor		Efficiency (% load) Three phase η %			Input [kW]		Full load current [A]			Locked rotor current [A]		
Single Phase	Three Phase	[kW]	[HP]	Single Phase	Three Phase	Single Phase [μF]	[V]	50%	75%	100%	Single Phase	Three Phase	Single Phase 230 V	Three Phase 230 V	Three Phase 400 V	Single Phase 230 V	Three Phase 230 V	Three Phase 400 V
PRA 0.50 M	PRA 0.50	0.37	0.5	-	-	10	450	-	-	-	0.57	0.55	2.6	1.7	1.0	6.9	7.0	3.8
PRA 0.80 M	PRA 0.80	0.6	0.8	-	-	16	450	-	-	-	1.10	1.10	4.9	3.6	2.1	16.5	17.0	10
PRA 1.00 M	PRA 1.00	0.75	1	-	IE2	20	450	77.2	80.9	81.3	1.25	0.92	5.6	3.0	1.7	19.0	22.0	12.9
-	PRA 1.00	0.75	1	-	IE3	-	-	80.9	82.3	82.1	-	0.91	-	3.0	1.7	-	19.7	11.4
PRA 1.50 M	PRA 1.50	1.1	1.5	-	IE2	40	450	79.7	82.5	83.0	2.27	1.80	10.0	5.6	3.2	43.0	45.0	25.7
-	PRA 1.50	1.1	1.5	-	IE3	-	-	83.5	84.3	84.6	-	1.77	-	5.8	3.3	-	47.4	27.4
PRA 2.00 M	PRA 2.00	1.5	2	-	IE2	40	450	78.6	83.0	84.2	2.45	2.25	10.9	7.4	4.3	43.0	34.3	20.0
-	PRA 2.00	1.5	2	-	IE3	-	450	82.7	86.1	87.0	-	1.72	-	6.6	3.8	-	66.6	38.4

NOISE DATA

Pump type		Power		L_{pA} - dB(A) *
Single Phase	Three Phase	[kW]	[HP]	
PRA 0.50 M	PRA 0.50	0,37	0,5	<70
PRA 0.80 M	PRA 0.80	0,6	0,8	
PRA 1.00 M	PRA 1.00	0,75	1	
PRA 1.50 M	PRA 1.50	1,1	1,5	73
PRA 2.00 M	PRA 2.00	1,5	2	

* Mean value of several measures at 1m distance around the pump.
Tollerance ± 2.5 dB.