
EBARA

CONTENTS

50Hz

Rev D

SPECIFICATIONS 50 Hz

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PUMP		
Liquid Handled	Type of liquid	Clean water
	Max temperature [°C]	50
Maximum working pressure [MPa]		0.6
Construction	Impeller	Closed centrifugal
	Shaft seal type	Mechanical
	Bearing	Sealed ball bearing
Pipe Connection	Suction	G 1"¼
	Discharge	G 1"
Material	Casing	Cast iron
	Impeller	Noryl® (CPA 0.75 - 1.00) Brass (CPA 1.50 - 2.00)
	Shaft seal	Ceramic/Carbon/NBR
	Casing cover	AISI 304 (CPA 0.75 - 1.00) Cast iron (CPA 1.50 - 2.00)
	Shaft	AISI 416 - AISI 303 (see application page 300)
	Bracket	Aluminium (CPA 0.75 – 1.00) Cast iron (CPA 1.50 - 2.00)
	Ejector	Cast iron
	Diffuser	Noryl GFN2 (CPA 0.75 - 1.00) None (CPA 1.50 – 2.00)
Applicable standard of test		ISO 9906 – Annex A

MOTOR			
Type		Electric - TEFC	
		Single Phase	Three Phase
No. of Poles		2	
Synchronous speed	[min^{-1}]	≈2800	
Insulation Class		F	
Protection degree		IP 44	
Power rating	[kW]	0.55 ÷ 1.5	
	[HP]	0.75 ÷ 2	
Frequency	[Hz]	50	
Voltage	[V]	220 ±6% - 230 ±10%	230/400 ±10%
Capacitor (Single Phase)		Built in	-
Over load protection		Built in	Provided by the user
Casing material		Aluminium	
Base material/motor support		Plastic foot / Cast iron	
Dimensions of cable entry		PG11 - PG 13.5 (see dimensions page 400)	

SELECTION CHART

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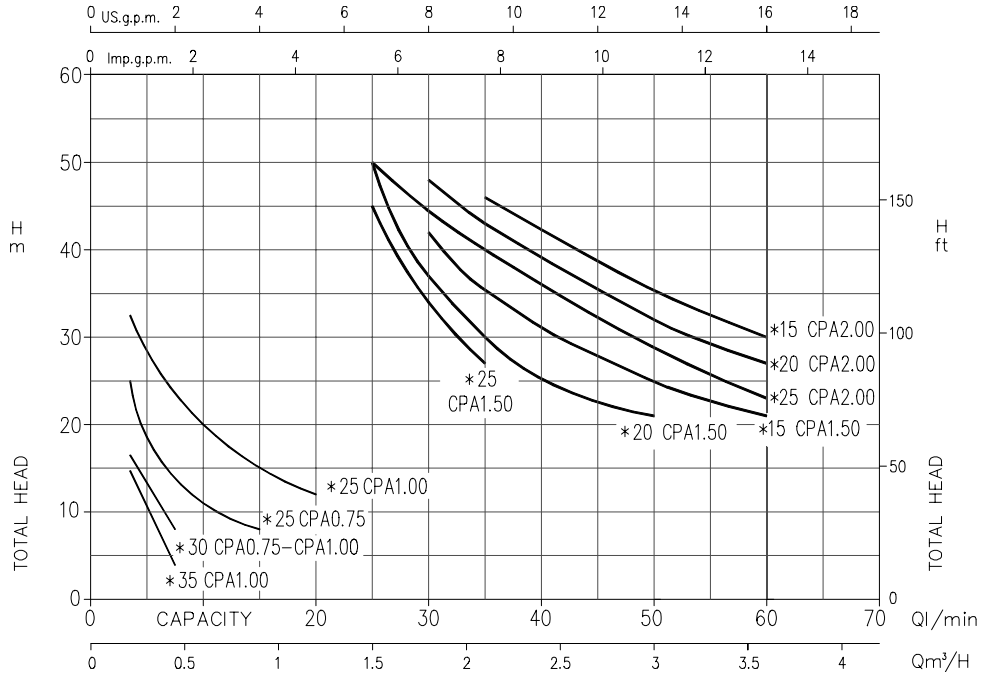
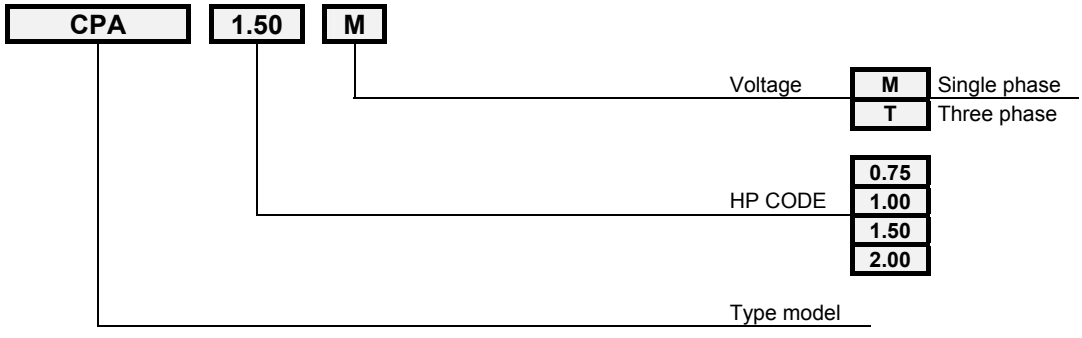


Type pumps		kW	HP	Suction	Q=Capacity											
Single Phase	Three Phase				l/min 3.5	5	7.5	10	15	20	25	30	35	40	50	60
230 V	230/400 V			depth	m³/h 0.21	0.3	0.45	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3	3.6
50 Hz	50 Hz			m.	H=Total manometric head in meters											
CPA 0.75 M	CPA 0.75 T	0.55	0.75	25	25	18.5	13.8	11	8	-	-	-	-	-	-	-
				30	16.5	13.3	8	-	-	-	-	-	-	-	-	-
CPA 1.00 M	CPA 1.00 T	0.75	1	25	32.5	28.4	23.6	20	15	12	-	-	-	-	-	-
				30	16.5	13.3	8	-	-	-	-	-	-	-	-	-
				35	14.7	10.6	3.9	-	-	-	-	-	-	-	-	-
CPA 1.50 M	CPA 1.50 T	1.1	1.5	15	-	-	-	-	-	-	-	42	35.4	31.1	24.9	21
				20	-	-	-	-	-	-	50	37	30	25.2	21	-
				25	-	-	-	-	-	-	45	34	27	-	-	-
CPA 2.00 M	CPA 2.00 T	1.5	2	15	-	-	-	-	-	-	-	-	46	42.3	35.4	30
				20	-	-	-	-	-	-	-	50.1	43	39.1	32	27
				25	-	-	-	-	-	-	50	44.2	40	36	28.9	23

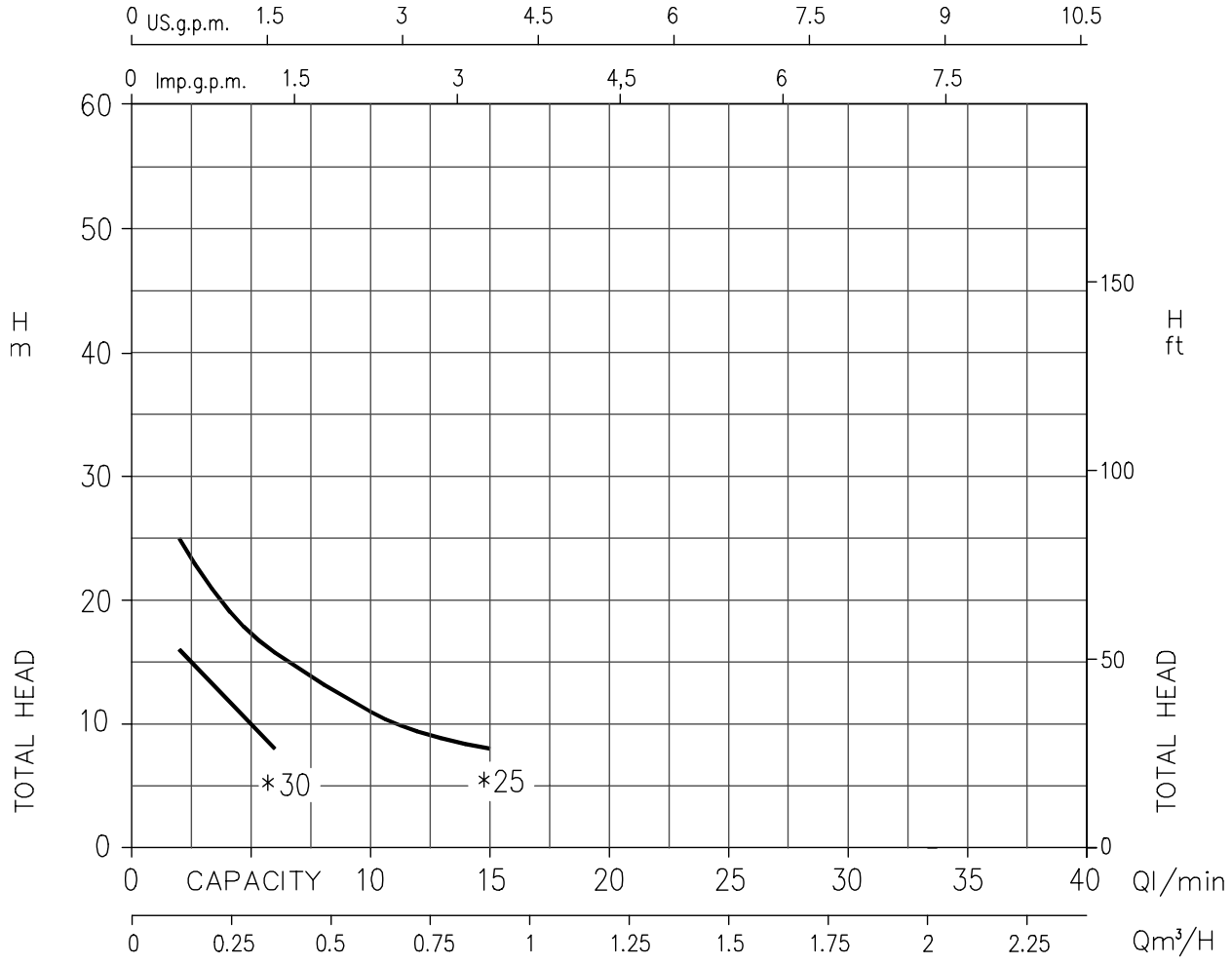
TYPE KEY:



PERFORMANCE CURVE

Rev D

CPA 0.75 (0.55 kW)
SYNCHRONOUS SPEED: 3000 min^{-1}

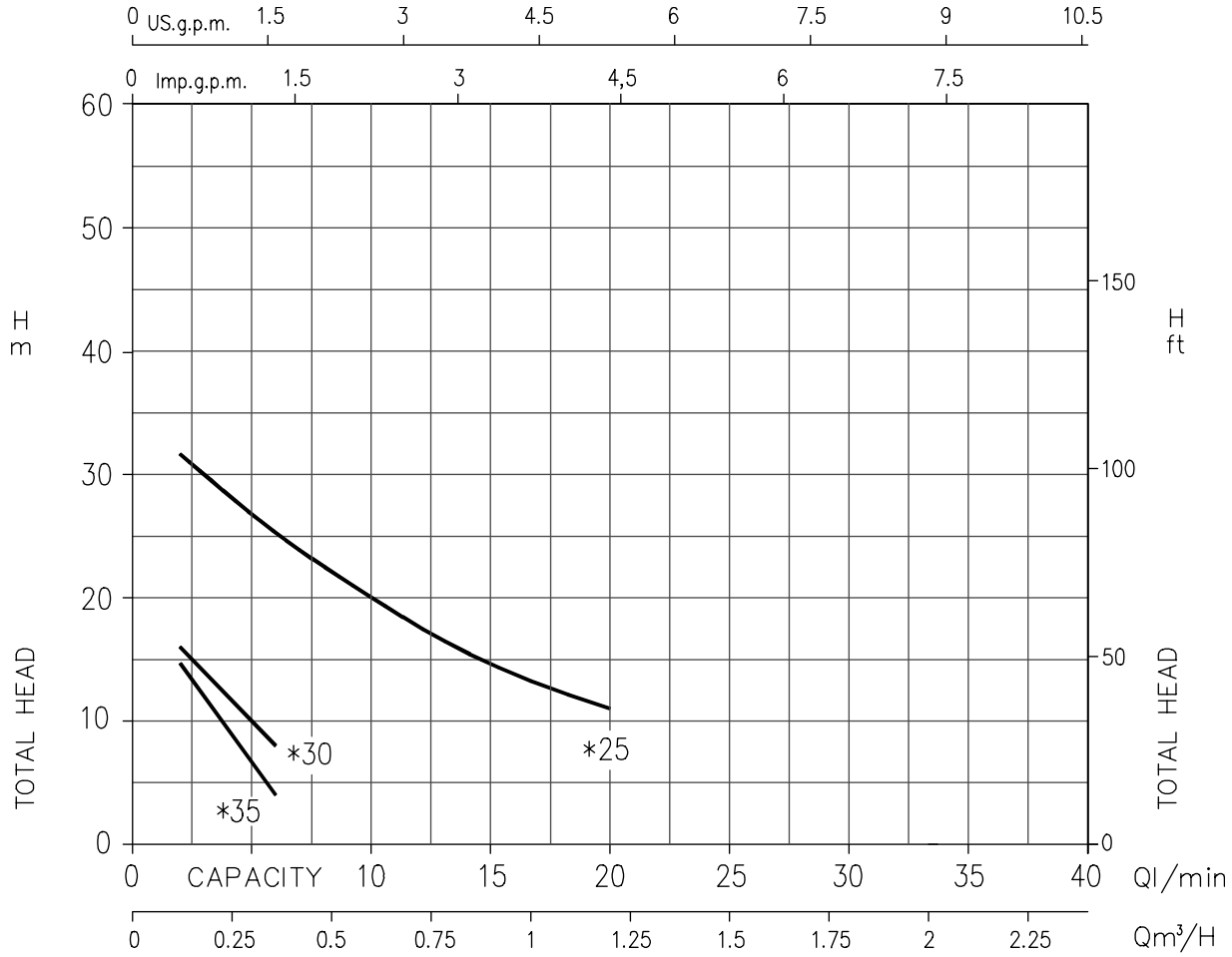


Temperature of water: 20°C
✳ Suction head in meters
Impeller diameter = 130 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

Rev D

CPA 1.00 (0.75 kW)
SYNCHRONOUS SPEED: 3000 min^{-1}

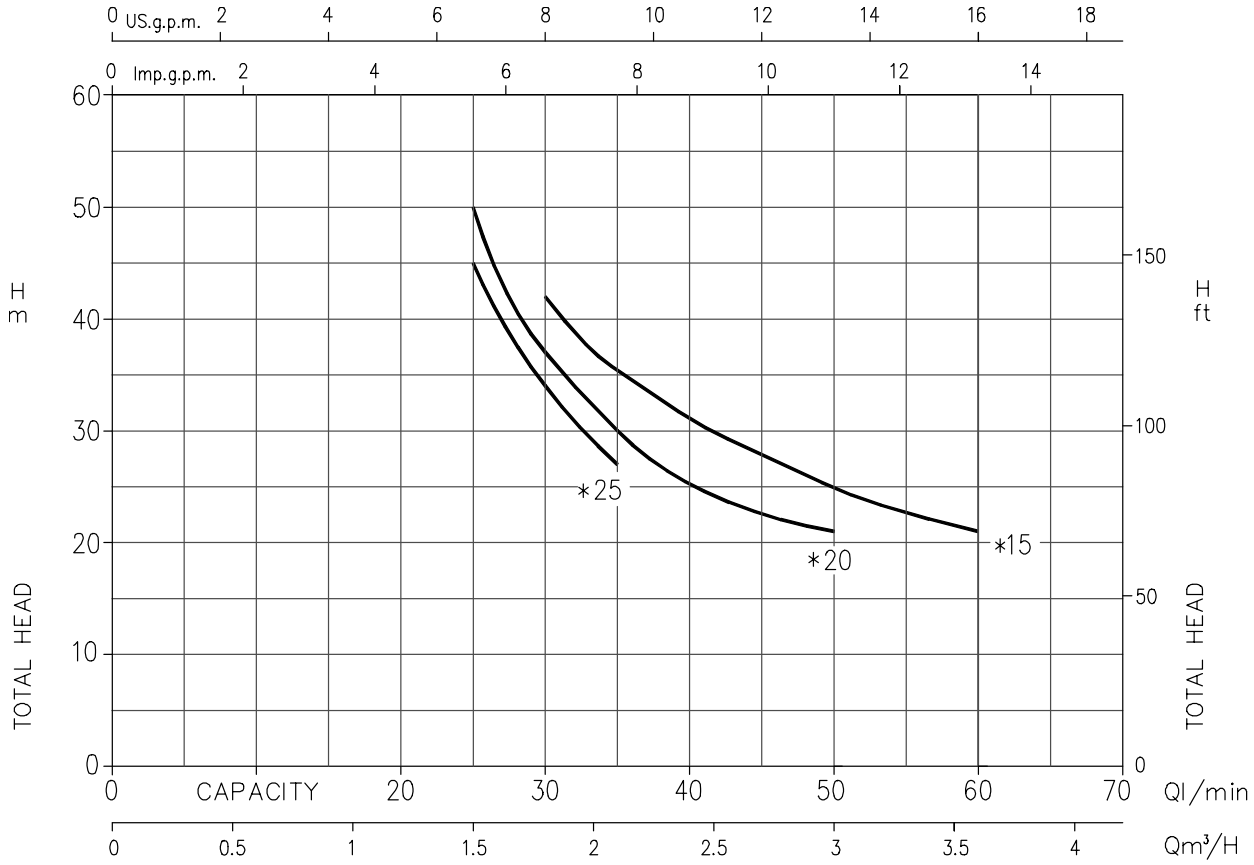


Temperature of water: 20°C
✳ Suction head in meters
Impeller diameter = 130 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE 50Hz

Rev D

CPA 1.50 (1.1 kW)
SYNCHRONOUS SPEED: 3000 min^{-1}



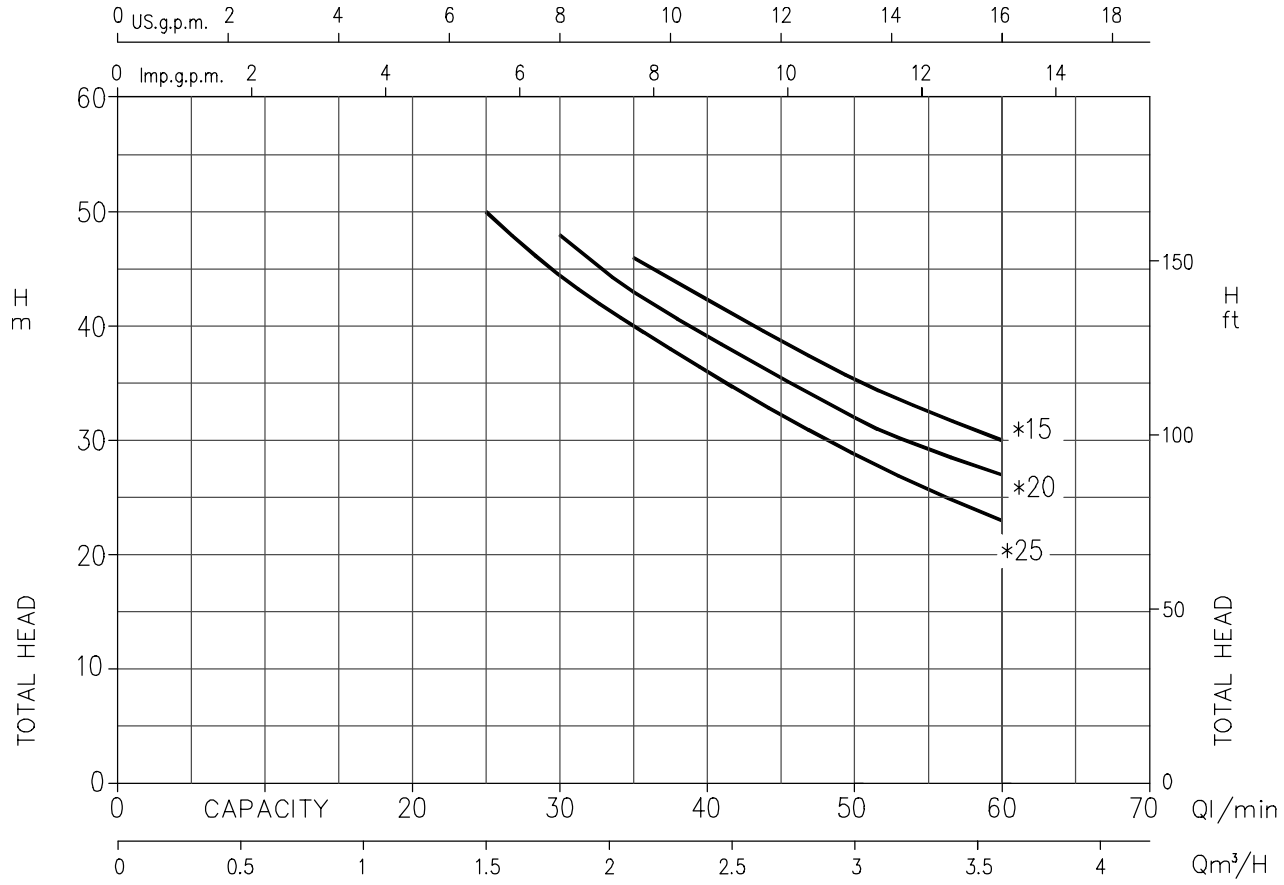
Temperature of water: 20°C
✳ Suction head in meters
Impeller diameter = 164 mm
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev D

CPA 2.00 (2 kW)
SYNCHRONOUS SPEED: 3000 min^{-1}



Temperature of water: 20°C
✳ Suction head in meters
Impeller diameter = 164 mm
Applicable standard of test: ISO 9906 - Annex A

CONSTRUCTIONS

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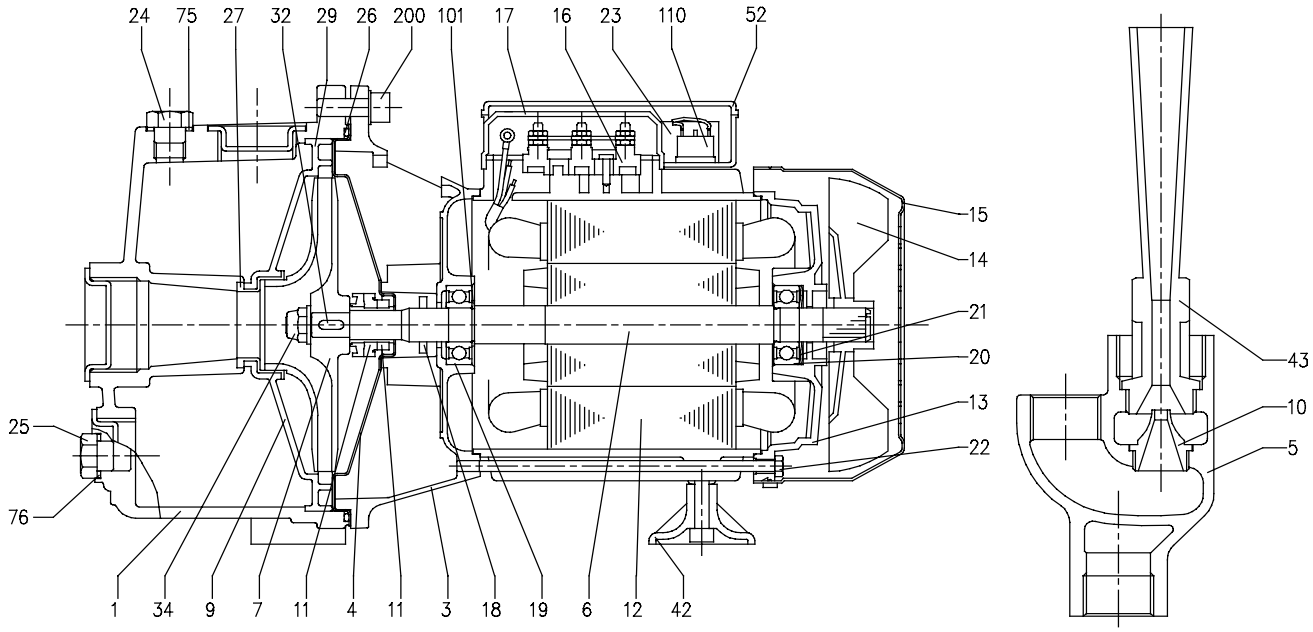
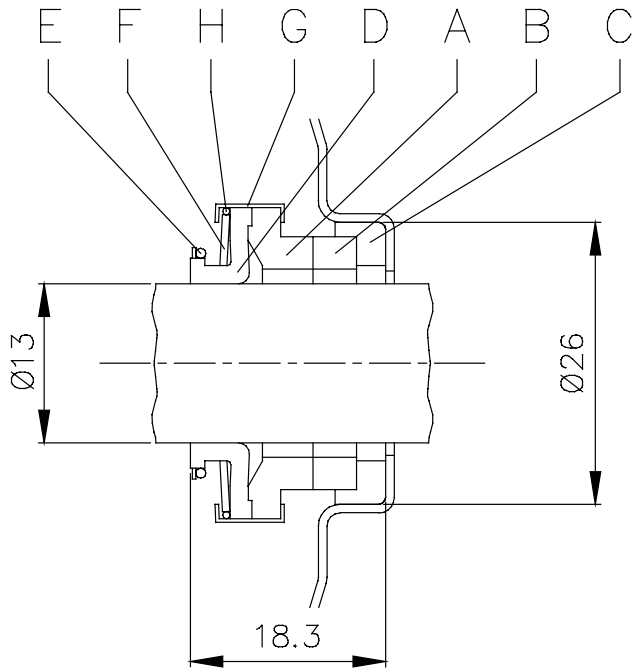
SECTIONAL VIEW



N°	PART NAME	MATERIAL	NO.FOR 1 UNIT	N°	PART NAME	MATERIAL	NO.FOR 1 UNIT
1	Casing	Cast iron	1	21	Adjusting ring	Steel C70	1
3	Motor bracket	[8]	1	22	Tie rod	Fe 42 Zinked	4
4	Casing cover [3]	AISI 304	1	23	Capacitor [1]	-	1
5	Ejector	Cast iron	1	24	Priming plug	Brass	2
6	Shaft with rotor	[6]	1	25	Drain plug	Brass	1
7	Impeller	[4]	1	26	O-ring	NBR	1
9	Diffuser + Venturi tube [3]	Noryl	1	27	Gasket [3]	NBR	1
10	Venturi nozzle	Brass	1	29	Intermediate plate [5]	Cast iron	1
11	Mechanical seal [7]	Carbon/Ceramic/NBR	1	32	Key [5]	AISI 304	1
12	Motor frame with stator	-	1	34	Impeller nut [5]	AISI 304	1
13	Motor cover	Aluminium	1	42	Foot	PVC	1
14	Fan	Polypropilene	1	43	Venturi tube	Noryl	1
15	Fan cover	Fe P04 Zinked	1	52	Terminal box [1]	Polypropilene	1
16	Terminal box	-	1	75	Washer	Aluminium	1
17	Terminal box cover [2]	Aluminium	1	76	Washer	Aluminium	1
18	Splash ring	NBR	1	101	Seeger ring	AISI 420	1
19	Pump side ball bearing	-	1	110	Protector	-	1
20	Fan side ball bearing	-	1	200	Screw	Stainless steel A2 UNI7323	4

[1] Only for single phase
[2] Only for three phase
[3] Only for version CPA 0.75 - CPA 1.00
[4] Material : Noryl for version CPA 0.75 - CPA 1.00
Brass for version CPA 1.50 - CPA 2.00
[5] Only for version with impeller in Brass
[6] Material : AISI 416 for version CPA 0.75 - CPA 1.00
AISI 303 (Part in contact with liquid) for version CPA 1.50 - CPA 2.00
[7] See constructions mechanical seal page 301-302
[8] Material : Aluminium for version CPA 0.75 - CPA 1.00
Cast iron for version CPA 1.50 - CPA 2.00

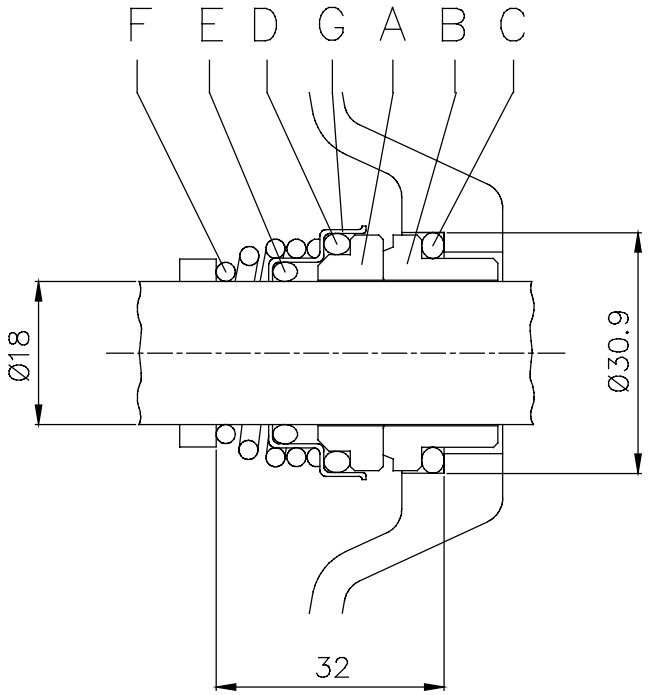
MECHANICAL SEAL



REF	PART NAME	MATERIAL product standard CPA
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

Version: CPA 0.75-CPA 1.00

MECHANICAL SEAL



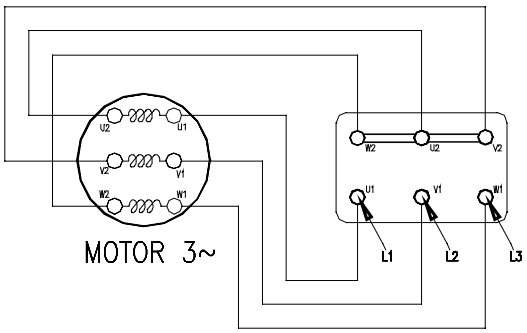
REF	PART NAME	MATERIAL product standard CPA
A	Rotary seal ring	ceramic
B	Stationary seal ring	carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

Version: CPA 1.50-CPA 2.00

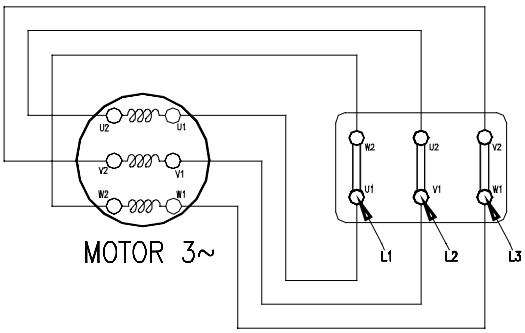
DIAGRAM AND ELECTRIC CONNECTIONS

THREE PHASE MOTOR

STAR CONNECTION

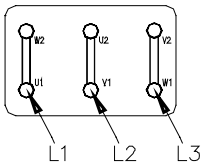


DELTA CONNECTION



FOR MOTOR 4 kW AND BELOW

DELTA CONNECTION 230 V



STAR CONNECTION 400 V

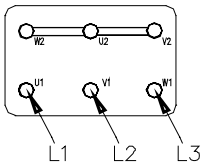
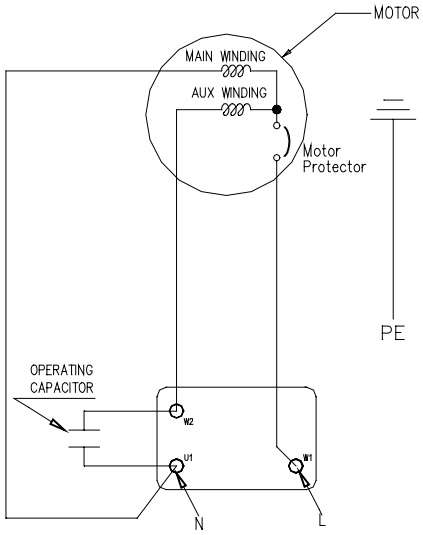


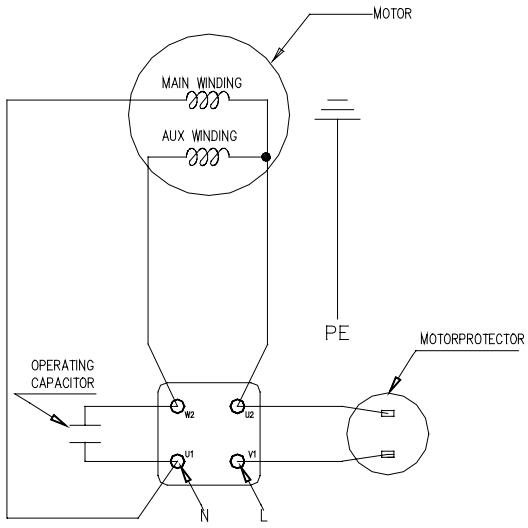
DIAGRAM AND ELECTRIC CONNECTIONS

SINGLE PHASE MOTOR

FOR MOTORS WITH LOCKED ROTOR CURRENT UP TO 25 [A] (INTERNAL MOTORPROTECTOR)



FOR MOTORS WITH LOCKED ROTOR CURRENT OVER 25 [A] (EXTERNAL MOTORPROTECTOR)



For model

CPA 0.75 M
CPA 1.00 M

CPA 1.50 M
CPA 2.00 M

DIMENSIONS

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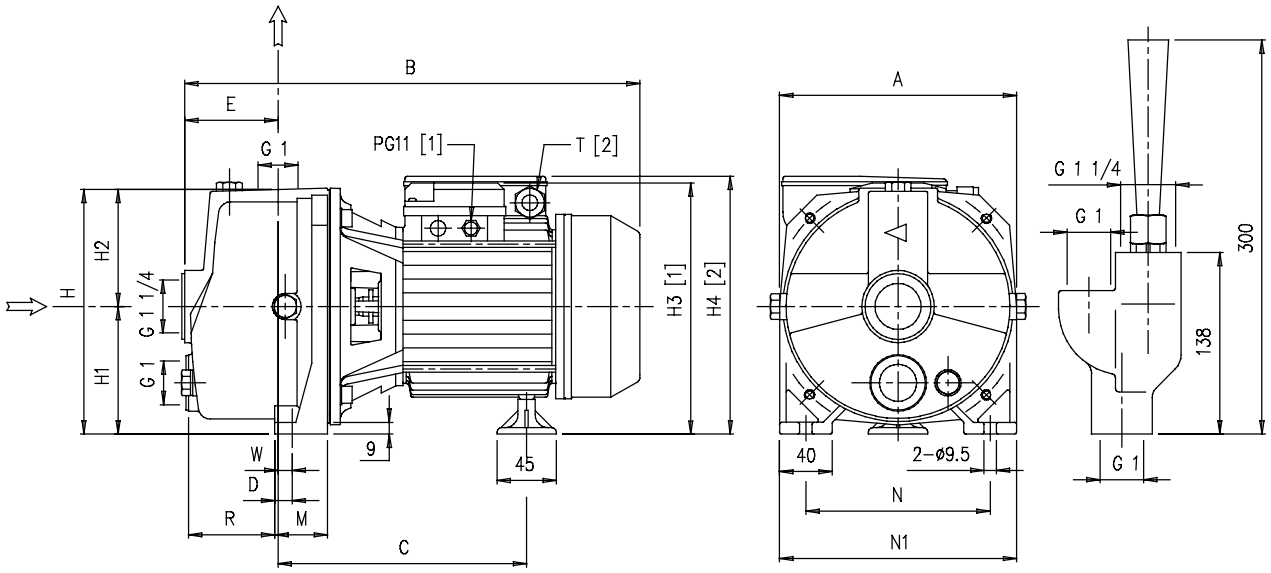


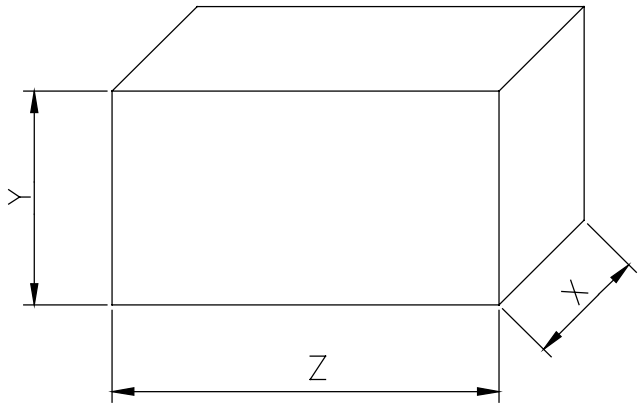
Pump Type	Dimensions mm															
	A	B	C	D	E	H	H1	H2	H3	H4	M	N	N1	R	T	W
CPA 0.75M	180	345	191	8.3	71	187	97	90	-	198	40	140	180	68.5	PG11	5.8
CPA 0.75T	180	345	191	8.3	71	187	97	90	197.5	-	40	140	180	68.5	-	5.8
CPA 1.00M	180	345	191	8.3	71	187	97	90	-	198	40	140	180	68.5	PG11	5.8
CPA 1.00T	180	345	191	8.3	71	187	97	90	197.5	-	40	140	180	68.5	-	5.8
CPA 1.50M	206	386	245	13.3	47.5	219.5	111.5	108	-	243.5	45	160	200	55.5	PG13.5	21.3
CPA 1.50T	206	386	245	13.3	47.5	219.5	111.5	108	225.5	-	45	160	200	55.5	-	21.3
CPA 2.00M	206	399	245	13.3	47.5	219.5	111.5	108	-	243.5	45	160	200	55.5	PG13.5	21.3
CPA 2.00T	206	386	245	13.3	47.5	219.5	111.5	108	225.5	-	45	160	200	55.5	-	21.3

[1] Only for three phase
[2] Only for single phase

PACKING AND WEIGHT

50Hz

Rev D



Type pumps		PACKING [mm]		
Single Phase	Three Phase	X	Y	Z
CPA 0.75 M	CPA 0.75 T	437	192	220
CPA 1.00 M	CPA 1.00 T	437	192	220
CPA 1.50 M	CPA 1.50 T	432	237	275
CPA 2.00 M	CPA 2.00 T	432	237	275

TECHNICAL DATA 50 Hz

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Type pumps		kW	HP	Capacitor Single Phase		Locked rotor current [A]		
Single phase 230 V 50 Hz	Three phase 230/400 V 50 Hz			µF	Vc	Single phase 230 V	Three Phase 230 V	Three Phase 400 V
CPA 0.75 M	CPA 0.75 T	0.55	0.75	14	450	14.3	11.8	6.8
CPA 1.00 M	CPA 1.00 T	0.75	1	20	450	17.5	21.3	12.3
CPA 1.50 M	CPA 1.50 T	1.1	1.5	31.5	450	38	36	20.8
CPA 2.00 M	CPA 2.00T	1.5	2	31.5	450	42	38.1	22

Type pumps		Ball Bearing	
Single phase 230 V	Three Phase 230/400 V	Pump side	Fan side
CPA 0.75 M	CPA 0.75 T	6202 ZZ	6202 ZZ
CPA 1.00 M	CPA 1.00 T	6202 ZZ	6202 ZZ
CPA 1.50 M	CPA 1.50 T	6204 ZZ	6203 ZZ
CPA 2.00 M	CPA 2.00 T	6204 ZZ	6203 ZZ