

EBARA

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SPECIFICATION

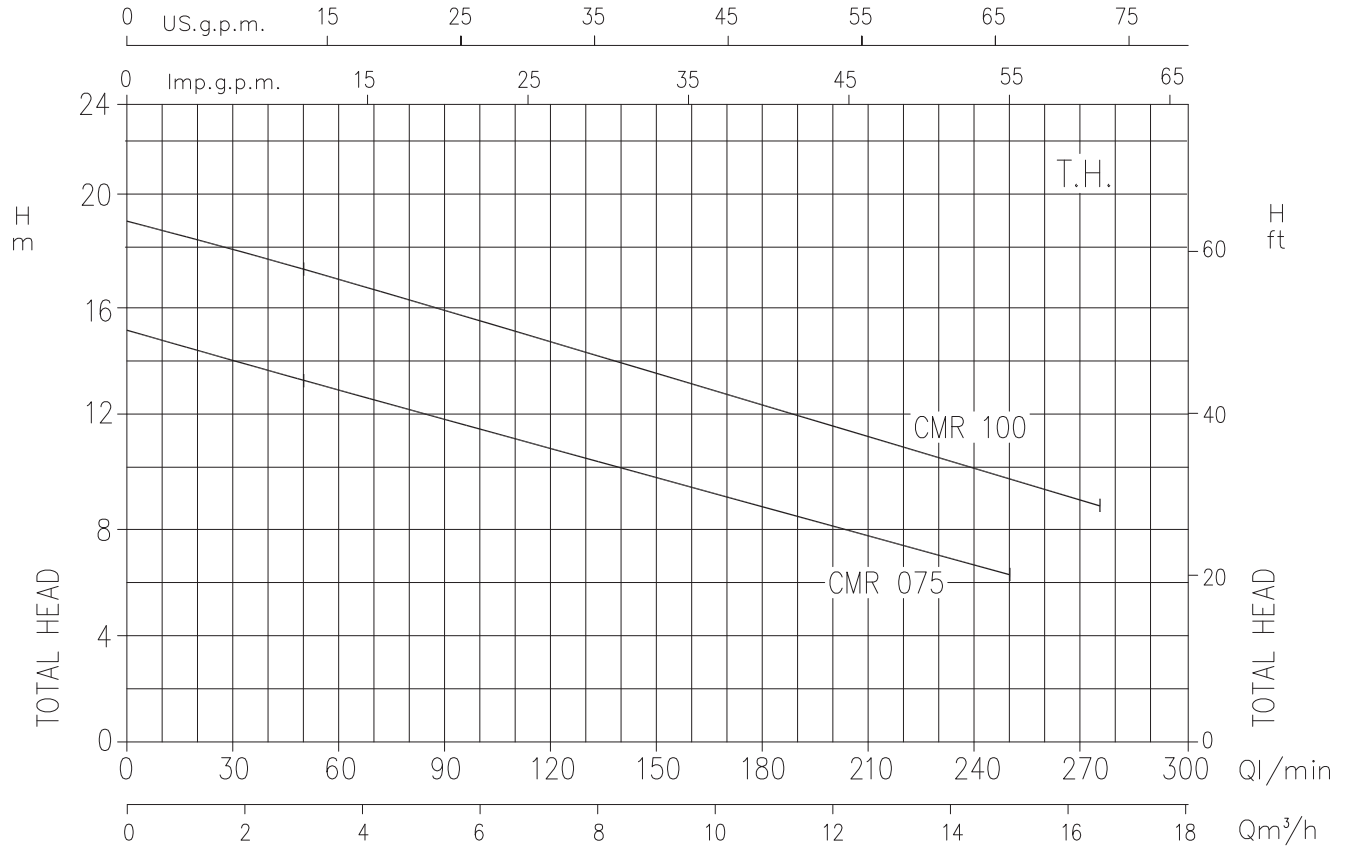
50Hz

Rev. J

PUMP		
Liquid Handled	Type of liquid	Clean water
	Temperature [°C]	min. +5 max. +90
	Maximum working pressure [MPa]	0.6
Construction	Impeller	Open centrifugal
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	G 1½ UNI ISO 228
	Discharge	G 1½ UNI ISO 228
Material	Casing	Cast iron
	Impeller	Brass
	Shaft seal	Ceramic/Carbon/NBR
	Shaft	AISI 303 (wet extension)
	Bracket	Aluminium
	Casing cover	AISI 304
Applicable standard of test		ISO 9906:2012 - Grade 3B

MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
Efficiency level (Reg. 640/2009)	-	- only for 0.55 kW IE2 only for 0.75 kW IE3 only for 0.75 kW
No. Of Poles	2	
Rotation speed [min ⁻¹]	≈ 2800	
Insulation Class	F	
Protection degree (CEI EN 60034-5)	IP 44	
Power rating	[kW]	0.55 ÷ 0.75
	[HP]	0.75 ÷ 1
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 / motor support	Cast iron / Plastic foot	
Dimensions of cable entry	PG11 - M16x1.5	

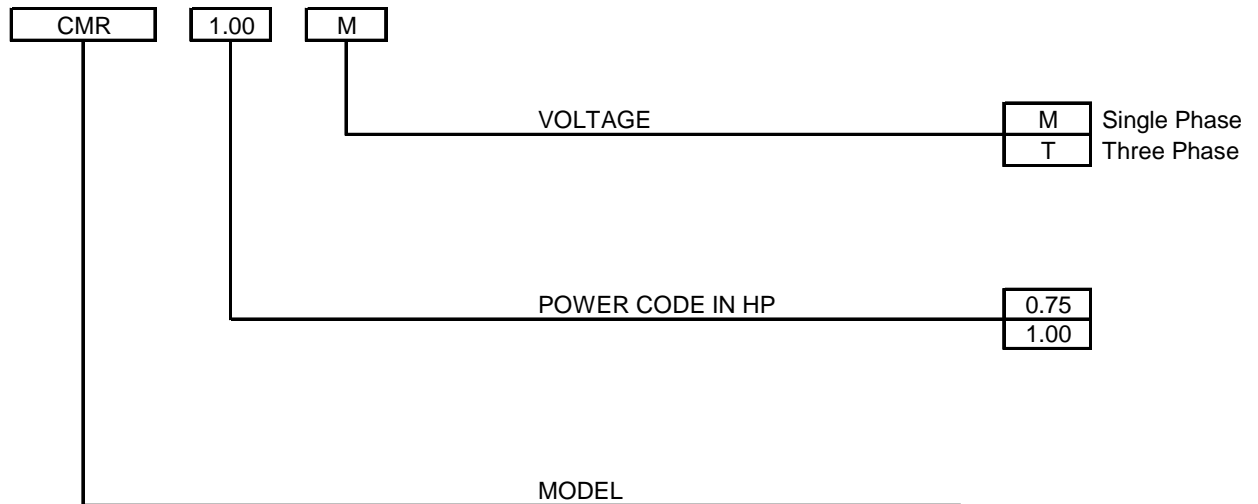
PERFORMANCE RANGE



SELECTION CHART

Type pumps		Power		Q=Capacity						
				l/min	0	50	100	200	250	275
Single phase	Three phase	[kW]	[HP]	m³/h	0	3	6	12	15	16.5
CMR 0.75 M	CMR 0.75 T	0.55	0.75	H=Total manometric head in meters						
CMR 1.00 M	CMR 1.00 T	0.75	1	15.5	13.6	11.4	8.1	6.3	-	-
				18.9	17.3	15.4	11.5	9.6	8.7	

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.

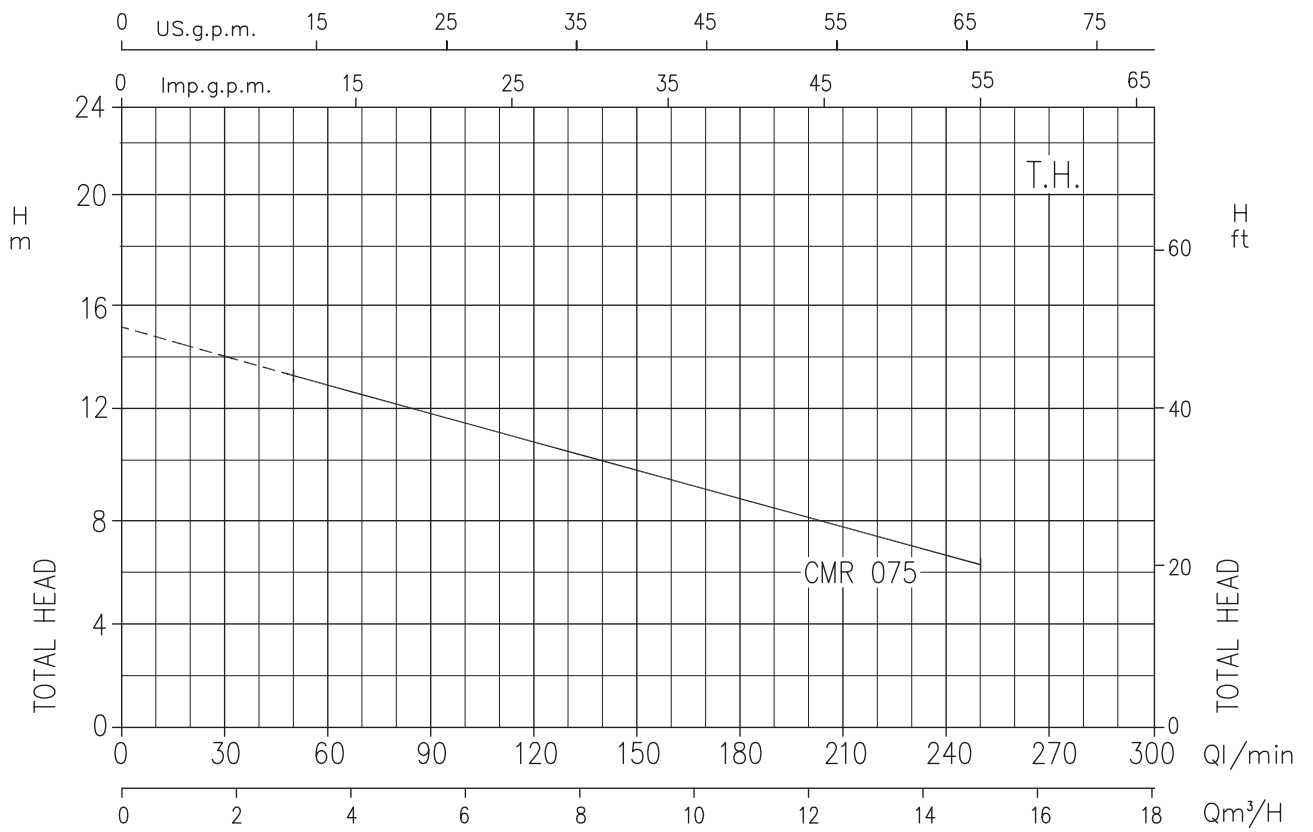
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt)

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:

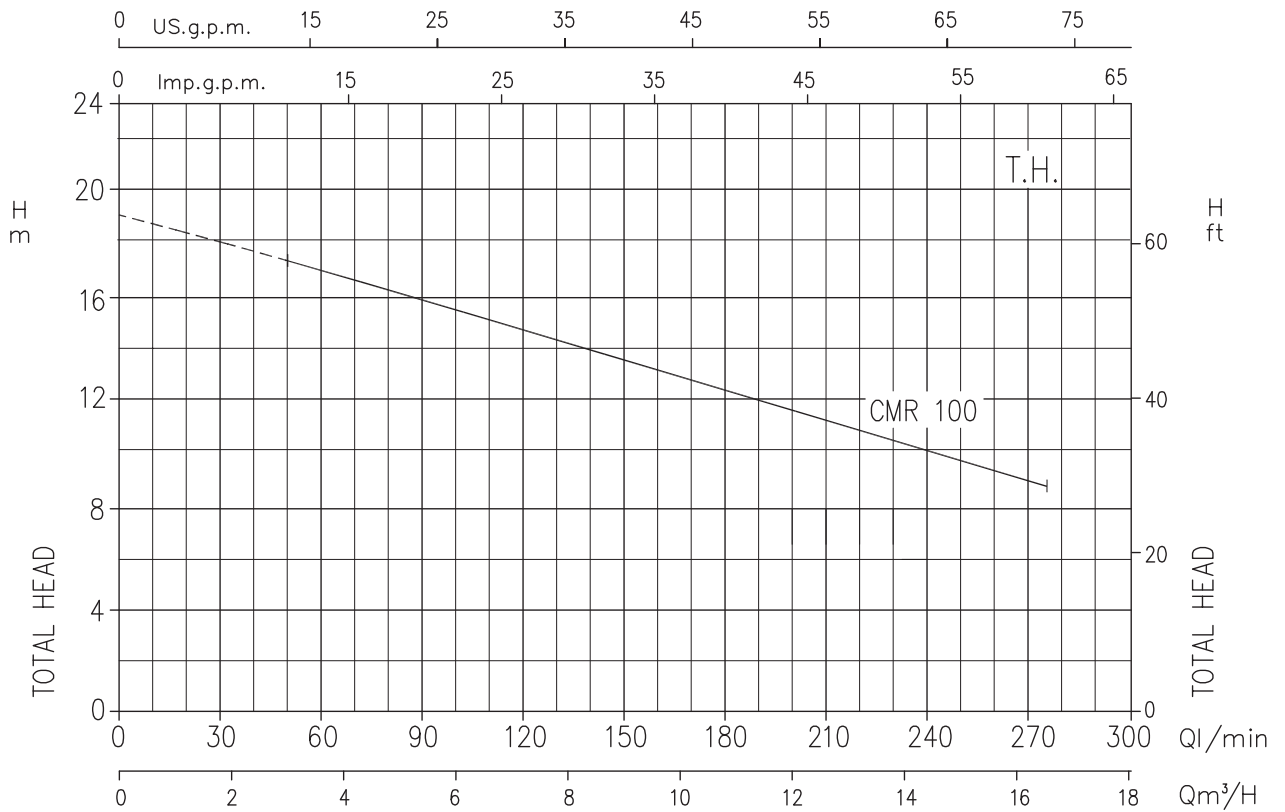
- Q = volume flow rate
- H = total head

CMR 0.75 (0.55 kW) - Impeller diameter = 114 mm



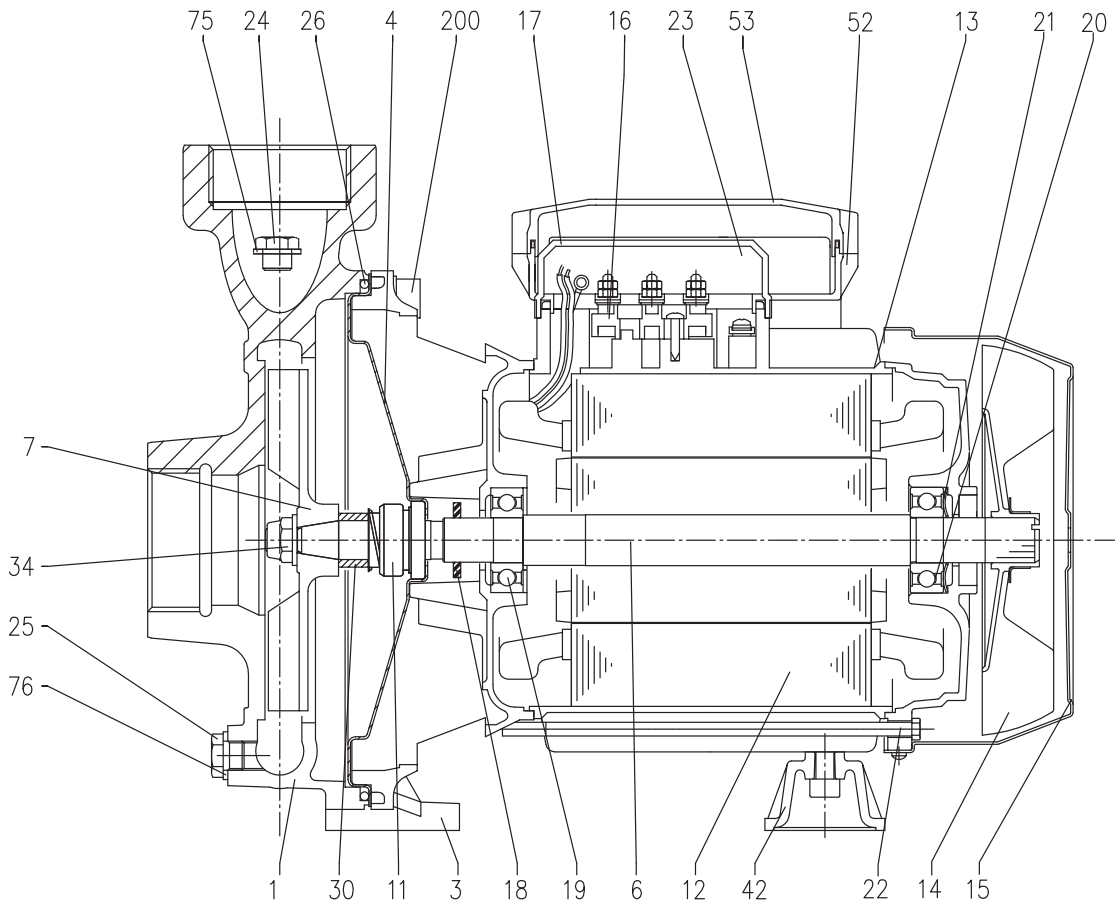
Rotation speed $\approx 2800 \text{ min}^{-1}$
Test standard: ISO 9906:2012 - Grade 3B

CMR 1.00 (0.75 kW) - Impeller diameter = 120 mm



Rotation speed $\approx 2800 \text{ min}^{-1}$
Test standard: ISO 9906:2012 - Grade 3B

SECTIONAL VIEW



N°	PART NAME	MATERIAL	Q.TY
1	Casing	Cast iron	1
3	Motor bracket	Aluminium	1
4	Casing cover	AISI 304	1
6	Shaft with rotor	AISI 303 (w et extension)	1
7	Impeller	Brass	1
11	Mechanical seal [3]	Carbon/Ceramic/NBR	1
12	Motor frame with stator	-	1
13	Motor cover frame [1]	Aluminium	1
14	Fan	PP	1
15	Fan cover	Fe P04 Zincate	1
16	Terminal box	-	1
17	Terminal box cover [1]	Aluminium	1
18	Splash ring	NBR	1
19	Pump side ball bearing	-	1
20	Fan side ball bearing	-	1

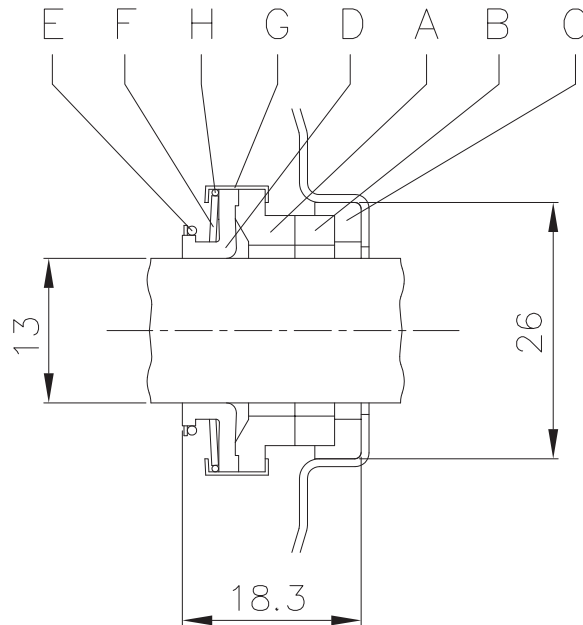
N°	PART NAME	MATERIAL	Q.TY
21	Adjusting ring	Steel C70	1
22	Tie rod	Fe 42 Zincate	4
23	Capacitor [2]	-	1
24	Priming plug	Brass	1
25	Drain plug	Brass	1
26	O-ring	NBR	1
30	Mechanical seal spacer	Brass	1
34	Impeller nut	AISI 304	1
42	Foot	PP	1
52	Capacitor box [2]	ABS class V-0	1
53	Capacitor box cover with gasket [2]	ABS class V-0 + NBR	1
75	Washer	Aluminium	1
76	Washer	Aluminium	1
200	Screw	Zn Steel Cl. 8.8 ISO 898-1	4

[1] Three phase

[2] Single phase

[3] For Mechanical Seal dimensions and materials see page 301

MECHANICAL SEAL



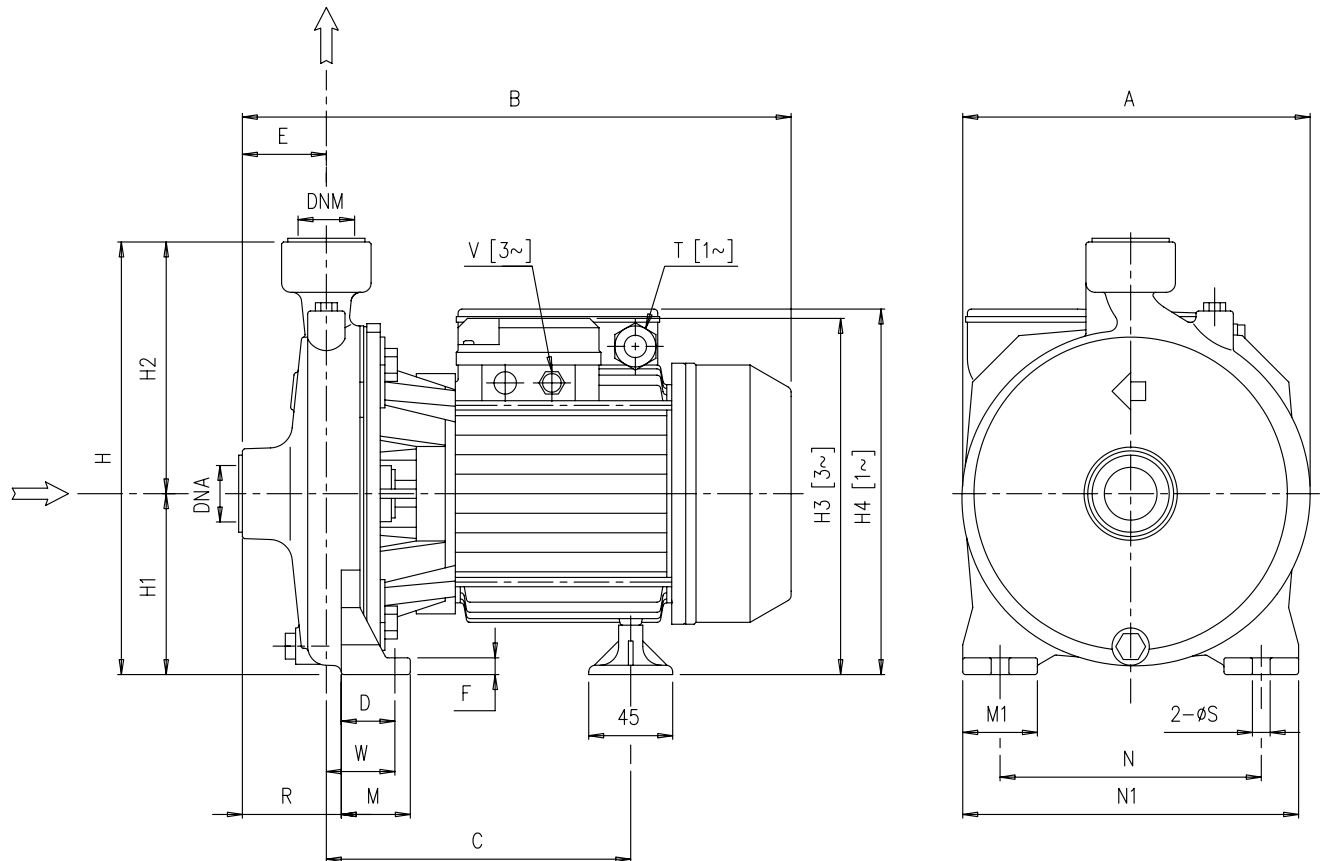
REF	PART NAME	MATERIAL
A	Rotary seal ring	Carbon graphite
B	Stationary seal ring	Ceramic
C	Gasket	NBR
D	Bellows	NBR
E	Ring	AISI 304
F	Self driving spring	AISI 304
G	Frame	AISI 304
H	Retainer ring	AISI 304

BEARINGS

Type pumps		Ball Bearing			
Single phase	Three Phase	Pump side	(*)	Fan side	(*)
			Pump side		Fan side
CMR 0.75M	CMR 0.75T	6202 2RSH	-	6202 2RSH	-
CMR 1.00M	CMR 1.00T	6202 2RSH	6202-ZZ C3	6202 2RSH	6202-ZZ C3

(*) Only for IE3 Motors

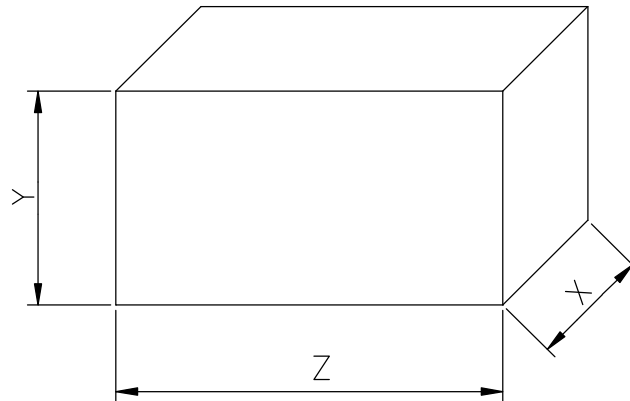
PUMP



Pump type	Dimensions [mm]																			Weight [kgf]							
	A	B	(*)	C	D	E	F	H	H1	H2	H3	H4	M	M1	N	N1	R	T	V	(*)	V	W	S	DNA	DNM	[1~]	[3~]
CMR 0.75	180	310	-	182	37	45	9	229	97	132	198	198	45	40	140	180	61	PG11	PG11	-	52	10	G 1 ½	G 1 ½	10.7	10.7	-
CMR 1.00	180	310	310	182	37	45	9	229	97	132	198	198	45	40	140	180	61	PG11	PG11	M16x1.5	52	10	G 1 ½	G 1 ½	11.9	12.7	12.7

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

PACKING



Type pumps		Packing [mm]			Weight [kgf] (*)		
Single Phase	Three Phase	X	Y	Z	[1~]	[3~]	[3~]
CMR 0.75M	CMR 0.75T	210	290	370	11.5	11.5	-
CMR 1.00M	CMR 1.00T	210	290	370	12.7	13.5	13.5

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

MOTOR DATA

Pump type		Power		Efficiency		Capacitor		Efficiency (% load)			Input [kW]		Full load current [A]			Locked rotor current [A]		
Single Phase	Three Phase	[kW]	[HP]	Single Phase	Three Phase	Single Phase		Three phase			Single Phase	Three Phase	[A]			[A]		
						[μF]	[V]	50%	75%	100%			230 V	230 V	400 V	230 V	230 V	400 V
CMR 0.75M	CMR 0.75T	0,55	0,75	-	-	14	450	-	-	-	0,84	0,8	3,8	2,8	1,6	13,3	11,0	6,5
CMR 1.00M	CMR 1.00T	0,75	1	-	IE2	20	450	77,2	80,9	81,3	1,07	0,92	4,85	2,9	1,7	20,3	22,0	12,9
-	CMR 1.00T	0,75	1	-	IE3	-	-	80,9	82,3	82,1	-	0,91	-	3,0	1,7	-	19,7	11,4

NOISE DATA

Pump type		Power		L _{pA} - dB(A) *
Single Phase	Three Phase	[kW]	[HP]	
CMR 0.75M	CMR 0.75T	0,55	0,75	<70
CMR 1.00M	CMR 1.00T	0,75	1	

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