



**EBARA**

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**SPECIFICATION**

50Hz

Rev. G

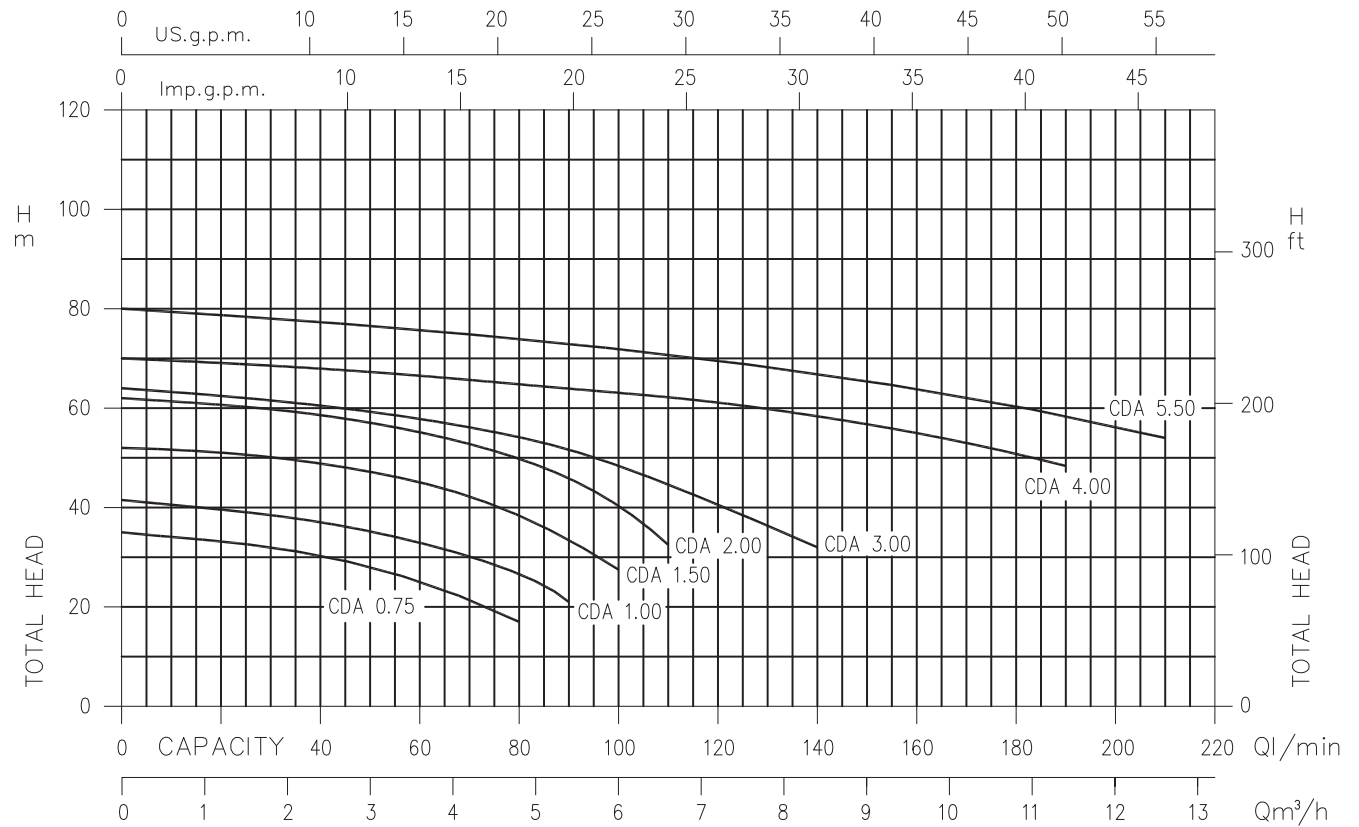
<b>PUMP</b>		
Liquid	Type of liquid	Clean water
Handled	Max temperature [°C]	40 (CDA 0.75 - 1.00)
		90 (CDA 1.50-2.00-3.00-4.00-5.50)
Maximum working pressure	[MPa]	0.6 (CDA 0.75-1.00)
		1.0 (CDA 1.50-2.00-3.00-4.00-5.50)
Construction	Impeller	Twin closed type
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	G1" (CDA 0.75-1.00) UNI ISO 228
		G1"¼ (CDA 1.50-2.00-3.00) UNI ISO 228
		G1"½ (CDA 4.00-5.50) UNI ISO 228
	Discharge	G1" (CDA 0.75-1.00-1.50-2.00-3.00) UNI ISO 228
G1"¼ (CDA 4.00-5.50) UNI ISO 228		
Material	Casing	Cast iron
	Impeller	PPE+PS glass fibre reinforced (CDA 0.75-1.00) Brass (CDA 1.50 - 2.00-3.00-4.00-5.50)
	Casing cover	AISI 304 (CDA 0.75-1.00) Cast iron built-in the motor bracket (CDA 2.00-3.00-4.00-5.50)
	Shaft seal	Ceramic/Carbon/NBR
	Shaft	AISI 303 (CDA 0.75-1.00-1.50-2.00-3.00) AISI 304 (CDA 4.00-5.50)
	Bracket	Aluminium (CDA 0.75-1.00) Cast iron (CDA 1.50-2.00-3.00-4.00-5.50)
Applicable standard of test		ISO 9906 – Annex A

<b>MOTOR</b>		
Type	Electric - TEFC	
	Single Phase	Three Phase
No. of Poles	2	
Rotation speed [min <sup>-1</sup> ]	≈ 2850	
Insulation Class	F	
Protection degree	IP 44	
Power rating	[kW]	0.55 ÷ 1.5
	[HP]	0.75 ÷ 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/motor support	Cast iron / Plastic foot	
Dimensions of cable entry	PG11 - PG13.5 - G 1/2 (see dimensions page 400)	

## SELECTION CHART

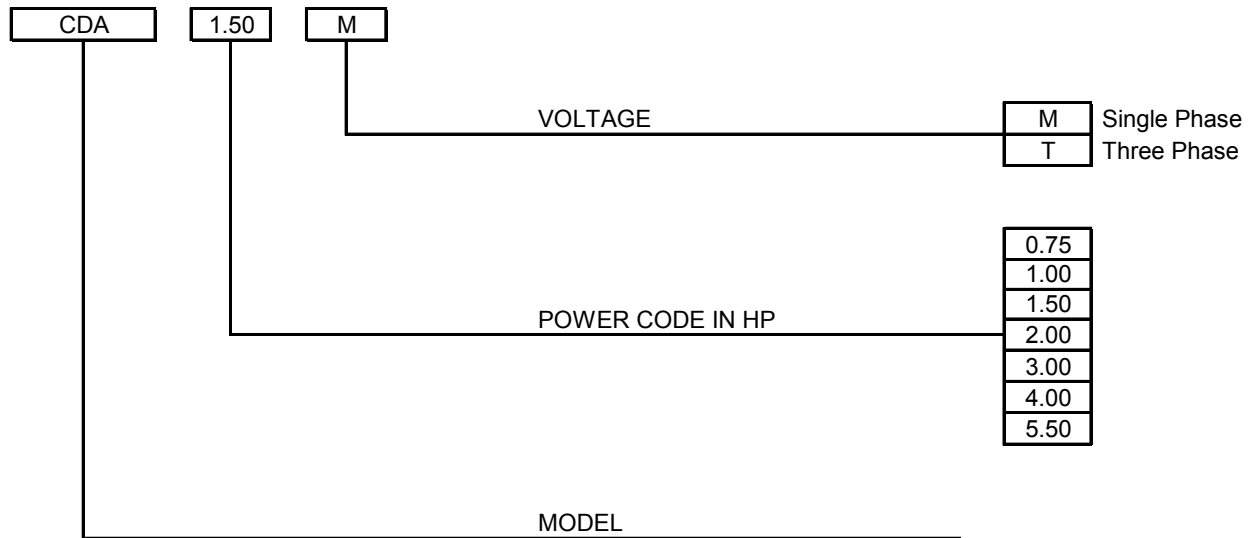
50Hz

Rev. G



Type pumps		kW	HP	Q=Capacity												
Single Phase	Three Phase			l/min	0	20	40	50	80	90	100	110	140	170	190	210
				m³/h	0	1.2	2.4	3	4.8	5.4	6.6	6.6	8.4	10.2	11.4	12.6
				H=Total manometric head in meters												
CDA 0.75 M	CDA 0.75 T	0.55	0.75	35	33	30.2	27.9	17	-	-	-	-	-	-	-	-
CDA 1.00 M	CDA 1.00 T	0.75	1	41.5	39.5	37	35.2	27	21	-	-	-	-	-	-	-
CDA 1.50 M	CDA 1.50 T	1.1	1.5	52	50.8	48.8	47.1	38.4	33.4	27.5	-	-	-	-	-	-
CDA 2.00 M	CDA 2.00 T	1.5	2	62	60.5	58.6	56.9	49.8	46.5	40.3	32.5	-	-	-	-	-
-	CDA 3.00 T	2.2	3	64	-	60.5	59.3	54.1	51.6	48.4	44.6	32	-	-	-	-
-	CDA 4.00 T	3	4	70	-	-	67	64.8	63.9	62.5	62	58	53.5	48	-	-
-	CDA 5.50 T	4	5.5	80	-	-	76.5	73.9	72.9	71.8	70.5	66.8	62	58.3	54	-

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

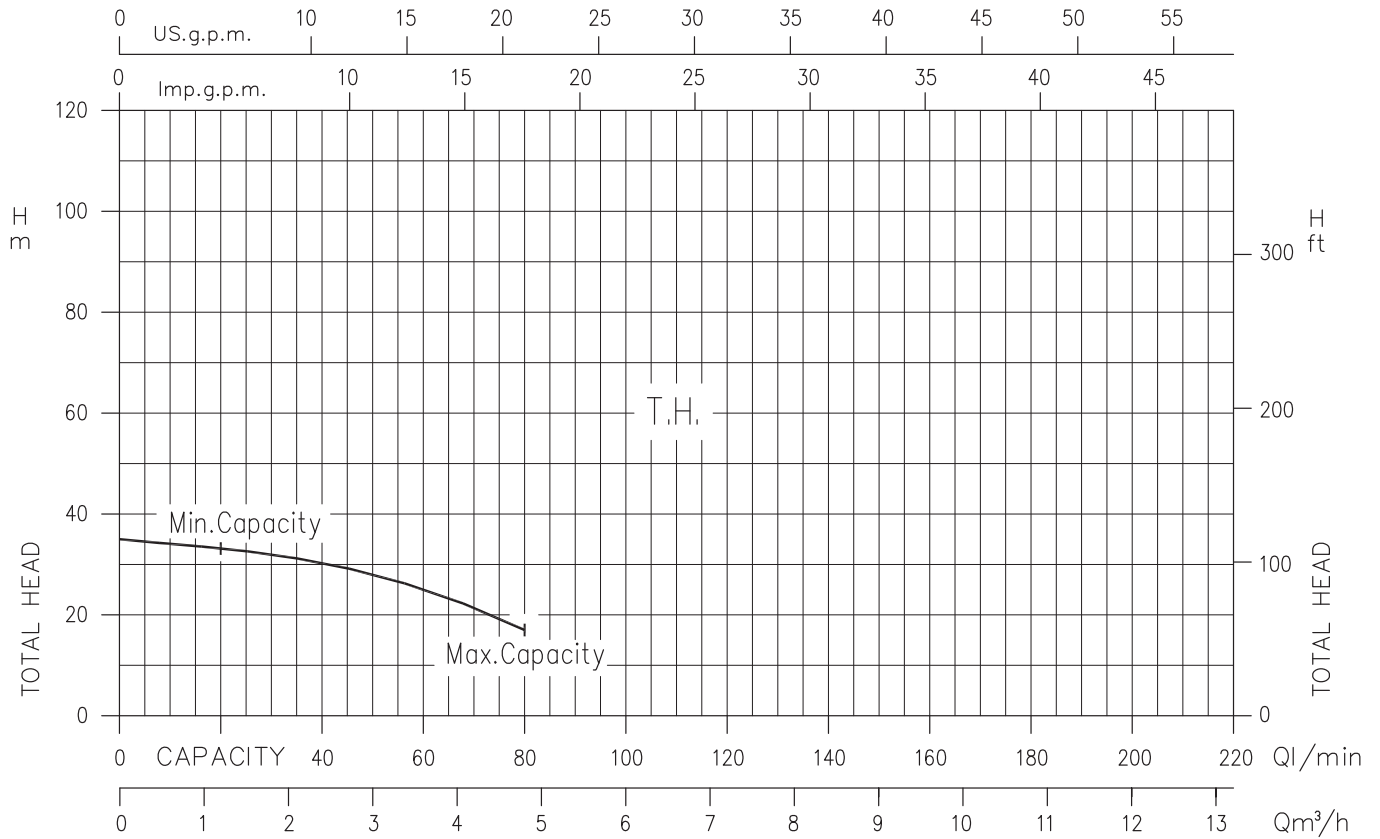
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$  (1 cSt)

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:

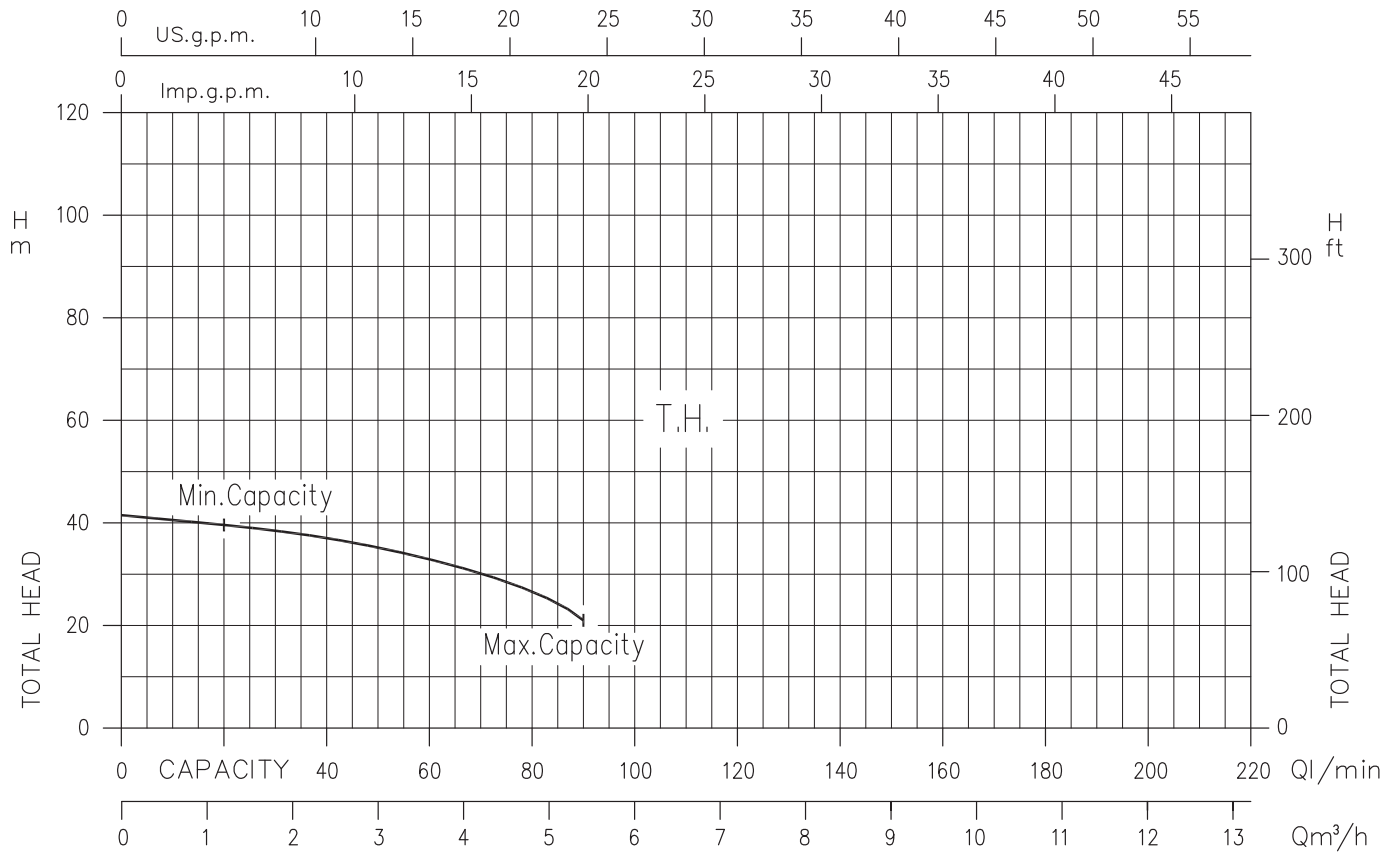
- Q = volume flow rate
- H = total head

CDA 0.75 (0.55 kW) - Impeller diameter = 122 mm



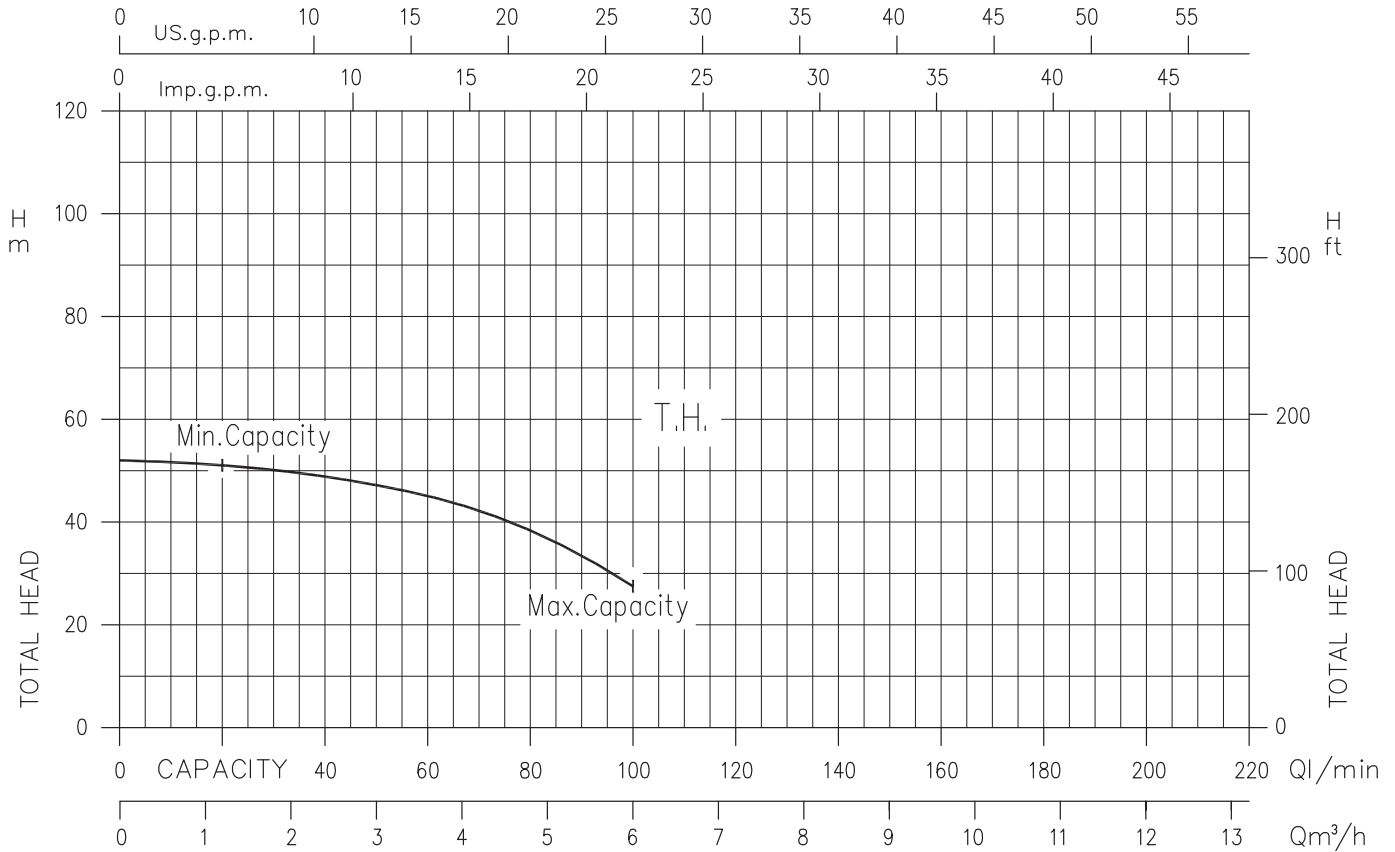
Rotation speed  $\approx 2800 \text{ min}^{-1}$   
 Test standard: ISO 9906 – Annex A

CDA 1.00 (0.75 kW) - Impeller diameter = 130 mm



Rotation speed  $\approx 2800 \text{ min}^{-1}$   
 Test standard: ISO 9906 – Annex A

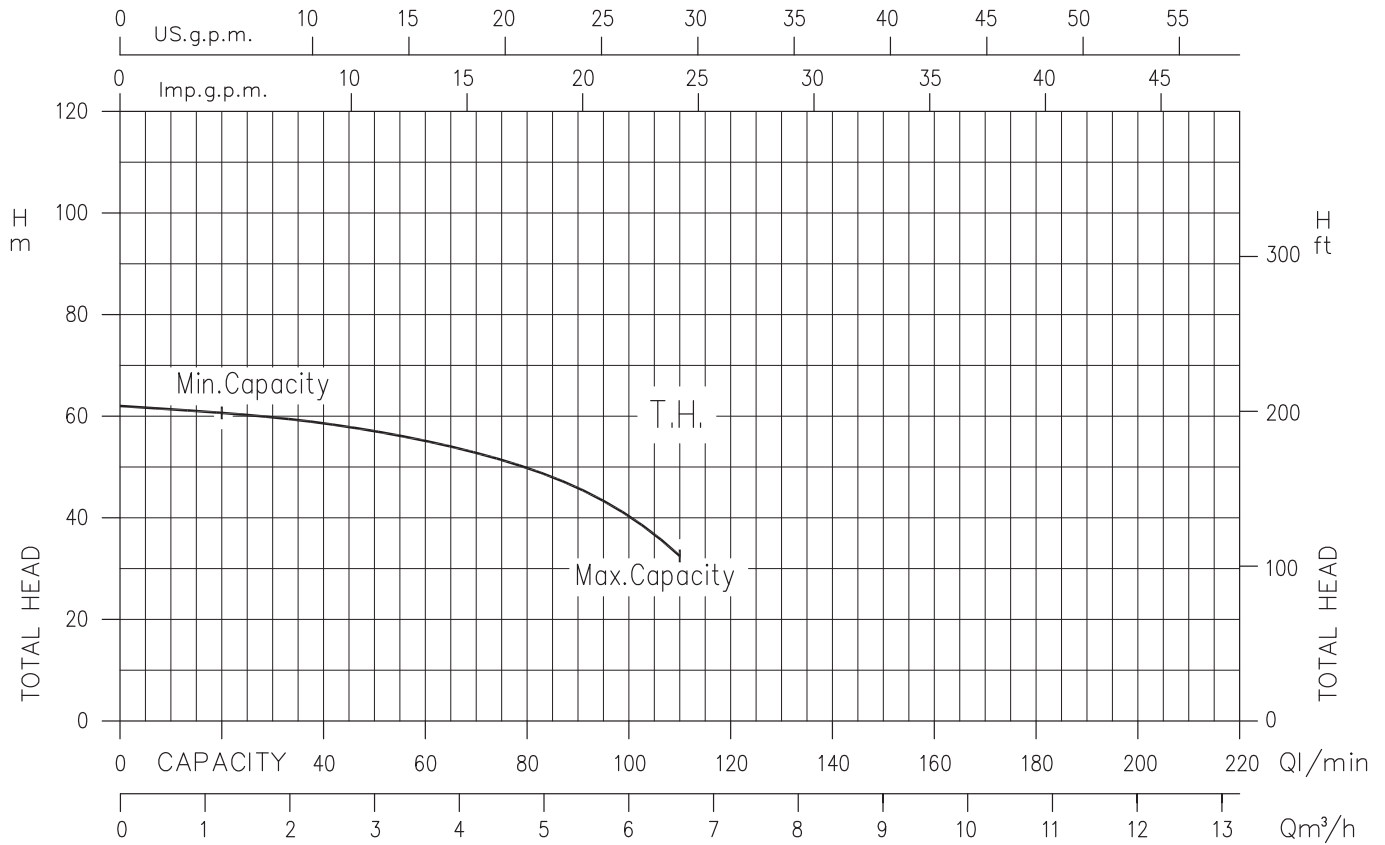
CDA 1.50 (1.1 kW) - Impeller diameter = 143 mm



Rotation speed  $\approx 2850 \text{ min}^{-1}$   
 Test standard: ISO 9906 – Annex A

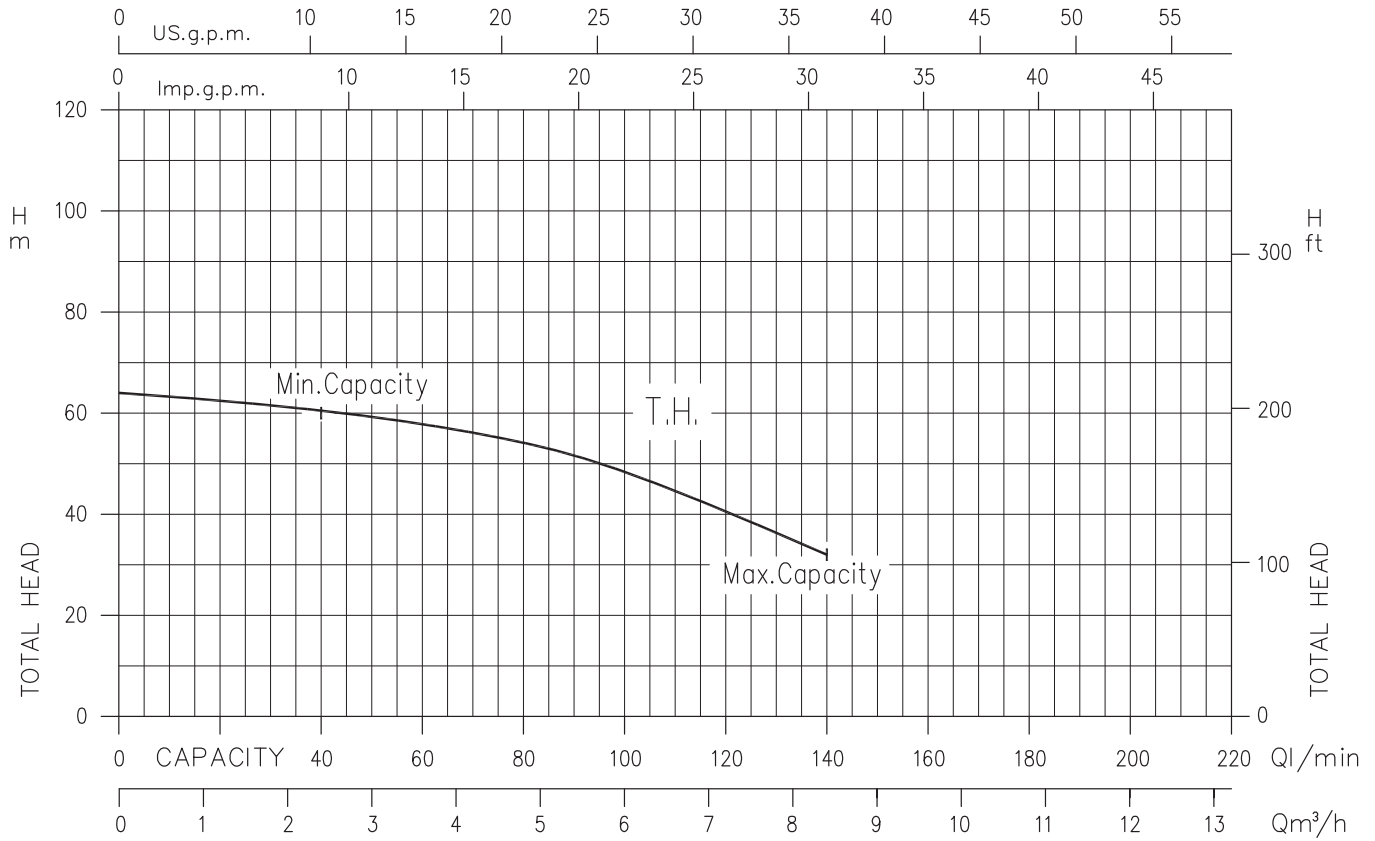


CDA 2.00 (1.5 kW) - Impeller diameter = 153 mm



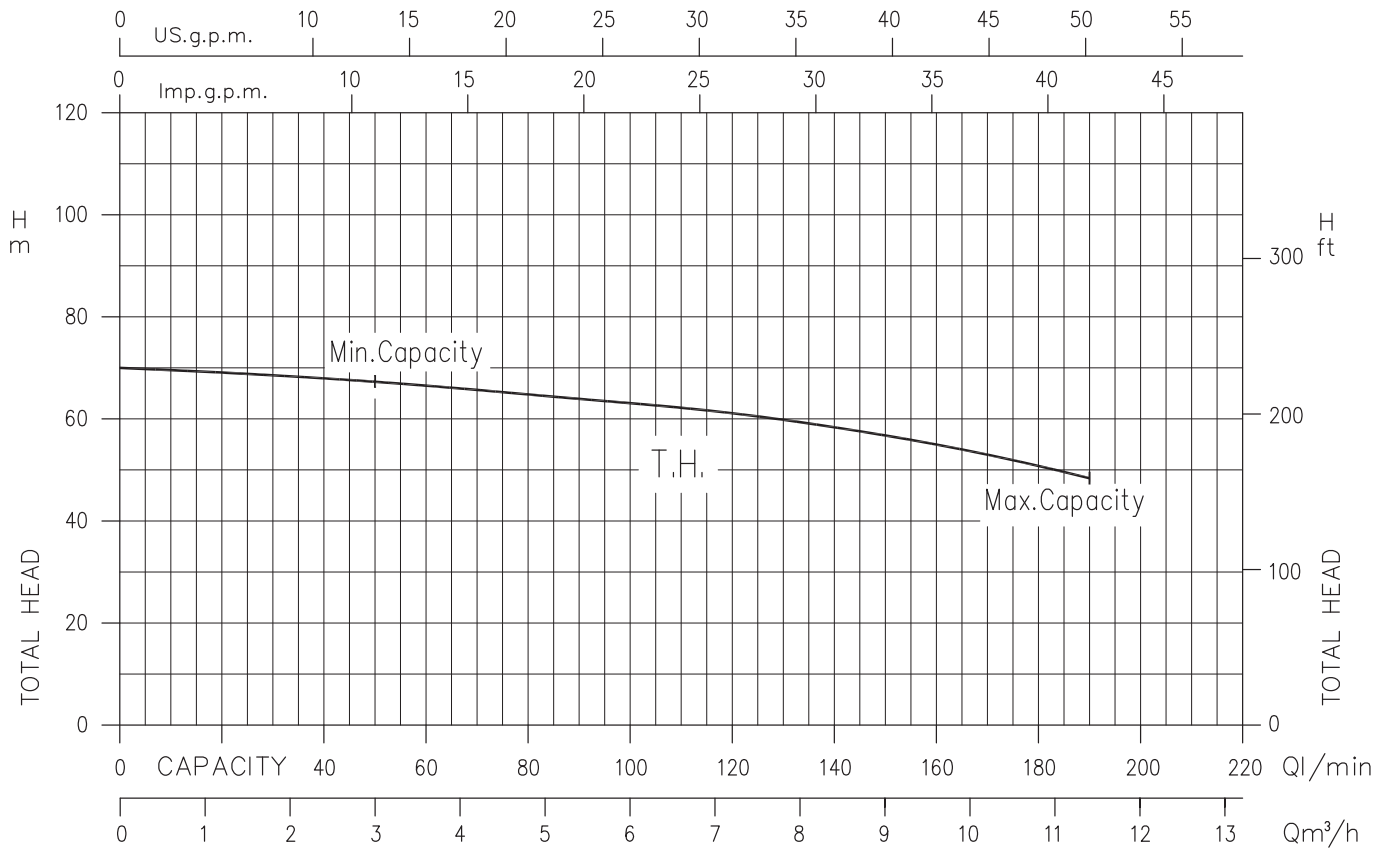
Rotation speed  $\approx 2850 \text{ min}^{-1}$   
 Test standard: ISO 9906 – Annex A

CDA 3.00 (2.2 kW) - Impeller diameter = 156 mm



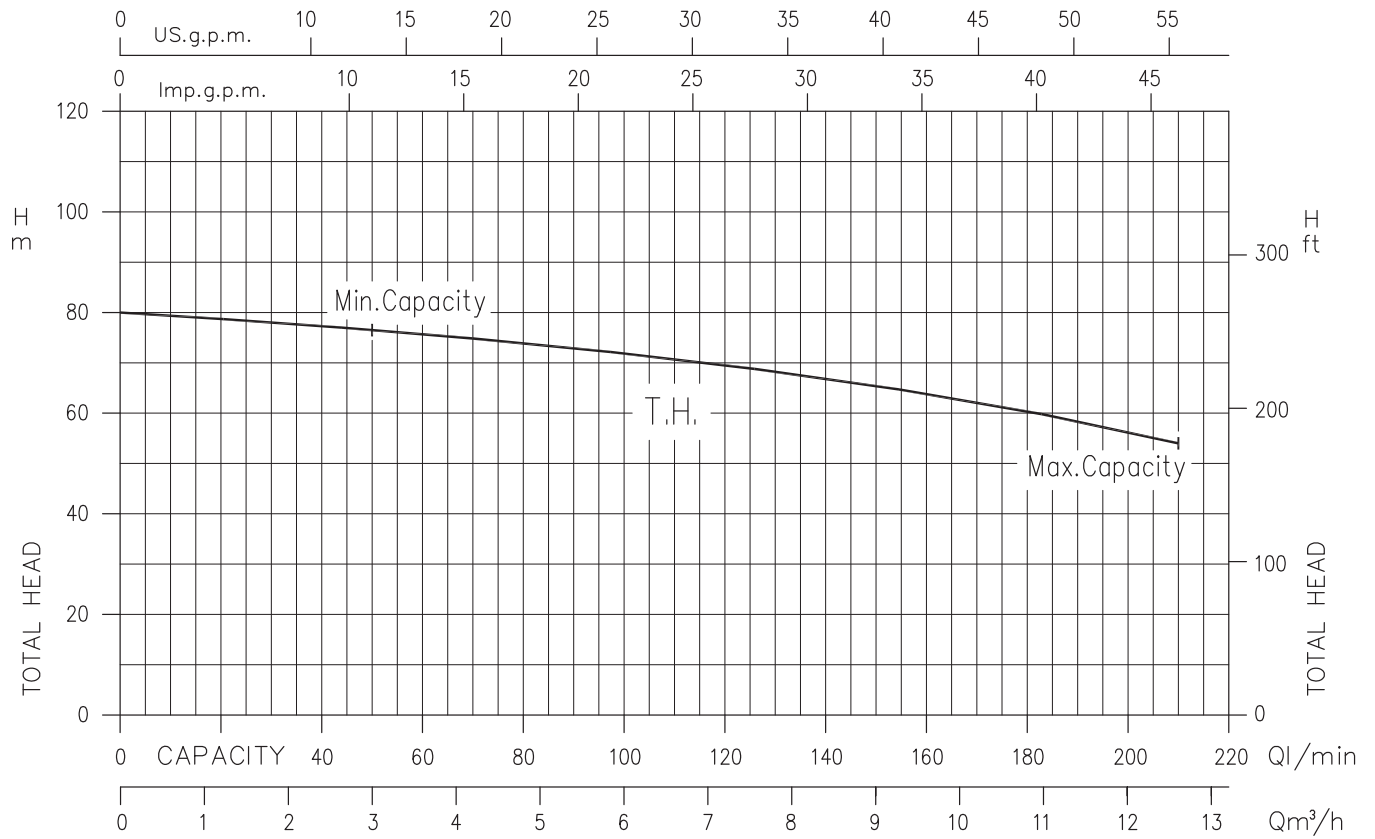
Rotation speed  $\approx 2850 \text{ min}^{-1}$   
 Test standard: ISO 9906 – Annex A

CDA 4.00 (3 kW) - Impeller diameter = 167 mm



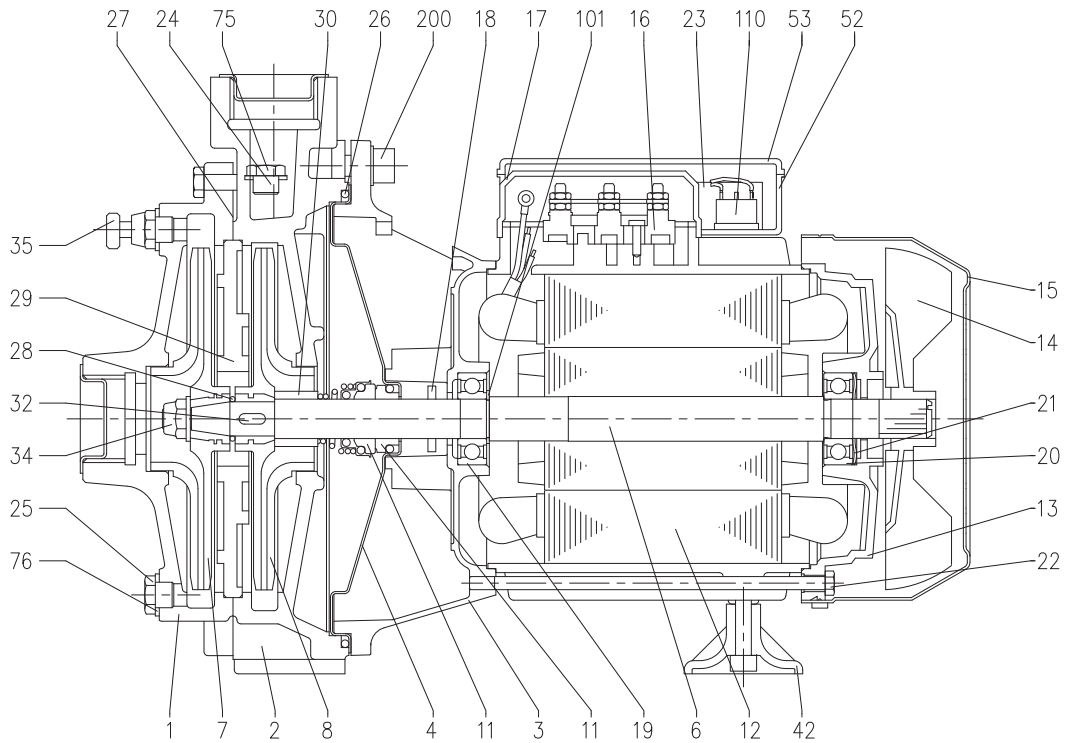
Rotation speed  $\approx 2900 \text{ min}^{-1}$   
 Test standard: ISO 9906 – Annex A

CDA 5.50 (4 kW) - Impeller diameter = 179 mm



Rotation speed  $\approx 2900 \text{ min}^{-1}$   
Test standard: ISO 9906 – Annex A

### SECTIONAL VIEW



N°	PART NAME	MATERIAL	NO.FOR 1 UNIT	N°	PART NAME	MATERIAL	NO.FOR 1 UNIT
1	Casing	Cast iron	1	23	Capacitor [1]	-	1
2	Casing	Cast iron	1	24	Priming plug	Brass	1
3	Motor bracket	[8]	1	25	Drain plug	Brass	1
4	Casing cover	[9]	1	26	O-ring	NBR	1
6	Shaft with rotor	[6]	1	27	Gasket	Compressed cellulose fibre	1
7	Impeller	[4]	1	28	O-ring	NBR	1
8	Impeller	[4]	1	29	Intermediate plate	Cast iron	1
11	Mechanical seal [7]	Carbon/Ceramic/NBR	1	30	Mechanical seal spacer	Brass	1
12	Motor frame with stator	-	1	32	Key	AISI 316	1
13	Motor cover	Aluminium	1	34	Impeller nut [3]	AISI 304	1
14	Fan	Polypropylene	1	35	Air breather valve	Brass	1
15	Fan cover	Fe P04 Zincate	1	42	Foot	PP	1
16	Terminal box	-	1	52	Terminal box [1]	ABS	1
17	Terminal box cover [2]	Aluminium	1	53	Terminal box cover [1] [10]	ABS [10]	1
18	Splash ring	NBR	1	75	Washer	Aluminium	1
19	Pump side ball bearing	-	1	76	Washer	Aluminium	1
20	Fan side ball bearing	-	1	101	Seeger ring	AISI 420	1
21	Adjusting ring	Steel C70	1	110	Protector [5]	-	1
22	Tie rod	Fe 42 Zincate	4	200	Screw	Zn Steel Cl. 8.8 ISO 898-1	4

[1] Only for single phase

[2] Only for three phase

[3] Only for version with impeller in Brass

[4] Material : PPE+PS glass fibre reinforced for version CDA 0.75 - CDA 1.00  
Brass for version CDA 1.50 - CDA 2.00 - CDA 3.00 - CDA 4.00 - CDA 5.50

[5] Only for version single phase CDA 1.50 - CDA 2.00

[6] Material : AISI 303 (wet extension) for version CDA 0.75 - CDA 1.00 - CDA 1.50 - CDA 2.00 - CDA 3.00  
AISI 304 (wet extension) for version CDA 4.00 - CDA 5.50

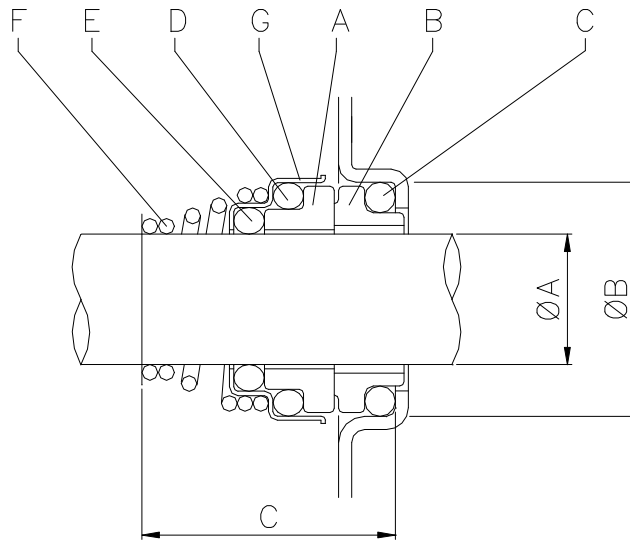
[7] See constructions mechanical seal page 301

[8] Material : Aluminium for version CDA 0.75 - CDA 1.00  
Cast iron for version CDA 1.50 - CDA 2.00 - CDA 3.00 - CDA 4.00 - CDA 5.50

[9] Material : AISI 304 for version CDA 0.75 - CDA 1.00  
Cast iron built-in the motor bracket for version CDA 2.00 - CDA 3.00 - CDA 4.00 - CDA 5.50

[10] With gasket in NBR only for version single phase CDA 0.75 - CDA 1.00

**MECHANICAL SEAL**



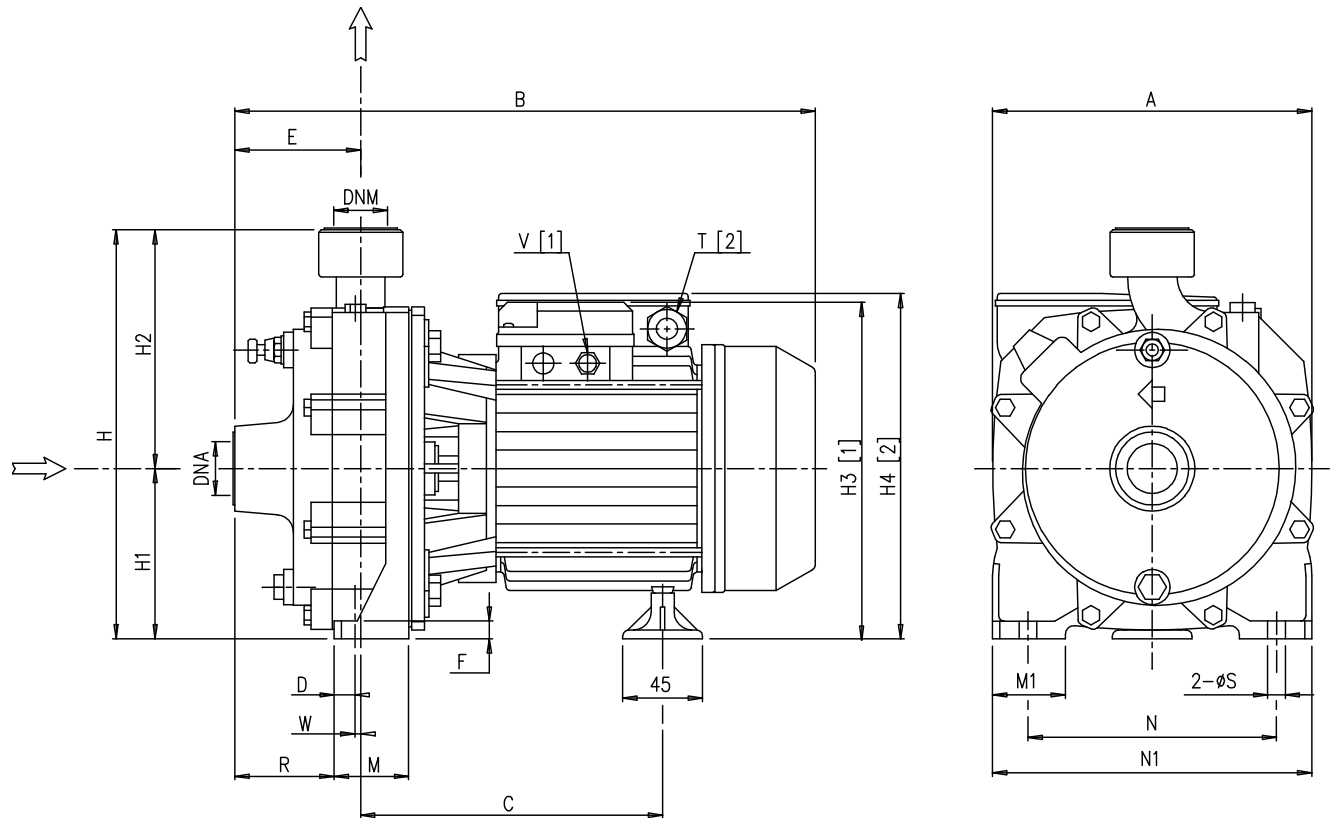
Single Phase	Three Phase	ØA	ØB	C
CDA 0.75 M	CDA 0.75 T	15	26	29
CDA 1.00 M	CDA 1.00 T	15	26	29
CDA 1.50 M	CDA 1.50 T	18	30.9	32
CDA 2.00 M	CDA 2.00 T	18	30.9	32
-	CDA 3.00 T	18	30.9	32
-	CDA 4.00 T	20	30.9	33
-	CDA 5.50 T	20	30.9	33

REF	PART NAME	MATERIAL product standard CDA
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**

Type pumps		Ball Bearing	
Single phase	Three Phase	Pump side	Fan side
CDA 0.75 M	CDA 0.75 T	6202 2RSH	6202 2RSH
CDA 1.00 M	CDA 1.00 T	6202 2RSH	6202 2RSH
CDA 1.50 M	CDA 1.50 T	6204 2RSH	6203 2RSH
CDA 2.00 M	CDA 2.00 T	6204 2RSH	6203 2RSH
-	CDA 3.00 T	6204 2RSH	6203 2RSH
-	CDA 4.00 T	6306 2RS1	6205 2RSH
-	CDA 5.50 T	6306 2RS1	6205 2RSH

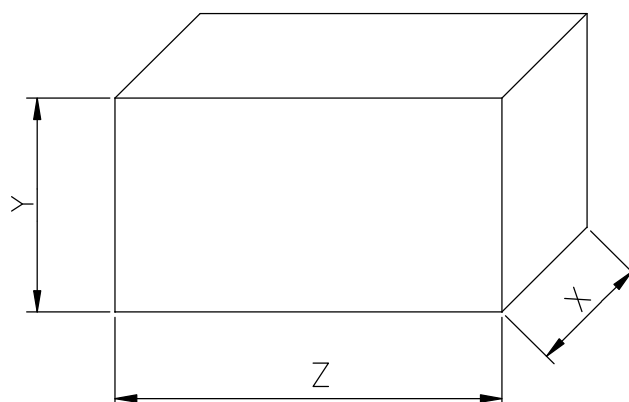
### PUMP



Pump type	Dimensions mm																			Weight [kgf]			
	A	B	C	D	E	F	H	H1	H2	H3	H4	M	M1	N	N1	R	T	V	W		S	DNA	DNM
CDA 0.75M	183	336.3	179.8	8.3	73	9	227	97	130	-	198	42	40	140	180	57.5	PG11	-	6.8	9.5	G 1	G1	13.8
CDA 0.75T	183	336.3	179.8	8.3	73	9	227	97	130	198	-	42	40	140	180	57.5	-	PG11	6.8	9.5	G 1	G1	13.8
CDA 1.00M	183	336.3	179.8	8.3	73	9	227	97	130	-	198	42	40	140	180	57.5	PG11	-	6.8	9.5	G 1	G1	15
CDA 1.00T	183	336.3	179.8	8.3	73	9	227	97	130	198	-	42	40	140	180	57.5	-	PG11	6.8	9.5	G 1	G1	15
CDA 1.50M	209	394.8	218.3	8.3	86	9	265	110	155	-	242	48	40	155	195	65.5	PG13.5	-	12.3	9.5	G1 1/4	G1	24.2
CDA 1.50T	194	394.8	218.3	8.3	86	9	265	110	155	224	-	48	40	155	195	65.5	-	PG11	12.3	9.5	G1 1/4	G1	23
CDA 2.00M	209	410.8	218.3	8.3	86	9	265	110	155	-	242	48	40	155	195	65.5	PG13.5	-	12.3	9.5	G1 1/4	G1	26
CDA 2.00T	194	394.8	218.3	8.3	86	9	265	110	155	224	-	48	40	155	195	65.5	-	PG11	12.3	9.5	G1 1/4	G1	25.2
CDA 3.00T	194	410.8	218.3	8.3	86	9	265	110	155	224	-	48	40	155	195	65.5	-	PG11	12.3	9.5	G1 1/4	G1	25.8
CDA 4.00T	228	467.3	225.3	12	95.5	12	308.5	133.5	175	265	-	57	50	180	230	71.5	-	G1 1/2	12.0	12	G1 1/2	G1 1/4	42.5
CDA 5.50T	228	467.3	225.3	12	95.5	12	308.5	133.5	175	265	-	57	50	180	230	71.5	-	G1 1/2	12.0	12	G1 1/2	G1 1/4	46.3

[1] = Three phase  
[2] = Single phase

## PACKING



Type pumps		Packing [mm]			Weight [kgf]	
Single phase	Three phase	X	Y	Z	1~	3~
CDA 0.75 M	CDA 0.75 T	210	290	370	14.3	14.3
CDA 1.00 M	CDA 1.00 T	240	320	435	15.7	15.7
CDA 1.50 M	CDA 1.50 T	240	320	435	25	23.8
CDA 2.00 M	CDA 2.00 T	240	320	435	26.7	26
-	CDA 3.00 T	240	320	435	-	26.6
-	CDA 4.00 T	280	340	490	-	44
-	CDA 5.50 T	280	340	490	-	48



Type pumps		kW	HP	Capacitor		Input [kW]		Full load current [A]			Locked rotor current [A]		
Single phase	Three phase			Single phase [μF]	[V]	Single Phase	Three Phase	Single Phase 230 V	Three Phase 230 V	400 V	Single phase 230 V	Three Phase 230 V	400 V
CDA 0.75 M	CDA 0.75 T	0.55	0.75	16	450	1.1	1.05	5.0	3.4	2.0	16.1	17.0	9.8
CDA 1.00 M	CDA 1.00 T	0.75	1	20	450	1.38	1.18	6.1	4.0	2.3	24	24.4	14.1
CDA 1.50 M	CDA 1.50 T	1.1	1.5	35	450	1.85	1.8	8.6	5.6	3.3	38	32.9	19
CDA 2.00 M	CDA 2.00 T	1.5	2	40	450	2.35	2.25	10.8	7.2	4.1	43	41.5	24
-	CDA 3.00 T	2.2	3	-	-	-	2.8	-	8.8	5.1	-	50.2	29
-	CDA 4.00 T	3	4	-	-	-	4.2	-	13.0	7.5	-	84.1	48.6
-	CDA 5.50 T	4	5.5	-	-	-	5.05	-	16.5	9.5	-	129.8	75