

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304



Single impeller centrifugal electric pumps with hydraulic parts in AISI 304 stainless steel.

### APPLICATIONS

- Domestic pressure boosting
- Small-scale garden irrigation
- Washing
- Treating water
- Cooling towers
- Moving clean water in general

### TECHNICAL DETAILS

- Solid hydraulic structure
- Small dimensions

### PUMP TECHNICAL DATA

- Maximum working pressure: 8 bar
  - Maximum temperature of the liquid:
    - 5°C ÷ +60°C for CDX 70/05-70/07-90/10
    - 5°C ÷ +90°C for the rest of CDX range
    - 5°C ÷ +110°C in the H-HS-HW-HSW-E version
  - G1½ suction connection for CDX 200, G1¼ for the rest of the range
  - G1 discharge connection
  - MEI > 0,1
- For further information please see our Data Book on the web site [www.ebaraeurope.com](http://www.ebaraeurope.com)

### MOTOR TECHNICAL DATA

- High efficiency IE2 motors starting from 0,75kW
- Self-ventilated 2 pole asynchronous motor
- Class of insulation F
- IP55 Protection degree
- 230V ±10%, 50Hz single phase voltage
- 230/400V ±10%, 50Hz three phase voltage
- Permanent capacitor inserted and thermo-amperometric protection with automatic rearm incorporated for the single phase motor
- Protection under user's responsibility for the three phase version

### MATERIALS

- Pump casing, impeller, diffuser and casing cover in AISI 304
- Shaft in AISI 303 (part in contact with the liquid)
- Bracket and motor frame in aluminium
- Mechanical seal in:
  - Ceramic/Carbon/NBR (standard)
  - Ceramic/Carbon/FPM (H version)
  - SiC/SiC/FPM (HS version)
  - Tungsten Carbide/Tungsten Carbide/FPM (HW version)
  - SiC/Tungsten Carbide/FPM (HSW version)
  - Ceramic/Graphite/EPDM (E version)
  - Tungsten Carbide/Special Carbon/EPDM (U3CEGG version)

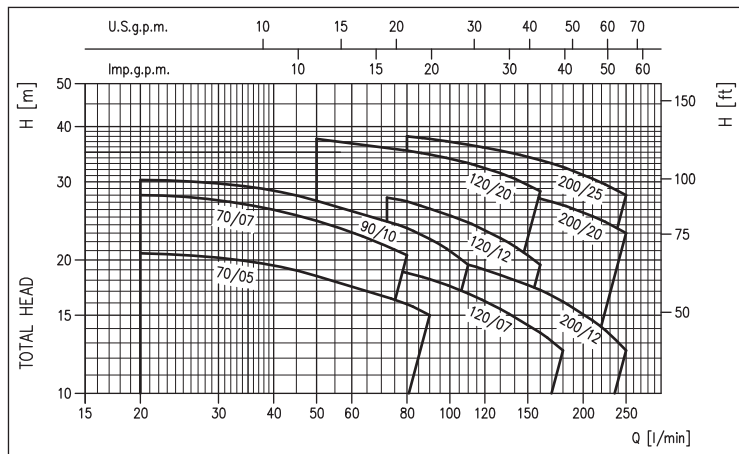
### CONTROL PANELS

- 1EPBH

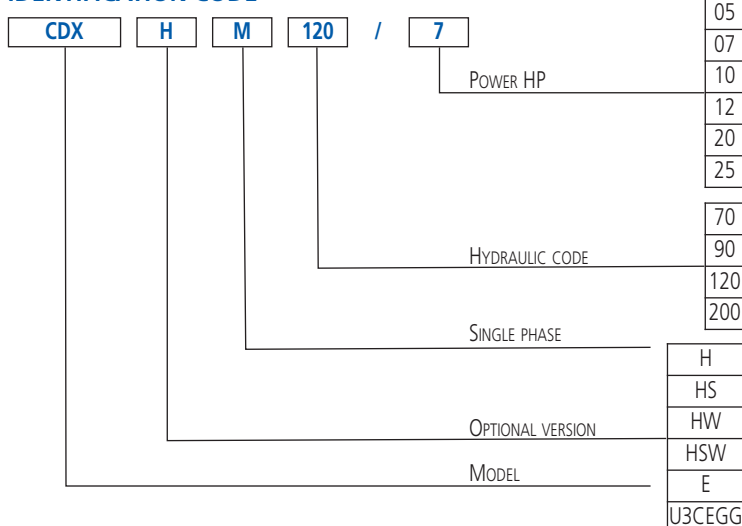
### ACCESSORIES (On request)

- 5 litre 10 bar ¾ EPDM vessel
- 24 litre 8 bar 1" EPDM vessel
- 24 litre 10 bar 1" EPDM vessel
- PVC 5m key float with counter-weight
- PVC 10m key float with counter-weight
- SQUARE-D FSG-2 1.4÷4.6 bar G¼ F pressure switch
- FYG-22 2.8÷7 bar G¼ F pressure switch
- Presscomfort - Pressure regulator
- Press•o•Matic - Variable speed control system (single phase 230V±10% - power supply three phase 220V output - maximum motor power 2.2 kW - 3 HP)

### PERFORMANCE RANGE (according to ISO 9906 Attachment A)



### IDENTIFICATION CODE

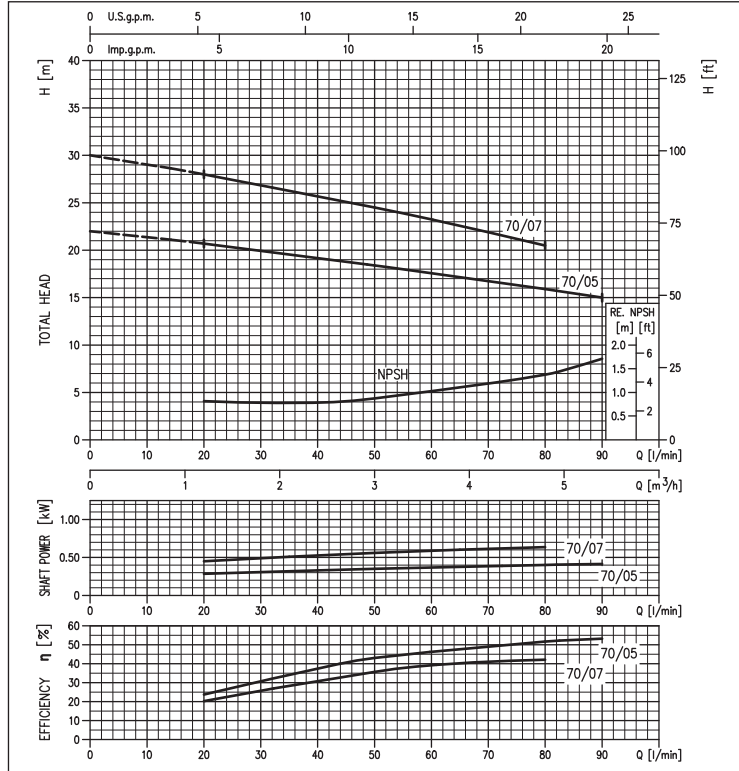


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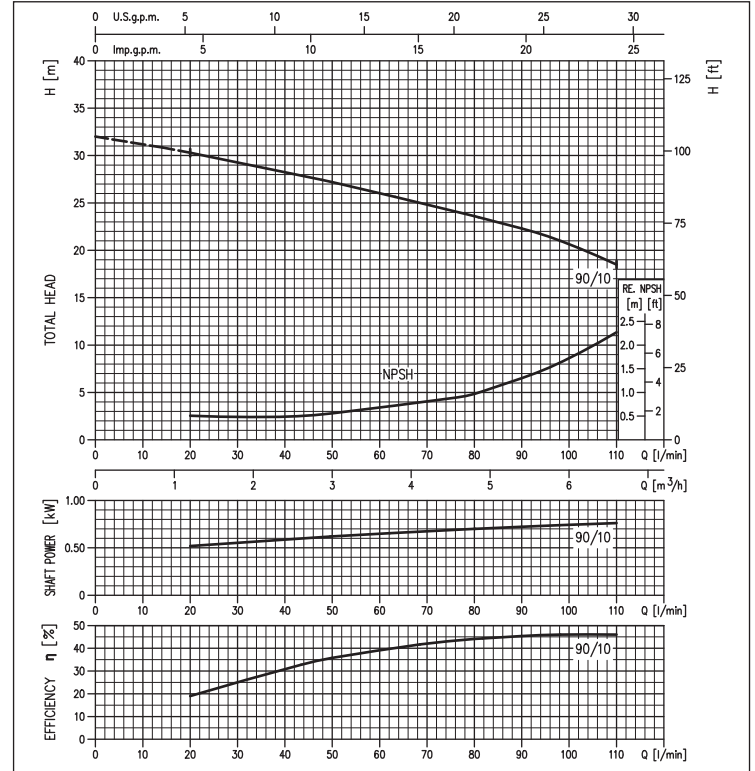
### PERFORMANCE CURVES CDX 70 series

(according to ISO 9906 Attachment A)



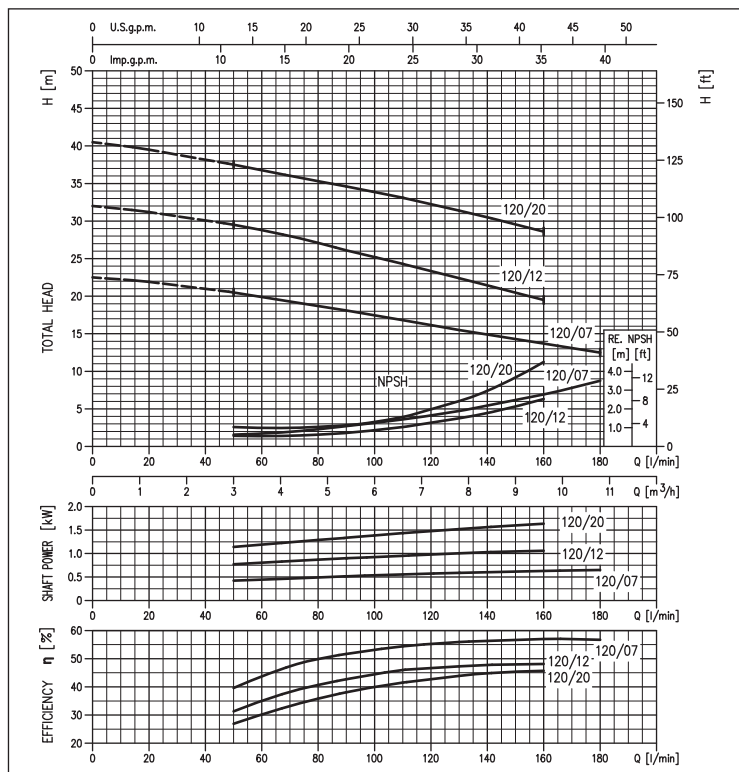
### PERFORMANCE CURVES CDX 90 series

(according to ISO 9906 Attachment A)



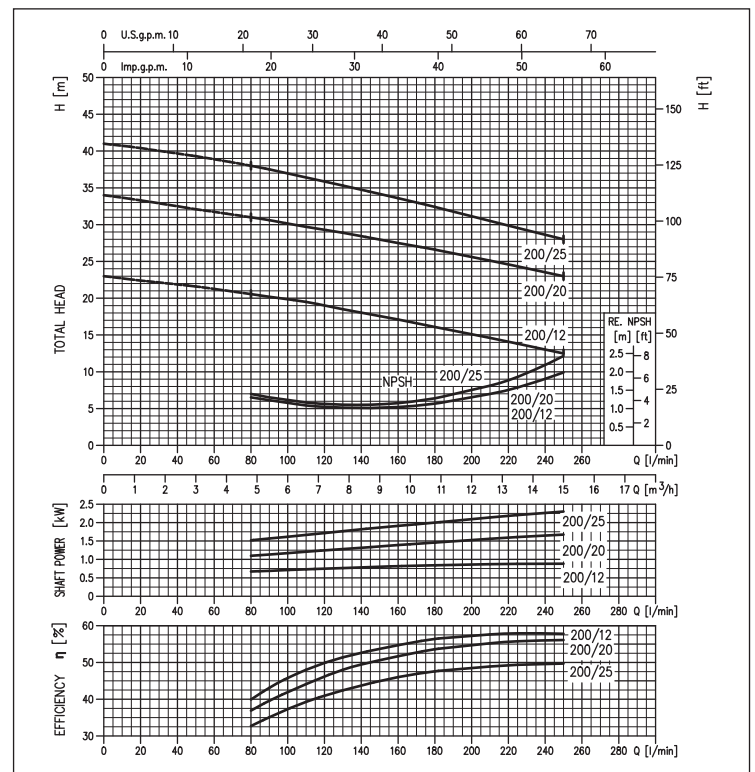
### PERFORMANCE CURVES CDX 120 series

(according to ISO 9906 Attachment A)



### PERFORMANCE CURVES CDX 200 series

(according to ISO 9906 Attachment A)



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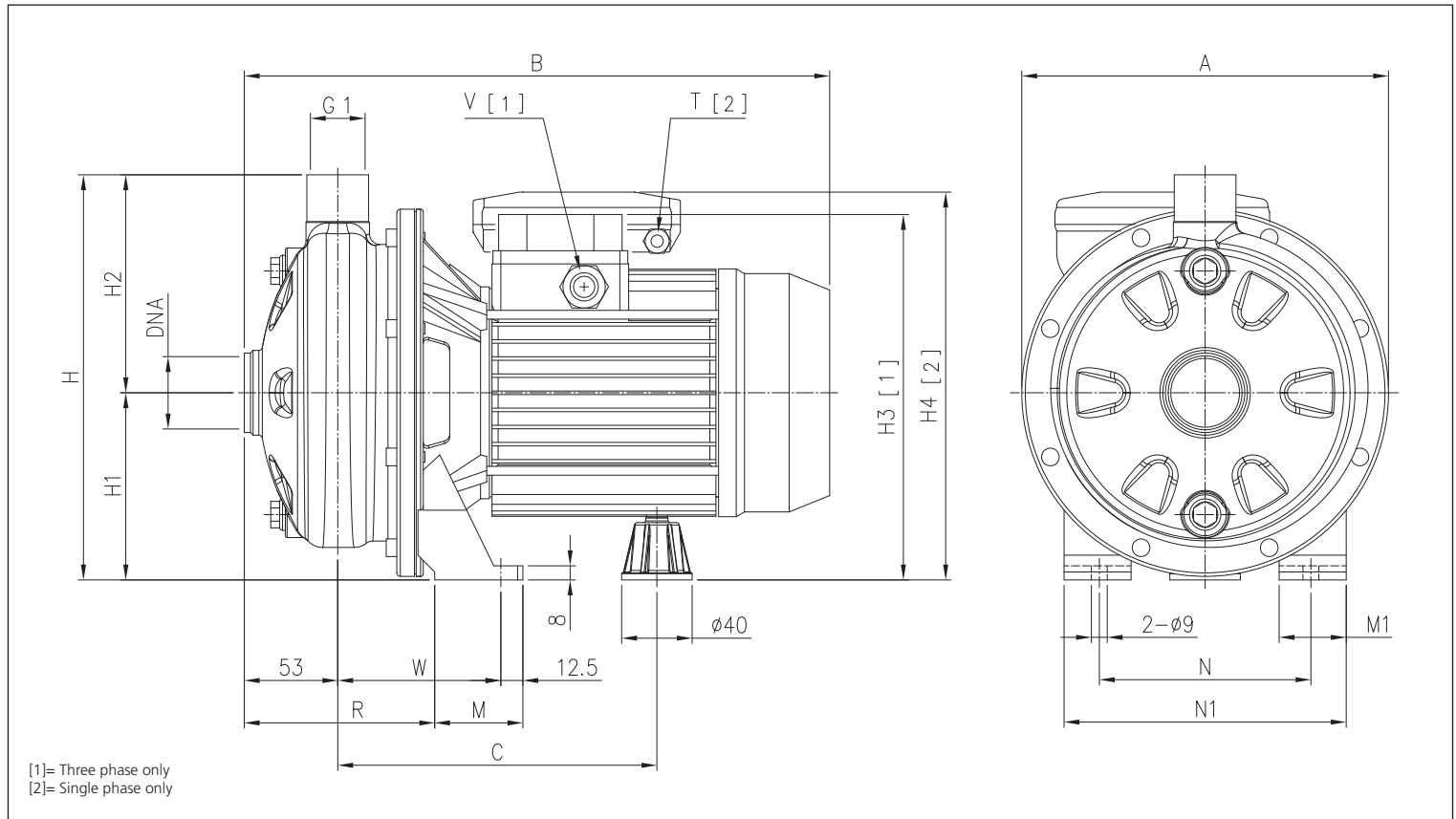
## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### PERFORMANCE TABLE

Model		P <sub>2</sub>		Q=Flow rate										
Single phase 230V	Three phase 230/400V	[HP]	[kW]	l/min m <sup>3</sup> /h	20 1,2	50 3	80 4,8	90 5,4	110 6,6	130 7,8	160 9,6	180 10,8	210 12,6	250 15,0
				H=Head [m]										
CDXM 70/05	CDX 70/05	0,5	0,37	20,7	18,4	15,9	15,0	-	-	-	-	-	-	-
CDXM 70/07	CDX 70/07	0,8	0,55	28,0	24,5	20,5	-	-	-	-	-	-	-	-
CDXM 90/10	CDX 90/10	1	0,75	30,3	27,2	23,6	22,3	19,5	-	-	-	-	-	-
CDXM 120/07	CDX 120/07	0,8	0,55	-	20,5	18,7	18,1	16,8	15,5	13,7	12,5	-	-	-
CDXM 120/12	CDX 120/12	1,2	0,9	-	29,5	27,1	26,1	24,3	22,4	19,5	-	-	-	-
CDXM 120/20	CDX 120/20	2	1,5	-	37,5	35,3	34,6	33,1	31,4	28,6	-	-	-	-
CDXM 200/12	CDX 200/12	1,2	0,9	-	-	20,7	20,2	19,5	18,5	17,1	16,1	14,6	12,5	-
CDXM 200/20	CDX 200/20	2	1,5	-	-	31,0	30,6	29,7	28,9	27,5	26,6	25,1	23,0	-
-	CDX 200/25	2,5	1,8	-	-	38,0	37,5	36,4	35,3	33,6	32,4	30,5	28,0	-

### DIMENSIONS



### DIMENSIONAL TABLE

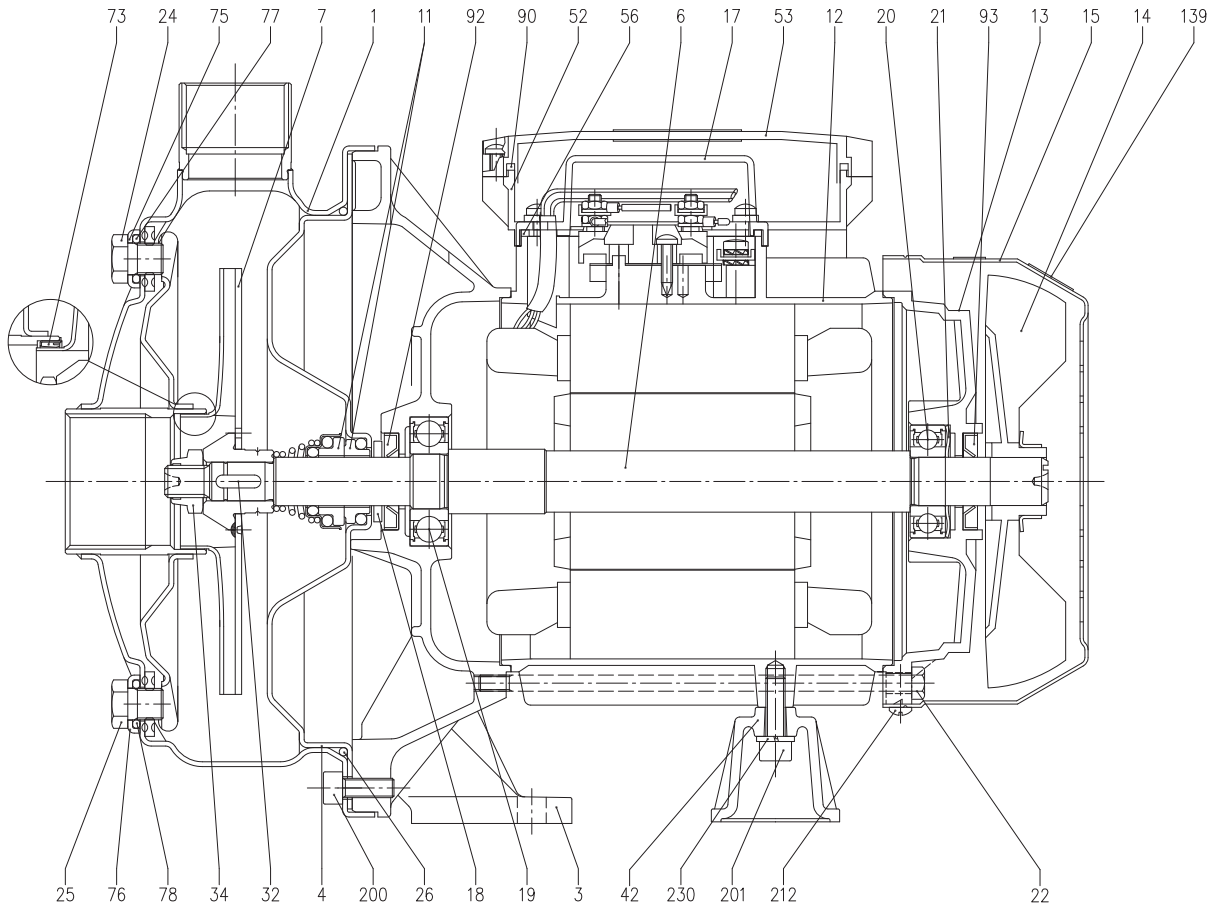
Model	Dimensions [mm]																Weight [kg]			
	A	B [2]	B [1]	C	H	H1	H2	H3 [1]	H4 [2]	M	M1	N	N1	R	T [2]	V [1]	W	DNA	[2]	[1]
CDX(M) 70/05	208	321	320	181	229,5	106	123,5	207	216	50	38	120	160	108	PG11	PG11	92,5	G1 ¼	8,3	8,3
CDX(M) 70/07	208	321	320	181	229,5	106	123,5	207	216	50	38	120	160	108	PG11	PG11	92,5	G1 ¼	9,8	9,7
CDX(M) 90/10	208	321	320	181	229,5	106	123,5	207	216	50	38	120	160	108	PG11	PG11	92,5	G1 ¼	11,0	11,0
CDX(M) 120/07	208	321	320	181	229,5	106	123,5	207	216	50	38	120	160	108	PG11	PG11	92,5	G1 ¼	9,6	9,5
CDX(M) 120/12	208	321	332	181	229,5	106	123,5	207	235	50	38	120	160	108	PG11	PG11	92,5	G1 ¼	11,8	12,4
CDX(M) 120/20	232	346,5	359	198,5	250	118	132	237	248,5	55	40	140	180	105,5	PG13,5	PG11	95	G1 ¼	16,5	17,2
CDX(M) 200/12	208	321	332	181	229,5	106	123,5	207	235	50	38	120	160	108	PG13,5	PG11	92,5	G1 ½	11,4	12,2
CDX(M) 200/20	208	346,5	359	198,5	229,5	106	123,5	225	236,5	55	40	140	180	105,5	PG13,5	PG11	95	G1 ½	15,3	16,1
CDX 200/25	232	-	359	198,5	250	118	132	237	-	55	40	140	180	105,5	-	PG11	95	G1 ½	-	15,9

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

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

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### SECTIONAL VIEW



### MATERIALS TABLE

Ref.	Name	Materials	Ref.	Name	Materials
1	Pump casing	EN 1.4301 (AISI 304)	25	Plug	AISI 303
3	Motor bracket	Aluminium	26	O-Ring [3]	NBR
4	Casing cover	EN 1.4301 (AISI 304)	32	Key	AISI 316
6	Shaft	AISI 303 Part in contact with the liquid	34	Impeller nut	EN 1.4301 (AISI 304)
7	Impeller	EN 1.4301 (AISI 304)	42	Motor support	Aluminium
11	Mechanical seal [3]	Ceramic/Carbon/NBR	52	Terminal box [2]	ABS
12	Motor frame	-	53	Terminal box cover [2]	ABS
13	Motor cover	Aluminium	56	Terminal box cover gasket	NBR
14	Fan	PA	73	Casing ring [4]	EN 1.4301 (AISI 304)
15	Fan cover	Galvanised Fe P04	75	Washer	EN 1.4301 (AISI 304)
16	Terminal box	-	76	Washer	EN 1.4301 (AISI 304)
17	Terminal box cover [1]	Aluminium	77	O-Ring [3]	EN 1.4301 (AISI 304)
18	Splash ring	NBR	78	O-Ring [3]	NBR
19	Bearing (pump side)	-	90	Gasket [2]	NBR
20	Bearing (motor side)	-	92	Seal ring	-
21	Adjusting ring	Steel C70	93	Seal ring	-
22	Tie-rod	Galvanised Fe 42	110	Motorprotector [2]	-
23	Capacitor [2]	-	200	Screw (pump body)	Stainless steel A2 UNI7323
24	Plug	AISI 303			

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

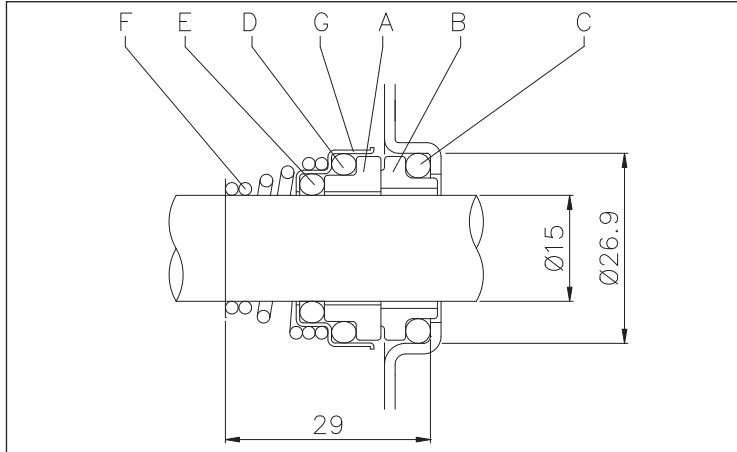
[3]= FPM for CDXH, CDXHS, CDXHW, CDXHSW, EPDM for CDE

[4]= NBR for CDX 70/05, 70/07, 90/10, FPM for CDX H-HS-HW-HSW 70/05, 70/07, 90/10

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

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### MECHANICAL SEAL standard



### MATERIALS TABLE

Ref.	Name	Materials
A	Rotating part	Ceramic
B	Fixed part	Carbon
C	O-Ring	NBR
D	O-Ring	NBR
E	O-Ring	NBR
F	Spring	AISI 316
G	Structure/frame	AISI 304

### SPECIAL MECHANICAL SEALS (on request)

Ref.	Name	Materials					
		H version	HS version	HW version	HSW version	E version	U3CEGG version
A	Rotating part	Ceramic	SiC	Tungsten Carbide	SiC	Ceramic	Tungsten Carbide
B	Fixed part	Carbon	SiC	Tungsten Carbide	Tungsten Carbide	Carbon	Special Carbon
C	O-Ring	FPM	FPM	FPM	FPM	EPDM	EPDM
D	O-Ring	FPM	FPM	FPM	FPM	EPDM	EPDM
E	O-Ring	FPM	FPM	FPM	FPM	EPDM	EPDM
F	Spring	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316
G	Structure/frame	AISI 304	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316

### ELECTRIC DATA TABLE

Model	Single phase 230V	Three phase 230/400V	P <sub>2</sub>		Efficiency		Capacitor		Efficiency (%)			P <sub>1</sub>		Absorbed Current [A]		
			[HP]	[kW]	Single phase	Three phase	Single phase	Three phase	50%	75%	100%	Single phase	Three phase	Single phase	Three phase	Three phase
					µF	V <sub>c</sub>	η %	η %	η %	[kW]	[kW]	230V	230V	400V		
CDXM 70/05	CDX 70/05	0,5	0,37	-	-	12,5	450	-	-	-	0,75	0,68	3,4	2,4	1,4	
CDXM 70/07	CDX 70/07	0,75	0,55	-	-	16	450	-	-	-	1,1	1,0	5,0	3,5	2,0	
CDXM 90/10	CDX 90/10	1	0,75	-	IE2	20	450	77,2	80,9	81,3	1,2	1,05	5,6	3,3	1,9	
CDXM 120/07	CDX 120/07	0,75	0,55	-	IE2	16	450	-	-	-	1,0	1,0	4,6	3,2	1,85	
CDXM 120/12	CDX 120/12	1,2	0,9	-	IE2	31,5	450	79,0	81,7	81,6	1,6	1,45	6,9	4,5	2,6	
CDXM 120/20	CDX 120/20	2	1,5	-	IE2	40	450	80,3	83,4	83,8	2,1	2,09	9,3	7,0	4,0	
CDXM 200/12	CDX 200/12	1,2	0,9	-	IE2	31,5	450	79,0	81,7	81,6	1,4	1,35	6,3	4,3	2,5	
CDXM 200/20	CDX 200/20	2	1,5	-	IE2	40	450	80,3	83,4	83,8	2,3	2,22	10,2	7,4	4,3	
-	CDX 200/25	2,5	1,8	-	IE2	-	-	83,0	84,4	83,8	-	2,87	-	8,7	5,0	

### NOISE DATA TABLE

Model	Single phase 230V	Three phase 230/400V	P <sub>2</sub>		L <sub>pA</sub> - dB(A)*
			[HP]	[kW]	
CDXM 70/05	CDX 70/05	0,5	0,37	61	
CDXM 70/07	CDX 70/07	0,75	0,55	62	
CDXM 90/10	CDX 90/10	1	0,75	62	
CDXM 120/07	CDX 120/07	0,75	0,55	62	
CDXM 120/12	CDX 120/12	1,2	0,9	62	
CDXM 120/20	CDX 120/20	2	1,5	64	
CDXM 200/12	CDX 200/12	1,2	0,9	62	
CDXM 200/20	CDX 200/20	2	1,5	64	
-	CDX 200/25	2,5	1,8	65	

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