
EBARA

CONTENTS

60Hz

Rev. B

SPECIFICATIONS 60Hz

Rev. B

PUMP			
Liquid Handled	Type of liquid		Clean water
	Max temperature	[°C]	60 (CDX 70) 90 110 (CDXH and CDXHS)
	Min temperature	[°C]	-10
Maximum working pressure		[MPa]	0.8
Construction	Impeller		Closed centrifugal type
	Shaft seal type		Mechanical seal
	Bearing		Sealed ball bearing
Pipe Connection	Suction	[inch]	from G 1"¼ to G 1"½
	Discharge	[inch]	G 1"
Material	Casing		AISI 304
	Impeller		AISI 304
	Casing cover		AISI 304
	Shaft seal		Ceramic/Carbon/NBR (for CDX) Ceramic/Carbon/FPM (for CDXH) Sic/Sic/FPM (for CDXHS)
	Shaft		AISI 303 (Wet extension)
	Bracket		Aluminium
Applicable standard of test			ISO 9906 – Annex A

MOTOR				
Type			Electric - TEFC	
			Single Phase	Three Phase
No. of Poles			2	
Synchronous speed		[min^{-1}]	3600	
Insulation Class			F	
Protection degree			IP 55	
Power rating		[kW]	0.55 ÷ 1.5	0.55 ÷ 2.2
		[HP]	0.75 ÷ 2.0	0.75 ÷ 3.0
Frequency		[Hz]	60	
Voltage		[V]	220÷230 ±6%	220/380-460 –6% +10%
Capacitor			Built in	-
Over load protection			Built in	Provided by the user
Casing material			Aluminium	
Base material/motor support			Aluminium	
Dimensions of cable entry			PG 11 - PG 13.5 (see dimensions page 400)	

SELECTION CHART

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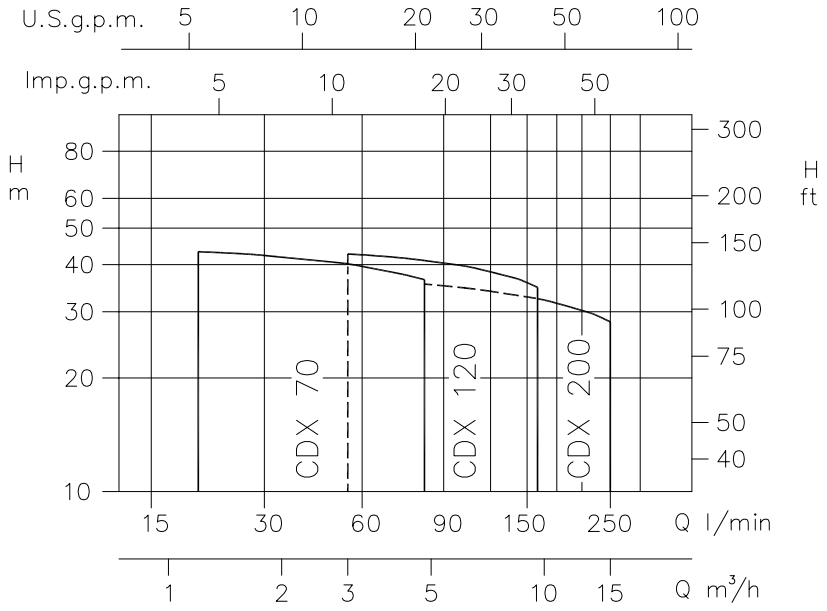
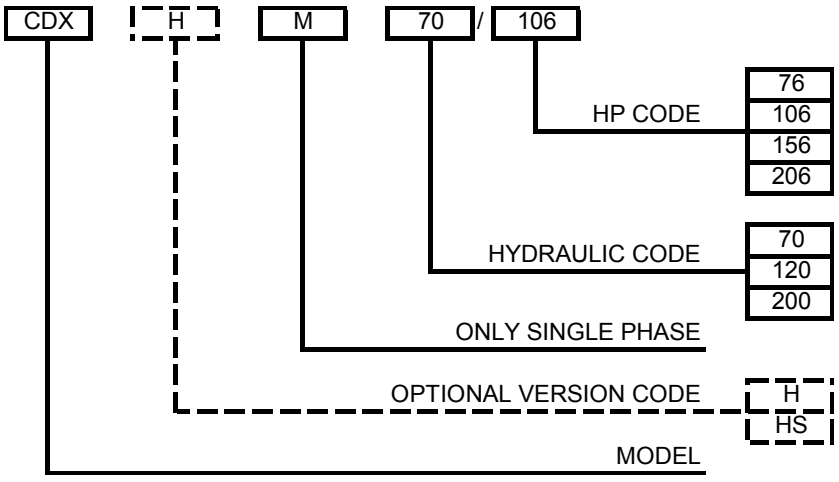


Type pumps		kW	HP	Q=Capacity									
				l/min 20	50	80	90	120	140	160	180	220	250
Single Phase	Three Phase			m³/h 1.2	3	4.8	5.4	7.2	8.4	9.6	10.8	13.2	15
				H=Total manometric head in meters									
CDXM 70/076	CDX 70/076	0.55	0.75	22.2	20	17.5	16.6	-	-	-	-	-	-
CDXM 70/106	CDX 70/106	0.75	1	30.7	28.6	26	-	-	-	-	-	-	-
CDXM 70/156	CDX 70/156	1.1	1.50	43.3	40.2	36.5	-	-	-	-	-	-	-
CDXM 120/106	CDX 120/106	0.75	1	-	21.8	20.2	19.7	18.1	16.8	15.5	14	-	-
CDXM 120/156	CDX 120/156	1.1	1.5	-	29.9	28.3	27.7	26.2	25	23.7	-	-	-
CDXM 120/206	CDX 120/206	1.5	2	-	42.7	41	40.4	38.2	36.8	34.8	-	-	-
CDXM 200/156	CDX 200/156	1.1	1.5	-	-	20.8	20.4	19.4	18.6	17.8	17	15.2	13.6
CDXM 200/206	CDX 200/206	1.5	2	-	-	29.8	29.5	28.6	27.9	27.2	26.3	24.6	23.2
-	CDX 200/306	2.2	3	-	-	35.5	35.1	34	33.3	32.5	31.6	29.8	28.2

TYPE KEY:



PERFORMANCE CURVE

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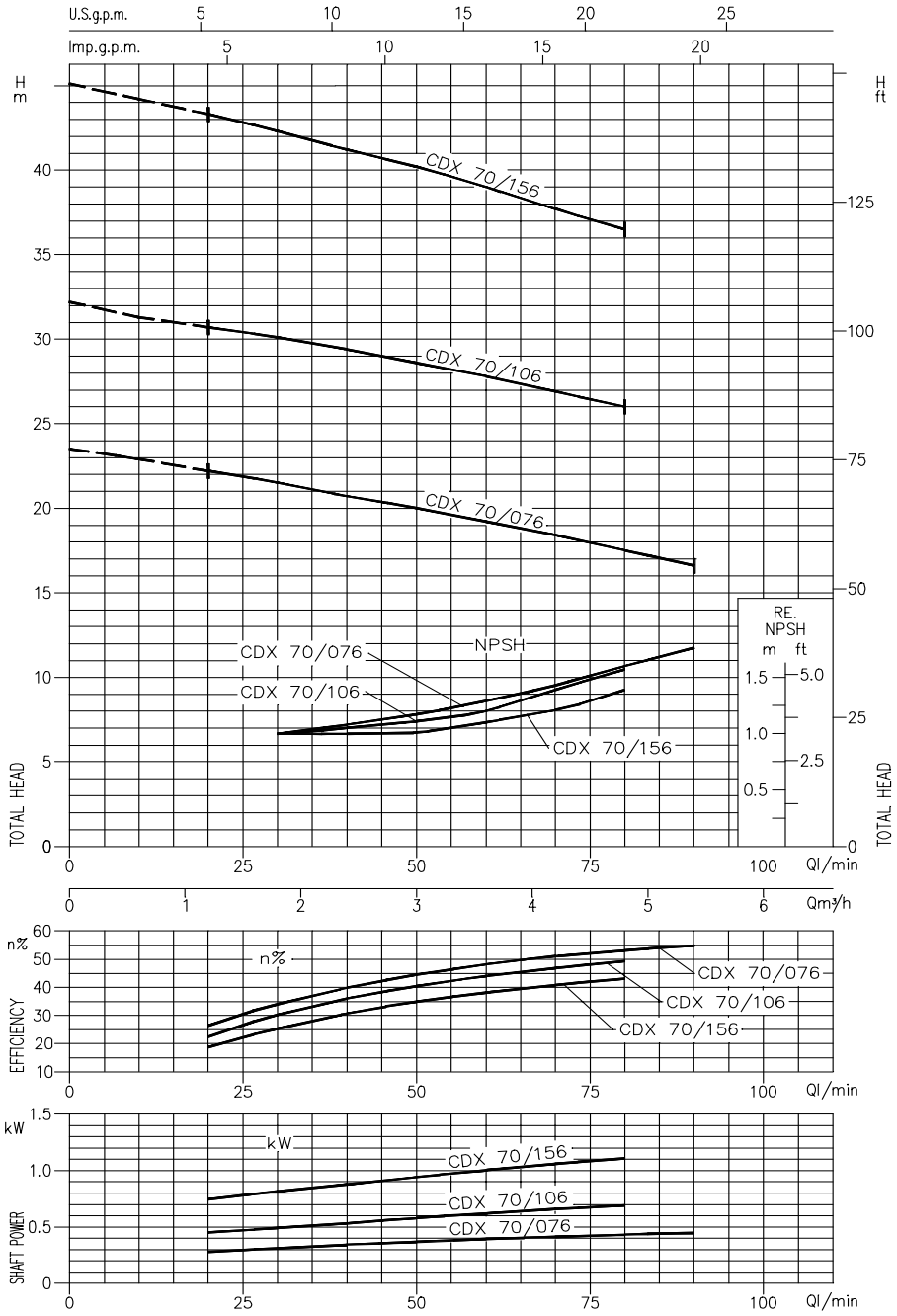
CDX 70/076 (0.55 kW) - Impeller diameter = 115 mm
CDX 70/106 (0.75 kW) - Impeller diameter = 132 mm
CDX 70/156 (1.10 kW) - Impeller diameter = 157 mm

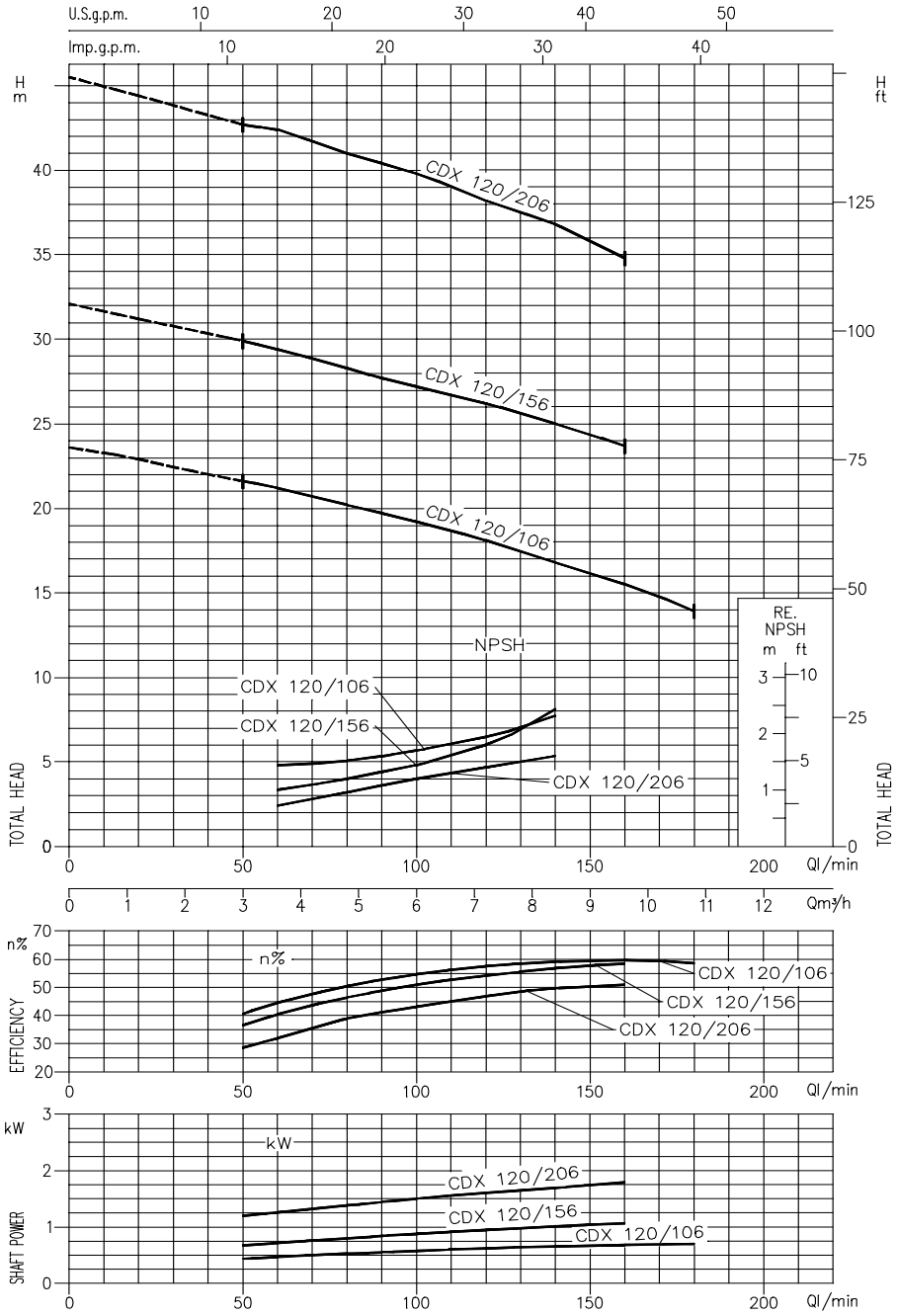


Syncronous speed≈ 3600 min^{-1}
Temperature of water: 20°C
Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE 60Hz

Rev. B

CDX 120/106 (0.75 kW) - Impeller diameter = 115 mm
CDX 120/156 (1.10 kW) - Impeller diameter = 132 mm
CDX 120/206 (1.50 kW) - Impeller diameter = 157 mm

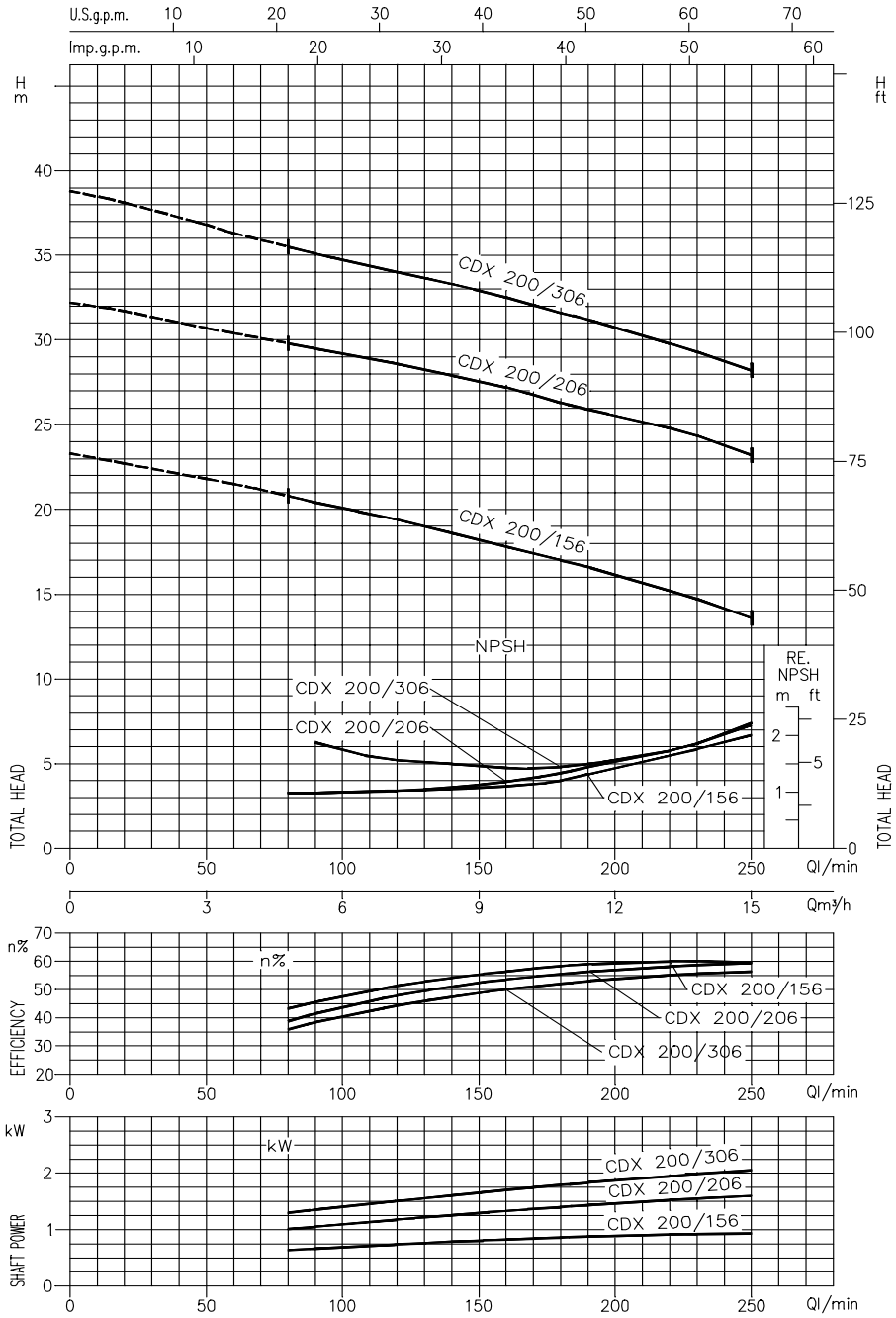


Syncronous speed ≈ 3600 min^{-1}
Temperature of water: 20°C
Applicable standard of test: ISO 9906 – Annex A

PERFORMANCE CURVE 60Hz

Rev. B

CDX 200/156 (1.1 kW) - Impeller diameter = 115 mm
CDX 200/206 (1.5 kW) - Impeller diameter = 132 mm
CDX 200/306 (2.2 kW) - Impeller diameter = 144 mm



Syncronous speed ≈ 3600 min^{-1}
Temperature of water: 20°C
Applicable standard of test: ISO 9906 – Annex A

CONSTRUCTIONS 60Hz

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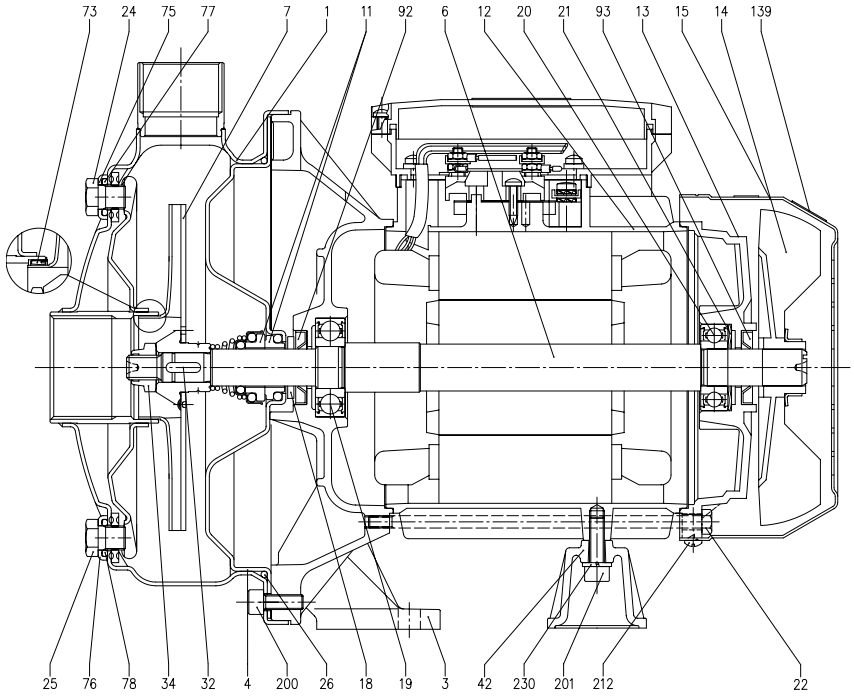
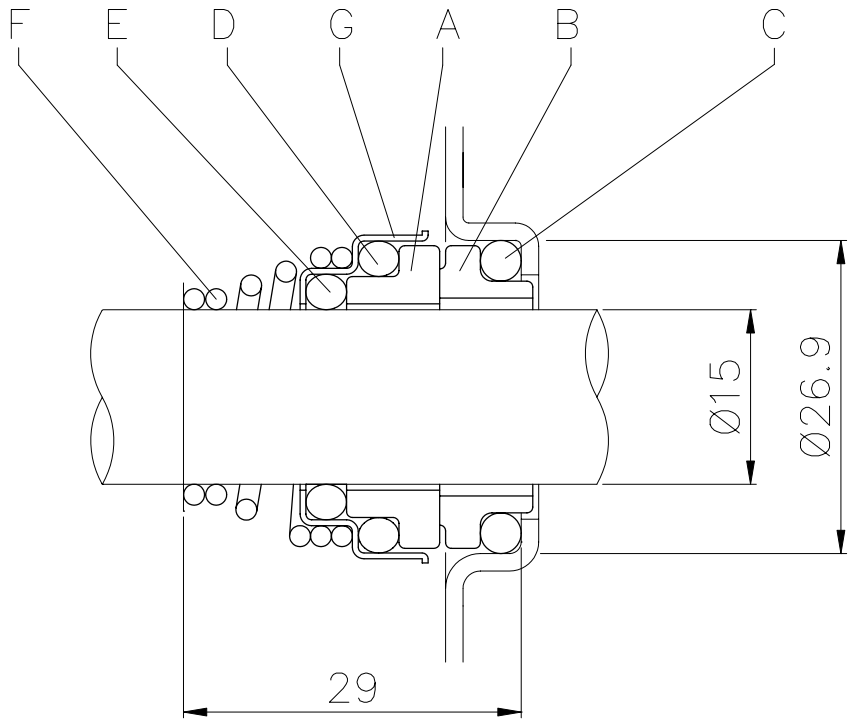
SECTIONAL VIEW



N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304	1	25	Drain plug	AISI 303	1
3	Motor bracket	Aluminium	1	26	O-ring [3]	NBR	1
4	Casing cover	AISI 304	1	32	Key	AISI 304	1
6	Shaft with rotor	AISI 303 (Wet extension)	1	34	Impeller nut	AISI 304	1
7	Impeller	AISI 304	1	42	Motor support	Aluminium	1
11	Mechanical seal [3] - [4]	Carbon/Ceramic/NBR	1	52	Terminal box [1]	Polypropilene	1
12	Motor frame with stator	-	1	53	Terminal box cover [1]	Polypropilene	1
13	Motor cover	Aluminium	1	56	Box gasket	NBR	1
14	Fan	Polypropilene	1	73	Casing ring [5]	AISI 304	1
15	Fan cover	Fe P04 Zinked	1	75	Washer	AISI 304	1
16	Terminal board	-	1	76	Washer	AISI 304	1
17	Terminal box cover [2]	Aluminium	1	77	O-ring [3]	NBR	1
18	Splash ring	NBR	1	78	O-ring [3]	NBR	1
19	Pump side ball bearing	-	1	90	Cover gasket [1]	NBR	1
20	Fan side ball bearing	-	1	92	Lip seal	-	1
21	Adjusting ring	Steel C70	1	93	Lip seal	-	1
22	Tie rod	Fe 420 Zinked	4	110	Protector [1]	-	1
23	Capacitor [1]	-	1	200	Screw	Stainless steel A2 UNI7323	8
24	Priming plug	AISI 303	1				

[1] Only for single phase
[2] Only for three phase
[3] FPM for CDXH and CDXHS
[4] Special version, see page 301
[5] NBR for CDX 70 series
FPM for CDXH and CDXHS 70 series

MECHANICAL SEAL



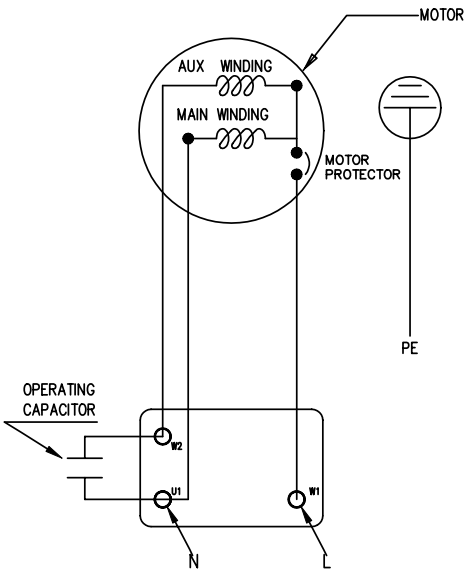
REF	PART NAME	MATERIAL		
		Standard version	Optional	
		(CDX)	(CDXH)	(CDXHS)
A	Rotary seal ring	Ceramic	Ceramic	Silicon carbide
B	Stationary seal ring	Carbon graphite	Carbon graphite	Silicon carbide
C	O Ring	NBR	FPM	FPM
D	O Ring	NBR	FPM	FPM
E	O Ring	NBR	FPM	FPM
F	Self driving spring	AISI 316	AISI 316	AISI 316
G	Frame	AISI 304	AISI 304	AISI 316

DIAGRAM AND ELECTRIC CONNECTIONS

SINGLE PHASE MOTOR

WITH INTERNAL MOTORPROTECTOR

FOR 0.75kW AND BELOW



WITH EXTERNAL MOTORPROTECTOR

FOR 1.5kW AND ABOVE

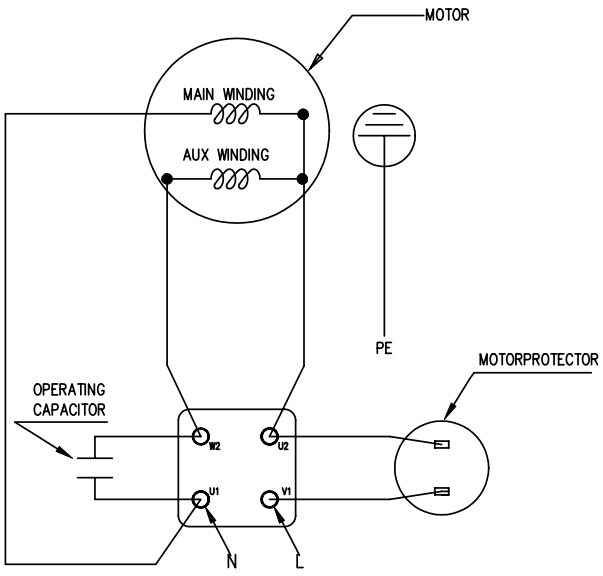
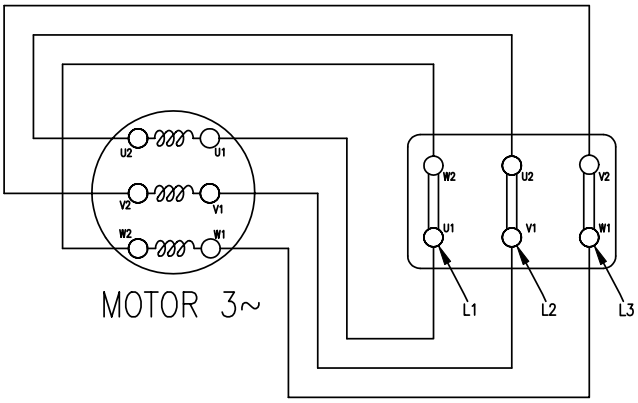


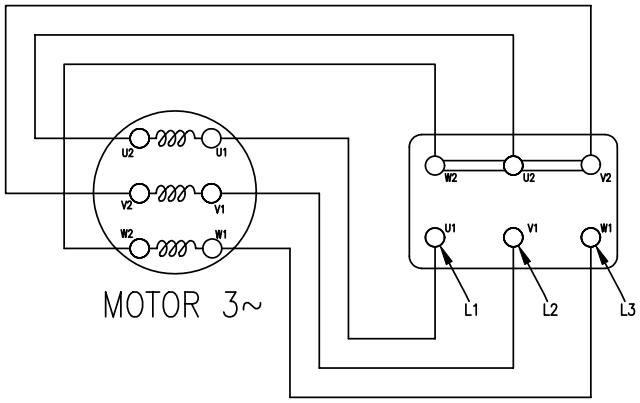
DIAGRAM AND ELECTRIC CONNECTIONS

THREE PHASE MOTOR

DELTA CONNECTION

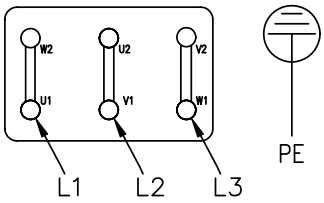


STAR CONNECTION

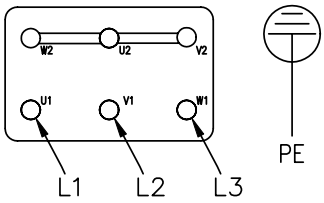


FOR MOTOR 4 kW AND BELOW

DELTA CONNECTION 220 V



STAR CONNECTION 380 V



DIMENSIONS

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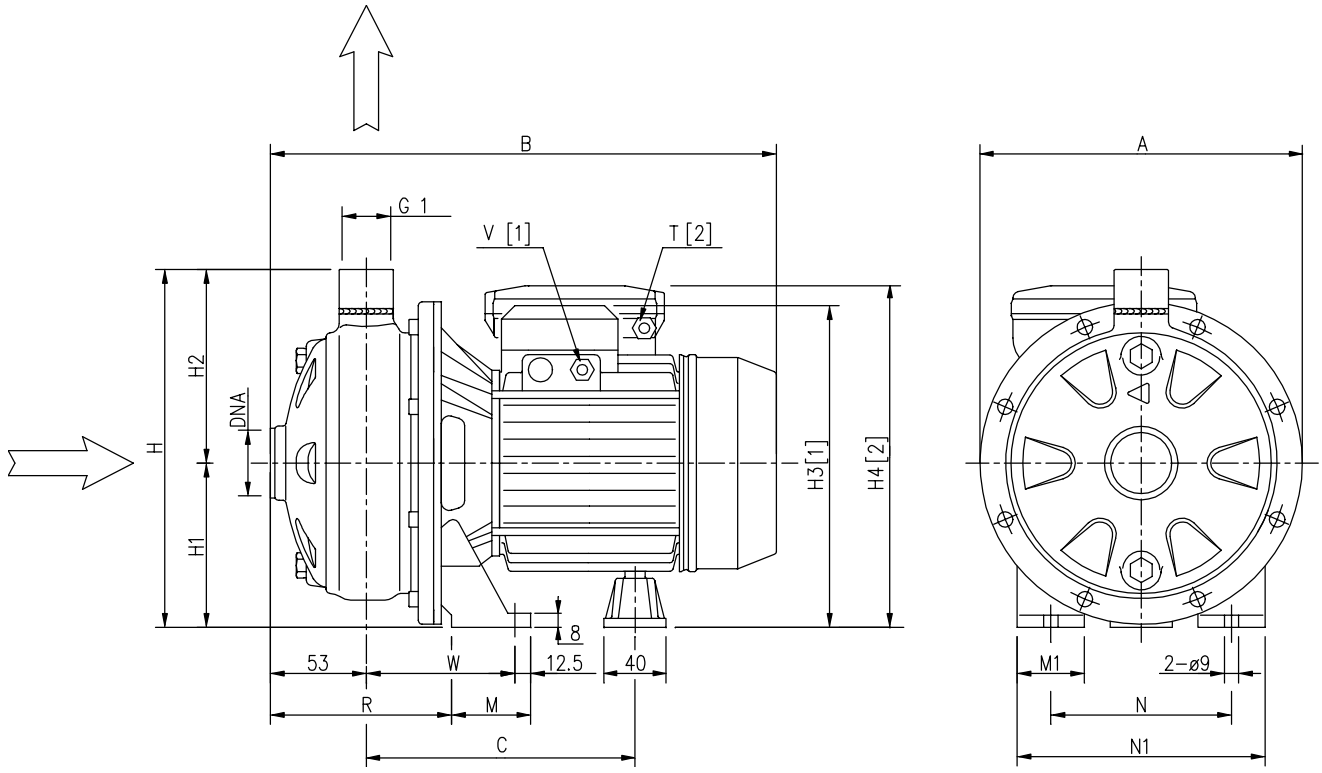

Pump type 'CDXM-CDX	Dimensions mm																	
	A	B [1]	B [2]	C	H	H1	H2	H3	H4	M	M1	N	N1	R	T	V	W	DNA
70/076	208	321.5	321.5	181	229.5	106	123.5	207	211	50	38	120	160	108	PG 11	PG 11	92.5	G 1"¼
70/106	208	321.5	321.5	181	229.5	106	123.5	207	211	50	38	120	160	108	PG 11	PG 11	92.5	G 1"¼
70/156	208	321.5	321.5	181	229.5	106	123.5	207	211	50	38	120	160	108	PG 11	PG 11	92.5	G 1"¼
120/106	208	321.5	321.5	181	229.5	106	123.5	207	211	50	38	120	160	108	PG 11	PG 11	92.5	G 1"¼
120/156	208	321.5	321.5	181	229.5	106	123.5	207	211	50	38	120	160	108	PG 11	PG 11	92.5	G 1"¼
120/206	208	346	359	199.5	229.5	106	123.5	221.5	242.5	55	40	140	180	105.5	PG 13.5	PG 11	95	G 1"¼
200/156	208	321.5	321.5	181	229.5	106	123.5	207	211	50	38	120	160	108	PG 11	PG 11	92.5	G 1"½
200/206	208	346	359	199.5	229.5	106	123.5	221.5	242.5	55	40	140	180	105.5	PG 13.5	PG 11	95	G 1"½
200/306	232	359	-	199.5	250	118	132	233.5	-	55	40	140	180	105.5	-	PG 11	95	G 1"½

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

PACKING AND WEIGHT

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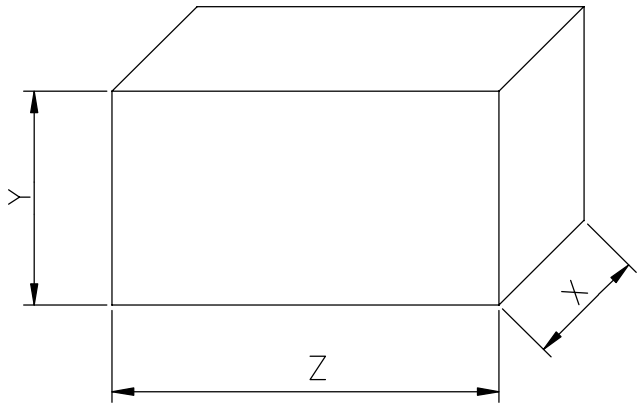

Type pumps		PACKING [mm]			WEIGHT [Kg]	
Single Phase	Three Phase	X	Y	Z	Single Phase	Three Phase
CDXM 70/076	CDX 70/076	215	265	332	9.5	9
CDXM 70/106	CDX 70/106	215	265	332	10.5	10
CDXM 70/156	CDX 70/156	215	265	332	13.7	13.7
CDXM 120/106	CDX 120/106	215	265	332	10.5	10
CDXM 120/156	CDX 120/156	215	265	332	12	12
CDXM 120/206	CDX 120/206	239	289	372	16.5	15
CDXM 200/156	CDX 200/156	215	265	332	12	11.5
CDXM 200/206	CDX 200/206	239	289	372	15.5	15
-	CDX 200/306	239	289	372	-	16.5

TECHNICAL DATA 60Hz

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Type pumps		kW	HP	Locked rotor current				Capacitor		Input in [kW]		Full load current [A]			
				Single Phase	Three Phase			Single Phase							
Single Phase	Three Phase			220 V	220 V	380 V	460 V	μF	Vl	Single	Three	Single	Three Phase		
				60 Hz	60 Hz	60 Hz	60 Hz			Phase	Phase	Phase	220 V	380 V	460 V
CDXM 70/076	CDX 70/076	0,55	0,75	15	9,6	5,5	6,4	12,5	450	0,7	0,7	3,4	2,0	1,2	1,2
CDXM 70/106	CDX 70/106	0,75	1	22	15	8,5	13	14	450	1,1	1,0	5,1	2,9	1,7	1,6
CDXM 70/156	CDX 70/156	1,1	1,5	35	25	14,4	16,5	25	450	1,6	1,6	7,5	4,5	2,6	2,6
CDXM 120/106	CDX 120/106	0,75	1	22	15	8,5	13	14	450	1,1	1,0	5,2	2,9	1,7	1,7
CDXM 120/156	CDX 120/156	1,1	1,5	35	25	14,4	16,5	25	450	1,5	1,4	7,2	4,3	2,5	2,3
CDXM 120/206	CDX 120/206	1,5	2	63	36	21	24	35	450	2,3	2,3	11,3	6,9	4,0	4,1
CDXM 200/156	CDX 200/156	1,1	1,5	32	25	14,4	16,5	20	450	1,4	1,3	6,6	3,9	2,3	2,0
CDXM 200/206	CDX 200/206	1,5	2	63	36	21	24	35	450	2,1	2,0	10,0	6,2	3,6	3,8
-	CDX 200/306	2,2	3	-	47	27	30	-	-	-	2,6	-	8,2	4,7	4,3

Type pumps		Ball Bearing	
Single Phase	Three Phase	Pump side	Fan side
CDXM 70/076	CDX 70/076	6203 ZZ	6202 ZZ
CDXM 70/106	CDX 70/106	6203 ZZ	6202 ZZ
CDXM 70/156	CDX 70/156	6203 ZZ	6202 ZZ
CDXM 120/106	CDX 120/106	6203 ZZ	6202 ZZ
CDXM 120/156	CDX 120/156	6203 ZZ	6202 ZZ
CDXM 120/206	CDX 120/206	6204 ZZ	6203 ZZ
CDXM 200/156	CDX 200/156	6203 ZZ	6202 ZZ
CDXM 200/206	CDX 200/206	6204 ZZ	6203 ZZ
-	CDX 200/306	6204 ZZ	6203 ZZ