EBARA

CONTENTS

50 Hz

Rev F

	Page
- CONTENTS	**100**
- SPECIFICATIONS	**200**
SELECTION CHARTS	201
PERFORMANCE CHART CDX 70	202
PERFORMANCE CHART CDX 90	203
PERFORMANCE CHART CDX 120	204
PERFORMANCE CHART CDX 200	205
- CONSTRUCTIONS	**300**
SECTIONAL VIEW	300
MECHANICAL SEAL	301
SINGLE PHASE DIAGRAM AND ELECTRIC CONNECTIONS	302
THREE PHASE DIAGRAM AND ELECTRIC CONNECTIONS	303
- DIMENSINS	**400**
PACKING AND WEIGHT	401
- TECHNICAL DATA	**500**

SPECIFICATIONS 50 Hz

Rev F

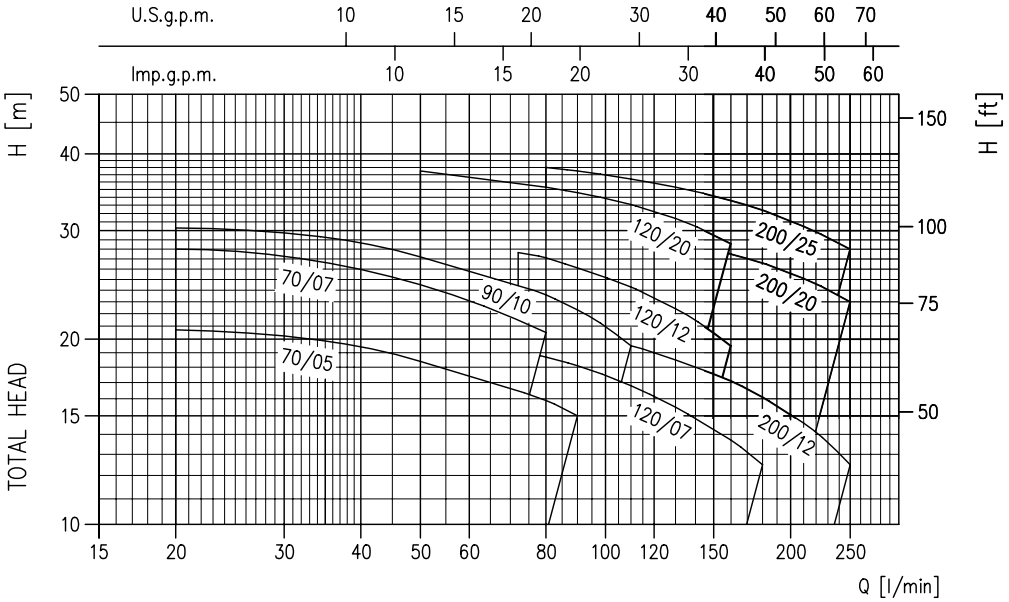
PUMP		
Liquid Handled	Type of liquid	Clean water
	Max temperature [°C]	60 (CDX 70/05-70/07-90/10) 90 110 (CDXH and CDXHS)
	Min temperature [°C]	-10
Maximum working pressure [MPa]		0.8
Construction	Impeller	Closed centrifugal type
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	G 1¼ (G 1½ CDX200)
	Discharge	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	
Rotation speed	[min^{-1}]	≈ 2800	
Insulation Class		F	
Protection degree		IP 55	
Power rating	[kW]	0.37 ÷ 1.5	0.37 ÷ 1.8
	[HP]	0.5 ÷ 2	0.5 ÷ 2.5
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		Aluminium	
Dimensions of cable entry		PG11 - PG13.5 (see dimensions page 400)	

SELECTION CHART

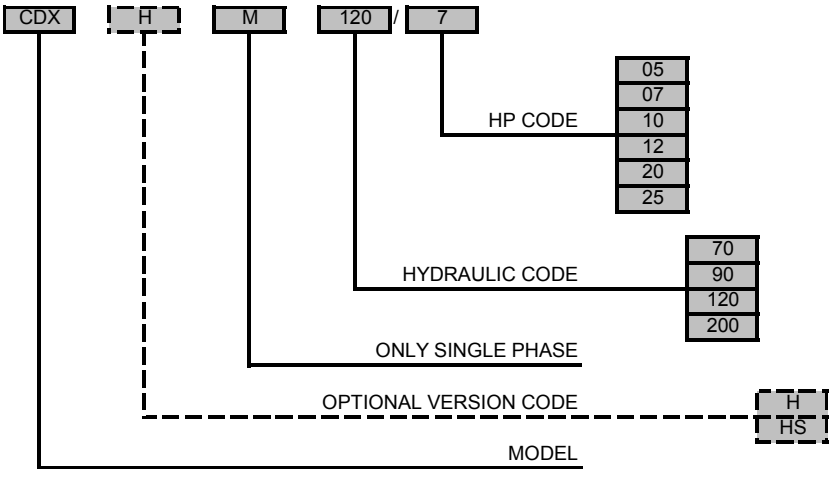
50 Hz

Rev F



Type pumps		Power		Q=Capacity									
				l/min	20	50	80	90	110	130	160	180	210	250
Single Phase	Three Phase	[kW]	[HP]	m³/h	1.2	3	4.8	5.4	6.6	7.8	9.6	10.8	12.6	15
				H=Total manometric head in meters										
CDXM 70/05	CDX 70/05	0.37	0.5		20.7	18.4	15.9	15	-	-	-	-	-	-
CDXM 70/07	CDX 70/07	0.55	0.8		28	24.5	20.5	-	-	-	-	-	-	-
CDXM 90/10	CDX 90/10	0.75	1		30.3	27.2	23.6	22.3	19.5	-	-	-	-	-
CDXM 120/07	CDX 120/07	0.55	0.8		-	20.5	18.7	18.1	16.8	15.5	13.7	12.5	-	-
CDXM 120/12	CDX 120/12	0.9	1.2		-	29.5	27.1	26.1	24.3	22.4	19.5	-	-	-
CDXM 120/20	CDX 120/20	1.5	2		-	37.5	35.3	34.6	33.1	31.4	28.6	-	-	-
CDXM 200/12	CDX 200/12	0.9	1.2		-	-	20.6	20.2	19.5	18.5	17.1	16.1	14.6	12.5
CDXM 200/20	CDX 200/20	1.5	2		-	-	31	30.6	29.7	28.9	27.5	26.6	25.1	23
-	CDX 200/25	1.8	2.5		-	-	38	37.5	36.4	35.3	33.6	32.4	30.5	28

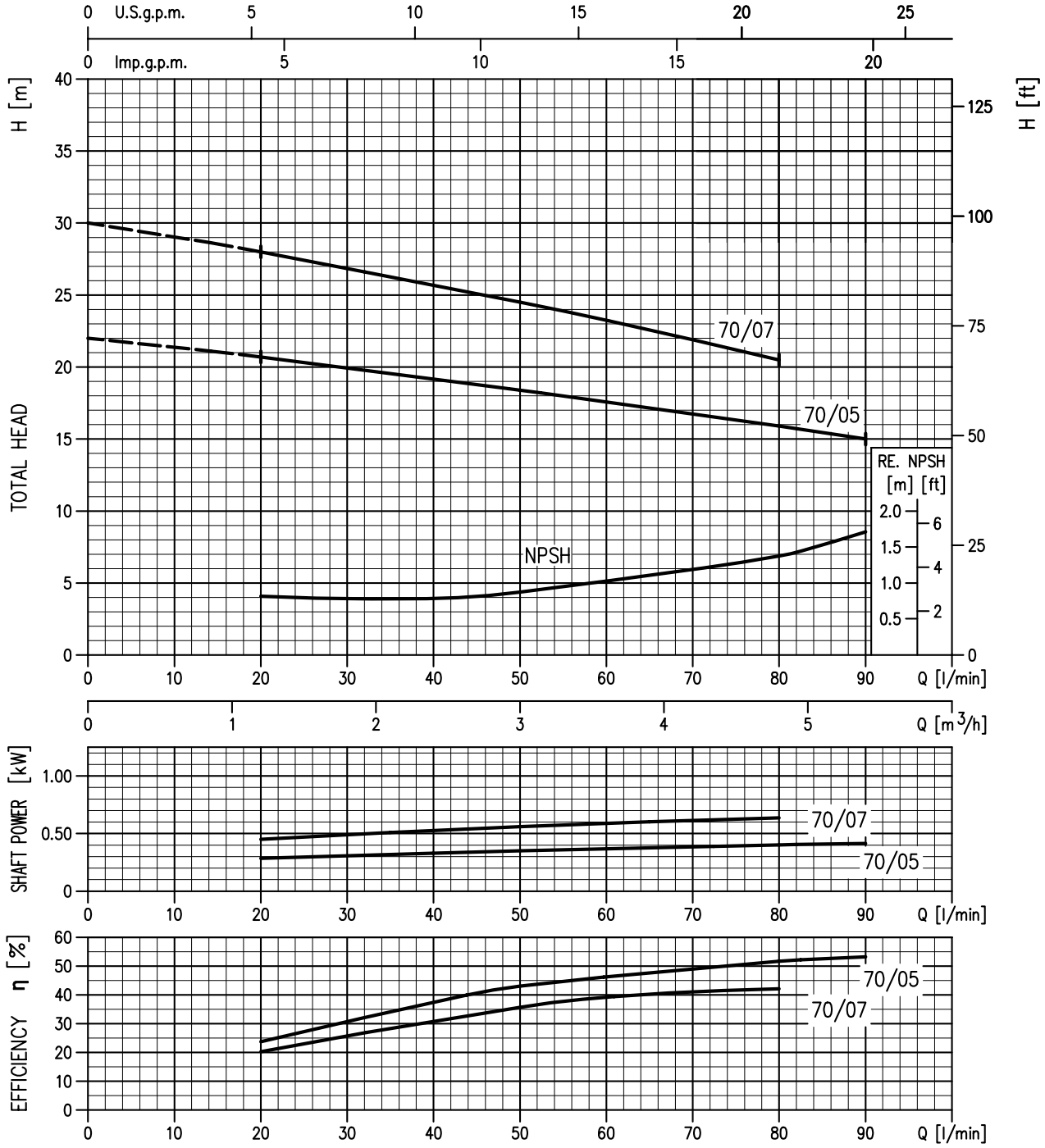
TYPE KEY:



CDX 70 PERFORMANCHE CURVES 50 Hz

Rev F

CDX 70/05 (0.37 kW) Impeller diameter = 132
CDX 70/07 (0.55 kW) Impeller diameter = 157

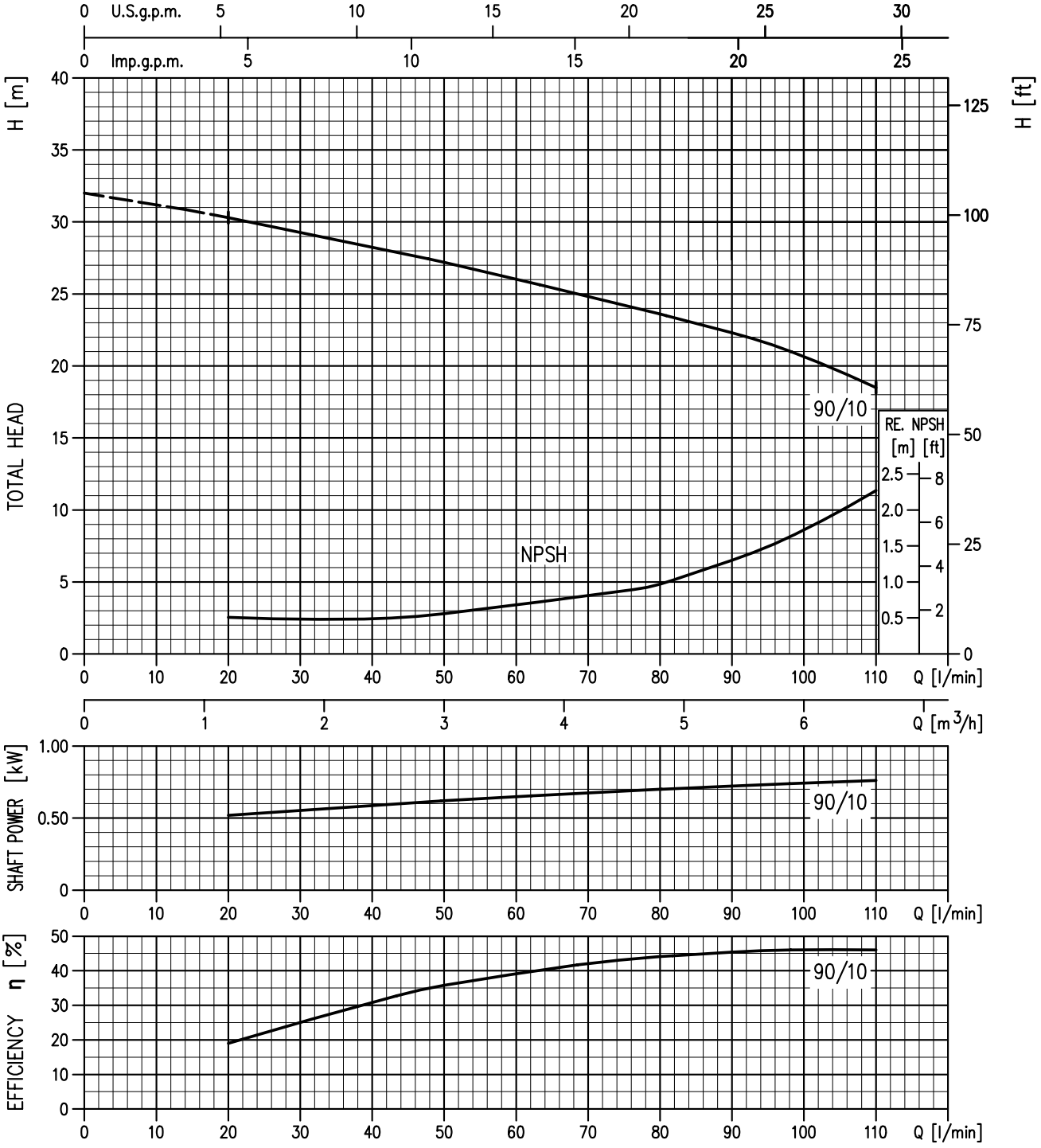


Rotation speed: ≈2800 min^{-1}
Test fluid: clean water at 20°C
Applicable standard of test: ISO 9906 – Annex A

CDX 90 PERFORMANCHE CURVES 50 Hz

Rev F

CDX 90/10 (0.75 kW) Impeller diameter = 157

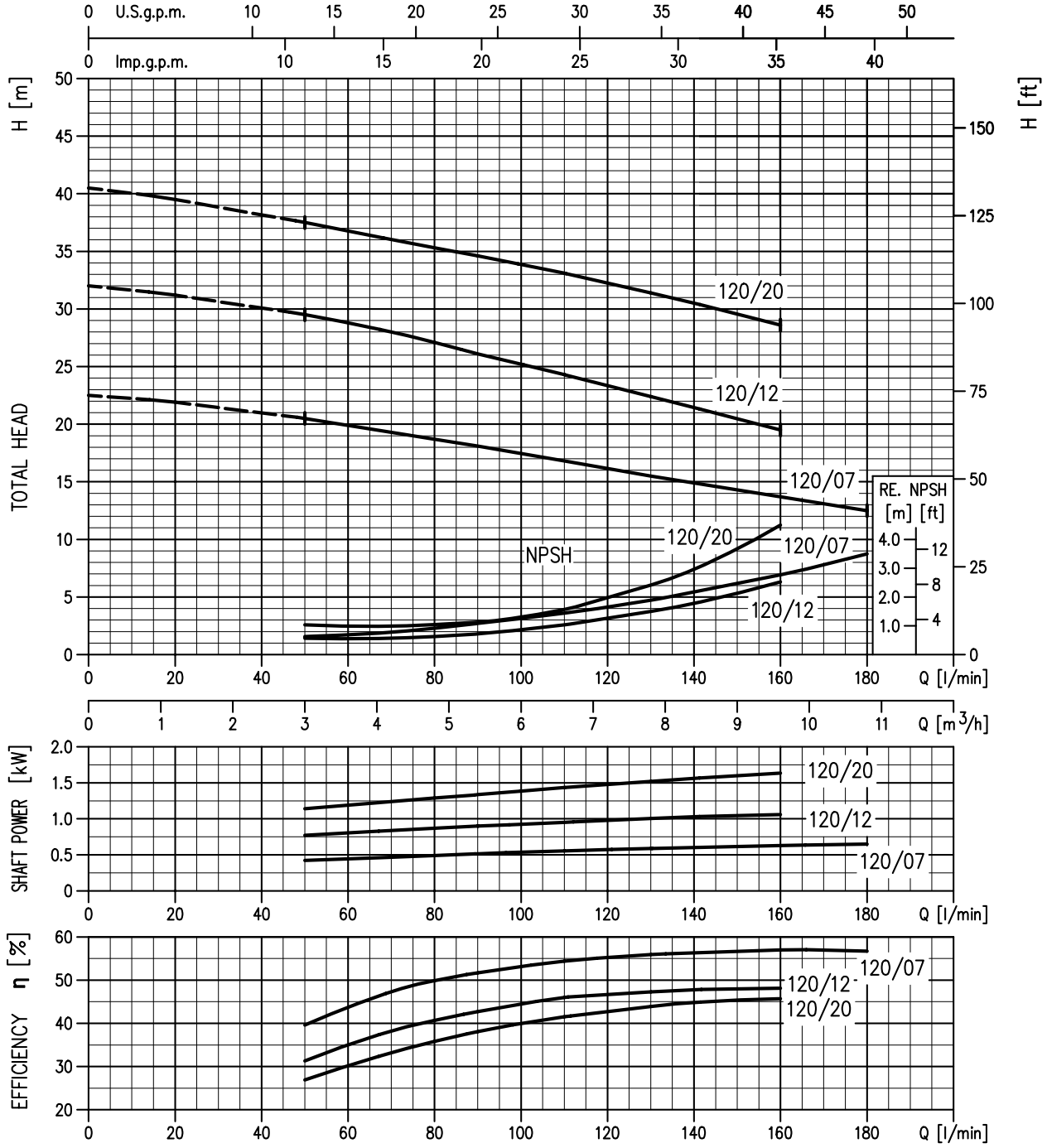


Rotation speed: ≈2800 min^{-1}
Test fluid: clean water at 20°C
Applicable standard of test: ISO 9906 – Annex A

CDX 120 PERFORMANCHE CURVES 50 Hz

Rev F

CDX 120/07 (0.55 kW) Impeller diameter = 132
CDX 120/12 (0.90 kW) Impeller diameter = 157
CDX 120/20 (1.50 kW) Impeller diameter = 176

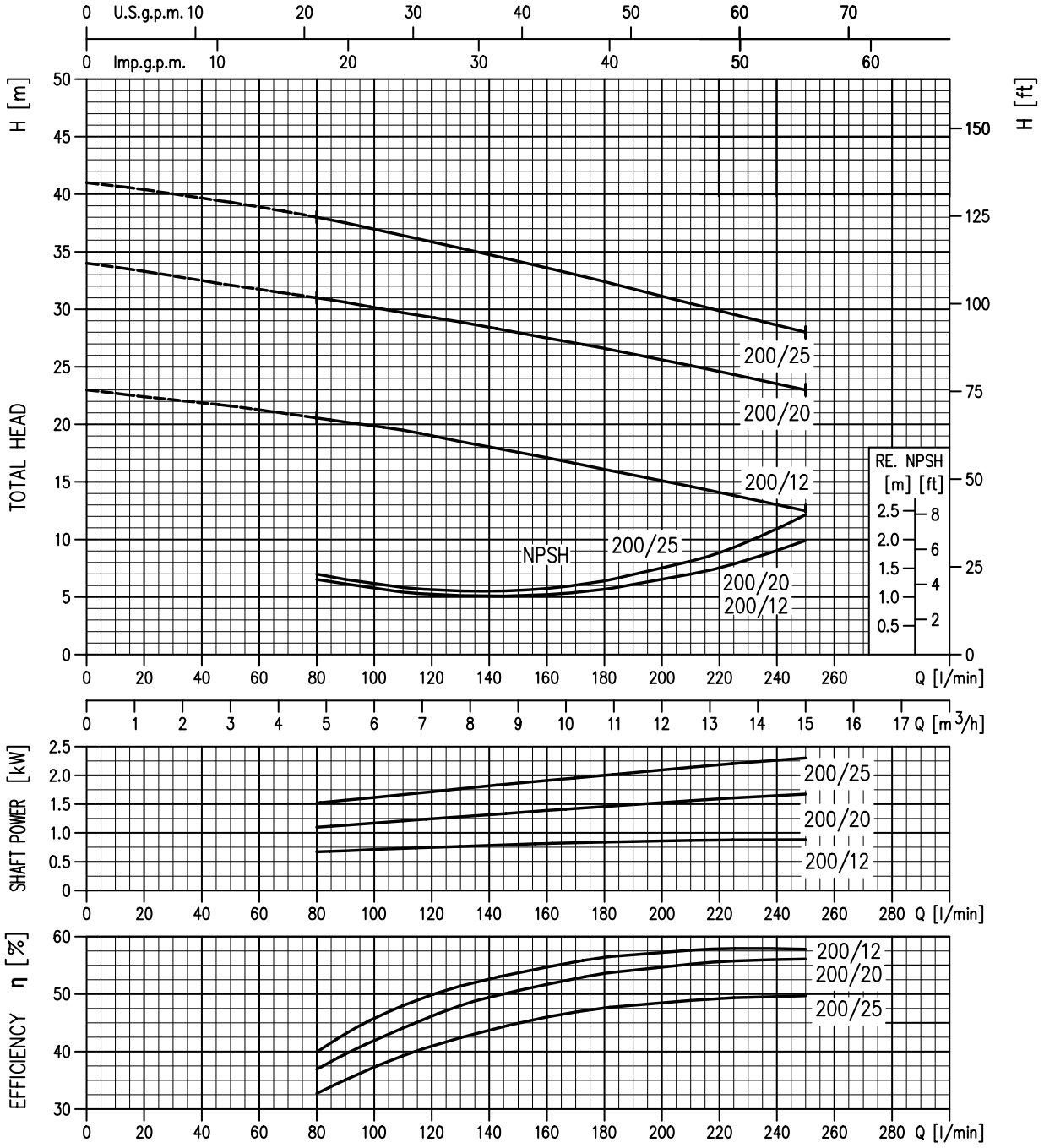


Rotation speed: ≈2800 min^{-1}
Test fluid: clean water at 20°C
Applicable standard of test: ISO 9906 – Annex A

CDX 200 PERFORMANCHE CURVES 50 Hz

Rev F

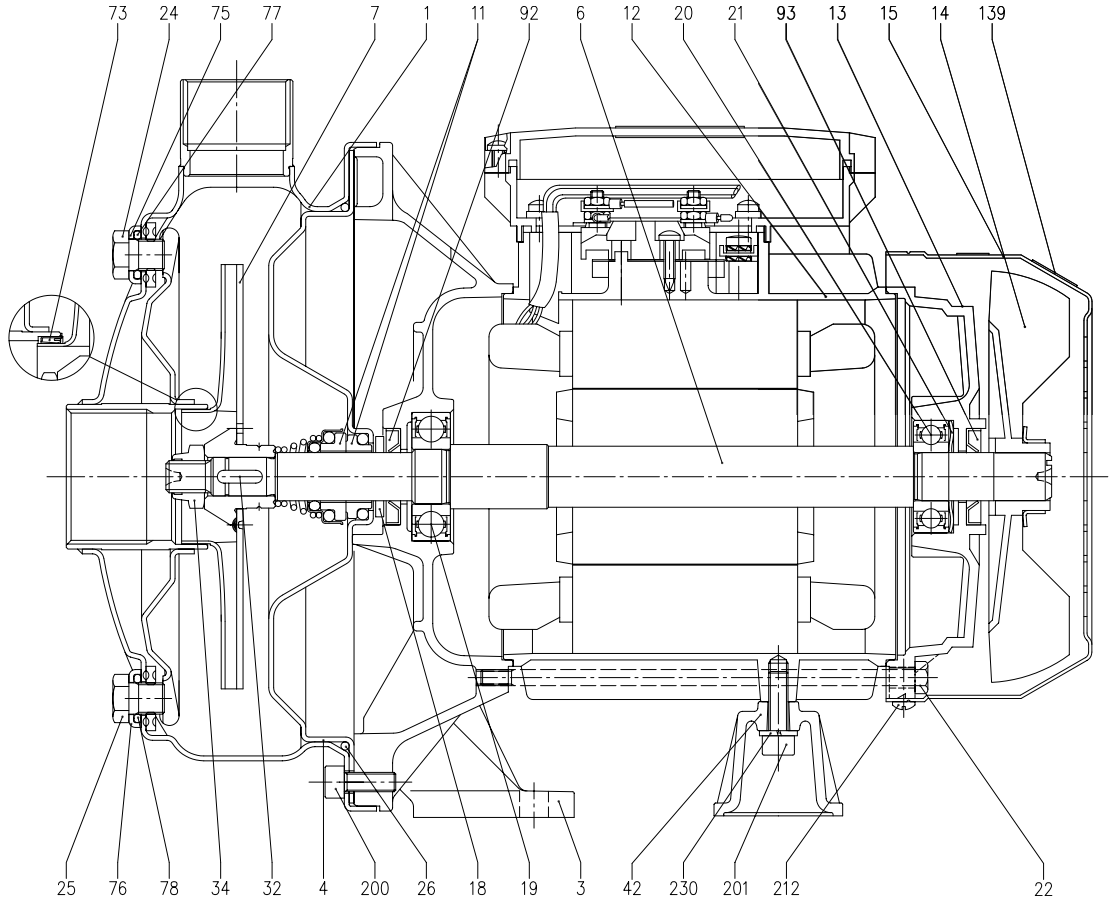
CDX 200/12 (0.9 kW) Impeller diameter = 132
CDX 200/20 (1.5 kW) Impeller diameter = 157
CDX 200/25 (1.8 kW) Impeller diameter = 176



Rotation speed: ≈2800 min^{-1}
Test fluid: clean water at 20°C
Applicable standard of test: ISO 9906 – Annex A

SECTIONAL VIEW 50 Hz

Rev F



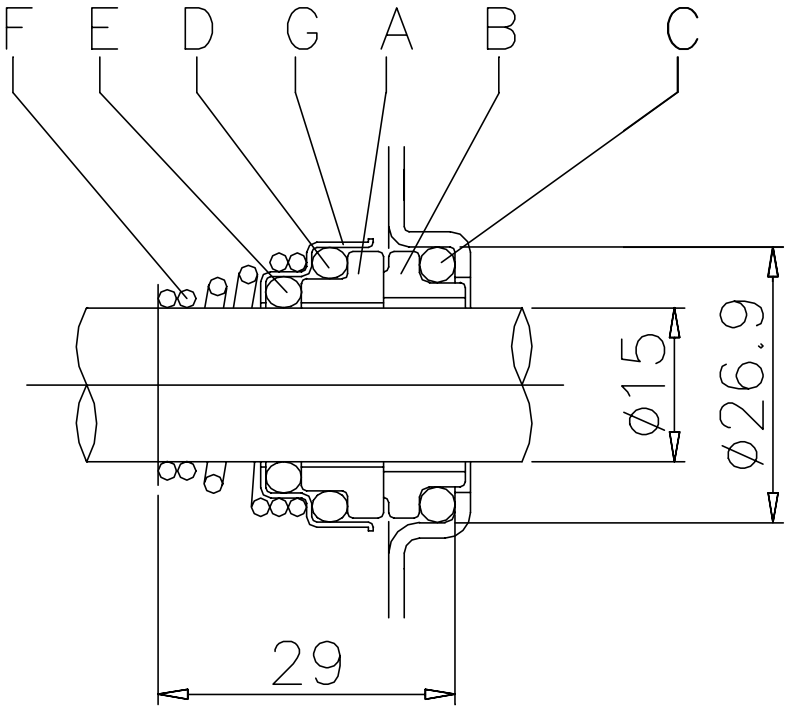
N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304	1	25	Drain plug	AISI 303	1
3	Motor bracket	Aluminium	1	26	O-ring [3]	NBR	1
4	Casing cover	AISI 304	1	32	Key	AISI 304	1
6	Shaft with rotor	AISI 303 (Part in contact with liquid)	1	34	Impeller nut	AISI 304	1
7	Impeller	AISI 304	1	42	Motor support	Aluminium	1
11	Mechanical seal [3]	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 [4]	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 42 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] NBR for :CDX 70/05, 70/07, 90/10
FPM for CDXH 70/05, 70/07, 90/10 and CDXHS 70/05, 70/07, 90/10

MECHANICAL SEAL

50 Hz

Rev F

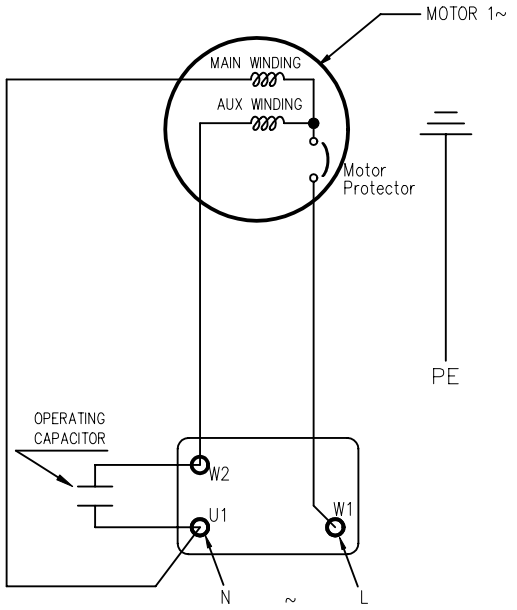


REF	PART NAME	MATERIAL		
		Standard version (CDX)	Optional (CDXH)	(CDXHS)
A	Rotary seal ring	Ceramic	Ceramic	Silicon carbide
B	Stationary seal ring	Carbon graphite	Carbon graphite	Silicon carbide
C	O Ring	NBR	FPM	FPM
D	O Ring	NBR	FPM	FPM
E	O Ring	NBR	FPM	FPM
F	Self driving spring	AISI 316	AISI 316	AISI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

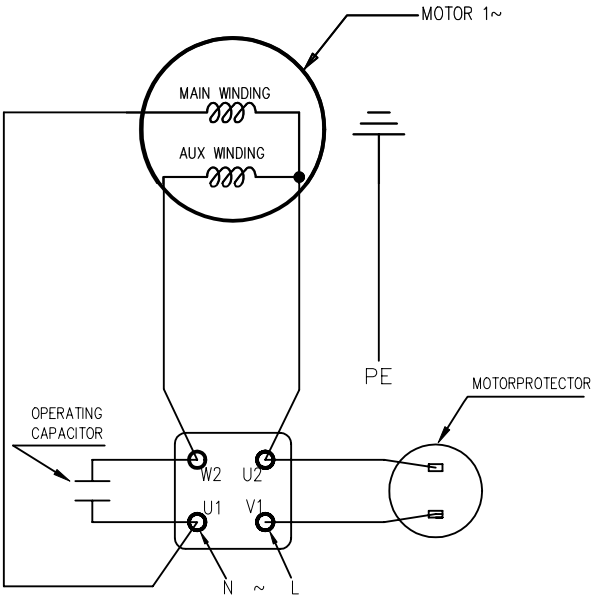
SINGLE PHASE DIAGRAM AND ELECTRIC CONNECTIONS 50 Hz

Rev F

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



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

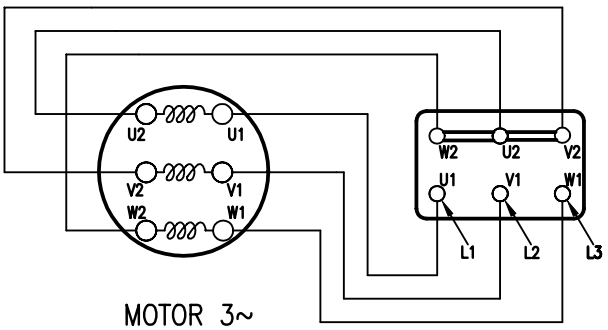


PUMP	MOTORPROTECTOR	
	INTERNAL	EXTERNAL
CDXM 70/05	X	
CDXM 70/07	X	
CDXM 90/10	X	
CDXM 120/07	X	
CDXM 120/12	X	
CDXM 120/20		X
CDXM 200/12	X	
CDXM 200/20		X

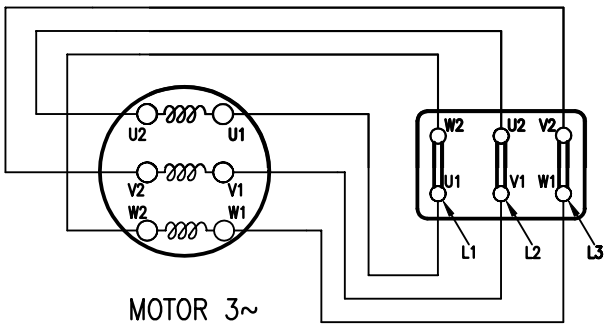
THREE PHASE DIAGRAM AND ELECTRIC CONNECTIONS 50 Hz

Rev F

STAR CONNECTION (400 V)



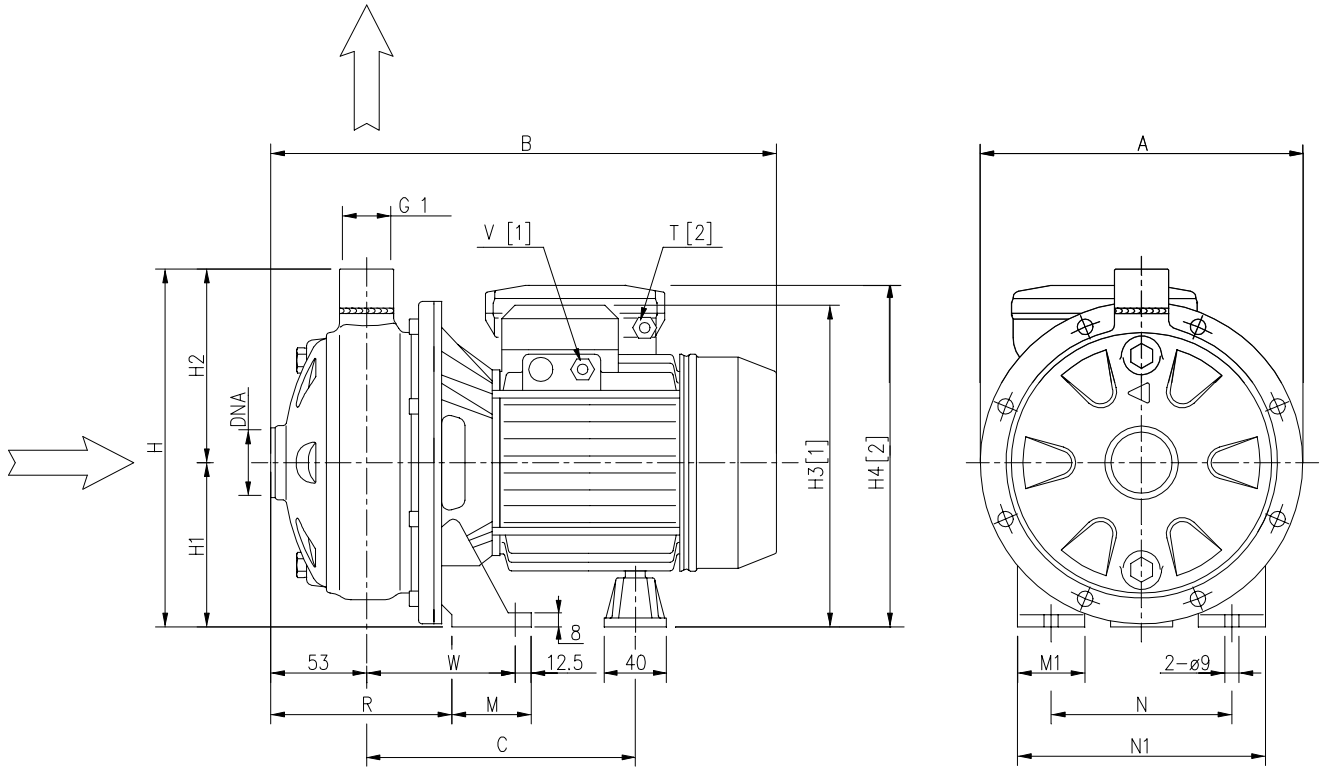
DELTA CONNECTION (230 V)



DIMENSIONS

50 Hz

Rev F



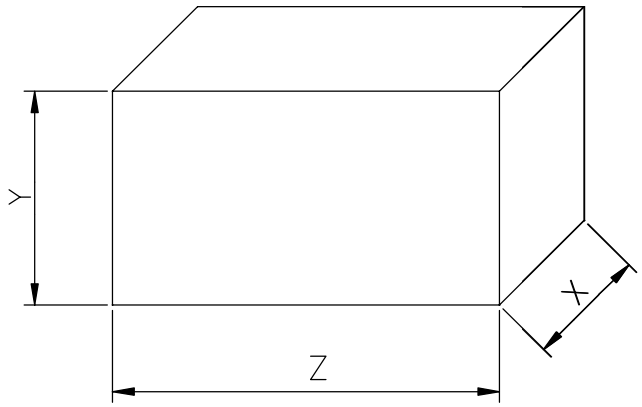
Pump type CDXM-CDX	Dimensions [mm]																
	A	B	C	H	H1	H2	H3	H4	M	M1	N	N1	R	T	V	W	DNA
70/05	208	321	182	229.5	106	123.5	208	216	50	38	120	160	108	PG11	PG11	93	G1 1/4
70/07	208	321	182	229.5	106	123.5	208	216	50	38	120	160	108	PG11	PG11	93	G1 1/4
90/10	208	321	182	229.5	106	123.5	208	216	50	38	120	160	108	PG11	PG11	93	G1 1/4
120/07	208	321	182	229.5	106	123.5	208	216	50	38	120	160	108	PG11	PG11	93	G1 1/4
120/12	208	321	182	229.5	106	123.5	208	216	50	38	120	160	108	PG11	PG11	93	G1 1/4
120/20	232	347	204	250	118	132	237	249	55	40	140	180	105.5	PG13.5	PG11	95	G1 1/4
200/12	208	321	182	229.5	106	123.5	208	216	50	38	120	160	108	PG13.5	PG11	93	G1 1/2
200/20	208	347	204	229.5	106	123.5	225	237	55	40	140	180	105.5	PG13.5	PG11	95	G1 1/2
200/25	232	347	204	250	118	132	237	-	55	40	140	180	105.5	-	PG11	95	G1 1/2

[1] Three phase
[2] Single phase

PACKING AND WEIGHT

50 Hz

Rev F



Type pumps		PACKING [mm]			WEIGHT [kg]	
Single Phase	Three Phase	X	Y	Z	Single Phase	Three Phase
CDXM 70/05	CDX 70/05	227	280	335	9.1	9.1
CDXM 70/07	CDX 70/07	227	280	335	10.4	10.4
CDXM 90/10	CDX 90/10	227	280	335	11.9	11.9
CDXM 120/07	CDX 120/07	227	280	335	10.4	10.4
CDXM 120/12	CDX 120/12	227	280	335	12.5	12.5
CDXM 120/20	CDX 120/20	245	315	360	17.2	16.2
CDXM 200/12	CDX 200/12	218	280	332	16.3	11.4
CDXM 200/20	CDX 200/20	250	315	375	15.3	14.2
-	CDX 200/25	245	305	380	-	17

TECHNICAL DATA 50 Hz

Rev F

Type pumps		Power		Locked rotor current			Capacitor		Power input [kW]		Full load current [A]		
Single Phase	Three Phase			Single Phase	Three Phase		Single Phase						
230 V	230/400 V	[kW]	[HP]	230 V	230 V	400 V	[µF]	Vc [V]	Single	Three	Single	Three Phase	
50 Hz	50 Hz			50 Hz	50 Hz	50 Hz			Phase	Phase	Phase	230 V	400 V
CDXM 70/05	CDX 70/05	0.37	0.5	10.1	10.7	6.15	12.5	450	0.7	0.7	3.1	2.4	1.4
CDXM 70/07	CDX 70/07	0.55	0.75	16.1	16.8	9.7	16	450	1	1	4.6	3.5	2
CDXM 90/10	CDX 90/10	0.75	1	22.7	24.1	13.9	20	450	1.2	1.1	5.6	4	2.3
CDXM 120/07	CDX 120/07	0.55	0.75	16.1	16.8	9.7	16	450	1	1	4.6	3.2	1.9
CDXM 120/12	CDX 120/12	0.9	1.2	25	28.2	16.3	31.5	450	1.6	1.6	6.9	5.2	3
CDXM 120/20	CDX 120/20	1.5	2	43	41.6	24	40	450	2.1	2.1	9.3	7	4
CDXM 200/12	CDX 200/12	0.9	1.2	25	28.2	16.3	31.5	450	1.4	1.3	6.3	4.7	2.7
CDXM 200/20	CDX 200/20	1.5	2	43	41.6	24	40	450	2.3	2.1	10.7	7	4
-	CDX 200/25	1.8	2.5	-	46.8	27	-	-	-	2.8	-	8.2	4.8

Type pumps		Ball Bearing	
Single Phase	Three Phase		
230 V	230/400 V	Pump side	Fan side
50 Hz	50 Hz		
CDXM 70/05	CDX 70/05	6203 ZZ	6202 ZZ
CDXM 70/07	CDX 70/07	6203 ZZ	6202 ZZ
CDXM 90/10	CDX 90/10	6203 ZZ	6202 ZZ
CDXM 120/07	CDX 120/07	6203 ZZ	6202 ZZ
CDXM 120/12	CDX 120/12	6203 ZZ	6202 ZZ
CDXM 120/20	CDX 120/20	6204 ZZ	6203 ZZ
CDXM 200/12	CDX 200/12	6203 ZZ	6202 ZZ
CDXM 200/20	CDX 200/20	6204 ZZ	6203 ZZ
-	CDX 200/25	6204 ZZ	6203 ZZ