



2CDX

**Twin Impeller
Stainless Steel
Centrifugal Pumps**



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V14

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Twin impeller centrifugal pumps with hydraulic components constructed in stainless steel AISI 304, suitable for pressure boosting, water supply, water treatment and irrigation. Air conditioning systems and general water pumping including moderately aggressive liquids

Features

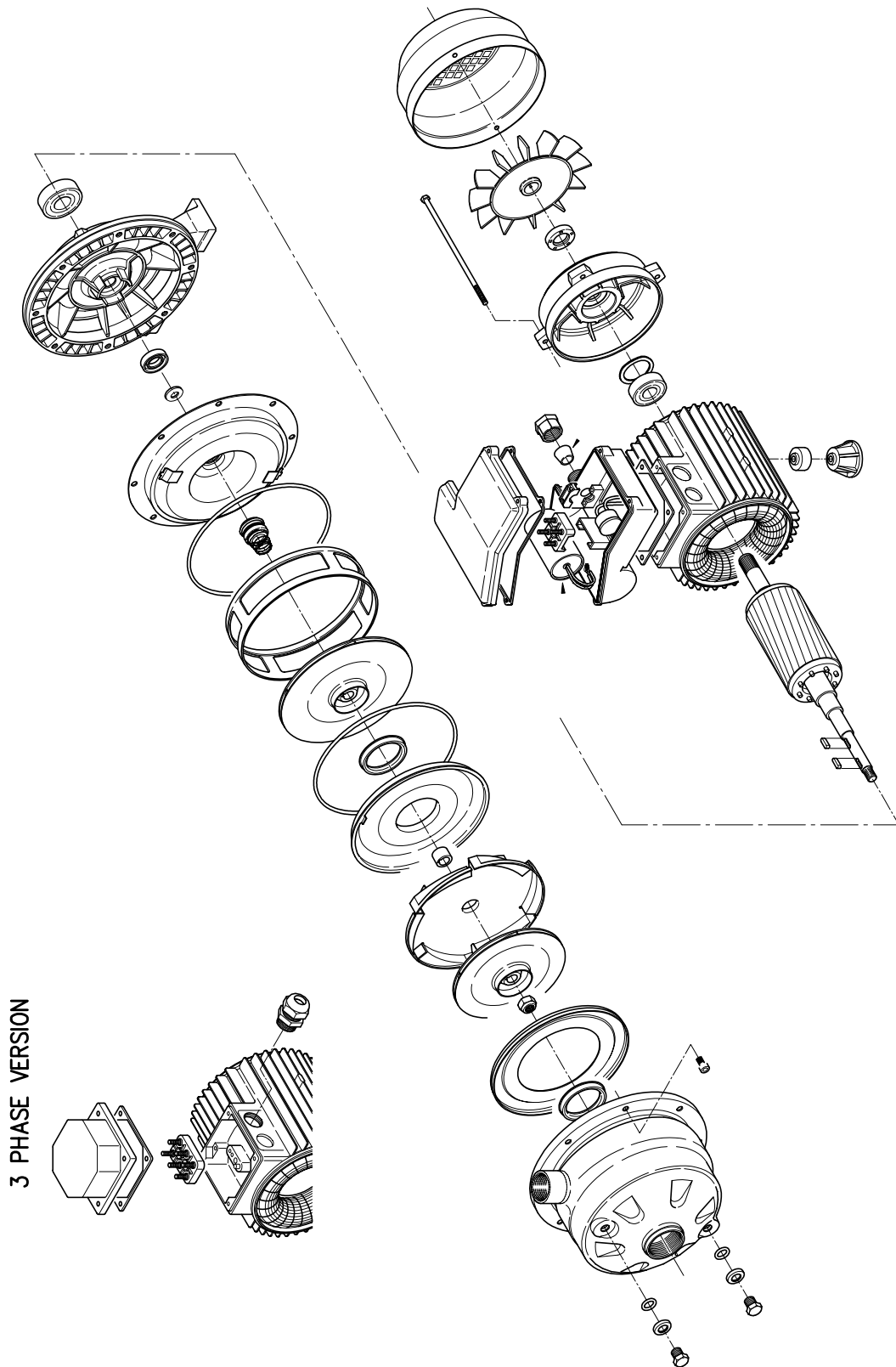
- Close coupled design
 - saves space; simplifies maintenance and installation
- Stainless steel liquid end components
 - high quality; corrosion resistance
- Back pullout construction
 - assembly and overhaul of the impeller and seal without disturbing suction and discharge connections
- Top centerline discharge and foot support under casing
 - ensures self-venting and reduces misalignment from pipe loads
- High operating efficiency
 - lowers operating costs
- High quality mechanical shaft seals and o-rings
 - available for standard pumping requirements or optional high temperature and chemical duty operation

Applications

- Plant services
- Water supply systems
- Washing plants
- Cooling water
- Air conditioning
- Sprinkler/flow irrigation
- OEM equipment application
- Pressure boosting
- Liquid transfer
- Heat exchanger
- Spray systems
- Heating
- Beverage processing
- Pharmaceutical services
- Water reclamation and treatment

SPECIFICATIONS - EX PLODED VIEW

50 Hz
V14



3 PHASE VERSION

SPECIFICATIONS

50 Hz

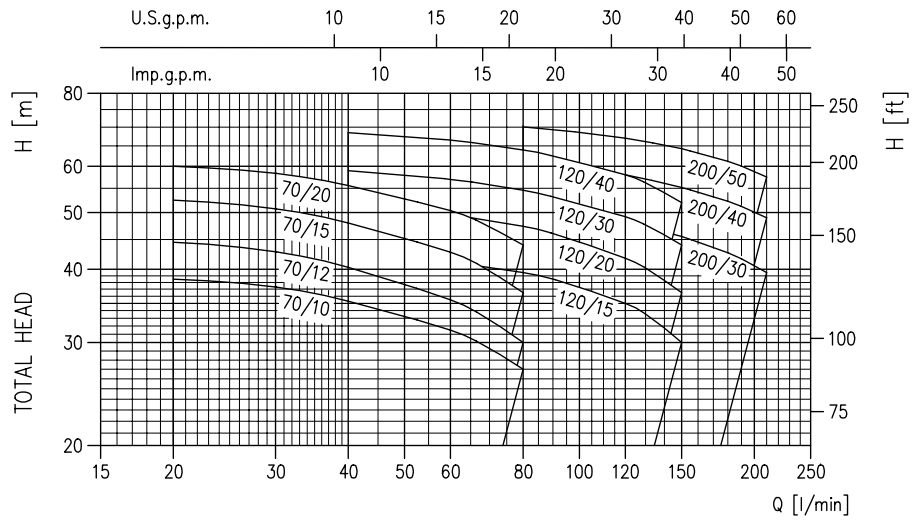
V14

PUMP		
Liquid Handled	Type of liquid	Clean water
	Temperature [°C]	min. -5 max. +60 max. +60 (E) max. +110 (H-HS)
Maximum working pressure	[MPa]	0.8
Construction	Impeller	Closed centrifugal type (Twin)
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction [inch]	from G 1 ¹ / ₄ to G 1 ¹ / ₂ (2CDX 200) UNI ISO 228
	Discharge [inch]	G 1" UNI ISO 228
Material	Casing	EN 1.4301 (AISI 304)
	Impeller	EN 1.4301 (AISI 304)
	Casing cover	EN 1.4301 (AISI 304)
	Shaft seal	Ceramic/Carbon/NBR (for 2CDX) Ceramic/Carbon/FPM (for 2CDXH) SiC/SiC/FPM (for 2CDXHS)
	Shaft	EN 1.4301 (AISI 304) (Wet extension)
	Bracket	Aluminium (up to 1.5 kW included) Cast iron (2.2 kW and above)
	Diffuser	EN 1.4301 (AISI 304)
Applicable standard of test		ISO 9906 – Annex A

MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
Efficiency level (Reg. 640/2009)	-	IE2 from 0.75 kW up to 4.0 kW
No. of Poles	2	
Rotation speed [min ⁻¹]	≈ 2800	
Insulation Class	F	
Protection degree (CEI EN 60034-5)	IP 55	
Power rating	[kW]	0.75 ÷ 2.2
	[HP]	1 ÷ 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	
Motor support	Aluminium	
Dimensions of cable entry	PG 11 – PG 13.5 – PG 16 (see dimensions page 400)	

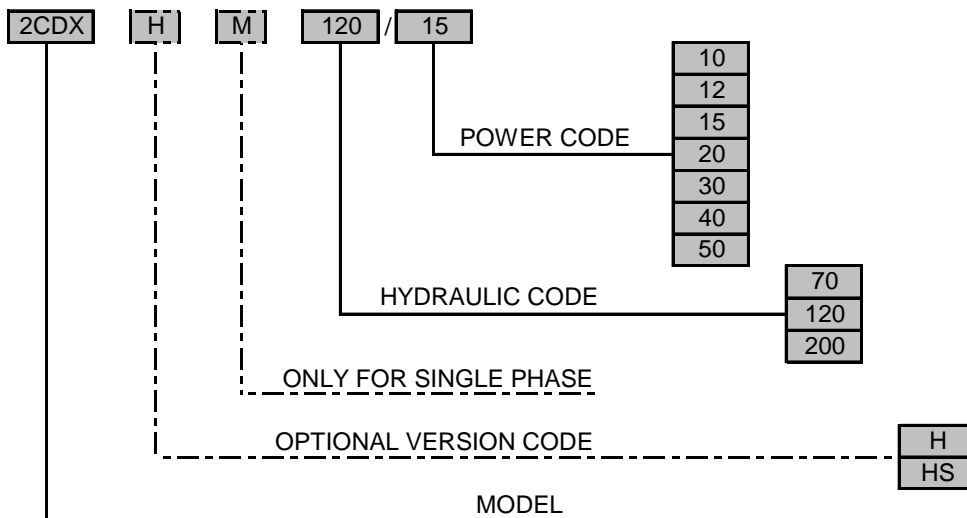
SPECIFICATIONS

50 Hz
V14



Type pumps		Power		Q=Capacity								
Single Phase	Three Phase	[kW]	[HP]	l/min	20	40	60	80	120	150	180	210
				m ³ /h	1.2	2.4	3.6	4.8	7.2	9.0	10.8	12.6
H=Total manometric head in meters												
2CDXM 70/10	2CDX 70/10	0.75	1	38.5	35.3	31.5	27	-	-	-	-	-
2CDXM 70/12	2CDX 70/12	0.9	1.2	44.5	40.3	35.5	30	-	-	-	-	-
2CDXM 70/15	2CDX 70/15	1.1	1.5	52.5	48	42.8	36.5	-	-	-	-	-
2CDXM 70/20	2CDX 70/20	1.5	2	60	55.6	50.4	44	-	-	-	-	-
2CDXM 120/15	2CDX 120/15	1.1	1.5	-	42	41	39.5	35	30	-	-	-
2CDXM 120/20	2CDX 120/20	1.5	2	-	51.5	49.5	47.4	41.8	36.5	-	-	-
-	2CDX 120/30	2.2	3	-	59	57	54.6	49.2	44	-	-	-
-	2CDX 120/40	3	4	-	68.5	66.5	64	58	52	-	-	-
-	2CDX 200/30	2.2	3	-	-	52	50.8	48.1	45.5	42.7	39.5	-
-	2CDX 200/40	3	4	-	-	62.5	61.1	58	55.2	52.3	49	-
-	2CDX 200/50	3.7	5.5	-	-	71.5	70.1	67	64.3	61.2	57.5	-

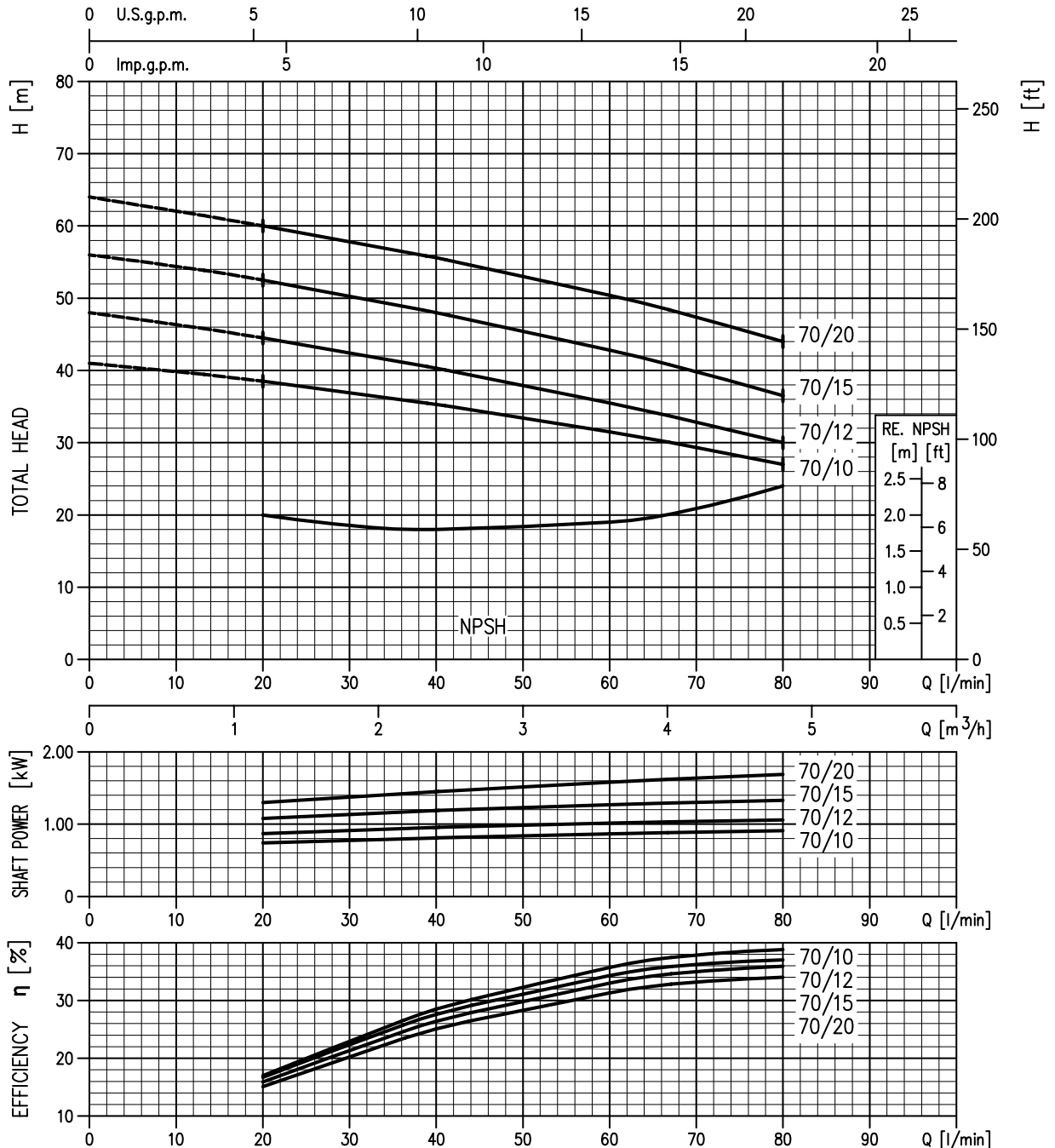
TYPE KEY:



2CDX 70 PERFORMANCE CURVES

50 Hz
V14

2CDX 70/10 (0.75 kW) Impeller diameter = 132/132
 2CDX 70/12 (0.90 kW) Impeller diameter = 153/132
 2CDX 70/15 (1.10 kW) Impeller diameter = 153/153
 2CDX 70/20 (1.50 kW) Impeller diameter = 153/176

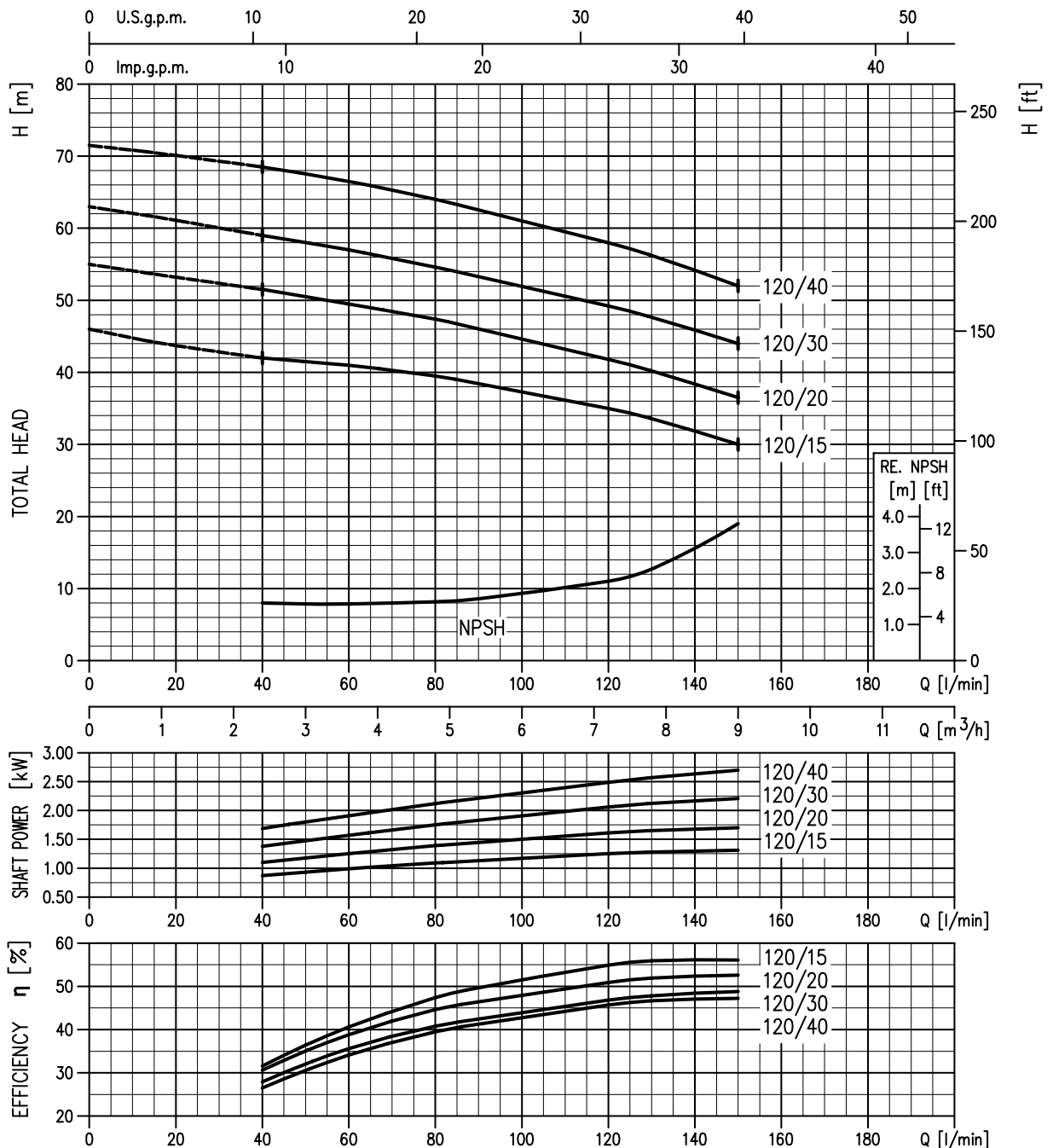


Rotation speed: $\approx 2800 \text{ min}^{-1}$
 Test fluid: clean water at 20°C
 Applicable standard of test: ISO 9906 – Annex A

2CDX 120 PERFORMANCE CURVES

50 Hz
V14

2CDX 120/15 (1.10 kW) Impeller diameter = 132/132
 2CDX 120/20 (1.50 kW) Impeller diameter = 157/132
 2CDX 120/30 (2.20 kW) Impeller diameter = 157/157
 2CDX 120/40 (3.00 kW) Impeller diameter = 176/157

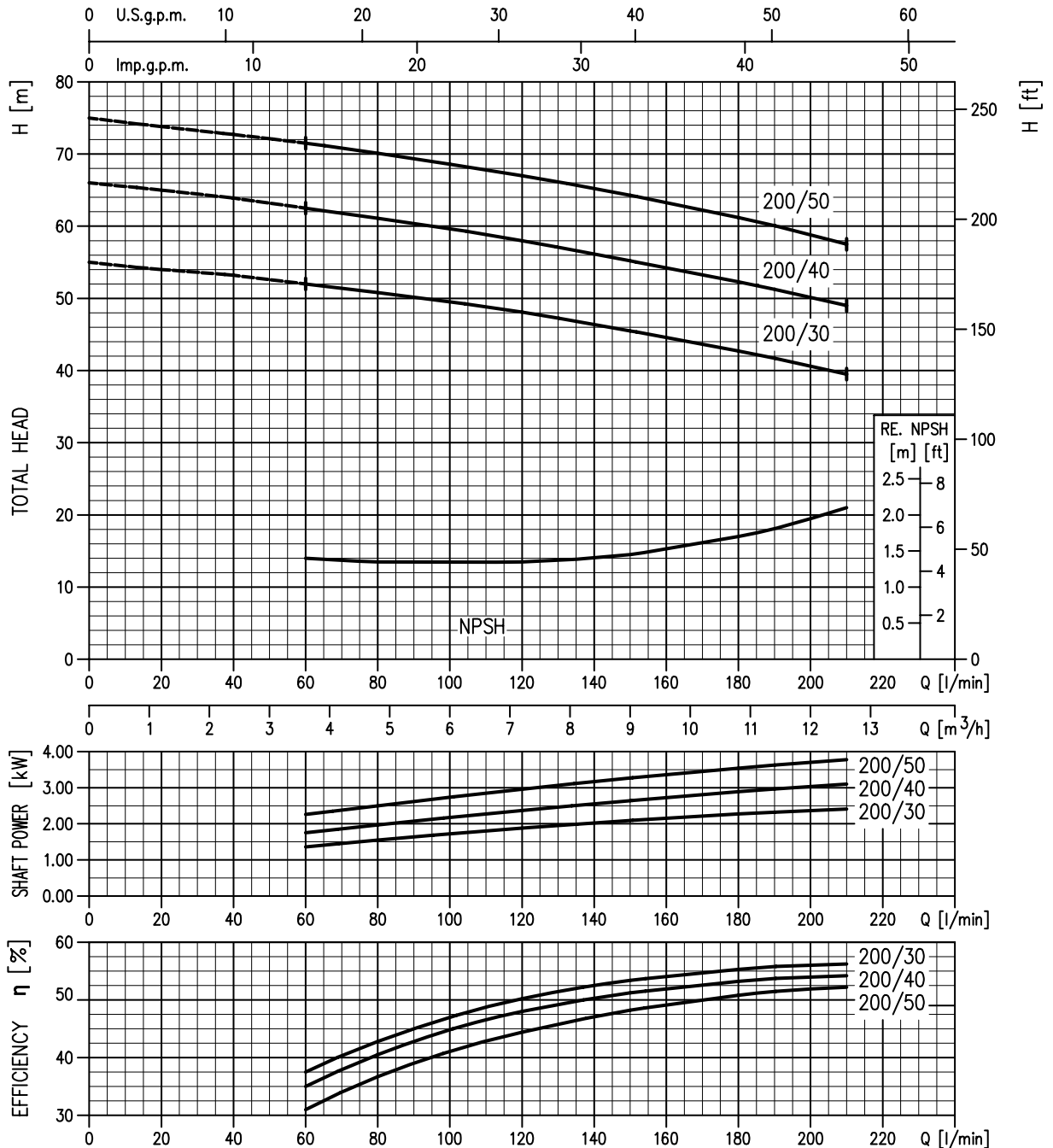


Rotation speed: $\approx 2800 \text{ min}^{-1}$
 Test fluid: clean water at 20°C
 Applicable standard of test: ISO 9906 – Annex A

2CDX 200 PERFORMANCE CURVES

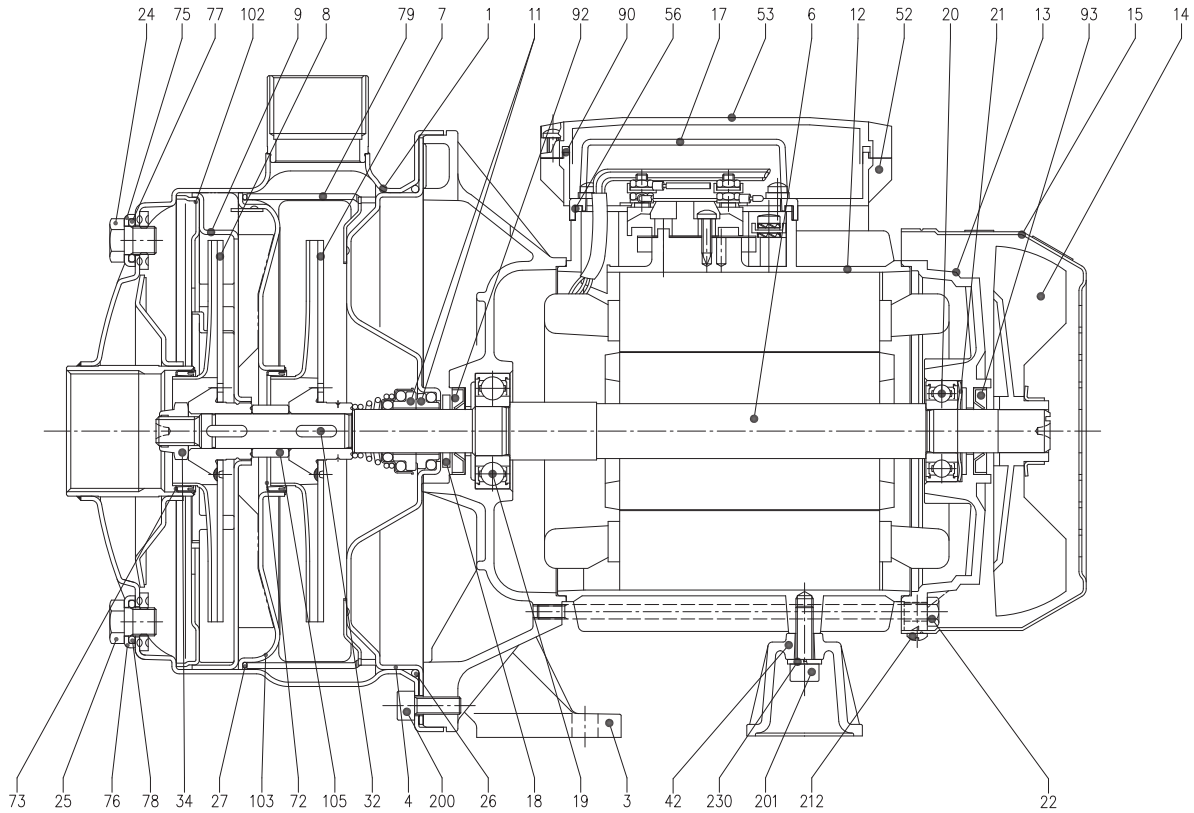
50 Hz
V14

2CDX 200/30 (2.20 kW) Impeller diameter = 157/132
 2CDX 200/40 (3.00 kW) Impeller diameter = 157/157
 2CDX 200/50 (3.70 kW) Impeller diameter = 176/157



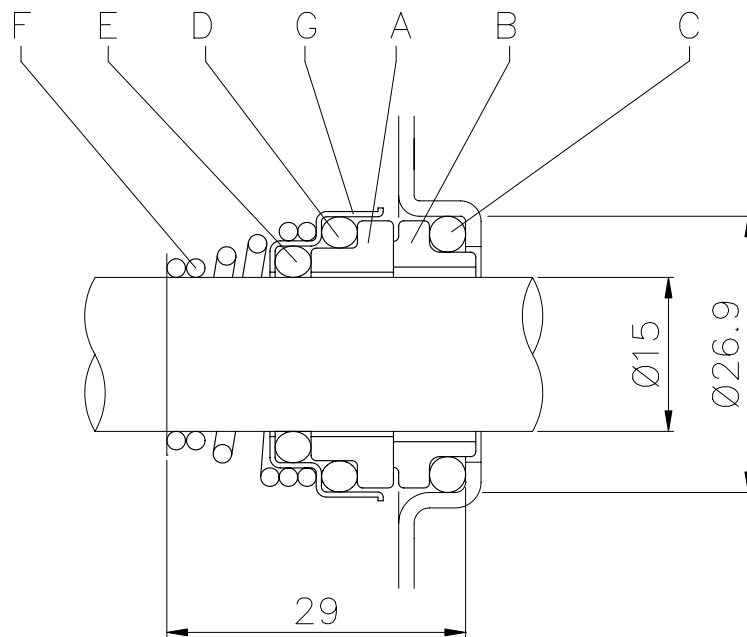
Rotation speed: $\approx 2800 \text{ min}^{-1}$
 Test fluid: clean water at 20°C
 Applicable standard of test: ISO 9906 – Annex A

SECTIONAL VIEW



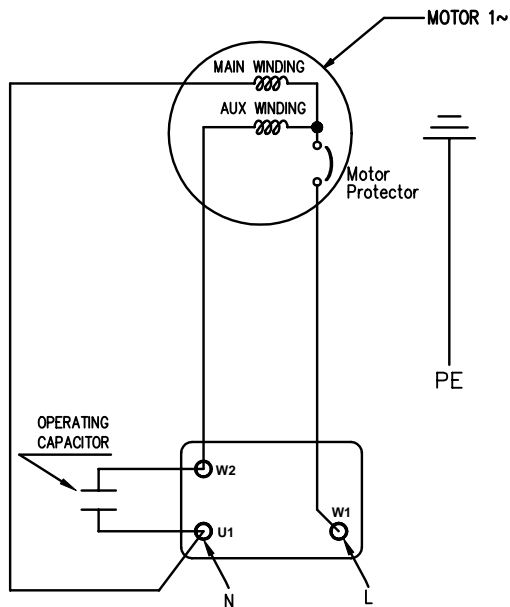
N°	PART NAME	MATERIAL	DIMENSION	STANDARD	Q.TY	N°	PART NAME	MATERIAL	DIMENSION	STANDARD	Q.TY
1	Casing	AISI 304			1	42	Motor support	Aluminium			1
3	Motor bracket	[4]			1	52	Capacitor box [1]	ABS			1
4	Casing cover	AISI 304			1	53	Capacitor box cover [1]	ABS			1
6	Shaft with rotor	AISI 304 (Wet extension)			1	56	Box gasket	NBR			1
7	Impeller	AISI 304			1	72	Casing ring [5]	NBR			1
8	Impeller	AISI 304			1	73	Casing ring [5]	NBR			1
9	Diffuser	AISI 304			1	75	Washer	AISI 304			1
11	Mechanical seal	Ceramic/Carbon/NBR	see page 301		1	76	Washer	AISI 304			1
12	Motor frame with stator	-			1	77	O-ring [3]	NBR			1
13	Motor cover	Aluminium			1	78	O-ring [3]	NBR			1
14	Fan	PA			1	79	Space diffuser	AISI 304			1
15	Fan cover	Fe P04 Galvanized			1	90	Terminal box cover gasket [1]	NBR			1
17	Terminal box cover [2]	Aluminium			1	92	Lip seal	NBR			1
18	Splash ring	NBR			1	93	Lip seal	NBR			1
19	Pump side ball bearing	-			1	102	Suction cover	AISI 304			1
20	Fan side ball bearing	-			1	103	Conveyor cover	AISI 304			1
21	Adjusting ring	Steel C70			1	105	Sieve	AISI 304			1
22	Tie rod	Fe 420 Galvanized			4						
24	Priming plug	AISI 304			1	200	Screw 70/10, 120/15, 120/20, 200/30 70/12, 70/15, 70/20, 120/30, 120/40, 200/40, 200/50	Stainless steel A2-70	M6X16	UNI 5931	8
25	Drain plug	AISI 304			1				M6X18		
26	O-ring [3]	NBR			1	201		Screw	Zn. Steel cl.8.8		UNI 5931
27	O-ring [3]	NBR			1	212	Screw	Stainless steel A2	3,5X9,5	UNI 6954	4
32	Key	AISI 316			2	230	Washer	Steel C70	6,4	UNI 1751	1
34	Impeller nut	Stainless steel A2-70	M10X1,25	UNI 7474	1						

- [1] Only for single phase
- [2] Only for three phase
- [3] FPM for H-HS
- [4] Material: Aluminium for version up to 1.5 kW included
Cast iron for version 2.2 kW and above
- [5] FPM for H-HS

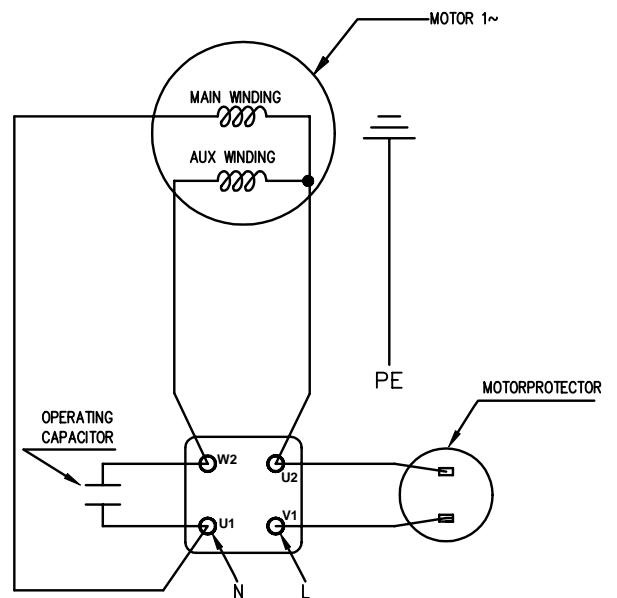


REF	PART NAME	MATERIAL		
		Standard version (2CDX)	Optional (2CDXH)	Optional (2CDXHS)
A	Rotary seal ring	Ceramic	Ceramic	Silicon carbide
B	Stationary seal ring	Carbon graphite	Carbon graphite	Silicon carbide
C	O Ring	NBR	FPM	FPM
D	O Ring	NBR	FPM	FPM
E	O Ring	NBR	FPM	FPM
F	Self driving spring	AISI 316	AISI 316	AISI 316
G	Frame	AISI 304	AISI 304	AISI 316

FOR MOTORS WITH LOCKED ROTOR CURRENT
UP TO 25 [A]
(INTERNAL MOTOR PROTECTOR)

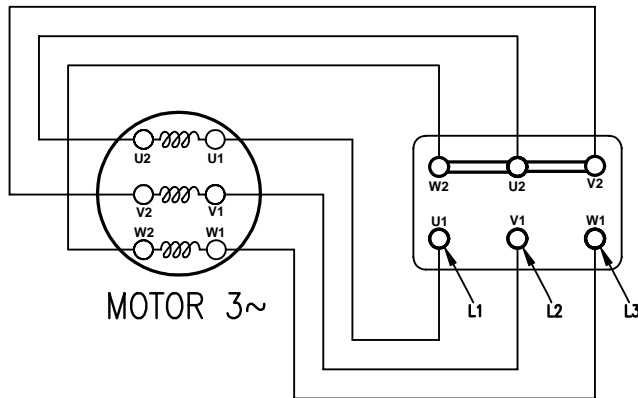


FOR MOTORS WITH LOCKED ROTOR CURRENT
OVER 25 [A]
(INTERNAL MOTOR PROTECTOR)

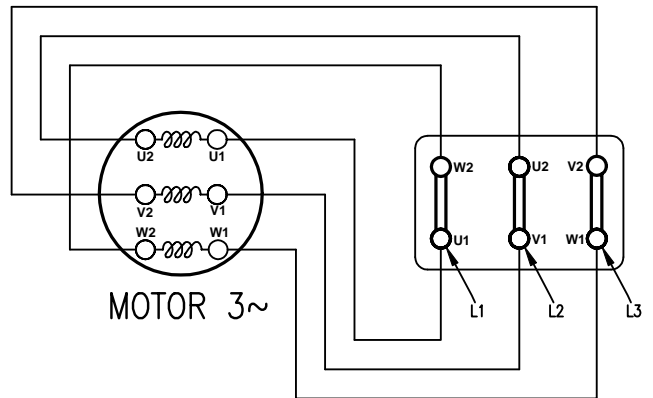


PUMP	MOTORPROTECTOR	
	INTERNAL	EXTERNAL
2CDXM 70/10	X	
2CDXM 70/12	X	
2CDXM 70/15		X
2CDXM 70/20		X
2CDXM 120/15		X
2CDXM 120/20		X

STAR CONNECTION

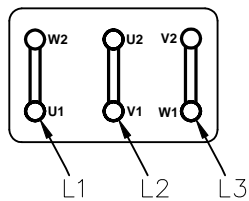


DELTA CONNECTION

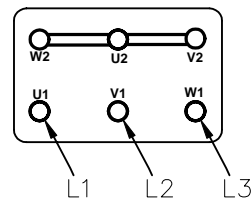


FOR MOTOR 4 kW AND BELOW

DELTA CONNECTION 230 V

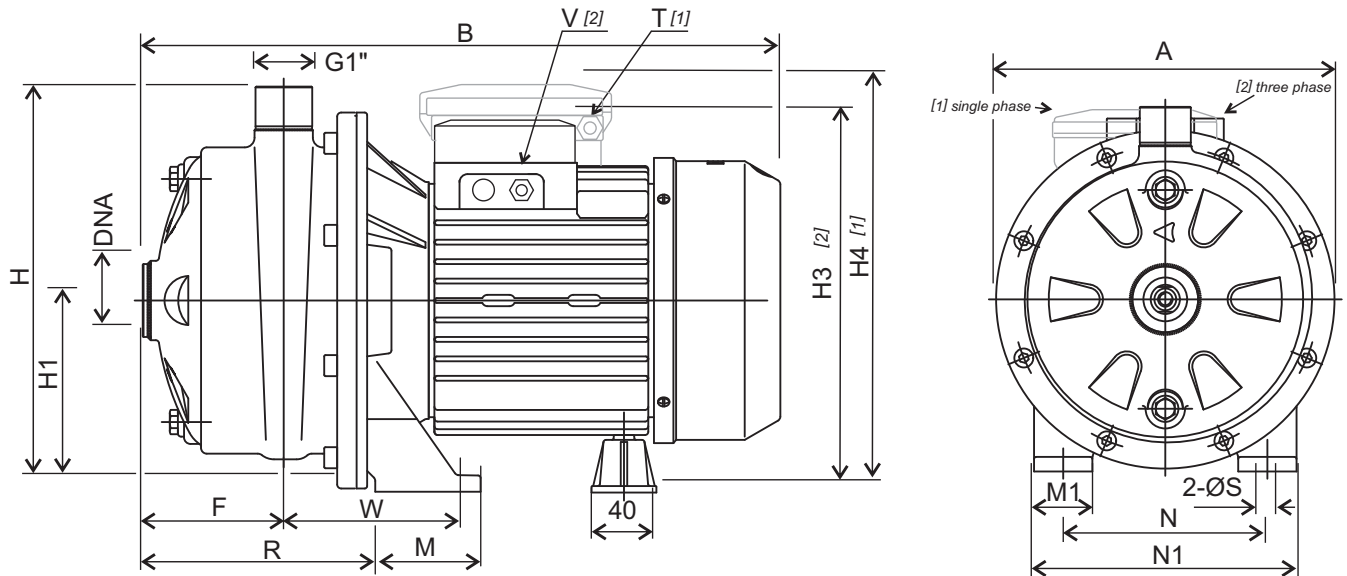


STAR CONNECTION 400 V



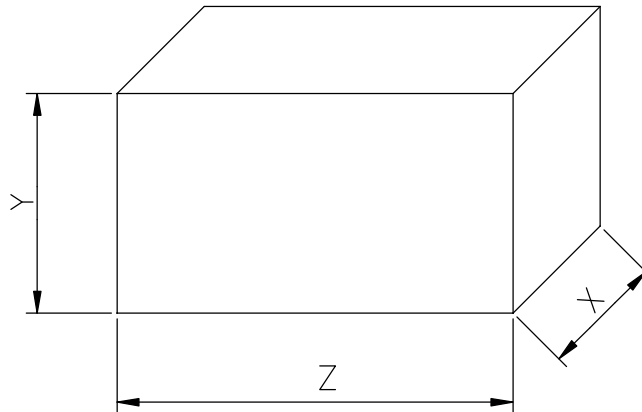
DIMENSIONS

50 Hz
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Pump Model 2CDXM 2CDX	Dimensions																Approx. Weight kg	
	A	B [1] [2]	F	H	H1	H3 [2]	H4 [1]	M	M1	N	N1	R	T [1]	V [2]	W	S		DNA (m)
70/10	208	355 / 354	87	229	106	207	216	50	38	120	160	143	PG 11	PG 11	93	9	G1¼	13
70/12	208	355 / 366	87	229	106	207	235	50	38	120	160	143	PG 13.5	PG 11	93	9	G1¼	14
70/15	232	396 / 382	89	250	118	237	249	55	40	140	180	142	PG 13.5	PG 11	95	9	G1¼	18
70/20	232	383 / 395	89	250	118	237	249	55	40	140	180	142	PG 13.5	PG 11	95	9	G1¼	19
120/15	208	396 / 382	89	229	106	225	237	55	40	140	180	142	PG 13.5	PG 11	95	9	G1¼	16
120/20	208	383 / 395	89	229	106	225	237	55	40	140	180	142	PG 13.5	PG 11	95	9	G1¼	18
120/30	232	- / 419	87	250	118	242	-	65	40	140	180	144	-	PG 13.5	109	9	G1¼	26
120/40	232	- / 458	87	250	118	242	-	65	40	140	180	144	-	PG 13.5	109	9	G1¼	28
200/30	208	- / 458	87	229	106	230	-	65	40	140	180	144	-	PG 13.5	109	9	G1½	26
200/40	232	- / 458	87	250	118	242	-	65	40	140	180	144	-	PG 13.5	109	9	G1½	28
200/50	232	- / 481	87	250	118	259	-	68	50	160	210	144	-	PG 16	109	12	G1½	36

PACKING



Pump type		Packing [mm]								Weight [kgf]	
Single Phase	Three Phase	X		Y		Z		[1-]	[3-]	[1-]	[3-]
		[1-]	[3-]	[1-]	[3-]	[1-]	[3-]				
2CDXM 70/10	2CDX 70/10	225	225	278	278	373	387	13.3	13.3		
2CDXM 70/12	2CDX 70/12	225	244	278	308	387	427	13.9	14.6		
2CDXM 70/15	2CDX 70/15	244	244	308	308	427	427	18.4	17.8		
2CDXM 70/20	2CDX 70/20	244	244	308	308	427	427	19.5	20.1		
2CDXM 120/15	2CDX 120/15	244	244	308	308	427	427	17	16.4		
2CDXM 120/20	2CDX 120/20	244	244	308	308	427	427	17.7	18.4		
-	2CDX 120/30	-	244	-	308	-	427	-	25.8		
-	2CDX 120/40	-	244	-	313	-	507	-	28.8		
-	2CDX 200/30	-	244	-	313	-	507	-	27.6		
-	2CDX 200/40	-	244	-	313	-	507	-	28.6		
-	2CDX 200/50	-	244	-	313	-	507	-	37.5		

[1-] Single phase
[3-] Three phase

TECHNICAL DATA

50 Hz
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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 [μF]	[V]	Three phase η %			Single Phase	Three Phase	[A]			[A]		
								50%	75%	100%			Single Phase	Three Phase	230 V	230 V	400 V	Single Phase
2CDXM 70/10	2CDX 70/10	0.75	1.0	-	IE2	20	450	77.2	80.9	81.3	1.30	1.14	6.0	3.6	2.0	22.7	22.0	12.9
2CDXM 70/12	2CDX 70/12	0.9	1.2	-	IE2	31.5	450	79.0	81.7	81.6	1.55	1.35	7.0	4.3	2.5	25.5	31.0	17.8
2CDXM 70/15	2CDX 70/15	1.1	1.5	-	IE2	40	450	79.7	82.5	83.0	1.80	1.80	8.1	5.6	3.2	43.0	45.0	25.7
2CDXM 70/20	2CDX 70/20	1.5	2.0	-	IE2	40	450	80.3	83.4	83.8	2.30	2.28	10.0	7.4	4.3	43.0	34.3	20.0
2CDXM 120/15	2CDX 120/15	1.1	1.5	-	IE2	40	450	79.7	82.5	83.0	1.80	1.80	8.3	5.6	3.2	43.0	45.0	25.7
2CDXM 120/20	2CDX 120/20	1.5	2.0	-	IE2	40	450	80.3	83.4	83.8	2.35	2.28	10.2	7.3	4.2	43.0	34.3	20.0
-	2CDX 120/30	2.2	3.0	-	IE2	-	-	83.1	85.7	86.2	-	2.90	-	8.8	5.1	-	75.0	43.5
-	2CDX 120/40	3.0	4.0	-	IE2	-	-	85.0	86.7	86.3	-	3.48	-	10.6	6.1	-	100.0	57.7
-	2CDX 200/30	2.2	3.0	-	IE2	-	-	85.0	86.7	86.3	-	3.48	-	10.6	6.1	-	100.0	57.7
-	2CDX 200/40	3.0	4.0	-	IE2	-	-	85.0	86.7	86.3	-	3.83	-	11.6	6.7	-	100.0	57.7
-	2CDX 200/50	3.7	5.0	-	IE2	-	-	84.3	87.2	87.8	-	4.56	-	15.1	8.7	-	151.0	87.0

NOISE DATA

Pump type		Power		L _{pA} - dB(A) *
Single Phase	Three Phase	[kW]	[HP]	
2CDXM 70/10	2CDX 70/10	0.75	1.0	62
2CDXM 70/12	2CDX 70/12	0.9	1.2	
2CDXM 70/15	2CDX 70/15	1.1	1.5	
2CDXM 70/20	2CDX 70/20	1.5	2.0	64
2CDXM 120/15	2CDX 120/15	1.1	1.5	
2CDXM 120/20	2CDX 120/20	1.5	2.0	
-	2CDX 120/30	2.2	3.0	68
-	2CDX 120/40	3.0	4.0	
-	2CDX 200/30	2.2	3.0	
-	2CDX 200/40	3.0	4.0	
-	2CDX 200/50	3.7	5.0	

* Mean value of several measures at 1m distance around the pump.

Tolerance ± 2.5 dB.

BEARINGS

Pump type		Ball Bearing	
Single Phase	Three Phase	Pump side	Fan side
2CDXM 70/10	2CDX 70/10	6203 2RSH	6202 2RSH
2CDXM 70/12	2CDX 70/12	6203 2RSH	6202 2RSH
2CDXM 70/15	2CDX 70/15	6204 2RSH	6203 2RSH
2CDXM 70/20	2CDX 70/20	6204 2RSH	6203 2RSH
2CDXM 120/15	2CDX 120/15	6204 2RSH	6203 2RSH
2CDXM 120/20	2CDX 120/20	6204 2RSH	6203 2RSH
-	2CDX 120/30	6305 2RSH	6205 2RSH
-	2CDX 120/40	6305 2RSH	6205 2RSH
-	2CDX 200/30	6205 2RSH	6205 2RSH
-	2CDX 200/40	6305 2RSH	6205 2RSH
-	2CDX 200/50	6206 2RSH	6205 2RSH