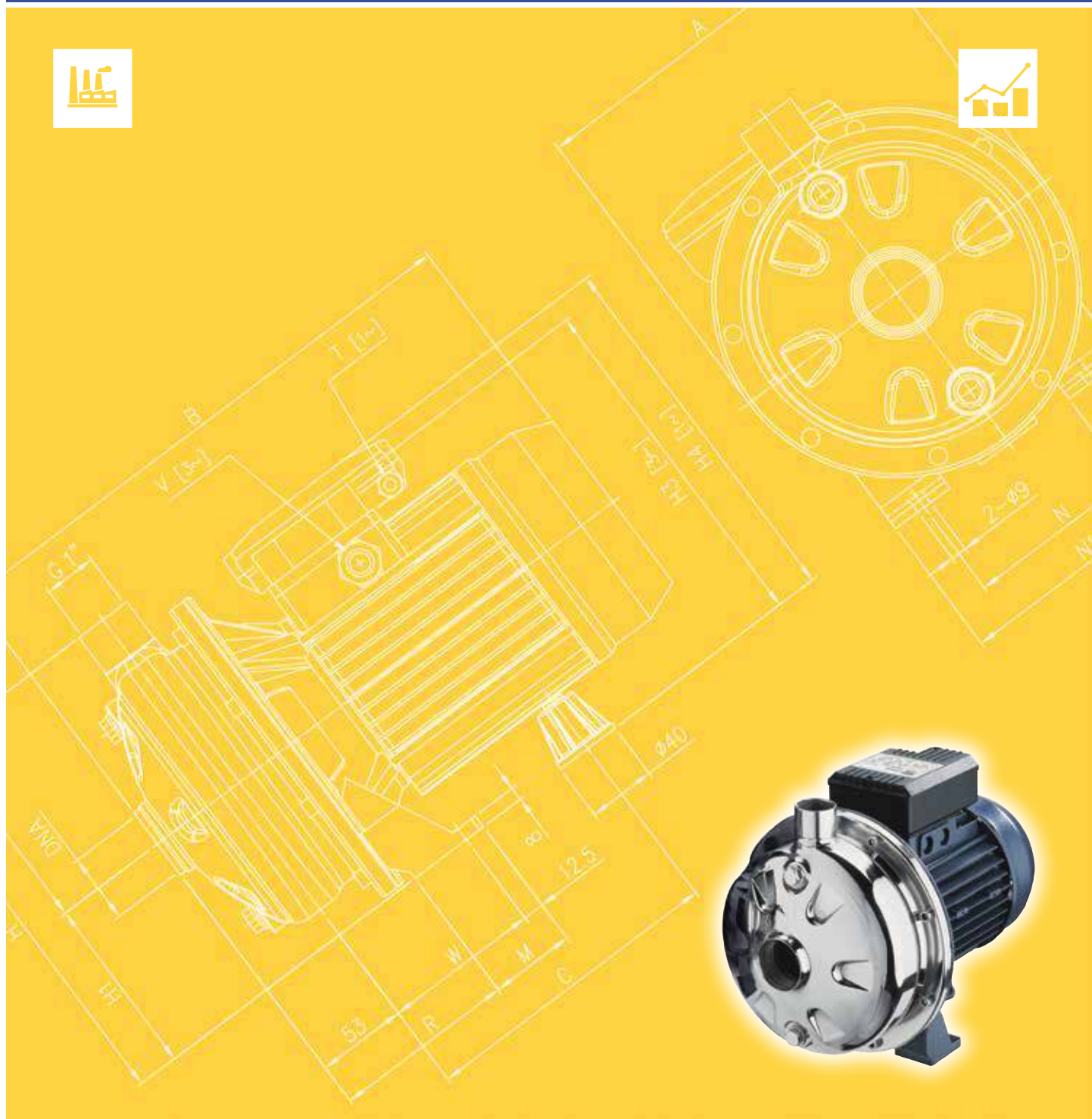




Japanese Technology since 1912

CDX

Data Book 50Hz



SPECIFICATIONS

50Hz

Rev. R

PUMP		
Liquid Handled	Type of liquid	Clean water
	Temperature [°C]	min. -5 max. +60 only for model 70/05, 70/07, 90/10 max. +60 for model 70/05, 70/07, 90/10 version: E, Q1AEGG, VAEGG, U3U3EGG, Q1U3EGG, U3CEGG max. +90 max. +110 H – HS - HW - HSW max. +120 E, Q1AEGG, VAEGG, U3U3EGG, Q1U3EGG, U3CEGG
Maximum working pressure [MPa]		0.8
Construction	Impeller	Closed centrifugal type
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	from G1" ¹ / ₄ to G1" ¹ / ₂ UNI ISO 228-1
	Discharge	G1" UNI ISO 228-1
Material	Casing	EN 1.4301 (AISI 304) - (AISI 316L only for "L" version)
	Impeller	EN 1.4301 (AISI 304) - (AISI 316L only for "L" version)
	Casing cover	EN 1.4301 (AISI 304) - (AISI 316L only for "L" version)
	Shaft seal	Ceramic/Carbon/NBR (for special versions see page 303)
	Shaft	AISI 303 / AISI 316L (Wet extension)
	Bracket	Aluminium
Applicable standard of test		ISO 9906:2012 – Grade 3B

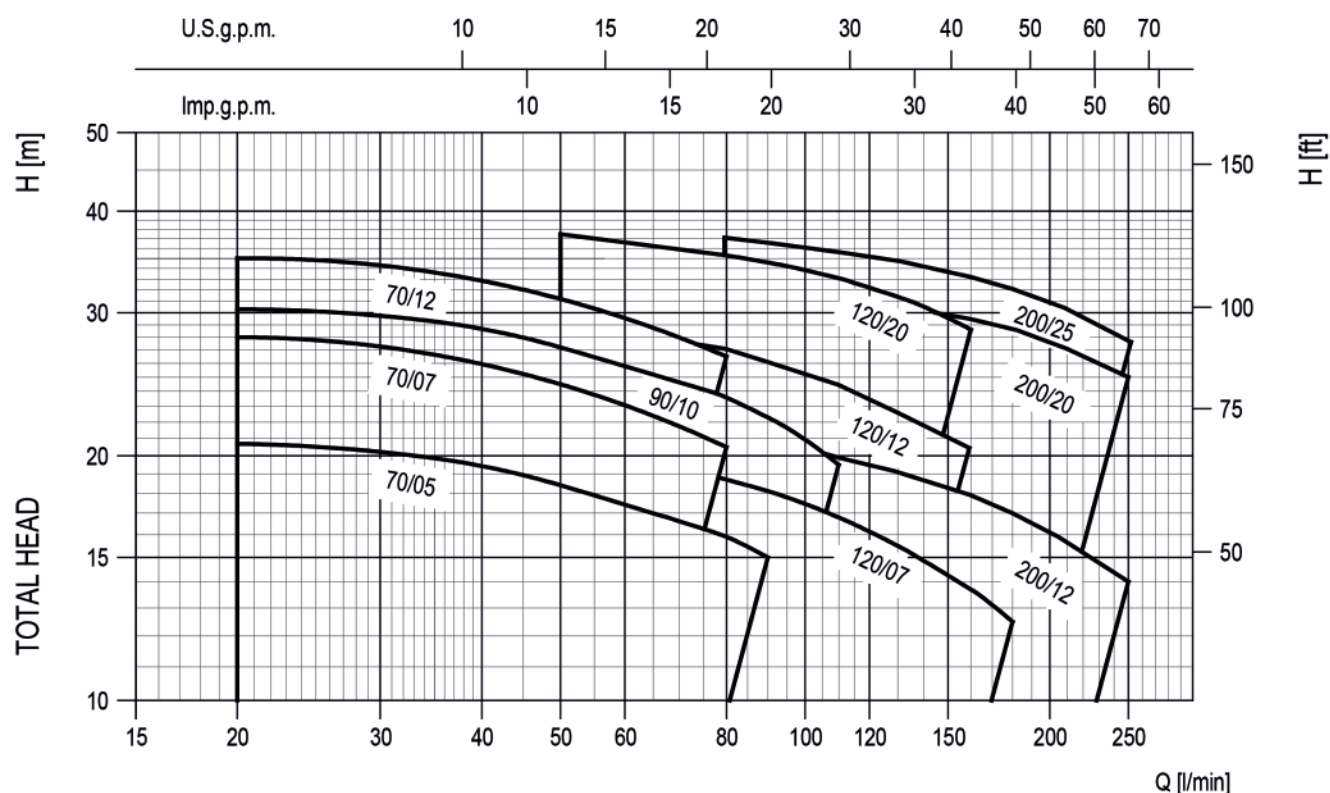
MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
Efficiency level (Reg. 1781/2019)	-	IE3
No. of Poles	2	
Rotation speed [min ⁻¹]	≈ 2800	
Insulation Class	F	
Protection degree (CEI EN 60034-5)	IP 55	
Power rating	0.37 ÷ 1.5	0.37 ÷ 1.8
	[kW]	[HP]
Frequency	0.5 ÷ 2	0.5 ÷ 2.5
	[Hz]	
Voltage	230 ±10%	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 - M16x1.5 – M20x1.5 (see dimensions table page 400)	

PERFORMANCE RANGE and SELECTION CHART

50Hz

Rev. R

PERFORMANCE RANGE



SELECTION CHART

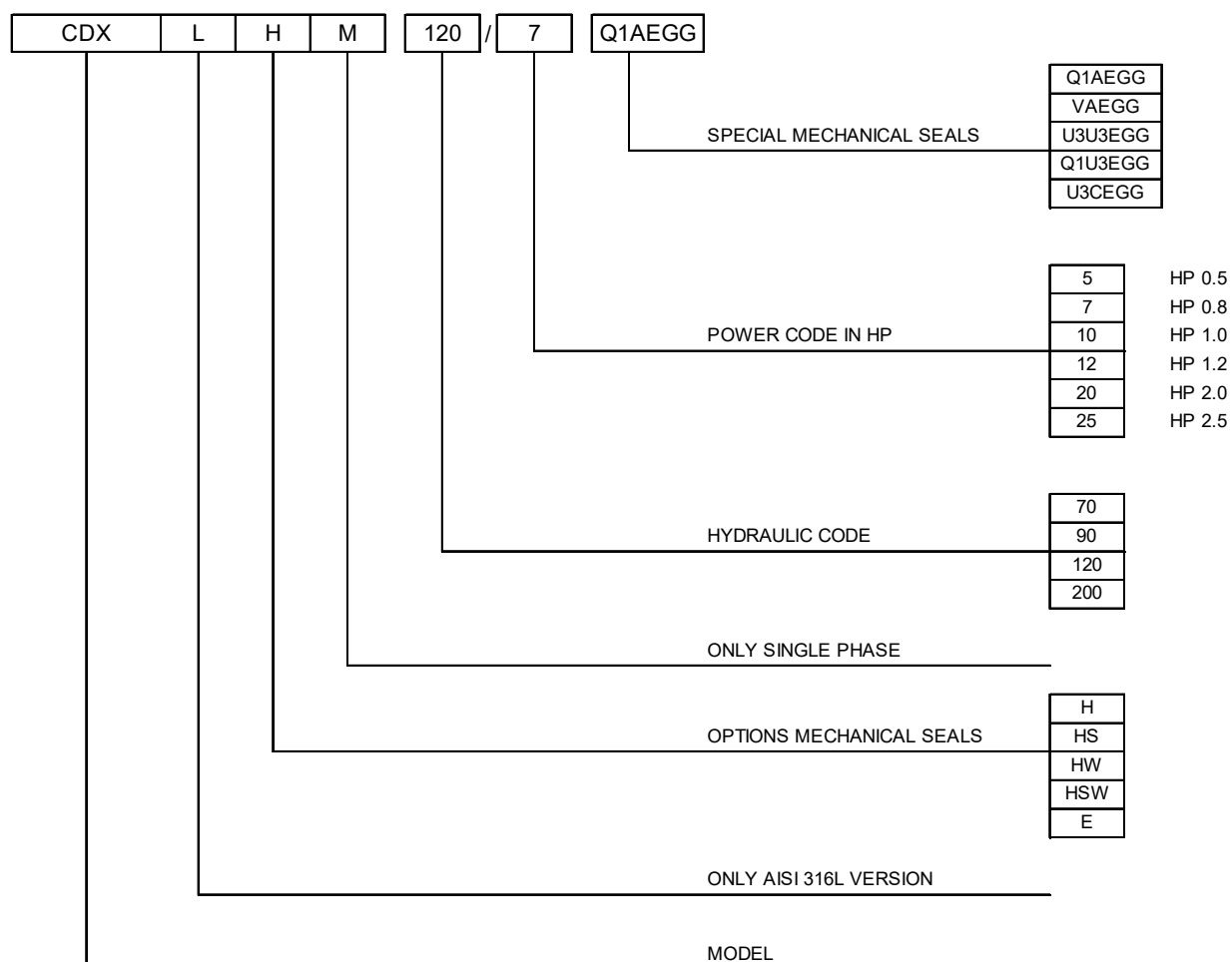
Pump Type		Power		Q=Capacity												
				l/min	0	20	50	80	90	110	130	160	180	210	250	
Single Phase	Three Phase	[kW]	[HP]	m³/h	0	1.2	3	4.8	5.4	6.6	7.8	9.6	10.8	12.6	15	
				H=Total manometric head in meters												
CDXM 70/05	CDX 70/05	0.37	0.5	22	20.7	18.4	15.9	15	-	-	-	-	-	-	-	
CDXM 70/07	CDX 70/07	0.55	0.75	30	28	24.5	20.5	-	-	-	-	-	-	-	-	
CDXM 90/10	CDX 90/10	0.75	1	32	30.3	27.2	23.6	22.3	19.5	-	-	-	-	-	-	
CDXM 120/07	CDX 120/07	0.55	0.75	22.5	-	20.5	18.7	18.1	16.8	15.5	13.7	12.5	-	-	-	
CDXM 120/12	CDX 120/12	0.9	1.2	31.2	-	29.3	27.5	26.8	25.2	23.6	21	-	-	-	-	
CDXM 120/20	CDX 120/20	1.5	2	40.5	-	37.5	35.3	34.6	33.1	31.4	28.6	-	-	-	-	
CDXM 200/12	CDX 200/12	0.9	1.2	22.8	-	-	21.3	21	20.4	19.7	18.5	17.6	16	14	-	
CDXM 200/20	CDX 200/20	1.5	2	33	-	-	31.5	31.2	30.6	30	28.7	27.9	26.5	24.5	-	
-	CDX 200/25	1.8	2.5	39.4	-	-	36.8	36.5	35.6	34.7	33.3	32	30	27.2	-	

TYPE KEY and CURVE SPECIFICATIONS

50Hz

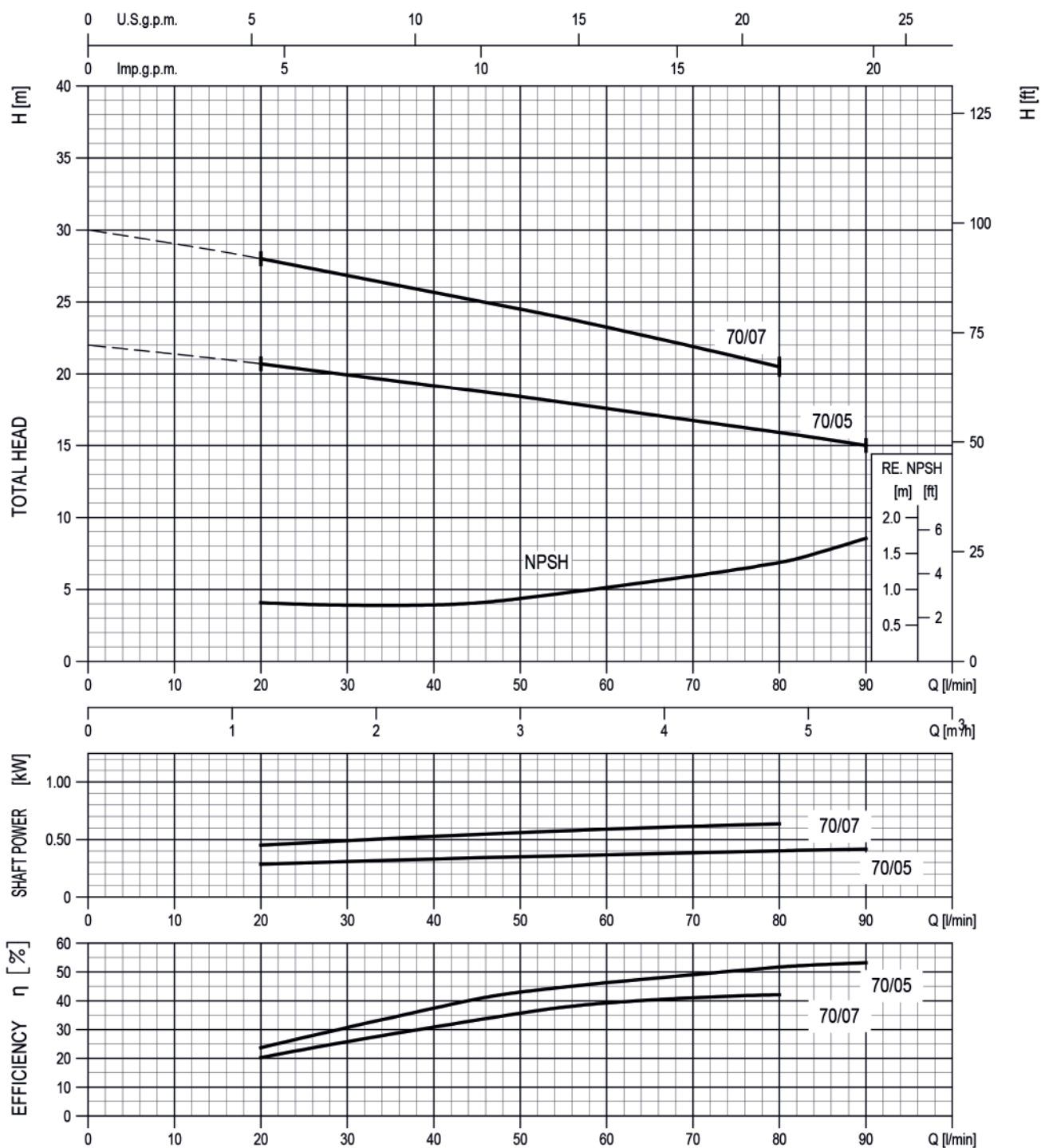
Rev. R

TYPE KEY



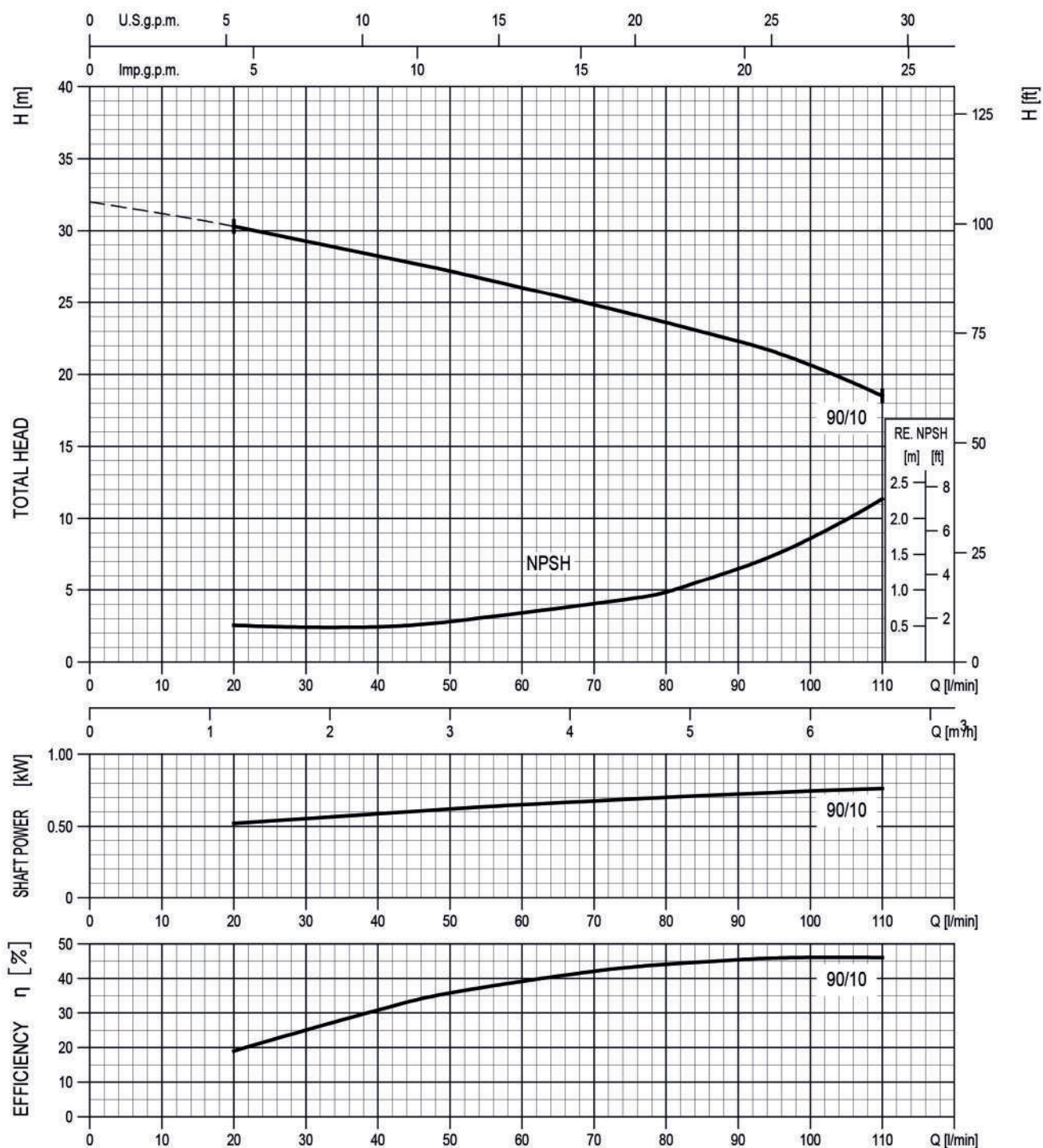
CDX 70/05 (0.37 kW) - Impeller diameter = 132 mm

CDX 70/07 (0.55 kW) - Impeller diameter = 157 mm

Rotation speed $\approx 2800 \text{ min}^{-1}$

Test standard: ISO 9906:2012 – Grade 3B

CDX 90/10 (0.75 kW) MEI > 0.50 - Impeller diameter = 157 mm

Rotation speed $\approx 2800 \text{ min}^{-1}$

Test standard: ISO 9906:2012 – Grade 3B

PERFORMANCE CURVE

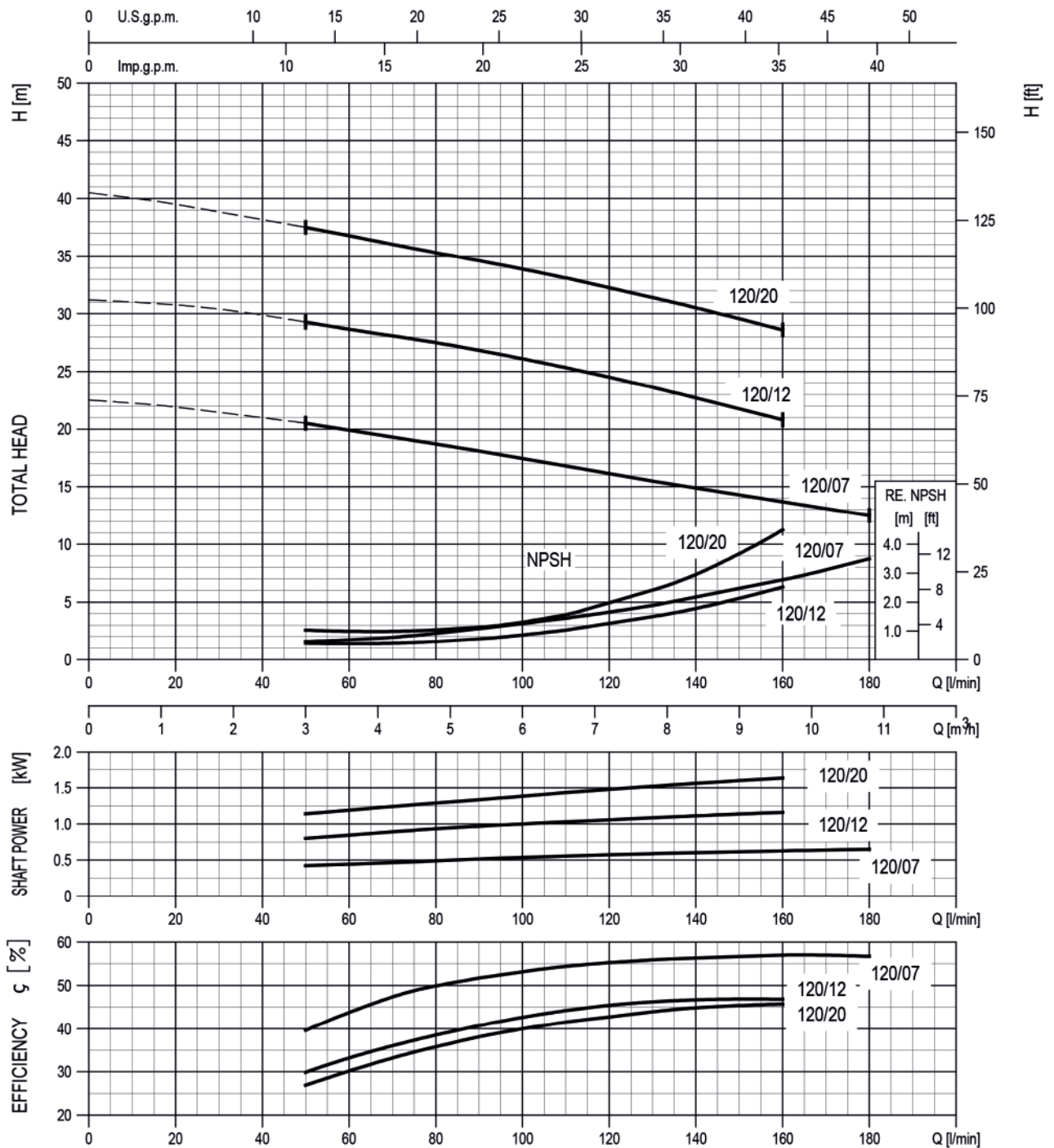
50Hz

Rev. R

CDX 120/07 (0.55 kW) MEI > 0.50 - Impeller diameter = 132 mm

CDX 120/12 (0.90 kW) MEI > 0.40 - Impeller diameter = 157 mm

CDX 120/20 (1.50 kW) MEI > 0.40 - Impeller diameter = 176 mm

Rotation speed $\approx 2800 \text{ min}^{-1}$

Test standard: ISO 9906:2012 – Grade 3B

PERFORMANCE CURVE

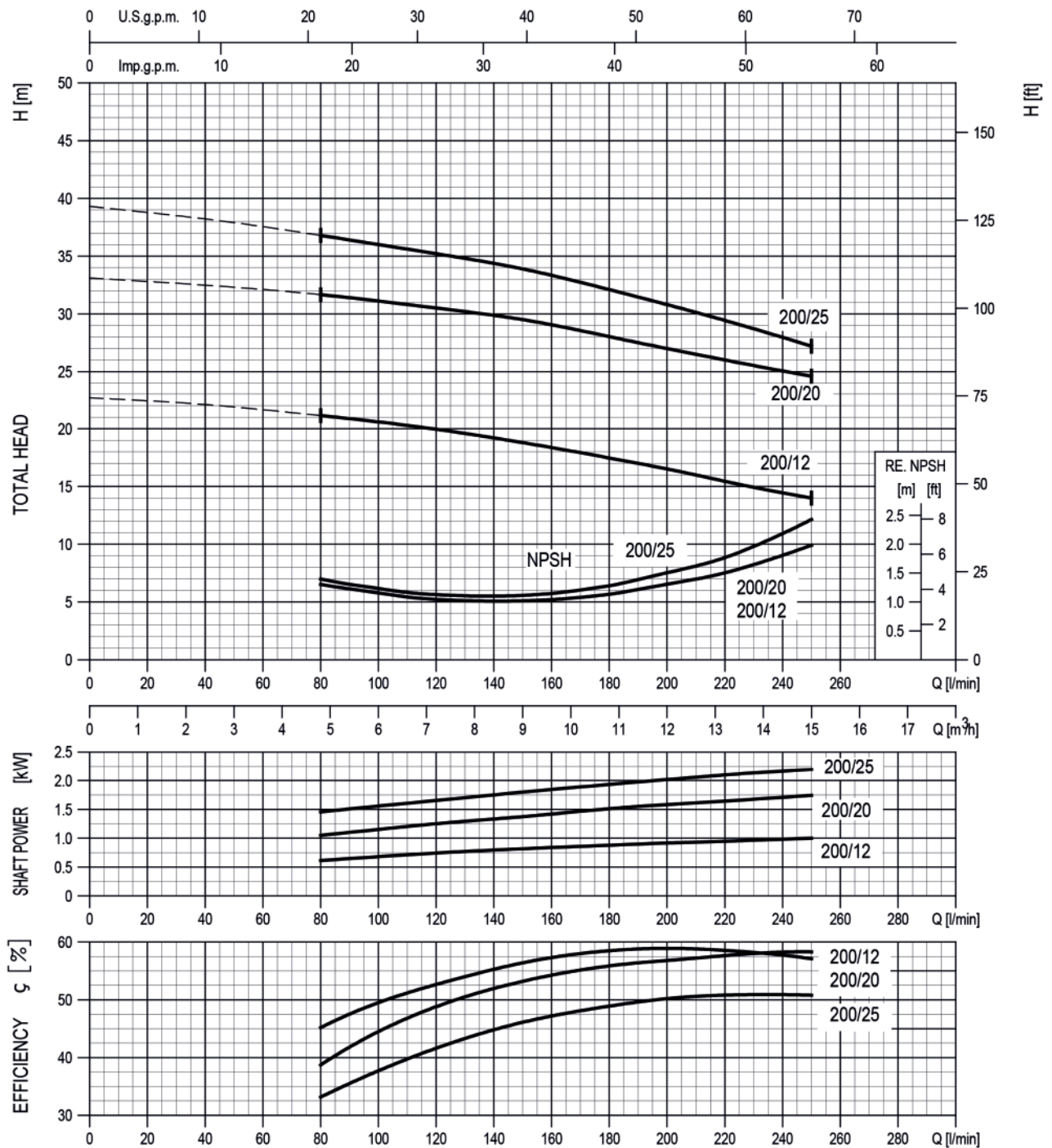
50Hz

Rev. R

CDX 200/12 (0.90 kW) MEI > 0.50 - Impeller diameter = 132 mm

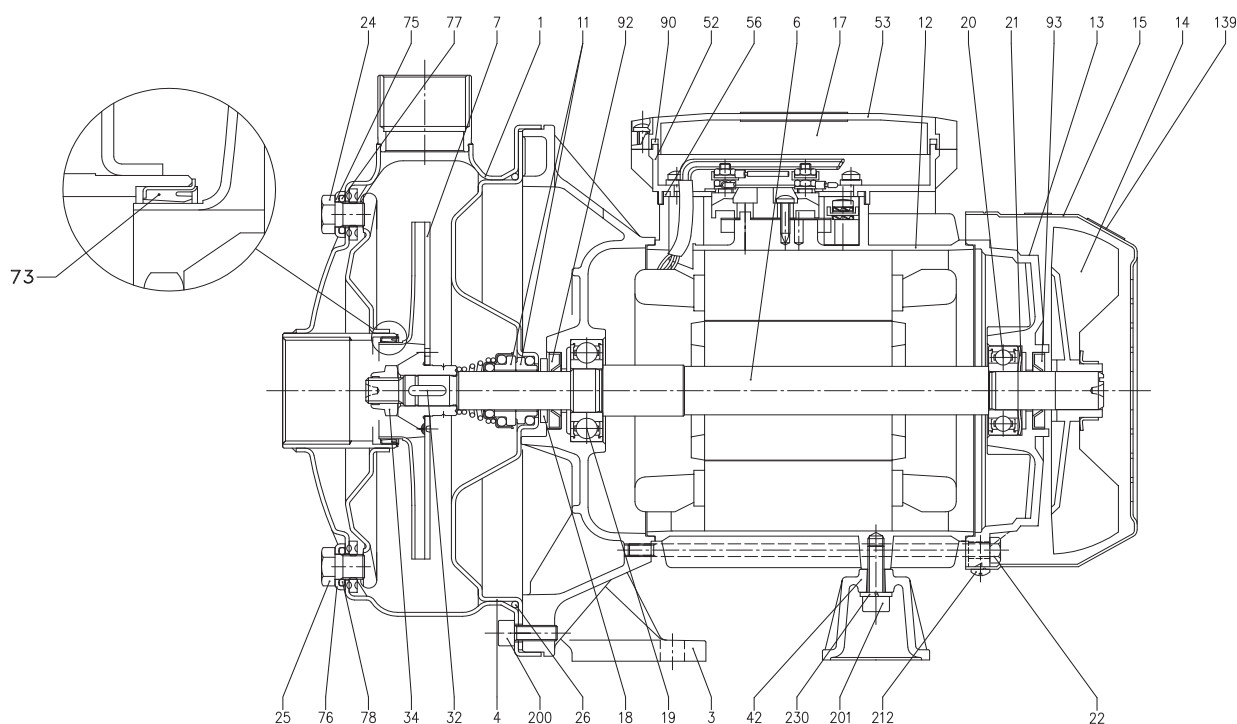
CDX 200/20 (1.50 kW) MEI > 0.60 - Impeller diameter = 157 mm

CDX 200/25 (1.80 kW) MEI > 0.40 - Impeller diameter = 176 mm

Rotation speed $\approx 2800 \text{ min}^{-1}$

Test standard: ISO 9906:2012 – Grade 3B

SECTIONAL VIEW CDX 70/05 - 70/07 - 90/10

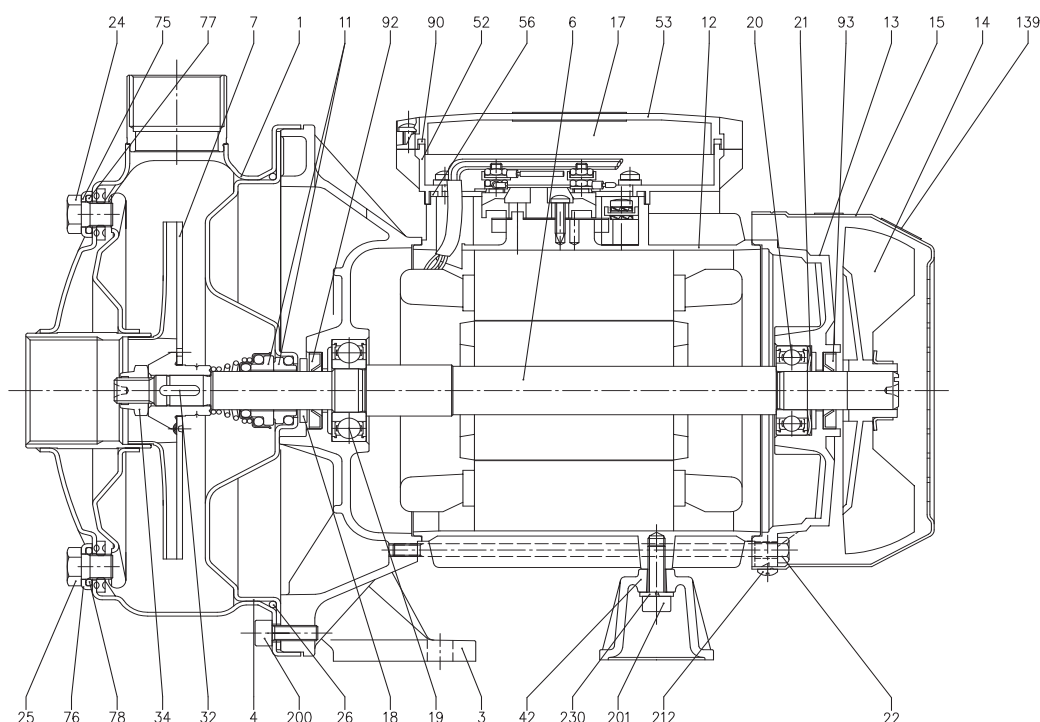


N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304 / AISI 316L [5]	1
3	Motor bracket	Aluminium	1
4	Casing cover	AISI 304 / AISI 316L [5]	1
6	Shaft with rotor	AISI 303 / AISI 316L [5] (Wet extension)	1
7	Impeller	AISI 304 / AISI 316L [5]	1
11	Mechanical seal [6]	Carbon/Ceramic/NBR	1
12	Motor frame with stator	-	1
13	Motor cover	Aluminium	1
14	Fan	PA	1
15	Fan cover	Fe P04 Zincate	1
17	Terminal box cover [2]	Aluminium	1
18	Splash ring	NBR	1
19	Pump side ball bearing	-	1
20	Fan side ball bearing	-	1
21	Adjusting ring	Steel C70	1
22	Tie rod	Fe 420 Zincate	4
24	Priming plug	AISI 304 / AISI 316 [5]	1

N°	PART NAME	MATERIAL	Q.TY
25	Drain plug	AISI 304 / AISI 316 [5]	1
26	O-ring [3]	NBR	1
32	Key	AISI 316	1
34	Impeller nut	AISI 304 / AISI 316 [5]	1
42	Motor support	Aluminium	1
52	Terminal box [1]	ABS class V-0	1
53	Terminal box cover [1]	ABS class V-0	1
56	Box gasket	NBR	1
73	Casing ring [4]	NBR	1
75	Washer	AISI 304	1
76	Washer	AISI 304	1
77	O-ring [3]	NBR	1
78	O-ring [3]	NBR	1
90	Terminal box cover gasket [1]	NBR	1
92	Lip seal	-	1
93	Lip seal	-	1
200	Screw	Stainless steel A2 UNI7323	8

- [1] Only for single phase
 [2] Only for three phase
 [3] FPM for H-HS-HW-HSW
 EPDM for E and Special Mechanical Seal
 [4] NBR for CDX 70/05, 70/07, 90/10
 FPM for CDX H-HS-HW-HSW 70/05, 70/07, 90/10
 [5] Only for "L" version
 [6] See **MECHANICAL SEAL** pages 303-304

SECTIONAL VIEW CDX 120/07 - 120/20



N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304 / AISI 316L [4]	1
3	Motor bracket	Aluminium	1
4	Casing cover	AISI 304 / AISI 316L [4]	1
6	Shaft with rotor	AISI 303 / AISI 316L [4] (Wet extension)	1
7	Impeller	AISI 304 / AISI 316L [4]	1
11	Mechanical seal [5]	Carbon/Ceramic/NBR	1
12	Motor frame with stator	-	1
13	Motor cover	Aluminium	1
14	Fan	PA	1
15	Fan cover	Fe P04 Zincate	1
17	Terminal box cover [2]	Aluminium	1
18	Splash ring	NBR	1
19	Pump side ball bearing	-	1
20	Fan side ball bearing	-	1
21	Adjusting ring	Steel C70	1
22	Tie rod	Fe 420 Zincate	4
24	Priming plug	AISI 304 / AISI 316 [4]	1

N°	PART NAME	MATERIAL	Q.TY
25	Drain plug	AISI 304 / AISI 316 [4]	1
26	O-ring [3]	NBR	1
32	Key	AISI 316	1
34	Impeller nut	AISI 304 / AISI 316 [4]	1
42	Motor support	Aluminium	1
52	Terminal box [1]	ABS class V-0	1
53	Terminal box cover [1]	ABS class V-0	1
56	Box gasket	NBR	1
73	Casing ring	-	1
75	Washer	AISI 304	1
76	Washer	AISI 304	1
77	O-ring [3]	NBR	1
78	O-ring [3]	NBR	1
90	Terminal box cover gasket [1]	NBR	1
92	Lip seal	-	1
93	Lip seal	-	1
200	Screw	Stainless steel A2 UNI7323	8

[1] Only for single phase

[2] Only for three phase

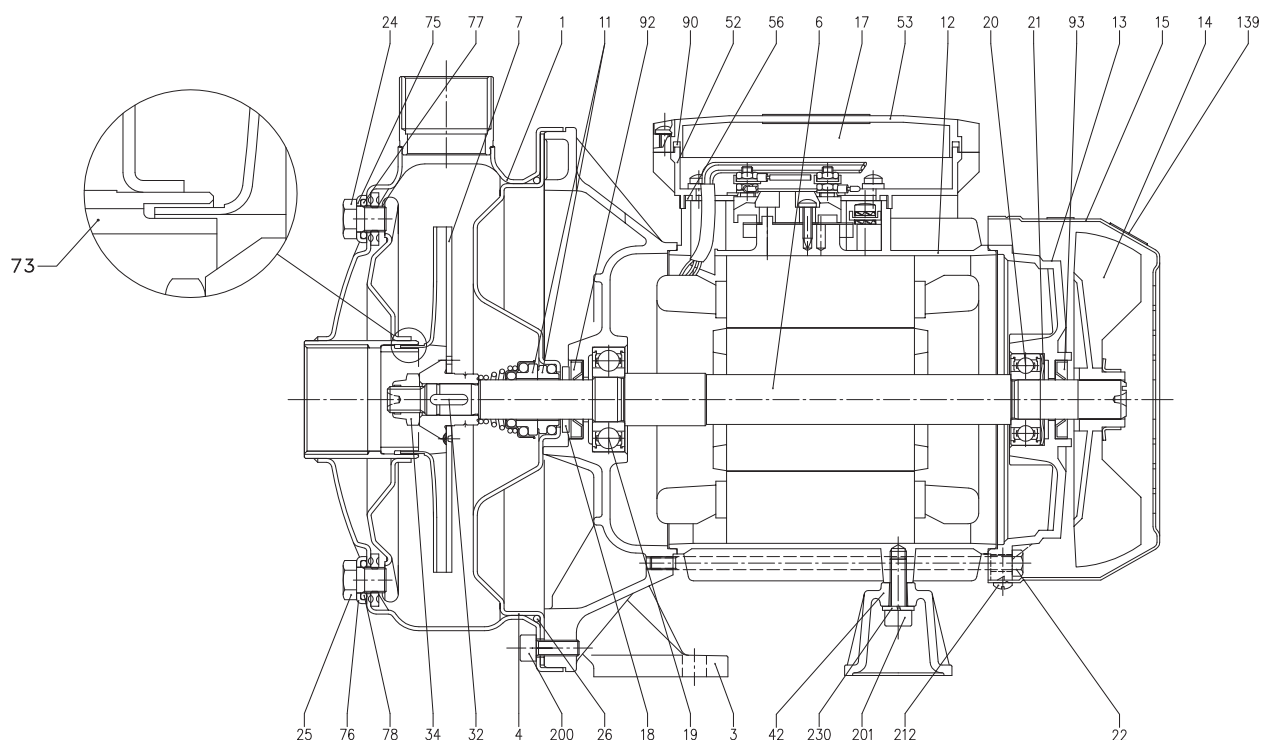
[3] FPM for H-HS-HW-HSW

EPDM for E and Special Mechanical Seal

[4] Only for "L" version

[5] See **MECHANICAL SEAL** pages 303-304

SECTIONAL VIEW CDX 120/12 - 200/12 - 200/20 - 200/25



N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304 / AISI 316L [4]	1
3	Motor bracket	Aluminium	1
4	Casing cover	AISI 304 / AISI 316L [4]	1
6	Shaft with rotor	AISI 303 / AISI 316L [4] (Wet extension)	1
7	Impeller	AISI 304 / AISI 316L [4]	1
11	Mechanical seal [5]	Carbon/Ceramic/NBR	1
12	Motor frame with stator	-	1
13	Motor cover	Aluminium	1
14	Fan	PA	1
15	Fan cover	Fe P04 Zincate	1
17	Terminal box cover [2]	Aluminium	1
18	Splash ring	NBR	1
19	Pump side ball bearing	-	1
20	Fan side ball bearing	-	1
21	Adjusting ring	Steel C70	1
22	Tie rod	Fe 420 Zincate	4
24	Priming plug	AISI 304 / AISI 316 [4]	1

N°	PART NAME	MATERIAL	Q.TY
25	Drain plug	AISI 304 / AISI 316 [4]	1
26	O-ring [3]	NBR	1
32	Key	AISI 316	1
34	Impeller nut	AISI 304 / AISI 316 [4]	1
42	Motor support	Aluminium	1
52	Terminal box [1]	ABS class V-0	1
53	Terminal box cover [1]	ABS class V-0	1
56	Box gasket	NBR	1
73	Double ring	AISI 304 / AISI 316 [4]	1
75	Washer	AISI 304	1
76	Washer	AISI 304	1
77	O-ring [3]	NBR	1
78	O-ring [3]	NBR	1
90	Terminal box cover gasket [1]	NBR	1
92	Lip seal	-	1
93	Lip seal	-	1
200	Screw	Stainless steel A2 UNI7323	8

[1] Only for single phase

[2] Only for three phase

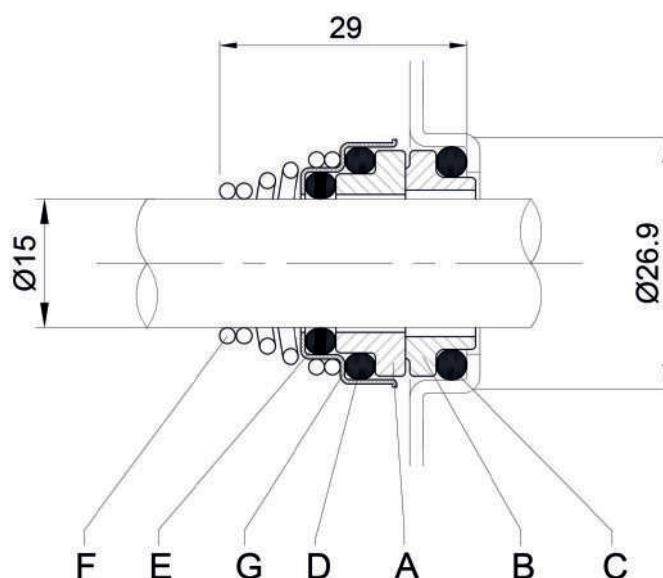
[3] FPM for H-HS-HW-HSW

EPDM for E and Special Mechanical Seal

[4] Only for "L" version

[5] See **MECHANICAL SEAL** pages 303-304

MECHANICAL SEAL



**STANDARD
+
"L" version**

REF	PART NAME	MATERIAL
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

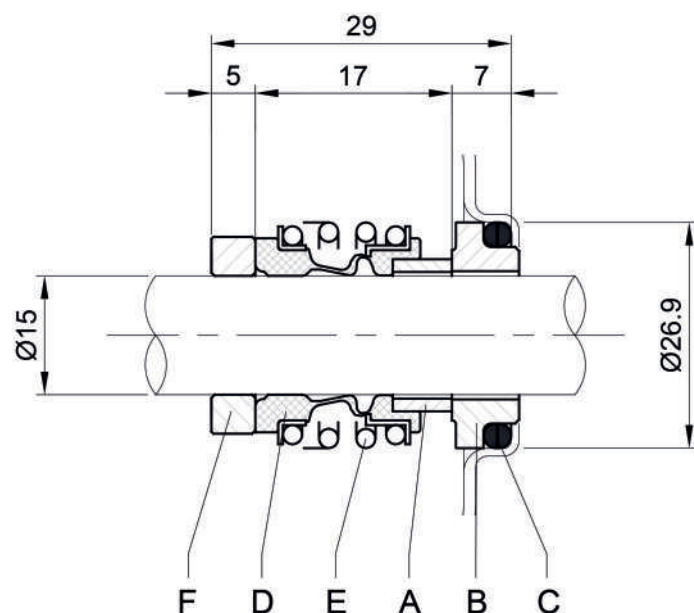
OPTIONAL

REF	PART NAME	MATERIAL			
		H	HW	HSW	E
A	Rotary seal ring	Ceramic	Tungsten carbide	Silicon carbide	Ceramic
B	Stationary seal ring	Carbon graphite	Tungsten carbide	Tungsten carbide	Carbon graphite
C	O-Ring	FPM	FPM	FPM	EPDM
D	O-Ring	FPM	FPM	FPM	EPDM
E	O-Ring	FPM	FPM	FPM	EPDM
F	Self-driving spring	AISI 316	AISI 316	AISI 316	AISI 316
G	Frame	AISI 304	AISI 316	AISI 316	AISI 316

SPECIAL

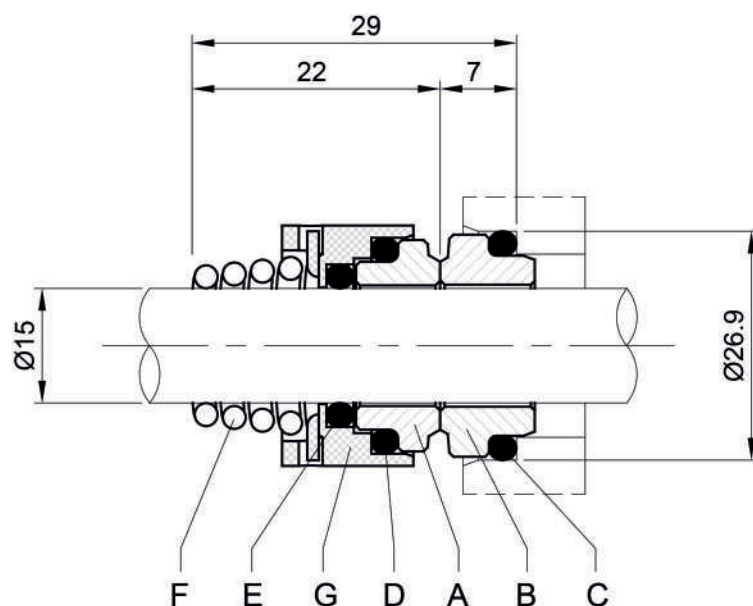
REF	PART NAME	MATERIAL			
		Q1U3EGG	VAEGG	U3U3EGG	U3CEGG
A	Rotary seal ring	Silicon carbide	Ceramic	Tungsten carbide	Tungsten carbide
B	Stationary seal ring	Tungsten carbide	Metallised carbon	Tungsten carbide	special Carbon
C	O-Ring	EPDM	EPDM	EPDM	EPDM
D	O-Ring	EPDM	EPDM	EPDM	EPDM
E	O-Ring	EPDM	EPDM	EPDM	EPDM
F	Self-driving spring	AISI 316	AISI 316	AISI 316	AISI 316
G	Frame	AISI 316	AISI 316	AISI 316	AISI 316

MECHANICAL SEAL



OPTIONAL

REF	PART NAME	MATERIAL HS
A	Rotary seal ring	Silicon carbide
B	Stationary seal ring	Silicon carbide
C	O-Ring	FPM
D	Bellows	FPM
E	Frame + Spring	AISI 316
F	Spacer ring	AISI 316



SPECIAL

REF	PART NAME	MATERIAL Q1AEGG
A	Rotary seal ring	Silicon carbide
B	Stationary seal ring	Metallised carbon
C	O-Ring	EPDM
D	O-Ring	EPDM
E	O-Ring	EPDM
F	Self-driving spring	AISI 316
G	Frame	AISI 316

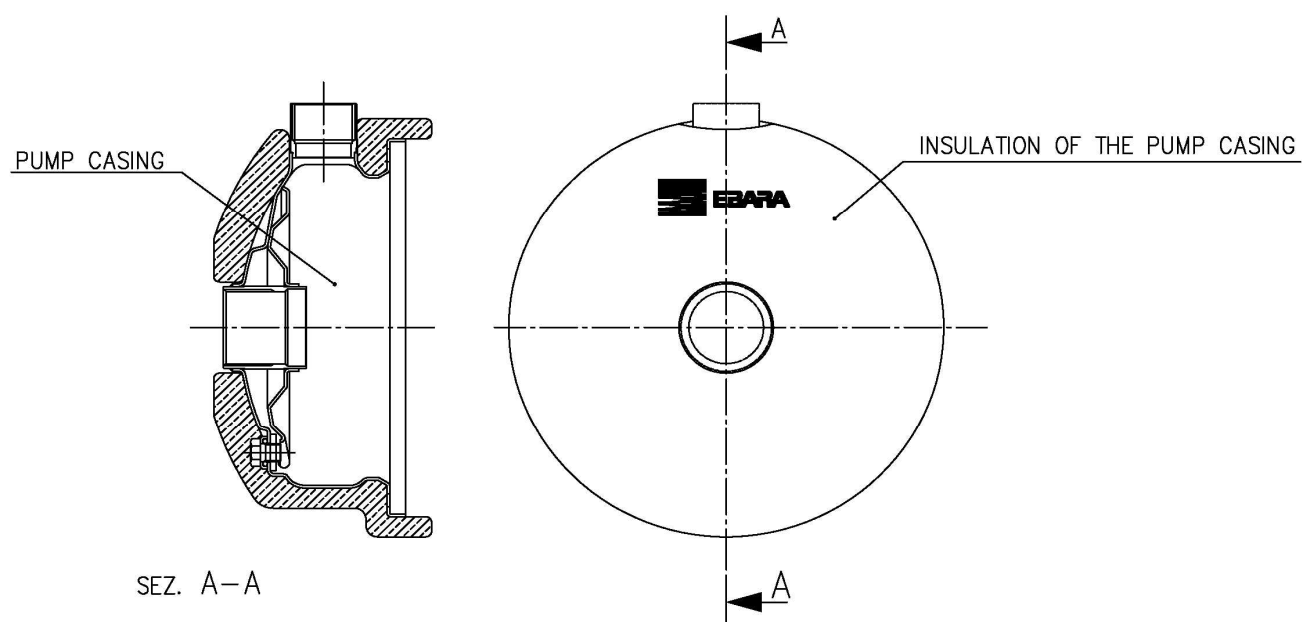
BEARINGS

Pump type		Ball Bearing			
Single Phase	Three Phase	Pump side		Fan side	
		[1~]	[3~]	[1~]	[3~]
CDXM 70/05	CDX 70/05	6203 2RSH	6203-2DW C3	6202 2RSH	6202-2DW C3
CDXM 70/07	CDX 70/07	6203 2RSH	6203-2DW C3	6202 2RSH	6202-2DW C3
CDXM 90/10	CDX 90/10	6203 2RSH	6203-ZZ C3	6202 2RSH	6202-ZZ C3
CDXM 120/07	CDX 120/07	6203 2RSH	6203-2DW C3	6202 2RSH	6202-2DW C3
CDXM 120/12	CDX 120/12	6203 2RSH	6203-ZZ C3	6202 2RSH	6202-ZZ C3
CDXM 120/20	CDX 120/20	6204 2RSH	6204-ZZ C3	6203 2RSH	6203-ZZ C3
CDXM 200/12	CDX 200/12	6203 2RSH	6203-ZZ C3	6202 2RSH	6202-ZZ C3
CDXM 200/20	CDX 200/20	6204 2RSH	6204-ZZ C3	6203 2RSH	6203-ZZ C3
-	CDX 200/25	-	6204-ZZ C3	-	6203-ZZ C3

[1~] Single phase

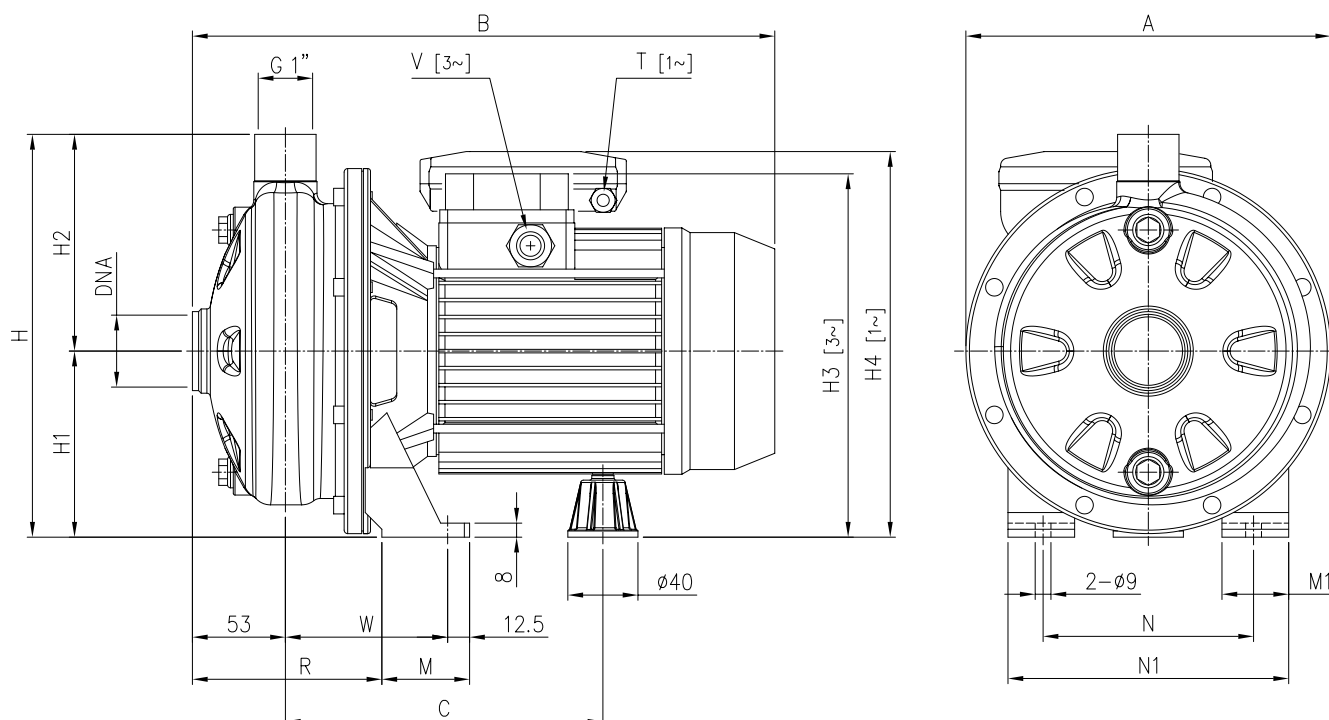
[3~] Three phase

THERMAL INSULATION



Pump Type	Insulation of the pump casing
CDX 70/05	ON REQUEST
CDX 70/07	
CDX 90/10	
CDX 120/07	
CDX 120/12	
CDX 120/20	
CDX 200/12	
CDX 200/20	
CDX 200/25	

PUMP

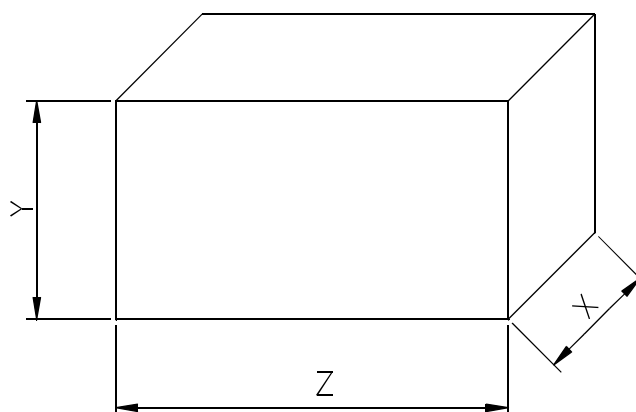


Pump type		Dimensions [mm]																		Weight [kgf]	
Single Phase	Three Phase	A	B		C	H	H1	H2	H3	H4	M	M1	N	N1	R	T	V	W	DNA	[1~]	[3~]
		[1~]	[3~]						[3~]	[1~]						[1~]	[3~]				
CDXM 70/05	CDX 70/05	208	321	320	181	229.5	106	123.5	207	216	50	38	120	160	108	PG11	M16X1.5	92.5	G 1"1/4	8.3	9.1
CDXM 70/07	CDX 70/07	208	321	320	181	229.5	106	123.5	207	216	50	38	120	160	108	PG11	M16X1.5	92.5	G 1"1/4	9.8	11.1
CDXM 90/10	CDX 90/10	208	321	320	181	229.5	106	123.5	207	216	50	38	120	160	108	PG11	M16X1.5	92.5	G 1"1/4	11	11
CDXM 120/07	CDX 120/07	208	321	320	181	229.5	106	123.5	207	216	50	38	120	160	108	PG11	M16X1.5	92.5	G 1"1/4	9.6	10.1
CDXM 120/12	CDX 120/12	208	321	332	181	229.5	106	123.5	207	235	50	38	120	160	108	PG11	M16X1.5	92.5	G 1"1/4	11.8	12.4
CDXM 120/20	CDX 120/20	232	346.5	371.5	198.5	250	118	132	237	248.5	55	40	140	180	105.5	PG13.5	M20X1.5	95	G 1"1/4	16.5	18.1
CDXM 200/12	CDX 200/12	208	321	332	181	229.5	106	123.5	207	235	50	38	120	160	108	PG13.5	M16X1.5	92.5	G 1"1/2	11.4	12.2
CDXM 200/20	CDX 200/20	208	346.5	371.5	198.5	229.5	106	123.5	225	236.5	55	40	140	180	105.5	PG13.5	M20X1.5	95	G 1"1/2	15.3	17
-	CDX 200/25	232	-	371.5	198.5	250	118	132	237	-	55	40	140	180	105.5	-	M20X1.5	95	G 1"1/2	-	16.8

[1~] Single phase

[3~] Three phase

PACKING



Pump type		Packing [mm]						Weight [kgf]	
Single Phase	Three Phase	X		Y		Z		[1~]	[3~]
		[1~]	[3~]	[1~]	[3~]	[1~]	[3~]	[1~]	[3~]
CDXM 70/05	CDX 70/05	247	247	289	289	402	402	9	9.8
CDXM 70/07	CDX 70/07	247	247	289	289	402	402	10.4	11.9
CDXM 90/10	CDX 90/10	247	247	289	289	402	402	11.7	11.6
CDXM 120/07	CDX 120/07	247	247	289	289	402	402	10.2	11.9
CDXM 120/12	CDX 120/12	244	244	308	308	452	452	12.5	13.2
CDXM 120/20	CDX 120/20	244	244	308	308	452	452	17.2	18.9
CDXM 200/12	CDX 200/12	244	244	308	308	452	452	12.1	12.9
CDXM 200/20	CDX 200/20	244	244	308	308	452	452	16	17.7
-	CDX 200/25	-	244	-	308	-	452	-	17.6

[1~] Single phase

[3~] Three phase

MOTOR DATA

Pump type		Power		Efficiency		Capacitor		Efficiency (% load)			Input		Full load current			Locked rotor current		
Single Phase	Three Phase	[kW]	[HP]	Single Phase	Three Phase	Single Phase	Three Phase	Three phase			Single Phase	Three Phase	Single Phase	Three Phase	Three Phase	Single Phase	Three Phase	Three Phase
						[μF]	[V]	50%	75%	100%	Phase	Phase	230 V	230 V	400 V	230 V	230 V	400 V
CDXM 70/05	CDX 70/05	0.37	0.5	-	IE3	12.5	450	75.1	78.5	78.0	0.75	0.71	3.4	2.4	1.4	10.1	12.7	7.3
CDXM 70/07	CDX 70/07	0.55	0.75	-	IE3	16	450	80.2	82.8	82.9	1.1	0.91	5.0	3.0	1.7	16.1	20.5	11.8
CDXM 90/10	CDX 90/10	0.75	1.0	-	IE3	20	450	80.9	82.3	82.1	1.20	1.05	5.6	3.3	1.9	22.7	19.7	11.4
CDXM 120/07	CDX 120/07	0.55	0.75	-	IE3	16	450	80.2	82.8	82.9	1.00	0.91	4.6	3.0	1.7	16.1	20.5	11.8
CDXM 120/12	CDX 120/12	0.9	1.2	-	IE3	31.5	450	81.7	83.1	82.4	1.60	1.34	6.9	4.3	2.5	25.0	28.8	16.6
CDXM 120/20	CDX 120/20	1.5	2.0	-	IE3	40	450	84.2	86.8	86.9	2.10	2.01	9.3	7.1	4.1	43.0	66.6	38.4
CDXM 200/12	CDX 200/12	0.9	1.2	-	IE3	31.5	450	81.7	83.1	82.4	1.40	1.34	6.3	4.3	2.5	25.0	28.8	16.6
CDXM 200/20	CDX 200/20	1.5	2.0	-	IE3	40	450	84.2	86.8	86.9	2.30	2.01	10.2	7.1	4.1	43.0	66.6	38.4
-	CDX 200/25	1.8	2.5	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7	-	66.6	38.43

NOISE DATA

Pump type		Power		L _{pA} - dB(A) *
Single Phase	Three Phase	[kW]	[HP]	
CDXM 70/05	CDX 70/05	0.37	0.5	61
CDXM 70/07	CDX 70/07	0.55	0.75	62
CDXM 90/10	CDX 90/10	0.75	1	
CDXM 120/07	CDX 120/07	0.55	0.75	
CDXM 120/12	CDX 120/12	0.9	1.2	
CDXM 120/20	CDX 120/20	1.5	2	64
CDXM 200/12	CDX 200/12	0.9	1.2	62
CDXM 200/20	CDX 200/20	1.5	2	64
-	CDX 200/25	1.8	2.5	65

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