

CDX(L)

SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304 and AISI 316



Single impeller centrifugal electric pumps with hydraulic parts in AISI 304 and AISI 316.

APPLICATIONS

- Domestic pressure boosting
- Small-scale garden irrigation
- Washing
- Treating water
- Cooling towers
- Pumping 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(L) and for E, Q1AEGG, VAEGG, U3U3EGG, Q1U3EGG e U3CEGG 70/05-70/07-90/10 versions
 - 5°C ÷ +90°C for the rest of the CDX(L) range
 - 5°C ÷ +110°C for the H-HS-HW-HSW version
 - 5°C ÷ +120°C for E, Q1AEGG, VAEGG, U3U3EGG, Q1U3EGG and U3CEGG versions
- G1½ suction connection for CDX(L) 200, G1¼ for the rest of the range
- G1 discharge connection
- MEI > 0.4
- For further information please see our Data Book on the web site www.ebara-europe.com

MOTOR TECHNICAL DATA

- High efficiency IE2 motors starting from 0.75kW up to 5.5kW
IE3 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

AISI 304 Version

- Pump casing, impeller, diffuser and casing cover in AISI 304
- Shaft in AISI 303 (part in contact with the liquid)

AISI 316 (L) Version

- Pump casing, impeller, diffuser and casing cover in AISI 316
- Shaft in AISI 316 (part in contact with the liquid)

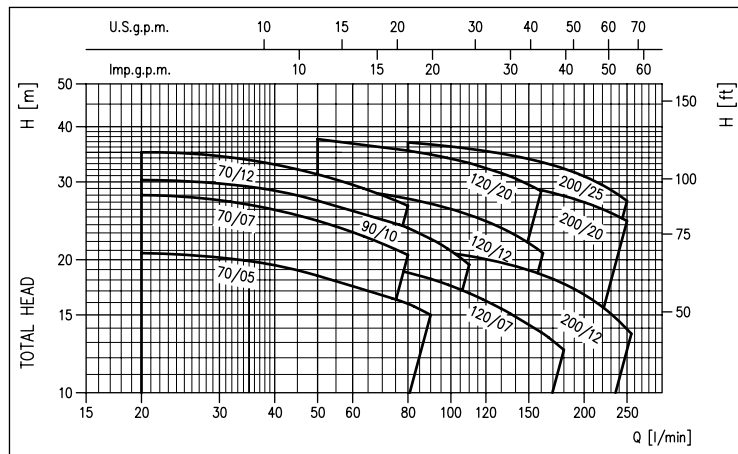
- Bracket and motor frame in aluminium
- Mechanical seal in:
 - Ceramic/Carbon/NBR (standard)
 - special versions: see p. 16

ACCESSORIES (On request)

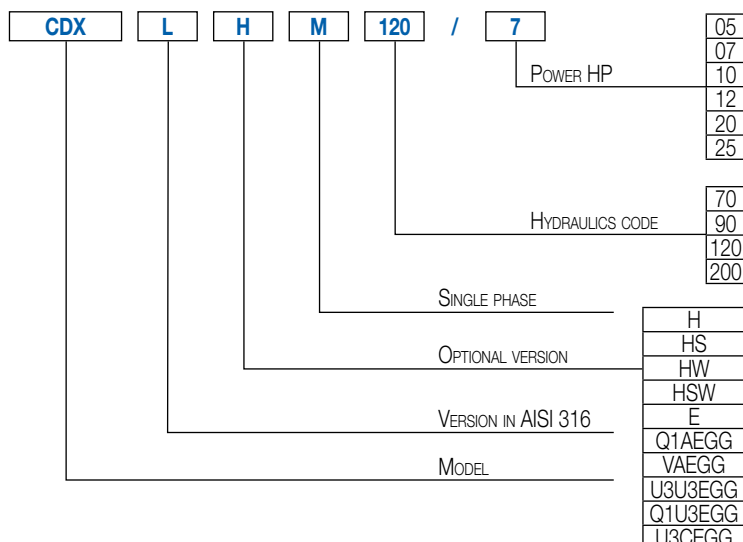
- Insulation casing for CDX (L) pump casing for applications with refrigerant liquids or liquids with high temperature variations that may generate condensate
- Electric panels
- Vessels
- Floats
- Pressure switches
- Presscomfort - Pressure regulator
- E-power - Variable speed control system
- E-drive - Variable speed control system



PERFORMANCE RANGE (according to ISO 9906 Attachment A)



IDENTIFICATION CODE

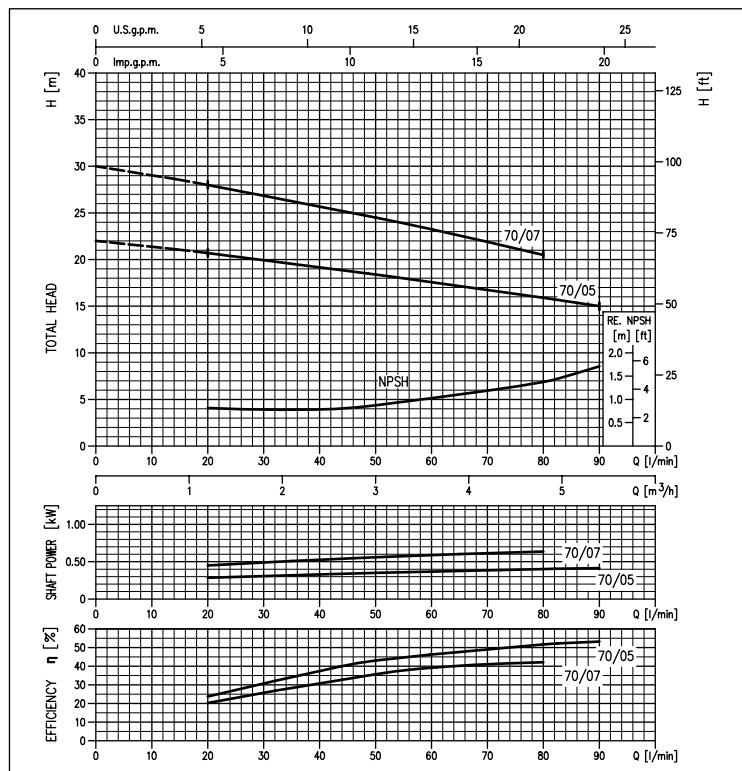


SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304 and AISI 316

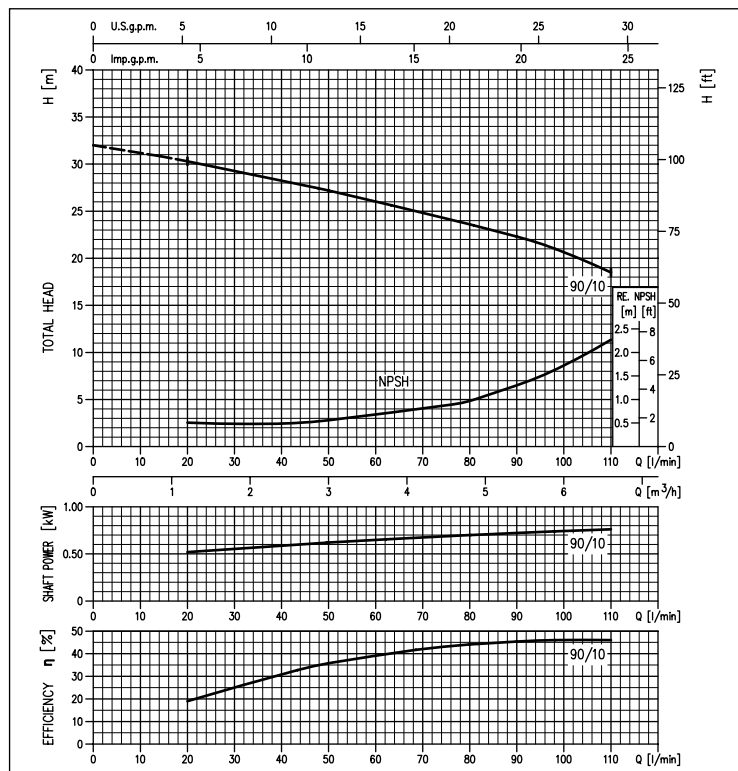
PERFORMANCE CURVES CDX(L) 70 series

(according to ISO 9906 Attachment A)



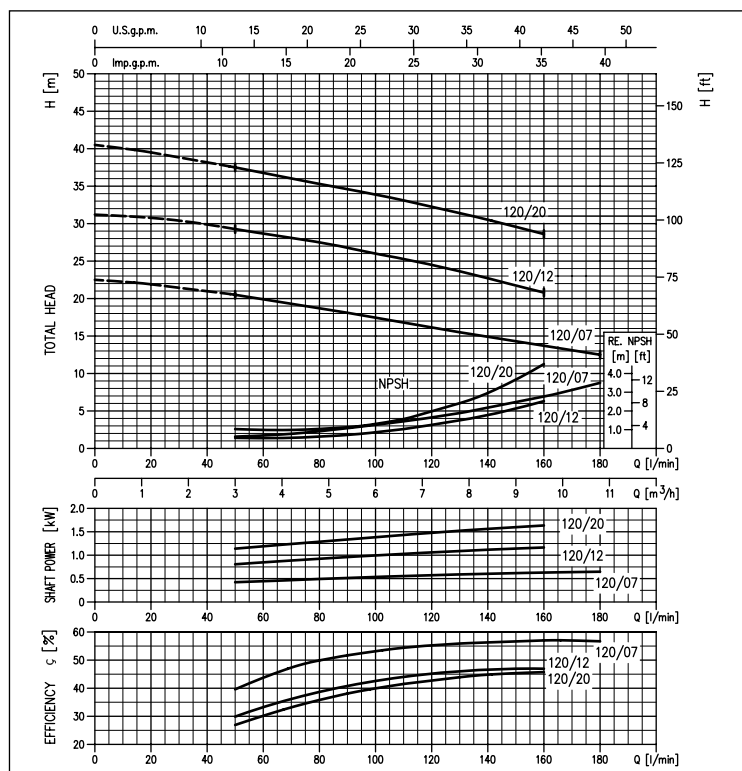
PERFORMANCE CURVES CDX(L) 90 series

(according to ISO 9906 Attachment A)



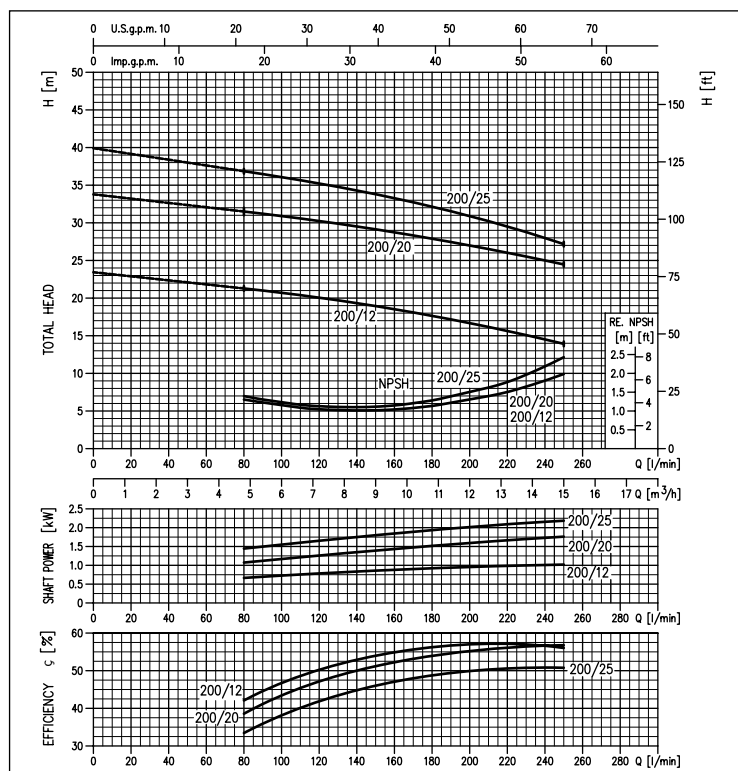
PERFORMANCE CURVES CDX(L) 120 series

(according to ISO 9906 Attachment A)



PERFORMANCE CURVES CDX(L) 200 series

(according to ISO 9906 Attachment A)



CDX(L)

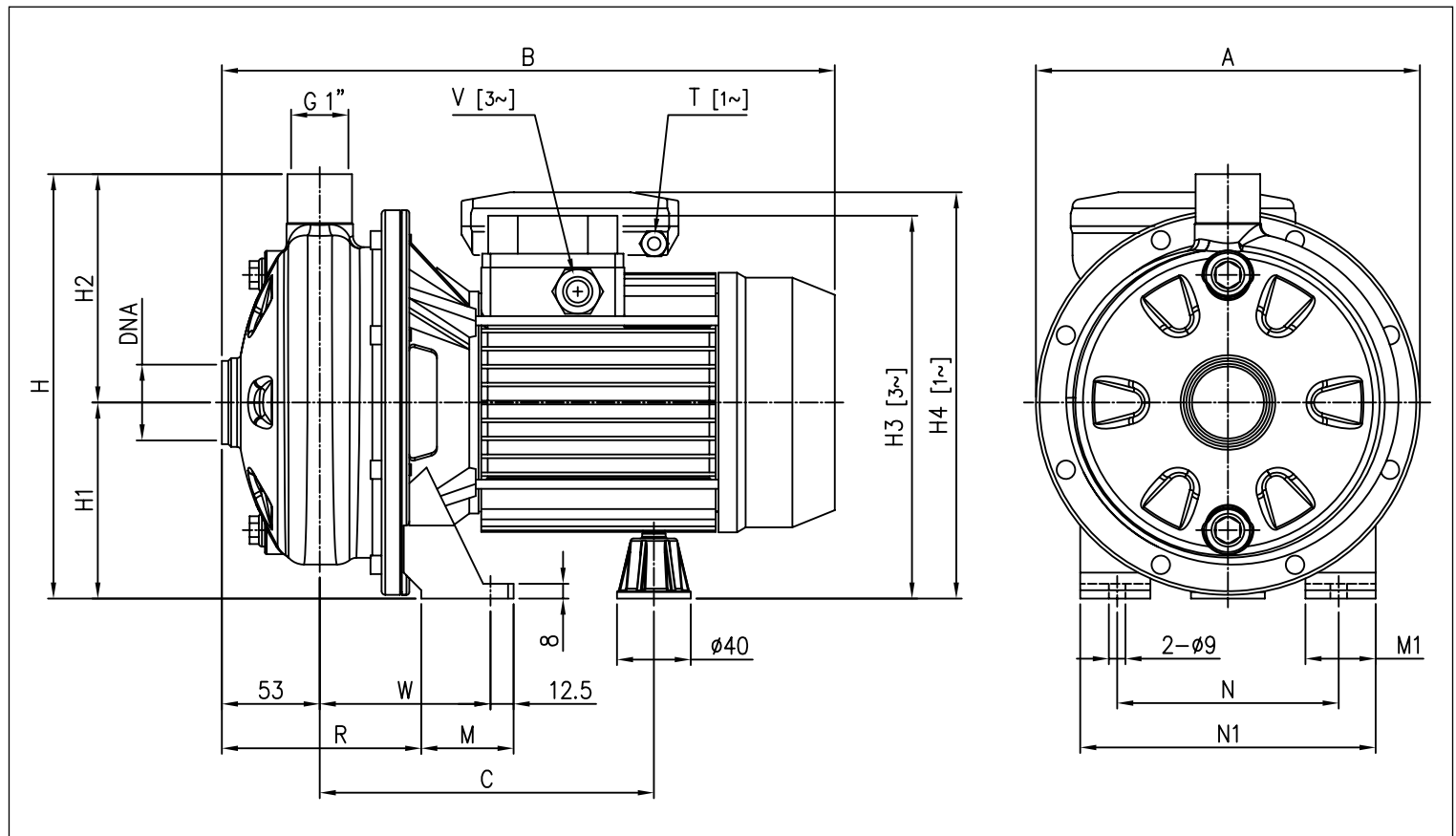
SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304 and AISI 316

PERFORMANCE CHART

Model		P ₂		Q = Flow Rate											
Single phase 230V	Three phase 230/400V	[HP]	[kW]	l/min	20	50	80	90	110	130	160	180	210	250	
				m³/h	1.2	3	4.8	5.4	6.6	7.8	9.6	10.8	12.6	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	0.75	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	0.75	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	-	29.3	27.5	26.8	25.2	23.6	21.0	-	-	-	-	
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	-	-	21.3	21.0	20.4	19.7	18.5	17.6	16.0	14.0	-	
CDXM 200/20	CDX 200/20	2	1.5	-	-	31.5	31.2	30.6	30.0	28.7	27.9	26.5	24.5	-	
-	CDX 200/25	2.5	1.8	-	-	36.8	26.5	35.6	34.7	33.3	32.0	30.0	27.2	-	

DIMENSIONS



DIMENSIONAL TABLE

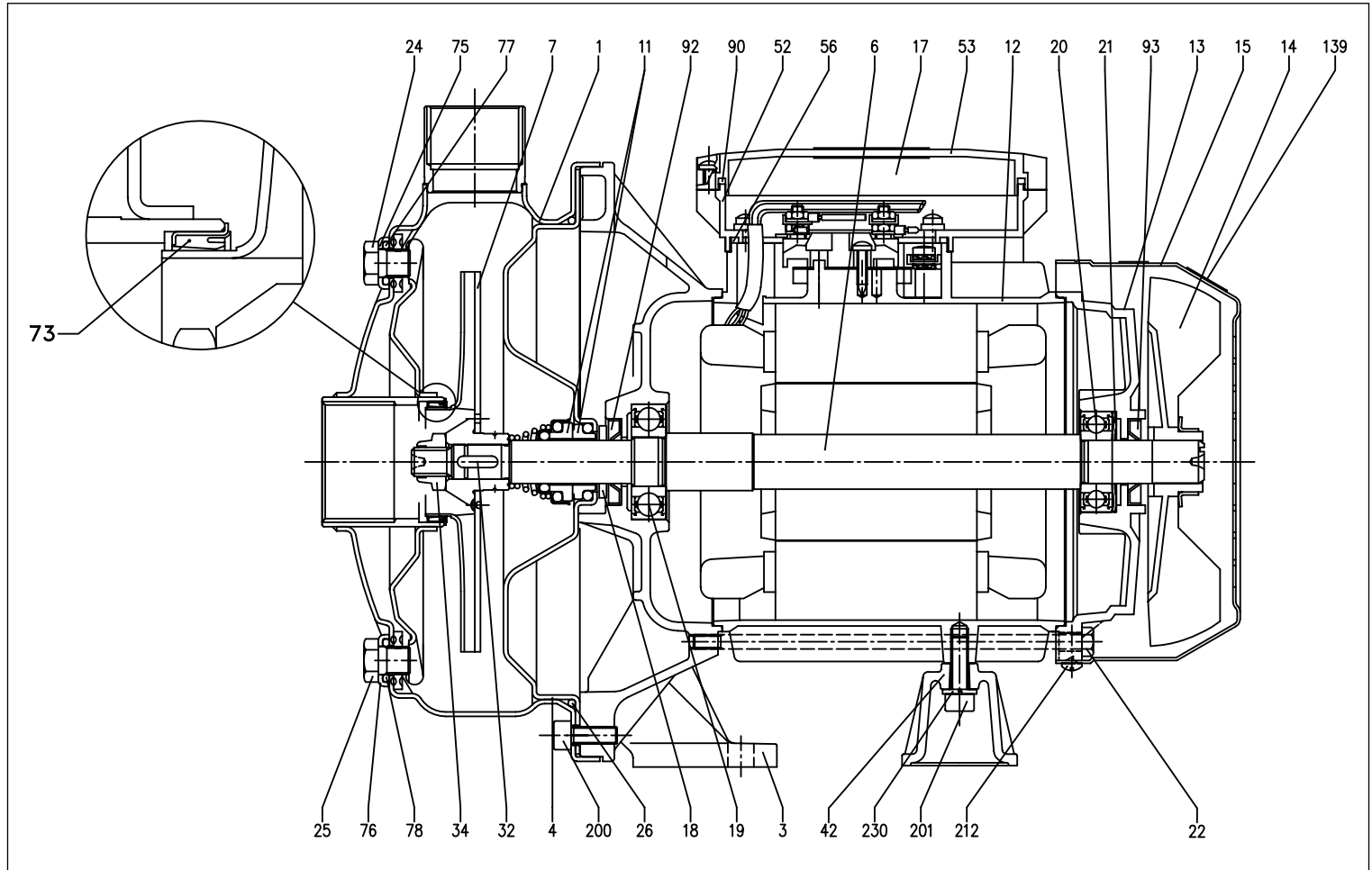
Model	Dimensions [mm]																				Weight			
	A	[2]	B [1]	*	C	H	H1	H2	H3 [1]	H4 [2]	M	M1	N	N1	R	T [2]	[1]	V	*	W	DNA	[2]	[kg] [1]	*
CDX(M) 70/05	208	321	320	-	181	229.5	106	123.5	207	216	50	38	120	160	108	PG11	PG11	-		92.5	G1 ¼	8.3	8.3	-
CDX(M) 70/07	208	321	320	-	181	229.5	106	123.5	207	216	50	38	120	160	108	PG11	PG11	-		92.5	G1 ¼	9.8	9.7	-
CDX(M) 90/10	208	321	320	320	181	229.5	106	123.5	207	216	50	38	120	160	108	PG11	PG11	M16x1.5		92.5	G1 ¼	11.0	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	332	181	229.5	106	123.5	207	235	50	38	120	160	108	PG11	PG11	M16x1.5		92.5	G1 ¼	11.8	12.4	12.4
CDX(M) 120/20	232	346.5	359	371.5	198.5	250	118	132	237	248.5	55	40	140	180	105.5	PG13.5	PG11	M20x1.5		95	G1 ¼	16.5	17.2	18.1
CDX(M) 200/12	208	321	332	332	181	229.5	106	123.5	207	235	50	38	120	160	108	PG13.5	PG11	M16x1.5		92.5	G1 ½	11.4	12.2	12.2
CDX(M) 200/20	208	346.5	359	371.5	198.5	229.5	106	123.5	225	236.5	55	40	140	180	105.5	PG13.5	PG11	M20x1.5		95	G1 ½	15.3	16.1	17
CDX 200/25	232	-	359	371.5	198.5	250	118	132	237	-	55	40	140	180	105.5	-	PG11	M20x1.5		95	G1 ½	-	15.9	16.8

[1]= Three phase only [2]= Single phase only
* Models with IE3 motor only

SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304 and AISI 316

SECTIONAL VIEW CDX(L) 70/05 - 70/07 - 90/10



MATERIALS TABLE

Ref.	Name	Materials	Ref.	Name	Materials
1	Pump casing	EN 1.4301 (AISI 304) / AISI 316	25	Plug	AISI 303 / AISI 316
3	Motor bracket	Aluminium	26	O-Ring [3]	NBR
4	Casing cover	EN 1.4301 (AISI 304) / AISI 316	32	Key	AISI 316
6	Shaft	AISI 303 / AISI 316 Part in contact with the liquid	34	Impeller nut	EN 1.4301 (AISI 304) / AISI 316
7	Impeller	EN 1.4301 (AISI 304) / AISI 316	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) / AISI 316
16	Terminal Box	-	76	Washer	EN 1.4301 (AISI 304) / AISI 316
17	Terminal Box cover [1]	Aluminium	77	O-Ring [3]	NBR
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	Adjustment ring	Steel C70	93	Seal ring	-
22	Tie-rod	Galvanised Fe 42	110	Motor protector [2]	-
23	Capacitor [2]	-	200	Screw (pump body)	Stainless Steel A2 UNI7323
24	Plug	AISI 303 / AISI 316			

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

[3]= FKM for CDX(L)H, CDX(L)HS, CDX(L)HW, CDX(L)HSW

EPDM for CDX(L)E, CDX(L) Q1AEGG, CDX(L) VAEGG, CDX(L) U3U3EGG, CDX(L) Q1U3EGG, CDX(L) U3CEGG

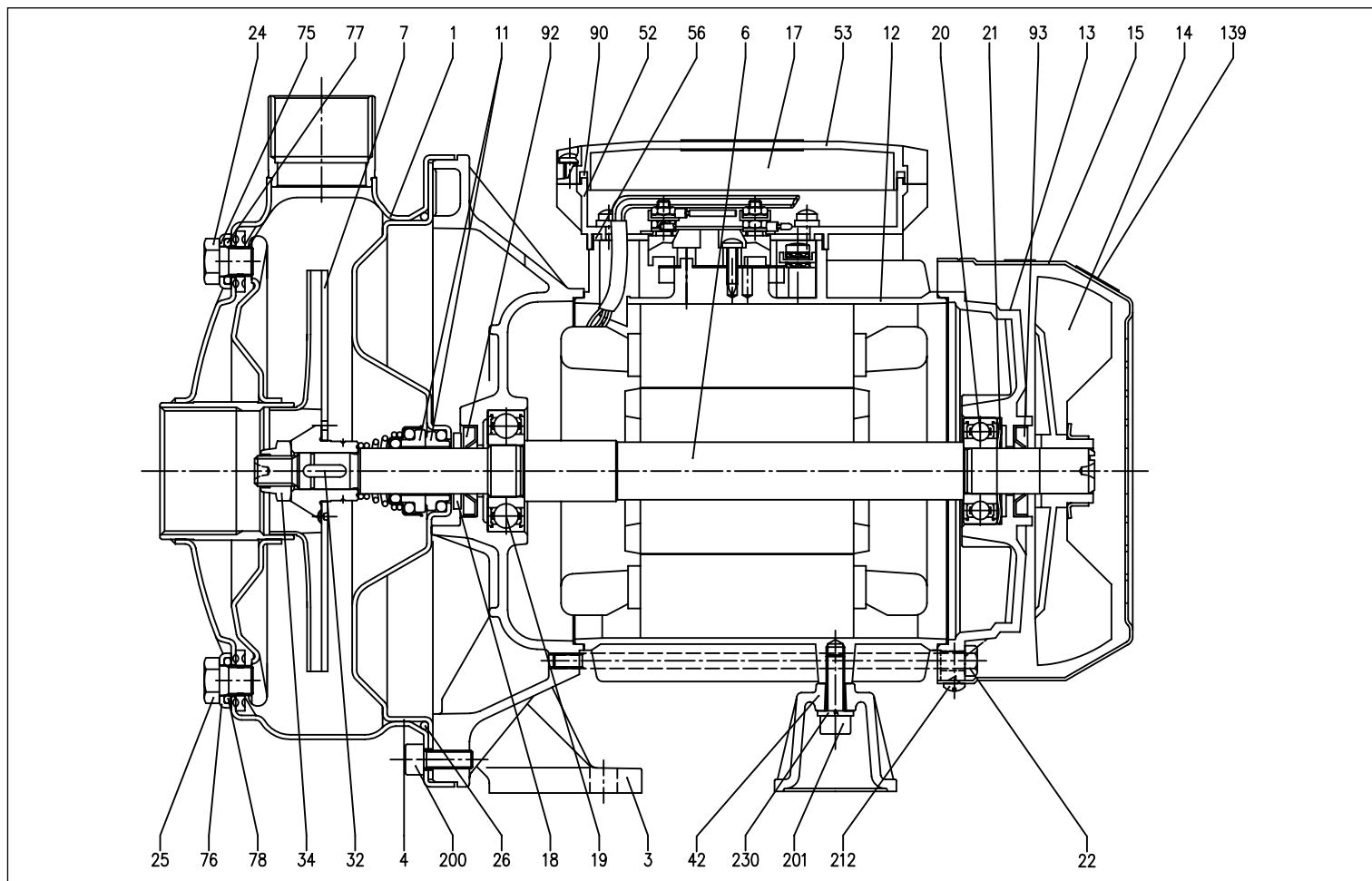
[4]= FKM for CDX(L)H, CDX(L)HS, CDX(L)HW, CDX(L)HSW

NBR for CDX(L)E, CDX(L) Q1AEGG, CDX(L) VAEGG, CDX(L) U3U3EGG, CDX(L) Q1U3EGG, CDX(L) U3CEGG

SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304 and AISI 316

SECTIONAL VIEW CDX(L) 120/07 - 120/20



MATERIALS TABLE

Ref.	Name	Materials	Ref.	Name	Materials
1	Pump casing	EN 1.4301 (AISI 304) / AISI 316	25	Plug	AISI 303 / AISI 316
3	Motor bracket	Aluminium	26	O-Ring [3]	NBR
4	Casing cover	EN 1.4301 (AISI 304) / AISI 316	32	Key	AISI 316
6	Shaft	AISI 303 / AISI 316 Part in contact with the liquid	34	Impeller nut	EN 1.4301 (AISI 304) / AISI 316
7	Impeller	EN 1.4301 (AISI 304) / AISI 316	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	-
15	Fan cover	Galvanised Fe P04	75	Washer	EN 1.4301 (AISI 304) / AISI 316
16	Terminal Box	-	76	Washer	EN 1.4301 (AISI 304) / AISI 316
17	Terminal Box cover [1]	Aluminium	77	O-Ring [3]	NBR
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	Adjustment ring	Steel C70	93	Seal ring	-
22	Tie-rod	Galvanised Fe 42	110	Motor protector [2]	-
23	Capacitor [2]	-	200	Screw (pump body)	Stainless Steel A2 UNI7323
24	Plug	AISI 303 / AISI 316			

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

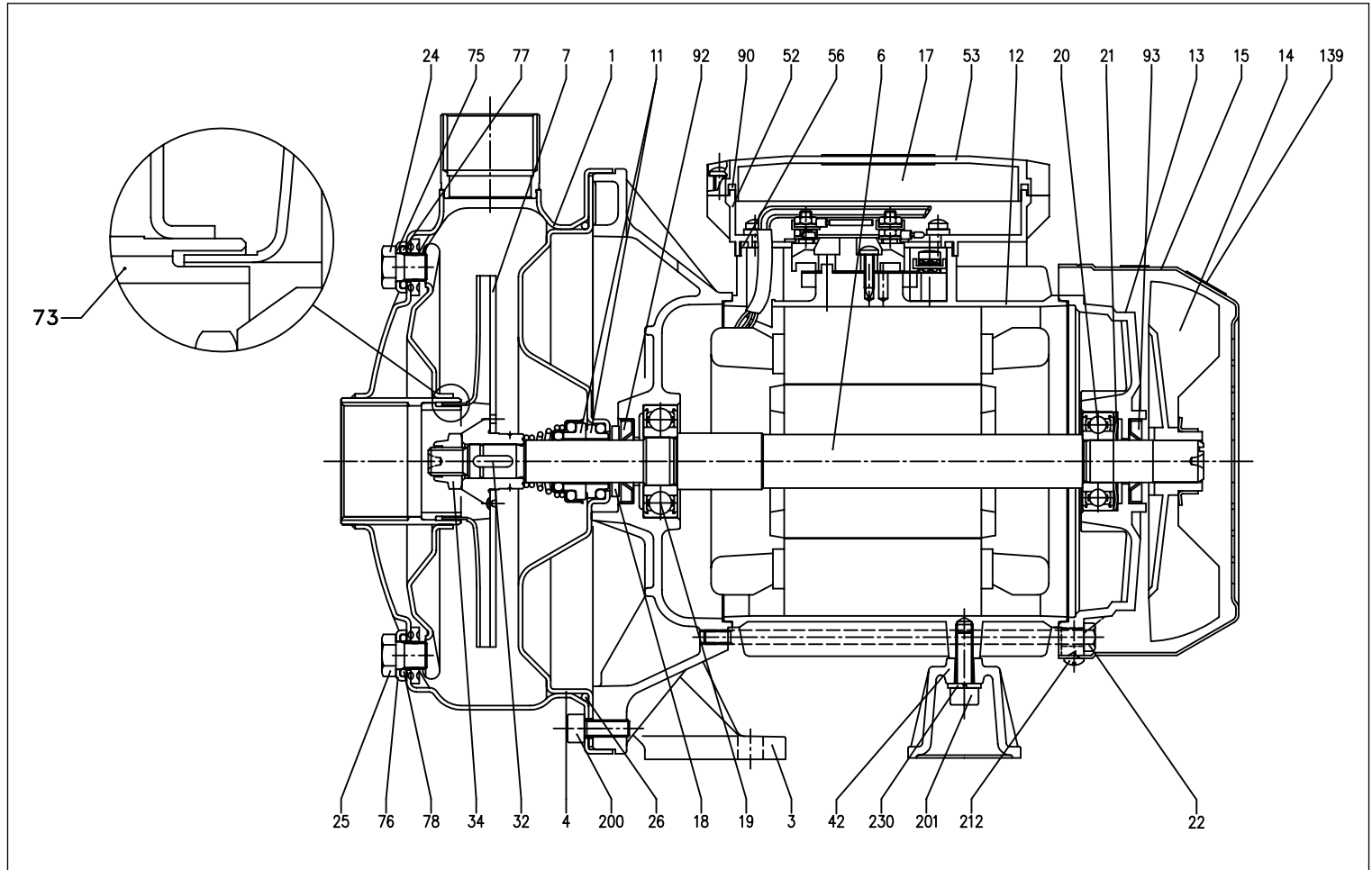
[3]= FKM for CDX(L)H, CDX(L)HS, CDX(L)HW, CDX(L)HSW

EPDM for CDX(L)E, CDX(L) Q1AEGG, CDX(L) VAEGG, CDX(L) U3U3EGG, CDX(L) Q1U3EGG, CDX(L) U3CEGG

SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304 and AISI 316

SECTIONAL VIEW CDX(L) 120/12 - 200/12 - 200/20 - 200/25



MATERIALS TABLE

Ref.	Name	Materials	Ref.	Name	Materials
1	Pump casing	EN 1.4301 (AISI 304) / AISI 316	25	Plug	AISI 303 / AISI 316
3	Motor bracket	Aluminium	26	O-Ring [3]	NBR
4	Casing cover	EN 1.4301 (AISI 304) / AISI 316	32	Key	AISI 316
6	Shaft	AISI 303 / AISI 316 Part in contact with the liquid	34	Impeller nut	EN 1.4301 (AISI 304) / AISI 316
7	Impeller	EN 1.4301 (AISI 304) / AISI 316	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	Double casing ring	EN 1.4301 (AISI 304) / AISI 316
15	Fan cover	Galvanised Fe P04	75	Washer	EN 1.4301 (AISI 304) / AISI 316
16	Terminal Box	-	76	Washer	EN 1.4301 (AISI 304) / AISI 316
17	Terminal Box cover [1]	Aluminium	77	O-Ring [3]	NBR
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	Adjustment ring	Steel C70	93	Seal ring	-
22	Tie-rod	Galvanised Fe 42	110	Motor protector [2]	-
23	Capacitor [2]	-	200	Screw (pump body)	Stainless Steel A2 UNI7323
24	Plug	AISI 303 / AISI 316			

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

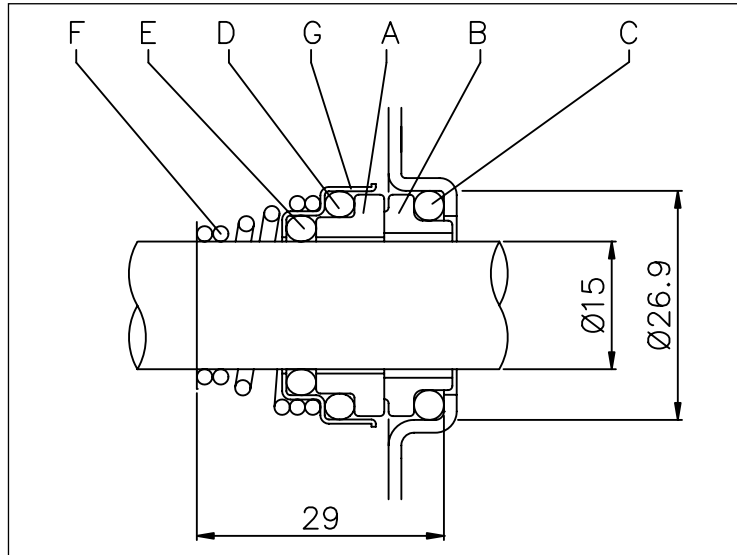
[3]= FKM for CDX(L)H, CDX(L)HS, CDX(L)HW, CDX(L)HSW

EPDM for CDX(L)E, CDX(L) Q1AEGG, CDX(L) VAEGG, CDX(L) U3U3EGG, CDX(L) Q1U3EGG, CDX(L) U3CEGG

SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304 and AISI 316

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	H Version	HS Version	Materials HW Version	HSW Version	E Version
A	Rotating part	Ceramic	Silicon Carbide	Tungsten Carbide	Silicon Carbide	Ceramic
B	Fixed part	Carbon	Silicon Carbide	Tungsten Carbide	Tungsten Carbide	Carbon
C	O-Ring	FKM	FKM	FKM	FKM	EPDM
D	O-Ring	FKM	FKM	FKM	FKM	EPDM
E	O-Ring	FKM	FKM	FKM	FKM	EPDM
F	Spring	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316
G	Structure/frame	AISI 304	AISI 316	AISI 316	AISI 316	AISI 316

Ref.	Name	Q1AEGG Version	VAEGG Version	Materials U3U3EGG Version	Q1U3EGG Version	U3CEGG Version
A	Rotating part	Silicon Carbide	Ceramic	Tungsten Carbide	Silicon Carbide	Tungsten Carbide
B	Fixed part	Metallised carbon	Metallised carbon	Tungsten Carbide	Tungsten Carbide	Special Carbon
C	O-Ring	EPDM	EPDM	EPDM	EPDM	EPDM
D	O-Ring	EPDM	EPDM	EPDM	EPDM	EPDM
E	O-Ring	EPDM	EPDM	EPDM	EPDM	EPDM
F	Spring	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316
G	Structure/frame	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316

CDX(L)

SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304 and AISI 316

ELECTRIC DATA TABLE

Single phase 230V	Model Three phase 230/400V	P ₂		Efficiency		Capacitor		Efficiency (%)			P ₁		Absorbed Current		
		[HP]	[kW]	Single phase	Three phase	Single phase μF	V.	Three phase			Single phase [kW]	Three phase [kW]	Single phase 230V	Three phase	
								50%	75%	100%				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
-		1	0.75	-	IE3	-	-	80.9	82.3	82.1	-	0.91	-	3.0	1.7
CDXM 120/07	CDX 120/07	0.75	0.55	-	-	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
-		1.2	0.9	-	IE3	-	-	81.7	83.1	82.4	-	1.34	-	4.3	2.5
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
-		2	1.5	-	IE3	-	-	84.2	86.8	86.9	-	2.01	-	7.1	4.1
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
-		1.2	0.9	-	IE3	-	-	81.7	83.1	82.4	-	1.34	-	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
-		2	1.5	-	IE3	-	-	84.2	86.8	86.9	-	2.01	-	7.1	4.1
-	CDX 200/25	2.5	1.8	-	IE2	-	-	83.0	84.4	83.8	-	2.87	-	8.7	5.0
-		2.5	1.8	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7

NOISE DATA TABLE

Single phase 230V	Model Three phase 230/400V	P ₂		L _{pa} - 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 measurements at 1 m distance around the pump.
Tolerance ± 2.5 dB.

Insulation casing



For applications with refrigerant liquids or liquids with high thermal difference that may generate condensate