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Stainless Steel Centrifugal Pump

Model CDX / 2CDX

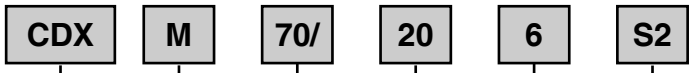


Technical Specifications

EBARA

EBARA Pumps Americas Corporation

Model Designation



MODEL TYPE

CDX - Single stage pump

PHASE DESIGNATION

M - Single Phase
(none) - Three Phase

HYDRAULIC CODE

70/0
120/
200/

RATED HP

07 - 3/4 HP
10 - 1 HP
20 - 2 HP
30 - 3 HP

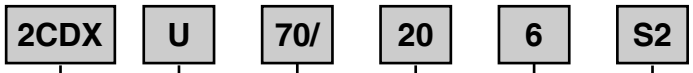
HERTZ

6 - 60 Hz

PHASE/VOLT

S1 - single phase, 115 Volt
S2 - single phase, 230 Volt
T2 - three phase, 230/460 Volt

Model Designation



MODEL TYPE

2CDX - Two-stage pump

PHASE DESIGNATION

U - European-made motor for the U.S. market

HYDRAULIC CODE

70/0
120/
200/

RATED HP

20 - 2 HP
30 - 3 HP
50 - 5.5 HP

HERTZ

6 - 60 Hz

PHASE/VOLT

S2 - single phase, 230 Volt
T2 - three phase, 208-230/460 Volt

Specifications

	Standard	Optional
Size		
Suction	1 1/4” NPT thread 1 1/2” NPT thread	
Discharge	1” NPT thread	
Range of HP	3/4 HP to 3 HP	
Range of Performance		
Capacity	5 to 66 GPM at 3600 RPM	
Head	40 to 154 feet at 3600 RPM	
Liquid Handled		
Type of liquid	Clean Water	
Temperature	Range: 23˚F (-5˚C) to 140˚F (60˚C)	
Max. working pressure	116 PSI	
Materials		
Casing	304 Stainless Steel	
Impeller (closed type)	304 Stainless Steel	
Shaft	303 Stainless Steel	
Bracket	Aluminum	
Shaft Seal	Mechanical Seal Carbon/Ceramic/NBR	Consult factory for additional seal options
Direction of Rotation	Clockwise when viewed from motor end	
Motor		
Type	TEFC/IP55	
Speed	60 Hz, 3450 RPM (2 poles)	
Single Phase	230V	
Three PHase	230/460V	
Motor Protection	Built-in overload protection (single phase)	
Bearing	Sealed Ball Bearing	

Specifications

	Standard	Optional
Size		
Suction	2CDXU70 - 1 1/4” NPT thread 2CDXU120 - 1 1/4” NPT thread 2CDXU200 - 1 1/2” NPT thread	
Discharge	1” NPT thread	
Range of HP	2 HP to 5 1/2 HP	
Range of Performance		
Capacity	5 to 66 GPM at 3600 RPM	
Head	127 to 255 feet at 3600 RPM	
Liquid Handled		
Type of liquid	Clean Water	
Temperature	Range: 23˚F (-5˚C) to 212˚F (100˚C)	
Max. working pressure	125 PSI (8.6 Bar)	
Materials		
Casing	304L Stainless Steel	
Impeller (closed type)	304L Stainless Steel	
Shaft	304L Stainless Steel	
Bracket	Aluminum	
Shaft Seal	Mechanical Seal Carbon/Ceramic/Viton	Consult factory for additional seal options
Direction of Rotation	Clockwise when viewed from motor end	
Motor		
Type	TEFC/IP55	
Speed	60 Hz, 3450 RPM (2 poles)	
Three Phase	230/460V	
Motor Casing	Aluminum	
Bearing	Ball Bearing	

Electrical Data

3/4 to 1 HP, Single Phase, 115V

Hz	Poles	Phase	Output (HP)	Voltage (V)	Applicable Model
60	2	Single	0.75-1	115	CDXM70

Name-Plate Rating	MOTOR MODEL		70/076	70/106
	Output	HP	0.75	1
		KW	0.55	0.75
	Phase		1	1
	Poles		2	2
	Volts		115	115
	Amperes		7.5	9.4
	Speed		3430	3450
	Insulation Class		F	F
Capacity of Capacitor µF		Start	-	-
		Run	45	60
No Load Test	Amperes		3.22	6.23
	Watts		230	354
Resistance at 20°C	Ohms		1.357	0.921
100% Load	Current		7.7	9.6
	Efficiency		65.0	66.1
	Power Factor		97.2	89.2
	Speed		3449	3445
Locked Rotor Torque			0.40	0.68
Start Current			28.1	40.94
Number Starts per Hour			30	
Voltage Tolerance			±6	

Electrical Data

3/4 to 2 HP, Single Phase, 230V

Hz	Poles	Phase	Output (HP)	Voltage (V)	Applicable Model
60	2	Single	0.75-2	230	CDXM

	MOTOR MODEL		70/076	70/106	70/156	120/106	120/156	120/206	200/156	200/206
Name-Plate Rating	Output	HP	0.75	1	1.5	1	1.5	2	1.5	2
		KW	0.55	0.75	1.1	0.75	1.1	1.5	1.1	1.5
	Phase		1	1	1	1	1	1	1	1
	Poles		2	2	2	2	2	2	2	2
	Volts		230	230	230	230	230	230	230	230
	Amperes		3.4	5.2	7.9	5.2	7.2	11.3	6.7	10.2
	Speed		3420	3430	3425	3425	3440	3475	3450	3490
	Insulation Class		F	F	F	F	F	F	F	F
Capacity of Capacitor µF		Start	-	-	-	-	-	-	-	-
		Run	12.5	14	25	14	25	35	20	35
No Load Test	Amperes		2.8	2.95	3.94	2.95	3.94	5.73	5.05	5.73
	Watts		335	325	502	325	502	529	485	529
Resistance at 20°C	Ohms		5.19	3.5	2.082	3.5	2.082	0.96	2.166	0.96
100% Load	Current		4.09	5.3	7.2	5.3	7.2	10.5	6.7	10.5
	Efficiency		62.1	67.7	70.1	67.7	70.1	80.3	67.7	80.3
	Power Factor		91.8	81.4	91.6	81.4	91.6	88.7	90.9	88.7
	Speed		3429	3512	3458	3512	3458	6492	3459	3492
Locked Rotor Torque			0.53	0.66	0.82	0.66	0.82	1.49	0.82	1.49
Start Current			17.34	19.9	23.9	20.1	23.9	32.6	23.9	32.6
Number Starts per Hour			30							
Voltage Tolerance			±6							

Electrical Data

3/4 to 3 HP, Three Phase, 230V

Hz	Poles	Phase	Output (HP)	Voltage (V)	Applicable Model
60	2	Three	0.75-3	230	CDX

	MOTOR MODEL		70/076	70/106	70/156	120/106	120/156	120/206	200/156	200/206	200/306
Name-Plate Rating	Output	HP	0.75	1	1.5	1	1.5	2	1.5	2	3
		KW	0.55	0.75	1.1	0.75	1.1	1.5	1.1	1.5	2.2
	Phase		3	3	3	3	3	3	3	3	3
	Poles		2	2	2	2	2	2	2	2	2
	Volts		230	230	230	230	230	230	230	230	230
	Amperes		1.9	2.9	3.8	2.8	4	7.5	3.8	7.5	7.5
	Speed		3330	3450	3350	3350	3375	3480	3380	3500	3360
	Insulation Class		F	F	F	F	F	F	F	F	F
No Load Test	Amperes		1.12	2.02	2.52	2.02	2.52	4.6	2.52	4.6	4.6
	Watts		134	158	82	158	82	114	82	114	114
Resistance at 20°C	Ohms		12.6	7.06	3.2	7.06	3.2	1.34	3.2	1.34	1.34
100% Load	Current		1.98	2.8	4.28	2.8	4.28	8.16	4.28	8.16	8.16
	Efficiency		63.2	68.1	82.74	68.1	82.7	82.9	82.3	82.9	84.1
	Power Factor		73.6	74.2	76.3	74.2	76.3	77	76.3	77	77
	Speed		3418	3436	3447	3436	3447	3480	3447	3480	3480
Locked Rotor Torque			2.54	4.17	7.55	4.17	7.55	12.41	7.55	12.41	12.41
Start Current			6.55	17.2	25.7	17.2	25.7	58.23	25.7	58.23	58.23
Number Starts per Hour			30								
Voltage Tolerance			±10								

Electrical Data

3/4 to 3 HP, Three Phase, 460V

Hz	Poles	Phase	Output (HP)	Voltage (V)	Applicable Model
60	2	Three	0.75-3	460	CDX

Name-Plate Rating	MOTOR MODEL		70/076	70/106	70/156	120/106	120/156	120/206	200/156	200/206	200/306
	Output	HP	0.75	1	1.5	1	1.5	2	1.5	2	3
		KW	0.55	0.75	1.1	0.75	1.1	1.5	1.1	1.5	2.2
	Phase		3	3	3	3	3	3	3	3	3
	Poles		2	2	2	2	2	2	2	2	2
	Volts		460	460	460	460	460	460	460	460	460
	Amperes		1.2	1.6	2.2	1.7	2.2	4.1	2.2	4.1	4.1
	Speed		3330	3450	3350	3350	3375	3480	3380	3500	3360
	Insulation Class		F	F	F	F	F	F	F	F	F
No Load Test	Amperes		0.65	1.17	1.27	1.17	1.27	2.30	1.27	2.30	2.3
	Watts		134	158	82	158	82	114	82	114	114
Resistance at 20°C	Ohms		37.9	21.2	9.6	21.2	9.6	4.01	9.6	4.01	4.01
100% Load	Current		1.15	1.62	2.15	1.62	2.15	4.10	2.15	4.10	4.10
	Efficiency		63.2	68.1	84.44	68.1	84.44	87.4	84.44	87.4	87.4
	Power Factor		73.6	74.2	76.3	74.2	76.3	77	76.3	77	77
	Speed		3418	3436	3447	3436	3447	3480	3447	3480	3480
Locked Rotor Torque			3.37	5.53	9.98	5.53	9.98	16.41	9.98	16.41	16.41
Start Current			3.28	8.60	17.2	8.60	17.2	38.9	17.2	38.9	38.9
Number Starts per Hour			30								
Voltage Tolerance			±10								

Electrical Data

Hz	Poles	Phase	Output (HP)	Voltage	Applicable Model
60	2	Single	2 to 3	230	2CDXU

Name-Plate Rating	MOTOR MODEL		70/206	70/306			
	Output	HP	2	3			
		KW	1.5	2.2			
	Phase		1	1			
	Poles		2	2			
	Volts		230	230			
	Amperes		10.3	11.7			
	Speed		3500	3450			
	Insulation Class		F	F			
Capacity of Capacitor µ F	Start		-	-			
	Run		35	35			
No Load Test	Amperes		5.50	5.50			
	Watts		168	168			
Resistance at 20°C OHMS			2.558	2.558			
100% Load	Current	Amp.	10.3	11.7			
	Efficiency	%	79.7	78.5			
	Power Factor	%	95.6	94.6			
	Speed	RPM	3484	3461			
Locked Rotor Torque		%	40.9	40.9			
Start Current		Amp.	69.6	69.6			
Number Starts Per Hour			20	20			
Voltage Tolerance		%	±6%				
Frequency Tolerance		%	±6%				
(Ref. data Mfr's Symbols)			EI	EI			

Electrical Data

Hz	Poles	Phase	Output (HP)	Voltage	Applicable Model
60	2	Three	2 to 5 1/2	208/230	2CDXU

Name-Plate Rating	MOTOR MODEL		70/206	70/306	120/306	120/506	
	Output	HP	2	3	3	5 1/2	
		KW	1.5	2.2	2.2	4	
	Phase		3	3	3	3	
	Poles		2	2	2	2	
	Volts		208/230	208/230	208/230	208/230	
	Amperes		8.3/7.5	8.3/7.5	8.3/7.5	14.2/12.9	
	Speed		3490	3460	3460	3480	
	Insulation Class		F	F	F	F	
No Load Test	Amperes		3.2	3.2	4.5	7.1	
	Watts		157	157	165	436	
Resistance at 20°C OHMS			2.45	2.45	2.02	0.72	
100% Load	Current	Amp.	8.3/7.5	8.3/7.5	8.3/7.5	14.2/12.9	
	Efficiency	%	87.5	87.5	87.5	88.5	
	Power Factor	%	85.6	85.6	85.0	86.8	
	Speed	RPM	3392	3392	3409	3465	
Locked Rotor Torque		%	500	500	388	300	
Start Current		Amp.	57	59	71	145	
Number Starts Per Hour			20	20	20	20	
Voltage Tolerance		%	±10%				
Frequency Tolerance		%	±10%				
(Ref. data Mfr's Symbols)			EI	EI	EI	EI	

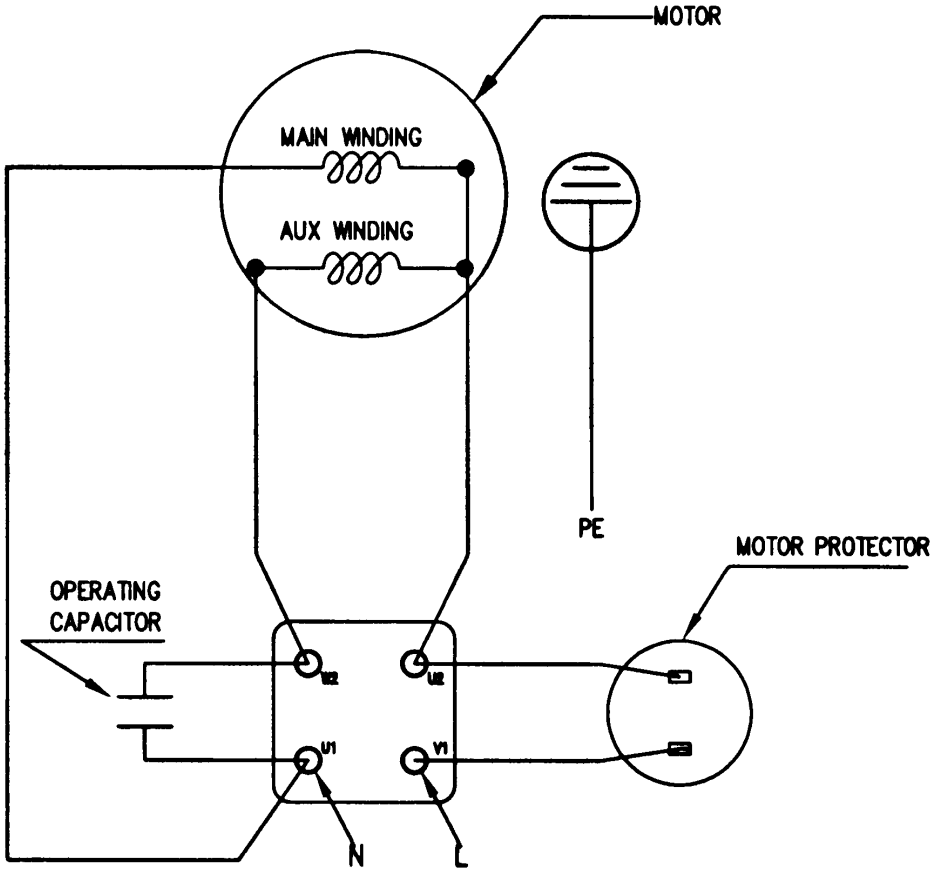
Electrical Data

Hz	Poles	Phase	Output (HP)	Voltage	Applicable Model
60	2	Three	2 to 5 1/2	460	2CDXU

Name-Plate Rating	MOTOR MODEL		70/206	70/306	120/306	120/506	
	Output	HP	2	3	3	5 1/2	
		KW	1.5	2.2	2.2	4	
	Phase		3	3	3	3	
	Poles		2	2	2	2	
	Volts		460	460	460	460	
	Amperes		4.1	4.1	4.1	7.6	
	Speed		3490	3460	3460	3480	
	Insulation Class		F	F	F	F	
No Load Test	Amperes		1.6	1.6	2.73	3.7	
	Watts		186	186	230	516	
Resistance at 20°C OHMS			3.5	3.5	2.43	0.92	
100% Load	Current	Amp.	4.1	4.1	4.1	7.6	
	Efficiency	%	87.5	87.5	87.5	88.5	
	Power Factor	%	80.9	80.9	74.1	81.3	
	Speed	RPM	3442	3442	3469	3494	
Locked Rotor Torque		%	506	506	424	296	
Start Current		Amp.	30	30	36	73	
Number Starts Per Hour			20	20	20	20	
Voltage Tolerance		%	±10%				
Frequency Tolerance		%	±5%				
(Ref. data Mfr's Symbols)			EI	EI	EI	EI	

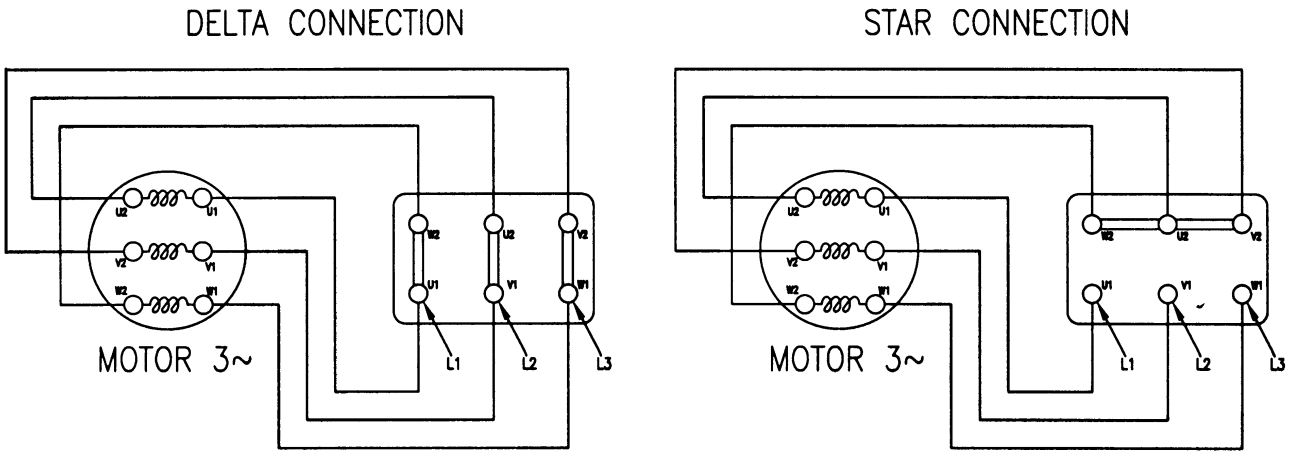
Wiring Diagram

Single Phase

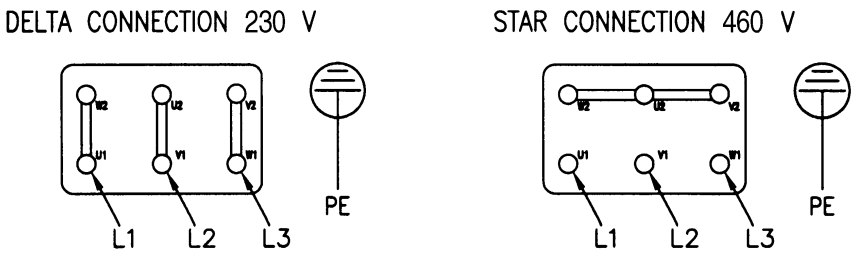


Wiring Diagram

Three Phase



FOR 2HP (1.5kW) AND 5.5HP (4kW)



FOR 3HP (2.2kW)

