

# 2CDX/2CDU

Model 2CDX/2CDU

EBARA Stainless Steel Two-Stage Centrifugal Pumps

## Contents

Item No.	Specifications	Selection Chart	Performance Curve	Pump Dimensions	Sectional View	Motor Data
2CDXU70/206-2HP	603	605	606	608	610	612
2CDXU70/306-3HP						
2CDXU120/306-3HP						
2CDXU200/506-5HP						
			607			
2CDU70/206-2HP	604	605	606	609	611	Standard NEMA motors
2CDU70/306-3HP						
2CDU120/306-3HP						
2CDU200/506-5HP						
			607			



\*Note: Model 2CDU is NSF/ANSI 61 Annex G listed

Certified to  
NSF/ANSI 61, ANNEX G



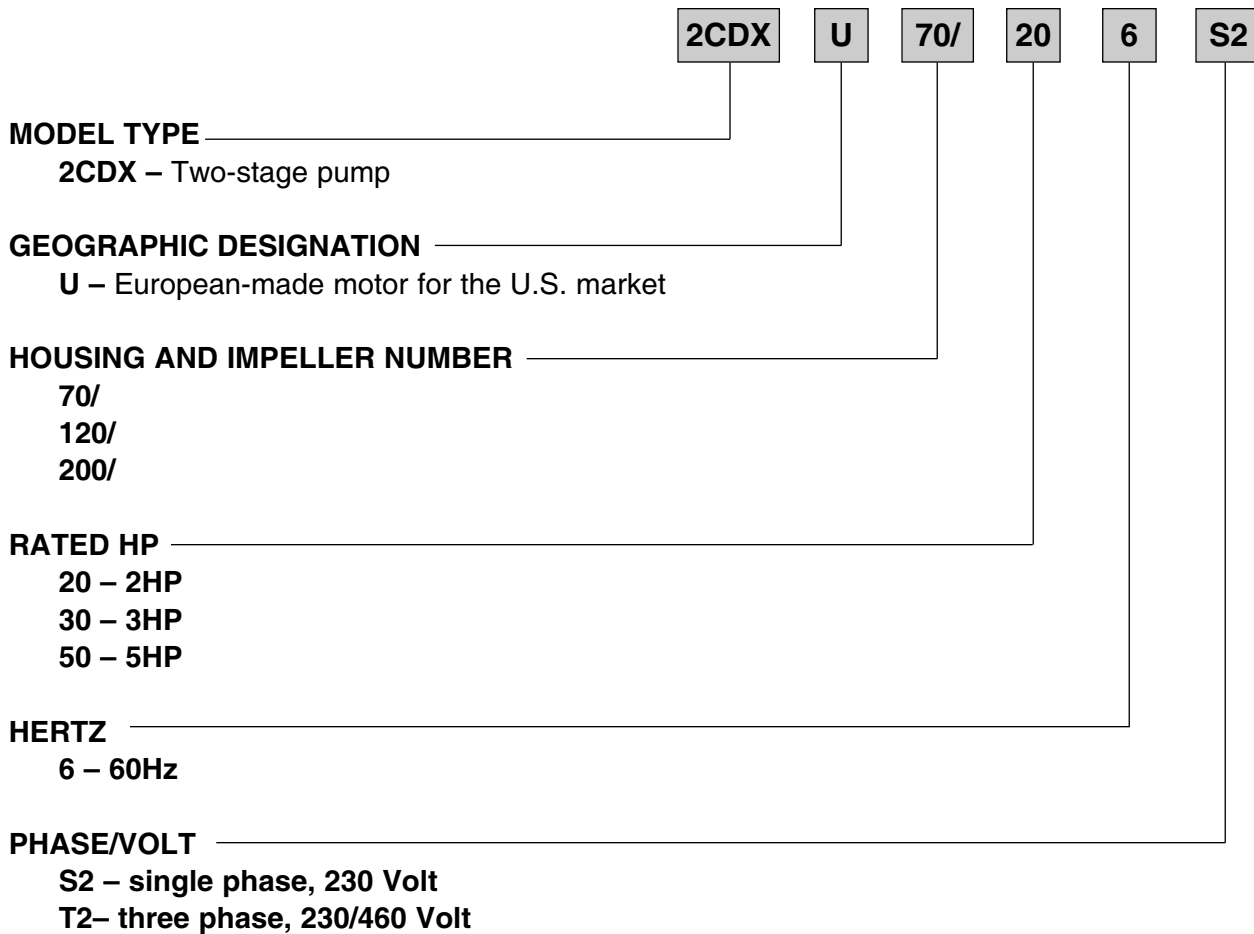
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600  
rev. 03/12

Model 2CDX

EBARA Stainless Steel Two-Stage Centrifugal Pumps

Model Designation



Model 2CDU

EBARA Stainless Steel Two-Stage Centrifugal Pumps

## Model Designation

2CDU 70/ 20 6 T 3 C

**MODEL TYPE** \_\_\_\_\_  
2CDU – Two-stage pump with NEMA configuration

**HOUSING AND IMPELLER NUMBER** \_\_\_\_\_  
70/  
120/  
200/

**RATED HP** \_\_\_\_\_  
20 – 2HP  
30 – 3HP  
50 – 5HP

**HERTZ** \_\_\_\_\_  
6 – 60Hz

**MOTOR ENCLOSURE** \_\_\_\_\_  
T – TEFC (Totally Enclosed Fan Cooled)  
D – ODP (Open Drip Proof)

**PHASE/VOLT** \_\_\_\_\_  
3 – three phase, 230/460 Volt  
1 – single phase, 115/230 Volt

**SEAL TYPE** \_\_\_\_\_  
C – Mild chemical  
G – General service  
H – High temperature



### Specifications

	Standard	Optional
<b>Size</b> Suction  Discharge	2CDXU70 – 1¼" NPT Thread 2CDXU120 – 1¼" NPT Thread 2CDXU200 – 1½" NPT Thread  1" NPT Thread	
<b>Range of HP</b>	2 HP to 5 HP	
<b>Range of Performance</b> Capacity Head	5.5 to 66 GPM at 3600 RPM 98 to 245 feet at 3600 RPM	
<b>Liquid handled</b> Type of liquid Temperature Working pressure	Clean water Maximum: 212°F (100°C) Maximum: 125 PSI (9 Bar)	
<b>Materials</b> Casing Impeller (closed type) Shaft Bracket Shaft Seal	304L Stainless Steel 304L Stainless Steel 304L Stainless Steel Aluminum Mechanical Seal – Carbon/Ceramic/Viton	Consult factory for optional seal types
<b>Direction of Rotation</b>	Clockwise when viewed from motor end	
<b>Motor</b> Type Speed Three Phase Motor Casing Bearing	TEFC/IP55 60 Hz, 3450 RPM (2 poles) 230/460V Aluminum Ball Bearing	



## Model 2CDU

## EBARA Stainless Steel Two-Stage Centrifugal Pumps

### Specifications

	Standard	Optional
<b>Size</b>		
Suction	2CDU70 – 1¼" NPT Thread 2CDU120 – 1¼" NPT Thread 2CDU200 – 1½" NPT Thread	
Discharge	1" NPT Thread	
<b>Range of HP</b>	2 HP to 5 HP	
<b>Range of Performance</b>		
Capacity	5.5 to 66 GPM at 3600 RPM	
Head	98 to 245 feet at 3600 RPM	
<b>Liquid handled</b>		
Type of liquid	Clean water	
Temperature	Maximum: 212°F (100°C)	Maximum: 250°F (121°C) with optional high temperature seal
Working pressure	Maximum: 125 PSI (9 Bar)	
<b>Materials</b>		
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 optional seal types
<b>Direction of Rotation</b>	Clockwise when viewed from motor end	
<b>Motor</b>		
Type	NEMA 56J Frame	
Speed	60 Hz, 3450 RPM (2 poles)	
Single Phase	TEFC – 2 HP to 5 HP ODP – 2 HP to 3 HP, 115/230V	Explosion proof – consult factory Washdown duty – consult factory
Three Phase	TEFC – 2 HP to 5 HP ODP – 2 HP to 3 HP, 208-230/460V	
Motor Protection	Built-in overload protection (single phase)	
Bearing	Ball Bearing	

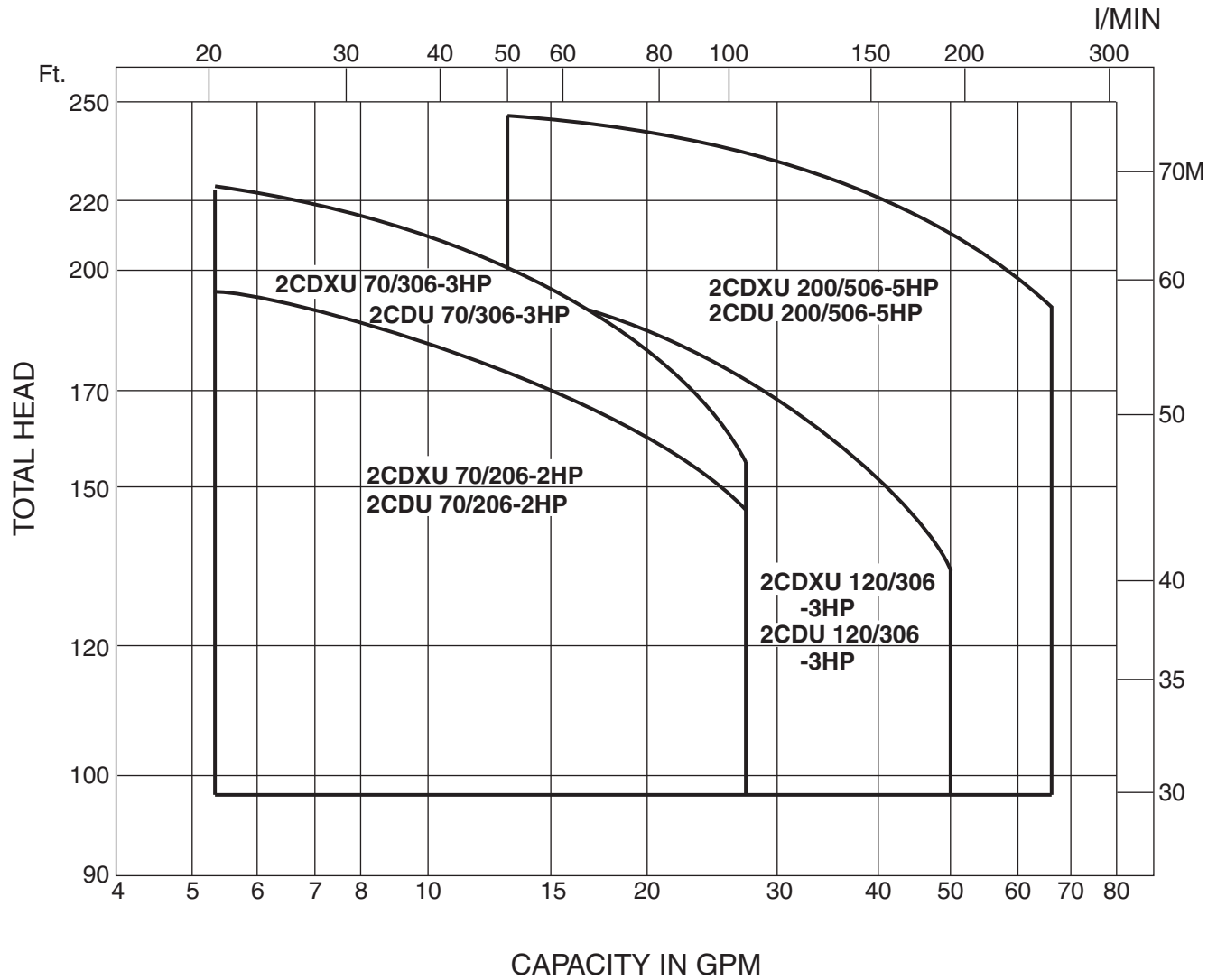


\*Note: Model 2CDU is NSF/ANSI 61 Annex G listed

Certified to NSF/ANSI 61, ANNEX G



60Hz, Synchronous Speed 3600 RPM



# 2CDX/2CDU

Model 2CDX/2CDU

EBARA Stainless Steel Two-Stage Centrifugal Pumps

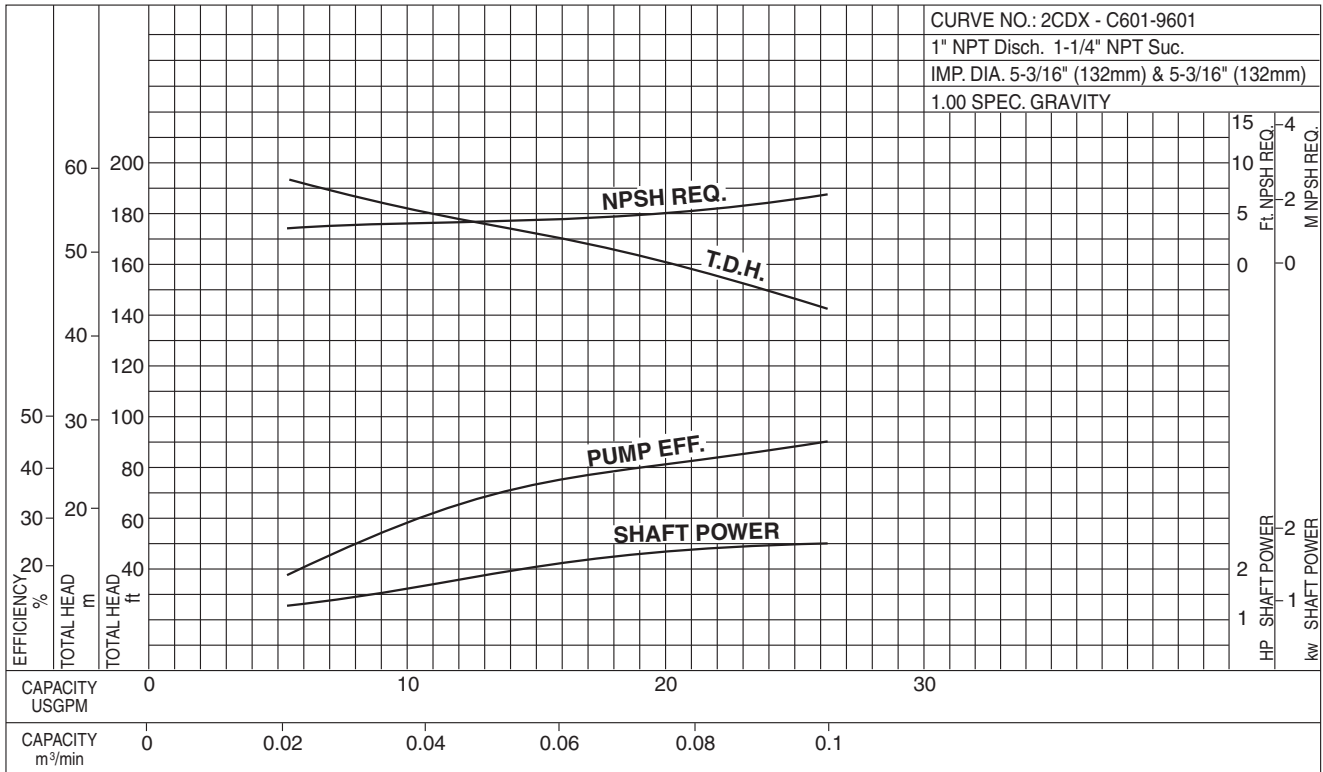
## Performance Curves

2CDXU 70/206-2HP

2CDU 70/206-2HP

Synchronous Speed: 3600 RPM

Size: 1 x 1<sup>1</sup>/<sub>4</sub> x 5<sup>3</sup>/<sub>16</sub> x 5<sup>3</sup>/<sub>16</sub>

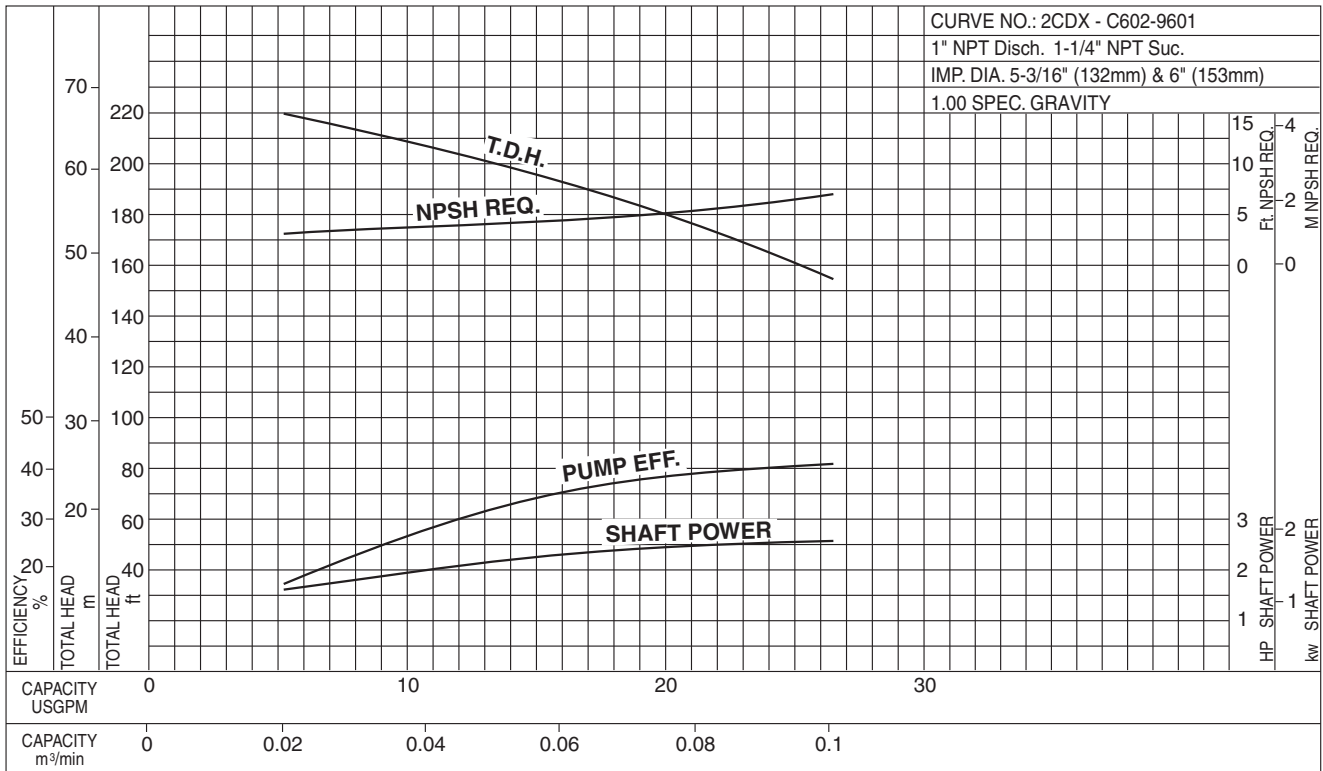


2CDXU 70/306-3HP

2CDU 70/306-3HP

Synchronous Speed: 3600 RPM

Size: 1 x 1<sup>1</sup>/<sub>4</sub> x 5<sup>3</sup>/<sub>16</sub> x 6



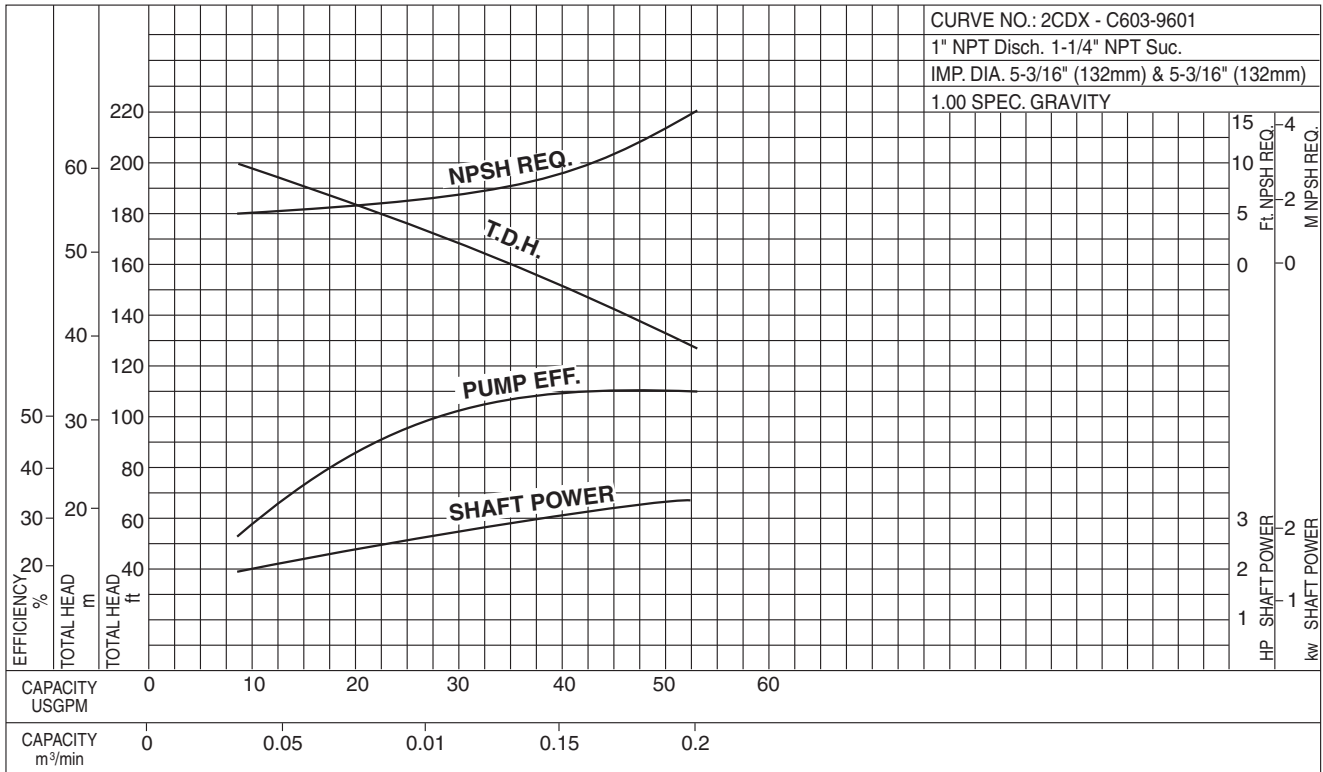
# 2CDX/2CDU

Model 2CDX/2CDU

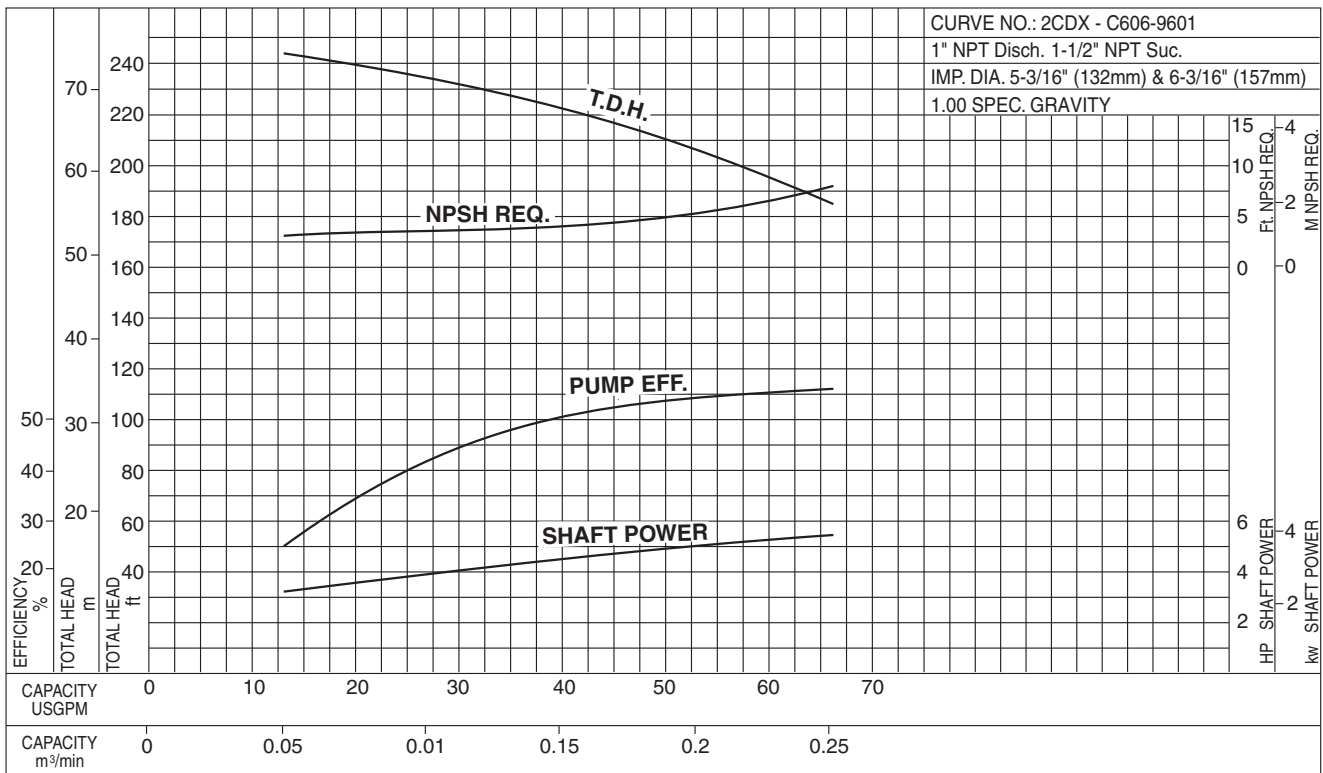
EBARA Stainless Steel Two-Stage Centrifugal Pumps

## Performance Curves

2CDXU 120/306-3HP 2CDU 120/306-3HP Synchronous Speed: 3600 RPM Size: 1 x 1 1/4 x 5 3/16 x 5 3/16



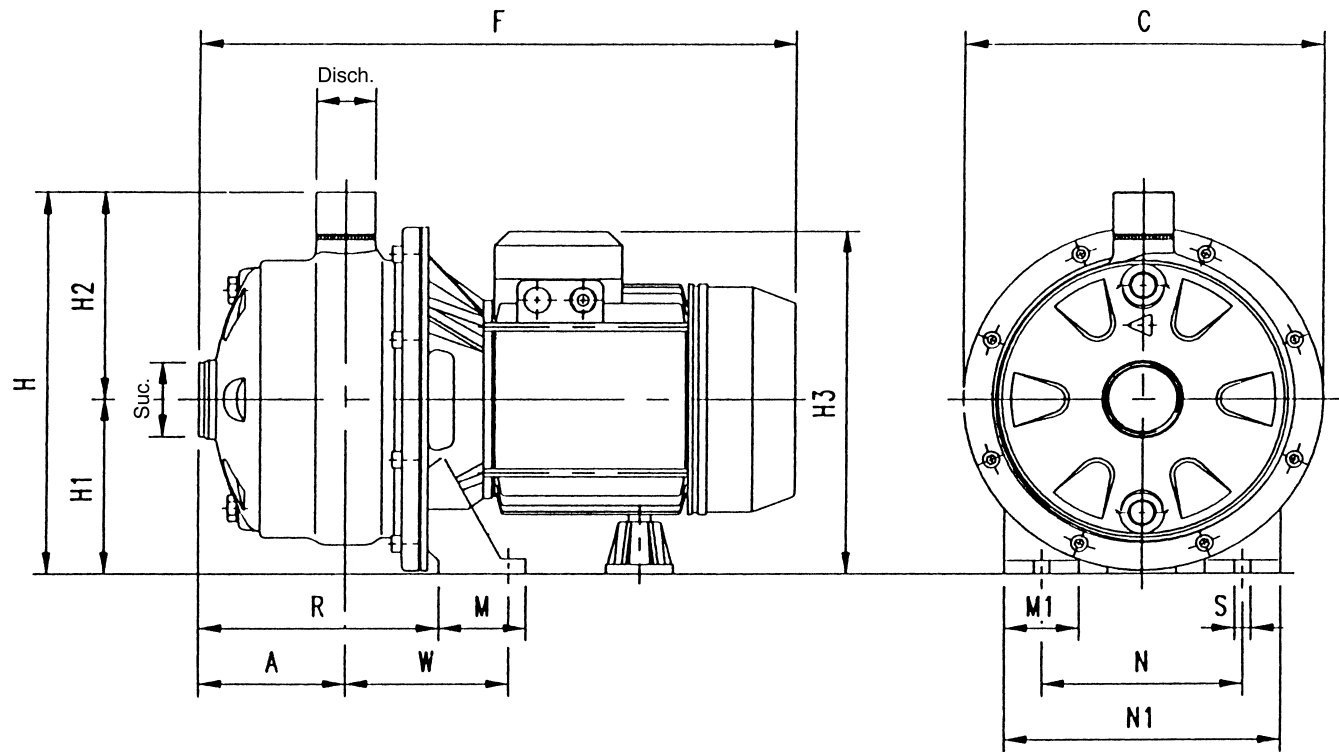
2CDXU 200/506-5HP 2CDU 200/506-5HP Synchronous Speed: 3600 RPM Size: 1 x 1 1/2 x 5 3/16 x 6 3/16





### Dimensions

Pump with IP55 TEFC motor only



### Dimensions: inch

PHASE	MODEL	HP	SIZE		PUMP & MOTOR														Weight Lbs
			Suc.	Disch.	A	C	F	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	M	M <sub>1</sub>	N	N <sub>1</sub>	R	S	W	
THREE	2CDXU70/206	2	1 1/4"NPT	1"NPT	3 7/16	8 3/16	16	9	4 3/16	4 13/16	8 7/8	2 3/16	1 9/16	5 1/2	7 1/16	5 1/2	3/8	3 3/4	38
	2CDXU70/306	3	1 1/4"NPT	1"NPT	3 7/16	8 3/16	16	9	4 3/16	4 13/16	8 7/8	2 3/16	1 9/16	5 1/2	7 1/16	5 1/2	3/8	3 3/4	38
	2CDXU120/206	3	1 1/4"NPT	1"NPT	3 1/2	8 3/16	16 1/16	9	4 3/16	4 13/16	8 7/8	2 3/16	1 9/16	5 1/2	7 1/16	5 9/16	3/8	3 3/4	46
	2CDXU200/506	5	1 1/2"NPT	1"NPT	3 7/16	8 3/16	9 7/16	9 1/2	4 5/8	4 13/16	10 3/16	2 1/16	1 15/16	6 5/16	8 1/4	5 11/16	1/2	4 5/16	79

### Dimensions: mm

PHASE	MODEL	HP	SIZE		PUMP & MOTOR														Weight kg
			Suc.	Disch.	A	C	F	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	M	M <sub>1</sub>	N	N <sub>1</sub>	R	S	W	
THREE	2CDXU70/206	2	1 1/4"NPT	1"NPT	87	208	407	229	106	123	225	55	40	140	180	140	9	95	17
	2CDXU70/306	3	1 1/4"NPT	1"NPT	87	208	407	229	106	123	225	55	40	140	180	140	9	95	17
	2CDXU120/206	3	1 1/4"NPT	1"NPT	89	208	408	229	106	123	225	55	40	140	180	142	9	95	21
	2CDXU200/506	5	1 1/2"NPT	1"NPT	87	208	494	241	118	123	259	68	50	160	210	144	12	109	35.7

## Model 2CDU

## EBARA Stainless Steel Two-Stage Centrifugal Pumps

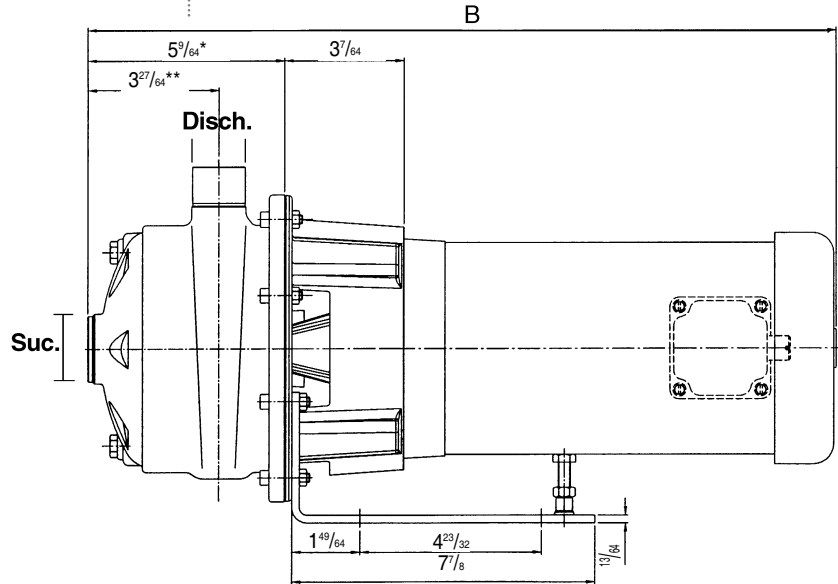
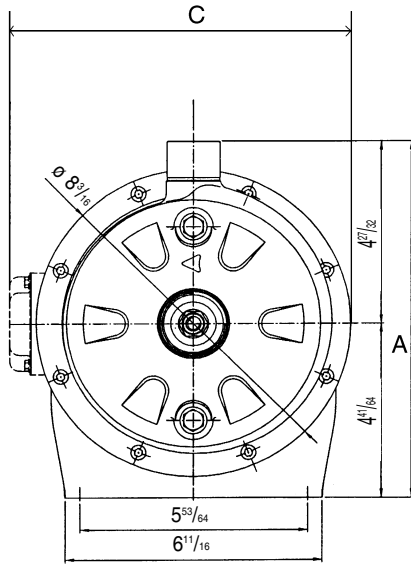
### Dimensions

#### Pump with Standard NEMA motor

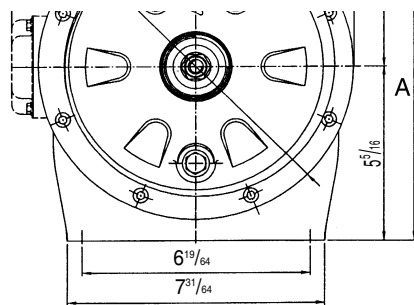
Note: All dimensions in inches

Note:  
Dimensions for Model 2CDU120/306

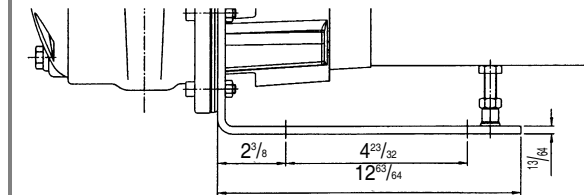
\*5<sup>7</sup>/<sub>32</sub>  
\*\*3<sup>1</sup>/<sub>2</sub>



Note:  
Dimensions for  
Model 2CDU200/506 5HP



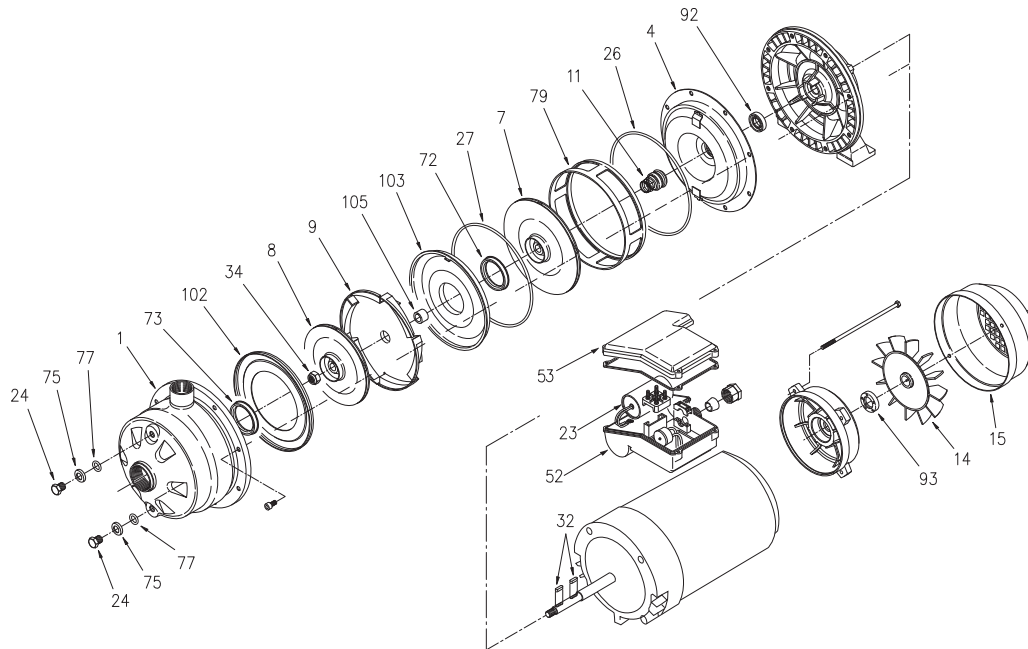
Note:  
Dimensions for  
Model 2CDU200/506 5HP



Model	Pump Size – NPT (Inch)		Dimension (Inch)			Approximate Weight (lbs.)			
	Suction	Discharge	Maximum Height (A)	Maximum Length (B)	Maximum Width (C)	Single Phase		Three Phase	
						ODP	TEFC	ODP	TEFC
2CDU70/206	1 <sup>1</sup> / <sub>4</sub>	1"	9.77	20.27	7.323	55	65	50	45
2CDU70/306	1 <sup>1</sup> / <sub>4</sub>	1"	10.82	21.87	11.66	65	90	55	60
2CDU120/306	1 <sup>1</sup> / <sub>4</sub>	1"	10.82	21.91	11.66	65	90	55	65
2CDU200/506	1 <sup>1</sup> / <sub>2</sub>	1"	11.66	23.5	11.66	n/a	100	n/a	90



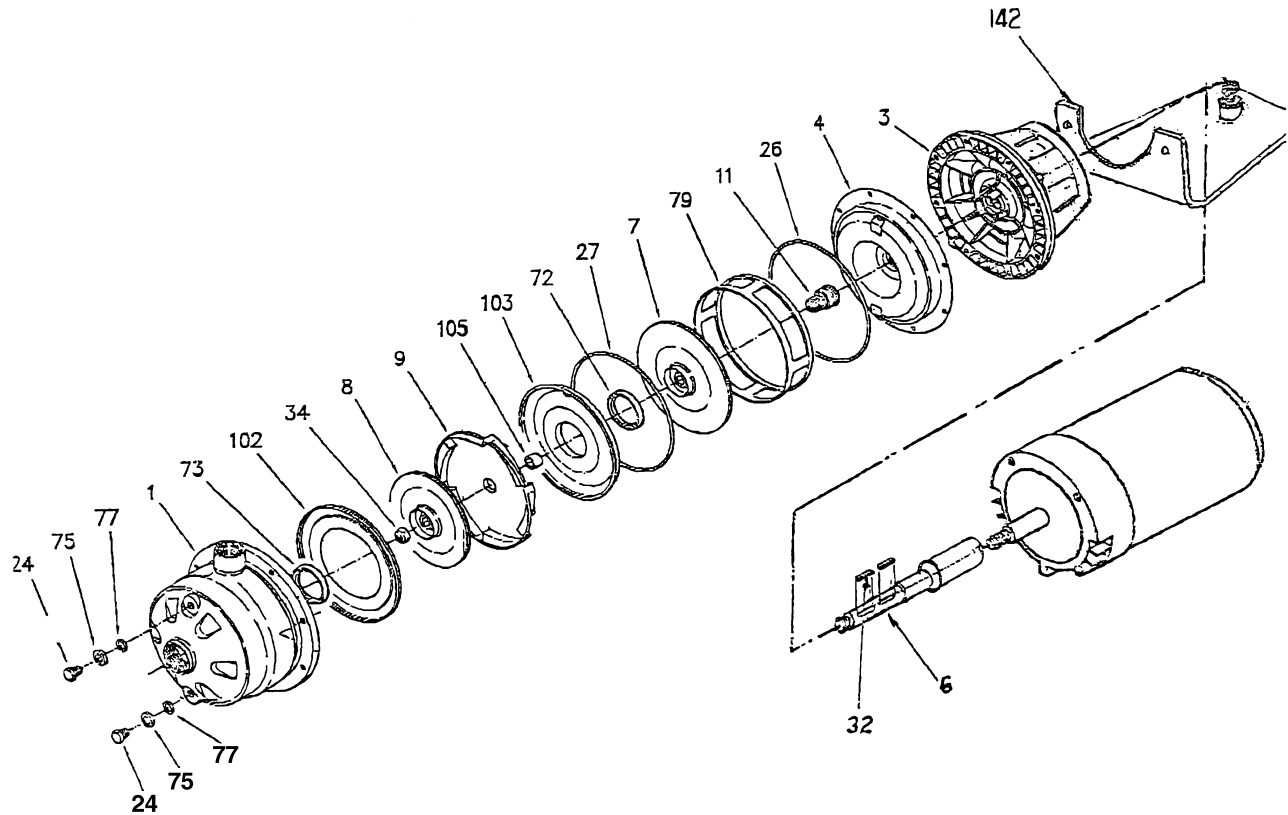
### Exploded view



Location No.	Part Name	Material	No. for 1 Unit
1	Casing	304 Stainless	1
4	Casing cover	304 Stainless	1
7	Impeller	304 Stainless	1
8	Impeller	304 Stainless	1
9	Diffuser	304 Stainless	1
11	Mechanical seal	Carbon/Ceramic	1
14	Fan	Polypropolene	1
15	Fan cover	Steel	1
23*	Capacitor*	*Single phase only	1
24	Priming plug	304 Stainless	2
26	O-Ring	Viton	1
27	O-Ring	Viton	1
32	Key	304 Stainless	2
34	Impeller nut	304 Stainless	1
52	Terminal box	Polypropolene	1
53	Terminal cover	Polypropolene	1
72	Casing ring	Viton	1
73	Casing ring	Viton	1
75	Washer	304 Stainless	2
77	O-ring	Viton	2
79	Spacer diffuser	304 Stainless	1
92	Lip seal	—	1
93	Lip seal	—	1
102	Suction cover	304 Stainless	1
103	Conveyor cover	304 Stainless	1
105	Sleeve	304 Stainless	1

\*Note: Capacitor for Single Phase ONLY

### Exploded view



Location No.	Part Name	Material	No. for 1 Unit
001	Casing	304 Stainless	1
003	Motor bracket	Cast Aluminum	1
004	Casing cover	304 Stainless	1
006	Shaft extension	304 Stainless	1
007	Impeller	304 Stainless	1
008	Impeller	304 Stainless	1
009	Diffuser	304 Stainless	1
011	Mechanical Seal Type 21	Carbon/Ceramic	1
024	Priming plug/Drain plug	304 Stainless	2
026	O-Ring	Viton	1
027	O-Ring	Viton	1
032	Key	Stainless	2
034	Impeller nut	304 Stainless/Nylon	1
072	Casing ring	Viton	1
073	Casing ring	Viton	1
075	Washer	304 Stainless	2
077	O-ring	Viton	2
079	Spacer diffuser	304 Stainless	1
102	Suction cover	304 Stainless	1
103	Conveyor cover	304 Stainless	1
105	Sleeve	304 Stainless	1
142	Base	Steel	1



## Model 2CDX

## EBARA Stainless Steel Two-Stage Centrifugal Pumps

### Electrical Data

Hz	Poles	Phase	Output (HP)	Voltage (V)	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 $\mu$ 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				



## Model 2CDX

## EBARA Stainless Steel Two-Stage Centrifugal Pumps

### Electrical Data

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

Name-Plate Rating	MOTOR MODEL		70/206	70/306	120/306	200/506	
	Output	HP	2	3	3	5	
		kW	1.5	2.2	2.2	3.7	
	Phase		3	3	3	3	
	Poles		2	2	2	2	
	Volts		230	230	230	230	
	Amperes		8.0	8.0	8.3	15.1	
	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.	8.0	8.0	8.3	15.1	
	Efficiency	%	80.2	80.2	83.1	82.7	
	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	



## Model 2CDX

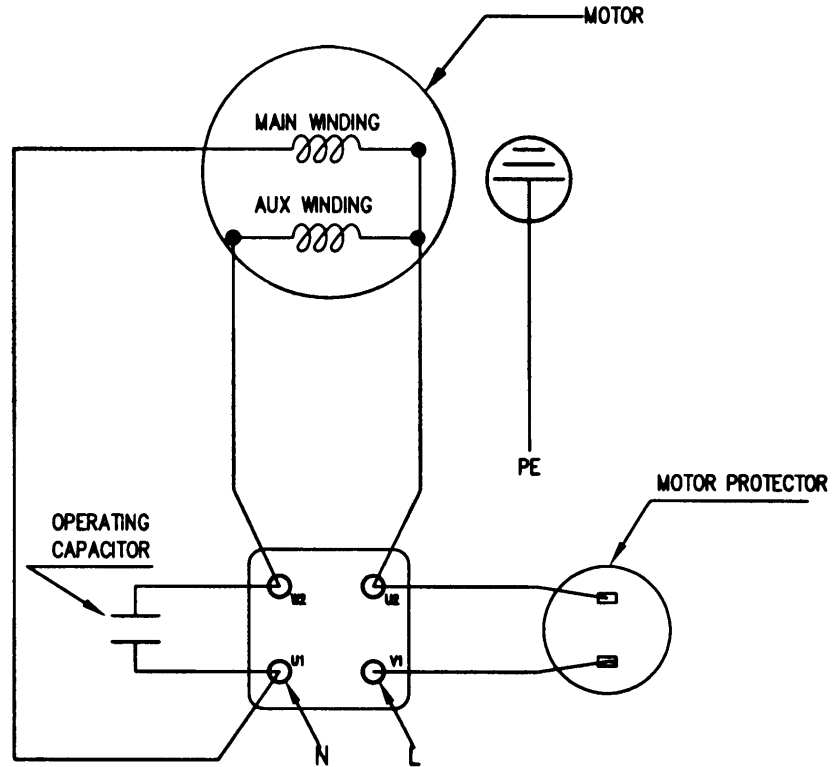
## EBARA Stainless Steel Two-Stage Centrifugal Pumps

### Electrical Data

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

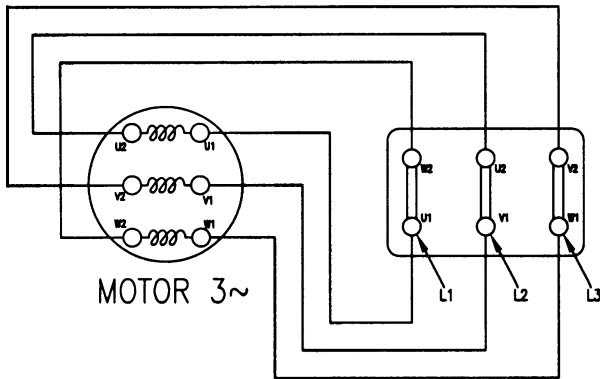
Name-Plate Rating	MOTOR MODEL		70/206	70/306	120/306	200/506	
	Output	HP	2	3	3	5	
		kW	1.5	2.2	2.2	3.7	
	Phase		3	3	3	3	
	Poles		2	2	2	2	
	Volts		460	460	460	460	
	Amperes		3.7	4.4	4.2	8.2	
	Speed		3490	3460	3460	3480	
Insulation Class		F	F	F	F		
No Load Test		Amperes	1.6	1.6	2.73	3.7	
		Watts	186	186	230	516	
Resistance at 20°C OHMS			3.5	3.5	2.43	0.92	
100% Load	Current	Amp.	4.0	4.0	4.2	7.6	
	Efficiency	%	82	82	84.3	83.3	
	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	



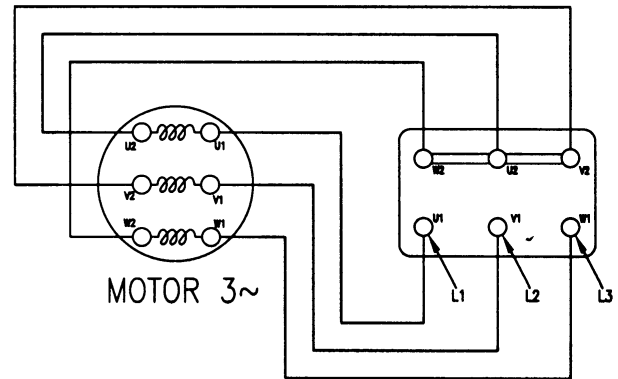




DELTA CONNECTION

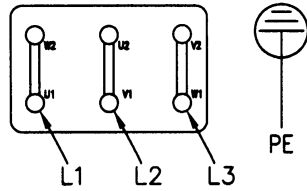


STAR CONNECTION



FOR MOTOR 4 kW AND BELOW

DELTA CONNECTION 230 V



STAR CONNECTION 460 V

