

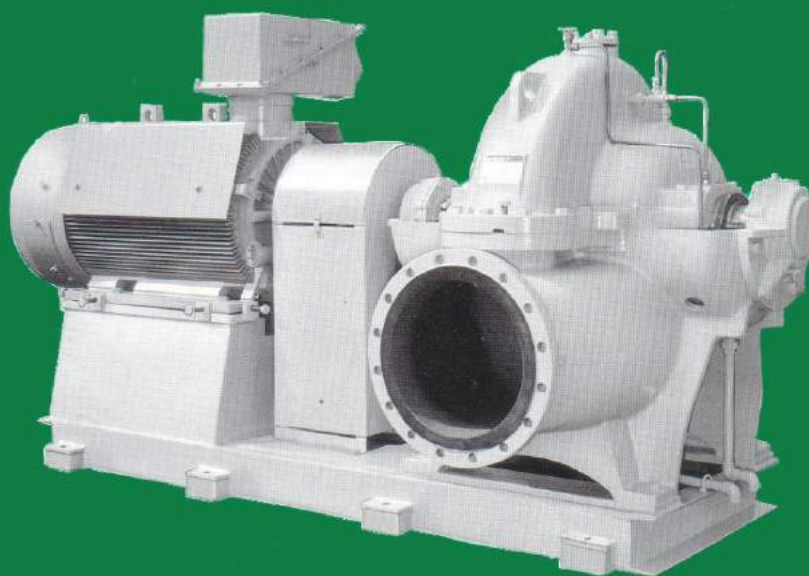


EBARA

CH1101EG

HORIZONTAL DOUBLE SUCTION VOLUTE PUMPS

Model CN BORE 200~500mm (8~20in)



APPLICATIONS

- Buildings**
 - Water supply
 - Drainage
 - Water circulation
 - Fire fighting
- Irrigation**
 - Water supply
 - Drainage
- Waterworks**
 - Water intake
 - Booster
 - Water supply
- Industrial use**
 - Water intake
 - Booster
 - Circulation
 - Drainage
 - Chemical

FEATURES

1. Split case design permits easy disassembly, that is; inspection is simplified, it is not necessary to disturb pump alignment and suction & discharge piping when parts replacement is necessary.
2. Double suction with advanced design of suction performance ensures high suction lifts even with large capacities. Compared with conventional double suction design, with the possibility of using a high speed motor, such system and related facilities can be installed in a small area.
3. Higher operating efficiency over a wider range of capacities lower operation cost and smaller motor output are all possible.
4. Pump operation with low noise, smaller pressure pulsation ensure comfortable environment.
5. Variable combinations of materials permit wide application.

SPECIFICATION & ACCESSORIES

		Φ200 ~ Φ300	Φ350 ~ Φ500
Liquid	Name	Fresh water, industrial water, river water.	
	Temperature	Below 80°C (176°F), 81 ~ 120°C (177 ~ 248°F) (option)	
Max. positive suction pressure		2kgf/cm ² G (~ 0.196MPa) for all models other than two specified in Note 1 below. Positive suction pressure ≤ Maximum allowable pressure - Shut off pressure	7kgf/cm ² G (~ 0.714MPa) (option)
Installation		Indoors, outdoors	
Construction			
Shaft seal		Packing, Mechanical seal (option)	
Bearing		Ball bearing	
Lubrication		Grease (Note 2), Oil bath (option)	
Material			
Casing		Cast iron or ductile cast iron	
Impeller		Cast iron, bronze or 304 stainless steel casting	
Shaft		Carbon steel or chromium molybdenum steel	
Shaft sleeve		Bronze	
Casing ring		Bronze	
Gland packing		Carbonized fiber	
Flange	Suction	JIS 10 K R.F.	JIS 10 K R.F. or JIS 20 K R.F.
	Discharge	JIS 10 K R.F. or JIS 20 K R.F.	JIS 10 K R.F. or JIS 20 K R.F.
Accessories		(Standard) Common base, Anchor bolts, Shaft coupling Coupling guard, Air vent piping, Drain piping Gland sealing water piping	(Option) Pressure gauge, Priming detector, Solenoid valve Pressure switch, Bearing thermometer Tools for pump disassembly

Note:

1. Standard 350x250CHN and 450x300CJN models are in-flux types
2. For 400x300CHN and 400x300CJN models only, grease bearing cannot be provided when operating with 4 pole motor

On making inquiries

When making inquiries placing an order, please furnish us with as much detail as possible for the following items:

Handling Liquid:

Name of liquid, liquid temperature, density, vapor pressure

Pump Ratings:

Capacity, Total head (pressure), suction pressure, discharge pressure, NPSH available

Other information:

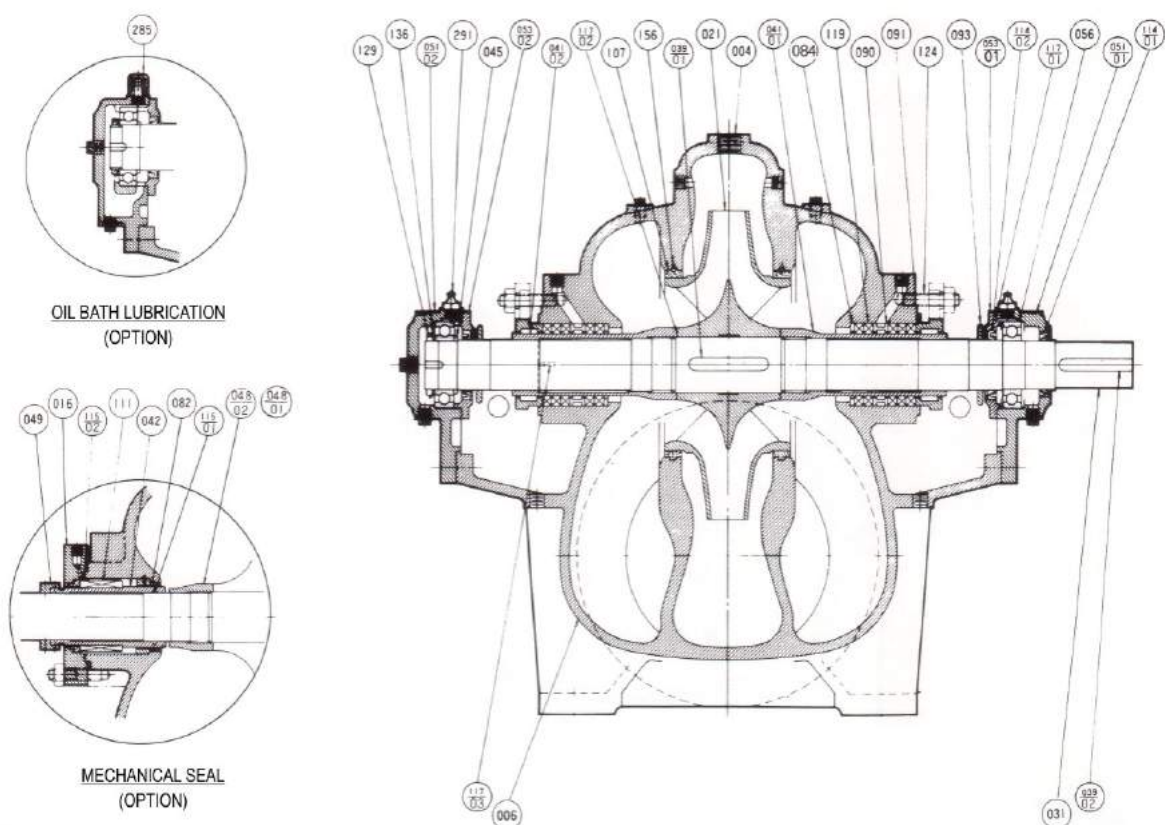
Application (e.g. departure station, booster station, etc.), operation system (e.g. series operation, parallel operation, etc.) type of pump, material quality, gland construction, etc., which you desire to use

Driver:

Type of prime mover, and coupling system, frequency, voltage

SECTIONAL VIEWS

Bore 200-300mm

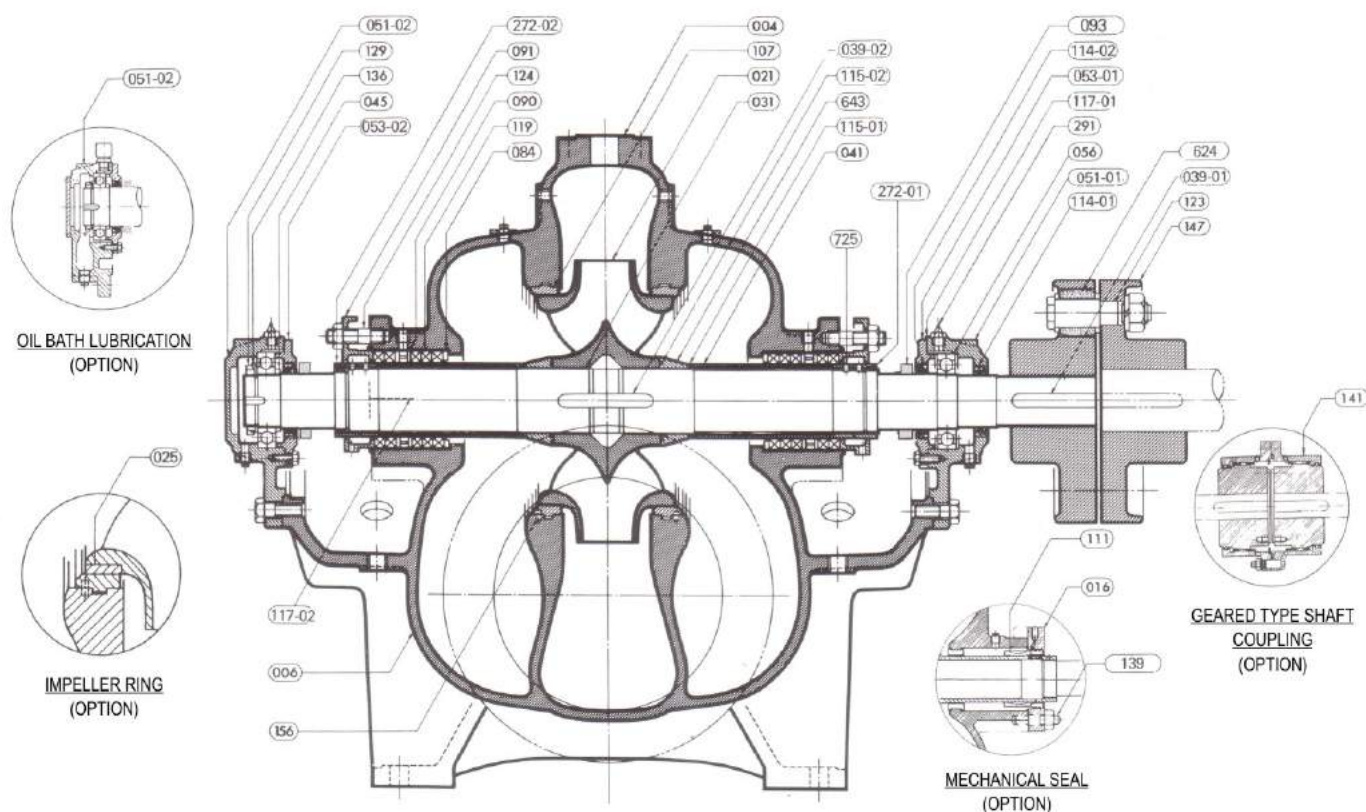


PART NO.	PART NAME	Q'TY	MATERIAL
004	CASING-UPPER HALF	1	CAST IRON OR DUCTILE CAST IRON
006	CASING-LOWER HALF	1	CAST IRON OR DUCTILE CAST IRON
021	IMPELLER	1	CAST IRON OR BRONZE OR STAINLESS STEEL CASTING
031	SHAFT	1	CARBON STEEL OR Cr-Mo STEEL
039-01	KEY	1	CARBON STEEL
039-02	KEY	1	CARBON STEEL
041-01	PACKING SLEEVE	1	BRONZE
041-02	PACKING SLEEVE	1	BRONZE
045	ADJUST RING	1	ROLLED STEEL
051-01	BEARING HOUSING	1	CAST IRON
051-02	BEARING HOUSING	1	CAST IRON
053-01	BEARING COVER	1	CAST IRON
053-02	BEARING COVER	1	CAST IRON
056	BALL BEARING	2	—
084	PACKING PLATE	2	ROLLED STEEL
090	LANTERN RING	2	304 STAINLESS STEEL
091	GLAND	2	BRONZE
093	DEFLECTOR	2	N.B.R OR 304 STAINLESS STEEL
107	CASING RING	2	BRONZE
114-01	OIL SEAL	1	—
114-02	OIL SEAL	2	—

PART NO.	PART NAME	Q'TY	MATERIAL
117-01	SHEET GASKET	2	PRESS BOARD
117-02	SHEET GASKET	2	ASBESTOS
117-03	SHEET GASKET	1	PRESS BOARD OR ASBESTOS
119	GLAND PACKING	10	CARBONIZED FIBER
124	GLAND BOLT	4	BRASS
129	BEARING NUT	1	ROLLED STEEL
136	BEARING WASHER	1	ROLLED STEEL
156	DOWEL PIN	2	304 STAINLESS STEEL
291	GREASE NIPPLE	2	BRASS
016	MECH. SEAL COVER	2	304 STAINLESS STEEL
042	MECH. SEAL SLEEVE	2	304 STAINLESS STEEL
048-01	IMPELLER NUT	1	402 STAINLESS STEEL
048-02	IMPELLER NUT	1	402 STAINLESS STEEL
049	SLEEVE RETAINER	2	304 STAINLESS STEEL
082	THROAT BUSHING	2	CAST IRON
111	MECHANICAL SEAL	2	—
115-01	O-RING	2	VITON
115-02	O-RING	2	VITON
285	AIR BREATHER	2	POLYCARBONATE

SECTIONAL VIEWS

Bore 350-500mm



PART NO.	PART NAME	Q'TY	MATERIAL
004	CASING-UPPER HALF	1	CAST IRON OR DUCTILE CAST IRON
006	CASING-LOWER HALF	1	CAST IRON OR DUCTILE CAST IRON
021	IMPELLER	1	BRONZE OR 304 STAINLESS STEEL
031	SHAFT	1	CARBON STEEL OR Cr-Mo STEEL
039-01	KEY	1	CARBON STEEL
039-02	KEY	1	CARBON STEEL
041	PACKING SLEEVE	2	304 STAINLESS STEEL
045	ADJUST RING	2	ROLLED STEEL
051-01	BEARING HOUSING INBOARD	1	CAST IRON
051-02	BEARING HOUSING OUTBOARD	1	CAST IRON
053-01	BEARING COVER	1	CAST IRON
053-02	BEARING COVER	1	CAST IRON
056	BALL BEARING	2	—
084	PACKING PLATE	2	304 STAINLESS STEEL
090	LANTERN RING	2	304 STAINLESS STEEL
091	GLAND	2	BRONZE
093	DEFLECTOR	2	ROLLED STEEL OR 304 STAINLESS STEEL
107	CASING RING	2	BRONZE
114-01	OIL SEAL	1	N.B.R.
114-02	OIL SEAL	2	N.B.R.

PART NO.	PART NAME	Q'TY	MATERIAL
115-01	O-RING	2	N.B.R.
115-02	O-RING	2	N.B.R.
117-01	SHEET GASKET	2	PRESS BOARD
117-02	SHEET GASKET	1	ASBESTOS
119	GLAND PACKING	10	CARBONIZED FIBER
123	COUPLING BOLT	1 SET	ROLLED STEEL
124	GLAND BOLT	4	BRASS
129	BEARING NUT	1	ROLLED STEEL
136	BEARING WASHER	1	ROLLED STEEL
147	FLEXIBLE FLANGED SHAFT COUPLING	1 SET	CAST IRON
156	DOWEL PIN	2	316 STAINLESS STEEL
272-01	SLEEVE NUT	1	BRONZE
272-02	SLEEVE NUT	1	BRONZE
291	GREASE NIPPLE	2	BRASS
624	RUBBER BUSH FOR COUPLING BOLT	1 SET	N.B.R.
643	SLEEVE HEAD	2	BRONZE OR 304 STAINLESS STEEL
725	SET SCREW	4	316 STAINLESS STEEL

141	GEARED TYPE SHAFT COUPLING	1 SET	—
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025	IMPELLER RING	2	BRONZE OR 304 STAINLESS STEEL
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016	MECH. SEAL COVER	2	304 STAINLESS STEEL
111	MECHANICAL SEAL	2 SET	—
139	MECH. SEAL COVER BOLT	8	304 STAINLESS STEEL

SELECTION CHARTS

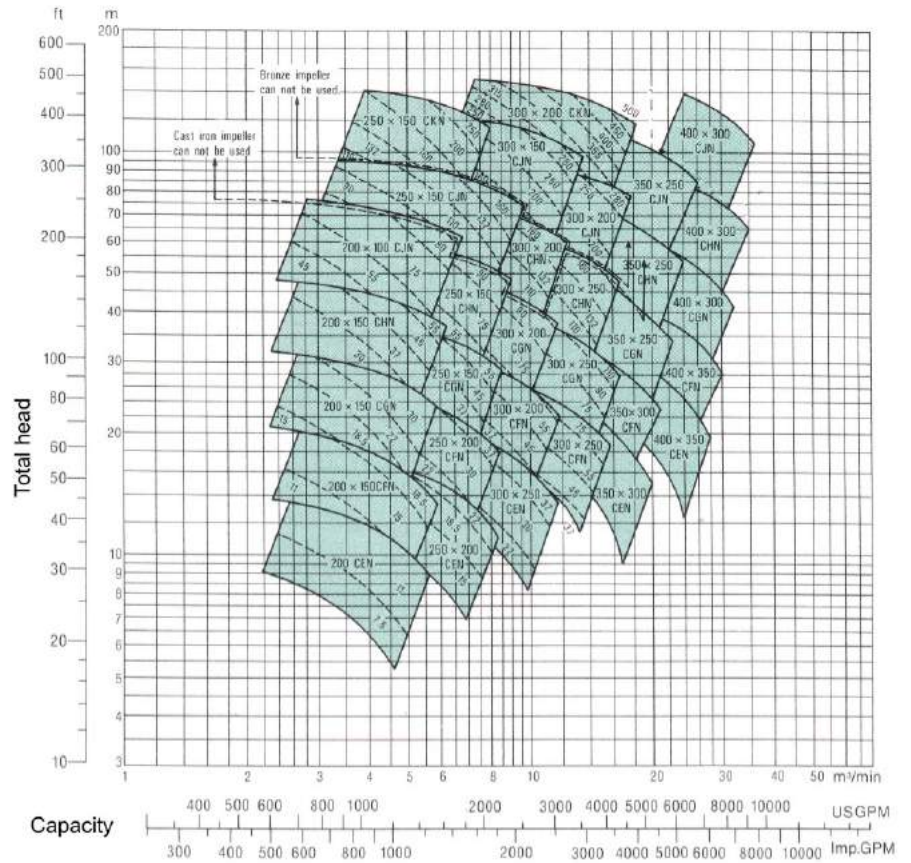
4 Pole

50Hz (Synchronous speed: 1500min⁻¹)

Symbols:

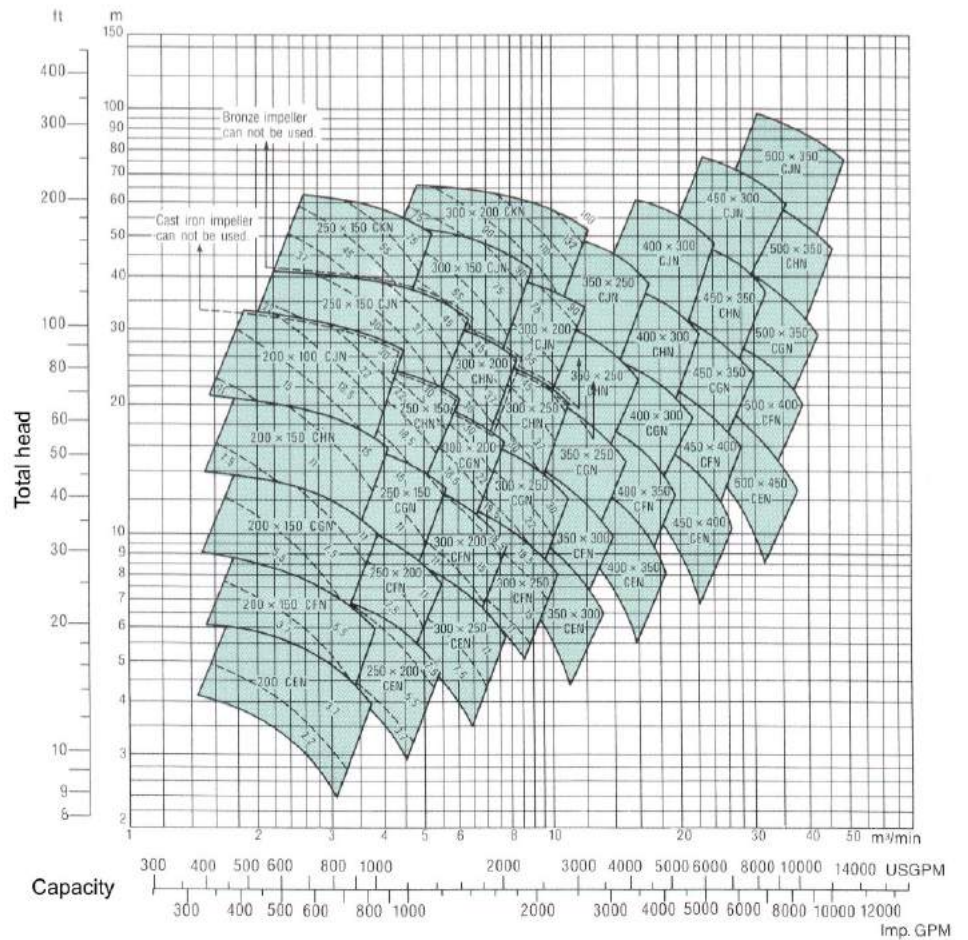
250 x 150 CKN

Model
Discharge bore (mm)
Suction bore (mm)



6 Pole

50Hz (Synchronous speed: 1000min⁻¹)



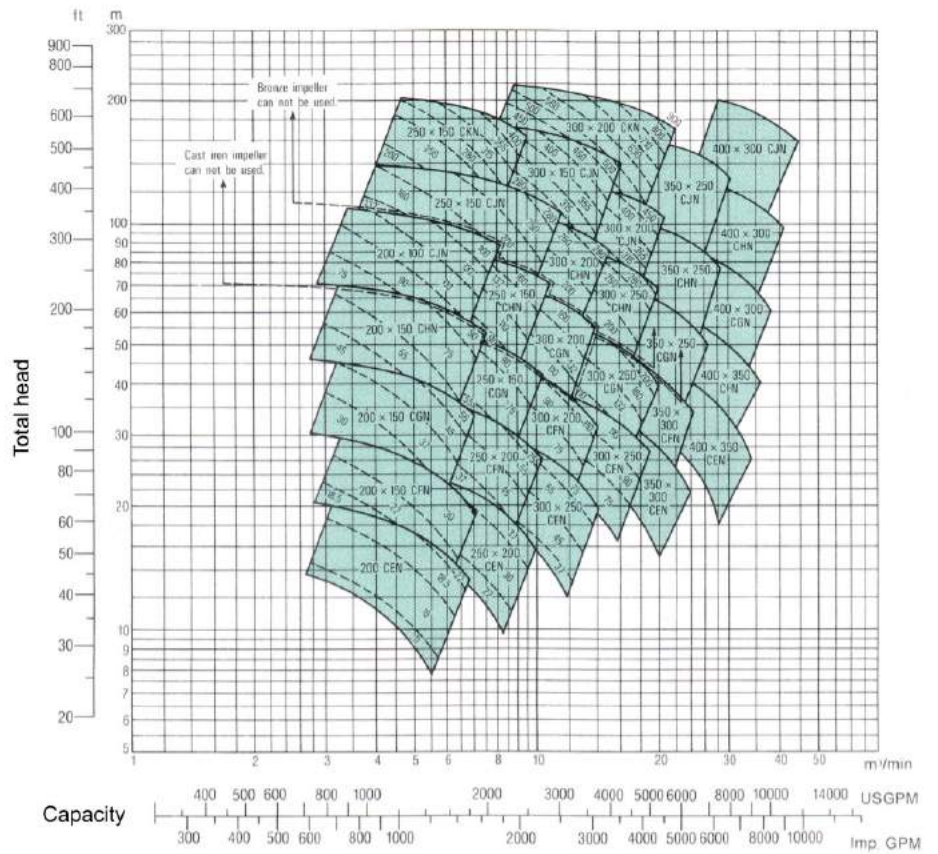
SELECTION CHARTS

4 Pole

60Hz (Synchronous speed: 1800min^{-1})

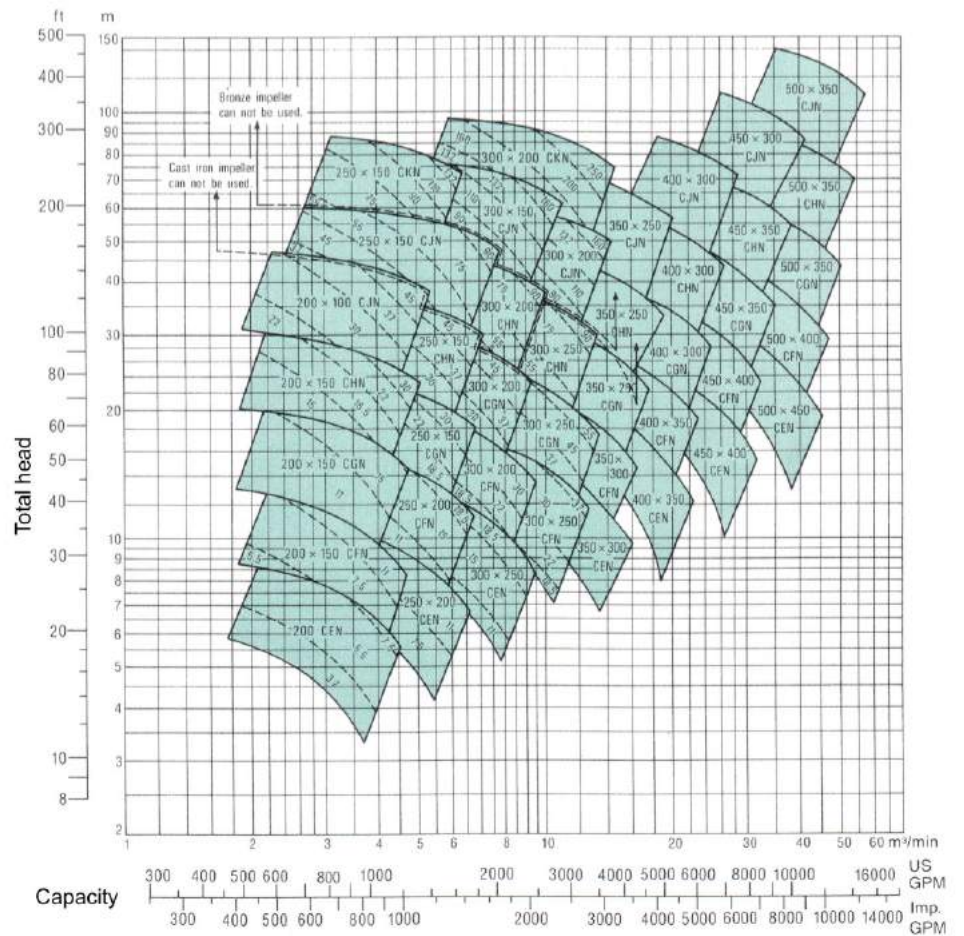
Symbols:

500 x 350 CJN
 Model
 Discharge bore (mm)
 Suction bore (mm)



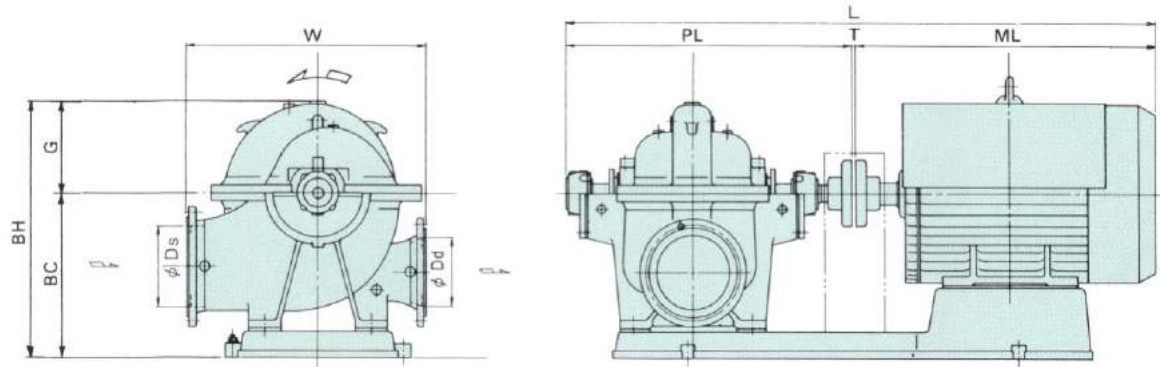
6 Pole

60Hz (Synchronous speed: 1200min^{-1})



OUTLINE DRAWING

With motor



Cast iron base

Suction bore 200mm

Unit: mm

Model	Pump					Weight (Mass) (kg)
	Bore	PL	W	G		
	Ds	Dd				
200CEN	200	200	853	630	221	260
200x150CFN	200	150	853	630	222	270
200x150CGN	200	150	853	630	242	300
200x150CHN	200	150	903	660	265	340

Frame No.	kW		Shaft size	ML	BC
	4 Pole	6 Pole			
160M	11	7.5	42	528	475
160L	15/18.5	11/-	42/48	572	475
180M	22/30	15/18.5	55	598	475
180L	37/45	22/30	60	666	475
200M	55	-	65	673	475
225S	75	-	75	724	475
225M	90	-	75	749	475

Unit: mm

Steel base

Suction bore 200 ~ 300mm

Unit: mm

Model	Size		Motor frame No.	kW	W	BH	PL	T	ML	L
	Ds	Dd								
200CEN	200	200	132M	7.5	630	746	853	3	429	1285
200x150CFN	200	150	132M	7.5	630	747	853	3	429	1285
200x150CGN	200	150	132M	7.5	630	767	853	3	429	1285
250x200CEN	250	200	132M	5.5	700	817	853	3	429	1285
250x150CKN	250	150	280M	200	930	1076	1118	4	967	2089
300x250CEN	300	250	160L	11	790	894	923	3	572	1498
300x200CFN	300	200	160L	11	790	901	1003	4	572	1579
300x150CJN	300	150	280M	200	910	1055	1118	4	967	2089
300x250CFN	300	250	160L	11	890	927	1013	4	572	1589
300x250CHN	300	250	280M	200	890	1010	1071	4	967	2042
300x200CJN	300	200	280M	200	930	1050	1118	4	967	2089
300x200CKN	300	200	280M	160	1020	1165	1200	4	967	2171

Suction bore 200, 250mm

Unit: mm

Model	Pump					Weight (Mass) (kg)
	Bore	PL	W	G		
	Ds	Dd				
200x100CJN	200	100	1003	730	306	430
250x200CEN	250	200	853	700	242	340
250x200CFN	250	200	903	700	246	360
250x150CGN	250	150	903	700	273	400
250x150CHN	250	150	1003	730	297	480

Frame No.	kW		Shaft size	ML	BC
	4 Pole	6 Pole			
160M	-	7.5	42	528	525
160L	15/18.5	11/-	42/48	572	525
180M	22/30	15/18.5	55	598	525
180L	37/45	22/30	60	666	525 (535)
200M	55	37/45	65	673	535
225S	75	55	75	724	535 (540)
225M	90	-	75	749	535 (540)
250S	110	-	85	815	540
250M	132	-	85	853	540
280S	160	-	95	916	540

Unit: mm

Suction bore 350 ~ 500mm

Unit: mm

Model	Size		W	BH	PL	T	ML	L
	Ds	Dd						
350x300CEN	340	300	970	1125	1258	5	1165	2428
350x300CFN	340	300	970	1105	1282	5	1306	2593
350x250CGN	340	250	1000	1120	1308	5	1438	2751
350x250CHN	340	250	1120	1225	1313	5	1605	2923
350x250CJN	340	250	1150	1350	1313	5	1840	3158
400x350CEN	400	340	1090	1235	1377	5	1306	2688
400x350CFN	400	340	1090	1220	1408	5	1438	2851
400x300CGN	400	300	1030	1235	1413	5	1605	3023
400x300CHN	400	300	1260	1365	1487	5	1870	3362
400x300CJN	400	300	1290	1490	1487	5	2115	3607
450x400CEN	450	400	1240	1375	1432	5	1165	2602
450x400CFN	450	400	1240	1375	1463	5	1306	2774
450x350CGN	450	340	1240	1400	1468	5	1438	2911
450x350CHN	450	340	1400	1545	1500	5	1805	3310
450x300CJN	450	300	1450	1710	1500	5	1875	3380
500x450CEN	500	450	1350	1510	1558	5	1306	2889
500x400CFN	500	400	1350	1515	1563	5	1438	3006
500x350CGN	500	340	1350	1535	1595	5	1805	3405
500x350CHN	500	340	1540	1650	1641	5	1875	3521
500x350CJN	500	340	1630	1825	1641	5	2116	3762

Suction bore 250, 300mm

Unit: mm

Model	Pump					Weight (Mass) (kg)
	Size	PL	W	G		
	Ds	Dd				
250x150CJN	250	150	1071	810	341	580
300x250CEN	300	250	923	790	269	420
300x200CFN	300	200	1003	790	276	470
300x200CGN	300	200	1013	790	298	500
300x200CHN	300	200	1071	820	329	600
300x250CFN	300	250	1013	890	302	540
300x250CGN	300	250	1071	890	310	610

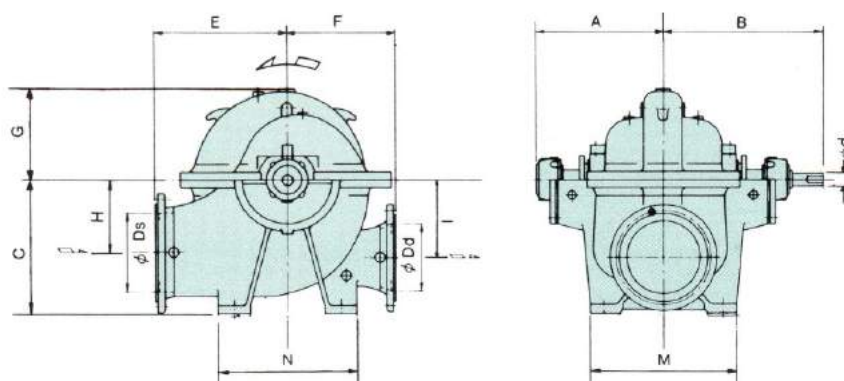
Frame No.	kW		Shaft size	ML	BC
	4 Pole	6 Pole			
180M	22/30	15/18.5	55	598	585
180L	37/45	22/30	60	666	585
200M	55	37/45	65	673	585
225S	75	55	75	724	585
225M	90	75	75	749	585
250S	110	90	85	815	585
250M	132	110	85	853	585
280S	160	132	95	916	585
280M	200	-	95	967	585

Unit: mm

(NOTE) Dimensions are approximate only and not to be use for construction purposes

OUTLINE DRAWING

Base shaft pumps



Suction bore 200 ~ 300mm

Unit: mm

Model	Pump													Weight (Mass) (kg)
	Bore Ds	Dd	A	B	C	E	F	G	H	I	M	N	Φd	
200x200CEN	200	200	378	475	375	350	280	221	190	190	430	400	38	260
200x150CFN	200	150	378	475	375	350	280	222	190	190	430	400	38	270
200x150CGN	200	150	378	475	375	350	280	242	200	210	430	400	38	300
200x150CHN	200	150	398	505	375	370	290	265	200	230	430	400	48	340
200x100CJN	200	100	443	560	425	400	330	306	200	270	480	450	55	430
250x200CEN	250	200	378	475	425	390	310	242	210	210	480	450	38	340
250x200CFN	250	200	398	505	425	390	310	246	210	210	480	450	48	360
250x150CGN	250	150	398	505	425	390	310	273	220	240	480	450	48	400
250x150CHN	250	150	443	560	425	410	320	297	220	260	480	450	55	480
250x150CJN	250	150	471	600	475	460	350	341	220	300	550	520	65	580
250x150CKN	250	150	488	630	500	500	430	401	290	345	550	520	75	740
300x250CEN	300	250	408	515	475	440	350	269	235	235	550	520	48	420
300x200CFN	300	200	443	560	475	440	350	276	235	235	550	520	55	470
300x200CGN	300	200	448	565	475	440	350	298	250	270	550	520	55	500
300x200CHN	300	200	471	600	475	460	360	329	250	290	550	520	65	600
300x150CJN	300	150	488	630	500	510	400	380	250	335	550	520	75	750
300x250CFN	300	250	448	565	475	490	400	302	250	260	550	520	55	540
300x250CGN	300	250	471	600	475	490	400	310	250	260	550	520	65	610
300x250CHN	300	250	471	600	500	490	400	335	275	295	550	520	65	800
300x200CJN	300	200	488	630	500	520	410	375	275	320	550	520	75	980
300x200CKN	300	200	452	680	500	550	470	430	290	380	620	700	85	1100

Suction bore 350 ~ 500mm

Unit: mm

Model	Pump													Weight (Mass) (kg)
	Bore Ds	Dd	A	B	C	E	F	G	H	I	M	N	Φd	
350x300CEN	340	300	548	710	580	550	420	375	290	320	600	700	55	640
350x300CFN	340	300	552	730	560	550	420	375	290	310	600	700	65	690
350x250CGN	340	250	558	750	560	550	450	390	280	330	600	700	75	840
350x250CHN	340	250	563	750	615	650	470	440	280	375	700	700	85	1100
350x250CJN	340	250	563	750	690	650	500	490	380	450	700	700	85	1440
400x350CEN	400	340	602	775	650	620	470	415	325	360	700	800	65	870
400x350CFN	400	340	608	800	630	620	470	420	325	360	700	800	75	940
400x300CGN	400	300	613	800	630	620	510	435	315	380	700	800	85	1170
400x300CHN	400	300	637	850	710	730	530	485	315	440	800	800	105	1580
400x300CJN	400	300	637	850	775	730	560	545	430	505	800	800	105	2210
450x400CEN	450	400	632	800	690	690	550	460	365	390	800	860	65	1100
450x400CFN	450	400	638	825	690	690	550	460	365	390	800	860	75	1160
450x350CGN	450	340	643	825	690	690	550	485	355	415	800	860	85	1270
450x350CHN	450	340	650	850	775	800	600	545	355	475	900	880	95	1780
450x300CJN	450	300	650	850	875	820	630	610	480	570	900	860	195	2180
500x450CEN	500	450	683	875	775	750	600	510	410	440	900	920	75	1410
500x400CFN	500	400	688	875	775	750	600	515	410	450	900	920	85	1480
500x350CGN	500	340	695	900	775	750	600	535	395	470	900	920	95	1810
500x350CHN	500	340	716	925	825	900	640	600	395	530	1000	920	115	2430
500x350CJN	500	340	716	925	925	920	710	675	395	635	1000	920	115	3200

* All specifications are subject to change without notice.

In this catalog, the particulars in { } are in accordance with the International System of Units (SI) and given for reference only.



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