



**Single Stage Double Suction
Split Casing Pumps**

ESCA series



Coding System

e.g. **ESCA 100/310 MBC**

XXXX XXX/XXX X XX

Series _____

ESCA = Spilt Casing Pump

ESCA(V) = Vertical Double Suction Centrifugal Pump

Discharge Size _____

Impeller Nominal Size _____

Seal type _____

M = Carbon - Ceramic/Viton

M1 = Carbon - SiC/Viton (Optional)

*P = Gland Packing

M2 = Carbon - SiC/EPDM

Impeller/body casing material _____

BC = Bronze impeller and Cast Iron Body

BD = Bronze impeller and Ductile Iron Body

BB = Bronze impeller and Body

CC = Cast Iron impeller and Body

CD = Cast Iron impeller and Ductile Iron Body

KK = SS316 impeller and Body

KC = SS316 impeller and Cast Iron Body

SS = SS304 impeller and Body

SC = SS304 impeller and Cast Iron Body

QQ = Duplex Stainless Steel - CD4MCU

QC = Duplex Impeller / Cast iron Casing

Introduction



ESCA series are a new generation of high performance single stage, double suction, split casing pumps. Coupled with dynamically balanced impeller the pumps life is greatly prolonged and therefore, increase MTBF (Mean Time Between Failure). This allows the pump to be mounted Horizontally and also, vertically to save spaces.

Flange	DIN 2501 RF (std) ANSI B16.5B (optional)
Materials:	Cast Iron, Ductile Iron, Stainless Steel
Mounting:	- Bare Shaft - Engine Driven

DN	80 - 900mm
Q	22~16,236m³/h
P.P.	up to 5Mpa
H	7~300m
Ns	up to 3,600rpm
t	up to 200°C

Application:

- Air Conditioner Water Circulation
- Heating Pipe Network System
- Building Water Supply
- Irrigation and Drainage of Pump Stations
- Power Plants
- Fire Fighting
- Marine and Mining Industry

Constructional Features

Design Construction

ESCA series pump is single stage, double suction, axial split casing centrifugal pumps. Both Horizontal and vertical mounting is possible. The design allows for change of rotation and position of the motor to suit installation requirement at site without extra or changed of components to the existing pump.

Casing

Heavy Duty construction with high inner wall finishes to increase efficiency and reduce turbulences. The integrated foot on the suction allow for rigidity and absorb external forces, yet allows user with ease of removing the rotating assembly without disconnecting the pipes and motor for maintenances and routine inspection of Seals and wear rings.

Impeller

The double suction, Francis vane design allow for hydratically balanced operation, low NPSH (required) and reduces radial loan that helps to prolong bearing seals and shaft life.

Shaft

Machined with large shaft diameter to resist deflection and grounded to size for consistency enable smooth installation of seals and bearing without damage and adjustment. Carbon steel (C45) material is standard with option for Stainless steel upon request.

Shaft Sleeve

Replaceable sleeve enable one to select different material for different application and needs. Saving money and time for the user from replacing shaft due to erosion and wear.

Wear ring

Eliminate casing wear and permit easy maintenance of proper running clearances for maximum efficiency through out pumps operation. Positively locked in place to prevent rotation during pump operation.

Stuffing box

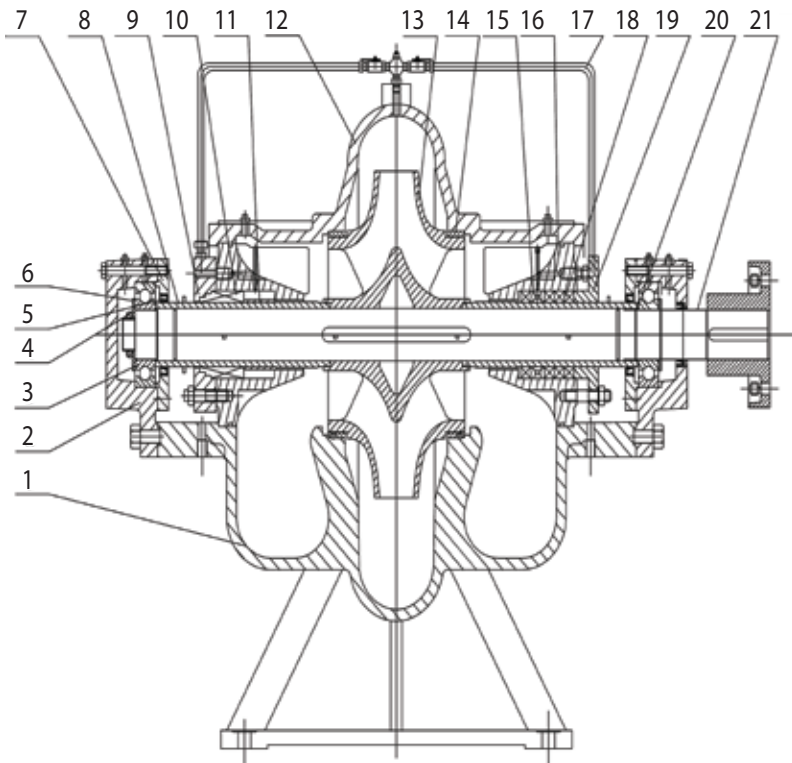
Designed with large cavity for excellent heat dissipation and "no dead ends" to remove debris that may jam the seals, coupled with abilities to have different flushing plans, to further enhances cooling and dirt removal. Available, with Packing and Mechanical Seals of different material.

Bearing housing

Designed for maximum heat dissipation, it allows operation up to 130°C without extra cooling. The machined registered housing gives rigidity and accurate alignment during dismantling and assembly for maintenance. Coupled with double deep grooved ball bearing for horizontal mounting and Double Angular Contact bearing for vertical mounting on the driver end, the B10 life is greatly improved. Additionally, provision of grease nipple for re-greasing and temperature detecting probe socket.

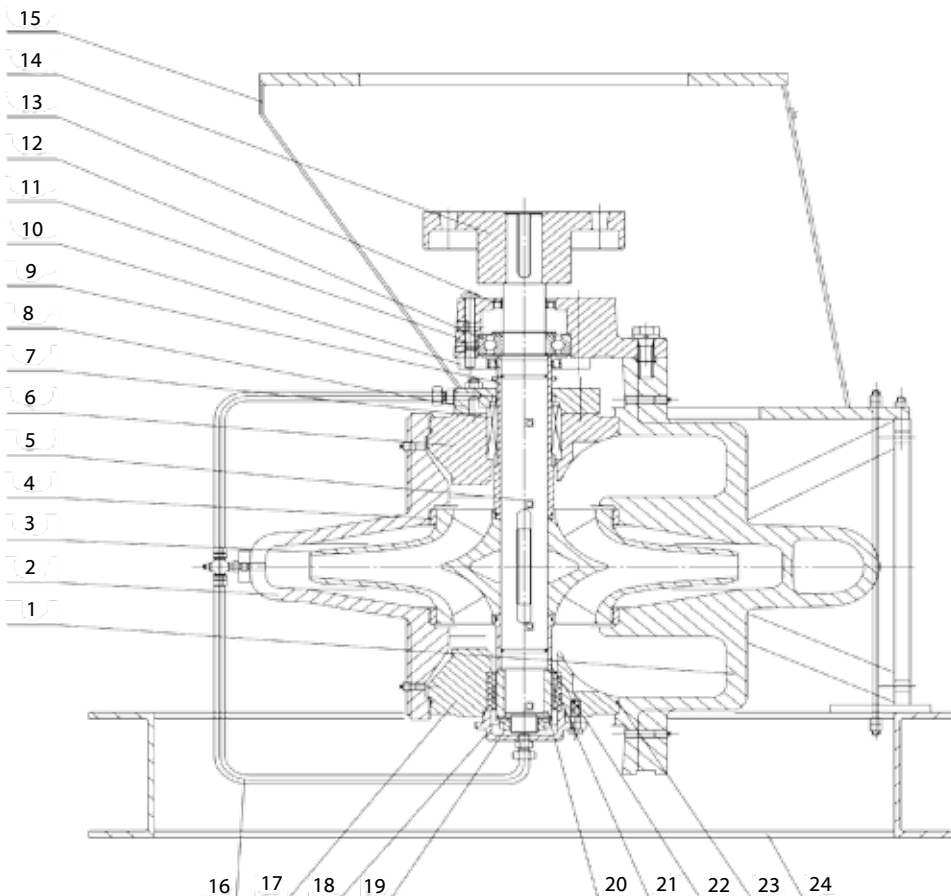
ESCA - Sectional drawings and part list

ESCA



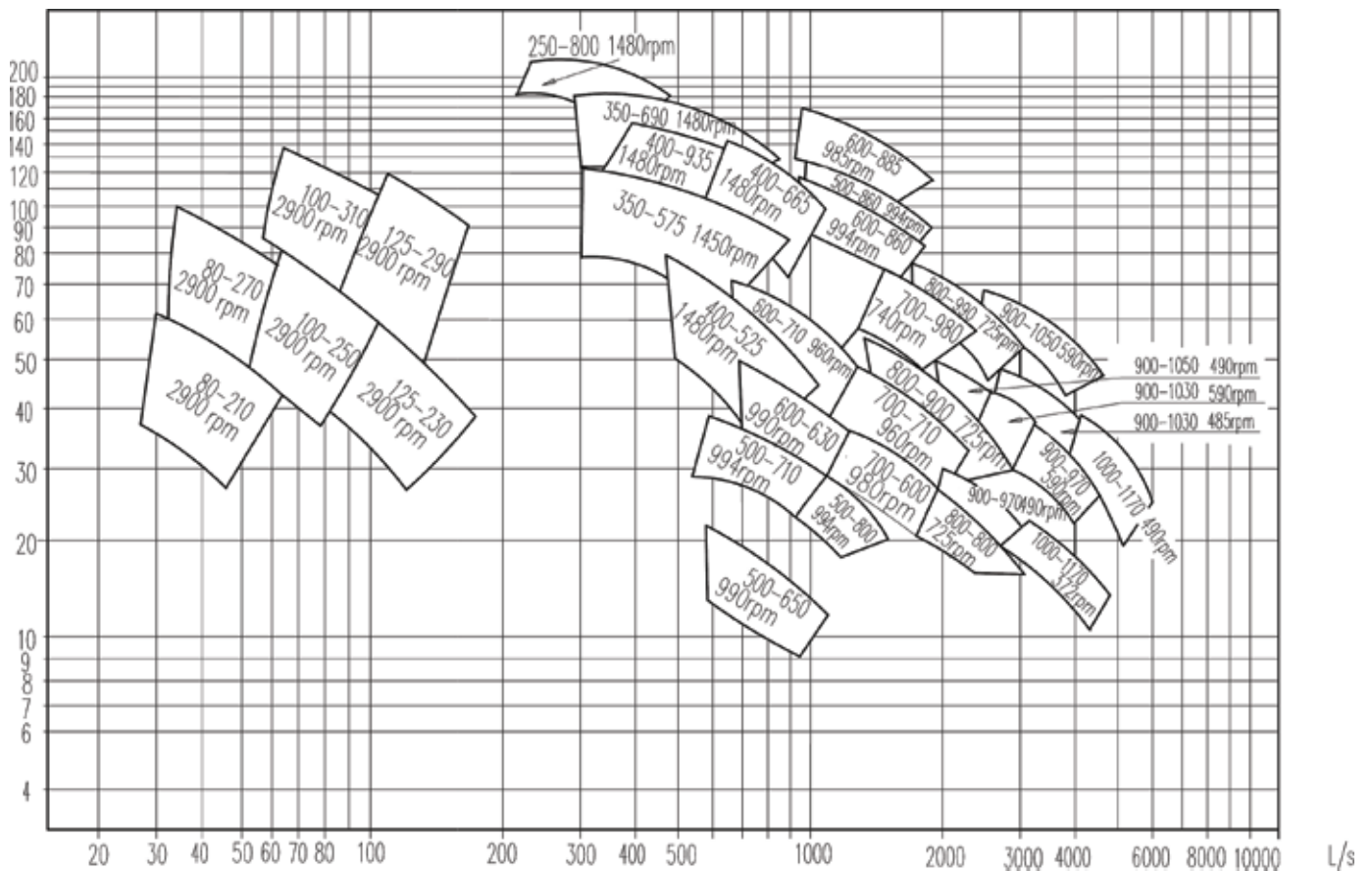
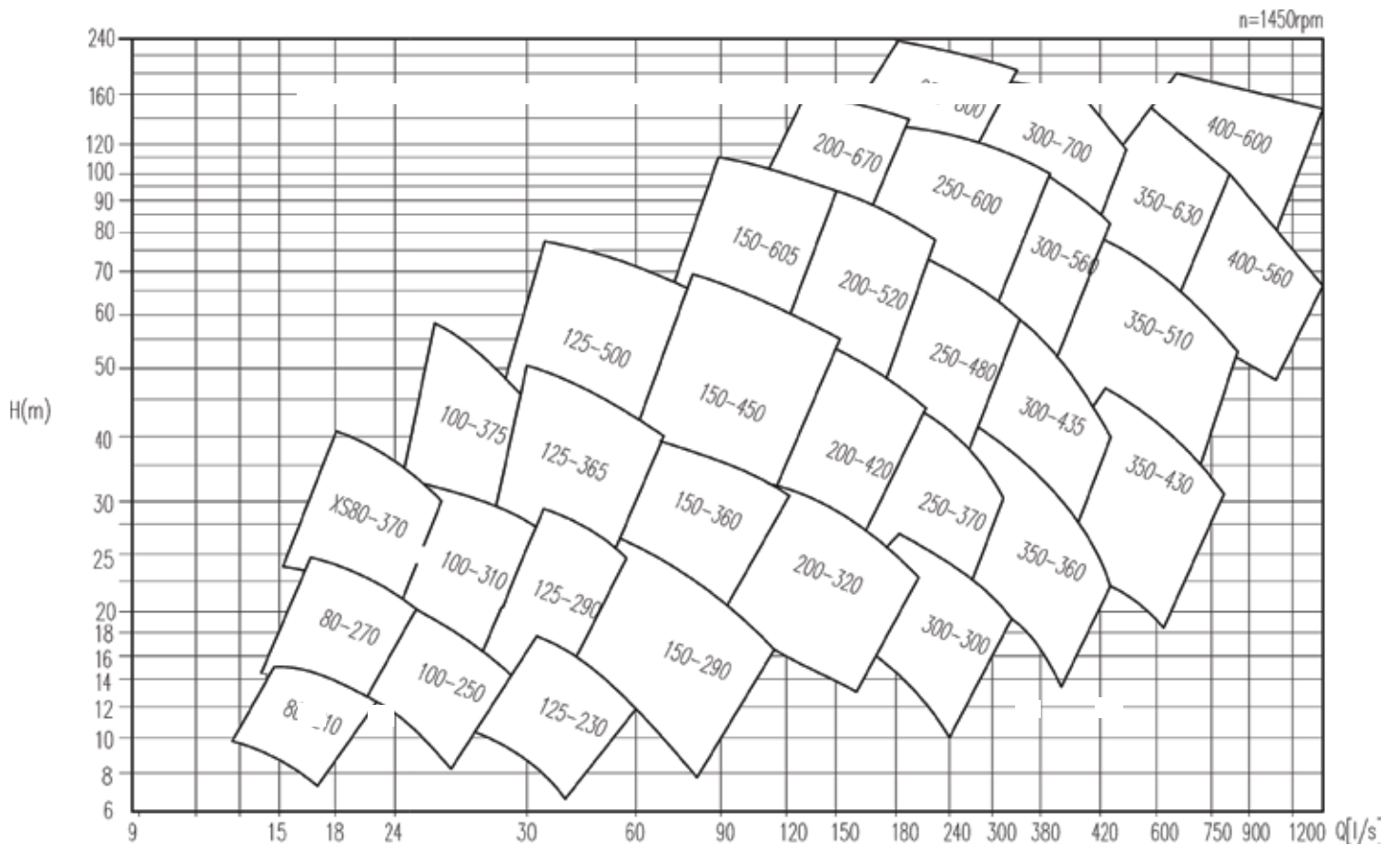
Part No.	Description
1	Casing
2	Bearing support
3	Deep groove ball bearing
4	Lock nut
5	Skeleton oil seal
6	Bearing ring
7	Bearing cover
8	Shaft sleeve
9	Mechanical seal cover
10	Mechanical seal
11	Seal hushing
12	Casing cover
13	Impeller
14	Impeller ring
15	Seal cage
16	Seal housing
17	Water sealing pipe
18	Gland packing
19	Packing gland
20	Bearing liner
21	Shaft

ESCA(V)

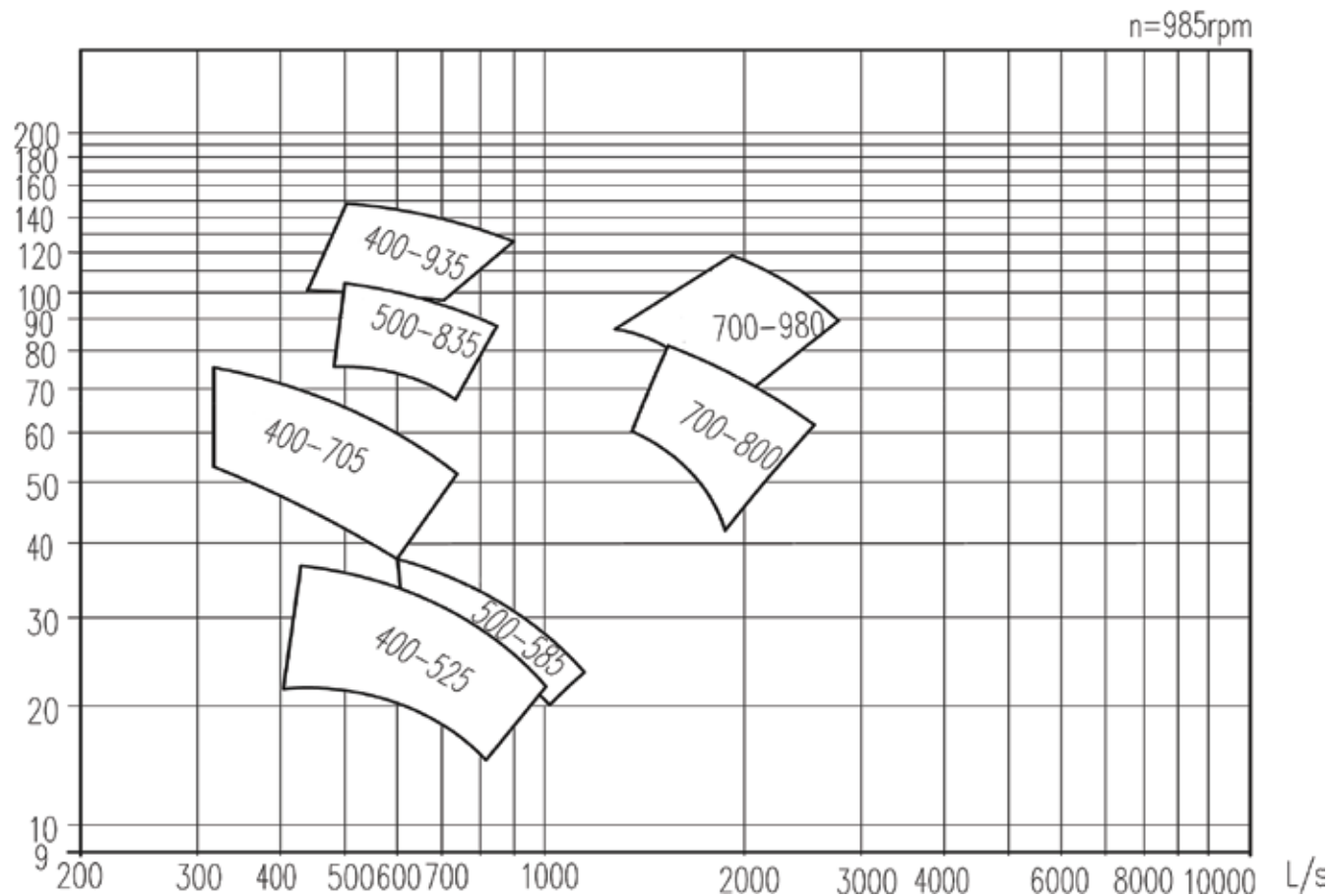
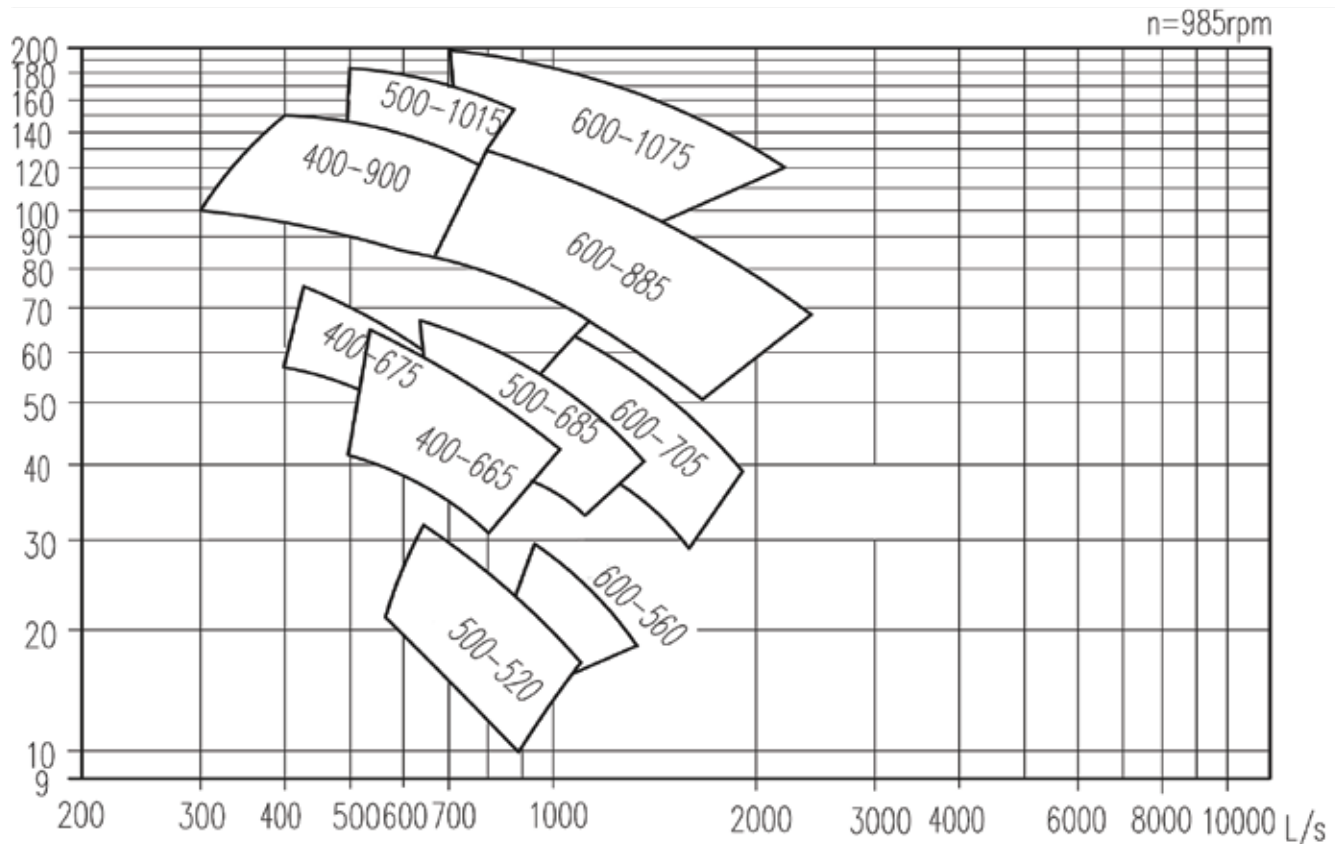


Part No.	Description
1	Casing
2	Bearing support
3	Deep groove ball bearing
4	Lock nut
5	Skeleton oil seal
6	Bearing ring
7	Bearing cover
8	Shaft sleeve
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22	
23	
24	

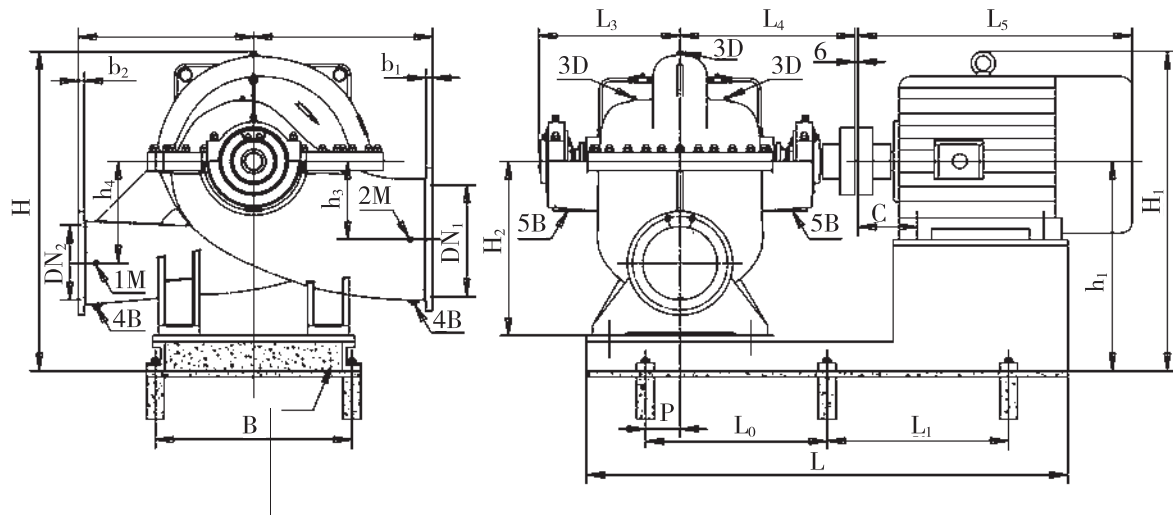
Performance Chart - 50Hz



Performance Chart - 50Hz



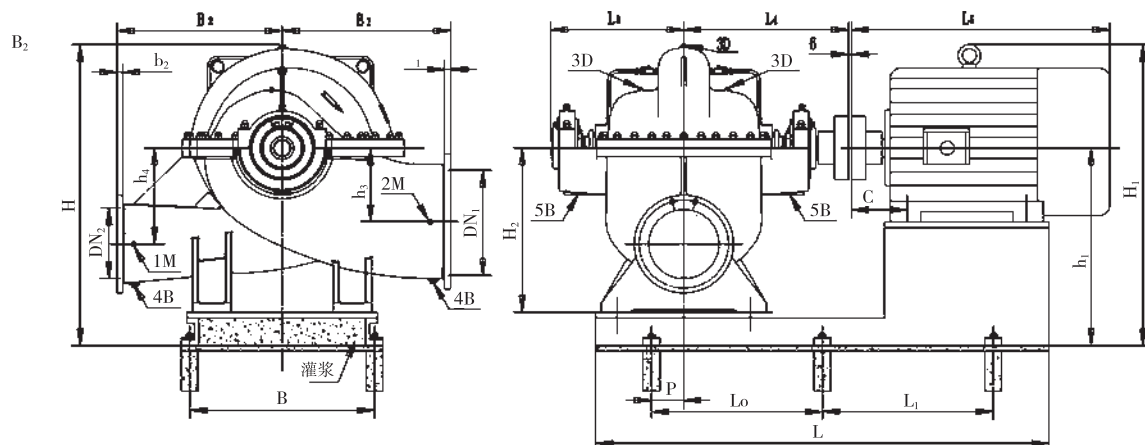
ESCA - Installation Dimension



1M Pressure Gauge Connector	R1/2	4B Drain Holes (Inlet/Outlet)	R1/2
2M Compound Gauge Hole	R1/2	5B Drain Seal	R3/4
3D Vent / Bleeder Holes	R1/2		

Outline Dimension (Y serial motor)
Unit : mm

Pump type	Flange Size				Pump size								(kg) Weight
	DN ₁	DN ₂	b ₁	b ₂	B ₁	B ₂	L ₄	H ≤	L ₃	H ₂	h ₃	h ₄	
80-210	125	80	26	24	300	300	443	600	336	315	140	140	310
80-270					330	330				315	140	140	320
80-370					330	330				315	140	140	340
100-250	150	100	28	24	330	330	443	760	336	355	170	170	350
100-310					370	370				355	170	170	370
100-375					370	370				355	170	170	400



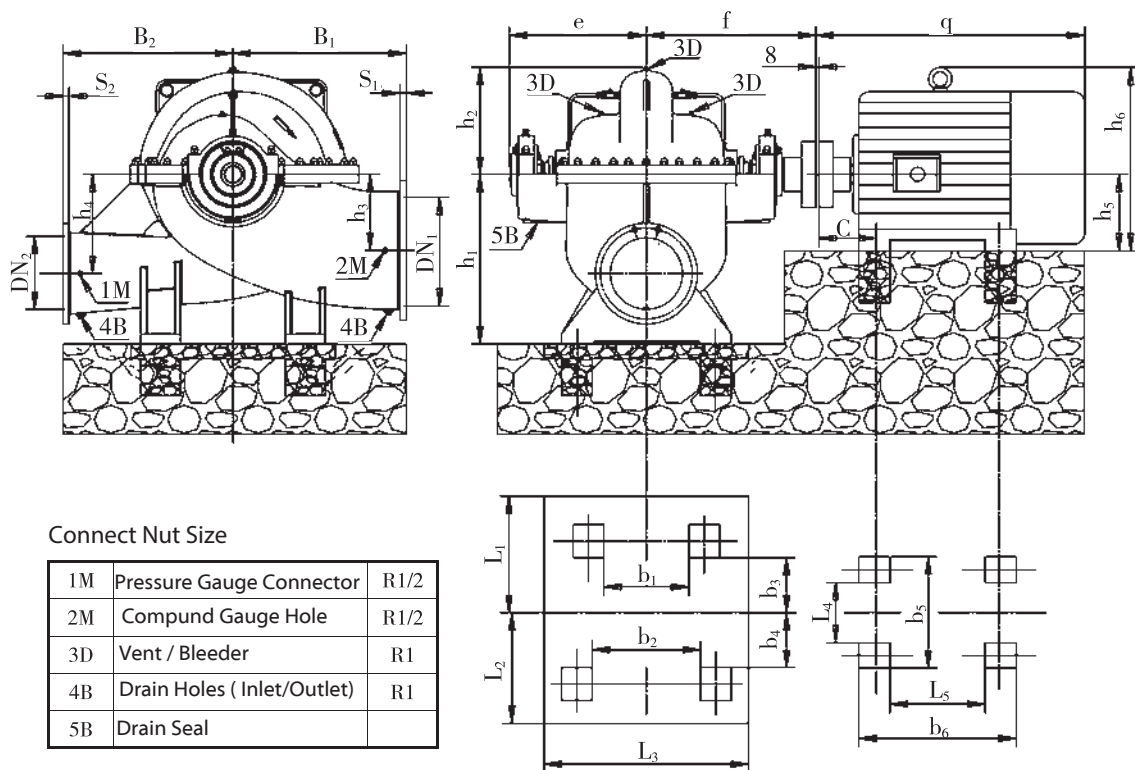
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Outline Dimension (Y serial motor)
Unit : mm

Pump type	Flange Size				Pump size								(kg) Weight
	DN ₁	DN ₂	b ₁	b ₂	B ₁	B ₂	L ₄	H ≤	L ₃	H ₂	h ₃	h ₄	
100-250	150	100	28	24	330	330	443	760	336	355	170	170	350
100-310					370	370				355	170	170	370
100-375					370	370				355	170	170	400

ESCA - Installation Dimension

Pump type	Flange Size				Pump size								(kg) Weight
	DN ₁	DN ₂	b ₁	b ₂	B ₁	B ₂	L ₄	H _≤	L ₃	H ₂	h ₃	h ₄	
200-320	250	200	36	30	450	450	592	1240	421	500	240	240	750
200-420					500	240				240	850		
200-520					600	300	300	1390					
200-670					650	350	350	1630					
250-370	300	250	51	48	500	500	655	1275	464	600	300	300	1100
250-480					550	300				300	1370		
250-600					650	350	350	2000					
300-300	350	300	54	51	550	500	655	1430	464	630	300	300	1040
300-435	400		57		650	550	731		516	670	360	360	1490
300-560					700	650	810		596	710	350	350	2350
300-700					750					750	400	400	2788



Outline Dimension (Y serial motor)
Unit : mm

Pump type	Flange Size				Pump size												(kg) Pump weight			
	DN ₁	DN ₂	S ₁	S ₂	B ₁	B ₂	e	f	h ₁	h ₂	h ₃	h ₄	L ₁	L ₂	L ₃	b ₁		b ₂	b ₃	b ₄
350-360	400	350	57	54	650	550	516	731	670	490	350	350	400	400	600	180	180	300	300	1430
350-430	450	350	60.5	54	750	650	596	810	750	545	400	400	525	525	600	160	160	425	425	2120
350-510	400	350	57	51	700	650	596	810	750	500	400	400	525	525	600	160	160	425	425	2302
350-575	400	350	32	30	900	700	720	956	900	550	475	475	560	560	780	480	480	410	410	2860
350-630	400	350	38	36	740	670	660	860	775	515	460	460	615	675	1040	320	580	255	315	2893
350-690	400	350	38	36	900	750	720	956	900	550	475	475	560	560	780	480	480	410	410	3030

ESCA - Installation Dimension

Pump type	Flange Size				Pump Size																(kg) Pump weight
	DN ₁	DN ₂	S ₁	S ₂	B ₁	B ₂	e	f	h ₁	h ₂	h ₃	h ₄	L ₁	L ₂	L ₃	b ₁	b ₂	b ₃	b ₄		
400-525	500	400	34	32	750	700	747	998	900	550	475	475	560	560	890	590	590	410	410	2640	
400-560	500	400	46	40	750	700	685	865	820	500	460	460	675	725	1130	420	670	275	325	2970	
400-600	500	400	42	38	800	700	690	905	850	530	490	490	675	775	1130	420	670	275	375	3220	
400-665	500	400	42	38	1000	750	747	998	1000	620	525	525	560	560	890	590	590	410	410	3520	
400-675	500	400	42	38	900	800	660	85	900	580	450	450	640	640	730	630	630	330	330	3220	
400-705	500	400	42	38	900	800	720	956	900	570	450	450	640	640	750	480	480	490	490	3410	
400-900	500	400	52	48	1000	1000	736	1030	960	710	550	550	750	750	800	500	500	500	500	3410	
400-935	500	400	44	40	1050	1000	720	956	1000	650	550	550	640	640	840	540	540	490	490	3410	
500-520	600	500	48	42	850	850	770	975	900	560	475	475	460	610	1250	520	820	140	290	3350	
500-585	600	500	48	42	1100	800	847	1098	1100	680	550	550	640	640	1050	750	750	490	490	4840	
500-650	600	500	48	42	850	800	850	1065	920	600	495	495	660	660	1260	520	820	340	340	3800	
500-685	600	500	48	42	1100	800	847	1098	1100	670	575	575	640	640	1050	750	750	490	490	4730	
500-710	600	500	48	42	1050	850	835	1035	1000	620	550	620	710	810	1320	480	880	390	490	4900	
500-800	600	500	48	42	1000	900	850	1125	1050	660	600	600	760	860	1360	535	920	440	540	5800	
500-835	600	500	48	42	1150	1100	872	1166	1100	690	575	575	850	850	1070	670	670	650	650	5250	
500-860	600	500	48	42	1050	950	870	1160	1100	710	650	650	810	910	1260	560	820	490	590	7690	
500-870	600	500	48	42	1200	900	872	1166	1200	775	700	700	725	725	1070	670	670	525	525	5500	
500-1015	600	500	48	42	1200	1100	872	1166	1200	750	725	725	850	850	1070	670	670	650	650	6050	
500-1050	600	500	48	42	1250	1100	872	1166	1200	800	700	700	850	850	1070	670	670	650	650	6250	
600-560	700	600	54	48	1100	900	835	1030	1100	750	610	610	800	900	1200	400	700	400	500	5330	
600-600	700	600	54	48	1200	900	847	1098	1200	770	675	675	725	725	1070	670	670	525	525	5390	
600-630	700	600	54	48	1000	1000	790	1010	1050	650	545	545	900	900	1230	400	730	500	500	4886	
600-705	700	600	54	48	1150	1000	847	1098	1100	715	575	575	725	725	1090	670	670	525	525	5170	
600-710	700	600	54	48	1000	1100	880	1130	1050	650	545	545	900	900	1370	570	870	500	500	5030	
600-860	700	600	54	48	1100	1200	950	1225	1100	760	580	580	1000	900	1350	570	850	600	500	7755	
600-885	700	600	54	48	1300	1100	926	1280	1300	790	750	750	850	850	1070	670	670	650	650	6160	
600-1075	700	600	54	48	1250	1200	926	1280	1300	850	750	750	850	850	1150	750	750	650	650	6380	
700-600	800	700	58	54	1300	800	1040	1250	1150	720	600	600	700	1000	1350	550	850	550	550	6670	
700-710	800	700	58	54	1200	1150	1080	1310	1170	750	620	620	1000	1000	1350	550	850	550	550	8793	
700-800	800	700	58	54	1250	1250	1110	1390	1200	850	650	650	1050	1050	1370	550	870	600	600	10000	
700-980	800	700	58	54	1300	1050	1011	1365	1500	930	850	850	850	850	1340	940	940	650	650	8470	
800-800	900	800	62	58	1400	950	1130	1360	1380	920	770	770	850	1000	1450	650	950	350	500	9400	
800-900	900	800	62	58	1400	1125	1130	1450	1360	900	770	770	1000	1050	1450	650	950	500	550	11000	
800-990	900	800	62	58	1400	1300	1220	1530	1370	850	760	760	1100	1100	1450	650	950	600	600	12900	
900-970	1000	900	50	46	1600	1300	1470	1780	1650	1265	975	975	1060	1260	1550	500	800	600	800	12237	
900-1030	1000	900	50	46	1600	1300	1470	1780	1650	1265	975	975	1060	1260	1550	500	800	600	800	12320	
900-1050	1000	900	50	46	1600	1300	1470	1780	1650	1265	975	975	1060	1260	1550	500	800	600	800	13036	
1000-1170	1200	1000	56	50	1800	1300	1575	1780	1820	1375	1040	1040	1060	1260	2150	1000	1400	550	750	17600	



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16/01/ESCA/01/SC_v1