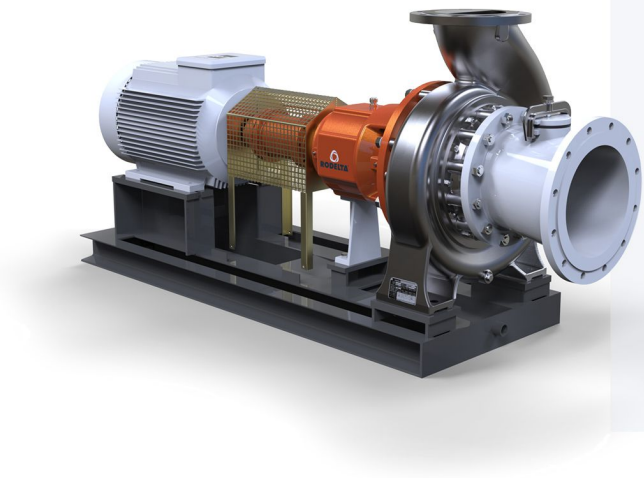


Rodelta ES

The pump type ES (OH1) is a heavy duty single stage overhung end suction, volute casing, radially split pump with a back pullout design centrifugal pump principally designed to handle various homogeneous slurries and those that also contain entrained gasses. Integral stud mounts at the suction inlet and the (centerline) top discharge flange offers both direct connection to plant pipework and prevents entrapped gasses

Features:

- High hydraulic efficiency.
- Gas handling ability
- Suitable for multiphase liquids
- Replaceable suction side wear plate
- Back pull out design
- Steep Q-H curve for good controllability
- Low NPSH value
- Large suction inlet minimizing entry losses
- Self venting casing

Specifications:

- Delivery size up to 300mm
- Capacity 10m3/hr to 3000m3/hr
- Head up to 80m
- Suitable for liquid Temperature: Up to 120°C depending on Pump size*
- Sealing Arrangement: Gland packing or with mechanical seals
- Flanges Drilling Standard: Flanges can be as per BS EN/DIN/ANSI/ASA standard
- Homogeneous slurries
- Fibres and solids in suspensions
- Pre Treatment and Electro Coat paint
- Primary, Secondary & activated sludge
- Liquids with entrained gases

Applications:

- Pulp, paper & Cellulose
- Sugar and starch processing
- Automotive plants
- Municipal waste water treatment
- Chemical & Petrochemical processes
- Industrial effluents

Long spells between overhauls

- interchangeable wear plates protect the casing against sand and other erosive matter in the liquid
- 6 standard material classes allow the correct corrosion-proof execution to be selected for liquids of almost any chemical composition

Low maintenance costs

- speedy dismantling of the bearing unit: the casing does not have to be taken out of the line
- modular assembly of the type range with minimum num-ber of pump sizes and components - hence favourable prices through series production

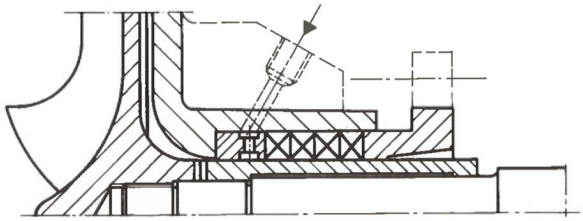
Service for shift operation

- wear plates and impellers available from stock in the standard materials
- one complete bearing unit is upon request, supplied with the pump as spare, and may be fitted in a short time if a breakdown occurs
- bearing unit parts exposed to wear can be exchanged for reconditioned units
- periodic inspections by trained servicemen reveal the condition of the pump in good time, allowing overhauls to be planned in advance for a period out of operation

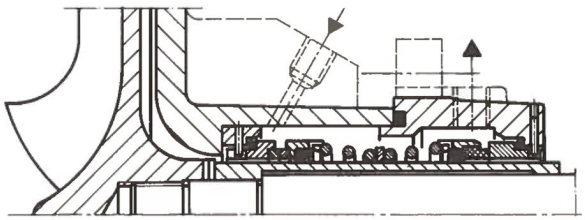
Design

The casing, with radial outlet pointing up vertically and axial inlet, rests on strong integrally cast feet. Any pipe forces are transmitted straight onto the foundation, without stressing the pump rotor. On the inlet side the pump casing is protected by a re-placeable wearing plate. The wearing plate on the rear side forms one piece with the gland cover. The inlet branch has an amply dimensioned hand-hole for cleaning pur-poses. The special open impeller has helical vanes extended far into the inlet, with large throat area. No thick matter can accumulate behind the impeller. The impeller is fixed on the shaft by a thread, ensuring a permanent connection under arduous intermittent operation. The precisely machined pump shaft runs in liberally dimen-sioned bearings, which have to take up only a very limited axial thrust thanks to the special impeller geometry. At the gland the shaft is protected by a replaceable sleeve. The gland is easily accessible and is normally provided with soft packing. Other alternative glands may be used depending on the plant conditions. A mechanical seal may also be employed for the shaft penetration. The bearing unit has bearing covers with lubricating nipple and a lip ring seal, protecting it against the ingress of splash water. A rugged supporting foot on the bearing support facilitates vibration-free operation.

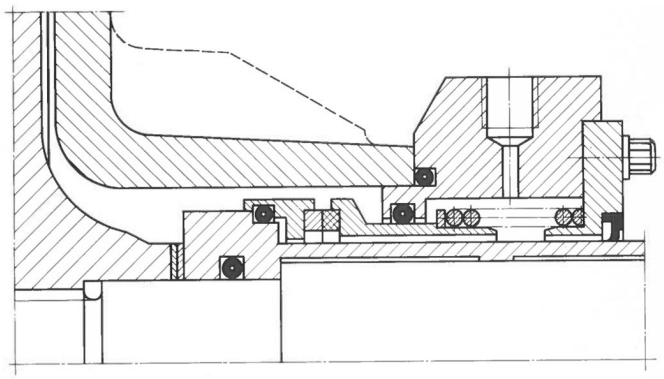
Alternative glands



Lantern bush and soft packing. External flushing.



Double mechanical seal. External flushing in-out



Mechanical seal, single acting with quenching, external spring

Class of material

Component	1,8,A,8	1.8.B,8	1,8,C,8	8,8,8
Casing	0,6025/JL1040	0,6025/JL1040	0,6025/JL1040	1,4408
Impeller	1,4460	1,4460	1,4460	1,4460
Wearing plates	0,6025/JL1040	1,4460	1,4460	1,4460
Stuffing-box cover	0,6025/JL1040	0,6025/JL1040	1,4460	1,4460
Shaft	1,4462	1,4462	1,4462	1,4462
Shaft protection sleeve	1,4404	1,4404	1,4404	1,4404
Bearing support	0,6025/JL1040	0,6025/JL1040	0,6025/JL1040	0,6025/JL1040

Other materials available on request.

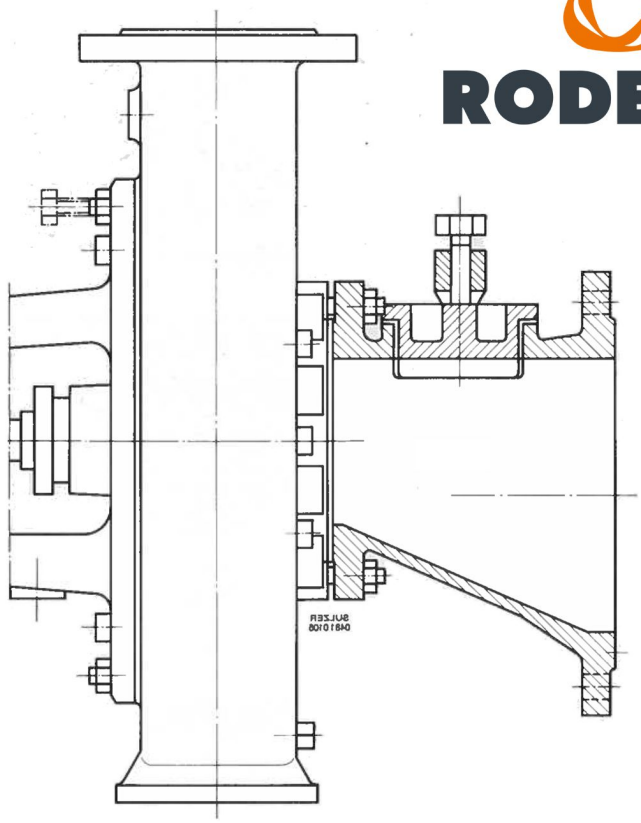
RODELTA®

Inspection cover

The pumps of the ES series can be supplied with inspection cover on request.

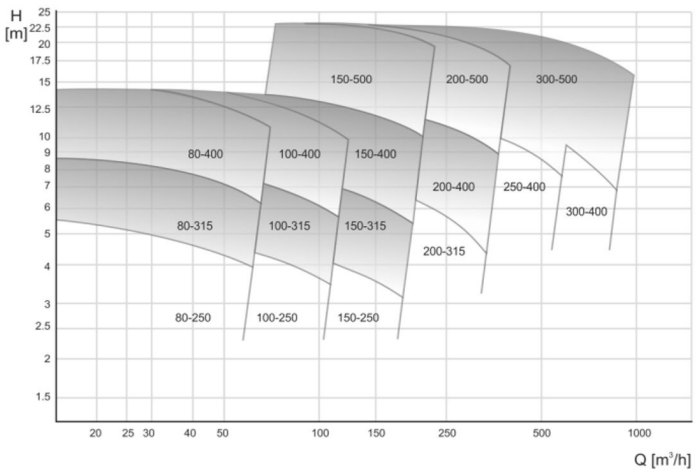
* Recommended for systems with irregular substance concentration or coarse contamination.

* The quick-release handlock allows quick inspection of impeller entry and convenient removal of coarse and bulky foreign objects.

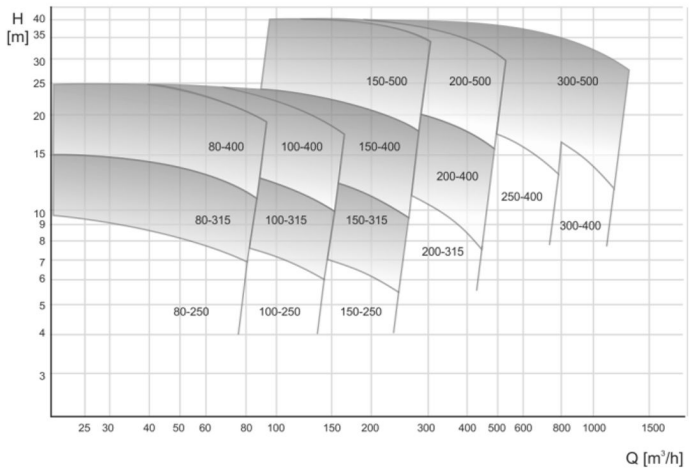


Capacity range

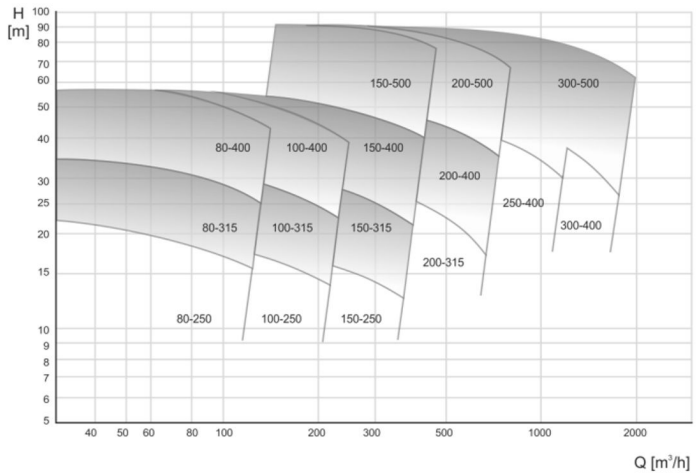
50Hz 730 RPM



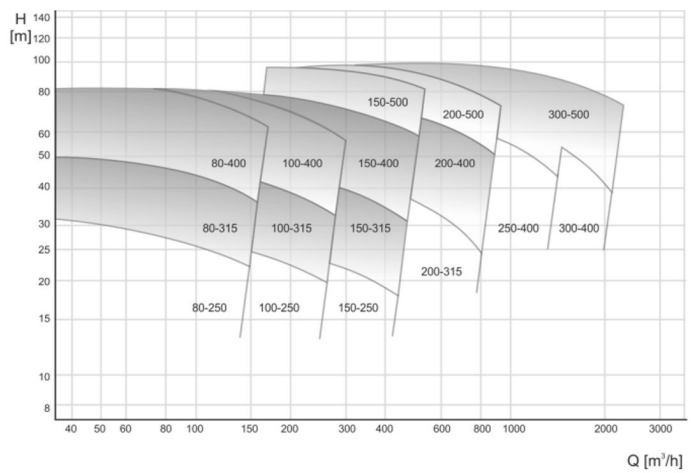
50Hz 960 RPM



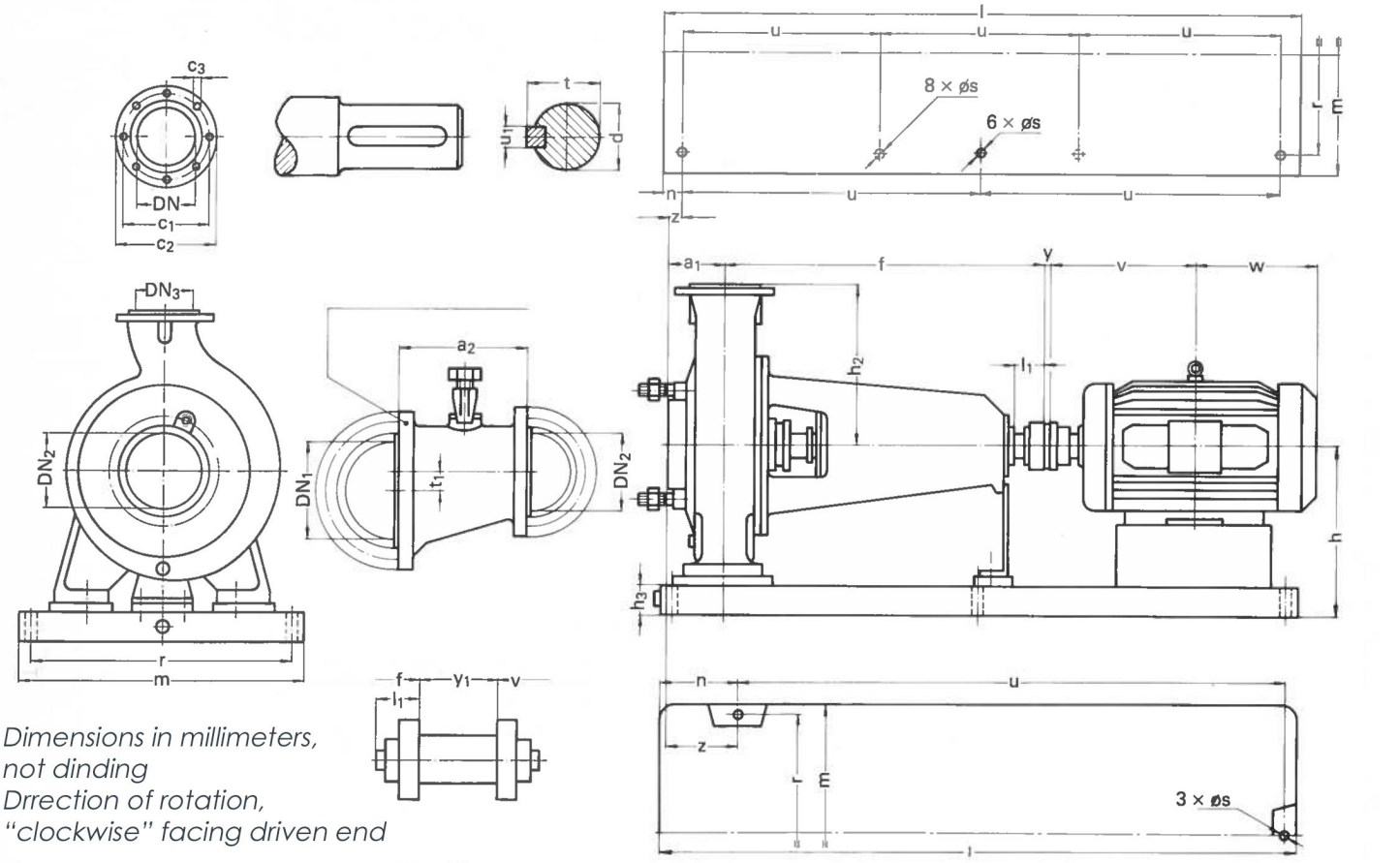
50Hz 1500 RPM



60Hz 1800 RPM



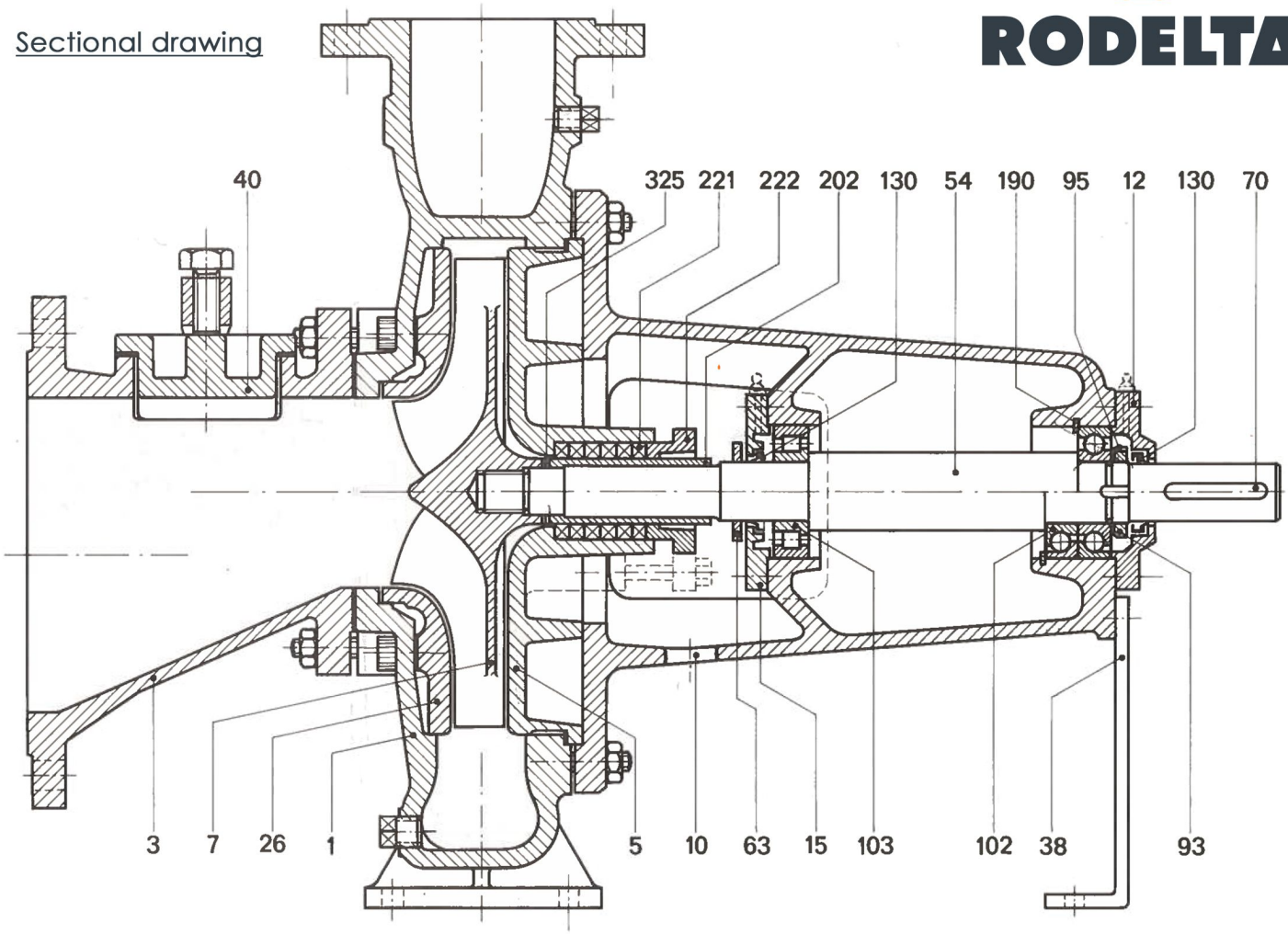
Dimensions



Dimensions in millimeters, not dinding
Drrection of rotation, "clockwise" facing driven end

ES Size	Pump Dimentions												Motor										Motor									
	DN1	DN2	DN3	a1	a2	d	f	h2	i1	t	t1	u1		h	l	m	n	r	s	u	y	z	h3		h	l	m	n	r	s	u	y	z	h3
80-250	125	100	80	75	295	32	500	250	80	35	12,5	10	90L-160M	295	1100	510	150	460	3x19	925	5	140	70	90L-132M	295	1100	510	150	460	3X19	925	100	140	70
																								160M	290	1230	520			3X24	1055			65
80-315	125	100	80	75	295	38	530	315	80	41	12,5	10	90L-132S	295	1100	510	150	460	3x19	925	5	140	70	90L-132S	295	1100	510	150	460	3X19	925	100	140	70
																								132M-160M	290	1230	520			3X24	1055			65
80-400	125	100	80	85	295	38	545	355	80	41	12,5	10	112M-180L	420	1400	700	30	640	6x24	670	5	0	81	112M-160M	420	1400	700	30	640	6X24	670	100	0	81
100-250	150	125	100	90	295	32	530	280	80	35	10	10	100L-160M	295	1100	510	150	460	3x19	925	5	155	70	110L-132M	295	1100	510	150	460	3X19	925	100	155	70
													160L	290	1230	520			3x24	1055				160M-160L	290	1230	520			3X24	1055			65
100-315	150	125	100	85	295	38	540	315	80	41	10	10	100L-132M	320	1100	510	150	460	3x19	925	5	140	70	100L-132S	320	1100	510	150	460	3X19	925	100	140	70
													160M-180L	315	1230	520			3x24	1055			65	132M-160M	315	1230	520			3X24	1055			65
																								160L-180L	335	1400					1220			85
100-400	150	125	100	85	295	48	645	375	110	51,5	10	14	112M-225S	420	1400	700	30	640	6x24	670	5	0	81	112M-180M	420	1400	700	30	640	6X24	670	100	0	81
													225 M	445	1600					770			106	180L-225M	445	1600					770			106
150-250	250	150	150	100	310	32	560	355	80	35	50	10	132S-180L	385	1400	700	30	640	6x24	670	5	35	81	132S-180L	385	1400	700	30	640	6X24	670	100	35	81
150-315	250	150	150	115	310	48	610	400	110	51,5	50	14	132M-225M	420	1400	700	30	640	6x24	670	5	30	81	132M-200L	420	1400	700	30	640	6X24	670	100	30	81
																								225S-225M	445	1600					770			106
150-400	250	150	150	100	310	48	657	400	110	51,5	50	14	132-225S	420	1400					670			81	132S-160M	420	1400					670			81
													225M-280S	445	1600	700	30	640	6x24	770	5	15	106	160L-225M	445	1600	700	30	640	6X24	770	140	15	106
																								250M-280S		1800					870			
150-500	250	200	150	140	305	60	780	450	140	64	25	18	160M-225M		1600					770				160M-180M		1600					770			
													250M-315S	485	1800	700	30	640	6x24	870	5	0	106	180L-250M	485	1800	700	30	640	6X24	870	140	0	106
													315M		2000					970				280S-315M		2000					970			
200-315	250	200	200	130	300	48	647	450	110	51,5	25	14	160M-180L	460	1400	700	30	640	6x24	670	5	-10	81	160M-225S	460	1600	700	30	640	6X24	770	140	-10	106
													200L-250M	485	1600					770			106	225M-250M		1800					870			
200-400	300	250	200	160	310	60	740	450	140	64	25	18	160M-180L	460	1400	700	30	640	6x24	670	5	75	81	160M-225S	480	1600	700	30	640	6X24	770	140	30	106
													200L-250M	485	1600					770			106	225M-250M		1800					870			
200-500	300	250	200	200	310	65	915	500	140	69	25	18	160L-225M		1800					870				160L		1800					870			
													250M-280M	505	2000	700	30	640	6x24	970	5	30	106	180L-250M	505	2000	700	30	640	6X24	970	180	30	106
													315S-315M		2300					1120				280S-315M		2300					1120			
250-400	350	250	250	160	315	60	772	500	140	64	50	18	160M-200L		1600					770				160M		1600					770			
													225S-280M	560	1800	850	30	790	6x24	870	5	-20	160	160L-225M	560	1800	850	30	790	6X24	870	140	-20	160
													315S-315M		2000					970				250M-315S		2000					970			
																								315M	580	2300		35	780		1115		-15	180
250-500	350	250	250	225	315	80	1020	560	170	85	50	22	180L-280S	580	2000	850	30	790	6x24	970			160	180L-200L	580	2000	850	30	790	6X23	970			160
													280M-400M	605	2400		40	770	6x24	773	5	55	180	225S-355M	605	2500	950	40	870		1215	180	55	180
													450M	675	2600	1050		970	8x27	840			200	355-450L	675	3000	1150		1070	8X27	974			200
300-400	400	350	300	160	320	65	918	670	140	69	25	18	160L-200L	635	1800	850	30	790	6x24	870	5	-60	160	160L-225M	635	2000	850	30	790	6X24	970	180	-60	160
													225S-280M		2000					970				250M-315M	655	2300		35	780		1115		-55	180
													315S-315M	655	2300		35	780		1115		-55	180											
300-500	400	350	300	225	320	80	1020	560	170	85	25	22	180L	585	1800	850	30	790	6x24	870	5	45	160	180L-280M	605	2300	850	35	780	6X24	1115	250	50	180
													200L-280S		2000					970				315S-355M		2500					1215			
													280M-315M	605	2300		35	780		1115		50	180	355L	625	2600		40	770	8X27	840		55	200
													355M-400M		2400					1165				400M		2700					873			
													450M	675	2700	950	40	880	8x27	1310		55	200	450M	675	2900	950		870		940			
													450L		2800					1360				450L		3000					974			

Sectional drawing



List of parts

1. Pump casing
3. Inlet cover
5. Casing cover with gland
7. Impeller
10. Bearing support
12. Bearing cover
15. Bearing cover
26. Wearing plate
38. Supporting foot
40. Handhole cover
54. Pump shaft
63. Splash ring
70. Key
93. Bearing nut
95. Locking washer
102. Radial ball bearing
103. Radial roller bearing
130. Radial shaft seal
190. Circlip
202. Shaft protection sleeve
221. Gland packing
222. Gland
325. Adjusting ring

Features	Volute type,Mixed flow-Semi open / Enclosed / Open type impeller end suction pump suitable for high solid densities
Capacity @ BEP	Upto 3000 m^3/hr
Head	Upto 80 m
Temperature range	-20 to 120 °C
Discharge pressure	upto PN 10
Material (Casing/Impeller)	Cast Iron, Bronze, SS, Duplex, Super Duplex
Nozzle Orientation (suc/dis)	Top Center-line discharge(self venting)
Standard Motor Sync. Speed	1000/1500 rpm
Options	Gland packing / Mechanical Seal
Flange drilling standard	BS EN/DIN/ANSI /ASA