

CWC

Cutter Pump

100 1920 2020
KIRLOSKAR BROTHERS LTD.



Enriching Lives



Est. 1888



ABOUT CWC CUTTER PUMP

Robust all rounder cutter pump for all your needs of municipal, industrial and domestic sewage, waste & effluent transfer needs.

The CWC range pump comes with a grinder system which grinds soft solids into small pieces so that they can be separately drawn away through smaller pipes.

These pumps can be used for pumping effluents or waste with untreated sewage. The cost-effective CWC cutter pump is easily maintainable. The pump is designed to reduce energy consumption, thus resulting in minimum impact on environment.



KIRLOSKAR BROTHERS LIMITED
A Kirloskar Group Company

CWC

Cutter Pump

TECHNICAL SPECIFICATION

Head Range	: Up to 39 M
Discharge Range	: Up to 290 LPM
Power Rating	: 1.2 kW to 4 kW (1.6 to 6.0 HP)
Voltage Range	: 415 Volts $\pm$ 10%
Insulation	: F Class
Protection	: IP68
Operating temperature	: 40°C

APPLICATIONS

- Waste water with discharge from water closets
- Sewage from restaurants / hotels / camping sites etc
- Effluents from abattoirs
- Effluents & waste from waste water or effluent treatment plants.
- Sewage treatment in communities or area where no sewer system is available

FEATURES



- Designed with a effective and reliable grinder system which grinds solids into small pieces so that they can be drawn away through discharge pipes of a relatively small diameter.



- Water tight cable connection: Hermetically sealed polyurethane-filled, stainless steel cable plug connection to ensure no liquid entry into the motor.



- Specially designed lifting handle to ensure proper lifting irrespective of installation / motor position.



- Stainless steel clamp for easy and quick dismantling of pump casing without the use of any special tool that enables 180 degree rotation of the pump casing. Easily serviceable, suitable for both temporary and permanent installation and can either be installed on auto coupling system or can stand freely at the bottom of the pit.



Performance Table for Cutter Pump at Rated Voltage Three Phase, 50 Hz, AC Supply

PUMP MODEL	POWER RATING		PIPE SIZE	RATED VOLTAGE (Volts)	RPM	TOTAL HEAD IN METRES					
	kW	HP				mm	6	9	12	15	18
						DISCHARGE IN LITRES PER MINUTE					
Eterna 1200 CWC	1.2	1.6	40	415	2850	270	235	180	120	50	-
Eterna 1500 CWC	1.5	2.0	40	415	2850	295	258	220	175	130	70
						24	27	30	33	36	39
Eterna 4000 CWC	4.0	5.5	40	415	2850	270	225	180	135	85	30

CUTTER PUMP-03-2018-00

KIRLOSKAR BROTHERS LIMITED

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TOLL-FREE NO.

1800 103 4443

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Enriching Lives

ETERNA CW+

Sewage / Dewatering Submersible Pumps
Single Phase

FEATURES

Non Clog Impeller



Handles suspended soft solids and prevents impeller jamming

Automatic On-Off Float Switch



Pump starts and stops automatically. Protects the pump from dry running and burning

Robust Construction



Heavy duty construction made from graded cast iron

Dynamically Balanced Rotating Parts



Resulting in lesser vibrations and longer trouble-free operation



Dewatering Foundation, Trenches and Pits



Flood Water Handling



Construction Site



STRENGTHENED BY
99.9%
PURE EC GRADE
**COPPER
WINDING WIRES**



Sewage Pumping

BUY ELECTRIC PUMPS WITH PURE COPPER WINDING WIRES ONLY. ENQUIRE BEFORE BUYING.

ALWAYS BUY PUMPS WITH



and



LOGOS ON PACKAGING

ETERNA CW+

Sewage / Dewatering Submersible Pump Single Phase

FEATURES

High Efficiency and Energy Saving Design

Innovative design manufactured at state of art plant, delivers optimum efficiency at lower energy consumption resulting in significant cost savings.

Easy Maintainable Designs

Easy maintainable design and better interchangeability of components so that pump can be serviced even at remote locations by semi-skilled technicians.

Robust Construction

Heavy duty construction made from graded cast iron makes the pump suitable for sewage and sludge.

Replaceable Wearing Parts

All wearing parts within the pumps are easily accessible and replaceable which facilitates ease of maintenance thereby extending the life of the pump.

Dynamically Balanced Rotating Parts

Minimum vibration protect components from damage during the operation, thus ensuring consistent performance as concentricity is maintained.

TECHNICAL SPECIFICATION

Head Range	- Up to 19 Metres
Discharge Range	- Up to 396 LPM
Power Rating	- 0.37 to 1.5 kW (0.5 to 2.0 HP)
Voltage Range	- 180 to 240 Volts
pH Value	- 6.5 to 7.5
Maximum Density	- < 1050 kg/m ³
Protection	- IP68
Maximum Ambient Temperature	- 40 °C
Insulation	- B Class

MATERIAL OF CONSTRUCTION

Impeller	- Cast Iron
Delivery Casing	- Cast Iron
Motor Body	- Stainless Steel
Pump Shaft	- Stainless Steel

APPLICATIONS

- Dewatering from basements, multi-storeys, shopping malls, godowns
- Construction site
- Dewatering foundation, trenches and pits
- Sewage pumping
- Flood water handling

PERFORMANCE CHART FOR ETERNA CW+ PUMPS, AT RATED VOLTAGE, 50 Hz FREQUENCY, SINGLE PHASE A.C. POWER SUPPLY

S. No.	PUMP MODEL	Power Rating		Pipe Size DEL. (mm)	Rated Voltage (Volts)	Rated Speed (RPM)	Max. Solid Size (mm)	TOTAL HEAD IN METERS								Minimum Submerged From Bottom (mm)	
		kW	HP					4	6	8	10	12	14	16	18		19
								DISCHARGE IN LITRES PER MINUTE									
1	ETERNA 370 CW+	0.37	0.5	50	210V	2800	18	171	144	114	66	-	-	-	-	-	375
2	ETERNA 750 CW+	0.75	1	50	210V	2800	22	-	312	264	204	120	-	-	-	-	430
3	ETERNA 1500 CW+	1.5	2	50	230V	2840	22	-	-	396	357	312	270	222	144	96	485

Note:

- Performance under standard test conditions and may vary on site conditions.
- Performance applicable to liquid of specific gravity 1 and viscosity as of water.

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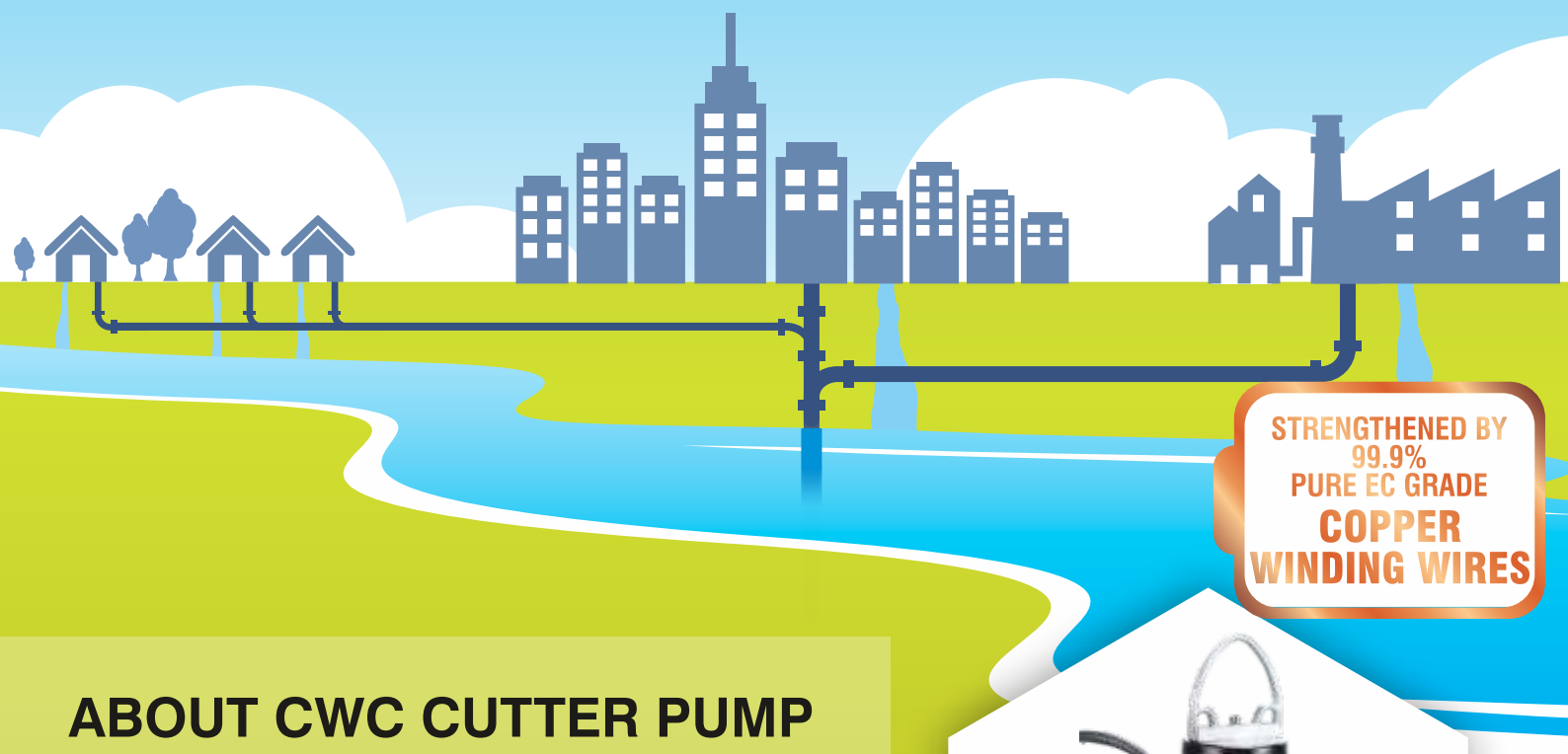
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ABOUT CWC CUTTER PUMP

Robust all rounder cutter pump for all your needs of municipal, industrial and domestic sewage, waste & effluent transfer needs.

The CWC range pump comes with a grinder system which grinds soft solids into small pieces so that they can be separately drawn away through smaller pipes.

These pumps can be used for pumping effluents or waste with untreated sewage. The cost-effective CWC cutter pump is easily maintainable. The pump is designed to reduce energy consumption, thus resulting in minimum impact on environment.



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LOGOS ON PACKAGING

CWC

Cutter Pump

TECHNICAL SPECIFICATION

Head Range	- Up to 39 meters
Discharge Range	- Up to 365 LPM
Power Rating	- 1.2 to 4 kW (1.6 to 5.5 HP)
Voltage Range	- 415 Volts $\pm$ 10%
Insulation	- F Class
Protection	- IP68
Operating temperature	- 40°C

APPLICATIONS

- Waste water with discharge from water closets
- Sewage from restaurants / hotels / camping sites etc
- Effluents from abattoirs
- Effluents & waste from waste water or effluent treatment plants.
- Sewage treatment in communities or area where no sewer system is available

FEATURES

Special Cutter

Equipped with a effective and reliable grinder system which grinds solids into small pieces so that they can be drawn away through discharge pipes of a relatively small diameter.

Water Tight Cable Connection

Hermetically sealed polyurethane-filled, stainless steel cable plug connection to ensure no liquid entry into the motor.

Specially Designed Lifting Handle

Ensure proper lifting irrespective of installation / motor position.

Stainless Steel Clamp

Easy and quick dismantling of pump casing without the use of any special tool that enables 180 degree rotation of the pump casing. Easily serviceable, suitable for both temporary and permanent installation and can either be installed on auto coupling system or can stand freely at the bottom of the pit.

PERFORMANCE CHART FOR CWC SERIES, CUTTER PUMP, AT RATED VOLTAGE, 50 HZ FREQUENCY, THREE PHASE A.C. POWER SUPPLY

Sr. No.	Pump Model	Model Rating		Pipe Size DEL.(mm)	Rated Voltage (Volts)	RPM	TOTAL HEAD IN METERS					
		kW	HP				6	9	12	15	18	21
							DISCHARGE IN LITRES PER MINUTE					
1	ETERNA 1200 CWC	1.2	1.6	40	415	2850	270	235	180	135	80	-
2	ETERNA 1500 CWC	1.5	2.0	40	415	2850	295	258	220	175	130	80
							6	15	30	33	36	39
3	ETERNA 4000 CWC	4.0	5.5	40	415	2850	365	330	180	135	85	30

Note:

Performance under standard test conditions and may vary on site conditions
Performance applicable to liquid of specific gravity 1 and viscosity as of water.

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Enriching Lives

ETERNA CW

SEWAGE DE-WATERING SUBMERSIBLE PUMPS



STRENGTHENED BY
99.9%
PURE EC GRADE
COPPER WINDING WIRES

ETERNA CW+

ETERNA CW

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Easy
Maintainable
Design



Dynamically
Balanced
Rotating Parts



Replaceable
Wearing
Parts



High Efficiency
& Energy
Saving Design

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and



LOGOS ON PACKAGING

ETERNA CW

SEWAGE DE-WATERING SUBMERSIBLE PUMPS

FEATURES

High Efficiency and Energy Saving Design

Innovative design manufactured at state of art plant, delivers optimum efficiency at lower energy consumption resulting in significant cost savings.

Easy Maintainable Designs

Easy maintainable design and better interchangeability of components so that pump can be serviced even at remote locations by semi-skilled technicians.

Robust Construction

Heavy duty construction made from graded cast iron, carbon + silicon carbide mechanical seal makes the pump suitable for sewage and sludge.

Replaceable Wearing Parts

All wearing parts within the pumps are easily accessible and replaceable which facilitates ease of maintenance thereby extending the life of the pump.

Dynamically Balanced Rotating Parts

Minimum vibration protect components from damage during the operation, thus ensuring consistent performance as concentricity is maintained.

TECHNICAL SPECIFICATION

Head Range	- Up to 70 Metres
Discharge Range	- Up to 4920 LPM
Power Rating	- 0.37 to 15 kW (0.5 to 20 HP)
Voltage Range	- 300 to 440 Volts - 3 Ph (For CW+ Models) - 380 to 440 Volts - 3 Ph (For CW Models)
pH Value	- 6.5 to 7.5
Maximum Density	- < 1050 kg/m ³
Protection	- IP68
Consistency of Medium	- < 1.2 x 10 ³ kg/m ³
Maximum Ambient Temperature	- 40 °C
Insulation	- B/ E Class

MATERIAL OF CONSTRUCTION

Impeller	- Cast Iron
Delivery Casing	- Cast Iron
Motor Body	- Cast Iron
Pump Shaft	- Carbon Steel - CW / Stainless Steel - CW+

APPLICATIONS

- Sewage pumping
- Dewatering from basements, multi-storeys, shopping malls, godowns
- Construction site
- Dewatering foundation, trenches and pits
- Flood water handling

PERFORMANCE CHART FOR ETERNA CW+ / CW SERIES, SEWAGE DE-WATERING PUMPS, AT RATED VOLTAGE, 50 Hz FREQUENCY, THREE PHASE A.C. POWER SUPPLY

S. No.	PUMP MODEL	Power Rating		Pipe Size DEL. (mm)	Rated Voltage (Volts)	Rated Speed (RPM)	Max. Solid Size (mm)	TOTAL HEAD IN METERS											Minimum Submerged From Bottom (mm)
		kW	HP					4	6	8	10	12	14	16	18	19	22	24	
								DISCHARGE IN LITRES PER MINUTE											
1	ETERNA 370 CW+	0.37	0.5	50	415	2800	18	171	144	114	66	-	-	-	-	-	-	-	410
2	ETERNA 750 CW+	0.75	1	50	415	2800	22	-	312	264	204	120	-	-	-	-	-	-	450
3	ETERNA 1100 CW+	1.1	1.5	50	415	2800	24	-	366	312	252	180	84	-	-	-	-	-	460
4	ETERNA 1500 CW+	1.5	2	50	415	2840	22	-	-	396	357	312	270	222	144	96	-	-	490
5	ETERNA 2200 CW+	2.2	3	50	415	2840	25	-	-	-	-	-	450	408	348	312	180	-	500
6	ETERNA 3700 CW+	3.7	5	65	415	2900	35	-	-	-	-	-	960	870	720	600	360	150	625
7	ETERNA 5500 CW+	5.5	7.5	80	415	2900	35	-	1560	1500	1410	1272	1140	990	810	750	450	180	660
								4	6	8	10	12	14	16	18	20	22	24	-
8	ETERNA 7500 CW	7.5	10	150	415	1440	45	3800	3750	3250	2750	2000	1000	-	-	-	-	-	920
9	ETERNA 11000 CW 4PL	11	15	150	380	1440	45	-	-	4920	4200	3600	2700	1600	280	-	-	-	970
10	ETERNA 15000 CW 4PL	15	20	150	380	1440	45	-	4800	4520	4230	3950	3620	3120	2140	400	-	-	1020
								12	15	18	21	24	27	30	33	36	39	40	-
11	ETERNA 7500 CW 2P	7.5	10	65	380	2900	25	1500	1400	1300	1210	1120	1025	935	780	550	270	-	780
12	ETERNA 11000 CW 4P	11	15	100	380	1440	35	-	2680	2350	1970	1500	630	-	-	-	-	-	925
13	ETERNA 15000 CW 4P	15	20	100	380	1440	35	-	-	2950	2680	2380	2080	1650	1150	680	150	-	990
								25	30	35	40	45	50	55	60	65	70	75	-
14	ETERNA 11000 CW 2P	11	15	65	380	2900	25	1060	980	850	650	400	185	-	-	-	-	-	920
15	ETERNA 15000 CW 2P	15	20	65	380	2900	25	-	-	-	-	-	1290	950	600	230	40	-	935

Note:

- Performance under standard test conditions and may vary on site conditions.
- Performance applicable to liquid of specific gravity 1 and viscosity as of water.

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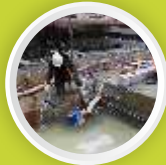
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Enriching Lives

SW/BW

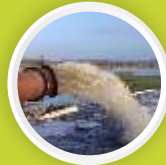
SEWAGE DE-WATERING SUBMERSIBLE PUMPS



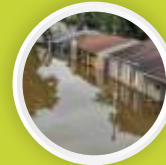
Dewatering Foundation,
Trenches and Pits



Construction
Site



Sewage
Pumping



Flood Water
Handling



ETERNA SW



ETERNA BW

STRENGTHENED BY
99.9%
PURE EC GRADE
COPPER WINDING WIRES

BUY ELECTRIC PUMPS
WITH PURE COPPER
WINDING WIRES ONLY.
ENQUIRE BEFORE BUYING.



Easy
Maintainable
Design



Dynamically
Balanced
Rotating Parts



Replaceable
Wearing
Parts



High Efficiency
& Energy
Saving Design

ALWAYS BUY PUMPS WITH

and



LOGOS ON PACKAGING



Enriching Lives

SW/BW

SEWAGE DE-WATERING SUBMERSIBLE PUMPS

FEATURES

Automatic On – Off Switch

Pre-fitted float switch ensure that the pump start and stop automatically as per need. This protects the pump from dry running and burning.

Ready to Use

No installation required, just drop it in the tank, and it is ready to use.

Corrosion Free

Stainless steel body and other rust free parts prevent corrosion.

TOP - Thermal Overload Protector

The pump set features a Thermal Overload Protector that protects the motor from overloading, shielding of the motor and associated circuit from the effects of fault current.

APPLICATIONS

- Removing stagnant water from basement / underground parking / garages
- Draining accumulated storm water during monsoons
- Emptying water-tanks and pits for cleaning
- Waste water from kitchens, hotels, clubs
- Surplus water from sumps

TECHNICAL SPECIFICATION

Head Range	- Up to 12 Metres
Discharge Range	- Up to 330 LPM
Power Rating	- 0.75 to 1.8 kW (1 to 2.5 HP)
Voltage Range	- 180 to 240 Volts (Single Phase)
Protection	- IP68
Insulation	- SW - F Class / BW - B Class
Cable Length	- 9.5 meters
pH Value	- 4 - 10
Max. Liquid density	- $1.2 \times 10^3 \text{ kg/m}^3$
Max. liquid temperature	- +40°C

MATERIAL OF CONSTRUCTION

	SW	BW
Impeller	- Noryl	Cast Iron
Delivery Casing	- Stainless Steel	Cast Iron
Motor Body	- Stainless Steel	Stainless Steel
Pump Shaft	- Stainless Steel	Stainless Steel
Cutter	- -	40 Cr Steel

PERFORMANCE CHART FOR SW AND BW PUMPS AT RATED VOLTAGE, 50 Hz FREQUENCY, SINGLE-PHASE AC POWER SUPPLY

S. No.	Pump Model	Power Rating		Del. Size (mm)	Rated Voltage (Volts)	TOTAL HEAD IN METRES									Max. Solid Size (mm)	Min. Sub. From Bottom (mm)
						3	4	5	6	7	8	9	10	12		
		kW	HP			DISCHARGE IN LITERS PER MINUTE										
1	750SW	0.75	1.0	40	220	180	150	120	95	60	-	-	-	-	15	370
2	1000SW	0.93	1.25	40	220	-	-	200	180	150	120	90	50	-	15	390
3	1300BW	1.3	1.75	50	220	-	-	-	270	240	204	162	132	60	10	530
4	1800BW	1.8	2.5	65	220	-	-	-	330	300	240	180	120	-	10	630

Note:

- Performance under standard test conditions and may vary on site conditions.
- Performance applicable to liquid of specific gravity 1 and viscosity as of water.

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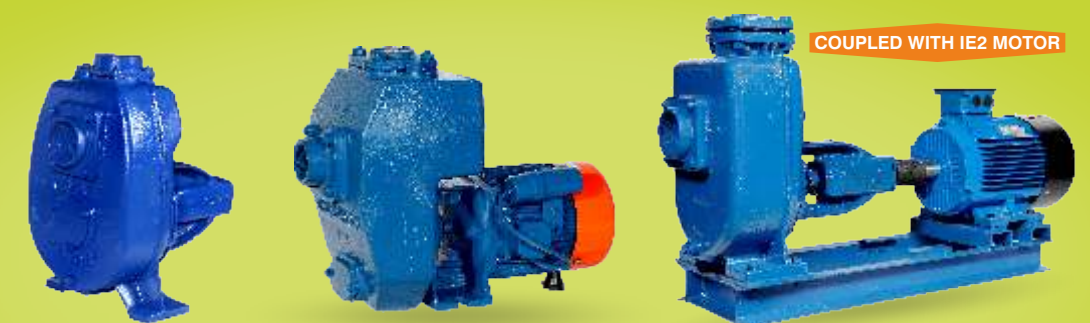
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SELF PRIMING DEWATERING PUMPS



SP BS

SP M

SP COUPLED

TECHNICAL SPECIFICATION				
		SP BARE SHAFT/MOTOR COUPLED		SP MONOBLOC
Head Range	:	Upto 44 metres		Upto 24 metres
Discharge Range	:	Upto 80 lps		Upto 17.5 lps
Power Rating	:	0.75 - 18.7 kW (1 - 25 HP) Motor Coupled*		0.37 - 3.7 kW (0.5 - 5 HP)
Voltage Range	:	415±10% (For motor coupled only)		300 - 440V (Three Phase) 180 - 240V (Single Phase)
Class of Insulation	:	F Class (Motor coupled only)		B / F Class
Protection	:	IP 55		IP 44 / IP 55
*Energy Efficient IE2 Motor				

MATERIAL OF CONSTRUCTION				
		SP BARE SHAFT	SP MONOBLOC	SP MOTOR COUPLED
Impeller	:	Cast Iron / Stainless Steel/ Bronze	Cast iron / Stainless Steel/ Bronze	Cast Iron / Stainless Steel/ Bronze
Motor Body	:	-	Cast Iron	Cast Iron
Delivery Casing	:	Cast Iron	Cast Iron	Cast Iron
Shaft	:	Carbon Steel / Stainless Steel	Carbon Steel / Stainless Steel	Carbon Steel / Stainless Steel
Shaft Sleeve	:	Stainless Steel	Stainless Steel (Bronze –SP-3LM+)	Stainless Steel
Sealing	:	Gland Packed / Mechanical Seal	Gland Packed / Mechanical Seal	Gland Packed / Mechanical Seal

APPLICATIONS				
- Handling chemicals, effluents, sewage, ash-water - Dewatering foundation, trenches and pits - Flood water handling - Pumping water from docks, ports, vessels - Dewatering from basements, multi-storeys, shopping malls, godowns - Cooling water for marine engines and shovels				

FEATURES				
Self Priming No need of foot valve and priming pumpset every time for quicker operations.				
Non clog Impeller Non clog impeller to handle suspended soft solids upto 60 MM in size made it suitable for sewage and dewatering applications.				
Flatter Efficiency Curve Minimum variations in efficiency during entire operating range increases the utility of pumpset for variable conditions.				
Designed to Prevent Overloading Lesser chances of motor burning as the motor does not get overloaded even if the pump is operated at a head lower than recommended, thus ensuring substantial cost savings due to low maintenance and breakdown.				
Dynamically Balanced Rotating Parts Minimum vibrations protect components from damages during the operations, thus ensuring consistent performance as concentricity is maintained.				
Replaceable Wearing Parts All wearing parts within the pumps are easily accessible and replaceable which facilitates ease of maintenance thereby extending the life of the pump.				
Easy Maintainable Designs Easy maintainable design and better interchangeability of components so that pump can be serviced even at remote locations by semi-skilled technicians.				

PERFORMANCE CHART FOR 'SP' SERIES, SELF PRIMING, BARE / ENERGY EFFICIENT IE2 MOTOR COUPLED PUMPS, AT RATED SPEED																						
S. No.	Pump Model	Power Rating		Pump Size (mm)		Rated Voltage (Volts)	Impeller Dia. (mm)	Solid Handling Size (mm)	Rated Speed (RPM)	TOTAL HEAD IN METRES												
										6	8	10	12	14	15	17	19	22	23	25	28	30
		kW	HP	SUC.	DEL.					DISCHARGE IN LITRES PER SECOND												
1	SP '0'	0.75	1	40	40	415	116	7.0	2760	4.6	4.1	3.6	2.7	1.5	0.8	-	-	-	-	-	-	-
2	SP 1H	1.5	2	40	40	415	134	8.5	2900	-	-	6.3	5.6	4.8	4.5	3.4	2.0	-	-	-	-	-
3	SP 2H	2.2	3	50	50	415	145	10.5	2900	-	-	9.2	8.7	8.1	7.8	7.0	6.0	4.2	3.5	1.8	-	-
4	SP 3L+	3.7	5	80	80	415	224	15.5	1450	-	-	18.0	16.5	13.5	11.5	8.0	2.5	-	-	-	-	-
5	SP 4LA+	7.5	10	100	100	415	292	18.5	1450	-	-	36.0	33.5	31.0	30.0	27.0	24.0	18.0	15.0	7.0	-	-
6	SP 4L+	9.3	12.5	100	100	415	292	23.0	1450	-	-	41.0	39.0	37.0	35.0	32.0	28.0	22.0	19.5	14.0	-	-
7	SP 6LA	15	20	150	150	415	296	34.0	1450	-	-	66.0	63.4	60.0	57.5	52.5	45.0	34.3	30.0	16.0	-	-
8	SP 6L	18.7	25	150	150	415	296	40.0	1450	-	-	75.0	72.5	68.7	66.2	61.3	55.0	45.0	40.0	27.5	-	-
9	SP 8LA	11	15	200	200	415	240	60.0	1450	-	80.0	72.0	60.0	32.0	20.0	-	-	-	-	-	-	-
										20	22	23	25	28	30	32	34	36	38	40	42	44
10	SP 3A	3.7	5	80	80	415	174	7.0	2900	10.0	9.2	8.7	7.5	5.2	3.7	1.9	-	-	-	-	-	-
11	SP 3	5.5	7.5	80	80	415	174	14.5	2900	16.5	16.2	16.0	15.0	12.5	10.5	8.0	5.5	3.0	-	-	-	-
12	SP 3HH	9.3	12.5	80	80	415	194	14.5	2900	-	-	-	18.7	18.0	17.3	16.5	15.0	12.5	10.5	8.5	6.5	5.0

Note: All pump sets are suitable with three phase Induction Motor. Performance applicable to liquid of specific gravity 1 and viscosity as of water.

PERFORMANCE CHART FOR 'SP-M' SERIES, SELF PRIMING MONOBLOC PUMPS, AT RATED SPEED, 50 Hz FREQUENCY, THREE PHASE A.C. POWER SUPPLY																			
S. No.	Pump Model	Power Rating		Pump Size (mm)		Impeller Dia. (mm)	Rated Voltage (Volts)	Solid Handling Size (mm)	Rated Speed (RPM)	TOTAL HEAD IN METRES									
										6	8	10	12	14	15	18	20	22	24
		kW	HP	SUC.	DEL.					DISCHARGE IN LITRES PER SECOND									
1	SP 05'M*	0.37	0.5	40	40	116	210/415	5	2700	3.1	2.6	2.1	1.2	-	-	-	-	-	-
2	SP '0'M*	0.75	1	40	40	116	210/415	7	2700	4.4	4.0	3.2	2.3	1.0	-	-	-	-	-
3	SP 1HM	1.5	2	40	40	134	415	8.5	2800	-	-	5.9	5.1	4.2	3.1	1.5	-	-	-
4	SP 2HM	2.2	3	50	50	145	415	10.5	2800	-	-	8.7	8.2	7.4	6.5	5.5	4.3	3.0	1.0
5	SP 3LM+	3.7	5	80	80	224	415	15.5	1420	-	-	17.5	15.5	12.5	8.0	3.5	-	-	-

Note: SP 05M and SP0M are supplied with mechanical seal arrangement and also available in single phase. All other models are supplied with stuffing box arrangement for gland packed or mechanical seal as per the requirement.

PERFORMANCE CHART FOR 'SP' SERIES, SELF PRIMING, ENGINE COUPLED PUMPS, AT RATED SPEED																					
S. No.	Pump Model	Power Rating		Pump Size (mm)		Impeller Dia. (mm)	Solid Handling Size (mm)	Rated Speed (RPM)	TOTAL HEAD IN METRES												
									10	12	14	15	16	18	19	20	22	24	25	26	28
		kW	HP	SUC.	DEL.				DISCHARGE IN LITRES PER SECOND												
1	SP3L+	4	6	80	80	224	15.5	1500	-	18.0	15.5	14.0	12.5	8.2	6.0	3.5	-	-	-	-	-
2	SP3L+	9	12	80	80	224	15.5	1800	-	-	-	-	22.0	21.0	20.0	19.0	16.7	13.7	12.0	10.0	6.0
3	SP4LA+	9	12	100	100	292	18.5	1500	-	36.0	33.9	32.5	31.0	28.0	26.6	25.0	21.5	17.0	14.5	12.0	-
4	SP4L+	10.5	14	100	100	292	23	1500	-	41.0	39.0	38.0	36.5	33.9	32.0	30.5	26.0	21.5	18.5	16.0	9.9
5	SP6LA	16.5	22	150	150	296	34	1500	68	66.0	63.0	62.0	59.0	53.5	51.5	48.0	41.0	33.0	28.5	21.5	-
6	SP6L	19.5	26	150	150	296	40	1500	-	76.0	73.0	71.0	68.0	63.5	61.5	58.0	51.0	43.5	38.8	32.5	-

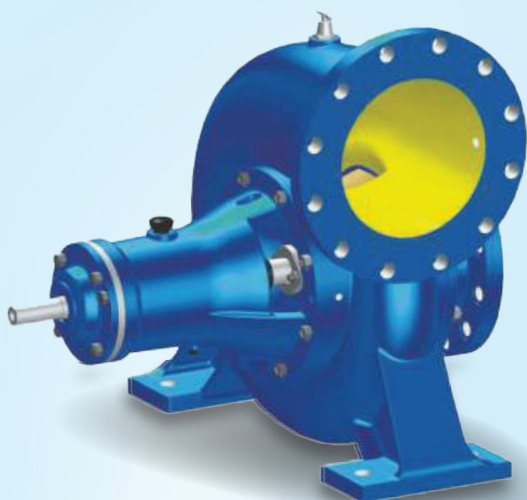
Note: Performance applicable to liquid of specific gravity 1 and viscosity as of water.

MIXED FLOW NON-CLOG PUMPS



Enriching Lives

TYPE - MF/ MF-E / MF-V

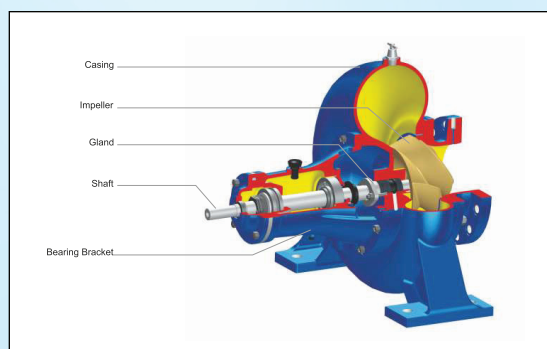


Range:

- Delivery size: up to 650 mm
- Capacity: up to 7,000 m³/hr.
- Head: up to 30 m

Applications:

Pumping drainage water, Storm water,
Supplying water from settling tanks in water
works, Irrigation and agriculture for lift irrigation,
Circulation of hot or cold water in industry,
Air-conditioning plants, Power stations, Textile
mills, Sewage handling, Flood control



Constructional Features:

These are end suction single stage, horizontal shaft, volute type pumps. These pumps operate at 50 Hz.

Pump Casing :

Horizontal/Vertical end suction high efficiency volute type with Top/side/45 degrees orientations. Delivery flange and supporting feet are cast integral with the casing.

Impeller:

Non clog - Semi open / Enclosed type and balanced dynamically. Hydraulically balanced by balancing holes / back vanes.

Shaft:

Made of high tensile steel, accurately grounded. Supported by deep groove ball bearings and thrust bearing housed in the bearing housing.

Stuffing Box :

Gland packed supply is standard for liquids having temperature upto 90°C. Mechanical seal, can be supplied against request.

Bearing:

Deep groove ball bearing and thrust bearing.
Standard lubrication - Oil (except MF 200 pump)
MF 200 is with grease lubrication.

Direction of Rotation :

Clockwise viewed from driving end.

Drive:

Suitable for coupling with electric motors, I.C. Engines either directly or through belt drives/gear box.

Flanges:

Flanges shall be drilled as per BSEN 1092, PN 16 flat face except MF 17 1/2 - 20, MF 55-60, MF 60-65 pumps.
For these models drilling will be BS 10 Table D



KIRLOSKAR BROTHERS LIMITED

Established 1888

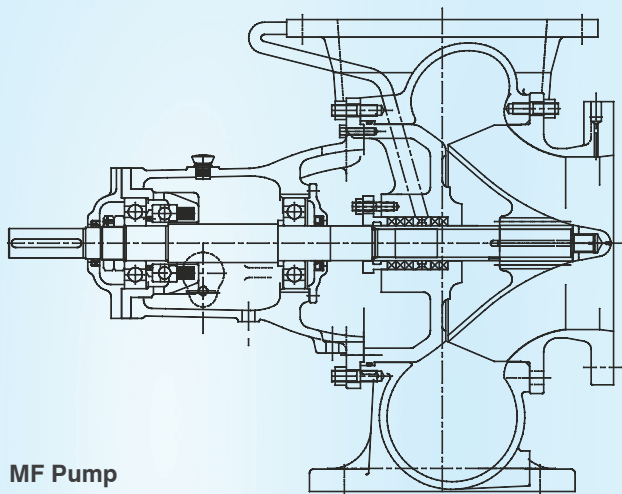
A Kirloskar Group Company

Material of construction:

Casing	Cast Iron/ Cast Steel/ Stainless Steel/ Duplex Steel/ Super Duplex
Casing Cover, Suction Cover	Cast Iron / Cast Steel / Stainless Steel / Duplex Steel/ Super Duplex
Impeller	Cast Iron/ Bronze/ Phosphor Bronze/ Cast Steel/ Stainless Steel/ Chrome Steel/ Duplex Steel/ Super Duplex
*Wear Ring	Cast Iron/ Bronze/ Steel/ Duplex/ Super Duplex
Shaft	Carbon Steel/ Stainless Steel/ Duplex Steel / Super Duplex
Shaft Sleeve	Stainless Steel/ Bronze/ Duplex/ Super Duplex
Lantern Ring	Cast Iron/ Bronze/ Duplex/ Super Duplex
Gland	Cast Iron/ Bronze/ Duplex/ Super Duplex

*for 'E' type Impeller only

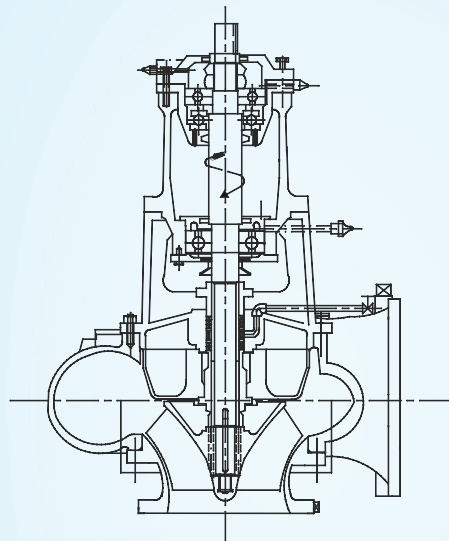
Cross - Section Drawing



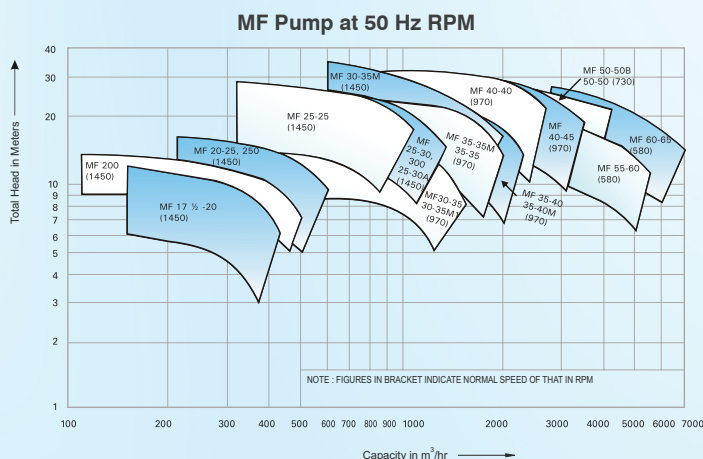
MF Pump

A) MF pumps are also available in Back pull out construction (MF-B)
B) MF pumps can be give with enclosed impeller (MF-E)

MF - Vertical Execution



Family Curve:



KIRLOSKAR BROTHERS LIMITED

Established 1888

A Kirloskar Group Company

OUR COMPANIES



REGISTERED OFFICE & GLOBAL HEADQUARTERS

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Website: www.kirloskarpumps.com | CIN No. L29113PN1920PLC000670

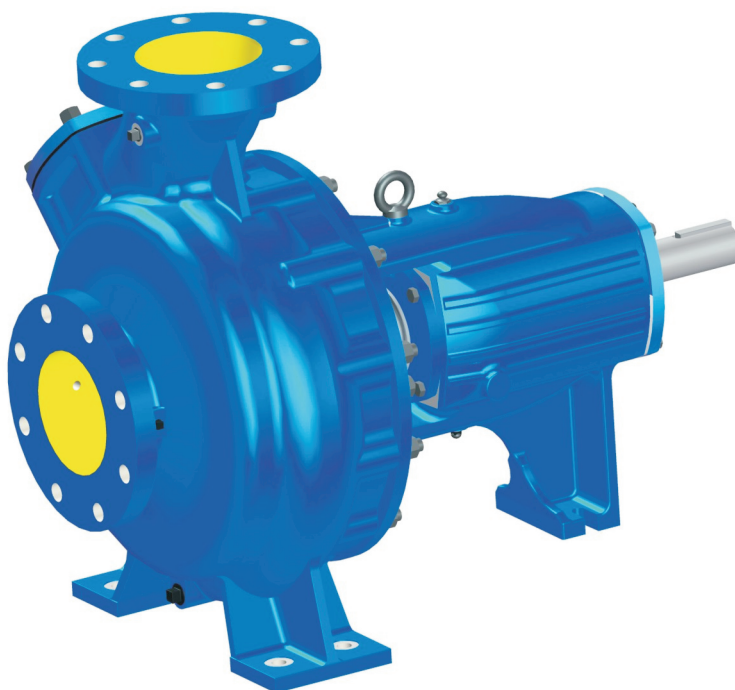
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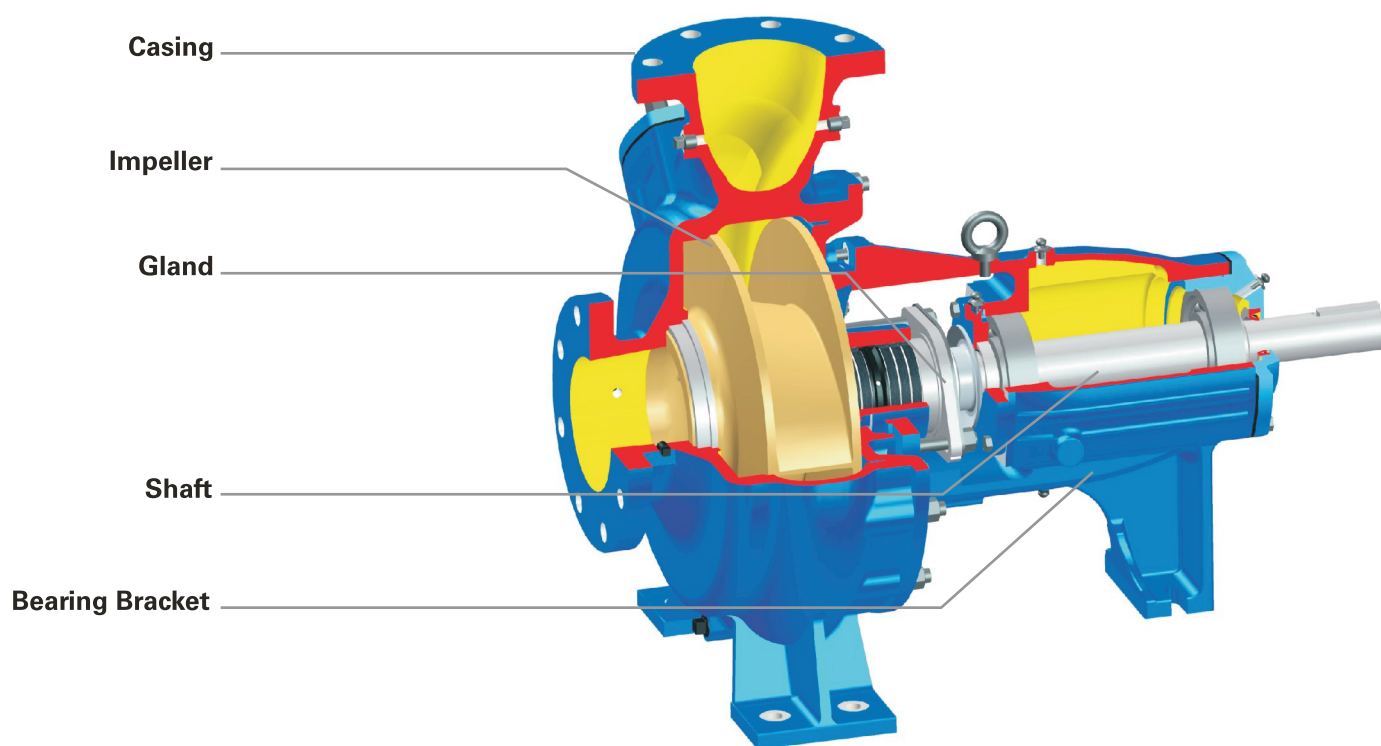
Enriching Lives

SOLIDS HANDLING NON-CLOG PUMPS

TYPE- SHM / SHS / SHV



KIRLOSKAR BROTHERS LIMITED



RANGE

Delivery size up to 200 mm

Capacity up to 800 m³/hr

Head up to 90 m

Max. permissible solid size up to 105 mm,
depending on the model consistency up to 5%

QP impellers for more than 6% consistency

Q impellers for more than 4% consistency

APPLICATIONS

For handling liquids with solids in suspension, sludge or pulpy material in Paper Industries, sewage or waste with soft solids in suspension, viscous liquids or liquids carrying fibrous material or powdered material slurries, contaminated process liquids like Sugar factory waste, trade liquors, Water Carrying Gravel, etc.

CONSTRUCTIONAL FEATURES

SHM are horizontal non-clog pumps having single stage, single suction with back pull out type design.

SHS are vertical non-clog pumps for wet pit applications. The pump unit is suspended by a column pipe which also protects the transmission shaft. These pumps can be offered with a column length up to 6.5 m.

SHV are vertical non-clog pumps for dry pit application in vertical orientation to be driven by vertical flange mounted motor which is directly coupled.

Also, SHVT pumps are vertical non-clog pumps for dry pit application in vertical orientation to be driven by vertical flange mounted motor but coupled through transmission shafting.

These pumps operate at 50 Hz.

Pump Casing :

End suction with top centreline delivery as well as horizontal side delivery. High efficiency volute providing smooth unobstructed flow. Delivery flange and feet are cast integral with the casing. A large inspection opening is provided on casing with easily removable cover.

Impeller :

Single suction type non-clog, free flow impeller dynamically balanced. Enclosed or semi-open impellers are available in code N, P, Q or R.

Shafts :

In SHM pumps, four driving units cover the entire range. Shaft is supported by two bearings. Shaft in stuffing box area is protected by a shaft sleeve. Axial clearance between semi-open impeller and suction wear plate can be adjusted externally without dismantling the pump. The shaft sleeves under bearing housing and bearing spider are shrunk fitted to shaft in SHS pumps.

Stuffing Box :

Standard stuffing box is gland packed with grease sealing. Without cooling up to 90°C and with cooling up to 140°C. Mechanical seal option is also available.

Bearings :

SHM Pumps

Standard : Deep groove ball bearings at DE/NDE.

Optional : Deep groove ball bearing at DE and roller bearing at NDE.

A pair of angular contact ball bearings at DE and one cylindrical roller bearing at NDE.

Standard lubrication is grease and optional is oil.

SHS Pumps

Intermediate shaft bearing is rubber (For water Lubrication) and bronze bearing (For grease lubrication). Thrust ball bearing in combination with metallic journal bearing at head shaft. Transmission bearings are lubricated with external clear water or grease.

Thrust bearings are grease lubricated.

Direction Of Rotation :

Clockwise viewed from driving end.

Drive :

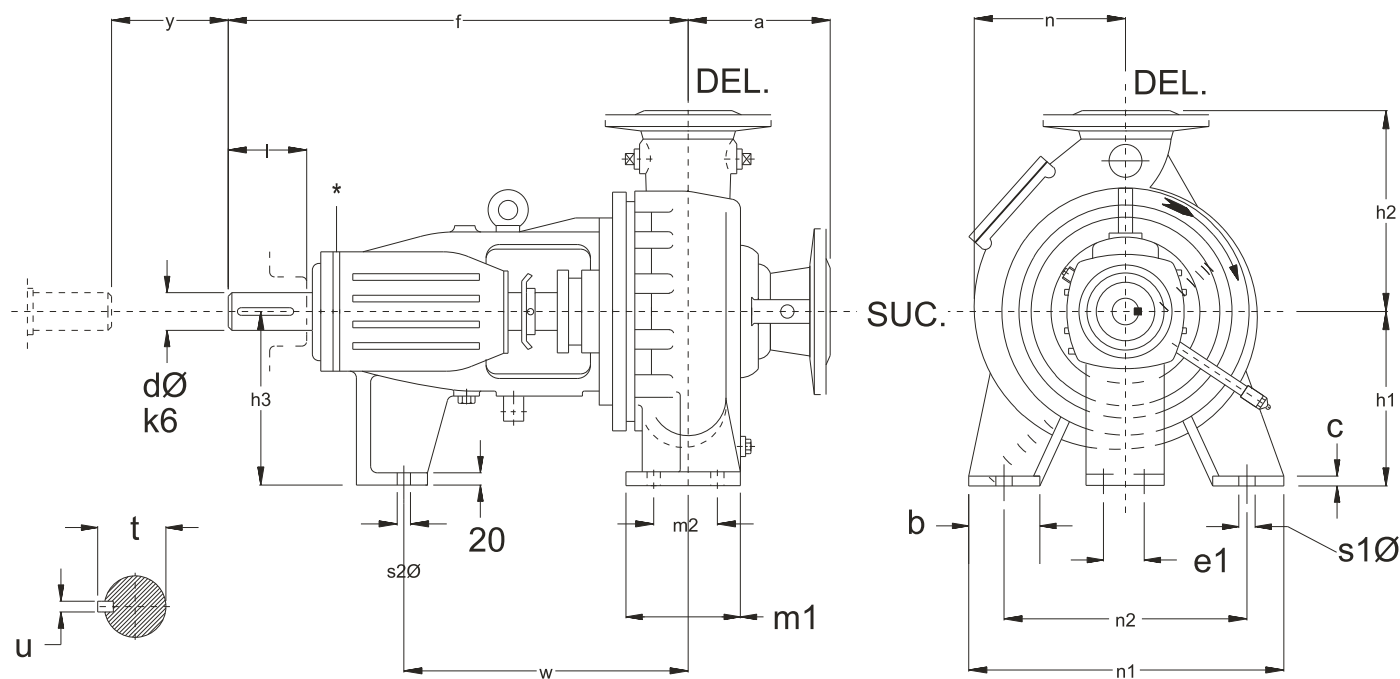
These pumps are suitable for coupling with electric motor or engine directly or through belt drives.

Flanges :

Standard : drilling to DIN 2533 ND 16

Optional : drilling to ASA/BS/IS

GENERAL DIMENSIONS / MOUNTING DETAILS



Shaft End

View from Driving End

DIMENSIONS

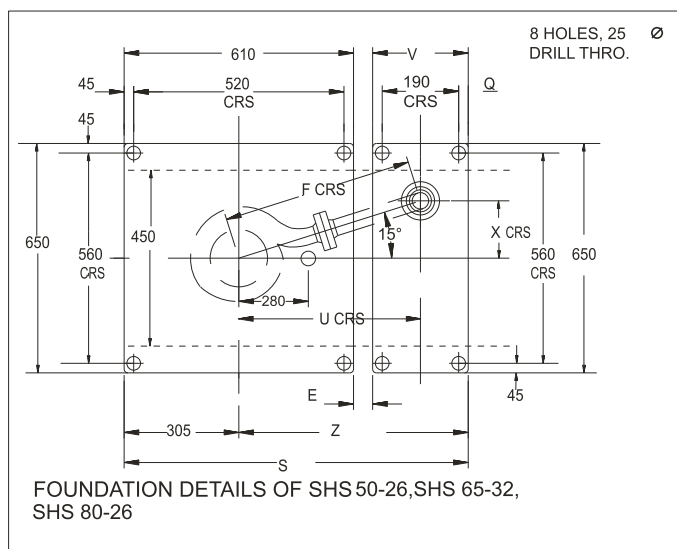
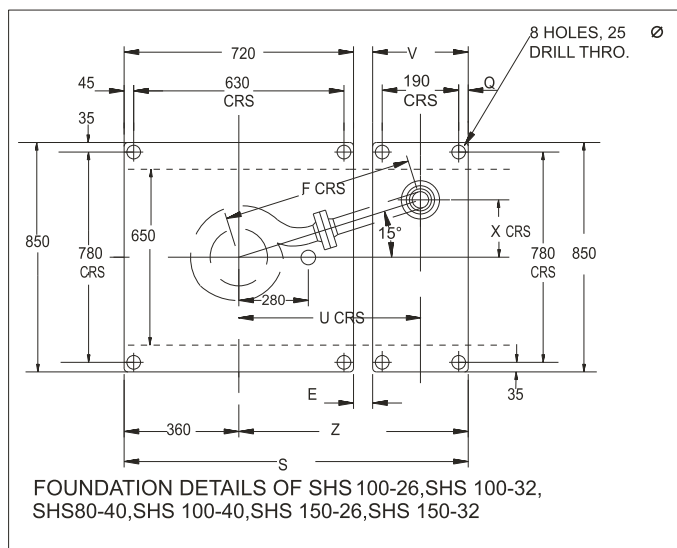
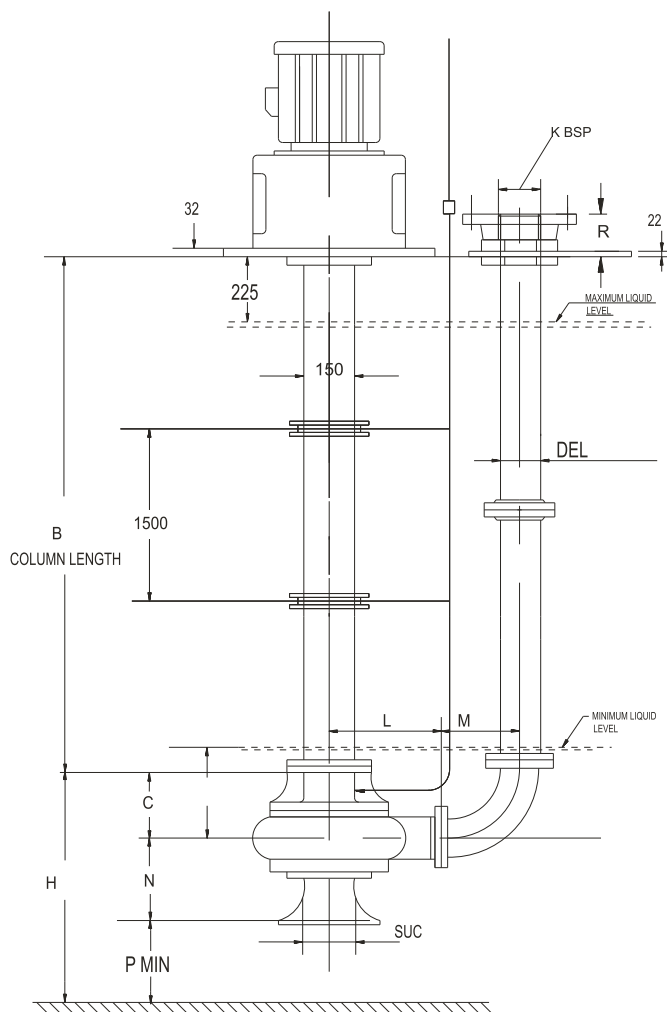
Pump	Driving Unit	SUC Ø	DEL Ø	Pump Dimension					Foot Dimensions										Shaft End						Wt. Kg.
				a	f	h1	h2	n	b	c	m1	m2	n1	n2	s _o ¹	s _o ²	e1	w	h3	dØ	l	t	u	y	
SHM 50/26	SHM 7	65	50	150		200	250	180	65		135	95	320	250	14				200						100
SHM 50/26 NB					570					18						15	110	400		32	80	35	10	140	
SHM 65/32		80	65	180		225	280	210	80		160	120	400	315	18				225						126
SHM 65/32 NB																									
SHM 80/26		100	80			200	250	195										200						120	
SHM 100/26	SHM 9	125	100			225	280	217				80												140	
SHM 100/32				180	630	250	315	237	80	18	160		400	315	18	15	110	400	225	42	80	45	12	140	165
SHM 80/40		100	80			280	355	253				90													168
SHM 150/26 NB		150	150	200	640			270	100				450	355				410						180	140
SHM 100/40	SHM 11	125	100	180				272																200	
SHM 150/26						280		355	270															170	
SHM 150/32									265	100														210	
SHM 150/40		150	150	200	710		400	296			160	90	450	355	18	15	110	450	280	50	110	55.5	14	180	230
SHM 200/32		200	200			315		329		20														300	
SHM 150/50	SHM 13	150	150	225	885	330	450	343	120	22	200	130	560	460	18	15	110	650	330	60	110	63.5	18	180	325
SHM 200/40		200	200			320	400	302		20			500	400											350

NOTE:

1) All dimensions are in mm

2) Dimensions for oil and grease lubricated pumps are common.

SHS PUMP



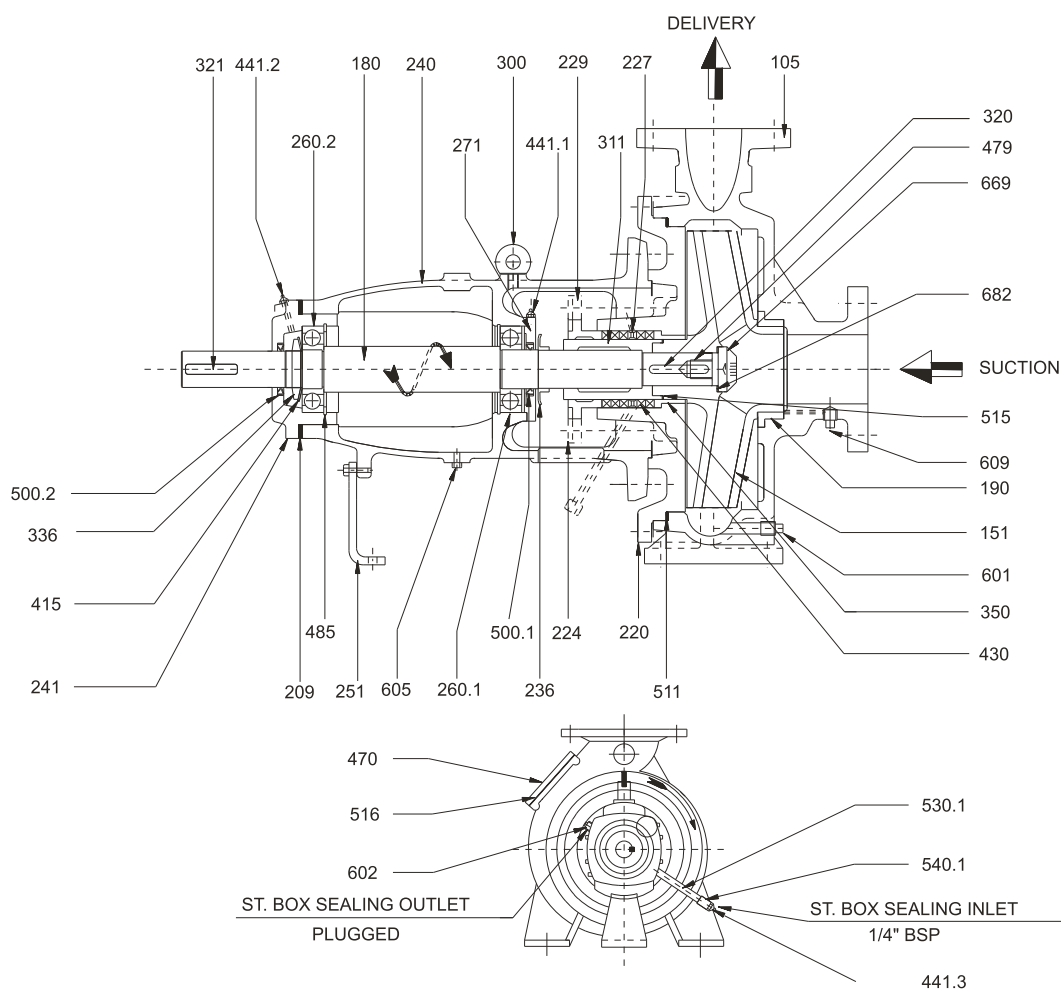
DIMENSIONS

Pump Model	SUC	DEL	H	C	E	F	L	M	N	P	S	W MIN	Z	X	R	K BSP	U	Q	V	Wt. Kg.
SHS 50-26	65	50	535	175	15	492	251	241	202	158	875	550	570	127	103	2"	476	30	250	285
SHS 65-32	80	65	575	175	59	573	281	292	234	166	919	600	614	148	115	2 1/2"	554	30	250	315
SHS 80-26	100	80	610	175	80	581	251	330	233	202	940	600	635	150	115	3"	561	30	250	305
SHS 100-26	125	100	635	190	6	459	281	178	238	207	976	650	616	119	141	4"	444	30	250	460
SHS 100-32	125	100	635	190	30	494	316	178	238	207	1000	650	640	128	141	4"	477	30	250	470
SHS 80-40	100	80	610	190	180	686	356	330	218	202	1150	600	790	178	115	3"	663	30	250	450
SHS 100-40	125	100	650	200	30	534	356	178	238	212	1000	650	640	138	141	4"	516	30	250	505
SHS 150-26	150	150	675	200	79	584	356	228	258	217	1049	800	689	151	104	6"	564	30	250	505
SHS 150-32	150	150	670	200	122	629	401	228	253	217	1092	800	732	163	104	6"	607	30	250	515
SHS 150-40	150	150	675	200	79	584	356	228	258	217	1049	800	689	151	104	6"	564	30	250	530
SHS 200-32	200	200	675	200	79	584	356	228	258	217	1049	800	689	151	104	6"	564	30	250	565

NOTE:

- 1) All dimensions are in mm
- 2) Weights are for pump with 1 m. column length.

CROSS SECTIONAL VIEW SHM PUMP

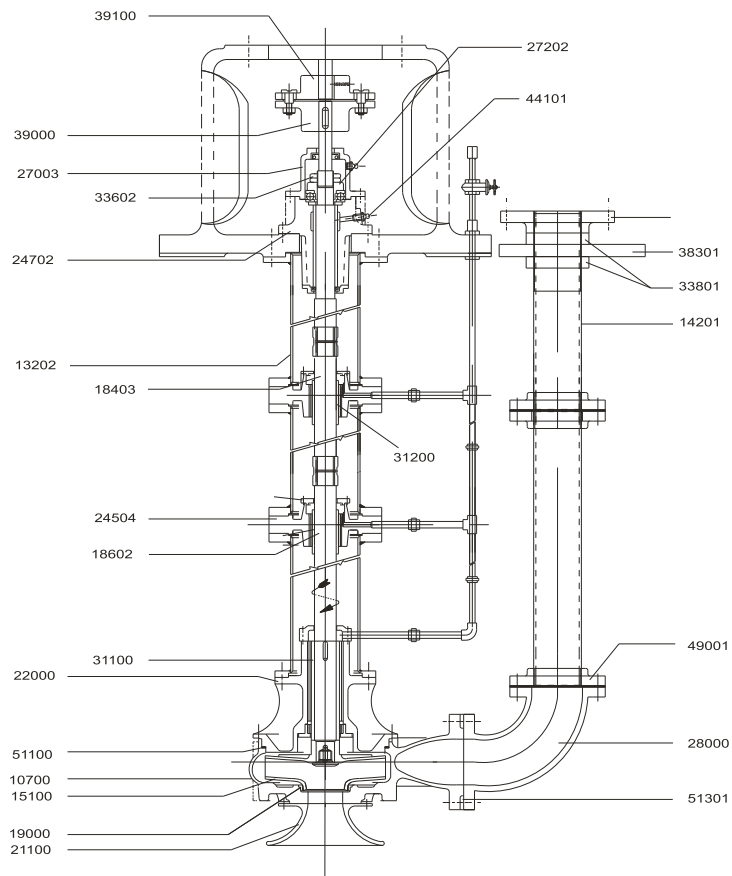


INTERCHANGEABILITY OF COMPONENTS

Part No.	Name of the Part	Total no. of Parts	50/26	50/26B	80/26	65/32	65/32B	100/26	100/32	80/40	150/26B	150/26	150/32	200/32	100/40	150/40	200/40	150/50
			SHM-7				SHM-9				SHM-11				SHM-13			
10500	Pump Casing	13	1	1	2	3	3	4	5	6	7	7	8	9	10	11	12	13
15100	Impeller	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
18000	Shaft	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
19000	Casing Ring	8	1	1	2	3	3	4	4	2	5	5	5	6	4	5	7	8
22000	Casing Cover	10	1	1	1	2	2	3	4	5	3	6	7	7	8	8	9	10
22700	Lantern Ring	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
22900	Gland	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
23600	Deflector	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
24000	Bearing Housing	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
24100	Cartridge	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
25100	Support Foot	2	1	1	1	2	2	-	-	-	-	-	-	-	-	-	-	-
26001	Bearing NDE	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
26002	Bearing DE	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
27100	Bearing Cover	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
31100	Shaft Sleeve	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
32000	Impeller Key	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
32100	Coupling Key	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
35000	Stuffing Box Bush	4	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4
47000	Inspection Hole Cover	3	1	1	1	1	1	2	2	1	3	3	3	3	2	3	3	3

GENERAL DIMENSIONS / MOUNTING DETAILS

SHS PUMP TYPICAL DRAWING

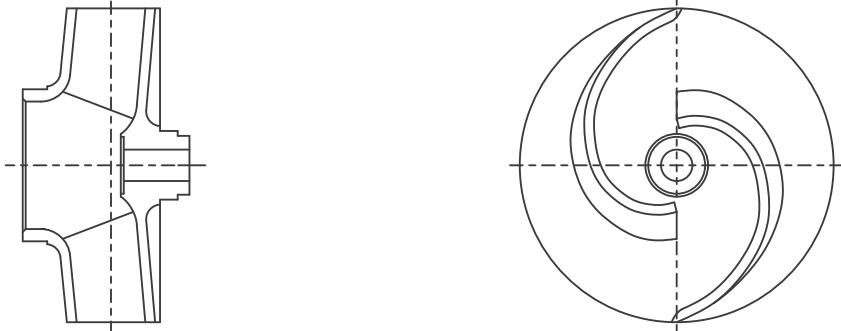


INTERCHANGEABILITY OF COMPONENTS

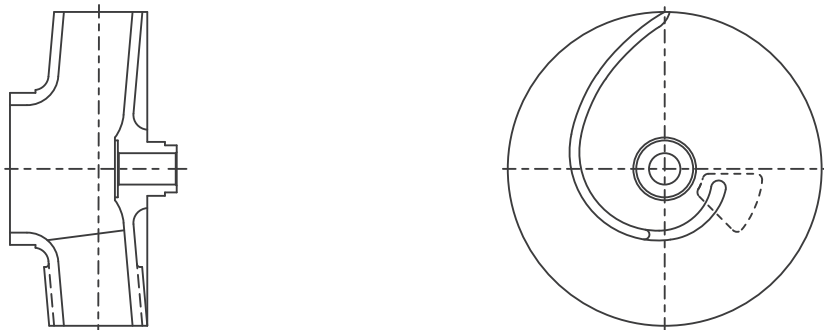
Part No.	Name of the Part	Total no. of Parts	Pump Model										
			50/26	65/32	80/26	100/26	100/32	80/40	150/26	150/32	200/32	100/40	150/40
107	Pump Casing	11	1	2	3	4	5	6	7	8	9	10	11
132	Top Column Pipe	2	1	1	1	1	1	1	1	1	2	1	2
142	Rising pipes	5	1	2	3	4	4	3	5	5	5	4	5
151	Impeller	11	1	2	3	4	5	6	7	8	9	10	11
184	Intermediate Shaft	1	1	1	1	1	1	1	1	1	1	1	1
185	Head Shaft	2	1	1	1	1	1	1	1	1	2	1	2
186	Pump Shaft	3	1	1	1	2	2	2	3	3	3	3	3
190	Casing Ring	6	1	3	2	4	4	2	5	5	5	4	6
211	Suction Bell Mouth	6	1	3	2	4	4	2	5	5	5	4	6
220	Casing Cover	3	1	2	1	1	2	3	1	2	2	3	3
245	Bearing Spider	1	1	1	1	1	1	1	1	1	1	1	1
247	Thrust Bearing Housing	2	1	1	1	1	1	1	1	1	12	1	2
262	Thrust ball bearing	2	1	1	1	1	1	1	1	1	2	1	2
272	Thrust Bearing Adapter	2	1	1	1	1	1	1	1	1	2	1	2
280	Bend	5	1	2	3	4	4	3	5	5	5	4	5
311	Impeller Shaft Sleeve	3	1	1	1	2	2	2	3	3	3	3	3
338.2	Pipe Nut for Rising Pipe	5	1	2	3	4	4	3	5	5	5	4	5
390	Coupling	To Suit Motor KW and Frame											
391													
395	Screwed Coupling												
490	Companion Flange	5	1	2	3	4	4	3	5	5	5	4	5

DIFFERENT TYPES OF IMPELLER FOR
SOLID HANDLING PUMP TYPE 'SHM'

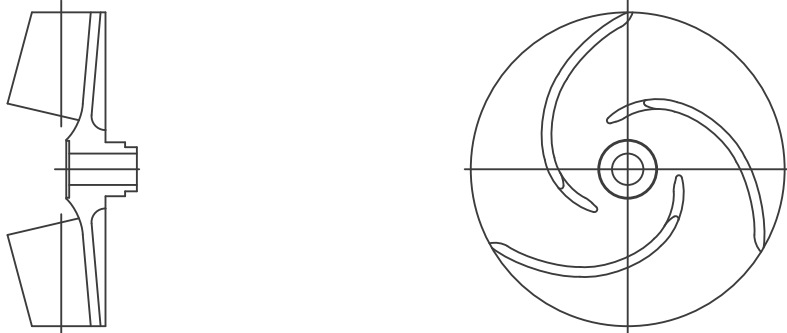
N- TWO VANES ENCLOSED IMPELLER



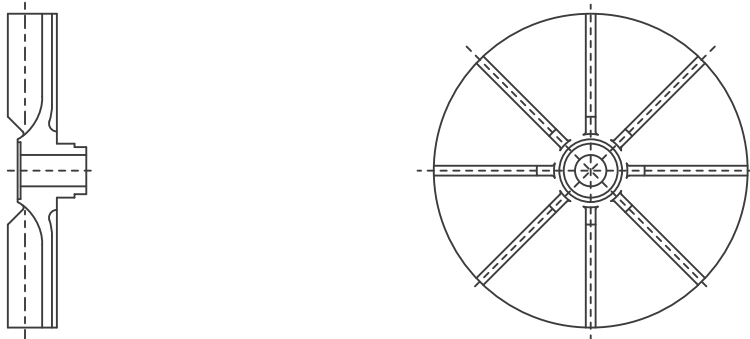
P- SINGLE VANE ENCLOSED IMPELLER



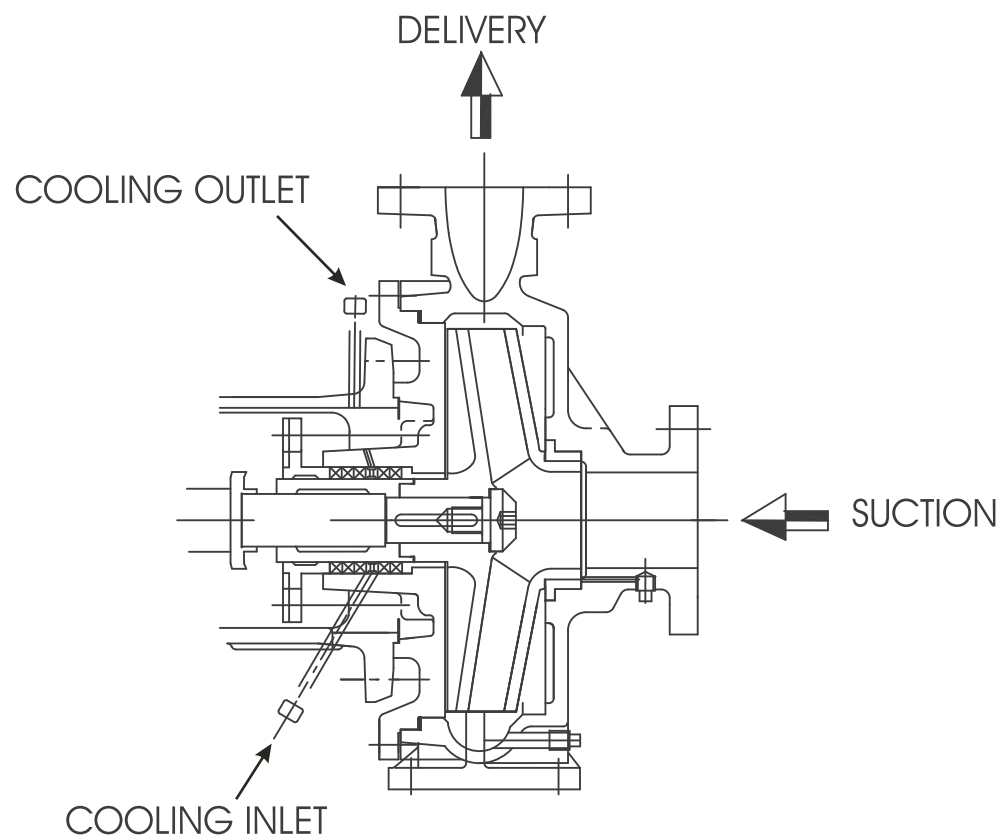
Q/QP - THREE VANES SEMIOPEN IMPELLER



R - EIGHT VANES FREE FLOW IMPELLER

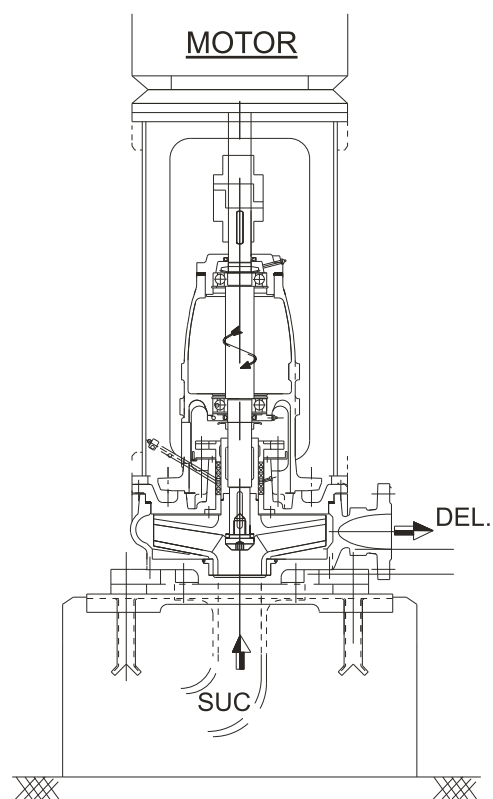


STUFFING BOX COOLING ARRANGEMENT

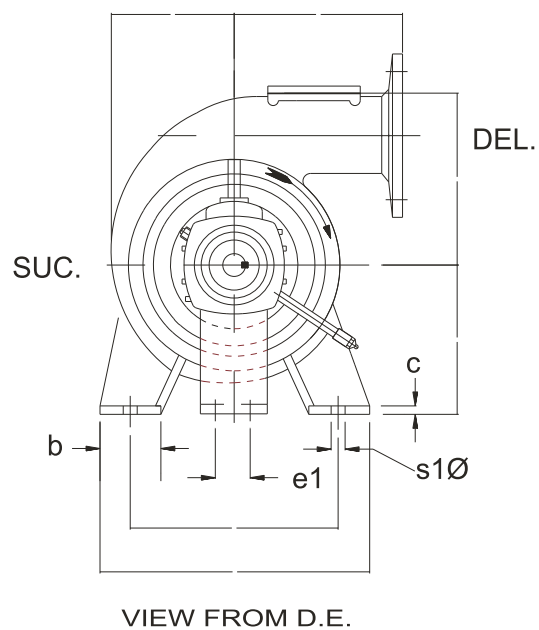


GENERAL DIMENSIONS / MOUNTING DETAILS

ALTERNATIVE AVAILABLE VERTICAL DRY PIT



HORIZONTAL DELIVERY END



MATERIAL OF CONSTRUCTION

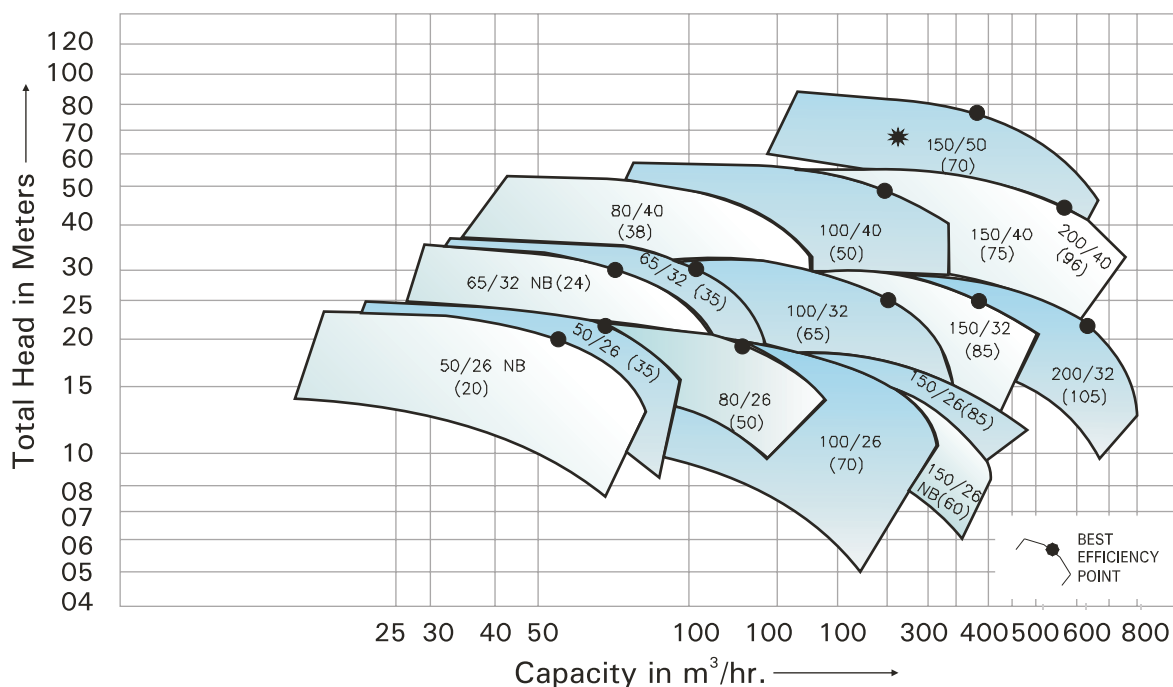
Casing	Cast Iron / Cast Steel / Stainless Steel / Duplex Steel
Casing Cover	Cast Iron / Cast Steel / Stainless Steel
Impeller	Cast Iron / Bronze / Phosphor Bronze / Cast Steel / Stainless Steel / Chrome Steel / Duplex Steel
Wear Ring	Cast Iron / Bronze / Stainless Steel
Shaft	Carbon Steel / Stainless Steel / Duplex Steel
Shaft Sleeve	Stainless Steel / Bronze / Chrome Steel
Lantern Ring	Cast Iron / Bronze / Stainless Steel
Gland	Cast Iron / Bronze

MATERIAL STANDARDS - GENERAL INFORMATION

Material Type	Indian Standard (IS)	American standard (ASTM)	DIN
Cast Iron			
Cast Iron	IS 210 Gr. FG 260	ASTM A48 Class 40	(0.6025)DIN 1691 GG25
Spheroidal Graphite Cast Iron			
SG Iron (Ductile Iron)	IS 1865 Gr 400/15	A536, 60-40-18	(0.7040)DIN1693 GGG40
SG Iron (Ductile Iron)	IS 1865 Gr 500/7	A536, 65-45-12	(0.7050)DIN1693 GGG50
Carbon steel			
Carbon steel (Wrought)	IS 1570 (part II) Gr. 40C8	ASTM A107 Gr. 1040	(1.1186)C40E/CK40
Carbon steel (Wrought)	IS 1570 (part II) Gr. 20C8	ASTM A107 Gr. 1020	(1.0402)C22
MS Steel	MS IS 2062 - Fe 410 W A	ASTM-A283 GR.D	DIN 1700 GR ST4-2 FABRICATED STEEL44
Cast Steel Grades			
Cast steel		ASTMA 216 Gr. WCB	1.0619(GS-C25)
Cast Stainless Steel			
Stainless Steel CF8M	IS 3444 Gr. 4	ASTMA 351 Gr. CF8M	1.4408(GX5CrNiMo19-11-2)
Stainless Steel CF8M	IS 3444 Gr. 4	ASTMA 743 Gr. CF8M	1.4408(GX5CrNiMo19-11-2)
Stainless Steel CF3M	IS 3444 Gr. 16	ASTMA 351 Gr. CF3M	1.4409(GX2CrNiMo19-11-2)
Stainless Steel CF3M	IS 3444 Gr. 16	ASTMA 743 Gr. CF3M	1.4409(GX2CrNiMo19-11-2)
Stainless Steel CF8	IS 3444 Gr. 1	ASTMA 351 Gr. CF8	1.4301(X5CrNi18-10)
Stainless Steel CF3	IS 3444 Gr. 15	ASTMA 351 Gr. CF3	1.4306(X2CrNi19 11)
Cast Chromium StainlessSteel			
Stainless Steel CA15	IS 3444 Gr. 10	ASTMA 217 Gr. CA15	1.4106&1.448(DIN17445 GX12Cr14)
Stainless Steel CA15	IS 3444 Gr. 10	ASTMA 743 Gr. CA15	1.4106&1.448(DIN17445 GX12Cr14)
Stainless Steel CA6NM	IS 3444 Gr. 24	ASTMA 487 Gr. CA6NM	1.4313&1.4317(GX5CrNiMo13-4)
Stainless Steel CA6NM	IS 3444 Gr. 24	ASTMA 743 Gr. CA6NM	1.4313&1.4317(GX5CrNiMo13-4)
Chromium StainlessSteel Round Bar Matterial			
Stainless steel 410	IS 1570 (part V) Gr. X12Cr12	ASTMA 276 type 410	1.4006(X10Cr13)
Stainless steel 420	IS 1570 (part V) Gr. X20Cr13	ASTMA 276 type 420	1.4021(X20Cr13)
Stainless steel 431	IS 1570 (part V) Gr. X15Cr16Ni2	ASTMA 276 type 431	1.4057(X20CrNi17)
Stainless steel 316	IS 1570 (part V) Gr. X04Cr17Ni12Mo2	ASTMA 276 type 316	1.4401(X5CrNiMo17122)
Stainless steel 316L	IS 1570 (part V) Gr. X02Cr17Ni12Mo2	ASTMA 276 type316L	1.4404(X2CrNiMo1810)
Cast Duplex Steel			
Duplex Steel 1A		ASTMA 890 Gr. CD4MCu	25Cr-5Ni-Mo-Cu
Duplex Steel 2A		ASTMA 890 Gr. CE8MN	24Cr-10Ni-Mo-N
Duplex Steel 3A		ASTMA 890 Gr. CD6MN	25Cr-5Ni-Mo-N
Super Duplex steel 4A		ASTMA 890 Gr. CD3MN	25Cr-7Ni-Mo-N
Super Duplex steel 5A		ASTMA 890 Gr. CE3MN	24Cr-10Ni-Mo-N
Non Ferious Materials			
Bronze	IS 318 Gr. LTB2 (CuSn5Zn5Pb5C)	ASTMB 584 - C90500	DIN 1705 Rg 5
Phosphor Bronze	IS 28 Gr. 1 (CuSn11PC)		
Zinc Free Bornze	IS 28 Gr. 1 (CuSn10C)		

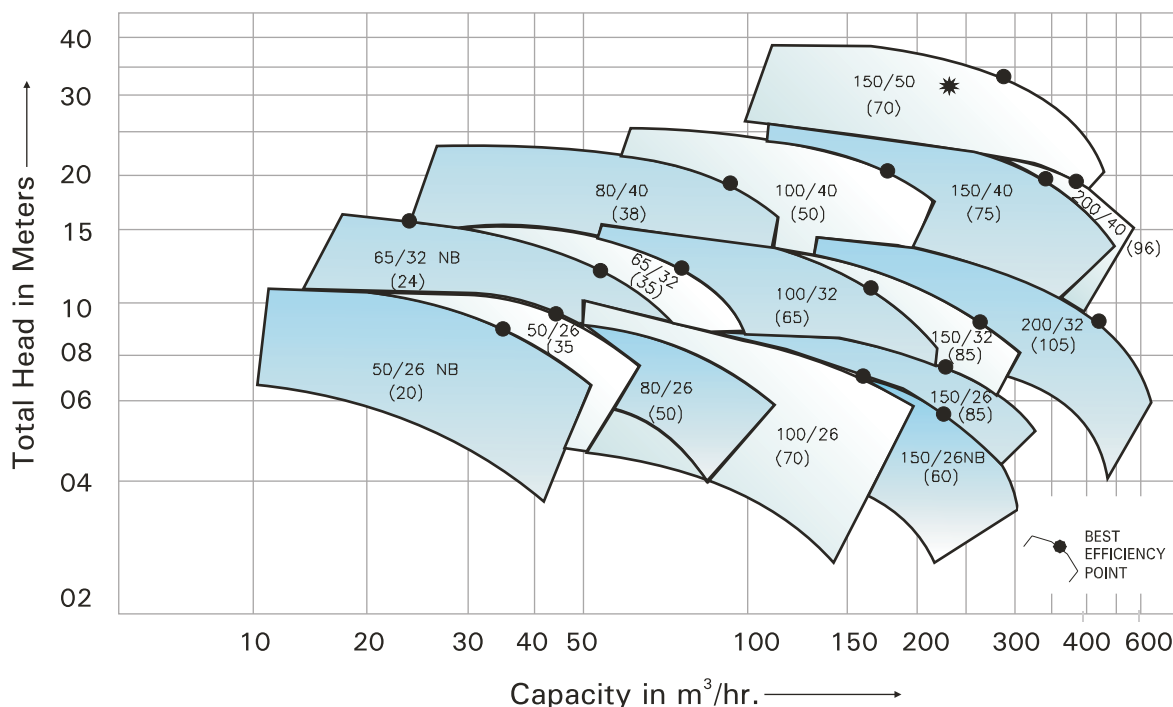
FAMILY CURVES

SHM/SHS/SHV/SHVT Pumps at 1450 rpm - 50 Hz.



* Not applicable for SHS Pump

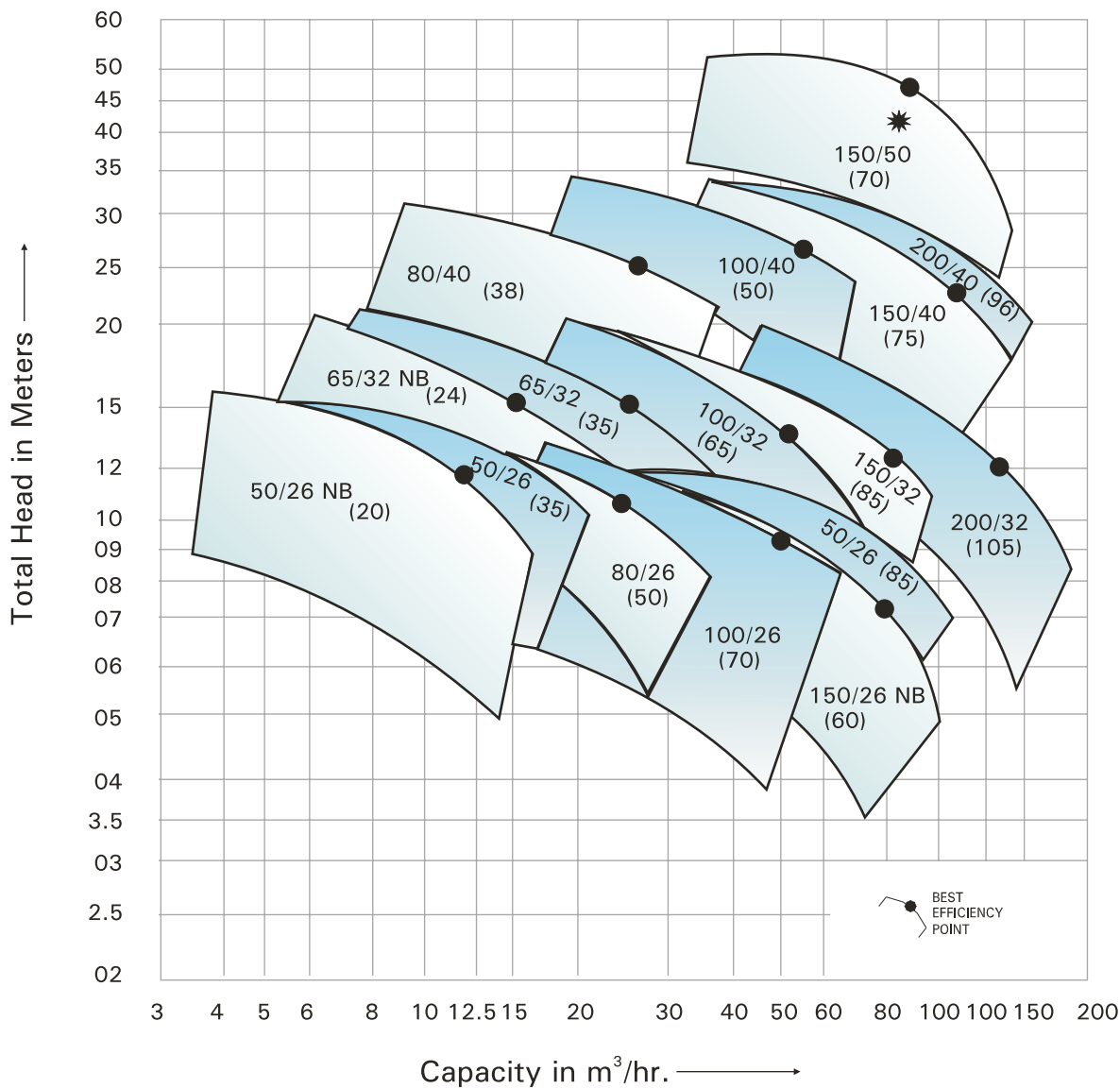
SHM/SHS/SHV/SHVT Pumps at 980 rpm - 50 Hz.



* Not applicable for SHS Pump

FAMILY CURVES

SHM/SHS/SHV/SHVT Pumps at 1150 rpm - 60 Hz.



Note : Figures in bracket indicate maximum permissible solid size.

* Not applicable for SHS Pump

OUR GLOBAL PRESENCE



As we are constantly endeavouring to improve the performance of our products/ equipment, we reserve the right to make alterations from time to time and as such our products/ equipment may differ from that detailed in this publication. For latest information you may get in touch with our Regional Sales Offices.



Enriching Lives

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email: kblin@kbl.co.in website: www.kbl.co.in

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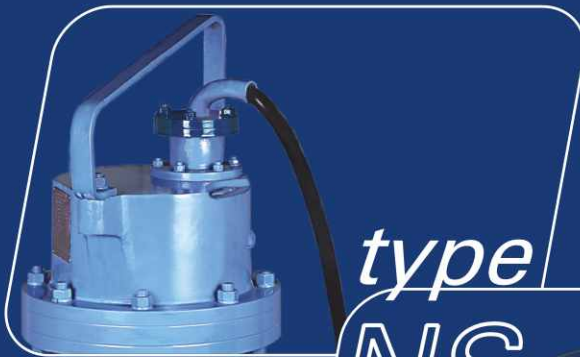
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Fax: +91 2346 222311





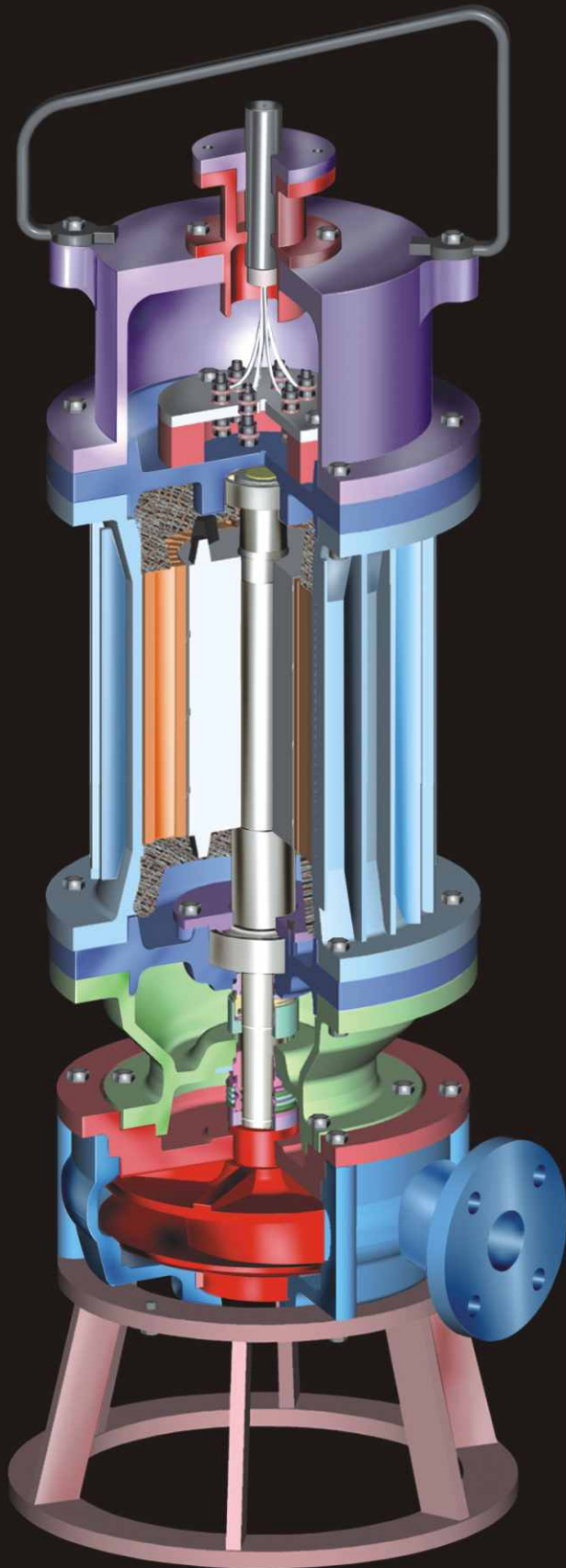
Enriching Lives

SUBMERSIBLE SEWAGE PUMPS



type
NS





RANGE

Delivery size upto 300 mm

Capacity upto 1800 m³/hr (Max.)

Head upto 90 m (Max.)

Max. permissible solid size up to 300 mm

APPLICATIONS

Screened sewage

Raw sewage

Contaminated effluents

Industrial waste water

Storm water

Trench and Tunnel water

Drain water, Mine water etc.

SUBMERSIBLE SEWAGE PUMPS TYPE - NS

CONSTRUCTIONAL FEATURES

These are single stage, single suction pumps with overhung non-clogging impeller. Pumps can be offered in stationary as well as transportable arrangements. The stationary arrangement is supplied with pump connector unit and the connector unit is connected to pump support bracket with rubber diaphragm to make it leak proof joint.

PUMP CASING

The radially split casing is provided with delivery nozzle cast integral with it. Suction is axial and delivery nozzle is central and horizontal. Specially designed semi-concentric casing results in reduced radial thrust and ensures vibration-free performance. Wide volute passage ensures non-clogging operation of the pump.

IMPELLER

Impellers are of non-clog type which allow smooth passage of solids.

Impellers are with single or multi vanes in semi-open, enclosed, or free flow designs to cater to wide applications.

SHAFT

The high tensile steel shaft accurately machined and ground is supported by two ball bearings in the motor above the impeller. Shaft is designed to transmit the power without undue vibrations and deflections. The shaft is common for pump and motor of monoblock design.

MECHANICAL SEALS

Two mechanical seals in tandem arrangement are provided to ensure no ingress of water or sewage in motor.

OPTIONAL FEATURES

- Pumps can be supplied with "Cutter Fan" arrangement at suction to agitate the liquid
- Semi-open impellers can be provided with specially designed wear plate for cutting and tearing of soft, long fibrous material.

BEARINGS

Bearings are grease lubricated and sealed for life, hence maintenance free.

DIRECTION OF ROTATION

Clockwise when viewed from motor top.

DRIVE

Motor is dry type submersible and cooled by liquid being handled. Motors are air tested for leakfree operation.

Degree of protection for motor is IP68 as per IS:2147

Class of insulation : F

Voltage : 415V $\pm$ 10%

Frequency : 50 Hz. $\pm$ 5%

Type of starting : As per requirement (DOL/Star Delta/ATS)

CABLE

A specially designed cable, 1.1 kV grade having annealed tinned copper conductor, insulated with Electron Beam Irradiated cross-linked elastomeric compound (compatible for continuous operation at 120° C) cores laid up with a proof cotton binder tape and sheathed overall with Electron Beam Irradiated Cross-linked HD HOFR elastomeric compound and generally conforming to IS 9968 Part I. The cable with this unique combination of insulating and sheathing material offers best resistance to acidic or alkaline sewage medium and to the effluent gases coming out of the sump. The cable is more flexible than PVC cable making coiling and handling easier and light in weight compared to PVC cable of the same size.

CONTROL PANEL

Control panel consists of starter, switch, fuse and safety features.

Safety features are:

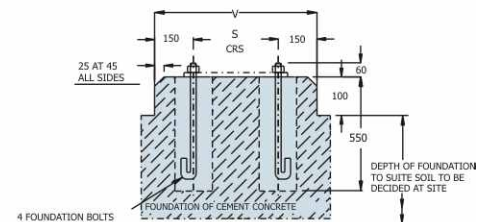
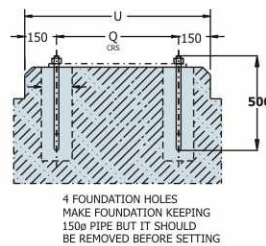
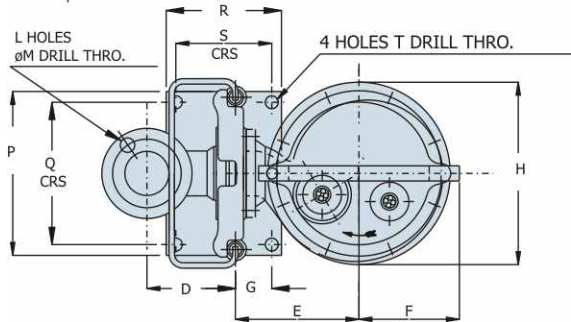
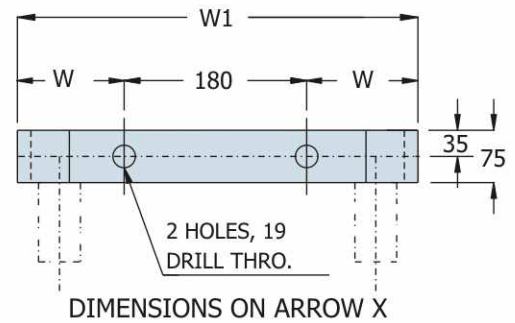
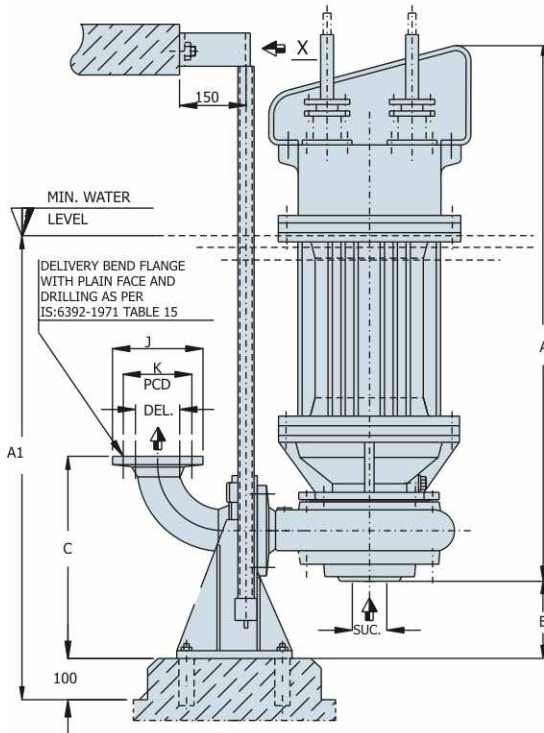
-  Single phasing prevention
-  Overload relays
-  Moisture sensing unit for detecting ingress of moisture or water into oil chamber.
-  Liquid level controllers to avoid dry running.
-  Under voltage / Reverse phasing

FLANGES

Standard drilling to IS 6392 table 15.

SUBMERSIBLE SEWAGE PUMPS TYPE - NS

STATIONARY INSTALLATION I & II

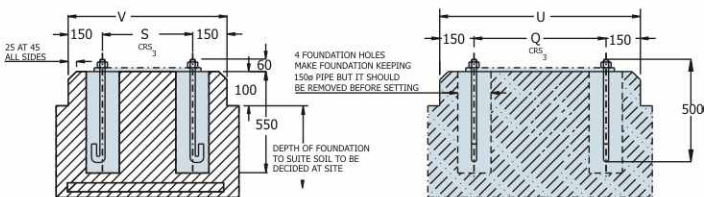
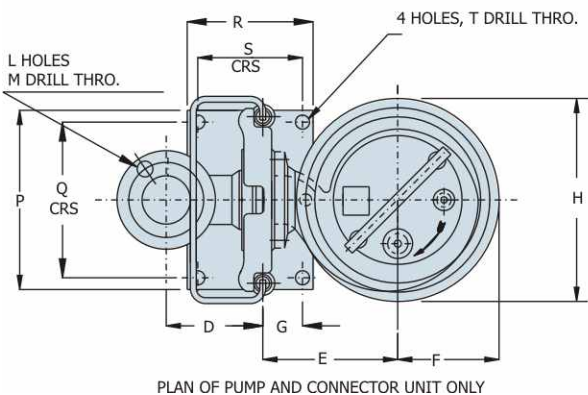
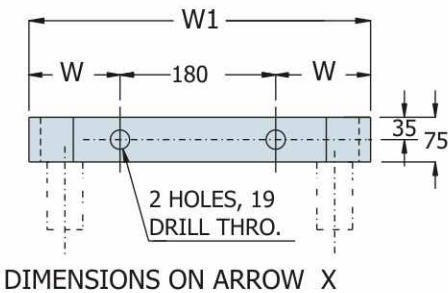
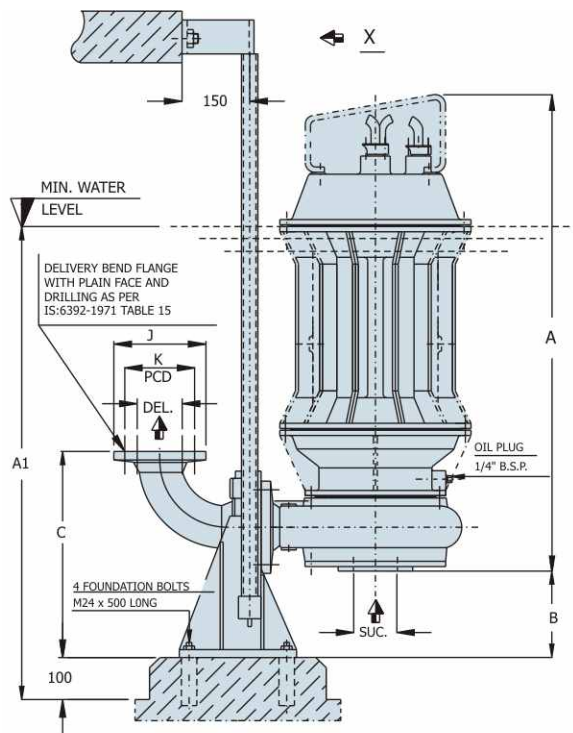


PLAN OF PUMP AND CONNECTOR UNIT ONLY

PUMP TYPE	MOTOR UNIT	SUC. & DEL. SIZE																										GUIDE PIPE I.D./O.D	FOUNDATION BOLT SIZE
		NOMINAL SIZE		OPENING SIZE		A	B	C	D	E	F	G	H	J	K	L/M	P	Q	R	S	T	U	V	W	W1	A1			
		NWS	NWD	NWS	NWD									DIA	P.C.D		CRS		CRS										
NS 50/20	I	80	50	82	50	985	173	491	256	239	225	55	460	165	125	4/18	320	260	200	150	24	560	450	70	320	900	32/43	M20 x 500 L.	
NS 50/20	II	80	50	82	50	1085	173	491	256	239	225	55	460	165	125	4/18	320	260	200	150	24	560	450	70	320	900			
NS 50/26	I	65	50	75	50	1020	150	491	256	284	225	55	460	165	125	4/18	320	260	200	150	24	560	450	70	320	900			
NS 50/32	II	65	50	65	50	1030	135	491	256	309	225	55	460	165	125	4/18	320	260	200	150	24	560	450	70	320	900			
NS 65/32	I	80	65	84	65	1030	140	542	312	309	225	55	460	185	145	4/18	330	270	225	175	24	570	475	80	340	900	51 / 61	M20 x 500 L.	
NS 65/32	II	80	65	84	65	1130	140	542	312	309	225	55	460	185	145	4/18	330	270	225	175	24	570	475	80	340	900			
NS 80/26	I	100	80	105	80	1035	150	595	350	279	225	60	460	200	160	8/18	360	300	250	200	24	600	500	110	400	900			
NS 80/26	II	100	80	105	80	1135	150	595	350	279	225	60	460	200	160	8/18	360	300	250	200	24	600	500	110	400	900			
NS 100/26	I	125	100	130	100	1050	170	468	198	309	225	80	460	220	180	8/18	385	325	280	230	24	625	530	130	440	900	66/77	M24 x 500 L.	
NS 100/26	II	125	100	130	100	1150	170	468	198	309	225	80	460	220	180	8/18	385	325	280	230	24	625	530	130	440	1000			
NS 100/32	II	125	100	130	100	1150	170	468	198	344	225	80	460	220	180	8/18	385	325	280	230	24	625	530	130	440	1000			
NS 150/26	II	150	150	165	150	1180	185	553	248	390	245	100	510	285	240	8/23	500	420	355	280	30	720	580	205	590	1000			
NS 150/32	II	150	150	165	150	1180	190	553	248	435	245	100	510	285	240	8/23	500	420	355	280	30	720	580	205	590	1000			

SUBMERSIBLE SEWAGE PUMPS TYPE - NS

STATIONARY INSTALLATION III



PUMP TYPE			SUC. & DEL. SIZE																						GUIDE PIPE I.D./O.D	FOUNDATION BOLT SIZE	
	NOMINAL SIZE		OPENING SIZE		A	B	C	D	E	F	G	H	J DIA	K P.C.D	L/M	P	Q CRS	R	S CRS	T	U	V	W	W1			A1
	NWS	NWD	NWS	NWD																							
NS 80/40	100	80	100	80	1305	165	595	350	384	265	60	530	200	160	8/18	360	300	250	200	24	600	500	110	400	1200	51/61	M20X 500L
NS 100/32	125	100	130	100	1325	170	468	198	344	265	80	530	220	180	8/18	385	325	280	230	24	625	530	130	440	1225		
NS 100/40	125	100	125	100	1335	170	468	198	384	265	80	530	220	180	8/18	385	325	280	230	24	625	530	130	440	1235		
NS 150/26	150	150	165	150	1355	185	553	248	390	265	100	530	285	240	8/23	500	420	355	280	30	720	580	205	590	1270	66/77	M24X 500L
NS 150/32	150	150	165	150	1350	190	553	248	435	265	100	530	285	240	8/23	500	420	355	280	30	720	580	205	590	1270		
NS 150/40	150	150	160	150	1350	190	553	248	435	285	100	560	285	240	8/23	500	420	355	280	30	720	580	205	590	1270		
NS 200/32	200	200	202	200	1360	215	640	300	435	280	110	550	340	295	12/23	560	480	380	300	30	780	600	225	630	1300	66/77	M24X 500L
NS 200/40	200	200	185	200	1370	210	640	300	435	285	110	560	340	295	12/23	560	480	380	300	30	780	600	225	630	1300		



HIGH CAPABILITY EXCEPTIONAL QUALITY



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WINDING WIRES ONLY.
ENQUIRE BEFORE BUYING.

AGNES

Kirloskar Horizontal Multistage Pump

Applications

Industrial and
Domestic Water
Pressure Boosting

Feed Water
Application
in RO Plants

High Pressure Liquid
Circulation and Pumping
in Industries

Air/conditioning
and Cooling System

Car
Washing

TECHNICAL SPECIFICATION

Head Range - Up to 55 Meters
Discharge Range - Up to 12 m³/h
Power Rating - 0.37 to 2.2 kW (0.5 to 3 HP)
Voltage Range - 220 Volts $\pm$ 10% and 415 Volts $\pm$ 10%
Insulation - F Class
Protection - IP55
Max Liquid Temp - 85° C

MATERIAL OF CONSTRUCTION

Impeller - SS 304
Diffuser - SS 304
Delivery Casing - Cast Iron
Shaft - SS-304
Motor Body - Aluminium
Mechanical Seal - Carbon vs Ceramic

FEATURES

- Industrial and domestic water pressure boosting
- Feed water application in RO plants
- High pressure liquid circulation and pumping in industries
- Air/conditioning and cooling system
- Car washing

ALWAYS BUY PUMPS WITH



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and



LOGOS ON PACKAGING

**PERFORMANCE CHART FOR AGNES 2 SERIES PUMP, 2POLE, AT RATED VOLTAGE OF 220/415 VOLTS,
50 HZ FREQUENCY, SINGLE/THREE PHASE A.C. POWER SUPPLY'**

Sr. No.	Pump Model	Power Rating		Current		Pipe Size (mm)		DISCHARGE							
		kW	HP	1Ø	3Ø	Suc	Del	Q (m³/h)	0	0.6	1.2	1.8	2.4	3.0	3.6
1	AGNES 2-20	0.37	0.5	2.4	1.1	25	25	Head (m)	18.0	16.0	15.0	13.0	12.0	10.0	8.0
2	AGNES 2-30	0.37	0.5	2.8	1.3	25	25		27.0	24.0	22.0	20.0	18.0	16.0	12.0
3	AGNES 2-40	0.55	0.75	3.3	1.5	25	25		35.0	33.0	30.0	26.0	24.0	21.0	16.0
4	AGNES 2-50	0.55	0.75	3.6	1.9	25	25		45.0	40.0	37.0	33.0	30.0	24.0	19.0
5	AGNES 2-60	0.75	1.0	4.5	2.1	25	25		53.0	50.0	45.0	40.0	36.0	30.0	23.0

**PERFORMANCE CHART FOR AGNES 4 SERIES PUMP, 2POLE, AT RATED VOLTAGE OF 220/415 VOLTS,
50 HZ FREQUENCY, SINGLE/THREE PHASE A.C. POWER SUPPLY'**

Sr. No.	Model Pump	Power Rating		Current		Pipe Size (mm)		DISCHARGE								
		kW	HP	1Ø	3Ø	Suc	Del	Q (m³/h)	0	1	2	3	4	5	6	7
1	AGNES 4-20	0.55	0.75	3.5	1.9	32	25	Head (m)	18.0	17.0	16.0	15.0	13.0	12.0	10.0	8.0
2	AGNES 4-30	0.55	0.75	3.5	1.9	32	25		28.0	27.0	25.0	23.0	21.0	19.0	16.0	13.0
3	AGNES 4-40	0.75	1.0	4.5	2.1	32	25		38.0	36.0	34.0	32.0	28.0	26.0	22.0	17.0
4	AGNES 4-50	1.1	1.5	6.2	2.7	32	25		48.0	46.0	43.0	40.0	36.0	33.0	28.0	21.0
5	AGNES 4-60	1.1	1.5	6.2	2.7	32	25		58.0	55.0	52.0	48.0	43.0	39.0	33.0	26.0

**PERFORMANCE CHART FOR AGNES 10 SERIES , 2POLE, AT RATED VOLTAGE OF 220/415 VOLTS,
50 HZ FREQUENCY, SINGLE/THREE PHASE A.C. POWER SUPPLY**

Sr. No.	Pump Model	Power Rating		Current		Pipe Size(mm)		DISCHARGE										
		kW	HP	1Ø	3Ø	Suc	Del	Q (m³/h)	0	2	4	6	7	8	9	10	11	12
1	AGNES 10-10	0.75	1.0	2.9	1.4	38	32	Head (m)	10.1	9.8	9.6	9.1	8.7	8.2	7.7	6.8	5.8	-
2	AGNES 10-20	0.75	1.0	4.4	1.9	38	32		19.5	19	18.7	17.9	17.1	16.3	15.3	14.0	12.5	10.6
3	AGNES 10-30	1.1	1.5	6.3	2.6	38	32		29.3	28.6	28.3	27.1	26.3	24.9	23.4	21.4	19.3	16.9
4	AGNES 10-40	1.5	2.0	8.2	3.3	38	32		38.1	39.6	39.8	38.6	37.6	35.9	33.9	31.2	28.2	24.6
5	AGNES 10-50	2.2	3.0	10.0	4.1	38	32		49.9	49.2	49.1	47.8	46.4	44.4	42.2	39.5	35.9	31.1

Note:

- Performance under standard test conditions and may vary on site conditions.
- Performance applicable to liquid of specific gravity 1 and viscosity as of water.

KIRLOSKAR BROTHERS LIMITED

Established 1888

A Kirloskar Group Company

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Email: marketing@kbl.co.in, **Website:** www.kirloskarpumps.com

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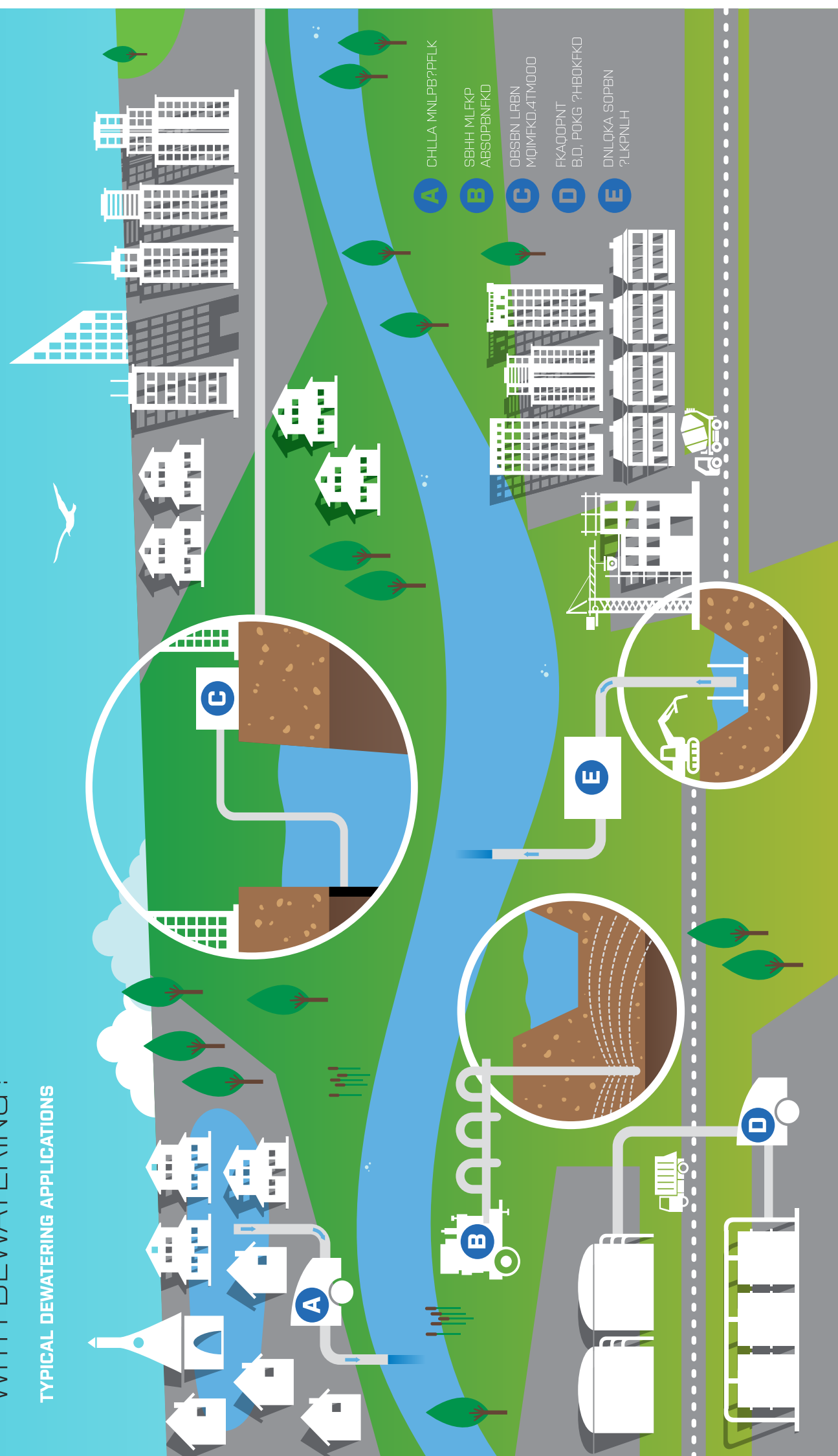
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TYPICAL DEWATERING APPLICATIONS



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Phone: +91 (20) 27214444 | Email: marketing@kbl.co.in | Fax No. 020 67211060
Website : www.kirloskarpumps.com | CIN No. L29113PN1920PLC000670.



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U.S.A.



South Africa



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DEWATERING SOLUTIONS: THE AUTOPRIME RANGE



KIRLOSKAR BROTHERS LIMITED

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Established 1888

AUTOPRIME PUMP SERIES

Kirloskar Brothers Limited Autoprime APM Series pumps are high performance engine / motor driven pump unit designed to pump liquids containing mud, sewage and semi solids.

The Autoprime vacuum assisted pumps are available on site wheels, high speed road trailer or skid. The pumpset can be supplied as open or enclosed in an acoustic canopy.

Modular construction allows high interchangeability of components and ease of maintenance.

Applications:

- Ground water control
- Wellpoint dewatering
- Sewage over-pumping
- Flood relief
- Pipe relining
- Mine dewatering
- Industrial sludge pumping
- Tank sediment cleaning
- Emergency service pumping
- Marine ballasting



AUTOPRIME PUMPS for
SPECIALISED DEWATERING
needs in various projects.

COMPONENTS

Pump :

- APM Series pumps are end suction sturdy and robust design pumps
- Pumps are Mixed flow/Non Clog/Axial flow design
- Impellers are suitable for handling liquids containing solids at medium or low heads
- Available in 3 delivery orientation i.e. vertical , horizontal and oblique to cope up with customer requirements

Primemover (Engine /Motor):

- Engine** : Air/Radiator/HE cooled (1000 rpm and above)
- Engine Details** : Reputed make, inline engine with direct injection with compression ignition
- Motor** : Totally Enclosed Fan Cooled (TEFC SQ cage) or Special Protection Drip Proof(SPDP).

Auto Priming Unit :

The auto prime system has three major parts.

- Priming Tank Assembly** : The priming tank assembly is fitted to the suction branch of the pump. It provides for removal air drawn from the suction line and contains protection devices to prevent water from getting to the vacuum pump.
- Vacuum Pump & Coalescer** : The vacuum pump is driven by a V belt drive from the pump drive shaft, this draws air from the priming tank and passes it to the coalescer. The vacuum pump is lubricated by oil, some of which mixes with the air. The coalescer is required to separate the oil from the air thus discharging clean air to atmosphere and recycling the oil for lubrication.

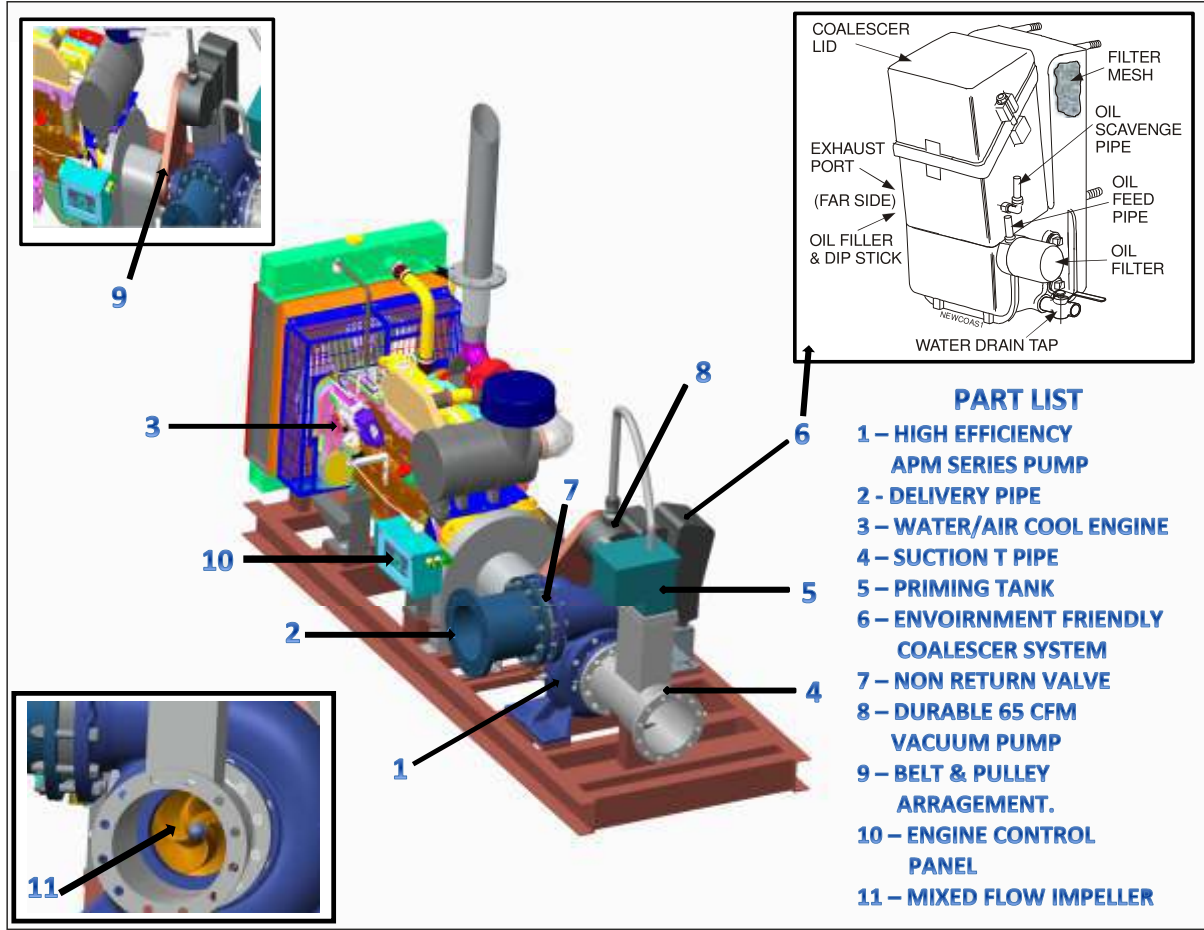
APM SERIES DESIGN FEATURES

- Pump can be left running when liquid is exhausted and will self prime when liquid is present
- Mechanical priming system is provided
- Rugged construction requires minimal operator maintenance
- 60 cfm Vacuum Pump with coalescer and air exhaust to atmosphere
- Rotary Vane, Oil lubricated Vacuum Pump : 60 cfm (100 m³/hr)
- No manual intervention for priming purpose is required

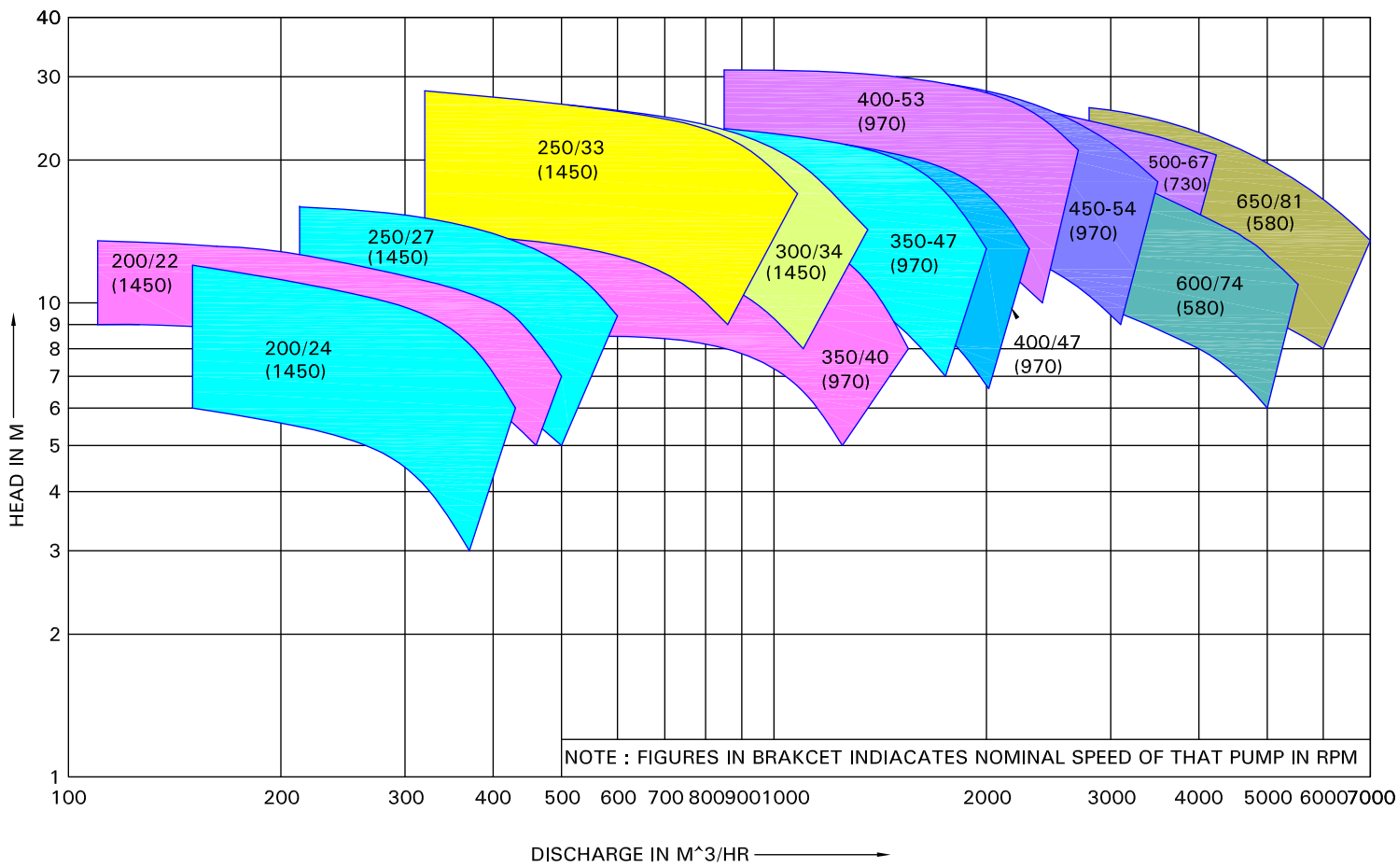
PUMP SPECIFICATIONS

Flow Rate	200 to 6000 m³/hr	Pump Casing	Cast Iron / Stainless Steel
Discharge Head	4 to 28 m	Impeller	Stainless Steel
Pump Speed Range	750 to 1500 rpm	Pump Shaft	ST ST ASTMA-276 TYPE 410 ,Carbon Steel
Max Solids Size	Up to 100 mm	Different Sizes	APM250/34 , APM300/34 , APM350/47, APM400/47, APM450/54

Cut-sectional View



PERFORMANCE CHARACTERISTICS OF KBL AUTOPRIME PUMP SERIES (APM)



PROVEN, TRUSTED, RELIABLE
PUMP TECHNOLOGY