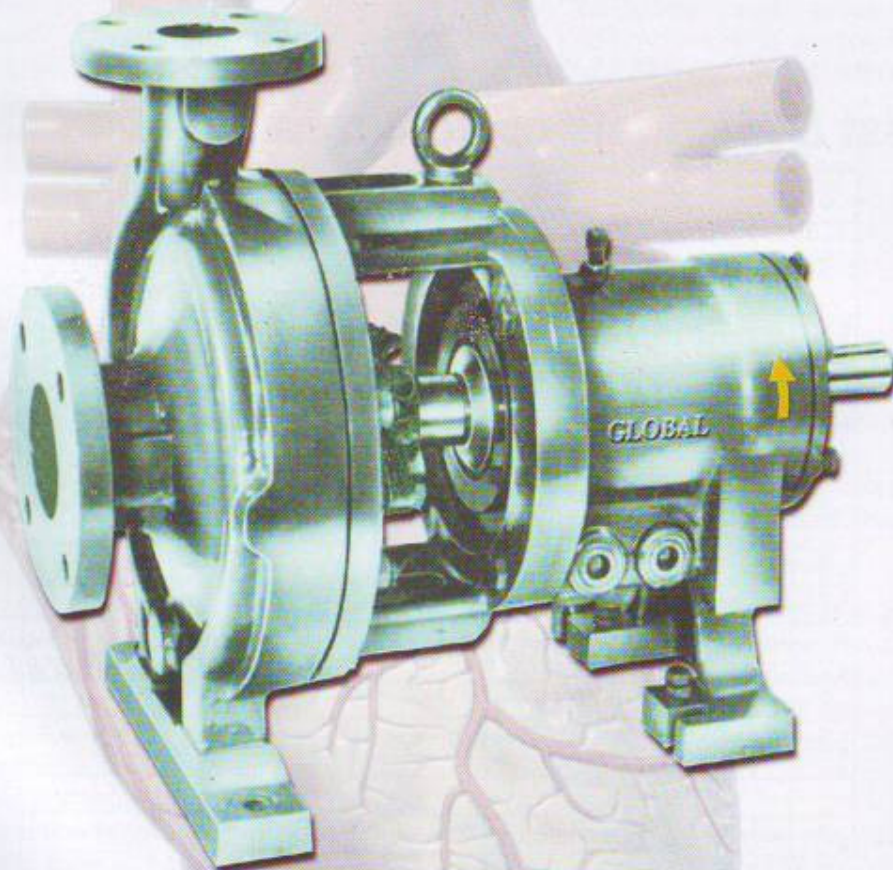


# EFFECTIVE SOLUTION TO ALL PUMPING & CORROSION PROBLEMS

## "AH" SERIES CHEMICAL PROCESS CENTRIFUGAL METALLIC PUMPS

In M.O.C. :- C.I., C.S., SS-304/316, ALLOY-20,  
CD4MCU, HV9, HASTELLOY-C/B, MONEL, etc



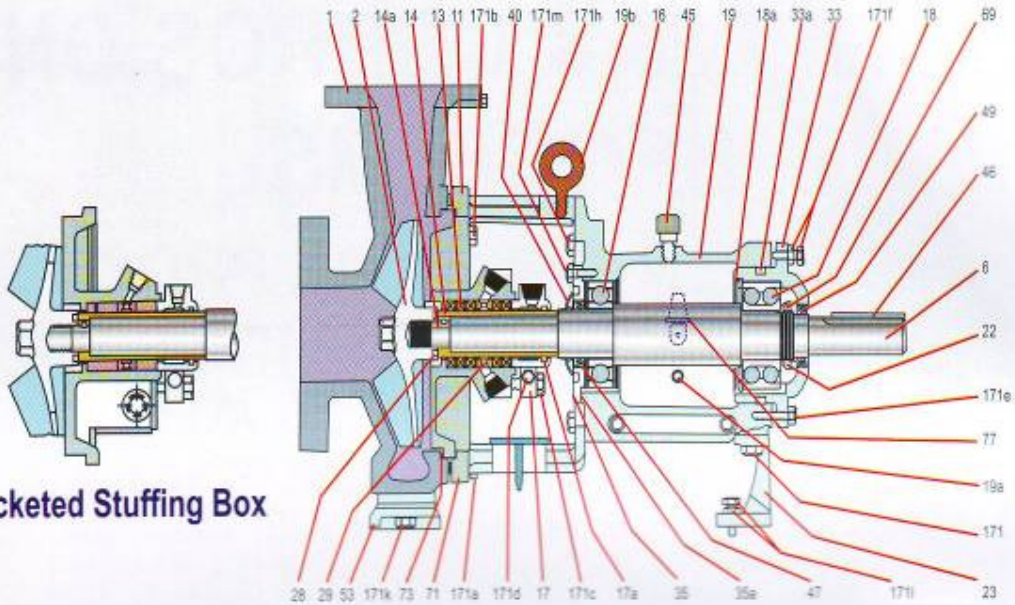
*A "HEART" for your Industry*



**ORBIT PUMPS & SYSTEMS PVT. LTD.**

*Success through Customer Satisfaction*

# Sectional View



Jacketed Stuffing Box

# Part List & Materials of Construction

Part No	No Reqd Per Pump	Part Name	Standard Material										
			CI	DI	CS	316	CD4M	A20	MO	NI	HC	HB	TI
1	1	Casing	CI	DI	CS	316	CD4M	A20	MO	NI	HC	HB	TI
2	1	Impeller	CI	DI	CS	316	CD4M	A20	MO	NI	HC	HB	TI
5	1	Shaft	a) 4140										
11	1	Stuffing Box Cover	CI	DI	CS	316	CD4M	A20	MO	NI	HC	HB	TI
11A	1	Stuffing Box Cover-Jacketed	CS										
13	1 Set	Stuffing Box Packing	c) TIWA										
14	1	Shaft Sleeve	d) 420*										
14a	1	Drive Pin	420										
16	1	Bearing-Inboard	STEEL										
17	1	Gland Quench-For Packed Box	316			A20	MO	NI	HC	HB	TI		
17a	1	Gland Packing	TIWA										
18	1	Bearing-Outboard	STEEL										
18a	1	Retaining Ring	STEEL										
19	1	Bearing Frame	CI										
19a	1	Bearing Oil Drain Plug	STEEL										
19b	1	Lifting Eye Bolt	STEEL										
22	1	Bearing Lock Nut	STEEL										
23	1	Bearing Frame Foot	CI										
28	1	Impeller Seal Ring	TFE										
29	1	Latern Ring	GLASS FILLED TFE										
33	1	Bearing Housing	CI										
33a	1	O-Ring	BUNA RUBBER										
35	1	Bearing Cover-Inboard	CI										
35a	1	Gasket-Brg Cover IB	ASBESTOS										
40	1	Deflector	304										
45	1	Breather	STEEL										
46	1	Key-Coupling	STEEL										
47	1	Oil Seal - Inboard	BUNA RUBBER										
49	1	Oil Seal - Outboard	BUNA RUBBER										
53	2/1	Casing Foot	CI										
69	1	Bearing Lock Washer	STEEL										
71	1	Frame Adapter	CI										
73	1	Gasket-Casing to St Box Cvr	a) ASBESTOS										
77	1	Constant Level Oiler	PLASTIC/ALUMINIUM										
171a	3/ 8-12	Stud/Nut-Casing	STEEL								304		
171b	2	Bolt-SBCvr to Fr Adapt	STEEL										
171c	*2	Stud/Nut-SBCvr to Gland	304										
171d	2/4	Stud/Nut - Gland	304										
171e	3	Bolt-Brg to Brg Hsg	STEEL										
171f	3	Bolt-Jam Nut-Imp Adj	STEEL										
171h	4	Bolt-Brg Fr to Fr Adpt	STEEL										
171i	2	Bolt-Brg Fr to Fr Ft	STEEL										
171k	2	Bolt/Lock Washer-Csg Ft	STEEL										
171l	2	Bolt/Jam Nut-Fr Ft Adj	STEEL										
171m	3	Bolt-Brg Fr to Brg Cvr IB	STEEL										

- Parts normally stocked by customer for emergency repairs
- \* Hardened to 350 BHN, under SI Box Packings
- With Mech Seal 316 is used instead of 420
- ◆ 4 Nos required when Pump is supplied with Mech Seal

### NOTES

- Part No 11A- Optional Supplied at Extra Cost. CS & 316 Box Covers have welded Jacket in STEEL, CD4M, A20, MO, NI, HC, HB and TI have welded Jacket in 316.
- Part No. 53 - Cast Integral with Casings of Group Models 4x3-101/2, 6x4-101/2 and 6x4-12
- Part No. 171a-8 Nos for 9 Models; 12 Nos for 101/2, 12 Models

### Optional Materials at Extra Cost

- Part No 2 - in BR2, 410, 316, CD4M, A20, MO, NI, HC, HB or TI instead of CI
- Part No 6 - in 316 instead of 4140
- Part No 13 - in TFE or Chemfoil instead of TIWA
- Part No 14 - in 316, CD4M, A20, MO, NI, HC, HB or TI instead of 420
- Part No 73 - in TFE instead of ASBESTOS

# SPECIFICATIONS

## Casing

Top centerline discharge, self-venting casing, arranged for back pull-out. Fully confined gasket. Foot support under casing for maximum resistance to misalignment and distortion from pipe loads. PN20 (Class 150) flanges standard, PN50 (Class 300) optional for working pressures to 2550 kPa with 3mm corrosion allowance. For maximum corrosion-erosion resistance casing is supplied without tapped openings, but gauge and drain plug openings are provided when specified.

## Impeller

Impeller matched to casing for high efficiency and low NPSH. Fully open, has partial shrouds for maximum vane support without high thrust inherent in closed impellers. Stuffing box pressure reduced and entrance of solids prevented by back pump-out vanes. Large smoothly contoured flow passages combine best slurry and solids handling ability. Impeller is screwed on shaft with rotation to tighten, and threads are sealed by TFE O-ring. Cast-in impeller nut makes removal easy & minimizes friction losses. This eliminates projecting impeller nut & exposed threads from impeller eye. State of the art casting methods provide smoothest possible surfaces for highest efficiency. All impellers are statically and dynamically balanced.

## Stuffing Box Cover

Encloses back of casing and contains stuffing box chamber. Cover is fastened to frame or adapter so that a spare back pull-out assembly can be stocked completely assembled. Cover can be supplied with jacket for cooling stuffing box chamber in high temperature services. Jacket can also be used for heating viscous or high freezing point liquids.

Packed box has five rings of packing and a lantern ring. Quench gland with water taps and an auxiliary ring of packing is standard. Gland is split for easy removal. Tapped openings to lantern ring permit "in and out" sealing, external flushing or lubrication as required.

Stuffing box is completely machined for mechanical seal installation, either originally as a field conversion. Inside, outside, unbalanced, balanced, single, double or tandem seals, with any required gland, throat bushing, throttle bushing and flushing lines furnished to meet individual sealing problems. Gland completely confines stationary mating ring gasket.

## Frame Adapter

Heavy cast iron construction and precision

machined to keep bearing frame and casing in perfect alignment. Furnished with lifting eyebolt for ease in maintenance. Open construction give easy access to the stuffing box area. Either frame adapter or drip tray may be piped to drain.

## Bearing Frame

Sturdy cast iron construction provides rigid bearing alignment and shaft support. Contains large oil reservoir, with water jacket. Oil level maintained by constant level oiler with visible oil supply. Oil seals on each end and oil breather fully protect oil from contamination while allowing for expansion or contraction of air caused by ambient temperature change. To handle liquids above 175°C, cast integral cooling chamber is designed for 600 kPa working pressure or 900 kPa test pressure.

## Shaft

A single piece shaft is designed for 0.05 mm maximum deflection at stuffing box face. All critical surfaces ground to less than 0.8 micron. Threads where shaft screws into impeller are sealed by TFE O-ring

## Shaft Sleeve

Renewable shaft sleeve is positive driven, hooktype, with one end free to expand with temperature variations. TFE O-ring prevents leakage under sleeve. Sleeve permits application of inside balanced mechanical seals where required.

## Bearings

Inboard bearing is pressed on shaft and is free to float axially in frame-carries radial load only. Outboard bearing is shouldered and locked on shaft with locknut and washer and bearing housing to carry radial and any unbalanced thrust load. All bearing fits are precision bored.

Inboard bearing is single row, deep groove. Outboard bearing is double row, deep groove angular contact. Both bearings are sized for two year minimum life.

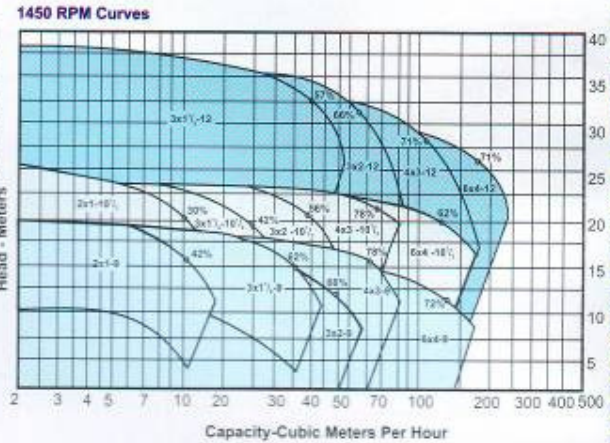
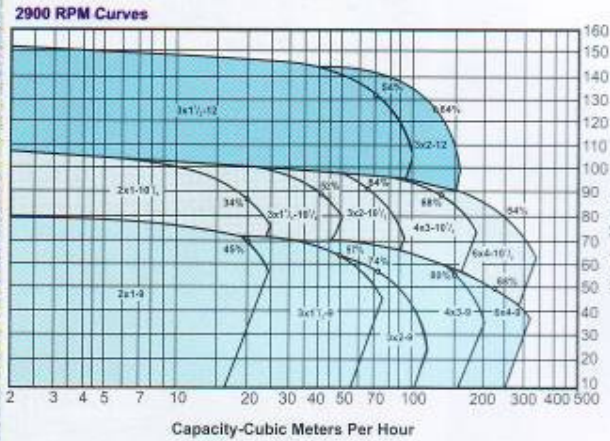
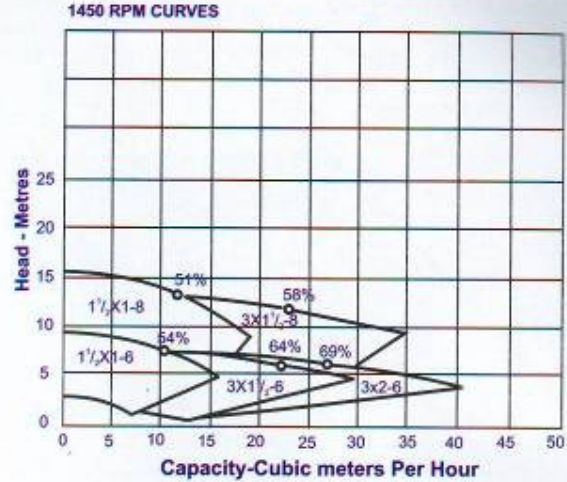
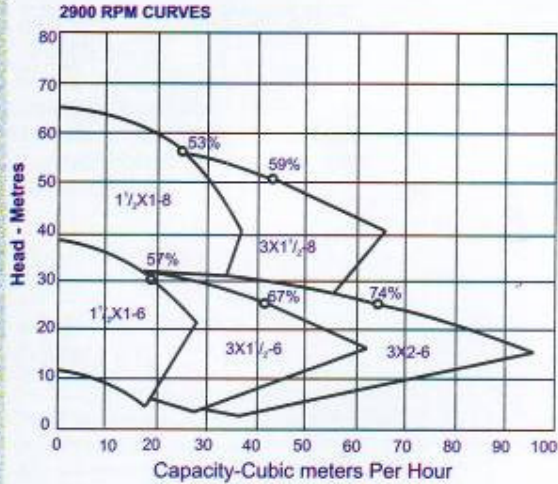
## Base Plate

Drip rim type with large beaded holes. Only three sizes of base plates accommodate all pump sizes and all applicable IS or IEC frame size motors.

## Coupling

A standard spacer type coupling is furnished to take full advantage of the back pull-out feature. Factory selected coupling from leading manufacturers are supplied unless otherwise specified.

# COMPOSITE PERFORMANCE CURVES



## SERVICE COVERAGE

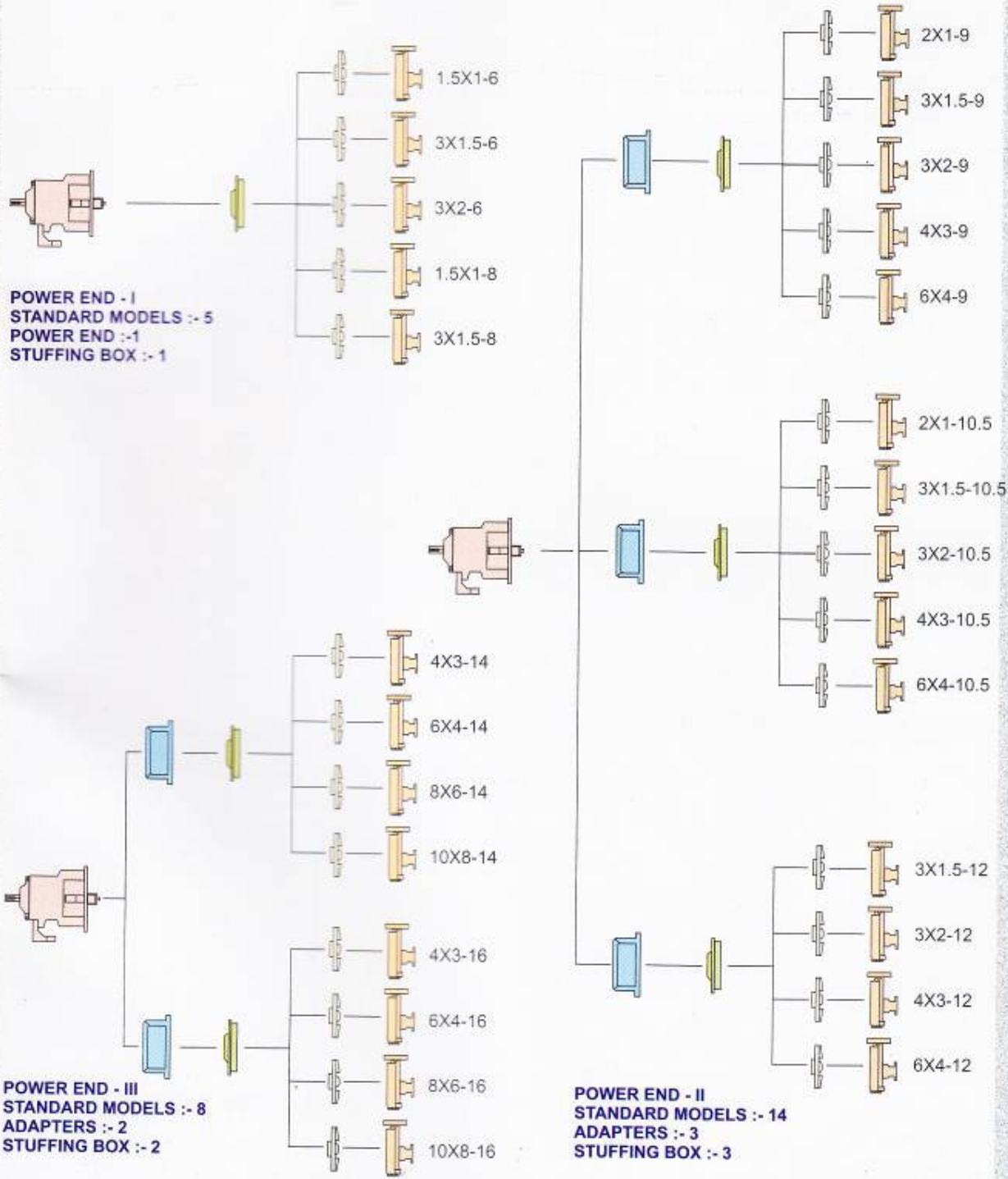
**GLOBAL "AH" SERIES** offers to the Chemical Industry a Chemical Pump standardized as to dimensions and parts with features not now available in any single unit. The pump can be furnished in any machineable alloy.

This pump covers a wide range of chemical services :

- High temperature liquids upto 260°C
- Low specific gravity hydrocarbons
- Highly viscous & high freezing point fluids
- Corrosive acids
- Caustic services
- Slurries
- Outdoor or indoor installations
- Continuous or intermittent services

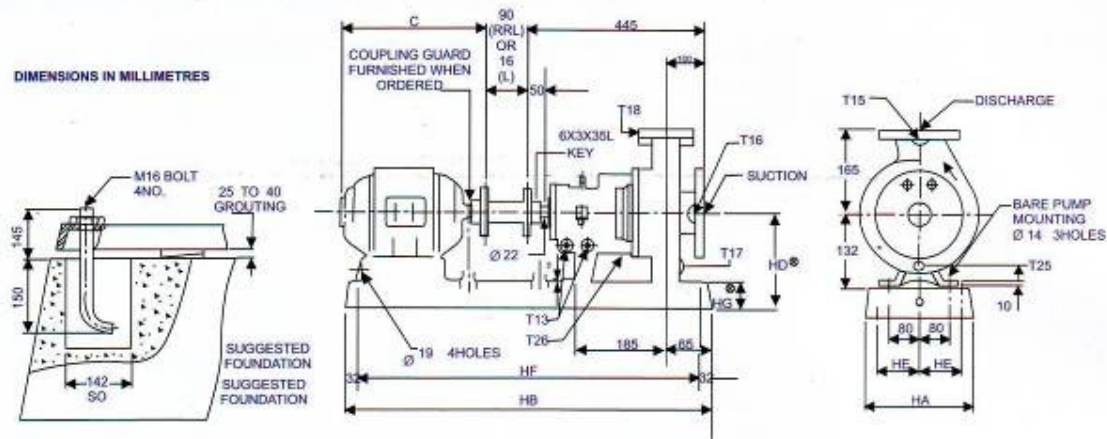
# Series "AH" Dimensional Interchangeability

LOW INVENTORY COST / EASY MAINTENANCE / RELIABLE OPERATION



# Dimensions In Millimetres

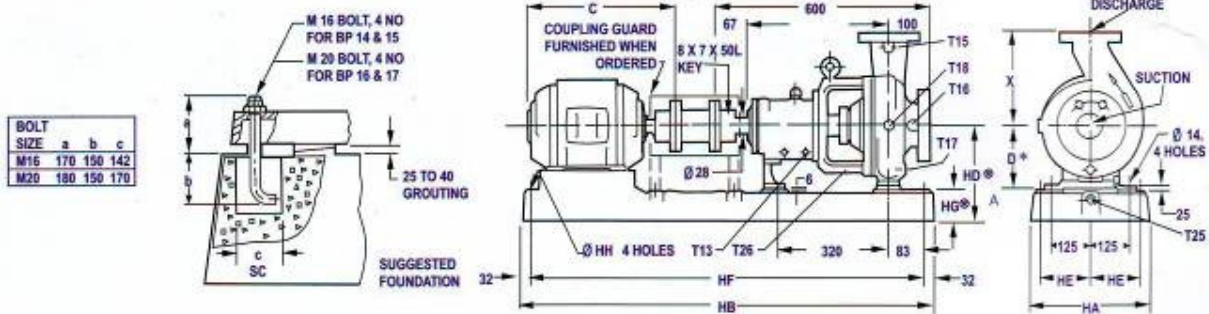
## DIMENSIONS IN MILLIMETRES



## DIMENSIONS DETERMINED BY PUMP

MODEL	SUCTION	DISCHARGE	FLANGE DRILLING PN 20 FF						FLANGE DRILLING PN 50 FF						PUMP WEIGHT Kg
			SUCTION			DISCHARGE			SUCTION			DISCHARGE			
			BC	HOLE SIZE	NO	BC	HOLE SIZE	NO	BC	HOLE SIZE	NO	BC	HOLE SIZE	NO	
1-6	40	25	98.4	16	4	79.4	16	4	114.3	22	4	88.9	19	4	38
1.5-6	80	40	152.4	19	4	98.4	16	4	114.3	22	4	114.3	22	4	41
2-6	80	50	152.4	19	4	120.6	19	4	168.3	22	8	127.0	22	8	43
1-8	40	80	98.4	16	4	79.4	16	4	114.3	22	4	88.9	19	4	45
1.5-8	80	40	152.4	19	4	98.4	16	4	168.3	22	8	114.3	22	4	49

\* Is Centreline of Pump to bottom of Casting feet.



BOLT SIZE	a	b	c
M16	170	150	142
M20	180	150	170

## DIMENSIONS DETERMINED BY PUMP

MODEL	SUCTION	DISCHARGE	FLANGE DRILLING PN 20 FF						FLANGE DRILLING PN 50 FF						D'	X	PUMP WEIGHT Kg
			SUCTION			DISCHARGE			SUCTION			DISCHARGE					
			BC	HOLE SIZE	NO	BC	HOLE SIZE	NO	BC	HOLE SIZE	NO	BC	HOLE SIZE	NO			
1-9	50	25	120.6	19	4	79.4	16	4	127.0	19	4	88.9	19	4	210	215	85
1.5-9	80	40	152.4	19	4	98.4	16	4	114.3	22	4	114.3	22	4	210	215	94
2-9	80	50	152.4	19	4	120.6	19	4	168.3	22	8	127.0	19	8	210	240	97
3-9	100	80	190.5	19	8	152.4	19	4	200.0	22	8	168.3	22	8	210	280	111
4-9	150	100	241.3	19	8	190.5	19	8	269.9	22	12	200.0	22	8	255	315	131
1-10.5	50	25	120.6	19	4	79.4	16	4	127.0	19	4	88.9	19	4	210	215	96
1.5-10.5	80	40	152.4	19	4	98.4	16	4	114.3	22	4	114.3	22	4	210	215	106
2-10.5	80	50	152.4	19	4	120.6	19	4	168.3	22	8	127.0	19	8	210	240	112
3-10.5	100	80	190.5	19	8	152.4	19	4	200.0	22	8	168.3	22	8	210	280	124
4-10.5	150	100	241.3	19	8	190.5	19	8	269.9	22	12	200.0	22	8	255	315	146
1.5-12.5	80	40	152.4	19	4	98.4	16	4	114.3	22	4	114.3	22	4	255	265	118
2-12	80	50	152.4	19	4	120.6	19	4	168.3	22	8	127.0	19	8	255	280	127
3-12	100	80	190.5	19	8	152.4	19	4	200.0	22	8	168.3	22	8	255	315	139
4-12	150	100	241.3	19	8	190.5	19	8	269.9	22	12	200.0	22	8	255	345	163

☆ M20 Tapped Holes

\* Is from Centreline of Pump to bottom of Casting foot.



## ORBIT PUMPS & SYSTEMS PVT. LTD.

*Success through Customer Satisfaction*

E - 15/2, MIDC, Murbad, Opp Om Packaging, Dist. Thane - 421401,

Maharashtra, India,

Ph No : 02524 - 652506 / 222055

E-mail : sales@orbitpumpsandsystems.com

orbitpumps@yahoo.co.in