



Jyoti Ltd.

Water • Power • Progress

JYOTI Vertical Turbine Pumps (oil & water-lubricated)



Manufactured, designed
and made the First Vertical Turbine
(VT) Pump in India, way back in 1942

ISO 9001:2015 || TUV INDIA



APPLICATION

Pumps for

- irrigation
- urban & rural water supply
- Cooling tower
- Fire fighting
- Flood control
- Mine dewatering
- Thermal power stations
- Condensate extraction
- General & process water in industries
- Oil field water services and a hoast of other needs.

RANGE

Bowl sizes	150 mm to 600 mm
Capacity	200 lpm to 33200 lpm
Head	upto 225 mts

For higher capacities refer to us.

SPECIAL DESIGN FEATURES

- Heavy wall cast iron bowls & cast iron / Stainless Steel impellers provided for maximum operating life, under arduous Indian conditions.
- Impeller shafts of stainless steel
- Column pipes and line shafts are machined and threaded on double ended special purpose machines in single setting ensuring concentricity.
- All shaft couplings in water lubricated pumps are made of stainless steel for extra-long life.

CONSTRUCTIONAL FEATURES

'JYOTI' VT pumps are offered in non-pull out construction as a standard design. The pump can be supplied for coupling with vertical hollow shaft motors or vertical solid shaft motors. Also for surface discharge or underground discharge.

BOWLS

Standard bowls are made of close grained cast iron. The diffuser vanes are cast integrally.

IMPELLERS

Impellers are closed or semi-open type, statically and dynamically balanced for vibration-free operation. They are secured to the impeller shaft with tapered lock collects or keys & split rings. The impeller position can be adjusted vertically by means of impeller-adjusting nut provided in the drive.

IMPELLER SHAFT

Impeller shaft is of stainless steel, accurately ground to close tolerances. The shaft is supported by bearings above and below each impeller.

COLUMN PIPES

Column pipes are normally supplied in nominal lengths of 3.0m, 1.5m and 0.75m pipes of non-standard lengths also can be supplied on request.

LINE SHAFTS

Line shafts are of high grade carbon steel, ground to close tolerances and threaded concentrically at the ends. Available in nominal lengths of 3.0m, 1.5m and 0.75m and in non-standard lengths to suit specific site conditions. Line shaft in stainless steel and suitable for muff couplings also can be supplied, if required.

LINE SHAFT BEARINGS

Made of bronze for oil lubricated pumps and Nitrile Rubber for water lubricated pumps.

SHAFT ENCLOSING TUBES

(for oil-lubricated pump)

These heavy duty steel tubes protect the line shafts from corrosion and foreign materials and support the line shaft bearings. The tubes are threaded concentrically in one setting at both ends. Available in different lengths, as line shafts.

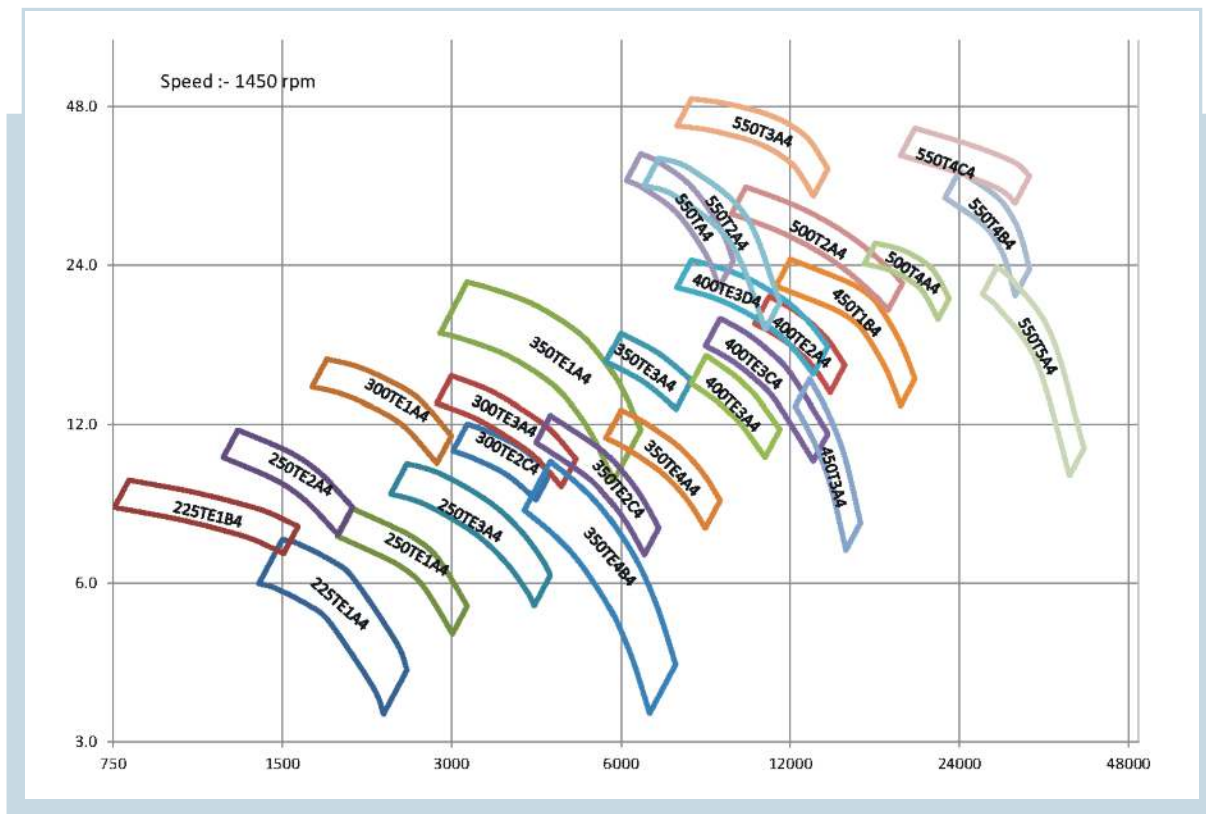
DISCHARGE HEAD

Standard construction in cast iron. Fabricated ones also can be supplied on request. Pump can be supplied with surface or underground discharge to suit specific site conditions.

DRIVES

Electrical motors with vertical hollow shaft or vertical solid shaft are normally used. Alternatively right angle gear head with diesel engine also can be used.

FAMILY CURVE FOR STANDARD VT PUMPS (225 to 550 mm)



STANDARD MATERIAL OF CONSTRUCTION

OIL LUBRICATED / WATER LUBRICATED / FORCE LUBRICATED PUMP

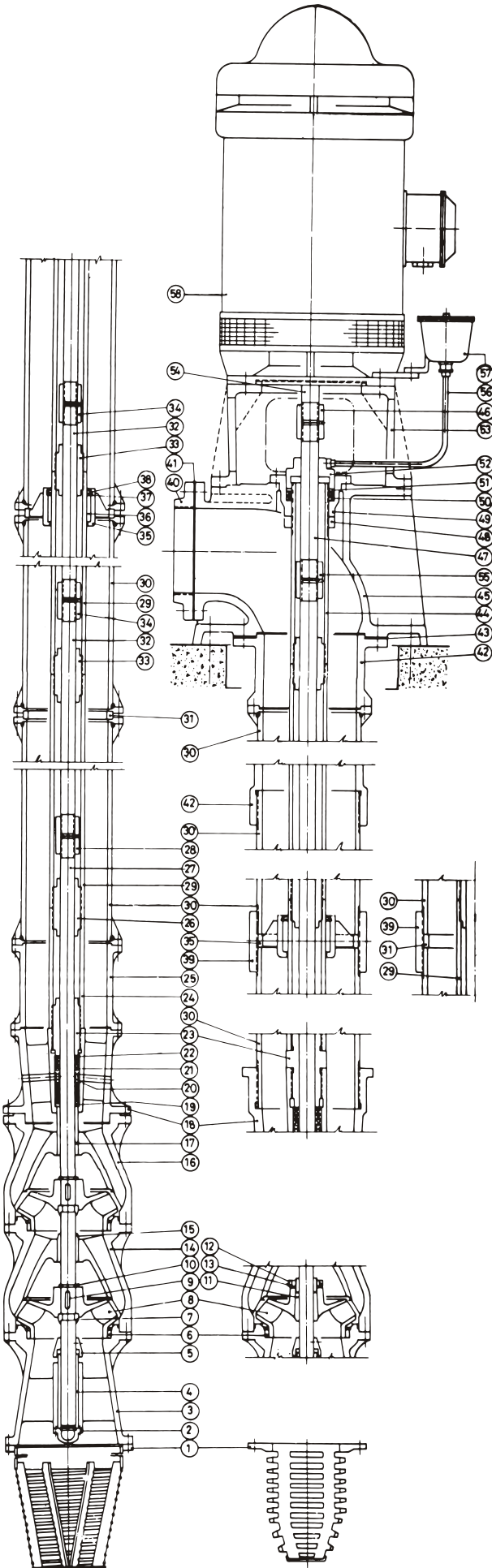
S.NO.	PART DESCRIPTION	MATERIAL	SPECIFICATION
1	STAINER	M.S.	IS : 2062 St.42-S
2	SUCTION CASE	CAST IRON	IS : 210 Gr FG-200
3	SUCTION CASE BEARING	BRONZE	IS : 318 Gr LTB2
4	IMPELLER SEAL RING	CAST IRON	IS : 210 Gr FG-200
		BRONZE	IS : 318 Gr LTB2
5	IMPELLER	CAST IRON	IS : 210 Gr FG-200/260
		BRONZE	IS : 318 Gr LTB2
6	BOWL	CAST	IRON IS : 210 Gr FG-260
7	IMPELLER SHAFT	ST. STEEL	ASTM A276 SS 410
8	DISCHARGE CASE	CAST IRON	IS : 210 Gr FG-200/260
9	COLUMN PIPE ADOPTOR	CAST IRON	IS : 210 Gr FG-200/260
10	GUIDE SPIDER/BEARING HOLDER	CAST IRON	IS : 210 Gr FG-200/260
11	COLUMN PIPE	ERW STEEL	IS : 1239 Class C / IS : 1978
		M.S. FABRICATED	IS : 2062 St.42-S
12	SHAFT ENCLOSING TUBE (OL)	STEEL	IS : 1239 Class C / IS : 1978
13	LINE SHAFT CARBON	STEEL	IS : 1570 C40 / ASTM A276 SS 410
14	LINE SHAFT COUPLING (OL) CARBON	STEEL	IS : 1570 C40 / ASTM A276 SS 410
15	LINE SHAFT COUPLING (WL) ST.	STEEL	ASTM A276 SS 410
16	LINE SHAFT BEARING (OL)	BRONZE	IS : 318 Gr LTB2
17	LINE SHAFT BEARING (WL)	NITRILE RUBBER	SHORE HARDNESS 60-65
18	TOP COLUMN FLANGE	CAST IRON	IS : 210 Gr FG-200/260
19	DISCHARGE HEAD BODY	CAST IRON	IS : 210 Gr FG-200/260
		M.S. FABRICATED	IS : 2062 St.42-S
20	HEAD SHAFT CARBON	STEEL	IS : 1570 C40 / ASTM A276 SS 410
21	STUFFING BOX	CAST IRON	IS : 210 Gr FG-200/260
22	GLAND	CAST IRON	IS : 210 Gr FG-200/260
23	MOTOR SKIRT	CAST IRON	IS : 210 Gr FG-200/260
		M.S. FABRICATED	IS : 2062 St.42-S
24	MOTOR	VERTICAL HOLLOW OR SOLID SHAFT	IS : 325

NOTE : Material of Construction mentioned above are our standard ones, other materials to suit specific site conditions can be supplied on request.

OPTIONAL ACCESSORIES

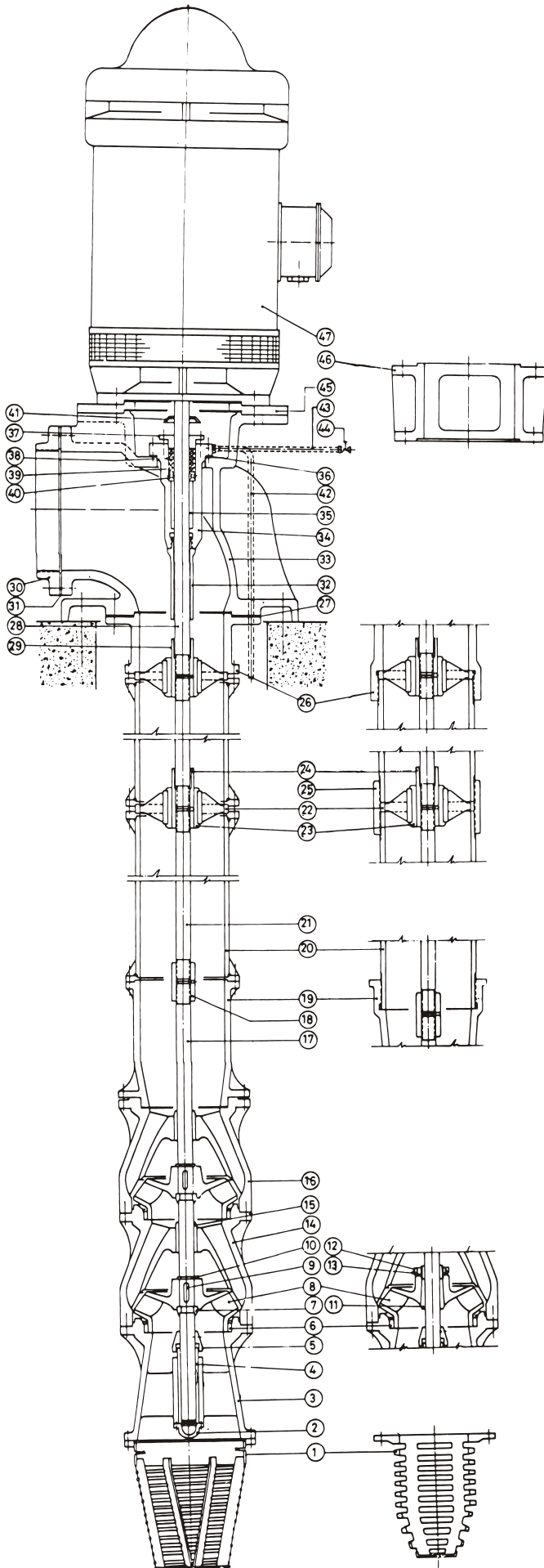
- Foundation bolts
- Sole plate
- Companion flanges.

'JYOTI' VERTICAL TURBINE PUMP (OIL-LUBRICATED)



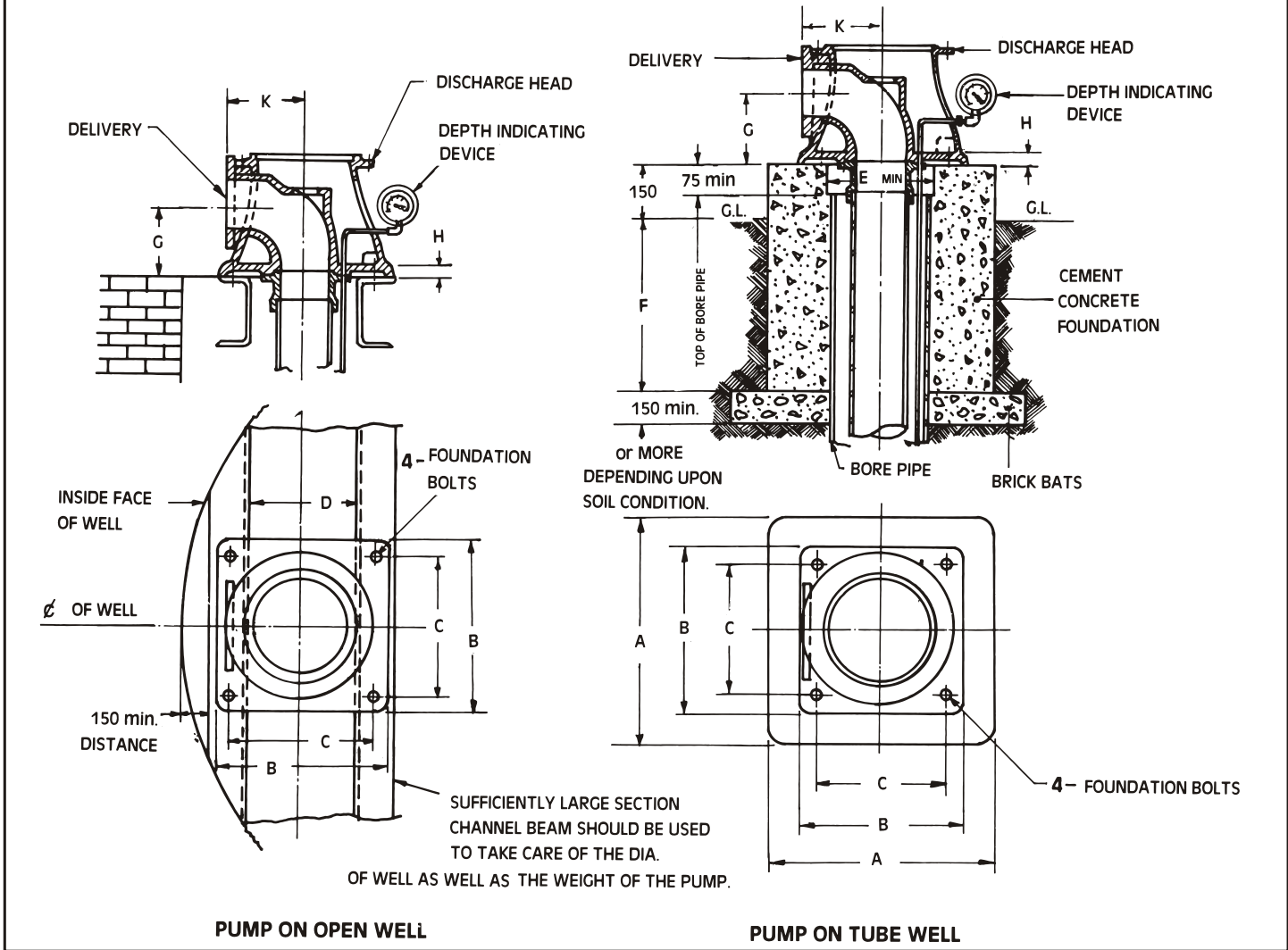
Sr. No.	PART NAME
58	Vertical Hollow Shaft Motor
57	Automatic Lubricator Assly
56	Oiling Pipe
55	Head Shaft Coupling
54	Head Shaft
53	Motor Skirt or Adapting Plate
52	Gland
51	Gland Packing Ring
50	Gland Packing
49	Tube Tension Plate
48	Check Nut
47	Head Shaft Extension
46	Head Shaft Extension Coupling
45	Discharge Head Body
44	Tube Tension Nipple
43	Top Column Flange Gasket
40	Delivery Flange (Up to D-150 Dis-Head)
39	Column Pipe Coupling
38	Circlip
37	Rubber Guide Ring Washer
36	Rubber Guide Ring
35	Guide Spider
34	Line Shaft Coupling
33	Line Shaft Bearing
32	Line Shaft
31	Column pipe spacer
30	Column Pipe Flanged or Threaded
29	Shaft Enclosing Tube
28	Impeller Shaft Coupling
27	Impeller Shaft
26	Impeller Shaft Bearing
25	Column Pipe Adoptor
24	Tubing Adaptor
23	Discharge Case Bearing
22	Impeller Shaft Packing Ring
21	Impeller Shaft Packing
20	Lantern Ring
19	Distance Piece
18	Discharge Case Flange or Threaded
17	Top Bowl Bearing
16	Top Bowl
15	Bowl Bearing
14	Bowl
13	Impeller Collect Nut Washer
12	Impeller Collet Nut
11	Impeller Collet
10	Circlip
9	Impeller Key
8	Impeller
7	Impeller Holding Split Ring
6	Impeller Seal Ring
5	Suction Case Sand Collar
4	Suction Case Bearing
3	Suction Case
2	Suction Case Plug
1	Suction Pipe Strainer

'JYOTI' VERTICAL TURBINE PUMP (WATER-LUBRICATED)



Sr. No.	PART NAME
46	Vertical Hollow Shaft Motor
45	Adapting Plate or Distance Piece
44	Valve
43	Water Lubricating Tube
42	Water Leakage Tube
41	Water Deflector
40	Lantern Ring
39	Gland Packing
38	Gland Packing Ring
37	Gland
36	Stuffing Box Gasket
35	Stuffing Box Bush
34	Stuffing Box
33	Discharge Head Body
32	Stilling Pipe
31	Delivery Flange Gasket
30	Delivery Flange (Up to D-150 Dis-Head)
29	Head Shaft Coupling
28	Head Shaft
27	Top Column Flange Gasket
26	Top Column Flange - Flanged or Threaded
25	Column Pipe Coupling Threaded
24	Line Shaft Coupling
23	Rubber Bearing
22	Brg. Holder Flanged or Threaded
21	Line Shaft
20	Column Pipe flanged or Threaded
19	Col. Pipe flanged or Threaded or Threaded
18	Impeller Shaft Coupling
17	Impeller Shaft
16	Top Bowl
15	Bowl Bearing
14	Bowl
13	Impeller Collet Nut washer
12	Impeller Collet Nut
11	Impeller Collet
10	Circlip
9	Impeller Key
8	Impeller
7	Impeller Holding Split Ring
6	Impeller Seal Ring
5	Suction Case Sand Collar
4	Suction Case Bearing
3	Suction Case
2	Suction Case Plug
1	Suction pipe Strainer

FOUNDATION DRAWING for 'JYOTI' VERTICAL TURBINE PUMP.



Discharge Head													Foundation		
	A	B	C	D	E	F	G	H	K	L	M	N	Dia	No.	Length
D/DS 100	600	400	335	260	295	460	156	30	190	4	18	178	M 16	4	250
D/DS 150	640	440	375	295	330	460	203	35	215	8	18	235	M 20	4	300
D/DS 200	775	565	485	410	410	610	235	45	285	8	18	292	M 24	4	500
D/DS 250	900	690	600	500	520	610	270	60	350	8	22	356	M 24	4	500
D/DS 300	900	700	600	500	520	610	320	60	355	12	22	406	M 24	4	500
D/DS 350	1050	850	740	625	590	700	365	60	430	12	24	470	M 24	4	500
D/DS 400	1050	850	740	625	590	700	380	60	430	12	24	521	M 24	4	500

All dimensions are in mm except otherwise stated.

Note : Delivery flanges are according to BS : 10, Table "E"



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