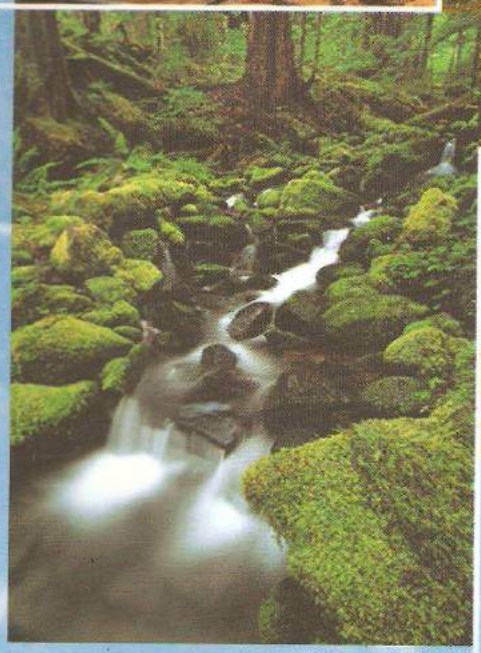
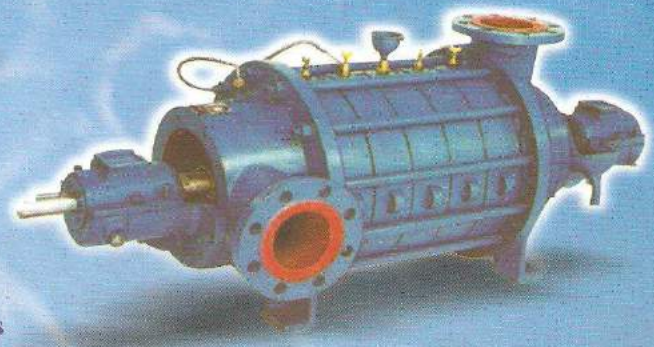
Maxflow

MULTISTAGE HIGH PRESSURE PUMPS

TYPE: MM/MMP/MMS/HPB





Applications

- General Water Supply
- Mine dewatering
- Water supply to high rise buildings
- Fire fighting
- Sprinkler irrigation
- Boiler feed
- Booster plants
- Condensate handling
- Light Chemicals etc.

Range

Capacity : Up to 700 m^3/hr.
Head : Up to 450 mtrs.
Temp : Up to 120 °C.

Maxflow Multistage Pumps

Type

MM/MMP/MMS/HPB

Construction

Maxflow Multistage Pumps are single suction, radially split, horizontal shaft design, high pressure pumps. These pumps are manufactured as a compact design unit built up from number of stages, held together by tie bolts along with suction and discharge branches.

Casing

Latest casting techniques ensure smoothness of hydraulic passages resulting in high efficiency and reliability under arduous conditions. The delivery flange is vertical & suction flange can be oriented towards left or right when viewed from the drive end.

Impellers

Enclosed Impellers of radial flow are provided with balancing holes for balancing the hydraulic axial thrust. Rotating elements are statically & dynamically balanced. In MMS and HPB version of this design, pumps are provided with an inbuilt Hydraulic Balancing Device for balancing the axial thrust.

Shaft

High tensile steel shaft, accurately machined & ground, is supported by antifriction bearings, which take residual axial and radial thrust. The shaft is protected by a shaft sleeve from wear in the stuffing box area.

Stuffing Box

The stuffing box can be sealed by a gland packing or by a mechanical seal. For pumping high temperature liquids from 90-140 degree Celsius a cooling jacket is provided for the stuffing box.

Bearings

Standard lubrication is grease in MM, MMP and HPB, which run on ball or roller bearings. For medium temperature & above 90 degree Celsius oil lubrication is provided. Oil lubricated Journal bearings are standard in MMS design.

Drive

Suitable for coupling with an electric motor or an I.C. engine. These can be connected directly with a flexible coupling or with a belt drive.

Direction of rotation

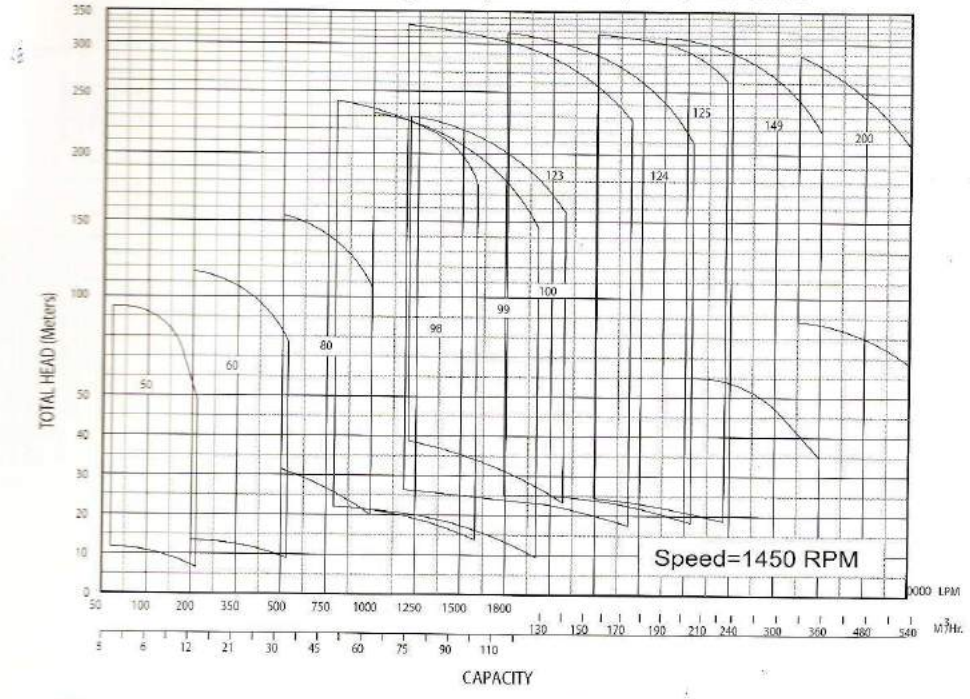
Standard rotation is Clockwise when viewed from the driver end. Optionally, it can be anticlockwise when viewed from the driver end.

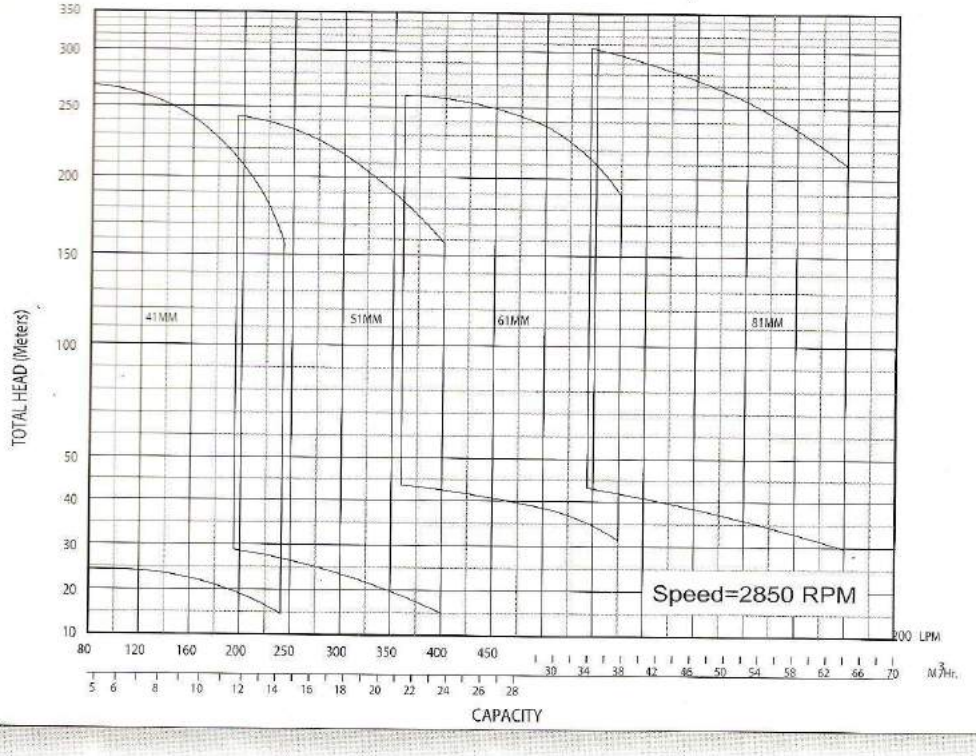
Materials of Construction

Casing	C.I.	C.I.	C.I.	Cast Steel	S.S.
Diffuser	C.I.	C.I./Bronze	C.I.	Cast Steel	S.S.
Impeller	C.I.	Bronze	Ph. Bronze	Cast Steel	S.S.
Wear Ring	C.I.	Bronze	Ph. Bronze	SS	S.S.
Shaft	C.I./S.S	C.S./S.S.	C.S./S.S	C.S./S.S.	S.S.
Shaft Sleeve	C.S./S.S	C.S./S.S.	C.S./S.S	C.S./S.S.	S.S.
Lantern Ring	C.I./S.S	Bronze	Ph. Bronze	C.S.	S.S.
Gland	C.I.	C.I.	C.I.	C.I.	S.S.

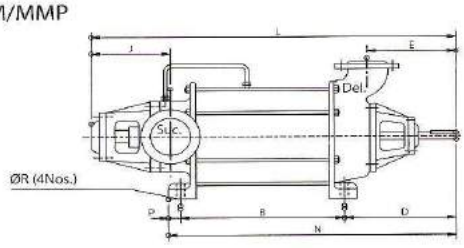
Other materials are also available on customer's specific request.

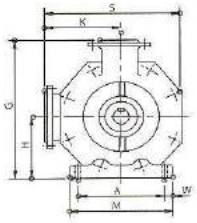
Family Curves of Multistage Pumps Model MM,MMP,MMS & HPB

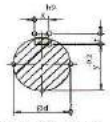




PUMP DIMENSIONS
MM/MMP



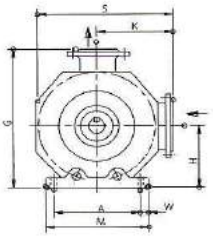


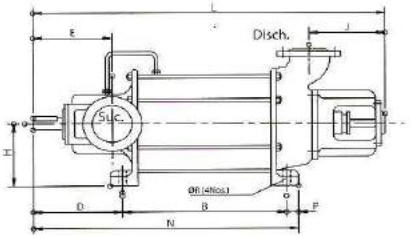


NOTE:- FLANGE DRILLING TO SUIT IS 6392: 1971

TYPE	SUC	DEL		NUMBER OF STAGE 1	2	3	4	5	6	7	8	9	10	11	A	D	E	G	H	J	K	M	R	S	P	W	Ød	y	X	t
40 MM 41 MM	50	40	L	462	507	552	597	642	687	732	777	822	867	912	160	140	145	330	150	83	150	200	19	285	25	30	25	22	8	7
			B	120	165	210	255	300	345	425	420	515	560	605															
			N	294	339	384	429	474	519	599	644	689	734	779															
50 MM 51 MM	60	50	L	521	571	621	671	721	771	821	871	921	971	1021	210	153	153	350	150	93	150	260	19	301	35	25	26.5	22.5	8	7
			B	150	200	250	300	350	400	450	500	550	600	650															
			N	338	388	438	488	538	588	638	688	738	788	838															
60 MM 61 MM	80	60	L	647	707	767	827	887	947	1007	1067	1127	1187		210	258	253	420	180	210	220	260	19	403	25	25	27.5	24.2	8	7
			B	151	211	271	331	391	451	511	571	631	691																
			N	434	494	554	614	674	734	794	854	914	974																
80 MM 81 MM	100	80	L	838	918	998	1078	1158	1238	1318	1398	1478			280	348	343	475	210	275	270	340	22	470	35	30	35	30	10	8
			B	284	284	364	444	524	604	684	764	844																	
			N	587	667	747	827	907	987	1067	1147	1227																		
98 MM 99 MM 100 MMP	125	100	L	863	963	1063	1163	1263	1363	1463					280	316	303	570	250	290	320	340	22	548	50	50	35	30	10	8
			B	221	321	421	521	621	721	821																			
			N	587	687	787	887	987	1087	1187																			
123 MMP 124 MMP 125 MMP	150	125	L	995	1120	1245	1370	1495	1620						380	308	389	640	275	317	365	440	25	665	45	30	55	49	16	10
			B	260	385	510	635	760	885																				
			N	703	828	953	1078	1203	1328																				
148 MMP 149 MMP	200	150	L	1205	1353	1503	1653	1803	1953	2103					460	481	460	770	340	340	410	620	28	810	50	50	65	59	18	11
			B	280	430	580	730	880	1030	1180																			
			N	811	961	1111	1261	1411	1561	1711																			
200 MMP	250	200	L	1345	1525	1705	1885	2065							520	620	570	840	390	455	450	610	28	840	50	45	80	73.5	18	12
			B	290	380	560	740	920																					
			N	870	1050	1230	1410	1590																					

HPB

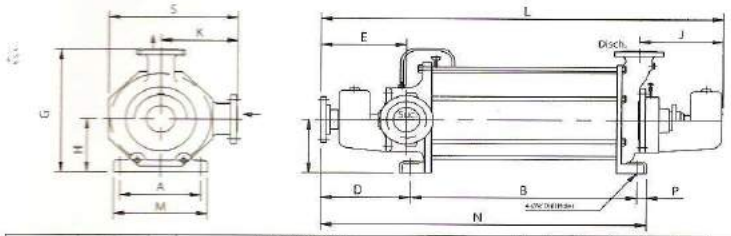


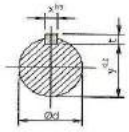


NOTE:- FLANGE DRILLING TO SUIT IS 6392: 1971

TYPE	SUC	DEL		NUMBER OF STAGE 1	2	3	4	5	6	7	8	9	10	11	A	D	E	G	H	J	K	M	R	S	P	W	Ød	y	X	t
60 HPB	80	60	L	736	796	856	916	976	1036	1096					210	294	266	420	180	283	220	280	19	493	35	20	24	20	8	7
			B	151	211	271	331	391	451	511																			
			N	489	549	609	669	729	789	849																			
80 HPB	100	80	L	863	943	1023	1103	1183	1263	1343					280	314	303	480	210	340	320	340	22	470	50	30	35	29	10	8
			B	204	284	364	444	524	604	684																			
			N	568	648	728	808	888	968	1048	1128																		
98 HPB 99 HPB 100 HPB	125	100	L	863	963	1063	1163	1263	1363	1463	1563				280	349	314	570	250	298	320	340	22	548	50	30	34	29	10	8
			B	221	321	421	521	621	721	821	921																		
			N	621	720	820	920	1020	1120	1220	1320																		
123 HPB 124 HPB 125 HPB	150	125	L	933	1058	1183	1308	1433	1558	1683	1808				380	349	330	635	275	314	360	440	25	665	45	30	45	42.5	14	9
			B	260	385	510	635	760	885	1010	1135																		
			N	694	779	904	1029	1154	1279	1404	1529																		
149 HPB 150 HPB	200	150	L	1166	1316	1466	1616	1766	1916						460	502	368	770	340	364	400	620	28	810	55	80	60	53	18	11
			B	280	430	580	730	880	1030																				
			N	837	987	1137	1287	1437	1587																				
200 HPB	250	200	L		1657	1833	2013	2193	2373						520	773	718	840	390	435	450	610	28	840	50	80	75	68	18	11
			B		810	989	740	920	1100																				
			N		1203	1383	1563	1743	1923																				

MMS

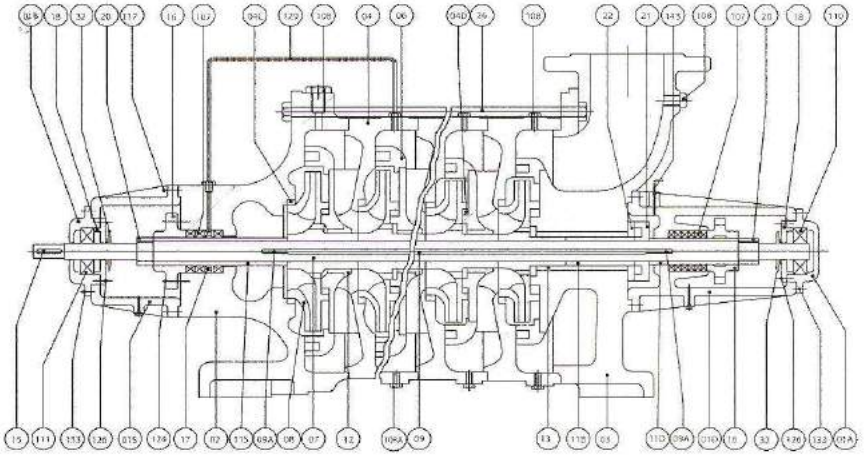




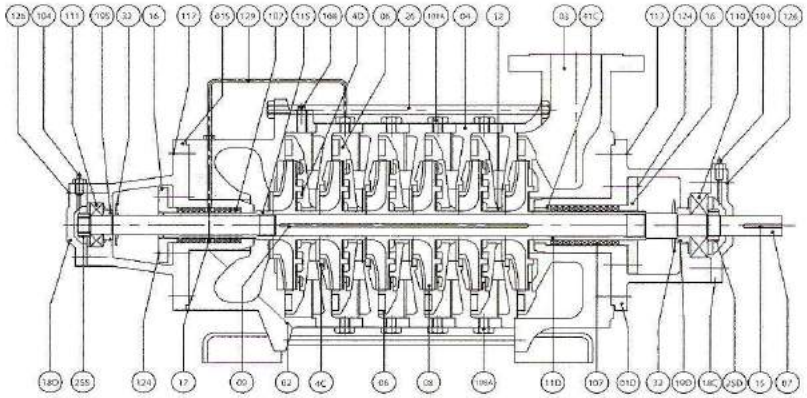
Coupling End Shaft Detail

TYPE	SUC	DEL		NUMBER OF STAGE											A	D	E	G	H	J	K	M	R	S	P	ØW	Ød	y	X	t
				1	2	3	4	5	6	7	8	9	10	11																
60 MMS	80	60	L	786	846	906	966	1026	1086	1146	1206	1266	1326	1386	210	347	314	420	180	376	220	260	19	403	35	25	27	23.7	8	6
			B	151	211	271	331	391	451	511	571	631	691	751																
			N	436	516	576	636	696	756	816	876	936	996	1056																
80 MMS	100	80	L	870	1050	1130	1200	1270	1350	1430	1500	1570	1650	1730	280	406	549	475	210	402	270	340	22	470	50	30	35	31	8	7
			B	504	584	364	444	524	604	684	764	844	924	1004																
			N	660	740	820	900	980	1060	1140	1220	1300	1380	1460																
98 MMS 99 MMS 100 MMS	125	100	L	1095	1195	1295	1395	1495	1595	1695	1795	1895	1995	2095	280	408	372	570	250	402	320	340	22	548	50	30	36	31	10	8
			B	321	321	421	521	621	721	821	921	1021	1121	1221																
			N	587	687	787	887	987	1087	1187	1287	1387	1487	1587																
98 HPBX 123 MMS 124 MMS 125 MMS	150	125	L	1085	1214	1338	1464	1586	1714	1839	1964	2086	2214	2314	380	425	405	640	275	390	365	440	25	665	45	30	55	49	12	8
			B	260	388	510	633	700	885	1010	1135	1260	1385	1510																
			N	750	885	980	1105	1230	1355	1480	1605	1730	1855	1980																
124 HPBX9			L									2082			380	421	395	635	275	392	360	440			45	25	55	49	12	8
			B									1256																		
			N									1726																		
148 MMS 149 MMS	200	150	L	1336	1486	1636	1786	1936	2086	2236	2236	2236	2236	2236	460	568	556	770	340	457	410	620	28	810	55	80	65	60	16	10
			B	280	430	580	730	880	1030	1180	1330	1480	1630	1780																
			N	903	1053	1203	1353	1503	1653	1803	1953	2103	2253	2403																
200 MMS	250	200	L																											
			B	209	380	569	740	920	1109	1280	1460	1640	1829	2000																
			N																											

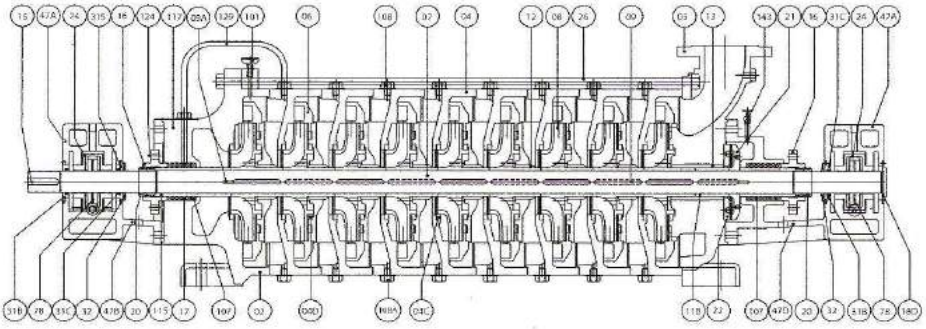
SECTIONAL DRAWINGS



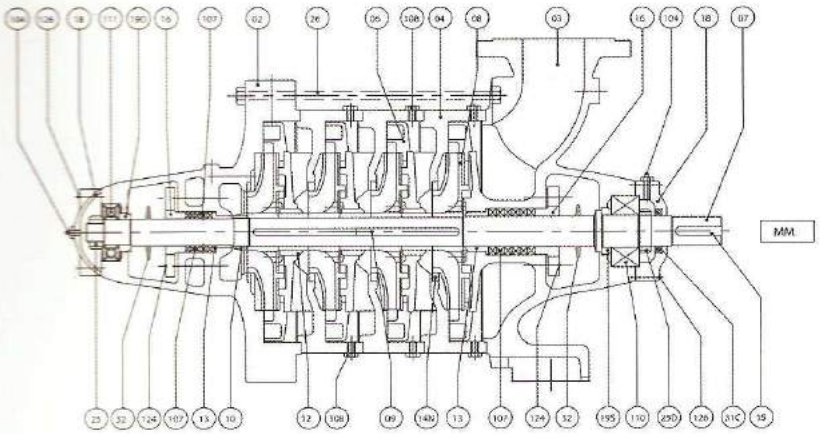
HPB



MMP



MMS



PARTS LIST

Identification code	Part Name	Qty. Per Pump	Identification code	Part Name	Qty. Per Pump
01A	Bearing housing (NDE)	1	22*	Discharge Seat	1
01B	Bearing housing (DE)	1	24*	Bush Bearing	2
01D	Bearing block (Disch side)	1	25	Bearing nut/Brg. Lock nut	1
01S	Bearing block (Suction side)	1	25D *	Bearing nut (DE)/brg. Lock nut	1
02	Suction casing	1	25S	Bearing nut (S)	1
03	Discharge casing	1	.26	Tie rod	8
04	Stage	N-1	31B*	Oil seal cover	1
04C *	Stage ring (S)	N	31C *	Oil seal	1
04D *	Stage ring (D)	N	31D *	Oil seal cover (DE)	-
06 **	Guide vanes	N	31S *	Oil seal cover (NDE)	-
07 *	Pump shaft	1	32 *	Splash ring	2
08 *	Impeller	N	41C *	Stuffing box bush/Gland support ring	1
09 *	Impeller key	1	47A	Bracket upper half	2
11B *	Balance Valve sleeve	1	47B	Bracket upper half (S)	1
11D *	Shaft sleeve (Disch.)	N-1	47D	Bracket upper half (D)	1
11S *	Shaft sleeve (Suc.)	N-1	78	Oil ring	2
12 *	Stage bush	1	104	Grease cup/Grease nipple	2
13 *	Disch bush	1	107	Gland packing	-
15	Coupling Key	1	108	Plug	-
16 *	Gland flange	1	108A	Drain plug	-
17 *	Lantern ring/Seal Cage	1	110 *	Bearing (DE)	1
18	Bearing cover	1	111 *	Bearing (NDE)	1
18C	Bearing cover (DE)	1	117	Hex head cap screw (Bkt-casing)	
18D	Bearing cover (NDE)	1	126	Hex head cap screw (Brg. Cover-Housing)	-
19D	Bearing collar (D)	1	129	Sealing pipe with fittings	-
19S	Bearing collar (S)	1	132A	Gasket (Sleeve to Impeller)	2
20	Sleeve nut	2	133	Hex hd. Cap screw (Brg. Hg.-Bracket-Pedestal)	-
21	Balancing valve/balancing Disc	1	143	Thrust balancing liquid drain pipe	1

* Part for two years normal working of the pump
** Part to be included while ordering suction casing, disch & stage.
\- Quantity subject to type of pump

OUR PUMP RANGE

Vacuum Pump
Capacity: upto 212m^3/hr
Head upto 635 mm hg

Non Clog Pump
Capacity: upto 2000m^3/hr
Head upto 45 m

Back Pull out Pump
Capacity: upto 700m^3/hr
Head upto 140 m

Vertical Sump Pump
Capacity: upto 200m^3/hr
Head upto 60 m

Self Priming Pump
Capacity: upto 200m^3/hr
Head upto 40 m

Split Casing
Capacity: upto 4000m^3/hr
Head upto 180 m

Mixflow Pump
Capacity: upto 2500m^3/hr
Head upto 40 m

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