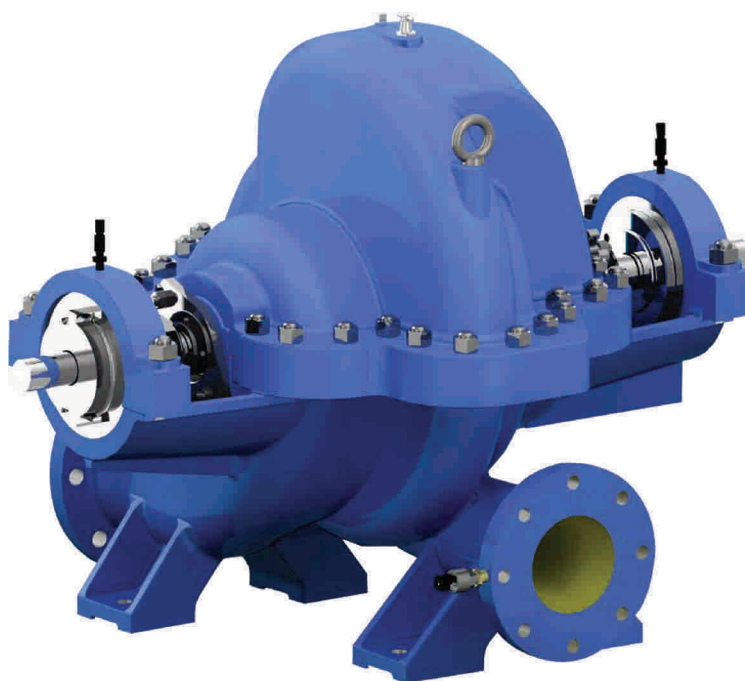




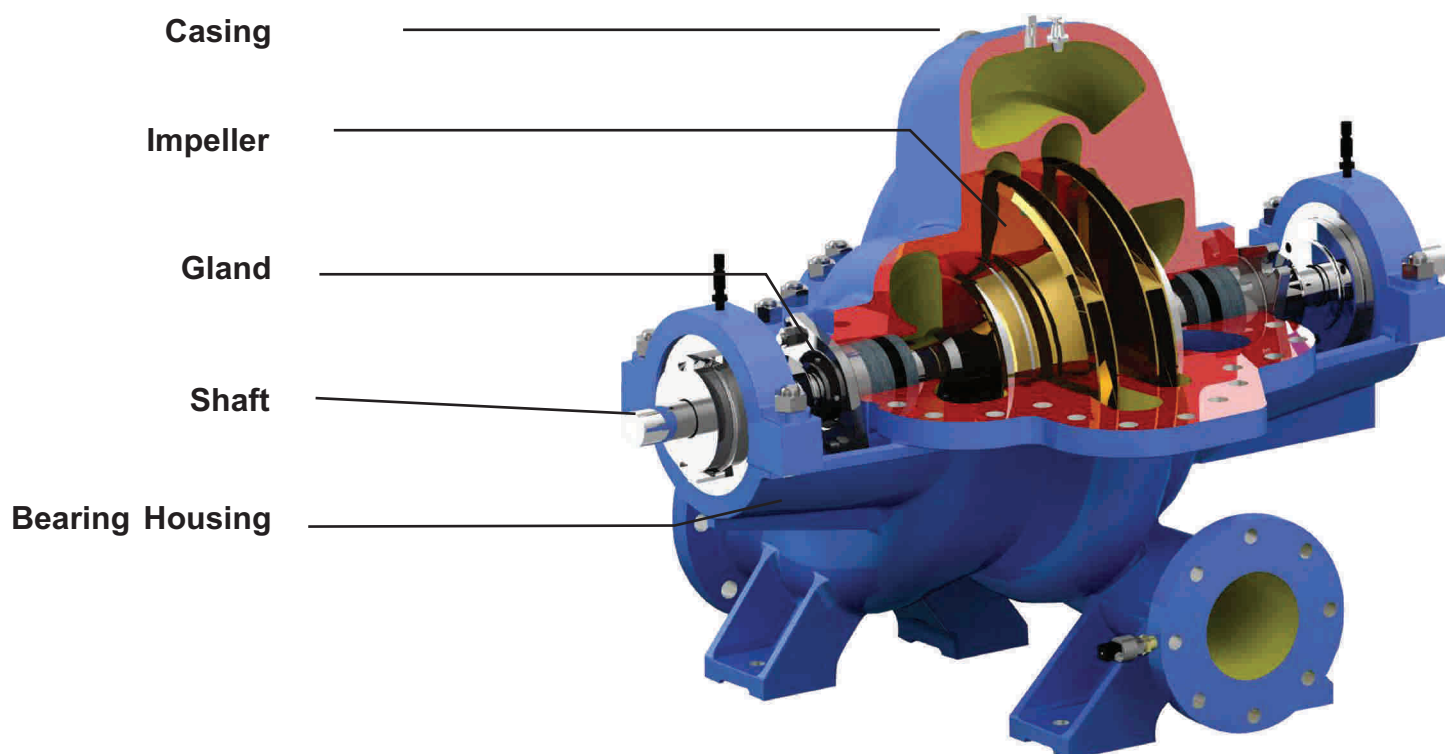
Enriching Lives

## HORIZONTAL SPLIT CASING PUMPS

TYPE - DSM Series



**KIRLOSKAR BROTHERS LIMITED**



## RANGE

Delivery size : 50 mm to 150 mm  
 Capacity : 9 m<sup>3</sup>/hr to 470 m<sup>3</sup>/hr  
 Head : 13 m to 180 m  
 Speed : 1450 rpm (Few models are also available at 2900 rpm) @ 50Hz,  
 1750 rpm @ 60 Hz

Suitable for liquid temperature : 8° C to 90° C

Sealing Arrangement :  
 Gland Packing and mechanical seal

Flange Drilling Standard : As per BS EN 1192  
 PN 16 (Plain face) or BS EN 1092 PN 25 for DSM  
 150/52 depending upon model on request DIN/  
 ASA with suitable pressure rating.

## APPLICATIONS

Water Supply, Primary and Secondary (HVAC)  
 Heating Ventilation and Air- Conditioning  
 Application, Power Station, De-watering in  
 mining, Lift Irrigation, Fire Fighting, Paper Plant -  
 High Pressure injections, Sugar Plant - High  
 Pressure injections, Steel Plants - High Pressure  
 injections, Can be used for handling slightly  
 contaminated liquids.

## CONSTRUCTIONAL FEATURES

Kirloskar Brothers Limited (KBL) is a leading manufacturer of horizontal split case pumps. Kirloskar DSM pump series has been introduced in double stage for achieving higher hydraulic efficiencies.

Also a thru bore concept in design and manufacturing of these pumps for improving the reliability and making it vibration free. Easy maintenance is facilitated by the horizontal split case design of the pump.

These are horizontal axially split casing, two stage single suction pumps with horizontal shaft. Variety of models are available to operate and suitable for 50 Hz and 60 Hz. .

Highest hydraulic and overall efficiency due to latest design and manufacturing techniques

Double stage design helps in achieving higher pump efficiency.

Low NPSHR hence good suction performance.

Thru bore design - It helps in keeping the better accuracies in manufacturing and making it vibration free as well as improving the reliability. Hence minimizing the maintenance.

High efficiency in wider operating range - The hydraulic designs have been made to get higher efficiencies in wider operating range. This helps in reducing overall operating cost though there is a compromise on the peak efficiency

### **Delivery Casing :**

Horizontal axially split volute type, suction and discharge nozzles and supporting feet cast integral with lower half casing

### **Impellers :**

Enclosed balanced impellers are placed back to back to balance axial thrust load.

### **Shafts :**

The high tensile steel shaft accurately machined and ground is supported by antifriction bearings.

The shaft is protected by shaft sleeves in stuffing box area.

### **Stuffing Box :**

The stuffing box can be sealed by gland packing or by mechanical seal and is suitable for liquids having temperature up to 90°C

### **Bearings :**

Deep groove ball/roller bearings are provided. Standard lubrication is grease.

### **Direction of Rotation :**

Standard - Clockwise viewed from driving end.

Optional - Models with reverse rotation are available upon request.

### **Drive :**

Suitable for coupling with electric motors, I.C. engines or steam turbines either directly or through belt drives.

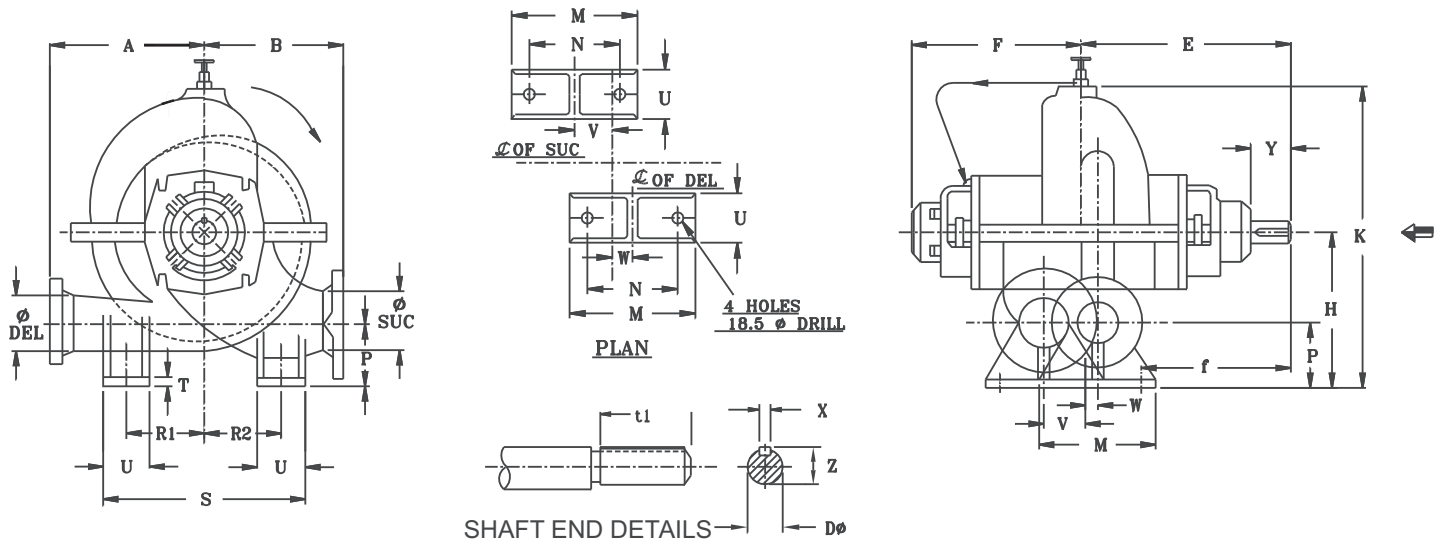
### **Flanges :**

Standard - Drilling as per BS EN 1092 PN 16 (Plain face) or BS EN 1092 PN 25 for DSM 150/52 depending upon model.

Optional - DIN/ASA with suitable pressure rating.

# GENERAL DIMENSIONS / MOUNTING DETAILS

## DSM (Thru Bore) Pump



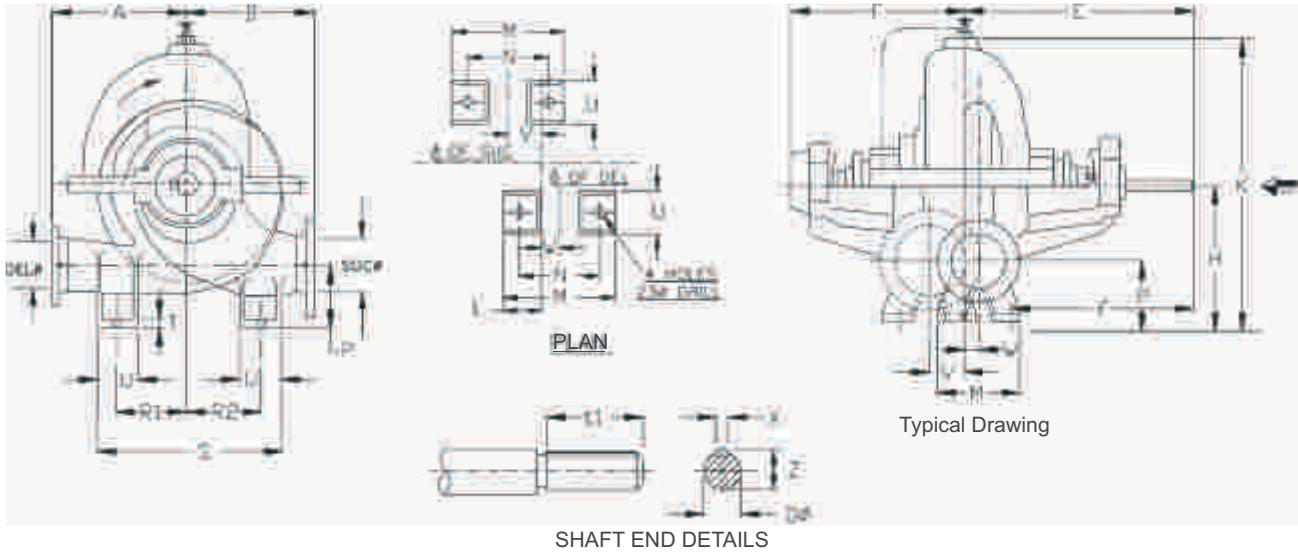
PUMP TYPE	SUC	DEL	A	B	E	F	H	K	M	N	T	P	R1	R2	S	U	V	W	X	Y	D	f	Z	t1	Wt.
DSM 50-20	80	50	225	225	400	332	230	430	160	120	16	105	122.5	122.5	325	80	65	30	8	70	30	310	33	67	118
DSM 50-28	65	50	225	250	374	316	245	465	160	120	18	95	110	135	325	80	65	25	8	60	25	289	28	54	120
DSM 50-28 (M)	65	50	225	250	374	316	245	465	160	120	18	95	110	135	325	80	65	25	8	60	25	289	28	65	120
DSM 65-20	100	65	250	250	435	367	260	500	200	150	20	115	135	135	350	80	65	33	10	72	38	327	41	60	164
DSM 65-32 A	80	65	275	275	382	324	285	545	200	150	18	105	155	155	390	80	70	30	8	60	25	277	28	54	180
DSM 65-32 B	80	65	275	275	382	324	285	545	200	150	18	105	155	155	390	80	70	30	8	60	25	277	28	68	180
DSM 80-36	100	80	268	303	431	358	290	590	200	160	20	120	150	150	400	100	80	33	10	75	32	318	35	87	215
DSM 150/52	200	150	450	475	769	649	460	945	360	300	25	186	240	265	625	120	118	50	18	120	65	569	69	87	1100

### Notes:-

- 1) All Dimensions are in mm.
- 2) Flanges Drilled to BS EN 1092 PN 16 (FF) (Plain face) or DSM 150/52 with BS EN 1092 PN 25 (FF).
- 3) Standard Direction of Rotation Clockwise viewed from Driving End.

## GENERAL DIMENSIONS / MOUNTING DETAILS

### DSM (Non Thru Bore) Pump



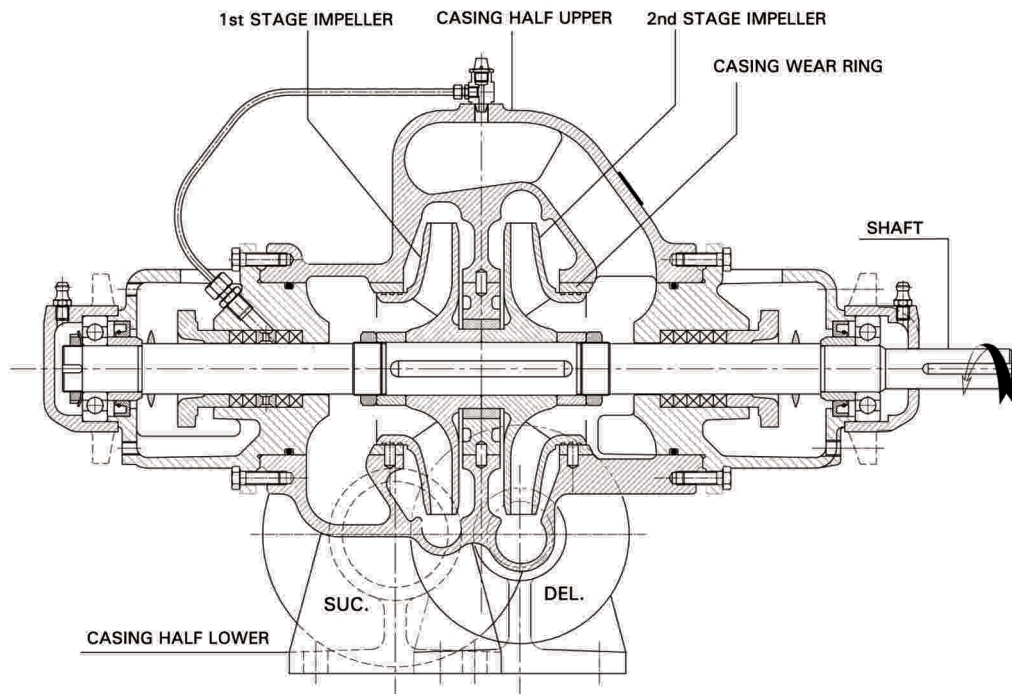
PUMP TYPE	SUC	DEL	A	B	F	E	H	K	M	N	T	P	R1	R2	S	U	V	W	L	X	Y	D	f	Z	t1	Wt.
DSM 100-36	125	100	340	350	441	540	350	702	260	210	20	140	200	200	520	120	110	34	75	10	99	32	401	35	80	325
DSM 125-40	150	125	365	375	479	575	400	765	360	300	25	150	200	200	520	120	100	40	100	12	80	42	385	45	70	478
DSM 150-46	200	150	400	425	506	623	425	920	360	300	25	175	240	265	625	120	150	45	120	14	100	50	428	54	87	612

#### Notes:-

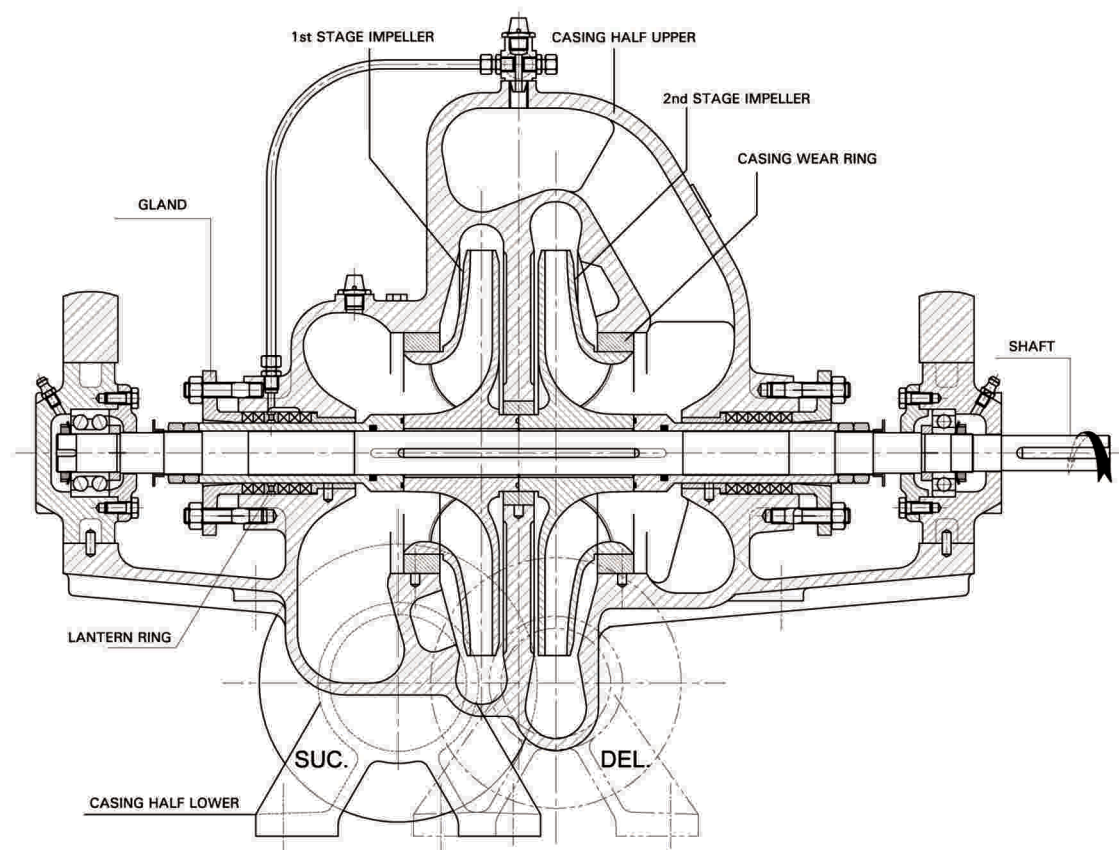
- 1) All Dimensions are in mm.
- 2) Flanges Drilled to BS 1092 PN 16 (FF) for all DSM pumps except DSM 150/52
- 3) Standard Direction of Rotation Clockwise viewed from Driving End.

# CROSS SECTIONAL ASSEMBLY OF DSM PUMPS

DSM (Thru Bore) Pump - Typical Drawing

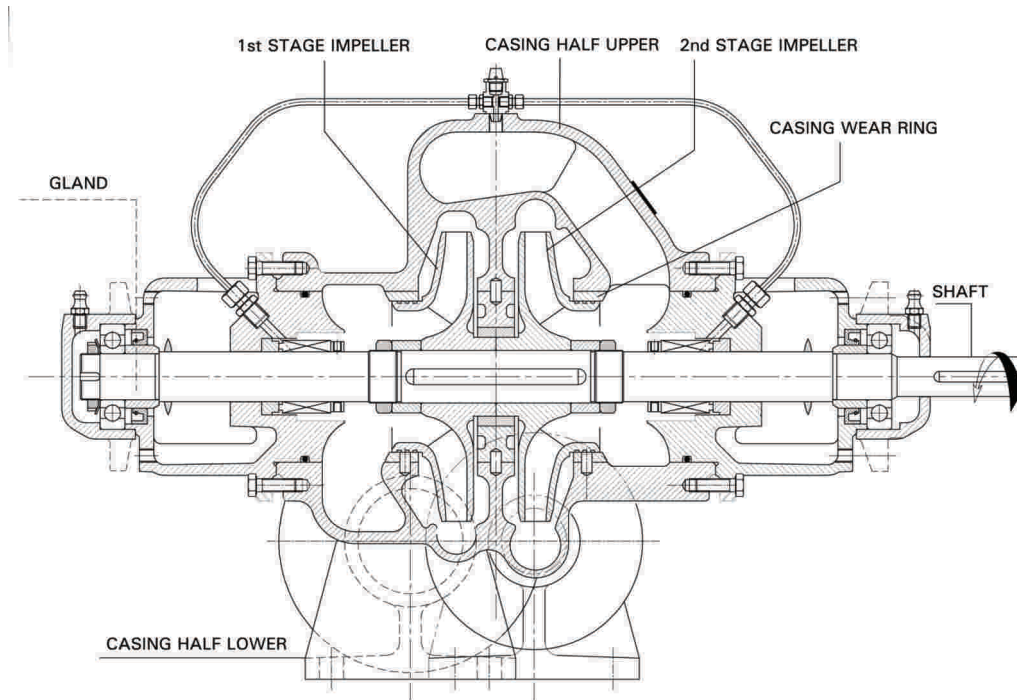


DSM (Non Thru Bore) Pump - Typical Drawing



# CROSS SECTIONAL ASSEMBLY OF DSM PUMPS

DSM (Thru Bore) Pump with Mechanical - Seal Arrangement



**MATERIAL OF CONSTRUCTION**

DESCRIPTION	01 MOC	02 MOC	20 MOC	72 MOC	11 MOC	12 MOC
Casing half Upper	CI	CI	CI	SGL	CI	Cf8
Casing half Lower	CI	CI	CI	SGL	CI	CF8
Impeller	C I	Bronze	Bronze	SGL	CF8M	CF8
Casing Wear Ring	C I	Bronze	CI	SGL	CF8M	CF8
Interstage Ring	C I	Bronze	CI	SGL	CF8M	CF8
Shaft	C.S.	C.S.	C.S.	St.St.	C.S.	St. St.
Shaft Sleeve	C I	Bronze	C I	SGL	St. St.	St. St.
Lantern Ring	Nylon	Nylon	Nylon	Nylon	Nylon	Nylon
Gland	C I	C I	C I	SGL	C I	St. St.

**Note - MOC11 & MOC12 are applicable for only DSM 100/36, DSM125/40, DSM150/46 & DSM150/52**

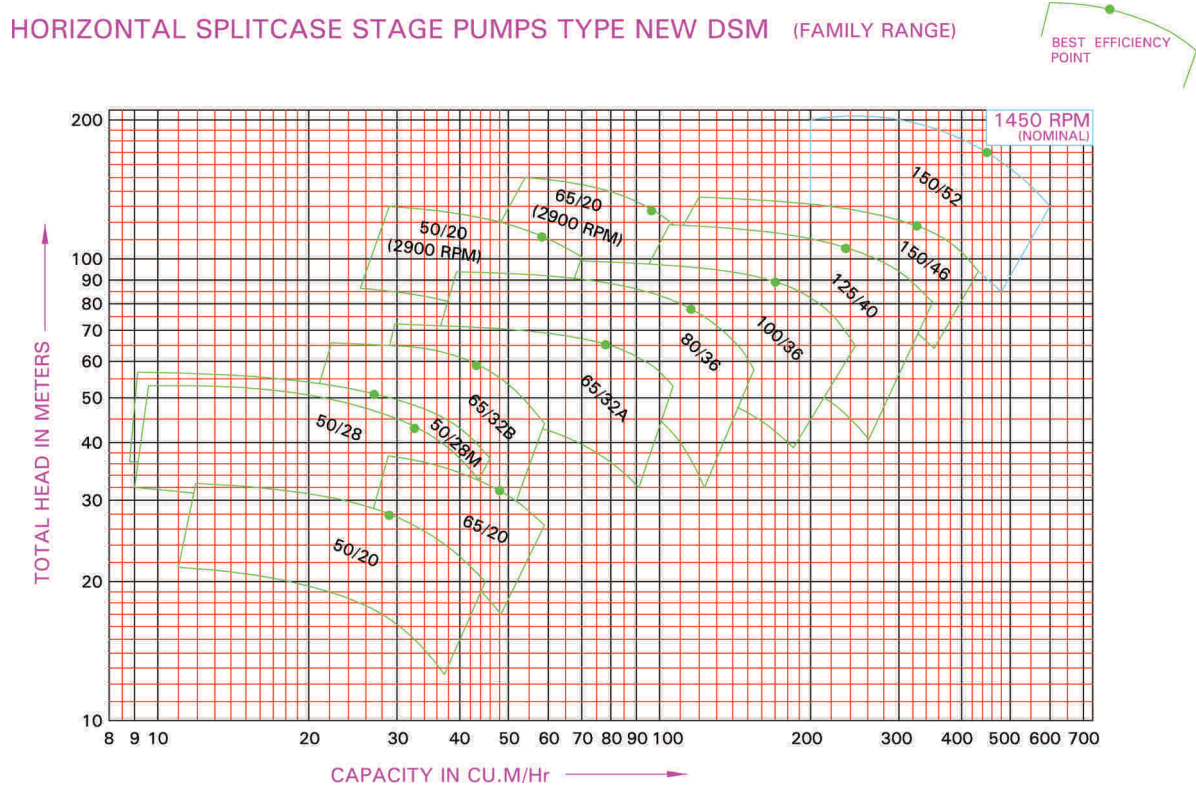
**MATERIAL STANDARDS - GENERAL INFORMATION**

Material Type	Indian Standard (IS)	American standard (ASTM)	DIN
<b>Cast Iron</b>			
Cast Iron	IS 210 Gr. FG 260	ASTM A48 Class 40	(0.6025)DIN 1691 GG25
<b>Spheroidal Graphite Cast Iron</b>			
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
<b>Carbon steel</b>			
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
<b>Cast Steel Grades</b>			
Cast steel		ASTMA 216 Gr. WCB	1.0619(GS-C25)
<b>Cast Stainless Steel</b>			
Stainless Steel CF8M	IS 3444 Gr. 4	ASTMA 351 Gr. CF3M	1.4408(GX5CrNiMo19-11-2)
Stainless Steel CF8M	IS 3444 Gr. 4	ASTMA 743 Gr. CF3M	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)
<b>Cast Chromium StainlessSteel</b>			
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)
<b>Chromium StainlessSteel Round Bar Material</b>			
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)
<b>Cast Duplex Steel</b>			
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. CD3MN	24Cr-10Ni-Mo-N
<b>Non Ferious Materials</b>			
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)		

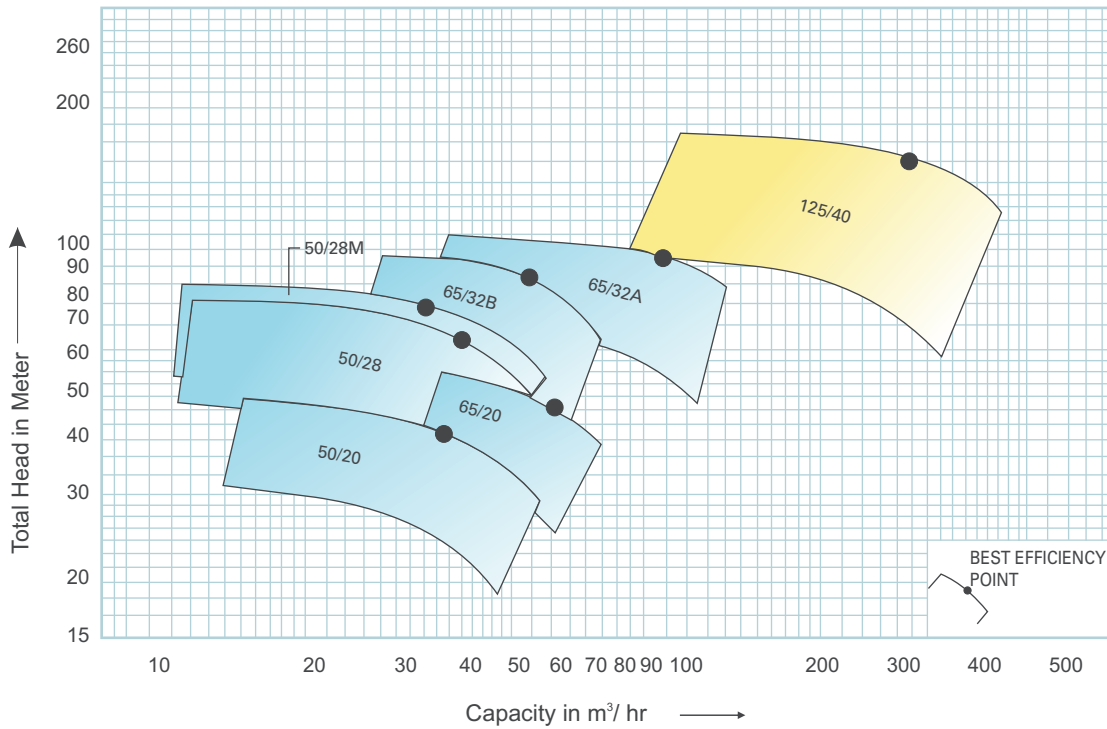


# FAMILY CURVES

Family Curve of DSM pump at 1450 rpm (2900 rpm) / 50Hz



Family Curve of DSM pump at 1750 rpm / 60Hz



: Thru bore pumps
  : Non Thru bore pumps



Enriching Lives

## **KIRLOSKAR BROTHERS LIMITED**

A Kirloskar Group Company  
Established 1888

### **GLOBAL HEADQUARTERS**

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### **GLOBAL PRESENCE**

Cambodia | Egypt | India | Lao PDR | Senegal | South Africa | Thailand | The Netherlands  
| United Arab Emirates | United Kingdom | United States of America | Vietnam

[www.kirloskarpumps.com](http://www.kirloskarpumps.com)

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