

KIRLOSKAR HORIZONTAL AXIALLY SPLIT CASING PUMPS - TYPE DSM

Kirloskar

Enriching Lives



KIRLOSKAR BROTHERS LIMITED

KIRLOSKAR HORIZONTAL AXIALLY SPLIT CASING PUMPS - TYPE DSM

Description

Range :

Delivery size up to 150 mm
Capacity up to 470 m³/hr
Head up to 180 metres

Application :

Suitable for Water Works, Circulation of Water in Air-Conditioning Plant, Power Station, Mine Drainage, Lift Irrigation, Fire Fighting, Paper and Sugar Mills, Steel Plants etc. Can be used for handling slightly contaminated liquids.

Constructional Features :

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

Special Features :

- Direct or gear drive
- Rotating assembly available for inspection or maintenance by removing only upper half casing without disturbing suction or delivery piping and motor
- Highest hydraulic and overall efficiency due to latest design and manufacturing techniques
- Very high efficiency in the operating range
- Good suction performance and low NPSH
- Stable characteristics
- Minimum maintenance
- Vibration-free performance
- High reliability

Casing :

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

Impellers :

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

Shaft :

The high tensile steel shaft accurately machined and ground is supported by antifriction bearings. The shaft is protected by shaft sleeves from wear 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 / Anticlockwise viewed from driving end depending upon model.

Optional – Models with reverse rotation are available upon request.

Drive :

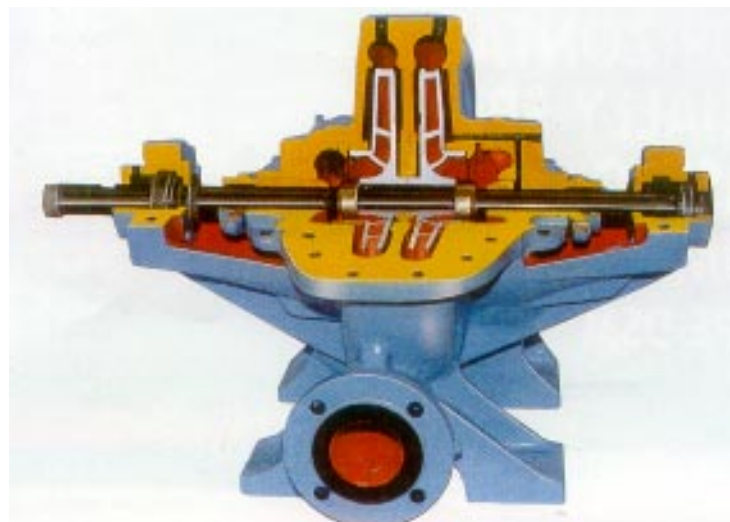
Suitable for coupling with electric motors, I.C. engines or steam turbines either directly or through belt drives.

Flanges :

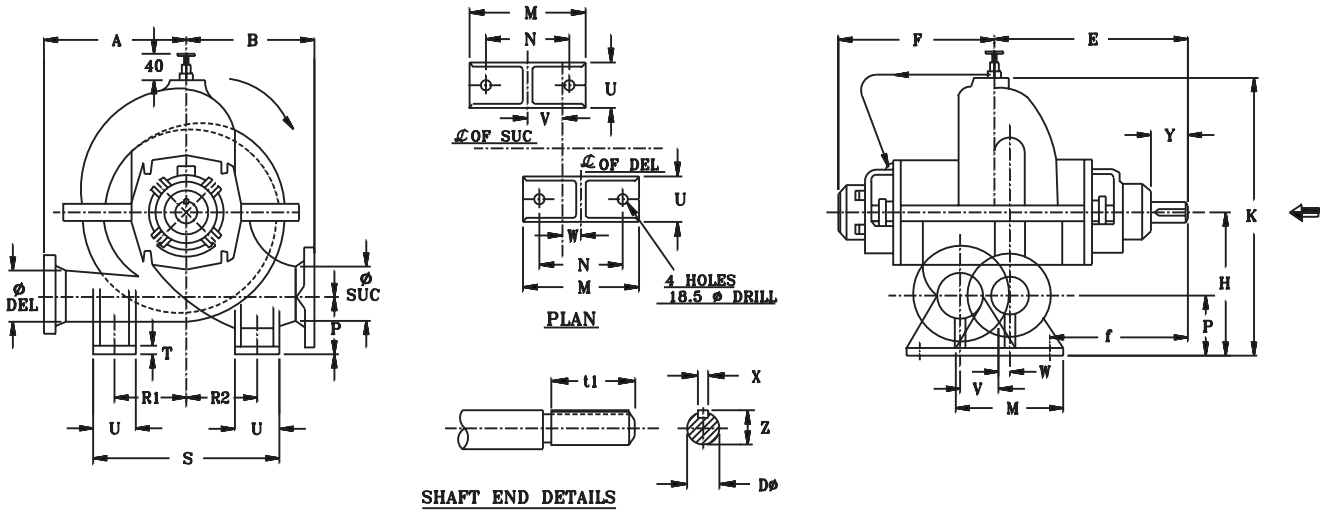
Standard : Drilling as per BS-10 Table D or BS 4504 Table 16/11 (Raised face) depending upon model.

Optional : DIN/ASA with suitable pressure rating.

Cut-sectional View



General Dimensions/Mounting Details DSM (T) Pump



Typical Drawing

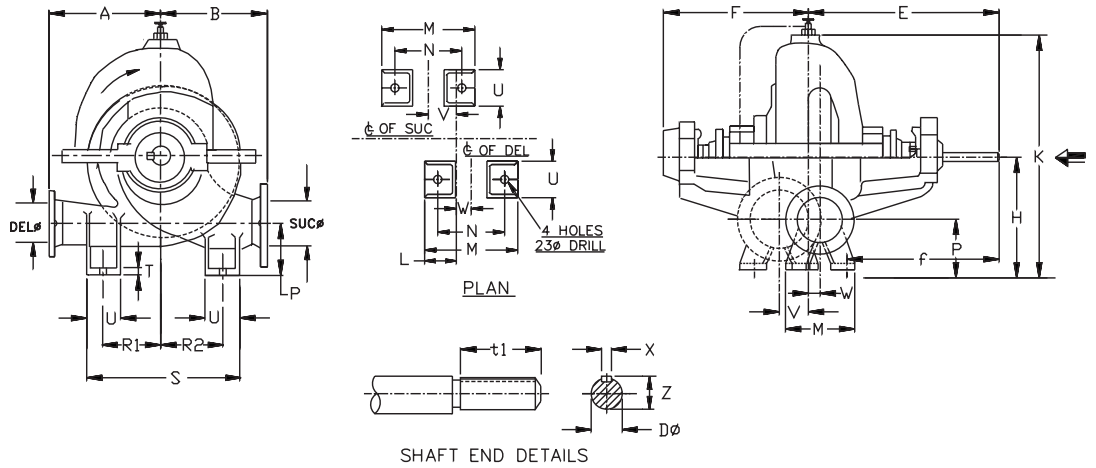
Dimensions

PUMP TYPE	SUC Ø	DEL Ø	A	B	F	E	H	K	M	N	T	P	R1	R2	S	U	V	W	X	Y	D Ø	f	Z	t1	Wt. Kg.
DSM 50-20	80	50	225	225	332	400	230	430	160	120	16	105	122.5	122.5	325	80	65	30	8	70	30	310	33	63	118
DSM 50-28 DSM 50-28 (M)	65	50	225	250	316	374	245	465	160	120	18	95	110	135	325	80	65	25	8	60	25	289	28	50	120
DSM 65-20	100	65	250	250	367	435	260	500	200	150	20	115	135	135	350	80	65	33	10	72	38	327	41	60	164
DSM 65-32 A DSM 65-32 B	80	65	275	275	324	382	285	545	200	150	18	105	155	155	390	80	70	30	8	60	25	277	28	50	180
DSM 80-36	100	80	268	303	358	431	290	590	200	160	20	120	150	150	400	100	80	33	10	75	32	318	35	63	215

Notes:-

- 1) All Dimensions are in mm.
- 2) Flanges Drilled to BS 4504 PN 16 (FF).
- 3) Standard Direction of Rotation Clockwise viewed from Driving End.

DSM (NT) Pump



DIRECTION OF ROTATION CW FROM DE

Typical Drawing

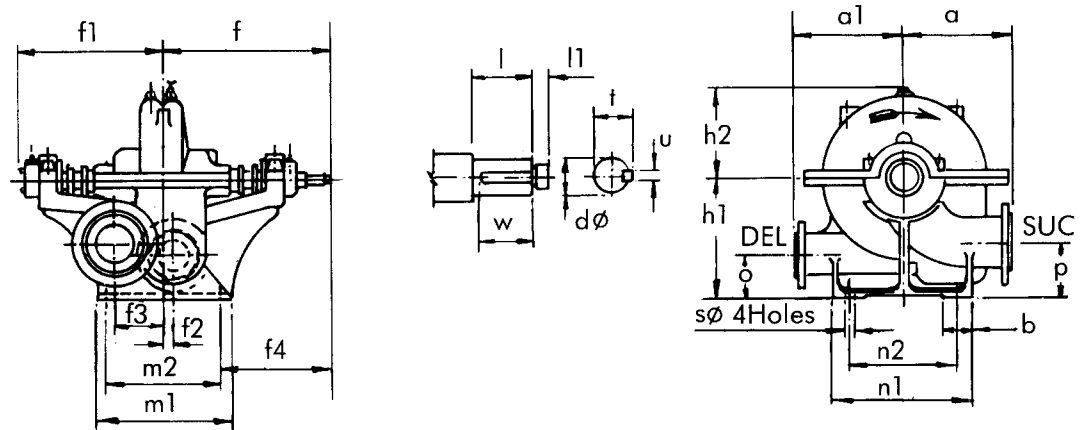
Dimensions

PUMP TYPE	SUC ϕ	DEL ϕ	A	B	F	E	H	K	M	N	T	P	R1	R2	S	U	V	W	L	X	Y	D ϕ	f	Z	t1	Wt. Kg.
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	860	360	300	25	175	240	265	625	120	150	45	120	14	100	50	428	54	80	612

Notes:-

- 1) All Dimensions are in mm.
- 2) Flanges Drilled to BS 4504 PN 16 (FF).
- 3) Standard Direction of Rotation Clockwise viewed from Driving End.

DSM Pump



Typical Drawing

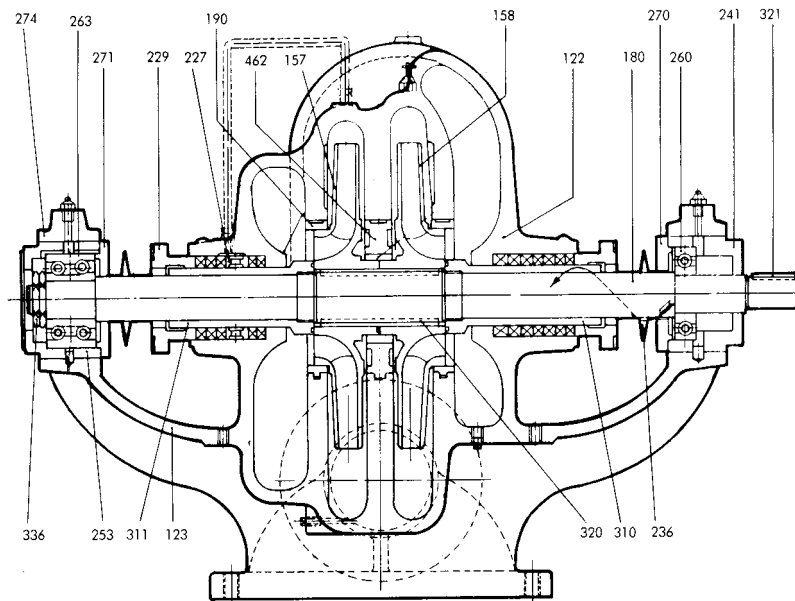
DIRECTION OF ROTATION CCW FROM DE

Dimensions

Pump Model	PUMP MOUNTING DIMENSIONS																		SHAFT END					WT KG		
	SUC	DEL	a	a1	f	f1	f2	f3	f4	h1	h2	b	m1	m2	n1	n2	sø	o	p	dø	l	l1	t		u	w
DSM 1E*	65	50	235	229	292	238	16	79	178	248	233	70	266	228	349	279	14	83	95	31/32"	43	14	1.075"	1/4"	38	122
DSM 2E*	80	65	254	241	381	314	19	86	251	254	246	70	304	260	349	279	18.5	86	98	31/32"	43	14	1.075"	1/4"	38	155
65 DSM 315M	80	65	336	336	381	327	0	0	251	280	270	75	305	260	350	280	18.5	100	100	29	43	14	1.227"	5/16"	38	205
DSM 3 & DSM 3 ME*	100	80	279	279	451	360	25	132	296	299	271	102	356	311	356	280	18.5	108	140	1.3/8"	73	16	1.473"	3/8"	63.5	241
DSM 4RM RN	125	100	400	400	530	436	0	0	335	350	345	100	400	350	420	360	18.5	140	140	43	95	-	46.5	12"	80	435
DSM 5B	150	125	356	356	570	468	0	0	392	381	361	152	406	356	508	356	23	152	152	1.3/4"	77	25	1.886"	1/2"	70	513
DSM 6	200	150	457	457	859	694	0	0	637	470	426	140	505	445	594	470	25	178	178	2.3/4"	7.9/16	-	2.948"	3/4"	114	1068
DSM 150-45	175	150	406	457	533	448	51	165	317	432	510	102	508	432	635	559	25	165	165	43	-	-	51.756	1/2"	102	700

* These models have raised face flanges. Other models have plain face flanges, and the dimensions given correspond to plain faces only. All dimensions are in mm unless specified otherwise.

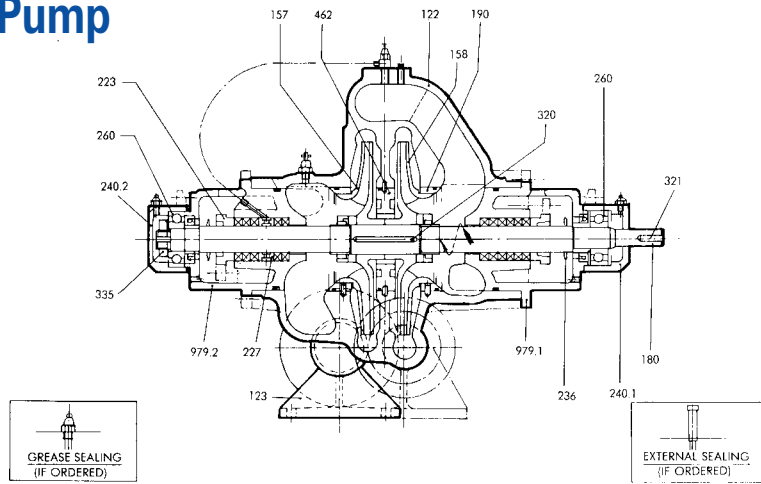
Cross Sectional View DSM Pump



Typical Drawing

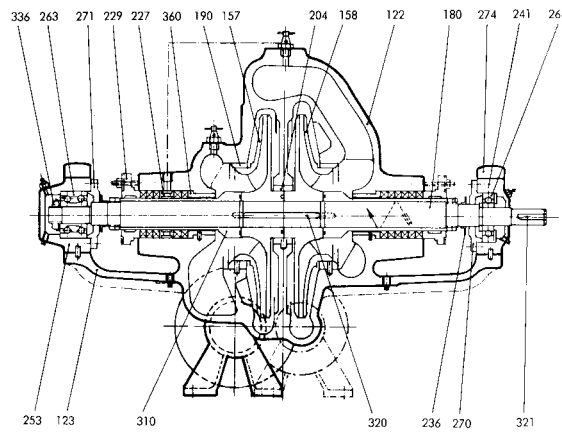
Part No.	Description	Part No.	Description	Part No.	Description
122	Casing Half Upper	236	Deflector	271	Bearing Cover NDE
123	Casing Half Lower	229	Gland (Split)	274	Bearing Cap
157	Impeller – I Stage	241	Bearing Cartridge DE	310	Shaft Sleeve DE
158	Impeller – II Stage	253	Bearing Cartridge NDE	311	Shaft Sleeve NDE
180	Shaft	260	Bearing DE	320	Key (Impeller)
190	Casing Wear Ring	263	Bearing NDE	321	Key (Coupling)
227	Split Lantern Ring	270	Bearing Cover DE	336	Bearing Nut
				462	Interstage Diaphragm

DSM (T) Pump



Typical Drawing

DSM (NT) Pump



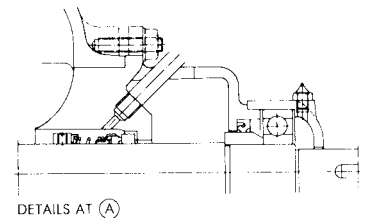
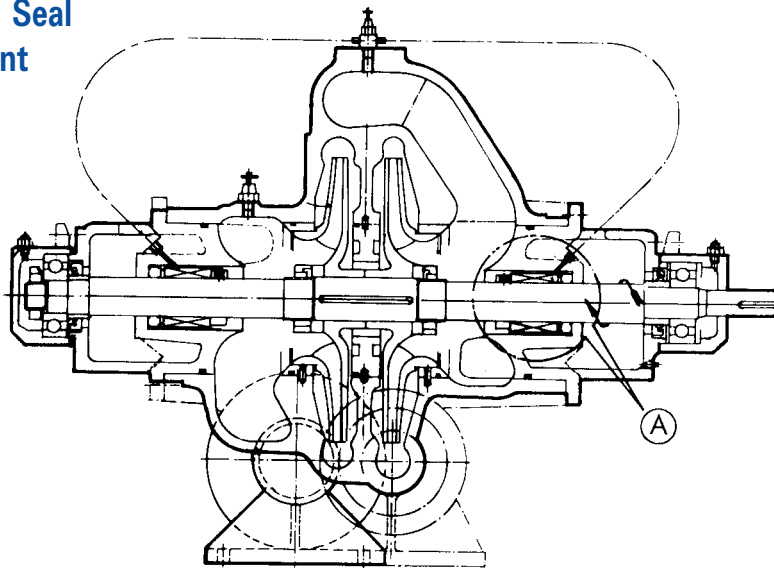
Typical Drawing

Interchangeability of Components

PART NO.	NAME OF THE PART	TOTAL NO. OF PARTS	DSM 50-20	DSM 65-20	DSM 50-28	DSM 50-28M	DSM 65-32A	DSM 65-32B	DSM 80-36	DSM 100-36	DSM 125-40	DSM 150-46
122	CASING HALF UPPER	8	1	2	3	3	4	4	5	6	7	8
123	CASING HALF LOWER	8	1	2	3	3	4	4	5	6	7	8
157	IMPELLER I STAGE	10	1	2	3	10	4	5	6	7	8	9
158	IMPELLER II STAGE	10	1	2	3	10	4	5	6	7	8	9
180	SHAFT	8	1	2	3	3	4	4	5	6	7	8
190	WEARING RING	8	1	2	3	3	3	4	5	6	7	8
204	INTERSTAGE RING	5	1	2	2	2	2	2	2	3	4	5
223	GLAND (NON-SPLIT)	3	1	2	3	3	3	3	-	-	-	-
227	SPLIT LANTERN RING	7	1	2	3	3	3	3	4	5	6	7
229	GLAND (SPLIT)	4	-	-	-	-	-	-	1	2	3	4
236	DEFLECTOR	7	1	2	3	3	3	3	4	5	6	7
240.1	BEARING HOUSING DE	4	1	2	3	3	3	3	4	-	-	-
240.2	BEARING HOUSING NDE	4	1	2	3	3	3	3	4	-	-	-
241	BEARING CARTRIDGE DE	3	-	-	-	-	-	-	-	1	2	3
253	BEARING CARTRIDGE NDE	3	-	-	-	-	-	-	-	1	2	3
260,263,264	BEARING	6	1	2	3	3	3	3	4	1	5	6
270	BEARING COVER DE	3	-	-	-	-	-	-	-	1	2	3
271	BEARING COVER NDE	3	-	-	-	-	-	-	-	1	2	3
274	BEARING CAP	3	-	-	-	-	-	-	-	1	2	3
310	SHAFT SLEEVE	3	-	-	-	-	-	-	-	1	2	3
320	KEY (IMPELLER)	7	1	2	1	1	3	3	4	5	6	7
321	KEY (COUPLING)	8	1	2	3	3	4	4	5	6	7	8
336	BEARING NUT	5	1	2	3	3	3	3	1	1	4	5
350	ST. BOX BUSH	3	-	-	-	-	-	-	-	1	2	3
462	INTERSTAGE DIAPHRAGM	2	1	2	2	2	2	2	2	-	-	-
979.1	INSERT DE	4	1	2	3	3	3	3	4	-	-	-
979.2	INSERT NDE	4	1	2	3	3	3	3	4	-	-	-

Alternative Available

DSM (T) Pump Mechanical Seal Arrangement



Typical Drawing

Material of Construction

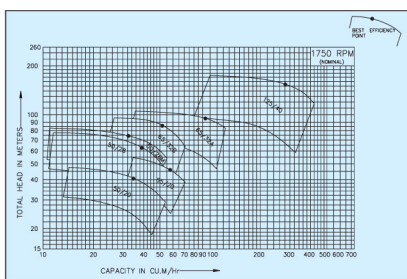
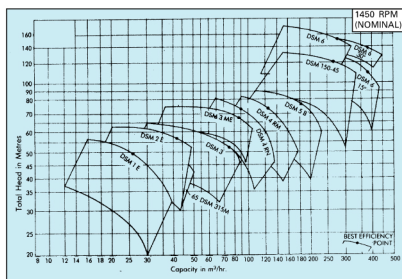
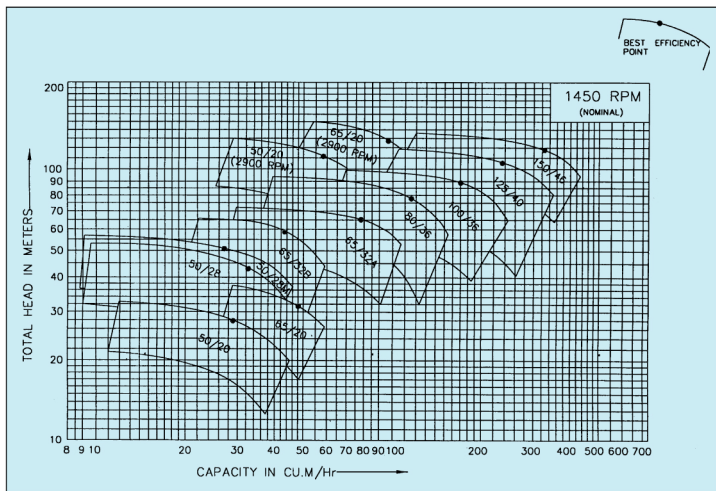
Casing half upper	CI	CI/Bronze	CI/SGI	CI/SGI	CI/SGI	Cast Steel	CI/SGI	CF8M
Casing half lower	CI	CI/Bronze	CI/SGI	CI/SGI	CI/SGI	Cast Steel	CI/SGI	CF8M
Impeller	CI/ACI	Bronze	Ph. Br.	CI	Cast Steel	Cast Steel	CF8M	CF8M
Casing Wear Ring	CI/ACI	Bronze	Ph. Br.	CI	St. St.	St. St.	CF8M	CF8M
Interstage Ring	CI/ACI	Bronze	Ph. Br.	CI	St. St.	St. St.	CF8M	CF8M
Shaft	C.S./St.St.	C.S./St.St.	C.S./St.St.	C.S./St.St.	C.S./St.St.	C.S./St.St.	C.S./St.St.	St.St.
Shaft Sleeve	CI/Bronze	CI/Bronze	CI/Bronze	CI/Bronze	CI/St. St.	St. St.	St. St.	St. St.
Lantern Ring	CI/St. St.	Bronze	CI	CI	CS	CS	St. St.	St. St.
Gland	CI	CI/Bronze	CI	CI	CI	Cast Steel	CI	St. St.

Other materials are also available.

Material Standards

Material	IS	Equivalent International Standards	
		BS	ASTM
Cast Iron (C.I.) S.G. Iron (SGI) Austenitic Cast Iron (ACI) Carbon Steel (CS) CF8M AISI 316 (St. St.)	IS 210 (1978) Gr. FG 260 IS 1865 (1974) Gr. SG 500/7 IS 2749 Gr. AFG Ni 15 Cu 6 Cr 3	B.S.E.N. 1561-EN-GJL 250 B.S. 2789 SNG 500/7 B.S. 3468 AUS 101 Gr.B.	ASTM-A 48 CL 35 ASTM-A 536 60-40-18 & 65-45-12 ASTM-A 436 Type 1
AISI 304 (St. St.) AISI 410 (St. St.) Bronze Phosphor Bronze (Ph. Br) Zinc Free Bronze (ZFB) Cast Steel	IS 1570 Gr. 40CC 8 IS 3444 Gr. 9 IS 1570 Gr. 05 Cr. 18 Ni 11 Mo3 IS 318 Gr. LTB 2 IS 28 Gr. 1	B.S. 970 080 M 40 B.S. 1632 Gr. b B.S. 970 316 S16 B.S. 970-304 S15 B.S. 970 410 S21 B.S.E.N. 1982-CC 491K B.S.E.N. 1982-CC 480K B.S. 1504-101 A	ASTM - A107 Gr. 1040 ASTM-A351 Gr. CF8M ASTM-A276 Type 316 ASTM-A 276 Type 304 ASTM-A 276 Type 410 ASTM-B62, B145 Alloy 4A ASTM - A 21674 d Gr. WCB

Family Curve of DSM



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