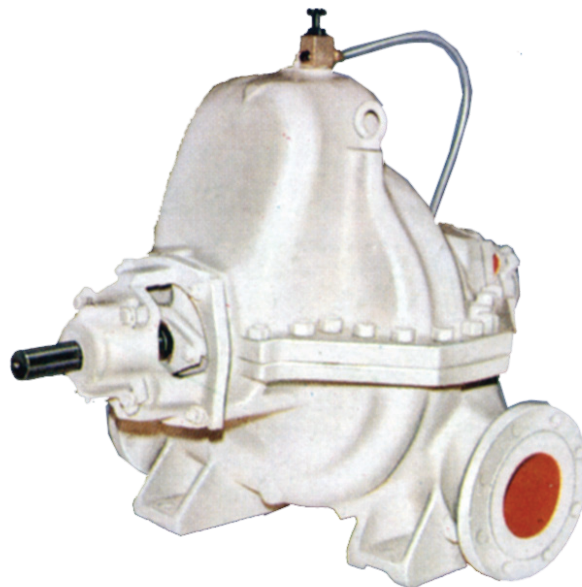


HORIZONTAL SPLIT CASING PUMPS
TYPE : DSM



SQUIRREL CAGE CRANE DUTY MOTORS

DESCRIPTION

Range

Delivery size up to 150 mm

capacity up to 470m³/hr.

Head up to 180 metres.

Applicatoin

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 60 Hz.

Special Features

Direct or gear drive

Rotating assembly available for inspectin 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 required

Vibration - free performance

Highest reliability

Casing

Horizontal axially split volute type, suction and discharge nozzles and supporting feet cast intergral 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

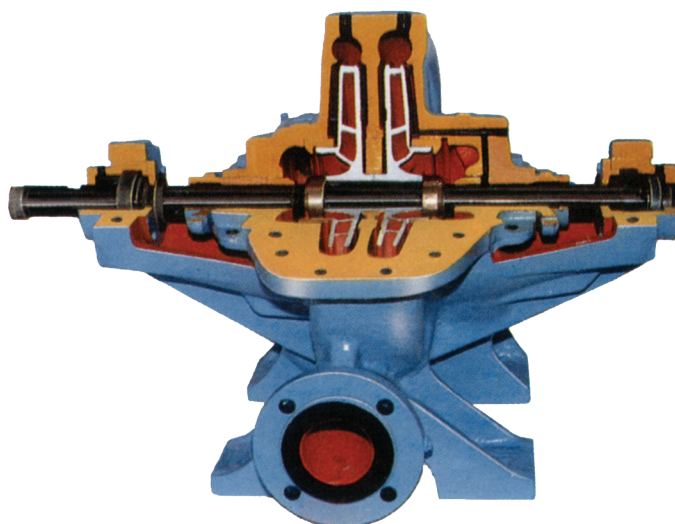
Suitable for coupling with electric motrs, I.C. engines or steam turbines either directly or through belt drives.

Flanges

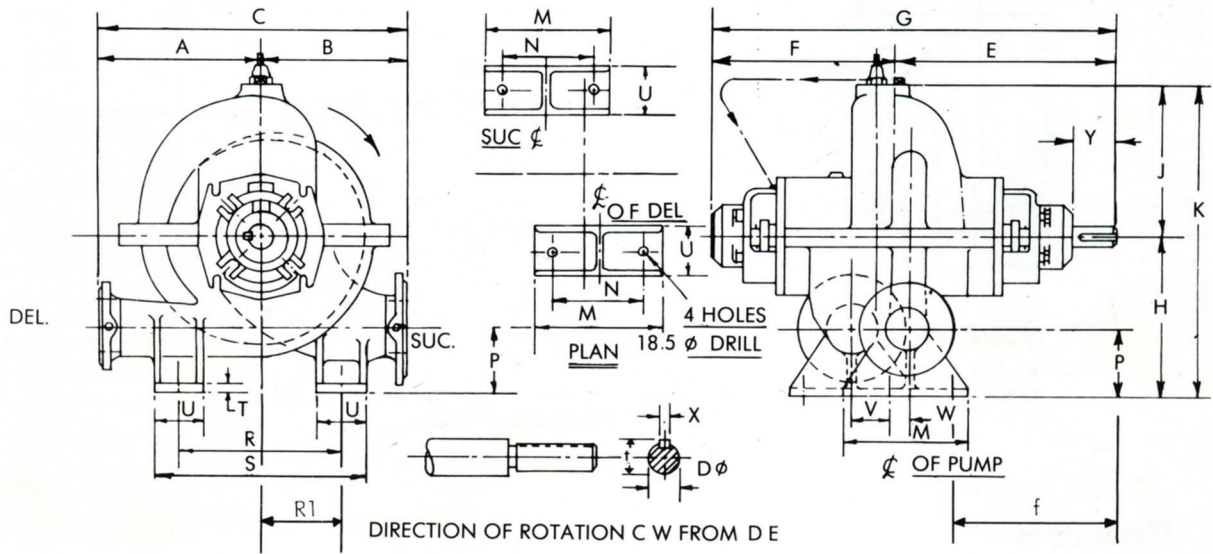
Standar : Drilling as per BS - 10 Table D or BS 4504 Table 16/11 (Raised face) depending upon model.

Optional : DIN / ASA with suitable pressure rating.

Cut-sectional View



General Dimensions / Mounting Details DSM (T) Pump



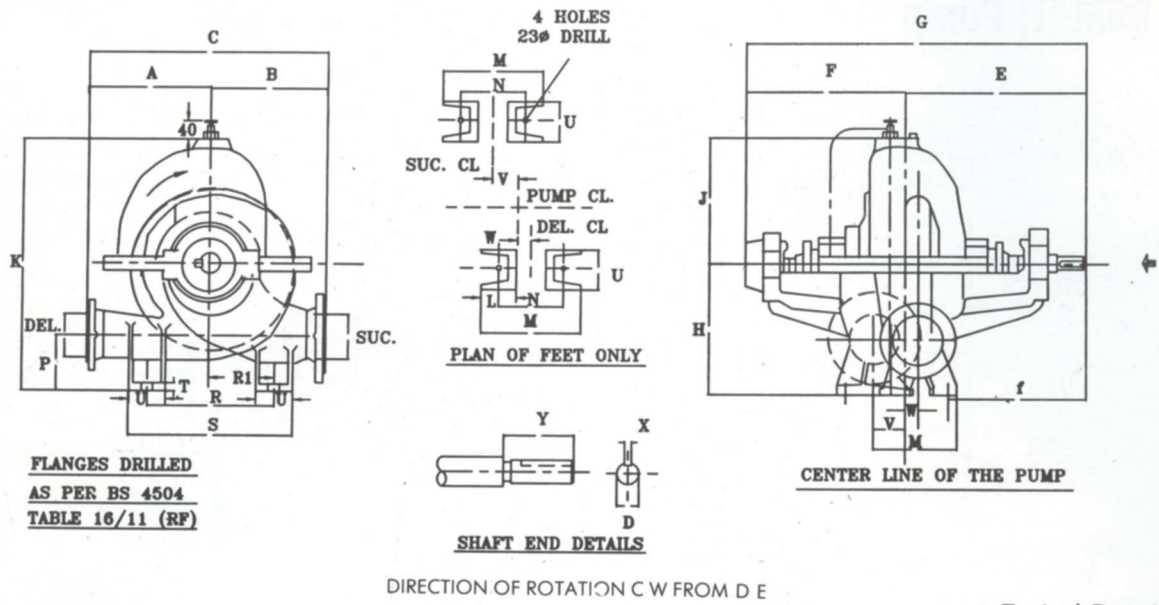
Typical Drawing

Dimensions

PUMP MODEL	SUC	DEL	A	B	C	F	E	G	H	J	K	M	N	f
DSM 50-20	80	50	225	225	450	332	400	732	230	200	430	160	120	310
DSM 50-28	65	50	225	250	475	316	374	690	245	220	465	160	120	289
DSM 65-20	100	65	250	250	500	367	435	802	260	240	500	200	150	327
DSM 65-32A	80	65	275	275	550	324	382	706	285	260	545	200	150	277
DSM 65-32 B	80	65	275	275	550	324	382	706	285	260	545	200	150	277
DSM 80-36	100	80	268	303	571	358	431	789	290	300	590	200	160	318

PUMP MODEL	SUC	DEL	T	P	R	R1	S	U	V	W	X	Y	t	DØ	WT KG
DSM 50-20	80	50	16	105	245	-	325	80	65	30	8	70	33	30	118
DSM 50-28	65	50	16	95	245	135	325	80	65	25	8	60	28	25	120
DSM 65-20	100	65	20	115	270	-	350	80	65	33	10	72	42	38	164
DSM 65-32A	80	65	18	105	310	-	390	80	70	30	8	60	28	25	180
DSM 65-32 B	80	65	18	105	310	-	390	80	70	30	8	60	28	25	177
DSM 80-36	100	80	20	120	300	-	400	100	80	33	10	75	36	32	215

DSM (NT) Pump



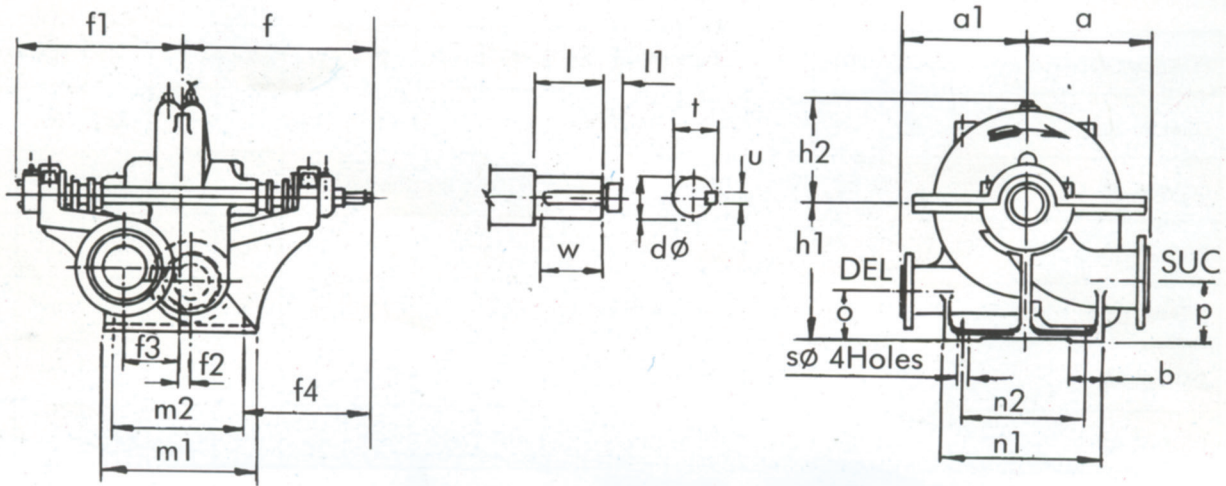
Typical Drawing

Dimensions

PUMP TYPE	SUC ϕ	DEL $^{\circ}$	A	B	C	E	F	G	H	J	K	L	M	N	P
DSM 100-36	125	100	340	350	690	540	441	981	350	340	702	75	260	210	40
DSM 125-40	150	125	365	375	740	575	479	1054	400	365	765	100	360	300	150
DSM 150-46	200	150	400	425	825	623	506	1129	425	435	860	120	360	300	175

PUMP TYPE	SUC ϕ	DEL $^{\circ}$	R	S	T	U	V	W	f	X	Y	D $^{\circ}$	R1	WT. KG
DSM 100-36	125	100	400	520	20	120	110	34	401	10	99	32	-	325
DSM 125-40	150	125	400	520	25	120	100	40	385	12	80	42	-	478
DSM 150-46	200	150	505	625	25	120	150	45	428	14	100	50	265	612

DSM (S) Pump



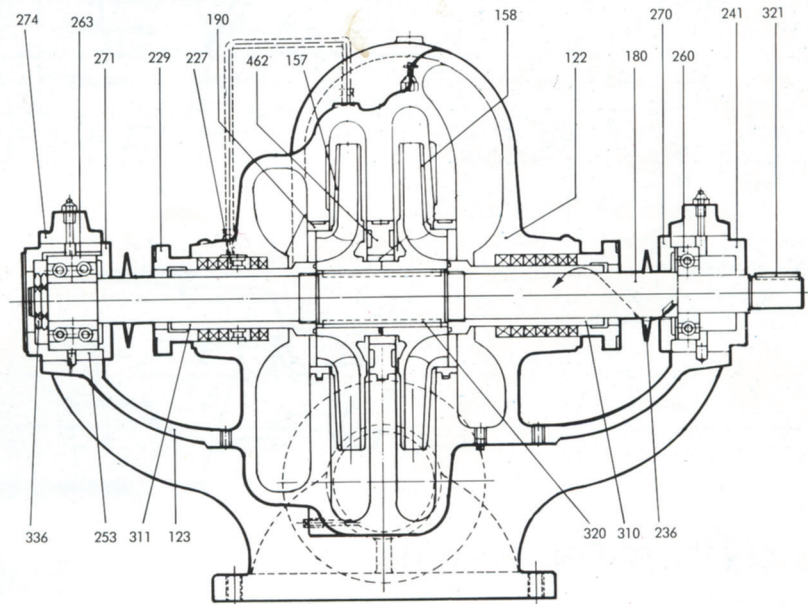
Typical Drawing

Dimensions

PUMP MODEL	SUC DEL		PUMP MOUNTING DIMENSIONS																	SHAFT END						WT. KG.
			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 315 M	80	65	336	336	381	327	-	-	251	280	270	70	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	76	356	311	356	280	18.5	108	140	1.3/8"	73	16	1.475"	3/8"	63.5	241
DSM 4RM, RN, 4RR	125	100	400	400	530	436	-	-	355	350	325	100	400	350	420	360	18.5	140	140	43	95	-	46.4	1/2"	80	435
DSM 5B	150	125	356	356	570	468	-	-	392	381	332	152	406	356	508	356	23	152	152	1.3/4"	77	25	1.886"	1/2"	70	513
DSM	200	150	457	457	859	694	-	-	637	470	426	82	509	445	584	470	23	178	178	2.34/1"	125	-	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	-	-	51.7	1/2"	102	700

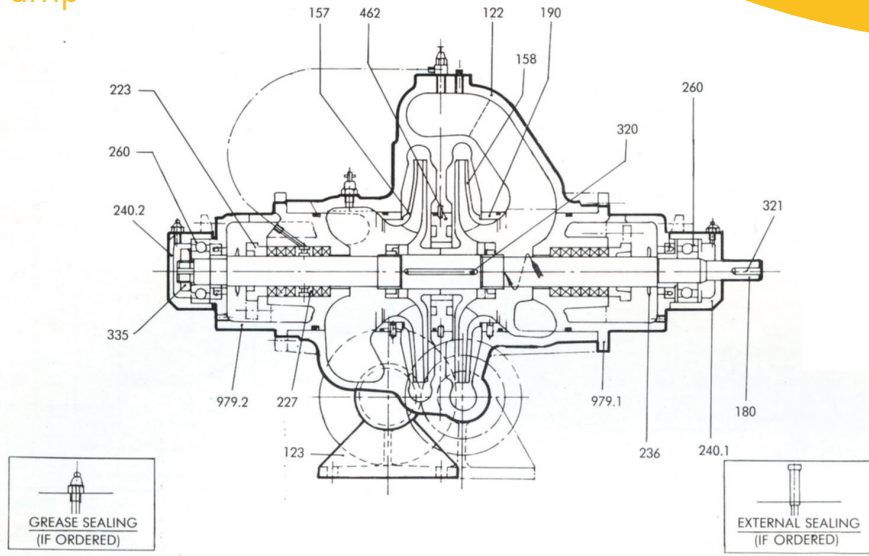
* These models have raised face flanges.
Other models have plain face flanges, and the dimensions given correspond to plain faces only
All dimensions are in mm unless specified otherwise.

Cross Sectional View DSM (S) Pump



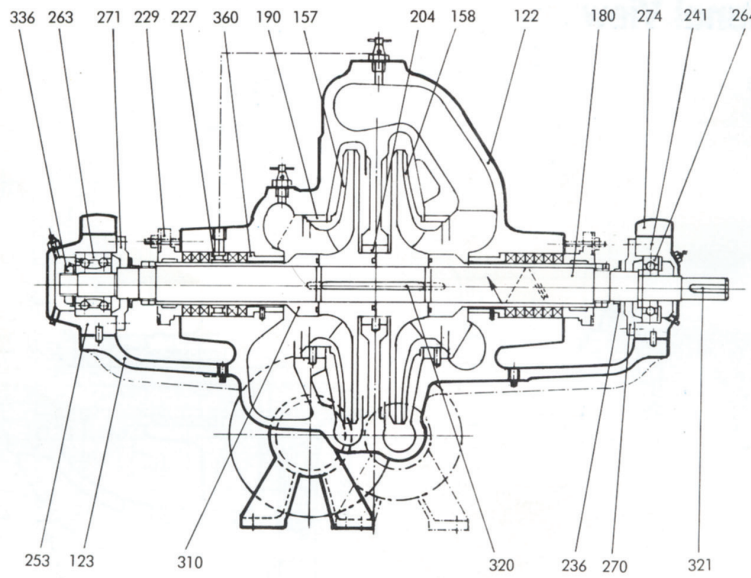
Part No.	Description	Part No.	Description	Part No.	Description
122	Casing Half Upper	236	Deflector	271	Bearing Cover NDE
123	Casing Half Lower	229	Gland (Split)	274	Bearing Cap
157	Impeller - I Stage	241	Bearing Cartridge DE	310	Shaft Sleeve DE
158	Impeller - II Stage	253	Bearing Cartridge NDE	311	Shaft 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

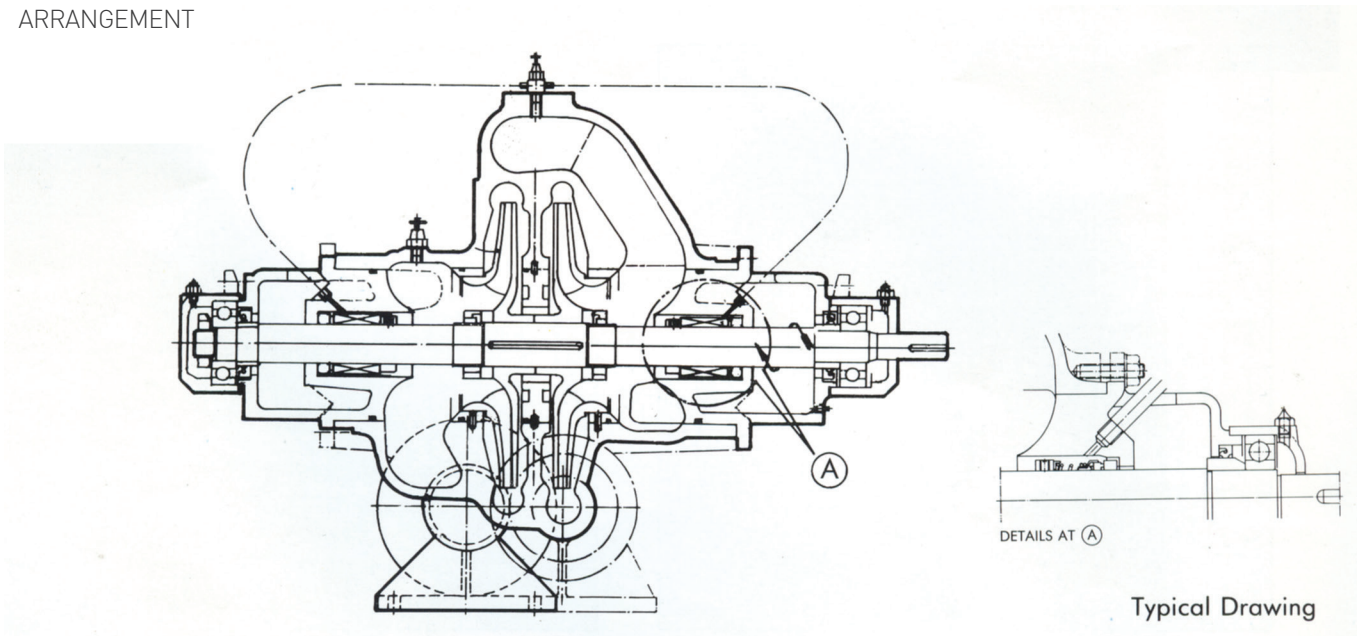
INTERCHANGEABILITY OF COMPONENTS

Part No.27	Name of the Part	Total No. of Parts	DSM 50-20	DSM 65-20	DSM 50-28	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	4	4	5	6	7	8
123	CASING HALF LOWER	8	1	2	3	4	4	5	6	7	8
157	IMPELLER I STAGE	9	1	2	3	4	5	6	7	8	9
158	IMPELLER II STAGE	9	1	2	3	4	5	6	7	8	9
180	SHAFT	8	1	2	3	4	4	5	6	7	8
190	WEARING	8	1	2	3	3	4	5	6	7	8
204	INTERESTAGE RING	9	1	2	3	4	5	6	7	8	9
223	GLAND (NON-SPLIT)	3	1	2	3	3	3	-	-	-	-
227	SPLIT LANTERN RING	7	1	2	3	3	3	4	5	6	7
229	GLAND (SPLIT)	4	-	-	-	-	-	1	2	3	4
236	DEFLECTOR	8	1	2	3	4	4	5	6	7	8
240.1	BEARING HOUSING OF	4	1	2	3	3	3	4	-	-	-
240.2	BEARING HOUSING NDE	4	1	2	3	3	3	4	-	-	-
241	BEARING CARTRIDGE DE	3	-	-	-	-	-	-	1	3	5
253	BEARING CARTRIDGE NDE	3	-	-	-	-	-	-	2	4	6
260,263,264	BEARING	6	1	2	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)	8	1	2	3	4	4	5	6	7	8
321	KEY (COUPLING)	8	1	2	3	4	4	5	6	7	8
335, 336	BEARING NUT	6	1	2	3	3	3	4	1	5	6
360	ST. BOX BUSH	3	-	-	-	-	-	-	1	2	3
462	INTERSTAGE DIAPHRAGM	6	1	2	3	4	5	6	-	-	-
979.1	INSERT DE	4	1	2	3	3	3	4	-	-	-
979.2	INSERT NDE	4	1	2	3	3	3	4	-	-	-



ALTERNATIVE AVAILABLE

DSM (T) PUMP
MECHANICAL SEAL
ARRANGEMENT



Material of Construction

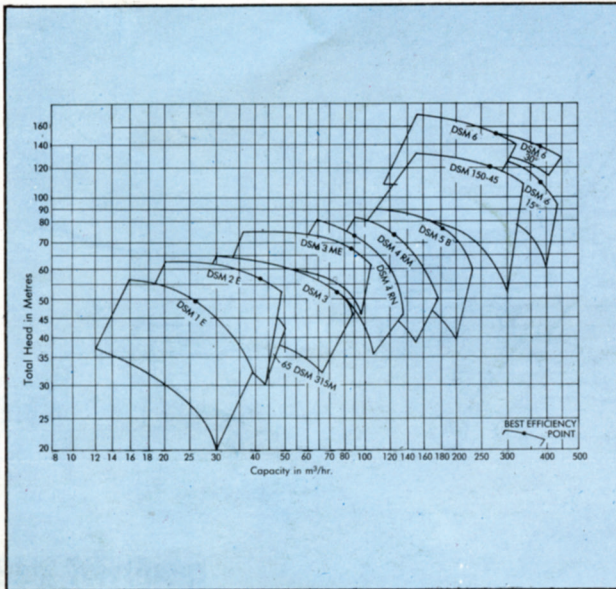
Casing half upper	CI	CI/Bronze	CI/SGI	CI/SGI	CI/SGI	Cast Steel	CI/SGI	CF8M
Casing half lower	CI	CI/Bronze	CI/SGI	CI/SGI	CI/SGI	Cast Steel	CI/SGI	CF8M
Impeller	CI/ACI	Bronze	Ph. Br.	CI	Cast Steel	Cast Steel	CF8M	CF8M
Casing Wear Ring	CI/ACI	Bronze	Ph. Br.	CI	St. St.	St. St.	CF8M	CF8M
Interstage Ring	CI/ACI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

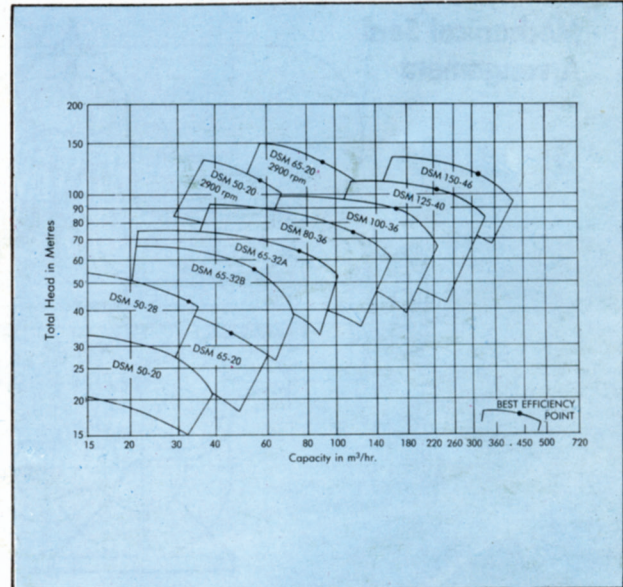
Material Standards

Material	IS	Equivalent International Standards	
		BS	ASTM
Cast Iron (CI)	IS 2110 (1978) Gr. FG 260	BS 1425 Gr. 250	ASTM-A 48 CL 35
S.G. Iron (SGI)	IS 1865 (1974) Gr. SG 500/7	BS 2789 SNG 500/7	ASTM-A 536 60-40-18 & 65-45-12
Austenitic Cast Iron (ACI)	IS 2749 Gr. AFG Ni 15	BS 3468 AUS 101 Gr. B.	ASTM-A 436 Type 1
Carbon Steel (CS)	IS 1570 Gr 40 C-8	BS 970 080 M 40	ASTM-A 107 Gr. 1040
CF8M	IS 3444 Gr. 9	BS 1632 Gr. B	ASTM-A 351 Gr. CF8M
AISI 316 (St. St.)	IS 1570 Gr. 05 Cr 18	BS 970 316 S16	ASTM-A 276 Type 316
AISI 304 (St. St.)		BS 970 304 S15	ASTM-A 276 Type 304
AISI 410 (St. St.)		BS 970 410 S21	ASTM-A 276 Type 410
Bronze	IS 318 Gr. LTB 2	BS 1400 LG 2C	ASTM-B 62, B 145 Alloy 4A
Phosphor Bronze (Ph. Br.)	IS 28 Gr. 1	BS 1400 PB 4	
Zinc Free Bronze (ZFB)		BS 1400 Gr. CT1	
Cast Steel		BS 1504 - 101 A	ASTM - A 216 Gr. 74d WCB

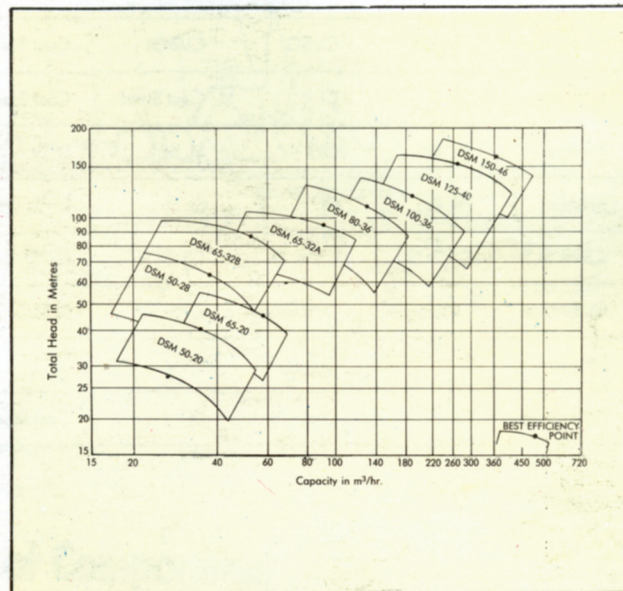
Family Curve of DSM(S) Pump at 1450 rpm – 50 Hz.



Family Curve of DSM(T) and (NT) Pump at 1450 rpm – 50 Hz.



Family Curve of DSM(T) and (NT) Pump at 1750 rpm – 60 Hz.



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