

Kirloskar

**KIRLOSKAR
MULTISTAGE PUMPS
TYPE MN / MHA / MLA**



KIRLOSKAR BROTHERS LIMITED

KIRLOSKAR MULTISTAGE PUMPS - TYPE MN/MHA/MLA

Description

Range :

Delivery size up to 300 mm
Capacity up to 1000 m³/hr
Head up to 750 m

Applications :

Sprinkler Irrigation, Fire Fighting, Water Supply in high rise buildings, Descaling, Mine Dewatering, Booster, Service, Condensate and Boiler Feed applications, Dust Precipitation. Pumping of light chemicals, etc.

Constructional Features :

These are single suction, horizontal shaft, high pressure multistage pumps, consisting of ring section diffuser casings bolted between suction and delivery casing. Various models are available to operate at 1450 rpm and 2900 rpm at 50 Hz and 1750 rpm and 3500 rpm at 60 Hz depending upon model.

Casing :

The casings are of diffuser type. The delivery flange is vertical. The suction flange can be oriented left, right or vertical viewed from driving end. Smooth hydraulic passages ensure high efficiency.

Impeller :

Impellers are of enclosed type. The rotating elements are statically and dynamically balanced. Hydraulic balancing is achieved by balancing ring and balancing disc depending upon model.

Shaft :

The high tensile steel shaft accurately machined and ground is supported on journal bearing on both sides

of impellers. Shaft in stuffing box area is protected by shaft sleeves.

Stuffing Box :

Standard – Gland packed without cooling upto 90°C and with external cooling upto 140°C.
Optional – Mechanical seal.

Bearings :

Standard lubrication is with grease or with oil depending upon the model. For liquid temperatures above 90°C generally oil lubrication is provided with oil level indicator on request.

Direction of Rotation :

Standard – Clockwise when viewed from driving end.
Optional – Anticlockwise when viewed from driving end.

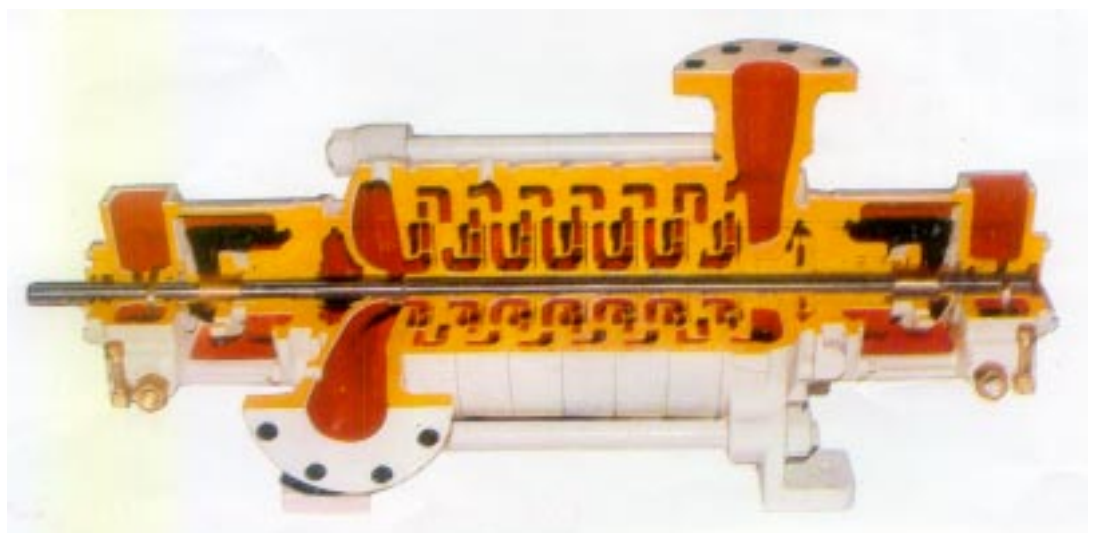
Drive :

The pumps are suitable for coupling with electric motors, I.C. Engines directly or through belt drives.

Flanges :

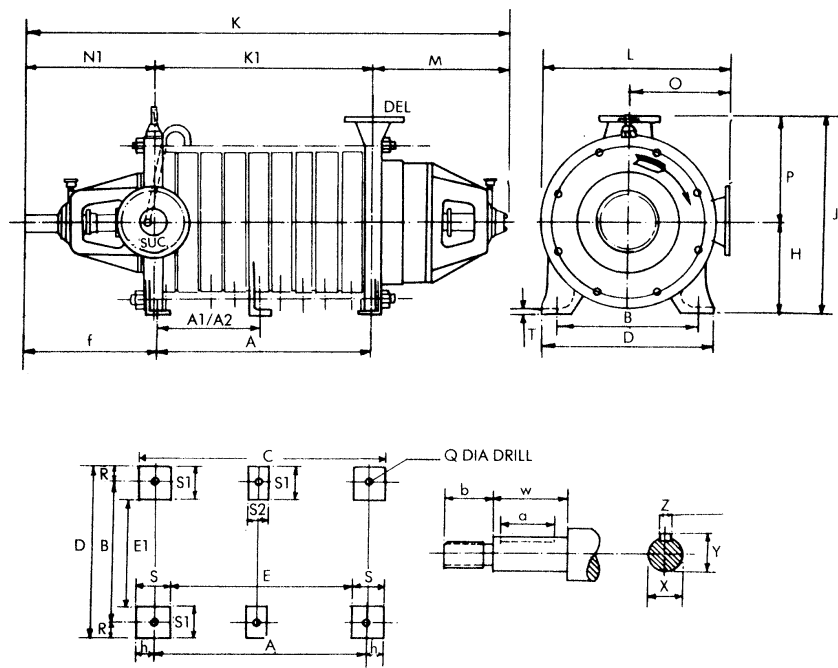
Standard drilling to BS-10 Table D/E/F/H depending upon model. Optional drilling to IS / ASA / DIN also available.

Cut-sectional View



General Dimensions & Mounting Details

MN Pump



Dimensions

PUMP MODEL	SUC	DEL	a	B	b	D	E1	f	H	h	J	L	M	N1	O	P	Q	R	S	S1	S2	T	W	X	Y	Z
MN 50 x 65	65	50	38	280	16	360	220	358	180	50	380	360	302	336	200	200	18.5	40	80	70	55	22	41	24	26.72	1/4"
MN 65 x 80	80	65	63.5	350	17	450	274	468	225	60	475	458	406	443	250	250	18.5	50	100	88	65	25	72	34	36.22	5/16"
MN 80 x 100	100	80	76	495	22	565	387	371	298	57	645	630	418	389	343	347	23	35	108	89	63	32	78	39.68	42.20	3/8"
MN-X 80 x 100	100	80	76	495	—	565	387	546	298	57	645	630	497	563	343	347	23	35	108	89	63	32	95	38	40.54	3/8"
MN 100 x 125	125	100	89	540	24	670	440	498	350	65	750	738	360	445	400	400	25	65	120	115	90	28	95	54	57.60	1/2"

MN 50 x 65

NO. OF STAGES	3	4	5	6	7	8	9	10	11	12
A	161	213	265	317	369	421	473	525	—	—
A1	—	—	—	—	—	236	236	236	—	—
C	261	313	365	417	469	521	573	625	—	—
E	101	153	205	257	309	361	413	465	—	—
K	843	895	947	999	1051	1103	1155	1207	—	—
K1	205	257	309	361	413	465	517	569	—	—
WT. KG	136	143	150	157	164	171	178	185	—	—

MN 65 x 80

NO. OF STAGES	3	4	5	6	7
A	242	313	384	455	526
C	362	433	504	575	646
E	162	233	304	375	446
K	1141	1212	1283	1354	1425
K1	292	363	434	505	576
WT. KG	210	235	260	285	310

MN 100 x 125

NO. OF STAGES	3	4	5	6	7	8
A	334	430	526	622	718	814
A1	—	—	—	—	—	359
C	464	560	656	752	848	944
E	224	320	416	512	608	704
K	1245	1341	1437	1533	1629	1725
K1	440	536	632	728	824	920
WT. KG	672	765	858	951	1044	1137

MN 80 x 100

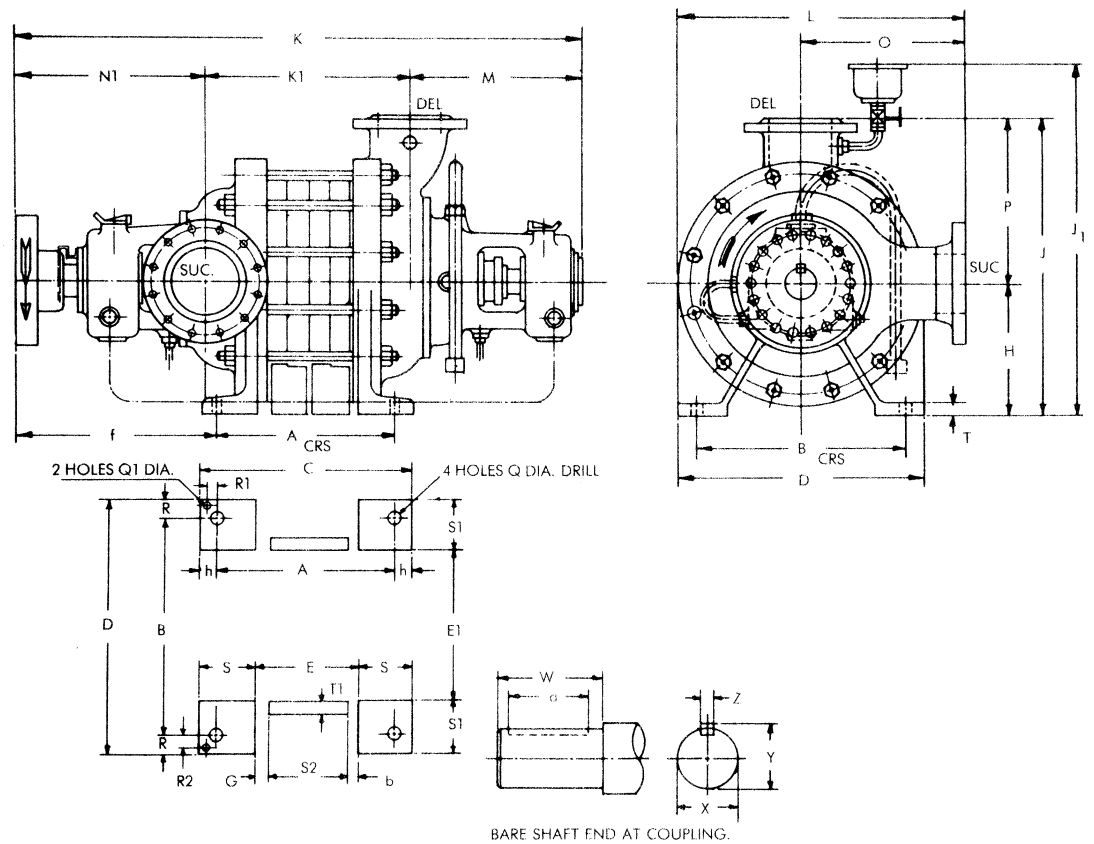
NO. OF STAGES	3	4	5	6	7	8	9	10	11	12	13	14
A	314	390	467	543	619	695	771	848	924	1000	1076	1152
A1	—	—	—	—	—	386	386	386	310	386	386	386
A2	—	—	—	—	—	—	—	—	614	690	690	766
C	428	505	581	657	733	809	886	962	1038	1114	1190	1267
E	213	289	365	441	517	594	670	746	822	898	975	1051
K	1089	1165	1242	1318	1394	1470	1546	1623	1699	1775	1851	1927
K1	282	358	435	511	587	663	739	816	892	968	1044	1120
WT. KG.	500	557	614	671	728	785	842	899	956	1013	1070	1127

MN-X 80 x 100

NO. OF STAGES	3	4	5	6	7	8	9	10	11	12	13	14
A	314	390	467	543	619	695	771	848	924	1000	1076	1152
A1	—	—	—	—	—	386	386	386	310	386	386	386
A2	—	—	—	—	—	—	—	—	614	690	690	766
C	428	505	581	657	733	809	886	962	1038	1114	1190	1267
E	213	289	365	441	517	594	670	746	822	898	975	1051
K	1342	1418	1495	1571	1647	1723	1799	1876	1952	2028	2104	2180
K1	282	358	435	511	587	663	739	816	892	968	1044	1120
WT. KG.	500	557	614	671	728	785	842	899	956	1013	1070	1127

All dimensions are in mm unless specified otherwise.

MN 54 x 30 Pump



Dimensions

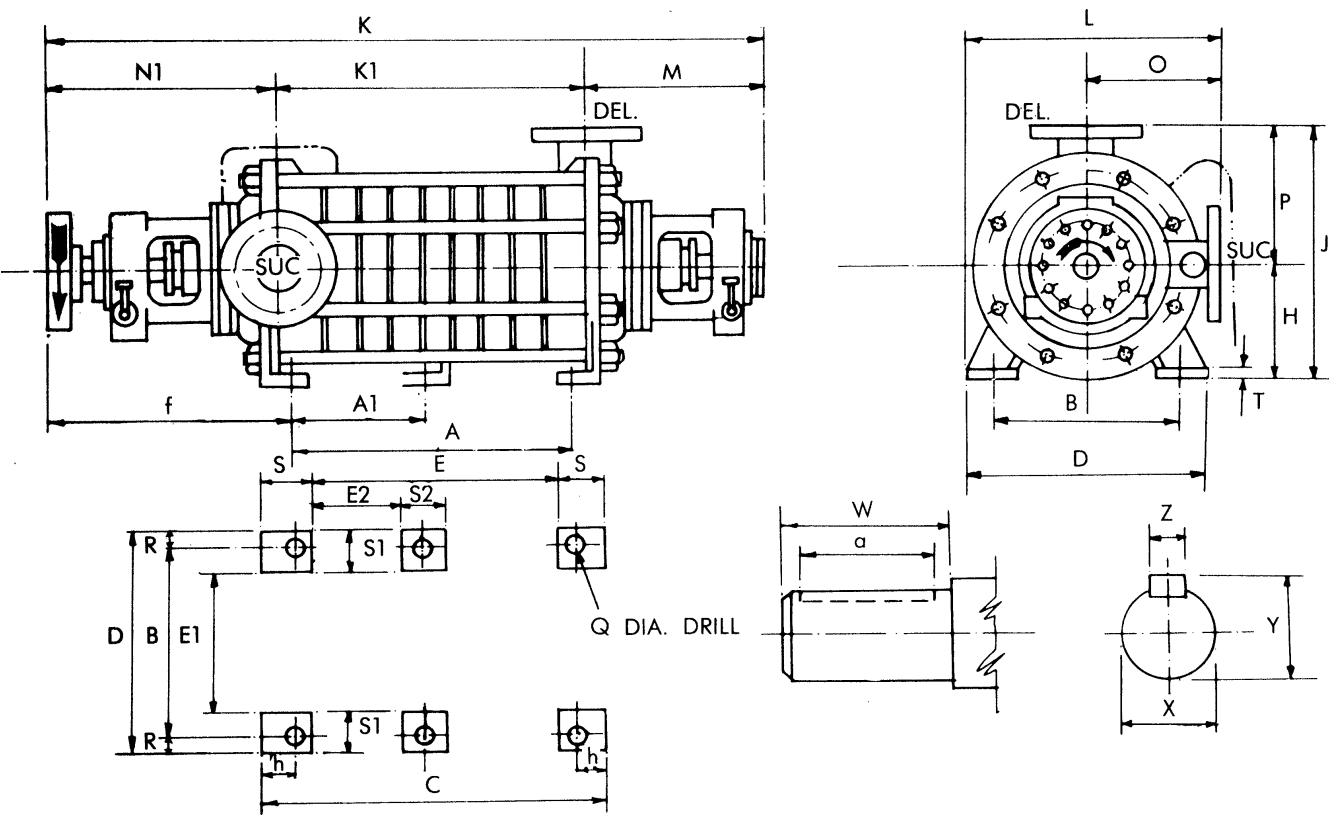
PUMP MODEL	SUC	DEL	a	B	b	D	E1	f	G	H	h	J	J1	L	M
MN 54X30	350	300	195	1020	85	1170	730	715	91	600	75	1350	1760	1335	577

PUMP MODEL	N1	O	P	Q	Q1	R	R1	R2	S	S1	T	T1	W	X	Y	Z
MN 54X30	693	750	750	49	3/4"	75	55	22	260	220	60	45	210	110	118	28

NO. OF STAGES	1	2	3	4	5	6	7	8
A	536	721	906	1091	1276	—	—	—
C	686	871	1056	1241	1426	—	—	—
E	166	351	356	721	906	—	—	—
K	1823	2008	2193	2378	2563	—	—	—
K1	550	735	920	1105	1290	—	—	—
WT. KG.	3660	4370	5080	5790	6500	—	—	—

All dimensions are in mm unless specified otherwise.

MHA Pump



Dimensions

PUMP MODEL	SUC	DEL	a	B	D	E1	f	H	h	J	L	M	N1
MHA 65 x 80	80	65	45	220	300	140	290	180	25	420	390	305	360
MHA 80 x 100	100	80	84	460	540	300	550	250	70	570	590	410	500

PUMP MODEL	O	P	Q	R	S	S1	S2	T	W	X	Y	Z
MHA 65 x 80	240	240	18.5	40	95	80	52	22	52	27	30	8
MHA 80 x 100	320	320	27	40	120	120	120	35	90	48	52	14

MHA 65 X 80

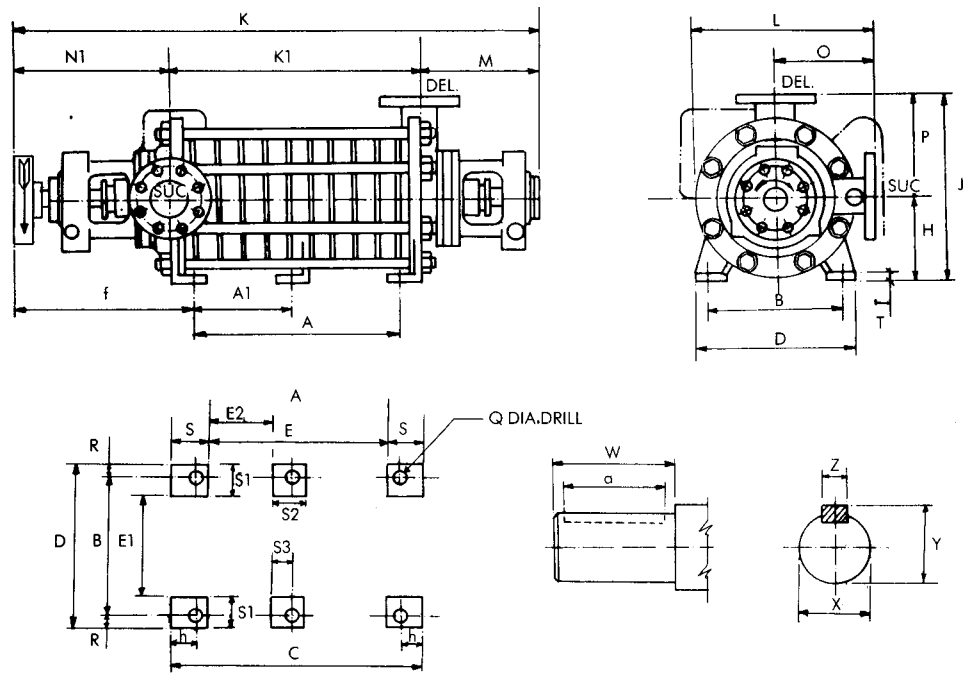
NO. OF STAGES	3	4	5	6	7	8	9	10	11	12
A	331	383	435	487	539	591	643	695	747	—
A1	—	—	—	—	—	285	285	337	337	—
C	381	433	485	537	589	641	693	745	797	—
E	191	243	295	347	399	451	503	555	607	—
E2	—	—	—	—	—	—	—	—	—	—
K	856	908	960	1012	1064	1116	1168	1220	1272	—
K1	191	243	295	347	399	451	503	555	607	—
WT. KG.	163	182	201	220	239	258	277	296	315	—

MHA 80 X 100

NO. OF STAGES	3	4	5	6	7	8	9	10	11	12
A	150	225	300	375	450	525	600	675	750	825
A1	—	—	—	—	—	285	285	285	360	360
C	290	365	440	515	590	665	740	815	890	965
E	50	125	200	275	350	425	500	575	650	725
E2	—	—	—	—	—	195	195	195	270	270
K	1160	1235	1310	1385	1460	1535	1610	1685	1760	1835
K1	250	325	400	475	550	625	700	775	850	925
WT. KG.	435	487	539	591	643	695	747	799	851	903

All dimensions are in mm unless specified otherwise.

MLA/MLL Pump



Dimensions

PUMP MODEL	SUC	DEL	a	B	D	E1	f	H	h	J	L	M	N1	O	P	Q	R	S	S1	S2	S3	T	W	X	Y	Z
MLA100x125 MLL100x125	125	100	90	500	620	380	565	320	65	700	695	395	500	380	380	23	60	100	120	90	35	25	100	48	52	14
MLA125x150	150	125	90	500	620	380	565	320	65	700	695	395	500	380	380	23	60	100	120	90	35	25	100	48	52	14
MLA150x175	175	150	80	600	720	400	772	420	120	920	885	559	692	500	500	30	60	160	160	100	40	30	100	60	65	18

MLA/MLL 100 x 125

NO. OF STAGES	3	4	5	6	7	8	9	10	11
A	230	330	430	530	630	730	830	930	—
A1	—	—	—	—	—	350	450	450	—
C	360	460	560	660	760	860	960	1060	—
E	160	260	360	460	560	660	760	860	—
E2	—	—	—	—	—	280	380	380	—
K	1255	1355	1455	1555	1655	1755	1855	1955	—
K1	360	460	560	660	760	860	960	1060	—
WT. KG.	620	730	840	950	1060	1170	1280	1390	—

MLA 125 x 150

NO. OF STAGES	3	4	5	6	7	8	9	10	11
A	230	330	430	530	630	730	830	930	1030
A1	—	—	—	—	—	350	450	450	450
C	360	460	560	660	760	860	960	1060	1160
E	160	260	360	460	560	660	760	860	960
E2	—	—	—	—	—	280	380	380	380
K	1255	1355	1455	1555	1655	1755	1855	1955	2055
K1	360	460	560	660	760	860	960	1060	1160
WT. KG.	666	778	890	1002	1114	1226	1338	1450	1562

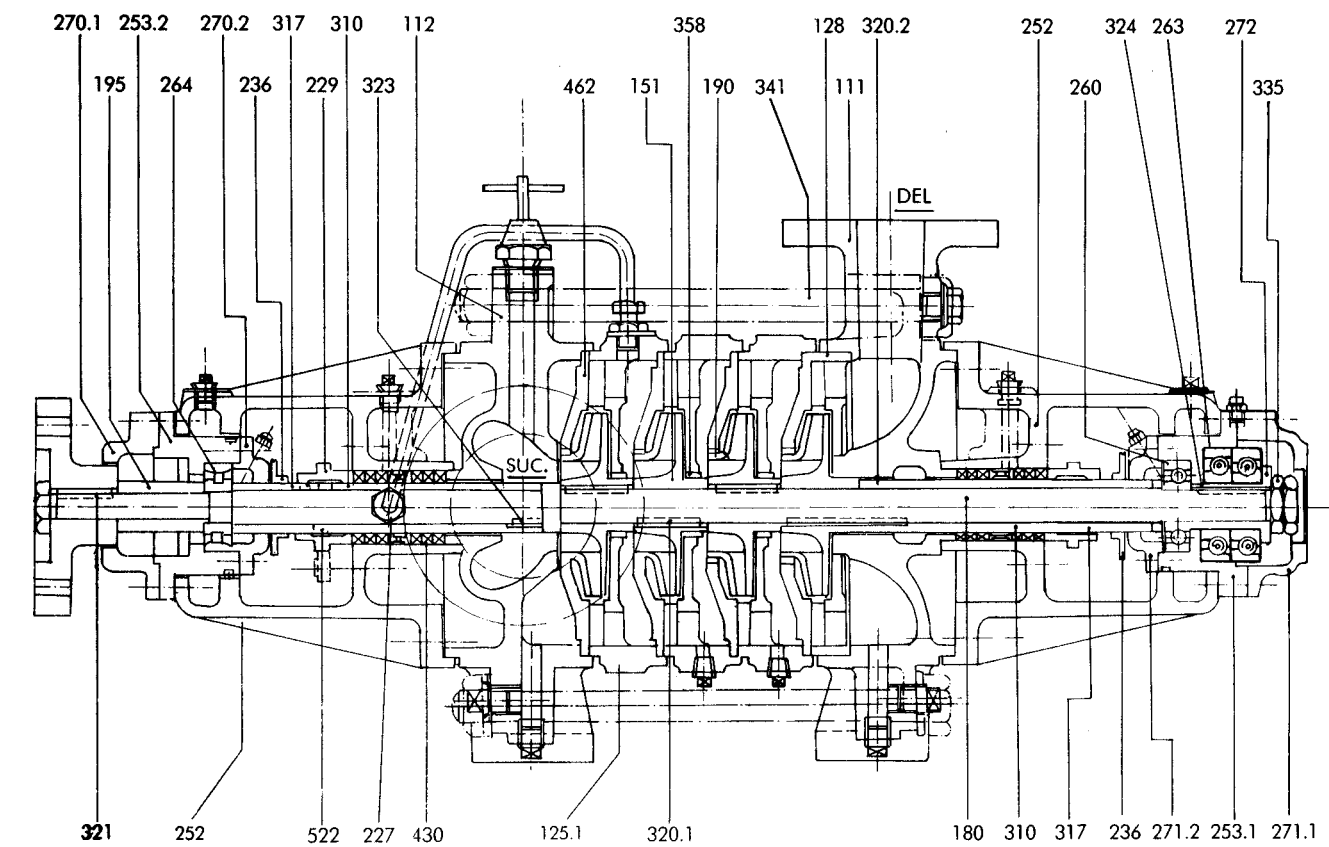
MLA 150 x 175

NO. OF STAGES	3	4	5	6	7	8	9	10	11
A	232	342	452	562	672	782	892	1002	1112
A1	—	—	—	—	—	383	493	493	493
C	472	582	692	802	912	1022	1132	1242	1352
E	152	262	372	482	592	702	812	922	1032
E2	—	—	—	—	—	303	413	413	413
K	1643	1753	1863	1973	2083	2193	2303	2413	2523
K1	392	502	612	722	832	942	1052	1162	1272
WT. KG.	1220	1380	1540	1700	1860	2020	2180	2340	2500

All dimensions are in mm unless specified otherwise.

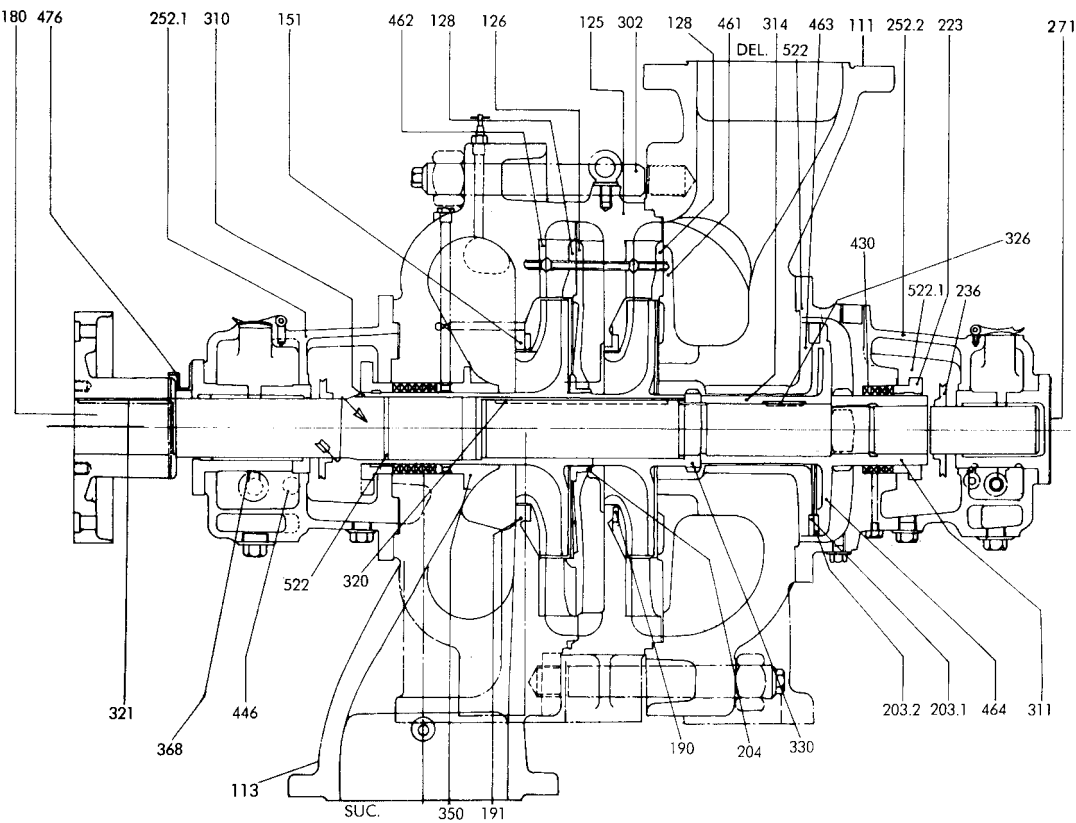
Cross Sectional View

MN Pump



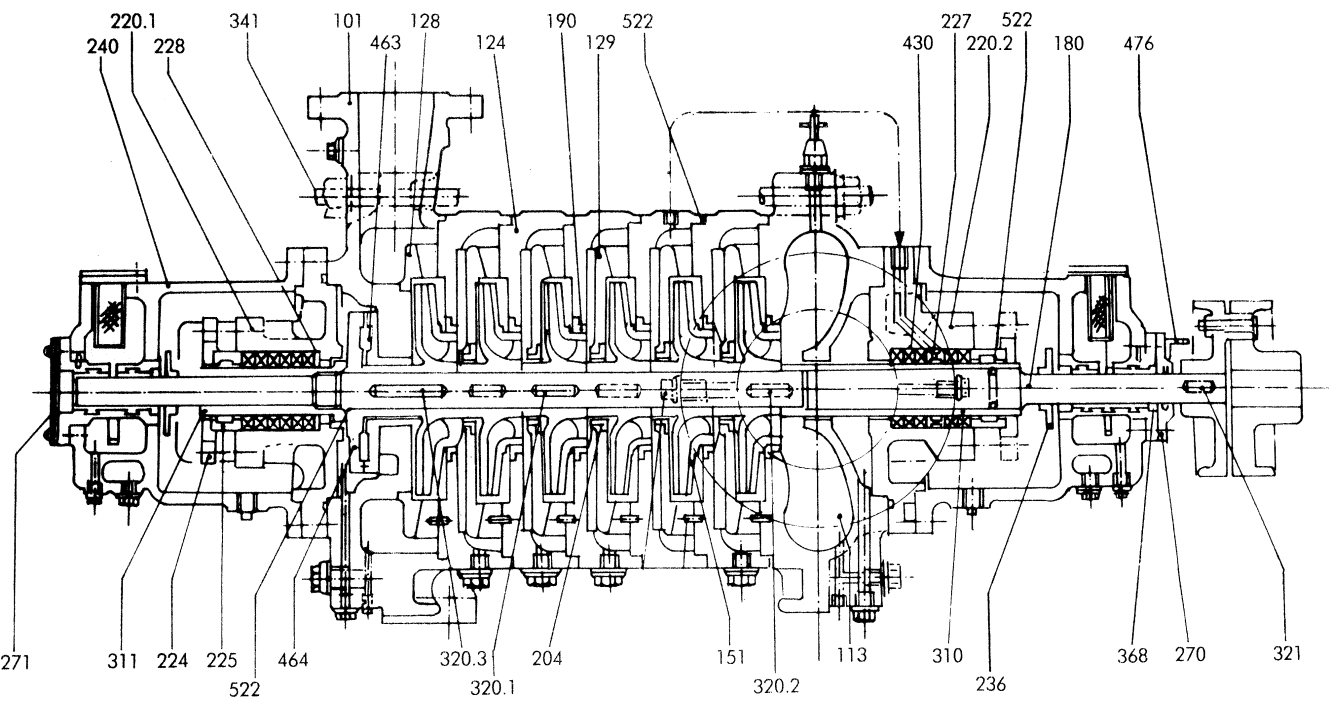
PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART
111	DELIVERY CASING	252	BEARING HOUSING	321	KEY FOR COUPLING
112	SUCTION CASING	253.1	BEARING CARTRIDGE NDE	323	KEY FOR SHAFT SLEEVE
125.1	STAGE CASING	253.2	BEARING CARTRIDGE DE	324	KEY FOR THRUST BEARING ADAPTER
128	DIFFUSER	260/263/264	BEARING	325	BEARING NUT
151	IMPELLER	270.1/270.2	BEARING COVER DE	341	TIE BAR
180	SHAFT	271.1/271.2	BEARING COVER NDE	358	INTERSTAGE BUSH
190	WEAR RING	272	THRUST BEARING ADAPTER	430	GLAND PACKING
195	SPACER FOR COUPLING	310	SHAFT SLEEVE	462	INTERSTAGE DIAPHRAGM
227	LANTERN RING	317	SPACER SLEEVE	522	' O' RING
229	SPLIT GLAND	320.1	KEY FOR IMPELLER		
236	LIQUID DEFLECTOR	320.2	KEY FOR IMPELLER & SHAFT SLEEVE		

MN 54 x 30 Pump



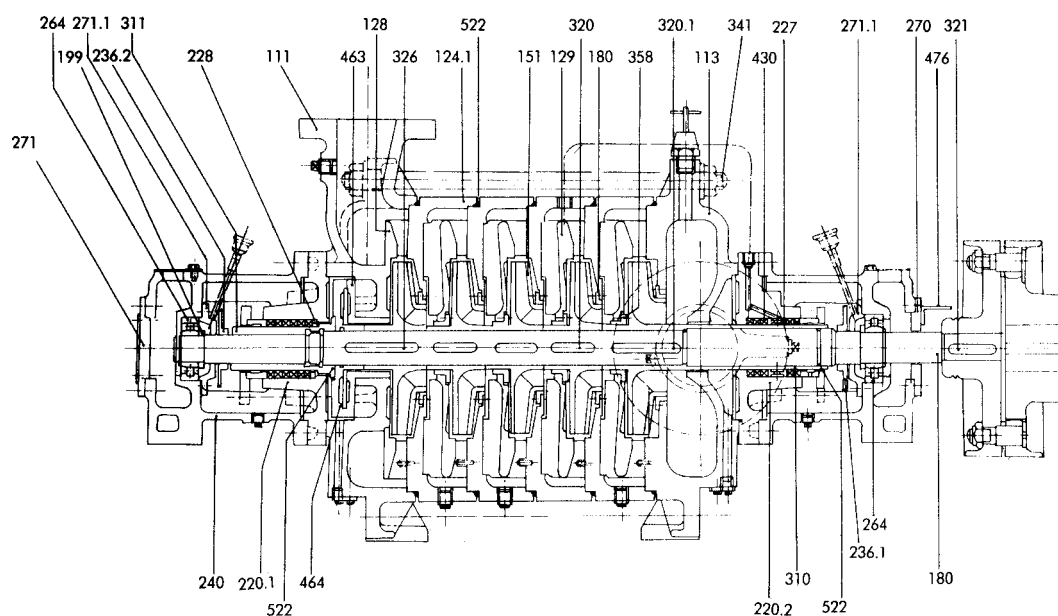
PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART
111	DELIVERY CASING	223	GLAND	326	KEY FOR BALANCING DISC
113	SUCTION CASING	236	LIQUID DEFLECTOR	330	IMPELLER NUT
125	STAGE CASING	252.1	BEARING HOUSING DE	350	STUFFING BOX BUSH
126	STAGE CASING WITH DISTRIBUTOR	252.2	BEARING HOUSING NDE	368	OIL RING BEARING
128	DIFFUSER	271	OIL RING BEARING COVER NDE	430	GLAND PACKING
151	IMPELLER	302	TIE BOLT	446	OIL LEVEL INDICATOR
180	SHAFT	310	SHAFT SLEEVE DE	462	INTERSTAGE DIAPHRAGM
190	WEAR RING	311	SHAFT SLEEVE NDE	463	BALANCING RING
191	CASING RING SUCTION SIDE	314	THROTTLING SLEEVE	464	BALANCING DISC
203.1	INSERT RING FOR BALANCING RING	320	KEY FOR IMPELLER & SHAFT SLEEVE	476	BALANCING DISC WEAR INDICATOR
203.2	INSERT RING FOR BALANCING DISC	321	KEY FOR COUPLING	522	'O' RING
204	INTERSTAGE RING				

MHA Pump



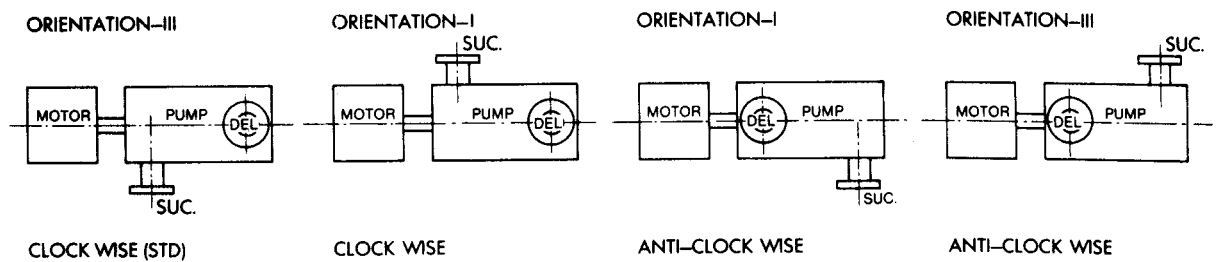
PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART
101	DELIVERY CASING	225	SPLIT GLAND BUSH	321	KEY FOR COUPLING
113	SUCTION CASING	227	LANTERN RING	341	TIE BAR
124	STAGE CASING	228	STUFFING BOX COLLAR	368	OIL RING BEARING
128	DIFFUSER	236	LIQUID DEFLECTOR	430	GLAND PACKING
129	DIFFUSER WITH GUIDE VANES	240	BEARING HOUSING	463	BALANCING RING
151	IMPELLER	270	BEARING COVER DE	464	BALANCING DISC
180	SHAFT	271	BEARING COVER NDE	476	BALANCING DISC WEAR INDICATOR
190	WEAR RING	310	SHAFT SLEEVE DE	522	'O' RING
204	INTERSTAGE RING	311	SHAFT SLEEVE NDE		
220.1	CASING COVER (DELIVERY)	320.1	KEY FOR IMPELLER		
220.2	CASING COVER (SUCTION)	320.2	KEY FOR IMPELLER & SHAFT SLEEVE		
224	CLAMPING PLATE	320.3	KEY FOR IMPELLER & BALANCING DISC		

MLA/MLL Pump

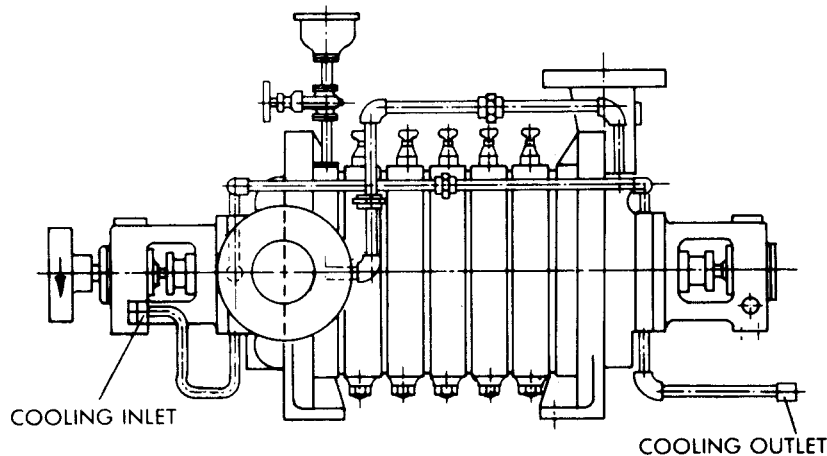


PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART
111	DELIVERY CASING	220.2	CASING COVER (SUCTION)	320.1	KEY FOR IMPELLER & SHAFT SLEEVE
113	SUCTION CASING	227	LANTERN RING	321	KEY FOR COUPLING
124.1	STAGE CASING	228	STUFFING BOX COLLAR	326	KEY FOR BALANCING DISC
124.2	STAGE CASING, FOOT-MOUNTED	236.1/236.2	LIQUID DEFLECTOR	341	TIE BAR
128	DIFFUSER	240	BEARING HOUSING	358	INTERSTAGE BUSH
129	DIFFUSER WITH GUIDE VANES	264	BEARING	430	GLAND PACKING
151	IMPELLER	270	BEARING COVER DE	463	BALANCING RING
180	SHAFT	271/271.1	BEARING COVER NDE	464	BALANCING DISC
190	WEAR RING	310	SHAFT SLEEVE DE	476	BALANCING DISC WEAR INDICATOR
199	SHOULDER RING	311	SHAFT SLEEVE NDE	522	'O' RING
220.1	CASING COVER (DELIVERY)	320	KEY FOR IMPELLER		

Alternatives Available Orientation



Hot Model



Material of Construction

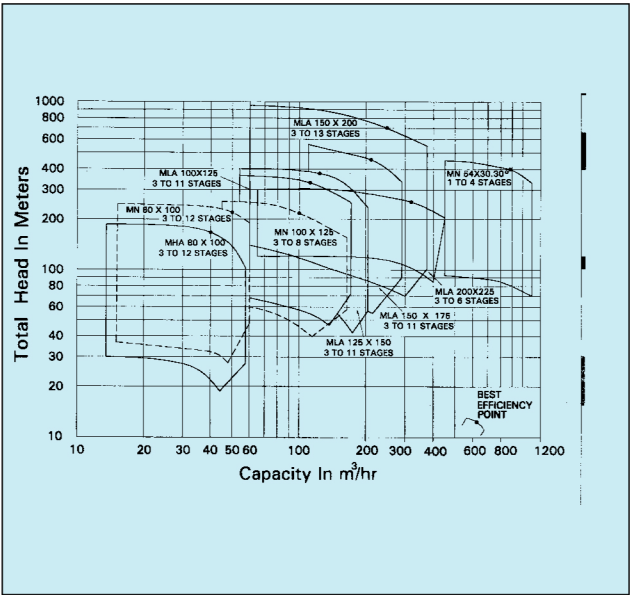
Casing	CI/SGI	CI/SGI	CI/SGI	CI/SGI	CI/SGI	Cast Steel	CI/SGI	CF8M
Diffuser	CI	CI/ZFB	CI	CI	CI	Cast Steel	CI	CF8M
Impeller	CI/ACI	Bronze/ZFB	Ph. Br.	CI	Cast Steel	Cast Steel	CF8M	CF8M
Wear Ring	CI/ACI	Bronze	Ph. Br.	CI	AISI 410 H	AISI 410 H	CF8M	CF8M
Shaft	CS/St.St.	CS/St.St.	CS/St.St.	CS/St.St.	CS/St.St.	CS/St.St.	CS/St.St.	St.St.
Shaft Sleeve	St. St.	St. St.	St. St.	St. St.	St. St.	St. St.	St. St.	St. St.
Lantern Ring	CI/St. St.	Bronze	Ph. Br.	CI	CS	CS	St. St.	St. St.
Gland	CI	CI	CI	CI	CI	Cast Steel	CI	St. St.

Other materials are also available.

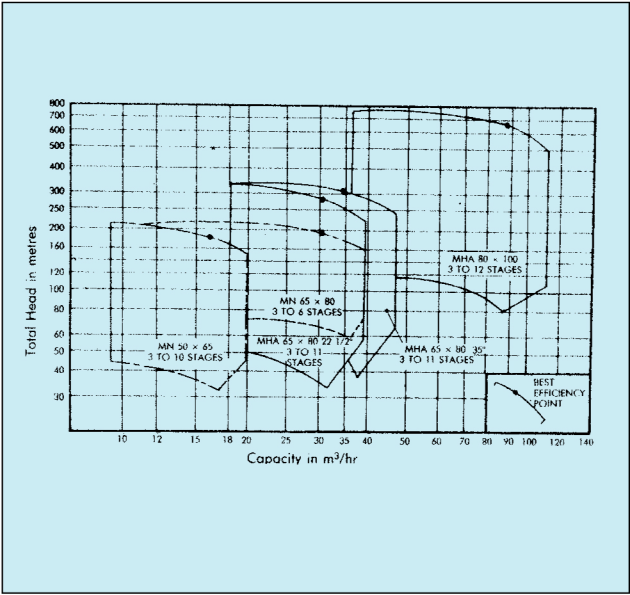
Material Standards

Material	IS	Equivalent International Standards	
		BS	ASTM
Cast Iron (CI)	IS 210 Gr.FG 260	B.S. 1452 Gr. 250	ASTM-A 48 CL35
S.G. Iron (SGI)	IS 1865 Gr. SG 500/7	B.S. 2789 SNG 500/7	ASTM-A 536 60-40-18 & 65-45-12
Austenitic Cast Iron (ACI)	IS 2749 Gr. AFG Ni 15 Cu 6 Cr 3	B.S. 3468 AUS 101 Gr. B	ASTM-A 436 Type 1
Carbon Steel (CS)	IS 1570 Gr. 40 C 8	B.S. 970 080 M 40	ASTM-A 107 Gr. 1040
CF8M	IS 3444 Gr. 9	B.S. 1632 Gr. B	ASTM-A 351 Gr. CF8M
AISI 316 (St. St.)	IS 1570 Gr. 05 Cr. 18	B.S. 970 316 S 16	ASTM-A 276 Type 316
AISI 304 (St. St.)	Ni 11 Mo 3	B.S. 970 304 S 15	ASTM-A 276 Type 304
AISI 410 (St. St.)		B.S. 970 410 S21	ASTM-A 276 Type 410
Bronze	IS 318 Gr. LTB 2	B.S. 1400 LG 2C	ASTM-B 62, B 145 Alloy 4A
Phosphor Bronze (Ph. Br.)	IS 28 Gr. 1	B.S. 1400 P.B.4	
Zinc Free Bronze (ZFB)		B.S. 1400 Gr. CT1	
Cast Steel		B.S. 1504-101A	ASTM-A 216 Gr. WCB

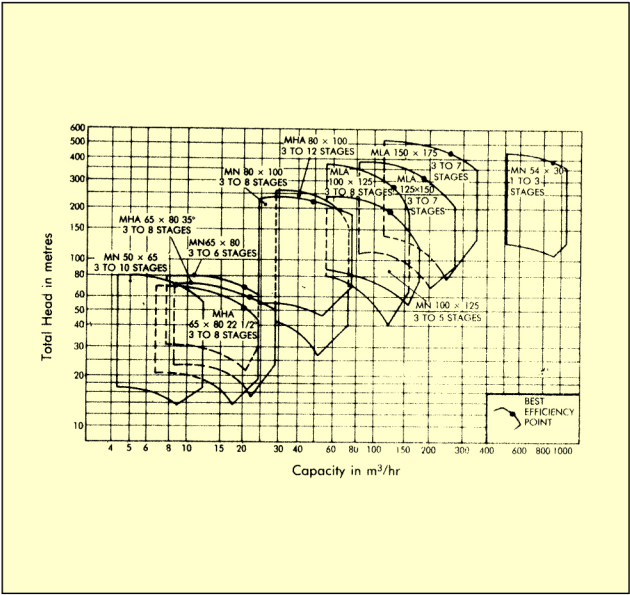
Family Curve of Multistage Pumps
at 1450 rpm - 50 Hz



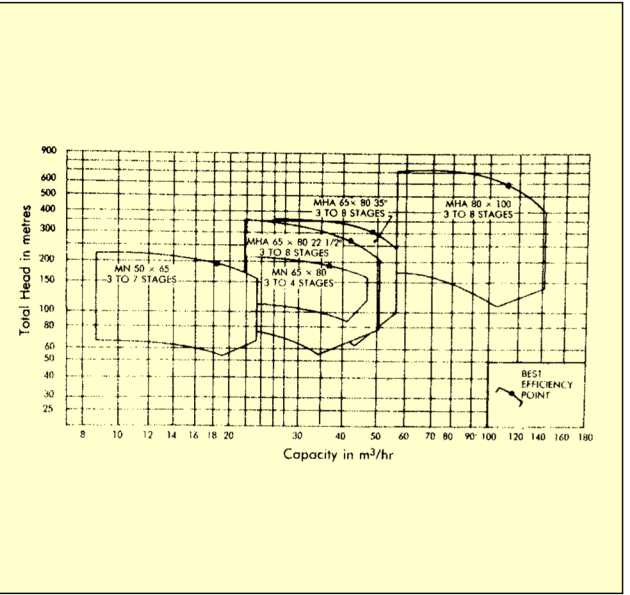
Family Curve of Multistage Pumps
at 2900 rpm - 50 Hz



Family Curve of Multistage Pumps
at 1750 rpm - 60 Hz



Family Curve of Multistage Pumps
at 3500 rpm - 60 Hz



As we are constantly endeavouring to improve the performance of our products/equipment, we reserve the right to make alterations from time to time and as such our products/equipment may differ from that detailed in this publication. For latest information you may get in touch with our Regional Sales Offices.