
GEARED MOTOR - M SERIES



GEARED MOTOR FOOT MOUNTED - MHM



GEARED MOTOR FLANGE MOUNTED - MWM/MVM



GEAR UNIT FOOT MOUNTED - MHF



GEAR UNIT FLANGE MOUNTED - MWF/MVF



GEAR REDUCER FOOT MOUNTED - MHD

*Gearing the
Wheels of Success*



INTRODUCTION

HINDUSTAN GEARED MOTORS

"Hindustan" a leading electric motor manufacturer in INDIA producing more than 250,000 3 phase motors at 4 different manufacturing locations.

As a forward integration, we are now introducing new "M" series, inline helical geared motors having range of 0.25 to 75.0 HP (upto 7,000 Nm). These geared motors have footprints similar to world renowned make.

GEAR CASE

The gear case and end covers are made of high quality closed grain cast iron grade FG 200, IS: 210. The components are accurately machined so as to be fully oil tight and dust proof. The design of housings provides a great amount of torsional rigidity and noise absorption.

GEARS AND PINIONS

Gears and pinions are of helical type designed to transmit high torque with smooth running and maximum efficiency under all types of abnormal operating conditions. They are made from special alloy steels hardened and ground to the highest standard and checked to be free from all possible defects and errors.

SHAFTS AND BEARINGS

Input and Output shafts are made out of special alloy steels toughened and accurately machined to close limits. Bearings are adequately selected to ensure longer life, smooth operation and to withstand high fatigue and shock loads.

LUBRICATION

The gear units have a splash lubrication arrangement. Thus no special care is required except occasional topping up of the oil to the required level. The gear unit is provided with an oil level indicator, drain plug and a breather plug.

After about 5000 operating hours, the oil as well as the bearing grease should be changed. As the lubricant ages even in gear standstill and may become hard, a change of the lubricant, not depending on the actual operating time, should be made at latest after 3 years.

RECOMMENDED LUBRICATING OIL				
Ambient Temp. (°C)	ISO VG	Mobil	Shell	Castrol
-30 to -15	VG 100	Mobil Gear 627	Omala 100	Alpha Zn 100
-15 to -3	VG 150	Mobil Gear 629	Omala 150	Alpha Zn 150
-3 to 23	VG 220	Mobil Gear 630	Omala 220	Alpha Zn 220
23 to 40	VG 320	Mobil Gear 632	Omala 320	Alpha Zn 320
40 to 50	VG 460	Mobil Gear 634	Omala 460	Alpha Zn 460

ELECTRICALS

"Hindustan" Geared Motors are fitted with "Hindustan" TEFC squirrel cage induction motors suitable for 415 volts, 3 phase, 50 Hz AC Supply having IP55 protection as per IS:325 with class F insulation.

Special purpose motors such as brake motors, multispeed motors and motors with alternate protection and class of insulation can also be provided on request.

TESTING

All components undergo strict quality control checks at various stages of production. The assembled units are finally tested for noise, oil level and temperature rise.

The result leads to a robust, compact & smooth running unit which has a longer life and requires minimum maintenance.

TYPE OF LOAD ACCORDING TO TYPE OF APPLICATION

I UNIFORM – Steady, no shocks, small masses to be accelerated	II MODERATE – Irregular, moderate shocks, medium masses to be accelerated	III HEAVY – Irregular, violent shock, large masses to be accelerated
Drilling machine Filling Machine Bottle cleaning & filling machine Fan belt conveyor Centrifugal pump Fan Assembly belt Light weight mixer / stirrer Inclined elevator & conveyor belt Embroidery machine Machine tool feed Work piece drive Washing machine Screw Conveyor Lifting platform Valve Control	Balancing machine Bending machine Turning lathe Rotary table drive Mixer Heavy agitator Packing machine Cement mixer Tumbling barrel Kneader Crane & hoist drive Freight elevator Sliding door Brick work machine Mining fan Gear and rotary pump Flour / dal mill	Plate shear Centrifuge Proof press Moulding machine Piston pump Stamping press Paper cutting machine Crusher Oscillating belt conveyor Rubber industry roller Folding machine Eccentric press Mechanical hammer Articulated plate conveyor Concrete work Rolling mill Welding rig

SERVICE FACTOR (F)

Operation		4 hours			8 hours			16 hours			24 hours		
Starts/hour		<10	10-50	>50	>10	10-50	<50	>10	10-50	<50	>10	10-50	<50
Load Classification	I	1.0	1.2	1.4	1.1	1.4	1.6	1.2	1.5	1.7	1.3	1.8	1.8
	II	1.3	1.5	1.8	1.4	1.6	1.8	1.5	1.8	2.1	1.6	1.9	2.1
	III	1.5	1.8	2.0	1.8	2.0	2.2	1.9	2.2	2.4	2.1	2.3	2.5

For daily operating periods upto 4 hrs & if flexible couplings & belt drives are being used, lower service factor F can be chosen. For very heavy shock load applications such as reversing operations, please refer back to us.

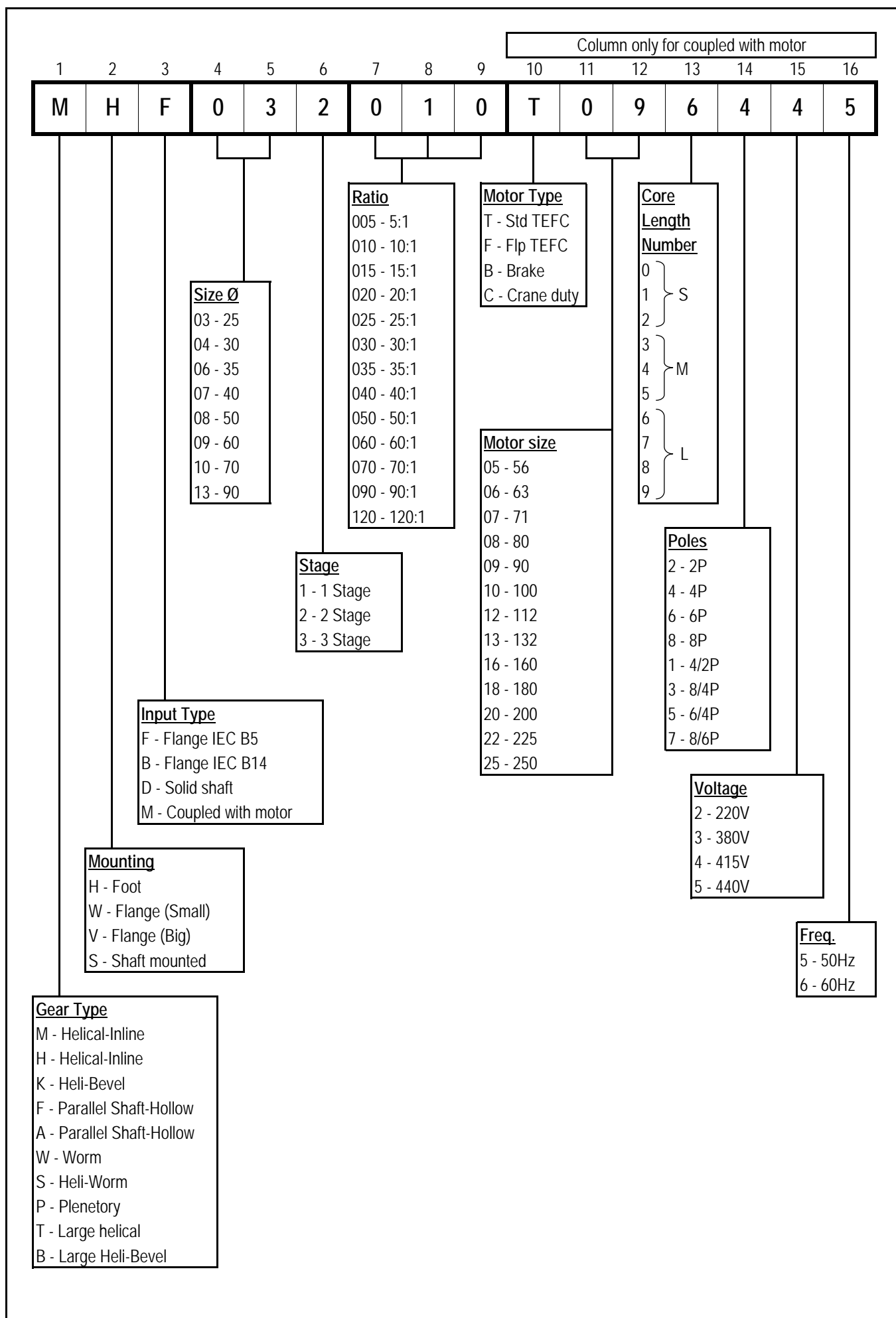
PERMISSIBLE OVERHUNG LOADS (kg)

Normally the geared motors are directly coupled to driven equipment. So no additional radial load is applicable on the output shaft. But in case a pulley or chain drive is mounted on the output shaft, overhung load is imposed on the shaft. This load is calculated as under

$$P = \frac{a \times 973 \times N}{n \times (D/2)} + W$$

- a = Belt factor
3.0 for flat belt, 2.0 for V belt, 1.2 for sprocket
- N = Power output in kW
- n = Output speed in rpm
- D = Pulley diameter in meters
- W = Weight of the pulley (kg)

TYPE DESIGNATION



SELECTION CHART FOR GEARED MOTOR

Output Speed (rpm)	Output Torque (Nm)	Nominal Ratio	Service Factor	Model	Output Speed (rpm)	Output Torque (Nm)	Nominal Ratio	Service Factor	Model
0.18 kW / 0.25 HP					0.37 kW / 0.50 HP				
11	143	120	0.9	M__033120_063__	39	84	35	2.4	M__033035_073__
11	143	120	1.9	M__043120_063__	46	72	30	2.6	M__033030_073__
15	107	90	1.9	M__033090_063__	55	60	25	3.0	M__033025_073__
19	83	70	2.3	M__033070_063__	69	48	20	3.2	M__032020_073__
23	71	60	2.7	M__033063_063__	92	36	15	4.3	M__032015_073__
27	59	50	3.5	M__033050_063__	138	24	10	5.1	M__032010_073__
34	48	40	4.1	M__033040_063__	276	12	5	6.6	M__032005_073__
39	42	35	4.9	M__033035_063__	0.55 kW / 0.75 HP				
45	36	30	5.3	M__033030_063__					
54	30	25	6.0	M__033025_063__	12	420	120	1.2	M__073120_080__
68	24	20	6.4	M__032020_063__	16	315	90	1.6	M__073090_080__
91	18	15	8.6	M__032015_063__	20	245	70	1.5	M__063070_080__
136	12	10	10.2	M__032010_063__	24	210	60	1.4	M__043060_080__
272	6	5	13.4	M__032005_063__	24	210	60	2.3	M__063060_080__
0.25 kW / 0.33 HP					28	175	50	1.3	M__043050_080__
					28	175	50	2.8	M__063050_080__
11	197	120	1.4	M__043120_070__	35	140	40	1.4	M__033040_080__
11	197	120	1.7	M__063120_070__	35	140	40	2.3	M__043040_080__
15	147	90	1.4	M__033090_070__	40	123	35	1.7	M__033035_080__
15	147	90	1.7	M__043090_070__	40	123	35	2.5	M__043035_080__
20	115	70	1.7	M__033070_070__	47	105	30	1.8	M__033030_080__
20	115	70	2.3	M__043070_070__	56	88	25	2.1	M__033025_080__
23	98	60	2.0	M__033060_070__	71	70	20	3.3	M__033020_080__
27	82	50	2.5	M__033050_070__	94	53	15	2.9	M__032015_080__
34	66	40	3.0	M__033040_070__	141	35	10	3.5	M__032010_080__
39	57	35	3.6	M__033035_070__	282	18	5	4.5	M__032005_080__
46	49	30	3.9	M__033030_070__	0.75 kW / 1.0 HP				
55	41	25	4.4	M__033025_070__					
69	33	20	4.8	M__032020_070__	12	571	120	0.9	M__073120_083__
91	25	15	6.3	M__032015_070__	16	428	90	1.2	M__073090_083__
137	16	10	7.4	M__032010_070__	20	337	70	1.1	M__063070_083__
274	8	5	9.7	M__032005_070__	20	333	70	1.6	M__073070_083__
0.37 kW / 0.50 HP					24	285	60	1.0	M__043060_083__
					24	285	60	1.7	M__063060_083__
12	289	120	0.9	M__043120_073__	28	238	50	1.0	M__043050_083__
12	289	120	1.1	M__063120_073__	28	238	50	2.0	M__063050_083__
15	217	90	1.0	M__033090_073__	35	190	40	1.0	M__033040_083__
15	217	90	1.1	M__043090_073__	35	190	40	1.7	M__043040_083__
15	217	90	1.8	M__063090_073__	35	190	40	2.4	M__063040_083__
20	168	70	1.2	M__033070_073__	40	167	35	1.2	M__033035_083__
20	168	70	1.5	M__043070_073__	40	167	35	1.8	M__043035_083__
20	168	70	2.2	M__063070_073__	47	143	30	1.3	M__033030_083__
23	144	60	1.3	M__033060_073__	47	143	30	2.0	M__043030_083__
23	144	60	2.1	M__043060_073__	57	119	25	1.5	M__033025_083__
28	120	50	1.7	M__033050_073__	57	119	25	2.4	M__043025_083__
28	120	50	1.9	M__043050_073__	71	95	20	2.3	M__033020_083__
35	96	40	2.0	M__033040_073__	94	71	15	2.2	M__032015_083__

SELECTION CHART FOR GEARED MOTOR

Output Speed (rpm)	Output Torque (Nm)	Nominal Ratio	Service Factor	Model	Output Speed (rpm)	Output Torque (Nm)	Nominal Ratio	Service Factor	Model
0.75 kW / 1.0 HP					2.2 kW / 3.0 HP				
142	48	10	2.5	M__032010_083__	29	691	50	1.7	M__083050_106__
283	24	5	3.3	M__032005_083__	36	552	40	1.1	M__073040_106__
1.1 kW / 1.5 HP					36	552	40	2.0	M__083040_106__
12	837	120	1.9	M__083120_090__	41	483	35	1.1	M__073035_106__
16	628	90	2.3	M__083090_090__	48	414	30	1.2	M__063030_106__
20	494	70	3.3	M__083070_090__	57	345	25	1.4	M__063025_106__
24	419	60	1.4	M__073060_090__	72	276	20	1.2	M__043020_106__
28	349	50	1.8	M__073050_090__	72	276	20	1.8	M__063020_106__
35	279	40	1.7	M__063040_090__	95	207	15	1.0	M__042015_106__
40	244	35	1.8	M__063035_090__	95	207	15	1.5	M__062015_106__
47	209	30	1.4	M__043030_090__	143	138	10	1.7	M__042010_106__
47	209	30	2.3	M__063030_090__	286	69	5	2.7	M__042005_106__
57	174	25	1.6	M__043025_090__	3.7 kW / 5.0 HP				
71	140	20	1.6	M__033020_090__	12	2768	120	0.9	M__093120_123__
71	140	20	2.4	M__043020_090__	16	2076	90	1.0	M__093090_123__
94	105	15	1.5	M__032015_090__	21	1615	70	1.0	M__083070_123__
94	105	15	1.9	M__042015_090__	21	1615	70	1.5	M__093070_123__
142	70	10	1.7	M__032010_090__	24	1384	60	1.1	M__083060_123__
283	35	5	2.3	M__032005_090__	24	1384	60	1.5	M__093060_123__
1.5 kW / 2.0 HP					29	1153	50	1.0	M__083050_123__
12	1138	120	1.4	M__083120_096__	29	1153	50	2.1	M__093050_123__
16	853	90	1.7	M__083090_096__	36	923	40	1.2	M__083040_123__
20	673	70	2.4	M__083070_096__	41	807	35	1.6	M__083035_123__
24	569	60	1.0	M__073060_096__	48	692	30	1.7	M__083030_123__
28	474	50	1.4	M__073050_096__	58	577	25	1.1	M__073025_123__
36	379	40	1.2	M__063040_096__	58	577	25	1.9	M__083025_123__
41	332	35	1.4	M__063035_096__	72	461	20	1.1	M__063020_123__
47	284	30	1.0	M__043030_096__	96	346	15	1.3	M__063015_123__
47	284	30	1.7	M__063030_096__	96	346	15	2.5	M__082015_123__
57	237	25	1.2	M__043025_096__	144	231	10	1.0	M__042010_123__
71	190	20	1.1	M__033020_096__	144	231	10	1.4	M__062010_123__
71	190	20	1.7	M__043020_096__	288	115	5	1.6	M__042005_123__
95	142	15	1.1	M__032015_096__	288	115	5	1.8	M__062005_123__
95	142	15	1.4	M__042015_096__	5.5 kW / 7.5 HP				
95	142	15	2.2	M__062015_096__	12	4086	120	1.3	M__103120_130__
142	95	10	1.3	M__032010_096__	16	3065	90	1.6	M__103090_130__
284	47	5	1.7	M__032005_096__	21	2384	70	1.0	M__093070_130__
2.2 kW / 3.0 HP					21	2384	70	1.7	M__103070_130__
12	1657	120	1.0	M__083120_106__	24	2043	60	1.0	M__093060_130__
12	1657	120	1.6	M__093120_106__	24	2043	60	2.2	M__103060_130__
16	1243	90	1.2	M__083090_106__	29	1703	50	1.4	M__093050_130__
16	1243	90	1.6	M__093090_106__	29	1703	50	2.8	M__103050_130__
20	967	70	1.7	M__083070_106__	36	1362	40	1.9	M__093040_130__
24	829	60	1.9	M__083060_106__	41	1192	35	1.1	M__083035_130__
					41	1192	35	2.1	M__093035_130__

SELECTION CHART FOR GEARED MOTOR

Output Speed (rpm)	Output Torque (Nm)	Nominal Ratio	Service Factor	Model	Output Speed (rpm)	Output Torque (Nm)	Nominal Ratio	Service Factor	Model
5.5 kW / 7.5 HP					9.3 kW / 12.5 HP				
48	1022	30	1.2	M__083030_130___	146	574	10	1.7	M__082010_163___
48	1022	30	2.8	M__093030_130___	146	574	10	2.7	M__092010_163___
58	851	25	1.3	M__083025_130___	291	287	5	1.9	M__082005_163___
58	851	25	3.1	M__093025_130___	11.0 kW / 15.0 HP				
73	681	20	1.9	M__083020_130___					
97	511	15	1.0	M__073015_130___	12	8144	120	1.0	M__133120_164___
97	511	15	1.7	M__082015_130___	16	6108	90	1.1	M__133090_164___
97	511	15	2.1	M__092015_130___	21	4751	70	1.3	M__133070_164___
145	341	10	1.2	M__072010_130___	24	4072	60	1.1	M__103060_164___
145	341	10	2.9	M__082010_130___	24	4072	60	1.4	M__133060_164___
290	170	5	1.2	M__072005_130___	29	3393	50	1.4	M__103050_164___
290	170	5	3.3	M__082005_130___	29	3393	50	2.1	M__133050_164___
7.5 kW / 10.0 HP					36	2715	40	1.0	M__093040_164___
					36	2715	40	1.7	M__103040_164___
12	5572	120	1.0	M__103120_133___	36	2715	40	2.9	M__133040_164___
16	4179	90	1.2	M__103090_133___	42	2375	35	1.1	M__093035_164___
21	3250	70	1.2	M__103070_133___	42	2375	35	1.8	M__103035_164___
24	2786	60	1.6	M__103060_133___	42	2375	35	2.9	M__133035_164___
29	2322	50	1.1	M__093050_133___	49	2036	30	1.4	M__093030_164___
29	2322	50	2.1	M__103050_133___	49	2036	30	2.0	M__103030_164___
36	1857	40	1.4	M__093040_133___	58	1697	25	1.5	M__093025_164___
41	1625	35	1.6	M__093035_133___	58	1697	25	2.3	M__103025_164___
48	1393	30	2.0	M__093030_133___	73	1357	20	2.2	M__093020_164___
58	1161	25	2.2	M__093025_133___	97	1018	15	2.4	M__093015_164___
73	929	20	1.4	M__083020_133___	146	679	10	1.5	M__082010_164___
97	696	15	1.2	M__082015_133___	146	679	10	2.3	M__092010_164___
97	696	15	1.5	M__092015_133___	291	339	5	1.6	M__082005_164___
145	464	10	2.2	M__082010_133___	291	339	5	2.7	M__092005_164___
290	232	5	2.4	M__082005_133___	15.0 kW / 20.0 HP				
9.3 kW / 12.5 HP									
9.3 kW / 12.5 HP					21	6478	70	1.0	M__133070_166___
					24	5553	60	1.1	M__133060_166___
12	6885	120	1.2	M__133120_163___	29	4627	50	1.0	M__103050_166___
16	5164	90	1.3	M__163090_163___	29	4627	50	1.6	M__133050_166___
21	4017	70	1.6	M__133070_163___	36	3702	40	1.2	M__103040_166___
24	3443	60	1.3	M__103060_163___	36	3702	40	2.2	M__133040_166___
24	3443	60	1.7	M__133060_163___	42	3239	35	1.3	M__103035_166___
29	2869	50	1.7	M__103050_163___	42	3239	35	2.1	M__133035_166___
29	2869	50	2.5	M__163050_163___	49	2776	30	1.0	M__093030_166___
36	2295	40	1.1	M__093040_163___	49	2776	30	1.5	M__103030_166___
36	2295	40	2.0	M__103040_163___	58	2314	25	1.1	M__093025_166___
42	2008	35	1.3	M__093035_163___	58	2314	25	1.7	M__103025_166___
42	2008	35	2.1	M__103035_163___	73	1851	20	1.6	M__093020_166___
49	1721	30	1.7	M__093030_163___	97	1388	15	1.7	M__093015_166___
49	1721	30	2.4	M__103030_163___	97	1388	15	1.6	M__102015_166___
58	1434	25	1.8	M__093025_163___	146	925	10	1.7	M__092010_166___
73	1148	20	2.6	M__093020_163___	291	463	5	2.0	M__092005_166___
97	861	15	2.8	M__093015_163___					

SELECTION CHART FOR GEARED MOTOR

Output Speed (rpm)	Output Torque (Nm)	Nominal Ratio	Service Factor	Model	Output Speed (rpm)	Output Torque (Nm)	Nominal Ratio	Service Factor	Model
18.5 kW / 25.0 HP					30.0 kW / 40.0 HP				
29	5687	50	1.3	M__133050_183_	98	2757	15	1.5	M__132015_206_
37	4550	40	1.0	M__103040_183_	147	1838	10	1.7	M__102010_206_
37	4550	40	1.8	M__133040_183_	147	1838	10	2.4	M__132010_206_
42	3981	35	1.0	M__103035_183_	293	919	5	1.5	M__102005_206_
42	3981	35	1.7	M__133035_183_	293	919	5	2.4	M__132005_206_
49	3412	30	1.2	M__103030_183_	37.0 kW / 50.0 HP				
49	3412	30	2.3	M__133030_183_					
58	2844	25	1.4	M__103025_183_	49	6779	30	1.1	M__133030_220_
58	2844	25	2.6	M__133025_183_	59	5649	25	1.3	M__133025_220_
73	2275	20	1.3	M__093020_183_	74	4519	20	1.6	M__133020_220_
73	2275	20	1.8	M__103020_183_	98	3389	15	1.8	M__133015_220_
73	2275	20	3.2	M__133020_183_	147	2260	10	1.4	M__102010_220_
97	1706	15	1.4	M__093015_183_	147	2260	10	1.9	M__132010_220_
97	1706	15	1.5	M__103015_183_	294	1130	5	1.2	M__102005_220_
97	1706	15	2.5	M__132015_183_	294	1130	5	2.0	M__132005_220_
146	1137	10	1.4	M__092010_183_	45.0 kW / 60.0 HP				
146	1137	10	2.7	M__102010_183_					
292	569	5	1.6	M__092005_183_	59	6847	25	1.1	M__133025_223_
292	569	5	2.4	M__102005_183_	74	5477	20	1.3	M__133020_223_
22.0 kW / 30.0 HP					98	4108	15	1.5	M__133015_223_
					148	2739	10	1.1	M__102010_223_
29	6763	50	1.1	M__133050_186_	148	2739	10	1.6	M__132010_223_
37	5411	40	1.5	M__133040_186_	295	1369	5	1.0	M__102005_223_
42	4734	35	1.5	M__133035_186_	295	1369	5	1.6	M__132005_223_
49	4058	30	1.0	M__103030_186_	55.0 kW / 75.0 HP				
49	4058	30	1.9	M__133030_186_					
58	3382	25	1.2	M__103025_186_	74	6672	20	1.1	M__133020_253_
58	3382	25	2.2	M__133025_186_	99	5004	15	1.2	M__133015_253_
73	2705	20	1.1	M__093020_186_	148	3336	10	1.3	M__132010_253_
73	2705	20	1.5	M__103020_186_	296	1668	5	1.3	M__132005_253_
73	2705	20	2.7	M__133020_186_	Actual output RPM will depend on the exact ratio. For exact ratio, please refer page no. 9 to 12.				
97	2029	15	1.2	M__093015_186_					
97	2029	15	1.3	M__103015_186_					
97	2029	15	2.1	M__132015_186_					
146	1353	10	1.2	M__092010_186_					
146	1353	10	2.3	M__102010_186_					
292	676	5	1.4	M__092005_186_					
292	676	5	2.0	M__102005_186_					
30.0 kW / 40.0 HP									
37	7353	40	1.1	M__133040_206_					
42	6434	35	1.1	M__133035_206_					
49	5515	30	1.4	M__133030_206_					
59	4596	25	1.6	M__133025_206_					
73	3677	20	1.1	M__103020_206_					
73	3677	20	2.0	M__133020_206_					
98	2757	15	0.9	M__103015_206_					

SELECTION CHART FOR GEAR UNITS

SIZE 033															
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm		Overhung Load (kg)	Stage	Available Input HP with Service Factor								Input Shaft (mm)
			Output Speed (rpm)	Output Torque (kgm)			0.25	0.33	0.50	0.75	1.0	1.5	2.0		
120	119.93	0.25	12	13.8	450	3	1.0								16
90	91.47	0.50	16	21.0	450		2.0	1.5	1.0						
70	69.57	0.62	21	19.8	439		2.5	1.9	1.2						
60	59.94	0.71	24	19.6	413		2.8	2.2	1.4						
50	49.28	0.93	29	21.1	383		3.7	2.8	1.9						
40	39.27	1.1	37	19.9	352		4.4	3.3	2.2	1.5	1.1				19
35	32.51	1.4	45	20.9	327		5.6	4.2	2.8	1.9	1.4				
30	30.18	1.4	48	19.4	321		5.6	4.2	2.8	1.9	1.4				
25	24.81	1.6	58	18.3	296		6.4	4.8	3.2	2.1	1.6				
20	20.99	2.3	69	22.2	224		9.2	7.0	4.6	3.1	2.3	1.5	1.2		
SIZE 032															
20	19.95	1.6	73	15.1	286	2	6.4	4.8	3.2						16
15	15.75	2.1	92	15.7	255		8.4	6.4	4.2	2.8	2.1	1.4	1.1		19
10	10.42	2.5	139	12.4	224		10.0	7.6	5.0	3.3	2.5	1.7	1.3		
5	4.88	3.5	297	8.1	179		14.0	10.6	7.0	4.7	3.5	2.3	1.8		

SIZE 043																
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm		Overhung Load (kg)	Stage	Available Input HP with Service Factor								Input Shaft (mm)	
			Output Speed (rpm)	Output Torque (kgm)			0.25	0.33	0.50	0.75	1.0	1.5	2.0	3.0		5.0
120	120.20	0.5	12	27.6	459	3	2.0	1.5	1.0						16	
90	91.24	0.6	16	25.2	459		2.4	1.8	1.2							
70	72.29	0.8	20	26.6	439		3.2	2.4	1.6							
60	60.16	1.1	24	30.4	413		4.4	3.3	2.2	1.5	1.1				19	
50	49.45	1.0	29	22.7	383		4.0	3.0	2.0	1.3	1.0					
40	39.26	1.8	37	32.5	352		7.2	5.5	3.6	2.4	1.8					
35	35.46	1.9	41	31.0	327		7.6	5.8	3.8	2.5	1.9					
30	30.44	2.1	48	29.4	321		8.4	6.4	4.2	2.8	2.1	1.4	1.1			
25	25.38	2.5	57	29.2	301		10.0	7.6	5.0	3.3	2.5	1.7	1.3			
20	22.30	3.3	65	33.9	270		13.2	10.0	6.6	4.4	3.3	2.2	1.7	1.1		
SIZE 042																
20	20.36	1.8	71	17.4	286	2	7.2	5.5	3.6						16	
15	14.27	3.0	102	20.3	240		12.0	9.1	6.0	4.0	3.0	2.0	1.5	1.0	19	
10	9.96	5.0	146	23.6	230		20.0	15.2	10.0	6.7	5.0	3.3	2.5	1.7	1.0	24
5	5.66	7.0	256	18.8	179		28.0	21.2	14.0	9.3	7.0	4.7	3.5	2.3	1.4	

SELECTION CHART FOR GEAR UNITS

SIZE 063																	
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm		Overhung Load (kg)	Stage	Available Input HP with Service Factor									Input Shaft (mm)	
			Output Speed (rpm)	Output Torque (kgm)			0.25	0.33	0.50	0.75	1.0	1.5	2.0	3.0	5.0		
120	123.20	0.56	12	31.8	668	3	2.2	1.7	1.1								19
90	84.70	1.0	17	39.0	668		4.0	3.0	2.0	1.3							
70	68.44	1.2	21	37.8	628		4.8	3.6	2.4	1.6	1.2						
60	59.29	1.8	24	49.2	571		7.2	5.5	3.6	2.4	1.8						
50	50.82	2.1	29	49.2	541		8.4	6.4	4.2	2.8	2.1	1.4	1.1				
40	41.29	2.5	35	47.6	500		10.0	7.6	5.0	3.3	2.5	1.7	1.3				
35	34.25	2.9	42	45.8	469		11.6	8.8	5.8	3.9	2.9	1.9	1.5				
30	30.17	3.5	48	48.6	439		14.0	10.6	7.0	4.7	3.5	2.3	1.8	1.2			
25	25.51	4.3	57	50.5	362		17.2	13.0	8.6	5.7	4.3	2.9	2.2	1.4			
20	19.71	5.5	74	49.9	296		22.0	16.7	11.0	7.3	5.5	3.7	2.8	1.8	1.1		
15	16.34	6.2	89	46.7	281	24.8	18.8	12.4	8.3	6.2	4.1	3.1	2.1	1.2			

SIZE 062																
20	18.79	3.2	77	28.5	403	2	12.8	9.7	6.4	4.3	3.2	2.1	1.6			19
15	15.07	4.5	96	32.1	357		18.0	13.6	9.0	6.0	4.5	3.0	2.3	1.5		
10	10.05	6.4	144	30.5	311		25.6	19.4	12.8	8.5	6.4	4.3	3.2	2.1	1.3	24
5	5.23	8.3	277	20.6	250		33.2	25.2	16.6	11.1	8.3	5.5	4.2	2.8	1.7	

SIZE 073																	
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm		Overhung Load (kg)	Stage	Available Input HP with Service Factor						Input Shaft (mm)				
			Output Speed (rpm)	Output Torque (kgm)			1.0	1.5	2.0	3.0	5.0	7.5					
120	116.13	1.0	12	53.4	837	3	1.0									19	
90	92.40	1.2	16	51.0	786		1.2										
70	70.75	1.7	20	55.3	694		1.7										
60	63.05	2.0	23	58.0	663		2.0	1.3	1.0								
50	50.25	2.8	29	64.7	592		2.8	1.9	1.4								
40	40.81	3.2	36	60.1	541		3.2	2.1	1.6	1.1							
35	33.98	3.5	43	54.7	520		3.5	2.3	1.8	1.2							
30	31.94	3.8	45	55.8	500		3.8	2.5	1.9	1.3							
25	25.97	5.2	56	62.1	444		5.2	3.5	2.6	1.7	1.0						24
20	20.33	6.0	71	56.1	413		6.0	4.0	3.0	2.0	1.2						
15	14.95	7.5	97	51.6	367	7.5	5.0	3.8	2.5	1.5	1.0				38		

SIZE 072																
20	21.27	4.5	68	45.4	449	2	4.5	3.0	2.3	1.5						19
15	14.83	6.1	98	42.9	398		6.1	4.1	3.1	2.0	1.2					24
10	9.96	8.7	146	41.1	342		8.7	5.8	4.4	2.9	1.7	1.2				38
5	4.78	9.5	304	21.5	276		9.5	6.3	4.8	3.2	1.9	1.3				

SELECTION CHART FOR GEAR UNITS

SIZE 083															
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm		Overhung Load (kg)	Stage	Available Input HP with Service Factor								Input Shaft (mm)
			Output Speed (rpm)	Output Torque (kgm)			2.0	3.0	5.0	7.5	10.0	12.5	15.0		
120	117.17	3.0	12	161.7	1939	3	1.5	1.0							19
90	92.13	3.5	16	148.3	1939		1.8	1.2							
70	72.13	5.0	20	165.9	1832		2.5	1.7	1.0						
60	61.99	5.5	23	156.8	1740		2.8	1.8	1.1						
50	50.35	5.3	29	122.7	1694		2.7	1.8	1.1						
40	38.78	6.4	37	114.2	1500		3.2	2.1	1.3						38
35	34.47	8.5	42	134.8	1429		4.3	2.8	1.7	1.1					
30	29.90	8.8	49	121.0	1352		4.4	2.9	1.8	1.2					
25	27.50	8.7	53	110.0	1342		4.4	2.9	1.7	1.2					
20	21.56	13.3	67	131.9	1173		6.7	4.4	2.7	1.8	1.3				

SIZE 082															
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm	Overhung Load (kg)	Stage	Available Input HP with Service Factor								Input Shaft (mm)	
			Output Speed (rpm)	Output Torque (kgm)		3.0	5.0	7.5	10.0	12.5	15.0	20.0	25.0	30.0	
20	19.83	7.0	73	65.8	2	3.5	2.3	1.4							28
15	15.29	12.1	95	87.7		6.1	4.0	2.4	1.6	1.2					38
10	10.37	20.7	140	101.8		10.4	6.9	4.1	2.8	2.1	1.7	1.4			42
5	5.02	23.8	289	56.7		11.9	7.9	4.8	3.2	2.4	1.9	1.6			

SIZE 093															
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm		Overhung Load (kg)	Stage	Available Input HP with Service Factor								Input Shaft (mm)
			Output Speed (rpm)	Output Torque (kgm)			3.0	5.0	7.5	10.0	12.5	15.0	20.0	25.0	
120	115.43	5.0	13	265.5	2296	3	1.7	1.0							28
90	89.28	5.0	16	205.3	2296		1.7	1.0							
70	69.95	7.5	21	241.3	2056		2.5	1.5	1.0						38
60	60.82	7.5	24	209.8	1985		2.5	1.5	1.0						
50	48.03	11.3	30	249.7	1724		3.8	2.3	1.5	1.1					42
40	38.36	15.0	38	264.7	1556		5.0	3.0	2.0	1.5	1.2	1.0			
35	35.72	15.8	41	259.6	1515		5.3	3.2	2.1	1.6	1.3	1.1			
30	28.33	22.3	51	290.6	1301		7.4	4.5	3.0	2.2	1.8	1.5	1.1		
25	24.63	23.5	59	266.3	1260		7.8	4.7	3.1	2.4	1.9	1.6	1.2		
20	19.69	33.0	74	298.9	1092		11.0	6.6	4.4	3.3	2.6	2.2	1.7	1.3	1.1
15	15.32	35.0	95	246.7	1046		11.7	7.0	4.7	3.5	2.8	2.3	1.8	1.4	1.2

SIZE 092																
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm	Overhung Load (kg)	Stage	Available Input HP with Service Factor								Input Shaft (mm)		
			Output Speed (rpm)	Output Torque (kgm)		3.0	5.0	7.5	10.0	12.5	15.0	20.0	25.0	30.0		
20	20.92	7.1	69	70.4	1480	2	2.4	1.4							28	
15	15.26	15.0	95	108.5	1270		5.0	3.0	2.0	1.5	1.2				38	
10	9.74	34.5	149	159.4	1010		11.5	6.9	4.6	3.5	2.8	2.3	1.7	1.4	1.2	48
5	5.42	37.0	267	95.1	857		12.3	7.4	4.9	3.7	3.0	2.5	1.9	1.5	1.2	

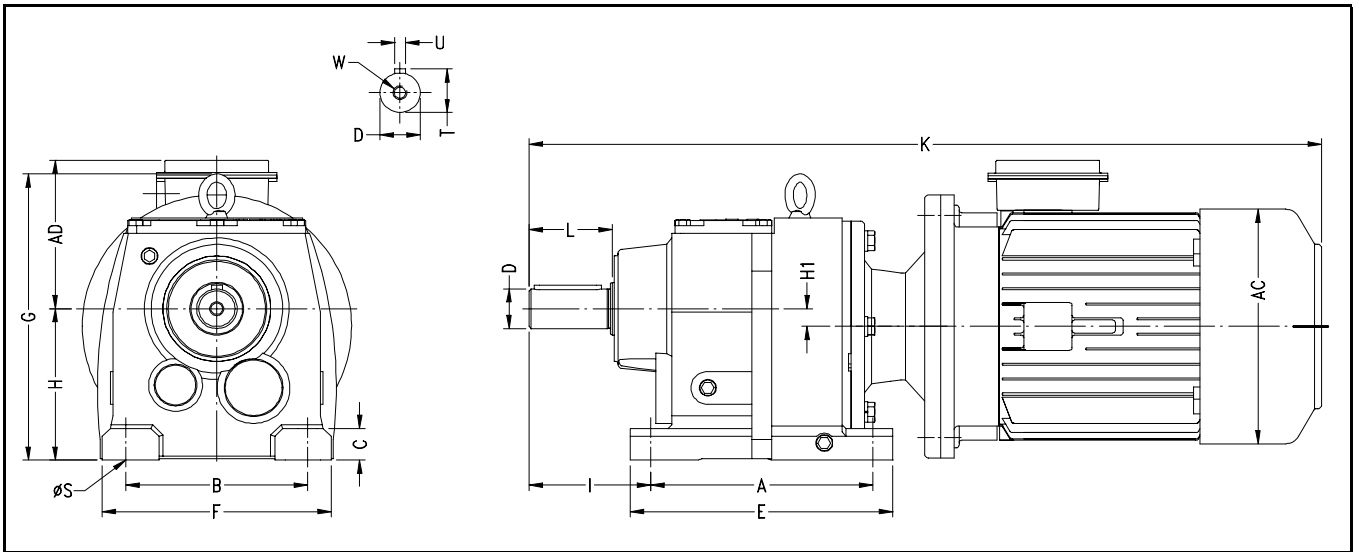
SELECTION CHART FOR GEAR UNITS

SIZE 103																	
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm		Overhung Load (kg)	Stage	Available Input HP with Service Factor									Input Shaft (mm)	
			Output Speed (rpm)	Output Torque (kgm)			7.5	10.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0		
120	115.50	10.5	13	557.9	2699	3	1.4	1.1								38	
90	86.50	12.5	17	497.3	2444		1.7	1.3									
70	68.27	13.0	21	408.2	2306		1.7	1.3									
60	62.90	16.0	23	462.9	2179		2.1	1.6	1.1							42	
50	53.00	20.0	27	487.6	2010		2.7	2.0	1.3	1.0							
40	39.52	25.5	37	463.5	1796		3.4	2.6	1.7	1.3	1.0					48	
35	34.23	27.0	42	425.2	1719		3.6	2.7	1.8	1.4	1.1						
30	29.23	31.0	50	416.8	1592		4.1	3.1	2.1	1.6	1.2	1.0					
25	25.52	34.5	57	405.0	1531		4.6	3.5	2.3	1.7	1.4	1.2					
20	21.79	42.0	67	421.0	1388		5.6	4.2	2.8	2.1	1.7	1.4	1.1				
15	13.09	44.0	111	264.9	1281		5.9	4.4	2.9	2.2	1.8	1.5	1.1				
SIZE 102																	
20	21.77	24.0	67	247.7	1638	2	3.2	2.4								38	
15	14.38	34.0	101	231.8	1398		4.5	3.4	2.3	1.7							42
10	10.44	63.0	139	312.0	1173		8.4	6.3	4.2	3.2	2.5	2.1	1.6	1.3	1.1		48
5	4.50	66.0	322	140.7	959		8.8	6.6	4.4	3.3	2.6	2.2	1.7	1.3	1.1		
SIZE 133																	
Nominal Ratio	Actual Ratio	Input HP	1450 Input rpm		Overhung Load (kg)	Stage	Available Input HP with Service Factor								Input Shaft (mm)		
			Output Speed (rpm)	Output Torque (kgm)			15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0			
120	117.25	15.0	12	809.0	3561	3	1.0									42	
90	91.63	16.0	16	674.4	3337		1.1										
70	70.35	20.0	21	647.2	3036		1.3	1.0									
60	59.14	25.0	25	598.5	2878		1.7	1.3	1.0							48	
50	50.13	32.0	29	738.0	2520		2.1	1.6	1.3	1.1							
40	43.25	41.0	34	815.7	2281		2.7	2.1	1.6	1.4	1.0						
35	35.39	43.0	41	700.0	2199		2.9	2.2	1.7	1.4	1.1						
30	32.81	52.5	44	792.4	2031		3.5	2.6	2.1	1.8	1.3	1.1					
25	24.24	68.0	60	758.2	1689		4.5	3.4	2.7	2.3	1.7	1.4	1.1				
20	20.68	77.0	70	732.4	1587		5.1	3.9	3.1	2.6	1.9	1.5	1.3	1.0		55	
15	14.60	91.0	99	611.0	1459		6.1	4.6	3.6	3.0	2.3	1.8	1.5	1.2			
SIZE 132																	
20	21.56	28.0	67	286.3	2184	2	1.9	1.4								42	
15	14.96	61.0	97	432.6	1765		4.1	3.1	2.4	2.0	1.5	1.2	1.0			55	
10	10.12	93.0	143	446.3	1485		6.2	4.7	3.7	3.1	2.3	1.9	1.6	1.2			
5	4.87	98.0	298	226.1	1235		6.5	4.9	3.9	3.3	2.5	2.0	1.6	1.3			

MOUNTING DIMENSIONS



MHM



Unit: mm

MHM	A	E	I	B	F	H	C	G	H1	ϕS	OUTPUT SHAFT					Oil (ltr)
											D	L	U	T	W	
032/033	130	160	75	110	145	90	18	178	11	9	25k6	50	8	28	M10x20	0.3
042/043	165	195	90	135	170	115	24	217	13.5	14	30k6	60	8	33	M10x20	0.7
062/063	195	235	100	150	210	130	30	249	17	14	35k6	70	10	38	M12x24	1.1
072/073	205	245	115	170	230	140	30	266	16	18	40k6	80	12	43	M16x32	1.2
082/083	260	310	140	215	290	180	45	335	18	18	50k6	100	14	53.5	M16x32	2.3
092/093	310	365	160	250	340	225	55	416	20	22	60m6	120	18	64	M20x40	4.6
102/103	370	440	185	290	400	250	65	465	23	26	70m6	140	20	74.5	M20x40	6
132/133	410	490	220	340	450	315	70	550	35	33	90m6	170	25	95	M24x48	10

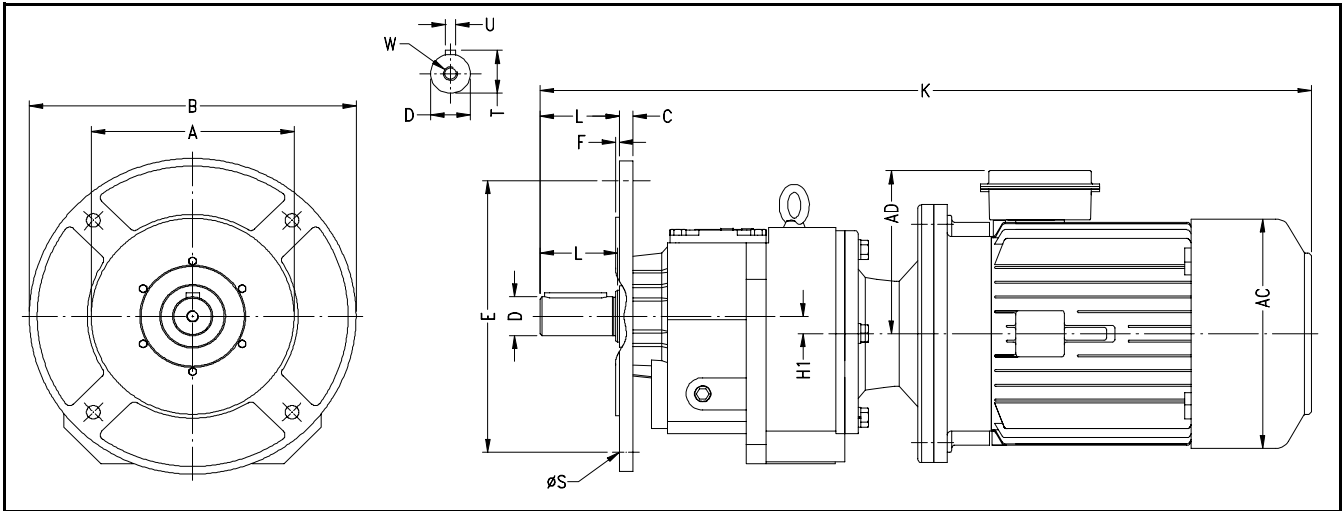
MHM		MOTOR DIMENSION									
032/033	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0			
	K	443	470		515		525	550			
042/043	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0	3.0	5.0	
	K	471	498		543		553	578	628	651	
062/063	HP	0.50	0.75	1.0	1.5	2.0	3.0	5.0			
	K	536	581		591	616	666	689			
072/073	HP	1.0	1.5	2.0	3.0	5.0	7.5	10.0			
	K	599	609	634	684	707	784	822			
082/083	HP	1.5	2.0	3.0	5.0	7.5	10.0	12.5	15.0		
	K	669	694	744	767	844	882	989			
092/093	HP	3.0	5.0	7.5	10.0	12.5	15.0	20.0	25.0	30.0	
	K	808	831	904	942	1049		1093	1125	1163	
102/103	HP	7.5	10.0	12.5	15.0	20.0	25.0	30.0	40.0	50.0	60.0
	K	949	987	1094		1138	1170	1208	1287	1363	
132/133	HP	12.5	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0	
	K	1179		1223	1254	1292	1371	1447		1559	

MOTOR DIMENSION		
HP	AC	AD
0.25	124	100
0.33/0.50	140	105
0.75/1.0	158	122
1.5/2.0	180	129
3.0	198	152
5.0	222	165
7.5/10.0	262	185
12.5/15.0/20.0	311	211
25.0/30.0	336	233
40.0	395	276
50.0/60.0	435	297
75.0	485	382

MOUNTING DIMENSIONS



MWM / MVM



Unit: mm

MWM/MVM		A	E	B	øS	F	C	H1	OUTPUT SHAFT					Oil (ltr)
									D	L	U	T	W	
032/033	MWM	110h7	130	160	9	3.5	10	11	25k6	50	8	28	M10x20	1.05
	MVM	130h7	165	200	11		12							
042/043	MWM	110h7	130	160	9	3.5	10	13.5	30k6	60	8	33	M10x20	1.65
	MVM	130h7	165	200	11		12							
062/063	MWM	130h7	165	200	11	4	15	17	35k6	70	10	38	M12x24	3.6
	MVM	180h7	215	250	13.5		19							
072/073	MWM	180h7	215	250	14	4	19	16	40k6	80	12	43	M16x32	4.1
	MVM	230h7	265	300	14		21							
082/083	MWM	230h7	265	300	14	4	19	18	50k6	100	14	53.5	M16x32	7.7
	MVM	250h7	300	350	18		5							
092/093	MWM	250h7	300	350	18	5	21	20	60m6	120	18	64	M20x40	14
	MVM	350h7	400	450	18		25							
102/103	MWM	250h7	300	350	18	5	21	23	70m6	140	20	74.5	M20x40	19.2
	MVM	350h7	400	450	18		25							
132/133	MWM	350h7	400	450	18	5	25	35	90m6	170	25	95	M24x48	32.5
	MVM	450h7	500	550	18		28							

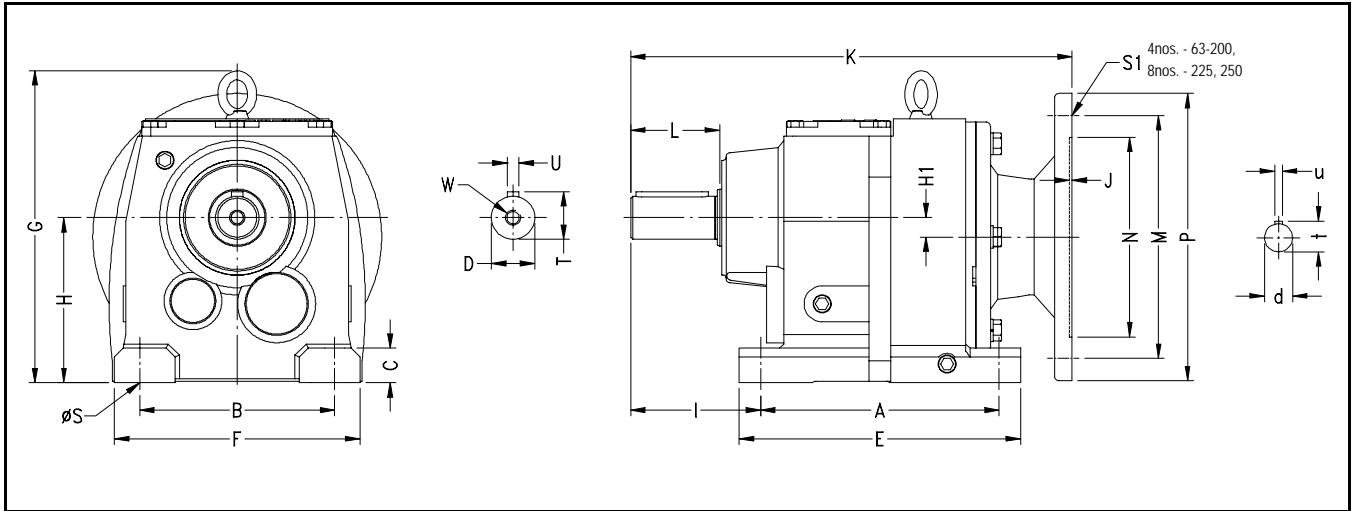
MWM/MVM		MOTOR DIMENSION									
032/033	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0			
	K	443	470	515	525	550					
042/043	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0	3.0	5.0	
	K	471	498	543	553	578	628	651			
062/063	HP	0.5	0.75	1.0	1.5	2.0	3.0	5.0			
	K	536	581	591	616	666	689				
072/073	HP	1.0	1.5	2.0	3.0	5.0	7.5	10.0			
	K	599	609	634	684	707	784	822			
082/083	HP	1.5	2.0	3.0	5.0	7.5	10.0	12.5	15.0		
	K	669	694	744	767	844	882	989			
092/093	HP	3.0	5.0	7.5	10.0	12.5	15.0	20.0	25.0	30.0	
	K	808	831	904	942	1049	1093	1125	1163		
102/103	HP	7.5	10.0	12.5	15.0	20.0	25.0	30.0	40.0	50.0	60.0
	K	949	987	1094	1138	1170	1208	1287	1363		
132/133	HP	12.5	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0	
	K	1179	1223	1254	1292	1371	1447	1559			

MOTOR DIMENSION		
HP	AC	AD
0.25	124	100
0.33/0.50	140	105
0.75/1.0	158	122
1.5/2.0	180	129
3.0	198	152
5.0	222	165
7.5/10.0	262	185
12.5/15.0/20.0	311	211
25.0/30.0	336	233
40.0	395	276
50.0/60.0	435	297
75.0	485	382

MOUNTING DIMENSIONS



MHF



Unit: mm

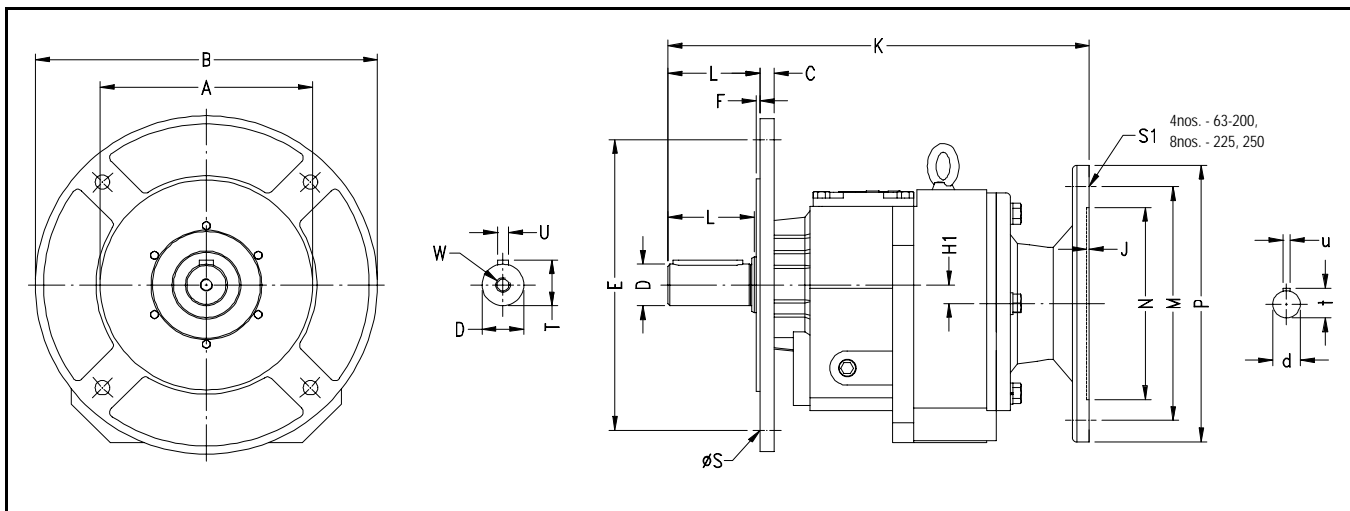
MHF	A	E	I	B	F	H	C	G	H1	øS	OUTPUT SHAFT					Oil (ltr)
											D	L	U	T	W	
032/033	130	160	75	110	145	90	18	178	11	9	25k6	50	8	28	M10x20	0.3
042/043	165	195	90	135	170	115	24	217	13.5	14	30k6	60	8	33	M10x20	0.7
062/063	195	235	100	150	210	130	30	249	17	14	35k6	70	10	38	M12x24	1.1
072/073	205	245	115	170	230	140	30	266	16	18	40k6	80	12	43	M16x32	1.2
082/083	260	310	140	215	290	180	45	335	18	18	50k6	100	14	53.5	M16x32	2.3
092/093	310	365	160	250	340	225	55	416	20	22	60m6	120	18	64	M20x40	4.6
102/103	370	440	185	290	400	250	65	465	23	26	70m6	140	20	74.5	M20x40	6
132/133	410	490	220	340	450	315	70	550	35	33	90m6	170	25	95	M24x48	10

MHF	MOUNTING FLANGE										HP	INPUT BORE			MOUNTING FLANGE					
	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0					d	t	u	N	M	P	J	S1
032/033	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0												
	K	260			278						0.25	11	12.8	4	110	130	160	4	M8	
042/043	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0	3.0	5.0										
	K	288			306			322			1.0	19	21.8	6	130	165	200	5	M10	
062/063	HP	0.50	0.75	1.0	1.5	2.0	3.0	5.0			2.0	24	27.3	8	180	215	250	5	M12	
	K	326	344			360					3.0	28	31.3	8	180	215	250	5	M12	
072/073	HP	1.0	1.5	2.0	3.0	5.0	7.5	10.0			5.0	38	41.3	12	230	265	300	6	M12	
	K	362			378			427			7.5	38	41.3	12	230	265	300	6	M12	
082/083	HP	1.5	2.0	3.0	5.0	7.5	10.0	12.5	15.0		10.0	42	45.3	12	250	300	350	6	M16	
	K	422		438		487		523			15.0	42	45.3	12	250	300	350	6	M16	
092/093	HP	3.0	5.0	7.5	10.0	12.5	15.0	20.0	25.0	30.0	20.0	48	51.8	14	300	350	400	6	M16	
	K	502		547		583			592			25.0	48	51.8	14	300	350	400	6	M16
102/103	HP	7.5	10.0	12.5	15.0	20.0	25.0	30.0	40.0	50.0	60.0	30.0	55	59.3	16	300	350	400	6	M16
	K	592		628			637			668			40.0	55	59.3	16	300	350	400	6
132/133	HP	12.5	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0	50.0	60	64.4	18	350	400	450	6	M16	
	K	713			721			752			769	60.0	60	64.4	18	350	400	450	6	M16
											75.0	65	69.4	18	450	500	550	6	M16	

MOUNTING DIMENSIONS



MWF / MVF



Unit: mm

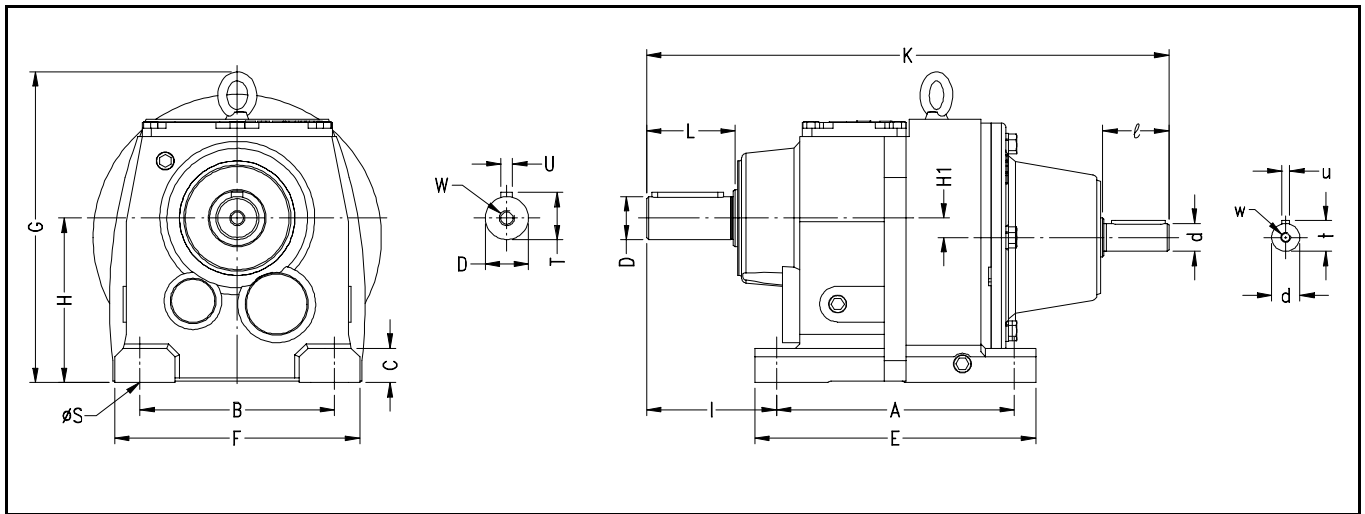
MWF/MVF		A	E	B	ØS	F	C	H1	OUTPUT SHAFT					Oil (ltr)
									D	L	U	T	W	
032/033	MWF	110h7	130	160	9	3.5	10	11	25k6	50	8	28	M10x20	1.05
	MVF	130h7	165	200	11		12							
042/043	MWF	110h7	130	160	9	3.5	10	13.5	30k6	60	8	33	M10x20	1.65
	MVF	130h7	165	200	11		12							
062/063	MWF	130h7	165	200	11	4	15	17	35k6	70	10	38	M12x24	3.6
	MVF	180h7	215	250	13.5									
072/073	MWF	180h7	215	250	14	4	19	16	40k6	80	12	43	M16x32	4.1
	MVF	230h7	265	300	14		21							
082/083	MWF	230h7	265	300	14	4	19	18	50k6	100	14	53.5	M16x32	7.7
	MVF	250h7	300	350	18		5							
092/093	MWF	250h7	300	350	18	5	21	20	60m6	120	18	64	M20x40	14
	MVF	350h7	400	450	18		25							
102/103	MWF	250h7	300	350	18	5	21	23	70m6	140	20	74.5	M20x40	19.2
	MVF	350h7	400	450	18		25							
132/133	MWF	350h7	400	450	18	5	25	35	90m6	170	25	95	M24x48	32.5
	MVF	450h7	500	550	18		28							

MWF/MVF	HP	MOUNTING FLANGE										HP	INPUT BORE			MOUNTING FLANGE						
		0.25	0.33	0.50	0.75	1.0	1.5	2.0							d	t	u	N	M	P	J	S1
032/033	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0														
	K	260			278							0.25	11	12.8	4	110	130	160	4	M8		
042/043	HP	0.25	0.33	0.50	0.75	1.0	1.5	2.0	3.0	5.0		0.5	14	16.3	5	130	165	200	5	M10		
	K	288			306			322			1.0	19	21.8	6								
062/063	HP	0.50	0.75	1.0	1.5	2.0	3.0	5.0				2.0	24	27.3	8	180	215	250	5	M12		
	K	326	344			360						3.0	28	31.3	8							
072/073	HP	1.0	1.5	2.0	3.0	5.0	7.5	10.0				5.0	38	41.3	12	230	265	300	6	M12		
	K	362			378			427				7.5										
082/083	HP	1.5	2.0	3.0	5.0	7.5	10.0	12.5	15.0			10.0	42	45.3	12	250	300	350	6	M16		
	K	422		438		487		523				15.0										
092/093	HP	3.0	5.0	7.5	10.0	12.5	15.0	20.0	25.0	30.0		20.0	48	51.8	14	300	350	400	6	M16		
	K	502		547			583			592											25.0	
102/103	HP	7.5	10.0	12.5	15.0	20.0	25.0	30.0	40.0	50.0	60.0	30.0	55	59.3	16	350	400	450	6	M16		
	K	592		628			637			668											40.0	
132/133	HP	12.5	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0		50.0	60	64.4	18	450	500	550	6	M16		
	K	713			721			752		769											60.0	
												75.0	65	69.4	18							

MOUNTING DIMENSIONS



MHD



Unit: mm

MHD	A	E	I	B	F	H	C	G	H1	ϕS	OUTPUT SHAFT					Oil (ltr)
											D	L	U	T	W	
032/033	130	160	75	110	145	90	18	178	11	9	25k6	50	8	28	M10x20	0.3
042/043	165	195	90	135	170	115	24	217	13.5	14	30k6	60	8	33	M10x20	0.7
062/063	195	235	100	150	210	130	30	249	17	14	35k6	70	10	38	M12x24	1.1
072/073	205	245	115	170	230	140	30	266	16	18	40k6	80	12	43	M16x32	1.2
082/083	260	310	140	215	290	180	45	335	18	18	50k6	100	14	53.5	M16x32	2.3
092/093	310	365	160	250	340	225	55	416	20	22	60m6	120	18	64	M20x40	4.6
102/103	370	440	185	290	400	250	65	465	23	26	70m6	140	20	74.5	M20x40	6
132/133	410	490	220	340	450	315	70	550	35	33	90m6	170	25	95	M24x48	10

MHD	INPUT SHAFT				
032/033	d	16	19		
	K	295	298		
042/043	d	16	19	24	
	K	323	325	325	
062/063	d	19	24		
	K	389	399		
072/073	d	19	24	38	
	K	406	417	480	
082/083	d	19	28	38	42
	K	466	487	540	613
092/093	d	28	38	42	48
	K	551	600	673	678
102/103	d	38	42	48	
	K	645	718	723	
132/133	d	42	48	55	
	K	803	807	849	

INPUT SHAFT				
d	t	u	ℓ	w
16k6	18	5	40	M5x10
19k6	21.5	6	40	M6x12
24k6	27	8	50	M8x16
28k6	31	8	60	M8x16
38k6	41	10	80	M12x24
42k6	45	12	110	M16x32
48k6	51.5	14	110	M16x32
55k6	59	16	110	M20x40

WEIGHT (kg)

MODEL	SIZE HP/ DIA	032	033	042	043	062	063	072	073	082	083	092	093	102	103	132	133
		MHM	0.25	17	18	24	25	34	34								
	0.33	19	20	26	27	36	36										
	0.50	20	21	27	28	37	37										
	0.75	26	27	32	33	41	42										
	1.0	27	28	33	34	42	43	49	50								
	1.5	31	32	37	38	46	47	53	54								
	2.0	33	34	39	40	48	49	55	56	85	88						
	3.0			50	51	63	64	65	67	96	99	129	133				
	5.0			61		74	75	76	78	107	110	140	144				
	7.5							101	103	131	134	164	168	218	224		
	10.0									149	152	182	186	235	241		
	12.5									179		212	216	265	271		
	15.0									185		218	222	271	277	362	373
	20.0											236	240	289	295	380	391
	25.0											267	271	320	326	411	422
	30.0											284	288	337	343	428	439
	40.0													423	429	513	524
	50.0													513		604	615
	60.0													547		638	649
	75.0															687	698
MWM/ MVM	0.25	19	20	25	26	37	38										
	0.33	21	22	27	28	39	40										
	0.50	22	23	28	29	40	41										
	0.75	28	29	34	35	46	47										
	1.0	29	30	35	36	47	48	57	58								
	1.5	33	34	39	40	51	52	61	62								
	2.0	35	36	41	42	53	54	63	64	94	98						
	3.0			52	52	66	67	73	75	105	108	150	154				
	5.0			63		77	78	84	86	116	119	161	165				
	7.5							109	110	140	143	184	188	233	239		
	10.0									147	150	191	195	240	246		
	12.5									188		232	236	280	286		
	15.0									194		238	242	286	292	397	407
	20.0											256	260	304	310	415	425
	25.0											287	291	335	341	446	456
	30.0											304	308	352	358	463	473
	40.0													438	444	548	558
	50.0													528		639	649
	60.0													562		673	683
	75.0															722	732
MHF	0.25/0.33/0.50	11	12	18	19	28	28										
	0.75/1.0/1.5/2.0	13	14	19	20	28	29	35	36	65	68						
	3.0/5.0			22	23	35	36	37	39	68	71	101	105				
	7.5/10.0							44	46	74	77	107	111	161	167		
	12.5 ~ 30.0									85	88	118	122	171	177	262	273
	40.0											127	131	181	187	271	282
	50.0/60.0													188	194	279	290
	75.0															297	308
MWF/ MVF	0.25/0.33/0.50	13	14	19	20	31	32										
	0.75/1.0/1.5/2.0	15	16	21	22	33	34	43	44	74	78						
	3.0/5.0			24	24	38	39	45	47	77	80	122	126				
	7.5/10.0							52	53	83	86	127	131	176	182		
	12.5 ~ 30.0									94	97	138	142	186	192	297	307
	40.0											147	151	196	202	306	316
	50.0/60.0													203	209	314	324
	75.0															332	342
MHD	ø16	10	11	14	18												
	ø19	11	11	17	18	26	27	34	36	64	68						
	ø24			17		34	35	36	38								
	ø28									65	68	98	102				
	ø38							39	41	69	72	102	106	157	163		
	ø42									77		110	114	164	170	254	265
	ø48											117	121	175	181	266	277
	ø55															273	284

ELECTRICAL PERFORMANCE



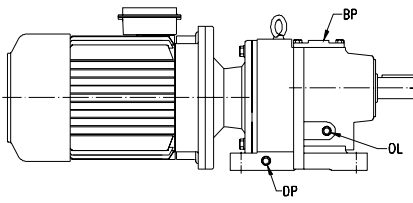
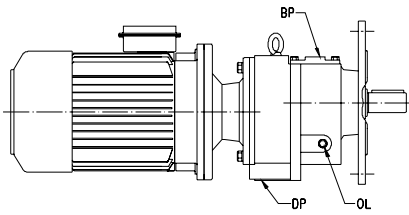
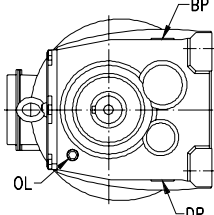
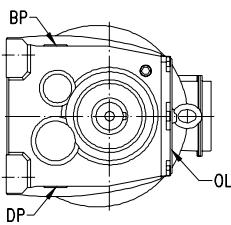
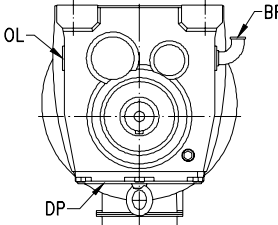
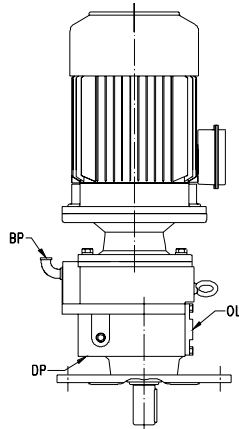
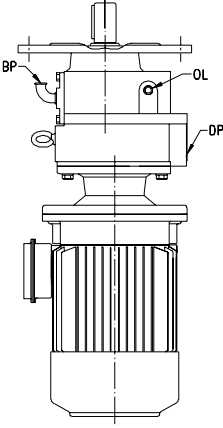
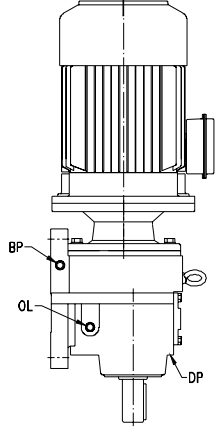
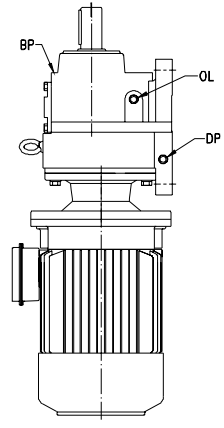
4 POLE MOTOR

Frame Size	Output		Speed (rpm)	Current (A)	Torque (kgm)	Efficiency %			Power Factor			STA	STT	POT	GD ² (kgm ²)
	KW	HP				FL	3/4L	1/2L	FL	3/4L	1/2L				
63	0.18	0.25	1360	0.57	0.13	60.0	53.0	38.0	0.73	0.58	0.45	3.5	1.9	2.1	0.0010
71	0.25	0.33	1370	0.76	0.18	62.0	61.0	53.0	0.74	0.63	0.47	3.5	1.9	2.1	0.0016
71	0.37	0.50	1380	1.05	0.26	66.0	65.0	58.0	0.74	0.64	0.53	3.5	1.9	2.1	0.0022
80	0.55	0.75	1410	1.45	0.38	73.0	72.0	69.0	0.72	0.62	0.52	4.3	2.0	2.3	0.0038
80	0.75	1.0	1415	1.75	0.52	74.0	73.0	68.0	0.81	0.70	0.55	4.5	2.0	2.3	0.0049
90S	1.1	1.5	1415	2.5	0.76	76.5	76.0	74.0	0.80	0.70	0.55	5.0	2.2	2.5	0.0072
90L	1.5	2.0	1420	3.3	1.03	79.0	79.0	77.0	0.80	0.70	0.55	5.0	2.2	2.5	0.0093
100L	2.2	3.0	1430	4.4	1.50	82.0	82.0	80.0	0.85	0.81	0.63	5.5	2.2	2.5	0.0182
100L	3.0	4.0	1430	6.0	2.04	82.6	82.6	81.0	0.84	0.79	0.69	5.5	2.2	2.5	0.0237
112M	3.7	5.0	1440	7.2	2.50	85.0	85.0	84.0	0.84	0.78	0.70	5.5	2.2	2.5	0.0342
132S	5.5	7.5	1450	10.6	3.69	87.0	87.0	86.0	0.83	0.78	0.63	5.5	2.3	2.5	0.0676
132M	7.5	10.0	1450	14.2	5.04	87.0	87.0	86.0	0.84	0.79	0.69	5.5	2.3	2.5	0.0912
160M	9.3	12.5	1455	17.2	6.23	88.0	88.0	87.0	0.85	0.77	0.66	6.0	2.2	2.5	0.1404
160M	11.0	15.0	1455	20.8	7.36	89.0	89.0	87.0	0.83	0.75	0.66	6.0	2.2	2.5	0.1696
160L	15.0	20.0	1455	27.0	10.04	90.0	90.5	89.0	0.86	0.84	0.75	6.0	2.2	2.5	0.2222
180M	18.5	25.0	1460	34.0	12.34	90.5	90.5	89.5	0.84	0.81	0.74	6.0	2.2	2.5	0.3222
180L	22.0	30.0	1460	39.0	14.68	91.0	91.0	90.0	0.86	0.82	0.76	6.0	2.2	2.5	0.3790
200L	30.0	40.0	1465	52.0	19.95	92.0	92.0	91.0	0.87	0.84	0.77	6.0	2.2	2.5	0.8066
225SX	37.0	50.0	1470	64.0	24.52	92.5	92.5	91.5	0.87	0.85	0.79	6.0	2.2	2.5	1.2224
225MX	45.0	60.0	1475	77.0	29.72	93.0	93.0	92.0	0.87	0.85	0.79	6.0	2.2	2.5	1.4552
250MX	55.0	75.0	1480	92.0	36.20	94.0	94.0	93.0	0.88	0.87	0.82	6.0	2.2	2.5	2.2563

6 POLE MOTOR

Frame Size	Output		Speed (rpm)	Current (A)	Torque (kgm)	Efficiency %			Power Factor			STA	STT	POT	GD ² (kgm ²)
	KW	HP				FL	3/4L	1/2L	FL	3/4L	1/2L				
71	0.093	0.125	870	0.45	0.10	52.0	49.0	40.0	0.55	0.44	0.33	3.0	2.0	2.1	0.0024
71	0.12	0.16	880	0.55	0.13	55.0	52.0	41.0	0.55	0.45	0.34	3.0	2.0	2.1	0.0024
71	0.18	0.25	900	0.65	0.19	60.0	55.0	42.0	0.64	0.55	0.38	3.0	2.0	2.1	0.0033
71	0.25	0.33	905	0.85	0.27	64.0	59.0	44.0	0.64	0.55	0.38	3.0	2.0	2.1	0.0033
80	0.37	0.50	915	1.10	0.39	67.0	66.0	63.0	0.70	0.63	0.51	4.0	2.0	2.1	0.0049
80	0.55	0.75	920	1.55	0.58	70.0	69.0	66.0	0.71	0.63	0.51	4.0	2.0	2.1	0.0063
90S	0.75	1.0	925	2.0	0.79	72.0	71.0	66.0	0.72	0.64	0.52	5.0	2.2	2.4	0.0095
90L	1.1	1.5	930	2.9	1.15	75.0	74.0	69.0	0.70	0.58	0.42	5.0	2.2	2.4	0.0122
100L	1.5	2.0	940	3.5	1.55	76.0	75.0	71.0	0.78	0.73	0.60	5.0	2.0	2.3	0.0269
112M	2.2	3.0	945	4.9	2.27	80.0	79.5	75.5	0.78	0.70	0.55	5.0	2.0	2.3	0.0047
132S	3.7	5.0	950	7.5	3.79	82.5	82.5	81.5	0.83	0.73	0.64	5.0	2.0	2.3	0.0826
132M	5.5	7.5	950	11.0	5.64	85.0	85.0	83.5	0.82	0.77	0.67	5.0	2.0	2.3	0.1156
160M	7.5	10.0	960	15.0	7.61	87.0	87.0	84.5	0.80	0.76	0.68	5.5	2.0	2.3	0.2625
160L	9.3	12.5	965	17.5	9.39	88.0	88.0	85.0	0.84	0.81	0.70	5.5	2.0	2.3	0.3440
160L	11.0	15.0	970	20.5	11.05	88.5	88.5	87.5	0.84	0.81	0.70	5.5	2.0	2.3	0.3440
180L	15.0	20.0	970	27.5	15.06	89.5	89.5	88.0	0.85	0.82	0.72	5.5	2.0	2.3	0.5949
200L	18.5	25.0	975	34.0	18.48	90.5	90.5	89.0	0.84	0.82	0.73	5.5	2.0	2.3	0.8605
200L	22.0	30.0	975	40.0	21.98	91.0	91.0	90.5	0.84	0.82	0.73	5.5	2.0	2.3	1.0123
225MX	30.0	40.0	980	54.0	29.82	92.0	92.0	90.5	0.84	0.82	0.74	6.0	2.0	2.3	1.8378
250MX	37.0	50.0	982	66.5	36.70	92.5	92.5	90.5	0.84	0.82	0.74	6.0	2.0	2.3	2.5127

MOUNTING POSITIONS

<p>B3</p> 	<p>B5</p> 	<p>B6</p> 
<p>B7</p> 	<p>B8</p> 	<p>V1</p> 
<p>V3</p> 	<p>V5</p> 	<p>V6</p> 

Note: 1) BP – Breather Plug, OL – Oil Level Indicator, DP – Drain Plug.
 2) For mounting arrangement V6, special bearing lubrication arrangement required.



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