
GEARED MOTOR - H SERIES



*Gearing the
Wheels of Success*



INTRODUCTION

HINDUSTAN GEARED MOTORS

"Hindustan" is a well known name in the field of electric motor transmission for over 2 decades. Same way "Hindustan" Geared Motors are built as one unit with compactness and strength to give most of mechanical power transmission requirement. The output is available from 0.16 HP to 10.0 HP with speeds ranging from 16 rpm to 400 rpm. It is designed for continuous duty under arduous operating conditions. The method of manufacturing ensures a high durability factor, maximum strength and low noise level.

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

Output shafts are made out of high quality medium carbon steel accurately grounded to close limit. 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. Before starting operations, the separately supplied breather plug has to be replaced by the filler 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.

ELECTRICALS

"Hindustan" Geared Motors are fitted with "Hindustan" TEFC squirrel cage induction motors suitable for 415 volts, 3 phase, 50 Hz AC Supply 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 with has a longer life and needs minimum maintenance.

TYPE OF LOAD ACCORING 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.

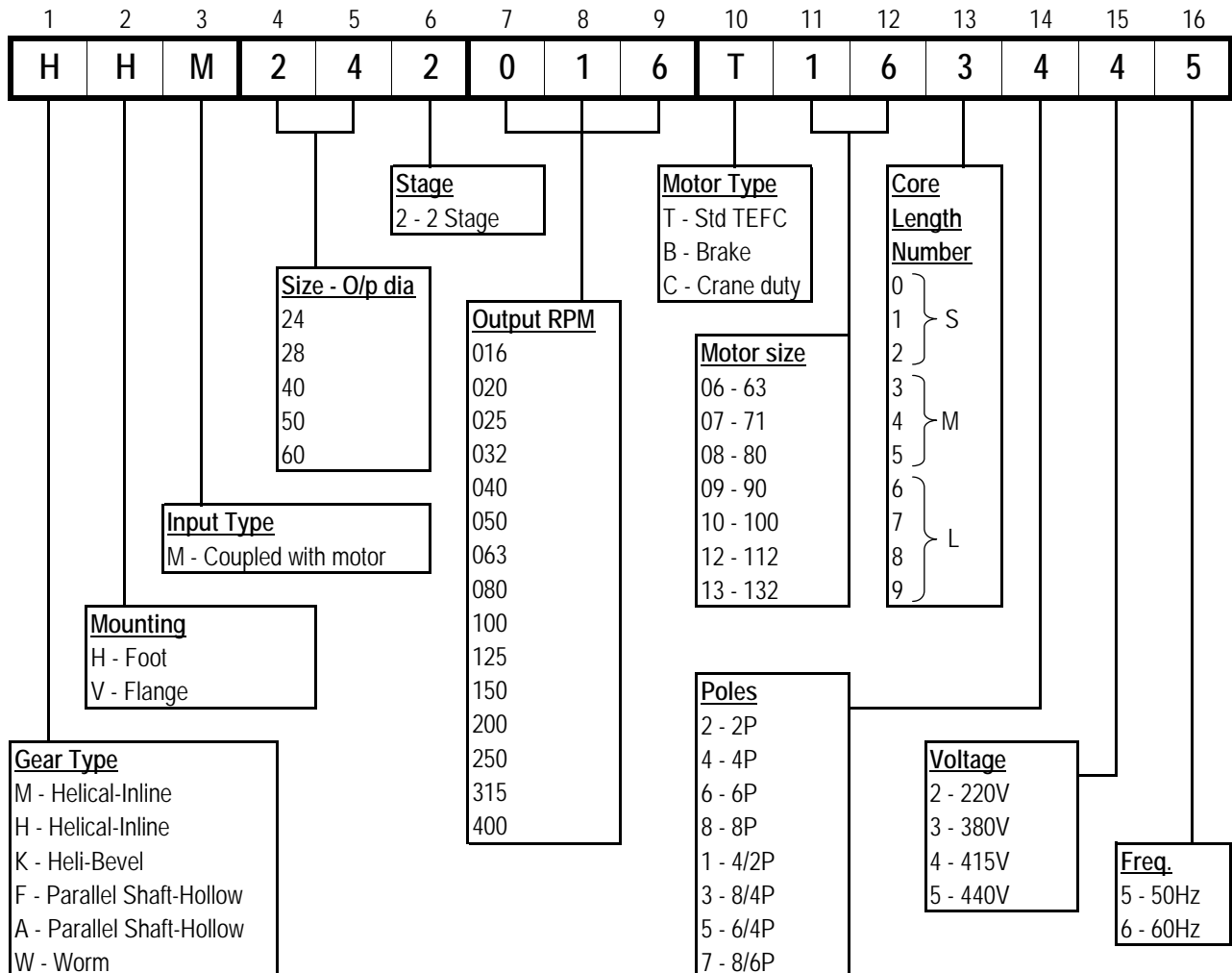
PERMISSIBLE OVERHUNG LOADS (kg)

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, 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 (kW)
- n = Output speed (rpm)
- D = Pulley diameter (m)
- W = Weight of the pulley (kg)

TYPE DESIGNATION



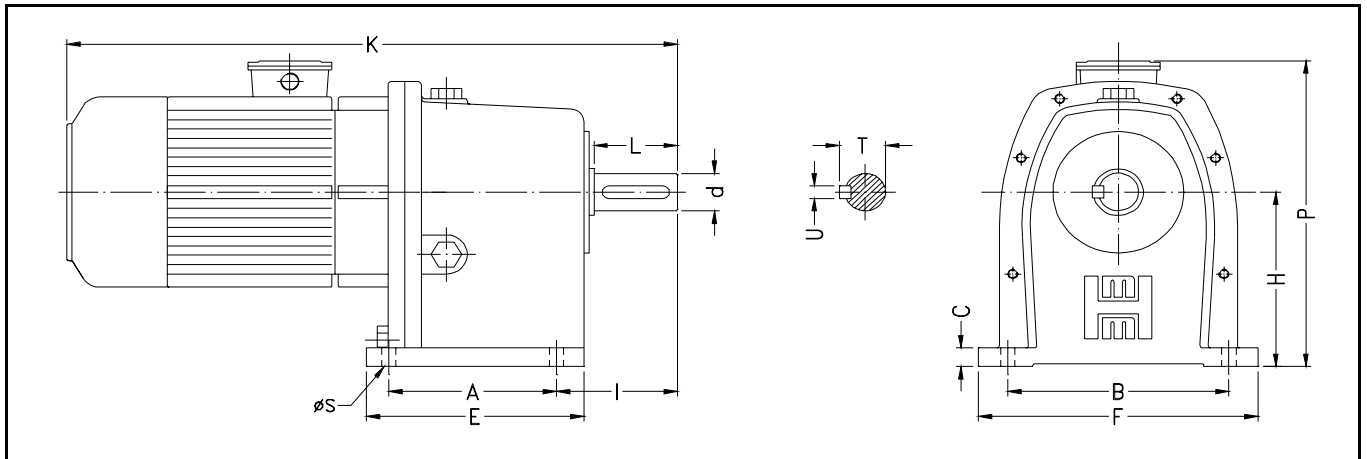
SELECTION CHART FOR GEARED MOTOR

Output Speed (rpm)	Output Torque (Nm)	Service Factor	Model	Output Speed (rpm)	Output Torque (Nm)	Service Factor	Model
0.12 kW/0.16 HP				0.25 kW/0.33 HP			
20	55.6	1.4	H_M242020_0738__	200	11.6	6.6	H_M242200_0704__
25	44.5	1.7	H_M242025_0716__	250	9.3	8.2	H_M242250_0704__
32	34.7	2.2	H_M242032_0716__	315	7.4	10.3	H_M242315_0704__
40	27.8	2.7	H_M242040_0534__	400	5.8	13.1	H_M242400_0704__
50	22.2	3.4	H_M242050_0534__	0.37 kW/0.50 HP			
63	17.6	4.3	H_M242063_0534__				
80	13.9	5.5	H_M242080_0534__	16	214.2	1.1	H_M402016_0908__
100	11.1	6.8	H_M242100_0534__	20	171.4	1.3	H_M402020_0908__
125	8.9	8.6	H_M242125_0534__	25	137.1	1.7	H_M402025_0806__
200	5.6	13.7	H_M242200_0534__	32	107.1	1.1	H_M282032_0806__
250	4.4	17.1	H_M242250_0534__	40	85.7	1.3	H_M282040_0734__
315	3.5	21.6	H_M242315_0534__	50	68.5	1.1	H_M242050_0734__
400	2.8	27.4	H_M242400_0534__	50	68.5	1.7	H_M282050_0734__
0.18 kW/0.25 HP				63	54.4	1.4	H_M242063_0734__
				63	54.4	2.1	H_M282063_0734__
16	104.2	1.1	H_M282016_0808__	80	42.8	1.8	H_M242080_0734__
16	104.2	2.2	H_M402016_0808__	80	42.8	2.7	H_M282080_0734__
20	83.4	1.4	H_M282020_0808__	100	34.3	2.2	H_M242100_0734__
25	66.7	1.1	H_M242025_0736__	100	34.3	3.3	H_M282100_0734__
25	66.7	1.7	H_M282025_0736__	125	27.4	2.8	H_M242125_0734__
32	52.1	1.5	H_M242032_0736__	200	17.1	4.4	H_M242200_0734__
32	52.1	2.2	H_M282032_0736__	250	13.7	5.5	H_M242250_0734__
40	41.7	1.8	H_M242040_0634__	315	10.9	7	H_M242315_0734__
50	33.3	2.3	H_M242050_0634__	400	8.6	8.9	H_M242400_0734__
63	26.5	2.9	H_M242063_0634__	0.55 kW/0.75 HP			
80	20.8	3.7	H_M242080_0634__				
100	16.7	4.6	H_M242100_0634__	25	203.8	1.1	H_M402025_0836__
125	13.3	5.7	H_M242125_0634__	32	159.2	1.4	H_M402032_0836__
200	8.3	9.1	H_M242200_0634__	40	127.4	1.8	H_M402040_0804__
250	6.7	11.4	H_M242250_0634__	50	101.9	1.1	H_M282050_0804__
315	5.3	14.4	H_M242315_0634__	50	101.9	2.2	H_M402050_0804__
400	4.2	18.3	H_M242400_0634__	63	80.9	1.4	H_M282063_0804__
0.25 kW/0.33 HP				63	80.9	2.8	H_M402063_0804__
				80	63.7	1.2	H_M242080_0804__
16	144.7	1.6	H_M402016_0838__	80	63.7	1.8	H_M282080_0804__
20	115.8	1.0	H_M282020_0838__	80	63.7	3.6	H_M402080_0804__
20	115.8	2.0	H_M402020_0838__	100	50.9	1.6	H_M242100_0804__
25	92.6	1.2	H_M282025_0746__	100	50.9	2.2	H_M282100_0804__
25	92.6	2.5	H_M402025_0746__	125	40.8	1.9	H_M242125_0804__
32	72.4	1.1	H_M242032_0746__	150	34.0	2.2	H_M242150_0804__
32	72.4	1.6	H_M282032_0746__	200	25.5	3	H_M242200_0804__
40	57.9	1.3	H_M242040_0704__	250	20.4	3.7	H_M242250_0804__
40	57.9	2.0	H_M282040_0704__	315	16.2	4.7	H_M242315_0804__
50	46.3	1.6	H_M242050_0704__	400	12.7	6	H_M242400_0804__
63	36.8	2.1	H_M242063_0704__	0.75 kW/1.0 HP			
80	28.9	2.6	H_M242080_0704__				
100	23.2	3.3	H_M242100_0704__	32	217.1	1.1	H_M402032_0906__
125	18.5	4.1	H_M242125_0704__	40	173.7	1.3	H_M402040_0834__

SELECTION CHART FOR GEARED MOTOR

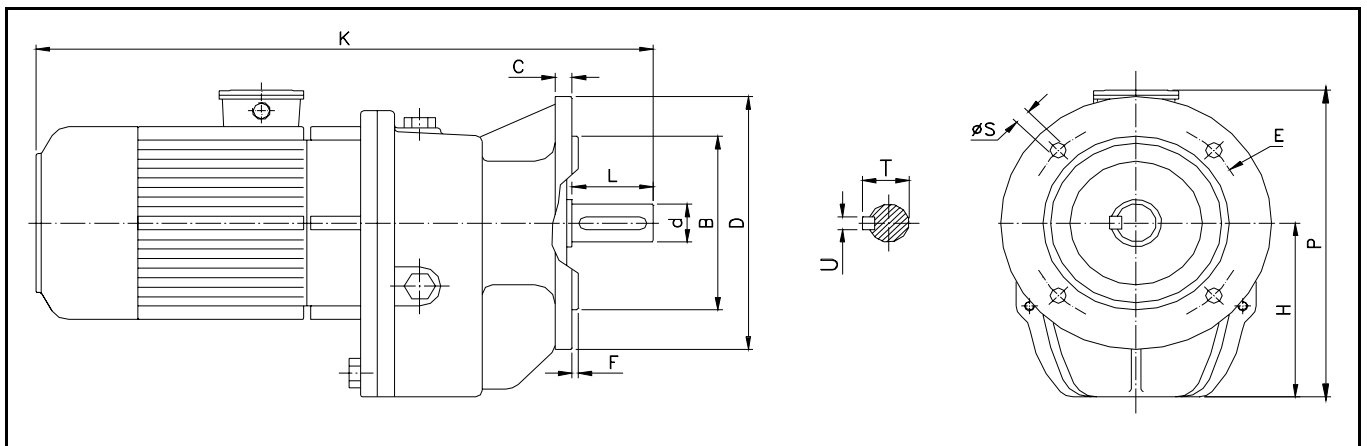
Output Speed (rpm)	Output Torque (Nm)	Service Factor	Model	Output Speed (rpm)	Output Torque (Nm)	Service Factor	Model
0.75 kW/1.0 HP				2.2 kW/3.0 HP			
50	139.0	1.6	H_M402050_0834__	50	407.6	1.1	H_M502050_1064__
63	110.3	2.1	H_M402063_0834__	63	323.5	1.4	H_M502063_1064__
63	110.3	1	H_M282063_0834__	80	254.7	1.8	H_M502080_1064__
80	86.8	2.6	H_M402080_0834__	100	203.8	1.1	H_M402100_1064__
80	86.8	1.3	H_M282080_0834__	100	203.8	2.2	H_M502100_1064__
100	69.5	1.1	H_M242100_0834__	125	163.0	1.4	H_M402125_1064__
100	69.5	1.6	H_M282100_0834__	150	135.9	1.7	H_M402150_1064__
100	69.5	3.3	H_M402100_0834__	200	101.9	2.2	H_M402200_1064__
125	55.6	1.4	H_M242125_0834__	250	81.5	2.8	H_M402250_1064__
125	55.6	2.1	H_M282125_0834__	315	64.7	3.5	H_M402315_1064__
150	46.3	1.6	H_M242150_0834__	400	50.9	4.5	H_M402400_1064__
150	46.3	2.5	H_M282150_0834__	3.7 kW/5.0 HP			
200	34.7	2.2	H_M242200_0834__				
250	27.8	2.7	H_M242250_0834__	50	685.5	1.1	H_M602050_1234__
315	22.1	3.4	H_M242315_0834__	63	544.0	1.4	H_M602063_1234__
400	17.4	4.4	H_M242400_0834__	80	428.4	1.1	H_M502080_1234__
1.1 kW/1.5 HP				100	342.7	1.3	H_M502100_1234__
				125	274.2	1.7	H_M502125_1234__
25	407.6	1.1	H_M502025_0966__	150	228.5	2.0	H_M502150_1234__
32	318.4	1.4	H_M502032_0966__	200	171.4	2.7	H_M502200_1234__
40	254.7	1.8	H_M502040_0904__	250	137.1	3.3	H_M502250_1234__
50	203.8	1.1	H_M402050_0904__	315	108.8	4.2	H_M502315_1234__
63	161.7	1.4	H_M402063_0904__	400	85.7	5.3	H_M502400_1234__
80	127.4	1.8	H_M402080_0904__	5.5 kW/7.5 HP			
100	101.9	1.1	H_M282100_0904__				
100	101.9	2.2	H_M402100_0904__	80	636.9	1.2	H_M602080_1304__
125	81.5	1.4	H_M282125_0904__	100	509.5	1.5	H_M602100_1304__
150	67.9	1.7	H_M282150_0904__	125	407.6	1.9	H_M602125_1304__
200	50.9	2.2	H_M282200_0904__	150	339.7	2.2	H_M602150_1304__
250	40.8	2.8	H_M282250_0904__	200	254.7	3.0	H_M602200_1304__
315	32.3	3.5	H_M282315_0904__	250	203.8	3.7	H_M602250_1304__
400	25.5	4.5	H_M282400_0904__	315	161.7	4.7	H_M602315_1304__
1.5 kW/2.0 HP				400	127.4	6.0	H_M602400_1304__
				7.5 kW/10.0 HP			
32	434.2	1.0	H_M502032_1066__	100	694.8	1.1	H_M602100_1334__
40	347.4	1.3	H_M502040_0964__	125	555.8	1.4	H_M602125_1334__
50	277.9	1.6	H_M502050_0964__	150	463.2	1.6	H_M602150_1334__
63	220.6	1.0	H_M402063_0964__	200	347.4	2.2	H_M602200_1334__
80	173.7	1.3	H_M402080_0964__	250	277.9	2.7	H_M602250_1334__
100	139.0	1.6	H_M402100_0964__	315	220.6	3.4	H_M602315_1334__
125	111.2	1.0	H_M282125_0964__	400	173.7	4.4	H_M602400_1334__
150	92.6	1.2	H_M282150_0964__	Actual output RPM will depend on the exact ratio.			
200	69.5	1.6	H_M282200_0964__				
250	55.6	2.1	H_M282250_0964__				
315	44.1	2.6	H_M282315_0964__				
400	34.7	3.3	H_M282400_0964__				

MOUNTING DIMENSIONS (B3)



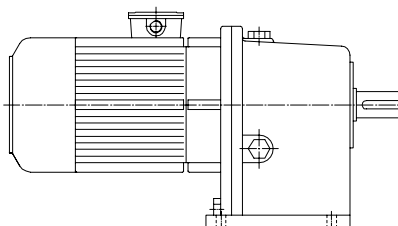
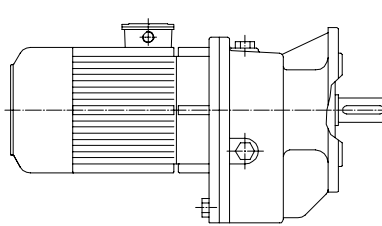
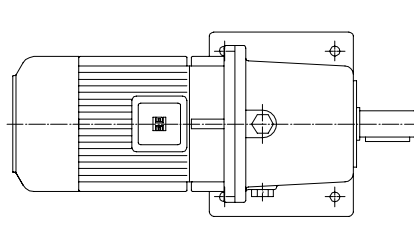
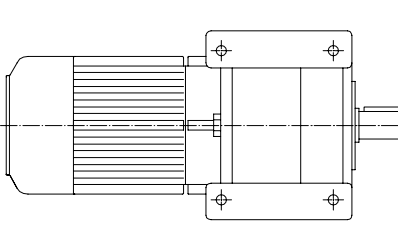
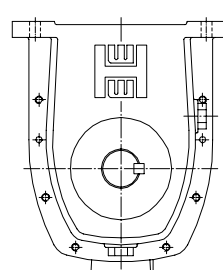
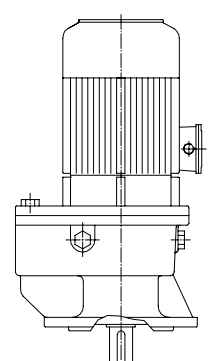
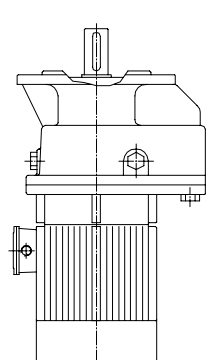
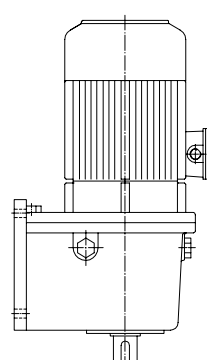
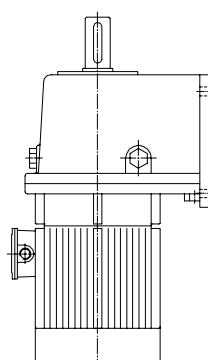
G. M. Size	K	A	B	C	d k6	E	F	P	H	I	L	S	T	U
HHM242-06	371	90	132	12	24	130	167	210	112	85	50	9.5	27	8
HHM242-07	392	90	132	12	24	130	167	218	112	85	50	9.5	27	8
HHM242-08	420	90	132	12	24	130	167	230	112	85	50	9.5	27	8
HHM282-07	422	100	150	14	28	170	190	242	132	85	60	11.5	31	8
HHM282-08	443	100	150	14	28	170	190	250	132	85	60	11.5	31	8
HHM282-09	484	100	150	14	28	170	190	270	132	85	60	11.5	31	8
HHM402-08	495	135	200	18	40	180	250	278	160	114	80	14	43	12
HHM402-09	522	135	200	18	40	180	250	298	160	114	80	14	43	12
HHM402-10	557	135	200	18	40	180	250	313	160	114	80	14	43	12
HHM502-09	560	160	235	22	50	220	295	329	200	153	110	14	54	14
HHM502-10	597	160	235	22	50	220	295	352	200	153	110	14	54	14
HHM502-12	614	160	235	22	50	220	295	365	200	153	110	14	54	14
HHM602-12	697	195	280	26	60	265	350	415	250	191	140	18	64	18
HHM602-13	750	195	280	26	60	265	350	435	250	191	140	18	64	18

MOUNTING DIMENSIONS (B5)



G. M. Size	K	B	C	d k6	D	E	F	P	H	L	S	T	U
HVM242-06	371	110	10	24	160	130	3.5	208	110	50	9.5	27	8
HVM242-07	392	110	10	24	160	130	3.5	216	110	50	9.5	27	8
HVM242-08	420	110	10	24	160	130	3.5	228	110	50	9.5	27	8
HVM282-07	422	130	12	28	200	165	3.5	238	128	60	11.5	31	8
HVM282-08	443	130	12	28	200	165	3.5	246	128	60	11.5	31	8
HVM282-09	484	130	12	28	200	165	3.5	266	128	60	11.5	31	8
HVM402-08	495	180	16	40	250	215	4.0	276	158	80	14.0	43	12
HVM402-09	522	180	16	40	250	215	4.0	296	158	80	14.0	43	12
HVM402-10	557	180	16	40	250	215	4.0	311	158	80	14.0	43	12

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> 



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