LHP MOTORS DRIVES
Driven by Commitment

Power : 0.12 to 180kW
Speed : 0.35 to 560RPM
Torque : Upto 60000Nm

GEARING UP YOUR BUSINESS
TO MOVE AHEAD

LPower

Helical Gear Motors

Selection Guide

Range of Gear Motor & Gear Boxes

Motor Type	Frame	Power (kW)	Gear Ratios	Picture
Standard Gear Motors	90 to 280	0.12 to 180 kW	5 to 75	
Brake Gear Motors	90 to 280	0.12 to 45 kW	5 to 75	
Flame-proof Gear Motors	90 to 280	0.12 to 45 kW	5 to 75	
Flame-proof Brake Gear Motors	90 to 280	0.12 to 45 kW	5 to 75	
Gear Motor with Encoder	90 to 280	0.12 to 180 kW	5 to 75	
Energy Efficient Gear Motors (IE2, IE3 & IE4)	90 to 280	0.12 to 45 kW	5 to 75	
Agitator Gear Motors	160 to 280	5.5 to 45 kW	2.5 to 6	
Shaft Mounted Gear Motors	100 to 500	0.12 to 75 kW	5 to 500	
Motor Mount Reducer (MMR)	90 to 280	0.12 to 45 kW	5 to 75	
Inline Gear Reducer	90 to 280	0.12 to 45 kW	5 to 75	
Global Series Motor Mount Reducer	85 to 175	0.12 to 22 kW	5 to 140	
Parallel Shaft Gear Boxes	100 to 750	0.12 to 315 kW	5 to 350	

CONTENTS

Mechanical Features

Electric Motors :
Standard Motors are 3 phase, S1-continuous duty, AC, TEFC, suitable for 415V±10%, 50 Hz±5%, class-F insulation, IP:55-protection. Other specialities like non-standard voltage, frequencies, insulation class & ambient temperature can be offered on request.

Terminal box position for motors when viewed from the drive end :-
Frame 63 - 80 - Top
Frame 90 - 180 RHS **for Standard Motors,**
Frame 200-225 Top
Frame 71 to 225 Top for Flame-Proof Motors

For Technical details of motors, please refer to separate catalogue No. MKTG- WI-7205.

Custom Built Gear Motors :- With Optional features like-
> Dual Speed Gear Motor.
> Flame-Proof Gear Motors.
> Gear Motors with Brake.
> Inverter Duty Gear Motors.
> Single Phase Gear Motors.
> Roller Table Gear Motors.
> Gear Motors below 10 rpm.

Mounting :
Gear Motors are suitable for various mountings in both horizontal and vertical mounting position. **(Refer Page 3)**

Foot Mounting Positions: B3, B6, B7, B8, V5 and V6
Flange mounting positions: B5, V1 and V3.

Salient Features :
Gears :
Helical Gears & Pinions are made of quality case hardening alloy steels to impart wear resistance and fatigue strength. Gear teeth are made with proper profile correction factors to improve transmission efficiency and load carrying capacity, Gears are profile ground to ensure very high accuracies and noise-free running.

Gearbox Housing :
Rigid and compact housing made of quality, closely-grained cast iron designed for performance & aesthetics. Gear cases are made dust-proof and oil-tight.

Bearings :
Anti-friction bearings like ball, cylinder and taper roller bearings are used to take care of radial and thrust loads and are selected to give long bearing life.

Output Shaft :
Made of medium carbon steels and is ground.
Chrome Molybdenum steel, AISI 316, AISI 410 material shafts are available as an option.

Lubrication :
The Gear Motors/Boxes are designed for oil splash lubrication of gears and bearings. Oil fill-cum-breather plug, oil drain plug & oil level indications are so placed that they are interchangeable depending on the mounting position.
Grease lubricated gearboxes are offered on request.

Recommended Grade of Oil :
1) Mineral oil of grade ISOVG-460
2) Synthetic oil of grade VG-320

Inspection & Testing :
All the components are throughly inspected at various stages of manufacture and assembly. Gear motors are tested on 'No Load' for noise level, oil leakage, output speed and temperature. Load testing is done on sampling.

Radial (Overhung) Load on Output Shaft.
Normally gear motors are directly coupled with the driven equipment. Hence, there would not be any additional radial loads on output shaft. In case of equipment is driven by a chain drive, pulley drive or gear wheel by mounting them on output shaft of gearbox, there will be radial or overhung load imposed on the shaft. The equivalent overhung load is calculated as below.

$$P = \frac{W \times 975000 \times K}{N \times R}$$

Where
P = Eqvt. Overhung load in Kg
W = Power carried by shaft in kW
N = Output r.p.m.
R = Pitch circle radius at sprocket pulley or spur gear in mm

Load Factor K is as follows

Overhung Member	K
Flat belt pulleys	3.00
V belt	1.50
Spur Gear	1.25
Sprocket	1.00

Note : The calculated overhung load should be less than the permissible radial load on gear motor at the middle of standard shaft extension. For load acting on other points, refer to us.

Gearbox type / Frame size	Permissible Radial Load (Kg)	Permissible Axial Load (Kg)
FO/FL90/LFO1/LFL1	160	160
FO/FL100/LFO2/LFL2	220	220
FO/FL112	360	360
FO/FL132/LFO3/LFL3	500	500
FO/FL160/LFO4/LFL4	680	680
FO/FL180	875	875
FO/FL200/LFO5/LFL5	1050	1050
FO/FL225/LFO6/LFL6	1250	1250
LFO7/LFL7	1450	1450

Note : If combined Radial & axial loads act simultaneously, consult us.

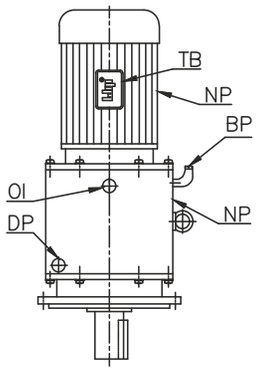
Selection procedure :

1) Compute required output r.p.m. and actual KW/HP consumption of driven machine
2) Determine appropriate service factor for given application
3) Select suitable gear motor corresponding to KW/HP & output RPM requirement from rating tables depending upon the service factor, nature of load, frequency, Starts / Stops & ambient temperature.
4) Check output torque of Gear Motor (Page No.18)

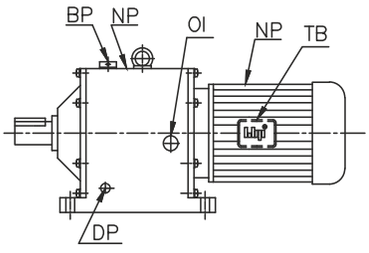
General Guidelines During Selection :

- The dimensions given are for general information only and may vary due to continuous improvements in products from time to time. Certified dimensional drawings will be furnished as a part of contract on request.
- If number of starts & stops are more than 20 per hour, consult us.
- Refer installation & commissioning manual for all other details pertaining to commissioning lubrication, spares, etc.
- Refer to LHP in case of any crane and hoist duty application.

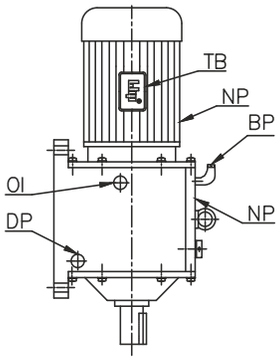
Mounting Positions of Gear Motors



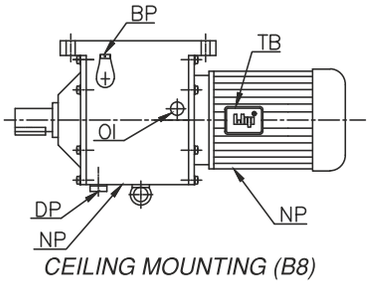
FLANGE MOUNTING SHAFT DOWNWARDS (V1)



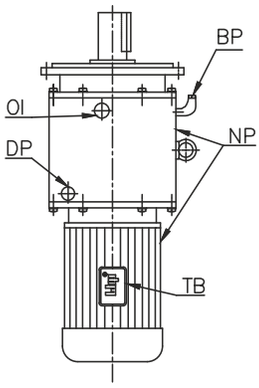
HORIZONTAL FOOT MOUNTING (B3)



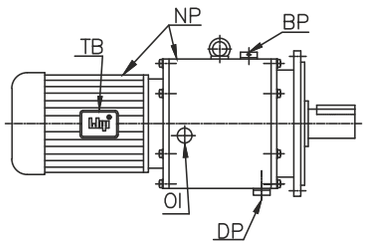
FOOT MOUNTING SHAFT DOWNWARDS (V5)



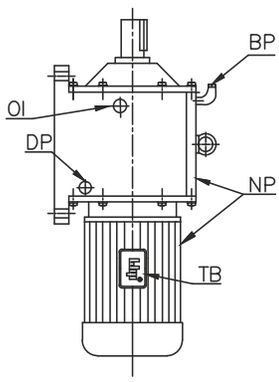
CEILING MOUNTING (B8)



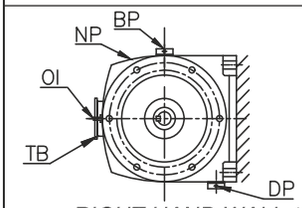
FLANGE MOUNTING SHAFT UPWARDS (V3)



HORIZONTAL FLANGE MOUNTING (B5)

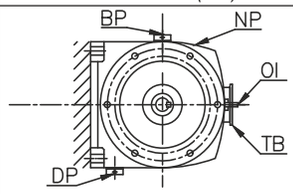


FOOT MOUNTING SHAFT UPWARDS (V6)



RIGHT HAND WALL / BRACKET MOUNTING (B7)

OI - OIL LEVEL INDICATOR
BP - BREATHER PLUG
DP - DRAIN PLUG
TB - TERMINAL BOX
NP - NAME PLATE



LEFT HAND WALL / BRACKET MOUNTING (B6)

Gear Motor / Gear Box Designation

7.5	FO 180 -	132	P4 -	1.4 -	45 -	B3 -	O -	BRK -	R148	GB
Input Power (HP)	Gear Box Type	Motor Frame	Motor Pole P2- 2 pole P4- 4 pole P6- 6 pole P8- 8 pole P4/8- dual pole	Service Factor	Output RPM for Gear Motor - Gear Ratio for Gear Box	Mounting Position	Lubrication O - Oil G : Grease	Additional features :- BRK - Brake Gear Motor FLP - Flameproof Motor VFD - suitable for VFD 460/60 - special voltage / frequency	Internal Code	GB - Gear Box GM - Gear Motor MMR- Motor Mount Reducer

Selection of Service Factor

AGMA Class	Operation Duration & Nature of Load			Service Factor
	upto 3 Hrs/day	3 to 10 Hrs/day	above 10 Hrs/day	
I	Light Shock Load	Uniform Load		1
II	Moderate Shock Load	Light Shock Load	Uniform Load	1.4
III	Heavy Shock Load	Moderate Shock Load	Light Shock Load	2

Classification of Gear Motor Applications :

LHP MOTORS DRIVES
Driven by Commitment

Applications	AGMA class		
	up to 3 hrs. per day	up to 10 hrs. per day	over 10 hrs. per day
Agitators (mixers)			
Pure liquids	I	I	II
Liquids & solids	I	II	II
Liquids - variable density	I	II	II
Blowers			
Centrifugal	I	I	II
Lube	I	II	II
Vane	I	II	II
Brewing & Distilling			
Pure liquids	I	I	II
Brew kettles continuous duty	II	II	II
Cookers - continuous duty	II	II	II
Mash tubs - continuous duty	II	II	II
Scale hopper frequent starts	II	II	II
Can filling machines	I	I	II
Car dumpers	I	III	III
Car pullers	I	II	II
Clarifiers	I	I	II
Classifiers	I	II	II
Clay working machinery			
Brick press	II	III	III
Briquette machine	II	III	III
Pug mill	I	II	II
Compactors	III	III	III
Compressors			
Centrifugal	I	II	II
Lube	I	II	II
Reciprocating multi-cylinder	II	II	III
Reciprocating single cylinder	III	III	III
Conveyors			
general purpose			
Uniformly loaded or fed	I	I	II
I-Heavy duty			
Non uniformly fed	I	II	II
- Reciprocating ore shaker	III	III	-
Cranes			
Dry dock			
Main hoist	-	-	-
Auxiliary hoist	-	-	-
Boom drive	-	-	-
Slewing drive	-	-	-
Traction drive	-	-	-
Container			
Main hoist	-	-	-
Boom hoist	III	III	III
Trolley drive			
Gantry drive	-	-	-
Traction drive	III	III	III
Mid duty			
Main hoist	-	-	-
Auxiliary	-	-	-
Bridge and	-	-	-
trolley travel	-	-	-
Industrial duty			
Main	-	-	-
Auxiliary	-	-	-
Bridge and	-	-	-
trolley travel	-	-	-
Crushers			
Stone or ore	III	III	III
Dredges			
Cable reels	II	II	II
Conveyors	II	II	II
Cutter head drives	III	III	III
Pumps	III	III	III
Screen drives	III	III	III
Stackers	II	II	II
Winches	II	II	II
Elevators			
Bucket	I	II	II
Centrifugal discharge	I	I	II
Escalators	I	I	II
Freight	I	II	II
Gravity discharge	I	I	II
Extruders			
General	II	II	II
Plastic			
Variable speed drive	III	III	III
Fixed speed drive	III	III	III
Rubber			
Continuous screw operation	III	III	III
Intermittent screw operation	III	III	III
Fans			
Centrifugal	I	I	II
Cooling towers	III	III	III
Forced draft	II	II	II
Induced draft	II	II	II
Industrial and mine	II	II	II
Feeders			
Apron	I	II	II
Belt	I	II	II
Disc	I	I	II
Reciprocating	II	III	III
Screw	I	II	II
Generators & Exciters	II	II	II
Hammer mills	III	III	III
Food industry			
Cereal cooker	I	I	II
Dough mixer	II	II	II
Meat grinders	II	II	II
Slicers	I	II	II

Applications	AGMA class		
	up to 3 hrs. per day	up to 10 hrs. per day	over 10 hrs. per day
Hoist			
Heavy duty	III	III	III
Medium duty	II	II	II
Skip hoist	II	II	II
Laundry			
Tumblers	II	II	II
Washers	II	II	III
Lumber industries			
Barkers - Spindle feed	II	II	II
Main drive	III	III	III
Conveyors - Burners	II	II	II
Main or heavy duty	II	II	II
Main log	III	III	III
See-saw, Merry-go-round	II	II	II
Slab	III	III	III
Transfer	II	II	II
Chains			
Floor	II	II	II
Green	II	II	III
Cut off saws			
Chain	II	II	III
Drag	II	II	III
Debarking drums	III	III	III
Feeds			
Edger	II	II	II
Gang	III	III	III
Trimmer	II	II	II
Log deck	III	III	III
Log hauls incline well type	III	III	III
Log turning devices	III	III	III
Planer feed	II	II	II
Planer tilting hoist	II	II	II
Rolls live off banking roll case	III	III	III
Sorting table	II	II	II
Tipple hoist	II	II	II
Transfer			
Chain	II	II	III
Crane way	II	II	III
Tray drive	II	II	II
Veneer lathe drives	II	II	II
Metal mills			
Draw bench carriage &	II	II	II
Main drive run out table			
Non reversing			
Group drives	II	II	II
Individual drives	III	III	III
Reversing	III	III	III
Slab pushers	II	II	II
Shears	III	III	III
Wire drawing	II	II	II
Wire winding machines	II	II	II
Metal strip processing			
machinery			
Brindles	II	II	II
Coilers & uncoilers	I	I	II
Edge trimmers	I	II	II
Flatteners	II	II	II
Loopers (Accumulators)	I	I	I
Pinch rolls	II	II	II
Scrap choppers	II	II	II
Shears	III	III	III
Slitters	I	I	II
Mills rotary type			
Bail & rod			
Spur ring gear	III	III	III
Helical ring gear	II	II	II
Direct connected	III	III	III
Cement kilns	II	II	II
Dryers & coolers	II	II	II
Mixers			
Concrete	II	II	III
Paper mills			
Agitators (mixers)	II	II	II
Agitators for pure liquor	II	II	II
Barking drums	III	III	III
Barkers mechanical	III	III	III
Beater	II	II	II
Calender	II	II	II
Chippers	III	III	III
Chip feeder	II	II	II
Coating rolls	II	II	II
Conveyors			
Chip, Bark, Chemical	II	II	II
Log (including slab)	III	III	III
Couch rolls	II	II	II
Cutter	III	III	III
Cylinder molds	II	II	II
Dryers			
Paper machine	II	II	II
Conveyors	II	II	II
Embosser	II	II	II
Extruders	II	II	II
Foundry rolls	II	II	II
(includes lump breaker			
dandy roll, wire turning			
and return rolls)			
Jordan	II	II	II
Keen drive	II	II	II
Mr. Hope roll	II	II	II
Paper roll	II	II	II
Platters	II	II	II
Presses-felt & suction	II	II	II

Applications	AGMA class		
	up to 3 hrs. per day	up to 10 hrs. per day	over 10 hrs. per day
Pulper	III	III	III
Pumps - Vacuum	II	II	II
Reel (surface type)	II	II	II
Screens			
Chip	II	II	II
Rotary	II	II	II
Vibrating	III	III	III
Size press	II	II	II
Super calender	II	II	II
Thickener (AC motor)	II	II	II
(DC motor)	II	II	II
Washer (AC motor)	II	II	II
(DC motor)	II	II	II
Wind & unwind stand	I	I	II
Winders (surface type)	II	II	II
Yankee dryers	II	II	II
Plastic industry			
Primary processing			
Intensive internal mixers			
Batch mixers	III	III	III
Continuous mixers	II	II	II
Batch drop mill -			
2 smooth rolls	II	II	III
Continuous feeds			
Holding & blend mill	II	II	II
Compounding mill	II	II	II
Calenders	II	II	II
Secondary processing			
Blow molders	II	II	II
Coating	II	II	II
Film	II	II	II
Pipe	II	II	II
Pre plasticizers	II	II	II
Rods	II	II	II
Sheet	II	II	II
Tubbing	II	II	II
Coolers - Barge haul			
Pumps			
Centrifugal	I	I	II
Proportioning	II	II	II
Reciprocating			
Single acting 3 or more			
cylinders	II	II	II
Double acting 2 or more			
cylinders	II	II	II
Rotary			
Gear type	I	I	II
Lobe	I	I	II
Vane	I	I	II
Rubber industry			
Intensive internal mixers			
Batch mixers	III	III	III
Conti. mixers	II	II	II
Mixing mill - 2 smooth rolls	II	II	II
1 or 2 corrugated rolls	III	III	III
Batch drop mill - 2 smooth			
rolls	II	II	II
2 rolls; 1 corrugated roll	III	III	III
Cracker - 2 corrugated rolls	III	III	III
Holding, feed & blend mill			
2 rolls	II	II	II
Refiner - 2 rolls	II	II	II
Caienders II	II	II	II
Sand muller			
Sewage disposal equipment			
Bar screens	II	II	II
Chemical feeder	II	II	II
De-watering screens	II	II	II
Scum breakers	II	II	II
Slow or rapid mixers	II	II	II
Sledge collectors	II	II	II
Thickeners	II	II	II
Vacuum filters	II	II	II
Screens			
Air washing	I	I	II
Rotary - stone or gravel	II	II	III
Traveling water intake	I	I	II
Screw conveyors			
Uniformly loaded or fed	I	I	II
Heavy duty	I	II	II
Sugar industry			
Beet slicer	III	III	III
Cane knives	II	II	II
Crushers	II	II	II
Mills (low speed end)	II	II	II
Textile industry			
Batchers	II	II	II
Calenders	II	II	II
Cards	II	II	II
Dry cans	II	II	II
Dryers	II	II	II
Dyeing machinery	II	II	II
Looms	II	II	II
Mangles / nappers	II	II	II
Pads	II	II	II
Slashers	II	II	II
Soapers	II	II	II
Spinners	II	II	II
Tenter Frames	II	II	II
Washers	II	II	II
Winders	II	II	II

Note : For (-) kindly refer to LHP

Rating Table : Service Factor : 1.0 / AGMA CLASS : I

RATING		OUTPUT SPEED	FRAME SIZE
KW	HP	(RPM)	FOOT/FLANGE MTD
0.12	0.16	560, 460, 380, 310,	LFO1 / LFL1- 63P2
		280, 230, 190, 155, 125, 100	LFO1 / LFL1 - 63P4
		84, 68, 56, 45	LFO1 / LFL1 - 63P4
		37, 30, 25, 20, 16.5, 13.5	FO90 / FL90 - 63P4
		12.5, 10	LFO2T/LFL2T-71P6
0.18	0.25	560, 460, 380, 310,	LFO1 / LFL1 - 63P2
		280, 230, 190, 155, 125,	LFO1 / LFL1 - 63P4
		100, 84, 68, 56, 45	LFO1 / LFL1 - 63P4
		37, 30, 25, 20, 16.5, 13.5	FO 90/ FL 90- 63P4
		12.5, 10	LFO2T/LFL2T-71P6
0.25	0.33	560, 460, 380, 310,	LFO1 /LFL1 - 71P2
		280, 230, 190, 155, 125,	LFO1 /LFL1 - 71P4
		100, 84, 68, 56, 45	LFO1 /LFL1 - 71P4
		37, 30, 25	FO 90/FL 90- 71P4
		20	FO100/FL100-71P4
		16.5, 13.5,	LFO2T/LFL2T-71P4
		12.5, 10	LFO2T/LFL2T-71P6
0.37	0.5	560, 460, 380, 310,	LFO1 / LFL1 - 71P2
		280, 230, 190, 155, 125, 100	LFO1 / LFL1 - 71P4
		84, 68, 56, 45	LFO1 / LFL1 - 71P4
		37,	FO90 / FL90-71P4
		30, 25, 20	FO100/FL100-71P4
		16.5, 13.5,	FO112/FL112-71P4
		12.5, 10	FO112/FL112-80P6
0.55	0.75	560, 460, 380, 310,	LFO1 /LFL1 - 71P2
		280, 230, 190, 155, 125,	LFO1 /LFL1 - 80P4
		100, 84, 68, 56	LFO1 /LFL1 - 80P4
		45	LFO2 /LFL2 - 80P4
		37, 30,	FO100/FL100- 80P4
		25, 20	LFO2T/LFL2T-80P4
		16.5, 13.5	FO112/FL112-80P4
		12.5, 10	FO132/FL132-80P6
0.75	1.0	560, 460, 380, 310,	LFO1 /LFL1 - 80P2
		280, 230, 190, 155, 125, 100, 84, 68	LFO1 /LFL1 - 80P4
		56, 45,	LFO2 /LFL2 - 80P4
		37	FO100/FL100-80P4
		30, 25, 20	FO112/FL112-80P4
		16.5, 13.5	FO132/FL132-80P4
		12.5, 10	FO132/FL132-90P6
1.1	1.5	560, 460, 380, 310,	LFO1 /LFL1 - 80P2
		280, 230, 190, 155, 125,100	FO100/FL100-90P4
		84, 68, 56,	LFO2 /LFL2 - 90P4
		45, 37, 30	FO112/FL112-90P4
		25, 20	FO132/FL132-90P4
		16.5, 13.5	FO160/FL160-90P4
		12.5, 10	FO160/FL160-90P6
1.5	2.0	560, 460, 380, 310,	FO100/FL100-90P2
		280, 230, 190, 155, 125, 100	FO100/FL100-90P4
		84, 68, 56,	LFO2 / LFL2-90 P4
		45, 37	FO112/FL112-90P4
		30, 25, 20	LFO3T/LFL3T-90P4
		16.5, 13.5	FO160/FL160- 90P4
		12.5, 10	FO180/FL180-100P6
2.2	3.0	560, 460, 380, 310,	FO100/FL100-90P2
		280, 230, 190, 155, 125, 100, 84, 68	LFO2/LFL2-100P4
		56, 45,	LFO3 / LFL3-100P4
		37	FO132/FL132-100P4
		30, 25, 20	LFO4T/LFL4T-100P4
		16.5, 13.5	FO180/FL180-100P4

RATING		OUTPUT SPEED	FRAME SIZE
KW	HP	(RPM)	FOOT/FLANGE MTD
2.2	3.0	12.5, 10	FO200/FL200-112P6
3.7	5	560, 460, 380, 310,	LFO2 /LFL2-100P2
		280, 230, 190, 155, 125	LFO2 /LFL2-112P4
		100, 84, 68	LFO3/LFL3-112 P4
		56, 45, 37, 30	FO160/FL160-112P4
		25, 20	FO180/FL180-112P4
		16.5, 13.5	FO200/FL200-112P4
		12.5, 10	LFO6T/LFL6T-132P6
5.5	7.5	560, 460, 380, 310,	LFO3/LFL3-112 P2
		280, 230, 190,	LFO3/LFL3-132 P4
		155, 125, 100, 84	LFO4/LFL4-132 P4
		68, 56	FO160/FL160-132P4
		45, 37, 30	FO180/FL180-132P4
		25	FO200/FL200-132P4
		20, 16.5	LFO6T/LFL6T-132P4
		13.5	LFO7T/LFL7T-132P4
7.5	10	560, 460, 380, 310	LFO3/LFL3-132 P2
		280, 230, 190, 155, 125,100,84	LFO4/LFL4-132 P4
		68, 56, 45	FO180/FL180-132P4
		37, 30	FO200/FL200-132P4
		25, 20	FO225/FL225-132P4
		16.5.	LFO7T/LFL7T-132P4
9.3	12.5	560, 460, 380, 310,	LFO4 / LFL4-132 P2
		280, 230, 190, 155, 125,100	LFO4/ LFL4- 132 P4
		84,68	FO180/FL180-132 P4
		56, 45,	FO200/FL200-132P4
		37, 30	FO225/FL225-132 P4
		25, 20	LFO6T/LFL6T-132P4
		16.5	LFO7T/LFL7T-132P4
11	15	560, 460, 380, 310,	FO180/FL180-160P2
		280, 230, 190, 155, 125, 100	FO180/FL180-160P4
		84	FO180/FL180-160P4
		68, 56, 45	LFO5/LFL5-160 P4
		37 , 30	FO225/FL225-160P4
		25, 20	LFO6T/LFL6T-160P4
15	20	560, 460, 380, 310,	FO180/FL180- 160P2
		280, 230, 190, 155	FO180/FL180- 160P4
		125, 100	LFO5/ LFL5-160 P4
		84, 68, 56	LFO6/ LFL6-160 P4
		45	FO225/FL225-160P4
		37,	LFO6T/LFL6T-160P4
		30, 25	LFO7T/LFL7T-160P4
18.5	25	560, 460, 380, 310,	FO180/FL180- 160P2
		280, 230, 190, 155, 125	LFO5/LFL5-180 P4
		100, 84, 68, 56	LFO6/LFL6-180 P4
		45, 37	LFO7T/LFL7T-180P4
22	30	560, 460, 380, 310,	LFO5/LFL5-180 P2
		280, 230, 190, 155	LFO5/LFL5-180 P4
		125, 100, 84,	LFO6/LFL6-180 P4
		68, 56	LFO7/LFL7-180 P4
		45, 37	LFO7T/LFL7T-180P4
30	40	560, 460, 380, 310	LFO6/LFL6-200 P2
		280, 230, 190, 155, 125, 100	LFO6/LFL6-200 P4
		84, 68	LFO7/LFL7-200 P4
37	50	560, 460, 380, 310	LFO6/LFL6-200 P2
		280, 230, 190, 155,	LFO6/LFL6-225 P4
		125, 100, 84	LFO7/LFL7-225 P4
45	60	560, 460, 380, 310	LFO7/LFL7-225 P2
		280, 230,190, 155	LFO7/LFL7-225 P4

Rating Table : Service Factor : 1.4 / AGMA CLASS : II

RATING		OUTPUT SPEED	FRAME SIZE
KW	HP	(RPM)	FOOT/FLANGE MTD
0.12	0.16	560, 460, 380, 310,	LFO1/LFL1-63P2
		280, 230, 190, 155, 125,	LFO1/LFL1-63P4
		100, 84, 68, 56 ,45	LFO1/LFL1-63P4
		37, 30, 25,20, 16.5, 13.5	FO 90/ FL 90-63P4
		12.5, 10	LFO2T/LFL2T-71P6
0.18	0.25	560, 460, 380, 310,	LFO1/LFL1-63P2
		280, 230, 190, 155, 125,	LFO1/LFL1-63P4
		100, 84, 68, 56, 45	LFO1/LFL1-63P4
		37, 30, 25, 20	FO90 / FL 90-63P4
		16.5, 13.5,	FO100/FL100-63P4
		12.5, 10	FO112/FL112-71P6
0.25	0.33	560, 460, 380, 310,	LFO1/LFL1-63P2
		280, 230, 190, 155, 125,	LFO1/LFL1-71P4
		100, 84, 68, 56, 45	LFO1/LFL1-71P4
		37, 30	FO90/ FL 90-71P4
		25, 20	FO100/FL100-71P4
		16.5, 13.5,	FO112/FL112-71P4
		12.5, 10	FO112/FL112-71P6
0.37	0.5	560, 460, 380, 310,	LFO1/LFL1-71P2
		280, 230, 190, 155, 125,	LFO1/LFL1-71P4
		100, 84, 68, 56 , 45	LFO1/LFL1-71P4
		37, 30	FO100/FL100-71P4
		25, 20 ,	LFO2T/LFL2T-71P4
		16.5 , 13.5	FO112/FL112-71P4
		12.5, 10	FO112/FL112-80P6
0.55	0.75	560, 460, 380, 310,	LFO1/LFL1-71P2
		280, 230, 190, 155, 125, 100, 84, 68	LFO1/LFL1-80P4
		56, 45	LFO2/ LFL2-80P4
		37	FO100/FL100-80P4
		30, 25, 20	FO112/FL112-80P4
		16.5, 13.5	FO132/FL132-80P4
		12.5, 10	FO160/FL160-80P6
0.75	1.0	560, 460, 380, 310,	LFO1/LFL1-80P2
		280, 230, 190, 155, 125,100, 84	LFO1/LFL1-80P4
		68, 56, 45	LFO2/LFL2-80P4
		37, 30, 25 , 20	FO112/FL112-80P4
		16.5, 13.5	FO132/FL132-80P4
		12.5, 10	FO160/FL160-90P6
1.1	1.5	560, 460, 380, 310,	LFO1/LFL1-80P2
		280, 230, 190, 155, 125,100	FO100/FL100-90P4
		84, 68,	LFO2/LFL2-90 P4
		56, 45, 37	FO112/FL112-90P4
		30, 25, 20	FO132/FL132-90P4
		16.5, 13.5	FO160/FL160-90P4
		12.5, 10	FO180/FL180-90P6
1.5	2.0	560, 460, 380, 310,	FO100/FL100-90P2
		280, 230, 190, 155	FO100/FL100-90P4
		125, 100, 84	LFO2 /LFL2-90 P4
		68, 56,45	FO112/FL112-90P4
		37, 30, 25, 20	LFO3T/LFL3T-90P4
		16.5, 13.5	FO180/FL180-90P4
		12.5, 10	FO200/FL200-100P6
2.2	3.0	560, 460, 380, 310	LFO2/LFL2-90-P2
		280, 230, 190, 155, 125,100,	LFO2/LFL2-100-P4
		84, 68, 56 , 45	LFO3/LFL3-100 P4
		37, 30, 25, 20,	LFO4T/LFL4T-100P4
		16.5, 13.5	FO200/FL200-100P4

RATING		OUTPUT SPEED	FRAME SIZE
KW	HP	(RPM)	FOOT/FLANGE MTD
2.2	3.0	12.5, 10	FO225/FL225-112P6
3.7	5	560, 460, 380, 310,	LFO2/LFL2-100 P2
		280, 230, 190,	LFO2/LFL2-112 P4
		155, 125, 100, 84	LFO3/LFL3-112 P4
		68, 56	LFO4/LFL4-112 P4
		45,	FO160/FL160-112 P4
		37, 30	FO180/FL180-112 P4
		25, 20,	LFO5T/LFL5T -112P4
		16.5, 13.5	FO225/FL225-112P4
		12.5, 10	LFO7T/LFL7T-132P6
5.5	7.5	560, 460, 380, 310,	LFO3/LFL3-112 P2
		280, 230,	LFO3/LFL3-132 P4
		190, 155, 125, 100, 84	LFO4/LFL4-132 P4
		68, 56, 45,	FO180/FL180-132P4
		37, 30	FO200/FL200-132P4
		25, 20	FO225/FL225-132P4
		16.5, 13.5	LFO7T/LFL7T-132P4
7.5	10	560, 460, 380, 310	LFO3/LFL3-132 P2
		280, 230, 190, 155,	LFO4/LFL4-132 P4
		125, 100	LFO4/LFL4-132 P4
		84, 68, 56,	FO180/FL180-132P4
		45, 37, 30	FO200/FL200-132P4
		25, 20	FO225/FL225-132P4
		16.5	LFO7T/LFL7T-132P4
9.3	12.5	560, 460, 380, 310,	LFO4 / LFL4-132P2
		280, 230, 190, 155,	LFO4 /LFL4- 132 P4
		125, 100	FO180/FL180- 132P4
		84, 68	LFO5 /LFL5- 132 P4
		56, 45,	LFO6 /LFL6- 132 P4
		37, 30	FO225/FL225-132P4
		25, 20	LFO7T/LFL7T-132P4
11	15	560, 460, 380, 310,	FO180/FL180- 160P2
		280, 230, 190, 155, 125	FO180/FL180-160P4
		100, 84	LFO5/LFL5-160 P4
		68, 56	LFO6/LFL6-160 P4
		45, 37,	FO225/FL225-160P4
		30, 25	LFO7T/LFL7T-160P4
15	20	560, 460, 380, 310,	FO180/FL180-160P2
		280, 230, 190,	FO180/FL180-160P4
		155, 125, 100,	LFO5/LFL5-160 P4
		84, 68 , 56	LFO6/LFL6-160 P4
		45, 37	LFO7T/LFL7T-160P4
18.5	25	560, 460, 380, 310,	LFO5/LFL5-160 P2
		280, 230, 190, 155,	LFO5/LFL5-180 P4
		125, 100, 84,	LFO6/LFL6-180 P4
		68, 56	LFO7/LFL7-180 P4
22	30	560, 460, 380, 310,	LFO5/LFL5-180 P2
		280, 230, 190, 155	LFO5/LFL5-180 P4
		125, 100, 84	LFO6/LFL6-180 P4
		68, 56	LFO7/LFL7-180 P4
30	40	560, 460, 380, 310	LFO6/LFL6-200 P2
		280, 230, 190,	LFO6/LFL6-200 P4
		155, 125, 100, 84	LFO7/LFL7-200 P4
37	50	560, 460, 380, 310	LFO6/LFL6-200 P2
		280, 230, 190,155, 125,	LFO7/LFL7-225 P4
45	60	560, 460, 380, 310	LFO7/LFL7-225 P2
		280, 230, 190,	LFO7/LFL7-225 P4

Rating Table : Service Factor : 2 / AGMA CLASS : III

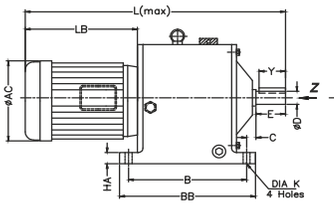
RATING		OUTPUT SPEED (RPM)	FRAME SIZE
KW	HP		FOOT/FLANGE MTD
0.12	0.16	560, 460, 380, 310	LFO1/LFL1-63P2
		280,230,190,155, 125,	LFO1/LFL1-63P4
		100, 84, 68, 56, 45	LFO1/LFL1-63P4
		37, 30, 25 , 20	FO90/FL 90-63P4
		16.5, 13.5	FO100/FL100-63P4
		12.5, 10	FO112/FL112-71P6
0.18	0.25	560, 460, 380, 310	LFO1/LFL1-63P2
		280, 230, 190, 155, 125	LFO1/LFL1-63P4
		100, 84, 68, 56, 45	LFO1/LFL1-63P4
		37, 30, 25	FO90/ FL 90-63P4
		20, 16.5, 13.5	FO100/FL100-63P4
		12.5, 10	FO112/FL112-71P6
0.25	0.33	560, 460, 380, 310	LFO1/LFL1-63P2
		280, 230, 190, 155, 125,	LFO1/LFL1-71P4
		100, 84, 68, 56, 45	LFO1/LFL1-71P4
		37	FO90/FL 90-71P4
		30, 25, 20	FO100/FL100-71P4
		16.5, 13.5	FO112/FL112-71P4
		12.5, 10	FO132/FL132-71P6
0.37	0.5	560, 460, 380, 310	LFO1/LFL1-71P2
		280, 230, 190, 155	LFO1/LFL1-71P4
		125, 100, 84, 68	LFO1/LFL1-71P4
		56, 45,	LFO2/LFL2-71P4
		37	FO100/FL100-71P4
		30, 25, 20 ,	LFO2T/LFL2T-71P4
		16.5, 13.5	FO112/FL112-71P4
		12.5, 10	FO132/FL132-80P6
0.55	0.75	560, 460, 380, 310	LFO1/LFL1-71P2
		280, 230, 190, 155, 125, 100	LFO1/LFL1-80P4
		84, 68	LFO2/LFL2-80 P4
		56, 45, 37, 30	FO112/FL112-80P4
		25, 20 , 16.5, 13.5	FO132/FL132-80P4
		12.5, 10	FO160/FL 160-90P6
0.75	1.0	560, 460, 380, 310	LFO1/LFL1-80P2
		280, 230,190, 155, 125	LFO1/LFL1-80-P4
		100, 84, 68	LFO2/LFL2-80P4
		56, 45, 37, 30	FO112/FL112-80P4
		25, 20	FO132/FL 132-80P4
		16.5, 13.5	FO160/FL160-80P4
		12.5, 10	FO160/FL160-90P6
1.1	1.5	560, 460, 380, 310	LFO1/LFL1-80P2
		280, 230, 190, 155	FO100/FL100-90P4
		125, 100	LFO2/LFL2-90P4
		84, 68, 56	FO112/FL112-90P4
		45, 37, 30	FO132/FL132-90P4
		25, 20	FO160/FL160-90P4
		16.5, 13.5	FO180/FL180-90P4
		12.5, 10	FO200/FL200-90P6
1.5	2	560, 460, 380, 310	FO100/FL100-90P2
		280, 230, 190	FO100/FL100-90P4
		155, 125, 100	LFO2/LFL2-90P4
		84, 68	FO112/FL112-90P4
		56, 45,	FO132/FL132-90P4
		37, 30	LFO3T/LFL3T-90P4
		25, 20	FO160/FL160-90P4
		16.5, 13.5	FO180/FL180-90P4
		12.5, 10	FO200/FL200-100P6

RATING		OUTPUT SPEED (RPM)	FRAME SIZE
KW	HP		FOOT/FLANGE MTD
2.2	3	560, 460, 380, 310	LFO2/LFL2-90P2
		280, 230, 190, 155, 125	LFO2/LFL2-100P4
		100, 84, 68	LFO3/LFL3-100 P4
		56, 45	LFO4/LFL4-100 P4
		37, 30	FO160/FL160-100P4
		25, 20	FO180/FL180-100P4
		16.5, 13.5	FO200/FL200-100P4
		12.5, 10	FO225/FL225-112P6
3.7	5	560, 460, 380, 310	LFO2/LFL2-100P2
		280, 230, 190, 155, 125	LFO3/LFL3-112 P4
		100, 84, 68	LFO4/LFL4-112 P4
		56,	FO160/FL160-112P4
		45, 37	FO180/FL180-112P4
		30, 25, 20	LFO5T/LFL5T-112P4
		16.5, 13.5	FO225/FL225-112P4
		12.5, 10	LFO7T/ LFL7T-132P6
5.5	7.5	560, 460, 380, 310	LFO3/LFL3-112P2
		280, 230, 190, 155, 125, 100	LFO4/LFL4-132P4
		84, 68, 56, 45	FO180/FL180-132P4
		37, 30	FO200/FL200-132P4
		25, 20	FO225/FL225-132P4
		16.5,	LFO7T/LFL7T-132P4
7.5	10	560, 460, 380, 310	LFO3/LFL3-132 P2
		280, 230, 190, 155, 125	LFO4/LFL4-132 P4
		100, 84, 68	FO180/FL180-132P4
		56, 45	FO200/FL200-132P4
		37, 30	FO225/ FL225-132P4
		25, 20	LFO7T/ LFL7T-132P4
9.3	12.5	560, 460, 380, 310	LFO4/LFL4-132 P2
		280, 230, 190,	LFO4/LFL4-132 P4
		155, 125	FO180/FL180-132P4
		100, 84, 68,	LFO5/LFL5-132P4
		56, 45,	FO225/FL225-132P4
		37, 30, 25	LFO7T/LFL7T-132P4
11	15	560, 460, 380, 310	FO180/FL180-160P2
		280, 230, 190	FO180/FL180-160P4
		155, 125	LFO5/LFL5-160 P4
		100, 84, 68, 56	LFO6/LFL6-160 P4
		45	FO225/FL225-160P4
		37, 30	LFO7T/ LFL7T-160P4
15	20	560, 460, 380, 310	FO180/FL180-160P2
		280, 230	FO180/FL180-160P4
		190, 155, 125	LFO5/LFL5-160 P4
		100, 84, 68	LFO6/LFL6-160 P4
		56	LFO7/LFL7-160 P4
18.5	25	560, 460, 380, 310	LFO5/LFL5-160 P2
		280, 230	LFO5/LFL5-180 P4
		190, 155, 125,100	LFO6/LFL6-180 P4
		84, 68	LFO7/LFL7-180 P4
22	30	560, 460, 380, 310	LFO5/LFL5-180 P2
		280, 230, 190, 155, 125	LFO6/LFL6-180 P4
		100, 84	LFO7/LFL7-180 P4
30	40	560, 460, 380, 310	LFO6/LFL6-200 P2
		280, 230, 190, 155, 125	LFO7/LFL7-200 P4
37	50	560, 460, 380, 310	LFO7/LFL7-200 P2
		280, 230,	LFO7/LFL7-225 P4
45	60	560, 460, 380, 310	LFO7/LFL7-225 P2

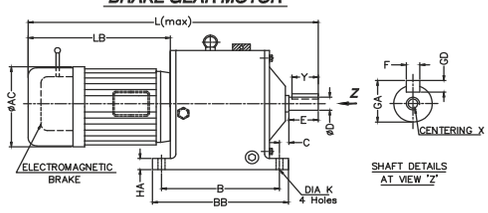
Dimensions of Standard Foot Mounted Gear Motors (FO)

MOTORS DRIVES
Driven by Commitment

STANDARD GEAR MOTOR



BRAKE GEAR MOTOR



FOR 560 TO 100 RPM–DOUBLE REDUCTION FOOT MOUNTED GEAR MOTORS (FO90 TO FO112 SERIES)

FRAME	A	B	AB	BB	C	D	E	F	H	GA	GD	HA	HD	AC	K	Y	X	STD. GEAR MOTOR			STD. BRAKE GEAR MOTOR			STD. G.M. Approx.Net Wt.(kg)
																		AD	LB	L	AD	LB	L	
FO 90–63	120	100	150	130	19	20	40	6	90	22.5	6	16	165	116	11	35	M6x20	103	195	360	121	253	415	18
FO 90–71	120	100	150	130	19	20	40	6	90	22.5	6	16	165	140	11	35	M6x20	113	224	385	129	295	460	20
FO 90–80	120	100	150	130	19	20	40	6	90	22.5	6	16	165	158	11	35	M6x20	130	245	420	127	340	515	28
FO 100–63	150	115	185	140	21	24	50	8	100	27	7	18	191	116	11	40	M8x20	103	195	380	121	253	435	22
FO 100–71	150	115	185	140	21	24	50	8	100	27	7	18	191	140	11	40	M8x20	113	224	405	129	295	480	24
FO 100–80	150	115	185	140	21	24	50	8	100	27	7	18	191	158	11	40	M8x20	130	245	435	127	340	525	32
FO 100–90	150	115	185	140	21	24	50	8	100	27	7	18	191	178	11	40	M8x20	160	295	485	152	405	600	39
FO 112–71	175	110	205	135	30	32	60	10	112	35	8	20	214	140	11	50	M12x25	113	224	425	129	295	500	36
FO 112–80	175	110	205	135	30	32	60	10	112	35	8	20	214	158	11	50	M12x25	130	245	440	127	340	540	44
FO 112–90	175	110	205	135	30	32	60	10	112	35	8	20	214	178	11	50	M12x25	160	295	505	152	405	615	50
FO 112–100	175	110	205	135	30	32	60	10	112	35	8	20	214	208	11	50	M12x25	158	345	565	158	450	670	56
FO 112–112	175	110	205	135	30	32	60	10	112	35	8	20	214	225	11	50	M12x25	170	345	565	189	450	670	70

FOR 84 TO 10 RPM–TRIPLE REDUCTION FOOT MOUNTED GEARED MOTORS (FO90 TO FO112 SERIES)

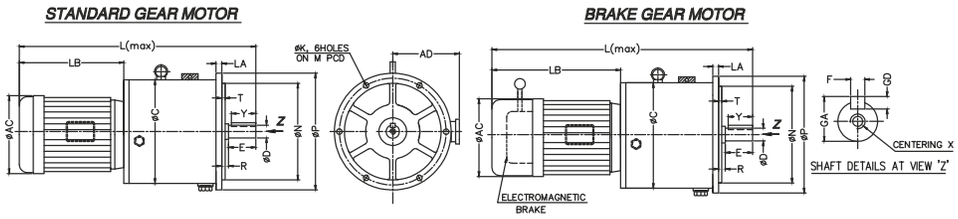
FO 90–63	120	150	150	180	16	20	40	6	90	22.5	6	16	165	116	11	35	M6x20	103	195	415	121	253	470	21
FO 90–71	120	150	150	180	16	20	40	6	90	22.5	6	16	165	140	11	35	M6x20	113	224	440	129	295	515	23
FO 90–80	120	150	150	180	16	20	40	6	90	22.5	6	16	165	158	11	35	M6x20	130	245	475	127	340	570	31
FO 100–63	150	160	185	200	21	24	50	8	100	27	7	22	191	116	11	40	M8x20	103	195	430	121	253	485	25
FO 100–71	150	160	185	200	21	24	50	8	100	27	7	22	191	140	11	40	M8x20	113	224	455	129	295	530	27
FO 100–80	150	160	185	200	21	24	50	8	100	27	7	22	191	158	11	40	M8x20	130	245	485	127	340	575	35
FO 100–90	150	160	185	200	21	24	50	8	100	27	7	22	191	178	11	40	M8x20	160	295	535	152	405	650	42
FO 112–71	175	180	205	215	30	32	60	10	112	35	8	20	214	140	11	50	M12x25	113	224	495	129	295	570	40
FO 112–80	175	180	205	215	30	32	60	10	112	35	8	20	214	158	11	50	M12x25	130	245	510	127	340	610	48
FO 112–90	175	180	205	215	30	32	60	10	112	35	8	20	214	178	11	50	M12x25	160	295	575	152	405	685	54
FO 112–100	175	180	205	215	30	32	60	10	112	35	8	20	214	208	11	50	M12x25	175	345	635	158	450	740	60
FO 112–112	175	180	205	215	30	32	60	10	112	35	8	20	214	225	11	50	M12x25	180	345	635	189	450	740	74

FOR 560 TO 10 RPM–FOOT MOUNTED GEARED MOTORS (FO132 TO FO225 SERIES)

FO 132–80	212	225	255	300	40	42	75	12	132	45	8	25	260	158	14	60	M16x35	130	245	585	127	340	680	65
FO 132–90	212	225	255	300	40	42	75	12	132	45	8	25	260	178	14	60	M16x35	160	295	635	152	405	745	72
FO 132–100	212	225	255	300	40	42	75	12	132	45	8	25	260	208	14	60	M16x35	175	345	685	158	450	790	76
FO 132–112	212	225	255	300	40	42	75	12	132	45	8	25	260	225	14	60	M16x35	180	345	685	189	450	790	90
FO 160–80	270	275	315	325	46	48	85	14	160	51.5	9	36	316	158	18	75	M16x35	130	245	645	127	340	740	95
FO 160–90	270	275	315	325	46	48	85	14	160	51.5	9	36	316	178	18	75	M16x35	160	295	695	152	405	805	102
FO 160–100	270	275	315	325	46	48	85	14	160	51.5	9	36	316	208	18	75	M16x35	175	345	745	158	450	850	108
FO 160–112	270	275	315	325	46	48	85	14	160	51.5	9	36	316	225	18	75	M16x35	180	345	745	189	450	850	122
FO 160–132	270	275	315	325	46	48	85	14	160	51.5	9	36	316	260	18	75	M16x35	205	420	820	202	550	950	150
FO 180–100	280	285	325	335	58	60	90	18	180	64	11	35	345	208	18	80	M20x35	175	345	785	158	450	890	128
FO 180–112	280	285	325	335	58	60	90	18	180	64	11	35	345	225	18	80	M20x35	180	345	785	189	450	890	140
FO 180–132	280	285	325	335	58	60	90	18	180	64	11	35	345	260	18	80	M20x35	205	420	860	202	550	990	168
FO 180–160M	280	285	325	335	58	60	90	18	180	64	11	35	345	312	18	80	M20x35	230	510	965	245	650	1105	215
FO 180–160L	280	285	325	335	58	60	90	18	180	64	11	35	345	312	18	80	M20x35	230	550	1005	245	695	1150	235
FO 200–100	335	335	380	380	72	66	100	20	200	70.5	12	40	386	208	22	90	M20x40	175	345	840	158	450	945	165
FO 200–112	335	335	380	380	72	66	100	20	200	70.5	12	40	386	225	22	90	M20x40	180	345	840	189	450	945	178
FO 200–132	335	335	380	380	72	66	100	20	200	70.5	12	40	386	260	22	90	M20x40	205	420	925	202	550	1050	206
FO 200–160M	335	335	380	380	72	66	100	20	200	70.5	12	40	386	312	22	90	M20x40	230	510	1030	245	650	1170	255
FO 200–160L	335	335	380	380	72	66	100	20	200	70.5	12	40	386	312	22	90	M20x40	230	550	1070	245	695	1215	275
FO 200–180	335	335	380	380	72	66	100	20	200	70.5	12	40	386	360	22	90	M20x40	255	610	1135	270	735	1260	330
FO 225–112	325	360	405	410	95	70	110	20	225	74.5	12	45	425	225	22	95	M16x35	180	345	930	171	450	1035	225
FO 225–132	325	360	405	410	95	70	110	20	225	74.5	12	45	425	260	22	95	M16x35	205	420	990	202	550	1115	250
FO 225–160M	325	360	405	410	95	70	110	20	225	74.5	12	45	425	312	22	95	M16x35	230	510	1080	245	650	1220	315
FO 225–160L	325	360	405	410	95	70	110	20	225	74.5	12	45	425	312	22	95	M16x35	230	550	1120	245	695	1265	380
FO 225–180	325	360	405	410	95	70	110	20	225	74.5	12	45	425	360	22	95	M16x35	255	610	1200	270	735	1325	404
FO 225–200	325	360	405	410	95	70	110	20	225	74.5	12	45	425	382	22	95	M16x35	340	670	1265	–	–	–	485

NOTE : 1) Tolerance on dia D is k5, Tolerance on key F is N9

Dimensions of Standard Flange Mounted Gear Motors (FL)



FOR 560 TO 100 RPM–DOUBLE REDUCTION FLANGE MOUNTED GEAR MOTORS (FL90 TO FL 112 SERIES)

FRAME	M	N	P	K	C	AC	D	E	GA	GD	F	LA	T	R	Y	X	STD. GEAR MOTOR			STD. BRAKE GEAR MOTOR			STD. G. M. Approx.Net Wt.(kg)
																	AD	LB	L	AD	LB	L	
FL 90–63	168	150	186	9	150	116	20	40	22.5	6	6	8	5	8	35	M6x20	103	195	360	121	253	415	17
FL 90–71	168	150	186	9	150	140	20	40	22.5	6	6	8	5	8	35	M6x20	113	224	385	129	295	460	19
FL 90–80	168	150	186	9	150	158	20	40	22.5	6	6	8	5	8	35	M6x20	130	245	420	127	340	515	27
FL 100–63	204	186	222	9	182	116	24	50	27	7	8	10	5	8	40	M8x20	103	195	380	121	253	435	21
FL 100–71	204	186	222	9	182	140	24	50	27	7	8	10	5	8	40	M8x20	113	224	405	129	295	480	23
FL 100–80	204	186	222	9	182	158	24	50	27	7	8	10	5	8	40	M8x20	130	245	435	127	340	525	31
FL 100–90	204	186	222	9	182	178	24	50	27	7	8	10	5	8	40	M8x20	160	295	485	152	405	600	38
FL 112–71	230	210	250	11	204	140	32	60	35	8	10	12	5	8	50	M12x25	113	224	425	129	295	500	36
FL 112–80	230	210	250	11	204	158	32	60	35	8	10	12	5	8	50	M12x25	130	245	440	127	340	540	43
FL 112–90	230	210	250	11	204	178	32	60	35	8	10	12	5	8	50	M12x25	160	295	505	152	405	615	49
FL 112–100	230	210	250	11	204	208	32	60	35	8	10	12	5	8	50	M12x25	158	345	565	158	450	670	55
FL 112–112	230	210	250	11	204	225	32	60	35	8	10	12	5	8	50	M12x25	170	345	565	189	450	670	69

FOR 84 TO 10 RPM–TRIPLE REDUCTION FLANGE MOUNTED GEAR MOTORS (FL90 TO FL 112 SERIES)

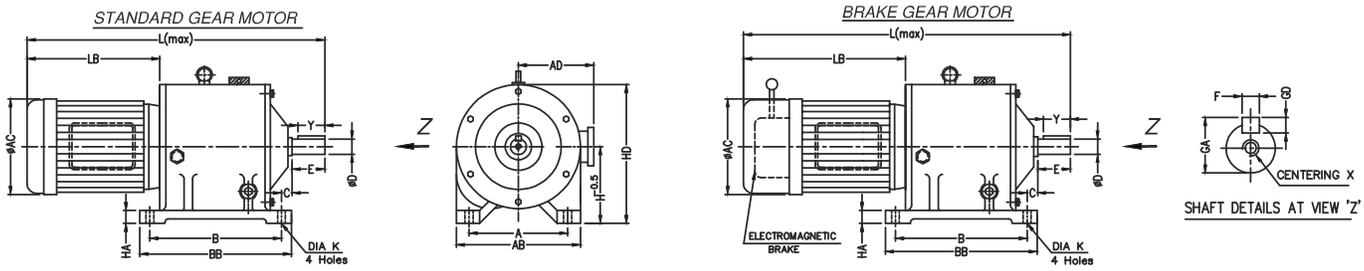
FL 90–63	168	150	186	9	150	116	20	40	22.5	6	6	8	5	8	35	M6x20	103	195	415	121	253	470	20
FL 90–71	168	150	186	9	150	140	20	40	22.5	6	6	8	5	8	35	M6x20	113	224	440	129	295	515	22
FL 90–80	168	150	186	9	150	158	20	40	22.5	6	6	8	5	8	35	M6x20	130	245	475	127	340	570	30
FL 100–63	204	186	222	9	182	116	24	50	27	7	8	10	5	8	40	M8x20	103	195	430	121	253	485	24
FL 100–71	204	186	222	9	182	140	24	50	27	7	8	10	5	8	40	M8x20	113	224	455	129	295	530	26
FL 100–80	204	186	222	9	182	158	24	50	27	7	8	10	5	8	40	M8x20	130	245	485	127	340	575	34
FL 100–90	204	186	222	9	182	178	24	50	27	7	8	10	5	8	40	M8x20	160	295	535	152	405	650	41
FL 112–71	230	210	250	11	204	140	32	60	35	8	10	12	5	8	50	M12x25	113	224	495	129	295	570	39
FL 112–80	230	210	250	11	204	158	32	60	35	8	10	12	5	8	50	M12x25	130	245	510	127	340	610	47
FL 112–90	230	210	250	11	204	178	32	60	35	8	10	12	5	8	50	M12x25	160	295	575	152	405	685	52
FL 112–100	230	210	250	11	204	208	32	60	35	8	10	12	5	8	50	M12x25	175	345	635	158	450	740	58
FL 112–112	230	210	250	11	204	225	32	60	35	8	10	12	5	8	50	M12x25	180	345	635	189	450	740	72

FOR 560 TO 10 RPM–FLANGE MOUNTED GEAR MOTORS (FL132 TO FL 225 SERIES)

FL 132–80	274	254	294	11	252	158	42	75	45	8	12	12	5	9	60	M16x35	130	245	585	127	340	680	62
FL 132–90	274	254	294	11	252	178	42	75	45	8	12	12	5	9	60	M16x35	160	295	635	152	405	745	70
FL 132–100	274	254	294	11	252	208	42	75	45	8	12	12	5	9	60	M16x35	175	345	685	158	450	790	74
FL 132–112	274	254	294	11	252	225	42	75	45	8	12	12	5	9	60	M16x35	180	345	685	189	450	790	88
FL 160–80	300	266	330	14	312	158	48	85	51.5	9	14	14	5	9	75	M16x35	130	245	645	127	340	740	92
FL 160–90	300	266	330	14	312	178	48	85	51.5	9	14	14	5	9	75	M16x35	160	295	695	152	405	805	100
FL 160–100	300	266	330	14	312	208	48	85	51.5	9	14	14	5	9	75	M16x35	175	345	745	158	450	850	106
FL 160–112	300	266	330	14	312	225	48	85	51.5	9	14	14	5	9	75	M16x35	180	345	745	189	450	850	120
FL 160–132	300	266	330	14	312	260	48	85	51.5	9	14	14	5	9	75	M16x35	205	420	820	202	550	950	148
FL 180–100	314	282	348	14	324	208	60	90	64	11	18	16	5	10	80	M20x35	175	345	785	158	450	890	126
FL 180–112	314	282	348	14	324	225	60	90	64	11	18	16	5	10	80	M20x35	180	345	785	189	450	890	138
FL 180–132	314	282	348	14	324	260	60	90	64	11	18	16	5	10	80	M20x35	205	420	860	202	550	990	166
FL 180–160M	314	282	348	14	324	312	60	90	64	11	18	16	5	10	80	M20x35	230	510	965	245	650	1105	212
FL 180–160L	314	282	348	14	324	312	60	90	64	11	18	16	5	10	80	M20x35	230	550	1005	245	695	1150	231
FL 200–100	362	334	390	14	374	208	66	100	70.5	12	20	16	6	12	90	M20x40	175	345	840	158	450	945	162
FL 200–112	362	334	390	14	374	225	66	100	70.5	12	20	16	6	12	90	M20x40	180	345	840	189	450	945	175
FL 200–132	362	334	390	14	374	260	66	100	70.5	12	20	16	6	12	90	M20x40	205	420	925	202	550	1050	202
FL 200–160M	362	334	390	14	374	312	66	100	70.5	12	20	16	6	12	90	M20x40	230	510	1030	245	650	1170	260
FL 200–160L	362	334	390	14	374	312	66	100	70.5	12	20	16	6	12	90	M20x40	230	550	1070	245	695	1215	270
FL 200–180	362	334	390	14	374	360	66	100	70.5	12	20	16	6	12	90	M20x40	255	610	1135	270	735	1260	325
FL 225–112	384	348	420	18	400	225	70	110	74.5	12	20	20	6	12	95	M16x35	180	345	930	171	450	1035	220
FL 225–132	384	348	420	18	400	260	70	110	74.5	12	20	20	6	12	95	M16x35	205	420	990	202	550	1115	245
FL 225–160M	384	348	420	18	400	312	70	110	74.5	12	20	20	6	12	95	M16x35	230	510	1080	245	650	1220	310
FL 225–160L	384	348	420	18	400	312	70	110	74.5	12	20	20	6	12	95	M16x35	230	550	1120	245	695	1265	375
FL 225–180	384	348	420	18	400	360	70	110	74.5	12	20	20	6	12	95	M16x35	255	610	1200	270	735	1325	400
FL 225–200	384	348	420	18	400	382	70	110	74.5	12	20	20	6	12	95	M16x35	340	670	1265	–	–	–	480

NOTE : 1) Tolerance on dia D is k5, and Tolerance on N is j6, Tolerance on key F is N9.

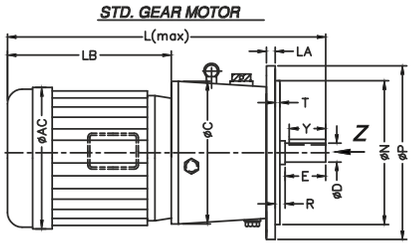
Dimensions of Standard Foot Mounted Gear Motors (LFO)

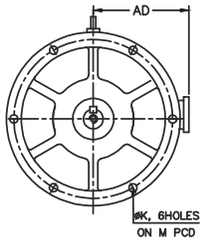


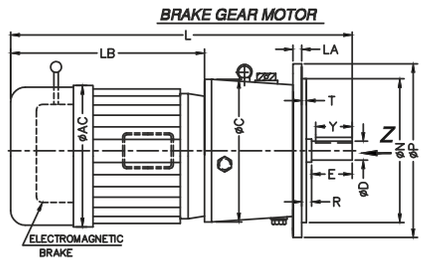
FRAME	A	B	AB	BB	C	D	E	F	H	GA	GD	HA	HD	AC	K	Y	X	STD. GEAR MOTOR			BRAKE GEAR MOTOR			STD.GM. APPROX. NET Wt. (Kg)
																		AD	LB	L	AD	LB	L	
LFO1–63	130	145	160	175	16	24	40	8	90	27	7	15	170	116	11	35	M6x20	103	220	415	121	253	445	21
LFO1–71	130	145	160	175	16	24	40	8	90	27	7	15	170	140	11	35	M6x20	113	224	410	129	295	480	21
LFO1–80	130	145	160	175	16	24	40	8	90	27	7	15	170	158	11	35	M6x20	130	245	450	127	340	545	31
LFO2–71	150	145	205	180	20	28	50	8	112	31	7	20	216	140	11	40	M8x20	113	224	440	129	295	510	27
LFO2–80	150	145	205	180	20	28	50	8	112	31	7	20	216	158	11	40	M8x20	130	245	450	127	340	445	37
LFO2–90S	150	145	205	180	20	28	50	8	112	31	7	20	216	178	11	40	M8x20	160	270	490	152	385	605	47
LFO2–90L	150	145	205	180	20	28	50	8	112	31	7	20	216	178	11	40	M8x20	160	295	515	152	405	625	47
LFO2–100L	150	145	205	180	20	28	50	8	112	31	7	20	216	208	11	40	M8x20	175	345	575	158	450	680	59
LFO2–112M	150	145	205	180	20	2	50	8	112	31	7	20	216	225	11	40	M8x20	180	345	575	189	450	680	69
LFO3–80	212	200	255	245	25	42	75	12	132	45	8	25	260	158	14	60	M16x35	130	245	535	127	340	630	56
LFO3–90S	212	200	255	245	25	42	75	12	132	45	8	25	260	178	14	60	M16x35	160	270	560	152	385	675	66
LFO3–90L	212	200	255	245	25	42	75	12	132	45	8	25	260	178	14	60	M16x35	160	295	585	152	405	695	66
LFO3–100L	212	200	255	245	25	42	75	12	132	45	8	25	260	208	14	60	M16x35	175	345	635	158	450	740	78
LFO3–112M	212	200	255	245	25	42	75	12	132	45	8	25	260	225	14	60	M16x35	180	345	635	189	450	740	88
LFO4–90S	270	235	315	285	47	48	85	14	160	51.5	9	35	316	178	18	75	M16x25	160	270	620	152	385	735	88
LFO4–90L	270	235	315	285	47	48	85	14	160	51.5	9	35	316	178	18	75	M16x25	160	295	645	152	405	755	88
LFO4–100L	270	235	315	285	47	48	85	14	160	51.5	9	35	316	208	18	75	M16x25	175	345	695	158	450	880	100
LFO4–112M	270	235	315	285	47	48	85	14	160	51.5	9	35	316	225	18	75	M16x25	180	345	695	189	450	800	110
LFO4–132S	270	235	315	285	47	48	85	14	160	51.5	9	35	316	260	18	75	M16x25	210	380	730	202	506	855	140
LFO4–132M	270	235	315	280	47	48	85	14	160	51.5	9	35	316	260	18	75	M16x25	210	420	770	202	550	900	140
LFO5–100L	310	250	380	325	77	66	100	20	200	70.5	12	40	386	208	22	90	M20x40	175	345	765	158	450	870	170
LFO5–112M	310	250	380	325	77	66	100	20	200	70.5	12	40	386	225	22	90	M20x40	180	345	765	189	450	870	180
LFO5–132S	310	250	380	325	77	66	100	20	200	70.5	12	40	386	260	22	90	M20x40	210	380	805	202	506	930	210
LFO5–132M	310	250	380	325	77	66	100	20	200	70.5	12	40	386	260	22	90	M20x40	210	420	845	202	550	975	210
LFO5–160M	310	250	380	325	77	66	100	20	200	70.5	12	40	386	312	22	90	M20x40	230	510	950	245	650	1090	263
LFO5–160L	310	250	380	325	77	66	100	20	200	70.5	12	40	386	312	22	90	M20x40	230	550	990	245	695	1135	263
LFO5–180M/L	310	250	380	325	77	66	100	20	200	70.5	12	40	386	360	22	90	M20x40	255	610	1050	270	735	1175	304
LFO6–132S	330	275	400	350	85	70	110	20	250	74.5	12	45	450	260	22	95	M16x35	210	380	835	202	506	960	270
LFO6–132M	330	275	400	350	85	70	110	20	250	74.5	12	45	450	260	22	95	M16x35	210	420	875	202	550	1005	270
LFO6–160M	330	275	400	350	85	70	110	20	250	74.5	12	45	450	312	22	95	M16x35	230	510	970	245	650	1110	323
LFO6–160L	330	275	400	350	85	70	110	20	250	74.5	12	45	450	312	22	95	M16x35	230	550	1010	245	695	1155	323
LFO6–180M/L	330	275	400	350	85	70	110	20	250	74.5	12	45	450	360	22	95	M16x35	255	610	1095	270	735	1220	364
LFO6–200M/L	330	275	400	350	85	70	110	20	250	74.5	12	45	450	382	22	95	M16x35	340	670	1155	–	–	–	470
LFO7–132S	370	270	430	350	51	80	120	20	280	84.5	12	50	500	260	22	105	M20x40	210	380	830	202	506	955	300
LFO7–132M	370	270	430	350	51	80	120	20	280	84.5	12	50	500	260	22	105	M20x40	210	420	870	202	550	1000	300
LFO7–160M	370	270	430	350	51	80	120	20	280	84.5	12	50	500	312	22	105	M20x40	230	510	960	245	650	1100	353
LFO7–160L	370	270	430	350	51	80	120	20	280	84.5	12	50	500	312	22	105	M20x40	230	550	1000	245	695	1145	353
LFO7–180M/L	370	270	430	350	51	80	120	20	280	84.5	12	50	500	360	22	105	M20x40	255	610	1060	270	735	1185	394
LFO7–200M/L	370	270	430	350	51	80	120	20	280	84.5	12	50	500	382	22	105	M20x40	340	670	1120	–	–	–	500
LFO7–225M/L	370	270	430	350	51	80	120	20	280	84.5	12	50	500	445	22	105	M20x40	375	720	1170	–	–	–	500

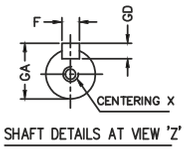
NOTE : 1) Tolerance on dia D is k5, Tolerance on key F is N9

Dimensions of Standard Flange Mounted Gear Motors (LFL)





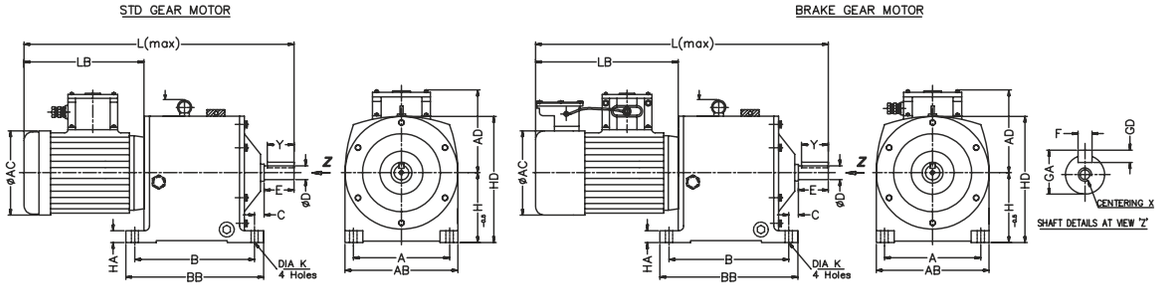




FRAME	M	N	P	K	C	AC	D	E	GA	GD	F	LA	T	R	Y	X	STD. GEAR MOTOR			BRAKE GEAR MOTOR			STD. GM APPROX. NET Wt. (Kg)
																	AD	LB	L	AD	LB	L	
LFL1–63	168	150	186	9	160	116	24	40	27	7	8	8	5	8	35	M6x20	103	220	415	121	253	445	20
LFL1–71	168	150	186	9	160	140	24	40	27	7	8	8	5	8	35	M6x20	113	224	415	129	295	485	20
LFL1–80	168	150	186	9	160	158	24	40	27	7	8	8	5	8	35	M6x20	125	245	455	127	340	550	29
LFL2–71	204	186	222	9	204	140	28	50	31	7	8	10	5	8	40	M8x20	113	224	435	129	295	505	26
LFL2–80	204	186	222	9	204	158	28	50	31	7	8	10	5	8	40	M8x20	130	245	450	127	340	545	36
LFL2–90S	204	186	222	9	204	178	28	50	31	7	8	10	5	8	40	M8x20	160	270	490	152	385	605	46
LFL2–90L	204	186	222	9	204	178	28	50	31	7	8	10	5	8	40	M8x20	160	295	515	152	405	625	46
LFL2–100L	204	186	222	9	204	208	28	50	31	7	8	10	5	8	40	M8x20	175	345	575	158	450	680	58
LFL2–112M	204	186	222	9	204	225	28	50	31	7	8	10	5	8	40	M8x20	180	345	575	171	450	680	68
LFL3–80	274	254	294	11	252	158	42	75	45	8	12	12	5	9	60	M16x35	130	245	535	127	340	630	54
LFL3–90S	274	254	294	11	252	178	42	75	45	8	12	12	5	9	60	M16x35	160	270	560	152	385	675	64
LFL3–90L	274	254	294	11	252	178	42	75	45	8	12	12	5	9	60	M16x35	160	295	585	152	405	695	64
LFL3–100L	274	254	294	11	252	208	42	75	45	8	12	12	5	9	60	M16x35	175	345	635	158	450	740	76
LFL3–112M	274	254	294	11	252	225	42	75	45	8	12	12	5	9	60	M16x35	180	345	635	171	450	740	86
LFL4–90S	300	266	330	14	312	178	48	85	51.5	9	14	14	5	9	75	M16x25	160	270	620	152	385	735	84
LFL4–90L	300	266	330	14	312	178	48	85	51.5	9	14	14	5	9	75	M16x25	160	295	645	152	405	755	84
LFL4–100L	300	266	330	14	312	208	48	85	51.5	9	14	14	5	9	75	M16x25	175	345	695	158	450	800	96
LFL4–112M	300	266	330	14	312	225	48	85	51.5	9	14	14	5	9	75	M16x25	180	345	695	171	450	800	106
LFL4–132S	300	266	330	14	312	260	48	85	51.5	9	14	14	5	9	75	M16x25	205	380	730	202	506	855	136
LFL4–132M	300	266	330	14	312	260	48	85	51.5	9	14	14	5	9	75	M16x25	205	420	770	202	550	900	136
LFL5–100L	362	334	390	14	374	208	66	100	70.5	12	20	16	6	12	90	M20x40	175	345	755	158	450	860	164
LFL5–112M	362	334	390	14	374	225	66	100	70.5	12	20	16	6	12	90	M20x40	180	345	755	171	450	860	174
LFL5–132S	362	334	390	14	374	260	66	100	70.5	12	20	16	6	12	90	M20x40	205	380	795	202	506	920	204
LFL5–132M	362	334	390	14	374	260	66	100	70.5	12	20	16	6	12	90	M20x40	205	420	835	202	550	965	204
LFL5–160M	362	334	390	14	374	312	66	100	70.5	12	20	16	6	12	90	M20x40	230	510	940	233	650	1080	257
LFL5–160L	362	334	390	14	374	312	66	100	70.5	12	20	16	6	12	90	M20x40	230	550	980	233	695	1125	257
LFL5–180M/L	362	334	390	14	374	360	66	100	70.5	12	20	16	6	12	90	M20x40	255	610	1040	270	735	1175	298
LFL6–132S	384	348	420	18	400	260	70	110	74.5	12	20	20	6	12	95	M16x35	205	380	830	202	506	950	260
LFL6–132M	384	348	420	18	400	260	70	110	74.5	12	20	20	6	12	95	M16x35	205	420	870	202	550	1000	260
LFL6–160M	384	348	420	18	400	312	70	110	74.5	12	20	20	6	12	95	M16x35	230	510	960	233	650	1100	313
LFL6–160L	384	348	420	18	400	312	70	110	74.5	12	20	20	6	12	95	M16x35	230	550	1000	233	695	1145	313
LFL6–180M/L	384	348	420	18	400	360	70	110	74.5	12	20	20	6	12	95	M16x35	255	610	1075	270	735	1220	354
LFL6–200M/L	384	348	420	18	400	382	70	110	74.5	12	20	20	6	12	95	M16x35	340	670	1145	–	–	–	460
LFL7–160M	420	390	450	18	430	312	80	120	84.5	12	20	20	6	12	105	M20x40	230	510	945	233	650	1085	338
LFL7–160L	420	390	450	18	430	312	80	120	84.5	12	20	20	6	12	105	M20x40	230	550	985	233	695	1130	338
LFL7–180M/L	420	390	450	18	430	360	80	120	84.5	12	20	20	6	12	105	M20x40	255	610	1050	270	735	1185	379
LFL7–200M/L	420	390	450	18	430	382	80	120	84.5	12	20	20	6	12	105	M20x40	340	670	1115	–	–	–	485
LFL7–225S/M	420	390	450	18	430	445	80	120	84.5	12	20	20	6	12	105	M20x40	375	720	1170	–	–	–	485

NOTE : 1) Tolerance on dia D is k5, and Tolerance on N is j6, Tolerance on key F is N9.

Dimensions of Flameproof Gear Motors (FO)



FOR 560 TO 100 RPM–DOUBLE REDUCTION FOOT MOUNTED GEARED MOTORS (FO90 TO FO 112 SERIES)

FRAME	A	B	AB	BB	C	D	E	F	H	GA	GD	HA	HD	AD	AC	K	Y	X	FLAMEPROOF GEAR MOTOR		FLAMEPROOF BRAKE GEAR MOTOR	
																			LB	L	LB	L
FO 90–71	120	100	150	130	19	20	40	6	90	22.5	6	16	165	135	145	11	35	M6x20	250	415	345	510
FO 90–80	120	100	150	130	19	20	40	6	90	22.5	6	16	165	145	180	11	35	M6x20	265	440	380	555
FO 100–71	150	115	185	140	21	24	50	8	100	27	7	18	191	135	145	11	40	M8x20	250	435	345	530
FO 100–80	150	115	185	140	21	24	50	8	100	27	7	18	191	145	180	11	40	M8x20	265	455	380	570
FO 100–90S/L	150	115	185	140	21	24	50	8	100	27	7	18	191	247	192	11	40	M8x20	325	515	477	670
FO 112–71	175	110	205	135	30	32	60	10	112	35	8	20	214	135	145	11	50	M12x25	250	455	345	550
FO 112–80	175	110	205	135	30	32	60	10	112	35	8	20	214	145	180	11	50	M12x25	265	460	380	575
FO 112–90S/L	175	110	205	135	30	32	60	10	112	35	8	20	214	247	192	11	50	M12x25	325	535	477	687
FO 112–100L	175	110	205	135	30	32	60	10	112	35	8	20	214	262	217	11	50	M12x25	375	595	490	710
FO 112–112M	175	110	205	135	30	32	60	10	112	35	8	20	214	278	240	11	50	M12x25	400	620	530	750

FOR 84 TO 10 RPM–TRIPLE REDUCTION FOOT MOUNTED GEARED MOTORS (FO90 TO FO 112 SERIES)

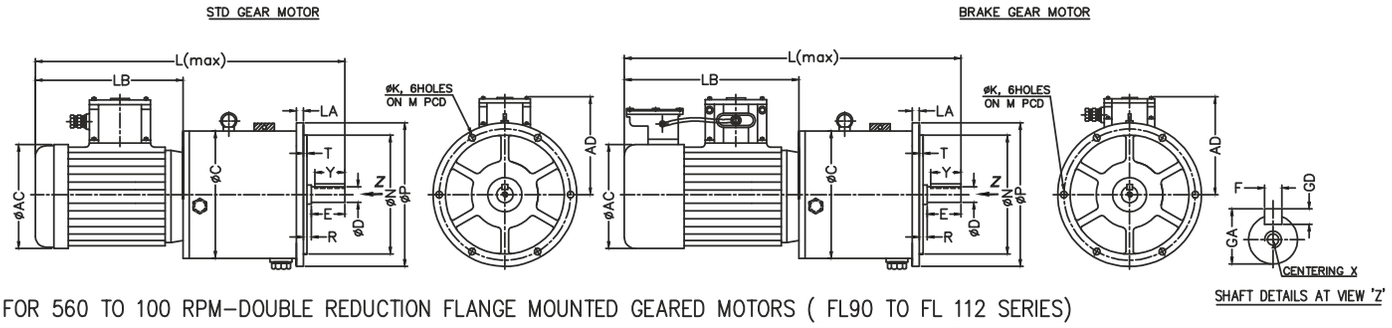
FO 90–71	120	150	150	180	16	20	40	6	90	22.5	6	16	165	135	145	11	35	M6x20	250	470	345	565
FO 90–80	120	150	150	180	16	20	40	6	90	22.5	6	16	165	145	180	11	35	M6x20	265	495	380	610
FO 100–71	150	160	185	200	21	24	50	8	100	27	7	22	191	135	145	11	40	M8x20	250	485	345	580
FO 100–80	150	160	185	200	21	24	50	8	100	27	7	22	191	145	180	11	40	M8x20	265	505	380	620
FO 100–90S/L	150	160	185	200	21	24	50	8	100	27	7	22	191	247	192	11	40	M8x20	325	565	477	720
FO 112–71	175	180	205	215	30	32	60	10	112	35	8	20	214	135	145	11	50	M12x25	250	525	345	620
FO 112–80	175	180	205	215	30	32	60	10	112	35	8	20	214	145	180	11	50	M12x25	265	530	380	645
FO 112–90S/L	175	180	205	215	30	32	60	10	112	35	8	20	214	247	192	11	50	M12x25	325	605	477	760
FO 112–100L	175	180	205	215	30	32	60	10	112	35	8	20	214	262	217	11	50	M12x25	375	665	490	780
FO 112–112M	175	180	205	215	30	32	60	10	112	35	8	20	214	278	240	11	50	M12x25	400	690	530	820

FOR 560 TO 10 RPM–FOOT MOUNTED GEARED MOTORS (FO132 TO FO 225 SERIES)

FO 132–80	212	225	255	300	40	42	75	12	132	45	8	25	260	145	180	14	60	M16x35	265	605	380	720
FO 132–90S/L	212	225	255	300	40	42	75	12	132	45	8	25	260	247	192	14	60	M16x35	325	665	477	820
FO 132–100L	212	225	255	300	40	42	75	12	132	45	8	25	260	262	217	14	60	M16x35	375	715	490	830
FO 132–112M	212	225	255	300	40	42	75	12	132	45	8	25	260	278	240	14	60	M16x35	400	740	530	870
FO 160–80	270	275	315	325	46	48	85	14	160	51.5	9	36	316	145	180	18	75	M16x35	265	655	380	780
FO 160–90S/L	270	275	315	325	46	48	85	14	160	51.5	9	36	316	247	192	18	75	M16x35	325	725	477	880
FO 160–100L	270	275	315	325	46	48	85	14	160	51.5	9	36	316	262	217	18	75	M16x35	375	775	490	890
FO 160–112M	270	275	315	325	46	48	85	14	160	51.5	9	36	316	278	240	18	75	M16x35	400	800	530	930
FO 160–132S/M	270	275	315	325	46	48	85	14	160	51.5	9	36	316	295	272	18	75	M16x35	508	910	665	1065
FO 180–100L	280	285	325	335	58	60	90	18	180	64	11	35	345	262	217	18	80	M20x35	375	815	490	930
FO 180–112M	280	285	325	335	58	60	90	18	180	64	11	35	345	278	240	18	80	M20x35	400	840	530	970
FO 180–132S/M	280	285	325	335	58	60	90	18	180	64	11	35	345	295	272	18	80	M20x35	508	950	665	1105
FO 180–160M/L	280	285	325	335	58	60	90	18	180	64	11	35	345	319	316	18	80	M20x35	598	1055	767	1225
FO 200–100L	335	335	380	380	72	66	100	20	200	70.5	12	40	386	262	217	22	90	M20x40	375	870	490	985
FO 200–112M	335	335	380	380	72	66	100	20	200	70.5	12	40	386	278	240	22	90	M20x40	400	895	530	1025
FO 200–132S/M	335	335	380	380	72	66	100	20	200	70.5	12	40	386	295	272	22	90	M20x40	508	1015	665	1170
FO 200–160M/L	335	335	380	380	72	66	100	20	200	70.5	12	40	386	319	316	22	90	M20x40	598	1120	767	1290
FO 200–180M/L	335	335	380	380	72	66	100	20	200	70.5	12	40	386	415	358	22	90	M20x40	625	1150	814	1340
FO 225–112M	325	360	405	410	95	70	110	20	225	74.5	12	45	425	278	240	22	95	M16x35	400	985	530	1115
FO 225–132S/L	325	360	405	410	95	70	110	20	225	74.5	12	45	425	295	272	22	95	M16x35	508	1080	665	1235
FO 225–160M/L	325	360	405	410	95	70	110	20	225	74.5	12	45	425	319	316	22	95	M16x35	598	1170	767	1340
FO 225–180M/L	325	360	405	410	95	70	110	20	225	74.5	12	45	425	415	358	22	95	M16x35	625	1215	814	1405
FO 225–200L	325	360	405	410	95	70	110	20	225	74.5	12	45	425	415	381	22	95	M16x35	690	1285	–	–

NOTE : Tolerance on ØD is k5 and on Dim F is N9.

Dimensions of Flameproof Gear Motors (FL)



FOR 560 TO 100 RPM–DOUBLE REDUCTION FLANGE MOUNTED GEARED MOTORS (FL90 TO FL 112 SERIES)

FRAME	M	N	P	K	C	AC	AD	D	E	GA	GD	F	LA	T	R	Y	X	FLAMEPROOF GEAR MOTOR		FLAMEPROOF BRAKE GEAR MOTOR	
																		LB	L	LB	L
FL90–71	168	150	186	9	150	145	135	20	40	22.5	6	6	8	5	8	35	M6x20	250	410	345	510
FL90–80	168	150	186	9	150	180	145	20	40	22.5	6	6	8	5	8	35	M6x20	265	435	380	555
FL100–71	204	186	222	9	182	145	135	24	50	27	7	8	10	5	8	40	M8x20	250	440	345	540
FL100–80	204	186	222	9	182	180	145	24	50	27	7	8	10	5	8	40	M8x20	265	460	380	580
FL100–90	204	186	222	9	182	192	247	24	50	27	7	8	10	5	8	40	M8x20	325	525	477	685
FL112–71	230	210	250	11	204	145	135	32	60	35	8	10	12	5	8	50	M12x25	250	460	345	560
FL112–80	230	210	250	11	204	180	145	32	60	35	8	10	12	5	8	50	M12x25	265	475	380	595
FL112–90	230	210	250	11	204	192	247	32	60	35	8	10	12	5	8	50	M12x25	325	540	477	700
FL112–100	230	210	250	11	204	217	262	32	60	35	8	10	12	5	8	50	M12x25	375	600	490	720
FL112–112	230	210	250	11	204	240	278	32	60	35	8	10	12	5	8	50	M12x25	400	625	530	760

FOR 84 TO 10 RPM–TRIPLE REDUCTION FLANGE MOUNTED GEARED MOTORS (FL90 TO FL 112 SERIES)

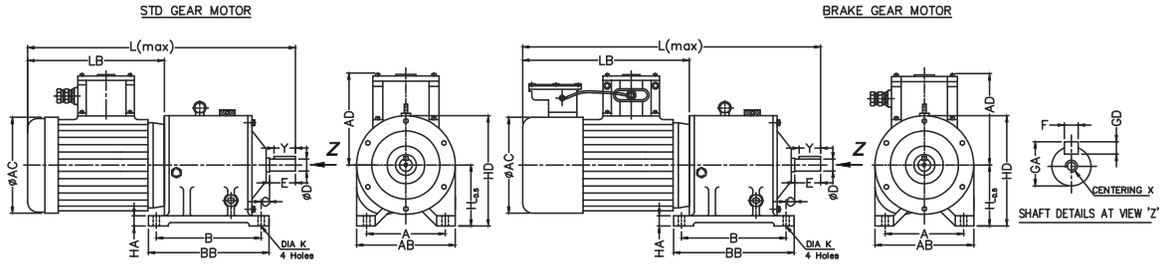
FL90–71	168	150	186	9	150	145	135	20	40	22.5	6	6	8	5	8	35	M6x20	250	470	345	565
FL90–80	168	150	186	9	150	180	145	20	40	22.5	6	6	8	5	8	35	M6x20	265	495	380	615
FL100–71	204	186	222	9	182	145	135	24	50	27	7	8	10	5	8	40	M8x20	250	485	345	585
FL100–80	204	186	222	9	182	180	145	24	50	27	7	8	10	5	8	40	M8x20	265	500	380	620
FL100–90	204	186	222	9	182	192	247	24	50	27	7	8	10	5	8	40	M8x20	325	565	477	725
FL112–71	230	210	250	11	204	145	135	32	60	35	8	10	12	5	8	50	M12x25	250	530	345	630
FL112–80	230	210	250	11	204	180	145	32	60	35	8	10	12	5	8	50	M12x25	265	550	380	670
FL112–90	230	210	250	11	204	192	247	32	60	35	8	10	12	5	8	50	M12x25	325	610	477	770
FL112–100	230	210	250	11	204	217	262	32	60	35	8	10	12	5	8	50	M12x25	375	670	490	790
FL112–112	230	210	250	11	204	240	278	32	60	35	8	10	12	5	8	50	M12x25	400	695	530	830

FOR 560 TO 10 RPM–FLANGE MOUNTED GEARED MOTORS (FL132 TO FL225 SERIES)

FL132–80	274	254	294	11	252	180	145	42	75	45	8	12	12	5	9	60	M16x35	265	615	380	730
FL132–90S/L	274	254	294	11	252	192	247	42	75	45	8	12	12	5	9	60	M16x35	325	675	477	830
FL132–100L	274	254	294	11	252	217	262	42	75	45	8	12	12	5	9	60	M16x35	375	725	490	840
FL132–112M	274	254	294	11	252	240	278	42	75	45	8	12	12	5	9	60	M16x35	400	750	530	880
FL160–80	300	266	330	14	312	180	145	48	85	51.5	9	14	14	5	9	75	M16x35	265	665	380	780
FL160–90S/L	300	266	330	14	312	192	247	48	85	51.5	9	14	14	5	9	75	M16x35	325	730	477	885
FL160–100L	300	266	330	14	312	217	262	48	85	51.5	9	14	14	5	9	75	M16x35	375	775	490	890
FL160–112M	300	266	330	14	312	240	278	48	85	51.5	9	14	14	5	9	75	M16x35	400	805	530	935
FL160–132S/M	300	266	330	14	312	272	295	48	85	51.5	9	14	14	5	9	75	M16x35	508	915	665	1075
FL180–100L	314	282	348	14	324	217	262	60	90	64	11	18	16	5	10	80	M20x35	375	810	490	925
FL180–112M	314	282	348	14	324	240	278	60	90	64	11	18	16	5	10	80	M20x35	400	835	530	965
FL180–132S/M	314	282	348	14	324	272	295	60	90	64	11	18	16	5	10	80	M20x35	508	945	665	1105
FL180–160M/L	314	282	348	14	324	316	319	60	90	64	11	18	16	5	10	80	M20x35	598	1055	767	1225
FL200–100L	362	334	390	14	374	217	262	66	100	70.5	12	20	16	6	12	90	M20x40	375	865	490	980
FL200–112M	362	334	390	14	374	240	278	66	100	70.5	12	20	16	6	12	90	M20x40	400	890	530	1020
FL200–132S/M	362	334	390	14	374	272	295	66	100	70.5	12	20	16	6	12	90	M20x40	508	1110	665	1270
FL200–160M/L	362	334	390	14	374	316	319	66	100	70.5	12	20	16	6	12	90	M20x40	598	1115	767	1285
FL200–180M/L	362	334	390	14	374	358	415	66	100	70.5	12	20	16	6	12	90	M20x40	625	1140	814	1330
FL225–112M	384	348	420	18	400	240	278	70	110	74.5	12	20	20	6	12	95	M16x35	400	975	530	1105
FL225–132M	384	348	420	18	400	272	295	70	110	74.5	12	20	20	6	12	95	M16x35	508	1075	665	1235
FL225–160M/L	384	348	420	18	400	316	319	70	110	74.5	12	20	20	6	12	95	M16x35	598	1155	767	1325
FL225–180M/L	384	348	420	18	400	358	415	70	110	74.5	12	20	20	6	12	95	M16x35	625	1205	814	1395
FL225–200L	384	348	420	18	400	381	415	70	110	74.5	12	20	20	6	12	95	M16x35	690	1275	–	–

NOTE : Tolerance on ØD is k5, on N is j6 on Dim F is N9.

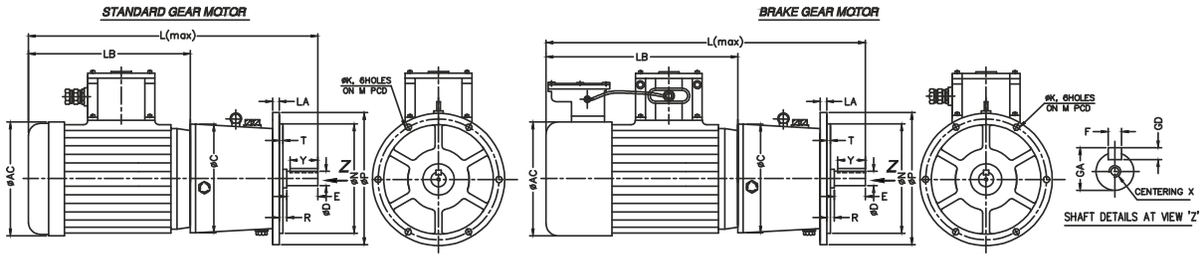
Dimensions of Flameproof Gear Motors (LFO)



FRAME	A	B	AB	BB	C	D	E	F	H	GA	GD	HA	HD	AD	AC	K	Y	X	FLAMEPROOF GEAR MOTOR		FLAMEPROOF BRAKE GEAR MOTOR	
																			LB	L	LB	L
LF01–71	130	145	160	175	16	24	40	6	90	27	6	15	170	135	145	11	35	M6x20	250	445	345	540
LF01–80	130	145	160	175	16	24	40	6	90	27	6	15	170	145	180	11	35	M6x20	265	475	380	590
LF02–71	150	145	205	180	20	28	50	8	112	31	7	20	216	135	145	11	40	M8x20	250	475	345	570
LF02–80	150	145	205	180	20	28	50	8	112	31	7	20	216	145	180	11	40	M8x20	265	475	380	590
LF02–90S/L	150	145	205	180	20	28	50	8	112	31	7	20	216	247	192	11	40	M8x20	325	555	477	710
LF02–100L	150	145	205	180	20	28	50	8	112	31	7	20	216	262	217	11	40	M8x20	375	610	490	725
LF02–112M	150	145	205	180	20	28	50	8	112	31	7	20	216	278	240	11	40	M8x20	400	635	530	765
LF03–80	212	200	255	245	25	42	75	12	132	45	8	25	260	145	180	14	60	M16x35	265	560	380	675
LF03–90S/L	212	200	255	245	25	42	75	12	132	45	8	25	260	247	192	14	60	M16x35	325	620	477	775
LF03–100L	212	200	255	245	25	42	75	12	132	45	8	25	260	262	217	14	60	M16x35	375	675	490	790
LF03–112M	212	200	255	245	25	42	75	12	132	45	8	25	260	278	240	14	60	M16x35	400	695	530	825
LF04–90S/L	270	235	315	285	47	48	85	14	160	51.5	9	35	316	247	192	18	75	M16x25	325	680	477	835
LF04–100L	270	235	315	285	47	48	85	14	160	51.5	9	35	316	262	217	18	75	M16x25	375	730	490	845
LF04–112M	270	235	315	285	47	48	85	14	160	51.5	9	35	316	278	240	18	75	M16x25	400	755	530	885
LF04–132S/L	270	235	315	285	47	48	85	14	160	51.5	9	35	316	295	272	18	75	M16x25	508	865	665	1025
LF05–100L	310	250	380	325	77	66	100	20	200	70.5	12	40	386	262	217	22	90	M20x40	375	800	490	915
LF05–112M	310	250	380	325	77	66	100	20	200	70.5	12	40	386	278	240	22	90	M20x40	400	825	530	955
LF05–132S/L	310	250	380	325	77	66	100	20	200	70.5	12	40	386	295	272	22	90	M20x40	508	940	665	1100
LF05–160M/L	310	250	380	325	77	66	100	20	200	70.5	12	40	386	319	316	22	90	M20x40	598	1045	767	1215
LF05–180M/L	310	250	380	325	77	66	100	20	200	70.5	12	40	386	415	358	22	90	M20x40	625	1070	814	1260
LF06–132S/L	330	275	400	350	85	70	110	20	250	74.5	12	45	450	295	272	22	95	M16x35	508	970	665	1130
LF06–160M/L	330	275	400	350	85	70	110	20	250	74.5	12	45	450	319	316	22	95	M16x35	598	1065	767	1235
LF06–180M/L	330	275	400	350	85	70	110	20	250	74.5	12	45	450	415	358	22	95	M16x35	625	1115	814	1305
LF06–200L	330	275	400	350	85	70	110	20	250	74.5	12	45	450	415	381	22	95	M16x35	690	1180	–	–
LF07–160M/L	370	270	430	350	51	80	120	20	280	84.5	12	50	500	319	316	22	105	M20x40	598	1055	767	1225
LF07–180M/L	370	270	430	350	51	80	120	20	280	84.5	12	50	500	415	358	22	105	M20x40	625	1080	814	1270
LF07–200L	370	270	430	350	51	80	120	20	280	84.5	12	50	500	415	381	22	105	M20x40	690	1145	–	–
LF07–225S/M	370	270	430	350	51	80	120	20	280	84.5	12	50	500	458	447	22	105	M20x40	740	1200	–	–

NOTE : Tolerance on ØD is k5 and on Dim F is N9,

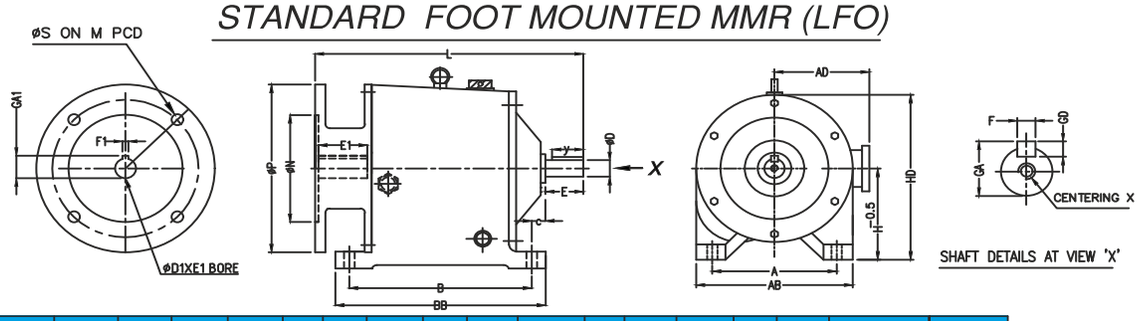
Dimensions of Flameproof Gear Motors (LFL)



FRAME	M	N	P	K	C	AD	AC	D	E	GA	GD	F	LA	T	R	Y	X	FLAMEPROOF BRAKE GEAR MOTOR		FLAMEPROOF BRAKE GEAR MOTOR	
																		LB	L	LB	L
LFL1–71	168	150	186	9	160	134	145	24	40	27	7	8	8	5	8	35	M6x20	250	445	345	540
LFL1–80	168	150	186	9	160	145	180	24	40	27	7	8	8	5	8	35	M6x20	265	475	380	590
LFL2–71	204	186	222	9	204	134	145	28	50	31	7	8	10	5	8	40	M8x20	250	465	345	560
LFL2–80	204	186	222	9	204	145	180	28	50	31	7	8	10	5	8	40	M8x20	265	470	380	585
LFL2–90S/L	204	186	222	9	204	247	192	28	50	31	7	8	10	5	8	40	M8x20	325	545	477	697
LFL2–100L	204	186	222	9	204	262	217	28	50	31	7	8	10	5	8	40	M8x20	375	605	490	720
LFL2–112M	204	186	222	9	204	278	240	28	50	31	7	8	10	5	8	40	M8x20	400	630	530	760
LFL3–80	274	254	294	11	252	145	180	42	75	45	8	12	12	5	9	60	M16x35	265	555	380	670
LFL3–90S/L	274	254	294	11	252	247	192	42	75	45	8	12	12	5	9	60	M16x35	325	615	477	770
LFL3–100L	274	254	294	11	252	262	217	42	75	45	8	12	12	5	9	60	M16x35	375	665	490	780
LFL3–112M	274	254	294	11	252	278	240	42	75	45	8	12	12	5	9	60	M16x35	400	690	530	820
LFL4–90S/L	300	266	330	14	312	247	192	48	85	51.5	9	14	14	5	9	75	M16x25	325	675	477	830
LFL4–100L	300	266	330	14	312	262	217	48	85	51.5	9	14	14	5	9	75	M16x25	375	725	490	840
LFL4–112M	300	266	330	14	312	278	240	48	85	51.5	9	14	14	5	9	75	M16x25	400	750	530	880
LFL4–132S/M	300	266	330	14	312	295	272	48	85	51.5	9	14	14	5	9	75	M16x25	508	860	665	1020
LFL5–100L	362	334	390	14	374	262	217	66	100	70.5	12	20	16	6	12	90	M20x40	375	785	490	900
LFL5–112M	362	334	390	14	374	278	240	66	100	70.5	12	20	16	6	12	90	M20x40	400	810	530	940
LFL5–132S/M	362	334	390	14	374	295	272	66	100	70.5	12	20	16	6	12	90	M20x40	508	925	665	1085
LFL5–160M/L	362	334	390	14	374	319	316	66	100	70.5	12	20	16	6	12	90	M20x40	598	1030	767	1200
LFL5–180M/L	362	334	390	14	374	415	358	66	100	70.5	12	20	16	6	12	90	M20x40	625	1055	814	1245
LFL6–132S/L	384	348	420	18	400	295	272	70	110	74.5	12	20	20	6	12	95	M16x35	508	965	665	1125
LFL6–160M/L	384	348	420	18	400	319	316	70	110	74.5	12	20	20	6	12	95	M16x35	598	1055	767	1225
LFL6–180M/L	384	348	420	18	400	415	358	70	110	74.5	12	20	20	6	12	95	M16x35	625	1095	814	1285
LFL6–200L	384	348	420	18	400	415	381	70	110	74.5	12	20	20	6	12	95	M16x35	690	1170	–	–
LFL7–160M/L	420	390	450	18	430	319	316	80	120	84.5	12	20	20	6	12	105	M20x40	598	1035	767	1205
LFL7–180M/L	420	390	450	18	430	415	358	80	120	84.5	12	20	20	6	12	105	M20x40	625	1070	814	1260
LFL7–200L	420	390	450	18	430	415	381	80	120	84.5	12	20	20	6	12	105	M20x40	690	1140	–	–
LFL7–225S/M	420	390	450	18	430	458	447	80	120	84.5	12	20	20	6	12	105	M20x40	740	1200	–	–

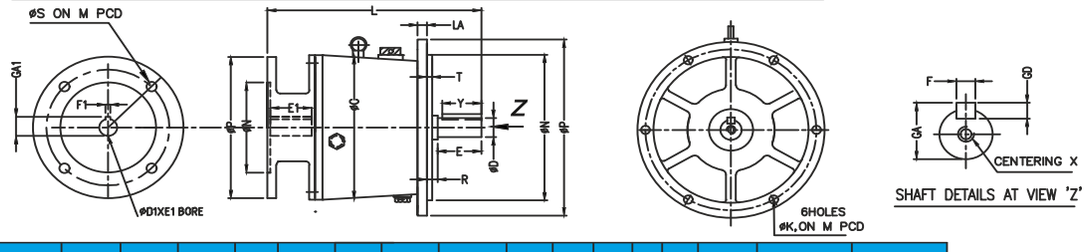
NOTE : 1) Tolerance on ØD is k5, on ØN is j6 and ON Dim F is N9

STANDARD FOOT MOUNTED MMR (LFO)



FRAME	A	B	AB	BB	C	D	E	F	H	GA	GD	HA	HD	K	Y	X	L
LFO1	130	145	160	175	16	24	40	8	90	27	7	15	170	11	35	M6x20	235
LFO2	150	145	205	180	20	28	50	8	112	31	7	20	216	11	40	M8x20	280
LFO3	212	200	255	245	25	42	75	12	132	45	8	25	260	14	60	M16x35	355
LFO4	270	235	315	285	47	48	85	14	160	51.5	9	35	316	18	75	M16x25	420
LFO5	310	250	380	325	77	66	100	20	200	70.5	12	40	386	22	90	M20x40	480
LFO6	330	275	400	350	85	70	110	20	250	74.5	12	45	450	22	95	M16x35	525
LFO7	370	270	430	350	51	80	120	20	280	84.5	12	50	500	22	105	M20x40	540

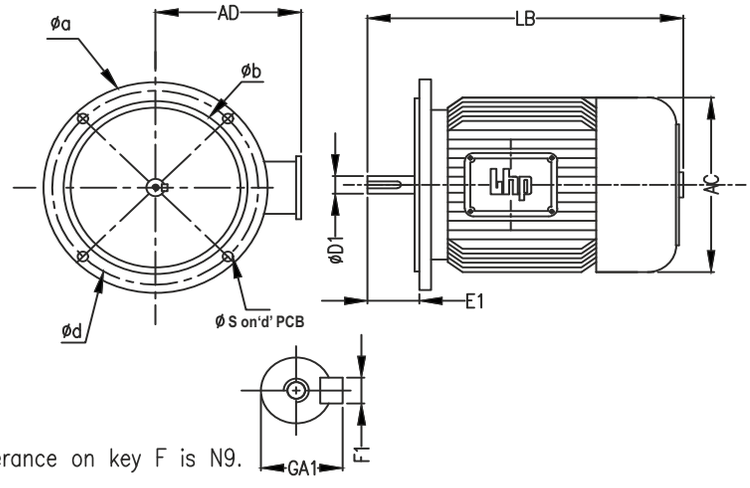
DIMENSION OF STANDARD FLANGE MOUNTED MMR (LFL)



FRAME	M	N	P	K	C	D	E	GA	GD	F	LA	T	R	Y	X	L
LFL1	168	150	186	9	160	24	40	27	7	8	8	5	8	35	M6x20	235
LFL2	204	186	222	9	204	28	50	31	7	8	10	5	8	40	M8x20	280
LFL3	274	254	294	11	252	42	75	45	8	12	12	5	9	60	M16x35	355
LFL4	300	266	330	14	312	48	85	51.5	9	14	14	5	9	75	M16x25	420
LFL5	362	334	390	14	374	66	100	70.5	12	20	16	6	12	90	M20x40	480
LFL6	384	348	420	18	400	70	110	74.5	12	20	20	6	12	95	M16x35	525
LFL7	420	390	450	18	430	80	120	84.5	12	20	20	6	12	105	M20x40	540

MOUNTING DIMENSION OF B5 INDUCTION MOTOR FOR MMR

FRAME	a	b	d	SXNO	D1	E1	F1	GA1
63	140	95	115	10X4	11	25	4	12.9
71	160	110	130	10X4	14	32	5	16.4
80	200	130	165	12X4	19	42	6	21.9
90	200	130	165	12X4	24	52	8	27.5
100	250	180	215	15X4	28	62	8	31.5
112	250	180	215	15X4	28	62	8	31.5
132	300	230	265	15X4	38	82	10	41.5
160	350	250	300	19X4	42	112	12	45.5
180	350	250	300	19X4	48	112	14	52
200	400	300	350	19X8	55	112	16	59.5
225	450	350	400	19X4	60	142	18	64.6



NOTE : 1) Tolerance on dia D is k5 and Tolerance on key F is N9.

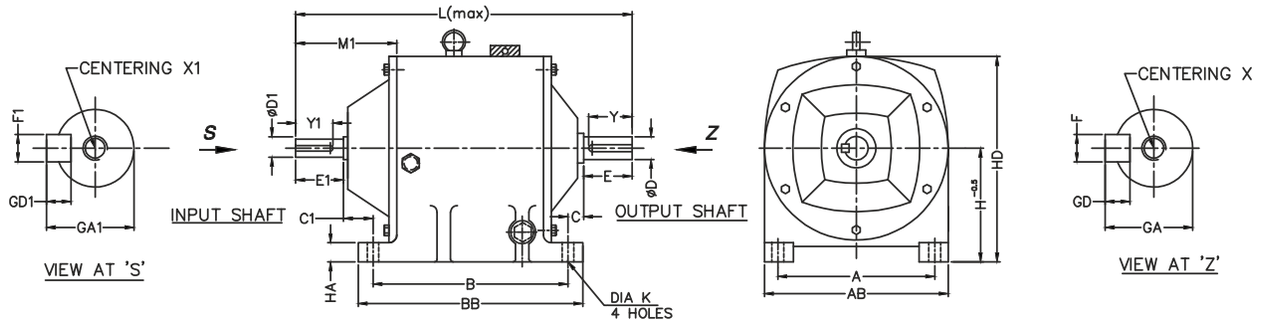
Rating : Refer Rating table for service factor 1.0, 1.4, 2.0 on Page No. 5,6,7
Dimension : All dimensions are as per standard (Page No. 8,9,10,11) except 'LB' & 'L' dimension.
Refer Page No. 23 for 'LB' & 'L' dimension.

Rating Chart of Inline Gear Reducers (FO/FL)

Frame	Ratio	Max. Input HP at 1500 RPM		
		SF : 1.0	SF : 1.4	SF : 2.0
FO/FL 90DR	4.86	1	0.75	0.55
	5.95	1	0.75	0.55
	7.36	0.75	0.75	0.5
	8.97	0.75	0.55	0.5
	10.91	0.5	0.55	0.33
	13.35	0.5	0.5	0.33
FO/FL 90TR	17.06	0.33	0.5	0.25
	20.32	0.33	0.33	0.25
	25.25	0.25	0.33	0.16
	30.79	0.25	0.16	0.16
	38.3	0.16	0.16	-
	46.69	0.16	-	-
	54.1	0.16	-	-
FO/FL 100DR	4.91	3	3	2
	6.01	3	2	1.5
	7.21	2	2	1
	9.34	2	1.5	1
	11.4	1.5	1.5	0.75
	13.82	1.5	1	0.75
FO/FL 100TR	16.64	1	0.75	0.55
	20.36	0.75	0.75	0.55
	24.41	0.75	0.55	0.5
	31.61	0.75	0.55	0.5
	38.6	0.5	0.5	0.33
	46.76	0.5	0.33	0.33
	55.89	0.33	0.33	0.25
	67.7	0.33	0.25	0.16
	74.24	0.25	0.25	0.16
	82.67	0.25	0.16	0.16
	90.65	0.16	-	-
FO/FL 112DR	4.98	5	5	4
	6.24	5	4	3
	7.51	5	3	2
	9.23	4	2	2
	11.69	3	2	1.5
	14.02	2	2	1.5
FO/FL 112TR	16.41	2	1.5	1
	20.55	1.5	1.5	1
	24.74	1.5	1	0.75
	30.41	1	0.75	0.75
	38.51	1	0.75	0.5
	45.21	0.75	0.75	0.5
	53.96	0.75	0.5	0.33
	65.89	0.5	0.5	0.33
	75.36	0.5	0.33	0.25
	86.99	0.5	0.33	0.25
	92.13	0.33	0.25	0.16
FO/FL 132DR	5.14	15	12.5	10
	6.23	15	10	7.5
	7.29	12.5	10	7.5
	9.12	10	7.5	5
	11.62	10	7.5	4
	14.19	7.5	5	3
FO/FL 132TR	17.13	7.5	4	3
	20.77	5	3	2
	25.23	4	3	2
	30.41	3	2	1.5
	38.72	2	2	1.5
	47.29	2	1.5	1
	56.75	1.5	1	0.75

Frame	Ratio	Max. Input HP at 1500 RPM		
		SF : 1.0	SF : 1.4	SF : 2.0
FO/FL 132TR	69.65	1.5	1	0.75
	79.75	1	0.75	0.5
	97.39	1	0.75	0.5
FO/FL 160DR	5.02	25	20	12.5
	6.38	20	15	10
	7.38	20	12.5	10
	9.11	15	10	7.5
	11.41	12.5	7.5	5
	13.11	12	7.5	5
FO/FL 160TR	16.75	7.5	5	4
	21.26	5	4	3
	24.60	5	4	3
	31.31	4	3	2
	38.02	3	2	1.5
	46.37	3	2	1.5
	55.99	2	1.5	1
	68.29	2	1.5	1
FO/FL 180DR	5.15	30	25	20
	6.37	30	25	15
	7.65	25	20	12.5
	9.50	20	15	10
	11.62	15	12.5	7.5
FO/FL 180TR	14.19	15	10	7.5
	16.95	12.5	7.5	5
	20.96	10	7.5	5
	25.15	7.5	5	4
	31.21	5	4	3
	38.18	5	3	2
	49.65	4	3	2
	54.62	3	2	1.5
	71.02	2	2	1
FO/FL 200DR	5.24	50	40	30
	6.48	40	30	25
	7.57	40	30	20
	9.53	30	25	15
	11.51	30	20	15
	14.01	25	15	12.5
FO/FL 200TR	17.48	20	15	10
	21.59	15	12.5	7.5
	25.23	12.5	10	5
	31.76	10	7.5	5
	38.37	7.5	5	4
	46.70	7.5	5	4
	58.00	5	4	3
	59.62	5	4	3
	71.32	5	3	2
FO/FL 225DR	5.10	75	60	40
	6.25	60	50	30
	7.79	50	40	25
	9.33	50	30	20
	11.35	40	25	20
	13.86	30	20	15
FO/FL 225TR	17.14	25	15	12.5
	20.98	20	15	10
	26.17	15	12.5	7.5
	31.20	15	10	7.5
	38.09	12.5	7.5	5
	46.54	10	5	5
	56.91	7.5	5	4
	69.53	5	4	3

Dimensions Of Foot Mounted Inline Gear Reducer (FO)



FOR 560 TO 100 RPM–DOUBLE REDUCTION FOOT MOUNTED GEARBOXES (FO 90 TO FO 112 SERIES)

FRAME	A	B	AB	BB	C	D	E	F	H	GA	GD	HA	HD	K	L	X	Y	C1	D1	E1	F1	GA1	GD1	M1	X1	Y1
FO 90	120	100	150	130	19	20	40	6	90	22.5	6	16	165	11	225	M6x20	35	29	14	30	5	16	5	71	M5x15	20
FO 100	150	115	185	140	21	24	50	8	100	27	7	18	191	11	255	M8x20	40	24	19	40	6	21.5	6	77	M6x20	30
FO 112	175	110	205	135	30	32	60	10	112	35	8	20	212	11	285	M12x25	50	33	24	50	8	27	7	89	M8x20	40

FOR 84 TO 10 RPM–TRIPLE REDUCTION FOOT MOUNTED GEARBOXES (FO 90 TO FO 112 SERIES)

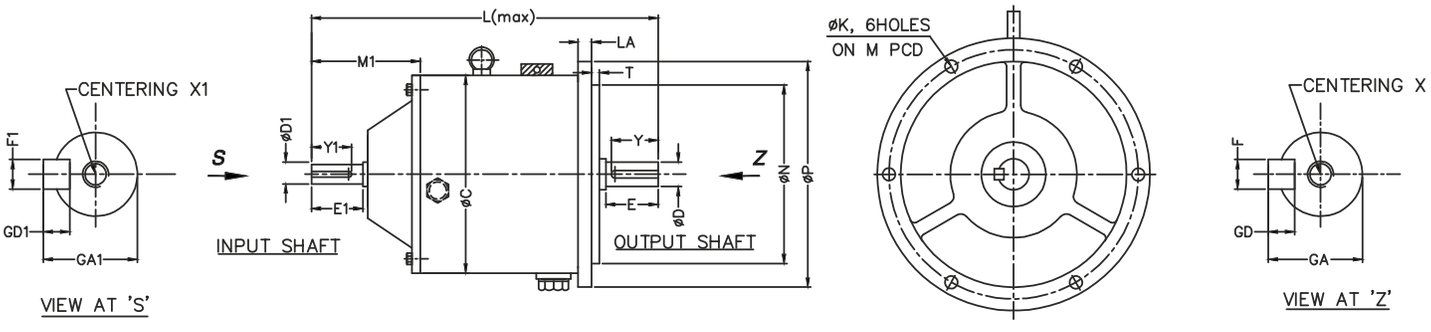
FO 90	120	150	150	180	16	20	40	6	90	22.5	6	16	165	11	275	M6x20	35	34	14	30	5	16	5	71	M5x15	20
FO 100	150	160	185	200	21	24	50	8	100	27	7	22	191	11	300	M8x20	40	25	19	40	6	21.5	6	77	M6x20	30
FO 112	175	180	205	215	30	32	60	10	112	35	8	20	212	11	355	M12x25	50	33	24	50	8	27	7	89	M8x20	40

FOR 560 TO 10 RPM FOOT MOUNTED GEARBOXES (FO 132 TO FO 225 SERIES)

FO 132	212	225	255	300	40	42	75	12	132	45	8	25	258	14	435	M16x35	60	29	24	50	8	27	7	98	M8x20	40
FO 160	270	275	315	325	46	48	85	14	160	51.5	9	36	316	18	510	M16x35	75	25	28	60	8	31	7	106	M10x25	50
FO 180	280	285	325	335	58	60	90	18	180	64	11	35	345	18	575	M20x35	80	44	38	80	10	41	8	145	M12x30	70
FO 200	335	335	380	380	72	66	100	20	200	70.5	12	40	386	22	670	M20x40	90	48	42	100	12	45	8	161	M16x35	90
FO 225	325	360	405	410	95	70	110	20	225	74.5	12	45	425	22	750	M16x35	95	48	42	100	12	45	8	161	M16x30	90

NOTE : 1) Tolerance on ØD and ØD1 is k5, on Dim F and Dim F1 is N9.

Dimensions Of Flange Mounted Inline Gear Reducers (FL)



FOR 560 TO 100 RPM–DOUBLE REDUCTION FLANGE MOUNTED GEARBOXES (FL 90 TO FL 112 SERIES)

FRAME	M	N	P	D	E	F	GA	GD	K	L	LA	T	R	X	Y	C	D1	E1	F1	GA1	GD1	M1	X1	Y1
FL 90	168	150	186	20	40	6	22.5	6	9	220	8	5	8	M6x20	35	150	19	40	6	21.5	6	70	M6x20	30
FL 100	204	186	222	24	50	8	27	7	9	260	10	5	8	M8x20	40	182	24	50	8	27	7	83	M8x20	40
FL 112	230	210	250	32	60	10	35	8	11	285	12	5	8	M12x25	50	204	28	60	8	31	8	96	M10x25	50

FOR 84 TO 10 RPM–TRIPLE REDUCTION FOOT MOUNTED GEARBOXES (FL 90 TO FL 112 SERIES)

FL 90	168	150	186	20	40	6	22.5	6	9	270	8	5	8	M6x20	35	150	19	40	6	21.5	6	70	M6x20	30
FL 100	204	186	222	24	50	8	27	7	9	305	10	5	8	M8x20	40	182	24	50	8	27	7	83	M8x20	40
FL 112	230	210	250	32	60	10	35	8	11	355	12	5	8	M12x25	50	204	28	60	8	31	7	96	M10x25	50

FOR 560 TO 10 RPM FOOT MOUNTED GEARBOXES (FL 132 TO FL 225 SERIES)

FL 132	274	254	294	42	75	12	45	8	11	440	12	5	9	M16x35	60	252	38	60	10	41	8	110	M12x30	50
FL 160	300	266	330	48	85	14	51.5	9	14	515	14	5	9	M16x35	75	312	42	75	12	45	8	132	M16x30	70
FL 180	314	282	348	60	90	18	64	11	14	570	16	5	10	M20x35	80	324	48	90	14	51.5	9	155	M16x35	75
FL 200	362	334	390	66	100	20	70.5	12	14	650	16	6	12	M20x40	90	374	48	90	14	51.5	9	170	M16x35	75
FL 225	384	348	420	70	110	20	74.5	12	18	720	20	6	12	M16x35	95	400	55	100	16	59	10	195	M20x40	85

NOTE : 1) Tolerance on ØD and ØD1 is k5, on ØN is j6, on Dim F and Dim F1 is N9

Rating Table for in line Gear Reducers (LFO/LFL

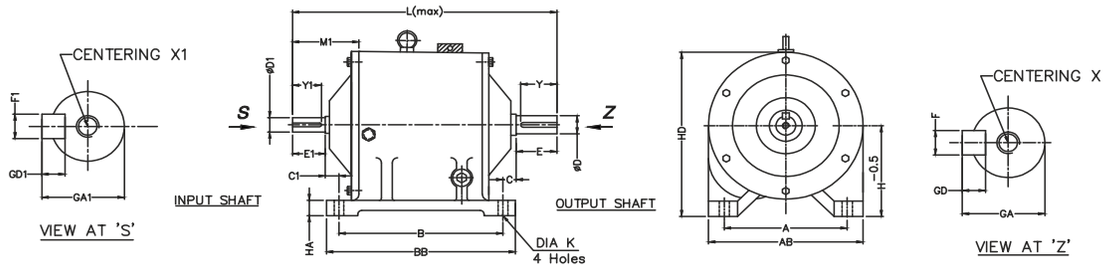
Frame	Ratio	Max. Input HP at 1500 RPM		
		SF : 1.0	SF : 1.4	SF : 2.0
LFO/LFL 1	3.46	3	2	1.5
	4.49	2	2	1
	5.46	2	1.5	1
	6.95	1.5	1	0.75
	8.91	1	1	0.75
	11.6	1	0.75	0.5
	13.92	0.75	0.5	0.33
	17.66	0.5	0.5	0.33
	19.76	0.5	0.33	0.33
LFO/LFL 2	3.48	5	5	3
	4.39	5	5	3
	5.61	5	4	2
	6.99	4	3	2
	9.23	3	2	1.5
	11.69	2	2	1
	14.01	2	1.5	1
	15.95	2	1	1
	19.41	1.5	1	0.75
	24.12	1	0.75	0.5
	30.9	1	0.75	0.5
LFO/LFL 3	3.72	12.5	12.5	-
	4.49	12.5	12.5	10
	5.13	10	10	10
	5.65	10	10	7.5
	6.95	10	7.5	7.5
	8.97	7.5	7.5	5
	11.29	5	5	4
	13.93	5	4	3
	16.28	4	4	3
	21.13	4	3	2
LFO/LFL 4	3.48	25	20	20
	4.61	20	20	15
	5.12	20	15	12.5
	5.73	15	15	10
	6.32	15	12.5	10

Frame	Ratio	Max. Input HP at 1500 RPM		
		SF : 1.0	SF : 1.4	SF : 2.0
LFO/LFL 4	7.11	12.5	12.5	7.5
	9.49	12.5	10	5
	11.66	10	7.5	5
	14.80	7.5	5	4
	18.18	7.5	5	4
	20.37	5	4	3
LFO/LFL 5	3.78	40	40	30
	5.13	40	30	25
	6.09	30	25	20
	7.47	30	20	15
	9.51	25	15	12.5
	12.83	20	12.5	10
	14.45	15	12.5	.5
	17.08	12.5	10	7.5
	19.85	12.5	7.5	5
LFO/LFL 6	3.67	75	60	50
	4.73	75	50	40
	5.73	60	40	30
	7.22	50	30	25
	9.30	40	25	20
	11.26	30	20	15
	13.27	25	15	12.5
	16.86	20	15	10
	20.42	15	12.5	7.5
	24.05	15	10	7.5
LFO/LFL 7	3.67	100	75	60
	6.27	75	60	40
	7.32	60	50	30
	9.17	50	40	25
	11.19	40	30	20
	14.47	30	25	15
	16.41	30	20	15
	21.82	20	15	12.5
	24.75	20	15	10

Output Torque of Gear Motors / Boxes in Kg-m

RPM → I/P HP ↓	560	460	380	310	280	230	190	155	125	100	84	68	56	45	37	30	25	20	16.5	13.5	12.5	10
0.16	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.7	0.9	1.1	1.3	1.6	2	2.4	3	3.7	4.4	5.5	6.7	8.1	8.8	11
0.25	0.3	0.4	0.5	0.6	0.6	0.8	0.9	1.1	1.4	1.8	2	2.5	3.1	3.8	4.6	5.7	6.9	8.6	10.4	12.7	13.7	17.2
0.33	0.4	0.5	0.6	0.7	0.8	1	1.2	1.5	1.9	2.3	2.7	3.3	4	5	6.1	7.6	9.1	11.3	13.7	16.8	18.1	22.7
0.5	0.6	0.8	0.9	1.1	1.3	1.5	1.8	2.3	2.8	3.5	4.1	5	6.1	7.6	9.3	11.4	13.7	17.2	20.8	25.4	27.5	34.3
0.75	0.9	1.1	1.4	1.7	1.9	2.3	2.8	3.4	4.2	5.3	6.1	7.6	9.2	11	13.9	17.2	20.6	25.8	31.2	38.1	41.2	51.5
1	1.3	1.5	1.8	2.3	2.5	3	3.7	4.5	5.6	7	8.2	10.1	12	15	18.6	22.9	27.5	34.3	41.6	50.9	54.9	68.7
1.5	1.9	2.3	2.8	3.4	3.8	4.6	5.5	6.8	8.4	11	12.3	15.1	18	23	27.8	34.3	41.2	51.5	62.4	76.3	82.4	103
2	2.5	3	3.7	4.5	5	6.1	7.4	9	11	14	16.3	20.2	25	31	37.1	45.8	54.9	68.7	83.2	102	110	137
3	3.8	4.6	5.5	6.8	7.5	9.1	11	14	17	21	24.5	30.3	37	46	55.7	68.7	82.4	103	125	153	165	206
5	6.3	7.6	9.2	11	13	15	19	23	28	35	40.9	50.5	61	76	92.8	114	137	172	208	254	275	343
7.5	9.4	11	13.8	17	19	23	28	34	42	53	61.3	75.7	92	114	139	172	206	258	312	381	412	515
10	13	15	18.5	23	25	31	37	45	56	70	81.7	101	123	153	186	229	1563	343	416	509	549	687
12.5	16	19	23.4	28	31	38	46	57	70	88	102	126	153	191	232	286	343	429	520	636	687	858
15	19	23	27.7	34	38	46	55	68	84	105	123	151	184	229	278	343	412	515	624	763	824	1030
20	25	31	36.9	45	50	61	74	91	112	140	163	202	245	305	371	458	549	687	832	1017	1099	1373
25	31	38	46	57	63	76	92	113	140	175	204	252	307	381	464	572	687	858	1040	1272	1373	1717
30	38	46	55	68	75	92	111	136	168	210	245	303	368	458	557	687	824	1030	1248	1526	1648	2060
40	50	61	74	91	100	122	148	181	224	281	327	404	490	610	742	916	1099	1373	1665	2035	2197	2747
50	63	76	92	113	125	153	185	226	281	351	409	505	613	763	928	1144	1373	1717	2081	2543	2747	3433
60	75	92	111	136	150	183	222	272	337	421	490	606	736	916	1114	1373	1648	2060	2497	3052	3296	4120

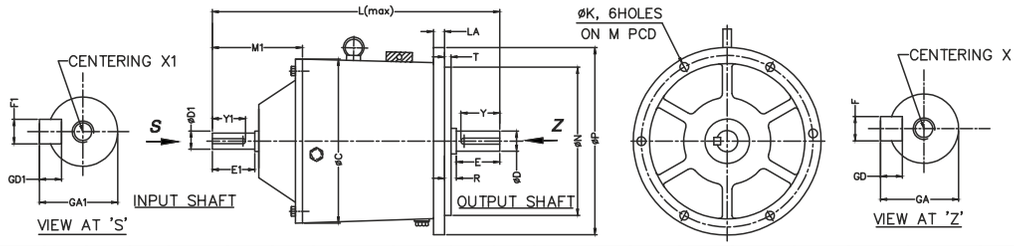
Dimensions of Foot Mounted Inline Gear Motors Reducers (LFO)



FRAME	A	B	AB	BB	C	D	E	F	H	GA	GD	HA	HD	K	L(max)	X	Y	C1	D1	E1	F1	GA1	GD1	M1	X1	Y1
LFO1	130	145	160	175	16	24	40	8	90	27	7	15	170	11	255	M6x20	35	12	19	40	6	21.5	6	68	M6x20	30
LFO2	150	145	205	180	20	28	50	8	112	31	7	20	216	11	290	M8x20	40	20	24	50	8	27	7	83	M8x20	40
LFO3	212	200	255	245	25	42	75	12	132	45	8	25	260	14	390	M16x35	60	32	38	60	10	41	8	110	M12x30	50
LFO4	270	235	315	285	47	48	85	14	160	51.5	9	35	316	18	465	M16x25	75	40	42	75	12	45	8	132	M16x30	70
LFO5	310	250	380	325	77	66	100	20	200	70.5	12	40	386	22	575	M20x40	90	60	48	90	14	51.5	9	170	M16x35	75
LFO6	330	275	400	350	85	70	110	20	250	74.5	12	45	450	22	625	M16x35	95	73	48	90	14	51.5	9	185	M16x35	75
LFO7	370	270	430	350	51	80	120	20	280	84.5	12	50	500	22	595	M20x40	105	54	55	100	16	59	10	165	M20x40	85

NOTE : 1) Tolerance on ØD and ØD1 is k5, on Dim F and Dim F1 is N9.

Dimensions of Flange Mounted Inline Gear Reducers (LFL)



FRAME	M	N	P	D	E	F	GA	GD	K	L(max)	LA	T	R	X	Y	C	D1	E1	F1	GA1	GD1	M1	X1	Y1
LFL1	168	150	186	24	40	8	27	7	9	255	8	5	8	M6x20	35	160	19	40	6	21.5	6	68	M6x20	30
LFL2	204	186	222	28	50	8	31	7	9	290	10	5	8	M8x20	40	204	24	50	8	27	7	83	M8x20	40
LFL3	274	254	294	42	75	12	45	8	11	390	12	5	9	M16x35	60	252	38	60	10	41	8	110	M12x30	50
LFL4	300	266	330	48	85	14	51.5	9	14	465	14	5	9	M16x25	75	312	42	75	12	45	8	132	M16x30	70
LFL5	362	334	390	66	100	20	70.5	12	14	565	16	6	12	M20x40	90	374	48	90	14	51.5	9	170	M16x35	75
LFL6	384	348	420	70	110	20	74.5	12	18	620	20	6	12	M16x35	95	400	48	90	14	51.5	9	185	M16x35	75
LFL7	420	390	450	80	120	20	84.5	12	18	590	20	6	12	M20x40	105	430	55	100	16	59	10	165	M20x40	85

NOTE : 1) Tolerance on ØD and ØD1 is k5, on ØN is j6, on Dim F and Dim F1 is N9.

Agitator Gear Motor

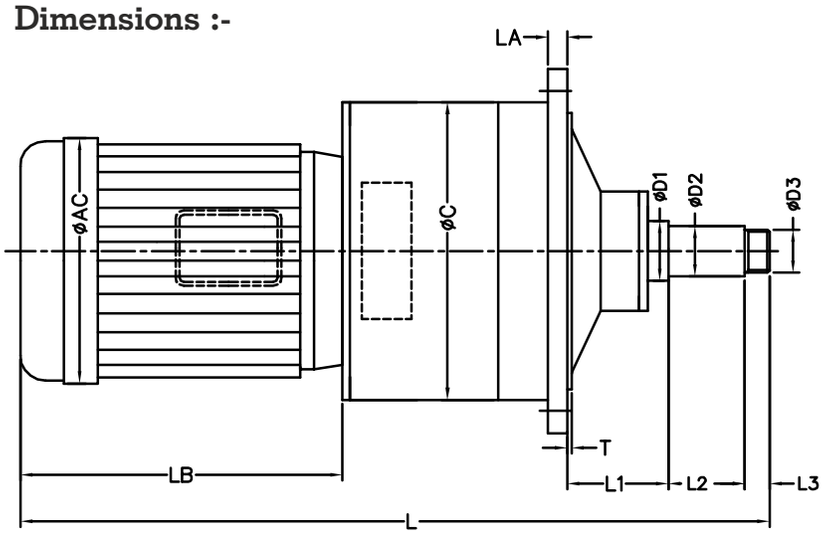
Output Shaft Material is : Stainless Steel
Less vibrations due to use of 4 pole Induction Motor.
Additional Bearing support for the extra long shafts
Range : Kw/HP : 5.5/7.5 to 30/40, **Maximum Output Torque :** 150 Kgm.

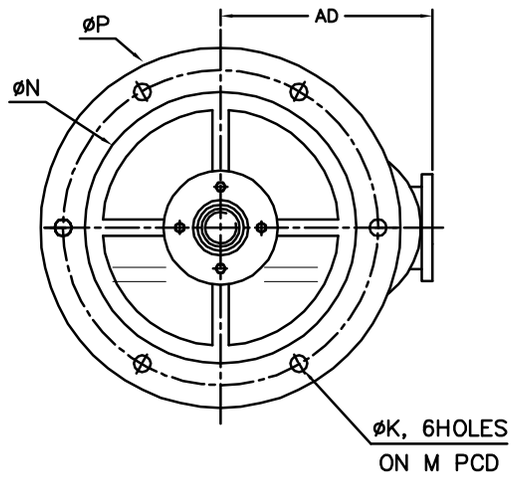
Rating Chart

Service Factor = 1.4 / AGMA Class = II			
Rating		Output RPM	Frame Size
KW	HP		
5.5	7.5	560, 460, 400, 310, 250	LFL4-132-P4
7.5	10	560, 460, 400, 310, 250	LFL4-132-P4
11	15	560, 460, 400, 310, 250	LFL5-160-P4
15	20	560, 460, 400, 310, 250	LFL5-160-P4
18.5	25	560, 460, 400, 310, 250	LFL5-160-P4
22	30	560, 460, 400, 310, 250	LFL6-180L-P4
30	40	560, 460, 400, 310, 250	LFL6-200L-P4

Service Factor = 2 / AGMA Class = III			
Rating		Output RPM	Frame Size
KW	HP		
5.5	7.5	560, 460, 400, 310, 250	LFL4-132-P4
7.5	10	560, 460, 400, 310, 250	LFL4-132-P4
11	15	560, 460, 400, 310, 250	LFL5-160-P4
15	20	560, 460, 400, 310, 250	LFL5-160-P4
18.5	25	560, 460, 400, 310, 250	LFL5-180-P4
22	30	560, 460, 400, 310, 250	LFL6-180L-P4
30	40	560, 460, 400, 310, 250	LFL7-200L-P4

Dimensions :-





Frame	M	N	P	K	C	AC	AD	D1	D2	D3	LA	L1	L2	L3	LB	L
LFL4-90S	350	266	450	14	312	185	134	50	45	M30	14	90	75	30	280	750
LFL4-90L	350	266	450	14	312	185	134	50	45	M30	14	90	75	30	300	770
LFL4-100L	350	266	450	14	312	208	147	50	45	M30	14	90	75	30	320	790
LFL4-112M	350	266	450	14	312	224	156	50	45	M30	14	90	75	30	335	805
LFL4-132S	350	266	450	14	312	258	200	50	45	M30	14	90	75	30	375	845
LFL4-132M	350	266	450	14	312	258	200	50	45	M30	14	90	75	30	412	880
LFL5-100L	420	334	450	14	374	208	147	65	60	M42	16	100	105	30	320	855
LFL5-112M	420	334	450	14	374	224	156	65	60	M42	16	100	105	30	335	870
LFL5-132S	420	334	450	14	374	258	200	65	60	M42	16	100	105	30	375	910
LFL5-132M	420	334	450	14	374	258	200	65	60	M42	16	100	105	30	412	950
LFL5-160M	420	334	450	14	374	324	223	65	60	M42	16	100	105	30	492	1040
LFL5-160L	420	334	450	14	374	324	223	65	60	M42	16	100	105	30	532	1080
LFL5-180M/L	420	334	450	14	374	365	252	65	60	M42	16	100	105	30	600	1150
LFL6-132S	450	348	500	18	400	258	200	70	65	M48	18	100	105	30	375	950
LFL6-132M	450	348	500	18	400	258	200	70	65	M48	18	100	105	30	412	990
LFL6-160M	450	348	500	18	400	324	223	70	65	M48	18	100	105	30	492	1075
LFL6-160L	450	348	500	18	400	324	223	70	65	M48	18	100	105	30	532	1115
LFL6-180M/L	450	348	500	18	400	365	252	70	65	M48	18	100	105	30	600	1180
LFL6-200M/L	450	348	500	18	400	387	280	70	65	M48	18	100	105	30	665	1270
LFL7-160M	420	390	450	18	430	324	223	75	70	M52	20	100	105	30	492	1075
LFL7-160L	420	390	450	18	430	324	223	75	70	M52	20	100	105	30	532	1115
LFL7-180M/L	420	390	450	18	430	365	252	75	70	M52	20	100	105	30	600	1185
LFL7-200M/L	420	390	450	18	430	387	280	75	70	M52	20	100	105	30	665	1255
LFL7-225S/M	420	390	450	18	430	455	325	75	70	M52	20	100	105	30	725	1315

Gear Motor With Encoder

Now LHP Gear Motor are available duly mounted with encoders. These Gear Motor serve application where exact control of speed (RPM) direction of rotation, exact positioning are required. Hollow shaft encoders feature avoids misalignment and vibration problems during actual application which leads to increased reliability.

APPLICATION

Example -Conveyors, Windmills, Textiles, Packaging, Printing, Paper plants, Steel plants, Machine tools, Automation, Robotics. Encoder gear motors are vital for precise speed Control, full torque availability at low speeds and positioning.

Gear Motor Details :-

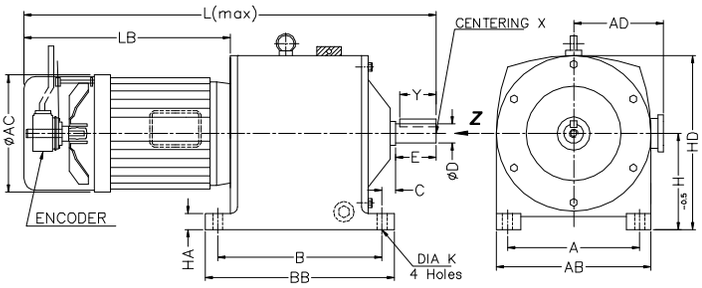
Range	Up to 45 kW
Pole	2,4,6,8
Mounting	Foot (B3), Flange (B5), Flange mounting shaft downward (V1), Flange mounting shaft upward (V3), Foot mounting shaft downward (V5), Foot mounting shaft upward (V6) and combinations.
Protection	IP 55
Ambient Temp.	50^{0} C
Frequency range	0 to 100 Hz
Torque	Up to 10% of Rated Frequency constant torque application

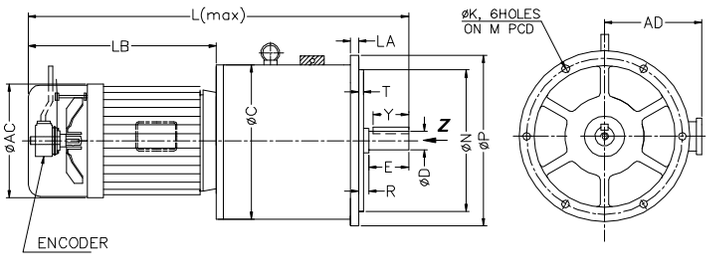
Encoder Details :-

Type	Incremental with Hollow shaft
Max. speed	6000 RPM
Operating Temperature	40 to 70 degrees
Protection	IP 67
Type of Connection	1m PVC Cable with open leads
Resolution (PPR)	1024, 1500, 2000, 2048, 4096 and Max. Up to 5000
Out put	Rs 422/TTL/HTL
Input Voltage	5V or 10 -30V

Rating : Refer Rating table for service factor 1.0, 1.4, 2.0 on Page No. 5,6,7
Dimension : All dimensions are as per standard (Page No. 8,9,10,11) except 'LB' & 'L' dimension.
Refer Page No. 23 for 'LB' & 'L' dimension.

Gear Motor with Encoder Data Sheet





For 560 to 100 RPM

Frame	Std.Encoder Geared Motor	
	LB	L
FO 90-63	260	425
FO 90-71	289	450
FO 90-80	310	485
FO 100-63	260	445
FO 100-71	289	470
FO 100-80	310	500
FO 100-90	371	561
FO 112-71	289	490
FO 112-80	310	505
FO 112-90	371	581
FO 112-100	401	630
FO 112-112	453	673

For 84 to 10 RPM

FO 90-63	260	480
FO 90-71	289	505
FO 90-80	310	540
FO 100-63	260	495
FO 100-71	289	520
FO 100-80	310	550
FO 100-90	371	611
FO 112-71	310	560
FO 112-80	371	575
FO 112-90	371	645
FO 112-100	401	700
FO 112-112	453	743

For 560 to 10 RPM

FO 132-80	310	650
FO 132-90	371	711
FO 132-100	401	750
FO 132-112	453	793
FO 160-80	310	710
FO 160-90	371	771
FO 160-100	401	810
FO 160-112	453	853
FO 160-132	510	910
FO 180-100	401	850
FO 180-112	453	893
FO 180-132	510	850
FO 180-160M	578	1033
FO 180-160L	622	1077
FO 200-100	401	905
FO 200-112	453	948
FO 200-132	510	1015
FO 200-160M	578	1098
FO 200-160L	622	1142
FO 200-180	676	1201
FO 225-112	453	1038
FO 225-132	510	1080
FO 225-160M	578	1148
FO 225-160L	622	1192
FO 225-180	676	1266
FO 225-200	735	1330

For 560 to 100 RPM

Frame	Std.Encoder Geared Motor	
	LB	L
LFO 1-63	260	450
LFO 1-71	289	475
LFO 1-80	310	515
LFO 2-71	289	505
LFO 2-80	310	515
LFO 2-90S	371	566
LFO 2-90L	371	591
LFO 2-100L	401	640
LFO 2-112M	453	683
LFO 3-80	310	600
LFO 3-90S	371	636
LFO 3-90L	371	661
LFO 3-100L	401	700
LFO 3-112M	453	743
LFO 4-90S	371	696
LFO 4-90L	371	721
LFO 4-100L	401	760
LFO 4-112M	453	803
LFO 4-132S	510	820
LFO 4-132M	510	860
LFO 5-100L	401	830
LFO 5-112M	453	873
LFO 5-132S	510	895
LFO 5-132M	510	935
LFO 5-160M	578	1018
LFO 5-160L	622	1062
LFO 5-180M/L	676	1116
LFO 6-132S	510	825
LFO 6-132M	510	865
LFO 6-160M	578	1038
LFO 6-160L	622	1082
LFO 6-180M/L	676	1161
LFO 6-200M/L	735	1220
LFO 7-132S	510	920
LFO 7-132M	510	960
LFO 7-160M	578	1028
LFO 7-160L	622	1072
LFO 7-180M/L	676	1026
LFO 7-200M/L	735	1185
LFO 7-225M/L	855	1305

For 560 to 100 RPM

Frame	Std.Encoder Geared Motor	
	LB	L
FL 90-63	260	425
FL 90-71	289	450
FL 90-80	310	485
FL 100-63	260	445
FL 100-71	289	470
FL 100-80	310	500
FL 100-90	371	561
FL 112-71	289	490
FL 112-80	310	505
FL 112-90	371	581
FL 112-100	401	630
FL 112-112	453	655

For 84 to 10 RPM

FL 90-63	260	470
FL 90-71	289	500
FL 90-80	310	541
FL 100-63	260	485
FL 100-71	289	515
FL 100-80	310	540
FL 100-90	371	605
FL 112-71	310	560
FL 112-80	371	590
FL 112-90	371	644
FL 112-100	401	700
FL 112-112	453	725

For 560 to 10 RPM

FL 132-80	310	655
FL 132-90	371	715
FL 132-100	401	755
FL 132-112	453	780
FL 160-80	310	705
FL 160-90	371	767
FL 160-100	401	810
FL 160-112	453	835
FL 160-132	510	910
FL 180-100	401	840
FL 180-112	453	865
FL 180-132	510	840
FL 180-160M	578	1025
FL 180-160L	622	1065
FL 200-100	401	895
FL 200-112	453	926
FL 200-132	510	1005
FL 200-160M	578	1085
FL 200-160L	622	11125
FL 200-180	676	1174
FL 225-112	453	1023
FL 225-132	510	1065
FL 225-160M	578	1125
FL 225-160L	622	1170
FL 225-180	676	1240
FL 225-200	735	1315

For 560 to 100 RPM

Frame	Std.Encoder Geared Motor	
	LB	L
LFL1-63	260	455
LFL1-71	289	480
LFL1-80	310	520
LFL2-71	260	510
LFL2-80	310	515
LFL2-90S	371	565
LFL2-90L	371	591
LFL2-100L	401	640
LFL2-112M	453	665
LFL3-80	310	600
LFL3-90S	371	635
LFL3-90L	371	660
LFL3-100	401	700
LFL3-112	453	725
LFL4-90	371	695
LFL4-90	371	720
LFL4-100	401	760
LFL4-112	453	785
LFL4-132	510	820
LFL4-132	510	860
LFL5-100	401	820
LFL5-112	453	745
LFL5-132	510	885
LFL5-132	510	925
LFL5-160	578	1005
LFL5-160	622	1045
LFL5-180	676	1105
LFL6-132	510	820
LFL6-132	210	860
LFL6-160	578	1025
LFL6-160	676	1065
LFL6-180	676	1141
LFL6-200	735	1210
LFL7-160	578	1013
LFL7-160	622	1057
LFL7-180	676	1016
LFL7-200	735	1180
LFL7-225	850	1180

Global Series Motor Mount Reducers (GMMR)

- Global series reducers are very compact with high torque to weight ratio.
- MMR have unique feature that any standard B5 construction motor can be Mounted as an Prime Mover.
- Range : Max. Output Torque capacity of 120 Kg-m.
- All the Global series reducers are supplied with Life time Oil duly filled in it.
- All MMR are suitable for ambient Temp of 0 to 40 Deg. C at operating conditions.

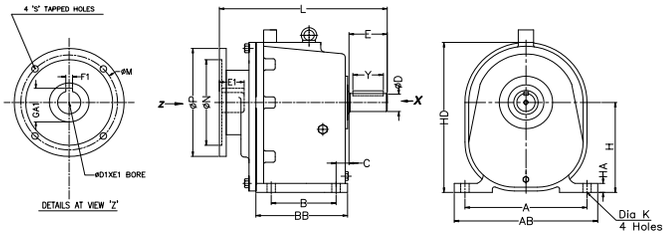
Selection

1) Determine the reduction ratio (R)
2) Calculate application torque (TA) i.e. the torque required by driven machine.
3) Select the suitable service factor from the following Table.

	Operating Hour's Per Day				No.of starts-stops per hour
	upto 3 Hrs	3 to 8 Hrs	8 to 12 Hrs	12 to 24 Hrs	
Uniform Load	1	1	1.25	1.5	No starts-stops
Light Shock Loads	1	1.25	1.5	1.75	Less than 10
Medium Shock Loads	1.25	1.5	1.75	2	Less than 15
Heavy Shock Loads	1.5	1.75	1.75	2	Less than 20

4) i) If service factor is 1.0, select the MMR Frame Size where Tmax. > TA for 'R' reduction raio.
   ii) Otherwise calculate TA x S.F. And select the gear box where Tmax > TA x S.F. for 'R' reduction ratio where Tmax. = Maximum Torque Capacity of MMR at. Service Factor (Given in Rating Chart)
5) Please ensure that Radial & Thrust loads of application are less than the specified values of selected MMR

MMR Frame Size	85	110	130	155	175
Radial Load (Kg)	85	222	380	690	900
Thrust Loads (Kg)	100	240	420	760	1020

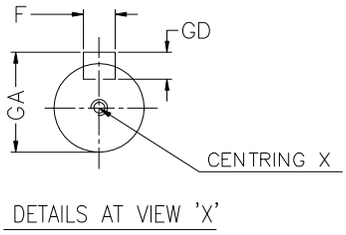


Dimensions for Motor Mount Reducers

Table No. 16

Frame Size	A	B	AB	BB	C	D	E	F	GD	GA	H	HD	K	HA	X	L
MFO 85	110	50	135	108	18	16	40	5	5	18	85	149	9	12	M6x20	200
MFO 110	160	70	190	130	18	25	50	8	7	28	110	190	11	16	M10x30	235
MFO 130	180	105	220	180	20	30	60	10	8	33	130	225	14	18	M10x22	340
MFO 130H	180	105	220	180	20	35	80	10	8	38	130	225	14	18	M10x22	340
MFO 155	225	110	272	175	25	45	90	14	9	48	155	275	18	22	M12x30	365
MFO 175	250	145	300	205	25	55	110	16	10	59	175	215	18	25	M16x35	400

Frame Size	P	N	M	S	D1	E1	F1	GA1
63	140	95	115	10	11	25	4	12.9
71	160	110	130	10	14	32	5	16.4
80	200	130	165	12	19	42	6	21.9
90	200	130	165	12	24	52	8	27.5
100	250	180	215	15	28	62	8	31.5
112	250	180	215	15	28	62	8	31.5
132	300	230	265	15	38	82	10	41.5
160	350	250	300	19	42	112	12	45.5



Global Series Motor Reducers (MMR)
Rating Chart at 1.0 Service Factor

Frame Size	R	Tmax. (Kg-m)	RPM	P (input) KW
MFO085/ MFL085 (DR)	5.6	3	240	0.79
	6.7	3	200	0.66
	7.4	3	181	0.59
	9.1	3	147	0.48
	11.2	4	120	0.52
	13.0	4	103	0.45
	15.6	4	86	0.37
	17.2	4	78	0.34
	21.3	4.5	63	0.31
	26.0	4.5	52	0.25
	32.3	4.5	41	0.20
	39.5	4.5	34	0.17
	40.7	4.5	33	0.16
	44.8	4.5	30	0.15
MFO110/ MFL110 (DR)	5.0	12	279	3.58
	5.9	12	236	3.03
	6.5	12	216	2.78
	7.9	12	178	2.28
	8.9	13.5	157	2.26
	10.5	13.5	133	1.92
	11.5	13.5	122	1.76
	14.0	13.5	100	1.44
	16.4	16	85	1.46
	19.4	16	72	1.24
	21.2	16	66	1.13
	25.8	16	54	0.93
	31.3	17	45	0.81
	36.9	17	38	0.69
	40.3	17	35	0.63
MFO110/ MFL110 (DR)	49.0	17	29	0.52
	60.1	18	23	0.45
	69.6	18	20	0.39
	82.0	18	17	0.33
	89.7	18	16	0.30
	109.1	18	13	0.25
	122.5	18	11	0.22
	144.4	18	10	0.19
MFO130/ MFL130 (DR)	5.1	23	275	6.75
	6.2	23	225	5.54
	6.9	23	203	4.99
	7.5	23	187	4.59
	7.8	23	180	4.43
	9.14	23	153	4.26
	10.2	26	138	3.82
	11.4	26	122	3.41
	12.6	26	111	3.08
	15.4	26	91	2.53
	17.1	26	82	2.28
	19.2	26	73	2.03
	24.2	27	58	1.67
MFO130/ MFL130 (TR)	29.5	27	48	1.37
	32.8	32	43	1.46
	36.8	32	38	1.30
	41.2	32	34	1.16
	46.2	32	30	1.04
	54.0	32	26	0.89
	65.8	32	21	0.73
	73.6	32	19	0.65
	82.2	32	17	0.58
	99.3	32	14	0.48
	120.9	32	12	0.40

Frame Size	R	Tmax. (Kg-m)	RPM	P (input) KW
MFO155/ MFL155 (DR)	4.0	42	347	15.60
	4.6	42	305	13.70
	5.5	42	253	11.37
	6.3	52	221	12.32
	7.0	52	201	11.19
	8.6	52	163	9.07
	10.0	52	140	7.76
	11.3	65	124	8.62
	12.0	65	117	8.12
	13.9	65	101	6.99
	16.3	65	86	5.98
	24.4	65	57	3.98
	18.1	65	77	5.38
	21.1	65	66	4.61
	24.44	72	57	4.41
MFO155/ MFL155 (TR)	27.16	72	52	3.97
	31.3	72	45	3.44
	33.7	72	42	3.20
	38.4	72	36	2.81
	42.4	72	33	2.54
	47.3	72	30	2.28
	49.3	72	28	2.19
	55.3	72	25	1.95
	61.4	72	23	1.76
	80.4	72	17	1.34
	83.7	72	17	1.29
	94.0	72	15	1.15
	108.7	72	13	0.99
	143.4	72	10	0.75
	159.3	72	9	0.68
	172.7	72	8	0.62
MFO175/ MFL175 (DR)	4.6	75	308	24.68
	5.1	75	276	22.15
	5.7	75	246	19.77
	6.4	80	218	18.66
	7.3	80	192	16.39
	8.1	80	172	14.72
	9.1	110	153	18.04
	10.3	110	136	15.97
	11.3	110	124	14.56
	12.6	110	111	13.07
	14.1	110	99	11.66
	16.0	115	88	10.79
	18.3	115	76	9.40
	20.4	120	69	8.81
	22.9	120	61	7.86
MFO175/ MFL175 (TR)	25.8	120	54	6.95
	29.8	120	47	6.03
	33.2	120	42	5.41
	37.2	120	38	4.83
	42.1	120	33	4.27
	54.9	120	26	3.27
	61.2	120	23	2.94
	68.6	120	20	2.62
	77.5	120	18	2.32
	87.0	120	16	2.07
	96.9	120	14	1.85
	108.6	120	13	1.65
	122.7	120	11	1.46
	134.8	120	10	1.33

Parallel Shaft Gear Boxes

LHP takes pride to introduce PARALLEL SHAFT GEAR BOXES for cross travel, long travel & hoist application in cranes. They are most rigid, robust & efficient. Gears and pinions are designed as per IS: 3177, IS: 4460.

SALIENT FEATURES :-

1) Rigid, Robust, Vibration free Housing of structural steel takes & transmits loads safely.

2) Shaft of carbon steel are machined to high precision tolerance to ensure concentricity of bearing seats with gear teeth.

3) Anti-friction bearing ensures high efficiency & maintains precision tolerance between the gear centers.

4) High efficiency of over 98% per stage of reduction achieved when loaded to full capacity of the units. The precision gearing and accuracy of bearing alignment preserves this high efficiency.

GEAR RATIO :-

The standard gear ratios are as below

TWO STAGE:-

8.23, 10.35, 12.64, 15.75, 20.49, 23.34, 31.50, 40.17, 48.57, 52.92

THREE STAGE :- 54.61, 62.21, 70.20, 77.42, 79.99, 88.20, 99.54, 101.68, 105.04, 114.19, 122.95, 131.78, 141.12, 160.37, 173.87, 195.84, 198.03, 215.83, 228.34, 248.80, 272.67, 291.19, 319.13, 347.72.

SELECTION :

A number of factors are considered when selecting a gear unit, including gearbox rating, service factor, speed and speed variation, horsepower, thermal capacity, ratio, physical size, ambient conditions and cost.

Below are some guideline steps to select proper Gear Box :

a) Determine the speed and/or gear ratio.
b) Determine the required power or torque
c) Determine Service Factor
d) Select the basic gearbox type and input
e) Determine the required mounting position
f) Select shaft orientation & other options.

a) Speed and Gear Ratio : The first step in selecting a gear unit is determining the final output speed or speeds you need. This speed is normally described in revolutions per minute (rpm).

$$\text{Gear Ratio} \quad i = \frac{\text{Input Speed (RPM)}}{\text{Output Speed (RPM)}}$$

b) Power & Output Torque : The second step for selecting a gear unit is the required power or torque needed to power the load. Output Torque in this catalogue is normally expressed in Kg-m

$$\text{Output Torque,} \quad T = \frac{925 \times kW}{\text{Output Speed (RPM)}}$$

c) Service Factor or Class : In addition to power or torque, service factor must also be considered. A service factor is the ratio of extra capacity in a gear unit compared to the power or torque that is needed to run that application. The goal of selecting a gear unit with extra capacity (service factor) is to provide adequate service life in operation.

d) Gearbox Type & Input:

LHP Helical Gear Boxes are available in foot & flange mounted constructions. The orientation of input and output shaft can changed as per requirement. Dimensions of gear boxes are provided on page 28 & 29.

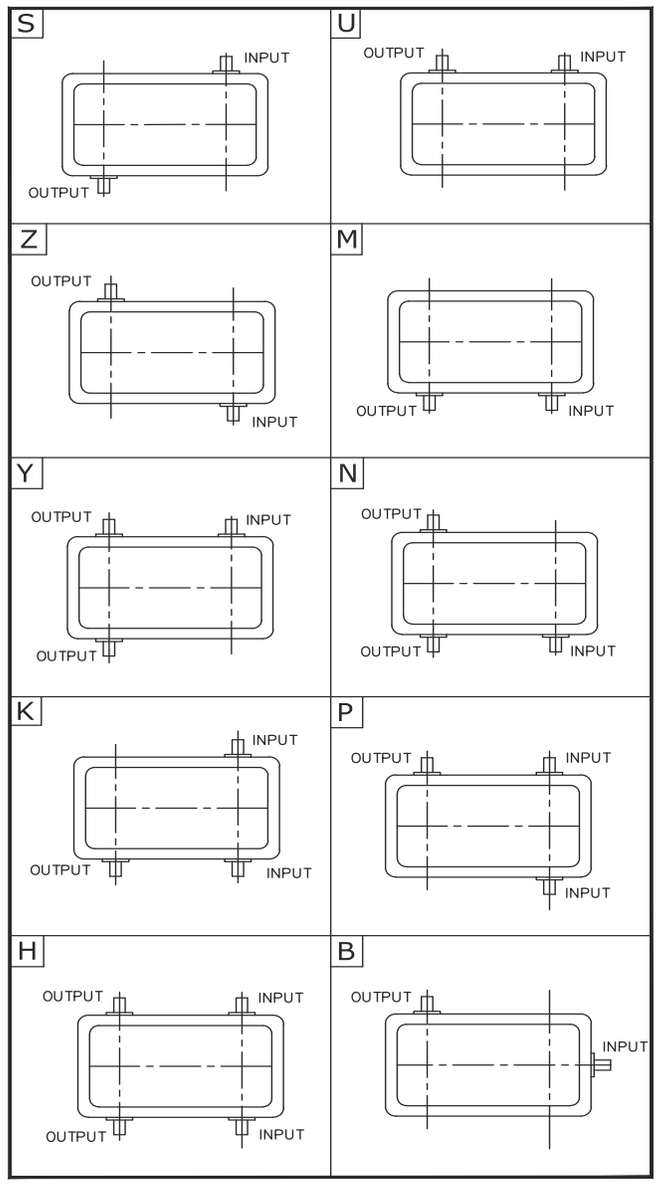
e) Mounting Position:

The gearbox mounting position is an important and often overlooked specification. The mounting position determines how much oil the gear reducer requires, in addition to determining the position of the oil drain, oil fill and vent on the Gear Boxes. Gear Boxes are Horizontal & Vertical in foot & Flange Mountings

f) Options Lhp can offers a number of mechanical features, protective paint & lubrication options for Gear Boxes.

g) Shaft orientations :

Various input and output shaft orientation are shown in below table. Customer has to specify the same while ordering.



Rating Table for Parallel Shaft Gear Boxes

MOTORS DRIVES
Driven by Commitment

Two Stage Parallel Shaft Gear Box

Gear Ratio	Gear Box Size	Maximum Input Power (HP)					
		S.F. : 1.0		S.F. : 1.4		S.F. : 2.0	
		6 P	8 P	6 P	8 P	6 P	8 P
8.23	250	18	14	15	12	13	11
10.35	250	14	11	12	10	11	8
12.64	250	12	9	10	8	9	7
15.75	250	9	7	8	6	7	6
20.49	250	7	6	6	5	5	4
23.34	250	6	5	5	4	5	4
31.50	250	5	4	4	3	4	3
40.17	250	4	3	3	2	3	2
48.57	250	3	2	3	2	2	2
52.92	250	3	2	2	2	2	2
8.23	350	42	33	36	28	31	24
10.35	350	33	26	28	22	25	19
12.64	350	27	21	23	18	20	16
15.75	350	22	17	19	15	16	13
20.49	350	17	13	14	11	13	10
23.34	350	15	12	13	10	11	9
31.50	350	11	9	9	7	8	6
40.17	350	9	7	7	6	6	5
48.57	350	7	6	6	5	5	4
52.92	350	7	5	6	4	5	4

Gear Box Size	Maximum Input Power (HP)					
	S.F. : 1.0		S.F. : 1.4		S.F. : 2.0	
	6 P	8 P	6 P	8 P	6 P	8 P
400	75	58	64	50	56	44
400	60	46	51	40	45	35
400	49	38	42	33	37	29
400	39	31	34	26	29	23
400	30	23	26	20	23	18
400	26	21	23	18	20	15
400	20	15	17	13	15	11
400	15	12	13	10	12	9
400	13	10	11	8	10	7
400	12	9	10	8	9	7
500	143	112	290	96	107	84
500	114	89	230	76	85	67
500	93	73	189	62	70	54
500	75	58	151	50	56	44
500	57	45	116	38	43	34
500	50	39	102	34	38	30
500	37	29	76	25	28	22
500	29	23	59	20	22	17
500	24	19	49	16	18	14
500	22	17	45	15	17	13

Gear Box Size	Maximum Input Power (HP)					
	S.F. : 1.0		S.F. : 1.4		S.F. : 2.0	
	6 P	8 P	6 P	8 P	6 P	8 P
550	237	185	203	159	178	139
550	189	147	162	126	142	111
550	155	121	132	103	116	91
550	124	97	106	83	93	73
550	95	74	82	64	71	56
550	84	65	72	56	63	49
550	62	48	53	42	47	36
550	49	38	42	33	36	28
550	40	31	34	27	30	24
550	37	29	32	25	28	22
650	338	264	290	226	253	198
650	269	210	230	180	202	157
650	220	172	189	147	165	129
650	177	138	151	118	132	103
650	136	106	116	91	102	80
650	119	93	102	80	89	70
650	88	69	76	59	66	52
650	69	54	59	46	52	41
650	57	45	49	38	43	34
650	53	41	45	35	39	31

Three Stage Parallel Shaft Gear Box

Gear Ratio	Gear Box Size	Maximum Input Power (HP)					
		S.F. : 1.0		S.F. : 1.4		S.F. : 2.0	
		6 P	8 P	6 P	8 P	6 P	8 P
54.61	2505	3	2	2	2	2	2
62.21	2505	2	2	2	2	2	1
70.20	2505	2	2	2	1	2	1
77.42	2505	2	1	2	1	1	1
79.99	2505	2	1	2	1	1	1
88.20	2505	2	1	1	1	1	1
99.54	2505	1	1	1	1	1	1
101.68	2505	1	1	1	1	1	1
105.04	2505	1	1	1	1	1	1
114.19	2505	1	1	1	1	1	1
122.95	2505	1	1	1	1	1	1
131.78	2505	1	1	1	1	1	1
141.12	2505	1	1	1	1	1	1
160.37	2505	0.9	0.7	0.8	0.6	0.7	0.5
173.87	2505	0.9	0.7	0.7	0.6	0.6	0.5
195.84	2505	0.8	0.6	0.7	0.5	0.6	0.4
198.08	2505	0.7	0.6	0.6	0.5	0.6	0.4
215.83	2505	0.7	0.5	0.6	0.5	0.5	0.4
228.34	2505	0.6	0.5	0.6	0.4	0.5	0.4
248.80	2505	0.6	0.5	0.5	0.4	0.4	0.3
272.67	2505	0.5	0.4	0.5	0.4	0.4	0.3
291.19	2505	0.5	0.4	0.4	0.3	0.4	0.3
319.13	2505	0.5	0.4	0.4	0.3	0.3	0.3
347.72	2505	0.4	0.3	0.4	0.3	0.3	0.2
54.61	3510	6	5	5	4	5	4
62.21	3510	6	4	5	4	4	3
70.20	3510	5	4	4	3	4	3
77.42	3510	4	3	4	3	3	3
79.99	3510	4	3	4	3	3	3
88.20	3510	4	3	3	3	3	2
99.54	3510	3	3	3	2	3	2
101.68	3510	3	3	3	2	3	2
105.04	3510	3	3	3	2	2	2
114.19	3510	3	2	3	2	2	2
122.95	3510	3	2	2	2	2	2
131.78	3510	3	2	2	2	2	2
141.12	3510	2	2	2	2	2	1
160.37	3510	2	2	2	1	2	1
173.87	3510	2	2	2	1	1	1
195.84	3510	2	1	1	1	1	1
198.08	3510	2	1	1	1	1	1
215.83	3510	2	1	1	1	1	1
228.34	3510	2	1	1	1	1	1
248.80	3510	1.4	1	1	0.9	1.0	0.8
272.67	3510	1.3	1.0	1	0.8	0.9	0.7
291.19	3510	1.2	0.9	1.0	0.8	0.9	0.7
319.13	3510	1.1	0.8	0.9	0.7	0.8	0.6
347.72	3510	1.0	0.8	0.8	0.7	0.7	0.6

Gear Box Size	Maximum Input Power (HP)					
	S.F. : 1.0		S.F. : 1.4		S.F. : 2.0	
	6 P	8 P	6 P	8 P	6 P	8 P
4010	11	9	10	8	8	7
4010	10	8	8	7	7	6
4010	9	7	8	6	7	5
4010	8	6	7	5	6	5
4010	8	6	7	5	6	5
4010	7	5	6	5	5	4
4010	6	5	5	4	5	4
4010	6	5	5	4	5	4
4010	6	5	5	4	4	3
4010	5	4	5	4	4	3
4010	5	4	4	3	4	3
4010	5	4	4	3	4	3
4010	4	3	4	3	3	3
4010	4	3	3	3	3	2
4010	4	3	3	2	3	2
4010	3	2	3	2	2	2
4010	3	2	3	2	2	2
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4010	3	2	2	2	2	2
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4010	2	2	2	2	2	1
4010	2	2	2	1	2	1
4010	2	2	2	1	1	1
4010	2	1	2	1	1	1
5015	22	17	18	14	16	13
5015	19	15	16	13	14	11
5015	17	13	14	11	13	10
5015	15	12	13	10	11	9
5015	15	11	13	10	11	9
5015	13	10	11	9	10	8
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5015	12	9	10	8	9	7
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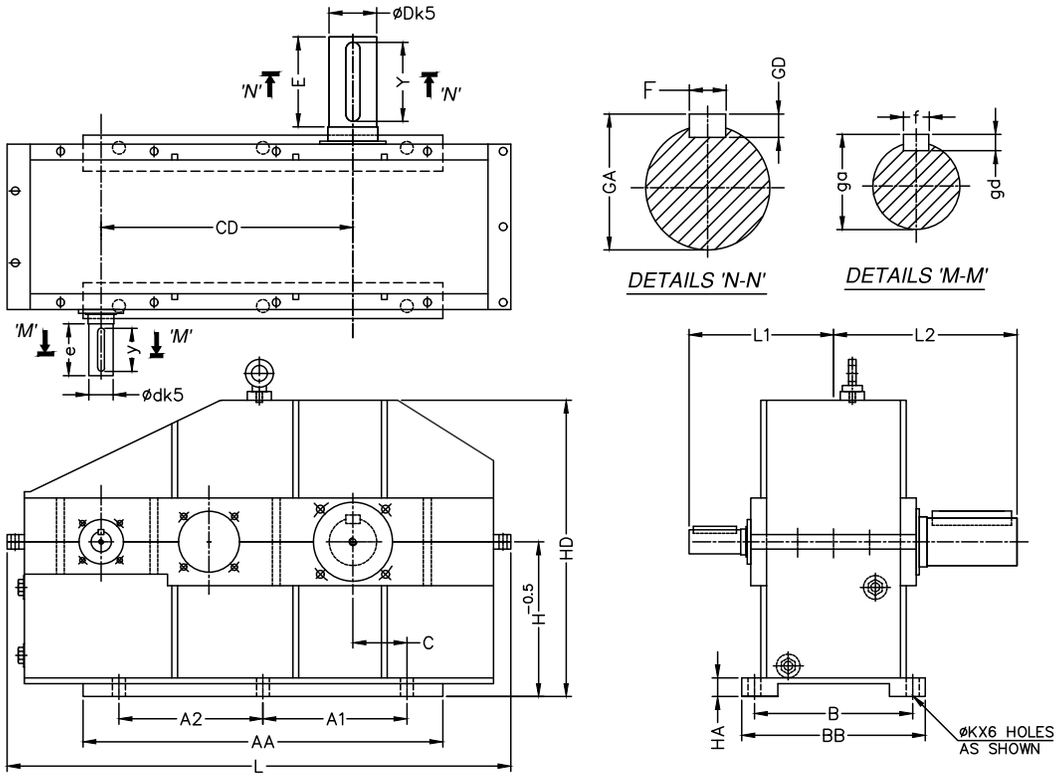
5015	4	3	3	3	3	2
5015	4	3	3	2	3	2
5015	3	3	3	2	3	2

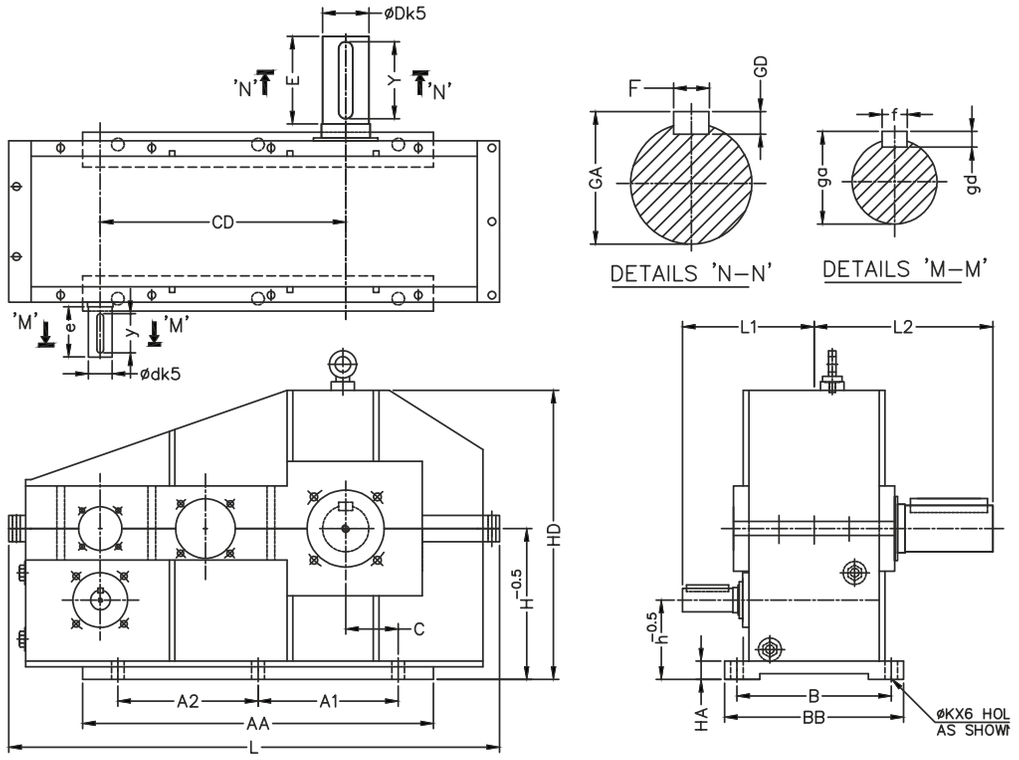
Gear Box Size	Maximum Input Power (HP)					
	S.F. : 1.0		S.F. : 1.4		S.F. : 2.0	
	6 P	8 P	6 P	8 P	6 P	8 P
5515	36	28	31	24	27	21
5515	31	25	27	21	24	18
5515	28	22	24	19	21	16
5515	25	20	22	17	19	15
5515	24	19	21	16	18	14
5515	22	17	19	15	17	13
5515	20	15	17	13	15	11
5515	19	15	16	13	14	11
5515	19	15	16	12	14	11
5515	17	13	15	11	13	10
5515	16	12	14	11	12	9
5515	15	12	13	10	11	9
5515	14	11	12	9	10	8
5515	12	10	10	8	9	7
5515	11	9	10	8	8	7
5515	10	8	9	7	7	6
5515	10	8	8	7	7	6
5515	9	7	8	6	7	5
5515	9	7	7	6	6	5
5515	8	6	7	5	6	5
5515	7	6	6	5	5	4
5515	7	5	6	4	5	4
5515	6	5	5	4	5	4
5515	6	4	5	4	4	3
6515	51	40	44	34	38	30
6515	45	35	38	30	34	26
6515	40	31	34	27	30	23
6515	36	28	31	24	27	21
6515	35	27	30	23	26	20
6515	32	25	27	21	24	18
6515	28	22	24	19	21	16
6515	27	21	23	18	21	16
6515	26	21	23	18	20	16
6515	24	19	21	16	18	14
6515	23	18	19	15	17	13
6515	21	16	18	14	16	12
6515	20	15	17	13	15	12
6515	17	14	15	12	13	10
6515	16	12	14	11	12	9
6515	14	11	12	10	11	8
6515	14	11	12	9	11	8
6515	13	10	11	9	10	8
6515	12	10	10	8	9	7
6515	11	9	10	7	8	7
6515	10	8	9	7	8	6
6515	10	7	8	6	7	6
6515	9	7	7	6	7	5
6515	8	6	7	5	6	5

Dimensions For Parallel Shaft Gear Box : Foot mounted
Ratio - 8.23 To 52.92 (Double Reduction)



FRAME		HR250	HR350	HR400	HR500	HR550	HR650
HOUSING	H	165	215	265	320	365	415
	L1	150	190	225	270	300	340
	L2	200	255	300	355	395	450
	L	535	700	810	1010	1105	1315
	CD	250	350	400	500	550	650
	HA	21	26	31	38	38	42
	HD	320	415	505	610	705	800
FOUNDATION	A1	150	200	230	290	320	380
	A2	150	200	230	290	320	380
	AA	400	500	560	720	790	940
	B	175	220	255	305	335	385
	BB	200	255	305	355	385	450
	K	13	18	22	26	26	32
	C	50	75	95	120	135	160
INPUT SHAFT	d	28	32	38	42	48	55
	e	50	65	80	95	110	125
	y	40	55	70	85	100	115
	f	8	10	10	12	14	16
	gd	7	8	8	8	9	10
	ga	31	35	41	45	51.5	59
OUTPUT SHAFT	D	48	66	80	100	115	130
	E	100	125	150	175	200	225
	Y	85	110	135	160	185	210
	F	14	20	22	28	32	32
	GD	9	12	14	16	18	18
	GA	51.5	70.5	85	106	122	137

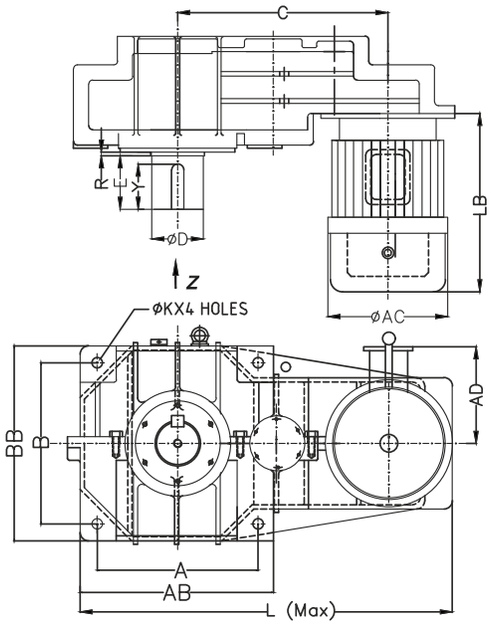
Dimensions For Parallel Shaft Gear Box : Foot mounted
Ratio - 54.61 To 347.72 (Tripple Reduction)

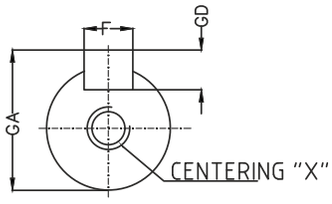


FRAME		HR250	HR350	HR400	HR500	HR550	HR650
HOUSING	h	90	115	165	170	215	215
	H	165	215	265	320	365	415
	L1	135	165	190	230	255	300
	L2	200	255	300	355	395	450
	L	535	700	810	1010	1105	1315
	CD	250	350	400	500	550	650
	HA	21	26	31	38	38	42
	HD	320	415	505	610	705	800
FOUNDATION	A1	150	200	230	290	320	380
	A2	150	200	230	290	320	380
	AA	400	500	560	720	790	940
	B	175	220	255	305	335	385
	BB	200	255	305	355	385	450
	K	13	18	22	26	26	32
	C	50	75	95	120	135	160
INPUTSHAFT	d	24	28	32	38	42	48
	e	50	60	75	90	100	115
	y	40	50	65	80	90	105
	f	8	8	10	10	12	14
	gd	7	7	8	8	8	9
	ga	27	31	35	41	45	51.5
OUTPUTSHAFT	D	48	66	80	100	115	130
	E	100	125	150	175	200	225
	Y	85	110	135	160	185	210
	F	14	20	22	28	32	32
	GD	9	12	14	16	18	18
	GA	51.5	70.5	85	106	122	137

Dimensions For Parallel Shaft Gear Box : Face mounted

PARALLEL SHAFT (SOLID) SIDE FACE MOUNTED GEAR MOTOR



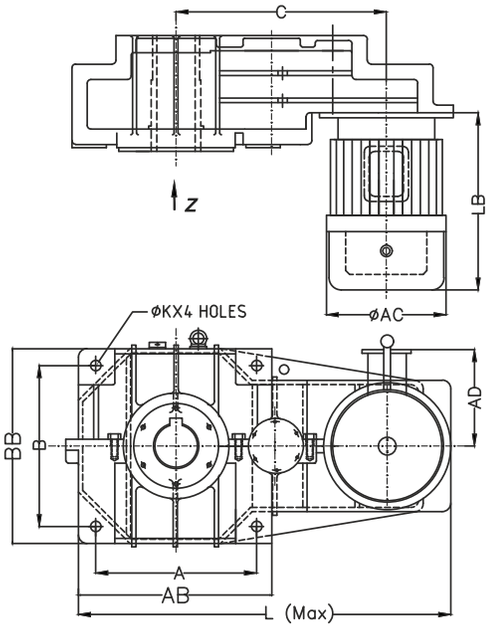


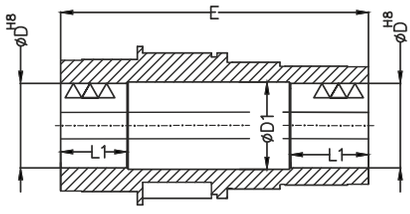
DETAILS AT VIEW 'Z'

FRAME	A	B	AB	BB	C	D	E	F	GA	GD	K	R	Y	X	L (Max)
PFL400	325	325	400	375	400	75	100	20	79.5	12	21	10	95	M20X40	750
PFL500	380	380	410	410	500	90	120	25	95	14	24	10	95	M20X40	890
PFL550	387	420	480	480	550	130	150	32	137	18	24	10	140	M20X40	980

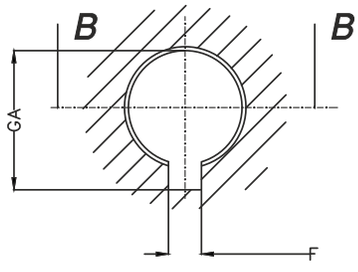
NOTE: REFER MOTOR CATALOGUE FOR DIM AC, AD & LB.

PARALLEL SHAFT (HOLLOW) SIDE FACE MOUNTED GEAR MOTOR





SECTION-' B-B'



VIEW 'Z'

FRAME	A	B	AB	BB	C	D	D1	E	F	GA	K	L1	L (Max)
PFL400	325	325	400	375	400	75	76	250	20	80.1	21	80	750
PFL500	380	380	410	410	500	90	91	273	25	95.6	24	90	890
PFL550	387	420	480	480	550	130	131	303	32	137.6	24	130	980

NOTE: REFER MOTOR CATALOGUE FOR DIM AC, AD & LB.

Information required along with Purchase Order / Enquiry

Certain information is necessary to offer the right type of motor for desired application. The necessary information to be furnished along with Enquiry / Purchase Order is as follows :

Customer : _____

Application : _____

Sr. No.	Product Characteristics	Specification (to be field by customer)	Review by LHP R. & D.	Sr. No.	Product Characteristics	Specification (to be field by customer)	Review by LHP R. & D.
1	Rating (KW/HP)			16	Dimensions		
2	Type : Helical/worm/Heliworm			17	**GD^2 of Load in $Kg.m^2$**		
3	Output RPM or Gear Ratio			18	Temp. Detector		
4	Mounting : Foot/Flange			19	Thermotrip/Thermister		
5	Mounting Position			20	Hour's Operation/Day		
6	Service Factor			21	Method of Starting		
7	AGMA Class : I/II/III			22	Method of Cooling		
8	No.of Starts-Stop/Hours			23	T.Box Position		
9	Motor Type			24	a) Amb. Temperature		
10	Supply Voltage				b) Humidity		
	Frequency & Phase				c) Altitude		
11	Class of Insulation			25	Protection		
12	Method of Power Transmission			26	Duty		
13	Finish Paint (Type/Shade)			27	Efficiency / P.F.		
14	Noise Level (As per IS 12065)			28	Nature of Load		
15	Vibration Level (As per IS 12075)			29	**Ref. Standards/Codes**		

30) Driven Equipment Details :-

31) Additional Information for Brake Motors :-

1)	Type of Brake	**AC / DC**		3)	Brake Coil Voltage (VDC)	**24 / 96 / 190**	
2)	Braking Torque			4)	Brake Size		

32) Additional Information for Flameproof/Increased Safety/ Non-Sparking Motors

1)	Gas Group	**I / IIA / IIB / IIC**		2)	ZONE	**1 / 2**	
3)	Temp. Class	T.....		4)	Types of Cable Gland		

33) Additional Information for Roller Table Motors :

1)	Stall Time (In Min)	Cold: Hot:		2)	Motor Fins	**Straight/ circular**	

34) Additional Information for VFD Motors :

1)	Frequency Range			2)	Application : (Torque)	**Constant/ Variable**	

35) General :

1)	Expected Order/Month			3)	Date of Delivery		
2)	Sample Qty. to be Supplied			4)	Packing	Yes / No	

36) Special Requirements :

37) Predespatch Inspection :- Yes / No

38) Statutory & Regulatory Requirements if any : related to product / packing :

➢ **Plant I :** Total plot area : 16,000 sq.mtr

➢ **Plant II** - Total plot area : 20,000 sq.mtr

Complete Product Range

Motor Type	Frame	Power (kW)	Picture
Standard Motors Single phase Three phase	 63 to 100 63 to 450	 0.18 to 1.5kW 0.12 to 1000kW	
IE2, IE3 & IE4 Motors	71 to 450	0.37 to 375kW	
*Brake Motors	63 to 250	0.12 to 55kW	
Crane & Hoist Duty Motors	71 to 355	0.37 to 315kW	
**Flame-proof Motors (Type Ex 'd')	63 to 315	0.18 to 500kW	
Flame-proof Motors IE2, IE3 & IE4 (Type Ex 'd')	71 to 315	Up to 500kW	
Non-sparking Motors Ex 'nA' (IE1, IE2, IE3 & IE4)	63 to 355	0.12 to 500kW	
Increased Safety Motors Ex 'e'(IE2)	71 to 355	0.37 to 500kW	
Inverter Duty Motors	63 to 450	0.12 to 1000kW	
Roller Table Motors	100 to 355		
Cooling Tower Motors	71 to 355		
Encoder Motors	63 to 450	0.12 to 1000kW	
Helical Gearmotors : L' Power Series	Power :0.12 to 180kW Speed :0.35 to 560RPM Torque: Up to 6000kgm		

Textile (loom) Motors	Marine Duty Motors	Railway Auxiliary Motors	Multi-speed Motors
			
As per requirenments	As per requirenments	As per requirenments	As per requirenments

*Can also be offered in Flame-proof enclosure. **Can also be offered for Gas group IIC upto 250 frame.

Note : IEC EX, CE ATEX Certification for IIC, IIIC, Ex'tc', Ex'de' will be available shortly.

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