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CRESCENT
Helical Geared Motor



Sokhi Heli-Worm Gears specializes in the design, development, production and marketing of high quality crescent industrial gears and power transmission products, to the highest specifications, with proven performance in diverse industries across the globe. An accent on quality combined with on going research and development has given us an international reputation for excellence. Consequently, we are today one of the fastest growing company in this industry. Despite this growth, we ensure that our customers receive due attention, with higher quality products and scheduled deliveries.

As a customer focus & technology driven organization offering quality products & services is our forte. By updating technology & infrastructure, we have continued to deliver high value products to our customers. Our gears & gear boxes are widely available under the brand name "CRESCENT". Maintaining the pace with time, we have carved a niche for ourselves within the industry globally.

GEAR CASE

The reduction gear trains are housed in a sturdy gear case of one-piece construction cast integral with its pedestal and internal partition wall which serves as both reinforcement and bearing housing. Gear case is manufactured from close grained cast iron and has ample surface area for heat dissipation.

GEAR AND PINION

All gear components used are helical and manufactured from selected special alloy steel. Gears are generated on precise hobbing machines, heat treated and ground to achieve the best performance and efficiency.

OUTPUT SHAFTS

Output shafts of both geared motors and gear reducers and input shaft of inline gear reducers are manufactured from best quality medium carbon steel for high overhung load carrying capacities. For special applications, these shafts can also be heat treated.

LUBRICATION

The lubrication of gears and bearings is fool-proof, being achieved automatically by splash of oil. Thus, no special care is required except occasional topping up of the oil to required level. A large oil filler cum-breather, oil level indicator and drain plug are provided on the gear box.

ELECTRICALS

Electric motor provided with geared motor is TEFC squirrel cage induction motor suitable for operation on 415V, 3-phase, 50 C/s AC supply as per IS : 325. All motors are provided in IP 55 enclosure and F/B class insulation.

Geared motor fitted with electric motor of special design like flame-proof, crane duty, extended shaft on NDE, brake etc., can also be offered.

MANUFACTURING STANDARDS

All output shafts are manufactured as per DIN 42948. Tolerance for shaft diameters may vary as per IS, k6 upto 50mm and m6 above 50 mm.

Keyways and keys are as per DIN 6885 with keyway tolerance P9. Key steel DIN 6880. Threading on output shafts is as per DIN 332/1943. Output speed tolerance is $\pm 3\%$

TESTING

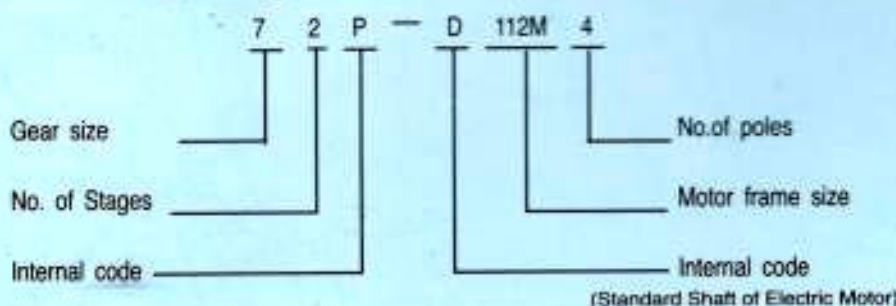
All components are thoroughly inspected at various stages and assembled unit is tested on 'no load' for noise level, oil leakage, output speed and temperature rise.

SELECTION PROCEDURE

1. Compute required output RPM and actual horse power consumption of driven machine.
2. Determine appropriate service factor by referring to Table No.1 and 2.
3. Select suitable geared motor corresponding to HP and output RPM requirement from rating tables depending upon the service factor.

DESIGNATION

Power Build geared motors are designated as follows :



GEAR CODE

Foot mounting
Flange mounting
Foot-cum-flange mounting
Hub-type construction
Composite gear box with foot mounting
Composite gear box with flange mountin

Geared Motor

73 p
73.1P
73.2P
73.3P
73C-32.1P
73.1C-32.1P

Helical Gear Reducer

73 PII
73.1PII
73.2PII
73.3PII
73C-32.1PII
73.1C-32.1PII

Motor Mount

73 PMM
73.1PMM
73.2PMM
73.3PMM
73C-32.1PMM
73.1C-32.1PMM

**TABLE NO. 1 : LOAD CHARACTERISTIC****Agitator and mixers :**

Liquids, semi-liquids — U
 Liquids, variable density — M

Blowers :

Centrifugal, vane — U
 Lobe — M

Brewing & Distilling :

Bottle machinery — U
 Brew kettle — U
 Cookers, scale hopper (frequent start) — M
 Cane knives — M
 Clarifiers — U

Clay working machinery :

Brick press, briquette machine — H
 Pug mill, clay working machinery — M

Compressors :

Centrifugal — U
 Lobe — M
 Reciprocating, multi-cylinder — M
 Reciprocating, single cylinder — H

Food industry :

Beet slicer — M
 Cereal cooker — U

Laundry machines :

Washers, tumblers — M
 Line shaft mills — U
 Hammers — H
 Balls kiln, pebbles — M
 Rod tumbling barrels — H

Conveyors :

Uniformly loaded, — U
 Rough or non-uniform drive — M
 Reciprocating & shaker — M

Crane hoists :

Crushers : — H

Elevators :

Bucket, Uniform load — U
 Bucket, Heavy load — M
 Bucket, Cont. load — U
 Centrifugal discharge — U
 Gravity discharge — U

Fans :

Centrifugal — U
 Induced draft — M
 Large (mine, industrial, etc.) — M
 Light (small diameter) — U

Feeders :

Apron — M
 Belt — M
 Disc — U
 Reciprocating — H

Rubber & plastic industry :

Crackers — H*
 Fixing mills — H*
 Laboratory equipment — M
 Refiners — M*
 Sheetters — M*
 Tubers & strainers — M*
 Warming mills — M*

Screens :

Air washing — U
 Rotary (stone/gravel) — M

Sugar industry :

Cane knives — M*
 Crushers — M*
 Mills — M*

Oil industry :

Chillers — M
 Rotary kilns — M

Paper mills :

Bleacher conveyor press, winder — U
 Calenders, agitators, beater & pulper — M

Pumps :

Centrifugal — U
 Reciprocating (3 or more cylinders) — M

Textile industry :

Batchers — M
 Calenders — M
 Dyeing machinery — M
 Spinners — M
 Washers — M
 Winders — M
 Wire-drawing machinery — M

U = Uniform load
 H = Heavy shock load
 M = Medium shock load

*Marked thus should be selected on the basis of 24 hours/day service only.

TABLE NO. 2 : SERVICE FACTORS

Prime mover	Duration of service	Uniform U	Moderate shock M	Heavy shock H
Electric motor	2 hours/day	0.75	0.80	1.25
	4 hours/day	0.80	1.0	1.30
	8 hours/day	0.90	1.1	1.45
	12 hours/day	1.10	1.25	1.55
	24 hours/day	1.25	1.5	1.75

1. For drive from diesel or petrol engine, multiply above factor by 1.2
2. When the number of starts and stops per hour is more than twenty, consult us.

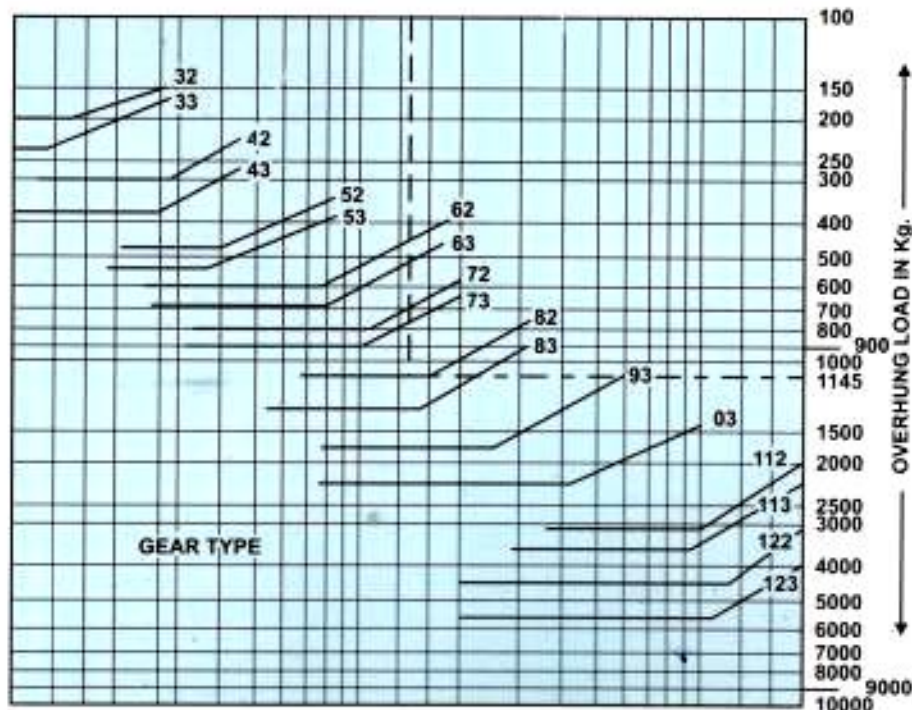
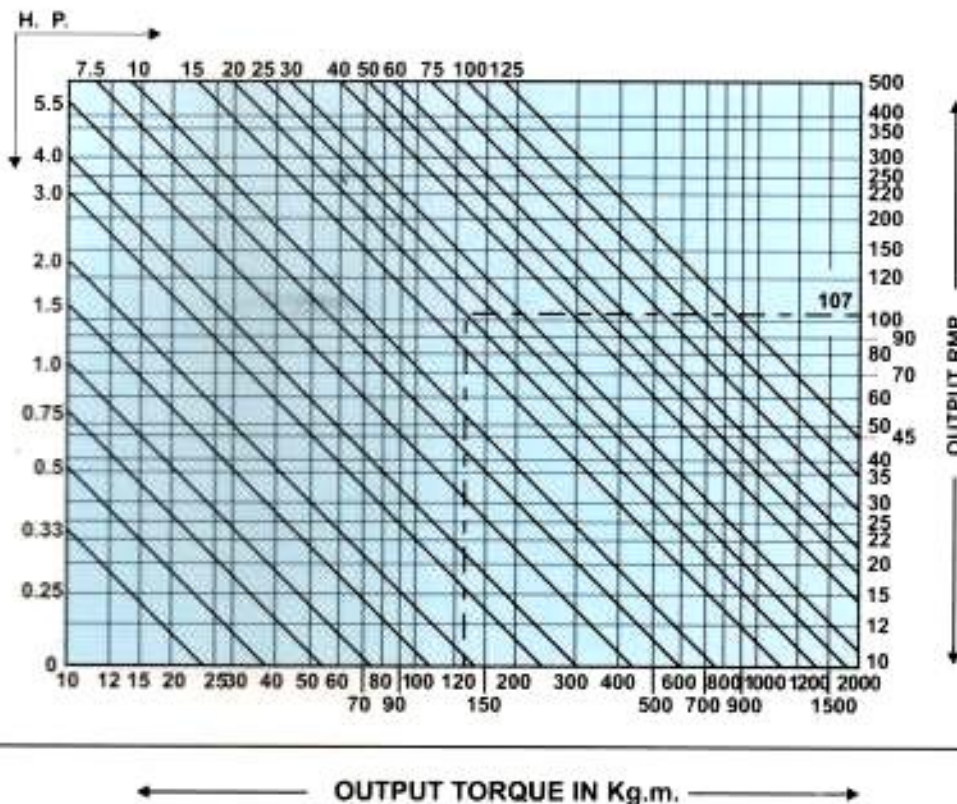


Radial (overhung) Load on output shaft

Normally the geared motors are directly coupled with the driven equipment. Hence there would not be any radial loads on the output shaft. In case where machine is driven by chain drive, pulley drive or a gear wheel, the output shaft of geared motor will be radially loaded.

Following diagram may be referred to for finding out the overhung load which is acting at the MIDDLE OF STANDARD SHAFT EXTENSION. For overhung load acting at other points, please refer to us.

Permissible Radial Loads on output Shaft





A dotted line is shown to find out the maximum permissible overhung load acting at middle of standard shaft length of 20 HP 107 rpm geared motor Type 72P-160 L4 with 60 mm output shaft dia and 140 mm shaft extension. From the graph, it is noticed that maximum permissible overhung load at 70 mm i.e. at midpoint of 140 mm, shaft length, is 700 kg. Similarly, permissible overhung load for 82P gear box for same output rpm and motor HP is 1145 kg.

Overhung Load : If a sprocket, pulley or spur gear (pinion) is mounted on the output shaft of a geared motor, overhung load is imposed on the shaft. The equivalent overhung load in kg is calculated as under :

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

Where

P = Equivalent overhung load in Kg.

A = Actual power available at input to gear box in kW.

K = Load factor

N = Output rpm; and

R = Pitch radius at sprocket, pulley or spur pinion in mm.

The load factors are as under :

Overhung member	K
Sprocket	1.00
Spur pinion	1.25
V-belt sheave	1.50
Flat belt pulley	3.00

The calculated overhung load should be less than the maximum permissible overhung loads on geared motor.

TABLE NO. 3 : PERMISSIBLE AXIAL LOAD ON OUTPUT SHAFT

Type of Gear Box	Axial load for Foot/Flange mounted geared motor in kg.
32-33	160
42-43	190
52-53	224
62-63	330
72-73	390
82-83	615
93	770
103	950
112-113	1050
122-123	1150

**RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.0**

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
0.33 (0.25)	0.4, 0.63	93C-43.1P-D71K4	337	336	0.75 (0.55)	9.5	53P-D80L6	70	62
	0.8	83C-32.1P-D71K4	215	218		10.4	43P-80L6	49	47
	1.1	73C-32.1P-D71K4	155	140		12.2, 13.0, 15.0	43P-80K4	46	44
	1.6, 2.0, 2.5	63C-32.1P-D71K4	106	98		16.5, 18.5	43P-D80K4	46	44
	3.2, 3.6	53C-32.1P-D71K4	80	72		21.0, 26.0	33P-80K4	35	34
	5.0	53P-90S8	70	61		24.5, 27.5, 30, 31, 33, 34.5, 37, 38, 42, 43, 45.5, 48.5, 51, 54, 57, 66, 74	33P-D80K4	35	34
	6.0	43P-90S8	48	46		75, 84, 96, 103, 106	32P-D80L6	35	34
	8.0	43P-D71K6	45	43		116, 130, 146, 159, 163, 183, 200, 204, 224, 257, 287	32P-D80K4	35	34
	9.2, 10.7	33P-90S8	39	38		291, 294, 315, 318, 325, 365, 400, 448, 513, 573	32P-D71L2	31	30
	11.0, 12.0, 14.0	33P-D71K6	34	33	1.0 (0.75)	1.1	103C-42.1P-D80L4	458	467
	15, 16.5, 18.5, 20.5, 22.5, 24, 25, 28, 30, 31.5, 33, 36, 40, 41, 44, 47, 50, 53	33P-D71K4	30	29		1.42, 2.0	93C-42.1P-D80L4	346	345
	58, 60.5, 65, 75, 84	32P-D71K6	31	30		2.24, 2.8	83C-32.1P-D80L4	232	236
	87, 90, 97, 112, 119, 125, 142, 152, 154, 158, 176, 194, 196, 216, 248, 277	32P-D71K4	27	26		3.6, 4.5, 5.6	73C-32.1P-D80L4	170	157
0.5 (0.37)	0.63	93C-43.1P-D71L4	337	336		6.0	73P-100L8	154	141
	0.9	93C-42.1P-D71L4	334	333		6.6	73P-D100L8	154	141
	1.1, 1.6	83C-32.1P-D71L4	215	218		7.0	63P-90S6	101	90
	1.8, 2.24	73C-32.1P-D71L4	155	140		7.9	63P-90S6	*	*
	2.5, 3.2, 3.6, 4.0	63C-32.1P-D71L4	109	98		8.8	63P-80L4	98	87
	5.0, 5.5	53P-90S8	70	61		10.0, 10.9, 12.3	53P-80L4	*	*
	6.3, 6.9	53P-80K6	67	59		13.3	53P-80L4	69	61
	8.2	43P-80K6	46	44		15, 16	43P-80L4	*	*
	7.7, 8.5	43P-80K6	*	*		18.2, 22.5	43P-D80L4	48	46
	10.4, 11.4	43P-D80K6	*	*		20.5	43P-D80L4	*	*
	12, 13	43P-D71L4	41	39		25.4, 26	33P-80L4	*	*
	14.6	33P-80K6	*	*		29, 30.6, 33.4	33P-D80L4	*	*
	15.3	33P-D80K6	*	*		36, 38, 40, 42, 43, 45, 54, 57, 65	33P-D80L4	37	36
	16.6, 18.5, 23, 27, 36, 37, 39, 41, 42, 44, 46, 53, 56, 60, 64, 72	33P-D71L4	30	29		48, 51, 60, 73, 77, 82	33P-D80L4	*	*
	21, 24, 25, 29, 30, 32, 33, 34, 48.5, 50, 76	33P-D71L4	*	*		83, 89, 93	32P-80L4	34	33
	82, 88, 92, 113, 121, 128, 160, 180, 197, 200, 220, 252, 282	32P-D71L4	27	26		98	32P-80L4	*	*
	99, 144, 155	32P-D71L4	*	*		115, 129, 162, 181, 200, 202, 223, 255	32P-D80L4	34	33
	290, 313	32P-D71K2	*	*		145, 158, 285	32P-D80L4	*	*
	316, 324, 325, 363, 400, 445, 510, 570	32P-D71K2	27	26		296	32P-D80K2	*	*
0.75 (0.55)	0.9	103C-42.1P-D80L6	456	455		322, 330, 370, 406, 412, 454, 520, 581	32P-D80K2	34	33
	1.0	93C-42.1P-D80L6	341	340	1.5 (1.1)	1.8	103C-42.1P-90S4	480	480
	1.1	93C-42.1P-D80K4	338	337		2.24, 3.2	93C-42.1P-D90S4	348	347
	1.6, 2.0	83C-32.1P-D80K4	231	234		3.6	83C-32.1P-D90S4	234	236
	2.5, 3.2, 4.0	73C-32.1P-D80K4	168	155		4.5	83C-32.1P-90S4	234	236
	4.5	63C-32.1P-D80K4	114	103		5.0, 5.6	73C-32.1P-D90S4	171	169
	5.8	63P-80L8	107	96					
	6.6, 7.1, 8.0, 8.7	53P-80L6	70	62					

* FOR ITEMS MARKED *, PLEASE REFER TO WORKS.

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**RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.0**

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
1.5 (1.1)	6.7	73P-D100L8	169	156	3.0 (2.2)	3.5	103C-42.1P-D100L4	475	464
	8.2	73P-D90L6	147	134		4.5	93C-42.1P-D100L4	363	362
	8.9, 9.8, 10.0, 10.9	63P-90S4	100	89		6.5	83C-32.1P-D100L4	252	255
	13.6, 14.8, 16.0, 18.0	53P-90S4	71	63		7.2, 8.0	83P-112M6	*	239
	19.0, 21.0	53P-D90S4	71	63		8.8	83P-D112M6	235	239
	23, 25.3, 26.6	43P-90S4	51	49		10.0	73P-112M6	*	157
	28, 29, 31.5, 33, 34.5, 36	43P-D90S4	51	49		11.3	73P-D112M6	*	157
	40.3, 42, 45, 47, 51.6, 55, 58, 61, 66, 74, 78	33P-D90S4	39	38		12.5	73P-100L4	155	143
	85, 90, 95, 101, 116, 124	32P-90S4	36	35		14	73P-D100L4	*	*
	131, 147, 164, 184, 202, 226, 259, 289	32P-D90S4	36	35		16.7	73P-D100L4	155	143
	298, 324, 333, 373, 409, 415, 457, 524, 585	32P-D80L2	34	33		20.7	63P-100L4	115	104
						17.1, 21, 23, 25	63P-D100L4	115	104
						28.3, 34	53P-D100L4	*	*
2.0 (1.5)	2.5	103C-42.1P-D90L4	464	453	5.0 (3.7)	30.3, 33	53P-100L4	*	*
	3.0, 4.0	93C-42.1P-D90L4	352	351		37, 40.5, 42	53P-D100L4	86	78
	5.4	83P-112M8	233	236		45	43P-D100L4	65	63
	6.1	73P-112M8	168	155		51.6, 57, 58, 60, 74, 105	43P-D100L4	*	*
	6.8	73P-D112M8	168	155		65, 67, 83	43P-D100L4	65	63
	7.5	73P-112M8	*	155		90, 112	42P-100L4	61	59
	8.1	73P-100L6	*	142		101	42P-100L4	*	*
	9.0	73P-D100L6	155	142		118, 132, 162	32P-100L4	53	52
	11.0	73P-D100L6	*	142		149	32P-100L4	*	*
	12.3	73P-D90L4	*	*		166, 186	32P-D100L4	53	52
	13.5, 16.5	63P-D90L4	104	93		204, 207, 262	32P-100L4	53	52
	15	63P-D90L4	*	*		228	32P-D100L4	53	52
	17.6	53P-90L4	75	67		292	32P-D100L4	*	*
	18.8, 20.4, 21, 25, 29	53P-D90L4	*	*		298	32P-D90L2	*	*
	23, 28	53P-D90L4	75	67		333, 373, 409, 457, 524, 585	32P-D90L2	51	50
	30	43P-90L4	*	*		6.5, 7.1	103C-52.1P-D112M4	503	492
	32.5	43P-D90L4	*	*		7.9	93P-160M8	414	413
	36.8	43P-D90L4	55	53		9.6	93P-160M8	*	413
	38	43P-90L4	55	53		10.4	83P-132S6	*	256
	40, 42, 44, 46	43P-D90L4	55	53		11	83P-112M4	*	238
	55, 66	33P-D90L4	43	42		12.2	83P-112M4	235	238
	58, 61, 74, 78	33P-D90L4	*	*		13.5	83P-D112M4	235	238
	84, 90, 94, 116, 124	32P-90L4	40	39		15.3, 19, 19.8	73P-112M4	*	157
	101	32P-90L4	*	*		17.3	73P-D112M4	170	157
	131	32P-D90L4	40	39		20.4	73P-D112M4	*	157
	146	32P-D90L4	*	*		22	73P-D112M4	170	157
	164, 184, 201, 225, 258	32P-D90L4	40	39		25	73P-D112M4	*	*
	288	32P-D90L4	*	*		27.5	63P-D112M4	129	118
	297	32P-D90S2	*	*		30, 32.5	63P-112M4	*	*
	331, 371, 408, 456, 522, 583	32P-D90S2	36	33		33.4	63P-D112M4	*	*
						36, 38	63P-D112M4	129	118

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RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.0

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
5.0 (3.7)	41, 44.6	53P-112M4	100	92	10.0 (7.5)	19.5, 22.7	83P-D132M4	265	268
	46, 65.5, 67, 71	53P-D112M4	100	92		20.8	83P-132M4	265	268
	50, 52.5, 58, 60, 75	53P-D112M4	*	*		25, 28, 30	83P-D132M4	*	268
	80	52P-112M4	87	86		32	73P-132M4	*	189
	98	52P-112M4	*	*		36.4, 39.3	73P-132M4	202	189
	114, 127	52P-D112M4	87	86		41, 44	73P-D132M4	202	189
	139	42P-D112M4	80	78		47	73P-D132M4	*	189
	157	42P-D112M4	*	*		50	63P-132M4	*	153
	158	42P-112M4	*	*		55, 68	63P-D132M4	164	153
	170, 186	42P-D112M4	80	78		60, 72	63P-D132M4	164	153
	196, 200, 248	42P-112M4	80	78		91.5	53P-132M4	135	127
	217, 255, 274, 276, 326, 348, 412	42P-D112M4	80	78		103	53P-D132M4	*	*
7.5 (5.5)	7.8, 8.2	113P-132M6	937	912	15.0 (11)	115, 128, 141	52P-132M4	122	114
	8.9	103P-160M8	536	525		158	52P-132M4	*	*
	10, 11	103P-D160M8	536	525		161, 197, 257	52P-D132M4	122	114
	11.6	93P-D160M8	423	422		173, 183, 204, 225, 248, 276	52P-132M4	122	114
	12.8	93P-132M6	375	374		305	52P-132M4	*	*
	13.9	93P-D132M6	375	374		324, 361, 400	52P-132M4	122	114
	15, 15.8	83P-132S4	*	256		348, 455	52P-D132M4	122	114
	19.5	83P-D132S4	*	256	20.0 (15)	9.1	123P-160L6	997	972
	20.3	83P-132S4	*	256		10	123P-D160L6	997	972
	21.6, 23	83P-D132S4	253	256		12.5	113P-160M4	979	954
	25.4, 28, 29, 32.3	73P-132S4	*	177		13.8, 15.8, 17.2	113P-D160M4	979	954
	34.5	73P-D132S4	*	177		18.3	103P-160M4	535	524
	35.6	73P-D132S4	190	177		19.5, 21	93P-160M4	423	422
	41.8, 45.6, 55.5	63P-D132S4	152	141		23.6	93P-D160M4	423	422
	49.6	63P-132S4	*	141		30.3	83P-160M4	318	315
	60	63P-D132S4	*	141		28.5, 33, 39.5, 46, 47	83P-D160M4	318	315
	68	53P-132S4	123	115		53.6	73P-160M4	255	242
	72, 76, 103	53P-D132S4	*	*		50.4, 59.4, 62, 65, 80.5	73P-D160M4	255	242
	82, 92	53P-132S4	123	115		73, 79	73P-D160M4	*	242
	115, 128, 141, 142	52P-132S4	110	102		94, 107	72P-160M4	*	228
	157	52P-132S4	*	*		118, 134	72P-160M4	236	228
	162, 198, 257	52P-D132S4	110	102		126	72P-D160M4	236	228
	174, 184, 204, 225, 249, 276	52P-132S4	110	102		155, 158, 291	72P-D160M4	*	228
	306	52P-132S4	*	*		194, 229, 282, 358	72P-D160M4	236	228
	325, 362, 401	52P-132S4	110	102	20.0 (15)	11.5, 12.6, 14.2	123P-D180L6	1066	1041
	349, 456	52P-D132S4	110	102		15.7, 17.1, 19.3	113P-D160L4	1002	977
10.0 (7.5)	8.2	113P-160M6	972	947		20.3, 22.4, 25	103P-D160L4	558	547
	9, 10.4	113P-D160M6	972	947		28.4, 33, 37	93P-D160L4	446	445
	11	103P-D160L8	558	547		30.5, 40	93P-160L4	446	445
	12	103P-160M6	528	517		42.5, 44.9	83P-160L4	341	344
	13.9	93P-160M6	423	422		45.8, 52, 53.4, 57.5, 71.4	83P-D160L4	341	344
	16	93P-132M4	375	374					

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RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.0

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
20.0 (15)	61, 64	83P-160L4	341	344	40.0 (30)	94	83P-200L4	415	412
	79.5	82P-160L4	316	313		100, 110, 125, 144, 153, 162, 178, 179, 191, 199, 222, 232, 248, 289	82P-200L4	390	387
	82.5, 85.7	73P-D160L4	273	265					
	94, 107, 117, 133, 170	72P-160L4	259	251					
	125, 154, 157, 193, 227, 280, 289, 356	72P-D160L4	259	251					
25.0 (18.5)	12.6, 14.3	123P-D200L6	1087	1062	50.0 (37)	21.5, 24, 28.6	123P-D225S4	1175	1150
	15.2	123P-180M4	1024	999		30.6, 33, 35.7, 37, 41.4, 44, 45, 48.5, 51.7	113P-D225S4	1175	1150
	17.2, 19.4, 21.7	113P-D180M4	1024	999		56.4, 64, 71, 72.4, 78.4, 82	103P-D225S4	730	719
	24.8	103P-180M4	580	569		84, 91, 95, 102, 107, 115, 116, 129, 130, 143, 162, 182, 205	93P-D225S4	627	626
	28.5, 31	103P-D180M4	580	569					
	37, 41	93P-180M4	468	467	60.0 (45)	21.5, 24, 28.6	123P-D225M4	1215	1190
	33.5, 44.4, 47, 52.5	93P-D180M4	468	467		30.6, 33, 35.7, 37, 41.4, 44, 45, 48.5, 51.6, 56.7, 60.3	113P-D225M4	1215	1190
	53.7, 57.5, 72, 84, 94	83P-D180M4	363	366		64, 72.4, 78.4, 82	103P-D225M4	770	759
	99, 109	82P-180M4	338	335		84, 91, 95, 102, 107, 115, 116, 129, 130, 143, 162, 182, 205	93P-D225M4	667	666
	129, 143, 161, 176, 198, 230, 247, 287	82P-D180M4	338	335					
30.0 (22)	15.2	123P-180L4	1055	1030	75.0 (55)	29, 32, 34, 39.5	123P-D250M4	1365	1340
	17.4	123P-D180L4	1055	1030		36.4	123P-250M4	1365	1340
	19.4, 21.7, 25.8, 26.7, 29, 30.4	113P-D180L4	1055	1030		41.5, 44, 45.3, 48.6, 52, 57, 60.5, 70, 76.5	113P-D250M4	1365	1340
	32.4	103P-180L4	611	600		99, 117, 141, 157, 174, 181, 196, 226, 247	112P-D250M4	1215	1190
	31, 35, 39.5	103P-D180L4	611	600					
	41	93P-180L4	499	498	100.0 (75)	37.3, 39.5, 46, 48.6, 50	123P-D280S4	1555	1530
	44.5, 47, 52.5, 57.5, 60	93P-D180L4	499	498		52, 57, 61, 70.4, 77	113P-D280S4	1555	1530
	61.5, 64	83P-180L4	394	398		99.5	112P-280S4	1405	1380
	72, 84, 94	83P-D180L4	394	398		117, 141, 157	112P-D280S4	1405	1380
	99, 109, 124	82P-180L4	369	366		175	112P-280S4	1405	1380
40.0 (30)	129, 143, 161, 178, 198, 231, 247, 288	82P-D180L4	369	366		181, 197, 227, 248	112P-D280S4	1405	1390
	17.5	123P-200L4	1076	1051	125.0 (90)	48.6, 50, 53.6, 57, 63, 67, 77.4, 84.4	123P-D280M4	1975	1950
	19, 21.5	123P-D200L4	1076	1051		109	122P-280M4	1825	1800
	22, 26, 28.7, 30.6, 33, 35.7, 37, 41.4	113P-D200L4	1076	1051		129, 155, 172, 200, 216, 246, 272	122P-D280M4	1825	1800
	42, 46.4	103P-200L4	629	628					
	44.7, 45.6, 49, 56.4	103P-D200L4	629	628					
	64.5	93P-200L4	517	516					
	57.7, 68, 74, 84	93P-D200L4	517	516					

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**RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.4**

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
0.33 (0.25)	0.63, 0.8	93C-43.1P-D71K4	337	336	0.75 (0.55)	11.0, 12.4, 13.5	53P-80K4	67	59
	1.1	83C-32.1P-D71K4	215	218		14.7, 16.0	53P-D80K4	67	59
	1.6, 2.0, 2.5	73C-32.1P-D71K4	155	140		18.5, 20.5, 22.8, 25.0, 26.5, 28.0	43P-D80K4	46	44
	3.2, 3.6	63C-32.1P-D71K4	106	98		30, 31, 33, 34.5, 37, 38, 42, 43, 45.5, 48.5, 51, 54, 57, 66, 74	33P-D80K4	35	34
	5.3, 6.0	53P-90S8	70	61		75, 84, 95, 103, 106	32P-D80L6	32	31
	8.0, 9.3, 10.2	43P-D71K6	45	43		116, 130, 146, 159, 163, 183, 200, 204, 224, 257, 287	32P-D80K4	32	31
	11.8, 12.6	43P-D71K4	40	38		291, 294, 315, 318, 325, 365, 400, 448, 513, 573	32P-D71L2	31	30
	13.8	33P-D71K6	30	29	1.0 (0.75)	1.4	103C-42.1P-D80L4	458	447
	15, 16.5, 18.5, 20.5, 22.5, 24, 25, 28, 30, 31.5, 33, 36, 40, 41, 44, 47, 50, 53	33P-D71K4	30	29		2.0, 2.24	93C-42.1P-D80L4	346	345
	58, 60.5, 65, 75, 84	32P-D71K6	31	30		2.8, 3.6, 4.5	83C-32.1P-D80L4	232	236
	87, 90, 97, 112, 119, 125, 142, 152, 154, 158, 176, 194, 196, 216, 248, 277	32P-D71K4	27	26		5.3, 5.8	83P-100L8	218	222
0.5 (0.37)	0.63, 0.9	103C-43.1P-D71L4	455	444		6.6	73P-D100L8	154	141
	1.1, 1.6	93C-42.1P-D71L4	334	333		8.2, 9.0	73P-D90S6	141	128
	1.8, 2.24, 2.5	83C-32.1P-D71L4	215	218		9.8, 10.8	63P-80L4	*	*
	3.2, 3.6, 4.0	73C-32.1P-D71L4	155	140		12.0, 15.0	63P-D80L4	*	*
	5.5, 6.0	63P-80K6	96	85		13.4, 16.3	63P-D80L4	96	87
	6.3	53P-80K6	67	59		18.5, 23.2	53P-D80L4	69	61
	6.9, 7.8, 8.4	53P-80K6	*	*		19.3, 20.0	53P-D80L4	*	*
	9.2	53P-D80K6	67	59		25.0	43P-80L4	*	*
	10.4, 11.4	43P-D80K6	*	*		28, 36, 39.5	43P-D80L4	48	46
	12, 13	43P-D71L4	41	39		26.3, 29, 31, 32.5, 33.6, 34.2	43P-D80L4	*	*
	14, 15	43P-D71L4	*	*		42, 43, 54, 65	33P-D80L4	37	36
	18.6, 18.5, 23, 27, 36, 37, 39, 41, 42, 44, 46, 56, 60, 64	33P-D71L4	30	29		48, 51, 57, 60, 73, 77, 82	33P-D80L4	*	*
	21, 24, 25, 29, 30, 32, 33, 34, 48.5, 50, 53, 72, 76	33P-D71L4	*	*		83, 89, 93	32P-80L4	34	33
	82, 88, 92, 113, 121, 128, 160, 180, 197, 200, 220, 252, 282	32P-D71L4	27	26		98	32P-80L4	*	*
	99, 144, 155	32P-D71L4	*	*		115, 129, 162, 181, 200, 202, 223, 255	32P-D80L4	34	33
	290, 313	32P-D71K2	*	*		145, 158, 285	32P-D80L4	*	*
	316, 324, 325, 363, 400, 445, 510, 570	32P-D71K2	27	26		296	32P-D80K2	*	*
						322, 330, 370, 406, 412, 454, 520, 581	32P-D80K2	34	33
0.75 (0.55)	1.1	103C-42.1P-D80K4	456	445	1.5 (1.1)	2.24	103C-42.1P-90S4	460	449
	1.6, 2.0	93C-42.1P-D80K4	338	337		3.2	103C-42.1P-D90S4	460	449
	2.5, 3.2, 4.0	83C-32.1P-D80K4	231	234		3.6	93C-42.1P-D90S4	348	347
	4.5	73C-32.1P-D80K4	168	155		4.5	93C-42.1P-90S4	348	347
	6.0, 6.7	73P-D90L8	147	134		5.0, 5.6	83C-32.1P-D90S4	234	238
	7.0, 8.0	63P-80L6	99	88		6.5, 7.2	83P-D100L8	221	224
	8.9, 9.7	63P-80K4	97	86		8.0	83P-90L6	208	211
						9.0, 10.0	73P-D90L6	144	131
						12.4	73P-D90S4	144	131

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RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.4

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
1.5 (1.1)	13.4, 14.7, 16.0	63P-90S4	100	89	3.0 (2.2)	11.0	83P-100L4	*	224
	15.3, 17.0, 18.5, 20.8	63P-D90S4	100	89		12.2	83P-100L4	221	224
	23, 25, 25.8, 28, 30, 32.6, 33.5, 36.4	53P-D90S4	71	63		14	73P-D100L4	*	*
	41.8	43P-90S4	51	49		16.7, 17.3	73P-D100L4	156	143
	40, 44, 46.4, 51, 56.3, 58, 64	43P-D90S4	51	49		21, 25, 29.4, 30.7, 34.5	63P-D100L4	*	*
	66, 74, 78	33P-D90S4	39	38		23, 28, 36, 37.7, 41	63P-D100L4	115	104
	85, 90, 95, 101, 116, 124	32P-90S4	36	35		42, 46, 52.6, 65.5, 71	53P-D100L4	86	78
	131, 147, 164, 184, 202, 226, 259, 289	32P-D90S4	36	35		48.4, 50	53P-D100L4	*	*
	296, 324, 333, 373, 409, 415, 457, 524, 585	32P-D90L2	34	33		60	53P-100L4	*	*
2.0 (1.5)	3.0	103C-42.1P-D90L4	464	453		74, 106	43P-D100L4	*	*
	4.0, 5.4	93C-42.1P-D90L4	352	351		83	43P-D100L4	65	63
	6.0, 7.0	83P-112M8	233	236		90, 112	42P-100L4	61	59
	7.9	83P-100L6	*	224		101	42P-100L4	*	*
	9.2	83P-100L6	221	224		124, 138	42P-D100L4	61	59
	10.2	83P-D100L6	*	*		154	42P-100L4	*	*
	10.9, 12.0	83P-90L4	*	*		162, 204, 207, 262	32P-100L4	53	52
	13.6, 16.4, 17.0	73P-D90L4	144	131		166, 186, 228	32P-D100L4	53	52
	15.0	73P-D90L4	*	*		292	32P-D100L4	*	*
	17.8	63P-90L4	104	93		296	32P-D90L2	*	*
	18.7, 22.4, 27	63P-D90L4	104	93	5.0 (3.7)	333, 373, 409, 457, 524, 585	32P-D90L2	51	50
	20.4, 24.5, 29	63P-D90L4	*	*		6.5, 7.1	103C-52.1P-D112M4	503	492
	30, 32.5, 33.4, 49	53P-D90L4	*	*		9.0	103P-160M8	526	515
	36.3, 40, 44, 46.4	53P-D90L4	75	67		9.6	93P-160M8	*	413
	51	43P-D90L4	*	*		10.4	93P-132S6	*	372
	56, 57, 64, 66	43P-D90L4	55	53		12.6	93P-132S6	373	372
	59.6	43P-90L4	*	*		13.7	93P-D132S6	373	372
	70, 78.3, 90	42P-90L4	50	48		15.7	93P-D112M4	*	342
	73.5, 96, 100	42P-90L4	*	*		17.0	83P-112M4	235	238
	110	42P-D90L4	50	48		18.2, 21.4, 22.5	83P-D112M4	235	238
	116, 124	32P-90L4	40	39		19.4, 20	83P-D112M4	*	238
	131, 164, 184, 201, 225, 258	32P-D90L4	40	39		25	83P-D112M4	*	*
	146, 288	32P-D90L4	*	*		29	73P-112M4	*	*
	297	32P-D90S2	*	*		30, 32	73P-D112M4	*	*
	331, 371, 408, 456, 522, 583	32P-D90S2	36	33		35.3	73P-112M4	170	157
3.0 (2.2)	4.5	103C-42.1P-D100L4	475	464		37, 40	73P-D112M4	170	157
	6.5	93C-42.1P-D100L4	363	362		43, 45, 54.8, 67, 71	63P-D112M4	129	118
	7.8	93P-132S8	*	357		49, 59	63P-D112M4	*	*
	8.0	83P-112M6	*	239		75, 96	53P-D112M4	*	*
	8.8	83P-D112M6	235	239		81	53P-112M4	100	92
	10.2	83P-D112M6	*	239		91	53P-D112M4	100	92
						98	52P-112M4	*	*
						114, 127, 140	52P-D112M4	87	86
						155	52P-D112M4	*	*

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RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.4

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
5.0 (3.7)	158, 196, 200, 248	42P-112M4	80	78	10.0 (7.5)	111, 120	62P-132M4	148	141
	170, 186, 217, 255, 274, 276, 326, 348, 412	42P-D112M4	80	78		122, 132	62P-D132M4	148	141
7.5 (5.5)	7.8, 8.2	113P-132M6	937	912		148, 152	62P-D132M4	*	*
	9.1, 10.4	113P-D132M6	937	912		167, 177, 182, 187, 196	62P-D132M4	148	141
	11	103P-D160M8	536	525		204, 225, 248, 276	52P-132M4	122	114
	12, 13.4	103P-D132M6	493	485		257	52P-D132M4	122	114
	14.8	103P-D132M6	*	485		305	52P-132M4	*	*
	15.9	93P-132S4	363	362		324, 361, 400	52P-132M4	122	114
	19.2	93P-132S4	*	362		348, 455	52P-D132M4	122	114
	21	93P-D132S4	*	362	15.0 (11.0)	9.1	123P-160L6	997	972
	21.6, 23, 28.2, 35.5, 39	83P-D132S4	253	256		10	123P-D160L6	997	972
	25, 30, 32.8	83P-D132S4	*	256		12.5	113P-160M4	979	954
	41	73P-D132S4	190	177		13.8, 15.8, 17.2, 19.4	113P-D160M4	979	954
	44	73P-132S4	190	177		18.1	113P-160M4	979	954
	48	73P-132S4	*	177		20.3, 22.5, 25	103P-D160M4	535	524
	50, 52	73P-D132S4	*	177		28.6, 33.5, 37	93P-D160M4	423	422
	53	73P-132S4	190	177		39.5, 46, 47, 52, 53.7, 58	83P-D160M4	318	315
	59, 61.5	73P-D132S4	190	177		61.5, 64	83P-160M4	318	315
	68, 81.4, 87	63P-D132S4	152	141		72	83P-D160M4	*	315
	71.6, 76.5	63P-D132S4	*	*		79	73P-D160M4	*	242
	100	62P-132S4	*	*		80.5	73P-D160M4	255	242
	90.5, 111, 120	62P-132S4	136	129		94	72P-160M4	*	228
	133, 137	62P-D132S4	136	129		107, 118, 134	72P-160M4	236	228
	149, 153	62P-D132S4	*	*		126	72P-D160M4	236	228
	157	52P-132S4	*	*		155	72P-D160M4	*	228
	162, 198, 257	52P-D132S4	110	102		158, 194, 229, 282, 291, 358	72P-D160M4	236	228
	174, 184, 204, 226, 249, 276	52P-132S4	110	102	20.0 (15.0)	11.5, 12.6, 14.2	123P-D180L6	1066	1041
	306	52P-132S4	*	*		15.7, 17.1, 19.3, 21.5, 23.2, 25.7, 26.5	113P-D160L4	1002	977
	325, 362, 401	52P-132S4	110	102		28.3, 31, 32.2	103P-D160L4	558	547
	349, 456	52P-D132S4	110	102		33, 37, 45, 47, 52	93P-D160L4	446	445
10.0 (7.5)	8.2	113P-160M6	972	947		40	93P-160L4	446	445
	9, 10.4	113P-D160M6	972	947		53.4, 57.5, 71.4, 83.2, 93	83P-D160L4	341	344
	10.6, 11.8	113P-132M4	937	912		61, 64	83P-160L4	341	344
	13.4, 14.8, 16.3	103P-D160M6	528	517		98, 108	82P-160L4	316	313
	19	93P-132M4	375	374		128	82P-D160L4	316	313
	21, 23.4, 28.2	93P-D132M4	375	374		133, 170	72P-160L4	259	251
	30, 32.7, 34.8	83P-D132M4	*	268		154, 157, 193, 227, 280, 289, 356	72P-D160L4	259	251
	35.4, 39, 40.5, 45.4	83P-D132M4	265	268	25.0 (18.5)	14.3	123P-D200L6	1087	1062
	50	73P-D132M4	*	189		15.2	123P-180M4	1024	999
	53	73P-132M4	202	189		17.2, 19.4, 21.7, 25.8, 28.5, 30.4, 32.7, 35.5, 36.6	113P-D180M4	1024	999
	61, 64.4, 82, 85	73P-D132M4	202	189					
	78	73P-D132M4	*	189					
	101	73P-D132M4	*	*					

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**RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.4**

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
25.0 (18.5)	39.5, 44.4, 45.3, 49, 56	103P-D180M4	580	569	50.0 (37.0)	24, 28.6, 31.6, 33.7, 36.3, 39.3	123P-D225S4	1175	1150
	41.6, 46	103P-180M4	580	569		41.4, 44, 45, 48.5, 51.7, 56.7, 60.3, 70	113P-D225S4	1175	1150
	57.3, 60, 64, 67.5, 70	93P-D180M4	468	467		71, 72.4, 78.4, 82, 91.4, 101	103P-D225S4	730	719
	72, 84, 94	83P-D180M4	363	366		115, 116, 129, 130, 143, 162, 182, 205	93P-D225S4	627	626
	99, 109	82P-180M4	338	335					
	129, 143, 161, 178, 198, 230, 247, 287	82P-D180M4	338	335					
30.0 (22.0)	17.4	123P-D180L4	1055	1030	60.0 (45.0)	31.6, 33.7, 36.3, 37, 39.3, 40.5	123P-D225M4	1215	1190
	19.4, 21.7, 25.8, 26.7, 29, 30.4, 32.7, 33.4, 35.5, 36.6, 41	113P-D180L4	1055	1030		44, 45, 48.5, 51.6, 56.7, 60.3, 70, 76	113P-D225M4	1215	1190
	46	103P-180L4	611	600		99	112P-D225M4	1065	1040
	44.4, 45.3, 49, 56, 58.2, 63	103P-D180L4	611	600		101	103P-D225M4	770	759
	64, 67.5, 70, 73, 74, 82	93P-D180L4	499	498		116, 129, 130, 143, 162, 182, 205	93P-D225M4	667	666
	84, 94	83P-D180L4	394	398	75.0 (55.0)	39.5, 40.7, 46, 48.5, 50, 53.5	123P-D250M4	1365	1340
	99, 109, 124	82P-180L4	369	366		57, 60.5, 70, 76.5	113P-D250M4	1365	1340
	129, 143, 161, 178, 198	82P-D180L4	369	366		99, 117, 141, 157, 174, 181, 196, 226, 247	112P-D250M4	1215	1190
	231, 247, 288	82P-D180L4	369	366		57, 63, 67	123P-D280S4	1555	1530
						70.4, 77	113P-D280S4	1555	1530
40.0 (30.0)	21.5, 24, 28.6	123P-D200L4	1076	1051	100.0 (75.0)	99.5	112P-280S4	1405	1380
	30.6, 33, 35.7, 37, 41.4, 44, 45, 48.5, 51.7	113P-D200L4	1076	1051		117, 141, 157	112P-D280S4	1405	1380
	56.4, 58.6, 63.5, 71, 72.4, 78.4, 82	103P-D200L4	629	618		175	112P-280S4	1405	1380
	90.5, 91, 95, 102, 107, 115, 116, 129, 130, 143	93P-D200L4	517	516		181, 197, 227, 248	112P-D280S4	1405	1380
	144, 153, 162, 178, 179, 191, 199, 222, 232, 248, 289	82P-200L4	390	387		67, 77.4, 84.4	123P-D280M4	1975	1950
					125.0 (90.0)	109	122P-280M4	1825	1800
						129, 155, 172, 200, 216, 246, 272	122P-D280M4	1825	1800

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RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.65

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
0.33 (0.25)	0.63	103C-43.1P-D71K4	455	444	0.75 (0.55)	10.8, 12.0	53P-D80K4	97	86
	0.8	93C-43.1P-D71K4	330	329		12.4, 13.5	53P-D80K4	87	59
	1.1, 1.8, 2.0	83C-32.1P-D71K4	215	218		14.7, 15, 18, 19.5, 21	53P-D80K4	67	59
	2.5, 3.2, 3.6	73C-32.1P-D71K4	155	140		22.8, 25.0, 26.5, 28.0	43P-D80K4	46	44
	5.2	53P-90S8	100	89		29.0, 31.3, 33.0, 36.0	43P-D80K4	35	34
	6.0, 6.5	53P-90S8	70	61		37, 38, 42, 43, 45.5, 48.5, 51, 54, 57, 66, 74	33P-D80K4	32	31
	8.0	53P-D71K6	63	65		75, 84, 95, 103, 106	32P-D80L6	32	31
	9.5, 10.4	43P-D71K6	45	43		116, 130, 146, 159, 163, 183, 200, 204, 224, 257, 287	32P-D80K4	32	31
	11.8, 12.6, 14.0, 16.0	43P-D71K4	40	38		291, 294, 315, 318, 325, 365, 400, 448, 513, 573	32P-D71L2	31	30
	18.5, 20.5, 22.5, 24, 25, 28, 30, 31.5, 33, 36, 40, 41, 44, 47, 50, 53	33P-D71K4	30	29		2.0	103C-42.1P-D80L4	458	447
	58, 60.5, 65, 75, 84	32P-D71K6	31	30		2.24, 2.8	93C-42.1P-D80L4	346	345
	87, 90, 97, 112, 119, 125, 142, 152, 154, 158, 175, 194, 196, 216, 248, 277	32P-D71K4	27	26		3.6, 4.5	83C-32.1P-D80L4	232	236
0.5 (0.37)	0.9	103C-43.1P-D71L4	445	444	1.0 (0.75)	5.3, 5.9	83P-100L8	218	222
	1.1, 1.8	93C-42.1P-D71L4	334	333		6.6	73P-D100L8	154	141
	1.8, 2.24, 2.5, 3.2	83C-32.1P-D71L4	215	218		8.2, 9.0	73P-D90S6	141	125
	3.6, 4.2	73C-32.1P-D71L4	155	140		10.0	73P-D90S6	*	*
	5.5, 6.0, 6.8	63P-80K6	96	85		10.8	63P-80L4	98	87
	7.5	63P-D80K6	*	*		12.0, 15.0	63P-D80L4	*	*
	7.8	53P-80K6	*	*		13.4, 16.3, 18.3	63P-D80L4	98	87
	8.4	53P-80K6	67	59		19.3, 20.0, 25.4, 29.6	53P-D80L4	*	*
	9.2	53P-D80K6	*	*		23.2, 27.6	53P-D80L4	69	61
	10.8, 13.2	53P-D71L4	63	65		31, 32.5, 33.6, 34.2	43P-D80L4	*	*
	12.2	53P-D71L4	*	*		36, 39.5, 41.2, 45.5	43P-D80L4	48	46
	14, 16.5, 18, 22.2	43P-D71L4	41	39		48, 51, 57, 60, 73, 77, 82	33P-D80L4	*	*
	15, 20	43P-D71L4	*	*		54, 65	33P-D80L4	37	36
	23, 27, 36, 37, 39, 41, 42, 44, 46, 53, 56, 60, 64	33P-D71L4	30	29		83, 89, 93	32P-80L4	34	33
	24, 25, 29, 30, 32, 33, 34, 48.5, 50, 72, 76	33P-D71L4	*	*		98	32P-80L4	*	*
	99, 144, 155	32P-D71L4	*	*		115, 129, 162, 181, 200, 202, 223, 255	32P-D80L4	34	33
	82, 88, 92, 113, 121, 128, 160, 180, 197, 200, 220, 252, 282	32P-D71L4	27	26		145, 158, 285	32P-D80L4	*	*
	290, 313	32P-D71K2	*	*		296	32P-D80K2	*	*
	316, 324, 325, 363, 400, 445, 510, 570	32P-D71K2	27	26		322, 330, 370, 406, 412, 454, 520, 581	32P-D80K2	34	33
0.75 (0.55)	1.1	103C-42.1P-D80K4	456	455	1.5 (1.1)	2.24	103C-42.1P-90S4	460	449
	1.6, 2.0	93C-42.1P-D80K4	338	337		3.2	103C-42.1P-D90S4	460	449
	2.5, 3.2, 4.0, 4.5	83C-32.1P-D80K4	231	234		3.6	93C-42.1P-D90S4	348	347
	6.0, 6.7	73P-D90L8	147	134		4.5, 5.0	83C-42.1P-90S4	348	347
	7.0, 8.0	63P-80L6	99	88		5.6	83C-32.1P-D90S4	234	238
	8.9, 9.7	63P-80K4	97	86		6.5, 7.2	83P-D100L8	221	224
						8.0	83P-90L5	208	211
						8.8, 10.2	83P-D90L6	208	211
						12.4, 13.7	73P-D90S4	144	131

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RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.65

MOTOR HP/(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP/(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
1.5 (1.1)	14.7, 16.0	63P-90S4	100	89	3.0 (2.2)	12.2	83P-100L4	221	224
	15.3, 17.0, 18.5, 20.8, 22.5, 24.8	63P-D90S4	100	89		13.5, 17.3	83P-D100L4	221	224
						15.0, 19.4	83P-D100L4	*	*
	28, 30, 32.6, 33.5, 36.4, 40, 41.6, 45.4, 49.3	53P-D90S4	71	63		21, 25, 26.4, 30, 32	73P-D100L4	*	*
						28	73P-D100L4	156	143
	51, 56.3, 58, 64	43P-D90S4	51	49		34.5	63P-D100L4	*	*
	66, 70	42P-90S4	46	44		36, 37.7, 41, 43, 45	63P-D100L4	115	104
	74, 78	33P-D90S4	39	38		48, 49	63P-D100L4	*	*
	85, 90, 95, 101, 116, 124	32P-90S4	36	35		50, 52.6, 58	53P-D100L4	*	*
						60	53P-100L4	*	*
2.0 (1.5)	3.0, 4.0	103C-42.1P-D90L4	464	453	3.0 (2.2)	65.5, 71	53P-D100L4	86	78
	5.4, 6.0	93C-42.1P-D90L4	352	351		73.5, 75	53P-D100L4	*	*
	7.0	83P-112M8	233	236		80	52P-100L4	73	72
	7.9	83P-100L6	*	224		98	52P-100L4	*	*
	9.2	83P-100L6	221	224		101	42P-100L4	*	*
	10.2	83P-D100L6	*	*		112	42P-100L4	61	59
	10.9	83P-90L4	*	*		124, 138	42P-D100L4	61	59
	12.0	83P-90L4	200	203		154	42P-100L4	*	*
	13.3	83P-D90L4	200	203		170, 176, 186, 216	42P-D100L4	61	59
	14.7	83P-D90L4	*	*		200	42P-100L4	61	59
	16.4, 17.0, 21.6	73P-D90L4	144	131		228	32P-D100L4	53	52
	20.0	73P-D90L4	*	*		262	32P-100L4	53	52
	22.4, 27, 37	63P-D90L4	104	93		292	32P-D100L4	*	*
	24.5, 29, 32, 34	63P-D90L4	*	*		298	32P-D90L2	*	*
	40, 44, 46.4	53P-D90L4	75	67		333, 373, 409, 457, 524, 585	32P-D90L2	51	50
	49, 52, 57, 59, 63	53P-D90L4	*	*	5.0 (3.7)	7.8	113P-D160M8	972	947
	66, 81	43P-D90L4	55	53		9.0	103P-160M8	526	515
	73	43P-D90L4	*	*		10.0, 11.0	103P-D160M8	*	515
	90	42P-90L4	50	48		13.7	93P-D132S6	373	372
	96, 100	42P-90L4	*	*		15.7, 19	93P-D112M4	*	342
	110, 122, 137	42P-D90L4	50	48		19.4, 20	83P-D112M4	*	238
	115	42P-90L4	50	48		21.4, 22.5, 28	83P-D112M4	235	238
	146	32P-D90L4	*	*		25, 29.7, 32.5	83P-D112M4	*	*
	164, 184, 201, 225, 258	32P-D90L4	40	39		35.3	73P-112M4	170	157
	288	32P-D90L4	*	*		37, 40, 44, 47, 54.3	73P-D112M4	170	157
	297	32P-D90S2	*	*		50	73P-D112M4	*	*
3.0 (2.2)	4.5, 6.5	103C-42.1P-D100L4	475	464		59, 71	63P-D112M4	*	*
	7.8, 9.5	93P-132S8	*	357		67	63P-D112M4	129	118
	11.0	83P-100L4	*	224		80, 90, 110, 121	62P-D112M4	118	112
						127, 140, 160, 172, 182	52P-D112M4	87	86
						155	52P-D112M4	*	*

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RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.65

MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
5.0 (3.7)	196, 200, 248	42P-112M4	80	78	10.0 (7.5)	275	52P-132M4	122	114
	217, 255, 274, 276, 326, 348, 412	42P-D112M4	80	78		305	52P-132M4	*	*
7.5 (5.5)	7.8, 8.2	113P-132M6	937	912		324, 361, 400	52P-132M4	122	114
	9.1, 10.4, 11.3	113P-D132M6	937	912		348, 455	52P-D132M4	122	114
	12, 13.4, 16.3	103P-D132M6	493	485	15.0 (11.0)	9.1	123P-160L6	997	972
	14.8	103P-D132M6	*	485		10	123P-D160L6	997	972
	18.2	93P-132S4	*	362		12.5, 18.1, 21.2	113P-160M4	979	954
	21, 25.4	93P-D132S4	*	362		13.8, 15.8, 17.2, 19.4, 23.4	113P-D160M4	979	954
	25.4	93P-D132S4	363	362		25, 28.5	103P-D160M4	535	524
	30, 32.8	83P-D132S4	*	256		31, 40.5	93P-160M4	423	422
	38.2, 39.3, 39, 40.7, 45.6	83P-D132S4	253	256		33.5, 37, 45, 47, 52.5	93P-D160M4	423	422
	48	73P-132S4	*	177		53.7, 58	83P-D160M4	318	315
	50, 52	73P-D132S4	*	177		61.5, 64	83P-160M4	318	315
	52	73P-132S4	190	177		72	83P-D160M4	*	315
	58, 64	73P-D132S4	190	177		84, 94	83P-D160M4	318	315
	61.5	73P-D132S4	*	177		99	83P-160M4	*	290
	72.5	73P-D132S4	*	*		109	83P-160M4	293	290
	75.5	63P-D132S4	*	*		118, 134	72P-160M4	236	228
	81.4, 87	63P-D132S4	152	141		126	72P-D160M4	236	228
	100	62P-132S4	*	*		155	72P-D160M4	*	228
	111, 120	62P-132S4	136	129		158, 194, 229, 282	72P-D160M4	236	228
	133, 137	62P-D132S4	136	129		291	72P-D160M4	*	228
	149, 153	62P-D132S4	*	*		358	72P-D160M4	236	228
	168, 170, 178, 182, 187, 196, 201, 209, 219	62P-D132S4	136	129	20.0 (15.0)	12.6, 14.2	123P-D180L6	1065	1041
	226, 249	52P-132S4	110	102		15.7, 17.1, 19.3, 21.5, 23.2, 25.7, 28.5, 28.4, 30.2, 32.5, 35, 36.5	113P-D160L4	1002	977
	257	52P-D132S4	110	102		39.3, 41.3, 44, 45, 46, 48.5	103P-D160L4	558	547
	306	52P-132S4	*	*		52, 57, 60, 63.6, 67, 70	93P-D160L4	446	445
	276, 325, 362, 401	52P-132S4	110	102		71.4, 83.2, 93	83P-D160L4	341	344
	349, 456	52P-D132S4	110	102		98, 108	83P-160L4	316	313
10.0 (7.5)	8.2	113P-160M6	972	947		128, 142, 160	82P-D160L4	316	313
	9, 10.4	113P-D160M6	972	947		170	72P-160L4	259	251
	10.6, 11.8, 12.4	113P-132M4	937	912		193, 227, 280, 289, 356	72P-D160L4	259	251
	13.6, 15.6, 17	113P-D132M4	937	912	25.0 (18.5)	18, 21.3, 24	123P-D180M4	1024	999
	18, 20, 22.2, 24.5	103P-D132M4	493	485		28.5, 30.4, 32.7, 35.5, 36.6	113P-D180M4	1024	999
	28.2, 33, 36.6	93P-D132M4	375	374		41.5, 46	103P-180M4	580	569
	39, 40.5, 45.4, 53, 57	83P-D132M4	265	268		44.4, 45.3, 49, 56, 58, 63	103P-D180M4	580	569
	51, 60.6	83P-D132M4	*	268		64, 67.5, 70, 73, 82, 84, 90.5	93P-D180M4	468	467
	64.4, 82, 85	73P-D132M4	202	189		94	83P-D180M4	363	366
	78, 101	73P-D132M4	*	189		98, 109	83P-180M4	338	335
	106, 125, 132	72P-D132M4	194	186					
	148, 152	62P-D132M4	*	*					
	167, 177, 182, 187, 196, 200, 208, 219, 224, 249, 269	62P-D132M4	148	141					

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**RATING TABLE OF GEARED MOTOR SERVICE FACTOR 1.65**

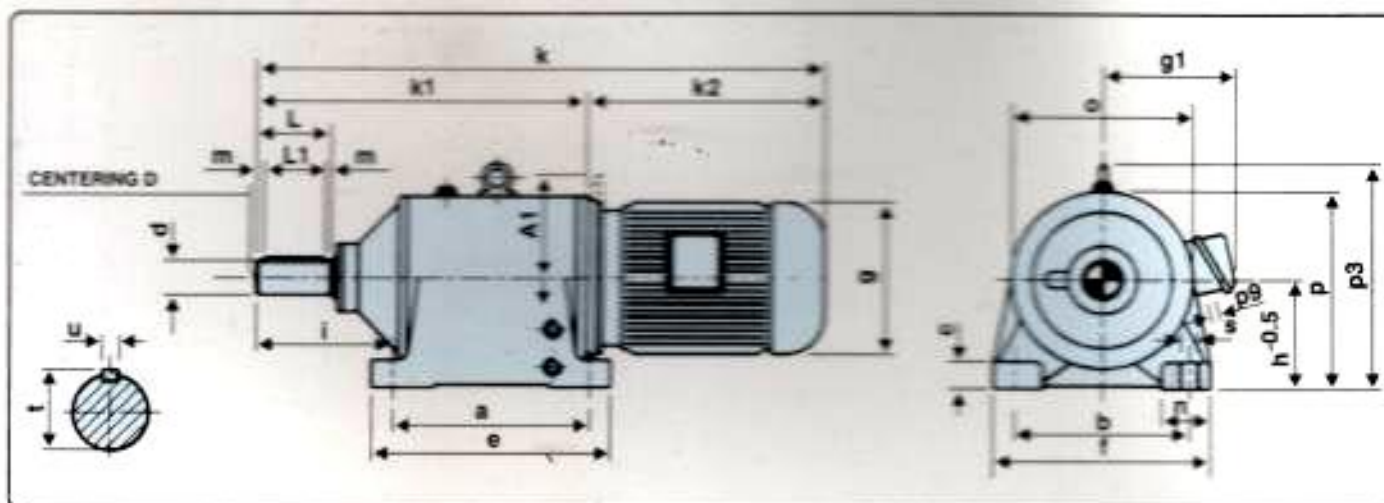
MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)		MOTOR HP(KW)	Output Speed (R.P.M.)	Type	WEIGHT (Kg.)	
			Foot	Flange				Foot	Flange
25.0 (18.5)	129, 143, 161, 178, 198, 230, 247, 287	82P-D180M4	338	335	50.0 (37.0)	101, 116	103P-D225S4	730	719
30.0 (22.0)	19, 21.3, 24	123P-D180L4	1055	1030	60.0 (45.0)	129, 130, 143, 162, 182, 205	93P-D225S4	627	626
	25.8, 26.7, 29, 30.4, 32.7, 33.4, 35.5, 36.6, 41, 44, 45, 48, 51.3	113P-D180L4	1055	1030		36.3, 37, 39.3, 40.5 45.5, 48.3	123P-D225M4	1215	1190
	56, 58.2, 63, 71	103P-D180L4	611	600		51.6, 56.7, 60.3, 70, 76	113P-D225M4	1215	1190
	73, 74, 82, 84, 90.5, 94.4, 102, 106, 115	93P-D180L4	499	498		99	112P-D225M4	1065	1040
	129, 143, 161, 178, 198	82P-D180L4	369	366		101, 116	103P-D225M4	770	759
	231, 247, 288	82P-D180L4	369	366		162, 182, 205	93P-D225M4	667	666
					75.0 (55.0)	48.5, 50, 53.5, 57, 63, 66.5	123P-D250M4	1365	1340
40.0 (30.0)	31.6, 32.2, 33.7	123P-D200L4	1076	1051		70, 76.5	113P-D250M4	1365	1340
	35.7, 37, 41.4, 44, 45, 48.5, 51.7, 56.7, 60.3, 70	113P-D200L4	1076	1051		99, 117, 141, 157, 174, 181, 196, 226, 247	112P-D250M4	1215	1190
	71, 72.4, 78.4, 82, 91.3, 101	103P-D200L4	629	628	100.0 (75.0)	67, 77.4, 84.4	123P-D280S4	1555	1530
	102, 107, 115, 116, 129, 130, 143, 162, 182	93P-D200L4	517	516		99.5	112P-280S4	1405	1380
	191, 199, 222, 232, 248, 289	82P-200L4	390	387		117, 141, 157	112P-D280S4	1405	1380
						175	112P-280S4	1405	1380
50.0 (37.0)	36.3, 37, 39.3, 40.5, 45.5, 48.3	123P-D225S4	1175	1150		181, 197, 227, 248	112P-D280S4	1405	1380
	51.7, 56.7, 60.3, 70, 76	113P-D225S4	1175	1150	125.0 (90.0)	77.4, 84.4	123P-D280M4	1975	1950
	99	112P-D225S4	1025	1000		109	122P-280M4	1825	1800
						129, 155, 172, 200, 216, 246, 272	122P-D280M4	1825	1800

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FOOT MOUNTED GEARED MOTORS



PRINCIPAL DIMENSIONS

TYPE	a	b	c	e	f	n	s	g	g ₁	h	i	k	k ₁	k ₂	o	p	p ₃	p ₅	A ₁	d	L	L ₁	m	t	u	D
32P—71								139	105			480		243												
80								157	112			484		267												
90S	140	140	22	170	180	40	11.5	181	148	100	88	499	217	282	160	180		13.5	—	25 ⁴⁰	60	50	5	27.9	8	M8
90L								181	148			524		307												
100L								202	163			561		344												
33P—71								139	105			492		243												
80								157	112			516		267												
90S	170	140	22	200	180	40	11.5	181	148	100	88	531	249	282	160	180		13.5	—	25 ⁴⁰	60	50	5	27.9	8	M8
90L								181	148			556		307												
100L								202	163			593		344												
42P—71								139	105			498		239												
80								157	112			521		262												
90S	165	180	28	200	220	50	14	181	148	112	110	536	259	277	190	207		13.5	—	32 ⁴⁰	80	70	5	35.3	10	M12
90L								181	148			561		302												
100L								202	163			597		338												
112M								227	177			619		360				21	—	—						
43P—71								139	105			537		239												
80								157	112			560		262												
90S	200	180	28	235	220	50	14	181	148	112	110	575	298	277	190	207		13.5	—	32 ⁴⁰	80	70	5	35.3	10	M12
90L								181	148			600		302												
100L								202	163			636		338												
112M								227	177			658		380				21	—	—						
52P—71								139	105			553		237												
80								157	112			573		257												
90S	200	205	30	240	250	56	18	181	148	132	142	588		272												
90L								181	148			613	316	297	220	242	285	13.5	—	40 ⁴⁰	110	100	5	43.1	12	M16
100L								202	163			646.5		330.5												
112M								227	177			688.5		352.5												
132S								267	207			735		419				21	—	250						
132M								267	207			773		457						250						
53P—71								139	105			592		237												
80								157	112			612		257												
90S	240	205	30	280	250	56	18	181	148	132	142	627		272												
90L								181	148			652	365	297	220	242	285	13.5	—	40 ⁴⁰	110	100	5	43.1	12	M16
100L								202	163			688.5		330.5												
112M								227	177			707.5		352.5												
132S								267	207			774		419				21	—	250						
132M								267	207			812		457						250						
62P—80								157	112			610		265												
90S								181	148			637		282												
90L								181	148			642		287												
100L	230	250	40	280	310	70	23	202	163	180	150	678.5	385	323.5	280	280	340	13.5	—	50 ⁴⁰	110	100	5	53.5	14	M16
112M								227	177			700.5		345.5												
132S								267	207			782		407				21	—	300						
132M								267	207			800		445						300						
160M								324	225			903		548				29	—	350						
160L								318	255			961		596						350						



TYPE	a	b	c	e	f	n	s	g	g ¹	h	i	k	k ¹	k ²	o	p	p ³	p ⁹	A1	d	L	L ¹	m	t	u	D
63P-83								157	112			660		255												
90S								181	148			667		262												
90L								181	148			682		267												
100L								202	163			728.5		323.5				13.5								
112M	280	250	40	330	310	70	23	227	177	160	160	750.5	405	345.5	260	290	340			50 ⁹⁰	110	100	5	53.5	14	M16
132S								267	207			812		407												
132M								267	207			850		445				21								
160M								324	225			959		548												
160L								318	255			1001		596				29								
72P-90S								181	148			679		257												
90L								181	148			704		282												
100L								202	163			742.5		320.5				13.5								
112M	260	280	45	320	350	80	27	227	177	180	189	764.5	422	342.5	300	330	392			60 ⁹⁰	140	125	7.5	64.2	18	M20
132S								267	207			820		398				21								
132M								267	207			858		436												
160M								324	225			956		534				29		350						
160L								318	255			1004		582						350						
73P-90S								181	148			735		257												
90L								181	148			760		282												
100L								202	163			798.5		320.5				13.5								
112M	310	280	45	370	350	80	27	227	177	180	189	820.5	478	342.5	300	330	392			60 ⁹⁰	140	125	7.5	64.2	18	M20
132S								267	207			876		398				21								
132M								267	207			914		436												
160M								324	225			1012		534				29		350						
160L								318	255			1060		582						350						
82P-90S								181	148			736		254												
90L								181	148			761		279												
100L								202	163			798		316				13.5								
112M								227	177			820		338												
132S	320	300	55	390	400	100	27	267	207	225	196	870		388				21								
132M								267	207			908	482	426	365	408	479			70 ⁹⁰	140	125	7.5	74.6	20	M20
160M								324	225			1007		525				29								
160L								318	255			1065		573												
180M								360	275			1077		595												
180L								360	275			1115		633				36								
200L								408	316			1163		681						400						
83P-90S								181	148			804		254												
90L								181	148			829		279												
100L								202	163			866		316				13.5								
112M								227	177			888		338												
132S								267	207			938		388				21								
132M	380	300	55	450	400	100	27	267	207	225	196	976	550	426	365	408	479			70 ⁹⁰	140	125	7.5	74.6	20	M20
160M								324	225			1075		525												
160L								318	255			1123		573				29								
180M								360	275			1145		595												
180L								360	275			1183		633				36								
200L								408	316			1231		681						400						
93P-112M								227	177			972		328												
132S								267	207			1027		383				21								
132M								267	207			1065		421												
160M								324	225			1164		520				29								
160L	440	390	55	530	490	110	33	318	255	250	236	1212	644	568	420	460	531			90 ⁹⁰	180	160	10	95.3	25	M24
180M								360	275			1234		590												
180L								360	275			1272		628												
200L								408	316			1320		676				36								
225S								456	335			1347		703						450						
225M								456	335			1372		728						450						
103P-132S								267	207			1100		381				21								
132M								267	207			1138		419												
160M								324	225			1236		517												
160L								318	255			1284		565				29								
180M	480	425	65	580	540	125	35	360	275	280	270	1306	719	587	460	510	600			100 ⁹⁰	210	200	5	106.1	28	M24
180L								360	275			1344		625												
200L								408	316			1390		671				36								
225S								456	335			1418		699												
225M								456	335			1443		724												

Note: Dimensions given above are for gears without holdback and brake.
Dimensions g, g¹, k and k² may vary as per make of the motor.

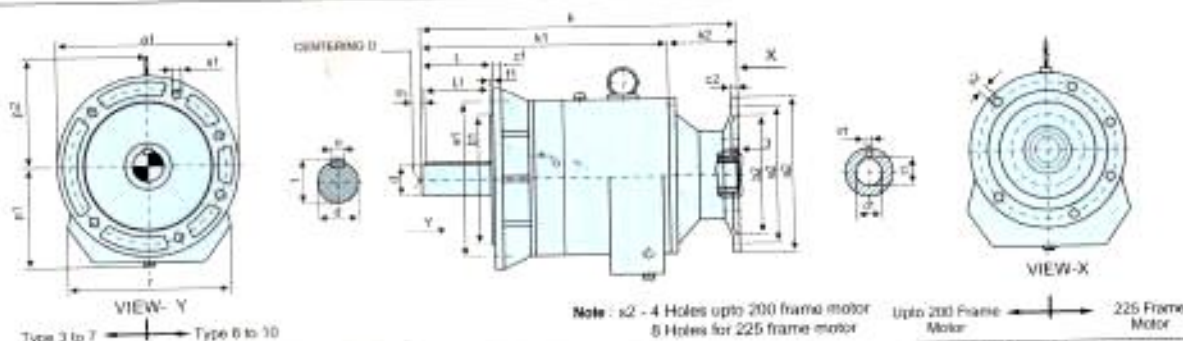


VIEW - 'X'

Upto 200 Frame ← | → 225 Frame

	Motor Frame	a	a2	b	b2	c	c2	e	e2	f	n	s	s2	h	k	k1	k2	o	p	p3	d	d1	L	L1	m	t	tt	u	u1	D
32PM	71	140	160	140	110	22	10	170	130	180	40	11.5	M8	100	307	217	90	180	180	-	25 ^{mm}	14	80	50	5	27.9	18.3	8	5	M8
32PM	71	170	160	140	110	22	10	200	130	180	40	11.5	M8	100	309	248	90	180	180	-	25 ^{mm}	14	80	50	5	27.9	18.3	8	5	M8
42PM	71	160	200	180	110	28	10	200	130	200	50	14	M10	112	309	258	190	190	207	-	32 ^{mm}	16	80	70	5	35.3	21.8	10	6	M12
	80				120				160																					
42PM	90S/90L	160	200	180	120	28	10	200	160	200	50	14	M10	112	309	258	190	190	207	-	32 ^{mm}	16	80	70	5	35.3	21.8	10	6	M12
	200				130				160																					
42PM	71	160	200	180	110	28	10	225	130	225	50	14	M10	112	306	268	190	190	207	-	32 ^{mm}	16	80	70	5	35.3	21.8	10	6	M12
	80				120				160																					
42PM	90S/90L	160	200	180	120	28	10	225	160	225	50	14	M10	112	306	268	190	190	207	-	32 ^{mm}	16	80	70	5	35.3	21.8	10	6	M12
	200				130				160																					
52PM	71	200	200	200	110	30	15	240	130	240	50	18	M10	132	428	315	112	228												

* For selection of motor mount gear box, refer rating chart of general motor (page 4 to 15)



Note: For Type 3 to 7, 4 Nos. Mounting Holes & For Type 8 to 10, 8 Nos. Mounting Holes of $\phi 1$ Dia.

PRINCIPAL DIMENSIONS

Note: For Type 3 to 7, 4 Nos. Mounting Holes & For Type 8 to 10, 6 Nos. Mounting Holes

	Mounting Frame	a1	a2	b1	b2	c1	c2	e1	e2	f1	f2	g1	g2	h1	h2	i	j	k	k1	k2	o	p1	p2	r	d	d1	L	L1	m	t	t1	u	wt	D
25.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M8
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
32.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M8
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
42.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M12
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
42.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M12
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
52.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M16
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
52.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M16
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
52.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M16
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
62.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M16
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
62.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M16
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
62.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M16
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
72.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M16
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
72.12MM	71	160	160	110	110	10	10	130	130	9.5	9.5	180	180	207	207	90										14					18.3	5		
	80	180	180	130	130	10	10	150	150	11.5	11.5	210	210	217	217	95	168	168	130	130	25	25	25	25	25	16	50	0	27.9		21.8	8	8	M16
	90S/90L	200	200	150	150	10	10	170	170	13.5	13.5	240	240	247	247	100	198	198	150	150	30	30	30	30	30	18	60	0	31.3		27.3	8	8	
	100L/112M	250	250	180	180	12	12	210	210	15.5	15.5	280	280	287	287	105	216	216	180	180	35	35	35	35	35	20	70	0	35.3		31.3	8	8	
72.12MM	71	160	160	110																														

* For selection of motor mount gear box, refer rating chart of general motor (page 4 to 15)



LUBRICATION

All geared motors and gear reducers delivered are arranged for oil lubrication, though first fill of oil is not supplied. Grease lubricated gears will be delivered upon special request only. The oil level may be checked at the sight glass. The filling plug is always located at the highest point of the gear housing, whereas the drain plug is at the lowest point.

The oil used permits approx 5,000 to 8,000 hours of operable between refills. However, if other machinery nearby requires oil charges at shorter intervals, the geared motors may be included in this servicing cycle. The first change of oil should preferably be made after approximately 300 to 500 operating hours.

After the above mentioned number of operating hours, the oil should be changed.

Oil Capacity of Geared Motors/Geared Boxes

Type of Gear	Design B3 & B5 Litres	Design B6 & B7 Litres	Design B8 Litres	Design V1 & V5 Litres	Design V3 & V6 Litres
32	0.5	0.75	1.0	1.25	1.0
33	0.75	1.25	1.3	2.25	2.0
42	0.75	1.25	1.3	2.25	2.0
43	1.25	2.25	2.3	3.25	3.0
52	1.25	2.25	2.3	4.5	4.0
53	1.75	3.0	3.25	5.0	4.5
62	1.75	3.0	3.25	6.75	5.25
63	2.5	4.25	4.5	7.25	7.75
72	2.5	4.5	4.75	9.5	9.0
73	3.75	7.0	7.5	11.5	10.5
82	4.5	7.5	8.0	17.5	17.5
83	7.5	14.0	14.5	22.0	20.0
93	10.0	20.0	21.0	30.0	28.0
103	16.0	30.0	32.0	45.0	42.0
113/123	37.0	63.0	52.0	120.0	135.0

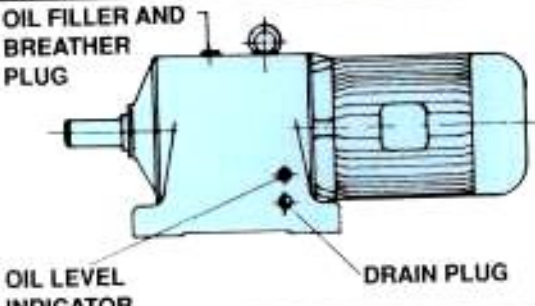
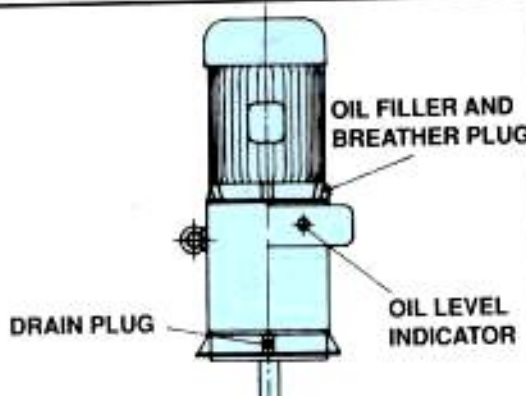
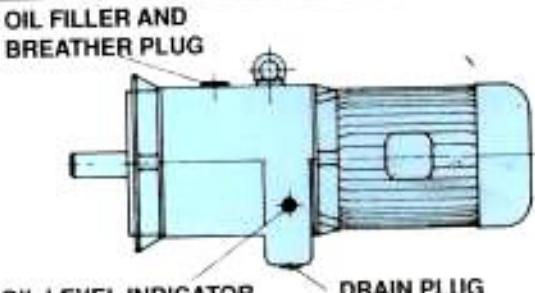
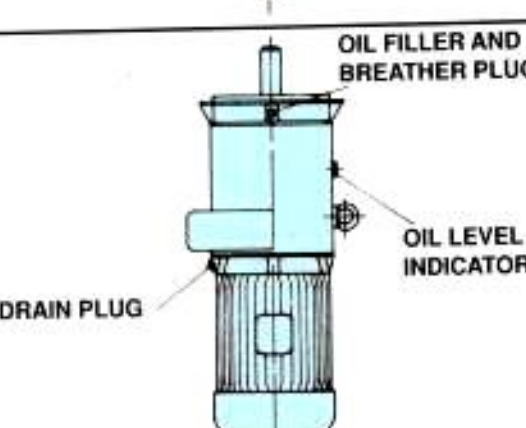
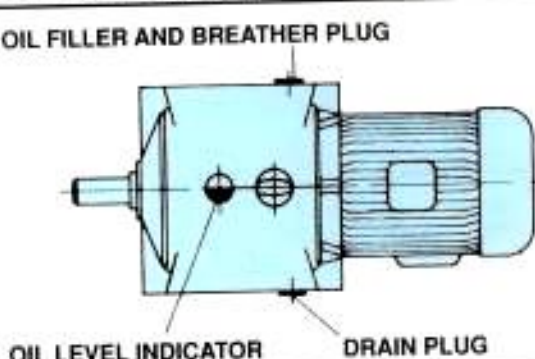
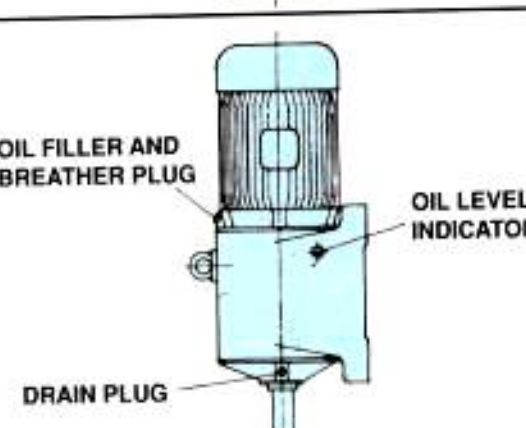
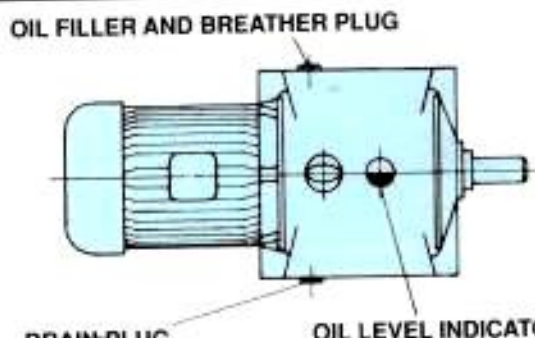
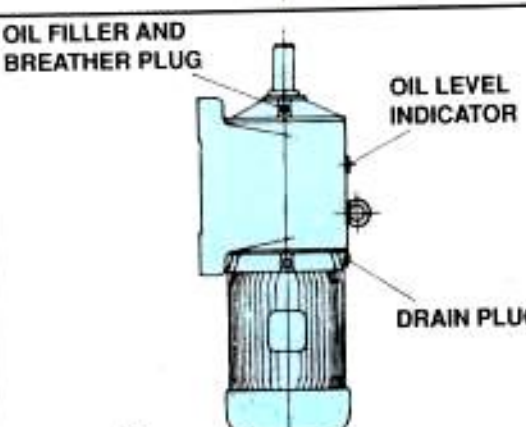
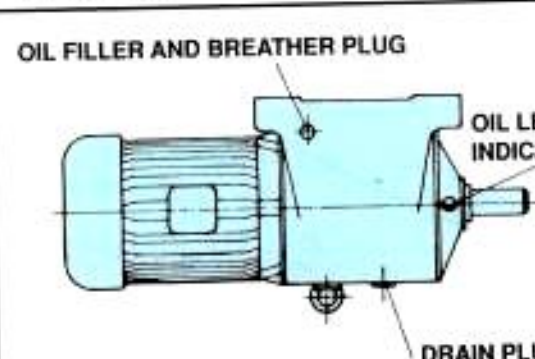
Lubrication Oil Recommendations

BRAND	GRADE OF OIL	GREASE FOR BEARINGS
INTERNATIONAL BRANDS		
BRITISH PETROLEUM	ENERGOL GR-XP 320 OR GR-XP 460	ENERGREASE LS 2
CASTROL	ALPHA SP 320 OR ALPHA SP 460	EPL 2
CALTEX	MEROPA 320 OR MEROPA 460	STARFAX PREMIUM 2
ESSO PETROLEUM	SPARTAN EP 320 OR SPARTAN EP 460	BEACON 2
FUCHS	RENOLIN CLP 320 OR RENOLIN CLP 460	FWA 160
MOBIL OIL CO.	MOBILGEAR 632 OR MOBILGEAR 634	MOBILUX 2
SHELL CO.	OMALA 320 OR OMALA 460	SHELL ALVANIA 2
INDIAN BRANDS		
INDIAN OIL	SERVOMESH - SP 460 OR SP 320	SERVO GEM - 2
HINDUSTAN PETROLEUM	PARTHAN - EP 460 OR EP 320	BEACON 2
CASTROL	ALPHA SP 320 OR ALPHA SP 460	EPL 2
GULF	EP LUBRICANT 460 OR 320 HD	M.P. GREASE 2
BHARAT PETROLEUM	AMOCAM 460 OR 320	M. P. GREASE 2

DATA REQUIRED FOR THE SELECTION OF HELICAL GEARED MOTORS/GEAR REDUCER

1. Type
2. Power to be transmitted in HP or kW
3. Service factor
4. Output RPM or ratio
5. Hours of operation per day
6. Radial load on output shaft (acting at mid point of std. shaft extension)
7. Axial load on output shaft (Push or Pull)
8. Peak or shock load giving magnitude and duration wherever possible
9. Type of driven machine
10. GD2 wnh respect to motor shaft.
11. Type of drive, for instance V - Be. Spur gear or coupling
12. Ambient temperature, if higher than 40°C
13. Power supply (Voltage I phase/frequency)
14. Mounting position.

**MOUNTING POSITIONS**

 OIL FILLER AND BREATHER PLUG OIL LEVEL INDICATOR DRAIN PLUG	B3	 OIL FILLER AND BREATHER PLUG DRAIN PLUG OIL LEVEL INDICATOR	V1
 OIL FILLER AND BREATHER PLUG OIL LEVEL INDICATOR DRAIN PLUG	B5	 OIL FILLER AND BREATHER PLUG DRAIN PLUG OIL LEVEL INDICATOR	V3
 OIL FILLER AND BREATHER PLUG OIL LEVEL INDICATOR DRAIN PLUG	B6	 OIL FILLER AND BREATHER PLUG OIL LEVEL INDICATOR DRAIN PLUG	V5
 OIL FILLER AND BREATHER PLUG DRAIN PLUG OIL LEVEL INDICATOR	B7	 OIL FILLER AND BREATHER PLUG OIL LEVEL INDICATOR DRAIN PLUG	V6
 OIL FILLER AND BREATHER PLUG OIL LEVEL INDICATOR DRAIN PLUG	B8		