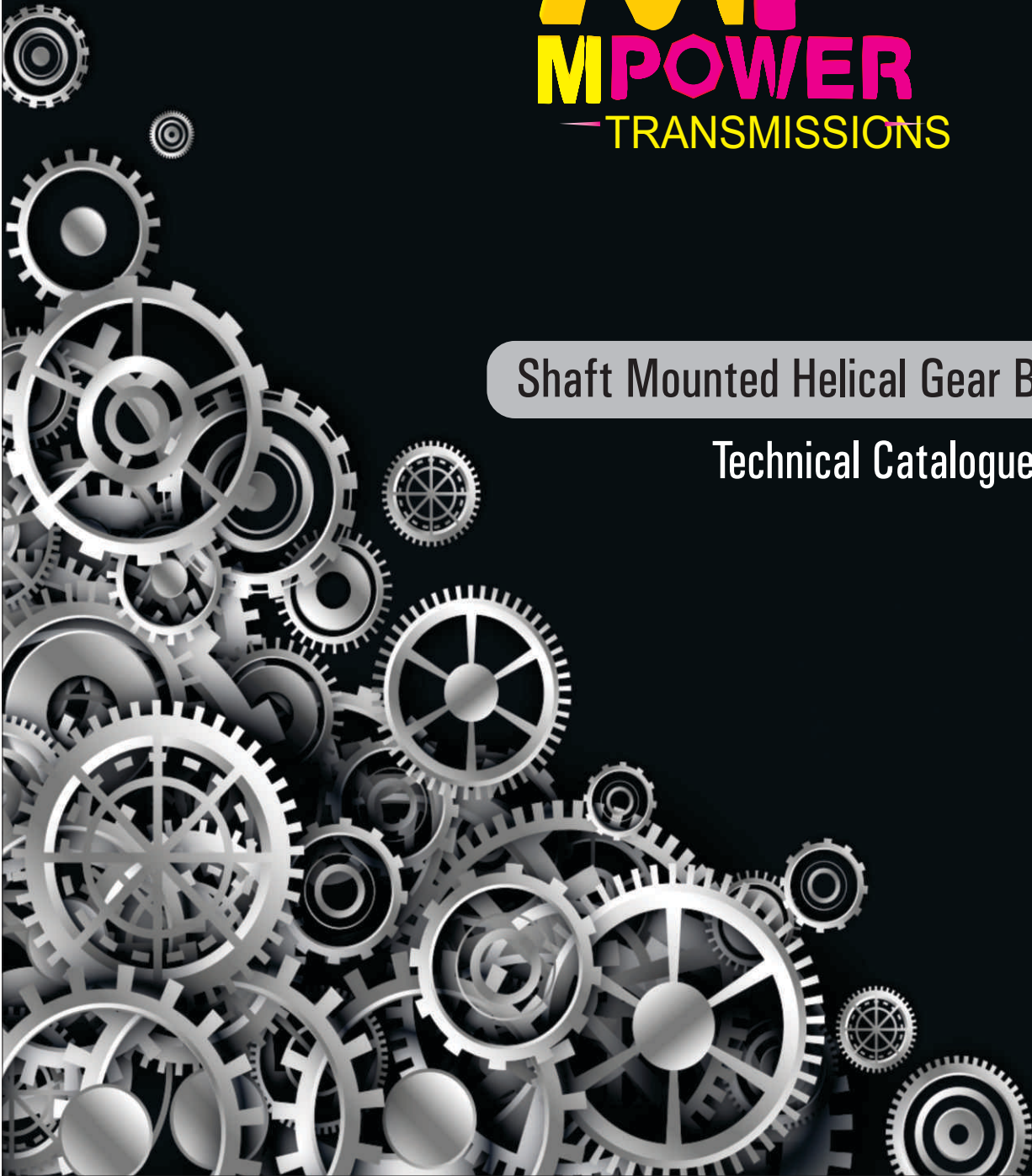




Shaft Mounted Helical Gear Box

Technical Catalogue



Shaft Mounted Helical Gear Box



Options:

Shaft Mounted Screw Conveyor

units are available with tapered roller bearings on the output end to take in end thrusts.

The gear units are available in Imperial bores and keyways. CEMA flanges and drive shafts are available in various sizes.

Accessories:

Output hubs in stainless steels,
Labyrinth sealing,
Extraction collars, reducing bushes,
Safety covers, hydraulic motor mounts
anti roll back bush
adapters are available.

Specials:

Modifications to specific customer specifications, ratios, configurations and width of gear units.

MPOWER shaft mounted helical gear boxes are compact in size, mounting directly onto the driven shaft thus eliminating the use of a foundation and couplings. The gears are helical, hardened and ground of suitable alloy steels. The gear box is suitable for both forward and reverse motion.

The torque arm anchors the gear box and provides an easy, quick method of adjustment of V-belts by means of a turnbuckle.

The gear boxes are currently manufactured in seven sizes from B to H with nominal ratios of 5:1, 13:1 and 20:1.

A wide range of final speed ratios may be achieved by use of pulley combinations.

The gear box has been redesigned by changing the tooth design to give higher power to weight ratios for the same size gear box.

Shaft Mounted Taper Clamp units are available to have a keyless gear unit. The taper clamps and the support bushes are manufactured in stainless steels to prevent fretting corrosion and easy removal. Various sizes of bores are available in the taper clamps providing a very easy method for mounting on different shaft sizes.



MPOWER Shaft Mounted Speed Reducer

The **MPOWER** Shaft Mounted Speed Reducer is metric in design throughout and conforms to I.S.O. preferences. A Shaft Mounted Speed reducer provides a very convenient method of reducing speed, since it is mounted directly on the driven shaft instead of requiring foundations of its own. It eliminates:

- (1) The use of one, and sometimes two, flexible couplings.
- (2) External belt take-up arrangements.

A torque-arm anchors the reducer and provides quick, easy adjustment of the V-Belts by means of its turnbuckle.

The **MPOWER** Speed Reducer is manufactured in seven gear case sizes, designated by the letters B through to H. The eight sizes may have any one of the three nominal gear ratios, 5:1, 13:1 and 20:1.

A very wide choice of final driven speed can be determined by the use of an appropriate input V-Belt drive. The units will normally be oil lubricated, but they are equally suitable for "lubricated for life" greases.





SELECTION PROCEDURE

(a) Service Factor

From Table 1 select the service factor applicable to the drive.

(b) Design Power

Multiply the absorbed power (or motor power if absorbed power not known) by the service factor chosen in step (a).

NOTE: Ensure that design power exceeds motor rated power.

(c) Peak Load

Divide any peak load by two.

(d) Unit Selection

Using the greater value of steps (b) and (c) refer to the Power rating Tables on page 2 & 3, and select the correct size of unit. The choice of single or double reduction gearbox will be determined by the output speed required. The normal operating speeds for each of the gearboxes may be observed in the Power rating tables. For other speeds

Note: 5:1 Units require special selection when fitted with backstops.

Table 1- Service Factors

Types of Driven Machine	Operational hours per day		
	Under 10	10 to 16	16 and over
Uniform Agitators and Mixes- liquid or semi-liquid Blowers- centrifugal Bottling Machines Conveyors and Elevators - uniformly loaded Cookers Laundry Washing Machines- Non-reversing Line Shafts Pumps - centrifugal & gear Wire Drawing Machines	1.0	1.12	1.25
Moderate Shock Agitators and Mixers- variable density Conveyors-not uniformly loaded Cranes, travels motion and hoisting Drawbench Feeders-pulsating load Hoists Laundry Tumblers Lifts Piston Pumps-with 3 or more cylinders Pulp and Paper making Machinery Rubber mixers and Calenders Rotary Screens Textile Machinery	1.25	1.4	1.6
Heavy Shock Brick Pressed Briquetting Machines Conveyors-reciprocating and shaker Crushers Feeders-reciprocating Hammer Mills Piston pumps-1 or 2 cylinders Rubber Masticators	1.6	1.8	2.0

Vibrating Machines			
--------------------	--	--	--

(e) Pulley Diameters

Read across from the chose output speed to obtain both driving and driven pulley pitch diameters and the appropriate number of belts.

(f) Gearbox Input Shaft Speed

Multiply the gearbox output speed by the exact gear ratio (found in Table 5 on page 4) to obtain the gearbox input shaft speed.

SOLUTION

(a) Service Factor

From Table 1 the service factor is 1.25

(b) Design Power

Select on a basis of absorbed power ensuring that the design power exceeds the basic motor power.

Design Power = 1.25 x 3.6 = 4.5 kW

(c) Peak Load

Assuming that a direct-on-line start can exert 240% of full load torque

Peak Load = $\frac{4 \times 240}{2 \times 100} = 4.8 \text{ kW}$

(d) Unit Selection

Using 4.8 kW as the basis for selection (being the greater value of steps (b) and (c)), reference to the Power Rating Tables pages indicates that an E13 or E20 gear unit will transmit 5.18 kW at 48 rev/min.



**TABLE 2
POWER RATING (kW) 5:1 UNITS**

Output Rev/Min	B05	C05	D05	E05	F05	G05	H05
50	1.29	1.84	3.18	5.11	7.01	12.7	17.8
60	1.40	2.05	3.51	5.58	7.73	13.6	19.3
70	1.51	2.26	3.82	6.03	8.43	14.6	20.7
80	1.62	2.46	4.13	6.47	9.11	15.5	22.2
90	1.73	2.66	4.43	6.89	9.76	16.4	23.6
100	1.84	2.85	4.73	7.30	10.4	17.3	25.30
110	1.96	3.03	5.01	7.70	11.0	18.3	26.4
120	2.07	3.20	5.29	8.09	11.6	19.2	27.8
130	2.18	3.37	5.56	8.46	12.1	20.2	29.1
140	2.30	3.54	5.82	8.82	12.7	21.1	30.5
150	2.41	3.70	6.08	9.17	13.2	22.0	31.8
160	2.53	3.85	6.33	9.52	13.7	22.9	33.1
170	2.64	4.00	6.57	9.85	14.2	23.9	34.4
180	2.76	4.14	6.81	10.2	14.6	24.8	35.7
190	2.88	4.28	7.03	10.5	15.1	25.7	36.9
200	2.99	4.41	7.26	10.8	15.5	26.2	38.1
210	3.11	4.54	7.47	11.1	15.9	27.4	39.3
220	3.23	4.67	7.68	11.4	16.3	28.3	40.5
230	3.35	4.79	7.88	11.7	16.7	29.2	41.6
240	3.46	4.91	8.06	11.9	17.1	30.0	42.7
250	3.58	5.02	8.24	12.2	17.4	30.9	43.7
260	3.70	5.13	8.41	12.5	17.7	31.7	44.8
270	3.82	5.24	8.58	12.7	18.0	32.5	45.8
280	3.93	5.35	8.75	12.0	18.4	33.2	46.7
290	4.05	5.45	8.91	13.2	18.6	34.0	47.7
300	4.17	5.55	9.07	13.5	18.9	34.7	48.5
310	4.28	5.65	9.23	13.7	19.2	35.5	49.4
320	4.40	5.75	9.39	14.0	19.4	36.2	50.2
330	4.51	5.85	9.55	14.2	19.7	36.8	51.0
340	4.63	5.94	9.71	14.5	19.8	37.5	51.7
350	4.74	6.04	9.87	14.7	20.1	38.1	52.3
360	4.85	6.13	10.0	14.9	20.4	38.7	53.0
370	4.97	6.22	10.2	15.2	20.6	39.3	53.6
380	5.08	6.32	10.4	15.4	20.8	39.8	54.1
390	5.19	6.41	10.5	15.7	20.9	40.3	54.6
400	5.30	6.50	10.7	15.9	21.1	40.8	55.0
Torque at 50 rev/min Nm	246	351	607	976	1339	2426	3400

The dotted line shows the speed limitation for 5:1 units with backstops, for slow speed operation-



**TABLE 3
POWER RATINGS (kW) 13:1 and 20:1 UNITS**

Output Rev/Min	B13 B 20	C 13 C 20	D 13 D 20	E13 E 20	F 13 F 20	G 13 G 20	H13 H20
10	0.27	0.45	0.76	1.16	1.82	2.88	4.52
12	0.33	0.53	0.89	1.38	2.16	3.43	5.47
14	0.38	0.61	1.03	1.60	2.51	3.98	6.30
16	0.43	0.70	1.18	1.82	2.86	4.53	7.11
18	0.48	0.79	1.31	2.04	3.19	5.07	8.01
20	0.54	0.87	1.46	2.25	3.54	5.62	8.79
22	0.58	0.95	1.60	2.47	3.87	6.14	9.64
24	0.63	1.03	1.73	2.68	4.21	6.68	10.5
26	0.68	1.11	1.87	2.90	4.55	7.20	11.2
28	0.74	1.20	2.02	3.11	4.88	7.73	12.1
30	0.79	1.28	2.15	3.32	5.21	8.25	12.9
32	0.84	1.37	2.29	3.53	5.54	8.78	13.8
34	0.89	1.45	2.43	3.74	5.87	9.29	14.5
36	0.95	1.53	2.56	3.95	6.20	9.81	15.3
38	1.00	1.62	2.70	4.15	6.52	10.3	16.1
40	1.05	1.70	2.84	4.36	6.85	10.8	16.9
42	1.09	1.79	2.96	4.56	7.17	11.3	17.6
44	1.14	1.86	3.10	4.77	7.49	11.9	18.5
46	1.19	1.94	3.22	4.97	7.81	12.4	19.2
48	1.24	2.02	3.36	5.18	8.11	12.8	20.0
50	1.29	2.09	3.50	5.38	8.39	13.3	20.7
52	1.34	2.16	3.63	5.58	8.68	13.9	21.3
54	1.39	2.24	3.76	5.77	8.97	14.4	22.1
56	1.44	2.31	3.90	5.97	9.26	14.8	22.8
58	1.49	2.38	4.02	6.17	9.54	15.3	23.5
60	1.54	2.48	4.15	6.37	9.82	15.9	24.3
62	1.60	2.52	4.28	6.57	10.1	16.3	25.0
64	1.64	2.59	4.42	6.77	10.2	16.8	25.7
66	1.69	2.67	4.55	6.97	10.7	17.2	26.5
68	1.73	2.74	4.67	7.16	10.9	17.7	27.1
70	1.79	2.81	4.80	7.36	11.2	18.3	27.8
72	1.83	2.89	4.94	7.56	11.4	18.7	28.5
74	1.87	2.95	5.06	7.75	11.8	19.2	29.1
76	1.92	3.02	5.19	7.95	12.1	19.6	29.7
78	1.96	3.10	5.33	8.14	12.3	20.2	30.5
80	2.02	3.17	5.43	8.34	12.6	20.6	31.2
85	2.13	3.35	5.74	8.81	13.3	21.8	32.9
90	2.25	3.54	6.06	9.29	13.9	23.0	34.4
95	2.37	3.74	6.37	9.77	14.7	24.2	36.1
100	2.48	3.92	6.68	10.2	15.4	25.3	37.7
105	2.59	4.12	6.99	10.7	16.2		
110	2.71	4.32	7.30	11.1	16.9		
115	2.82	4.50	7.59				
120	3.00	4.81	8.01				
140	3.48	5.30	9.35				
160	3.89	5.91					
180	4.35	6.60					
CONSULT AGNEE							
Torque at 10 rev/min Nm	260	431	722	1103	1733	2751	4316

The dotted line shows the limit of recommended output speed reducers with 20:1 ratio. For higher speeds use a 13:1 or 5:1 reducer.

DIMENSIONS-SHAFT MOUNTING SIZES B-H

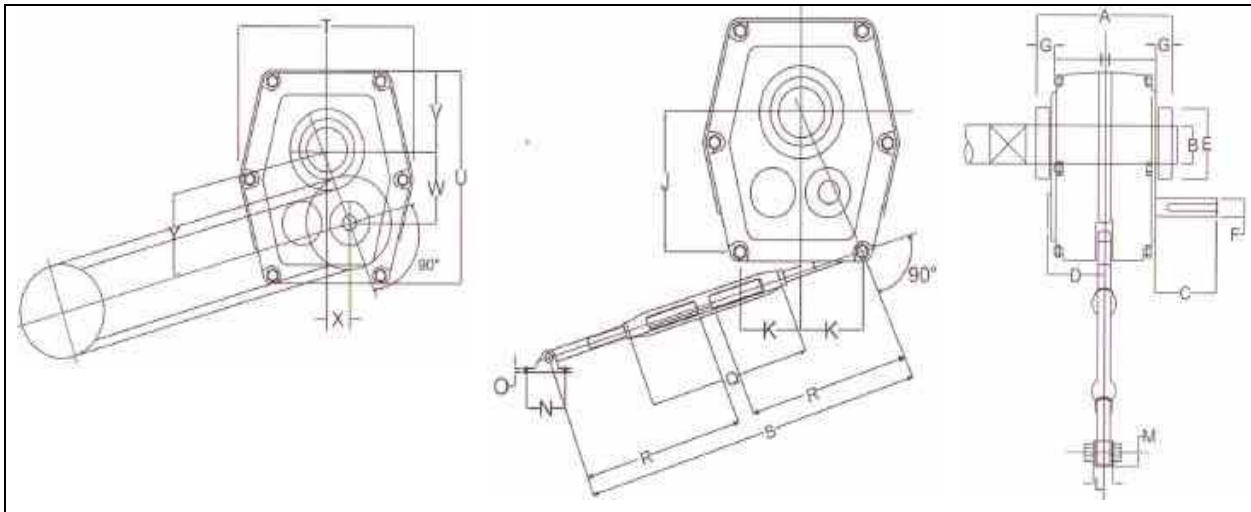


TABLE 4

SIZES	Approx. Mass kg		A	B	C	D	E	F	Input Shaft Keyway	G	H	J	K
	Ratio 5	Ratios 13 & 20											
B	15	16	134	See Table 6	63	59	80	19j6	6x3.5x50	15	104	131	55
C	21	22	142		72	65	90	22j6	6x3.5x5.6	17	108	156	59
D	30	32	152		77	68	100	25j6	8x4x63	17	118	188	76
E	41	46	170		85	76	115	28j6	8x4x70	20	130	222	90
F	53	58	189		90	87	130	32k6	10x5x70	20	149	242	98
G	82	92	212		105	110	145	42k6	12x5x90	20	172	277	110
H	133	144	242		116	115	170	48K6	14x5.5x100	26	190	330	88

SIZE S	L	M	N	O	P	Q	R	S*		T	U	V	W	X	Y
								Min	Max						
B	24	20	65	5	10	200	300	600	750	186	226	81	75	25	79
C	24	20	65	5	10	200	300	600	750	218	270	96	90	31	95
D	28	24	75	5	12	216	350	700	850	258	328	117	110	37	116
E	28	24	75	5	12	216	350	700	850	278	377	129	125	43	133
F	34	30	100	6	16	216	375	750	900	317	414	143	141	50	150
G	34	30	100	6	16	216	375	750	900	365	468	162	156	56	166
H	70	50	121	17.5	16	222	375	750	900	434	550	195	189	62	200

All dimensions are subject to alteration without notice.

All dimensions are in millimeters.

- Permits 150 mm adjustments to tighten V-belts. By cutting off threaded end of rods. 'S' may be reduced by up to 300mm on sizes B & C, 350mm on D & E and 395mm on sizes F, G & H.

Keyways are British Standard and Indian Standard Metric.

**Table 5
EXACT GEAR RATIOS**

Nominal Ratio	B	C	D	E	F	G	H
05	5.05	5.05	5.047	5.047	5.047	5.047	5.047
13	13.984	13.596	13.589	13.589	13.589	13.589	13.589
20	20.997	20.466	20.456	20.456	20.456	20.456	20.456



**TABLE 6
OUTPUT HUBS & BUSHES**

Reduce Size	Dimension 'B' (See Page 6)			
	Standard Hub Bore	Bush Bores for Standard Hub	Alternative Hub Bore	Bush Bore for Alternative Hub
B05 B13 B20	30	25 1"	40	35 1 1/4" 32
C05 C13 C20	40	35 1 1/4" 32 30	50	45 1 3/4" 42 1 1/2" 38
D05 D13 D20	50	45 1 3/4" 42 1 1/2" 40 1 1/4" 38	55	2"
E05 E13 E20	55	50 2" 45 1 3/4" 42 1 1/2"	65	60 2 1/4"
F05 F13 F20	65	60 2 1/4" 55 50	75	70 2 3/4" 2 1/2"
G05 G13 G20	75	70 2 3/4" 65 2 1/2" 60 2 1/4"	85	80 3"
H05 H13 H20	85	80 3" 75 2 3/4" 70 2 1/2"	100	95 3 1/2" 90

All dimensions are subject to alteration without notice.

All dimensions are in millimeters unless otherwise stated.
Metric hubs are bored to F7 limits.
Inch hubs are bored to H7 limits.
Shaft keyways must be to appropriate standard dimensions, i.e to B.S. 4235/IS: 2048 for metric shafts and B.S. 46 for inch shafts.

TABLE 7

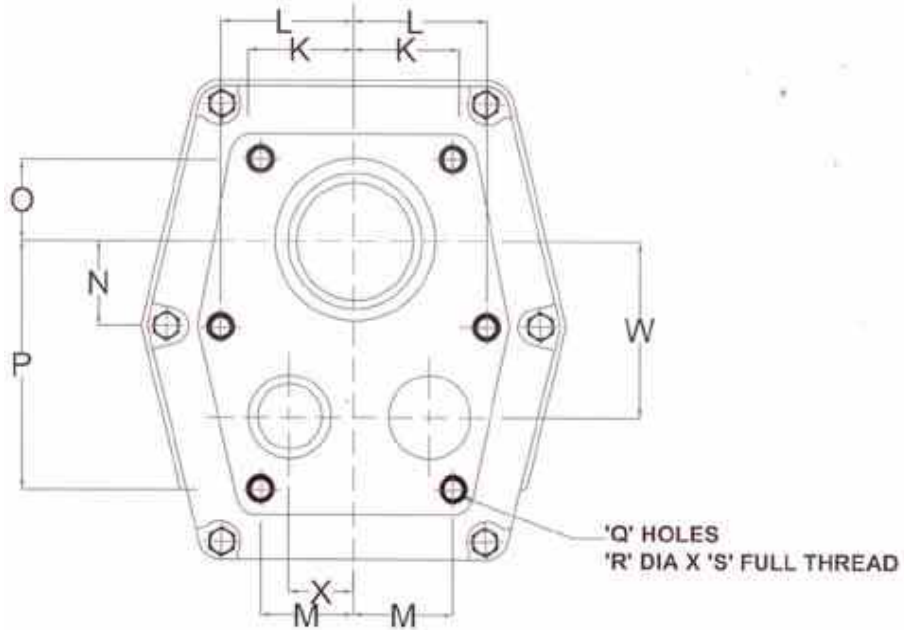
Shaft Diameter (mm)	Keysize	Shaft Diameter (inches)	Keysize
20	6 X 6	3/4"	3/6" X 1/16"
25	8 X 7	1"	1/4" X 1/4"
30	8 X 7	1 1/4"	5/16" X 1/4"
32	10 X 8	1 1/2"	3/8" X 1/4"
35	10 X 8	1 3/4"	7/12" X 5/16"
38	10 X 8	2"	1/2" X 5/16"
40	12 X 8	2 1/4"	5/8" X 7/16"
42	12 X 8	2 1/2"	5/8" X 7/16"
45	14 X 9	2 3/4"	3/4" X 1/2"
50	14 X 9	3"	7/8" X 5/8"
55	16 X 9	4"	1" X 3/4"
60	18 X 11	4 1/2"	1 1/4" X 7/8"
65	18 X 11		
70	20 X 12		
75	20 X 12		
80	22 X 14		
85	22 X 14		
90	25 X 14		
95	25 X 11		
100	28 X 16		
110	32 X 18		
120	32 X 18		

Stand Detail

MODEL	CONVEYORS BELT SIZES OF SHAFT MOUNTED GEAR BOX
D	18" belt width x length 20ft, 30ft, 40ft, 50ft
E	24" belt width x length 30ft, 40ft, 50ft, 60ft
F	30" belt width x length 30ft, 40ft, 50ft, 60ft
G	36" belt width x length 30ft, 40ft, 50ft, 60ft, 70ft, 80ft, 100ft
H	48" belt width x length 40ft, 60ft, 70ft, 80ft, 100ft
J	60" belt width x length 40ft, 60ft, 80ft, 100ft, 150ft

MODEL	Plat Size (in mm.)
B	340x305x8
C	340x305x8
D	340x305x12
E	340x305x12
F	350x450x12
G - 15 HP	350x450x12
G - 30 HP	560x460x12
H - 40 HP	560x560x12

DIMENSIONS – FLANGE MOUNTING SIZES B-H



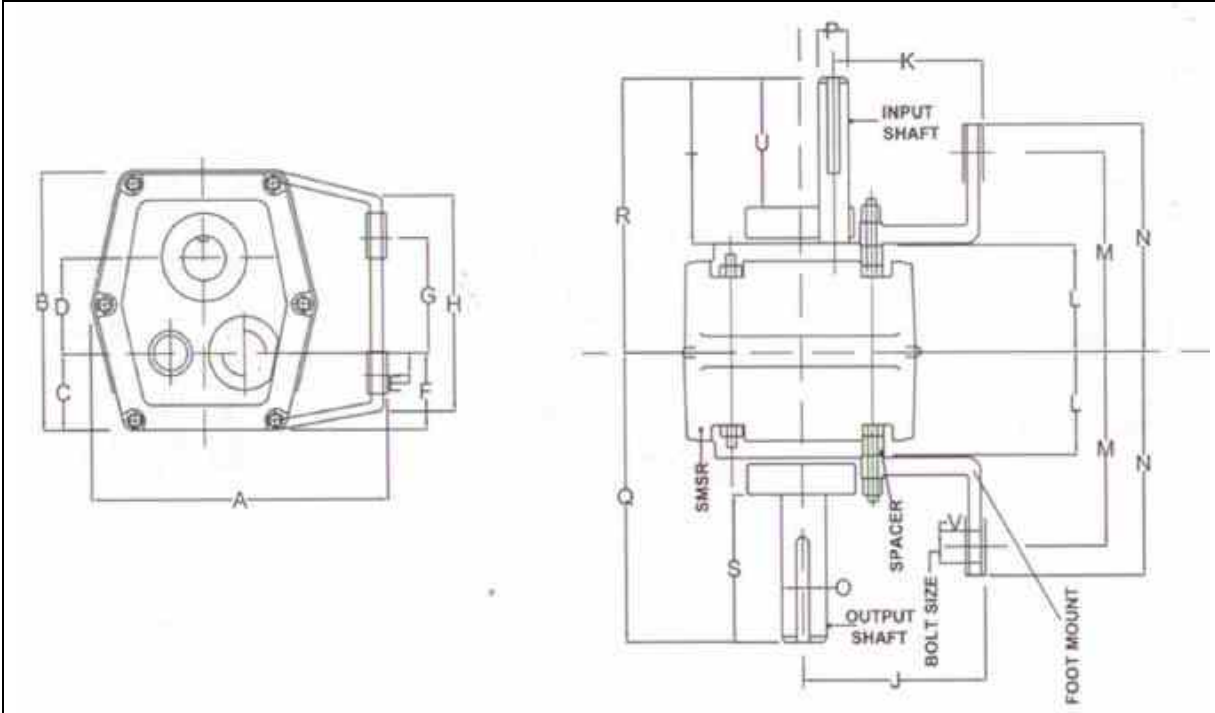
SIZE	K	L	M	N	O	P	Q	R	S	W	X
B	34	53	--	33	41	--	4	M8	15	75	25
C	40	--	44	40	52	132	4	M12	15	90	31
D	50	--	59	48	61	155	4	M12	17	110	37
E	57	90	57	64	62	188	6	M16	18	125	43
F	67	100	76	64	76	197	6	M16	19	141	50
G	74	115	86	74	87	224	6	M16	24	156	56
H	64	150	79	81	122	281	6	M20	29	189	62

All dimensions are subject to alteration without notice.

FLANGE MOUNTING HOLES MAY BE DRILLED ON EITHER CASE HALF.



FOOT MOUNTING SIZES B-H



FOOT MOUNTING DIMENSIONS

SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V
B	208	226	70	75	13	45	110	200	115	90	49	83	96	38k6	19j6	147	115	80	63	48	M8
C	230	270	84	90	9	61	118	240	121	90	52	86	100	45k6	22j6	181	126	110	72	55	M10
D	266	328	101	110	14	68	152	288	137	100	59	93	109	50k6	25j6	186	136	110	77	60	M10
E	295	377	123	125	26	70	180	320	156	112	59	95	110	55m6	28j6	225	150	140	85	65	M12
F	340	414	130	141	21	71	196	338	182	132	70	105	125	60m6	32k6	235	15	140	90	70	M16
G	398	468	150	156	28	85	220	390	216	160	83	122	143	75m6	42k6	246	191	140	105	85	M16
H	459	550	164	189	82	50	380	480	242	180	94	133	153	90m6	48k6	291	211	170	116	90	M16

All dimensions are subject to alteration without notice.

All dimensions are in millimeters.

OPTIONAL EXTRAS

1. Backstops

A backstop may be incorporated on applications where it is necessary to prevent reversal of rotation. It is quickly installed within the Reducer by simply removing a cover plate.

2. Vertical Shafts

Units suitable for mounting on vertical shafts can be supplied at extra charge. When ordering, please specify whether input shaft is upwards or downwards.

3. Reversing Duty

Shaft Mounted Speed reducers suitable for reversing duty can be supplied to order.

4. Flange Mounting

The Speed Reducer casing design is such that the reducer can be bolted direct to supporting framework. This may permit designers to omit a bearing or plummer block but it does, of course, eliminate the easy belt adjustment feature characteristic of the shaft mounting version. See page 6 for dimensions.



GEARBOX INSTALLATION

NOTE: Satisfactory performance depends on proper installation, lubrication & maintenance. Therefore, it is important that instructions in the Installation & maintenance manual supplied with each gearbox are followed carefully. Some of the important aspects of belt and torque-arm installation are listed here under:-

1. Install pulley on gearbox input shaft as close to the Reducer as possible See Fig.1 Failure to do this will cause excess load on the input shaft bearings leading to their premature failure.
2. Install motor belt drive with the belt pull at approximately 90° to the centre line between driven and input shafts. See Fig. 2. This will permit tensioning of the V-Belt drive with the torque-arm, which should preferably be in tension. If output hub rotates anti-clockwise, torque-arm should be positioned to the right. See Fig.3.
3. Install torque-arm fulcrum on a rigid support so that the torque-arm will be at approximately right angles to the center line through the driven shaft and the torque-arm case bolt. See Fig.4. Make sure there is sufficient take-up in the turn-buckle for belt tension adjustment.

Fig. 1

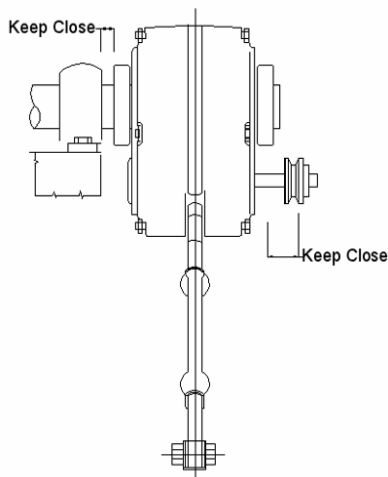


Fig. 3

If output hub rotates clock-wise position Belt drive and torque - arm in opposite direction to that shown in the illustration.

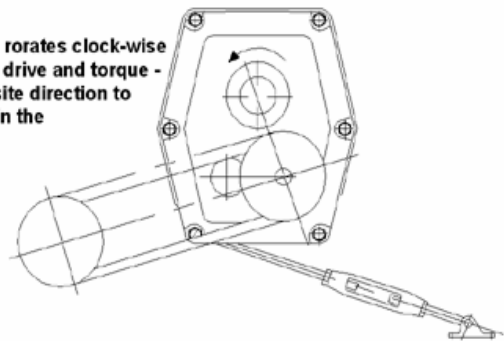


Fig. 2

Backstop : A backstop for mounting inside the Reducer to prevent reversal of direction is available for all reducers. For installation instructions see above.

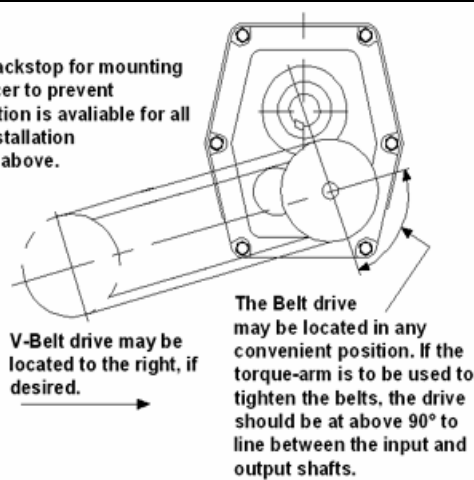
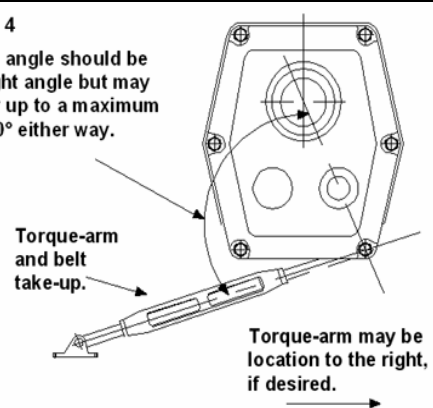


Fig. 4

This angle should be a right angle but may vary up to a maximum of 30° either way.





LUBRICATION

IMPORTANT

The Shaft Mounted Speed Reducers are dispatched without oil. They must be filled as instructed before running. Use high grade oil as shown on lubrication chart supplied attached to breather plug or alternative grades stated below. Fill to level plug when reducer is not running. Drain, flush and refill every six months of operation. Check oil level regularly. Positions of filler, breather and drain plug for different mounting positions are shown in Fig.4.

Normal operating positions are shown in Fig.4. Note that the reducer is supplied with four plugs. After the Reducer has been mounted in its running position the

plugs must be located as shown Fig.4 for the appropriate mounting position.

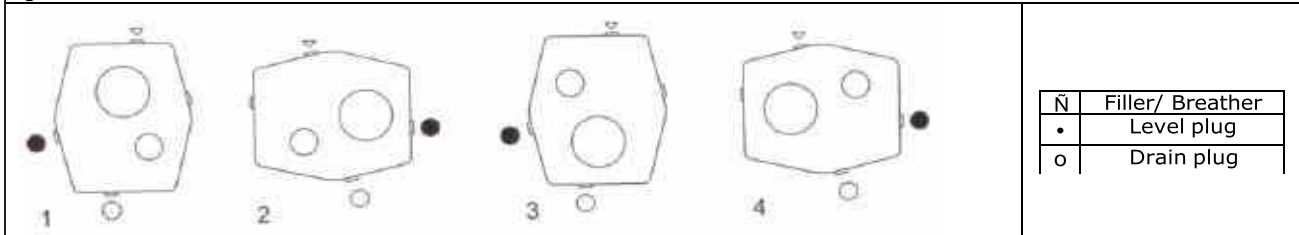
If the reducers is not within 20° of one of the positions shown, the oil level plug cannot be safety used to check the oil level. This can be overcome by disconnecting the torque-arm and swinging the Reducer around to one of the positions shown.

Because of the many positions of the reducer it mat be necessary or desirable to make special adaptations using the plug holes in the Reducer with standard pipe fittings or oil level gauges.

CAUTION

Too much oil will cause over-heating. Too little oil will cause gear failure.

Fig. 4



RECOMMENDED LUBRICANTS		13:1 and 20:1 RATIO GEARBOXES			5:1 RATIO GAERBOX				
		Ambient Temp ° C	0-20 rev/min	21-50 rev/min	51-20 rev/min	0-100 rev/min	101-200 rev/min	201-400 rev/min	
			BCDEFGH	BCDEFGH	BCDEFGH	BCDEFGH	BCDEFGH	BC	DEFGH
Bharat Petroleum (Amocam)	- 10 to + 5	220	220	150	100	100	100	68	
	6 to 25	460	460	320	460	320	320	220	
	26 to 40	680	680	680	800	680	680	460	
Indian Oil (Seromesh)	- 10 to + 5	SP 68	SP 68	SP 68	SP 100	SP 100	SP 100	SP 68	
	6 to 25	SP 220	SP 150	SP 100	SP 460	SP 320	SP 320	SP 220	
	26 to 40	SP 460	SP 320	SP 320	SP 800	SP 680	SP 680	SP 460	

OIL QUANTITIES (Liters)

Unit Size	Approximate Capacity -- Liters							
	Mounting Position							
	20:1 and 13:1				5:1			
	1	2	3	4	1	2	3	4
B	0.3	0.5	0.4	0.5	0.4	0.4	0.4	0.5
C	0.5	0.7	0.6	0.7	0.6	0.7	0.6	0.8
D	0.8	1.5	1.2	1.3	1.0	1.4	1.2	1.5
E	1.7	2.0	1.8	1.6	1.9	2.0	1.8	1.9
F	2.3	2.5	2.5	2.5	2.6	2.5	2.5	2.6
G	3.0	4.3	3.4	3.9	3.3	4.1	3.3	4.6
H	4.5	7.0	5.0	6.8	4.8	7.1	5.0	7.1

Capacities shown are approximate.



REPLACEMENT OF PARTS

REMOVING REDUCER FROM SHAFT

Loosen screws in both output hub collars. Remove the collar next to end of shaft, turn the collar and replace with the flush side outwards. Replace and tighten screws fully and then slacken off slightly in order to have maximum engagement in the hub but not gripping the shaft. Using any suitable three legged hub drawer engage the feet recesses of the collar remove the gearbox by screwing down on the shaft.

IMPORTANT

Using tools normally found in the maintenance department, the Reducer can be dismantled and reassemble. Cleanliness is very important to prevent the introduction of dirt into the bearings and other parts of the Reducer. A tank of clean solvent, an arbor press and equipment for heating bearings and gears should be available for shrinking these parts on the shafts.

Rubbing type oilseals are fitted and great care should be taken during dismantling and reassembling to avoid damage to rubbing surfaces.

The keyseat in the input shaft should be covered with cellotape or other suitable material. Any burrs on shaft or hub surfaces should be carefully removed before fitting seals.

We are prepared to repair reducers for customers who do not have proper facilities or who do any reason desire factory service. An estimate of the cost will be sent after examination and before the repair is begun.

ORDERING PARTS

When ordering parts for a Reducer, specify reducer size, serial number, part name, code number and quantity required

It is strongly recommended that when a pinion gear is replaced, the mating gear or pinion be replaced also. If the large gear on the output hub must be replaced, it is recommended that an output hub assembly of a gear assembled on a hub be ordered to secure undamaged surfaces on the outer hub where the oilseals rub.

However, if it is desired to use the old output hub, press the gear and bearing off and examine the rubbing surfaces under the oilseal carefully for possible scratching or other damage resulting from the pressing operation. To prevent oil leakage at the shaft oilseals, the smooth surface of the output hub must not be damaged.

If any part must be pressed from a shaft or from the output hub, this should be done before ordering parts to make sure that none of the bearings or other parts are damaged on removal. Do not press against the outer race of any bearing.

Because old shaft oilseals and gaskets may be damaged in dismantling, it is advisable to order replacements for these parts.

BOLT TIGHTENING TORQUES

Reducer Size	B	C&D	E	F&G	H
Torque Nm	16	30	50	80	50
Torque lbf ft	12	22	37	59	37

LENGTH

Inches X 25.4 = millimeters
 Inches X 0.0254 = meters
 Feet X 0.30480 = meters
 Yards X 0.91440 = meters

FORCE

Kilogramforce (kgf) x 9.81 = Newtons (N)
 Poundsforce (lbf) x 4.45 = Newtons (N)

Note: The kilopond (kp) is an alternative name for the kilogramforce (kgf)

TORQUE

Kilogramforce metre (kgfm) x 9.81= Newton meter (Nm)
 Pounds feet (lbf ft) x 1.36= Newton meter (Nm)
 Pounds inches (lbf in) x 0.113= Newton meter (Nm)

POWER

Horse power (hp) x 0.746 = kilowatt (kW)
 Cheval-vapeur (CV) x 0.735 = kilowatt (kW)
 Pferdestärke (PS) x 0.735 = kilowatt (kW)

TORQUE AND POWER EQUIVALENTS

The kilowatt (kW) is the common unit of mechanical power, i.e the rate of doing work.

Torque is a turning moment or twisting effort and is expressed in Newton meters (Nm)

$$kW = \frac{Nm \times rev/min}{9550} \quad Nm = \frac{kW \times 9550}{rev/min}$$

PRESSURE

Poundsforce per square inch (lbf/in²) x 0.0689 = bar
 Kilonewtons per square meter (kN/m²) x 0.01 = bar
 Kilogramforce per square centimeter (kgf/cm²) x 0.981 = bar

FLUID VOLUME

Gallons x 4.55 = litres
 Cubic inches x 0.0164 = litres
 Cubic feet x 28.3 = litres
 Cubic meters x 1000 = litres



ATA Shaft Mounted Speed Reducer

MODEL	Output Shaft ID	Output Shaft Key Size	Output Shaft Length	Input Shaft Pullt DIA	Input Shaft Key Size
MP45 - 55	45	16 x 10 x 145	162	28	8 x 7 x 50
	50	16 x 10 x 145	162	28	8 x 7 x 50
	55	16 x 10 x 145	162	28	8 x 7 x 50
MP60 - 70	60	20 x 12 x 170	200	38	10 x 10 x 70
	70	20 x 12 x 170	200	38	10 x 10 x 70

All above sizes in mm

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SMSR Gearbox



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WPA Series



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Flange



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- Foot



Cast Iron/Alu. Housing
- Flange



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