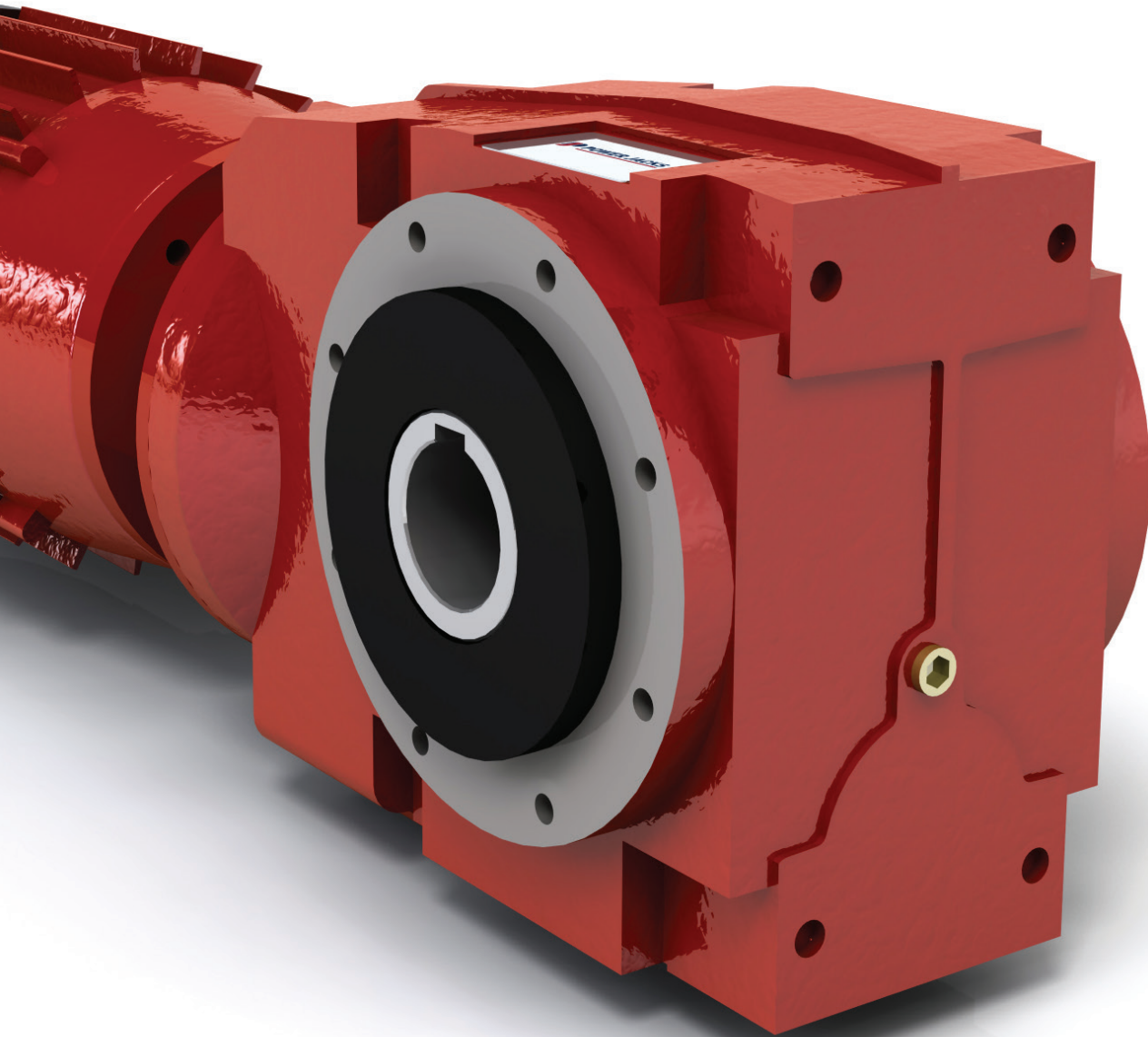


System Components Reduction Gearboxes



 **POWER JACKS**

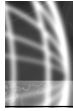
www.powerjacks.com



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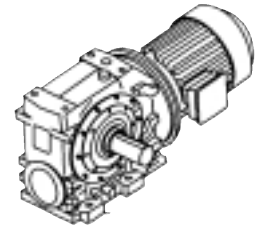
5.1. Reduction Gearboxes - Range

Power Jacks offers a wide range of reduction gearboxes for actuator system building whether it be a single motorised actuator or several actuators mechanically linked. The gearboxes are available as motorised units as standard, however the gearbox unit itself can be supplied. This design guide lists the most popular types of gearboxes for actuator system building with many more available on request from Power Jacks.

5.1.1. Listed Reduction Gearboxes

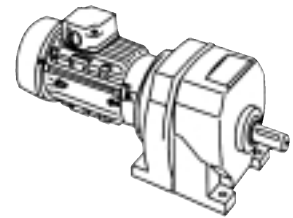
Helical Worm Gearboxes

Power capacity up to 45 kW.
Output torque capacity up to 10000 Nm.
8 Gearbox sizes available.
Double Reduction standard up to 250:1 gear ratio.
Up to Quintuple reduction available on request.
Foot, Flange and Shaft mounting.



In-Line Helical Gearboxes

Power capacity to 90 kW.
Output torque capacity to 11000 Nm.
9 Gearbox sizes available.
Double Reduction standard up to 70:1 gear ratio.
Up to Quintuple reduction available on request.
Foot and flange mounting.



5.1.2. Reduction Gearboxes Also Available

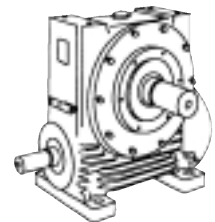
Parallel Helical Gearboxes

Power capacity to 18.5 kW.
Output torque capacity to 2900 Nm.
4 Gearbox sizes available.
Double Reduction standard up to 100:1 gear ratio.
Up to Triple reduction available on request.
Foot, Flange and Shaft mounting.



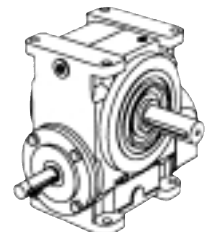
Worm Gearboxes Small Size

Power capacity to 11 kW.
Output torque capacity to 1000 Nm.
6 Gearbox sizes available.
Single Reduction standard up to 70:1 gear ratio.
Double reduction available on request.
Foot, Flange and Shaft mounting.



Worm Gearboxes Medium Size

Power capacity to 140 kW.
Output torque capacity to 10000 Nm.
4 Gearbox sizes available.
Single Reduction standard up to 70:1 gear ratio.
Double reduction available on request.
Foot, Flange and Shaft mounting.



The gearboxes can take either IEC or NEMA standard motors. This allows the fitment of brake motors, flame proof motors, DC motors, AC inverter rated motors and energy efficient motors. All the gearboxes are dimensionally interchangeable with major European gearbox manufacturers. The advanced design, high grade materials and quality manufacture of the gearboxes are maximised by the high internal efficiency to ensure a trouble free operational life with simple maintenance routines kept to an absolute minimum.



5.2. Helical Worm Reduction Gearboxes

5.2.1. Gearbox Selection

Calculate the power capacity required for the gearbox:

$$P \text{ (kW)} = P_d \text{ (kW)} \times F_L$$

Where P_d = Power required to drive the machine.
 F_L = Load factor (refer to table).

Select a gearbox type to the closest above the required power (P_d), refer 4.3.1.2.

Find the closest matching output speed hence gear ratio for that gearbox type for the application (refer 4.3.1.2).

Check that the gearbox power rating is suitable for the actual output speed.

5.2.2. Helical Worm Reduction Gearbox Performance

| Power (kW) | C0320 | C0420 | C0520 | C0620 | C0720 | C0820 | C0920 | C1020 |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.12 | M | R | F | | | | | |
| 0.18 | M | R | F | F | | | | |
| 0.25 | M | M | R | F | | | | |
| 0.37 | M | M | R | R | | | | |
| 0.55 | M | M | M | R | F | | | |
| 0.75 | R | M | M | M | R | F | | |
| 1.1 | F | M | M | M | M | F | F | |
| 1.5 | F | R | M | M | M | R | F | |
| 2.2 | | F | R | M | M | M | R | F |
| 3.0 | | | R | M | M | M | R | F |
| 4.0 | | | F | R | M | M | R | R |
| 5.5 | | | | R | R | M | R | R |
| 7.5 | | | | F | R | M | R | R |
| 11.0 | | | | | F | R | M | M |
| 15.0 | | | | | | F | M | M |
| 18.5 | | | | | | | M | M |
| 22.0 | | | | | | | R | M |
| 30.0 | | | | | | | F | R |
| 37.0 | | | | | | | F | R |
| 45.0 | | | | | | | F | F |

- M - Most/All gear ratios available
- R - Reduced range of gear ratios available
- F - Few gear ratios available

For exact availability of gear ratios in power ranges and full gearbox details consult Power Jacks.

| Load Factors (F_L) | | | |
|-------------------------------------|--------------|---------------------|------------------|
| Duration of Service (hours per day) | Uniform Load | Moderate Shock Load | Heavy Shock Load |
| Under 3 | 0.8 | 1 | 1.5 |
| 3 to 10 | 1 | 1.25 | 1.75 |
| Above 10 | 1.25 | 1.5 | 2 |



5.2.3. Helical Worm Gearbox Output Speeds and Gear Ratios

Based on double reduction motorised units with 4 Pole, 1440 rpm AC electric motors.

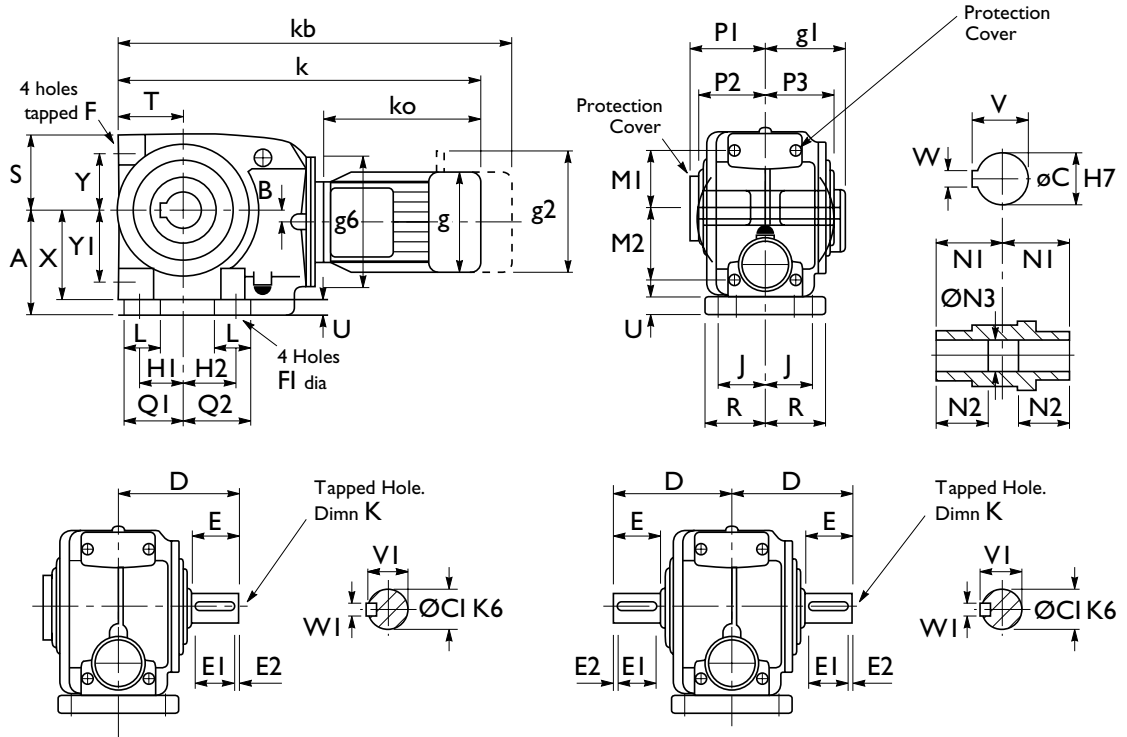
| Gear Box Model | | | | | | | | | | | | | | | | |
|----------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| Nominal | C0320 | | C0420 | | C0520 | | C0620 | | C0720 | | C0820 | | C0920 | | C1020 | |
| Gear Ratio | Exact G/Ratio | Output Speed | Exact G/Ratio | Output Speed | Exact G/Ratio | Output Speed | Exact G/Ratio | Output Speed | Exact G/Ratio | Output Speed | Exact G/Ratio | Output Speed | Exact G/Ratio | Output Speed | Exact G/Ratio | Output Speed |
| 8 | 8.591 | 167.6 | 8.591 | 167.6 | 8.31 | 173.2 | 8.23 | 174.9 | 7.90 | 182.3 | 7.77 | 185.3 | 7.97 | 180.6 | 7.95 | 181.1 |
| 11 | 11.61 | 124.0 | 11.61 | 124.0 | 11.66 | 123.5 | 11.57 | 124.5 | 10.94 | 131.6 | 11.01 | 130.8 | 10.98 | 131.1 | 11.11 | 129.6 |
| 12 | 13.2 | 109.1 | 13.2 | 109.1 | 12.85 | 112.1 | 12.97 | 111.0 | 12.29 | 117.2 | 12.24 | 117.6 | 12.30 | 117.1 | 12.08 | 119.2 |
| 14 | 14.95 | 96.3 | 14.95 | 96.3 | 14.59 | 98.7 | 14.56 | 98.9 | 13.52 | 106.5 | 13.61 | 105.8 | 13.81 | 104.3 | 13.72 | 105.0 |
| 16 | 16.36 | 88.0 | 16.36 | 88.0 | 16.09 | 89.5 | 15.93 | 90.4 | 15.80 | 91.1 | 15.54 | 92.7 | 16.68 | 86.3 | 16.63 | 86.6 |
| 18 | 19.13 | 75.3 | 19.13 | 75.3 | 18.53 | 77.7 | 18.49 | 77.9 | 17.66 | 81.5 | 17.60 | 81.8 | 17.79 | 80.9 | 17.87 | 80.6 |
| 20 | 20.61 | 69.9 | 20.61 | 69.9 | 21.05 | 68.4 | 20.96 | 68.7 | 20.07 | 71.7 | 19.76 | 72.9 | 19.88 | 72.4 | 19.29 | 74.7 |
| 22 | 22.11 | 65.1 | 22.11 | 65.1 | 22.56 | 63.8 | 22.40 | 64.3 | 21.89 | 65.8 | 22.03 | 65.4 | 22.96 | 62.7 | 23.23 | 62.0 |
| 25 | 25.14 | 57.3 | 25.14 | 57.3 | 24.86 | 57.9 | 25.11 | 57.3 | 24.59 | 58.6 | 24.47 | 58.8 | 25.73 | 56.0 | 25.27 | 57.0 |
| 28 | 28.48 | 50.6 | 28.48 | 50.6 | 28.24 | 51.0 | 28.18 | 51.1 | 27.03 | 53.3 | 27.22 | 52.9 | 28.89 | 49.8 | 28.70 | 50.2 |
| 32 | 33.71 | 42.7 | 33.71 | 42.7 | 32.55 | 44.2 | 33.48 | 43.0 | 30.81 | 46.7 | 31.78 | 45.3 | 31.43 | 45.8 | 31.85 | 45.2 |
| 36 | 36.43 | 39.5 | 36.43 | 39.5 | 35.86 | 40.2 | 35.79 | 40.2 | 35.31 | 40.8 | 35.20 | 40.9 | 37.22 | 38.7 | 37.38 | 38.5 |
| 40 | 39.26 | 36.7 | 39.26 | 36.7 | 40.74 | 35.3 | 40.57 | 35.5 | 40.15 | 35.9 | 39.51 | 36.4 | 41.59 | 34.6 | 40.36 | 35.7 |
| 45 | 45.5 | 31.6 | 45.5 | 31.6 | 46.84 | 30.7 | 47.32 | 30.4 | 44.13 | 32.6 | 43.64 | 33.0 | 44.55 | 32.3 | 43.65 | 33.0 |
| 50 | 53.31 | 27.0 | 53.31 | 27.0 | 50.93 | 28.3 | 50.52 | 28.5 | 49.90 | 28.9 | 49.26 | 29.2 | 49.49 | 29.1 | 48.51 | 29.7 |
| 56 | 56.19 | 25.6 | 56.19 | 25.6 | 55.45 | 26.0 | 55.71 | 25.8 | 53.63 | 26.9 | 54.60 | 26.4 | 57.66 | 25.0 | 58.85 | 24.5 |
| 63 | 64.21 | 22.4 | 64.21 | 22.4 | 63.00 | 22.9 | 64.80 | 22.2 | 61.62 | 23.4 | 63.56 | 22.7 | 65.74 | 21.9 | 66.63 | 21.6 |
| 71 | 74.55 | 19.3 | 74.55 | 19.3 | 73.37 | 19.6 | 73.92 | 19.5 | 69.00 | 20.9 | 69.64 | 20.7 | 69.91 | 20.6 | 69.18 | 20.8 |
| 80 | 82.83 | 17.4 | 82.83 | 17.4 | 82.67 | 17.4 | 80.94 | 17.8 | 75.56 | 19.1 | 76.50 | 18.8 | 77.18 | 18.7 | 79.71 | 18.1 |
| 90 | 86.67 | 16.6 | 86.67 | 16.6 | 90.67 | 15.9 | 91.58 | 15.7 | 88.26 | 16.3 | 87.29 | 16.5 | 93.18 | 15.5 | 91.32 | 15.8 |
| 100 | 101.5 | 14.2 | 101.5 | 14.2 | 98.57 | 14.6 | 97.78 | 14.7 | 99.79 | 14.4 | 98.53 | 14.6 | 103.50 | 13.9 | 101.50 | 14.2 |
| 112 | 114.3 | 12.6 | 114.3 | 12.6 | 109.10 | 13.2 | 110.60 | 13.0 | 104.30 | 13.8 | 102.40 | 14.1 | 106.20 | 13.6 | 107.80 | 13.4 |
| 125 | 129.9 | 11.1 | 129.9 | 11.1 | 124.00 | 11.6 | 124.00 | 11.6 | 115.90 | 12.4 | 117.90 | 12.2 | 119.40 | 12.1 | 115.80 | 12.4 |
| 140 | 142 | 10.1 | 142 | 10.1 | 142.00 | 10.1 | 143.10 | 10.1 | 138.00 | 10.4 | 139.30 | 10.3 | 146.20 | 9.8 | 144.70 | 10.0 |
| 160 | 157.8 | 9.1 | 157.8 | 9.1 | 160.00 | 9.0 | 156.70 | 9.2 | 151.10 | 9.5 | 153.00 | 9.4 | 161.40 | 8.9 | 166.70 | 8.6 |
| 212 | 217.8 | 6.6 | 217.8 | 6.6 | 211.10 | 6.8 | 214.00 | 6.7 | 208.60 | 6.9 | 204.80 | 7.0 | 222.10 | 6.5 | 225.50 | 6.4 |
| 250 | 247.5 | 5.8 | 247.5 | 5.8 | 240.00 | 6.0 | 240.00 | 6.0 | 231.80 | 6.2 | 235.80 | 6.1 | 249.70 | 5.8 | 242.30 | 5.9 |

Note: 1. Units with 6 Pole, 960 rpm, motors available on request.
 2. Output speed in rpm.



reduction gearboxes

5.2.4. Helical Worm Gearbox Dimensions



| Size | A | B | C | CI | D | E | E1 | E2 | F | FI | HI | H2 | J | K | L | M1 |
|-----------|-----|-----|----|----|-----|----|----|----|---------------------|----|----|----|----|---------------------|----|----|
| C0320 | 80 | 5.3 | 20 | 20 | 100 | 35 | 31 | 3 | M8 x 1.25, 15 deep | 9 | 35 | 28 | 45 | M6 x 1.0, 16 deep | 25 | 40 |
| C0420 | 100 | 15 | 30 | 25 | 115 | 46 | 42 | 3 | M10 x 1.5, 20 deep | 11 | 35 | 45 | 50 | M10 x 1.5, 22 deep | 35 | 53 |
| C0520 | 112 | 13 | 35 | 30 | 134 | 60 | 53 | 3 | M10 x 1.5, 18 deep | 11 | 45 | 55 | 55 | M10 x 1.5, 22 deep | 40 | 65 |
| C0620 Std | 140 | 17 | 45 | 35 | 160 | 63 | 55 | 3 | M12 x 1.75, 20 deep | 14 | 60 | 70 | 65 | M12 x 1.75, 22 deep | 50 | 76 |
| C0620 HD | 140 | 17 | 45 | 45 | 195 | 98 | 80 | 5 | M12 x 1.75, 20 deep | 14 | 60 | 70 | 65 | M16 x 2.0, 36 deep | 50 | 76 |

| Size | M2 | N1 | N2 | N3 | PI | P2 | P3 | Q1 | Q2 | R | S | T | U | V | VI | W | WI | X | Y | Y1 |
|-----------|----|----|----|------|------|------|------|----|----|----|-----|----|----|------|------|----|----|-----|----|----|
| C0320 | 40 | 62 | 52 | 20.2 | 70 | 61 | 57 | 47 | 41 | 55 | 68 | 54 | 9 | 22.9 | 22.5 | 6 | 6 | 71 | 40 | 40 |
| C0420 | 65 | 65 | 54 | 30.2 | 74.5 | 65.5 | 65 | 53 | 62 | 62 | 75 | 64 | 14 | 33.5 | 28 | 8 | 8 | 86 | 53 | 65 |
| C0520 | 77 | 70 | 56 | 35.3 | 79 | 70 | 70 | 65 | 75 | 68 | 88 | 68 | 16 | 38.5 | 33 | 10 | 8 | 96 | 65 | 77 |
| C0620 Std | 96 | 90 | 70 | 45.3 | 101 | 90 | 90.5 | 81 | 91 | 80 | 103 | 90 | 20 | 49 | 38 | 14 | 10 | 120 | 76 | 96 |
| C0620 HD | 96 | 90 | 70 | 45.3 | 101 | 90 | 90.5 | 81 | 91 | 80 | 103 | 90 | 20 | 49 | 48.5 | 14 | 14 | 120 | 76 | 96 |

| Motor Frame Size | Motors | All Sizes | | | | | C0320 | | C0420 | | C0520 | | C0620 | |
|------------------|--------|-----------|-----|-----|-----|-----|-------|-----|-------|-----|-------|-----|-------|-----|
| | | ko | g | g1 | g2 | g6 | k | kb | k | kb | k | kb | k | kb |
| 63 | | 185 | 122 | 101 | 160 | 140 | 361 | 403 | 381 | 423 | 387 | 429 | 461 | 503 |
| 71 | | 210 | 137 | 107 | 167 | 105 | 390 | 431 | 410 | 451 | 412 | 453 | 486 | 527 |
| 80 | | 230 | 158 | 118 | 190 | 120 | 425 | 475 | 445 | 495 | 432 | 482 | 506 | 556 |
| 90S/L | | 270 | 177 | 149 | 218 | 140 | 475 | 534 | 495 | 554 | 472 | 531 | 555 | 614 |
| 100/112* | | 340 | 197 | 159 | 238 | 160 | 553 | 621 | 573 | 641 | 592 | 610 | 669 | 737 |
| 132 | | 402 | 253 | 184 | 288 | 200 | - | - | - | - | - | - | 733 | 804 |

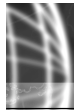
* 112 Motor not available on size C0320.

Other available mounting options:

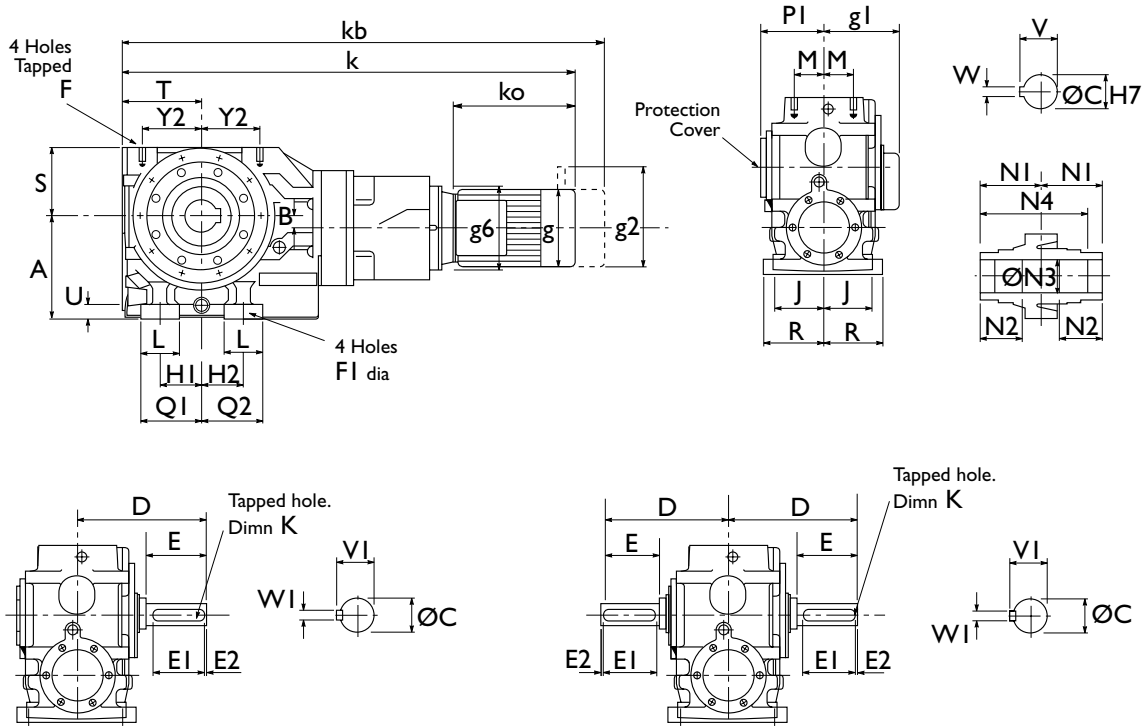
- Output flange mounted
- End mounted feet
- C - Face mounting
- Top mounted with bolting fixtures
- End mounted with bolting fixtures
- Banjo Torque arm

Consult Power jacks for details

Dimensions subject to change without notice.



5.2.4. Helical Worm Gearbox Dimensions



| Size | A | B | C | CI | D | E | EI | E2 | F | FI | HI | H2 | J | K |
|-------|-----|----|-----|----|-----|-----|-----|----|--------------------|----|-----|-----|-----|--------------------|
| C0720 | 180 | 26 | 60 | 45 | 195 | 76 | 70 | 3 | M20 x 2.5, 34 deep | 18 | 75 | 60 | 75 | M16 x 2, 36 deep |
| C0820 | 225 | 28 | 70 | 60 | 255 | 120 | 110 | 3 | M20 x 2.5, 34 deep | 22 | 92 | 88 | 100 | M20 x 2.5, 42 deep |
| C0920 | 280 | 40 | 90 | 70 | 295 | 135 | 125 | 3 | M24 x 3, 45 deep | 26 | 115 | 120 | 125 | M20 x 2.5, 42 deep |
| C1020 | 335 | 65 | 100 | 90 | 366 | 170 | 160 | 3 | M24 x 3, 45 deep | 26 | 170 | 140 | 150 | M24 x 3, 50 deep |

| Size | L | M | NI | N2 | N3 | N4 | PI | QI | Q2 | R | S | T | U | V | VI | W | WI | Y2 |
|-------|-----|------|-----|-------|-------|-----|-------|-------|-------|-------|-----|-----|----|-------|------|----|----|-------|
| C0720 | 67 | 50 | 109 | 79 | 60.5 | 188 | 124.5 | 108.5 | 93.5 | 92.5 | 122 | 143 | 28 | 64.6 | 48.5 | 18 | 14 | 107.5 |
| C0820 | 80 | 60 | 125 | 90 | 70.5 | 220 | 143 | 132 | 128 | 125 | 150 | 168 | 35 | 75.1 | 64 | 20 | 18 | 125 |
| C0920 | 85 | 67.5 | 150 | 107.5 | 90.5 | 265 | 169 | 157.5 | 162.5 | 152.5 | 177 | 195 | 40 | 95.6 | 74.5 | 25 | 20 | 145 |
| C1020 | 110 | 75 | 175 | 132.5 | 100.5 | 313 | 198 | 225 | 195 | 180 | 230 | 235 | 45 | 106.6 | 95 | 28 | 25 | 172.5 |

| Motor Frame Size | Motors | All Sizes | | | | C0720 | | | C0820 | | | C0920 | | | C1020 | | |
|------------------|--------|-----------|-----|-----|-----|-------|-----|-----|-------|------|-----|-------|------|------|-------|------|------|
| | | ko | g | gl | g2 | g6 | k | kb | g6 | k | kb | g6 | k | kb | g6 | k | kb |
| 80 | | 230 | 158 | 118 | 190 | 120 | 617 | 667 | 200 | 700 | 750 | 200 | 783 | 833 | - | - | - |
| 90S/L | | 270 | 177 | 149 | 218 | 140 | 667 | 726 | 200 | 740 | 799 | 200 | 823 | 882 | - | - | - |
| 100/112 | | 340 | 197 | 159 | 238 | 160 | 760 | 828 | 250 | 816 | 884 | 250 | 899 | 967 | 250 | 977 | 1045 |
| 132 | | 402 | 253 | 184 | 288 | 200 | 824 | 895 | 300 | 878 | 949 | 300 | 961 | 1032 | 300 | 1039 | 1110 |
| 160/180 | | 538 | 314 | 230 | - | 350 | 990 | ♦ | 350 | 1044 | ♦ | 350 | 1132 | ♦ | 350 | 1210 | ♦ |
| 180L | | 613 | 354 | 257 | - | - | - | - | - | - | - | 350 | 1207 | ♦ | 350 | 1285 | ♦ |
| 200 | | 613 | 354 | 257 | - | - | - | - | - | - | - | 400 | 1207 | ♦ | 400 | 1285 | ♦ |
| 225 | | 690 | 411 | 280 | - | - | - | - | - | - | - | 450 | 1311 | ♦ | 450 | 1389 | ♦ |

ØCI ≤ 50mm k6 kb - for brake motor ♦ Consult Power Jacks Ltd.
 > 50mm m6 g2 - hand release if required

Dimensions subject to change without notice.



5.3. In-Line Helical Reduction Gearboxes

5.3.1. Gearbox Selection

Calculate the power capacity required for the gearbox:

$$P(\text{kW}) = P_d (\text{kW}) \times F_L$$

Where P_d = Power required to drive the machine and F_L = Load factor (refer to table in Section 5.2.2.)

Select a gearbox type to the closest above the required power (P_d) and to the nearest output speed (hence gear ratio) for the gearbox type.

5.3.2. In-Line Helical Reduction Gearbox Power Rating Guide by Motor Frame Size

5.3.2.1. In-Line Helical Reduction Gearbox Gear Ratios

Double reduction gear ratios only. For single, triple or other reduction consult Power Jacks.

| Unit Size | M0122 | | M0222 | | M0322 | | M0422 | | M0522 | | M0622 | | M0722 | | M0822 | | M0921 | | M1021 | | M1321 | | | M1421 | | | |
|------------------|------------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|------------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|----------|-----------|----------|----------|-------|
| | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio | Ratio |
| Motor Frame Size | 3.6 to 9.0 | 11 to 56 | 3.6 to 14 | 16 to 56 | 3.6 to 14 | 16 to 56 | 3.6 to 11 | 12 to 56 | 3.6 to 11 | 12 to 56 | 5.0 to 12 | 14 to 63 | 3.6 to 9.0 | 11 to 56 | 3.6 to 14 | 16 to 56 | 1.4 to 14 | 16 to 71 | 1.4 to 14 | 16 to 71 | 2.8 to 14 | 16 to 45 | 50 to 71 | 2.8 to 14 | 16 to 45 | 50 to 71 | |
| 63 | X | X | - | X | - | X | - | X | - | X | - | X | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 71 | X | X | - | X | - | X | - | X | - | X | - | X | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 80 | X | X | X | X | X | X | X | X | X | X | X | X | - | X | - | X | - | X | - | - | - | - | - | - | - | - | - |
| 90 | X | X | X | X | X | X | X | X | X | X | X | X | - | X | - | X | - | X | - | - | - | - | - | - | - | - | - |
| 100 | - | - | - | - | - | - | X | X | X | X | X | X | X | X | X | X | - | X | - | X | - | X | X | - | X | X | X |
| 112 | - | - | - | - | - | - | X | X | X | X | X | X | X | X | X | X | - | X | - | X | - | X | X | - | X | X | X |
| 132 | - | - | - | - | - | - | X | X | X | X | X | X | X | X | X | X | - | X | - | X | - | X | X | - | X | X | X |
| 160 | - | - | - | - | - | - | - | - | - | - | - | - | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 180 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | X | X | X | X | X | X | X | X | X | X | X |
| 200 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | X | X | X | X | X | X | X | X | X | X | X |
| 225 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | X | X | X | X | X | X | X | X | X | X | X |
| 250 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | X | X | - | X | X | - | - |
| 280 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | X | X | - | X | X | - | - |

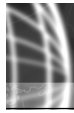
5.3.2.2. Overview of Motor Power Ratings

4 Pole AC Induction Motors - 3 Phase

| Frame Size | 63 | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 | 280 |
|------------|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|
| Power (kW) | 0.12 | 0.25 | 0.55 | 1.1 | 2.2 | 4 | 5.5 | 11 | 18.5 | 30 | 37 | 55 | 75 |
| | 0.18 | 0.37 | 0.75 | 1.5 | 3 | | 7.5 | 15 | 22 | | 45 | | 90 |

6 Pole AC Induction Motors - 3 Phase

| Frame Size | 63 | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 | 280 |
|------------|------|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|
| Power (kW) | 0.07 | 0.12 | 0.37 | 0.75 | 1.5 | 2.2 | 3 | 7.5 | 15 | 18.5 | 30 | 37 | 45 |
| | 0.09 | 0.18 | 0.55 | 1.1 | | | 4 | 11 | | 22 | | | 55 |
| | | 0.25 | | | | | 5.5 | | | | | | |



5.3.3. In-Line Helical Gearbox Torque Ratings

Gearbox output torque ratings below are applicable when used with 1450 rpm (4 pole), 960 rpm (6 pole) and 725 rpm (8 pole) motors. Double reduction gear ratios only. For single, triple or other reductions consult Power Jacks.

| GR | M0122 | | M0222 | | M0322 | | M0422 | | M0522 | | M0622 | | M0722 | | M0822 | | M0921 | | M1021 | | M1321 | | M1421 | |
|-----|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|
| | i | M2 | i | M2 | i | M2 | i | M2 | i | M2 | i | M2 | i | M2 | i | M2 | i | M2 | i | M2 | i | M2 | i | M2 |
| | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) | (:1) | (Nm) |
| 1.4 | | | | | | | | | | | | | | | | | 1.479 | 574 | 1.442 | 722 | | | | |
| 1.5 | | | | | | | | | | | | | | | | | 2.036 | 677 | 2.015 | 1010 | | | | |
| 2.2 | | | | | | | | | | | | | | | | | 2.282 | 716 | 2.191 | 1100 | | | | |
| 2.5 | | | | | | | | | | | | | | | | | 2.562 | 756 | 2.489 | 1250 | | | | |
| 2.8 | | | | | | | | | | | | | | | | | 2.969 | 1150 | 2.992 | 1490 | 2.904 | 1810 | 2.888 | 2520 |
| 3.2 | | | | | | | | | | | | | | | | | 3.301 | 850 | 3.242 | 1570 | 3.189 | 1990 | 3.247 | 2840 |
| 3.5 | 3.75 | 59 | 3.589 | 100 | 3.589 | 118 | 3.585 | 203 | 3.585 | 292 | | | 3.678 | 306 | 3.678 | 483 | 3.688 | 876 | 3.5 | 1570 | 3.638 | 2260 | 3.822 | 3330 |
| 4 | | | | | | | | | | | | | | | | | 4.088 | 1360 | 4.179 | 2090 | 4.025 | 2510 | 4.029 | 3530 |
| 4.5 | | | | | | | | | | | | | | | | | 4.582 | 1440 | 4.545 | 2280 | 4.421 | 2760 | 4.537 | 3970 |
| 5 | 5.066 | 68 | 5.034 | 116 | 5.034 | 135 | 5.04 | 237 | 5.04 | 382 | 4.438 | 362 | 5.094 | 425 | 5.214 | 686 | 5.073 | 1680 | 4.938 | 2470 | 5.042 | 3140 | 5.333 | 4660 |
| 5.6 | 5.762 | 71 | 5.547 | 121 | 5.547 | 140 | 5.649 | 249 | 5.649 | 409 | 6.24 | 473 | 5.722 | 477 | 5.792 | 763 | 5.686 | 1780 | 5.37 | 2690 | 5.538 | 3450 | 6.005 | 5240 |
| 6.3 | 6.528 | 75 | 6.299 | 127 | 6.299 | 147 | 6.341 | 262 | 6.341 | 413 | 6.994 | 510 | 6.292 | 525 | 6.442 | 849 | 6.628 | 1700 | 6.724 | 3140 | 6.21 | 3880 | 6.548 | 5730 |
| 7.1 | | | | | | | | | | | | | | | | | 7.404 | 1760 | 7.26 | 3230 | 6.879 | 4300 | 7.27 | 6360 |
| 8 | 8.348 | 79 | 8 | 136 | 8 | 161 | 8.053 | 289 | 8.053 | 441 | 7.851 | 512 | 8.218 | 655 | 8.33 | 1100 | 8.224 | 2080 | 7.945 | 3330 | 7.779 | 4840 | 8.667 | 7570 |
| 9 | 8.997 | 80 | 9.088 | 140 | 9.088 | 168 | 9.129 | 299 | 9.129 | 450 | 9.97 | 594 | 9.344 | 689 | 9.352 | 1220 | 9.188 | 2170 | 8.578 | 3420 | 8.618 | 5360 | 9.623 | 8400 |
| 10 | | | | | | | | | | | | | | | | | 10.27 | 1970 | 10.59 | 3680 | 9.891 | 6170 | 10.07 | 8800 |
| 11 | 11.36 | 84 | 11.15 | 145 | 11.15 | 179 | 10.89 | 311 | 10.89 | 450 | 11.3 | 604 | 11.35 | 726 | 11.47 | 1310 | 11.71 | 2040 | 11.98 | 3770 | 11.2 | 5940 | 11.43 | 9980 |
| 12 | 12.88 | 87 | 12.37 | 148 | 12.37 | 186 | 12.54 | 320 | 12.54 | 426 | 13.48 | 613 | 12.48 | 740 | 12.92 | 1340 | | | | | | | | |
| 14 | 14.72 | 90 | 14.05 | 153 | 14.05 | 194 | 14.58 | 329 | 14.58 | 450 | 15.52 | 528 | 14.34 | 761 | 15.04 | 1410 | | | | | | | | |
| 16 | 16.37 | 90 | 15.97 | 160 | 15.97 | 205 | 16.31 | 338 | 16.31 | 450 | 18.05 | 596 | 16.26 | 786 | 16.69 | 1420 | | | | | | | | |
| 18 | 18.05 | 90 | 17.58 | 160 | 17.58 | 208 | 17.39 | 338 | 17.39 | 450 | 20.2 | 626 | 17.94 | 794 | 18.26 | 1360 | | | | | | | | |
| 20 | 19.86 | 90 | 20.23 | 160 | 20.23 | 209 | 20.61 | 338 | 20.61 | 450 | 21.53 | 626 | 20.54 | 804 | 20.66 | 1460 | | | | | | | | |
| 22 | 23.27 | 90 | 21.99 | 160 | 21.99 | 209 | 22 | 338 | 22 | 450 | 25.51 | 626 | 23.23 | 813 | 23.32 | 1540 | | | | | | | | |
| 28 | 27.92 | 90 | 26.4 | 160 | 26.4 | 209 | 27.3 | 338 | 27.3 | 450 | 27.24 | 626 | 26.93 | 825 | 28.27 | 1580 | | | | | | | | |
| 32 | 32.54 | 90 | 31.68 | 160 | 31.68 | 209 | 32.19 | 338 | 32.19 | 450 | 33.8 | 626 | 32.12 | 840 | 32.97 | 1620 | | | | | | | | |
| 36 | 36.16 | 90 | 35.69 | 160 | 35.69 | 209 | 35.25 | 338 | 35.25 | 450 | 39.86 | 626 | 35.17 | 847 | 36.21 | 1650 | | | | | | | | |
| 45 | 43.54 | 84 | 41.49 | 160 | 41.49 | 199 | 43.2 | 338 | 43.2 | 424 | 43.64 | 626 | 42.21 | 863 | 44.38 | 1690 | | | | | | | | |
| 50 | 49.91 | 72 | 47.09 | 160 | 47.09 | 203 | 48.15 | 338 | 48.15 | 379 | 53.49 | 526 | 48.56 | 700 | 48.46 | 1690 | | | | | | | | |
| 58 | 56.72 | 71 | 53.54 | 160 | 53.54 | 206 | 54 | 270 | 54 | 270 | 59.61 | 470 | 53.96 | 596 | 55.8 | 1540 | | | | | | | | |
| 63 | | | | | | | | | | | 66.86 | 334 | | | | | | | | | | | | |

Note: Power Ratings (kW) = (2*π*M2*Ni)/(i*60*1000).

M2 = Maximum output torque rating in Nm.

Ni = Motor input power to gearbox in rpm.

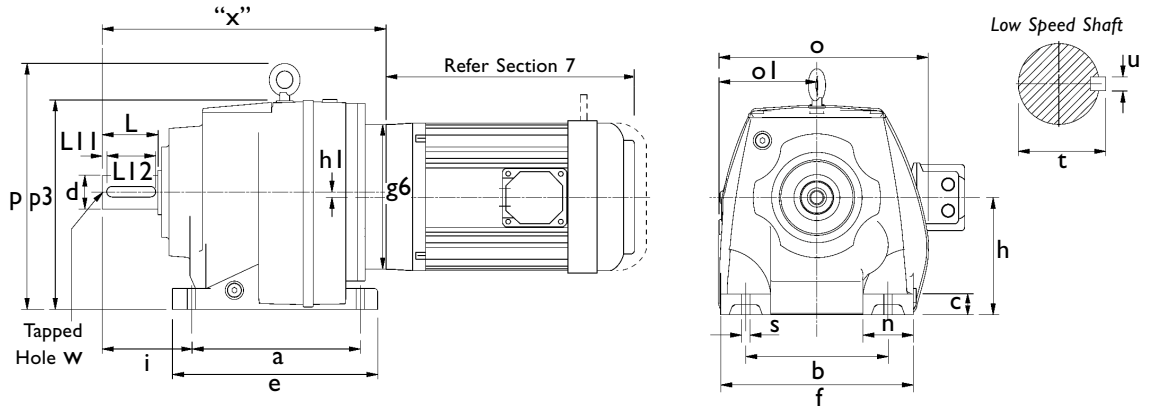
i = Gear Ratio.

GR = Nominal Gear Ratio.



reduction gearboxes

5.3.4. In-Line Helical Gearbox Dimensions - Foot Mounted

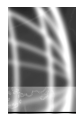


| Size | a | b | c | e | f | h | hl | i | n | o | ol | p | p3 | Øs | Ød | L | L11 | L12 | t | u | w |
|-------|-----|-----|----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|----|--------|-----|-----|-----|------|----|----------------------|
| M0122 | 110 | 110 | 12 | 131 | 135 | 75 | - | 58 | 25 | 152 | 76 | - | 149 | 10 | 20 k6 | 40 | 4 | 32 | 22.5 | 6 | M6 x 1 x 16 deep |
| M0222 | 130 | 110 | 16 | 152 | 145 | 90 | - | 75 | 35 | 170 | 84 | - | 180 | 10 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| M0322 | 130 | 110 | 16 | 152 | 145 | 90 | - | 75 | 35 | 170 | 84 | - | 180 | 10 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| M0422 | 165 | 135 | 20 | 200 | 190 | 115 | - | 90 | 55 | 204 | 97 | - | 208 | 15 | 30 k6 | 60 | 4 | 50 | 33 | 8 | M10 x 1.5 x 22 deep |
| M0522 | 165 | 135 | 20 | 200 | 190 | 115 | - | 100 | 55 | 204 | 97 | - | 208 | 15 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| M0622 | 195 | 150 | 24 | 235 | 210 | 130 | 14.5 | 100 | 60 | 220 | 110 | 246 | 214 | 15 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| M0722 | 205 | 170 | 25 | 245 | 230 | 140 | - | 115 | 60 | 252 | 119 | 295 | 250 | 19 | 40 k6 | 80 | 5 | 70 | 43 | 12 | M16 x 2.0 x 36 deep |
| M0822 | 260 | 215 | 35 | 310 | 290 | 180 | - | 140 | 75 | 320 | 167 | 360 | 310 | 19 | 50 k6 | 100 | 10 | 80 | 53.5 | 14 | M16 x 2.0 x 36 deep |
| M0921 | 310 | 250 | 40 | 365 | 340 | 225 | - | 160 | 90 | 372 | 200 | 433 | 394 | 23 | 60 m6 | 120 | 10 | 100 | 64 | 18 | M20 x 2.5 x 42 deep |
| M1021 | 370 | 290 | 45 | 440 | 400 | 250 | - | 185 | 110 | 428 | 225 | 505 | 446 | 27 | 70 m6 | 140 | 15 | 110 | 74.5 | 20 | M20 x 2.5 x 42 deep |
| M1321 | 410 | 340 | 50 | 490 | 450 | 265 | - | 220 | 110 | 470 | 242 | 563 | 483 | 34 | 90 m6 | 170 | 15 | 140 | 95 | 25 | M24 x 3.0 x 50 deep |
| M1421 | 500 | 380 | 50 | 590 | 530 | 300 | - | 260 | 150 | 546 | 278 | 630 | 551 | 41 | 100 m6 | 210 | 15 | 180 | 106 | 28 | M24 x 3.0 x 50 deep |

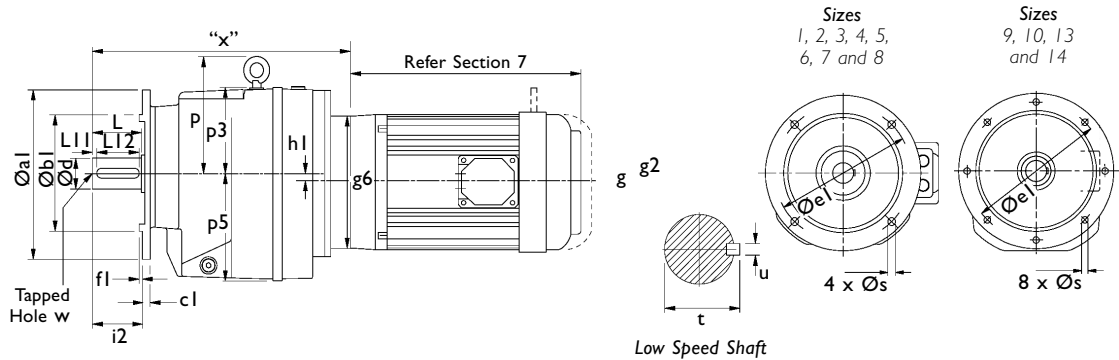
| "x" | 63 | 71 | 80A | 80B | 90S | 90L | 90LA | 100L | 112M | 112MA | 132SA | 132M | 132MA | 132MB | 160M | 160L | 180M | 180L | 200L | 225S | 225M | 250M | 280S | 280M | |
|-------|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|------|-------|-------|------|------|------|------|------|------|------|------|------|------|-----|
| M0122 | 209 | 213 | 226 | 226 | 236 | 236 | 236 | | | | | | | | | | | | | | | | | | |
| M0222 | 240 | 244 | 257 | 257 | 267 | 267 | 267 | | | | | | | | | | | | | | | | | | |
| M0322 | 240 | 244 | 257 | 257 | 267 | 267 | 267 | | | | | | | | | | | | | | | | | | |
| M0422 | | | 294 | 294 | 304 | 304 | 304 | 329 | 329 | 329 | | | | | | | | | | | | | | | |
| M0522 | | | 304 | 304 | 314 | 314 | 314 | 339 | 339 | 339 | | | | | | | | | | | | | | | |
| M0622 | | | 325 | 325 | 335 | 335 | 335 | 360 | 360 | 360 | | | | | | | | | | | | | | | |
| M0722 | | | 362 | 362 | 372 | 372 | 372 | 382 | 382 | 382 | 384 | 384 | 384 | 384 | | | | | | | | | | | |
| M0822 | | | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 448 | 448 | | | | | | | | | |
| M0921 | | | 524 | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 564 | 564 | 564 | 564 | 564 | 564 | 591 | 591 | | | |
| M1021 | | | | | | | | 596 | 596 | 596 | 596 | 596 | 596 | 596 | 631 | 631 | 631 | 631 | 631 | 631 | 658 | 658 | | | |
| M1321 | | | | | | | | 717 | 717 | 717 | 717 | 717 | 717 | 717 | 710 | 710 | 710 | 710 | 710 | 710 | 710 | 710 | 710 | 710 | 710 |
| M1421 | | | | | | | | 832 | 832 | 832 | 832 | 832 | 832 | 832 | 825 | 825 | 825 | 825 | 825 | 825 | 825 | 825 | 825 | 825 | 825 |

| Frame | 63 | 71 | 80A | 80B | 90S | 90L | 90LA | 100L | 112M | 112MA | 132SA | 132M | 132MA | 132MB | 160M | 160L | 180M | 180L | 200L | 225S | 225M | 250M | 280S | 280M |
|-------|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| Øg6 | 140 | 105 | 120 | 120 | 140 | 140 | 140 | 160 | 160 | 160 | 200 | 200 | 200 | 200 | 350 | 350 | 350 | 350 | 400 | 450 | 450 | 550 | 550 | 550 |

Note: All dimensions in millimeters.
 Dimensions subject to change without notice.
 All parallel keys are to DIN 6885.



5.3.5. In-Line Helical Gearbox Dimensions - Flange Mounted



Note: Sizes 01 to 08 are also available as C - Flange (B14) Mounting, please consult Power Jacks for details.

| Size | $\varnothing a1$ | $\varnothing b1$ | $c1$ | $\varnothing e1$ | $f1$ | $h1$ | $i2$ | p | $p3$ | $p5$ | $\varnothing s$ | $\varnothing d$ | L | $L11$ | $L12$ | t | u | w |
|-------|------------------|------------------|------|------------------|------|------|------|-----|------|------|-----------------|-----------------|-----|-------|-------|------|-----|----------------------|
| M0122 | 120 | 80 | 9 | 100 | 3 | - | 40 | - | 74 | 76 | 9 | 20 k6 | 40 | 4 | 32 | 22.5 | 6 | M6 x 1 x 16 deep |
| | 140 | 95 | 9 | 115 | 3 | - | 40 | - | 74 | 76 | 9 | 20 k6 | 40 | 4 | 32 | 22.5 | 6 | M6 x 1 x 16 deep |
| | 160 | 110 | 10 | 130 | 3.5 | - | 40 | - | 74 | 76 | 9 | 20 k6 | 40 | 4 | 32 | 22.5 | 6 | M6 x 1 x 16 deep |
| | 200 | 130 | 10 | 165 | 3.5 | - | 40 | - | 74 | 76 | 11 | 20 k6 | 40 | 4 | 32 | 22.5 | 6 | M6 x 1 x 16 deep |
| M0222 | 120 | 80 | 10 | 100 | 3 | - | 50 | - | 90 | 91 | 6.6 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| | 140 | 95 | 10 | 115 | 3 | - | 50 | - | 90 | 91 | 9 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| | 160 | 110 | 10 | 130 | 3.5 | - | 50 | - | 90 | 91 | 9 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| | 200 | 130 | 10 | 165 | 3.5 | - | 50 | - | 90 | 91 | 11 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| M0322 | 120 | 80 | 10 | 100 | 3 | - | 50 | - | 90 | 91 | 6.6 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| | 140 | 95 | 10 | 115 | 3 | - | 50 | - | 90 | 91 | 9 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| | 160 | 110 | 10 | 130 | 3.5 | - | 50 | - | 90 | 91 | 9 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| | 200 | 130 | 10 | 165 | 3.5 | - | 50 | - | 90 | 91 | 11 | 25 k6 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5 x 22 deep |
| M0422 | 140 | 95 | 11 | 115 | 3 | - | 60 | - | 93 | 115 | 9 | 30 k6 | 60 | 4 | 50 | 33 | 8 | M10 x 1.5 x 22 deep |
| | 160 | 110 | 11 | 130 | 3.5 | - | 60 | - | 93 | 115 | 9 | 30 k6 | 60 | 4 | 50 | 33 | 8 | M10 x 1.5 x 22 deep |
| | 200 | 130 | 11 | 165 | 3.5 | - | 60 | - | 93 | 115 | 11 | 30 k6 | 60 | 4 | 50 | 33 | 8 | M10 x 1.5 x 22 deep |
| | 250 | 180 | 11 | 215 | 4 | - | 60 | - | 93 | 115 | 13.5 | 30 k6 | 60 | 4 | 50 | 33 | 8 | M10 x 1.5 x 22 deep |
| M0522 | 140 | 95 | 11 | 115 | 3 | - | 70 | - | 93 | 115 | 9 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| | 160 | 110 | 11 | 130 | 3.5 | - | 70 | - | 93 | 115 | 9 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| | 200 | 130 | 11 | 165 | 3.5 | - | 70 | - | 93 | 115 | 11 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| | 250 | 180 | 11 | 215 | 4 | - | 70 | - | 93 | 115 | 13.5 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| M0622 | 200 | 130 | 11 | 165 | 4 | 14.5 | 70 | 116 | 84 | 130 | 11 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| | 250 | 180 | 11 | 215 | 4 | 14.5 | 70 | 116 | 84 | 130 | 13.5 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| | 300 | 230 | 11 | 265 | 4 | 14.5 | 70 | 116 | 84 | 130 | 13.5 | 35 k6 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75 x 28 deep |
| M0722 | 200 | 130 | 11 | 165 | 3.5 | - | 80 | 155 | 110 | 140 | 11 | 40 k6 | 80 | 5 | 70 | 43 | 12 | M16 x 2.0 x 36 deep |
| | 250 | 180 | 11 | 215 | 4 | - | 80 | 155 | 110 | 140 | 13.5 | 40 k6 | 80 | 5 | 70 | 43 | 12 | M16 x 2.0 x 36 deep |
| | 300 | 230 | 11 | 265 | 4 | - | 80 | 155 | 110 | 140 | 13.5 | 40 k6 | 80 | 5 | 70 | 43 | 12 | M16 x 2.0 x 36 deep |
| M0822 | 300 | 230 | 17 | 265 | 4 | - | 100 | 180 | 130 | 182 | 13.5 | 50 k6 | 100 | 10 | 80 | 53.5 | 14 | M16 x 2.0 x 36 deep |
| | 350 | 250 | 17 | 300 | 5 | - | 100 | 180 | 130 | 182 | 17.5 | 50 k6 | 100 | 10 | 80 | 53.5 | 14 | M16 x 2.0 x 36 deep |
| M0921 | 450 | 350 | 18 | 400 | 5 | - | 140 | 198 | - | 230 | 18 | 60 m6 | 120 | 10 | 100 | 64 | 18 | M20 x 2.5 42 deep |
| M1021 | 450 | 350 | 22 | 400 | 5 | - | 140 | 245 | - | 260 | 18 | 70 m6 | 140 | 15 | 110 | 74.5 | 20 | M20 x 2.5 42 deep |
| M1321 | 550 | 450 | 25 | 500 | 5 | - | 170 | 288 | - | 278 | 18 | 90 m6 | 170 | 15 | 140 | 95 | 25 | M24 x 3.0 50 deep |
| M1421 | 550 | 450 | 25 | 500 | 5 | - | 210 | 320 | - | 318 | 18 | 100 m6 | 210 | 15 | 180 | 106 | 28 | M24 x 3.0 50 deep |

| "x" | Motor Frame Size | | | | | | | | | | | | | | | | | | | | | | |
|-------|------------------|-----|-----|-----|-----|-----|------|------|------|-------|------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| | 63 | 71 | 80A | 80B | 90S | 90L | 90LA | 100L | 112M | 112MA | 132M | 132MA | 132MB | 160M | 160L | 180M | 180L | 200L | 225S | 225M | 250M | 280S | 280M |
| M0122 | 209 | 213 | 226 | 226 | 236 | 236 | 236 | | | | | | | | | | | | | | | | |
| M0222 | 240 | 244 | 257 | 257 | 267 | 267 | 267 | | | | | | | | | | | | | | | | |
| M0322 | 240 | 244 | 257 | 257 | 267 | 267 | 267 | | | | | | | | | | | | | | | | |
| M0422 | | | 294 | 294 | 304 | 304 | 304 | 329 | 329 | 329 | | | | | | | | | | | | | |
| M0522 | | | 304 | 304 | 314 | 314 | 314 | 339 | 339 | 339 | | | | | | | | | | | | | |
| M0622 | | | 325 | 325 | 335 | 335 | 335 | 360 | 360 | 360 | | | | | | | | | | | | | |
| M0722 | | | 362 | 362 | 372 | 372 | 372 | 382 | 382 | 382 | 384 | 384 | | | | | | | | | | | |
| M0822 | | | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 442 | 448 | 448 | | | | | | | | | |
| M0921 | | | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 523 | 564 | 564 | 564 | 564 | 564 | 591 | 591 | | | | |
| M1021 | | | | | | | 596 | 596 | 596 | 596 | 596 | 596 | 631 | 631 | 631 | 631 | 631 | 658 | 658 | | | | |
| M1321 | | | | | | | 717 | 717 | 717 | 717 | 717 | 717 | 717 | 717 | 717 | 717 | 717 | 717 | 710 | 710 | 710 | 710 | 710 |
| M1421 | | | | | | | 832 | 832 | 832 | 832 | 832 | 832 | 832 | 825 | 825 | 825 | 825 | 825 | 825 | 825 | 825 | 825 | 825 |

| Frame | 63 | 71 | 80A | 80B | 90S | 90L | 90LA | 100L | 112M | 112MA | 132M | 132MA | 132MB | 160M | 160L | 180M | 180L | 200L | 225S | 225M | 250M | 280S | 280M |
|------------------|-----|-----|-----|-----|-----|-----|------|------|------|-------|------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| $\varnothing g6$ | 140 | 105 | 120 | 120 | 140 | 140 | 140 | 160 | 160 | 160 | 200 | 200 | 200 | 350 | 350 | 350 | 350 | 400 | 450 | 450 | 550 | 550 | 550 |

Note: All dimensions in millimeters.
Dimensions subject to change without notice.
All parallel keys are to DIN 6885.

PRECISION SCREW JACKS . ELECTRIC LINEAR ACTUATORS .
PLANETARY ROLLER SCREWS . SPIRAL BEVEL GEARBOXES .

Power Jacks are an industry leader in the manufacture of quality industrial lifting,
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oil & gas, chemical, defence, steel, aluminium, automotive and others.

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FM 23810

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