

PRELIMINARY SELECTION GUIDE

High Efficiency Worm Gearbox WGJ 0.5/31 to WGJ 100/200

| Gearbox Type | Standard High Efficiency Worm Gearbox WGJ | | | | | | | | | |
|---|---|------|-------|------|--------|------|------|------|-------|-------|
| | 0.5/31 | | 1/36 | | 2.5/50 | | 5/63 | | 10/80 | |
| Nominal size, WGJ | 0.5/31 | | 1/36 | | 2.5/50 | | 5/63 | | 10/80 | |
| Max lifting capacity, kN | 5 | | 10 | | 25 | | 50 | | 100 | |
| Lifting screw Tr | 18x4 | | 22x5 | | 40x8 | | 50x9 | | 60x12 | |
| Normal N, Slow L | N | L | N | L | N | L | N | L | N | L |
| Ratio | 4:1 | 16:1 | 5:1 | 20:1 | 6:1 | 24:1 | 7:1 | 28:1 | 8:1 | 32:1 |
| Lift per turn of worm, at ratio, mm | 1 | 0.25 | 1 | 0.25 | 1.3 | 0.33 | 1.28 | 0.32 | 1.5 | 0.375 |
| Total efficiency, at ratio | 0.33 | 0.22 | 0.33 | 0.22 | 0.31 | 0.2 | 0.28 | 0.17 | 0.19 | 0.13 |
| Screw efficiency | 0.427 | | 0.433 | | 0.4 | | 0.37 | | 0.4 | |
| Screw torque at max lifting capacity, Nm | 7.5 | | 18.4 | | 79.7 | | 192 | | 478 | |
| Worm torque at max lifting capacity, at ratio Nm | 2.4 | 0.9 | 4.8 | 1.8 | 17.3 | 6.7 | 36.7 | 14.8 | 79.7 | 32 |
| Max permissible torque at worm shaft, Nm | 12.5 | | 29.4 | | 48.5 | | 165 | | 400 | |
| Weight without lifting screw, and protection tube, kg | 2 | | 4 | | 13 | | 25 | | 47 | |
| Weight per 100 mm of screw and protection tube, kg | 0.16 | | 0.23 | | 0.82 | | 1.3 | | 1.8 | |

| Gearbox Type | Standard High Efficiency Worm Gearbox WGJ | | | | | | | |
|--|---|-------|---------|------|---------|------|---------|------|
| | 20/200 | | 35/125 | | 50/140 | | 100/200 | |
| Nominal size, WGJ | 20/200 | | 35/125 | | 50/140 | | 100/200 | |
| Max lifting capacity, kN | 200 | | 350 | | 500 | | 1000 | |
| Lifting screw Tr | 70x12 | | 100x16 | | 120x16 | | 160x20 | |
| Normal N, Slow L | N | L | N | L | N | L | N | L |
| Ratio | 8:1 | 32:1 | 10.67:1 | 32:1 | 10.67:1 | 32:1 | 13.3:1 | 40:1 |
| Lift per turn of worm, at ratio, mm | 1.5 | 0.375 | 1.5 | 0.5 | 1.5 | 0.5 | 1.5 | 0.5 |
| Total efficiency, at ratio | 0.27 | 0.17 | 0.25 | 0.17 | 0.21 | 0.14 | 0.2 | 0.14 |
| Screw efficiency | 0.36 | | 0.34 | | 0.3 | | 0.28 | |
| Screw torque at max lifting capacity, Nm | 1061 | | 2598 | | 4236 | | 11115 | |
| Worm torque at max lifting capacity, at ratio Nm | 175 | 69 | 337 | 166 | 556 | 277 | 1163 | 576 |
| Max permissible torque at worm shaft, Nm | 705 | | 975 | | 1640 | | 4260 | |
| Weight without lifting screw and protection tube, kg | 74 | | 145 | | 335 | | 870 | |
| Weight per 100 mm of screw and protection tube, kg | 2.52 | | 5.2 | | 7.7 | | 13.8 | |

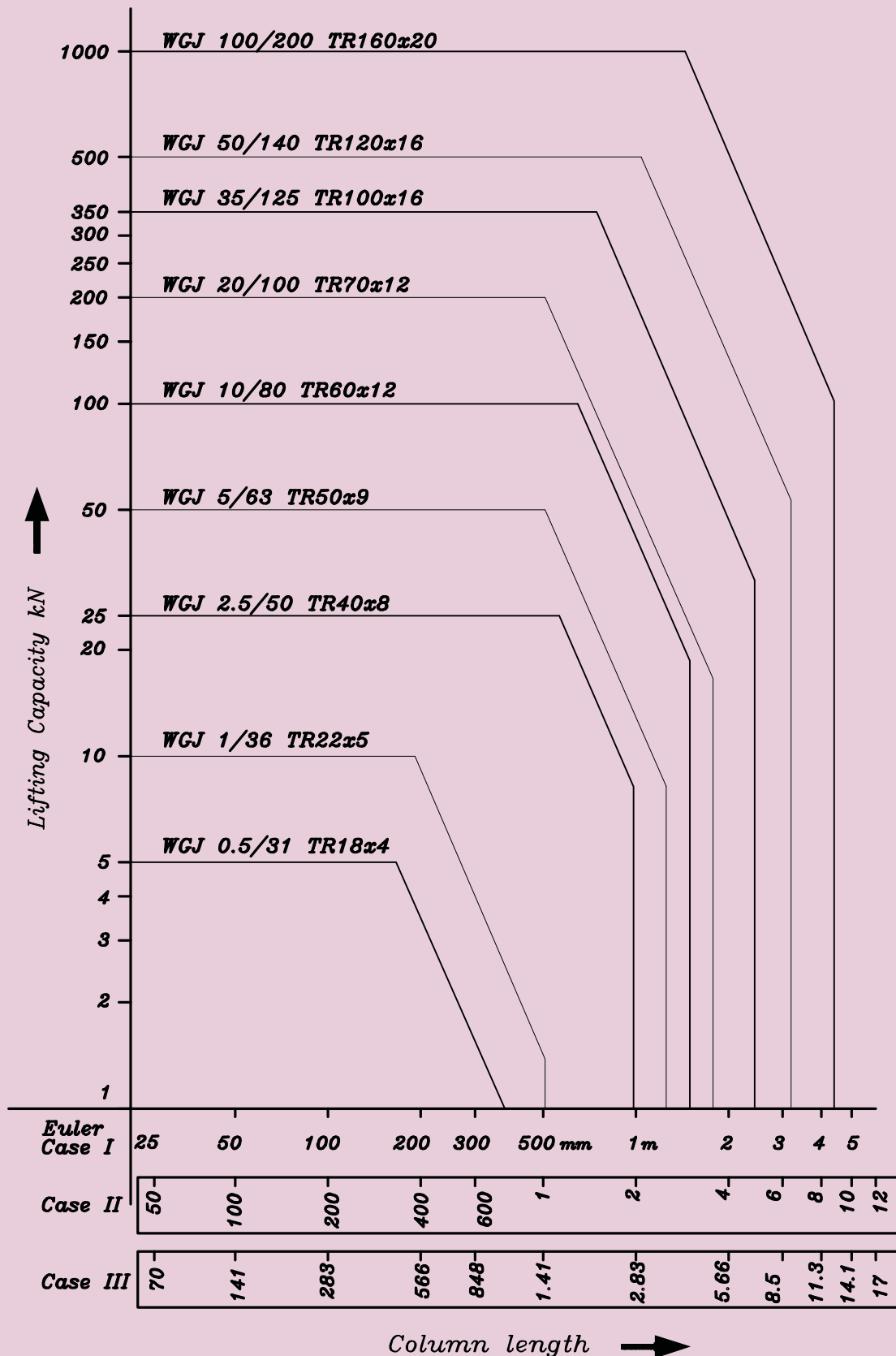
Note: Total efficiency is given for input rpm of 300. For other rpm multiply total efficiency by factor C1.

| | | | | | | |
|-----------|------|-----|------|------|------|------|
| Input rpm | 100 | 300 | 600 | 1000 | 1500 | 3000 |
| Factor C1 | 0.96 | 1 | 1.05 | 1.06 | 1.08 | 1.12 |



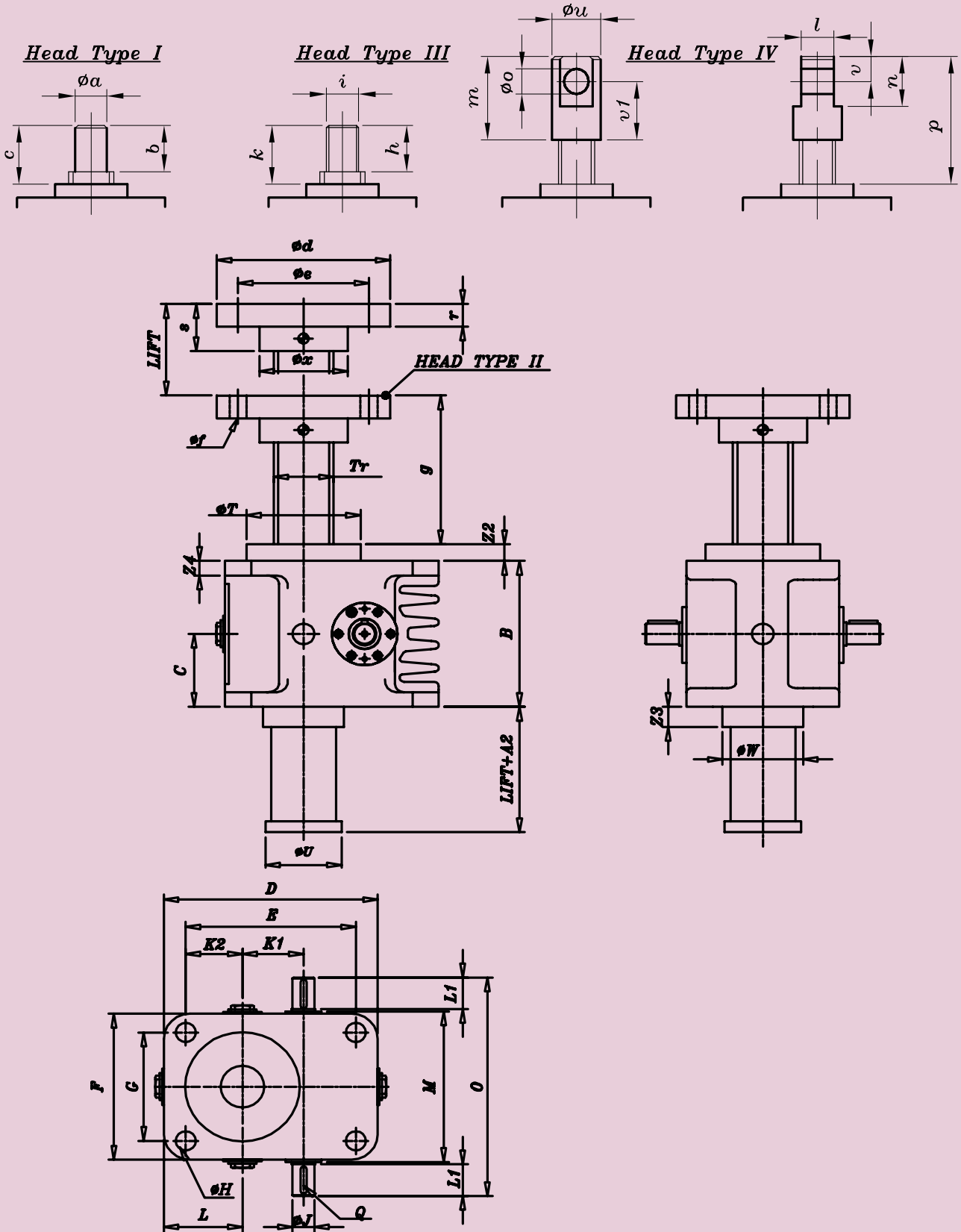
PRELIMINARY SELECTION CHART

Column Strength



DIMENSION SHEET

Nominal Size WGJ 0.5/31 to WGJ 100 /200 Type 1





DIMENSION SHEET

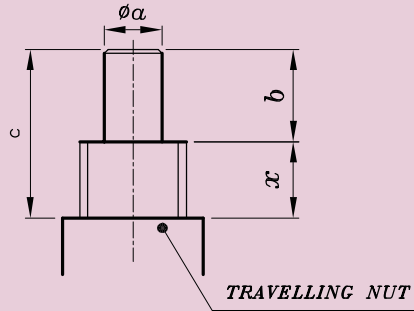
Nominal Size WGJ 0.5/31 to WGJ 100/200 Type 1

| Size | 0.5/31 | 1/36 | 2.5/50 | 5/63 | 10/80 | 20/100 | 35/125 | 50/140 | 100/200 |
|------------------|----------|----------|----------|--------|---------|---------|----------|----------|-----------|
| Screw | Tr 18x4 | Tr22x5 | Tr40x8 | Tr50x9 | Tr60x12 | Tr70x12 | Tr100x16 | Tr120x16 | Tr160x20 |
| A2 | 39 | 44 | 46 | 52 | 61 | 71 | 76 | 86 | 101 |
| B | 80 | 105 | 130 | 160 | 200 | 230 | 300 | 350 | 450 |
| C | 40 | 52.5 | 65 | 80 | 100 | 115 | 150 | 175 | 225 |
| D | 117 | 138 | 175 | 235 | 275 | 330 | 410 | 490 | 680 |
| E | 95 | 110 | 140 | 190 | 220 | 270 | 330 | 390 | 550 |
| F | 80 | 105 | 130 | 160 | 200 | 230 | 300 | 350 | 460 |
| G | 62 | 80 | 100 | 120 | 150 | 175 | 230 | 260 | 330 |
| ØH | 9 | 9 | 13 | 17 | 21 | 28 | 39 | 46 | 66 |
| ØJ k6 | 10 | 14 | 16 | 24 | 32 | 38 | 42 | 50 | 70 |
| K1 | 31 | 36 | 50 | 63 | 80 | 100 | 125 | 140 | 200 |
| K2 | 31 | 40 | 50 | 70 | 75 | 87.5 | 110 | 130 | 185 |
| L | 42 | 54 | 67.5 | 92.5 | 102.5 | 117.5 | 150 | 180 | 250 |
| L1 | 15 | 18 | 28 | 36 | 58 | 58 | 82 | 82 | 105 |
| M | 83 | 108 | 133 | 163 | 204 | 235 | 305 | 355 | 470 |
| O | 116 | 148 | 192 | 238 | 322 | 356 | 474 | 524 | 682 |
| Q | 3x3x12 | 5x5x16 | 5x5x25 | 8x7x32 | 10x8x50 | 10x8x50 | 12x8x70 | 14x9x70 | 20x12x100 |
| Ø T f7 | 62 | 72 | 92 | 122 | 152 | 182 | 222 | 262 | 352 |
| Ø U | 28 | 37 | 66 | 82 | 78 | 92 | 136 | 143 | 198 |
| ØW | 45 | 50 | 80 | 100 | 120 | 150 | 180 | 220 | 290 |
| Z2 | 23 | 24 | 26 | 29 | 39 | 49 | 54 | 64 | 79 |
| Z3 | 29 | 34 | 39 | 44 | 54 | 64 | 74 | 84 | 109 |
| Z4 | 10 | 12 | 15 | 20 | 25 | 28 | 35 | 45 | 60 |
| Head I | | | | | | | | | |
| Øa k6 | 12 | 15 | 20 | 30 | 40 | 50 | 80 | 95 | 130 |
| b | 17 | 24 | 29 | 39 | 49 | 54 | 79 | 99 | 119 |
| c | 37 | 44 | 49 | 59 | 69 | 74 | 99 | 119 | 139 |
| Head II | | | | | | | | | |
| Ø d | 62 | 72 | 92 | 122 | 150 | 182 | 222 | 262 | 352 |
| Ø e | 45 | 50 | 65 | 85 | 105 | 135 | 170 | 205 | 270 |
| Ø f | 4xØ6.6 | 4xØ9 | 4xØ14 | 4xØ18 | 4xØ22 | 6xØ26 | 8xØ30 | 8xØ33 | 8xØ45 |
| g | 43 | 45 | 50 | 60 | 70 | 75 | 100 | 120 | 140 |
| r | 8 | 10 | 12 | 18 | 20 | 25 | 30 | 35 | 50 |
| s | 18 | 25 | 30 | 40 | 50 | 55 | 80 | 100 | 120 |
| Ø X | 20 | 30 | 35 | 50 | 65 | 85 | 115 | 140 | 185 |
| Head III | | | | | | | | | |
| h | 17 | 24 | 29 | 39 | 49 | 54 | 79 | 99 | 119 |
| i | M 12x1.5 | M 16x1.5 | M 20x1.5 | M 30x2 | M 42x3 | M 56x3 | M 80x3 | M 100x4 | M 140x4 |
| k | 37 | 44 | 49 | 59 | 69 | 74 | 99 | 119 | 139 |
| Head IV | | | | | | | | | |
| l _{0.2} | 20 | 25 | 30 | 40 | 60 | 75 | 100 | 120 | 160 |
| m | 50 | 60 | 70 | 100 | 130 | 150 | 230 | 300 | 360 |
| n | 30 | 40 | 50 | 70 | 100 | 120 | 160 | 200 | 280 |
| Ø o H8 | 15 | 20 | 25 | 35 | 50 | 60 | 80 | 100 | 140 |
| p | 55 | 60 | 65 | 85 | 100 | 110 | 170 | 220 | 240 |
| Ø u | 30 | 40 | 50 | 65 | 90 | 110 | 140 | 170 | 220 |
| v | 15 | 20 | 25 | 35 | 50 | 60 | 80 | 100 | 140 |
| v1 | 35 | 40 | 45 | 65 | 80 | 90 | 150 | 200 | 220 |

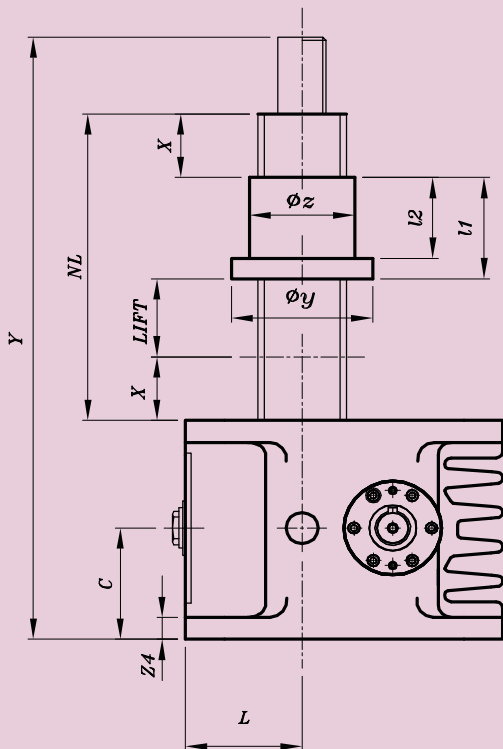
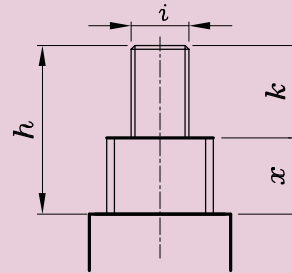
DIMENSION SHEET

Nominal Size WGJ 0.5/31 to WGJ 100 /200 Type 2

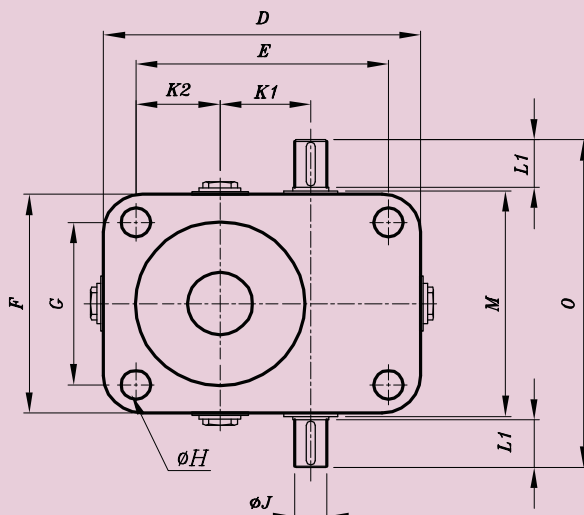
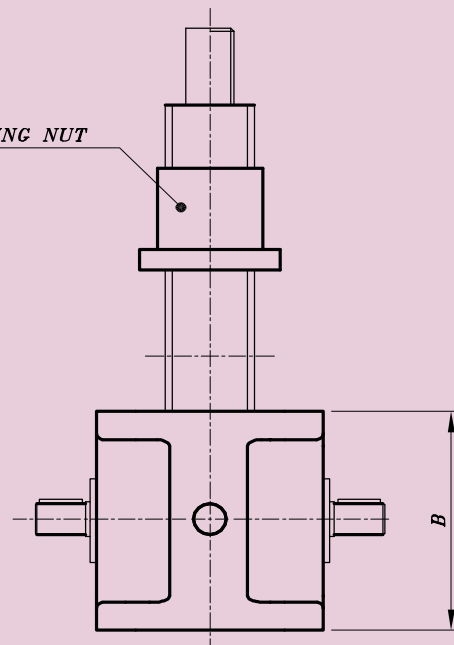
HEAD TYPE I



HEAD TYPE III



TRAVELLING NUT





DIMENSION SHEET

Nominal Size WGJ 0.5/31 to WGJ 100 /200 Type 2

| Size | 0.5/31 | 1/36 | 2.5/50 | 5/63 | 10/80 | 20/100 | 35/125 | 50/140 | 100/200 |
|----------------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|
| Screw | Tr 18x4 | Tr 22x5 | Tr 40x8 | Tr 50x9 | Tr 60x12 | Tr 70x12 | Tr 100x16 | Tr 120x16 | Tr 160x20 |
| B | 80 | 105 | 130 | 160 | 200 | 230 | 300 | 350 | 450 |
| C | 40 | 52.5 | 65 | 80 | 100 | 115 | 150 | 175 | 225 |
| F | 80 | 105 | 130 | 160 | 200 | 230 | 300 | 350 | 460 |
| ØJ k6 | 10 | 14 | 16 | 24 | 32 | 38 | 42 | 50 | 70 |
| L | 42 | 54 | 67.5 | 92.5 | 102.5 | 117.5 | 150 | 180 | 250 |
| L1 | 15 | 18 | 28 | 36 | 58 | 58 | 82 | 82 | 105 |
| M | 83 | 108 | 133 | 163 | 204 | 235 | 305 | 355 | 470 |
| NL | lift+85 | lift+95 | lift+120 | lift+140 | lift+170 | lift+170 | lift+200 | lift+220 | lift+260 |
| O | 116 | 148 | 192 | 238 | 322 | 356 | 474 | 524 | 682 |
| Q | 3x3x12 | 5x5x16 | 5x5x25 | 8x7x32 | 10x8x50 | 10x8x50 | 12x8x70 | 14x9x70 | 20x12x100 |
| Safety X | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Y | NL+97 | NL+129 | NL+169 | NL+199 | NL+249 | NL+284 | NL+379 | NL+449 | NL+569 |
| Z4 | 10 | 12 | 15 | 20 | 25 | 28 | 35 | 45 | 60 |
| Travelling nut | | | | | | | | | |
| I1 | 45 | 55 | 80 | 100 | 130 | 130 | 160 | 180 | 220 |
| I2 | 35 | 43 | 62 | 78 | 105 | 100 | 115 | 130 | 140 |
| Øy | 50 | 65 | 87 | 105 | 110 | 120 | 190 | 225 | 260 |
| Øz h8 | 40 | 45 | 70 | 80 | 90 | 90 | 150 | 160 | 200 |
| Head I | | | | | | | | | |
| Ø a k6 | 12 | 15 | 30 | 40 | 40 | 50 | 80 | 95 | 130 |
| b | 17 | 24 | 39 | 49 | 49 | 54 | 79 | 99 | 119 |
| c | 37 | 44 | 59 | 69 | 69 | 74 | 99 | 119 | 139 |
| Head III | | | | | | | | | |
| h | 17 | 24 | 39 | 49 | 49 | 54 | 79 | 99 | 119 |
| i | M 12x1.5 | M 16x1.5 | M 30x2 | M 42x3 | M 42x3 | M 56x3 | M 80x3 | M 100x4 | M 140x4 |
| k | 37 | 44 | 59 | 69 | 69 | 74 | 99 | 119 | 139 |

Note: For dimension D, E, F, G, H, K1, K2 refer page 5.



HITORK[®]

Power Transmission Technology



Worm Gear Screw Jacks CLASSIC



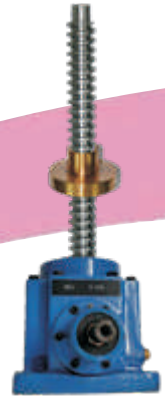
Worm Gear Screw Jacks CUBICAL



Ball Screw Jack



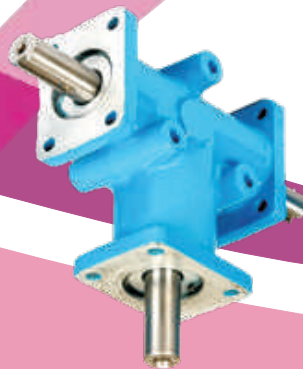
Electric Cylinder



Bevel Gear Screw Jacks



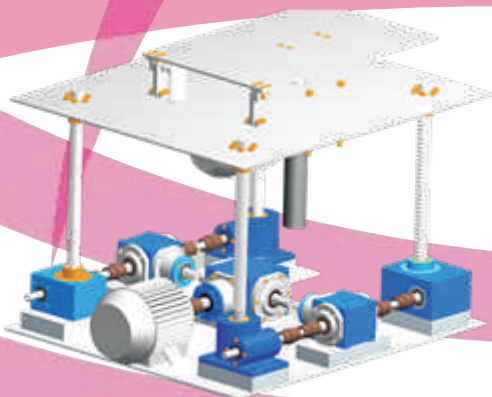
Bevel Gear Box, FG



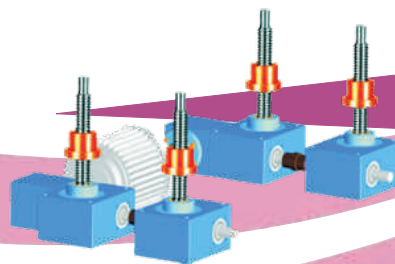
Bevel Gear Box, L Drive



UV Joints



Lifting Systems



Worm Reducer



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