

GS Series Quarter-Turn Worm Gearbox

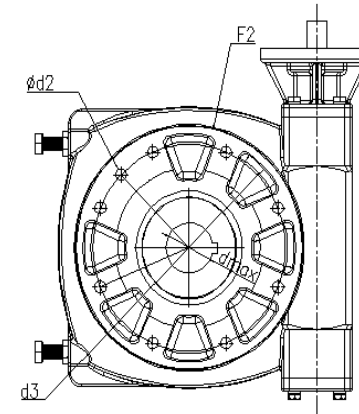
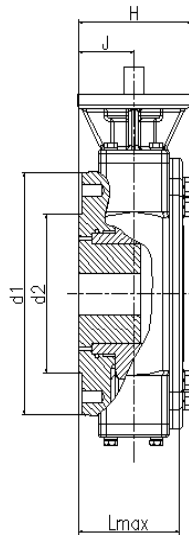
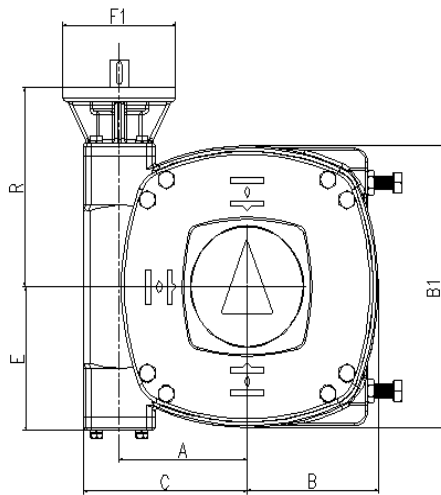
Selection Table

| Model    | Ratio |      |      |      |      | Max. Stem Bore | Input Flange       | Output Flange |             | Max. Output Torque | Weight |
|----------|-------|------|------|------|------|----------------|--------------------|---------------|-------------|--------------------|--------|
|          |       |      |      |      |      |                |                    | Standard      | Optional    | Nm                 | Kg     |
| GS50.3   | 51    |      |      |      |      | 28 (8×7)       | F07                | F10           | F07         | 250                | 7      |
| GS63.3   | 51    |      |      |      |      | 45 (14×9)      | F10                | F12           | F10         | 1000               | 13     |
| GS80.3   | 53    |      |      |      |      | 60 (18×11)     | F10                | F14           | F12         | 2250               | 18     |
| GS80.3R  | 106   | 150  |      |      |      |                | F10                |               |             |                    | 18     |
| GS100.3  | 60    | 74   |      |      |      | 80 (22×14)     | F14                | F16           | F14         | 4500               | 47     |
| GS100.3R | 104   | 120  | 150  | 180  | 255  |                | F10/F14            |               |             |                    | 65     |
| GS125.3  | 60    |      |      |      |      | 90 (25×14)     | F14                | F25           | F16         | 9000               | 66     |
| GS125.3R | 104   | 120  | 150  | 180  | 255  |                | F10/F14            |               |             |                    | 84     |
|          | 312   | 384  | 426  | 492  | 585  |                |                    |               |             |                    |        |
| GS160.3  | 60    |      |      |      |      | 100 (28×16)    | F14                | F30           | F25         | 16000              | 121    |
| GS160.3R | 90    | 106  | 120  | 154  | 190  |                | F10/F14            |               |             |                    | 151    |
|          | 240   | 310  | 384  | 426  |      |                |                    |               |             |                    |        |
|          | 492   | 585  |      |      |      |                |                    |               |             |                    |        |
| GS200.3  | 55    |      |      |      |      | 125 (32×18)    | F25                | F35           | F30/<br>F25 | 30000              | 196    |
| GS200.3R | 83    | 110  | 132  | 174  | 220  |                | F10/F14<br>F16     |               |             |                    | 254    |
|          | 284   | 352  | 451  | 536  | 638  |                |                    |               |             |                    |        |
|          | 688   | 748  | 844  | 880  |      |                |                    |               |             |                    |        |
| GS250.3  | 55    |      |      |      |      | 160 (40×22)    | F25                | F40           | F35/<br>F30 | 45000              | 288    |
| GS250.3R | 83    | 110  | 132  | 174  | 220  |                | F10/F14<br>F16     |               |             |                    | 369    |
|          | 284   | 352  | 440  | 479  | 550  |                |                    |               |             |                    |        |
|          | 638   | 688  | 748  | 811  | 880  |                |                    |               |             |                    |        |
| GS315    | 65    |      |      |      |      | 200 (45×25)    | F30                | F40           | F48/<br>F35 | 80000              | 622    |
| GS315R   | 98    | 130  | 205  | 260  | 325  |                | F10/F14<br>F16/F25 |               |             |                    | 672    |
|          | 390   | 455  | 520  | 566  | 650  |                |                    |               |             |                    |        |
|          | 754   | 813  | 884  | 959  | 1040 |                |                    |               |             |                    |        |
|          | 1560  | 2080 |      |      |      |                |                    |               |             |                    |        |
| GS400    | 70    |      |      |      |      | 220 (50×28)    | F30                | F40           | F48         | 160000             | 863    |
| GS400R   | 140   | 210  | 280  | 350  | 420  |                | F10/F14<br>F16/F25 |               |             |                    | 968    |
|          | 490   | 560  | 609  | 700  | 812  |                |                    |               |             |                    |        |
|          | 875   | 952  | 1033 | 1120 | 1680 |                |                    |               |             |                    |        |
|          | 2240  |      |      |      |      |                |                    |               |             |                    |        |
| GS500    | 85    |      |      |      |      | 250 (56×32)    | F30                | F48           | F60         | 300000             | 1508   |
| GS500R   | 170   | 255  | 340  | 425  | 510  |                | F10/F14<br>F16/F25 |               |             |                    | 1613   |
|          | 595   | 680  | 740  | 850  | 986  |                |                    |               |             |                    |        |
|          | 1063  | 1156 | 1254 | 1360 | 2040 |                |                    |               |             |                    |        |
|          | 2720  |      |      |      |      |                |                    |               |             |                    |        |
| GS600    | 82    |      |      |      |      | 300 (70×36)    | F30                | F60           | /           | 600000             | 2654   |
| GS600R   | 164   | 246  | 328  | 410  | 492  |                | F10/F14<br>F16/F25 |               |             |                    | 2927   |
|          | 574   | 656  | 713  | 820  | 951  |                |                    |               |             |                    |        |
|          | 1025  | 1115 | 1210 | 1312 | 1968 |                |                    |               |             |                    |        |
|          | 2624  |      |      |      |      |                |                    |               |             |                    |        |

# GS Series Quarter-Turn Worm Gearbox

GS Dimensions

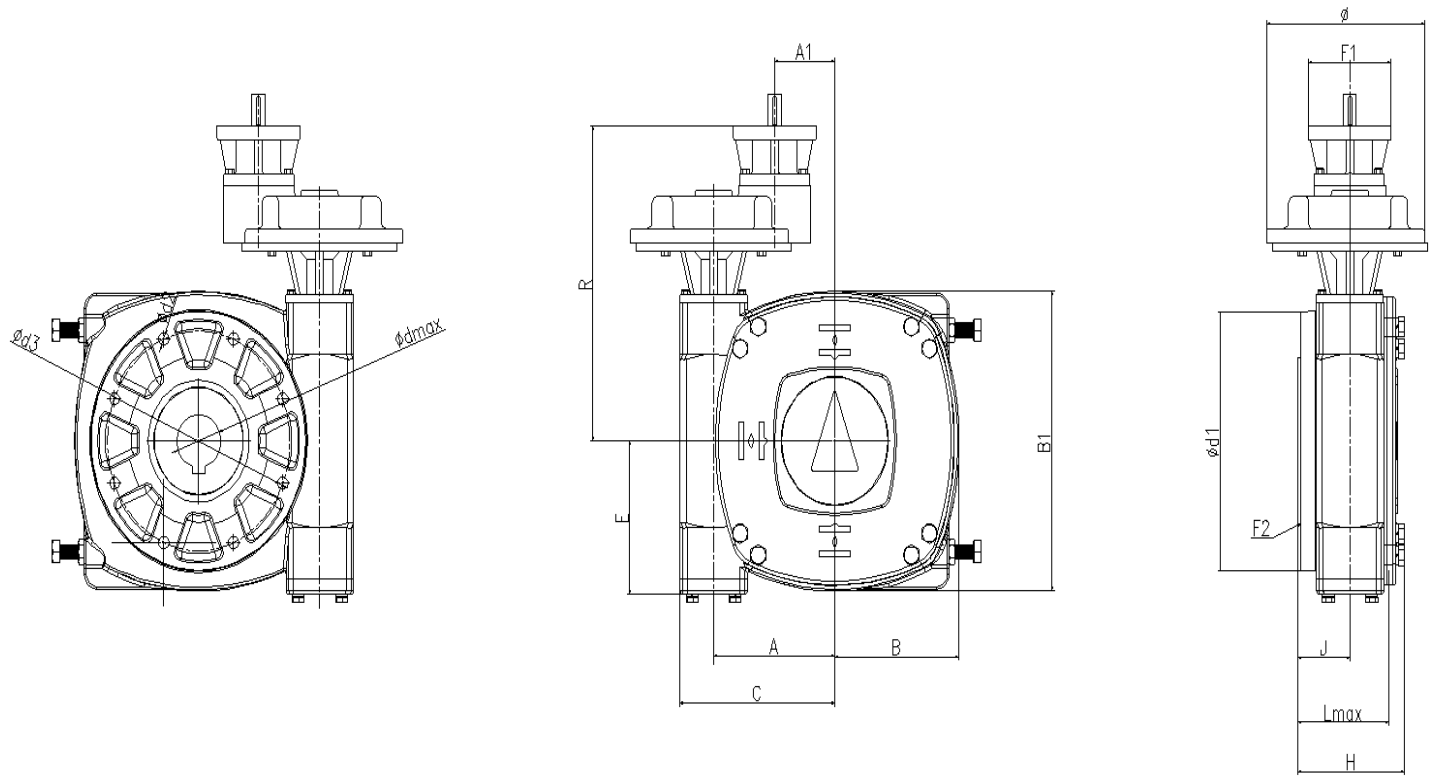
| Model   | Overall Dimensions |       |     |      |       |       |     |     | Input Section |             |      | Output Section           |      |               |                  |              |
|---------|--------------------|-------|-----|------|-------|-------|-----|-----|---------------|-------------|------|--------------------------|------|---------------|------------------|--------------|
|         | A                  | B     | B1  | C    | E     | H     | J   | R   | Input Flange  | Input Shaft |      | Max. Stem Height<br>Lmax | ød1  | Output Flange | Bolt Circle Dia. |              |
|         |                    |       |     |      |       |       |     |     | F1            | ø           | KEY  |                          |      | F2            | ød3              | ød2 (N-M-DP) |
| GS50.3  | 50                 | 63.3  | 127 | 77   | 78    | 80    | 40  | 101 | F07           | 16          | 5×5  | 67                       | ø125 | F07/F10       | ø102             | 4-M10-15     |
| GS63.3  | 63                 | 75    | 150 | 94.5 | 102.5 | 90    | 47  | 129 | F10           | 20          | 6×6  | 75                       | ø150 | F10/F12       | ø125             | 4-M12-18     |
| GS80.3  | 80                 | 87    | 174 | 111  | 107.5 | 98    | 47  | 134 | F10           | 20          | 6×6  | 78                       | ø175 | F12/F14       | ø140             | 4-M16-24     |
| GS100.3 | 119                | 130   | 260 | 167  | 140   | 141   | 69  | 210 | F10/F14       | 30          | 8×7  | 120                      | ø210 | F14/F16       | ø165             | 4-M20-30     |
| GS125.3 | 152                | 162.5 | 325 | 200  | 165   | 141   | 69  | 235 | F14/F16       | 30          | 8×7  | 120                      | ø300 | F16/F25       | ø254             | 8-M16-24     |
| GS160.3 | 198                | 203   | 406 | 253  | 207.5 | 175   | 85  | 288 | F14/F16/F25   | 40          | 12×8 | 150                      | ø350 | F25/F30       | ø298             | 8-M20-30     |
| GS200.3 | 228                | 231   | 462 | 293  | 220   | 202.5 | 100 | 310 | F14/F16/F25   | 40          | 12×8 | 175                      | ø415 | F30/F35       | ø356             | 8-M30-45     |
| GS250.3 | 260                | 260   | 520 | 330  | 255   | 223   | 125 | 345 | F14/F16/F25   | 50          | 14×9 | 210                      | ø475 | F40/F35/F30   | ø406             | 8-M36-54     |



GS Series Quarter-Turn Worm Gearbox

GS+R Dimensions

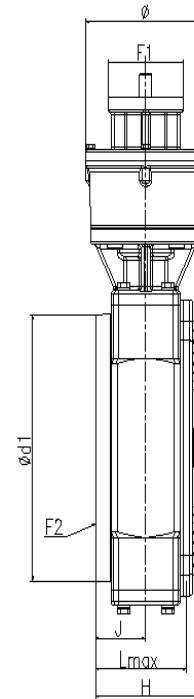
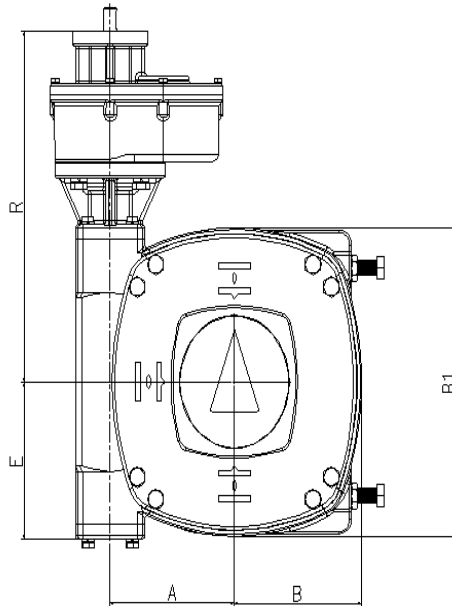
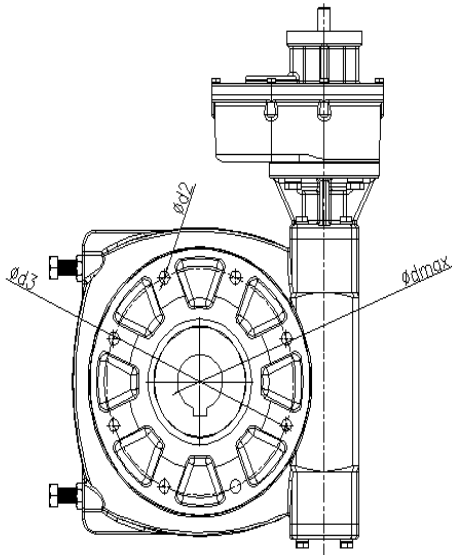
| Model    | Overall Dimensions |     |     |     |     |     |     |     |     |     | Input Section   |    |             | Output Section |                                |                  |                  |
|----------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|----|-------------|----------------|--------------------------------|------------------|------------------|
|          |                    |     |     |     |     |     |     |     |     |     | Input Flange    |    | Input Shaft |                | Max.<br>Stem<br>Height<br>Lmax | Output<br>Flange | Bolt Circle Dia. |
|          | A                  | A1  | B   | B1  | C   | E   | H   | J   | R   | ø   | F1              | ø  | KEY         | F2             |                                | ød3              | ød2 (N-M-DP)     |
|          |                    |     |     |     |     |     |     |     |     |     |                 |    |             |                |                                |                  |                  |
| GS80.3R  | 80                 | 43  | 87  | 174 | 111 | 108 | 100 | 47  | 300 | 191 | F10             | 20 | 6×6         | 78             | F14                            | 140              | 4-M16-24         |
| GS100.3R | 119                | 38  | 130 | 260 | 167 | 140 | 141 | 69  | 342 | 253 | F10/F14         | 20 | 6×6         | 120            | F16                            | 165              | 4-M20-30         |
| GS125.3R | 152                | 72  | 163 | 325 | 200 | 165 | 141 | 69  | 367 | 253 | F10/F14         | 20 | 6×6         | 120            | F25                            | 254              | 8-M16-24         |
| GS160.3R | 198                | 33  | 203 | 406 | 253 | 208 | 175 | 85  | 415 | 306 | F10/F14         | 30 | 8×7         | 150            | F30                            | 298              | 8-M20-30         |
| GS200.3R | 228                | 73  | 231 | 462 | 293 | 220 | 203 | 100 | 428 | 306 | F10/F14         | 40 | 12×8        | 175            | F35                            | 356              | 8-M30-45         |
| GS250.3R | 260                | 200 | 260 | 520 | 330 | 255 | 223 | 125 | 480 | 306 | F10/F16/<br>F25 | 50 | 14×9        | 210            | F40                            | 406              | 8-M36-54         |



GS Series Quarter-Turn Worm Gearbox

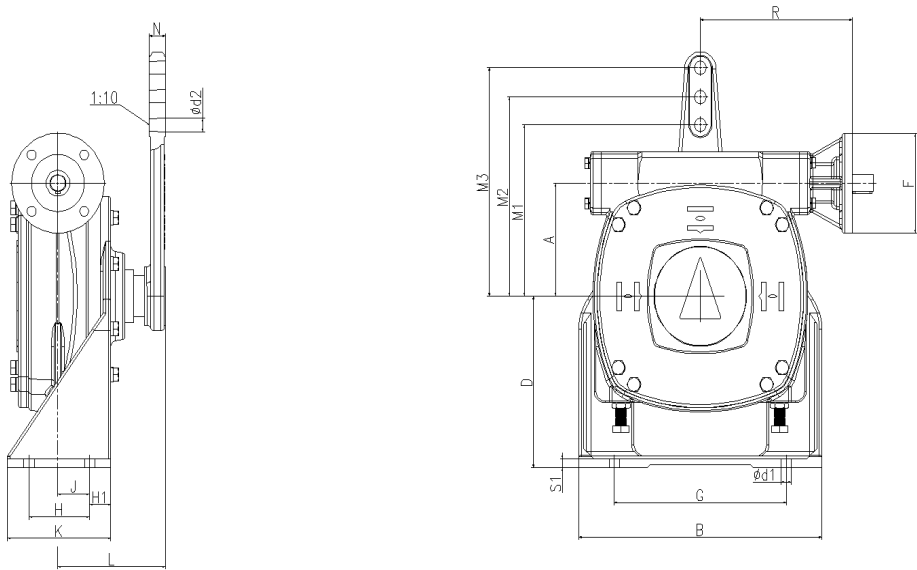
GS+R Dimensions

| Model    | Overall Dimensions |     |      |     |     |     |      |     | Input Section |             |      | Output Section   |     |               |                  |               |
|----------|--------------------|-----|------|-----|-----|-----|------|-----|---------------|-------------|------|------------------|-----|---------------|------------------|---------------|
|          | A                  | B   | B1   | E   | H   | J   | R    | ø   | Input Flange  | Input Shaft |      | Max. Stem Height | ød1 | Output Flange | Bolt Circle Dia. |               |
|          |                    |     |      |     |     |     |      |     | F1            | ø           | KEY  | Lmax             |     | F2            | ød3              | ød2<br>N-M-DP |
| GS160.3R | 198                | 203 | 406  | 208 | 175 | 85  | 444  | 180 | F10/F14       | 20          | 6×6  | 150              | 350 | F30           | 298              | 8-M20-30      |
| GS200.3R | 228                | 231 | 462  | 220 | 203 | 100 | 466  | 180 | F10/F14       | 20          | 6×6  | 175              | 415 | F35           | 356              | 8-M30-45      |
| GS250.3R | 259                | 259 | 518  | 255 | 223 | 125 | 564  | 230 | F10/F14       | 20          | 6×6  | 210              | 475 | F40           | 406              | 8-M36-54      |
| GS315R   | 338                | 339 | 678  | 328 | 275 | 149 | 695  | 340 | F14/F16       | 30          | 8×7  | 260              | 560 | F40           | 483              | 12-M36-54     |
| GS400R   | 400                | 408 | 815  | 400 | 324 | 169 | 760  | 340 | F16/F25       | 40          | 12×8 | 310              | 560 | F48           | 483              | 12-M36-54     |
| GS500R   | 485                | 500 | 1000 | 480 | 345 | 185 | 846  | 340 | F16/F25       | 40          | 12×8 | 330              | 600 | F48           | 483              | 12-M36-54     |
| GS600R   | 565                | 532 | 1065 | 583 | 418 | 218 | 1060 | 460 | F25/F30       | 50          | 14×9 | 400              | 910 | F60           | 600              | 20-M36-54     |



GF Series Bracket-Type Quarter-Turn Worm Gearbox

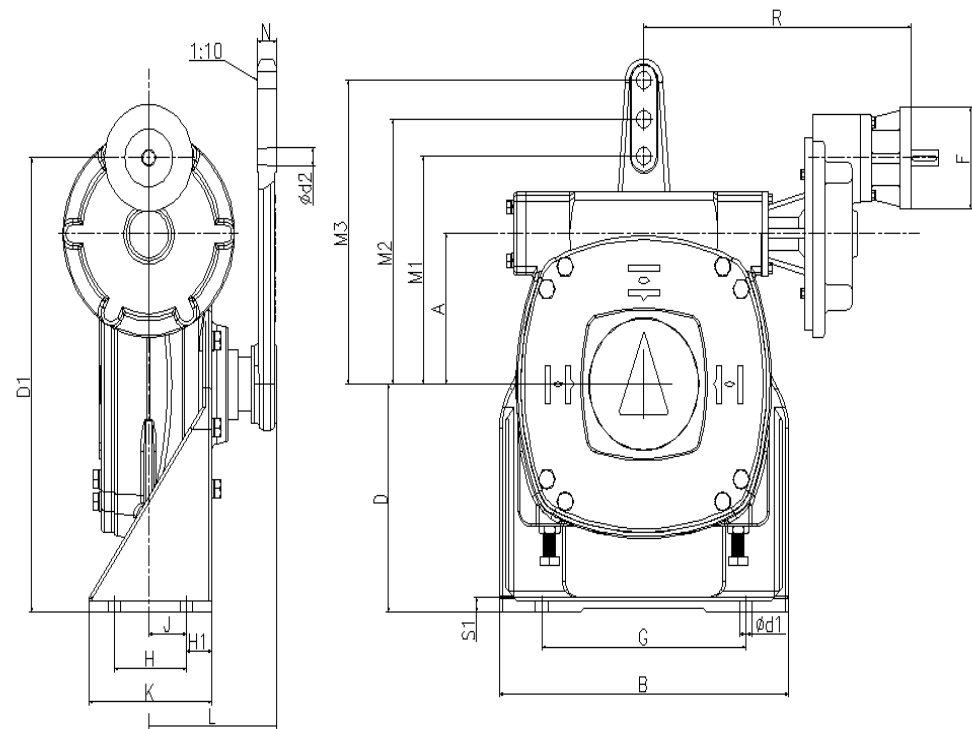
GF Dimensions



| Model   | Base Dimensions |     |    |    |     |     |       |    |    |              | Input Section |      |     | Output Section |     |     |     |     |    |     |     |  |  | Weight |
|---------|-----------------|-----|----|----|-----|-----|-------|----|----|--------------|---------------|------|-----|----------------|-----|-----|-----|-----|----|-----|-----|--|--|--------|
|         | B               | G   | H  | H1 | K   | L   | ød1   | J  | S1 | Input Flange | Input Shaft   |      | A   | D              | R   | M1  | M2  | M3  | N  | ød2 |     |  |  |        |
|         |                 |     |    |    |     |     |       |    |    |              | F1            | ø    |     |                |     |     |     |     |    |     | KEY |  |  |        |
|         |                 |     |    |    |     |     |       |    |    |              |               |      |     |                |     |     |     |     |    |     |     |  |  |        |
| GF50.3  | 150             | 80  | 40 | 25 | 80  | 95  | 4-Ø12 | 30 | 12 | F07          | 16            | 5×5  | 50  | 110            | 101 | 150 | /   | 200 | 20 | ø16 |     |  |  |        |
| GF63.3  | 190             | 110 | 45 | 30 | 90  | 110 | 4-Ø16 | 31 | 16 | F10          | 20            | 6×6  | 63  | 130            | 129 | 150 | 200 | 250 | 26 | ø22 |     |  |  |        |
| GF80.3  | 225             | 110 | 50 | 35 | 100 | 126 | 4-Ø18 | 36 | 16 | F10          | 20            | 6×6  | 80  | 150            | 134 | 150 | 200 | 250 | 26 | ø22 |     |  |  |        |
| GF100.3 | 285             | 140 | 60 | 40 | 125 | 176 | 4-Ø18 | 43 | 16 | F14          | 30            | 8×7  | 119 | 210            | 210 | 300 | /   | 400 | 30 | ø26 |     |  |  |        |
| GF125.3 | 360             | 200 | 60 | 60 | 165 | 176 | 4-Ø18 | 27 | 20 | F14          | 30            | 8×7  | 152 | 230            | 235 | 300 | /   | 400 | 30 | ø26 |     |  |  |        |
| GF160.3 | 460             | 250 | 80 | 84 | 195 | 203 | 4-Ø26 | 16 | 20 | F14/F16      | 40            | 12×8 | 189 | 300            | 288 | 300 | /   | 400 | 30 | ø26 |     |  |  |        |
| GF200.3 | 500             | 320 | 95 | 80 | 200 | 225 | 4-Ø33 | 37 | 30 | F14/F16      | 40            | 12×8 | 228 | 345            | 310 | 500 | /   | 650 | 34 | ø30 |     |  |  |        |
| GF250.3 | 474             | 320 | 95 | 65 | 200 | 287 | 4-Ø33 | 90 | 30 | F16/F25      | 50            | 14×9 | 260 | 360            | 345 | 500 | /   | 650 | 34 | ø30 |     |  |  |        |

# GF Series Bracket-Type Quarter-Turn Worm Gearbox

GF+R Dimensions



| Model    | Base Dimensions |     |    |    |     |     |       |    |    | Input Section |             |      | Output Section |     |     |     |    |     |    |     |  | Weight<br>Kg |
|----------|-----------------|-----|----|----|-----|-----|-------|----|----|---------------|-------------|------|----------------|-----|-----|-----|----|-----|----|-----|--|--------------|
|          | B               | G   | H  | H1 | K   | L   | ød1   | S1 | J  | Input Flange  | Input Shaft |      | A              | D   | R   | M1  | M2 | M3  | N  | ød2 |  |              |
|          |                 |     |    |    |     |     |       |    |    | F1            | ø           | KEY  |                |     |     |     |    |     |    |     |  |              |
| GF100.3R | 285             | 140 | 60 | 40 | 125 | 176 | 4-Ø18 | 43 | 16 | F10/F14       | 20          | 6×6  | 119            | 210 | 342 | 300 | /  | 400 | 30 | ø26 |  |              |
| GF125.3R | 360             | 200 | 60 | 60 | 165 | 176 | 4-Ø18 | 27 | 20 | F10/F14       | 20          | 6×6  | 152            | 230 | 367 | 300 | /  | 400 | 30 | ø26 |  |              |
| GF160.3R | 460             | 250 | 80 | 84 | 195 | 203 | 4-Ø26 | 16 | 20 | F10/F14       | 30          | 8×7  | 198            | 300 | 415 | 300 | /  | 400 | 30 | ø26 |  |              |
| GF200.3R | 500             | 320 | 95 | 80 | 200 | 225 | 4-Ø33 | 37 | 30 | F10/F14       | 40          | 12×8 | 228            | 345 | 428 | 500 | /  | 650 | 34 | ø30 |  |              |
| GF250.3R | 474             | 320 | 95 | 65 | 200 | 287 | 4-Ø33 | 90 | 30 | F10/F16/F25   | 50          | 14×9 | 260            | 360 | 480 | 500 | /  | 650 | 34 | ø30 |  |              |

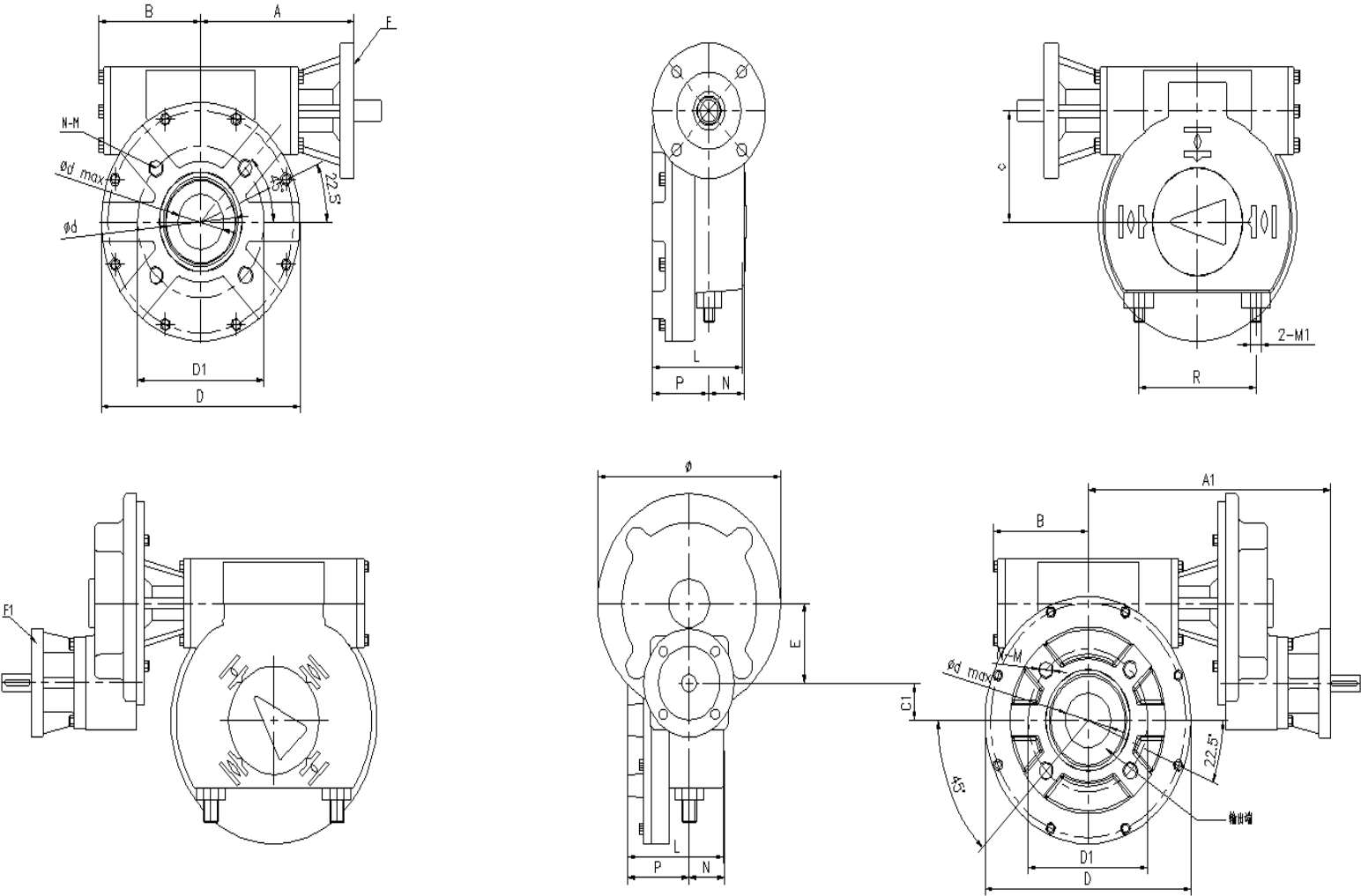
IW Series Quarter-Turn Worm Gearbox

Selection Table

| Model | Ratio |      |      |      |      | Output Torque (Nm) | Output Torque (ft · lbs) | Input Torque (Nm) |      |      |      |      | Torque Magnification |     |      |     |     |  |
|-------|-------|------|------|------|------|--------------------|--------------------------|-------------------|------|------|------|------|----------------------|-----|------|-----|-----|--|
| IW3   | 60    |      |      |      |      | 600                | 442                      | 33                |      |      |      |      | 18                   |     |      |     |     |  |
| IW4   | 70    |      |      |      |      | 1500               | 1107                     | 71                |      |      |      |      | 21                   |     |      |     |     |  |
| IW4R  | 140   | 210  | 280  |      |      |                    |                          | 36                | 24   | 18   |      |      | 42                   | 63  | 84   |     |     |  |
| IW5   | 70    |      |      |      |      | 3000               | 2214                     | 143               |      |      |      |      | 21                   |     |      |     |     |  |
| IW5R  | 140   | 210  | 280  | 350  |      |                    |                          | 71                | 48   | 36   | 29   |      |                      | 42  | 63   | 84  | 105 |  |
| IW6   | 70    |      |      |      |      | 6000               | 4428                     | 286               |      |      |      |      | 21                   |     |      |     |     |  |
| IW6R  | 140   | 210  | 280  | 350  | 420  |                    |                          | 143               | 95   | 71   | 57   | 48   | 42                   | 63  | 84   | 105 | 126 |  |
|       | 490   |      |      |      |      |                    |                          | 41                |      |      |      |      | 147                  |     |      |     |     |  |
| IW7   | 70    |      |      |      |      | 10000              | 7380                     | 446               |      |      |      |      | 22                   |     |      |     |     |  |
| IW7R  | 140   | 210  | 280  | 350  | 420  |                    |                          | 223               | 149  | 112  | 89   | 75   | 45                   | 67  | 89   | 112 | 133 |  |
|       | 490   |      |      |      |      |                    |                          | 64                |      |      |      |      | 156                  |     |      |     |     |  |
| IW8   | 70    |      |      |      |      | 20000              | 14760                    | 892               |      |      |      |      | 22                   |     |      |     |     |  |
| IW8R  | 140   | 210  | 280  | 350  | 420  |                    |                          | 446               | 298  | 224  | 178  | 150  | 45                   | 67  | 89   | 112 | 133 |  |
|       | 490   | 560  | 630  | 700  | 770  |                    |                          | 128               | 112  | 99   | 90   | 81   | 156                  | 179 | 202  | 222 | 247 |  |
|       | 840   | 910  | 980  |      |      |                    |                          | 75                | 69   | 63   |      |      | 267                  | 290 | 317  |     |     |  |
| IW9   | 65    |      |      |      |      | 35000              | 25830                    | 1683              |      |      |      |      | 21                   |     |      |     |     |  |
| IW9R  | 130   | 195  | 260  | 325  | 390  |                    |                          | 841               | 560  | 420  | 337  | 280  | 42                   | 63  | 83   | 104 | 125 |  |
|       | 455   | 520  | 585  | 650  | 715  |                    |                          | 240               | 210  | 187  | 168  | 153  | 146                  | 167 | 187  | 208 | 229 |  |
|       | 780   | 845  | 910  | 975  | 1105 |                    |                          | 140               | 129  | 120  | 112  | 98   | 250                  | 271 | 292  | 313 | 357 |  |
|       | 1300  |      |      |      |      |                    |                          | 84                |      |      |      |      | 416                  |     |      |     |     |  |
| IW10  | 64    |      |      |      |      | 65000              | 47970                    | 3175              |      |      |      |      | 21                   |     |      |     |     |  |
| IW10R | 128   | 192  | 256  | 320  | 384  |                    |                          | 1588              | 1058 | 793  | 635  | 528  | 41                   | 62  | 82   | 102 | 123 |  |
|       | 448   | 512  | 576  | 640  | 768  |                    |                          | 453               | 396  | 352  | 318  | 264  | 144                  | 164 | 185  | 204 | 246 |  |
|       | 896   | 960  | 1024 | 1152 | 1280 |                    |                          | 226               | 212  | 198  | 176  | 158  | 288                  | 307 | 328  | 369 | 411 |  |
|       | 1408  | 1536 | 1920 | 2240 | 2564 |                    |                          | 144               | 132  | 105  | 91   | 80   | 451                  | 492 | 619  | 717 | 820 |  |
| IW12  | 85    |      |      |      |      | 135000             | 99630                    | 4963              |      |      |      |      | 27                   |     |      |     |     |  |
| IW12R | 170   | 255  | 340  | 425  | 510  |                    |                          | 2481              | 1654 | 1240 | 992  | 827  | 54                   | 82  | 109  | 136 | 163 |  |
|       | 595   | 680  | 765  | 850  | 1020 |                    |                          | 709               | 620  | 551  | 496  | 414  | 190                  | 218 | 245  | 272 | 326 |  |
|       | 1190  | 1360 | 1530 | 1700 | 2040 |                    |                          | 354               | 310  | 275  | 248  | 206  | 381                  | 435 | 491  | 544 | 655 |  |
|       | 2550  | 2975 | 3400 |      |      |                    |                          | 165               | 142  | 124  |      |      | 818                  | 952 | 1088 |     |     |  |
| IW13  | 85    |      |      |      |      | 250000             | 184500                   | 9191              |      |      |      |      | 27                   |     |      |     |     |  |
| IW13R | 170   | 255  | 340  | 425  | 510  |                    |                          | 4596              | 3064 | 2298 | 1838 | 1532 | 54                   | 163 | 109  | 136 | 245 |  |
|       | 595   | 680  | 765  | 850  | 1020 |                    |                          | 1313              | 1149 | 1021 | 919  | 766  | 190                  | 218 | 381  | 272 | 326 |  |
|       | 1190  | 1360 | 1530 | 1700 | 2040 |                    |                          | 657               | 574  | 511  | 460  | 383  | 543                  | 436 | 489  | 951 | 653 |  |
|       | 2550  | 2975 | 3400 |      |      |                    |                          | 306               | 263  | 230  |      |      | 817                  | 951 | 1087 |     |     |  |
| IW14  | 85    |      |      |      |      | 500000             | 369000                   | 14706             |      |      |      |      | 27                   |     |      |     |     |  |
| IW14R | 170   | 255  | 340  | 425  | 510  |                    |                          | 7353              | 4902 | 3676 | 2841 | 2451 | 54                   | 163 | 109  | 136 | 245 |  |
|       | 595   | 680  | 765  | 850  | 1020 |                    |                          | 2101              | 1838 | 1634 | 1471 | 1225 | 190                  | 218 | 381  | 272 | 327 |  |
|       | 1190  | 1360 | 1530 | 1700 | 2040 |                    |                          | 1050              | 919  | 817  | 735  | 613  | 544                  | 435 | 490  | 952 | 653 |  |
|       | 2550  | 2975 | 3400 |      |      |                    |                          | 490               | 420  | 368  |      |      | 816                  |     | 1087 |     |     |  |

# IW Series Quarter-Turn Worm Gearbox

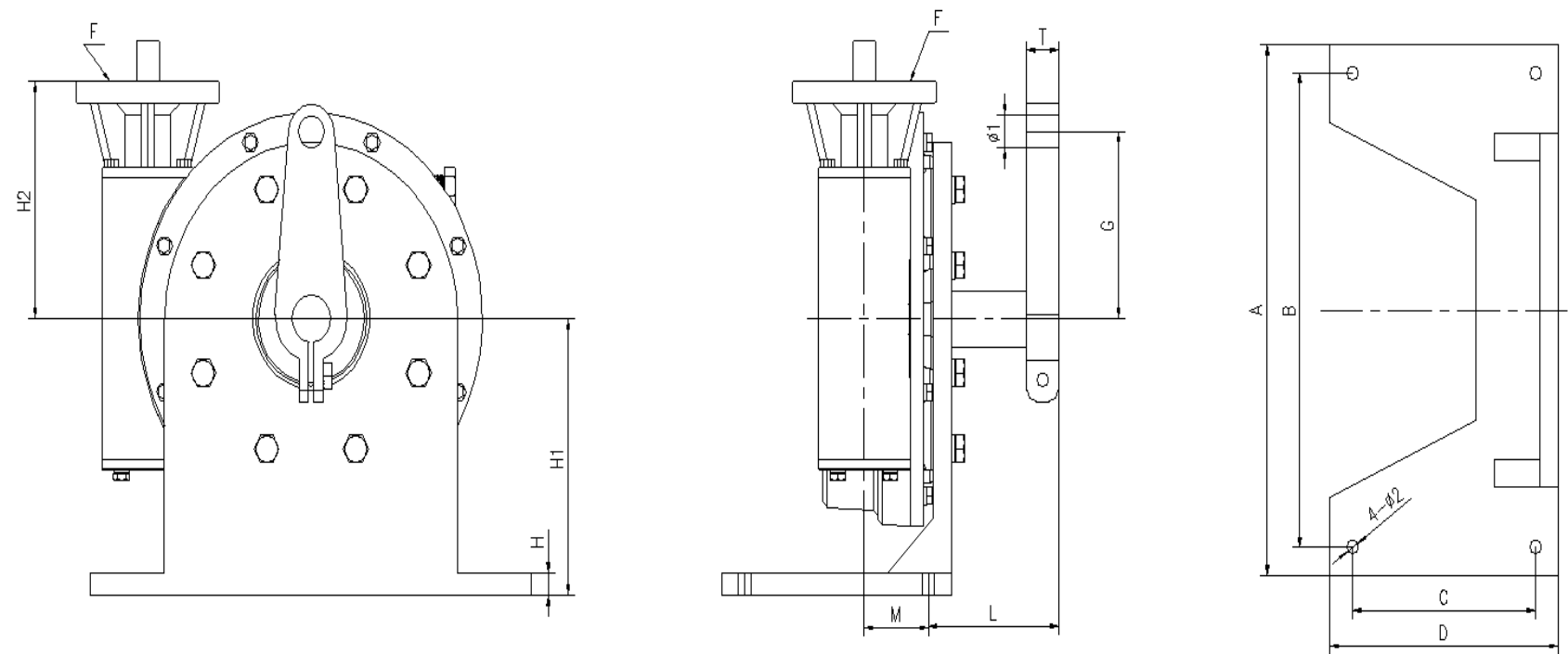
IW Dimensions



| Model       | Overall Dimensions |     |     |     |       |     |     |     |      |      | Input Section |             |      | Output Section |     |       |               |                  |           |
|-------------|--------------------|-----|-----|-----|-------|-----|-----|-----|------|------|---------------|-------------|------|----------------|-----|-------|---------------|------------------|-----------|
|             | A                  | A1  | B   | C   | C1    | ø   | E   | L   | N    | P    | Input Flange  | Input Shaft |      | øD             | ød  | ødmax | Output Flange | Bolt Circle Dia. |           |
|             |                    |     |     |     |       |     |     |     |      |      | F1            | ø           | KEY  |                |     |       | F2            | øD1              | N-M-DP    |
| IW3         | 153                | /   | 96  | 70  | /     | /   | /   | 95  | 38.5 | 57   | F10           | 20          | 6×6  | 170            | 79  | 45    | F10           | 102              | 4-M10-15  |
|             |                    |     |     |     |       |     |     |     |      |      |               |             |      |                |     |       | F12           | 125              | 4-M12-18  |
| IW4<br>IW4R | 170                | 298 | 117 | 103 | 40    | 253 | 63  | 90  | 40   | 63   | F10           | 20          | 6×6  | 220            | 92  | 60    | F12           | 125              | 4-M12-18  |
|             |                    |     |     |     |       |     |     |     |      |      | F14           | 30          | 8×7  |                |     |       | F14           | 140              | 4-M16-24  |
|             |                    |     |     |     |       |     |     |     |      |      |               |             |      |                |     |       | F16           | 165              | 4-M20-30  |
| IW5<br>IW5R | 195                | 331 | 130 | 135 | 43    | 253 | 92  | 120 | 47   | 85.5 | F10           | 20          | 6×6  | 285            | 107 | 80    | F16           | 165              | 4-M20-30  |
|             |                    |     |     |     |       |     |     |     |      |      | F14           | 30          | 8×7  |                |     |       | F14           | 140              | 4-M16-24  |
| IW6<br>IW6R | 209                | 355 | 145 | 178 | 86    | 253 | 92  | 110 | 45   | 75   | F14           | 30          | 8×7  | 375            | 130 | 90    | F25           | 254              | 8-M16-24  |
|             |                    |     |     |     |       |     |     |     |      |      | F16           | 40          | 12×8 |                |     |       | F16           | 165              | 4-M20-30  |
| IW7<br>IW7R | 265                | 405 | 200 | 210 | 81.4  | 306 | 129 | 145 | 65   | 95   | F10           | 20          | 6×6  | 450            | 158 | 100   | F25           | 254              | 8-M16-24  |
|             |                    |     |     |     |       |     |     |     |      |      | F14           | 30          | 8×7  |                |     |       | F30           | 298              | 8-M20-30  |
|             |                    |     |     |     |       |     |     |     |      |      | F16           | 40          | 12×8 |                |     |       |               |                  |           |
| IW8<br>IW8R | 290                | 430 | 225 | 246 | 117.4 | 306 | 129 | 175 | 65   | 110  | F10           | 20          | 6×6  | 520            | 205 | 125   | F25           | 254              | 8-M16-24  |
|             |                    |     |     |     |       |     |     |     |      |      | F14           | 30          | 8×7  |                |     |       | F30           | 298              | 8-M20-30  |
|             |                    |     |     |     |       |     |     |     |      |      | F16           | 40          | 12×8 |                |     |       | F35           | 356              | 8-M30-45  |
| IW9R        | /                  | 500 | 260 | /   | 140   | 312 | 129 | 200 | 80   | 120  | F10           | 20          | 6×6  | 590            | 246 | 178   | F25           | 254              | 8-M16-24  |
|             |                    |     |     |     |       |     |     |     |      |      | F14           | 30          | 8×7  |                |     |       | F30           | 298              | 8-M20-30  |
|             |                    |     |     |     |       |     |     |     |      |      | F16           | 40          | 12×8 |                |     |       | F35           | 356              | 8-M30-45  |
|             |                    |     |     |     |       |     |     |     |      |      | F25           | 40          | 12×8 |                |     |       | F40           | 406              | 8-M36-54  |
| IW10R       | /                  | 575 | 300 | /   | 122   | 263 | 220 | 264 | 110  | 154  | F10           | 20          | 6×6  | 735            | 265 | 200   | F35           | 356              | 8-M30-45  |
|             |                    |     |     |     |       |     |     |     |      |      | F14           | 30          | 8×7  |                |     |       | F40           | 406              | 8-M36-54  |
|             |                    |     |     |     |       |     |     |     |      |      | F16           | 40          | 12×8 |                |     |       |               |                  |           |
|             |                    |     |     |     |       |     |     |     |      |      | F25           | 40          | 12×8 |                |     |       |               |                  |           |
| IW12R       | /                  | 747 | 382 | /   | 437   | 340 | /   | 277 | 110  | 180  | F10           | 20          | 6×6  | 920            | 330 | 230   | F40           | 406              | 8-M36-54  |
|             |                    |     |     |     |       |     |     |     |      |      | F14           | 30          | 8×7  |                |     |       |               |                  |           |
|             |                    |     |     |     |       |     |     |     |      |      | F16           | 40          | 12×8 |                |     |       |               |                  |           |
|             |                    |     |     |     |       |     |     |     |      |      | F25           | 40          | 12×8 |                |     |       | F48           | 483              | 12-M36-54 |
|             |                    |     |     |     |       |     |     |     |      |      | F30           | 40          | 12×8 |                |     |       |               |                  |           |
| IW13R       | /                  | 939 | 455 | /   | 485   | 460 | /   | 360 | 158  | 210  | F14           | 30          | 8×7  | 1000           | 350 | 250   | F48           | 483              | 12-M36-54 |
|             |                    |     |     |     |       |     |     |     |      |      | F16           | 40          | 12×8 |                |     |       |               |                  |           |
|             |                    |     |     |     |       |     |     |     |      |      | F25           | 40          | 12×8 |                |     |       | F60           | 603              | 20-M36-54 |
|             |                    |     |     |     |       |     |     |     |      |      | F30           | 40          | 12×8 |                |     |       |               |                  |           |
| IW14R       | /                  | 969 | 465 | /   | 564   | 460 | /   | 370 | 160  | 210  | F14           | 30          | 8×7  | 1204           | 430 | 300   | F60           | 603              | 20-M36-54 |
|             |                    |     |     |     |       |     |     |     |      |      | F16           | 40          | 12×8 |                |     |       |               |                  |           |
|             |                    |     |     |     |       |     |     |     |      |      | F25           | 40          | 12×8 |                |     |       |               |                  |           |
|             |                    |     |     |     |       |     |     |     |      |      | F30           | 40          | 12×8 |                |     |       |               |                  |           |

# IW Series Quarter-Turn Worm Gearbox

## IW Bracket-Type Dimensions

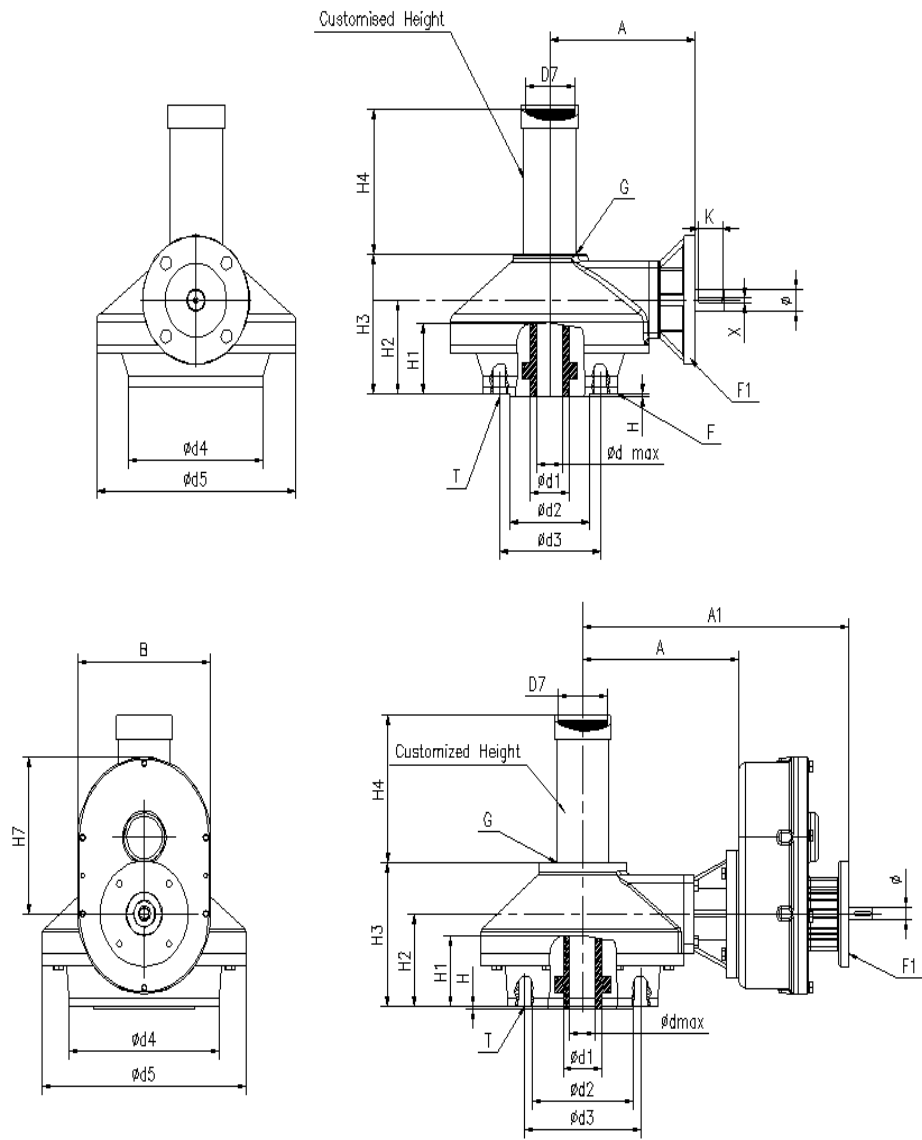


| Model-Ratio | Dimensions |     |     |     |       |    |     |       |         |      |     |             |     |    | Ref.           |
|-------------|------------|-----|-----|-----|-------|----|-----|-------|---------|------|-----|-------------|-----|----|----------------|
|             | A          | B   | C   | D   | 4-ø2  | H  | H1  | H2    | F       | M    | L   | G           | ø1  | T  | Weight<br>(kg) |
| IW3-40/60   | 248        | 216 | 129 | 161 | 4-ø12 | 20 | 128 | 152.5 | F10     | 62.2 | 72  | 150/200/250 | ø14 | 15 | 24             |
| IW4-40/70   | 360        | 320 | 130 | 160 | 4-ø14 | 20 | 170 | 170   | F10     | 68   | 85  | 150/200/250 | ø16 | 20 | 40             |
| IW5-70:1    | 420        | 390 | 180 | 210 | 4-ø14 | 20 | 215 | 195   | F10/F14 | 95.5 | 122 | 300/400     | ø20 | 25 | 80             |
| IW6-70:1    | 480        | 430 | 200 | 250 | 4-ø14 | 20 | 250 | 209   | F14/F16 | 80   | 142 | 300/400     | ø30 | 25 | 133            |
| IW7-70:1    | 560        | 510 | 270 | 315 | 4-ø22 | 25 | 300 | 265   | F14/F16 | 100  | 150 | 300/400     | ø30 | 30 | 210            |
| IW8-70:1    | 685        | 600 | 270 | 320 | 4-ø22 | 25 | 340 | 290   | F16/F25 | 110  | 155 | 500/650     | ø30 | 30 | 350            |

Note: F = mounting flange between actuator and gearbox (custom sizes available)

# GK Series Multi-Turn Bevel Gearbox

GK Dimensions

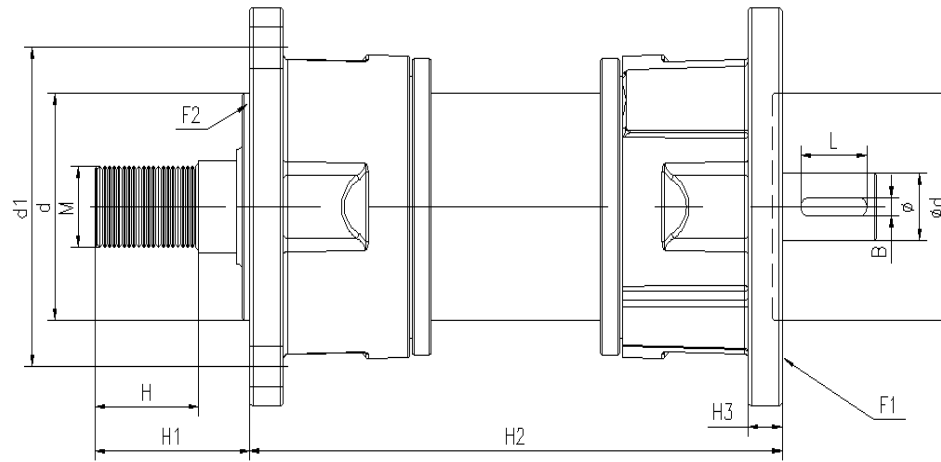


| Model             | Overall Dimensions |     |     |            |            |       |       |     |               | Input Section |       |        | Output Section |     |     |     |        |                  |          |     |
|-------------------|--------------------|-----|-----|------------|------------|-------|-------|-----|---------------|---------------|-------|--------|----------------|-----|-----|-----|--------|------------------|----------|-----|
|                   | A                  | A1  | ød5 | Bronze Nut | Bronze Nut | H2    | H3    | H4  | G             | Input         | Input |        | H              | ød4 | ød1 | ød2 | Output | Bolt Circle Dia. |          |     |
|                   |                    |     |     | Nut        | Height     |       |       |     |               | Flange        | Shaft | Flange |                |     |     |     | ø      | KEY              | F2       | ød3 |
|                   |                    |     |     | ødmax      | H1         |       |       |     |               | F1            |       |        |                |     |     |     |        |                  |          |     |
| GK14.6<br>GK14.6R | 192.5              | /   | 222 | 45         | 55         | 101.5 | 154   | 140 | G2 (1/2)<br>" | F10           | 20    | 6×6    | 4              | 175 | 60  | 100 | F14    | 140              | 4-M16-24 |     |
|                   |                    |     |     |            |            |       |       |     |               | F14           | 20    | 6×6    |                |     |     |     |        |                  |          |     |
| GK16.2<br>GK16.2R | 237.5              | 395 | 325 | 65         | 75         | 128.5 | 191.5 | 170 | G2 (1/2)<br>" | F10           | 20    | 6×6    | 4              | 220 | 80  | 130 | F16    | 165              | 4-M20-30 |     |
|                   |                    |     |     |            |            |       |       |     |               | F14           | 30    | 8×7    |                |     |     |     |        |                  |          |     |
|                   |                    |     |     |            |            |       |       |     |               | F16           |       |        |                |     |     |     |        |                  |          |     |
| GK25.2<br>GK25.2R | 305.5              | 532 | 405 | 75         | 87         | 135.5 | 233   | 410 | G4"           | F14           | 30    | 8×7    | 5              | 300 | 90  | 200 | F25    | 254              | 8-M16×24 |     |
|                   |                    |     |     |            |            |       |       |     |               | F16           | 30    | 8×7    |                |     |     |     |        |                  |          |     |
|                   |                    |     |     |            |            |       |       |     |               | F25           |       |        |                |     |     |     |        |                  |          |     |
| GK30.2<br>GK30.2R | 428.5              | 688 | 510 | 80         | 108        | 194.5 | 307   | 520 | G4"           | F14           | 30    | 8×7    | 5              | 350 | 100 | 230 | F30    | 298              | 8-M20-30 |     |
|                   |                    |     |     |            |            |       |       |     |               | F16           | 40    | 12×8   |                |     |     |     |        |                  |          |     |
|                   |                    |     |     |            |            |       |       |     |               | F25           |       |        |                |     |     |     |        |                  |          |     |
| GK35.2<br>GK35.2R | 422                | 681 | 565 | 100        | 143        | 230   | 350   | 520 | G4"           | F14           | 30    | 8×7    | 5              | 350 | 130 | 230 | F30    | 298              | 8-M20-30 |     |
|                   |                    |     |     |            |            |       |       |     |               | F16           | 40    | 12×8   |                |     |     |     |        |                  |          |     |
|                   |                    |     |     |            |            |       |       |     |               | F25           | 50    | 14×9   |                |     |     |     |        |                  |          |     |
|                   |                    |     |     |            |            |       |       |     |               | F30           |       |        |                |     |     |     |        |                  |          |     |
| GK40.2<br>GK40.2R | 423                | 682 | 590 | 130        | 167        | 230   | 360   | 520 | M160×3        | F16           | 40    | 12×8   | 5              | 475 | 160 | 300 | F40    | 406              | 8-M36-54 |     |
|                   |                    |     |     |            |            |       |       |     |               | F25           | 50    | 14×9   |                |     |     |     |        |                  |          |     |
|                   |                    |     |     |            |            |       |       |     |               | F30           |       |        |                |     |     |     |        |                  |          |     |

# GK Series Multi-Turn Bevel Gearbox

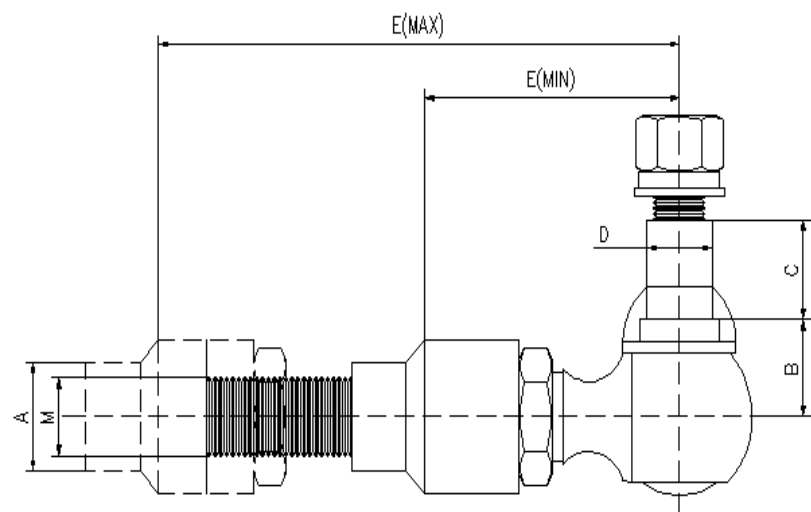
Selection Table

| Model   | Ratio |    |    |    |    | Guard Height | Input Flange        | Output Flange |          | Max. Output Torque |
|---------|-------|----|----|----|----|--------------|---------------------|---------------|----------|--------------------|
|         |       |    |    |    |    |              |                     | Standard      | Optional | Nm                 |
| GK14.6  | 3     | 4  | 6  |    |    | 140          | F10/F14             | F14           | F10      | 600                |
| GK14.6R | 8     | 12 |    |    |    |              |                     |               |          |                    |
| GK16.2  | 3     | 4  | 5  | 6  |    | 170          | F14/F10             | F16           | F14      | 1500               |
| GK16.2R | 8     | 10 | 12 |    |    |              |                     |               |          |                    |
| GK25.2  | 3     | 4  | 5  | 6  |    | 410          | F14/F16             | F25           | F16      | 2500               |
| GK25.2R | 8     | 10 | 12 | 16 |    |              | F14                 |               |          |                    |
| GK30.2  | 3     | 4  | 5  | 6  |    | 520          | F14/F16/F25         | F30           | F25/F35  | 5000               |
| GK30.2R | 8     | 10 | 12 | 16 | 20 |              | F14/F10/F16         |               |          |                    |
| GK35.2  | 6     | 8  |    |    |    | 520          | F25/F16             | F30           | F25/F35  | 8800               |
| GK35.2R | 12    | 18 | 24 | 36 |    |              | F14/F10/<br>F16/F25 |               |          |                    |
| GK40.2  | 5     |    |    |    |    | 520          | F25/F16             | F40           | F35      | 15000              |
| GK40.2R | 10    | 15 | 20 | 25 | 30 |              | F16/F25             |               |          |                    |

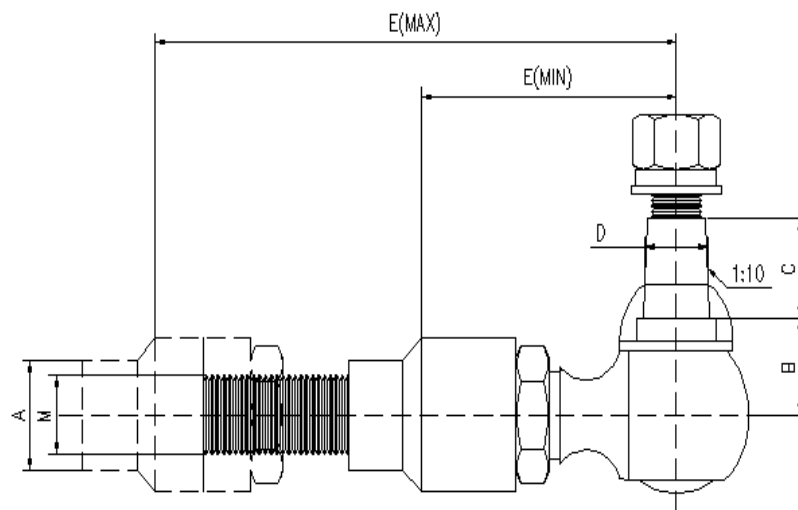


| Model   | Selection Table |     |     |     |                             |     |     |     |  |              | Internal Dimensions |               |       |                | Input Section |                 |              |          |             |      |    |    | Output Section |     |     |         |               |                 |              |
|---------|-----------------|-----|-----|-----|-----------------------------|-----|-----|-----|--|--------------|---------------------|---------------|-------|----------------|---------------|-----------------|--------------|----------|-------------|------|----|----|----------------|-----|-----|---------|---------------|-----------------|--------------|
|         | Stroke          |     |     |     | Total Length (both flanges) |     |     |     |  | Input Torque | Max. Thrust         | Input Rod Thr | Pitch | Version Factor | Input Flange  | Bolt Circle Dia |              |          | Input Shaft |      |    | H3 | H              | H1  | d   | M       | Output Flange | Bolt Circle Dia |              |
|         |                 |     |     |     | H2                          |     |     |     |  | Nm           | KN                  |               |       |                | F1            | $\phi d1$       | N-h          | $\phi d$ | $\phi$      | KEY  | L  |    |                |     |     |         | F2            | $\phi d1$       | N-h          |
| LE12.1  | 50              | 100 | 200 | 400 | 201                         | 251 | 351 | 551 |  | 30           | 11.5                | 32*5LH        | 5     | 0.38           | F10           | 102             | 4- $\phi 12$ | 70       | 20          | 6×6  | 40 | 15 | 25             | 55  | 70  | 12×1.25 | F10           | 102             | 4- $\phi 12$ |
| LE25.1  | 50              | 100 | 200 | 400 | 201                         | 251 | 351 | 551 |  | 60           | 23                  | 32*5LH        | 5     | 0.38           | F10           | 102             | 4- $\phi 12$ | 70       | 20          | 6×6  | 40 | 15 | 30             | 60  | 70  | 15×1.5  | F10           | 102             | 4- $\phi 12$ |
| LE50.1  | 50              | 100 | 200 | 400 | 251                         | 301 | 401 | 601 |  | 125          | 39                  | 32*6LH        | 6     | 0.312          | F10           | 102             | 4- $\phi 12$ | 70       | 20          | 6×6  | 40 | 15 | 35             | 65  | 70  | 20×1.5  | F10           | 102             | 4- $\phi 12$ |
| LE70.1  | 80              | 160 | 320 | 400 | 283                         | 363 | 523 | 603 |  | 250          | 64                  | 40*7LH        | 7     | 0.256          | F14           | 140             | 4- $\phi 18$ | 100      | 30          | 8×7  | 50 | 20 | 50             | 82  | 100 | 36×3    | F14           | 140             | 4- $\phi 18$ |
| LE100.1 | 80              | 160 | 320 | 400 | 283                         | 363 | 523 | 603 |  | 500          | 128                 | 40*7LH        | 7     | 0.256          | F14           | 140             | 4- $\phi 18$ | 100      | 30          | 8×7  | 50 | 20 | 50             | 82  | 100 | 36×3    | F14           | 140             | 4- $\phi 18$ |
| LE200.1 | 100             | 200 | 400 | 500 | 362                         | 462 | 662 | 762 |  | 998          | 217                 | 40*8LH        | 8     | 0.217          | F16           | 165             | 4- $\phi 22$ | 130      | 40          | 12×8 | 60 | 20 | 60             | 102 | 130 | 42×3    | F16           | 165             | 4- $\phi 22$ |

Dimensions-Straight-Pin



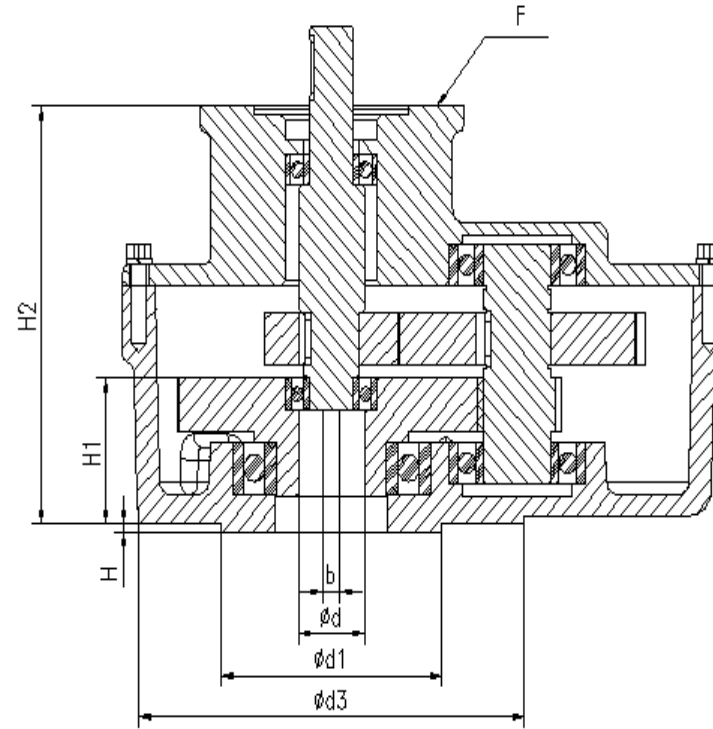
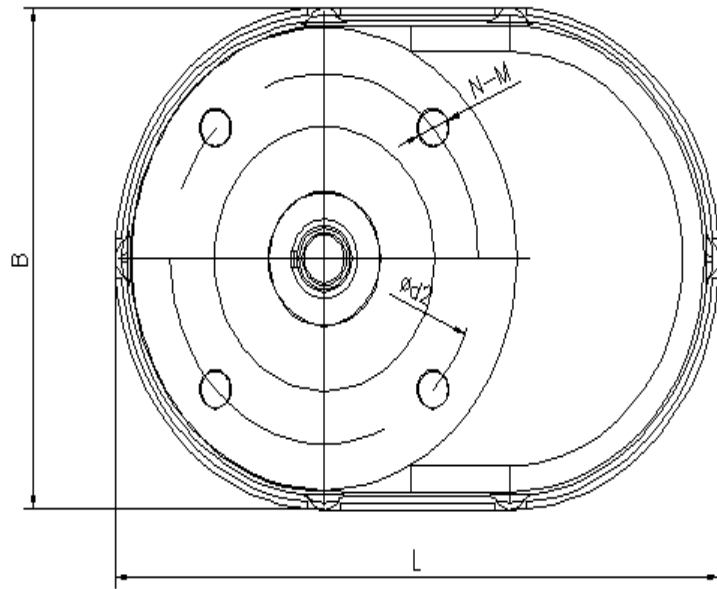
Dimensions-Taper-Pin



QJ Ball-Hinge Mechanism  
QJ Parameters &  
Selection Table

| Model   | Overall Dimensions |                |      |              |              |           |                |         | Adjustment |            |          |
|---------|--------------------|----------------|------|--------------|--------------|-----------|----------------|---------|------------|------------|----------|
|         | Torque             | Pipe ID × Wall | B    | Straight Pin |              | Taper Pin |                | Thread  |            |            |          |
|         |                    |                |      | Pin          | Straight Pin | Pin       | Taper Pin Dia. |         | Max.       | Min.       | Adjustme |
|         |                    |                |      | Length       | Dia          | Length    |                |         | Adjustment | Adjustment |          |
|         | Nm                 | A              |      | C            | D            | C         | D              | M       | E(MAX)     | E(MIN)     | nt Range |
| QJ-10   | 100                | ø35×5          | 24   | 14           | ø14          | 20        | ø16            | M18×1.5 | 120        | 65         | 0-55     |
| QJ-25   | 250                | ø35×5          | 26   | 20           | ø16          | 20        | ø16            | M18×1.5 | 120        | 65         | 0-55     |
| QJ-60   | 600                | ø35×5          | 31   | 22           | ø18          | 26        | ø22            | M20×1.5 | 140        | 70         | 0-70     |
| QJ-160  | 1600               | ø40×5          | 33   | 24           | ø20          | 30        | ø26            | M24×1.5 | 150        | 70         | 0-80     |
| QJ-400  | 4000               | ø50×5          | 44   | 24           | ø30          | 34        | ø30            | M30×2.0 | 220        | 110        | 0-110    |
| QJ-600  | 6000               | ø50×5          | 40   | 24           | ø30          | 34        | ø30            | M30×2.0 | 220        | 110        | 0-110    |
| QJ-1000 | 10000              | ø50×5          | 40   | 32           | ø30          | 34        | ø30            | M30×2.0 | 220        | 110        | 0-110    |
| QJ-2000 | 20000              | ø70×6          | 62.5 | 40           | ø40          | 40        | ø44            | M42×3.0 | 280        | 170        | 0-110    |

# GZ Dimensions



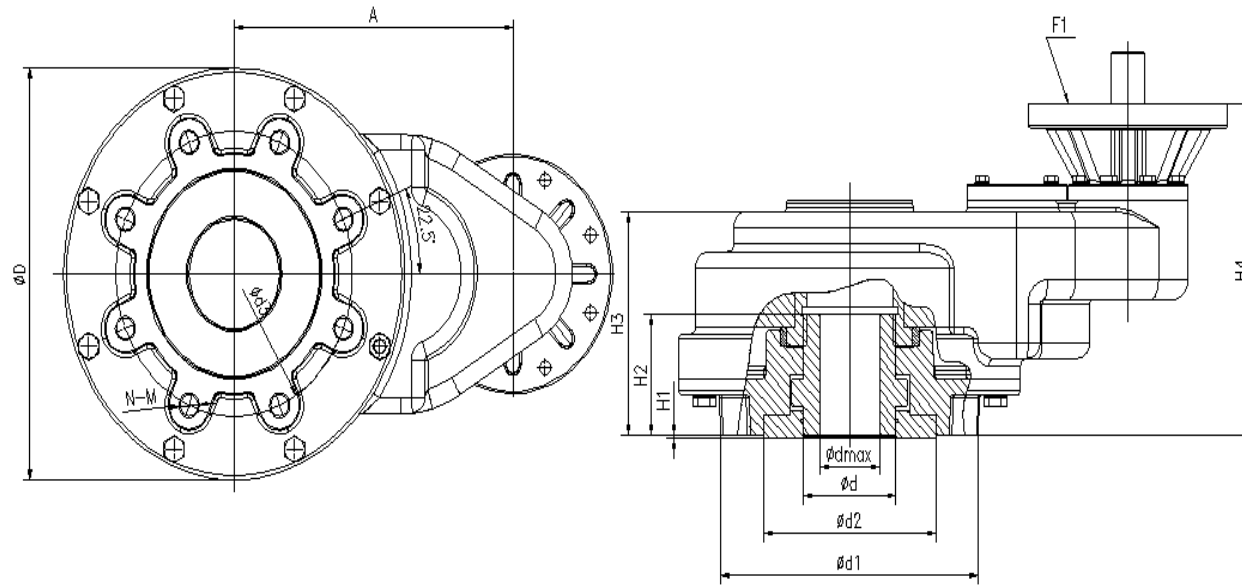
| Model   | Ratio   | Input Flange | Output Flange | x. Output Torque | Dimensions Table |     |   |     |     |    |     |     |     |     |       |
|---------|---------|--------------|---------------|------------------|------------------|-----|---|-----|-----|----|-----|-----|-----|-----|-------|
|         |         | F            |               |                  | Nm               | B   | L | H   | H1  | H2 | b   | ød  | ød1 | ød2 | ød3   |
| GZ160.3 | 2-36    | F10          | F10           | 300              | 153              | 217 | 3 | 50  | 140 | 6  | 20  | 70  | 102 | 125 | 4-M10 |
| GZ200.3 | 2-36    | F10/F14      | F14           | 750              | 180              | 275 | 3 | 55  | 156 | 8  | 30  | 100 | 140 | 175 | 4-M16 |
| GZ250.3 | 2-36    | F10/F14/F16  | F16           | 1500             | 230              | 353 | 3 | 70  | 226 | 12 | 40  | 130 | 165 | 210 | 4-M20 |
| GZ40    | 2-30.25 | F14/F16/F25  | F25           | 5000             | 340              | 509 | 3 | 70  | 259 | 20 | 70  | 200 | 254 | 300 | 8-M16 |
| GZ45    | 2-36    | F16/F25      | F30           | 15000            | 460              | 685 | 5 | 110 | 354 | 28 | 100 | 260 | 298 | 350 | 8-M20 |

BST Selection Table

| Model  | Ratio |   |   |   |   | Max. Stem Bore | Input Flange    | Output Flange | ax. Output Torque | Weight |
|--------|-------|---|---|---|---|----------------|-----------------|---------------|-------------------|--------|
|        |       |   |   |   |   |                |                 |               | Nm                |        |
| BST1.5 | 2     | 3 | 4 | 6 | 8 | 65             | F10/F14/F16     | F16           | 1500              |        |
| BST8   |       |   |   |   |   | 100            | F14/F16/F25     | F30           | 8000              |        |
| BST15  |       |   |   |   |   | 110            | F14/F16/F25/F30 | F35           | 15000             |        |
| BST20  |       |   |   |   |   | 110            | F14/F16/F25/F30 | F40           | 20000             |        |

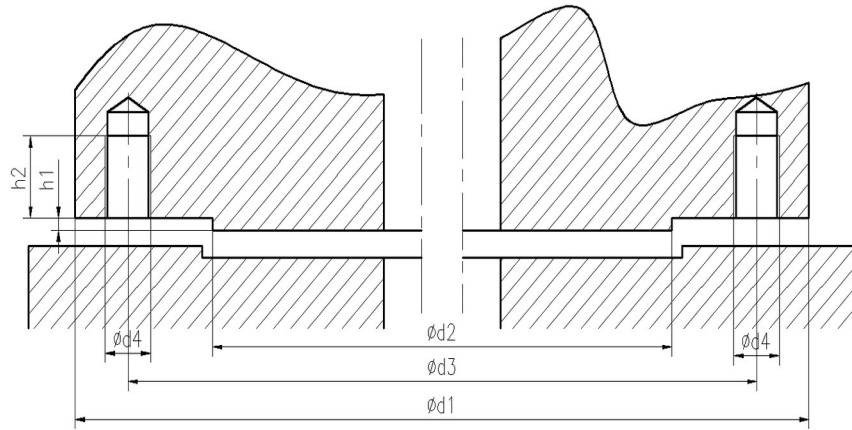
# BST Series Multi-Turn Spur Gearbox

BST Dimensions



| Model  | Overall Dimensions |     |       |       |          | Input Section |             |      | Output Section |                |          |           |           |               |                  |          |
|--------|--------------------|-----|-------|-------|----------|---------------|-------------|------|----------------|----------------|----------|-----------|-----------|---------------|------------------|----------|
|        | A                  | H2  | H3    | H4    | $\phi D$ | Input Flange  | Input Shaft |      | H1             | $\phi d_{max}$ | $\phi d$ | $\phi d1$ | $\phi d2$ | Output Flange | Bolt Circle Dia. |          |
|        |                    |     |       |       |          | F1            | $\phi$      | KEY  |                |                |          |           |           | F2            | $\phi d3$        | N-M-DP   |
| BST1.5 | 210                | 64  | 131   | 204   | 262      | F10           | 20          | 6×6  | 5              | 65             | 80       | 210       | 130       | F16           | 165              | 4-M20-30 |
|        |                    |     |       |       |          | F14           | 30          | 8×7  |                |                |          |           |           |               |                  |          |
|        |                    |     |       |       |          | F16           | 30          | 8×7  |                |                |          |           |           |               |                  |          |
| BST8   | 336                | 108 | 215   | 320   | 430      | F14           | 30          | 8×7  | 5              | 100            | 130      | 350       | 230       | F30           | 298              | 8-M20-30 |
|        |                    |     |       |       |          | F16           | 30          | 8×7  |                |                |          |           |           |               |                  |          |
|        |                    |     |       |       |          | F25           | 50          | 14×9 |                |                |          |           |           |               |                  |          |
| BST15  | 420                | 150 | 278.5 | 413.5 | 515      | F14           | 30          | 8×7  | 5              | 110            | 140      | 415       | 260       | F35           | 356              | 8-M30-45 |
|        |                    |     |       |       |          | F16           | 40          | 12×8 |                |                |          |           |           |               |                  |          |
|        |                    |     |       |       |          | F25           | 50          | 14×9 |                |                |          |           |           |               |                  |          |
|        |                    |     |       |       |          | F30           | 50          | 14×9 |                |                |          |           |           |               |                  |          |
| BST20  | 504                | 174 | 310   | 465   | 590      | F14           | 30          | 8×7  | 8              | 110            | 144.5    | 475       | 300       | F40           | 406              | 8-M36-54 |
|        |                    |     |       |       |          | F16           | 40          | 12×8 |                |                |          |           |           |               |                  |          |
|        |                    |     |       |       |          | F25           | 50          | 14×9 |                |                |          |           |           |               |                  |          |
|        |                    |     |       |       |          | F30           | 50          | 14×9 |                |                |          |           |           |               |                  |          |

## Valve Connection Standards (ISO 5210)



| Flange Code | Dimensions |           |           |           |        |        | No. of Bolts |
|-------------|------------|-----------|-----------|-----------|--------|--------|--------------|
|             | $\phi d1$  | $\phi d2$ | $\phi d3$ | $\phi d4$ | h1 max | h2 max |              |
| F03         | 46         | 25        | 36        | M5        | 3      | 8      | 4            |
| F04         | 54         | 30        | 42        | M5        | 3      | 8      | 4            |
| F05         | 65         | 35        | 50        | M6        | 3      | 9      | 4            |
| F07         | 90         | 55        | 70        | M8        | 3      | 12     | 4            |
| F10         | 125        | 70        | 102       | M10       | 3      | 15     | 4            |
| F12         | 150        | 85        | 125       | M12       | 3      | 18     | 4            |
| F14         | 175        | 100       | 140       | M16       | 4      | 24     | 4            |
| F16         | 210        | 130       | 165       | M20       | 5      | 30     | 4            |
| F25         | 300        | 200       | 254       | M16       | 5      | 24     | 8            |
| F30         | 350        | 230       | 298       | M20       | 5      | 30     | 8            |
| F35         | 415        | 260       | 356       | M30       | 5      | 45     | 8            |
| F40         | 475        | 300       | 406       | M36       | 8      | 54     | 8            |
| F48         | 560        | 370       | 483       | M36       | 8      | 54     | 12           |
| F60         | 686        | 470       | 603       | M36       | 8      | 54     | 20           |