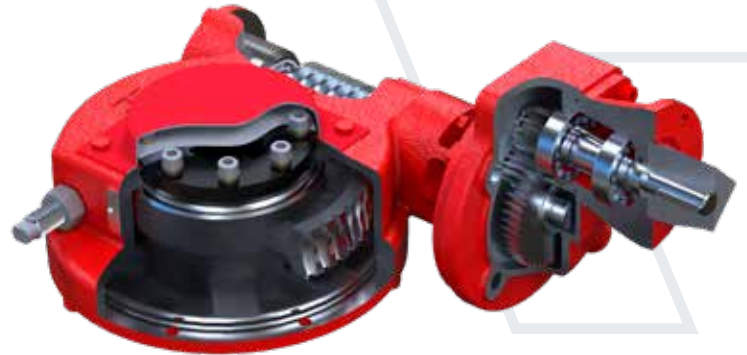




Keeping the World Flowing



## IW Series AWWA

C504 and C517 Part-turn  
Worm Gear Operator

The IW AWWA worm gear operators are suitable for manual actuation of AWWA C504 butterfly and C517 plug valves.

The range has been designed and comprehensively tested to meet or exceed all aspects of the AWWA C504 & C517 specifications, and are manufactured from high quality and reliable materials.

The range includes a gear design for inherent self-locking capability. Test reports are available upon request. All Rotork Gears actuators are made to ISO 9001 standards.

### Features

- 90% grease filled for life and fully sealed
- Comprehensive gear ratios combined with a selection of input gear reducers
- Angular contact bearings supporting the worm shaft
- Removable and repositionable drive sleeve
- Self-lubricated drive sleeve
- -40 to 250 °F standard temperature range
- Adjustable travel stops +/- 5 degrees
- Maximum rated output torque - 1.45 million in-lbs
- Maximum stem acceptance diameter - 12" bored with ANSI B17.1 square key
- Above or buried service
- IP68

### Options

- Stem extensions
- Padlock kit
- NAMUR & Westlock position indicator mounting kit
- High temperature to +392 °F
- Low temperature to -76 °F
- 2" square nut
- 450 ft-lbs Service
- Mitre box (IB2 for FA10 mounting or IB4 for FA14 mounting) available for buried service applications.

# IW Series AWWA

## Sizing Chart for AWWA C504-15 & C517-16 with 300 ft lbs Overload Capacity

| Unit Size | Ratio | Turns to close | MA ±10%* | Max H/W dia inch | Max handwheel output torque in lbs | Max handwheel output torque ft lbs | Max wrench nut torque in lbs | Max wrench nut torque ft lbs | Rated output torque in lbs | Rated output torque ft lbs | Approx Weight lbs |
|-----------|-------|----------------|----------|------------------|------------------------------------|------------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|-------------------|
| IW5       | 48    | 12             | 16       | 48               | 30720                              | 2560                               | 28800                        | 2400                         | 45139                      | 3762                       | 100               |
| IW5       | 96    | 24             | 30       | 36               | 43200                              | 3600                               | 45139                        | 3762                         | 45139                      | 3762                       | 115               |
| IW55      | 96    | 24             | 30       | 48               | 58394                              | 4866                               | 54744                        | 4562                         | 59034                      | 4920                       | 115               |
| IW55      | 144   | 36             | 46       | 36               | 59034                              | 4920                               | 59034                        | 4920                         | 59034                      | 4920                       | 115               |
| IW6       | 76    | 19             | 25       | 48               | 48815                              | 4068                               | 45764                        | 3814                         | 106740                     | 8895                       | 150               |
| IW6       | 228   | 57             | 72       | 36               | 104342                             | 8695                               | 106740                       | 8895                         | 106740                     | 8895                       | 175               |
| IW7       | 384   | 96             | 120      | 36               | 172872                             | 14406                              | 177000                       | 14750                        | 177000                     | 14750                      | 335               |
| IW8       | 768   | 192            | 233      | 36               | 300900                             | 25075                              | 300900                       | 25075                        | 300900                     | 25075                      | 490               |
| IW9       | 1044  | 261            | 342      | 36               | 492480                             | 41040                              | 562021                       | 46835                        | 562021                     | 46835                      | 640               |
| IW10      | 1332  | 333            | 391      | 36               | 563328                             | 46944                              | 668880                       | 55740                        | 668880                     | 55740                      | 900               |
| IW11      | 1946  | 487            | 626      | 48               | 1126256                            | 93855                              | 1126256                      | 93855                        | 1126256                    | 93855                      | 1285              |
| IW12      | 2374  | 594            | 796      | 48               | 1451520                            | 120960                             | 1432031                      | 119336                       | 1451520                    | 120960                     | 2575              |

## Sizing Chart for AWWA C504-15 & C517-16 with 450 ft lbs Overload Capacity

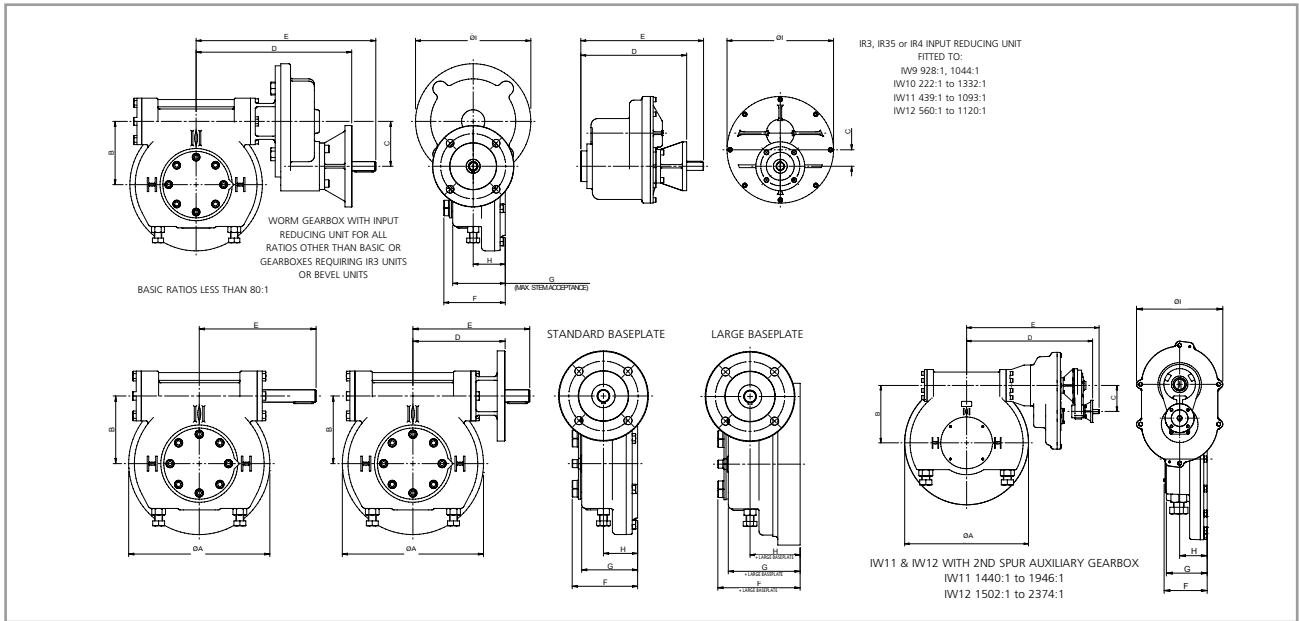
| Unit Size | Ratio | Turns to close | MA ±10%* | Max H/W dia inch | Max handwheel output torque in lbs | Max handwheel output torque ft lbs | Max wrench nut torque in lbs | Max wrench nut torque ft lbs | Rated output torque in lbs | Rated output torque ft lbs | Approx Weight lbs |
|-----------|-------|----------------|----------|------------------|------------------------------------|------------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|-------------------|
| IW5       | 48    | 12             | 16       | 48               | 30720                              | 2560                               | 28800                        | 2400                         | 45139                      | 3762                       | 100               |
| IW5       | 96    | 24             | 30       | 36               | 43200                              | 3600                               | 45139                        | 3762                         | 45139                      | 3762                       | 115               |
| IW55      | 96    | 24             | 30       | 48               | 58394                              | 4866                               | 54744                        | 4562                         | 59034                      | 4920                       | 115               |
| IW55      | 144   | 36             | 46       | 36               | 59034                              | 4920                               | 59034                        | 4920                         | 59034                      | 4920                       | 115               |
| IW6       | 76    | 19             | 25       | 48               | 48815                              | 4068                               | 45764                        | 3814                         | 106740                     | 8895                       | 150               |
| IW6       | 152   | 38             | 48       | 48               | 92749                              | 7729                               | 86952                        | 7246                         | 106740                     | 8895                       | 175               |
| IW7       | 256   | 64             | 80       | 48               | 153664                             | 12805                              | 144060                       | 12005                        | 177000                     | 14750                      | 335               |
| IW8       | 512   | 128            | 155      | 48               | 298240                             | 24853                              | 279600                       | 23300                        | 300900                     | 25075                      | 490               |
| IW9       | 696   | 174            | 228      | 48               | 437760                             | 36480                              | 410400                       | 34200                        | 562021                     | 46835                      | 575               |
| IW10      | 888   | 222            | 261      | 48               | 500736                             | 41728                              | 469440                       | 39120                        | 668880                     | 55740                      | 900               |
| IW11      | 1663  | 416            | 535      | 48               | 1027200                            | 85600                              | 963000                       | 80250                        | 1126256                    | 93855                      | 1285              |
| IW12      | 2374  | 594            | 796      | 48               | 1451520                            | 120960                             | 1432031                      | 119336                       | 1451520                    | 120960                     | 2575              |

\*The published M.A. is achieved after a few cycles. Other ratios are available.

## Mounting Options

| Gearbox              | Max Bore ANSI B17.1 Key |             | Max Square Bore AF | MSS Flange Baseplate      | Additional Baseplate Thickness | Max Stem Height |
|----------------------|-------------------------|-------------|--------------------|---------------------------|--------------------------------|-----------------|
|                      | Square                  | Rectangular |                    |                           |                                |                 |
| IW5 / IW55           | 2.75                    | 3           | 2.375              | FA14 - FA16               | 0                              | 4.48            |
| IW5 / IW55 LB        | 2.75                    | 3           | 2.375              | FA25                      | 1.42                           | 5.75            |
| IW6                  | 3.75                    | 3.875       | 3.25               | FA16 - FA25               | 0                              | 4.45            |
| IW6 LB               | 3.75                    | 3.875       | 3.25               | FA30                      | 0.91                           | 5.35            |
| IW7                  | 4.875                   | 5.25        | 4.25               | FA25 - FA30               | 0                              | 5.51            |
| IW7 LB               | 4.875                   | 5.25        | 4.25               | FA35                      | 1.22                           | 6.73            |
| IW8                  | 5.625                   | 6           | 4.75               | FA25 - FA30 - FA35 - FA40 | 0                              | 6.30            |
| IW8 LB               | 5.625                   | 6           | 4.75               | FA40 - FA48               | 1.49                           | 7.80            |
| IW9                  | 6.5                     | 6.5         | 5.125              | FA30 - FA35 - FA40        | 0                              | 6.62            |
| IW9 LB               | 6.5                     | 6.5         | 5.125              | FA40 - FA48               | 1.06                           | 7.70            |
| IW10                 | 7.375                   | 7.625       | 6                  | FA35 - FA40 - FA48        | 0                              | 7.10            |
| IW10 LB              | 7.375                   | 7.625       | 6                  | FA60                      | 1.26                           | 8.35            |
| IW11                 | 7.375                   | 7.625       | 6                  | FA35 - FA40 - FA48        | 0                              | 7.87            |
| IW11BB               | 9.875                   | 10.125      | 7.5                | FA40 - FA48               | 0                              | 7.87            |
| IW11BB LB            | 9.875                   | 10.125      | 7.5                | FA60                      | 0                              | 7.87            |
| IW12                 | 9.5                     | 10.25       | 7                  | FA40 - FA48 - FA60        | 0                              | 9.88            |
| IW12 (12" Baseplate) | 11.75                   | 12          | 9                  | FA48 - FA60               | 0                              | 9.88            |

# IW Series AWWA



## Dimensions and Weights

| Gearbox                               | Ratio      | ØA    | B     | C     | D                    | E      | F     | G    | H    | ØI     | Weight (lb) |
|---------------------------------------|------------|-------|-------|-------|----------------------|--------|-------|------|------|--------|-------------|
| IW5 / IW55                            | 48, 96     | 11.22 | 5.35  |       | 7.32                 | 9.29   | 5.20  | 4.49 | 2.72 |        | 100 / 115   |
| IW5 / IW55                            | 96, 144    | 11.22 | 5.35  | 2.52  | 12.32                | 14.33  | 5.20  | 4.49 | 2.72 | 7.48   | 115         |
| IW6                                   | 76         | 14.76 | 7.01  |       | 7.32 (7.72 for FA10) | 9.29   | 5.47  | 4.45 | 2.76 |        | 150         |
| IW6                                   | 152, 228   | 14.76 | 7.01  | 2.52  | 12.32                | 14.33  | 5.47  | 4.45 | 2.76 | 7.48   | 175         |
| IW7                                   | 64 to 384  | 17.72 | 8.27  | 4.69* | 18.11*               | 20.51* | 6.73  | 5.51 | 3.39 | 11.42* | 335*        |
| IW8                                   | 64 to 768  | 20.47 | 9.69  | 7.05* | 19.88*               | 22.28* | 7.56  | 6.30 | 3.90 | 16.06* | 490*        |
| IW9                                   | 58 to 1044 | 23.46 | 10.98 | 7.05* | 23.82*               | 26.22* | 7.87  | 6.61 | 3.90 | 16.06* | 640*        |
| IW10                                  | 74 to 1332 | 28.94 | 13.50 | 2.32* | 24.84*               | 27.24* | 8.50  | 7.09 | 4.33 | 15.04  | 900*        |
| IW11 / IW11BB WITH 2ND SPUR AUXILIARY | 73 to 1946 | 31.30 | 15.00 | 8.03* | 30.98*               | 32.95* | 9.72  | 7.87 | 4.72 | 15.04  | 1285*       |
| IW12 WITH 2ND SPUR AUXILIARY          | 70 to 2374 | 38.27 | 17.72 | 8.03* | 38.94*               | 40.91* | 10.24 | 9.88 | 6.54 | 20.47  | 2575*       |

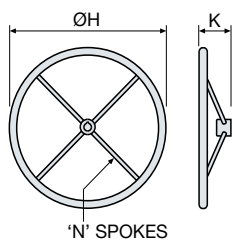
All dimensions in inches.

\*Values listed are maximums and are subject to change based on gearbox configuration and options.

### Material Specification

| Component          | Material                                 | Specification / Notes   |
|--------------------|--|---|
| Gearcase           | Ductile Iron                             | ASTM A536 65-45-12  |
| Baseplate          | Cast Iron                                | ASTM A48 35B/40B  |
| Worm Shaft         | Steel                                    | ASTM A29 4140   |
| Quadrant           | Ductile Iron (Manganese Bronze for IW55) | ASTM A536 100-70-03 (ASTM B584 UNS C86300)                                      |
| Position Indicator | Steel                                    | AISI 1023   |
| Drive sleeve       | Steel                                    | AISI 1023, AISI 1040 or AISI 1055 (All with self-lubricating surface treatment) |
| Bearings           | Steel                                    | Angular Contact   |
| O-Ring seals       | Nitrile                                  |   |
| Fasteners          | Stainless Steel                          | ASTM A276 316   |
| Grease             | Renolit CL-X2                            |   |
| Input Shaft        | Stainless Steel                          | ASTM A276 431   |

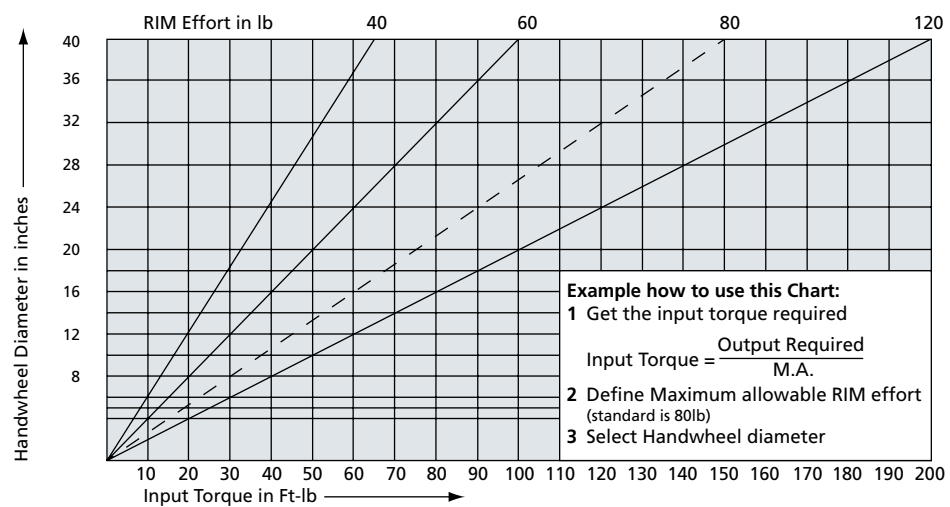
### Handwheel Selection Chart



'F' Type handwheel

#### Dimensions

| Type  | ØH | K    | N |
|-------|----|------|---|
| F200  | 8  | 2.97 | 3 |
| F300  | 12 | 3.96 | 3 |
| F400  | 16 | 3.96 | 4 |
| F500  | 20 | 3.96 | 4 |
| F600  | 24 | 3.96 | 4 |
| F700  | 28 | 3.96 | 6 |
| F800  | 32 | 3.96 | 6 |
| F900  | 36 | 3.96 | 6 |
| F1000 | 40 | 3.96 | 6 |
| F1100 | 44 | 3.96 | 6 |
| F1200 | 48 | 3.96 | 8 |



A full listing of the Rotork sales and service network is available on our website.

[www.rotork.com](http://www.rotork.com)

Rotork Gears UK  
tel +44 (0)113 256 7922  
email [sales@rotorkgears.com](mailto:sales@rotorkgears.com)

Corporate Headquarters  
Rotork plc  
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fax +44 (0)1225 333467  
email [mail@rotork.com](mailto:mail@rotork.com)

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