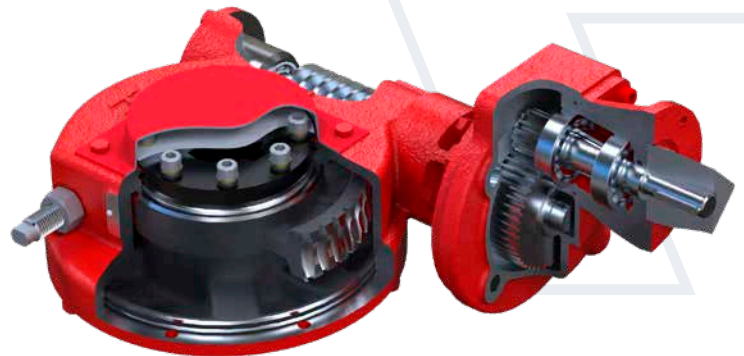




Keeping the World Flowing
for Future Generations



IW Series AWWA

C504 and C517 Quarter-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 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 (15m for 72 hours)

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 $\pm 10\%*$ | Max H/W dia inch | Max handwheel output torque | | Max wrench nut torque | | Rated output torque | | Approx Weight lbs |
|-----------|-------|----------------|----------------|------------------|-----------------------------|--------|-----------------------|--------|---------------------|--------|-------------------|
| | | | | | in lbs | ft lbs | in lbs | ft lbs | in lbs | ft lbs | |
| IW5 | 48 | 12 | 16 | 48 | 30720 | 2560 | 28800 | 2400 | 45139 | 3762 | 100 |
| IW5 | 96 | 24 | 30 | 36 | 43200 | 3600 | 45139 | 3762 | 45139 | 3762 | 121 |
| IW55 | 96 | 24 | 30 | 48 | 58394 | 4866 | 54744 | 4562 | 59034 | 4920 | 121 |
| IW55 | 144 | 36 | 46 | 36 | 59034 | 4920 | 59034 | 4920 | 59034 | 4920 | 121 |
| IW6 | 76 | 19 | 25 | 48 | 48815 | 4068 | 45764 | 3814 | 106740 | 8895 | 150 |
| IW6 | 228 | 57 | 72 | 36 | 104342 | 8695 | 106740 | 8895 | 106740 | 8895 | 174 |
| IW7 | 384 | 96 | 120 | 36 | 172872 | 14406 | 177000 | 14750 | 177000 | 14750 | 328 |
| IW8 | 768 | 192 | 233 | 36 | 300900 | 25075 | 300900 | 25075 | 300900 | 25075 | 545 |
| IW9 | 1044 | 261 | 342 | 36 | 492480 | 41040 | 562021 | 46835 | 562021 | 46835 | 754 |
| IW10 | 1332 | 333 | 421 | 36 | 563328 | 46944 | 668880 | 55740 | 668880 | 55740 | 996 |
| IW11 | 1946 | 487 | 595 | 48 | 1126256 | 93855 | 1126256 | 93855 | 1126256 | 93855 | 1287 |
| IW12 | 2372 | 593 | 795 | 48 | 1451520 | 120960 | 1432031 | 119336 | 1451520 | 120960 | 2652 |

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

| Unit Size | Ratio | Turns to close | MA $\pm 10\%*$ | Max H/W dia inch | Max handwheel output torque | | Max wrench nut torque | | Rated output torque | | Approx Weight lbs |
|-----------|-------|----------------|----------------|------------------|-----------------------------|--------|-----------------------|--------|---------------------|--------|-------------------|
| | | | | | in lbs | ft lbs | in lbs | ft lbs | in lbs | ft lbs | |
| IW5 | 48 | 12 | 16 | 48 | 30720 | 2560 | 28800 | 2400 | 45139 | 3762 | 100 |
| IW5 | 96 | 24 | 30 | 36 | 43200 | 3600 | 45139 | 3762 | 45139 | 3762 | 121 |
| IW55 | 96 | 24 | 30 | 48 | 58394 | 4866 | 54744 | 4562 | 59034 | 4920 | 121 |
| IW55 | 144 | 36 | 46 | 36 | 59034 | 4920 | 59034 | 4920 | 59034 | 4920 | 121 |
| IW6 | 76 | 19 | 25 | 48 | 48815 | 4068 | 45764 | 3814 | 106740 | 8895 | 150 |
| IW6 | 152 | 38 | 48 | 48 | 92749 | 7729 | 86952 | 7246 | 106740 | 8895 | 174 |
| IW7 | 262 | 66 | 82 | 48 | 153664 | 12805 | 144060 | 12005 | 177000 | 14750 | 328 |
| IW8 | 505 | 127 | 153 | 48 | 298240 | 24853 | 279600 | 23300 | 300900 | 25075 | 545 |
| IW9 | 696 | 174 | 240 | 48 | 437760 | 36480 | 410400 | 34200 | 562021 | 46835 | 739 |
| IW10 | 908 | 227 | 287 | 48 | 500736 | 41728 | 469440 | 39120 | 668880 | 55740 | 996 |
| IW11 | 1663 | 416 | 508 | 48 | 1027200 | 85600 | 963000 | 80250 | 1126256 | 93855 | 1287 |
| IW12 | 2372 | 593 | 795 | 48 | 1451520 | 120960 | 1432031 | 119336 | 1451520 | 120960 | 2652 |

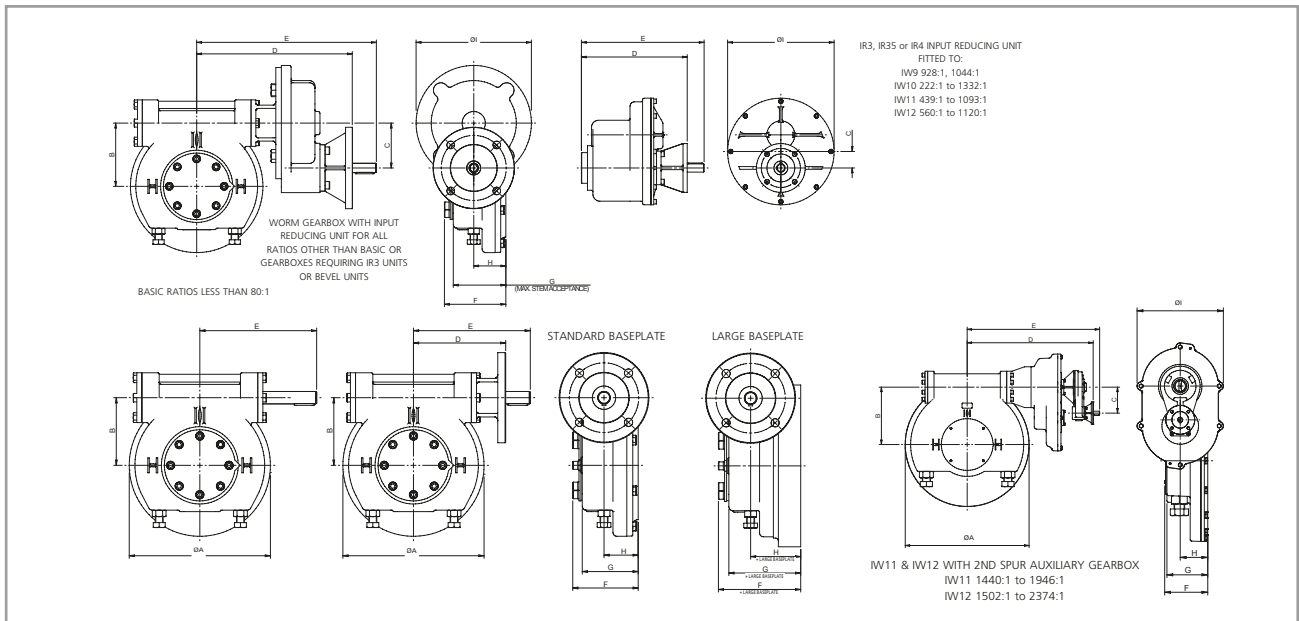
* The published M.A. is achieved after a few cycles. Other ratios are available.

Mounting Options

| Gearbox | Max Bore ANSI B17.1 Key | | Max Square Bore AF | MSS Standard Baseplate Options | Max Thread Depth Standard Baseplate** | Large Baseplate Option | Max Stem Height |
|----------------------|-------------------------|-------------|--------------------|--------------------------------|--|------------------------|-----------------|
| | Square | Rectangular | | | | | |
| IW5 / IW55 | 2.75 | 3 | 2.375 | FA14 - FA16 | 0.79 | FA25 | 4.48 |
| IW6 | 3.75 | 3.875 | 3.25 | FA16 - FA25 | 0.79 (FA16), 0.63 (FA25) | FA30 | 4.45 |
| IW7 | 4.875 | 5.25 | 4.25 | FA25 - FA30 | 0.94 | FA35 | 5.51 |
| IW8 | 5.625 | 6 | 4.75 | FA25 - FA30 - FA35 - FA40 | 0.94 (FA25), 1.18 (FA30), 1.42 (FA35 and FA40) | FA40 - FA48 | 6.30 |
| IW9 | 6.5 | 6.5 | 5.125 | FA30 - FA35 - FA40 | 1.18 (FA30), 1.42 (FA35 and FA40) | FA40 - FA48 | 6.62 |
| IW10 | 7.375 | 7.625 | 6 | FA35 - FA40 - FA48 | 1.18 (FA30), 1.42 (FA35 and FA40) | FA60 | 7.10 |
| IW11 | 7.375 | 7.625 | 6 | FA40 - FA48 | 1.42 | FA60 | 7.87 |
| IW11BB | 9.875 | 10.125 | 7.5 | FA40 - FA48 | 1.42 | FA60 | 7.87 |
| IW12 | 9.5 | 10.25 | 7 | FA40 - FA48 - FA60 | 1.5 | - | 9.88 |
| IW12 (12" Baseplate) | 11.75 | 12 | 9 | FA48 - FA60 | 1.5 | - | 9.88 |

** Deeper thread depths are available on request using the Large Baseplate option.

IW Series AWWA



Dimensions and Weights

| Gearbox | Ratio | ØA | B | C | D | E | F | G | H | ØI | Large Baseplate Additional Thickness | Weight (lb) |
|---------------------------------------|------------|-------|-------|-------|----------------------|--------|-------|------|------|--------|--------------------------------------|-------------|
| IW5 / IW55 | 48, 96 | 11.22 | 5.35 | | 7.32 | 9.29 | 5.20 | 4.49 | 2.72 | | 0.24 | 100 / 115 |
| IW5 / IW55 | 96, 144 | 11.22 | 5.35 | 2.52 | 12.32 | 14.33 | 5.20 | 4.49 | 2.72 | 7.48 | 0.24 | 115 |
| IW6 | 76 | 14.76 | 7.01 | | 7.32 (7.72 for FA10) | 9.29 | 5.47 | 4.45 | 2.76 | | 0 | 150 |
| IW6 | 152, 228 | 14.76 | 7.01 | 2.52 | 12.32 | 14.33 | 5.47 | 4.45 | 2.76 | 7.48 | 0 | 175 |
| IW7 | 64 to 384 | 17.72 | 8.27 | 4.69* | 18.11* | 20.51* | 6.73 | 5.51 | 3.39 | 11.42* | 1.22 | 335* |
| IW8 | 64 to 768 | 20.47 | 9.69 | 7.05* | 19.88* | 22.28* | 7.56 | 6.30 | 3.90 | 16.06* | 1.49 | 490* |
| IW9 | 58 to 1044 | 23.46 | 10.98 | 7.05* | 23.82* | 26.22* | 7.87 | 6.61 | 3.90 | 16.06* | 1.06 | 640* |
| IW10 | 74 to 1332 | 28.94 | 13.50 | 2.32* | 24.84* | 27.24* | 8.50 | 7.09 | 4.33 | 15.04 | 1.26 | 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 | 0 | 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 | 0 | 2575* |

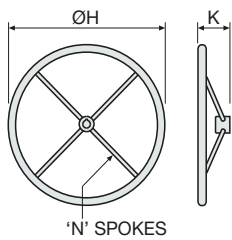
All dimensions in inches.

*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 |

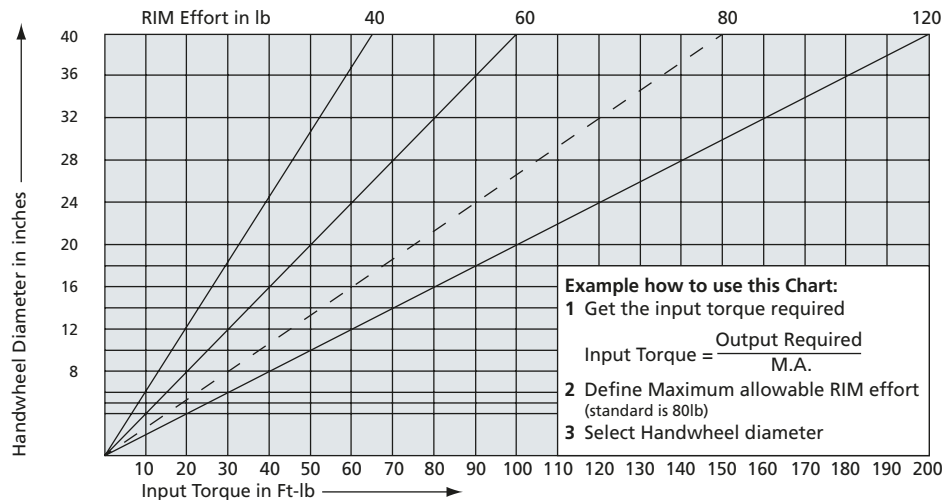
Handwheel Selection Chart



'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.

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