

RHINO GATE™

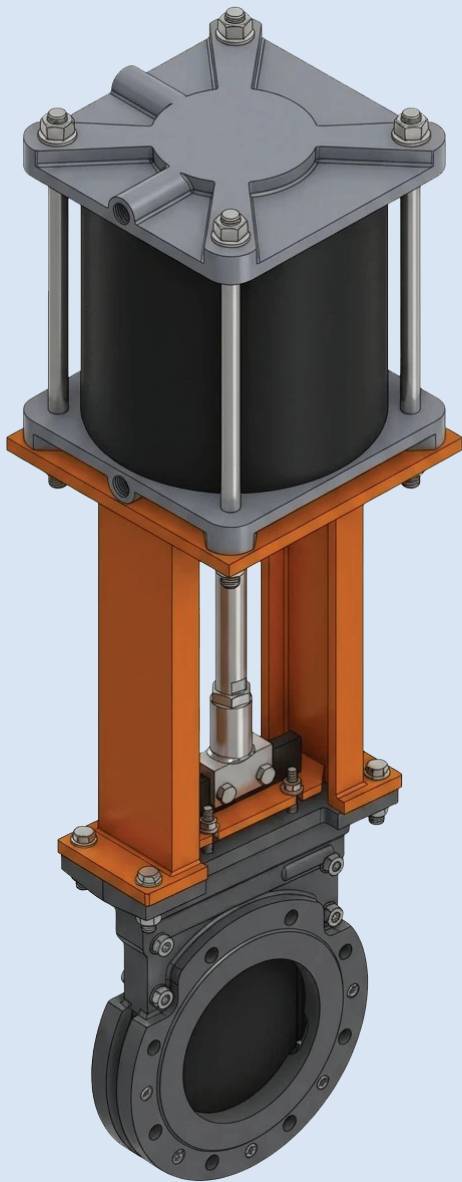
Severe Service Knife Gate Valves



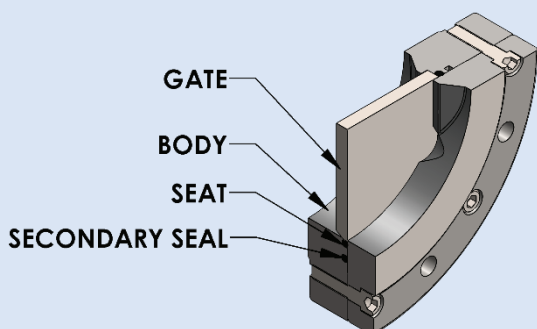
Model RSS-150 and Model RSS -300

The search is over™

RSS Bi-Directional high performance



SOFT SEAT



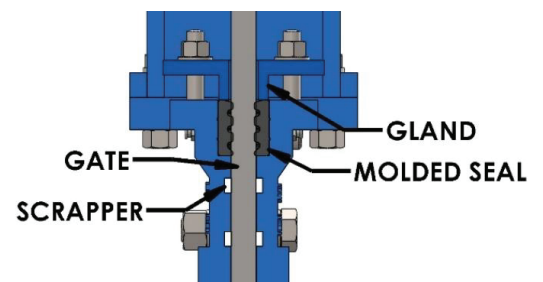
Features and benefits

- RSS Knife Gate Valves are a High Pressure Bi-directional Zero Leakage valve designed for isolation applications in corrosive slurries with scaling tendencies, high pressure natural slurries with high concentration of solids, abrasive
- Bi-directional zero leakage for repeatable isolation.
- Two piece ASME B 16.5 raised face full flanged body design.
- Fully guided gate which ensures the smooth operation
- Dynamic self-adjusting packing seal.
- Seat retained out of the flow stream to eliminate the potential damage
- Replaceable seat rings with all alloy options

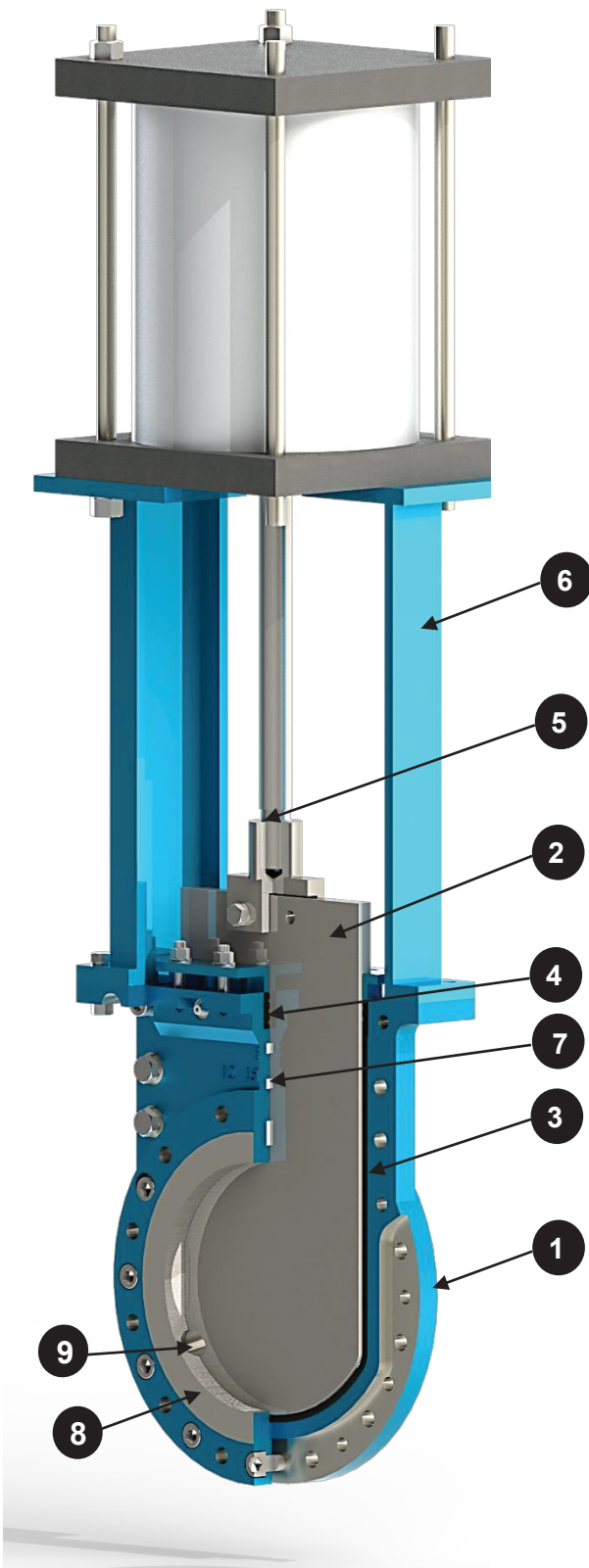
Technical specification

| | |
|---------------------|--------------------------------|
| Size | 2" to 24" |
| Design Pressure | Class 150 & Class 300 |
| Working Temperature | 200°C (Viton Seat) |
| Seat | Soft Seat |
| Design standard | MSS SP-135 (Short pattern) |
| Face to Face | MSS SP-135 (Short pattern) |
| Flange Drilling | ASME B16.5 |
| Body Shell Test | MSS SP-135 |
| Seat Test | MSS SP-135 |
| Seat Wear Rings | Tungsten Carbide/Stellite, etc |

One piece Molded packing seal



The scraper removes **debris, slurry or solid particles** from the gate (blade) surface when the valve opens or closes. This prevents material build-up on the gate. The scraper prevents solids from entering the **packing area**, which protects the packing and increases its life. Removing stuck materials reduces the risk of **gate blockage or jamming**, ensuring smooth operation.



1) BODY:

Two-piece cast body with reinforced ribs in larger diameters provides for additional strength. The full bore and dual flush port Internal design, avoids build up of solids that can prevent the valve from closing. Flush-out areas ensure product is expelled by the blade closing action.

2) GATE:

The stainless steel gate surface is machined and polished for a greater sealing between the gate and transverse seals. Bevelled edge gate to cut through tough solids. Fully guided gate eliminates gate movement during closing and eliminates gate deformation.

3) SEAT:

Mechanically retained seal prevents shifting during valve operation. Seal location and seat design ensure full bi-directional sealing and zero leakage.

4) PACKING:

The one-piece, self-adjusting, molded packing seal eliminates any leakage between the knife gate and top of the valve body in any orientation. The packing seal also prevents any outside contaminants from getting inside the valve. Other packing options available

5) STEM / PISTON ROD:

The standard stainless steel stem / rod offers a long corrosion resistant life. Clevis design horizontal bolting stabilizes gate ensuring proper alignment.

6) YOKE:

Fully welded steel top structure provides the strength and rigidity needed for demanding applications. Made of stainless steel (EPOXY coated steel available on request). Compact design makes it extremely robust even under the most severe conditions.

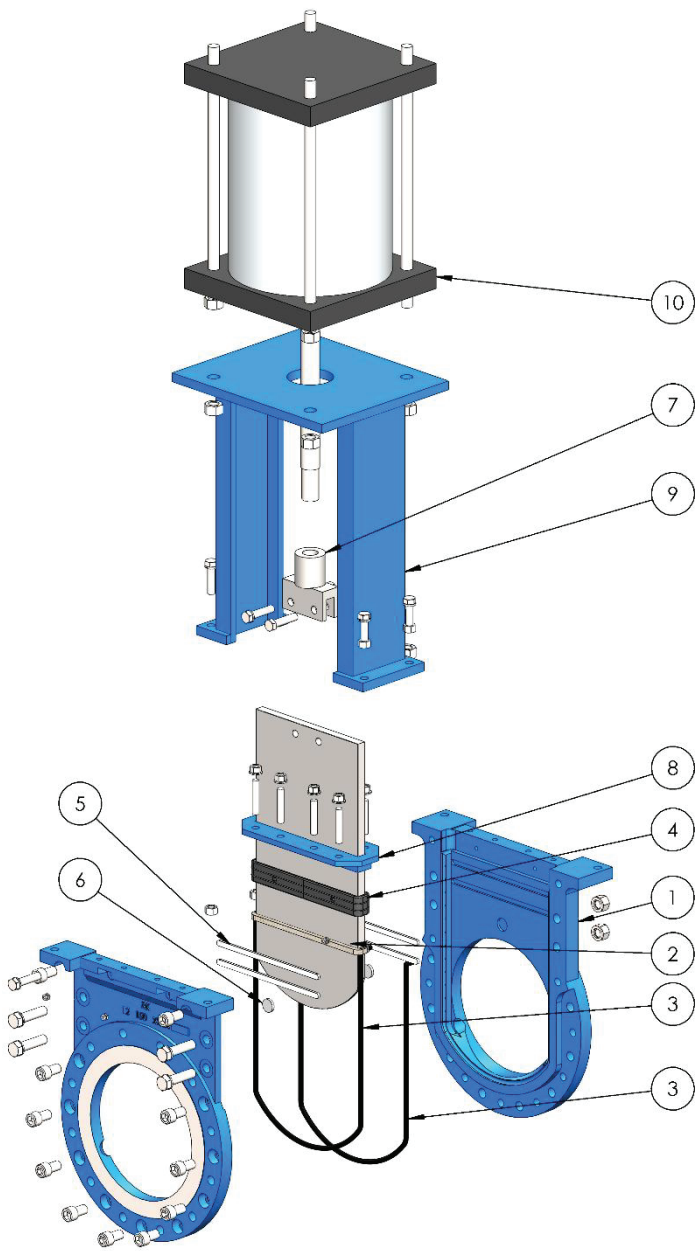
7) SCRAPER:

The scraper removes debris, slurry, fibers, or solid particles from entering the packing area, which protects the packing and increases its life.

8) Replaceable wear Rings made from all popular alloys like Tungsten Carbide/Stellite, and all other options depending on the application

9) FLUSH PORTS

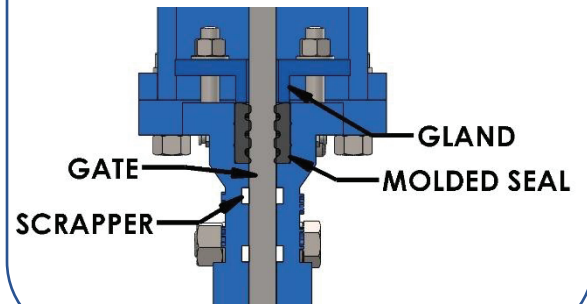
| Sl.No. | Description | Material |
|--------|--------------------|------------------------------------|
| 1 | Body | WCB / CF8 / CF8M / CN7M / CN3MN |
| 2 | Gate | SS 316 / SS2507 / AL-6XN / 17.4 PH |
| 3 | Seat/Seal | Viton / EPDM / NBR |
| 4 | Packing | Viton / EPDM / NBR |
| 5 | Scraper | PTFE |
| 6 | Gate Guide Buttons | PTFE |
| 7 | Clevis | SS 304 / SS 316 / SS 410 |
| 8 | Gland | SS / CS |
| 9 | Yoke | SS / CS |
| 10 | Actuator | STD |



4. Packing Options:

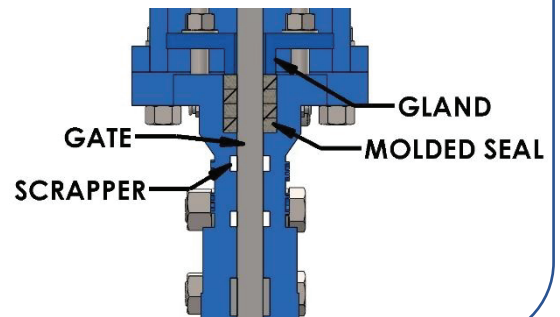
RSS Standard Model

Molded Seal Packing



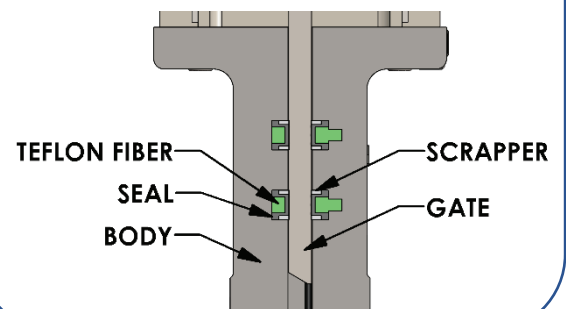
Optional Model

Braided PTFE Packing



Optional Model

Transverse Gate Seal



OPTIONAL ACTUATORS



Bevel Gear

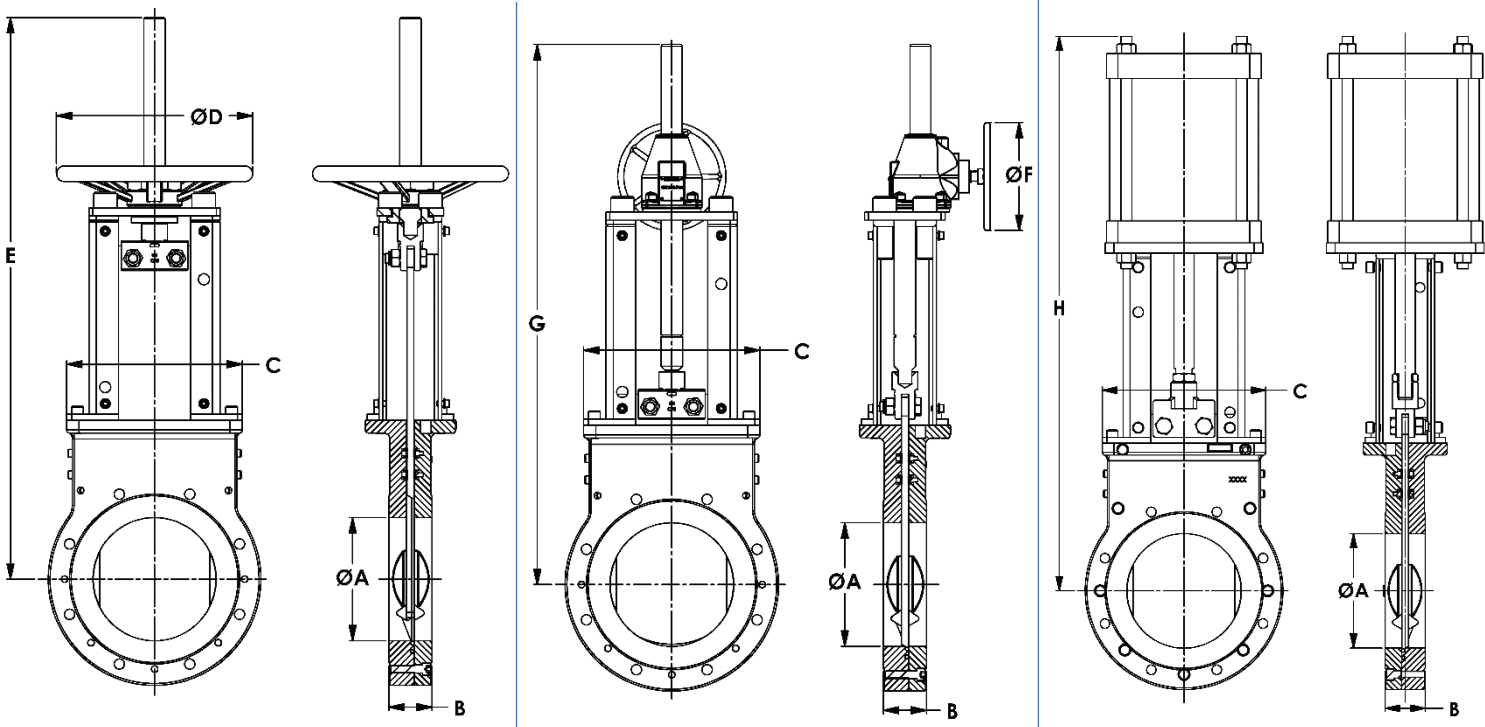


Electric Actuator



Hydraulic Double Acting Cylinder

RSS -Class 150 DIMENSIONS TABLE

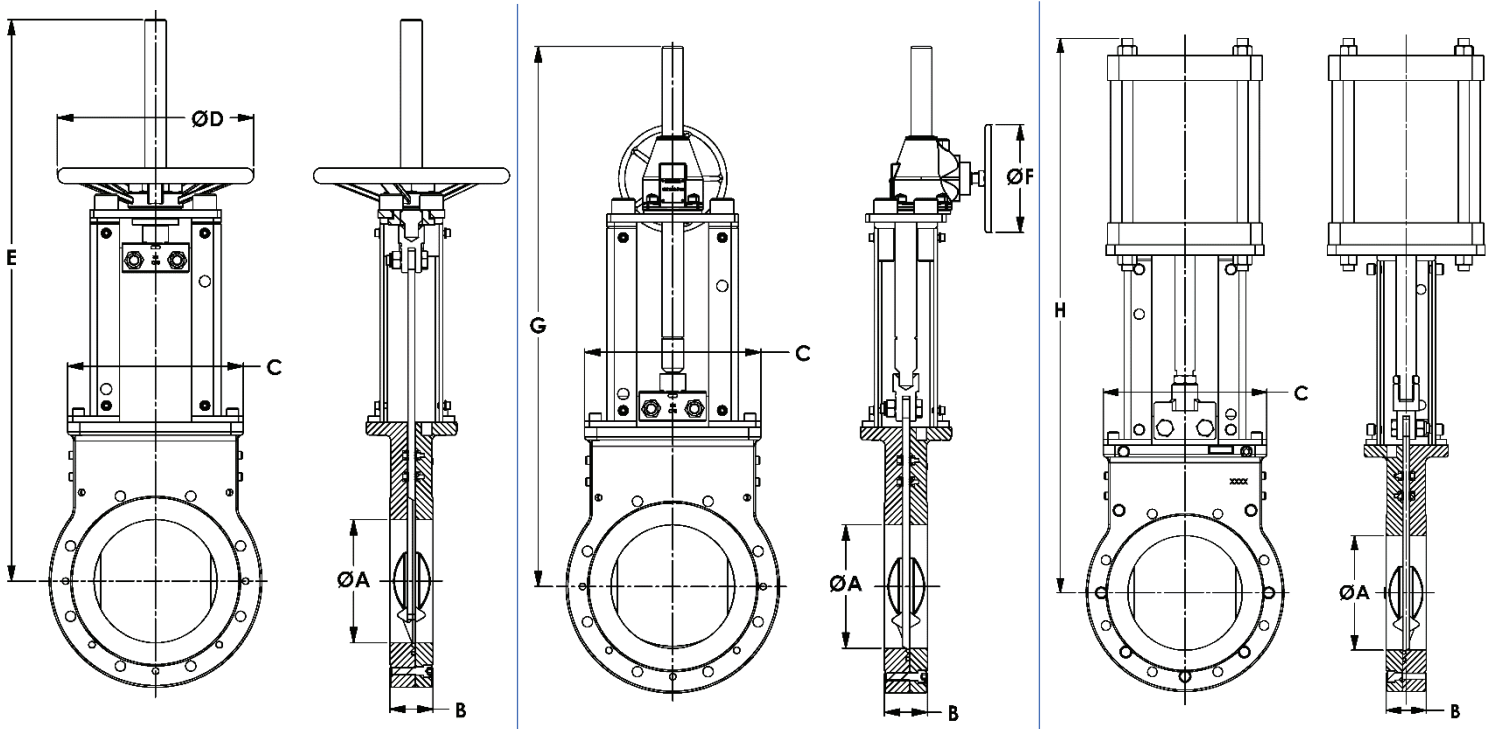


| VALVE SIZE | | Common | | | HW | | GE | | CYL | Weight (lbs) | | |
|------------|-----|--------|------|-------|------|------|------|-------|-------|--------------|--------|--------|
| NPS | DN | ØA | B | C | ØD | E | ØF | G | H | HW | GE | CYL |
| 2 | 50 | 1.97 | 2.00 | 5.90 | 10.0 | 19.0 | 8.0 | 21.5 | 20.7 | 36.0 | 45.0 | 48.0 |
| 3 | 80 | 2.95 | 2.00 | 6.75 | 10.0 | 22.0 | 8.0 | 24.6 | 24.1 | 58.0 | 65.0 | 70.0 |
| 4 | 100 | 3.94 | 2.00 | 7.52 | 10.0 | 25.5 | 8.0 | 27.5 | 27.2 | 75.0 | 81.0 | 85.0 |
| 6 | 150 | 5.71 | 2.24 | 9.85 | 12.0 | 31.5 | 12.0 | 34.0 | 32.9 | 115.0 | 130.0 | 150.0 |
| 8 | 200 | 7.48 | 2.76 | 11.22 | 16.0 | 37.5 | 12.0 | 42.5 | 41.1 | 210.0 | 225.0 | 280.0 |
| 10 | 250 | 9.45 | 2.76 | 15.13 | 16.0 | 45.0 | 12.0 | 48.2 | 48.0 | 265.0 | 290.0 | 450.0 |
| 12 | 300 | 11.42 | 2.99 | 17.63 | 22.0 | 50.5 | 16.0 | 51.0 | 53.5 | 400.0 | 415.0 | 650.0 |
| 14 | 350 | 12.60 | 2.99 | 19.55 | 22.0 | 57.0 | 16.0 | 62.0 | 64.0 | 500.0 | 535.0 | 900.0 |
| 16 | 400 | 14.57 | 3.50 | 22.00 | 22.0 | 66.0 | 20.0 | 69.0 | 70.5 | 780.0 | 820.0 | 1350.0 |
| 18 | 450 | 16.34 | 3.50 | 24.1 | 30.0 | 72.0 | 20.0 | 74.5 | 77.5 | 860.0 | 960.0 | 1450.0 |
| 20 | 500 | 18.31 | 4.49 | 26.85 | 30.0 | 79.5 | 20.0 | 90.5 | 87.0 | 1350.0 | 1450.0 | 2000.0 |
| 24 | 600 | 22.05 | 4.49 | 30.58 | 30.0 | 91.0 | 20.0 | 102.5 | 102.0 | 1650.0 | 1750.0 | 2500.0 |

Dimensions are given in inches.

Abbreviations: HW – Handwheel operator, GE – Bevel Gear Operator, CYL – Pneumatic Cylinder Operator.

RSS -Class 300 DIMENSIONS TABLE



| VALVE SIZE | | Common | | | HW | | GE | | CYL | H.CYL |
|------------|-----|--------|------|-------|------|------|------|-------|------|-------|
| NPS | DN | ØA | B | C | ØD | E | ØF | G | H | H |
| 2 | 50 | 2.00 | 2.75 | 6.50 | 11.8 | 20.0 | 12.0 | 22.5 | 20.7 | 21.5 |
| 3 | 80 | 3.00 | 2.75 | 8.25 | 11.8 | 23.0 | 12.0 | 26.0 | 24.1 | 27.0 |
| 4 | 100 | 4.00 | 2.75 | 10.00 | 11.8 | 26.5 | 12.0 | 28.5 | 27.2 | 30.5 |
| 6 | 150 | 6.00 | 3.15 | 12.50 | - | - | 16.0 | 35.0 | 32.9 | 44.7 |
| 8 | 200 | 8.00 | 3.50 | 15.00 | - | - | 16.0 | 43.5 | 41.1 | 49.0 |
| 10 | 250 | 10.00 | 4.68 | 17.50 | - | - | 20.0 | 50.0 | 48.0 | 57.0 |
| 12 | 300 | 12.00 | 5.00 | 20.50 | - | - | 20.0 | 55.0 | 53.5 | 69.0 |
| 14 | 350 | 13.25 | 5.50 | 23.00 | - | - | 20.0 | 63.5 | 64.0 | 81.0 |
| 16 | 400 | 15.25 | 5.50 | 25.50 | - | - | 25.0 | 71.0 | - | 86.5 |
| 18 | 450 | 17.00 | 6.25 | 28.00 | - | - | 25.0 | 76.5 | - | 95.0 |
| 20 | 500 | 19.00 | 7.44 | 30.50 | - | - | 25.0 | 92.5 | - | 101.5 |
| 24 | 600 | 23.00 | 8.50 | 36.00 | - | - | 25.0 | 104.5 | - | 116.5 |

Dimensions are given in inches.

Abbreviations: HW – Handwheel operator, GE – Bevel Gear Operator, CYL – Pneumatic Cylinder Operator.

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