

Rovalve

Fully rated, bonneted knife gate, for critical services in a variety of industries.

Features and Benefits

- Fully rated, totally enclosed bonnet.
- Stem-packed design is easier to maintain and provides an excellent atmospheric barrier.
- Can be built for fully buried service.
- Made with cast 304, 316 and 317 solid cast stainless steel body or fabricated from any alloy.
- Precision machined seat with multiple gate guides provides tight one-way shut-off.
- Meets MSS SP-81 leakage requirements, not to exceed 40 cc per inch per minute at 40 psi.
- Beveled gate cuts through solids.
- Full operation, leakage and cycling tests.
- Certified test reports on request.

Full Range of Operators and Accessories

- Handwheel (standard)
- Bevel gear
- Lock-Pin for open, closed or both
- Air/Hydraulic/Spring cylinders
- Electric motor operators
- Control accessories
- Extension stems, floorstands, stem guides

Advantages

Knife gate valves are especially suited for today's process industries. Designed to shut-off liquids, slurries and solids, they are extremely cost effective and offer several advantages over plug valves, butterfly valves and ball valves.

Rovalve knife gate valves feature a round, unobstructed port which allows more GPM with less wear on the port and seat areas when compared to other



valve types. Difficult mediums such as pulp stock, fly ash, sludge and limestone slurries flow through with low pressure drop and minimal valve wear.

General Applications

- For severe service and specialty applications
- Pulp and paper
- Waste water
- Chemical
- Power

Technical Data

Size range: 2" to 24" 150 psi CWP

Designed and tested to MSS SP-81

Above 24" designed to suit application including sizes through 144"

Rovalve Figure 220 Bonneted Knife Gate Valve

2" to 24"

Specifications

Bonneted knife gate valve, 150 psi design for 150 psi CWP, cast stainless steel one piece body with fabricated fully rated, pressure retaining bonnet. Body to have face-to-face per MSS SP-81 with seating provided by a machined metal seat for tight shut-off in one direction with gate guides and seating wedges adequate to withstand full reverse pressure without damage with gate in fully closed position and lug style port flanges drilled and tapped to ANSI B16.5/150 with machined raised gasket faces. Gate to be stainless steel finish ground or machined with 45° bevel. Bonnet to be fabricated from heavy plate and sheet with the wetted parts the same material as the cast body complete with carbon steel or better bonnet flanges and external stiffeners. To help prevent atmospheric leakage, the bonnet features an adjustable packing assembly consisting of multiple layers of braided ASBESTOS FREE TEFLON® IMPREGNATED SYNTHETIC or equal packing around valve stem evenly compressed by a cast stainless steel one-piece packing gland. Valve is equipped with a manual handwheel operator assembly featuring a cast ductile iron handwheel, a heavy-duty foot mounted yoke with an acid resistant bronze stem nut and a stainless steel rising stem the same material as the body. All nonferrous exterior surfaces shall be painted to Tyco standard. **Specify Rovalve Figure 220.**

Code of Material

| Item | A | B | C | D | F | H | K |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Seat | 304 | 316 | 304 | 316 | 304 | 317L | 317L |
| Wetted body & bonnet parts* | 304 | 316 | 304 | 316 | CS | 317L | 317L |
| Gate | 304 | 316 | 304 | 316 | 304 | 317L | 317L |
| Stem | 304 | 316 | 304 | 316 | 304 | 317L | 317L |
| Flange faces | 304 | 316 | 304 | 316 | CS | 317L | 317L |
| Flanges/Gussets | CS | CS | 304 | 316 | CS | CS | 317L |
| Packing gland | 316 | 316 | 316 | 316 | 316 | 316 | 317L |
| Packing | AFPL | AFPL | AFPL | AFPL | AFPL | AFPL | AFPL |
| Bolting | Plated steel | Plated steel | 304 | 304 | Plated steel | Plated steel | 304 |
| Yoke | CS | CS | 304 | 304 | CS | CS | 304 |
| Handwheel | Cast ductile | Cast ductile | Cast ductile | Cast ductile | Cast ductile | Cast ductile | Cast ductile |

AFPL is an asbestos free Teflon® impregnated synthetic packing suitable for services up to 500°F and a pH of 3-11, other packings are available.

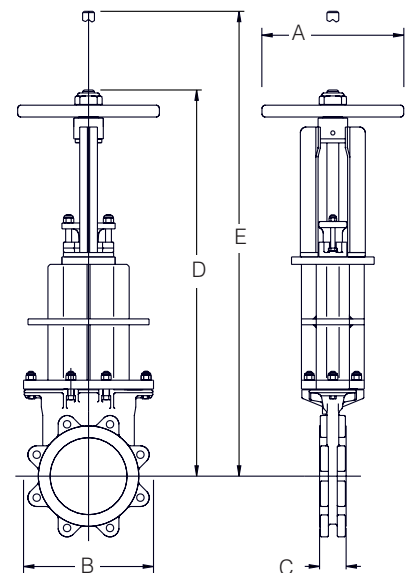
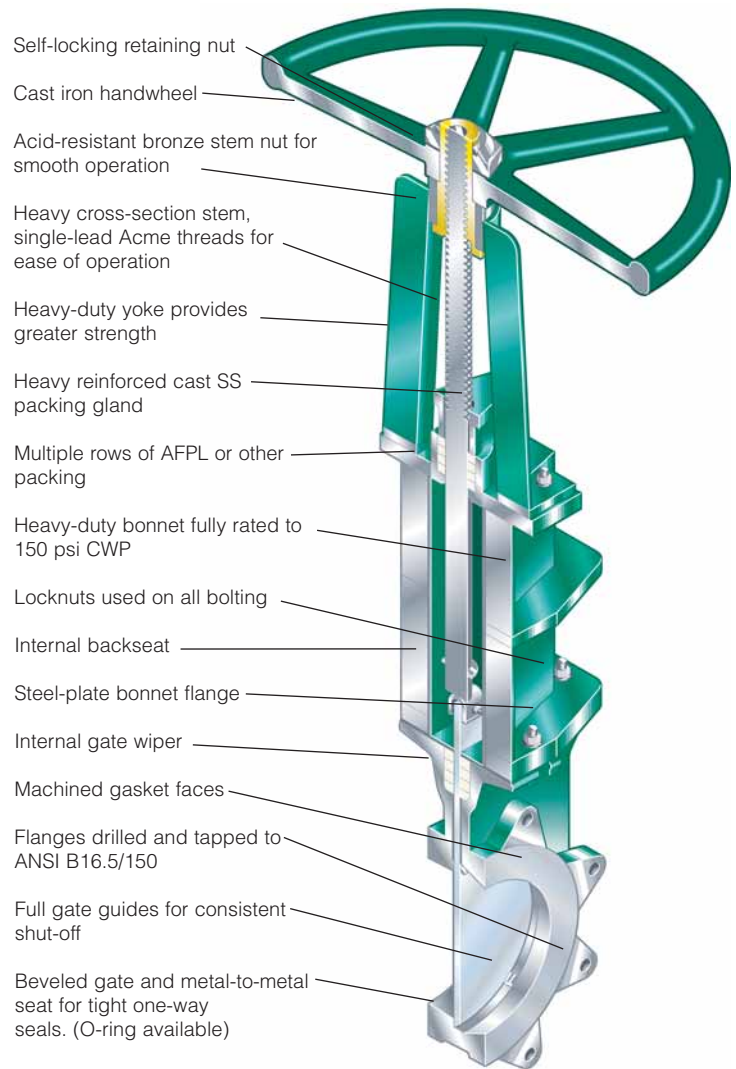
* Sizes 2" to 24" use a solid cast stainless steel body with a fabricated bonnet; fully fabricated versions feature a smooth-flowing die-formed body.

C_v Values

| Sizes (in.) | Area of Opening (Square Inches) | Flow in GPM of Water (1 psi Pressure Drop) |
|-------------|---------------------------------|--|
| 2 | 3.1 | 288 |
| 3 | 7.1 | 649 |
| 4 | 12.6 | 1154 |
| 6 | 28.3 | 2596 |
| 8 | 50.3 | 4618 |
| 10 | 78.5 | 6605 |
| 12 | 113 | 9561 |
| 14 | 145.9 | 12686 |
| 16 | 188.7 | 14878 |
| 18 | 240.5 | 18391 |
| 20 | 298.6 | 21424 |
| 24 | 433.7 | 30852 |

Dimensions and Weights

| Size (in.) | A | B | C | D | E | Weight (lbs) |
|------------|----|------|------|-------|-------|--------------|
| 2 | 12 | 6 | 1.88 | 21.38 | 24 | 65 |
| 3 | 12 | 7.5 | 2 | 21.38 | 24 | 68 |
| 4 | 12 | 9 | 2 | 24.13 | 27.75 | 78 |
| 6 | 12 | 11 | 2.25 | 29.88 | 35.5 | 109 |
| 8 | 12 | 13.5 | 2.75 | 36.13 | 43.75 | 187 |
| 10 | 16 | 16 | 2.75 | 41.25 | 50.88 | 251 |
| 12 | 16 | 19 | 3 | 47.75 | 59.5 | 354 |
| 14 | 20 | 21 | 3 | 57.75 | 71.38 | 436 |
| 16 | 20 | 23.5 | 3.5 | 64 | 79.75 | 580 |
| 18 | 20 | 25 | 3.5 | 70 | 87.5 | 658 |
| 20 | 20 | 27.5 | 4.5 | 74.13 | 93.25 | 810 |
| 24 | 20 | 32 | 4.5 | 87.38 | 110.5 | 1147 |



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