



## Rovalve

**Revolutionary, state-of-the-art knife gate valve featuring a patented\* bolted-in-place perimeter seal, a valve like no other.**

### Features

- Two-way ZERO LEAKAGE shut-off from full vacuum to the rated pressure of 150 psi.
- True bi-directional flow and shut-off, can be installed in either direction.
- Seat is outside the flow area resulting in higher  $C_v$  with minimum pressure drop.
- Seat is bolted-in-place and cannot pull out or shift in the body.
- Optional elastomers include:
  - EPDM-htp (standard)
  - Low Durometer FKM
  - Nitrile-htp (BUNA-N)
  - Natural Gum Rubber
- Superior all-around the gate packing requires lower maintenance.
- Bolted body makes for simple access and seat replacement.
- Integral molded packing support bar maximizes packing performance and minimizes unwanted gate drift.
- 316 or 317 solid cast stainless steel body and packing gland.
- MSS face-to-face.
- Cast SuperYoke features:
  - Top-Removal stem nut
  - Standard open and closed lockouts
  - Heavy cross section I-beam legs
- The SuperYoke is a flexible, adaptable design, it can be field modified to an air cylinder or bevel gear without welding.



### Full range of operators and accessories

- Handwheel (standard)
- Bevel gear
- Lock-Pin for open, closed or both
- Quick-open lever (limited sizes)
- Air/hydraulic/spring cylinders
- Electric motor operators
- Control accessories
- Extension stems, floor stands, stem guides

### General applications

- Pulp and paper
- Chemical
- Petro-chemical
- Power
- Mining
- Wastewater

### Advantage SB1700 Knife Gate Valve

Continuing the tradition of product innovation, we proudly introduce the revolutionary Rovalve SB1700 Stainless Bolted Body Knife Gate Valve. Featuring bi-directional, ZERO LEAKAGE shut-off, the SB1700 retains the perimeter elastomer seat with the body bolts, giving you unsurpassed performance along with complete confidence in the seat and packing.

### Technical data

Size range : DN50 thru DN600 150 psi  
CWP at ambient temperature

\* Patent number 5,979,874

# Rovalve SB1700 Stainless Bolted Body Knife Gate Valve

DN50 thru DN600

## Features

### Integrally molded packing support bar with superior all-around the gate packing

The packing is supported by the packing support bar that is integrally molded as part of the elastomer seat. The use of the bolt-in-place seat allows the SB1700 to utilize a superior all-around the gate packing assembly. On other perimeter-seated valves, the seat protrudes through the packing box, creating a potential leak path. Unlike other bolted body resilient seated valves that claim to be repackable under pressure, the SB1700 does not require special tools or unique packing materials to reduce or eliminate packing seepage. Simply tighten the packing gland bolts just enough to stop the leakage and you are back in business. In addition, in the event of a catastrophic packing failure, the SB1700 does not have to be removed from the line or completely disassembled to be repacked. The SB1700 perimeter seat is retained and enclosed within the valve body, it does not extend into or through the packing box. This is truly a superior design, making the SB1700 unlike any other perimeter-seated valve in the industry.

### Bolted body, perimeter seat

With the bolted-in-place seat design, the seat cannot pull out or shift in the body because the body bolts extend through the seat, locking it in place. This same feature means the seat is simple to replace with easy access, no need to snake a limp seal into a body channel.

### The SB1700 perimeter seat is truly bi-directional

The SB1700 features two-way ZERO LEAKAGE shut-off from full vacuum to the rated pressure of 150 psi. This is a true bi-directional valve and can be installed in either direction. With a perimeter seat design, the seat is outside the flow area giving you a higher Cv value with minimum pressure drop. As the gate strokes to the closed position, the end and edges of the gate produce an interference fit, creating a perfect seal. Since pressure against the gate is not required to achieve a seal you get the same performance in both directions and at any pressure. With the final stroke length limited by the mechanical stroke stop, the seat is never overcompressed.

### SuperYoke with top-removal stem nut

To increase stem nut life and provide for easier maintenance, the SuperYoke includes a unique top removal encapsulated stem nut assembly. The stem nut is supported on both the top and bottom bearing surfaces, literally surrounded in a blanket of lubrication. Maintenance is simple with the encapsulated stem nut, replacement is simple and quick; remove the handwheel and retaining bolts, pull the retainer free, and then rotate the old stem nut off the stem. Reverse the process to reassemble, and you are back in operation.

### SuperYoke standard with open and closed lockouts

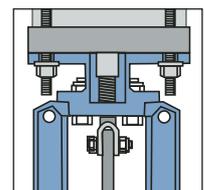
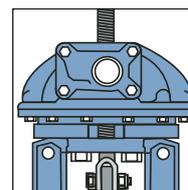
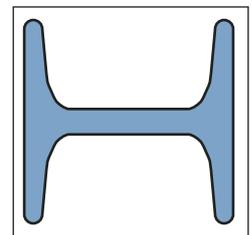
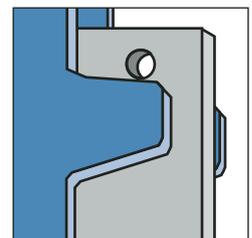
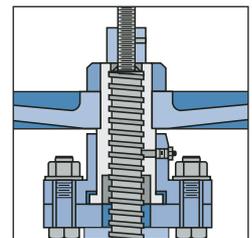
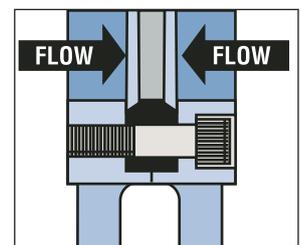
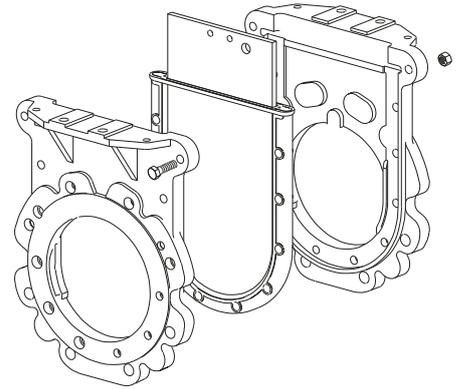
As an added feature, the SuperYoke has heavy cross section integral locking ears with a hole already in the gate to accept a sturdy pin for both the open and closed positions. Remember, these locking ears are standard on all sizes of handwheel operated valves; you do not have to order them separately. With a customer-supplied pin, you can lock the valve without further modification to the valve and at no extra cost!

### Heavy cross section I-Beam legs on SuperYoke

Compare the yoke leg of the new SuperYoke against a typical T-Bar yoke leg. Which would be stronger? Obviously, the SuperYoke with the cast I-Beam cross section is superior. You would have to work extra hard to bend or break this yoke!

### SuperYoke is a flexible, adaptable design

The SuperYoke can be field modified to air cylinder or bevel gear with minimal effort. Conversion kits include an adapter plate that simply bolts in place of the stem retainer, no welding required!



# Rovalve Figure S17 Resilient Seated Knife Gate Valve DN50 thru DN600

## Features

Stroke stop-stud assembly allows gate/seat adjustment, prolongs seat life

Cast ductile iron handwheel

Heavy cross-section 304 stainless steel stem, single-lead Acme threads for ease of operation

Self-locking handwheel retaining nut

Encapsulated, top-removal, acid-resistant bronze stem nut smooth operation

Cast SuperYoke

Precision machined standard open and closed lockout positions

Four bolt packing gland, as a minimum, provide even compression preventing binding and scoring of gate

Drain holes in yoke legs to prevent media buildup and potential corrosion points

Locknuts used on all bolting

Superior all-around the gate packing assembly with multiple rows of AFPL or other packing. Adjustment is simple; no special tools required.

Full port flow area through 12"

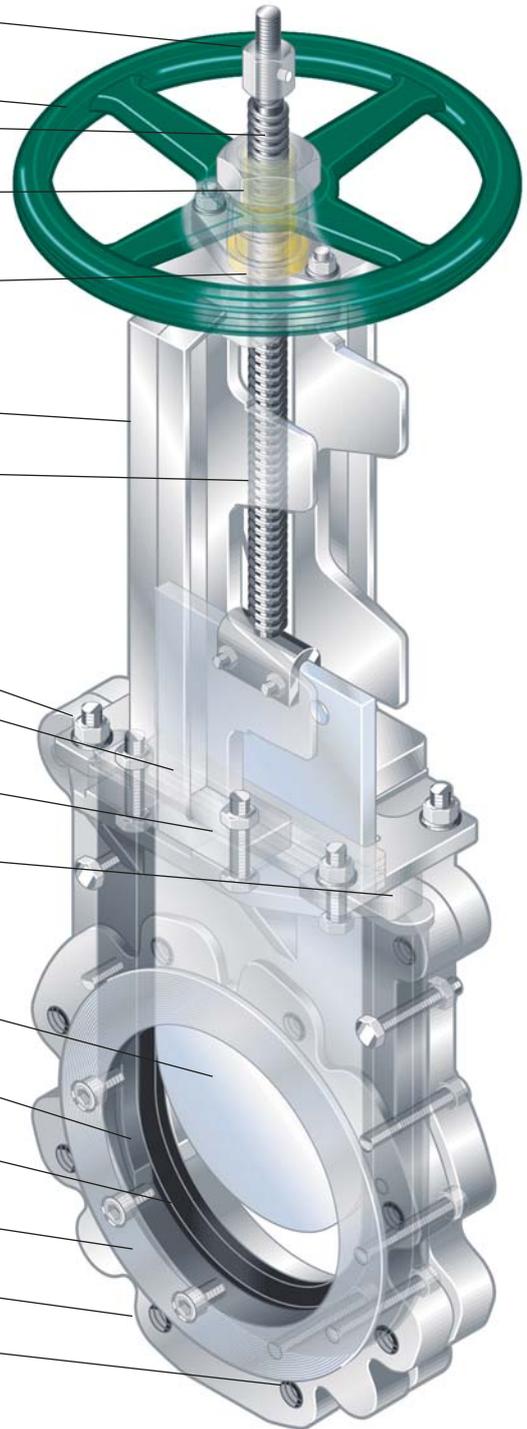
Full gate guides to assure proper seating

Replaceable bi-directional perimeter bolted-in-place resilient seat with integral-packing-support bar is standard (see detail below)

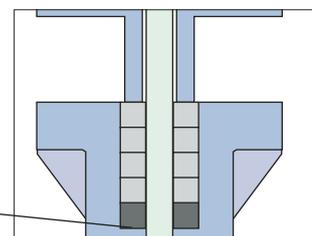
Machined gasket faces

Cast 316 SS or 317 SS body

Universal style lugged flanges, can be drilled to PN10, PN16, standard drilling meets ANSI B16.5/150



The integrally molded packing support bar assures consistent packing compression and guides the gate, maximizing packing performance and minimizing unwanted gate drift.



Packing support bar

# Rovalve Figure S17 Resilient Seated Knife Gate Valve DN50 thru DN600

## Specification

### Rovalve Figure SB1700, 2" thru 24"

Bonnetless, knife gate valve, 150 psi design for 150 psi CWP, cast stainless steel two-piece bolted-body with lug style port flanges standard with bolt holes drilled and tapped to ANSI B16.5/150, but capable of having PN10 or PN16 flange drilling as required, with machined raised gasket faces, face to face dimension per MSS-SP81. Body halves shall be identical and field replaceable for ease of repair and rebuild. Valve seating shall be provided by a bolt-in-place resilient seat positioned to seal around perimeter of gate for uninterrupted flow, with zero leakage of water allowed in both directions from full vacuum to the full rated pressure of the valve. The resilient seat shall be a molded elastomer of EPDM (or as required for application) with integrally molded packing support bar. When installed, the body bolts shall go through the seat cross-section, firmly locking it in place. The valve seat shall not be visible in the packing area, instead an all-around the gate packing assembly shall be provided. To prevent atmospheric leakage, the packing assembly shall consist of a cast solid stainless steel packing gland, minimum four bolt design for even compression, with multiple layers of braided asbestos free Teflon<sup>®</sup> impregnated synthetic or equal packing in valve chest. The packing assembly shall be fully adjustable without the use of special tools and shall be replaceable without completely disassembling the valve body or with the valve installed in a depressurized pipeline. Valve is equipped with a manual handwheel operator assembly featuring a cast ductile iron handwheel, a solid cast foot mounted yoke with a fully encapsulated acid resistant bronze stem nut which is completely replaceable from the top of the yoke without removing the yoke, and integral cast-in-place OPEN and CLOSED locking ears suitable for optional case hardened steel lock pin, including a 304 stainless steel rising stem. Yoke shall be convertible to bevel gear or cylinder operator in the field without welding. All nonferrous exterior surfaces shall be painted to factory standard. **Specify Rovalve Figure SB1700.**

## C<sub>v</sub> Values

Valve Size	Flow, round port	Area of Opening	Flow, V-Port	Area of Opening
50	325	20	158	17
80	791	46	355	37
100	1209	81	631	66
150	2678	183	1420	149
200	4764	324	2386	265
250	6785	506	3239	379
300	9875	729	4472	548
350	12973	940	6190	798
400	15479	1217	7559	1020
450	19336	1551	9542	1290
500	23323	1926	10943	1477
600	32140	2797	15723	2121

Area is in square inches; flow is in GPM of Water at 1-psi pressure drop.

## Dimensions and Weights

Size	A	B	C	D	E	ID	Weight
50	203.20	152.40	47.63	365.25	423.86	50.80	12
80	203.20	190.50	50.80	414.27	498.60	76.20	12
100	203.20	228.60	50.80	433.39	568.45	101.60	15
150	304.80	279.40	57.15	631.95	793.75	152.40	34
200	304.80	342.90	69.85	741.43	955.80	203.20	43
250	406.40	406.40	69.85	852.49	1117.60	254.00	58
300	406.40	482.60	76.20	984.25	1300.23	304.80	79
350	508.00	533.40	76.20	1076.33	1436.69	346.20	117
400	508.00	596.90	88.90	1254.13	1662.11	393.70	166
450	508.00	635.00	88.90	1296.99	1758.95	444.50	220
500	508.00	698.50	114.30	1435.10	1947.86	495.30	275
600	508.00	812.80	114.30	1644.65	2260.60	596.90	397

Please contact factory for other sizes.

## Code of Material

Item	B	D	K
Seat	EPDM-htp (Standard)		
Cast	Cast	Cast	Cast
Body	316	316	317
Gate	316	316	317L
Stem	304	304	304
Packing	Cast	Cast	Cast
Gland	316	316	317
Packing	AFPL	AFPL	AFPL
Bolting	Plated	304	304
Yoke	Cast	Cast	Cast
	Steel	304	304
Handwheel	Cast ductile		

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

Teflon<sup>®</sup> is a registered trademark of E.I. du Pont de Nemours Company.

