



Red Valve

Knife Gate Valves



The World Leader in Pinch and Check Valve Technology™

The Knife Gate Valve Designed for Tough Slurries



Rugged and Dependable Service

Red Valve Slurry Knife Gate Valves are designed for on/off service. A heavy-duty, stainless steel gate passes through two cartridge-reinforced rubber slurry seats. These special elastomer slurry seats provide a drop-tight seal. When the valve is in the open position, the full port eliminates flow obstructions, keeping abrasive wear to a minimum.

The topworks, including the gate, in our knife gate valves require very little maintenance. The only replacement parts in the Series DX are the cartridge slurry seats.

In the Series D Flexgate, the only replacement parts are cartridge slurry seats and packing. Both of these valves have a unique design that allows the slurry seats to be replaced easily, with no valve disassembly required. The valve is simply unbolted from the line, the old seats are removed, and the new slurry seats are inserted into the valve.

The Series DX has a wiper blade that eliminates the need for packing. The Series D Flexgate has its packing material contained within a unique "inverted" packing box that simplifies replacement. The valves can remain in-line while their topworks, gates and packing boxes are removed. Both of these innovative designs eliminate the need to dig old packing from deep within a valve body.

A Knife Gate Solution for Every Application



Mining



Water & Wastewater Treatment



Power



General Industry



Pulp and Paper

Series D Flexgate Manual Knife Gate Valve



Materials of Construction

Available in sizes 3" - 42"

Body: Ductile cast iron 3" - 12", cast iron 14" - 36"

Gate: 316L stainless steel, 17-4 PH, Duplex, C-276

Seats: Natural rubber, EPDM, Buna-N, SBR, Fluoroelastomer, Neoprene

Gate coating: Fluoroelastomer polymers

Drilled and tapped flanges:

- ANSI 150#
- ANSI 300#
- ANSI B16.1 125# cast flanges
- AWWA C110 125# cast flanges
- EN1092 PN 6, 10 & 16
- JIS 5K, 10K
- Other drill patterns available upon request

Optional: Extended stems and torque tubes, floorstands

Red Valve's Series D Flexgate Manual Valves are built with a cast or fabricated body and feature heavy-duty stainless steel gates. Ductile cast iron bodies provide enhanced performance where external and internal factors demand materials providing significant elongation.

- Removable rubber cartridge seats on either side of the gate provide a bi-directional seal and excellent wear resistance. Seats are metal-reinforced and available in a wide variety of elastomers for abrasion resistance and chemical compatibility.
- Port at valve base allows for easy flushing.
- The Flexgate Valve provides a bi-directional shutoff.
- Heavy-duty top works come standard; the valve's simple design eliminates expensive overhauls, unscheduled shutdowns and costly replacement parts – the only replacement parts are the slurry seats and packing.
- Red Valve Flexgate Valves of 3" - 12" are provided with standard handwheel mechanisms featuring cast iron handwheels, machined 303 stainless steel stems with yoke sleeves and thrust washers designed to reduce operating torque.
- Flexgate Valves 14" and larger feature fabricated (tubular) handwheels. It is recommended that manual Flexgate Valves 12" and larger be specified with a 4:1 bevel gear actuator to reduce rim pull.

Series D Flexgate Actuated Knife Gate Valve



Materials of Construction

Available in sizes 3" - 42"

Body: Ductile cast iron 3" - 12", cast iron 14" - 36"

Gate: 316L stainless steel, 17-4 PH, Duplex, C-276

Seats: Natural rubber, EPDM, Buna-N, SBR, Fluoroelastomer, Neoprene

Gate coating: Fluoroelastomer polymers

Drilled and tapped flanges:

- ANSI 150#
- ANSI 300#
- ANSI B16.1 125# cast flanges
- AWWA C110 125# cast flanges
- EN1092 PN 6, 10 & 16
- JIS 5K, 10K
- Other drill patterns available upon request

Optional: Extended stems and torque tubes, floorstands, control components

Red Valve's Series D Flexgate Actuated Knife Gate Valves are available with pneumatic, electric or hydraulic actuators. The actuated Series D Flexgate Valve provides long-term abrasion resistance under high-cycle conditions. Valve self-cleans each time it is cycled and is ideal for automated operations.

- Pneumatic actuators manufactured using Black Amalgon®, a fiberglass-reinforced epoxy resin, inert to most corrosive chemicals, hydraulic fluids, water and oil. Other options include limit switches, solenoids and air regulators.
- Actuator operating temperature ranges from -90°F to 225°F. Inside actuator walls are polished and impregnated with molydisulfide for reduced friction and wear.
- Valve piston seal is a long-lasting o-ring. The piston rod is sealed with a lip seal, which is protected by a rod wiper ring. The wiper ring prevents dirt from being dragged through the seal.

Series DX Knife Gate Valve



Materials of Construction

Available in sizes 3" - 30"

Body: Ductile cast iron 3" - 24", fabricated carbon steel 3" and larger

Gate: 316L stainless steel, 17-4 PH, Duplex, C-276

Seats: Natural rubber, EPDM, Buna-N, Neoprene

Gate coating: Fluoroelastomer polymers

Drilled and tapped flanges:

- ANSI 150#
- ANSI 300#
- ANSI B16.1 125# cast flanges
- AWWA C110 125# cast flanges
- EN1092 PN 6, 10 & 16
- JIS 5K, 10K
- Other drill patterns available upon request

Optional: Splash guard and pipe away containment



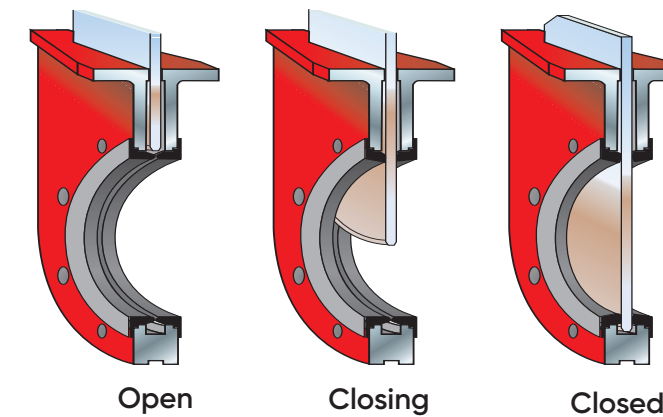
Red Valve's Series DX Slurry Knife Gate Valves are the most durable and user-friendly valves available for difficult slurry applications. The fully elastomer-lined DX Valve prevents slurry build-up or dewatering by eliminating the seat cavity. Bodies made from ductile iron provide a ruggedness that can only be provided by castings having significant elongation.

- Reinforced elastomer sleeves seal against each other, providing a 100% full-port opening, minimizing turbulence and wear when valve is open. Seats isolate and protect all metal parts from coming in contact with process.
- When closed, sleeve provides drop-tight seal in both directions.
- Each time the DX Valve strokes, it discharges a small amount of slurry, keeping gate path clear and preventing slurry build-up which might otherwise prohibit the valve's ability to close.
- Both sleeves and gates are field-replaceable. A wiper blade mounted on top of the valve prevents the gate lubricant and process from leaking through the top and external grit from entering the valve body.
- DX Valve's plate-style splash guard controls slurry discharging from the slot in the valve.

Principle of Operation

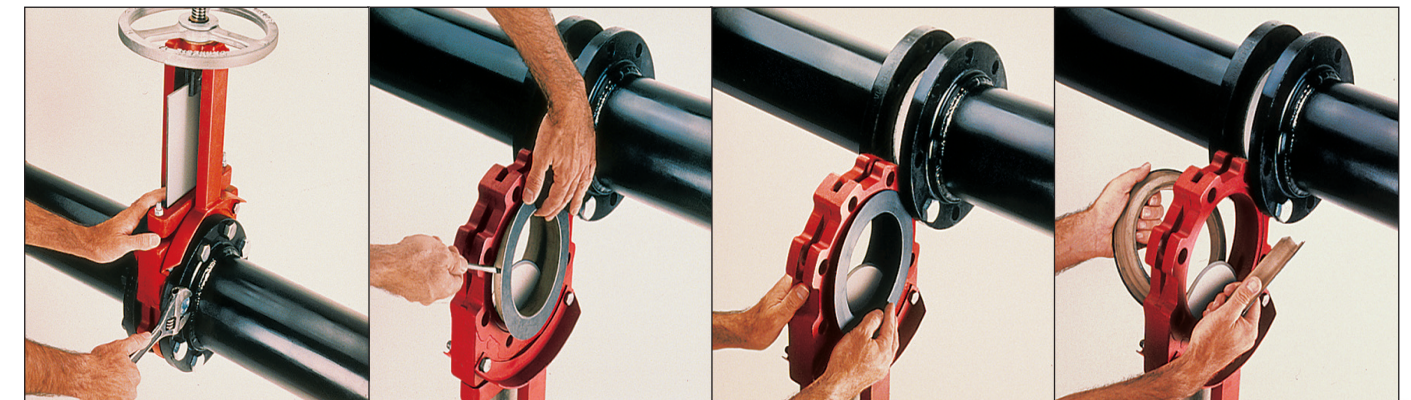
Red Valve Slurry Knife Gate Valves are designed for on/off service. A heavy-duty, stainless steel gate passes through two cartridge-reinforced rubber slurry sleeves. These special elastomer slurry sleeves provide compression interference fit, resulting in a drop-tight seal. When the valve is in the open position, the full port eliminates flow obstructions, keeping abrasive wear to a minimum.

Closing Action



Maintenance Ease

The topworks, including the gate, require very little maintenance in both the Series D and DX. The only Series D replacement parts are packing and cartridge slurry sleeves. The only replacement parts for the Series DX are cartridge slurry sleeves. The unique design of both valves allows the slurry sleeves to be replaced easily, with no valve disassembly required. The valve is simply unbolted from the line, the old seats are removed, and the new slurry sleeves are inserted. The Series D packing material is contained in a unique "inverted" packing box that simplifies replacement. The D can remain in-line while the topworks gate and packing box are removed. The innovative design of the Series DX has no need for packing and eliminates the need to dig old packing from deep within the valve body.



Accessories

Floorstands are available with bevel gears, electric actuators and handwheels. Standard length is 36" to centerline of handwheel. Recommended for valves with long extensions to relieve stem loading.

Special Paints and Coatings are included in our quality control process, such as epoxy and tar coating.

Atmospheric and Pressure-Containing Bonnets can be supplied to protect the topworks of the valve.

Pneumatic Actuators use an Amalgon Cylinder that is strong and lightweight.

Aluminum End Plates and a stainless steel piston rod ensure reliable performance.

Four-Way Solenoid Valves can be mounted and piped at the factory, making the valve complete and ready for installation.

Standard Bevel Gear Actuators have a gear ratio of 4:1. Other gear ratios are 8:1, 12:1, 16:1 and 24:1.

Limit Switches, when specified, are yoke-mounted to provide remote indication of valve position. Standard switches are 100 volt, NEMA 4 rated. Other types and options are available.



Red Valve offers a worldwide, world-class custom service network. With corporate offices in Pittsburgh, PA, manufacturing facilities in Gastonia, NC, and 114 sales representatives in 61 countries around the globe, Red Valve has the sales engineering team to help you select the best choice of valves and related products for your applications.

Represented by:



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