BROCHURE RV14.00-1
June 2025

Red Valve

Tideflex®

The World Leader in Pinch and Check Valve Technology™

Continuing a Legacy of Leadership, Innovation and Customer Service

More than 65 years ago, Red Valve was founded on a simple promise to manufacture the world's highest quality engineered pinch and check valves, with an unsurpassed level of technical innovation. This promise began a legacy of leadership, a never-ending quest to solve customers' toughest challenges and exceed their expectations, that continues today.

Being The World Leader in Pinch and Check Valve Technology™ is more than a slogan, it's a promise. This promise lives on every day with every Pinch Valve, Control Valve, Pressure Sensor, Expansion Joint, Tideflex® Duckbill Check Valve, Tideflex® In-Line Check Valve, and CheckMate UltraFlex® In-Line Check Valve we ship to customers all over the world. It's a promise kept by hundreds of dedicated Red Valve employees and independent sales representatives.

Innovative Valve Solutions for Every Application

Wastewater Treatment

Mining

Chemical

Power

Pulp and Paper

Series 70 and 75 Manual Pinch Valves

Series 70

Series 75

Materials of Construction

Series 70 Available in sizes 1” - 48”
Series 75 Available in sizes 1” - 12”
Series 70 Body: Carbon steel fabricated
Series 75 Body: Cast iron or aluminum body
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available on request.
Optional: Extended stems and torque tubes, floorstands, chainwheels, limit switches

Series 70 and 75 Manual Pinch Valves are reliable, virtually maintenance-free and cost-effective valves designed for slurry, abrasive and corrosive-chemical applications. There are no seats to grind, no stuffing boxes to repack and no packing glands to adjust, ever. The pinching action is on centerline, so the valve maintains a smooth venturi flow pattern and is self-cleaning.

- The durable, flexible elastomer sleeve is reinforced with high-strength fabric and is the only part exposed to the line process, eliminating maintenance and the need for expensive materials.
- Valve operation will not freeze and operating torques remain constant. The design principle is simple, two mechanical pinch bars open and close the elastomer sleeve.
- Excellent control characteristics allow this valve to be used as a variable orifice. Few manual valves have this throttling advantage. Zero leakage is maintained bi-directionally.
- Multiple options are available, such as the Series 75B design for buried service conditions. AWWA nuts, chainwheels, stem extensions and bevel gear actuators are also available.
- Cone Sleeves can be specified to further enhance control performance and match the exact Cv level desired.

Type A Air-Actuated Pinch Valve

Materials of Construction

Available in sizes 1” - 84”
Body: Cast iron or aluminum
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available on request.
Accessories: Controls, control systems, solenoid valves, filter regulators, proportional relays.

Introduced and patented by Red Valve, the Type A Air-Actuated Pinch Valve offers a unique, cost-effective solution to flow control problems. Actuation of the valve is accomplished by air or hydraulic pressure placed on the sleeve. The valve body acts as a built-in actuator, eliminating costly pneumatic, hydraulic or electric actuators. Modulating the air pressure within the annular space between the body and the sleeve can open, throttle or close the valve.

- Approximately 35 psi over line pressure is required for closure.
- The flexible sleeve closes around entrapped solids, eliminating hang-ups that could damage the valve.
- The sealing area equal to 95% of the valve’s length.
- There are no seats or packing to replace, no cavities or dead spots to collect debris.
- Ideal for remote locations or harsh environments. There are no external links, levers, pistons or rotating parts to cause downtime.
- Cone Sleeves can be specified to further enhance control performance and match the exact Cv level desired.

Series 2600 Miniflex Air-Actuated Pinch Valve

Materials of Construction

Available in sizes 1/8” - 3”
Body: Steel or stainless steel
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Accessories: Controls, control systems, solenoid valves, filter regulators, proportional relays.

Manufactured on the same design principles as Red Valve’s Type A Air-Actuated Valve, the Series 2600 Miniflex Air-Actuated Pinch Valve is the simplest and least expensive actuated pinch valve available today. The Series 2600 is designed with threaded-end connections, enabling use on small lines (1/8” - 3”).

- Pneumatically actuated, the valve body is a built-in actuator.
- Air pressure opens and closes the rubber sleeve, eliminating costly actuators or electric motors and maintenance costs.
- Only 25 psi over line pressure is required for closure. Threaded-end connections enable easy installation and removal.
- Rapid cycling is ideal for sampling, filling and controlling.
- Excellent choice for chemical feed, dry powder, bagging and plastic molding applications.

Series 5200 Control Pinch Valve

Materials of Construction

Available in sizes 1” - 48”
Body: Ductile cast iron
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available upon request.
Optional: Extended stems and torque tubes, floorstands, control components, positioners, solenoid valves, filter regulators.

The Red Valve Series 5200 Control Pinch Valve offers maximum durability with precise control and virtually no maintenance. The heavy-duty pinch mechanism positions the sleeve for accurate control over a wide flow range. The valve has no packing to maintain or seats to wear, and the elastomer sleeve eliminates the need for expensive alloy bodies.

In sizes greater than 4”, a bottom pinch bar is used to reduce the stroke length of the valve by pre-pinching the sleeve into a D-shaped port, providing more immediate response to control signal with no loss of flow capacity.

- Cone Sleeves can be specified to further enhance control performance and match the exact Cv level desired.
- True feedback positioning is accomplished through the direct linkage of the pneumatic positioner to the valve stem shaft.
- There is no splitting of the positioner output.
- True-feedback positioning greatly enhances control accuracy.

Series 5200E Control Pinch Valve

Materials of Construction

Available in sizes 1” - 48”
Body: Ductile cast iron
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available upon request.
Optional: Extended stems and torque tubes, floorstands, control components.

The Series 5200E Electric-Actuated Control Pinch Valve is a highly reliable, virtually maintenance-free valve designed for tough slurry and abrasive applications. There are no seats to grind, no stuffing boxes to repack and no packing glands to adjust, ever. The rugged, self-cleaning elastomer sleeve isolates all mechanical parts of the valve so the breakaway torque remains constant.

- Valves are actuated by electric operators including heaters, thermostats, position indicators and indication lights.
- Electric motor operators can be configured to include remote operating stations.
- Optional features include NEMA 7 explosion-proof construction, proportioning control from a 4-20 mA instrument signal and 4-20 mA output transmitter.
- Cone Sleeves can be specified to further enhance control performance and match the exact Cv level desired.

Series 5300 Control Pinch Valve

Materials of Construction

Available in sizes 2” - 48”
Body: Carbon steel or stainless steel frame
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available upon request.
Optional: Extended stems and torque tubes, floorstands, control components, positioners, solenoid valves, filter regulators.

The Series 5300 Control Pinch Valve features many of the same advantages of the Series 5200 in a lightweight, low-cost, open-frame design. The open-frame design is possible because the sleeve is the only wetted part of the pinch valve, protecting the operating mechanism and frame from corrosive or abrasive attack from the line process.

- A heavy-duty, rugged pinch mechanism pinches the sleeve, resulting in accurate flow control.
- There is no packing to maintain or seats to wear.
- Ideal for handling corrosives, powders and slurry materials.
- Pneumatic, electric or hydraulic actuators are available, complete with pneumatic or electro-pneumatic positioners.
- Valve sizes up to 6” are designed with a stroke adjustment located inside valve yoke, enabling small control changes in the field and simplifying actuator maintenance by creating a removal point in the valve stem.
- Cone Sleeves can be specified to further enhance control performance and match the exact Cv level desired.

Series 5400 Control Pinch Valve

Materials of Construction

Available in sizes 4” - 36”
Body: Ductile cast iron
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available upon request.
Optional: Extended stems and torque tubes, floorstands, control components, positioners, solenoid valves, filter regulators.

Red Valve’s Series 5400 Control Pinch Valve features centerline closure, true feedback positioning, a compact size and accurate, repeatable variable venturi flow control. Centerline closure can be advantageous for pinch sleeves on abrasive and high-velocity applications. Pinch valves outlast all other types of gate, plug or ball valves on control of abrasive and corrosive slurries. The resilient elastomer sleeve outlasts even stellite-coated control valves.

- Cone Sleeves can be specified to further enhance control performance and match the exact Cv level desired.
- True feedback positioning is accomplished through the direct linkage of the pneumatic positioner to the valve stem shaft.
- True feedback positioning enables accurate, small responsive signal changes to the positioner, achieving similar changes in true valve position, greatly enhancing control accuracy and repeatability.

Series 5700 Control Pinch Valve

Materials of Construction

Available in sizes 4” - 48”
Body: Ductile cast iron
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available upon request.
Optional: Extended stems and torque tubes, floorstands, control components, positioners, solenoid valves, filter regulators.

Full-port opening and centerline closure can be advantageous for pinch sleeves on abrasive and high-velocity applications. The cost-effective Series 5700 Control Pinch Valve with centerline closure outlasts most other types of gate, plug or ball valves on control of abrasive and corrosive slurries.

- The Series 5700 offers a 100% full round port opening and Class V shut-off. In throttling service, the valve provides true feedback positioning and accurate, repeatable variable venturi flow control.
- There are no seats to grind, no stuffing box to repack and no packing gland to adjust, ever.
- The rugged, self-cleaning elastomer sleeve isolates all mechanical parts of the mechanism, so the operating torque remains constant.
- Cone Sleeves can be specified to further enhance control performance and match the exact Cv level desired.
- True feedback positioning is accomplished through the direct linkage of the pneumatic positioner to the valve stem shaft.

Series RSR Pressure Relief Valve

Materials of Construction

Available in sizes 1” – 12”
Body: Ductile iron
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 125, ASME 150, Other drill patterns available upon request.
Actuator: Red Valve Fail Close
Optional: Accessory system for handling sustained surges.

The Red Valve Series RSR Pressure Relief Valve is particularly effective for slurry and corrosive applications and reliably protects equipment and piping by relieving any over-pressure in the system.

- The Series RSR uses a spring loaded cylinder to hold the rubber pinch valve closed, only opening when the process pressure builds up and exceeds tension. The higher the pressure, the more the valve opens.
- The sleeve isolates the pinch mechanism, which eliminates corrosion, bridging, plugging and freezing.
- The accessible adjustment nut allows for easy external recalibration, correction and fine-tuning of the system.

Series 9000
High-Pressure Control Pinch Valve

Materials of Construction

Available in sizes 1” - 12”
Body: Ductile cast iron
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
*White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available upon request.
Optional: Extended stems and torque tubes, floorstands, control components, positioners, solenoid valves, filter regulators.

The Series 9000 High-Pressure Control Pinch Valve is Red Valve’s ASME Class 300 pinch valve product. With Red Valve’s Double Wall Sleeve, the valve features increased abrasion resistance and can accommodate pressures up to 720 psi.

- Available with Red Valve’s patented Cone Sleeve for control applications and Standard Sleeve for lower-pressure requirements.
- The heavy-duty solid stroke adjustment unit located on valve base enables fine-tuned control and stroke adjustment for reduced sleeve wear due to abrasion.
- Available with bevel gear actuators for manual operation, hydraulic or electric actuators for automatic operation and pneumatic actuators for small sizes or low-pressure applications.
- For applications with low-pressure requirements, the Series 9000 is also available in ASME Class 150 drilling configurations.

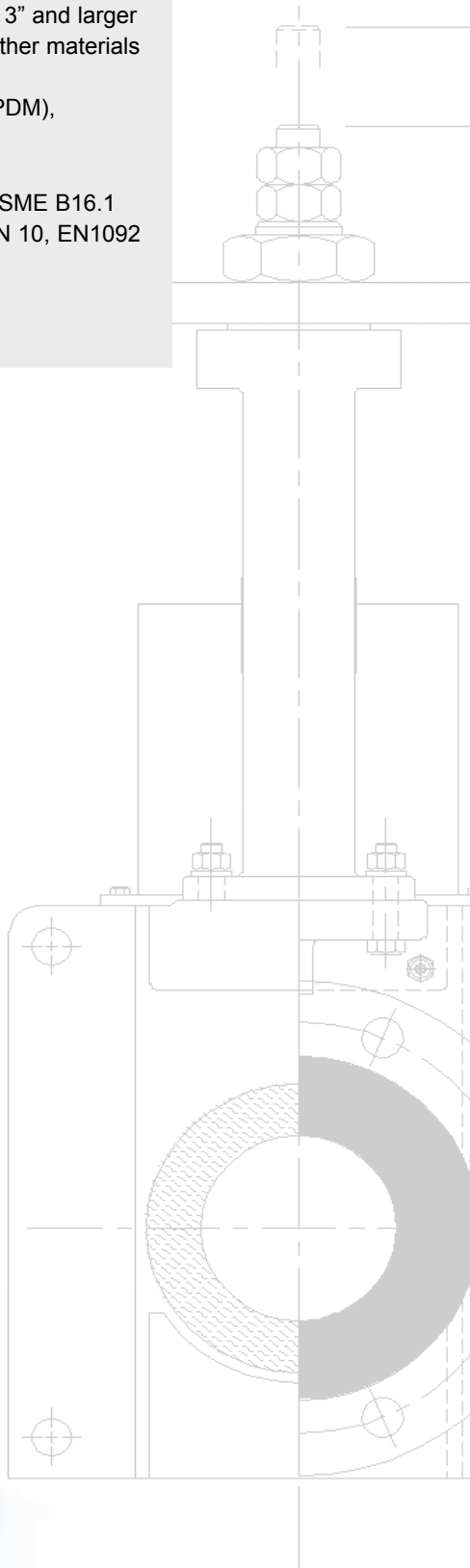
Series DX Knife Gate Valve

Materials of Construction

Available in sizes 3” - 30”
Body: Ductile cast iron 3” - 24”, fabricated carbon steel 3” and larger
Gate: 316 Stainless Steel, 17-4 pH, Hastelloy C-276. Other materials available upon request.
Elastomers: Ethylene Propylene Diene Terpolymer (EPDM), Acrylonitrile-Butadiene (NBR), Chloroprene (CR)
Optional gate coating: Polytetrafluoroethylene (PTFE)
Drilled and tapped flanges: ASME 150, ASME 300, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 10, EN1092 PN 16. Other drill patterns available upon request.
Optional: Splash guard and pipe away containment.

Red Valve’s Series DX Slurry Knife Gate Valve is one of the most durable and user-friendly valves for difficult slurry applications. The fully elastomer-lined Series 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 media.
- When closed, the sleeve provides drop-tight seal in both directions.
- Each time the Series DX Valve strokes, it discharges a small amount of slurry, keeping the 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 media from leaking through the top and external grit from entering the valve body.
- Series DX Valve’s plate-style splash guard controls slurry discharging from the slot in the valve.



Series D Flexgate Knife Gate Valve

Materials of Construction

Available in sizes 3” - 42”
Body: Ductile cast iron 3” - 12”, cast iron 14” - 30”, fabricated steel 36” - 42”
Gate: 316 Stainless Steel, 17-4 pH, Hastelloy C-276 Other materials available upon request.
Elastomers: Ethylene Propylene Diene Terpolymer (EPDM), Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Styrene Butadiene (SBR)
Optional gate coating: Polytetrafluoroethylene (PTFE)
Drilled and tapped flanges: ASME 150, ASME 300, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 10, EN1092 PN 16. Other drill patterns available upon request.
Optional: Extended stems and torque tubes, floorstands.

Red Valve’s Series D Flexgate Manual Valve features a cast or fabricated body and heavy-duty stainless steel gate. A ductile cast iron body provides enhanced performance, offering significant elongation under demanding conditions.

The Series D is also available with pneumatic, electric, or hydraulic actuators. Pneumatic actuators are made from fiberglass-reinforced epoxy resin, which is resistant to most corrosive chemicals, hydraulic fluids, water and oil. Optional components include limit switches, solenoids and air regulators.

- The actuators operate within a temperature range of -90°F to 225°F, with polished, molydisulfide-impregnated walls to reduce friction and wear. A port at the valve base allows for easy flushing.

- Removable elastomer cartridge seats on both sides of the gate ensure a bi-directional seal and excellent wear resistance. Metal-reinforced seats are available in various elastomers for abrasion resistance and chemical compatibility.

- The Series D offers bi-directional shutoff, with a heavy-duty top works design that eliminates expensive overhauls and unscheduled shutdowns. The only replacement parts are slurry seats and packing.

- For 3” - 12” sizes, the valve comes with a handwheel mechanism featuring cast iron handwheels, machined stainless steel stems, yoke sleeves, and thrust washers to reduce operating torque. For sizes 14” and larger, fabricated handwheels are used, and it’s recommended to specify a 4:1 bevel gear actuator for 12” and larger valves to reduce rim pull.

Pressure Sensors

Materials of Construction

Series 42 Available in sizes 1/2" - 2"
Series 40/40W and 48/48W Available in sizes 2" - 48"
Body: Carbon Steel, 316 Stainless Steel.
Sleeves: Pure Gum Rubber (PGR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM)*, Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR).
* White food grade options available.
Flange Adaptability: ASME 150 in Carbon Steel, 316 Stainless Steel or Polytetrafluoroethylene (PTFE)-Coated Carbon Steel. Other drill patterns available upon request.
Accessories: Digital and analog pressure sensors, transmitters, control systems.

Red Valve Pressure Sensors are the industry standard for protecting instrumentation and assuring accurate, dependable pressure measurement of slurry and corrosive fluids. Line pressure is sensed through the 360° flexible rubber sleeve. The captive fluid is displaced through the pressure sensor body to the instrument's Bourdon Tube. All instruments are isolated and protected from the process, assuring positive and accurate readings.

The Red Valve standard gauge is bottom mounted with a 2-1/2" diameter steel case; accuracy of this gauge is ±2% of the installed instrument. A gauge having a 0-100 psi range is furnished as standard unless otherwise specified. Gauges covering 0-60 psi and 0-200 psi are optional at no additional cost.

- The full-faced, thru-bolted Series 40 and Series 40W install directly in-line.
- The Series 42 is available in sizes 1/2" - 2" for small-diameter, threaded-end pipe.
- The Series 48 and Series 48W are wafer-style and available in sizes 10-48" for large-diameter pipe.
- Thru-bolted Series 40 and Series 40W can be mounted in any flow direction, submerged in a tank or mounted with a blind flange as a dead end to monitor tank levels.
- Other ranges of pressure gauges, transmitters, transducers, recorders, differential pressure or vacuum switches can be mounted to the Series 40,Series 40W, Series 42, Series 48 and Series 48W.

Redflex® Expansion Joints and Rubber Products

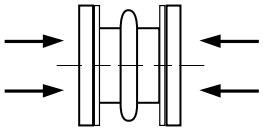
Materials of Construction

Available in sizes 1” - 72”
Body: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR)*, Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR)
* - White food grade options available.
Drilled and tapped flanges: ASME 150, ASME B16.1 125 cast flanges, AWWA C110 125 flanges, EN1092 PN 6, EN1092 PN 10, EN1092 PN 16, JIS 5K, JIS 10K. Other drill patterns available upon request.
Accessories: Tie rods, gussets, compression sleeves; steel, stainless steel, electrozinc plated, hot dipped galvanized; unfilled and filled arches.

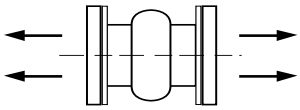
Redflex® Expansion Joints and Rubber Products are designed to alleviate piping stress, noise, vibration, permit axial compression and elongation, and compensate for lateral and angular movements. Constructed from non-corrosive and abrasion-resistant elastomers, Redflex® Expansion Joints and Rubber Products offer long-term and virtually maintenance-free performance. Joints are available with filled arches or wide, shallow arches for slurry service. Redflex® Expansion Joints and Rubber Products are available with custom offsets, flanges and face-to-face lengths to meet individual design considerations.

- Expansion Joints
- Single or Multiple Arch
- Ducting Joints
- Reducing Joints
- Rubber Reducers
- Rubber Elbows
- Rubber Fittings
- Rubber Pipe
- Vibration Pipe
- Flanged or Slip-On
- Fluoroelastomer Lined
- Custom-Fabricated
- Sizes 1” - 72”

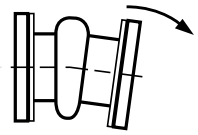
Types of Movement



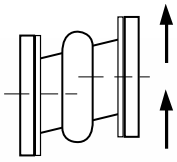
Axial Compression



Axial Extension



Angular Movement



Lateral Deflection

Tideflex® TF-1 Slip-On Check Valve

Materials of Construction

Available in sizes 4” - 100”
Body: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM), Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR), NSF*/ANSI/CAN 61 and NSF*/ANSI/CAN 372 certified EPDM
*Certified for 2,000 gallons or greater volume.
Mounting Clamps: 316 Stainless Steel, special alloys available

The Tideflex® TF-1 Check Valve design is one of the world’s most highly regarded check valves for backflow prevention. The TF-1 offers very low head loss and low cracking pressure to eliminate standing water. The valve’s all-elastomer fabrication means it will not warp or freeze and is not affected by rust, corrosion or lack of lubrication. The TF-1 requires virtually no maintenance or repairs and boasts a long operational life span.

- TF-1 Valves operate using line pressure and backpressure to open and close, so no outside energy source is required. Sliding, rotating, swinging and plunging parts are completely eliminated.
- A flat-bottom and offset-bill design simplifies installation with no modifications to the structure.
- The flat-bottom design is ideal for installation in existing structures such as interceptors, manholes and vaults, where the invert of the pipe is as close to the floor of the vault as possible to maximize head pressure via gravity.
- For applications where there is no access to the upstream side of the valve, thimble plates are available for the Series TF-1.
- The TF-1 is ideal for sewer systems. The valve seals around small debris. TF-1 Valves 18” and larger are constructed with a curved bill as standard.
- The curved bill returns to a closed position every time, allowing for a tighter seal in backflow applications.

Tideflex® TF-2 Slip-On Check Valve

Materials of Construction

Available in sizes 0.5” - 84”
Body: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM), Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR), NSF*/ANSI/CAN 61 and NSF*/ANSI/CAN 372 certified EPDM
*Certified for 2,000 gallons or greater volume.
Mounting Clamps: 316 Stainless Steel, special alloys available

Tideflex® TF-2 Valves are excellent replacements for metal flap gate valves. Millions of dollars each year are lost in the retreatment of unnecessary backflow because of metal flap gate valves that have corroded open or have been wedged open by debris. Tideflex® Check Valves have improved sealing around entrapped solids compared to flap gates. Tideflex® Valves will not warp or freeze and are virtually maintenance-free. They will handle large obstructions without jamming and there is no gate to hang open.

- The TF-2 offers low cracking pressure to eliminate standing water and create very low head loss.
- An all-elastomer fabrication means the valve will not warp or freeze and is not affected by rust, corrosion or lack of lubrication. The TF-2 requires virtually no maintenance or repairs and boasts a long operational life span.
- The valve operates using line pressure and backpressure to open and close, so no outside energy source is required. Sliding, rotating, swinging and plunging parts are completely eliminated.
- The inside diameter of the TF-2 cuff is constructed to match the outside diameter of the pipe. The valve is slid onto the pipe and held in place with specially designed clamps.

Tideflex® Series 35-1 Flanged Check Valve

Materials of Construction

Available in sizes 4” - 102”
Body: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM), Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR), NSF*/ANSI/CAN 61 and NSF*/ANSI/CAN 372 certified EPDM
*Certified for 2,000 gallons or greater volume.
Retaining Rings: 316 Stainless Steel, special alloys available

The flat-bottom Series 35-1 Flanged Check Valve features an integral rubber flange, allowing it to be mounted to flanged outfall pipes or directly to headwalls where the pipe is flush.

The Series 35-1 is often a direct replacement for flanged flap gates, where hinge pins rust and corrode if not routinely lubricated, allowing debris to collect in the seating area of the valve, keeping flappers open.

- Series 35-1 Valves 18” and larger are constructed with curved bill as standard.
- Standard flange size drilling conforms to ASME B16.5 and ASME B16.47, Class 150 standards. All other domestic and international standards, as well as customer specified flange dimensions, are also available.
- The valve is furnished complete with retaining rings for installation.

Tideflex® Series 35 Flanged Check Valve

Materials of Construction

Available in sizes 0.5” - 72”
Body: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM), Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR), NSF*/ANSI/CAN 61 and NSF*/ANSI/CAN 372 certified EPDM
*Certified for 2,000 gallons or greater volume.
Retaining Rings: 316 Stainless Steel, special alloys available

The Series 35 Flanged Check Valve is manufactured identically to the Tideflex® TF-2 Check Valve, with the addition of an integral elastomer flange as part of the valve. The Series 35 Flanged Check Valve is simple in design, with only one part, the all-elastomer duckbill check valve.

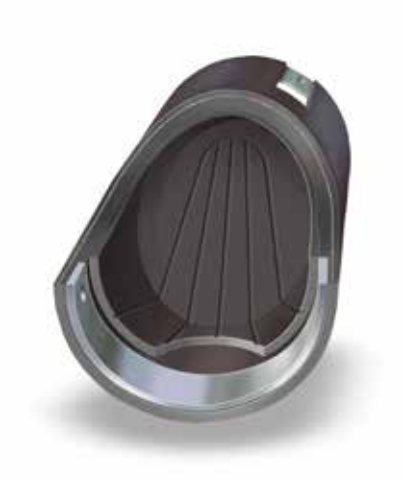
The Series 35 Flanged Check Valve is ideal for applications and installations where a slip-over pipe check valve is not feasible because of an existing flange in the piping system or an existing flange cemented in the outfall piping system vault.

- There are no seats or interference fits to corrode or freeze valve operation, making it virtually maintenance-free. The Series 35 seals completely around solids, making it ideal for fly ash, raw sewage, sludge, lime, mining slurries and many other abrasive and corrosive slurries.

- Standard flange size drilling conforms to ASME B16.5 and ASME B16.47, Class 150 standards. All other domestic and international standards, as well as customer specified flange dimensions, are also available.

- The valve is furnished complete with retaining rings for installation.

CheckMate UltraFlex® In-Line Check Valve



Materials of Construction

Available in sizes 3” - 72”
Body: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM), Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR), ANSI/CAN 61 and ANSI/CAN 372 certified EPDM
Mounting Clamps: 316 Stainless Steel, special alloys available

The CheckMate UltraFlex® In-Line Check Valve is the preferred choice for both municipal and industrial applications, including stormwater, wastewater, highway run-off, CSO, SSO and flood control, to prevent unwanted backflow. Unlike less-engineered, molded in-line check valves held together with rivets, the CheckMate® is hand-fabricated, utilizing various natural and synthetic elastomers and fabric-ply reinforcement to create a unibody construction. No mechanical parts or fasteners to catch debris, corrode or fail, make the CheckMate® extremely durable and virtually maintenance-free. The CheckMate UltraFlex® can also be custom-engineered to resist chemicals, grease and oils found in stormwater, wastewater and industrial applications.

- The CheckMate® is the most user-friendly in-line check valve on the market today.
- The CheckMate® exhibits extremely low head loss, allowing for near 100% flow capacity.
- Patented arc notch, saddle grooves, and optimized construction enable the CheckMate® to open faster than other in-line check valves, allowing pipelines and entire collection systems to drain quicker. The valve snaps open with far less head pressure, significantly increasing pipeline capacity, allowing free flow of water during weather events, minimizing the chance for standing water to collect upstream.
- Installation is easy: from the upstream or downstream end of the pipe, simply insert valve into position and clamp into place. No modification to pipe or structure is typically required to install. Pre-drilled holes quickly pin the valve in position.
- For applications where there is no access to the upstream side of the valve, thimble inserts and extensions are available for the Checkmate®.
- The CheckMate® is recessed inside the pipe. No additional permitting is required. The result is savings in installation time and operational cost.
- Integral upstream or downstream rubber flanged versions are available with ANSI or custom drillings.

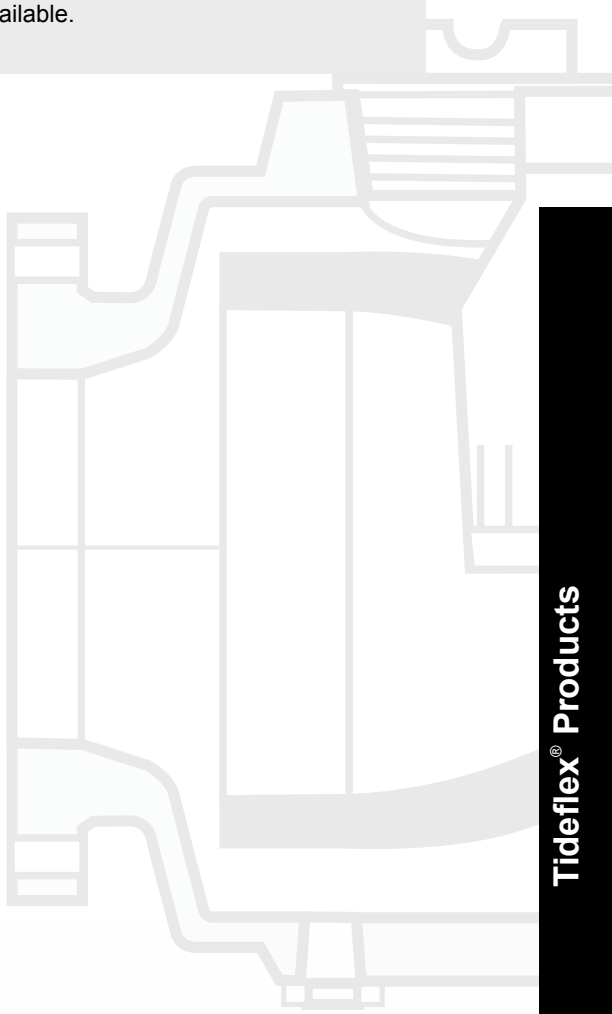
Tideflex® Series 33, 39 and 39F In-Line Check Valves

Materials of Construction

Series 33: Available in sizes 1” - 3”
Series 39: Available in sizes 4” - 24”
Series 39F: Available in sizes 30” - 84”
Body: Cast iron ASTM A126 sizes up to 24”. Fabricated steel body in sizes 30” - 84”
Sleeves: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR), NSF*/ANSI/CAN 61 and NSF*/ANSI/CAN 372 certified EPDM
*Certified for 2,000 gallons or greater volume.
Drilled and tapped flanges: ASME 125/150
Optional: Epoxy coating or rubber-lined body available. Steel or stainless steel saddle support available.

Tideflex® Series 33, 39 and 39F In-Line Check Valves are designed to handle abrasive slurries, sewage, sludge and other difficult materials. The in-line check valve’s fabric-reinforced elastomer sleeve provides thru-flow at minimum pressure drop across the valve at all times. Forward pressure opens the valve automatically and reverse pressure seals the valve. Wear and deterioration caused by continuous operation of abrasive slurries are minimized because of the durable inner rubber check valve.

- No mechanical parts, hinges, discs or metal seats to freeze, corrode or bind.
- The unique elastomer check sleeve can seal on solids.
- Silent and non-slamming operation.
- Series 39F Valves have thru-drilled flange holes. Series 33 and Series 39 Valves have tapped holes. Specify maximum line pressure and backpressure.



Tideflex® Series 37
Flanged In-Line Check Valve

Materials of Construction

Available in sizes 1” - 54”
Body: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene-Isoprene (CIIR), NSF*/ANSI/CAN 61 and NSF*/ANSI/CAN 372 certified EPDM
*Certified for 2,000 gallons or greater volume.
Drilled and tapped flanges: ASME Class 125 Flanges, DIN PN6, PN10, PN16

The Series 37 Flanged In-Line Check Valve is a simple, reliable and cost-effective solution to backflow problems. Designed to be installed between two mating flanges, the Series 37 eliminates the need for a valve body.

With only one moving part, the maintenance-free elastomer check valve, the Series 37 In-Line Check Valve is simple in design. Sliding, rotating, swinging and spring parts are eliminated, with no seats to corrode or packing to maintain. In addition, the Series 37 is a passive design that requires no external source of air or electricity to operate, resulting in dramatically reduced operating costs.

- The Series 37 In-Line Check Valve can be ordered in a variety of elastomers.

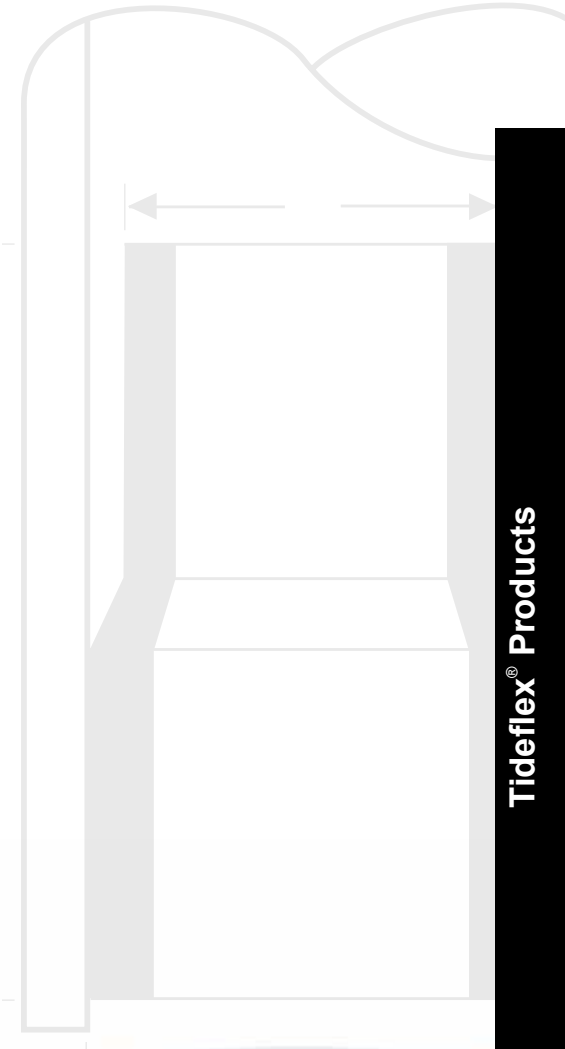
- Flanges conform to ASME B16.1 Class 125 specifications. Special custom designs or metric flange drillings are also available. When ordering, specify line and backpressure.

Tideflex® Series 37G
Slip-In In-Line Check Valve

Materials of Construction

Available in sizes 2” - 72”
Body: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene- Isoprene (CIIR), NSF*/ANSI/CAN 61 and NSF*/ANSI/CAN 372 certified EPDM
*Certified for 2,000 gallons or greater volume.
Expansion Clamps: 316 Stainless Steel

The Series 37G Slip-In In-Line Check Valve is a special adaptation of the Series 37. The 37G can be completely inserted into a pipe which effectively gives it a zero face-to-face dimension. The outside diameter of the 37G’s cuff is fabricated to precisely match the inside diameter of the pipe, providing a press-fit connection. The valve is supplied with an internal expansion clamp to provide compression between the valve and pipe I.D. Each clamp has four pre-drilled holes that allow the valve to be pinned into position. The 37G can even be fabricated for elliptical or out of round pipe. Consult Red Valve for special fabrications.



- The 37G is predominantly used in gravity-driven outfall pipes and in manholes and vaults where the valve is inserted into the effluent pipe and compressed to the pipe I.D. with an expansion clamp.
- The 37G can be inserted into the end of a pipe, but access to the clamp should be from upstream of the valve, not through the bill of the valve.
- For those applications where there is no access to the upstream side of the valve, the 37G Thimble Insert is the solution.
- For higher backpressure ratings or to lower head loss while maintaining backpressure ratings, Saddle Support Technology (SST) can be used in conjunction with the Series 37G.

Waterflex Check Valves

Series WF-2 **Series WF-3**

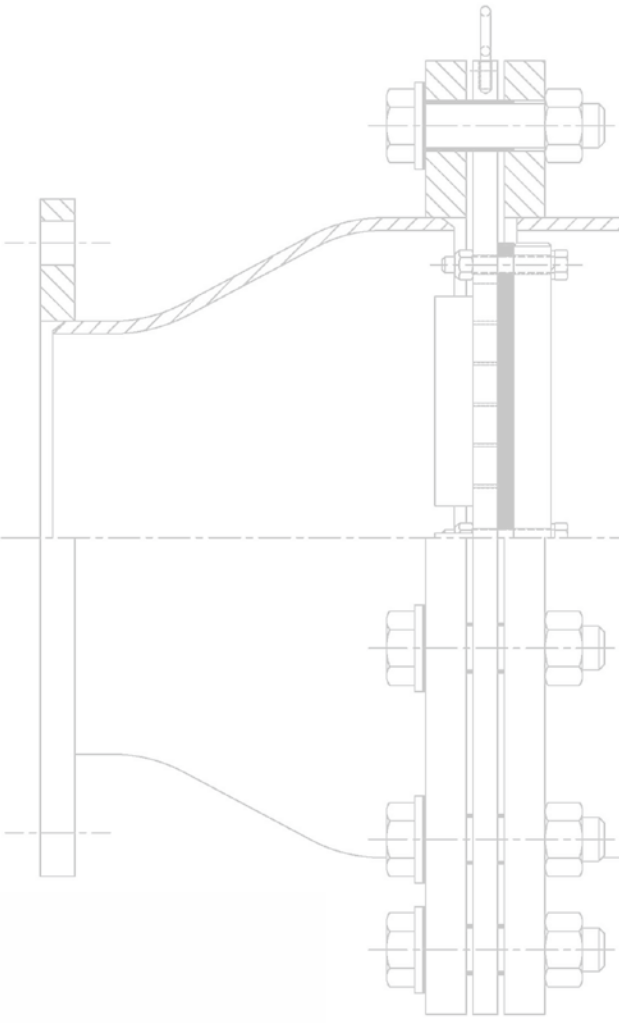
Materials of Construction

Series WF-2: Available in sizes 4” - 48”
Series WF-3: Available in sizes 4” - 48”
Disc: Carbon steel, 304 Stainless Steel, 316 Stainless Steel, PVC (low pressure only)
Waterflex Membrane: Natural Rubber (NR), Ethylene Propylene Diene Terpolymer (EPDM)*, Acrylonitrile-Butadiene (NBR), Fluoroelastomer (FKM), Chloroprene (CR), Chlorosulfonated Polyethylene (CSM), Chloro-Isobutylene- Isoprene (CIIR), NSF*/ANSI/CAN 61 and NSF*/ANSI/CAN 372 certified EPDM
*Certified for 2,000 gallons or greater volume.

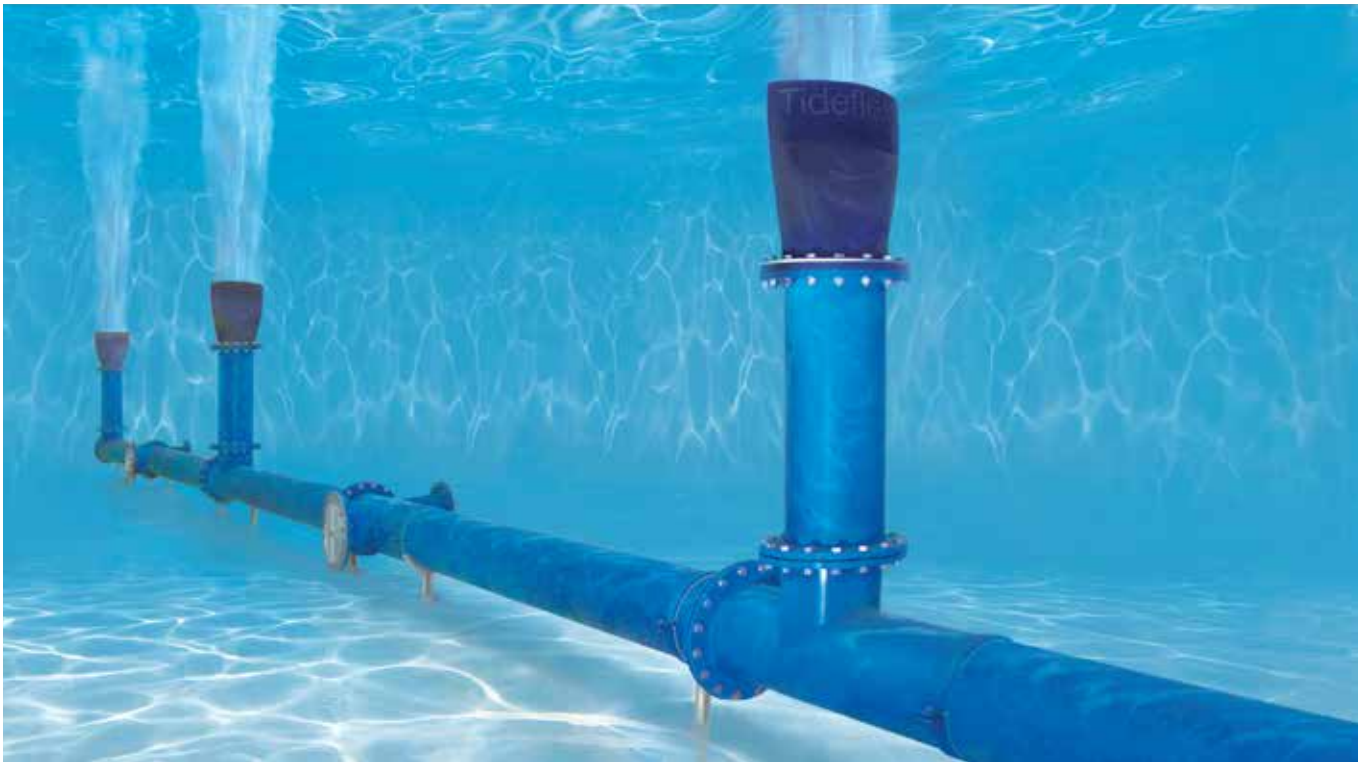
The Series WF-2 and WF-3 Waterflex Check Valves are designed specifically for water applications. The Waterflex Check Valves provide very low head loss characteristics, with high backpressure ratings, comparable to other valve styles such as lever and weight or spring-loaded discs.

Waterflex Valves operate solely on line pressure and backpressure to open and close. No outside energy source is required. As line pressure builds, the 100% elastomer disc is folded away from the perforated plate, allowing water to pass. The memory of the rubber will cause the membrane to return flat and backpressure will seal against the disc to prevent backflow. There are no moving parts that require maintenance or repair, so operational costs are low and service life is long. Waterflex Valves also eliminate the need for machined metal parts, further keeping costs down.

- The Series WF-2 Waterflex Valve consists of a perforated plate that is designed to be inserted between two mating flanges. Its face-to-face dimension is the smallest available for any check valve.
- The Series WF-3 Waterflex Valve features a full-faced flange and ASME bolt drilling to mate between two pipe flanges.
- Both the WF-2 and WF-3 are lightweight and easy to install.
- Custom drillings are available upon request.



Tideflex® Mixing System (TMS)



The Tideflex® Mixing System (TMS) has delivered cost-effective, clean drinking water to thousands of municipalities. Validated through CFD modeling, scale models, and field testing in all tank styles, TMS eliminates short-circuiting and ensures complete mixing to improve potable water quality.

As a green technology, TMS requires no outside energy and requires virtually no maintenance, cutting costs over its average 30-year life. Red Valve engineers custom-design each system using mixing and water age analysis to ensure full-volume turnover. Fresh water enters through multiple Variable Orifice Nozzles during the fill cycle, creating full-tank circulation that continues through the draw cycle. These nozzles mix tanks 75% faster than fixed-diameter pipes and outperform single inlets, even under worst-case conditions, preventing stratification and short-circuiting.

Unlike mechanical mixers, TMS adds no energy costs and avoids issues like motor failure and tank draining. Mechanical mixers can't prevent water aging in low-turnover tanks like the TMS. The TMS improves water quality in both chlorinated and chloraminated systems, confirmed by owner sampling. Ongoing CFD modeling by Red Valve engineers ensures optimal design for every tank.

TMS Solves Many Water Quality Issues:

- Disinfectant loss
- Disinfection by-product spikes
- Nitrification (chloraminated systems)
- Bacterial and biofilm growth
- pH and oxygen variation
- Aging water
- Thermal stratification
- Ice formation
- Taste and odor issues

Key Features and Benefits:

- CFD and physical scale modeling for all tank styles
- Field-validated complete mixing
- High-velocity mixing with Variable Orifice Nozzles
- No external energy needed
- Average 30-year life, virtually maintenance-free
- Custom designs with mixing and water age analysis
- Compatible with any tank size/style
- Single pipe penetration required
- NSF 61 Certified nozzles and check valves
- Works with common or separate inlet/outlet pipes
- Passive and active systems offered

Dechlorinating Overflow Security Assembly (DOSA)

Discharging chlorinated water from storage tank overflows onto land or into a stormwater system can be toxic and severely harmful to plant and aquatic life. To address environmental concerns and potential regulatory penalties, Red Valve engineers have created an overflow pipe assembly that prevents bird/rodent intrusion, increases tank security, and removes chlorine and chloramine residual during overflow discharges. The Dechlorinating Overflow Security Assembly (DOSA) is constructed of dual Tideflex® Nozzles and an internal adjustable dechlorination tube that is completely enclosed in a powder-coated steel body. It is available in sizes 2″ - 24″; larger sizes are available.

During an overflow event, the upper Tideflex® Nozzle discharges an elliptically-shaped jet down onto a dechlorination tube. A calculated portion of the water passes through the tube, making contact with the dechlorination tablets. The rest of the water deflects around the tube. The water then combines in the blending trough to ensure it is thoroughly mixed and dechlorinated prior to discharging out of the DOSA through the lower Tideflex® Check Valve. DOSA has low head loss and will not clog or freeze. Overflow hydraulic analysis is available.

Tideflex® Effluent Diffuser Nozzles

Tideflex® Effluent Diffuser Nozzles are used to prevent intrusion of unwanted sand, sediment, saltwater and marine growth into multiport outfall diffusers. The Effluent Diffuser Nozzle features a non-mechanical, all-elastomer construction that will not corrode and remain unaffected by marine growth.

The unique design of the Effluent Diffuser Nozzle greatly improves the performance of the diffuser system by increasing mixing and initial diffusion through optimized jet velocity. Tideflex® Effluent Diffuser Nozzles are virtually maintenance-free and have revolutionized effluent technology for marine and inland outfall diffusers in municipal and industrial applications.

The most important item on an Effluent Diffuser System for controlling initial dilution is its port size. A Diffuser System's ports ensure that peak flows can be discharged with a limited amount of driving head. Ensuring that ports are the correct size and have the proper configuration is critical.

Red Valve offers engineering and design support for effluent diffuser outfalls and has developed an exclusive computer program to assist engineers in designing Tideflex® Diffuser Systems. The program includes data analysis of head loss, total head loss, jet velocity and effective open area. This data can be compared to conventional fixed-orifice diffuser designs to illustrate the hydraulic advantages of Tideflex® Effluent Diffuser Nozzles.

Tideflex® Diffuser Nozzles can be manufactured with integral wire-reinforced rubber elbows and risers, so there are no cross fittings to deflect when impacted, eliminating damage to the outfall pipe and risers.

Tideflex® Aeration Mixing Systems

Tideflex® Aeration Mixing Systems are a sealed , virtually maintenance-free system that prevents wastewater and solids from entering diffusers and manifold piping. This allows for ON/OFF blower operation based on process needs, enabling effective decanting, sludge thickening, and denitrification in sludge storage applications. Most systems reduce blower energy costs by at least 35%.

Tideflex® Aeration Mixing Systems are ideal for high-solids environments, handling wastewater sludge from 1-5% solids and alum sludge from 5-9%. It's the only air mixing system rated for these solids levels while providing long-term, clog-free performance.

In anoxic process zones, where only periodic mixing is required, the system achieves full mixing within about one minute, with minimal oxygen transfer. This supports a stable negative ORP state. Its one-way flow design prevents backflow during blower downtime, and ON/OFF operation can cut blower energy use by up to 50%.

With no moving parts in the fluid and no need for tank entry or frequent maintenance, Tideflex® Aeration Mixing Systems reduce operational risks and labor costs, making them a reliable solution for demanding wastewater treatment environments.

Benefits and Features:

- Non-clogging, virtually maintenance-free design with built-in backflow prevention.
- Bottom-mounted diffusers on the manifold automatically purge condensate accumulated in piping.
- Cuts energy consumption by an average of 50%. Blowers can be cycled ON/OFF for power savings, process performance and solids concentrating.
- Ideal for process fluids that have a tendency to produce struvite, which can occur at high-velocity points in a system. Any accumulation can easily be removed during maintenance by flexing of the elastomeric nozzle body.
- System can be operated as a bioselector for the development of facultative bacteria to prevent release of H_2S and odors.
- Stainless steel piping and supports ensure long life and durability within the process fluids. EPDM elastomer diffusers have measured life cycles of more than 10 years.

Tideflex® Hydraulic Recirculation and Mixing Systems (HRMS)

Tideflex® Hydraulic Recirculation and Mixing Systems (HRMS) deliver powerful, energy-efficient mixing without oxygen transfer. HRMS is ideal for treatment processes where added oxygen is undesirable. By re-injecting fluid at high velocities, these systems ensure full-tank mixing and keep solids in suspension.

At the core are Tideflex® HRMS Nozzles, designed to adjust automatically with flow, maintaining consistent discharge velocity. Their flexible construction allows solids to pass without clogging and quickly return to peak performance, something fixed-port nozzles can't match.

All HRMS Nozzle designs are hydraulically tested, and CFD modeling confirms that discharge energy is effectively directed to re-suspend settled solids. This creates a reliable momentum mixing loop along the tank floor, maximizing performance in high-solids environments.

The result is a low-maintenance, high-reliability system that improves treatment efficiency while reducing operational costs—trusted in some of the most demanding applications in the industry. This innovative technology helps ensure long-term operational success with minimal downtime.

Benefits and Features:

The system utilizes multiple hydrodynamic mixing nozzles with enhanced discharge velocity to provide a complete homogeneous mix of the fluid body, including settled solids at the floor.

- Tideflex® Hydraulic Mixing Nozzles can be designed to operate with high discharge velocities, ranging from 10 fps to 45 fps.
- The system piping, constructed of stainless steel for high strength and longevity, is far superior to thermoplastic components.
- Ideal for facilities where alum sludge is stored. The HRMS can mix concentrations of alum sludge up to 10% solids.
- EPDM elastomer nozzles prevent any accumulation of struvite or other mineral build-up.
- Does not apply any dissolved oxygen to the process, making it ideal for anoxic cell mixing.

Red Valve offers a worldwide, world-class custom service network. With corporate offices in Pittsburgh, PA, manufacturing facilities in Gastonia, NC, and sales representatives 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.

Red Valve®

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