

Municipal Collection and Distribution



The World Leader in Pinch and Check Valve Technology™

Total System Solutions



Red Valve Product Solutions

The Best Choice for the Toughest Municipal Outfall Challenges

Since its inception in 1953, Red Valve has been the world's leading manufacturer of pinch and check valves for municipalities around the world, saving millions of dollars through reduced maintenance costs and eliminating flooding problems. Today, Red Valve products are used in every type of stormwater and sanitary flow application, mitigating capacity loss and property damage from collection system backflow challenges. Rely on Red Valve's "Total System Solutions", from the collection system through the treatment process to final discharge, for cost-effective solutions for your most demanding applications.



CheckMate[®] UltraFlex[®] In-Line Check Valves provide reliable backflow prevention while eliminating odors.



Red Valve Pinch Valves are ideal for controlling and diverting stormwater, raw sewage and combined sewage in influent, equalization and diversion applications.



Tideflex[®] Check Valves are the best choice to prevent unwanted backflow from rivers, streams and oceans. They are also ideal for protecting CSO outfall pipes.



Protecting Stormwater, Sanitary, CSO, SSO, Interceptors and Overflow Lines



Red Valve products are used to prevent unwanted backflow from flowing into stormwater catchments during times of rising rivers, high tide and heavy rainfall. When these systems overflow, excess wastewater containing untreated human and industrial waste, toxic material, and debris is discharged directly into streams, rivers and lakes. In 1981, the United States Environmental Protection Agency (EPA) commissioned Tideflex[®] Technologies to develop and test an alternative to flapgate valves. In their report, Development and Evaluation of a Rubber "Duck Bill" Tide Gate, the EPA states, "Increasing the reliability and performance of tidegates has a beneficial impact on the general pollution abatement program for the nation's waterways."



The EPA rigorously tested and evaluated the Tideflex[®] Check Valve for two years, finding the valve showed, "Significant improvement over flapgate valves in terms of leakage inflow, entrapment of debris, capability to self clean and susceptibility to marine fouling." Since its creation in 1983, years of research, and development, testing and proven performance

have revolutionized backflow prevention, leading to the development and advancement of the next generation of Tideflex[®] and CheckMate[®] UltraFlex[®] Check Valves - today's most reliable valves for backflow prevention. The first Tideflex[®] Check Valve sold in 1984 is still in service, with millions of Tideflex[®] Check Valves solving a wide range of inflow and intrusion challenges around the world today.



Problem: Traditional flap gate valves get stuck open, allowing millions of gallons of water to go back into systems or treatment plants for re-treating.

Solution: Forward hydraulic pressure opens the valve's bill to allow flow, and reverse pressure seals the bill, preventing backflow. Every Tideflex[®] and CheckMate[®] UltraFlex[®] Valve is custom built for each application, as well as independently tested and field validated to ensure maximum backflow prevention and minimum headloss.



Wetlands, Industrial Drainage, Airport and Highway Runoff, and Odor Control



Like the legendary Tideflex[®] Check Valve, the CheckMate[®] UltraFlex[®] In-Line Check Valve has a 100% fabric and elastomer unibody construction that eliminates corrosion problems while providing reliable backflow prevention. There are no mechanical parts to catch debris, corrode or fail. Tideflex[®] Check Valves and CheckMate[®] UltraFlex[®] In-Line Check Valves are used extensively within large surface water areas that demand backflow prevention, such as airport runways, highways and parking lots - anywhere flowing or standing water presents a potential problem. Tideflex[®] Check Valves protect against runoff from hazardous spills, runoff from mining operations, leachate from landfills, and in cases where saltwater is infiltrating protected wetland areas. Low-lying areas protected by levees depend on Tideflex[®] Check Valves to prevent surges from storms and tides from entering the collection system. The low cracking pressure of the valve allows easy draining, even when little difference in elevation exists.



Pump and lift stations play an important role in municipality collection and distribution systems. Wherever pumps are being used to move or lift fluids, Tideflex[®] Check Valves are the ideal choice.

The One and Only CheckMate® UltraFlex®



The CheckMate[®] UltraFlex[®] In-Line Check Valve, with patented "Snap Pressure" technology, opens much faster than other check valves, allowing the pipeline and entire collection system to drain faster, with no moving or metal parts and hinges or rivets to corrode or fail. Because the valve "snaps" open with far less head pressure, pipeline capacity is significantly increased, allowing a free flow of water during weather events, minimizing the chance for standing water to collect upstream. Beware of imitations -- the CheckMate[®] UltraFlex[®] Valve's exceptional dependability and longevity are the product of elastomer experience and knowledge no other company can match, including patented "Arc Notch" construction and saddle grooves.



Flow Control, Equalization, Diversion, Deep Tunnel and In-Line Storage



One of the most challenging applications for any municipality is influent flow control. Red Valve's unique products such as the Type A Megaflex[®] Valve are specifically designed to store, control and isolate stormwater flows within collection system piping. This control strategy minimizes combined sewer overflow volume and frequency.

Red Valve Pinch Valves, including the Type A Megaflex[®] Valve, are designed to remain open for long periods of time and will still close drop tight when actuated, even on entrapped solids.

Sewage, stormwater and combined flow can then be stored within the pipeline or diverted to an EQ tank or deep tunnel and released to the treatment plant at a controlled pace for processing. The Type A Megaflex[®] provides long-term reliability and is able to handle anything that can flow into sewer lines, including tree branches, plastic bags, bottles, sand and grit, wipes, aluminum cans and other residential debris.

> Red Valve's Megaflex[®] Valve shown in various open and closed positions. The highly durable elastomer sleeve closes drop-tight on entrapped solids.











Red Valve Control Pinch Valves are available in sizes up to 84" and are the ideal choice for diverting and controlling flow from collection systems to EQ basins or detention tanks, along with flow from basin to plant.



Simple and efficient Tideflex[®] Check Valves, used as mixing and aeration nozzles, are the perfect solution for preventing stagnation in stormwater storage and detention basins.



The Type A Control Valve is highly effective handling concentrated sewage and abrasive grit, which often moves at a considerable velocity as it enters the treatment process.



Effluent Discharge, Single Point and Multi-Port Diffusers



Tideflex[®] Check Valves and CheckMate[®] UltraFlex[®] In-Line Check Valves are proven, reliable components in outfall systems. During a discharge or overflow event, flow passes freely through the valve. When the downstream water level rises above the upstream level, the valve prevents backflow of unwanted river, bay or ocean water from entering the collection system Multi-Port Effluent Diffuser Systems are used in rivers, streams, lakes and oceans to provide rapid mixing and dilution of effluent within the receiving water body. Tideflex[®] Diffuser Check Valves optimize mixing as they are a variable orifice and maximize jet velocity at all flow rates. Tideflex[®] Diffuser Check Valves also prevent the backflow of sand, silt, debris and salt water into the outfall pipe providing a long-term, service free life.





Tideflex[®] Diffusers provide optimal jet velocity and headloss for an application. Diffusers are available with wire-reinforced rubber risers and elbows that deflect when impacted, protecting the outfall pipe from damage. Red Valve engineers perform a hydraulic analysis for every outfall design, including more than 50 hydraulic variations of Tideflex[®]Diffusers for every nozzle size.



Tideflex[®] Check Valves are the best choice to prevent unwanted backflow from rivers, streams and oceans in stormwater and wastewater applications.



Red Valve Tideflex[®] Diffuser Valves greatly improve mixing and dilution effectiveness in Multi-Port Diffuser Systems, helping to protect the environment.



Pump and Lift Stations



Pump and lift stations play a very large role in municipality collection and distribution systems. Wherever pumps are being used to move or lift fluids, Red Valve Pinch Valve products are the professionals choice for a wide range of pump and lift station applications.

Red Valve Knife Gate Valves combine a thin profile with a rugged bi-directional elastomer seat design that is ideal for pump isolation or bypass lines. Red Valve Knife Gate Valves are manufactured with stainless steel wetted parts and a heavy-duty gate specifically designed for clean water, abrasive or corrosive slurries.

> Red Valve's In-Line Tideflex[®] Check Valves and Pinch Valves provide years of continuous, reliable performance in pumping applications







Red Valve Pressure Sensors are used to protect pumps from running dry or over pressuring the line by providing accurate, dependable pressure movement. With full 360-degree pressure reading, Red Valve Sensors are the only sensors that will stay operational on difficult process fluids such as sewage, sludge and scum.



Redflex[®] Expansion Joints absorb vibration and compensate for pipe misalignment and movement. They help alleviate piping stress and reduce noise. Red Valve offers flanged and slip-on connections, single or multiple arches and a range of elastomers to meet process conditions, including Teflon[®]-lined joints for severely corrosive applications.



Unmatched Elastomer Expertise: The Red Valve Difference



Every Red Valve Pinch Valve Sleeve, along with every Tideflex[®] Check Valve and CheckMate[®] UltraFlex[®] In-Line Check Valve, is hand-fabricated, utilizing a wide range of natural and synthetic elastomers and fabric-reinforced plies. Red Valve has more Pinch and Check Valve elastomer knowledge and manufacturing experience than any other company in the world.

Independent Hydraulic Testing

Red Valve has conducted extensive independent hydraulic testing of Tideflex[®] Check Valves since the 1980's. With our extensive amount of test data, Red Valve has developed modeling programs used to provide hydraulic characteristic curves for every Tideflex[®] Check Valve.



In-House Testing

To supplement independent hydraulic testing, Red Valve continually conducts research and development and additional in-house testing to improve existing products and develop new products.



Finite Element Analysis (FEA)

Red Valve engineers have conducted extensive Finite Element Analysis (FEA) models to analyze the stress, strain, force and deflection characteristics under many load conditions. Modeling was run for discharging and backpressure conditions. These results were used in developing detailed fabrication protocols so that Tideflex[®] Check Valves will withstand all long-term variable load conditions, while producing the desired hydraulic characteristics.



When you specify a Red Valve Pinch Valve, you can be confident knowing the internal elastomer sleeve is superior in design, construction, durability and performance. Every Red Valve Pinch Valve Sleeve is backed by our unmatched elastomer technology, knowledge and manufacturing expertise.



The One and Only CheckMate® UltraFlex® One of the keys to the CheckMate® UltraFlex® In-Line Check Valve's exceptional dependability and longevity is in the elastomer experience and knowledge no other company can match. Beware of imitations. The patented CheckMate[®] UltraFlex[®] Valve provides superior sealing with significantly less head pressure, no moving or metal parts and hinges or rivets to corrode or fail.



The Legendary Tideflex[®] Check Valve

Red Valve's legendary elastomer technology and knowledge is the reason for the Tidelflex[®] Check Valve's unrivaled performance. Every Tideflex[®] Valve is reinforced with various natural and synthetic plies, specifically engineered for your exact application.



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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