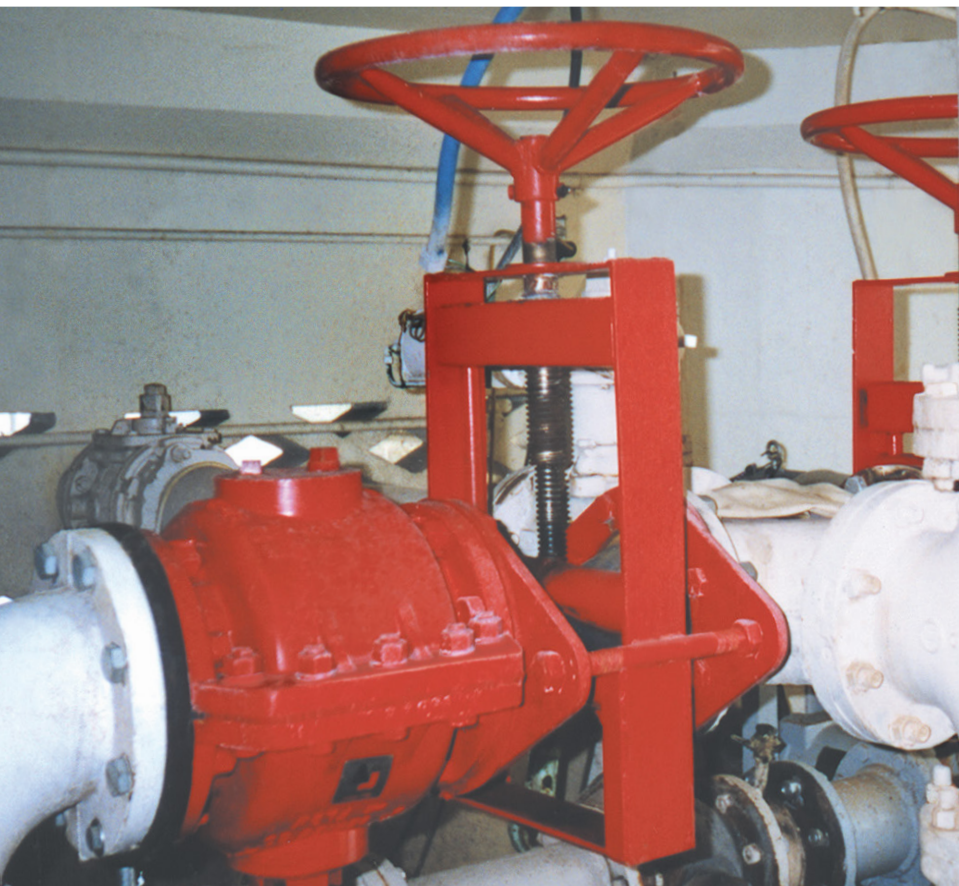


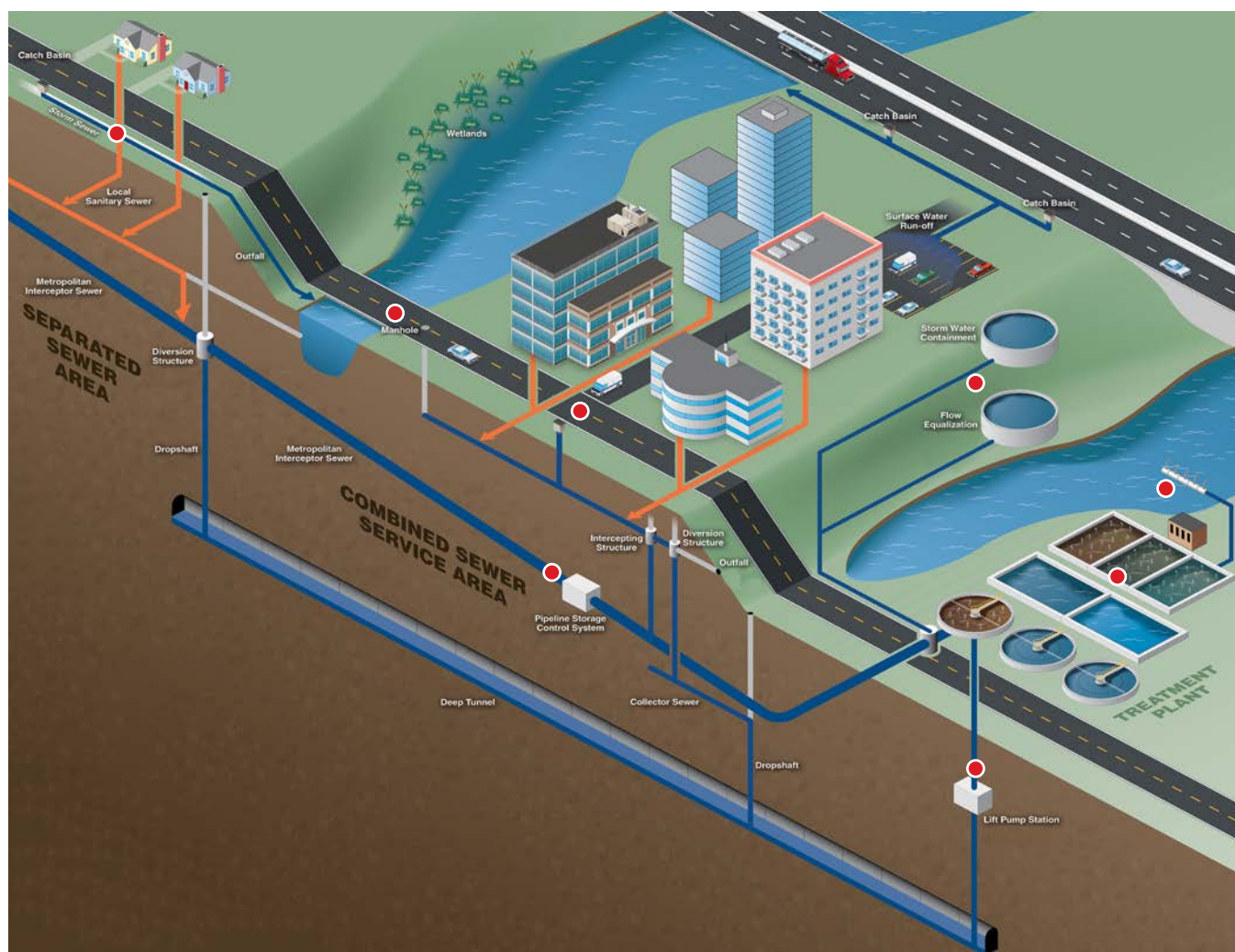


Red Valve

Municipal Collection Systems
Product Solutions Guide

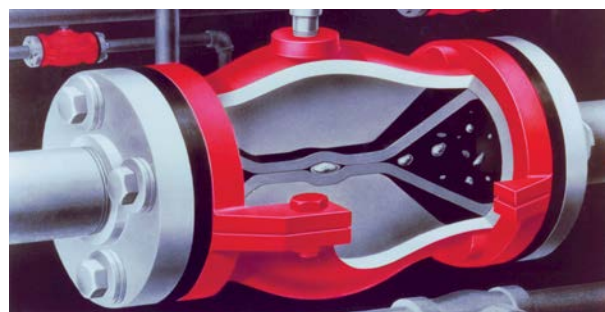


Solutions for Municipal Collection Systems



● *Red Valve offers many solutions for the toughest municipal outfall challenges.*

Since its creation in 1953, Red Valve has been a leading manufacturer of pinch and check valves for municipalities, saving millions of dollars through reducing maintenance costs and flooding issues. 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. You can rely on Red Valve's total system solutions from collection and treatment to final discharge. Our cost-effective technologies are designed to meet the needs of your most demanding applications.



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



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



CTF Tideflex® Duckbill Check Valves are ideal for protecting CSO outfall pipes by preventing unwanted backflow.

Red Valve products are used to prevent unwanted backflow from entering stormwater catchments in times of rising rivers, high tide and heavy rainfall. When these CSO systems overflow, toxic material and debris can be discharged directly into streams, rivers and lakes.

In 1981, the United States Environmental Protection Agency (EPA) commissioned Red Valve to develop and test an alternative to metal valves. As a result, Red Valve designed the CTF Tideflex® Duckbill Check Valve. The EPA tested the valve for over two years, finding that it significantly outperformed metal valves in leakage prevention, debris clearance, self-

cleaning and resistance to marine fouling. 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."

Since its creation, continuous research, testing and proven results have driven the evolution of the CTF Tideflex® Duckbill Check Valve into one of the most reliable backflow prevention valves available today. The first check valve was sold in 1984 and it remains in service, with millions of others now solving backflow issues worldwide.



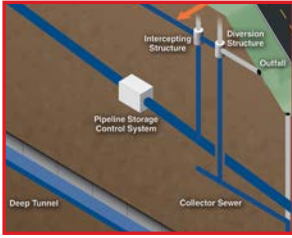
Wetlands, Industrial Drainage, Airport Runoff, Highway Runoff and Odor Control



CMU CheckMate UltraFlex® In-Line Check Valves provide backflow prevention and odor control.

Like the CTF Tideflex® Duckbill Check Valve, the CMU CheckMate UltraFlex® In-Line Check Valve has a 100% fabric and elastomer unibody construction that eliminates corrosion problems and provides reliable backflow prevention. There are no mechanical parts to catch debris, corrode or fail. Tideflex® and CheckMate UltraFlex® 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® Duckbill Check Valves act as protective guards against hazardous spill runoff, mining runoff, landfill leachate and saltwater infiltration in protected wetlands. Low-lying areas protected by levees depend on Tideflex® Valves to prevent storm and tide surges from entering into their collection systems. The low cracking pressure of the valve allows for efficient draining, even when there is minimal elevation difference.



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

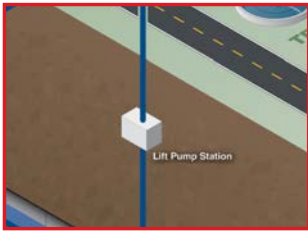


Red Valve Pinch Valves are ideal for controlling and diverting stormwater, raw sewage and combined sewage in equalization and diversion applications.

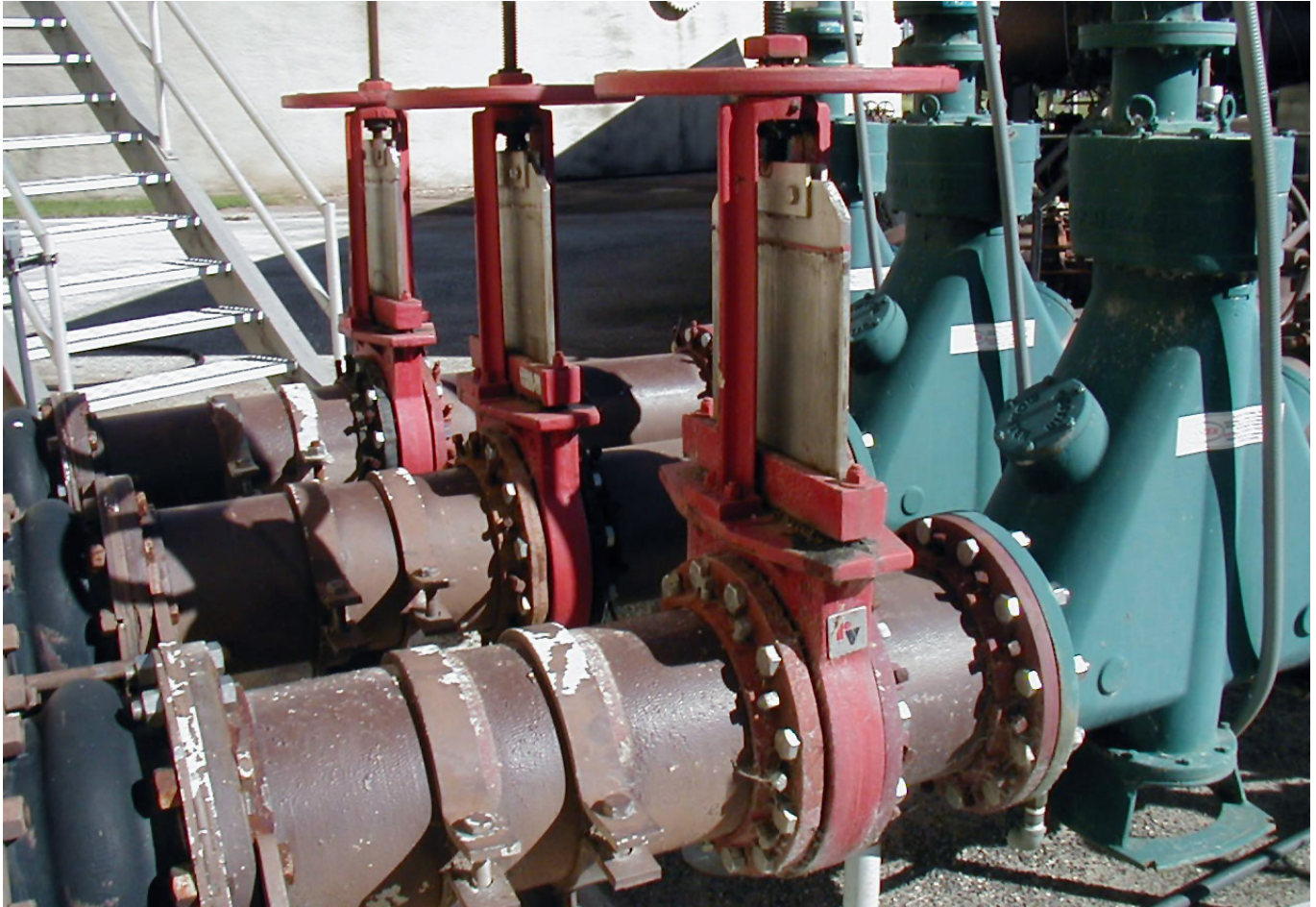
One of the most challenging applications for any municipality is influent flow control. Red Valve's PAV Air-Actuated Pinch Valve (Type A) is designed to store, control and isolate stormwater flows within collection system piping. This strategy minimizes combined sewer overflow volume and frequency.

Red Valve Pinch Valves are designed to remain open for long periods of time and will close tight when actuated, even on entrapped solids.

Sewage, stormwater and combined flow can 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 PAV Air-Actuated Pinch Valve (Type A) provides long-term reliability and is able to handle anything that can flow into sewer lines, including tree branches, plastic bags, bottles, sand, grit, wipes, cans and other residential debris.



Pump and Lift Stations



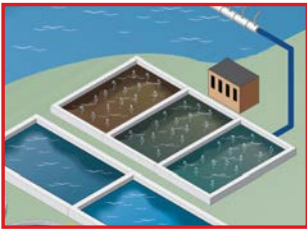
Wherever pumps are being used to move or lift fluids, Red Valve products are the ideal choice, providing years of continuous and reliable service in pumping applications.

Pump and lift stations play a key role in municipal collection and distribution systems. When pumps are being used to move or lift fluids, Red Valve Pinch Valves are the professional's choice.

Red Valve Knife Gate Valves feature a slim profile and rugged bi-directional elastomer seat, ideal for pump isolation or bypass lines. They are built with stainless steel wetted parts and a heavy-duty gate for clean water, abrasive or corrosive slurries.



Red Valve SPS Pressure Sensors protect pumps from running dry or over-pressurizing the line by providing accurate, reliable 360-degree pressure readings, even in tough process fluids like sewage, sludge and scum.



Effluent Discharge: Single Point and Multi-Port Diffusers



CMU CheckMate UltraFlex® In-Line Check Valves in single point discharge applications prevent backflow from rivers, streams and oceans.

CTF Tideflex® Duckbill Check Valves and CMU CheckMate UltraFlex® In-Line Check Valves are proven and reliable components in outfall systems. During a discharge or overflow event, flow passes freely through the valves. When the downstream water level rises above the upstream level, the valves prevent backflow of unwanted river, bay or ocean water from entering the collection system.



Tideflex® Diffuser Nozzles greatly improve the mixing and dilution effectiveness of Multi-Port Effluent Diffuser Systems, helping to protect the environment.

Tideflex® Multi-Port Diffuser Nozzles ensure rapid mixing and dilution of effluent in rivers, streams, lakes and oceans, using a variable orifice design for maximum jet velocity and low head loss at all flow rates. They also prevent backflow of sand, silt, debris and saltwater, offering long-term, low-maintenance performance. Wire-reinforced rubber risers and elbows deflect debris on impact to protect the outfall pipe. Red Valve engineers conduct a hydraulic analysis for each design.



Red Valve offers a worldwide, world-class custom service network. With corporate offices in Pittsburgh, PA, manufacturing facilities in Gastonia, NC, and a network of 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[®]
The World Leader in Pinch and Check Valve Technology™

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