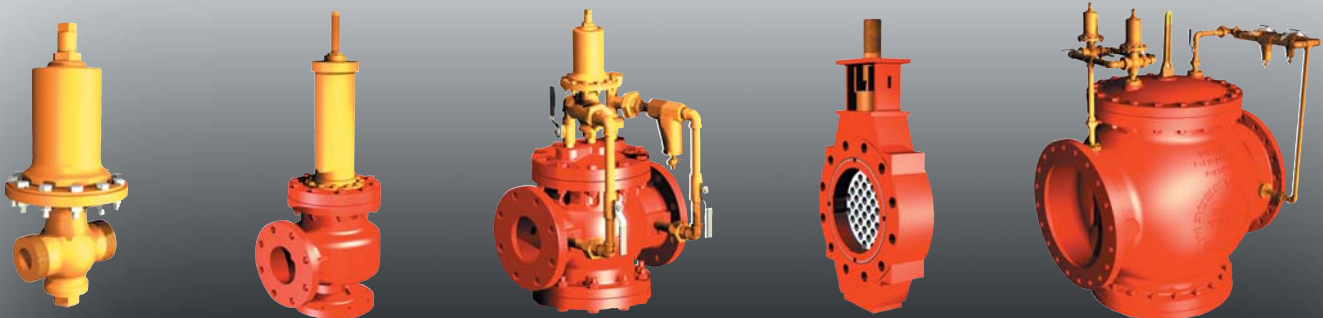
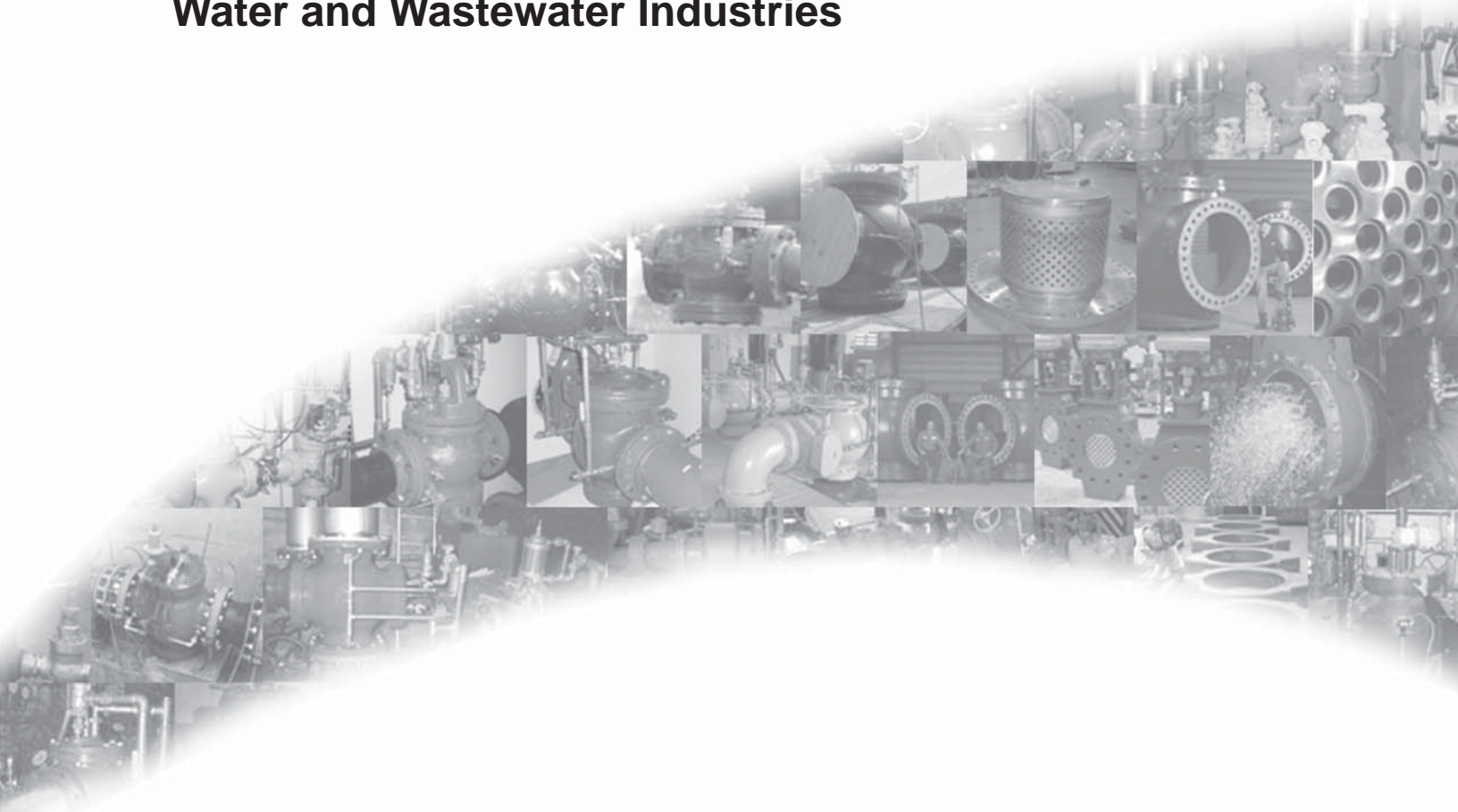


ROSS 1879 VALVE

Automatic Control Valves for the
Water and Wastewater Industries



Company History

When George Ross founded our company in 1879, he made Automatic Control Valves that were designed to last. He also created a company built on enduring values: integrity of design and engineering, quality of materials, craftsmanship in manufacturing, a high level of customer service, and flexible business systems that have evolved with changes in technology and the industries we serve.

Still located in Troy, NY, Ross Valve has grown to become an internationally renowned manufacturer, and expanded to a second facility in 2004 to better serve our customers. As a 5th generation family-owned and operated business, there is an intense commitment to assure that all of our equipment is top quality and meets the high expectations of our customers.

With its rugged piston-style design, a Ross Valve offers **unparalleled long-term value** and customizability for any application. This has earned us the reputation as a manufacturer of the industry's most durable and accurate Automatic Control Valves.

Ross Valves Last Longer

Our hand-crafted valves are designed with features that differentiate us from all other control valves, and our quality standards ensure that a properly maintained Ross Valve is often an investment that will last a lifetime. To provide assistance through the decades of use, the following services are a standard part of every Ross Valve purchase:

- We will maintain a detailed record of the individual valve's construction, settings, and service history
- Dedicated, factory-trained service technicians available for on-site start-ups and service
- Live, personal assistance for remote troubleshooting and maintenance questions
- Customizable Operation & Maintenance manuals are available online anytime
- A preventative maintenance schedule tailored to your valve can be provided

Our Customers

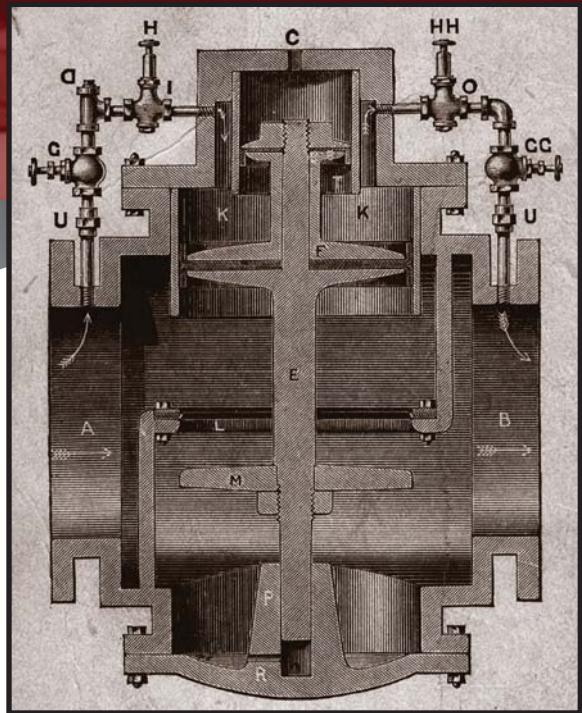
Ross continues to grow its comprehensive product line to serve the following industries throughout the world:

- Municipal Water
- Wastewater
- Industrial
- Hydro-Power
- Fire Fighting

Buy American



All Ross Valves are
100% ARRA Compliant



Original piston-style Ross Valve, circa 1900. While our product has evolved, the rugged design remains largely unchanged, even today.

Dedication to Quality

Based in Troy, NY since 1879, Ross Valve continues to do all manufacturing in-house so that we may provide our customers with the following:

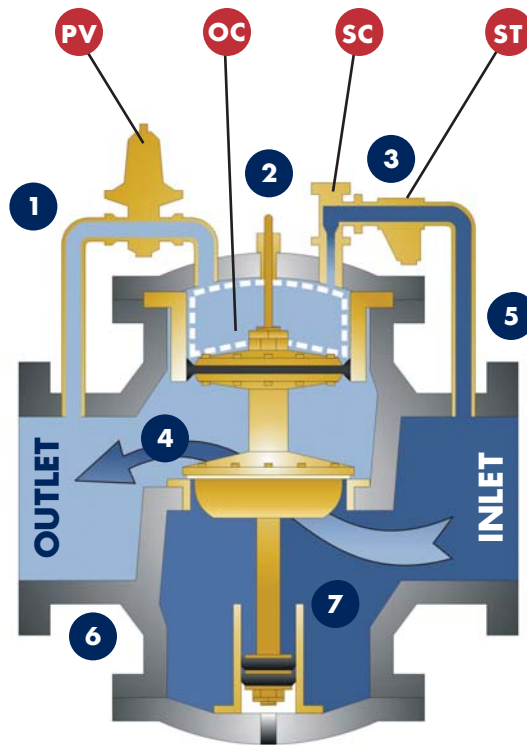
- 100% quality control, from product design through final testing
- Performance-tuned valves, with at least 10 independent criteria specified for optimal performance in each application
- Durable and flexible designs, for a lifetime of service - even if operating conditions should change
- Lead time management and manufacturing flexibility for both standard and custom valves
- 100% hydraulic testing of all valves (completely assembled), for trouble-free installations and start-ups
- Continued commitment to meeting the strict requirements of ISO, NSF, AWWA, UL/FM and ANSI

VALVE CONSTRUCTION

ROSS PISTON STYLE VALVE

ROSS STANDARD FEATURES:

- 1 Rigid ½" Piping & Fittings
- 2 Position Indicator
- 3 Strainer with 7 in² Stainless Steel Filter
- 4 Application-Specific Seat Contour
- 5 ANSI Class 250 Body & Caps
- 6 NSF 61 Certified Epoxy Coating Inside & Out
- 7 Fully Guided Piston Above & Below Seat



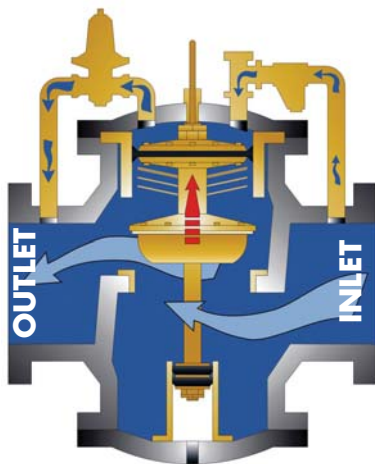
ROSS ADVANTAGES:

- Piston Style Design is not vulnerable to sudden failures
- All manufacturing done in-house (Troy, NY) for quality control
- 100% Hydraulic testing on every valve before shipment
- Extra-heavy construction, for decades of reliable service
- Over 10 criteria specified for every valve to ensure optimal performance
- Low maintenance, easily customizable

OPERATION:

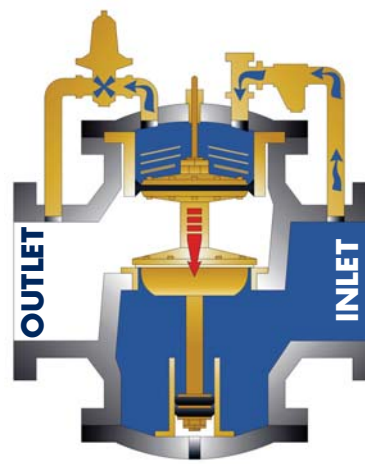
The Ross Valve piston-style design provides extremely accurate flow control and is not subject to sudden failure. Each valve is comprised of the following standard components:

- OC** The Operating Chamber is created by the top seals of the piston. The pressure in this chamber, as determined by the control components, determines the movement of the piston.
- ST** Our standard Strainer utilizes a stainless steel screen with over 7 square inches of surface area to filter out contaminants going into the valve controls.
- SC** The adjustable Speed Control Valve regulates the flow into the Operating Chamber and determines the main valve's opening and closing speeds.
- PV** The Pilot Valve, whether hydraulic or electric, acts like the brain of the valve to determine when the valve will open or close.



OPENING

When the Pilot Valve opens, fluid exits the Operating Chamber faster than it can enter through the Speed Control Valve. The low pressure created in the Operating Chamber allows line pressure in the main valve to force the Piston up, opening the valve.



CLOSING

When the Pilot Valve closes, fluid continues to enter the Operating Chamber through the Strainer and Speed Control Valve. The high pressure created in the Operating Chamber overcomes the line pressure in the main valve and forces the Piston down, closing the valve.

Note: Renderings shown are for reference only and are subject to change at any time. Engineering drawings are provided during the submittal process.

AUTOMATIC CONTROL VALVES

TREATED WATER

UNTREATED WATER

HYDRAULIC ACTUATION



ELECTRIC ACTUATION



MECHANICAL ACTUATION



CONSIDERATIONS

INTERACTIVE CATALOG

Configure Product

Build a valve to your specifications, or get additional details and drawings, using our Interactive Catalog and online Product Configurator at www.rossvalve.com.



Cavitation damage can destroy a valve and the surrounding equipment. Protect your investment with our optional WaterTamer Anti-Cavitation feature. [ACAV & ACAV3]



Pre-Packaged Vaults combine the quality and reliability of a Ross Valve with the convenience of a professionally designed and factory tested station.



Diaphragm-style valves are available as an alternative to our standard piston-style valves in most configurations, but are generally considered for low pressure and/or short-term use. Consult a representative for details.

COMMON OPTIONS*

FUNCTIONAL FEATURES

IE = All External Controls (Small Valves)
A = Surge Control (Hydraulic Trigger)
ACAV = Anti-Cavitation Trim
ACAV3 = Anti-Cavitation Trim (3-Stage)
AL = Altitude Pilot
AP = Auxiliary Pilot
BP = Back Pressure Sustaining Pilot
CE = Check Feature (External)
CI = Check Feature (Internal)
DO = Delayed Opening
DP = Differential Pilot
E = Surge Control (Electric Trigger)
EC = Emergency Quick Close
ELA = Electric Actuator
EX = Exhaust Feature - to open main valve
HYC = Hydraulic Cylinder
LD = Low Differential Design
LFBP = Low Flow Bypass
MB = Manual By-pass
MGA = Manual Gear Actuator
MSC = Manual Stop: Limits Closing
MYS = Yoke Stop: Limits Opening
PR = Pressure Reducing Pilot
R = Reverse Flow
REL = Relief Pilot
REM = Remote Pilot
RF = Rate of Flow Pilot
SAC = Spring Assembly: Closing Assist
SAO = Spring Assembly: Opening Assist
SC = Solenoid Pilot Valve: 2-way N.C.
SF = Solenoid Pilot Valve: 3-way Open main valve when energized
SG = Solenoid Pilot Valve: 3-way Open main valve when de-energized
SL = Slow Close Pilot
SO = Solenoid Pilot Valve: 2-way N.O. [Emergency Close]
TDC = Top Differential Cylinder
VB = Vacuum Breaker

OPTIONAL ACCESSORIES

ASF = Automatic Strainer Flush
AX = 2-Point Active Pressure Control
BD = Blow Down Feature (Strainers)
CP = Pump Control Panel - Mechanical Relay
DATA = Datalogger Package
DES = Dual High Efficiency Strainers
DPG = Dual Pressure Gauges
DLS = Dual Limit Switches
DN = Dual Speed Control Valves
DS = Dual Strainers
ES = High Efficiency Strainer
FAK = Flange Gasket/Assembly Kit
FC = Float Chamber
H = Hydrant Connection (2-1/2" Fire Valve)
IR = Indicator Rod (Small Valves)
LPT = Linear Potentiometer Transmitter
LR = Latching Relay: Stays closed until manual override
LS = Limit Switch
MC2000F = Flow Control Panel
MC2000L = Level Control Panel
MC2000PT = Pressure Control Panel
MC2000VP = Valve Position Panel
MC2000IP = Pump Control Panel - PLC Based
MP = Reversible Electric Motor (for Pilot Valve)
PG = Pressure Gauge
PI = Pipe Inserts
PS = Pressure Switch
RPT = Rotary Potentiometer Transmitter
SI = Setting Indicator
SPEC = Special Feature
TD = Time Delay
TF = Traveling Float
TOP = Top Piping Configuration
TP = Timer Package

MATERIAL UPGRADES

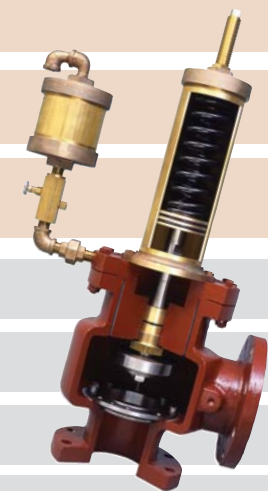
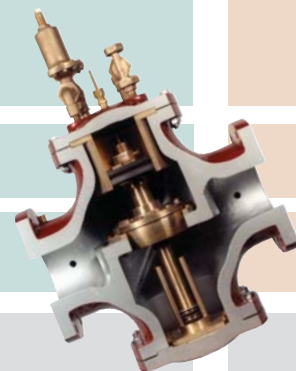
CS = Chrome Superstructure (Fire Valves)
DI = Ductile Iron Body and Cap(s)
RPB = Reduced Ported Valve Body
RSF = Reduced Size Flanges
SS = Stainless Steel Trim (#22, 24)
SS23 = Stainless Steel Bottom Cylinder (#23)
SSC = Stainless Steel Cylinders (#14, 23)
SSP = Stainless Steel Pilot Seat
STL = Steel Body and Cap(s)
TEF = Teflon Coated Cylinders (#14, 23)
TEF14 = Teflon Coated Main Bushing (#14)
TEF23 = Teflon Coated Bottom Cylinder (#23)

*Note: This is a partial list of available options. Not all options are applicable to all valves or in certain combinations. Please consult a representative before ordering.

PRESSURE REDUCING	Pilot Operated, 4"-48" [40WR] Pilot Operated, 1"-3" [23WR] Direct Acting, 1"-4" [98EP] Direct Acting, ½"-1-½" [T-Series]
LEVEL CONTROL	Pilot Operated, Two-Way Flow, 4"-48" [40DAWR] Pilot Operated, Elevated Tank, 4"-48" [30AWR] Pilot Operated, Ground Tank, 4"-48" [40AWR]
PUMP CONTROL	Pilot Operated, Pressure Reducing, 4"-48" [42WRS-40WR] Pilot Operated, Pressure Sustaining, 4"-48" [42WRS-50RWR]
BACK PRESSURE	Pilot Operated, 4"-48" [50RWR] Internal Pilot Operated, 1"-3" [23RWR]
SURGE RELIEF	Pilot Operated, 4"-48" [50RWR] Internal Pilot Operated, 1"-3" [23RWR] Internal Pilot Operated, 1"-3" [20WR]
SURGE ANTICIPATING	Pilot Operated, Hydraulic Trigger, 4"-48" [50RWR-A]
FLOW CONTROL	Pilot Operated w/ Orifice Assembly, 4"-48" [40RF] Pilot Operated w/ Orifice Assembly, 1"-3" [23RF]
CHECK VALVE	Cushioned, 4"-48" [43WR]
SAFETY	Differential Pressure, 4"-48" [40DP], Operates on increasing differential Emergency Cut-In, 4"-48" [37WR], Opens on falling outlet pressure Emergency Line Break, 4"-48" [37WR-DP], Closes on flow increase
ON-OFF	
EXTREME SERVICE	Energy Dissipating, Fixed, 2"-120" [890] Energy Dissipating, Hydraulic Actuator, 4"-90" [MOV-HC]
STRAINERS	Basket Type, 4"-48" [10B] Basket Type, 2"-3" [10C] Strainers - Cartridge Type, ½"-1" [5F2]
FIRE FIGHTING	
PRESSURE REDUCING	Internal Pilot Operated, 1"-3" [20WR-PRV]
SURGE RELIEF	Internal Pilot Operated, 1"-3" [20WR] Internal Pilot Operated, Hydrant Connection, 1"-3" [20WR-H]
PUMP CONTROL	
BACK PRESSURE	Direct Acting, 4"-48" [70SWR-BP] Direct Acting, 2"-3" [28AR]
SURGE RELIEF	Direct Acting, 4"-48" [70SWR] Direct Acting, 2"-3" [28AR]
SURGE ANTICIPATING	

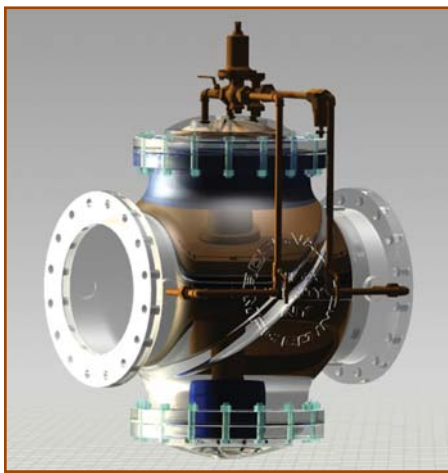
Solenoid Operated, Throttling, 4"-48" [42AFCV-PT]	
Solenoid Operated, Throttling, 4"-48" [42AFCV-L] Solenoid Operated, On-Off, 4"-48" [50FWR]	
Solenoid Operated for Booster Pump, 4"-48" [42WRS] Solenoid Operated for Deep Well Pump, 4"-48" [45WR]	
Solenoid Operated, Throttling, 4"-48" [42AFCV-L] Solenoid Operated, On-Off, 4"-48" [50FWR]	
Solenoid Operated for Booster Pump, 4"-48" [42WRS] Solenoid Operated for Deep Well Pump, 4"-48" [45WR]	
Pilot Operated, Electric Trigger, 4"-48" [50RWR-E]	
Solenoid Operated, Throttling, 4"-48" [42AFCV]	
Electric Check, 4"-48" [42WRS]	
Solenoid Operated Throttling, 4"-48" [42AFCV] Solenoid Operated, 4"-48" [42WR] Solenoid Operated, 1"-3" [3902]	
Energy Dissipating, Electric Actuator, 4"-90" [MOV-EA]	
Electrically Actuated, 4"-48" [70SWR-S]	
Electrically Actuated, 4"-48" [70SWR-E]	

Remote Float/Pilot Operated, 4"-48" [45FWR] Float/Lever Operated, 4"-48" [21F] Float/Lever Operated, 1"-3" [20F]	
Manually Operated, 4"-48" [42WR-MAN]	
Energy Dissipating, Manual Actuator, 4"-90" [MOV-MG]	



Technical Resources:

At Ross Valve, we pride ourselves in providing a truly engineered product. There is no "off the shelf" valve that will perform optimally in every application, so we specify at least 10 separate criteria to ensure the best performance possible for each valve. With nearly 130 years of industry experience, Ross Valve offers a variety of in-house resources to ensure all your product requests are met:



- Dynamic Fluid Modeling
- Pattern Shop & 2 Foundries
- Machine Shops & CNC Centers
- Hydro Test Facilities
- Pre-Packaged Vault Design/Build Center
- Online Tools
 - Animated Valve Operation Schematics
 - Valve Sizing / Capacity Tool
 - Valve Configuration Tool
(For customized Specifications, Submittals, Operation & Maintenance Manuals)



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All Ross Valves meet or exceed all current AWWA standards for construction and pressure ratings.
RV 06-10 5000



Ross Valve manufactures all its products in Troy, NY. Our corporate headquarters are now located in the newly expanded Ross Tech Park, just 1.5 miles from our original facility.