Ross Valves last longer.

When George Ross founded our company in 1879, he believed automatically controlled valves were the answer to his clients’ needs. He also created a company built on enduring values: integrity of design and engineering, quality of material craftsmanship in manufacturing, a high level of customer service, and flexible business systems that have evolved with technology and the times.

Now, much more than a century later, Ross automatic control valves are legendary throughout the world. Over the years, they have played a pivotal role in construction projects both large and small, serving systems as diverse in size and operating conditions as New York City, Los Angeles, Madrid, and Dubai.

Ross offers a complete line of standard valves including pump control, pressure reducing, flow control, altitude, back pressure, and diaphragm-style valves. Complementing these product lines are high energy dissipation anti-cavitation valves – our “WaterTamer.” Rounding out our product line is a full line of pressure sustaining, relief, surge control, electronic control valves, and float valves, as well as a complete line of strainers and strainer-like valves. Complementing these product lines are high energy dissipation anti-cavitation valves – our “WaterTamer.” Rounding out our product line is a full line of valves for wastewater. Of course, we also have a variety of customized valves and valve features that can be engineered to suit any application, as well as pre-packaged valve vaults for field service. No wonder customers around the world always seem to say:

“There’s nothing like a Ross Valve.”

Ross Valves are known for Ross quality. And no wonder, because we control the process from raw materials to finished product. When designing the components needed to make our valves, we start with the box and work our way out. All parts are procured in our own New York-based foundries. All parts are machined to close tolerances. From rough valve to finished product, no valve is ever tested under the designed operating conditions. When you receive your Ross valve, you can count on its ability to perform as advertised.

Accurate. Ruggedly constructed. Versatile Reliable. And backed by dedicated technical support and uncompromised field service. No wonder customers around the world always seem to say:

“There’s nothing like a Ross Valve.”

Ross Valve Manufacturing Co., Inc.
P.O. Box 385, Troy, NY 12181, USA
Tel: 518-274-0961 • Fax: 518-274-0210
Email: sales@rossvalve.com • www.rossvalve.com

Ross has been in the valve business since 1879, designing, manufacturing, and supplying control valves and components for the industrial, commercial, and municipal markets. Ross Valves are made from the finest raw materials. Molds are made. We then start with the design and manufacture our components.

Design Considerations:
When you use our valves, we design the valve and the relevant operating conditions to take into account for our energy dissipating valves. No more so than when we consider all the following: our design and manufacturing processes:

- Operating pressures (minimum, maximum)
- Differential pressure
- Cavitation risk
- Intended use (frequency)
- Flow rates (minimum, normal, maximum)
- Sealed / Unsealed
- Flow media (water, quality)
- Bubble-tight requirements
- Space limitations / height and length
- Type of actuation (hydraulic, manual, electric)
- Elevation requirements
- Bubble-tight requirements
- Space limitations / height and length
- Design, and build valves that provide the best performance in each application.

Knowing these criteria allows us to specify, design, and build valves that provide the finest performance in each application.

In addition to having an excellent product line, Ross also provides a complete line of strainers and strainer-like valves. Complementing these product lines are high energy dissipation anti-cavitation valves – our “WaterTamer.” Rounding out our product line is a full line of valves for wastewater. Of course, we also have a variety of customized valves and valve features that can be engineered to suit any application, as well as pre-packaged valve vaults for field service. No wonder customers around the world always seem to say:

“There’s nothing like a Ross Valve.”

Ross Valves are known for Ross quality. And no wonder, because we control the process from raw materials to finished product. When designing the components needed to make our valves, we start with the box and work our way out. All parts are procured in our own New York-based foundries. All parts are machined to close tolerances. From rough valve to finished product, no valve is ever tested under the designed operating conditions. When you receive your Ross valve, you can count on its ability to perform as advertised.

Accurate. Ruggedly constructed. Versatile Reliable. And backed by dedicated technical support and uncompromised field service. No wonder customers around the world always seem to say:

“There’s nothing like a Ross Valve.”

Ross Valve Manufacturing Co., Inc.
P.O. Box 385, Troy, NY 12181, USA
Tel: 518-274-0961 • Fax: 518-274-0210
Email: sales@rossvalve.com • www.rossvalve.com

Ross has been in the valve business since 1879, designing, manufacturing, and supplying control valves and components for the industrial, commercial, and municipal markets. Ross Valves are made from the finest raw materials. Molds are made. We then start with the design and manufacture our components.

Design Considerations:
When you use our valves, we design the valve and the relevant operating conditions to take into account for our energy dissipating valves. No more so than when we consider all the following: our design and manufacturing processes:

- Operating pressures (minimum, maximum)
- Differential pressure
- Cavitation risk
- Intended use (frequency)
- Flow rates (minimum, normal, maximum)
- Sealed / Unsealed
- Flow media (water, quality)
- Bubble-tight requirements
- Space limitations / height and length
- Type of actuation (hydraulic, manual, electric)
- Elevation requirements
- Bubble-tight requirements
- Space limitations / height and length
- Design, and build valves that provide the best performance in each application.

Knowing these criteria allows us to specify, design, and build valves that provide the finest performance in each application.

In addition to having an excellent product line, Ross also provides a complete line of strainers and strainer-like valves. Complementing these product lines are high energy dissipation anti-cavitation valves – our “WaterTamer.” Rounding out our product line is a full line of valves for wastewater. Of course, we also have a variety of customized valves and valve features that can be engineered to suit any application, as well as pre-packaged valve vaults for field service. No wonder customers around the world always seem to say:

“There’s nothing like a Ross Valve.”

Ross Valve Manufacturing Co., Inc.
P.O. Box 385, Troy, NY 12181, USA
Tel: 518-274-0961 • Fax: 518-274-0210
Email: sales@rossvalve.com • www.rossvalve.com

Ross has been in the valve business since 1879, designing, manufacturing, and supplying control valves and components for the industrial, commercial, and municipal markets. Ross Valves are made from the finest raw materials. Molds are made. We then start with the design and manufacture our components.
In high velocity and high pressure drop applications, you want a valve that works. Ross Valve offers a variety of solutions that can be customized to deal with your specific challenges, whether they include high pressure drops, high velocities, pressure surging, cavitation, or other demanding conditions.

Our energy dissipation solutions typically utilize a number of strategically-located engineered orifices to divide the media into multiple jets and ensure the proper thrashing effect is created. These uniform jet configurations effectively suppress vibration, pressure fluctuations, cavitation, and noise.

For applications with fairly constant flow or pressure requirements, its Ross Model MOV Energy Dissipating Valve (FED) offers many benefits. As the name implies, this is a fixed device that is designed for a specific operating pressure and flow rate. There are no moving parts and no moving parts, so it requires no maintenance and is suitable for a variety of water qualities. In addition, when used as part of a multiple solution, the FED can provide an initial pressure drop to protect downstream equipment from cavitation damage.

For applications that require a variety of flows or pressure conditions, the Ross Model MOV Energy Dissipating Valve as an ideal choice. It offers excellent variable flow and can be operated manually, hydraulically, or with an electric actuator. Its narrow range laying also makes it ideal for tight spaces. This valve is not recommended for bubble-right-shut-off.

For clean water projects that require variable control, drop-out shut-off, and self-centered hydraulic operation in cavitation or near-cavitation conditions, the best solution may be a standard Ross control valve with one or more anti-cavitation features. Please inquire for more details.

For high pressure and high velocity applications, Ross Valve offers a variety of solutions that provide precise control and peace of mind. The next project you undertake requires an energy dissipation solution, contact the experts at Ross Valve. Our company’s experience ISBTP is at your service.
Ross Valves last longer.

When George Ross founded our company in 1879, he designed and sold the first automatic control valves. Ross valves were known for their exceptional quality. And for good reason. Because we understand that every project is unique and has its own special requirements. Our engineers take steps to ensure the most efficient solution.

Our Process:
Ross valves are designed, built and tested to the highest standards. Our engineers take steps to ensure the most efficient solution. This is especially true when an application involves extreme pressures and/or velocities. That’s why, over the last 130+ years we’ve designed and built valves that have evolved with technology and the times.

Our Design Philosophy:
Ross offers a complete line of standard valves including pump control, pressure sustaining, relief, surge control, electronic control valves, and flow valves, as well as a complete line of strainers and discharge check valves. Our valves are designed to perform optimally in all applications. Instead, our philosophy is based on providing extremely rugged components that offer a high degree of customizability. We use those components as building blocks that can be assembled in a way to provide the best possible performance every time.

Our Customization and Design:
Ross valves are designed and built to provide the best performance for the intended application, while maintaining a degree of flexibility and customizability. We work closely with our customers to understand their needs. Our team then provides a customized valve solution that meets those needs. Whether the project involves extreme pressures and velocities or something more standard, our engineers take steps to ensure all project requirements are met.

Steps:
Technical consultation: Review specifications, sizing and preliminary performance criteria.
Design: For multi-stage or multiple valve projects, assemblies may be modeled to ensure fit and functionality of entire solution.
Performance testing: Test for leaks and inherent system inefficiencies.
Modeling: Performance may be verified through flow modeling, testing and design considerations.
Testing: When requested, independent lab testing may be completed and reconciled against the flow modeling results.

Results:
With 130+ years of experience, 100% dedicated on-site resources, and a comprehensive commitment to quality, we’re confident that a Ross Valve purchase will provide lifetime performance to your project.

Contact us today for more information. Tel: 518-274-0961 • Fax: 518-274-0210
P.O. Box 595, Troy, NY 12181-0595, USA
Ross Valve Mfg. Co., Inc.

DESIGNED IN THE USA • MANUFACTURED IN THE USA
In high velocity and high pressure drop applications, you want a valve that works. Ross Valve offers a variety of solutions that can be customized to deal with your specific challenges, whether they include high pressure drops, high velocities, pressure surging, cavitation, or other detrimental effects.

Our energy dissipation solutions typically utilize a number of strategically-placed engineered orifices to divide the media into multiple jets and ensure the proper throttling effect is created. These unified jet configurations effectively suppress vibration, pressure fluctuations, cavitation, and noise.

For applications with fairly constant flow or pressure requirements, our Ross Model MOV Energy Dissipating Valve (EDV) offers many benefits. As the name implies, this is a fixed device that is designed for a specific operating pressure and flow rate. There are no moving parts and no moving parts, so it requires no maintenance and is suitable for a variety of water qualities. In addition, when used as part of a multi-jet solution, the FED can provide an initial pressure drop to protect downstream equipment from cavitation damage.

For applications that require a variety of flows or pressure conditions, the Ross Model MOV Energy Dissipating Valve is an ideal choice. It offers excellent variable flow and can be operated manually, hydraulically, or with an electrical actuator. Its narrow layering also makes it ideal for tight spaces. This valve is not recommended for bubble-right-shut-off.

For closed-loop water projects that require variable control, drop-right-shut-off, and self-contained hydraulic operation in cavitation or near-cavitation conditions, the best solution may be a standard Ross control valve with one of our added Anti-Cavitation features. Please inquire for more details.

For high velocity and high pressure applications, Ross Valve has a variety of solutions that provide precise control and peace of mind. The next time your project requires a variety of solutions that provide precise control and peace of mind. The next time your project requires

ROSS MODEL MOV - ENERGY DISSIPATING VALVE
Provides variable flow or pressure control in extreme applications.

DESIGN
The Ross Model MOV is based on bi-directional operating principles and contains one fixed (downstream) valve plate, one linearly moving (upstream) valve plate, and one linearly moving (upstream) valve plate. Both plates have matching engineered orifices at a large number of precise locations. This approach allows the flow jets into a contained column of fluid that dissipate energy in a short linear distance. Operation is typically smooth enough to allow place of monitoring equipment within close proximity of the valve.

FEATURES & BENEFITS
- Full control packages available.
- Small and large actuation packages available.
- Compact size and lay length.
- Efficient maintenance.
- Field-replaceable stem packings (typical of butterfly valves).
- Multiple heavy duty bearing guides along the axis of movement.
- Jet enhancing upstream plate.
- Adjustable opening/closure rate.
- Eliminates flow modulating orifices in downstream plates.
- Full control packages available.
- Anti-cavitation components.

ADDITIONAL FEATURES & BENEFITS
- Multiple heavy duty bearing guides along the axis of movement.
- Anti-cavitation enhancing orifices incorporated over the fixed downstream plates.
- Aervator upstream plate orifices for severe service conditions.
- Controller capable of controlling high and reverse flow conditions.
- Hydraulic actuator (flow design prototype)/battery of valve positions.
- Field replaceable orifice packings for low friction operation and efficient maintenance.
- Compact size and lay length.
- Full control packages available.

ROSS MODEL 890 - FIXED ENERGY DISSIPATION (FED)
Fixed device engineered for a specific pressure reduction or flow rate.

FEATURES & BENEFITS
- Fixed device engineered for a specific pressure reduction or flow rate.
- Potentiometric modulating orifices in downstream plates.
- Full control packages available.
- Anti-cavitation components.
- Fixed pressure dissipating orifices.

ADDITIONAL FEATURES & BENEFITS
- Eliminates flow modulating orifices in downstream plates.
- Full control packages available.
- Anti-cavitation components.

KEY FEATURES
- Flows up to 5,000 gpm (mgd) or 1,000 gpm (mgd) per stage.
- 100% stainless steel construction, with engineered flow for maximum life expectancy.
- Concentrically aligned to focus in the waterway, protecting any nearby equipment.
- Four dimensions (diameter and length) tailored to control the required flow or pressure drop.

MULTI-VALVE SOLUTIONS
Examples: FED and MOV in series.
- Flow series
- Line velocities
- Control requirements

EXPERIMENTAL
Ross Valve’s product line, engineering expertise, and in-house manufacturing resources uniquely position us to develop multi-valve solutions that succeed.

As part of the Ross Valve product line, the FED and MOV are ideal for applications requiring a multi-valve approach to deal with cavitation conditions in a single or series configuration. These orifices direct water to centerline recovery. Design permits rapid flow adjustment of spacing between mating pipeline flanges.

When a multi-valve approach is determined to be the best solution, we can proceed with a more in-depth analysis of the operating and performance requirements.

Based on a number of factors, we can select from any number of valves in our portfolio to achieve the best results. Some of these factors include:
- Flow series
- Line velocities
- Control requirements

Cavitating valve assemblies are available as a standard unit in a variety of configurations, including "no cavitating" or "anti-cavitation" valves. This approach is especially effective when the operating conditions indicate cavitating to occur harmlessly within a contained column of fluid.

When a valve is required for a specific application, we can provide a wide range of options and configurations to meet the specific demands of the project.

Potential Installations
Ross Valve’s energy dissipation solutions are suitable for a wide range of applications, including:
- Water supply and distribution systems
- Sewage treatment systems
- Industrial water treatment systems
- Fire protection systems
- Water treatment facilities
- Waste treatment facilities
- Water quality control equipment
- Chemical injection systems
- Electrical control valves
- Anti-cavitation components

EQUIPMENT LIST
- Sizing for specific applications
- Flow direction
- Pressure rating
- Temperature range
- Fluid compatibility
- Control requirements
- Electrical connections

When developing a solution for your specific application, we recommend that you consult with our technical support team to ensure that the best solution is selected for your particular needs. The Ross Valve product line, engineering expertise, and in-house manufacturing resources uniquely position us to develop multi-valve solutions that succeed.
In high velocity and high pressure drop applications, you want a valve that works. Ross Valve offers a variety of solutions that can be customized to deal with your specific challenges, whether they include high pressure drops, high velocities, pressure surges, cavitation, or other demanding conditions. Our energy dissipation solutions typically utilize a number of strategically-angled engineered orifices to divide the media into multiple jets and ensure the proper thrusting effect is created. These uniform jet configurations effectively reduce pressure fluctuations, cavitation, and noise.

For applications with fairly constant flow or pressure requirements, our Ross Model MOV Fixed Energy Dissipator (FED) offers many benefits. As the name implies, this is a fixed device that is designed for a specific operating pressure and flow rate. There are no moving parts and no moving parts, so it requires no maintenance and is suitable for a variety of water qualities. In addition, when used as part of a multi-valve solution, the FED can provide an initial pressure drop to protect downstream equipment from cavitation damage.

For applications that require a variety of flows or pressure conditions, the Ross Model MOV Energy Dissipating Valve is an ideal choice. It offers excellent variable flow and can be operated manually, hydraulically, or with an electrical actuator. Its narrow layering also makes it ideal for tight spaces. This valve is not recommended for bubble-tight shut-off.

For clean water projects that require variable control, drop-down shut-off, and self-contained hydraulic operation in cavitation or near-cavitation conditions, the best solution may be a Ross Control valve with one of our added Anti-Cavitation features. Please inquire for more details.

For high pressure and high velocity applications, Ross Valve has a variety of solutions that provide precise pressure control and peace of mind. The next time your project requires an energy dissipation solution, contact the experts at Ross Valve. Our company’s experience since 1879 is at your service.

**Ross Valve MOV Energy Dissipating Valve**

- **Variable flow control** and pressure control in extreme applications.
- **Water supply to fluid delivery systems**.
- **System headers** for water treatment plants.
- **Flow control for pumps and turbine units**.
- **Water storage or discharge of dams**.
- **Gas cleaning and drying**.
- **Refrigerating butterfly valves**.
- **Design considerations** for flow rate and pressure drop in front of the valve.
- **Laboratory test rig**.

**Size Selection**

- **2” – 120” (50mm – 3000mm)
- **Sizing**
- **Sizing Chart**

**MULTI-VALVE SOLUTIONS**

- **Flow requirements**
- **Line velocities**
- **Valve sizes**
- **Cavitator design**
- **Other solutions have included combinations of the following options**
- **Pressure maintaining valves**
- **Electric control valves**
- **Anti-cavitation components**

**Key Features**

- **Cavitation risk**
- **Valve sizes**
- **Anti-cavitation components**

**Fixed Device engineered for a specific pressure reduction or flow rate.**

**Ross Model 890 – Fixed Energy Dissipator (FED)**

**Additional Features & Benefits**

- **Eliminates flow vibrations associated with butterfly valves.**
- **Flexible pipe connections**
- **Design permits pipe connections.**
- **No maintenance or repair.**
- **For steam, water can be re-cycled.**

**Ross Model MOV – Energy Dissipating Valve**

- **Provides variable flow and pressure control in extreme applications.**
- **Design**

**Additional Features & Benefits**

- **Multi-staged heavy duty bearings**
- **Cavitation-enhancing orifices**
- **Anti-cavitation enhancing orifices**
- **Anti-cavitation orifices**

**Potential Installations**

- **Replacing butterfly valves and ball valves**
- **Flow relief for pump and turbine units**
- **Water supply and distribution systems**
- **Cooling and mixing systems (turbine bypass)**
- **As part of a recirculating water system**

**Material Specifications**

- **ROSS MODEL MOV – ENERGY DISSIPATING VALVE**

**Sizes**

- **2” – 120” (50mm – 3000mm)

**For sizes larger than 600mm, consult factory.**

**Design**

- **Ross MOV is a fixed device with one fixed (downstream) valve plate, one moving part (upstream) valve plate, and one anti-cavitation plate.**
- **When a moving part is the performance is optimized for the original design specifications.**
- **If the flow varies or cavitation occurs the other parameter will change.**

**Potential Installations**

- **Multi-stage multi-valve solution.**
- **For steam, water can be re-cycled.**

**Cavitation Guide**

When a multi-valve approach is determined to be the best solution, we can provide a valve in each of a number of factors. We can select from any number of valves in our portfolio in order to achieve the best results. Some of these factors include:

- **Flow rates**
- **Line velocities**
- **Valve sizes**
- **Cavitator design**

**Fixed Device engineered for a specific pressure reduction or flow rate.**

**Ross Model 890 – Fixed Energy Dissipator (FED)**

**Additional Features & Benefits**

- **Eliminates flow vibrations associated with butterfly valves.**
- **Flexible pipe connections**
- **Design permits pipe connections.**
- **No maintenance or repair.**
- **For steam, water can be re-cycled.**

**Ross Model MOV – Energy Dissipating Valve**

- **Provides variable flow and pressure control in extreme applications.**
- **Design**

**Additional Features & Benefits**

- **Multi-staged heavy duty bearings**
- **Cavitation-enhancing orifices**
- **Anti-cavitation enhancing orifices**
- **Anti-cavitation orifices**

**Potential Installations**

- **Replacing butterfly valves and ball valves**
- **Flow relief for pump and turbine units**
- **Water supply and distribution systems**
- **Cooling and mixing systems (turbine bypass)**
- **As part of a recirculating water system**

**Material Specifications**

- **ROSS MODEL MOV – ENERGY DISSIPATING VALVE**

**Sizes**

- **2” – 120” (50mm – 3000mm)

**For sizes larger than 600mm, consult factory.**
Ross Valves last longer.

When George Ross founded our company in 1879, he created a company that created and produced valves. 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 technology and the times.

Now, much more than a century later, Ross automatic control valves are legendary throughout the world. Over the years, they have played a pivotal part in construction projects both large and small, serving systems as diverse in size and operating conditions as New York City, Los Angeles, Madrid, and Dubai.

Ross offers a complete line of standard valves including pump control, pressure reducing, flow control, altitude, back flow, pressure sustaining, relief, surge control, electronic control valves, and flow valves, as well as a complete line of strainers and diaphragm-style valves. Complementing these products lines are high energy dissipation anti-corrosion valves – our WaterTamer. Rounding out our product line is a full line of valves for wastewater. Of course, we also have a variety of customized valves and valve features that can be engineered to suit any application, as well as pre-packaged valve packs for turn-key installation.

Accurate. Ruggedly constructed. Versatile. Reliable. And no wonder, because we count on its ability to perform any task. When designing the components inside of a valve, we start with the base casting. All metal are poured in our own New York-based foundries. All parts are machined in-house. Each end valve is meticulously assembled, pilot valve and core die are heat treated under the designed operating condition. When you receive your Ross Valve, you can count on it ability to perform based on its design.

There’s nothing like a Ross Valve.

Ross Valve Co., Inc.
P.O. Box 595, Troy, NY 12181-0595
Tel: 518-274-0961 Fax: 518-274-0210
Email: sales@rossvalve.com • www.rossvalve.com
P.O. Box 588 TRONDY NY 13161
Tel: 518-374-0861 Fax: 518-974-0100
Email: sales@rossvalve.com • www.rossvalve.com
P.O. Box 588 TRONDY NY 13161
Tel: 518-374-0861 Fax: 518-974-0100
Email: sales@rossvalve.com • www.rossvalve.com
P.O. Box 588 TRONDY NY 13161
Tel: 518-374-0861 Fax: 518-974-0100
Email: sales@rossvalve.com • www.rossvalve.com

Design Considerations:
When used in valves or designs, the valve is selected to meet the service conditions. Our company is committed to exceeding the performance criteria. Knowing these criteria allows us to specify, design, and build valves that provide the best possible performance every time. In order to provide the optimal solution, it may be necessary to design and manufacture custom components. This philosophy is especially important when an application involves extreme pressures and/or velocities.

Our Process:
Ross Valves are designed and built to provide the best possible performance for the intended application, while maintaining a degree of flexibility and customizability. We use those components as building blocks that can be assembled in a way to provide the best possible performance every time. Whether the project involves extreme pressures and/or velocities, Ross Valves are designed and built to provide the best possible performance every time. Our Design Philosophy:

With over 130 years of experience, 100% dedicated on-site resources, and an intense commitment to quality, we are confident that a Ross Valve purchase will provide a lifetime of exceptional service.