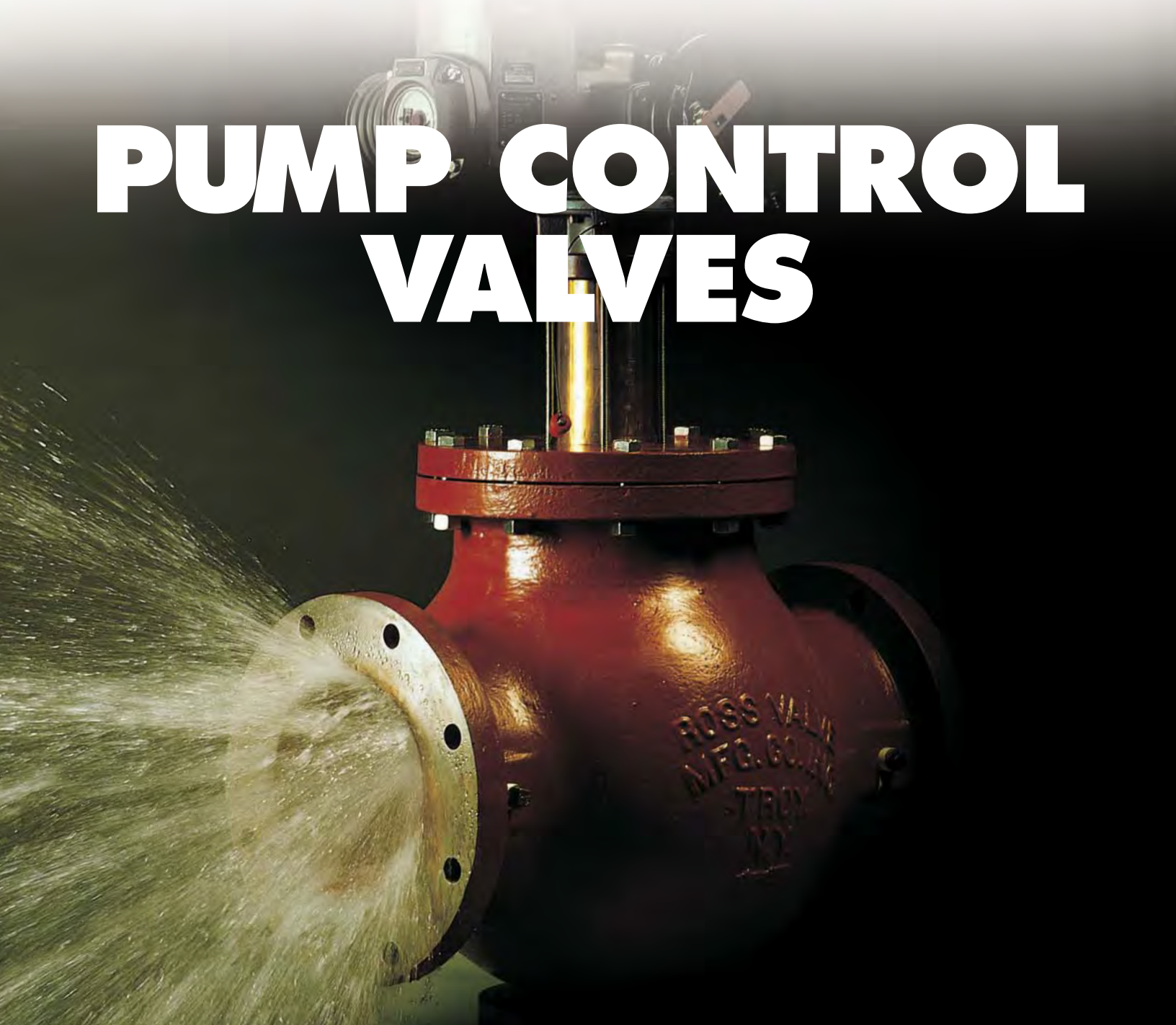


ROSS
1879 VALVE

PUMP CONTROL VALVES



**MODEL ECV
ELECTRONIC CHECK VALVE
MINIMIZES PUMP START/STOP SURGES
PREVENTS BACK FLOW**

Surges got you down?

Are you worried about the damaging effects created by surges whenever your water or wastewater pump starts up or shuts down? Is your existing valve an ineffective means of controlling these surges? What about power failure – do you panic when the lights go out? If any of these situations have you worried, then take control of your surges with the Ross Electronic Check Valve (ECV). The Ross ECV is the pro-active approach to take the stress off your system and stop the surge before it starts. Let the Ross ECV deliver the performance you deserve.

Without an effective pump control valve, your system is subject to momentum changes with every start and stop of the pump. Sudden momentum changes mean surges. The higher the pumping rate and pumping pressure, the higher the potential surge. With surge velocities traveling at 4,000ft/s and surge magnitudes dependent upon the momentum change of the fluid, you need performance.

Controlling the momentum change and eliminating the potential surge before it starts is the fundamental principle behind the Ross ECV. Starting a pump against a closed valve that slowly ramps open is the most effective means of controlling momentum change and resulting surge control. The valve opening speed controls the system surge as the pump is started. The valve closing speed controls the system surge as the pump is stopped (the pump continues to run against a closing valve until the valve is closed).

And while the Ross ECV protects your system from excessive surges caused by everyday pump operation, it also protects your system on the not so perfect days. When your system experiences power failure while pumping, the check feature of the ECV shuts the valve quickly protecting your pump system from the damaging surges.

Installed properly, surges can be minimized or in most cases eliminated. For pump control applications, you need a valve that's reliable, predictable and won't leave your system open to compromise. You can't afford to have a control valve/system that will let you down! Ross water and wastewater control valves are designed and manufactured to get the job done under the most difficult circumstance.

You don't have to be scared of the dark (or the day) anymore. Specify the Ross Electronic Check Valve.

Highlights of the Ross Pump Control Valve

- Pump and valve are interlocked assuring a safe, smooth and efficient operation.
- Globe and angle body designs.
- Check feature assures positive closure during power failure.
- ECV's are designed for vertical or horizontal pipe installations.
- Field replaceable seals provide easy maintenance and operational efficiency.
- Mechanical relay or PLC based control panels available to coordinate valve and pump operation and prevent field wiring errors – panels can be wall or valve mounted.
- Simplistic design with one motor (essentially two moving parts) eliminates solenoids, speed controls and other hydraulic devices.
- Valve mounted gauge cocks for operational and testing purposes.
- Internal and external NSF approved epoxy coating.
- Same rugged construction of all Ross Valves with design to testing done in house.

Potential Installations

- Raw water pump stations
- Waste water pump stations
- Potable water pump stations
- Cooling, mixing and recirculating systems
- High pressure/performance irrigation systems
- Slurry Applications
- Mining Applications



CONSTRUCTION

THE ROSS ECV ELECTRONIC CHECK VALVE

Designed for the ultimate in pump control performance.

SIZES

4" – 48" (100mm – 1200mm).

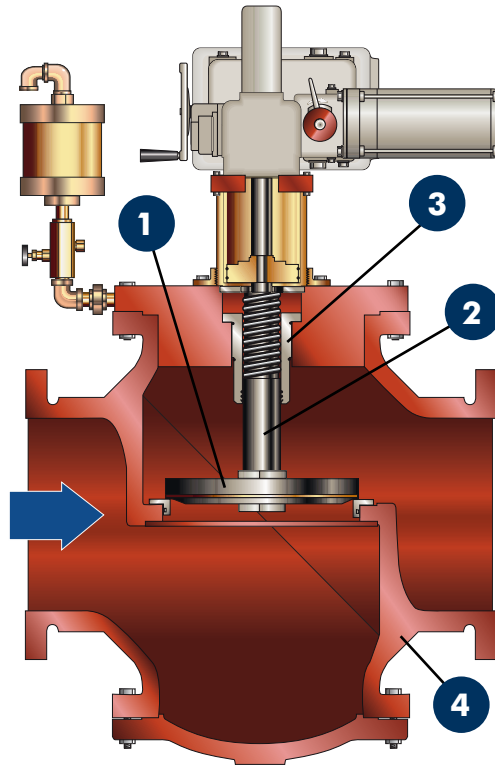
DESIGN

Based off our proven piston design, and modified for use with both treated and untreated water, the Ross line of pump control valves is designed for accuracy, performance, and long life.

KEY FEATURES

- 1 Stainless steel wetted parts resist wear
- 2 Two-piece stem prevents back flow, ensures closure on power failure
- 3 Heavy-duty shafts, multiple bearings and dual o-ring seals provide true alignment
- 4 Angle (90°) and inline styles available

OPTION: The MC2001 PLC (programmable logic) based pump control panel: This PLC Based panel is a reliable option over mechanical relays. It's text messaging operator interface not only displays system status and alarms, but it also provides in-service programmability, so you decide the operating parameters.

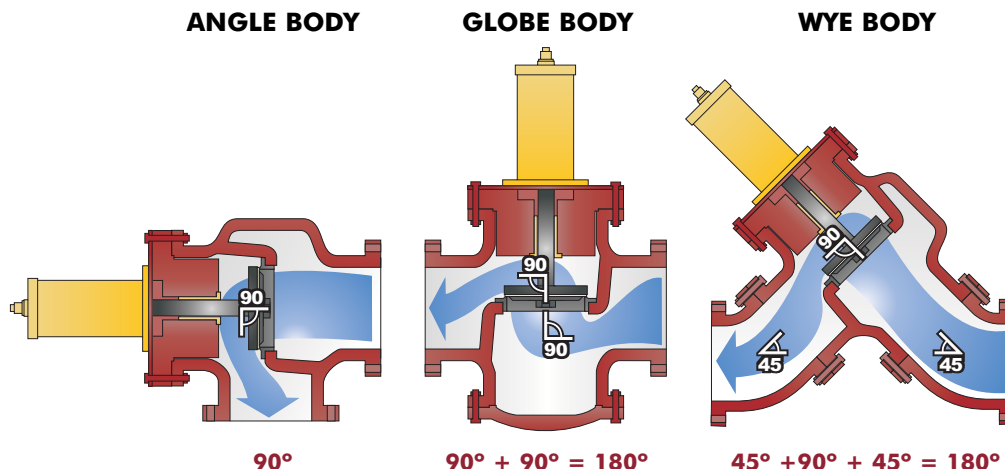


ADDITIONAL FEATURES & BENEFITS

- Essentially 2 moving parts
- Throttling and non-throttling designs
- Capable of controlling pump surging & reverse flow conditions
- Manual or automated controls
- Horizontal or vertical valve and/or shaft mounting
- Hydraulic anti-lift flow design (typical of butterfly valves)
- Anti-dive flow designs (typical of diaphragm valves)
- Reliability that you've come to expect from Ross Valve
- Ross Valve Control Panels (PLC-Based or Mechanical Relay) are available to complement your valve and pumping system.

VALVE CONFIGURATIONS

Inline and 90° valve orientations are available, as determined by the installation. For new installations, the headloss through the valve should be considered. Note: An angle body design (where the fluid only changes direction once) offers the least amount of headloss compared to inline designs.



Headloss

As fluid flows through a valve, its path changes direction. This takes energy, so at each turn in the flow pattern, some pressure (headloss) is lost. Even when a valve is full open, there is some headloss that has to be taken into account.

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

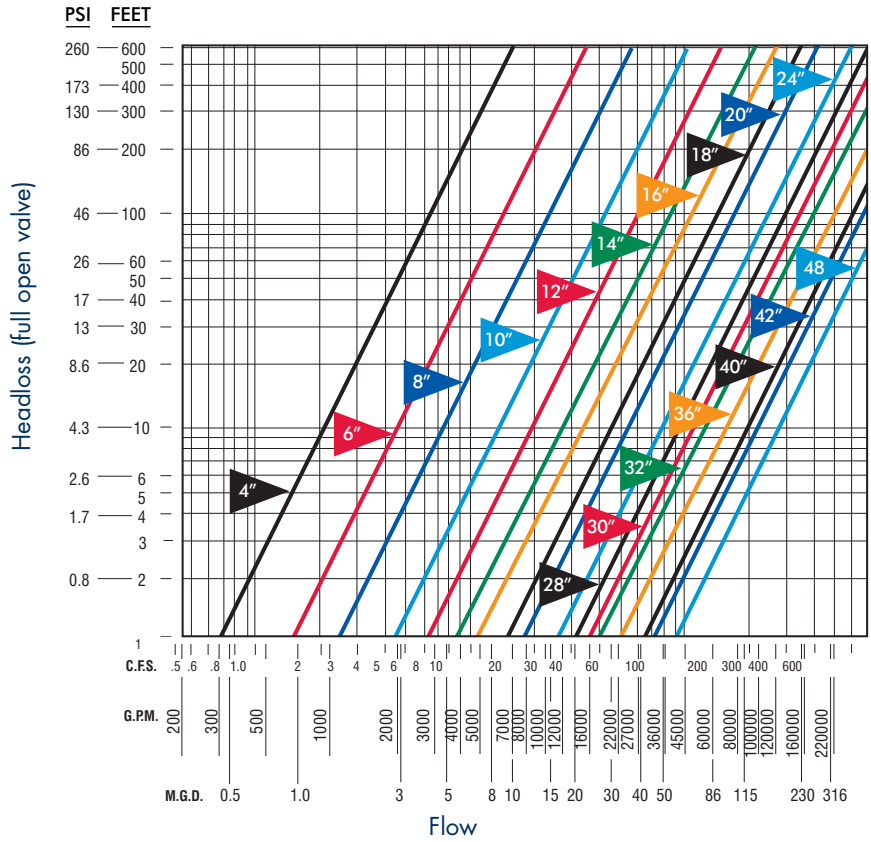
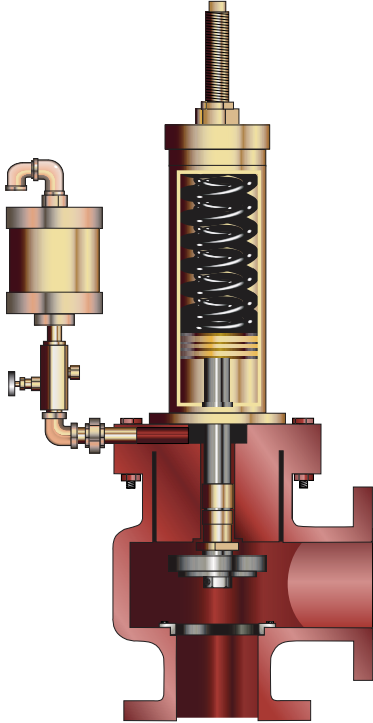
HEADLOSS GUIDE

MODEL ECV

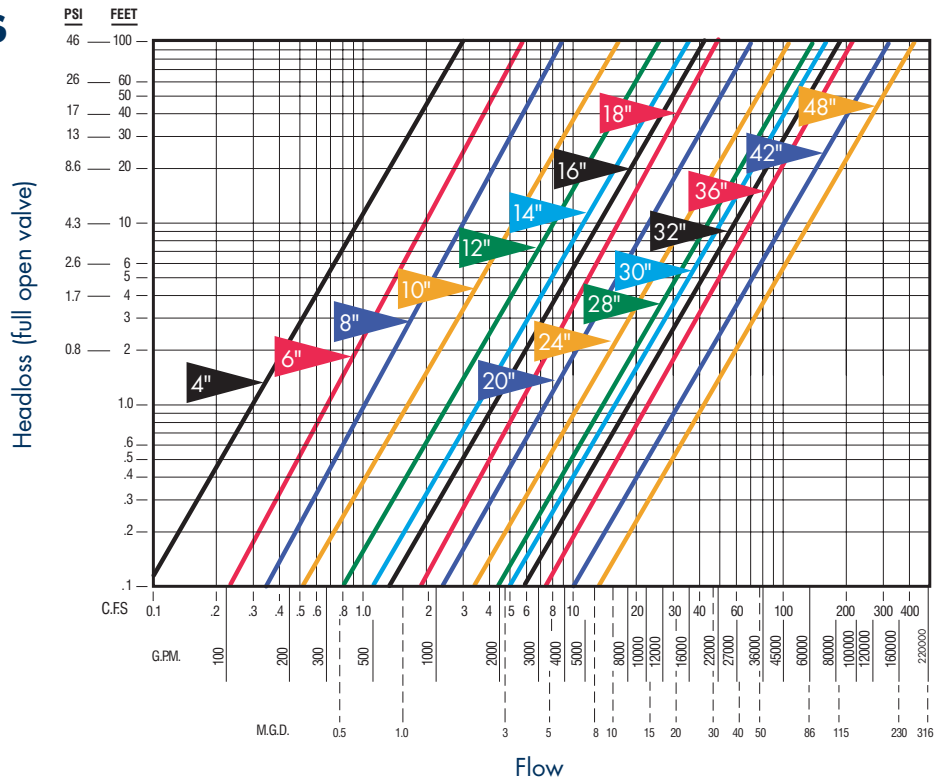
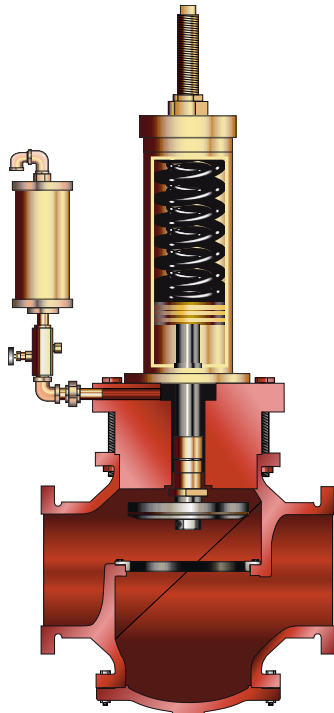
INSTRUCTIONS

- 1 For the appropriate type valve (angle or inline), locate the desired headloss along the vertical axis.
- 2 Follow the line horizontally until the desired flow is reached (according to the horizontal axis).
- 3 Follow the line vertically down to the nearest angled line to determine the appropriate valve size.

ANGLE STYLE VALVES



INLINE STYLE VALVES

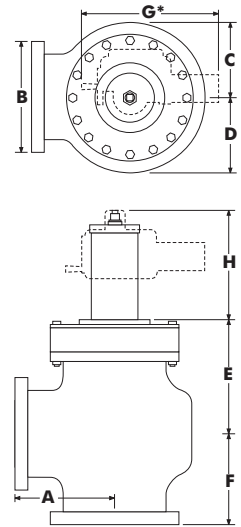


DIMENSIONS AND WEIGHTS

MODEL ECV

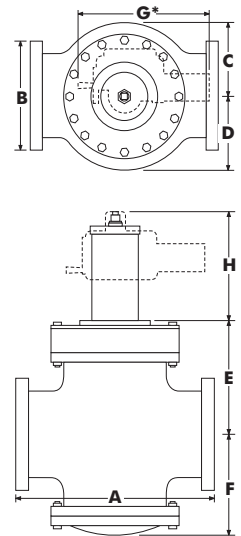
ANGLE STYLE (all dimensions in inches)

Valve Size	A		B		C&D	E		F		G*	H	Ship Weight (lbs)	
	125 ANSI	250 ANSI	125 ANSI	250 ANSI		125 ANSI	250 ANSI	125 ANSI	250 ANSI			125 ANSI	250 ANSI
	4"	7.5	7.8125	9		10	4.75	8	8.125			6.25	6.5625
6"	8.625	9.0625	11	12.5	6.625	9.5625	10.125	8	8.4375	30-35	18	360	420
8"	10.5	11	13.5	15	8.75	12.875	13	10	10.5	30-35	20	650	700
10"	12.5	13.125	16	17.5	10	14	14	11.5	12.125	30-35	20	800	895
12"	15	15.5	19	20.5	12	17.25	17.25	12.625	13.125	30-35	24	1,260	1,370
14"	17	17.75	21	23	14	19.25	19.25	14.875	15.625	30-35	24	1,700	1,830
16"	19	19.75	23.5	25.5	15	21	21	16.5	17.25	30-35	24	2,180	2,420
18"	21.25	22.125	25	28	18	23.5	23.5	16.75	17.5625	30-35	36	3,050	3,350
20"	21.25	22.125	27.5	30.5	18	23.5	23.5	18.875	19.6875	30-35	36	3,330	3,630
24"	24.25	25.125	32	36	24	25.75	25.75	20.25	21.125	30-35	36	4,700	5,200
30"	31.875	32.875	38.75	43	26.25	37	37	27	28	30-35	40	9,800	10,800
36"	31.875	32.875	46	50	26.25	37	37	27	28	30-35	40	11,800	12,800



GLOBE STYLE (all dimensions in inches)

Valve Size	A		B		C&D	E		F		G*	H	Ship Weight (lbs)	
	125 ANSI	250 ANSI	125 ANSI	250 ANSI		125 ANSI	250 ANSI	125 ANSI	250 ANSI			125 ANSI	250 ANSI
	4"	14	14.375	9		10	4.75	7	7			7	7
6"	17.75	17.75	11	12.5	6.625	9	9	9	9	30-35	18	375	430
8"	24	24.8125	13.5	15	8.75	12.5	12.5	12.5	12.5	30-35	20	690	750
10"	24.875	24.25	16	17.5	10	14.25	14.25	14.25	14.25	30-35	20	920	1,000
12"	30	31.5	19	20.5	12	15.5	15.5	15.5	15.5	30-35	24	1,375	1,475
14"	34.125	35.75	21	23	14	18	18	18	18	30-35	24	1,770	1,850
16"	37.875	39.25	23.5	25.5	15	21.5	21.5	21.5	21.5	30-35	24	2,400	2,600
18"	41.875	41.875	25	28	18.375	24	24	24	24	30-35	36	3,300	3,500
20"	42.375	42.375	27.5	30.5	18.375	24	24	24	24	30-35	36	3,550	3,800
24"	47	47	32	36	20	25	25	25	25	30-35	36	5,200	5,500
30"	63.75	65.5	38.75	43	26.25	34	34	34	34	30-35	40	9,800	10,800
36"	65	65	46	50	26.25	34	34	34	34	30-35	40	11,800	12,800
42"	82	82	53	53	35	38.25	38.25	40	40	30-35	40	16,300	17,400
48"	88	88	59.5	65	39.125	44	44	43.25	43.25	30-35	40	21,000	22,500



Do you still have concerns about surging? Demand some additional surge insurance with a Ross surge or surge anticipator valve (70SWR or 70SWR-E). These surge valves are the reactive approach to the Ross Electronic Check Valve. Sold together, Ross can provide the ultimate in water and wastewater pumping packages.

* Various actuator styles and sizes available. Consult factory for details.

There's nothing like a Ross Valve.

When George Ross founded our company in 1879, he made a product 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 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, Quito, and Madrid.

Ross offers a complete line of standard valves including electric, pump control, pressure reducing, flow control, altitude, back pressure sustaining, relief, surge control, electronic control valves, and float valves, as well as a complete line of strainers 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 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 turn-key installation.

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.



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All Ross Valves meet or exceed all current AWWA standards for construction and pressure ratings.
ECV 6-07 5M



Ross Valves are known for their exceptional quality. And no wonder, because we control the process in-house from start to finish. After designing the components, molds are made. We then start with the finest raw materials. All metals are poured in our own New York based foundries. All parts are machined to specs. Then each valve is meticulously assembled, pilot valves and controls are set, and the valve is “wet” tested under the designed operating conditions. When you receive your new Ross Valve, you can count on its ability to perform from start to finish.

