

COMMERCIAL
CONTROL
VALVES



AquaMatic® Control Valves, Stagers and Controllers

Pentair Water® is a leader in high technology flow control products and provides innovative solutions for commercial and industrial applications. AquaMatic valves, stagers and controllers are key components in systems that improve water, concentrate wastes and enable clean water to be recycled or returned to the environment.

AquaMatic products are industry-proven and have a reputation for durability and low life-cycle costs. A dedicated team of professionals provide aftermarket service and support unparalleled in the industry.



AquaMatic
Pentair Water

AquaMatic® Control Valves, Stagers and Controllers

Versatility and Value

AquaMatic Control Valves have earned worldwide recognition for their high quality and value in the water treatment market. Value includes low initial purchase price and lower cost of operation during the life of the product when compared with our competitors. Our valves are simple to maintain, and easily serviced by your maintenance staff.



VALUE

AquaMatic products have proven to be effective in a vast array of diverse applications. One of our largest markets is heatless regenerative air dryers where we are one of the preferred suppliers in this specialized industry. The AquaMatic Valve controls air flow with one cycle every ten minutes. Other applications where AquaMatic Valves can provide reliable service and low life-cycle costs include:

- CENTER PIVOT IRRIGATION SYSTEMS
- CONVEYING EQUIPMENT
- SAND BLASTING EQUIPMENT
- DESALINATION SYSTEMS
- CAR WASH SYSTEMS
- MILLING MACHINES AND LATHES
- COOLING TOWER FLOAT VALVES
- PLASTIC MOLDING MACHINERY
- LAUNDRY EQUIPMENT
- SLUDGE REMOVAL SYSTEMS
- BULK SOLIDS TRANSFER EQUIPMENT

VERSATILITY

AquaMatic Control Valves are available in a wide range of sizes

from 3/4- to 6-inches, and are offered in metal or composite materials. These valves share characteristics of excellent flow rates at low pressure drops. Discover the technical benefits of AquaMatic products in your application.





Commitment to Technical Support

Our engineers are **committed** to providing technical support whenever needed. We draw on decades of experience to appropriately size AquaMatic Control Valves and related components for both new installations and renovations.



Our deep-rooted **commitment to customer satisfaction** has resulted in numerous long-term relationships. We take pride in helping our customers succeed as their operations expand and diversify. We are continuously improving quality systems and procedures to ensure that AquaMatic Control Valves and Controllers are manufactured to the highest of quality standards.



Completely Matched Systems



Behind every AquaMatic Valve is a variety of complementary products such as stagers and controllers, which we will help match to the precise requirements of your system. Stagers direct the opening and closing of each valve, whereas controllers set the stagers into action. These devices automatically control the valves in a process system. And because they're designed as an integrated system, they take the guesswork out of running your operation efficiently.

The bottom line is that AquaMatic is a brand you can trust from system startup right through to ongoing product support. It's all part of our heritage of providing strong partnerships with our customers. Because we take the time to understand our customers, we are becoming the preferred single source for water purification, fluid handling, filtration and separation products. It's that simple – no matter how complex your operation is.



AquaMatic® Control Valves, Stagers and Controllers

Autotrol® Composite Valves

K52 Series

AquaMatic K52 Series Valves provide the time proven advantages of the y-pattern design for pipe sizes from 1/2- to 3-inches. The body and cap are molded in strong, glass-filled thermoplastic and the diaphragm is made of durable Buna N or Viton* materials. Various pipe end connections are available for your system design. Other AquaMatic Composite Valve options include spring-assist open, spring-assist close, flow control limit stop, poppet position indicator, Viton* seals, butyl seals, normally closed, and fail-safe spring closed products.



Operating Specifications

Pipe Size Inches	Pipe Size Millimeter, DN	Valve Model	Cv ¹	Kv ²
1/2	15	K520	4.0	3.5
1	25	K521	15.0	13.0
1-1/2 – 2	40-50	K524	38.0	32.8
2-1/2 – 3	65-80	K526	100.0	86.5

K53 Series

AquaMatic K53 Series Valves are designed for controlling the flow of most fluids including deionized water, salt solutions, and corrosive fluids such as acids and caustics. The rugged construction employs strong corrosion-resistant, glass-filled thermoplastic components. The y-pattern design permits high flow with low pressure drop. Separate flow and control chambers provide positive closing without springs. Dual o-ring design on the shaft prevents leakage between the flow and control chambers, and the cap is easily removed for maintenance purposes. True union end design with female socket weld connections provides easy installation and servicing.



Operating Specifications

Pipe Size Inches	Pipe Size Millimeter, DN	Valve Model	Cv ¹	Kv ²
1	25	K531	18.0	15.6
1-1/2	40	K534	46.0	39.8
2	50	K535	84.0	72.6
3	80	K537	200.0	173.0

¹ Flow rate in gallons per minute of water at 60°F, 1 psi pressure drop.

² Flow rate in cubic meters per hour of water at 15.5°C, 1 bar pressure drop.

*Viton® is a registered trademark of E.I. du Pont de Nemours and Company.

Note: For technical information, see the AquaMatic technical catalog.



AquaMatic Stainless Steel Valves

V46 Series

AquaMatic V46 Valves have the same operational characteristics and are constructed of 316 Stainless Steel material. These valves are available in 1-, 1-1/2- and 2-inch sizes, in either threaded or flanged ends. Flanged valves are rated for 150 psi (10 bar) and threaded valves are rated for 250 psi (17 bar). With all stainless steel internals and no internal threads, this series is ideal for corrosion resistant applications.



Operating Specifications

Pipe Size Inches	Pipe Size Millimeter, DN	Valve Model	Cv ¹	Kv ²
1	25	V46C	14	12.1
1-1/2	40	V42E	33	28.5
2	50	V46F	54	47

Autotrol Cast Iron Valves

V42 Series

AquaMatic V42 Series Valves are constructed of cast iron and designed for air and water applications. A separate control chamber protects the diaphragm from line fluid and extends cycle life. Reinforced diaphragm of Buna N or Viton* materials are pre-formed and stress relieved to maximize responsiveness and product life. The valve is highly serviceable even while in line. A variety of options are available such as spring-assist open, spring-assist closed, flow control limit stop, normally closed, poppet position indicator, and high temperature ethylene propylene or Viton* seals.



Operating Specifications

Pipe Size Inches	Pipe Size Millimeter	End Connectors (Female Thread)	Valve Model	Cv ¹	Cv ²
3/4	20	NPT, BSPT	V42B	11.4	9.8
1	25	NPT, BSPT	V42C	12.8	11.1
1-1/4	32	NPT, BSPT	V42D	26.5	22.9
1-1/2	40	NPT, BSPT	V42E	32.5	28.1
2	50	NPT, BSPT	V42F	56.0	48.4
2	50	NPT, BSPT	V42G	68.0	58.8
2-1/2	65	NPT, BSPT	V42H	84.0	72.7
3	80	NPT, BSPT	V42J	134	116
3	80	Flanged	V42J	134	116
4	100	Flanged	V42K	275	238
6	150	Flanged	V42L	680	588

¹ Flow rate in gallons per minute of water at 60°F, 1 psi pressure drop.

² Flow rate in cubic meters per hour of water at 15.5°C, 1 bar pressure drop.



AquaMatic® Control Valves, Stagers and Controllers

AquaMatic Stager Valves

AquaMatic Stager Valves are rotary pilot valves with multiple ports for directing fluid flows to operate various diaphragm valves installed in a process system. AquaMatic stager internal parts are constructed of durable, non-corroding, self-lubricating materials for long, maintenance-free life.



Operating Specifications

Model Number	Body Material	Number of Ports	Typical Applications
48	Brass	6	Filters and softeners
51	Brass	8	More complex softener systems and sequential filter systems
58	PVC	16	Twin alternating systems and de-ionizers

AquaMatic Stager Controls

Electronic Stager Controls

AquaMatic 962 Stager Controls

AquaMatic 962 Stager Controls combine an AquaMatic stager with an Autotrol® 962 Series Electronic Control, mounted and pre-wired in a NEMA-rated enclosure.

Autotrol 962 Series Electronic Controls provide sophisticated, demand-based water conditioning by combining a microprocessor with a flow meter to electronically monitor the amount of water used. Time-based and/or external signal initiation is also available as a standard feature. This fully programmable series of controls provide the ability to fine-tune the operation to meet the application requirements.



Operating Specifications

Controls	Model Number	Description
<i>Single Unit Controls</i>		
Typical Softeners and Filters	E948*	962 Control w/model 48, 6-port stager
More Complex Softeners and Filters	E951*	962 Control w/model 51, 8-port stager
<i>Multiple Unit Controls</i>		
Twin-Alternating Softeners and Filters (w/Timed Brine Switch Output)	E958-TB	962 Control w/model 58-TB, 16-port stager
Twin-Alternating Softeners	E958-TA	962 Control w/model 58-TA, 16-port stager
Sequential Filters (Backwash Only)	E948	962 Control w/model 48, 6-port stager
2-Unit Sequential Filters (Backwash & Rinse)	E951	962 Control w/model 51, 8-port stager
3- or 4-Unit Sequential Filters	E958	962 Control w/model 58, 16-port stager



Electromechanical Stager Controls

These controls combine an AquaMatic stager with a reliable Autotrol Timer, mounted and pre-wired in a NEMA-rated enclosure. Stagers are initiated by timeclock controls. The cycle times are programmable to accommodate a wide range of applications.



Operating Specifications

Base Model	Initiation	Filters/Softener Systems	Multi-Tank Systems
A100	Time	A148, A151	A158

AquaMatic Fluid Handling Products

AquaMatic 540 Series PVC Ejectors

AquaMatic 540 Series PVC Ejectors are available in 1/2- through 2-inch sizes with female NPT threads or female socket ends for US pipe. Specific applications are brine draw, acid draw, or caustic draw. This economical ejector is engineered to draw two parts of regenerant fluid for each three parts of water.



Operating Specifications

Pipe Size Inches	Model Number
1/2	540
3/4	541
1	542
1-1/2	544
2	546

AquaMatic Flow Cell Flow Meters

AquaMatic Flow Cell Flow Meters are direct-reading devices which take advantage of the dominant features of the orifice and area type flow meters. These flow meters are accurate to $\pm 2\%$ of full scale in a compact design requiring less than six inches of piping. The flow meter is available for 3/8- to 20-inch diameter pipes and can be installed to accommodate flow in any direction. Connections are available for NPT, BSP and flanged end connectors. The AquaMatic Flow Cell Flow Meter is constructed in ductile cast iron with nickel plated brass, 316 stainless steel, or PVC.



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Commitment to Partnerships with Customers

No two customers are alike. That means “standard” and “off the shelf” do not apply to the needs of everyone. In these situations, Pentair Water® engineers work closely with our customers to develop customized solutions to their specific application. The result is a unique combination of valves and related components that will provide years of reliable, trouble-free service.

One example of Pentair Water’s commitment to customer partnerships can be found in the irrigation market. Based on the cost-reduction needs of a long-time Pentair Water customer, we created a valve especially for irrigation applications.



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