Clack®

pHorko®
industrial water purification systems

WS1.5EI

WATER SPECIALIST CONTROL VALVE



NSF

Certified to NSF/ANSI 61 and 372.



Optional 1.5" Meter

- 1.5" top mount control valve suited for mid-size commercial/industrial applications
- Epoxy coated lead free brass valve body*
- Economical optional meter
- Service flow rate of 265 lpm (15.9 m^3/h) (70 gpm), backwash 197 lpm (11.8 m^3/h) (52 gpm)
- Solid state microprocessor with easy access front panel settings
- Front panel display for time of day, days until next regeneration, volume remaining, current flow rate and total volume used (Totalizer)
- Four methods to initiate regeneration; meter immediate, meter delayed, time clock delayed or pressure differential
- Optional double backwash feature offers optimum regeneration, cleaning ability and efficiency
- Fully adjustable cycle times with 6-cycle control delivers controlled backwash, downflow brining or upflow brining, slow rinse, second backwash, fast rinse, refill and downflow service
- Coin Cell Lithium battery back-up with a 8 hour carry over
- 12-volt output AC Adapter provides safe and easy installation
- Post treated water regenerant refill
- 24 hour clock
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127
- Reliable and proven DC drive

Water Specialist 1.5” EI Control Specifications

Inlet/Outlet (1)	1.5” Female BSPT or NPT
Cycles	up to 6
Valve Material	Lead free brass
Regeneration	Downflow

CONTROL VALVE FLOW RATES

Service @ 1 bar/15 psi drop (includes meter)	265 lpm (15.9 m^3/h) (70 gpm)
Backwash @ 1.7/25 psi bar drop	197 lpm (11.8 m^3/h) (52 gpm)

OPERATING PRESSURES

Minimum/Maximum	1.4 - 8.6 bar (20 - 125 psi)

OPERATING TEMPERATURES

Minimum/Maximum	4° - 43° C (40° - 110° F)

METER SPECIFICATIONS

Accuracy	± 5%
Flow Rate Range	2 - 284 lpm (0.5 - 75 gpm)
Volume Range	0.02 - 5,700 m^3
Totalizer	0.001 - 4,294,000 m^3 (.26 - 1,134,355,000 gallons)

DIMENSIONS & WEIGHT

Distributor Pilot	
Valve bodies with 1.5" Female BSPT Inlet & Outlet	50 mm OD
Valve bodies with 1.5" Female NPT Inlet & Outlet	1.90” OD (1.5" NPS)
Drain Line Connection (2)	1.25” Female NPT
Adapter Included	¾" Male NPT Elbow
Brine Line Connection	¾” Female NPT
Adapter Included	½” OD Poly Tube Compression
Mounting Base	4" - 8 UN
Height From Top Of Tank	191 mm (7.5”)
Shipping Weight With Meter	9.5 kg (21 lbs.)

ELECTRICAL SPECIFICATIONS

	AC Adapter	
	International	U.S.
Supply Voltage	230V AC	120V AC
Supply Frequency	50 Hz	60 Hz
Output Voltage	12V AC	12V AC
Output Current	500 mA	500 mA

TANK APPLICATIONS

Water Softener	12” - 30" Diameter (4)
Water Filter (3)	12” - 30" Diameter

CYCLES OF OPERATION

	Softener	Filter
Cycle	Range of time in minutes	
1. Backwash 1st (upflow)	1-95	Backwash 1-95
2. Regenerate Draw/Slow Rinse (downflow)	1-180	
3. Backwash 2nd (upflow)	1-95	Rinse 1-95
4. Fast Rinse (downflow)	1-95	
5. Regenerant Refill (in service with treated water)	0.1-99.0	
6. Service (downflow)		

Options: Backwash Filter, Weather Cover

Compatible with the following typical concentrations of regenerants or chemicals: Sodium chloride, potassium chloride, potassium permanganate, sodium bisulfite, chlorine and chloramines

1. See Distributor Pilot.
2. Casting comes with a 1.25" Female NPT drain connection. An adapter is provided to accept existing WS1 drain line ¾" Male NPT flow controls up to 38 lpm (10 gpm). Other drain line flow controls are available for flow rates above 38 lpm (10 gpm).
3. Filter tank size calculated @ 407 lpm per m^2 of bed area/10 gpm of backwash per square foot of bed area
4. Requires a V3158-02 installed for a brine elbow on the control valve, use of a 454 controlled flow brine valve assembly H7070-36CF-5 or H7070-54CF-5 (designed with 5 gpm BLFC) , 1” air check, or 494 brine valve assembly, and minimum ¾” hard pipe PVC brine line.

U.S. Patents: 6,402,944 • 6,444,127