



# Control Valves, Fittings and Accessories

INTERNATIONAL



**WS1EI TWIN ALTERNATING CONTROL VALVE**

106 lpm • 6.36 m<sup>3</sup>/h • 28 gpm



**WS1CI TWIN ALTERNATING CONTROL VALVE**

106 lpm • 6.36 m<sup>3</sup>/h • 28 gpm



**WS2EQ/QC\***

473 lpm • 28.4 m<sup>3</sup>/h  
125 gpm



**WS2EI/QC\***

**WS2SQ/QC\***  
473 lpm • 28.4 m<sup>3</sup>/h  
125 gpm



**WS2H**

473 lpm • 28.4 m<sup>3</sup>/h  
125 gpm



**WS3**

946 lpm • 56.8 m<sup>3</sup>/h  
250 gpm



**WS1.5CI**

265 lpm • 15.9 m<sup>3</sup>/h  
70 gpm



**WS1.5EI**

**WS1.5SQ**  
265 lpm • 15.9 m<sup>3</sup>/h  
70 gpm



**WS2CI**

435 lpm • 26.1 m<sup>3</sup>/h  
115 gpm



**WS2EI**

**WS2SQ**  
435 lpm • 26.1 m<sup>3</sup>/h  
115 gpm



**WS1.25\***

129 lpm • 7.7 m<sup>3</sup>/h  
34 gpm



**WS1.25CI\***

129 lpm • 7.7 m<sup>3</sup>/h  
34 gpm



**WS1.25EI\***

**WS1.25SQ\***  
129 lpm • 7.7 m<sup>3</sup>/h  
34 gpm



**WS1.25TC\***

129 lpm • 7.7 m<sup>3</sup>/h  
34 gpm



**WS1\***

102 lpm • 6.1 m<sup>3</sup>/h  
27 gpm



**WS1CI\***

102 lpm • 6.1 m<sup>3</sup>/h  
27 gpm



**WS1EI\***

**WS1SQ\***  
102 lpm • 6.1 m<sup>3</sup>/h  
27 gpm



**WS1TC\***

102 lpm • 6.1 m<sup>3</sup>/h  
27 gpm

\*valves shown with optional accessories

Clack® 

# WS1EI TWIN ALTERNATING CONTROL VALVE

## WATER SPECIALIST CONTROL VALVE



- Service flow 106 lpm (6.36 m<sup>3</sup>/h) (28 gpm), backwash flow 57 lpm (3.40 m<sup>3</sup>/h) (15 gpm) with meter and bypass installed
- 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), and Tank in Service Indication
- 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/slow rinse, second backwash, fast rinse, refill and downflow service
- Coin Cell Lithium battery back-up with a 8 hour carry over
- Backwash and brining ability to 21" diameter tanks
- Downflow or upflow brining regeneration
- Level VI 15-volt output DC power supply provides safe and easy installation
- Treated/Soft water post fill and regeneration cycles
- 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 drives

# Water Specialist 1” El Twin Alternating Specifications

Inlet/Outlet Fittings..... ¾" to 1.5" NPS  
 Cycles ..... up to 6  
 Valve Material ..... Noryl (1) or equivalent  
 Regeneration ..... downflow

## FLOW RATES

Service @15 psi/1 bar drop (includes bypass and meter)..... 106 lpm (6.36 m³/h) (28 gpm)  
 Backwash @ 25 psi/1.7 bar drop (includes bypass)..... 57 lpm (3.40 m³/h) (15 gpm)  
 Cv Service ..... 7.28  
 Cv Backwash ..... 2.96

## OPERATING PRESSURES

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

## OPERATING TEMPERATURES

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

## METER

Accuracy ..... ± 5%  
 Flow Rate Range..... 0.95 - 102 lpm  
 Gallon Range..... 0.02 - 5,700 m³  
 Totalizer ..... 0.001 - 9,999,000 m³

## DIMENSIONS & WEIGHT

Distributor Pilot..... 1.050" OD Pipe (¾" NPS)  
 Drain Line ..... ¾" or 1" Male NPT  
 Brine Line ..... ⅜" or ½" OD Poly Tube Compression  
 Mounting Base..... 2 ½" - 8 NPSM  
 Height From Top Of Tank..... 187 mm (7 ⅜")  
 Weight ..... 7.25 kg (16 lbs.)

## ELECTRICAL SPECIFICATIONS

Supply Voltage ..... 200VAC to 230VAC  
 Supply Frequency ..... 50/60 Hz  
 Output Voltage ..... 15VDC  
 Output Current ..... 500 mA

## POWER SUPPLY

International

## TANK APPLICATIONS

Water Softener ..... 6" – 21" diameter  
 Water Filter (2)..... 6" – 16" diameter

## CYCLES OF OPERATION (Softener / Filter Downflow)

	<u>Softener</u>	<u>Filter</u>
Cycle	Range of time in minutes	
1. Backwash 1 <sup>st</sup> .....	1-120 or off .....	Backwash 1-120 or off
2. Regenerate Draw/Slow Rinse .....	1-180 or off	
3. Backwash 2 <sup>nd</sup> .....	1-120 or off	
4. Fast Rinse .....	1-120 or off .....	Rinse 1-120 or off
5. Regenerant Refill .....	0.1-99.0 or off	
6. Service (downflow)		

*Options: Backwash Filter, Bypass, Weather Cover*

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

1. Noryl is a trademark of Sabic Innovative Plastics IP B.V. Company
2. Filter tank size calculated @ 10 gpm of backwash per square foot of bed area

Clack® 

# WS1CI TWIN ALTERNATING CONTROL VALVE

## WATER SPECIALIST CONTROL VALVE



Certified to NSF/ANSI 44, 61 and 372.

- Service flow 106 lpm (6.36 m<sup>3</sup>/h) (28 gpm), backwash flow 57 lpm (3.40 m<sup>3</sup>/h) (15 gpm) with meter and bypass installed
- Solid state microprocessor with easy access front panel settings
- Four methods to initiate regeneration; meter immediate, meter delayed, time clock delayed or pressure differential
- Program in ppm, French degrees, German degrees, or cubic meters
- Fully programmable regeneration cycle sequence (maximum 9)
- Programmable regeneration cycle times
- Days override feature; 1 – 28 days available
- Backwash and brining ability to 21" diameter tanks
- Downflow/upflow regeneration
- Stores system configuration and operation data in nonvolatile memory
- Coin Cell Lithium battery back-up with a 24 hour carry over
- Level VI 15-volt output DC power supply provides safe and easy installation
- Control valve design provides optimum service and backwash rates
- Soft/treated water regeneration
- Pre or Post soft/treated water regenerant refill
- Low salt alarm
- 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" CI Twin Alternating Specifications

Inlet/Outlet Fittings.....	¾" to 1.5" NPS
Cycles .....	up to 9
Valve Material .....	Noryl (1) or equivalent
Regeneration .....	downflow/upflow

## FLOW RATES

Service @ 15 psi/1 bar drop (includes bypass and meter).....	106 lpm (6.36 m <sup>3</sup> /h) (28 gpm)
Backwash @ 25 psi/1.7 bar drop (includes bypass).....	57 lpm (3.40 m <sup>3</sup> /h) (15 gpm)
Cv Service .....	7.28
Cv Backwash .....	2.96

## OPERATING PRESSURES

Minimum/Maximum .....	20 - 125 psi (1.4 - 8.6 bar)
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## OPERATING TEMPERATURES

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

Accuracy .....	± 5%
Flow Rate Range.....	0.95 - 102 lpm
Volume Range .....	0.02 - 5,700 m <sup>3</sup>
Totalizer .....	1 m <sup>3</sup> - 99,999 m <sup>3</sup>

## DIMENSIONS & WEIGHT

Distributor Pilot.....	1.050" OD Pipe (¾" NPS)
Drain Line .....	¾" or 1" NPT
Brine Line .....	¾" or ½" OD Poly Tube Compression
Mounting Base.....	2 ½" - 8 NPSM
Height From Top Of Tank.....	7 ¾" (187 mm)
Weight .....	16 lbs (7.25 kg)

## ELECTRICAL SPECIFICATIONS

## POWER SUPPLY

	<u>U.S.</u>	<u>International</u>
Supply Voltage .....	100VAC to 120VAC .....	200VAC to 240VAC
Supply Frequency .....	50/60 Hz.....	50/60 Hz
Output Voltage .....	15VDC.....	15VDC
Output Current .....	500 mA.....	500 mA

## TANK APPLICATIONS

Water Softener .....	6" - 21" Diameter
Water Filter (2) .....	6" - 21" Diameter

## CYCLES OF OPERATION

Choose up to nine regeneration cycles, in any order, with a wide range of available values:

Cycle	Range of values
Backwash.....	1 - 120 minutes
Rinse.....	1 - 120 minutes
Pause (service).....	1 - 480 minutes
Brine (co-current).....	1 - 180 minutes
Brine (counter-current).....	1 - 180 minutes
Refill (softener) .....	0.05 - 90.00 Kg
Refill (filter) .....	0.2 - 76.00 Liters

*Options: Backwash Filter, Bypass, Weather Cover*

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

1. Noryl is a trademark of Sabic Innovative Plastics IP B.V. Company

2. Filter tank size calculated @ 10 gpm of backwash per square foot of bed area/407 lpm per square meter of bed area

# 1" WATER SPECIALIST VALVE SPECIFICATIONS

**INTERNATIONAL**

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## SPECIFICATIONS

### WS1

### WS1CI

<b>Service @ 1 bar/15 psi drop</b>	102 lpm, 6.1 m <sup>3</sup> /h (includes meter and bypass)	102 lpm, 6.1 m <sup>3</sup> /h (includes meter and bypass)
<b>Backwash @ 1.7 bar/25 psi drop</b>	102 lpm, 6.1 m <sup>3</sup> /h (includes bypass)	102 lpm, 6.1 m <sup>3</sup> /h (includes bypass)
<b>Tank Applications:</b>		
<b>Softener</b>	6" - 21" diameter	6" - 21" diameter
<b>Filter (1)</b>	6" - 21" diameter	6" - 21" diameter
<b>Inlet/Outlet Fitting Connections</b>	3/4" - 1.25" Male BSPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent	3/4" - 1.25" Male BSPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent
<b>Valve Material</b>	Noryl (2)	Noryl (2)
<b>Cycles</b>	Up to 6	Up to 9
<b>Regeneration</b>	Downflow/Upflow	Downflow/Upflow
<b>Operating Pressures</b>	1.4 - 8.6 bar	1.4 - 8.6 bar
<b>Operating Temperatures</b>	4° - 43° C	4° - 43° C
<b>Meter:</b>		
<b>Flow Rate Range</b>	.95 - 102 lpm	.95 - 102 lpm
<b>Volume Range (cubic meters)</b>	.07 - 189m <sup>3</sup>	.10 - 2000.0m <sup>3</sup>
<b>Totalizer</b>	Yes	Yes
<b>Distributor Pilot</b>	1.050 O.D. Pipe	1.050 O.D. Pipe
<b>Drain Line Connection</b>	3/4" Male NPT Standard 1" Male NPT Optional	3/4" Male NPT Standard 1" Male NPT Optional
<b>Brine Line Connection</b>	3/8" or 1/2" O.D. Poly Tube Compression	3/8" or 1/2" O.D. Poly Tube Compression
<b>Mounting Base Options</b>	2 1/2" - 8 NPSM	2 1/2" - 8 NPSM
<b>Height From Top of Tank</b>	187mm	187mm
<b>Shipping Weight</b>	2 Kg	2 Kg
<b>Electrical:</b>		
<b>Supply Voltage</b>	200VAC to 240VAC	200VAC to 240VAC
<b>Supply Frequency</b>	50/60 Hz	50/60 Hz
<b>Output Voltage</b>	15VDC	15VDC
<b>Output Current</b>	500 mA	500 mA

1. Filter tank size calculated @ 407 lpm per m<sup>2</sup> of bed area/10 gpm of backwash per square foot of bed area

2. Noryl is a trademark of Sabic Innovative Plastics IP B.V. Company

# 1" WATER SPECIALIST VALVE SPECIFICATIONS



**WS1EI  
WS1SQ**

**WS1TC**

102 lpm, 6.1 m <sup>3</sup> /h (includes meter and bypass) 102 lpm, 6.1 m <sup>3</sup> /h (includes bypass)	102 lpm, 6.1 m <sup>3</sup> /h (includes meter and bypass) 102 lpm, 6.1 m <sup>3</sup> /h (includes bypass)
6" - 21" diameter 6" - 21" diameter	6" - 21" diameter 6" - 21" diameter
3/4" - 1.25" Male BSPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent	3/4" - 1.25" Male BSPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent
Noryl (2) Up to 6 Downflow/Upflow	Noryl (2) Up to 6 Downflow
1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C
.95 - 102 lpm .02 - 5700m <sup>3</sup> Yes	Not Applicable
1.050 O.D. Pipe	1.050 O.D. Pipe
3/4" Male NPT Standard 1" Male NPT Optional	3/4" Male NPT Standard 1" Male NPT Optional
3/8" or 1/2" O.D. Poly Tube Compression	3/8" or 1/2" O.D. Poly Tube Compression
2 1/2" - 8 NPSM	2 1/2" - 8 NPSM
187mm	187mm
2 Kg	2 Kg
200VAC to 240VAC or 6AA NMHB 50/60 Hz 15VDC 500 mA	200VAC to 240VAC 50/60 Hz 15VDC 500 mA

Valves shown with optional bypass.

# 1.25" WATER SPECIALIST VALVE SPECIFICATIONS



SPECIFICATIONS	WS1.25	WS1.25CI
<b>Service @ 1 bar/15 psi drop</b> <b>Backwash @ 1.7 bar/25 psi drop</b>	129 lpm, 7.7 m <sup>3</sup> /h (includes meter and bypass) 121 lpm, 7.3 m <sup>3</sup> /h (includes bypass)	129 lpm, 7.7 m <sup>3</sup> /h (includes meter and bypass) 121 lpm, 7.3 m <sup>3</sup> /h (includes bypass)
<b>Tank Applications:</b> <b>Softener</b> <b>Filter (1)</b>	6" - 21" diameter 6" - 24" diameter	6" - 21" diameter 6" - 24" diameter
<b>Inlet/Outlet</b> <b>Fitting Connections</b>	3/4" - 1.25" Male BSPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent	3/4" - 1.25" Male BSPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent
<b>Valve Material</b> <b>Cycles</b> <b>Regeneration</b>	Noryl (2) Up to 6 Downflow/Upflow	Noryl (2) Up to 9 Downflow/Upflow
<b>Operating Pressures</b> <b>Operating Temperatures</b>	1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C
<b>Meter:</b> <b>Flow Rate Range</b> <b>Volume Range (cubic meters)</b> <b>Totalizer</b>	.95 - 129 lpm .500 - 250.0m <sup>3</sup> Yes	.95 - 129 lpm .10 - 2000.0m <sup>3</sup> Yes
<b>Distributor Pilot</b>	32mm O.D. Pipe	32mm O.D. Pipe
<b>Drain Line Connection</b>	3/4" Male NPT Standard 1" Male NPT Optional	3/4" Male NPT Standard 1" Male NPT Optional
<b>Brine Line Connection</b>	3/8" or 1/2" O.D. Poly Tube Compression	3/8" or 1/2" O.D. Poly Tube Compression
<b>Mounting Base Options</b>	2-1/2" - 8 NPSM	2-1/2" - 8 NPSM
<b>Height From Top of Tank</b>	187mm	187mm
<b>Shipping Weight w/Meter</b>	2 Kg	2 Kg
<b>Electrical:</b> <b>Supply Voltage</b> <b>Supply Frequency</b> <b>Output Voltage</b> <b>Output Current</b>	200VAC to 240VAC 50/60 Hz 15VDC 500 mA	200VAC to 240VAC 50/60 Hz 15VDC 500 mA

1. Filter tank size calculated @ 407 lpm per m<sup>2</sup> of bed area/10 gpm of backwash per square foot of bed area  
 2. Noryl is a trademark of Sabic Innovative Plastics IP B.V. Company



# 1.25" WATER SPECIALIST VALVE SPECIFICATIONS






**WS1.25EI  
WS1.25SQ**

**WS1.25TC**

129 lpm, 7.7 m <sup>3</sup> /h (includes meter and bypass) 121 lpm, 7.3 m <sup>3</sup> /h (includes bypass)	129 lpm, 7.7 m <sup>3</sup> /h (includes meter and bypass) 121 lpm, 7.3 m <sup>3</sup> /h (includes bypass)
6" - 21" diameter 6" - 24" diameter	6" - 21" diameter 6" - 24" diameter
3/4" - 1.25" Male BSPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent	3/4" - 1.25" Male BSPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent
Noryl (2) Up to 6 Downflow/Upflow	Noryl (2) Up to 6 Downflow
1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C
.95 - 129 lpm .02 - 5700m <sup>3</sup> Yes	Not Applicable
32mm O.D. Pipe	32mm O.D. Pipe
3/4" Male NPT Standard 1" Male NPT Optional	3/4" Male NPT Standard 1" Male NPT Optional
3/8" or 1/2" O.D. Poly Tube Compression	3/8" or 1/2" O.D. Poly Tube Compression
2-1/2" - 8 NPSM	2-1/2" - 8 NPSM
187mm	187mm
2 Kg	2 Kg
200VAC to 240VAC or 6AA NMHB 50/60 Hz 15VDC 500 mA	200VAC to 240VAC or 6AA NMHB 50/60 Hz 15VDC 500 mA

Valves shown with optional bypass.

# 1.5" WATER SPECIALIST VALVE SPECIFICATIONS

		
<b>SPECIFICATIONS</b>	<b>WS1.5CI</b>	<b>WS1.5EI WS1SQ</b>
<b>Service @ 1 bar/15 psi drop</b> <b>Backwash @ 1.7 bar/25 psi drop</b>	265 lpm, 15.9 m <sup>3</sup> /h 197 lpm, 11.8 m <sup>3</sup> /h	265 lpm, 15.9 m <sup>3</sup> /h 197 lpm, 11.8 m <sup>3</sup> /h
<b>Tank Applications:</b> <b>Softener</b> <b>Filter (1)</b>	12" - 30" diameter 12" - 30" diameter	12" - 30" diameter 12" - 30" diameter
<b>Inlet/Outlet</b> <b>Fitting Connections</b>	1.5" Female BSPT or NPT	1.5" Female BSPT or NPT
<b>Valve Material</b> <b>Cycles</b> <b>Regeneration</b>	Lead Free Brass Up to 9 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow
<b>Operating Pressures</b> <b>Operating Temperatures</b>	1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C
<b>Meter:</b> <b>Flow Rate Range</b> <b>Volume Range</b> <b>Totalizer</b>	2 - 284 lpm 0.02 - 5700 m <sup>3</sup> Yes	2 - 284 lpm 0.02 - 5700 m <sup>3</sup> Yes
<b>Distributor Pilot</b>	50mm O.D. or 1.90" O.D. Pipe	50mm O.D. or 1.90" O.D. Pipe
<b>Drain Line Connection</b>	1.25" Female NPT with 3/4" Male NPT Standard 1" Male NPT Optional	1.25" Female NPT with 3/4" Male NPT Standard 1" Male NPT Optional
<b>Brine Line Connection</b>	3/4" Female NPT 1/2" O.D. Poly Tube Compression	3/4" Female NPT 1/2" O.D. Poly Tube Compression
<b>Mounting Base Options</b>	4" - 8 UN	4" - 8 UN
<b>Height From Top of Tank</b>	191mm	191mm
<b>Shipping Weight w/Meter</b>	9.5 Kg	9.5 Kg
<b>Electrical:</b> <b>Supply Voltage</b> <b>Supply Frequency</b> <b>Output Voltage</b> <b>Output Current</b>	200VAC to 240VAC 50/60 Hz 15VDC 500 mA	200VAC to 240VAC or 6AA NMHB 50/60 Hz 15VDC 500 mA

1. Filter tank size calculated @ 407 lpm per m<sup>2</sup> of bed area/10 gpm of backwash per square foot of bed area

2. Noryl is a trademark of Sabic Innovative Plastics IP B.V. Company

## 2" WATER SPECIALIST VALVE SPECIFICATIONS



<b>WS2CI</b>	<b>WS2CI/QC</b>	<b>WS2EI WS2SQ</b>	<b>WS2EI/QC WS2SQ/QC</b>
435 lpm, 26.1 m <sup>3</sup> /h 303 lpm, 18.2 m <sup>3</sup> /h	473 lpm, 28.4 m <sup>3</sup> /h 322 lpm, 19.3 m <sup>3</sup> /h	435 lpm, 26.1 m <sup>3</sup> /h 303 lpm, 18.2 m <sup>3</sup> /h	473 lpm, 28.4 m <sup>3</sup> /h 322 lpm, 19.3 m <sup>3</sup> /h
12" - 48" diameter 12" - 36" diameter	12" - 48" diameter 12" - 36" diameter	12" - 48" diameter 12" - 36" diameter	12" - 48" diameter 12" - 36" diameter
2" Female BSPT or NPT	2" Female BSPT or NPT	2" Female BSPT or NPT	2" Female BSPT or NPT
Lead Free Brass Up to 9 Downflow/Upflow	Lead Free Brass Up to 9 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow
1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C
5.7 - 568 lpm 0.02 - 5700 m <sup>3</sup> Yes	5.7 - 568 lpm 0.02 - 5700 m <sup>3</sup> Yes	5.7 - 568 lpm 0.02 - 5700 m <sup>3</sup> Yes	5.7 - 568 lpm 0.02 - 5700 m <sup>3</sup> Yes
50mm O.D. or 1.90" O.D. Pipe	63mm O.D. or 2.375" O.D. Pipe	50mm O.D. or 1.90" O.D. Pipe	63mm O.D. or 2.375" O.D. Pipe
1.5" Female NPT	1.5" Female NPT	1.5" Female NPT	1.5" Female NPT
1" Male NPT elbow 3/4" x 1" Solvent elbow 1/2" O.D. Poly Tube Compression	1" Male NPT elbow 3/4" x 1" Solvent elbow 1/2" O.D. Poly Tube Compression	1" Male NPT elbow 3/4" x 1" Solvent elbow 1/2" O.D. Poly Tube Compression	1" Male NPT elbow 3/4" x 1" Solvent elbow 1/2" O.D. Poly Tube Compression
4" - 8 UN	Quick Disconnect 4" - 8 UN 6" Flange or Side Mount	4" - 8 UN	Quick Disconnect 4" - 8 UN 6" Flange or Side Mount
216mm	with 4" - 8 UN QC Base is 284.5mm with 6" Flange QC Base is 287mm	216mm	with 4" - 8 UN QC Base is 284.5mm with 6" Flange QC Base is 287mm
13 Kg	14 Kg	13 Kg	14 Kg
200VAC to 240VAC 50/60 Hz 15VDC 500 mA	200VAC to 240VAC 50/60 Hz 15VDC 500 mA	200VAC to 240VAC or 6AA NMHB 50/60 Hz 15VDC 500 mA	200VAC to 240VAC 50/60 Hz 15VDC 500 mA

Valves shown with optional accessories.

# 2" & 3" WATER SPECIALIST VALVE SPECIFICATIONS

**INTERNATIONAL**



## SPECIFICATIONS

### WS2H

### WS3

<b>Service @ 1 bar/15 psi drop</b> <b>Backwash @ 1.7 bar/25 psi drop</b>	473 lpm, 28.4 m <sup>3</sup> /h (includes meter) 473 lpm, 28.4 m <sup>3</sup> /h	946 lpm, 56.8 m <sup>3</sup> /h 833 lpm, 50.0 m <sup>3</sup> /h
<b>Tank Applications:</b> <b>Softener</b> <b>Filter (1)</b>	18" - 63" diameter 18" - 48" diameter	18" - 96" diameter 18" - 63" diameter
<b>Inlet/Outlet</b> <b>Fitting Connections</b>	2" Female BSPT or NPT/ 2.5" Groove Lock	3" Female BSPT or NPT
<b>Valve Material</b> <b>Cycles</b> <b>Regeneration</b>	Lead Free Brass Up to 9 Downflow	Lead Free Brass Up to 9 Downflow
<b>Operating Pressures</b> <b>Operating Temperatures</b>	1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C
<b>Meter:</b> <b>Flow Rate Range</b> <b>Volume Range</b> <b>Totalizer</b>	5.7 - 473 lpm 38 - 3796.2 liters x 1000 Yes	13 - 1,325 lpm 38 - 3796.2 liters x 1000 Yes
<b>Distributor Pilot</b>	63mm O.D. or 2.375" O.D. Pipe	90mm or 3.5" O.D. Pipe 3" NPS
<b>Drain Line Connection</b>	2" Female NPT or BSPT 2.5" Groove Lock	3" Female NPT or BSPT
<b>Brine Line Connection</b>	1" Male NPT elbow 3/4" x 1" Solvent elbow	1" Male NPT elbow 3/4" x 1" Solvent elbow
<b>Mounting Base Options</b>	Quick Disconnect 4" - 8 UN 6" Flange Side Mount	Quick Disconnect 6" Flange Side Mount
<b>Height From Top of Tank</b>	with 4" - 8 UN QC Base is 292mm with 6" Flange QC Base is 294.6mm	with 6" Flange QC Base is 318mm
<b>Shipping Weight w/Meter</b>	22.7 Kg	25.9 Kg
<b>Electrical:</b> <b>Supply Voltage</b> <b>Supply Frequency</b> <b>Output Voltage</b> <b>Output Current</b>	230V AC 50 Hz 18V AC 750 mA	230V AC 50 Hz 18V AC 750 mA

1. Filter tank size calculated @ 407 lpm per m<sup>2</sup> of bed area/10 gpm of backwash per square foot of bed area
2. Noryl is a trademark of Sabic Innovative Plastics IP B.V. Company

# 1" & 1.25" Control Valve Fittings and Accessories

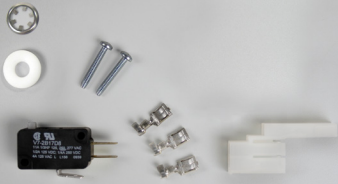


# 1" & 1.25" Control Valve Fittings and Accessories



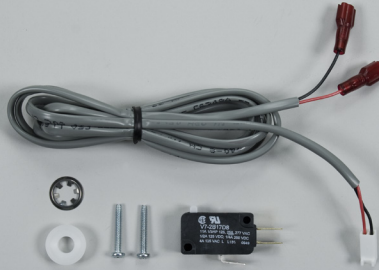
# Control Valve Accessories

**Auxiliary Microswitch Kit**



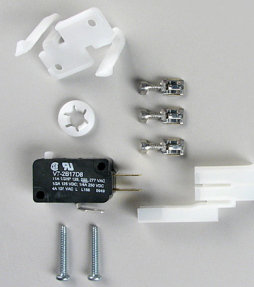
**Order No. V3009**

**WS1 Series Microswitch Assembly**



**Order No. V3014**

**WS2 Auxiliary Switch Kit**



**Order No. V3017**

**WS1 Fill and Service Microswitch Kit**



**Order No. V4242**

**8' DP Wire Harness**



**Order No. V3473**

**16' DP Wire Harness**



**Order No. V3473-01**

**8' Alternator/Communication Cable**



**Order No. V3474**

**12' Communication Cable**



**Order No. V3475-12**

**24' Communication Cable**



**Order No. V3475-24**

**36' Communication Cable**



**Order No. V3475-36**

**15' Power Cord**



**Order No. V4276-15**

**36' Power Cord**



**Order No. V4276-36**

# Control Valve Accessories

**WS1 Service Spanner Wrench**



**Order No. V3193-02**

**WS1 Stack Puller Assembly**



**Order No. V3022**

**WS1 - 1.25 Weather Covers**



**Order No. V3175WC-W • White**  
**Order No. V3175WC-A • Almond**

**WS1.5 Weather Covers**



**Order No. V3974WC-W • White**  
**Order No. V3974WC-A • Almond**

**WS2 / WS2QC Weather Covers**



**Order No. V3783WC-W • White**  
**Order No. V3783WC-A • Almond**

**WS2H / WS3 Weather Covers**



**Order No. V4051WC**



# 1" & 1.25" Control Valve Fittings and Accessories

**1" & 1.25"  
Motorized Alternating Valve**



**Order No. V3069FF-01 • F x F**

**1" & 1.25"  
No Hard Water Bypass Valve**



**Order No. V3070FF • F x F**

**1" & 1.25"  
Motorized Alternating Valve**



**Order No. V3069MM-01 • M x M**

**1" & 1.25"  
No Hard Water Bypass Valve**



**Order No. V3070FM • F x M**

# 1.5" and 2"

## Control Valve Accessories

**1.5"**  
**Motorized Alternating Valve**



**Order No. V3071 • NPT**  
**Order No. V3071BSPT • BSPT**

**1.5"**  
**No Hard Water Bypass Valve**



**Order No. V3097 • NPT**  
**Order No. V3097BSPT • BSPT**

**2.0"**  
**Motorized Alternating Valve**



**Order No. V3076 • NPT**  
**Order No. V3076BSPT • BSPT**

**2.0"**  
**No Hard Water Bypass Valve**



**Order No. V3098 • NPT**  
**Order No. V3098BSPT • BSPT**

# 3" Control Valve Accessories

3"

**Motorized Alternating Valve**



**Order No. V3083 • NPT**  
**Order No. V3083BSPT • BSPT**

3"

**No Hard Water Bypass Valve**



**Order No. V3099 • NPT**  
**Order No. V3099BSPT • BSPT**

**Clack Corporation**