



Control Valves, Fittings and Accessories



NEW WS1EE TWIN ALTERNATING CONTROL VALVE

28 gpm



WS2H
125 gpm



WS3
250 gpm



WS1.5EE
WS1.5SP
70 gpm



WS2EE
WS2SP
115 gpm



WS2EE/QC*
WS2SP/QC*
125 gpm



WS1.25*
WS1.25CS*
34 gpm



WS1.25EE*
WS1.25SP*
34 gpm



WS1.25TC*
34 gpm



WS1*
WS1CS*
27 gpm



WS1EE*
WS1SP*
27 gpm



WS1TC*
27 gpm

*valves shown with optional accessories

Clack® 

WS1EE TWIN ALTERNATING CONTROL VALVE

WATER SPECIALIST CONTROL VALVE



- Service flow 28 gpm, backwash flow 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
- 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 regeneration
- 12-volt output AC Adapter 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" EE 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 drop (includes bypass and meter) 28 gpm
 Backwash @ 25 psi drop (includes bypass) 15 gpm
 Cv Service 7.28
 Cv Backwash 2.96

OPERATING PRESSURES

Minimum/Maximum 20 psi – 125 psi

OPERATING TEMPERATURES

Minimum/Maximum 40° – 110° F

METER

Accuracy ± 5%
 Flow Rate Range..... 0.25 – 30 gpm
 Gallon Range..... 20 – 1,500,000 gallons
 Totalizer 1000 - 9,999,000 gallons

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..... 7 ⅜"
 Weight 16 lbs.

ELECTRICAL SPECIFICATIONS

AC Adapter

	<u>U.S.</u>	<u>International</u>
Supply Voltage	120V AC.....	230V AC
Supply Frequency	60 Hz	50 Hz
Output Voltage	12V AC.....	12V AC
Output Current	500 mA.....	500 mA

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 st	1-95.....	Backwash 1-95
2. Regenerate Draw/Slow Rinse	1-180	
3. Backwash 2 nd	1-95	
4. Fast Rinse	1-95.....	Rinse 1-95
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

1" WATER SPECIALIST VALVE SPECIFICATIONS

			
SPECIFICATIONS	WS1 WS1CS	WS1EE WS1SP	WS1TC
Service @ 15 psi drop	27 gpm (includes meter and bypass)	27 gpm (includes meter and bypass)	27 gpm (includes bypass)
Backwash @ 25 psi drop	27 gpm (includes bypass)	27 gpm (includes bypass)	27 gpm (includes bypass)
Tank Applications:			
Softener	6" - 21" diameter	6" - 21" diameter	6" - 21" diameter
Filter (1)	6" - 21" diameter	6" - 21" diameter	6" - 21" diameter
Inlet/Outlet	1" - 1.25" NPT	1" - 1.25" NPT	1" - 1.25" NPT
Fitting Connections	3/4" - 1.5" Sweat	3/4" - 1.5" Sweat	3/4" - 1.5" Sweat
	3/4" - 1.5" Solvent	3/4" - 1.5" Solvent	3/4" - 1.5" Solvent
	3/4" - 1" SharkBite®	3/4" - 1" SharkBite®	3/4" - 1" SharkBite®
Valve Material	Noryl (2)	Noryl (2)	Noryl (2)
Cycles	Up to 6	Up to 6	Up to 6
Regeneration	Downflow/Upflow	Downflow	Downflow
Operating Pressures	20 - 125 psi	20 - 125 psi	20 - 125 psi
Operating Temperatures	40° - 110° F	40° - 110° F	40° - 110° F
Meter:			
Flow Rate Range	0.25 - 27 gpm	0.25 - 27 gpm	Not
Volume Range (gallons)	20 - 50,000 gallons	20 - 1,500,000 gallons	Applicable
Totalizer	Yes	Yes	
Distributor Pilot	1.050" O.D. Pipe	1.050" O.D. Pipe	1.050" O.D. Pipe
	3/4" NPS	3/4" NPS	3/4" NPS
Drain Line Connection	3/4" Male NPT Standard	3/4" Male NPT Standard	3/4" Male NPT Standard
	1" Male NPT Optional	1" Male NPT Optional	1" Male NPT Optional
Brine Line Connection	3/8" or 1/2" O.D.	3/8" or 1/2" O.D.	3/8" or 1/2" O.D.
	Poly Tube Compression	Poly Tube Compression	Poly Tube Compression
Mounting Base Options	2 1/2" - 8 NPSM	2 1/2" - 8 NPSM	2 1/2" - 8 NPSM
Height From Top of Tank	7 3/8"	7 3/8"	7 3/8"
Shipping Weight	4.5 lbs.	4.5 lbs.	4.5 lbs.
Electrical:			
Supply Voltage	120V AC	120V AC or 6AA NMHB	120V AC
Supply Frequency	60 Hz	60 Hz	60 Hz
Output Voltage	12V AC	12V AC	12V AC
Output Current	500 mA	500 mA	500 mA

1. Filter tank size calculated @ 10 gpm of backwash per square foot of bed area
2. Noryl is a trademark of Sabic Innovative Plastics IP B.V. Company
3. Acquired by use of external drain line flow control

1.25" WATER SPECIALIST VALVE SPECIFICATIONS



**WS1.25
WS1.25CS**

**WS1.25EE
WS1.25SP**

WS1.25TC

34 gpm (includes meter and bypass) 32 gpm (3) (includes bypass)	34 gpm (includes meter and bypass) 32 gpm (3) (includes bypass)	34 gpm (includes bypass) 32 gpm (3) (includes bypass)
6" - 21" diameter 6" - 24" diameter	6" - 21" diameter 6" - 24" diameter	6" - 21" diameter 6" - 24" diameter
1" - 1.25" NPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent 3/4" - 1" SharkBite®	1" - 1.25" NPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent 3/4" - 1" SharkBite®	1" - 1.25" NPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent 3/4" - 1" SharkBite®
Noryl (2) Up to 6 Downflow	Noryl (2) Up to 6 Downflow	Noryl (2) Up to 6 Downflow
20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F
0.25 - 34 gpm 20 - 50,000 gallons Yes	0.25 - 34 gpm 20 - 1,500,000 gallons Yes	Not Applicable
1.32" O.D. Pipe 1" NPS	1.32" O.D. Pipe 1" NPS	1.32" O.D. Pipe 1" NPS
3/4" Male NPT Standard 1" Male NPT Optional	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	3/8" or 1/2" O.D. Poly Tube Compression
2 1/2" - 8 NPSM	2 1/2" - 8 NPSM	2 1/2" - 8 NPSM
7 3/8"	7 3/8"	7 3/8"
4.5 lbs.	4.5 lbs.	4.5 lbs.
120V AC 60 Hz 12V AC 500 mA	120V AC or 6AA NMHB 60 Hz 12V AC 500 mA	120V AC 60 Hz 12V AC 500 mA

Valves shown with optional bypass.

1.5" & 2" WATER SPECIALIST VALVE SPECIFICATIONS



SPECIFICATIONS

**WS1.5EE
WS1.5SP**

**WS2EE
WS2SP**

Service @ 15 psi drop Backwash @ 25 psi drop	70 gpm 52 gpm	115 gpm 80 gpm
Tank Applications: Softener Filter (1)	12" - 30" diameter 12" - 30" diameter	12" - 48" diameter 12" - 36" diameter
Inlet/Outlet Fitting Connections	1.5" Female NPT	2" Female NPT
Valve Material Cycles Regeneration	Lead Free Brass Up to 6 Downflow	Lead Free Brass Up to 6 Downflow
Operating Pressures Operating Temperatures	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F
Meter: Flow Rate Range Volume Range (gallons) Totalizer	0.5 - 75 gpm 20 - 1,500,000 gallons Yes	1.5 - 150 gpm 20 - 1,500,000 gallons Yes
Distributor Pilot	1.90" O.D. Pipe 1.5" NPS	1.90" O.D. Pipe 1.5" NPS
Drain Line Connection	1.25" Female NPT with 3/4" Male NPT Standard 1" Male NPT Optional	1.5" Female NPT
Brine Line Connection	3/4" Female NPT 1/2" O.D. Poly Tube Compression	1" Male NPT elbow 3/4" x 1" Solvent elbow 1/2" O.D. Poly Tube Compression
Mounting Base Options	4" - 8 UN	4" - 8 UN
Height From Top of Tank	9.5"	7.5"
Shipping Weight with Meter	21 lbs.	29 lbs.
Electrical: Supply Voltage Supply Frequency Output Voltage Output Current	120V AC or 6AA NMHB 60 Hz 12V AC 500 mA	120V AC or 6AA NMHB 60 Hz 12V AC 500 mA

1. Filter tank size calculated @ 10 gpm of backwash per square foot of bed area

2" & 3" WATER SPECIALIST VALVE SPECIFICATIONS



**WS2EE/QC
WS2SP/QC**



WS2H



WS3

125 gpm 85 gpm	125 gpm (includes meter) 125 gpm	250 gpm 220 gpm
12" - 48" diameter 12" - 36" diameter	18" - 63" diameter 18" - 48" diameter	18" - 96" diameter (2) 18" - 63" diameter
2" Female NPT	2" Female NPT/ 2.5" Groove Lock	3" Female NPT
Lead Free Brass Up to 6 Downflow	Lead Free Brass Up to 9 Downflow	Lead Free Brass Up to 9 Downflow
20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F
1.5 - 150 gpm 20 - 1,500,000 gallons Yes	1.5 - 125 gpm 10 - 999,000 gallons Yes	3.5 - 350 gpm 10 - 999,000 gallons Yes
2.375" O.D. Pipe 2" NPS	2.375" O.D. Pipe 2" NPS	3.5" O.D. Pipe 3" NPS
1.5" Female NPT	2" Female NPT/ 2.5" Groove Lock	3" 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" Male NPT elbow 3/4" x 1" Solvent elbow
Quick Disconnect 4" - 8 UN 6" Flange Side Mount	Quick Disconnect 4" - 8 UN 6" Flange Side Mount	Quick Disconnect 6" Flange Side Mount
with 4" - 8 UN QC Base is 11.2" with 6" Flange QC Base is 11.3"	with 4" - 8 UN QC Base is 11.5" with 6" Flange QC Base is 11.6"	with 6" Flange QC Base is 12.5"
29 lbs.	50 lbs.	57 lbs. (no meter)
120V AC or 6AA NMHB 60 Hz 12V AC 500 mA	120V AC 60 Hz 24V AC 750 mA	120V AC 60 Hz 24V AC 750 mA

2. 18" - 63" diameter with standard injectors, to 96" with Brine Pump

Valves shown with optional accessories.

1" & 1.25" Control Valve Fittings and Accessories



1" & 1.25" Control Valve Fittings and Accessories

3/4" Plastic Male BSPT Assembly



Order No. V3007-14

3/4" John Guest QC Elbow Assembly



Order No. V3007-15

1" PVC Male BSPT Elbow Assembly



Order No. V3007-16

1" John Guest Straight QC



Order No. V3007-17

Bypass



Order No. V3006

1" Straight DLFC w/Silencer



Order No. V3008-02

1" Straight DLFC without Silencer



Order No. V3008-04

Auxiliary Microswitch Kit



Order No. V3009

WS1 Series Microswitch Assembly



Order No. V3014

WS2 Auxiliary Switch Kit



Order No. V3017

Vertical 90° Adapter Kit



Order No. V3191-01

Twin Interconnect Kit - 12"-21"



Order No. V4052-01

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

Other Accessories

Weather Covers



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

Wrench



Order No. V3193-02