



# Control Valves, Fittings and Accessories



**WS1EE TWIN ALTERNATING CONTROL VALVE**

28 gpm



**WS2H**  
125 gpm



**WS3**  
250 gpm



**WS1.5PEE**  
**WS1.5PSD/SP**  
60 gpm



**WS1.5EE**  
**WS1.5SD/SP**  
70 gpm



**WS2EE**  
**WS2SD/SP**  
115 gpm



**WS2EE/QC\***  
**WS2SP/QC\***  
125 gpm



**WS1.25\***  
**WS1.25CS\***  
34 gpm



**WS1.25EE\***  
**WS1.25SD/SP\***  
34 gpm



**WS1.25TC\***  
34 gpm



**WS1\***  
**WS1CS\***  
27 gpm






**WS1EE\***  
**WS1SD/SP\***  
27 gpm



**WS1TC\***  
27 gpm

\*valves shown with optional accessories

# 1" & 1.25" WATER SPECIALIST VALVE SPECIFICATIONS

			
<b>SPECIFICATIONS</b>	<b>WS1</b> WS1, CS, EE, SD, SP, TC	<b>WS1TT</b> EE, SD, SP	<b>WS1.25</b> WS1, CS, EE, SD, SP, TC
<b>Service @ 15 psi drop</b>	27 gpm (includes meter and bypass)	28 gpm (includes meter and bypass)	34 gpm (includes meter and bypass)
<b>Backwash @ 25 psi drop</b>	27 gpm (includes bypass)	15 gpm (includes bypass)	32 gpm (includes bypass)
<b>Tank Applications: Softener Filter (1)</b>	6" - 21" diameter 6" - 21" diameter	6" - 21" diameter 6" - 16" diameter	6" - 21" diameter 6" - 24" diameter
<b>Inlet/Outlet Fitting Connections</b>	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®
<b>Valve Material Cycles Regeneration</b>	Fiber Reinforced Composite Up to 6 Downflow/Upflow	Fiber Reinforced Composite Up to 6 Downflow/Upflow	Fiber Reinforced Composite Up to 6 Downflow/Upflow
<b>Operating Pressures Operating Temperatures</b>	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F
<b>Meter: Flow Rate Range</b>	0.25 - 27 gpm	0.25 - 27 gpm	0.25 - 34 gpm
<b>Distributor Pilot</b>	1.050" O.D. Pipe 3/4" NPS	1.050" O.D. Pipe 3/4" NPS	1.32" O.D. Pipe 1" NPS
<b>Drain Line Connection</b>	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
<b>Brine Line Connection</b>	3/8" Liquifit Fitting 1/2" O.D. Poly Tube Compression	3/8" Liquifit Fitting 1/2" O.D. Poly Tube Compression	3/8" Liquifit Fitting 1/2" O.D. Poly Tube Compression
<b>Mounting Base Options</b>	2 1/2" - 8 NPSM	2 1/2" - 8 NPSM	2 1/2" - 8 NPSM
<b>Height From Top of Tank</b>	7 3/8"	7 3/8"	7 3/8"
<b>Shipping Weight</b>	4.5 lbs.	16 lbs.	4.5 lbs.

1. Filter tank size calculated @ 10 gpm of backwash per square foot of bed area  
Valves shown with optional bypass.

# 1.5" & 2" WATER SPECIALIST VALVE SPECIFICATIONS

			
<b>WS1.5P</b> EE, SD, SP	<b>WS1.5</b> EE, SD, SP	<b>WS2</b> EE, SD, SP	<b>WS2QC</b> EE, SD, SP
60 gpm (includes meter) 43 gpm	70 gpm (includes meter) 52 gpm	115 gpm (includes meter) 80 gpm	125 gpm (includes meter) 85 gpm
12" - 24" diameter 12" - 24" diameter	12" - 24" diameter 12" - 30" diameter	12" - 48" diameter 12" - 36" diameter	12" - 48" diameter 12" - 36" diameter
QC to 1.5" NPT	1.5" Female NPT	2" Female NPT	2" Female NPT
Fiber Reinforced Composite Up to 6 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow
20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F
0.5 - 75 gpm	0.5 - 75 gpm	1.5 - 150 gpm	1.5 - 150 gpm
1.90" O.D. Pipe 1.5" NPS	1.90" O.D. Pipe 1.5" NPS	1.90" O.D. Pipe 1.5" NPS	2.375" O.D. Pipe 2" NPS
QC to 1" NPT Elbow QC to 1.5" NPT Straight	1.25" Female NPT with ¾" Male NPT Standard 1" Male NPT Optional	1.5" Female NPT	1.5" Female NPT
¾" Female NPT ½" O.D. Poly Tube Compression	¾" Female NPT ½" O.D. Poly Tube Compression	1" Male NPT elbow ¾" x 1" Solvent elbow ½" O.D. Poly Tube Compression	1" Male NPT elbow ¾" x 1" Solvent elbow ½" O.D. Poly Tube Compression
4" - 8 UN	4" - 8 UN	4" - 8 UN	Quick Disconnect 4" - 8 UN 6" Flange Side Mount
10.7"	9.5"	7.5"	with 4" - 8 UN QC Base is 11.2" with 6" Flange QC Base is 11.3"
9 lbs.	21 lbs.	29 lbs.	29 lbs.

# 2" & 3" WATER SPECIALIST VALVE SPECIFICATIONS



SPECIFICATIONS	WS2H	WS3
<b>Service @ 15 psi drop</b> <b>Backwash @ 25 psi drop</b>	125 gpm (includes meter) 125 gpm	250 gpm (includes meter) 220 gpm
<b>Tank Applications:</b> <b>Softener</b> <b>Filter (1)</b>	18" - 63" diameter 18" - 48" diameter	18" - 96" diameter (1) 18" - 63" diameter
<b>Inlet/Outlet</b> <b>Fitting Connections</b>	2" Female NPT	3" Female 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>	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F
<b>Meter:</b> <b>Flow Rate Range</b>	1.5 - 125 gpm	3.5 - 350 gpm
<b>Distributor Pilot</b>	2.375" O.D. Pipe 2" NPS	3.5" O.D. Pipe 3" NPS
<b>Drain Line Connection</b>	2" Female NPT	3" Female NPT
<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 11.5" with 6" Flange QC Base is 11.6"	with 6" Flange QC Base is 12.5"
<b>Shipping Weight with Meter</b>	50 lbs.	57 lbs. (no meter)

1. 18" - 63" diameter with standard injectors, to 96" with Brine Pump

# SOLAR / BATTERY POWERED VALVES



**WS1 SD/SP**



**WS1TT SD/SP**



**WS1.25 SD/SP**



**WS1.5 SD/SP**



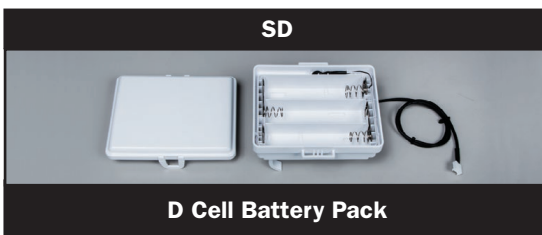
**WS2 SD/SP**



**WS2QC SD/SP**



**AA Rechargeable Battery Pack**

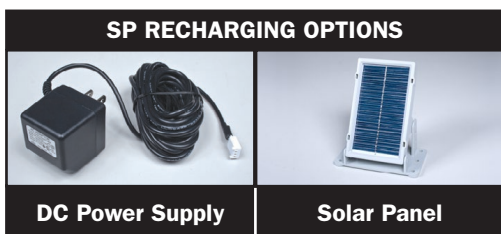


**D Cell Battery Pack**

### BATTERY SPECIFICATIONS 2 OPTIONS FOR OPERATION

**SP Model:** 6 AA nickel metal hydride batteries rechargeable for SP model  
**SD Model:** 6 "D" cell alkaline batteries (disposable when discharged) for SD model - "D" batteries not included

Note: When disposing of batteries follow local and state regulations.



**DC Power Supply**

**Solar Panel**

### SP CHARGING SPECIFICATIONS 2 OPTIONS FOR OPERATION

- Amorphous silicon solar panels capable of three tilt angles
- DC power supply with 15VDC output 500mA

# CLACK CONTROLLER SPECIFICATIONS



SPECIFICATIONS	WS1	CS	TC	EE
<b>WS Valves Available</b>	WS1, WS1.25	WS1, WS1.25	WS1, WS1.25	WS1, WS1.25, WS1.5P, WS1.5, WS2, WS2QC, WS1TT
<b>Display Type</b>	LCD	LCD	LCD	LCD
<b>Volume Range (Gallons)</b>	20 - 50,000	20 - 50,000	N/A	20 - 1,500,000
<b>Diagnostics/History</b>	Yes	Yes	No	Yes
<b>Comm. Cable Port</b>	No	No	No	1
<b>Cycle Codes</b>	Created Based on Programming	Yes P1 - P91	Yes P0 - P9	No
<b>Cycle Times Adjustable</b>	No	No	No	Yes
<b>DP Input</b>	No	No	Yes	Yes
<b>Motor Drive Output</b>	No	No	No	1
<b>"Relay Driver or Relay Output"</b>	No	No	No	1 - Relay Driver
<b>Remote Communications</b>	No	No	No	No
<b>External Programming</b>	Configurator	Configurator	Configurator	Configurator
<b>Data Extraction</b>	No	No	No	No
<b>Electrical Supply Voltage</b>	100 to 120VAC	100 to 120VAC	100 to 120VAC	100 to 120VAC
<b>Supply Frequency</b>	50/60Hz	50/60Hz	50/60Hz	50/60Hz
<b>Voltage Output</b>	15VDC	15VDC	15VDC	15VDC
<b>Current Output</b>	500 mA	500 mA	500 mA	500 mA
<b>Systems Types</b>				
<b>Single</b>	Yes	Yes	Yes	Yes
<b>Alternate</b>	No	No	No	2 Valves or SC
<b>Random</b>	No	No	No	2 Valves or SC
<b>Series</b>	No	No	No	2 Valves or SC
<b>Progressive Flow</b>	No	No	No	System Controller

# CLACK CONTROLLER SPECIFICATIONS



SD	SP	WS2H & WS3			System Controller (SC)
		Pod	Main Board	Added System Board	
WS1, WS1.25, WS1.5, WS2, WS2QC, WS1TT	WS1, WS1.25, WS1.5, WS2, WS2QC, WS1TT	WS2H, WS3			WS1, WS1.25, WS1.5P, WS1.5, WS2, WS2QC
LCD	LCD	LCD Backlit	N/A	N/A	LCD Backlit
20 - 1,500,000	20 - 1,500,000	10 - 999,000			N/A
Yes	Yes	Yes			Yes
1	1	N/A	1	1	6
No	No	No			N/A
Yes	Yes	Yes			N/A
Yes	Yes	N/A	Yes	No	Yes
1	1	N/A	1	1	No
1 - Relay Driver	1 - Relay Driver	N/A	No	2 - Relays	2 - Relays
No	No	No			ModBus-TCP/IP
Configurator	Configurator	No			Flash Drive
No	No	Yes			Yes
6 "D" Batteries	6 "AA" Rechargeable Nickel Metal Hydride Batteries	100 to 120VAC			120VAC
50/60Hz 15VDC 500 mA	50/60Hz 15VDC 500 mA	60Hz 18VDC 750 mA			50/60Hz 15VDC 0.5A
Yes No 2 Valves 2 Valves No	Yes No 2 Valves 2 Valves No	N/A	Yes 2 Valves 2 Valves 2 Valves 2 Valves	Yes 2 - 4 Valves 2 - 4 Valves 2 - 4 Valves 2 - 4 Valves	Water Monitor 2 - 6 Valves 2 - 6 Valves 2 - 6 Valves 2 - 6 Valves

# Inline Flow Meters

1.0" Plastic Meter



Order No. V3039 or V3039-15

1.5" Plastic Meter



Order No. V3045 or V3045-15

1.5" Plastic Meter QC



Order No. V3045QC or V3045QC-15

1.5" Stainless Steel Meter



Order No. V3040 • 28" meter cable  
Order No. V3040-15 • 15' meter cable

2.0" Stainless Steel Meter



Order No. V3094 • 28" meter cable  
Order No. V3094-15 • 15' meter cable

3.0" Stainless Steel Meter



Order No. V3095 • 48" meter cable  
Order No. V3095-15 • 15' meter cable

WS15/2/2H Meter Comm Asy 28"



Order No. V3003-02

WS3 Meter Comm Asy 4'



Order No. V4039

WS Remote Meter Cord 15'



Order No. V3221



# Drain Line Flow Controls

WS1 3/4" DRN ELB&RETAIN WO/SIL ASY



Order No. V3962  
0.7 to 10.0 GPM  
1 - 3/4" Flow Washer

WS1 3/4" DRN ELBOW&RETAIN W/SIL ASY



Order No. V4057  
0.7 to 10.0 GPM  
1 - 3/4" Flow Washer

WS1 1" DRN ELB&RETAIN



Order No. V4429  
0.7 to 10.0 GPM  
1 - 3/4" Flow Washer

WS1 FTG DRAIN 1 STRT WO/SIL



Order No. V3008-04  
9.0 to 25.0 GPM  
1 - 1" Flow Washer

WS1 FTG DRAIN 1 STRAIGHT W/SIL



Order No. V3008-02  
9.0 to 25.0 GPM  
1 - 1" Flow Washer

WS2 DRN ELB 3/4 MALENPT NO SIL



Order No. V3158-04  
0.7 to 10.0 GPM  
1 - 3/4" Flow Washer

WS2 DRN FTG 1 MALE NPT WO/SIL



Order No. V3008-05  
9.0 to 25.0 GPM  
1 - 1" Flow Washer

1.25" DLFC



Order No. V3079  
9.0 to 85.0 GPM  
Up to 6 - 3/4" & 1 - 1" Flow Washers

1.5" DLFC



Order No. V3080  
9.0 to 85 GPM  
Up to 6 - 3/4" & 1 - 1" Flow Washers

2" DLFC



Order No. V3051  
7.0 to 150 GPM  
Up to 5 - 3/4" & 4 - 1" Flow Washers

3" DLFC



Order No. V3764  
9.0 to 225 GPM  
Up to 9 - 1" Flow Washers

3/4" Flow Washers

- V3162-007 WS1 DLFC 0.7 gpm
- V3162-010 WS1 DLFC 1.0 gpm
- V3162-013 WS1 DLFC 1.3 gpm
- V3162-017 WS1 DLFC 1.7 gpm
- V3162-022 WS1 DLFC 2.2 gpm
- V3162-027 WS1 DLFC 2.7 gpm
- V3162-032 WS1 DLFC 3.2 gpm
- V3162-042 WS1 DLFC 4.2 gpm
- V3162-053 WS1 DLFC 5.3 gpm
- V3162-065 WS1 DLFC 6.5 gpm
- V3162-075 WS1 DLFC 7.5 gpm
- V3162-090 WS1 DLFC 9.0 gpm
- V3162-100 WS1 DLFC 10.0 gpm

1" Flow Washers

- V3190-090 WS1 DLFC 09.0 gpm
- V3190-100 WS1 DLFC 10.0 gpm
- V3190-110 WS1 DLFC 11.0 gpm
- V3190-130 WS1 DLFC 13.0 gpm
- V3190-150 WS1 DLFC 15.0 gpm
- V3190-170 WS1 DLFC 17.0 gpm
- V3190-200 WS1 DLFC 20.0 gpm
- V3190-250 WS1 DLFC 25.0 gpm

# 1" & 1.25" Control Valve Fittings and Accessories

1" PVC Male NPT Elbow Assembly



Order No. V3007

3/4" x 1" PVC Solvent Elbow Assembly



Order No. V3007-01

1" Brass Sweat Assembly LF



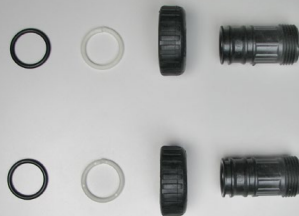
Order No. V3007-02LF

3/4" Brass Sweat Assembly LF



Order No. V3007-03LF

1" Plastic Male NPT Assembly



Order No. V3007-04

1.25" Plastic Male NPT Assembly



Order No. V3007-05

1" Plastic Male BSPT Assembly



Order No. V3007-06

1.25" & 1.5" PVC Solvent Assembly



Order No. V3007-07

1.25" Plastic Male BSPT Assembly



Order No. V3007-08

1.25" & 1.5" Brass Sweat Assembly LF



Order No. V3007-09LF

3/4" SharkBite® Assembly



Order No. V3007-12LF

1" SharkBite® Assembly



Order No. V3007-13LF

# 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

3/4" Plastic Male NPT Asy



Order No. V3007-18

3/4" Straight John Guest QC Asy



Order No. V3007-19

1" John Guest Fitting



Order No. V3007-20

Bypass



Order No. V3006

Mixing Valve



Order No. V4099

Vertical 90° Adapter Kit



Order No. V3191-01

Twin Interconnect Kit - 12"-21"



Order No. V4052-01

# Control Valve Accessories

WS1.5P QC X 1.5"



Order No. V4430-01 • NPT

WS1.5P QC X QC



Order No. V4430-03

WS2H/2QC 2" Side Mount Base Assembly



Order No. V3260-02 • NPT

WS3 Side Mount Base Assembly



Order No. V3674-02 • NPT

WS2H/WS2QC Flange Base Assembly



Order No. V3055

WS3 Flange Base Assembly



Order No. V3090

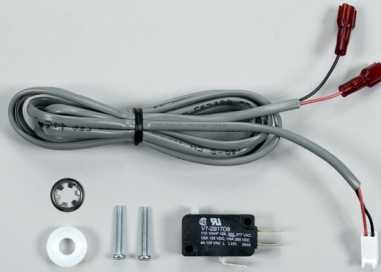
# Control Valve Accessories

Auxiliary Microswitch Kit



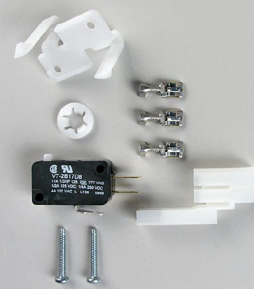
Order No. V3009

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**



**Order No. V3022**

**WS1.25/WS1.5 Stack Puller**



**Order No. V3022-15**

**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 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"

## Control Valve Accessories

1.5" Plastic  
Motorized Alternating Valve



Order No. V3034

1.5" Plastic  
No Hard Water Bypass Valve



Order No. V3035

1.5"  
Motorized Alternating Valve



Order No. V3071 • NPT

1.5"  
No Hard Water Bypass Valve



Order No. V3097 • NPT



# 2" and 3" Control Valve Accessories

2.0"  
Motorized Alternating Valve



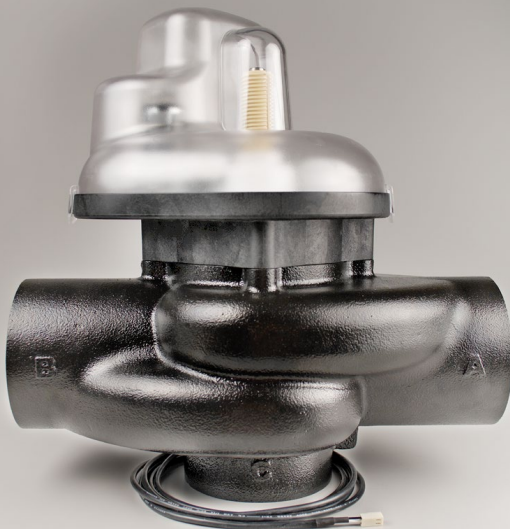
Order No. V3076 • NPT

2.0"  
No Hard Water Bypass Valve



Order No. V3098 • NPT

3"  
Motorized Alternating Valve



Order No. V3083 • NPT

3"  
No Hard Water Bypass Valve



Order No. V3099 • NPT

