



Control Valves, Fittings and Accessories

INTERNATIONAL



WS1EI TWIN ALTERNATING CONTROL VALVE
106 lpm • 6.36 m³/h • 28 gpm



WS1CI TWIN ALTERNATING CONTROL VALVE
106 lpm • 6.36 m³/h • 28 gpm



WS2CI/QC*
473 lpm • 28.4 m³/h
125 gpm



WS2EI/QC*
WS2SQ/QC*
473 lpm • 28.4 m³/h
125 gpm



WS2H
473 lpm • 28.4 m³/h
125 gpm



WS3
946 lpm • 56.8 m³/h
250 gpm



WS1.5PCI
227 lpm • 13.6 m³/h
60 gpm



WS1.5PEI
227 lpm • 13.6 m³/h
60 gpm



WS1.5CI
265 lpm • 15.9 m³/h
70 gpm



WS1.5EI
WS1.5SQ
265 lpm • 15.9 m³/h
70 gpm



WS2CI
435 lpm • 26.1 m³/h
115 gpm



WS2EI
WS2SQ
435 lpm • 26.1 m³/h
115 gpm



WS1.25*
129 lpm • 7.7 m³/h
34 gpm



WS1.25CI*
129 lpm • 7.7 m³/h
34 gpm



WS1.25EI*
WS1.25SQ*
129 lpm • 7.7 m³/h
34 gpm



WS1.25TC*
129 lpm • 7.7 m³/h
34 gpm



WS1*
102 lpm • 6.1 m³/h
27 gpm



WS1CI*
102 lpm • 6.1 m³/h
27 gpm



WS1EI*
WS1SQ*
102 lpm • 6.1 m³/h
27 gpm



WS1TC*
102 lpm • 6.1 m³/h
27 gpm

*valves shown with optional accessories

1" & 1.25" WATER SPECIALIST VALVE SPECIFICATIONS



SPECIFICATIONS	WS1* WS1, CI, EI, SQ, TC	WS1TT CI, EI, SQ	WS1.25* WS1, CI, EI, SQ, TC
Service @ 1 bar/15 psi drop	102 lpm, 6.1 m ³ /h (includes meter and bypass)	106 lpm, 6.36 m ³ /h (includes meter and bypass)	129 lpm, 7.7 m ³ /h (includes meter and bypass)
Backwash @ 1.7 bar/25 psi drop	102 lpm, 6.1 m ³ /h (includes bypass)	57 lpm, 3.4 m ³ /h (includes bypass)	121 lpm, 7.3 m ³ /h (includes bypass)
Tank Applications: Softener Filter (1)	6" - 21" diameter 6" - 21" diameter	6" - 21" diameter 6" - 16" diameter	6" - 21" diameter 6" - 24" diameter
Inlet/Outlet Fitting Connections	3/4" - 1.25" Male BSPT	3/4" - 1.25" Male BSPT	3/4" - 1.25" Male BSPT
Valve Material Cycles Regeneration	Fiber Reinforced Composite Up to 6 Downflow/Upflow	Fiber Reinforced Composite Up to 6 Downflow/Upflow	Fiber Reinforced Composite Up to 6 Downflow/Upflow
Operating Pressures Operating Temperatures	1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C
Meter: Flow Rate Range	.95 - 102 lpm	.95 - 102 lpm	.95 - 129 lpm
Distributor Pilot	1.050" O.D. Pipe 3/4" NPS	1.050" O.D. Pipe 3/4" NPS	1.32" O.D. Pipe, 32mm O.D. 1" NPS
Drain Line Connection	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
Brine Line Connection	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
Mounting Base Options	2 1/2" - 8 NPSM	2 1/2" - 8 NPSM	2 1/2" - 8 NPSM
Height From Top of Tank	187mm	187mm	187mm
Shipping Weight	2 kg	7.25 kg	2 kg

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

Valves shown with optional bypass.

* Optional mixing valve available.

1.5" & 2" WATER SPECIALIST VALVE SPECIFICATIONS

			
WS1.5P CI, EI, SQ	WS1.5 CI, EI, SQ	WS2 CI, EI, SQ	WS2QC CI, EI, SQ
227 lpm (13.6 m ³ /h) (includes meter)	265 lpm (15.9 m ³ /h) (includes meter)	435 lpm (26.1 m ³ /h) (includes meter)	473 lpm (28.4 m ³ /h) (includes meter)
163 lpm (9.8 m ³ /h)	197 lpm (11.8 m ³ /h)	303 lpm (18.2 m ³ /h)	322 lpm (19.3 m ³ /h)
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" BSPT or NPT	1.5" Female BSPT or NPT	2" Female BSPT or NPT	2" Female BSPT or NPT
Fiber Reinforced Composite Up to 6 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
2 - 284 lpm	2 - 284 lpm	5.7 - 568 lpm	5.7 - 568 lpm
50mm O.D. or 1.90" O.D. Pipe	50mm O.D. or 1.90" O.D. Pipe	50mm O.D. or 1.90" O.D. Pipe	63mm O.D. or 2.375" O.D. Pipe
QC to 1.25" 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 and BSPT elbow ¾" x 1" Solvent elbow ½" O.D. Poly Tube Compression	1" Male NPT and BSPT 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
191mm	191mm	191mm	with 4" - 8 UN QC Base is 284.5mm with 6" Flange QC Base is 287mm
4.1 kg	9.5 kg	13 kg	14 kg

2" & 3" WATER SPECIALIST VALVE SPECIFICATIONS



SPECIFICATIONS

WS2H

WS3

Service @ 1 bar/15 psi drop Backwash @ 1.7 bar/25 psi drop	473 lpm, 28.4 m ³ /h (includes meter) 473 lpm, 28.4 m ³ /h	946 lpm, 56.8 m ³ /h (includes meter) 833 gpm, 50.0 m ³ /h
Tank Applications: Softener Filter (1)	18" - 63" diameter 18" - 48" diameter	18" - 96" diameter (1) 18" - 63" diameter
Inlet/Outlet Fitting Connections	2" Female BSPT or NPT	3" Female BSPT or NPT
Valve Material Cycles Regeneration	Lead Free Brass Up to 9 Downflow	Lead Free Brass Up to 9 Downflow
Operating Pressures Operating Temperatures	1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C
Meter: Flow Rate Range	5.7 - 473 lpm	13 - 1,325 lpm
Distributor Pilot	63mm O.D. Pipe or 2.375" O.D. Pipe	90mm or 3.5" O.D. Pipe
Drain Line Connection	2" Female BSPT or NPT	3" Female BSPT or NPT
Brine Line Connection	1" Male NPT and BSPT elbow 3/4" x 1" Solvent elbow	1" Male NPT and BSPT elbow 3/4" x 1" Solvent elbow
Mounting Base Options	Quick Disconnect 4" - 8 UN 6" Flange Side Mount	Quick Disconnect 6" Flange Side Mount
Height From Top of Tank	with 4" - 8 UN QC Base is 292mm with 6" Flange QC Base is 294.6mm	with 6" Flange QC Base is 318mm
Shipping Weight with Meter	22.7 kg	25.9 kg

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

SOLAR / BATTERY POWERED VALVES



WS1 SQ



WS1TT SQ



WS1.25 SQ



WS1.5 SQ



WS2 SQ



WS2QC SQ



SQ

AA Rechargeable Battery Pack

BATTERY SPECIFICATIONS

6 AA nickel metal hydride batteries rechargeable for SQ model
 Note: When disposing of batteries follow local and state regulations.



SQ RECHARGING OPTIONS

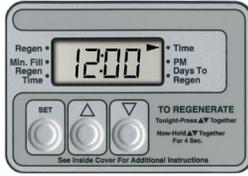
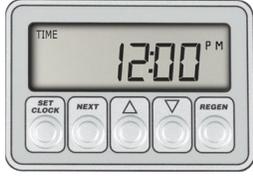
DC Power Supply

Solar Panel

SQ 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	TC	CI	EI
WS Valves Available	WS1, WS1.25	WS1, WS1.25	WS1, WS1.25, WS1.5P, WS1.5, WS2, WS2QC, WS1TT	WS1, WS1.25, WS1.5P, WS1.5, WS2, WS2QC, WS1TT
Display Type	LCD	LCD	LCD	LCD
Volume Range Liters m³ Gallons	20 - 50,000	N/A	.02 - 5,700	.02 - 5,700
Diagnostics/History	Yes	No	Yes	Yes
Comm. Cable Port	No	No	1	1
Cycle Codes	Created Based on Programming	Yes P0 - P9	No	No
Cycle Times Adjustable	No	No	Yes	Yes
DP Input	No	Yes	Yes	Yes
Motor Drive Output	No	No	1	1
"Relay Driver or Relay Output"	No	No	No	1 - Relay Driver
Remote Communications	No	No	No	No
External Programming	Configurator	Configurator	Configurator	Configurator
Data Extraction	No	No	No	No
Electrical Supply Voltage	200 to 240VAC	200 to 240VAC	200 to 240VAC	200 to 240VAC
Supply Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Voltage Output	15VDC	15VDC	15VDC	15VDC
Current Output	500 mA	500 mA	500 mA	500 mA
Systems Types				
Single	Yes	Yes	Yes	Yes
Alternate	No	No	2 Valves or SC	2 Valves or SC
Random	No	No	2 Valves or SC	2 Valves or SC
Series	No	No	2 Valves or SC	2 Valves or SC
Progressive Flow	No	No	System Controller	System Controller

CLACK CONTROLLER SPECIFICATIONS



SQ	WS2H & WS3			System Controller (SC)
	Pod	Main Board	Added System Board	
WS1, WS1.25, WS1.5, WS2, WS2QC, WS1TT	WS2H, WS3			WS1, WS1.25, WS1.5P, WS1.5, WS2, WS2QC
LCD	LCD Backlit	N/A	N/A	LCD Backlit
.02 - 5,700	50 - 5,000,000 B10 - 999,000			N/A
Yes	Yes			Yes
1	N/A	1	1	6
No	No			N/A
Yes	Yes			N/A
Yes	N/A	Yes	No	Yes
1	N/A	1	1	No
1 - Relay Driver	N/A	No	2 - Relays	2 - Relays
No	No			ModBus-TCP/IP
Configurator	No			Flash Drive
No	Yes			Yes
6 "AA" Rechargeable Nickel Metal Hydride Batteries	240VAC			200-240VAC
50/60Hz 15VDC 500 mA	60Hz 18VDC 750 mA			50/60Hz 15VDC 0.5A
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 • NPT
V3045BSPT or V3045BSPT-15 • BSPT

1.5" Plastic Meter QC



Order No. V3045QC or V3045QC-15

1.5" Stainless Steel Meter



V3040 (28") • V3040-15 (15') • NPT
V3040BSPT (28") • V3040BSPT-15 (15') • BSPT

2.0" Stainless Steel Meter



V3094 (28") • V3094-15 (15') • NPT
V3094BSPT (28") • V3094BSPT-15 (15') • BSPT

3.0" Stainless Steel Meter



V3095 (48") • V3095-15 (15') • NPT
V3095BSPT (48") • V3095BSPT-15 (15') • BSPT

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 • NPT | V3079BSPT • BSPT
9.0 to 85.0 GPM
Up to 6 - 3/4" & 1 - 1" Flow Washers

1.5" DLFC



Order No. V3080 • NPT | V3080BSPT • BSPT
9.0 to 85 GPM
Up to 6 - 3/4" & 1 - 1" Flow Washers

2" DLFC



Order No. V3051 • NPT | V3051BSPT • BSPT
7.0 to 150 GPM
Up to 5 - 3/4" & 4 - 1" Flow Washers

3" DLFC



Order No. V3764 • NPT | V3764BSPT • BSPT
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



Control Valve Accessories

WS1.5P QC X 1.5"



Order No. V4430-01 • NPT
Order No. V4430-02 • BSPT

WS1.5P QC X QC



Order No. V4430-03

WS2H/2QC 2" Side Mount Base Assembly



Order No. V3260-02 • NPT
Order No. V3260BSPT-02 • BSPT

WS3 Side Mount Base Assembly



Order No. V3674-02 • NPT
Order No. V3674BSPT-02 • BSPT

WS2H/WS2QC Flange Base Assembly



Order No. V3055

WS3 Flange Base Assembly



Order No. V3090

Control Valve Accessories

WS1 Adapter Australian - Outdoor



Order No. V3186AUS-05OD

WS1 Adapter European



Order No. V3186EU-06

WS1 Adapter European - Outdoor



Order No. V3186EU-05OD

WS1 Adapter United Kingdom



Order No. V3186UK-06

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
Order No. V3071BSPT • BSPT

1.5"
No Hard Water Bypass Valve



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

2" and 3" Control Valve Accessories

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"
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