

## **Control Valves, Fittings and Accessories**

INTERNATIONAL



#### WS1CI TWIN TANK WS1EI TWIN TANK

106 lpm • 6.36 m³/h • 28 gpm



#### WS1.5 EI TWIN TANK WS1.5 CI TWIN TANK

204 lpm • 12.3 m3/h • 54 gpm



WS2HF 624 lpm • 37 m³/h 165 gpm



946 lpm • 56.8 m³/h 250 gpm



WS1.5PCI WS1.5PEI 227 lpm • 13.6 m³/h 60 gpm



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



WS2PCI WS2PEI 359 lpm • 21.6 m³/h 95 gpm



WS2GI WS2EI 435 lpm • 26.1 m³/h 115 gpm



WS2EI/QG\* WS2GI/QG\* 473 lnm • 28.4 m³/h

473 lpm • 28.4 m³/h 125 gpm



WS1.25\*
129 lpm • 7.7 m³/h
34 gpm



WS1.25CI\*
129 lpm • 7.7 m³/h
34 gpm



WS1.25EI\*
129 lpm • 7.7 m³/h
34 qpm



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" AND 1.25" WATER SPECIALIST VALVE SPECIFICATIONS









<b>SPECIFICATIONS</b>	<b>WS1</b> * ws1, ci, Ei, sq, Tc	WS1TT CI, EI	<b>WS1.25</b> * ws1, ci, Ei, TC
Service @ 1 bar/15 psi drop	102 lpm, 6.1 m³/h, 27 gpm (includes meter and bypass)	106 lpm, 6.36 m³/h, 28 gpm (includes meter and bypass)	129 lpm, 7.7 m³/h, 34 gpm (includes meter, bypass, and 1.25" fitting kit)
Backwash @ 1.7 bar/25 psi drop	102 lpm, 6.1 m³/h, 27 gpm (includes bypass)	57 lpm, 3.4 m³/h, 15 gpm (includes bypass)	121 lpm, 7.3 m³/h, 32 gpm (includes bypass)
Tank Applications:			
Softener	6" - 21" diameter	6" - 21" diameter	6" - 21" diameter
Filter (1)	6" - 21" diameter 6" - 16" diameter		6" - 24" diameter
Inlet/Outlet Fitting Connections (2)	³⁄₄" - 1.25" Male BSPT	³⁄₄" - 1.25" Male BSPT	³¼" - 1.25" Male BSPT
Valve Material	Glass Filled Composite	Glass Filled Composite	Glass Filled Composite
Cycles	Up to 6	Up to 6	Up to 6
Regeneration	Downflow/Upflow	Downflow/Upflow	Downflow/Upflow
Operating Pressures	1.4 - 8.6 bar	1.4 - 8.6 bar	1.4 - 8.6 bar
Operating Temperatures	4° - 43° C	4° - 43° C	4° - 43° C
Meter:			
Flow Rate Range	.95 - 102 lpm	.95 - 102 lpm	.95 - 129 lpm
Distributor Pilot	1.050" O.D. Pipe <sup>3</sup> ⁄ <sub>4</sub> " NPS	1.050" O.D. Pipe <sup>3</sup> ⁄ <sub>4</sub> " 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" Brine QC Fitting 1/2" O.D. Poly Tube Compression	%" Brine QC Fitting ½" O.D. Poly Tube Compression	3/8" Brine QC Fitting 1/2" O.D. Poly Tube Compression
Mounting Base Options	2½" - 8 NPSM	2½" - 8 NPSM	2½" - 8 NPSM
Height From Top of Tank	187mm	187mm	187mm
Shipping Weight	2 kg	7.25 kg	2 kg
Certifications and Optional Third-Party Testing	NSF/ANSI 44 NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP54 IP55 with Weather Cover	NSF/ANSI 44 NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP54 IP55 with Weather Cover	NSF/ANSI 44 NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP54 IP55 with Weather Cover

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

<sup>2.</sup> See pages 10 and 11 for all available fittings for WS1, WS1TT, and WS1.25 See pages 12 for all available fittings for WS1.5P and WS1.5TT

<sup>\*</sup> Optional mixing valve available. Valves shown with optional bypass.

#### 1.5" WATER SPECIALIST VALVE SPECIFICATIONS







WS1.5P CI, EI, SQ	<b>WS1.5</b> CI, EI, SQ	WS1.5TT ci, Ei
227 lpm, 13.6 m³/h, 60 gpm (includes meter)	265 lpm, 15.9 m³/h, 70 gpm (includes meter)	204 lpm, 12.3 m³/h, 54 gpm (includes meter)
163 lpm, 9.8 m³/h, 43 gpm	197 lpm, 11.8 m³/h, 52 gpm	83 lpm, 4.9 m³/h, 22 gpm
12" - 24" diameter 12" - 24" diameter	12" - 24" diameter 12" - 30" diameter	12"- 24" diameter 12"- 18" diameter
QC to 1.5" Male BSPT or NPT Elbow QC to 1.5" Male BSPT or NPT Straight	1.5" Female BSPT or NPT	QC to 1.5" Male BSPT or NPT Elbow QC to 1.5" Male BSPT or NPT Straight
Glass Filled Composite Up to 6 Downflow/Upflow	Lead Free Brass Up to 9 Downflow/Upflow	Glass Filled Composite Up to 9 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
2 - 284 lpm	2 - 284 lpm	2 - 284 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
QC to 1" NPT Elbow QC to 1.5" NPT Straight	1.25" Female NPT with ¾" Male NPT Standard 1" Male NPT Optional	QC to 1" BSPT or NPT Elbow QC to 1.5" BSPT or NPT Straight
½" O.D. Poly Tube Compression	½" O.D. Poly Tube Compression	½" O.D. Poly Tube Compression
4" - 8 UN	4" - 8 UN	4" - 8 UN
191mm	191mm	280mm
4.1 kg	9.5 kg	8.1 kg
NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP54 IP55 with Weather Cover	NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP54 IP55 with Weather Cover	NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP54 IP55 with Weather Cover

#### 2" WATER SPECIALIST VALVE SPECIFICATIONS









<u>SPECIFICATIONS</u>	WS2P	WS2	WS2QC
	CI, EI	CI, EI	ci, Ei
Service @ 1 bar / 15 psi drop	359 lpm, 21.6 m³/h, 95 gpm	435 lpm, 26.1 m³/h, 115 gpm	473 lpm, 28.4 m³/h, 125 gpm
	(includes meter)	(includes meter)	(includes meter)
Backwash @ 1.7 bar / 25 psi drop	322 lpm, 19.3 m³/h, 85 gpm	303 lpm, 18.2 m³/h, 80 gpm	322 lpm, 19.3 m³/h, 85 gpm
Tank Applications: Softener Filter (1)	12"- 36" diameter	12"- 48" diameter	12" - 48" diameter
	12"- 36" diameter	12"- 36" diameter	12" - 36" diameter
Inlet/Outlet Fitting Connections	QC to 2.0" Male BSPT or NPT Elbow QC to 2.0" Male BSPT or NPT Straight	2" Female BSPT or NPT	2" Female BSPT or NPT
Valve Material	Glass Filled Composite Up to 6 Downflow/Upflow	Lead Free Brass	Lead Free Brass
Cycles		Up to 6	Up to 6
Regeneration		Downflow/Upflow	Downflow/Upflow
Operating Pressures Operating Temperatures	1.4 - 8.6 bar	1.4 - 8.6 bar	1.4 - 8.6 bar
	4° - 43° C	4° - 43° C	4° - 43° C
Meter: Flow Rate Range	5.7 - 568 lpm	5.7 - 568 lpm	5.7 - 568 lpm
Distributor Pilot	50mm O.D. or 1.90" O.D.	50mm O.D. or 1.90" O.D.	63mm O.D. or 2.375"
	Pipe	Pipe	O.D. Pipe
Drain Line Connection	QC x 2.0" Male BSPT or NPT Elbow	1.5" Female NPT	1.5" Female NPT
Brine Line Connection	1" Male NPT and BSPT	1" Male NPT and BSPT	1" Male NPT and BSPT
	elbow	elbow	elbow
	3/4" x 1" Solvent elbow	3/4" x 1" Solvent elbow	¾" x 1" Solvent elbow
	1/2" O.D. Poly Tube	1/2" O.D. Poly Tube	½" O.D. Poly Tube
	Compression	Compression	Compression
Mounting Base Options	4" - 8 UN	4" - 8 UN	Quick Disconnect 4" - 8 UN 6" Flange Side Mount
Height From Top of Tank	317.5mm or 12.5"	191mm	with 4" - 8 UN QC Base is 284.5mm with 6" Flange QC Base is 287mm
Shipping Weight	4.98 kg or 11 lb	13 kg	14 kg
Certifications and Optional Third-Party Testing	NSF/ANSI/CAN 61	NSF/ANSI/CAN 61	NSF/ANSI/CAN 61
	NSF/ANSI/CAN 372	NSF/ANSI/CAN 372	NSF/ANSI/CAN 372
	IP54	IP54	IP54
	IP55 with Weather Cover	IP55 with Weather Cover	IP55 with Weather Cover

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

<sup>2. 18&</sup>quot; - 63" diameter with standard injectors, to 96" with Brine Pump

#### 2" AND 3" WATER SPECIALIST VALVE SPECIFICATIONS





WS2HF	WS3		
624 lpm, 37 m³/h , 165 gpm (includes meter)	946 lpm, 56.8 m³/h, 250 gpm (includes meter)		
662 lpm, 39 m³/h, 175 gpm	833 gpm, 50.0 m³/h, 220 gpm		
18" - 63" diameter 18" - 54" diameter	18" - 96" diameter (2) 18" - 63" diameter		
2" Female BSPT or NPT	3" Female BSPT or NPT		
Lead Free Brass Up to 9 Downflow	Lead Free Brass Up to 9 Downflow		
1.4 - 8.6 bar 4° - 43° C	1.4 - 8.6 bar 4° - 43° C		
5.68 - 568 lpm	13 - 1,325 lpm		
63mm or 2.375" O.D. Pipe	90mm or 3.5" O.D. Pipe		
2" Female BSPT or NPT	3" Female BSPT or NPT		
1" Male NPT and BSPT elbow 3/4" x 1" Solvent elbow	1" Male NPT and BSPT elbow 3/4" x 1" Solvent elbow		
Quick Disconnect 4" - 8 UN 6" Flange Side Mount	Quick Disconnect 6" Flange Side Mount		
with 4" - 8 UN QC Base is 287.02mm with 6" Flange QC Base is 289.56mm	with 6" Flange QC Base is 318mm		
22.7 kg (No Meter)	25.9 kg		
NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP52	NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP52		

#### **CLACK CONTROLLER SPECIFICATIONS**











SPECIFICATIONS	WS1	тс	CI	El
WS Valves Available	WS1, WS1.25	WS1, WS1.25	WS1, WS1TT, WS1.25, WS1.5P, WS1.5TT, WS1.5, WS2P, WS2, WS2QC	WS1, WS1TT, WS1.25, WS1.5P, WS1.5TT, WS1.5, WS2P, WS2, WS2QC
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
Data Extraction	No	No	No	No
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 Voltage Output Current Output	50/60Hz 15VDC 500 mA	50/60Hz 15VDC 500 mA	50/60Hz 15VDC 500 mA	50/60Hz 15VDC 500 mA
Systems Types Single Alternate Random Series Progressive Flow	Yes No No No No	Yes No No No No	Yes 2 Valves or SC 2 Valves or SC 2 Valves or SC System Controller	Yes 2 Valves or SC 2 Valves or SC 2 Valves or SC System Controller

#### **CLACK CONTROLLER SPECIFICATIONS**











60	WS2HF & WS3			System
SQ	Pod	Main Board	Relay Expansion Board	Controller (SC)
WS1, WS1.5	WS2HF, WS3			WS1, WS1.25, WS1.5P, WS1.5, WS2P, WS2, WS2QC
LCD	Monochrome Graphics	N/A	N/A	Monochrome Graphics
.02 - 5,700	50 - 5,000,000 10 - 999,000			N/A
Yes		Yes		Yes
No		Yes		Yes
1	N/A	RJ45 Input & Output	N/A	8
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	Add Relay Expansion Board (Max - 2 Boards)	2 - Relays per board	2 - Relays
No	Modbus-TCP/IP			ModBus-TCP/IP
Configurator	Flash Drive (update only)			Flash Drive (update only)
No	Yes			Yes
6 AA Rechargable Nickel Metal Hydride Batteries	100-240VAC			100-240VAC
50/60Hz 15VDC 500 mA	50/60Hz 24VDC 800 mA			50/60Hz 15VDC 0.5A
Yes No 2 Valves 2 Valves No	N/A	Yes 2-16 Valves 2-16 Valves 2-16 Valves 2-16 Valves	N/A	Water Monitor 2 - 8 Valves* 2 - 8 Valves* 2 - 8 Valves* 2 - 8 Valves*

<sup>\*</sup> Ability to set up 1 or 2 systems with up to 8 valves total.

### **Inline Flow Meters**























## **Drain Line Flow Controls**









9.0 to 25.0 GPM

1 - 1" Flow Washer







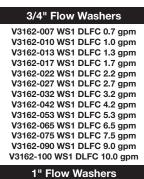












#### V3190-090 WS1 DLFC 09.0 gpm V3190-100 WS1 DLFC 10.0 gpm V3190-110 WS1 DLFC 11.0 gpm V3190-130 WS1 DLFC 13.0 gpm V3190-150 WS1 DLFC 15.0 gpm V3190-170 WS1 DLFC 17.0 gpm V3190-200 WS1 DLFC 20.0 gpm V3190-250 WS1 DLFC 25.0 gpm

## 1" and 1.25" Control Valve Fittings

























## 1" and 1.25" Control Valve Fittings



















## 1" and 1.25" Control Valve Accessories

















## 1.5" and 2" Control Valve Fittings

WS1.5P, WS1.5TT, 1.5"P MAV, 1.5"P NBV, 1.5"P Meter













#### WS2P, 2"P MAV, 2"P NBV, 2"P Meter





























































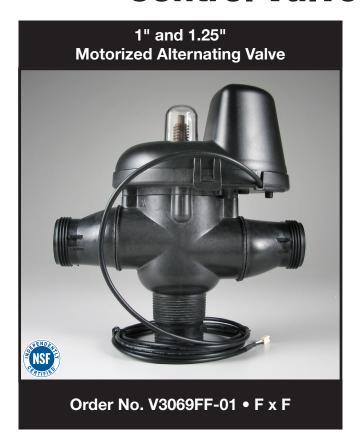




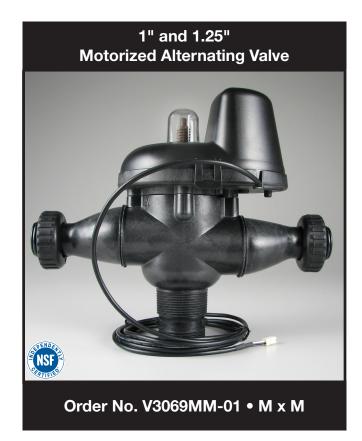


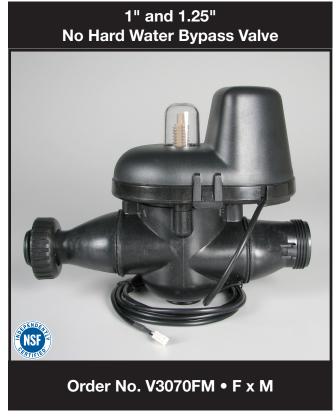


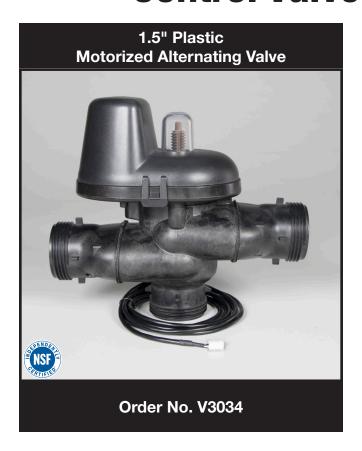
# 1" and 1.25" Control Valve Accessories





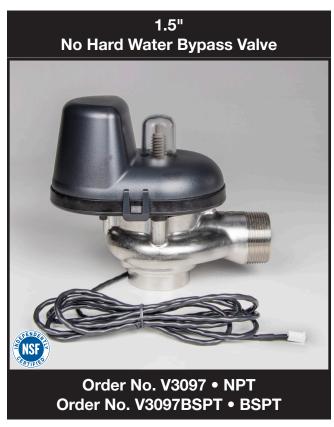












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