

# Clack®

## Control Valves, Fittings, and Accessories



**WS2HF**  
165 gpm



**WS3**  
250 gpm



**WS2PEE**  
95 gpm



**WS2EE**  
**WS2SP**  
115 gpm



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



**WS1.5EE TWIN**  
54 gpm



**WS1.5PEE**  
60 gpm



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



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



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



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



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



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



**WS1TC\***  
27 gpm



**WS1EE TWIN**  
28 gpm

\*valves shown with optional accessories

# 1" & 1.25" WATER SPECIALIST VALVE SPECIFICATIONS



SPECIFICATIONS			
	WS1 WS1, CS, EE, SD, SP, TC	WS1TT EE, SD, SP	WS1.25 WS1, CS, EE, SP, TC
<b>Service @ 15 psi drop</b>	27 gpm (includes meter and bypass)	28 gpm (includes meter and bypass)	34 gpm (includes meter, bypass, and 1.25" fitting kit)
<b>Backwash @ 25 psi drop</b>	27 gpm (includes bypass)	15 gpm (includes bypass)	32 gpm (includes bypass)
<b>Tank Applications:</b>			
<b>Softener</b>	6" - 21" diameter	6" - 21" diameter	6" - 21" diameter
<b>Filter (1)</b>	6" - 21" diameter	6" - 16" diameter	6" - 24" diameter
<b>Inlet/Outlet Fitting Connections (2)</b>	1" - 1.25" NPT ¾" - 1.5" Sweat ¾" - 1.5" Solvent ¾" - 1" SharkBite® ¾" - 1" John Guest®	1" - 1.25" NPT ¾" - 1.5" Sweat ¾" - 1.5" Solvent ¾" - 1" SharkBite® ¾" - 1" John Guest®	1" - 1.25" NPT ¾" - 1.5" Sweat ¾" - 1.5" Solvent ¾" - 1" SharkBite® ¾" - 1" John Guest®
<b>Valve Material</b>	Glass Filled Composite	Glass Filled Composite	Glass Filled Composite
<b>Cycles</b>	Up to 6	Up to 6	Up to 6
<b>Regeneration</b>	Downflow/Upflow	Downflow/Upflow	Downflow/Upflow
<b>Operating Pressures</b>	20 - 125 psi	20 - 125 psi	20 - 125 psi
<b>Operating Temperatures</b>	40° - 110° F	40° - 110° F	40° - 110° F
<b>Meter:</b>			
<b>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 ¾" NPS	1.050" O.D. Pipe ¾" NPS	1.32" O.D. Pipe 1" NPS
<b>Drain Line Connection</b>	¾" Male NPT Standard 1" Male NPT Optional	¾" Male NPT Standard 1" Male NPT Optional	¾" Male NPT Standard 1" Male NPT Optional
<b>Brine Line Connection</b>	⅜" Brine QC Fitting ½" O.D. Poly Tube Compression	⅜" Brine QC Fitting ½" O.D. Poly Tube Compression	⅜" Brine QC Fitting ½" O.D. Poly Tube Compression
<b>Mounting Base Options</b>	2½" - 8 NPSM	2½" - 8 NPSM	2½" - 8 NPSM
<b>Height From Top of Tank</b>	7⅜"	7⅜"	7⅜"
<b>Shipping Weight</b>	4.5 lb	16 lb	4.5 lb
<b>Certifications and Optional Third-Party Testing</b>	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

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

2. 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

Valves shown with optional bypass.

# 1.5" WATER SPECIALIST VALVE SPECIFICATIONS



**WS1.5P**  
EE

**WS1.5**  
EE, SP

**WS1.5TT**  
EE

60 gpm (includes meter) 43 gpm	70 gpm (includes meter) 52 gpm	54 gpm (includes meter) 22 gpm
12" - 24" diameter 12" - 24" diameter	12" - 24" diameter 12" - 24" diameter	12" - 24" diameter 12" - 18" diameter
QC to 1.5" Male NPT Elbow QC to 1.5" Male NPT Straight	1.5" Female NPT	QC to 1.5" Male NPT Elbow QC to 1.5" Male NPT Straight
Glass Filled Composite Up to 6 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow	Glass Filled Composite Up to 6 Downflow/Upflow
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	0.5 - 75 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
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" NPT Elbow
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
10.7"	9.5"	11"
9 lb	21 lb	18 lb
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



SPECIFICATIONS	WS2P EE	WS2 EE, SP	WS2QC EE, SP
<b>Service @ 15 psi drop</b>	95 gpm (includes meter)	115 gpm (includes meter)	125 gpm (includes meter)
<b>Backwash @ 25 psi drop</b>	85 gpm	80 gpm	85 gpm
<b>Tank Applications: Softener Filter (1)</b>	12" - 36" diameter 12" - 36" diameter	12" - 48" diameter 12" - 36" diameter	12" - 48" diameter 12" - 36" diameter
<b>Inlet/Outlet Fitting Connections</b>	QC to 2.0" Male NPT Elbow QC to 2.0" Male NPT Straight	2" Female NPT	2" Female NPT
<b>Valve Material Cycles Regeneration</b>	Glass Filled Composite Up to 6 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow	Lead Free Brass 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>	1.5 - 150 gpm	1.5 - 150 gpm	1.5 - 150 gpm
<b>Distributor Pilot</b>	1.90" O.D. Pipe 1.5" NPS	1.90" O.D. Pipe 1.5" NPS	2.375" O.D. Pipe 2" NPS
<b>Drain Line Connection</b>	QC x 2.0" Male NPT Elbow	1.5" Female NPT	1.5" Female NPT
<b>Brine Line Connection</b>	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	1" Male NPT elbow ¾" x 1" Solvent elbow ½" O.D. Poly Tube Compression
<b>Mounting Base Options</b>	4" - 8 UN	4" - 8 UN	Quick Disconnect 4" - 8 UN 6" Flange Side Mount
<b>Height From Top of Tank</b>	12.5"	7.5"	with 4" - 8 UN QC Base is 11.2" with 6" Flange QC Base is 11.3"
<b>Shipping Weight</b>	14 lb	29 lb	29 lb
<b>Certifications and Optional Third-Party Testing</b>	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

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

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



## 2" & 3" WATER SPECIALIST VALVE SPECIFICATIONS



**WS2HF**

**WS3**

165 gpm (includes meter)

250 gpm (includes meter)

175 gpm

220 gpm

18" - 63" diameter  
18" - 54" diameter

18" - 96" diameter (2)  
18" - 63" diameter

2" Female NPT

3" Female NPT

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

1.5 - 150 gpm

3.5 - 350 gpm

2.375" O.D. Pipe  
2" NPS

3.5" O.D. Pipe  
3" NPS

2" Female NPT

3" Female NPT

1" Male NPT elbow  
¾" x 1" Solvent elbow

1" Male NPT elbow  
¾" 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 11.3"  
with 6" Flange QC Base is 11.4"

with 6" Flange QC Base is 12.5"

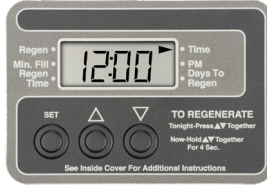
48 lb (no meter)

57 lb (no meter)

NSF/ANSI/CAN 61  
NSF/ANSI/CAN 372  
IP52

NSF/ANSI/CAN 61  
NSF/ANSI/CAN 372  
IP52

# CLACK CONTROLLER SPECIFICATIONS



## SPECIFICATIONS

### WS1

### CS

### TB/TC

### EE

#### WS Valves Available

WS1, WS1.25

WS1, WS1.25

WS1, WS1.25

WS1, WS1TT, WS1.25, WS1.5P, WS1.5TT, WS1.5, WS2P, WS2, WS2QC

#### Display Type

LCD

LCD

LCD

LCD

#### Volume Range (Gallons)

20 - 50,000

20 - 50,000

N/A

20 - 1,500,000

#### Diagnostics/History

Yes

Yes

No

Yes

#### Data Extraction

No

No

No

No

#### Comm. Cable Port

No

No

No

1

#### Cycle Codes

Created Based on Programming

Yes  
P1 - P91

Yes  
P0 - P9

No

#### Cycle Times Adjustable

No

No

No

Yes

#### DP Input

No

No

Yes

Yes

#### Motor Drive Output

No

No

No

1

#### Relay Driver or Relay Output

No

No

No

1 - Relay Driver

#### Remote Communications

No

No

No

No

#### External Programming

Configurator

Configurator

Configurator

Configurator

#### Electrical Supply Voltage

100 to 120VAC

100 to 120VAC

100 to 120VAC

100 to 120VAC

#### 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


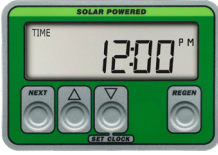


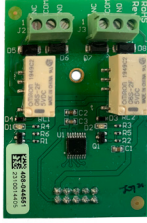

Yes  
No  
No  
No  
No

Yes  
No  
No  
No  
No

Yes  
No  
No  
No  
No

Yes  
2 Valves or SC  
2 Valves or SC  
2 Valves or SC  
System Controller

# CLACK CONTROLLER SPECIFICATIONS

					
SD	SP	WS2HF & WS3			System Controller (SC)
		Pod	Main Board	Relay Expansion Board	
WS1, WS1TT	WS1, WS1TT, WS1.25, WS1.5, WS2, WS2QC	WS2HF, WS3			WS1, WS1.25, WS1.5P, WS1.5, WS2P, WS2, WS2QC
LCD	LCD	Monochrome Graphics	N/A	N/A	Monochrome Graphics
20 - 1,500,000	20 - 1,500,000	10 - 999,000			N/A
Yes	Yes	Yes			Yes
No	No	Yes			Yes
1	1	N/A	RJ45 Input & Output	N/A	8
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	Add Relay Expansion Board (Max - 2 Boards)	2 - Relays per board	2 - Relays
No	No	Modbus-TCP/IP			Modbus-TCP/IP
Configurator	Configurator	Flash Drive (update only)			Flash Drive (update only)
6 D Batteries 50/60Hz 15VDC 500 mA	6 AA Rechargeable Nickel Metal Hydride Batteries 50/60Hz 15VDC 500 mA	100 to 120VAC 50/60Hz 24VDC 800 mA			120VAC 50/60Hz 15VDC 0.5A
Yes No 2 Valves 2 Valves No	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*

\* Ability to set up 1 or 2 systems with up to 8 valves total.

# 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

**2.0" Plastic Meter**



Order No. V3048 or V3048-15

**2.0" Plastic Meter QC**



Order No. V3048QC or V3048QC-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 Asy 4'**



Order No. V4039

**WS Remote Meter Asy 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" and 1.25" Control Valve Fittings



# 1" and 1.25" Control Valve Fittings





# 1" and 1.25" Control Valve Accessories

**Bypass**



Order No. V3006

**Mixing Valve**



Order No. V4099

**Twin Interconnect Kit - 12"-21"**



Order No. V4052-01

**Inline Adapter Kit**



Order No. V3467

**Inline Bypass w/1" Sweat Fittings**



Order No. V3478

**Inline Bypass w/3/4" Sweat Fittings**



Order No. V3478-01

**Air Blocker 1.050"**



Order No. D1047

**Riser Hold Down Clamp 1.050"**



Order No. D1301



# 1.5" and 2" Control Valve Fittings

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

QC x 1.5" NPT Stainless Steel



Order No. V4430-11

QC x 1.5" NPT Plastic



Order No. V4430-01

QC x QC Plastic



Order No. V4430-03

QC x 1.5" NPT Plastic Elbow



Order No. V4430-07

QC x QC Plastic Elbow



Order No. V4430-09

1.5" and 2" PVC Solvent



Coming 4th Quarter 2024

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

QC x 2" NPT Stainless Steel



Order No. V4460-11

QC x 2" NPT Plastic



Order No. V4460-01

QC x QC Plastic



Order No. V4460-03

QC x 2" NPT Plastic Elbow



Order No. V4460-04

QC x QC Plastic Elbow



Order No. V4460-06

2" PVC Solvent



Coming 4th Quarter 2024

# Control Valve Accessories

WS2H/WS2HF/WS2QC 4" #8 Adapter



Order No. V3064

WS2H/WS2HF/WS2QC 2" Side Mount Base



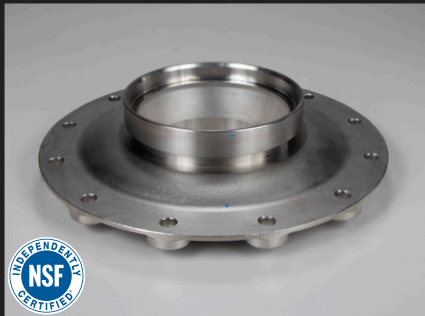
Order No. V3260-02 • NPT

WS3 Side Mount Base



Order No. V3674-02 • NPT

WS2H/WS2QC/WS2QC Flange Base



Order No. V3055

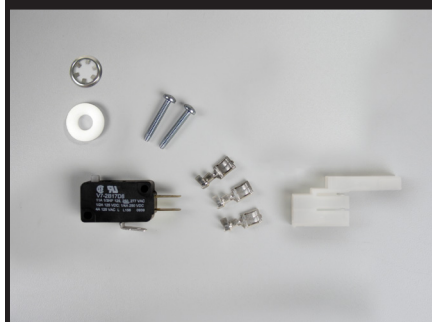
WS3 Flange Base



Order No. V3090

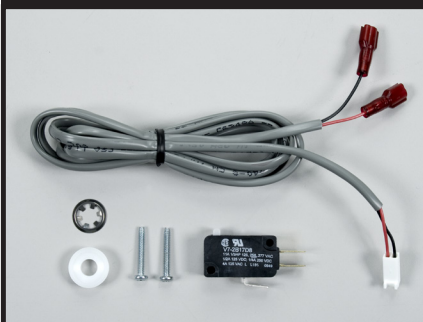
# Control Valve Accessories

**Auxiliary Microswitch Kit**



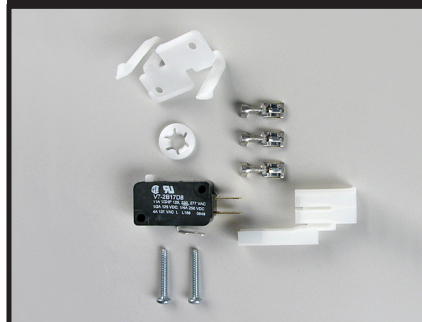
**Order No. V3009**

**WS1 Series Microswitch Assembly**



**Order No. V3014**

**WS2 Auxiliary Switch Kit**



**Order No. V3017**

**Cat 5e Cable**



**Order No. V4470-15**

**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 - WS1.25 - WS1.5P - 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" and 1.25"

## Control Valve Accessories

1" and 1.25"  
Motorized Alternating Valve



Order No. V3069FF-01 • F x F

1" and 1.25"  
No Hard Water Bypass Valve



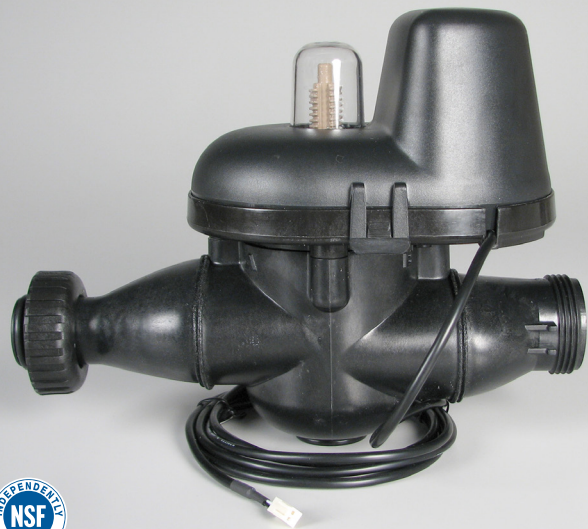
Order No. V3070FF • F x F

1" and 1.25"  
Motorized Alternating Valve



Order No. V3069MM-01 • M x M

1" and 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"

## Control Valve Accessories

**2" Plastic  
Motorized Alternating Valve**



**Order No. V3036**

**2" Plastic  
No Hard Water Bypass Valve**



**Order No. V3037**

**2"  
Motorized Alternating Valve**



**Order No. V3076 • NPT**

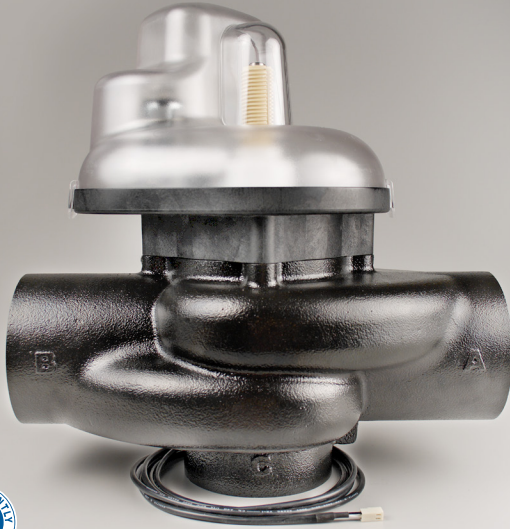
**2"  
No Hard Water Bypass Valve**



**Order No. V3098 • NPT**

# 3" Control Valve Accessories

3"  
Motorized Alternating Valve



Order No. V3083 • NPT

3"  
No Hard Water Bypass Valve



Order No. V3099 • NPT