

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



WS1.5PBEE
48 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

Service @ 15 psi drop	27 gpm (includes meter and bypass)	28 gpm (includes meter and bypass)	34 gpm (includes meter, bypass, and 1.25" fitting kit)
Backwash @ 25 psi drop	27 gpm (includes bypass)	15 gpm (includes bypass)	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)	1" - Press/Sweat 1" - 1.25" NPT ¾" - 1.5" Sweat ¾" - 1.5" Solvent ¾" - 1" SharkBite® ¾" - 1" John Guest®	1" - Press/Sweat 1" - 1.25" NPT ¾" - 1.5" Sweat ¾" - 1.5" Solvent ¾" - 1" SharkBite® ¾" - 1" John Guest®	1" - Press/Sweat 1" - 1.25" NPT ¾" - 1.5" Sweat ¾" - 1.5" Solvent ¾" - 1" SharkBite® ¾" - 1" John Guest®
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	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	0.25 - 34 gpm
Distributor Pilot	1.050" O.D. Pipe ¾" NPS	1.050" O.D. Pipe ¾" NPS	1.32" O.D. Pipe 1" NPS
Drain Line Connection	¾" Male NPT Standard 1" Male NPT Optional	¾" Male NPT Standard 1" Male NPT Optional	¾" Male NPT Standard 1" Male NPT Optional
Brine Line Connection	¾" Brine QC Fitting ½" O.D. Poly Tube Compression	¾" Brine QC Fitting ½" O.D. Poly Tube Compression	¾" Brine QC Fitting ½" O.D. Poly Tube Compression
Mounting Base Options	2½" - 8 NPSM	2½" - 8 NPSM	2½" - 8 NPSM
Height From Top of Tank	7⅝"	7⅝"	7⅝"
Shipping Weight	4.5 lb	16 lb	4.5 lb
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

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 page 14 for all available fittings and accessories for WS1.5P and WS1.5TT

Valves shown with optional bypass.

1.5" WATER SPECIALIST VALVE SPECIFICATIONS



WS1.5PB
EE

WS1.5TT
EE

WS1.5P
EE

WS1.5
EE, SP

48 gpm (includes bypass) 43 gpm	54 gpm (includes meter) 22 gpm	60 gpm (includes meter) 43 gpm	70 gpm (includes meter) 52 gpm
12" - 24" diameter 12" - 24" diameter	12" - 24" diameter 12" - 18" diameter	12" - 24" diameter 12" - 24" diameter	12" - 24" diameter 12" - 24" diameter
QC to 1.5" Male NPT Elbow QC to 1.5" Male NPT Straight QC to 1.5"/2" Solvent	QC to 1.5" Male NPT Elbow QC to 1.5" Male NPT Straight QC to 1.5"/2" Solvent	QC to 1.5" Male NPT Elbow QC to 1.5" Male NPT Straight QC to 1.5"/2" Solvent	1.5" Female NPT
Glass Filled Composite Up to 6 Downflow/Upflow	Glass Filled Composite Up to 6 Downflow/Upflow	Glass Filled Composite 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	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	1.90" O.D. Pipe 1.5" NPS
QC to 1" NPT Elbow QC to 1.5" NPT Straight	QC to 1" NPT Elbow	QC to 1" NPT Elbow QC to 1.5" NPT Straight	1.25" Female NPT with 3/4" Male NPT Standard 1" Male NPT Optional
1/2" O.D. Poly Tube Compression	1/2" O.D. Poly Tube Compression	1/2" O.D. Poly Tube Compression	1/2" O.D. Poly Tube Compression
4" - 8 UN	4" - 8 UN	4" - 8 UN	4" - 8 UN
10.7"	11"	10.7"	9.5"
11 lb (without bypass)	18 lb	9 lb	21 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	NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP54 IP55 with Weather Cover

2" WATER SPECIALIST VALVE SPECIFICATIONS



2" WATER SPECIALIST VALVE SPECIFICATIONS			
SPECIFICATIONS	WS2P EE	WS2 EE, SP	WS2QC EE, SP
Service @ 15 psi drop	95 gpm (includes meter)	115 gpm (includes meter)	125 gpm (includes meter)
Backwash @ 25 psi drop	85 gpm	80 gpm	85 gpm
Tank Applications: Softener Filter (1)	12" - 48" diameter 12" - 36" diameter	12" - 48" diameter 12" - 36" diameter	12" - 48" diameter 12" - 36" diameter
Inlet/Outlet Fitting Connections	QC to 2.0" Male NPT Elbow QC to 2.0" Male NPT Straight QC to 2.0" Solvent	2" Female NPT	2" Female NPT
Valve Material Cycles Regeneration	Glass Filled Composite Up to 6 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow	Lead Free Brass Up to 6 Downflow/Upflow
Operating Pressures Operating Temperatures	20 - 125 psi 40° - 110°F	20 - 125 psi 40° - 110°F	20 - 125 psi 40° - 110°F
Meter: Flow Rate Range	1.5 - 150 gpm	1.5 - 150 gpm	1.5 - 150 gpm
Distributor Pilot	1.90" O.D. Pipe 1.5" NPS	1.90" O.D. Pipe 1.5" NPS	2.375" O.D. Pipe 2" NPS
Drain Line Connection	QC x 2.0" Male NPT Elbow	1.5" Female NPT	1.5" Female NPT
Brine Line Connection	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
Mounting Base Options	4" - 8 UN	4" - 8 UN	Quick Disconnect 4" - 8 UN 6" Flange Side Mount
Height From Top of Tank	12.5"	7.5"	with 4" - 8 UN QC Base is 11.2" with 6" Flange QC Base is 11.3"
Shipping Weight	14 lb	29 lb	29 lb
Certifications and Optional Third-Party Testing	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" & 3" WATER SPECIALIST VALVE SPECIFICATIONS



WS2HF

WS3

165 gpm (includes meter) 175 gpm	250 gpm (includes meter) 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

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

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, WS1.5PB, 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


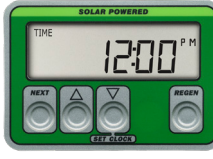


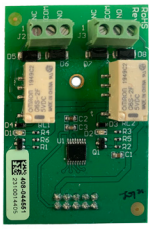

Yes
No
No
No
No

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, WS1.5PB, 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

3/4" Plastic Male BSPT Assembly



3/4" John Guest® QC Elbow Assembly



1" Plastic Male BSPT Elbow Assembly



1" John Guest® QC Asy



3/4" Plastic Male NPT Asy



3/4" John Guest® QC Asy



1" John Guest® Fitting Elbow Asy



Vertical Elbow Union Adapter Kit Asy



1" Brass Press/Sweat Asy LF



Vertical Elbow Adapter Kit Asy



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

Air Blocker 1.320"



Order No. D1047-01

Riser Hold Down Clamp 1.050"



Order No. D1301

Enhanced Oxygen Generator (EOG)



EOG Accessories



1.5" Control Valve Fittings and Accessories

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

QC x 1.5" NPT Plastic



Order No. V4430-01

QC x 1.5" NPT Stainless Steel



Order No. V4430-11

1.5" and 2" PVC Solvent



Order No. V4430-13

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

QC x 1.5" Vertical Elbow Adapter



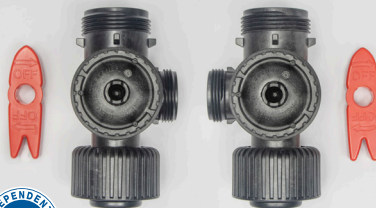
Order No. V4430-14

1.5" Bypass



Order No. V4678

1.5" Split Bypass



Order No. V4679

1.5" Isolation Valve

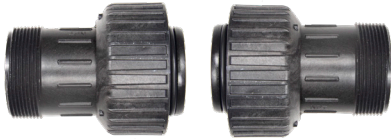


Order No. V4680

2" Control Valve Fittings

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

QC x 2" NPT Plastic



Order No. V4460-01

QC x 2" NPT Stainless Steel



Order No. V4460-11

2" PVC Solvent



Order No. V4460-13

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" and 3" Control Valve Accessories



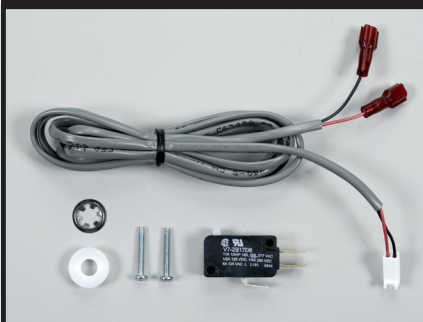
Control Valve Accessories

Auxiliary Microswitch Kit



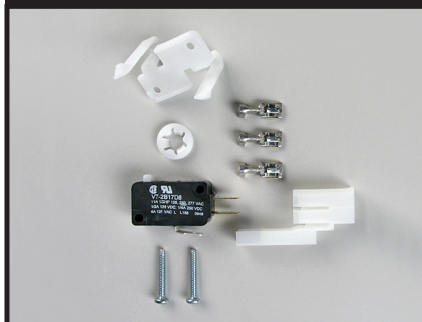
Order No. V3009

WS1 Series Microswitch Assembly



Order No. V3014

WS2 Auxiliary Switch Kit



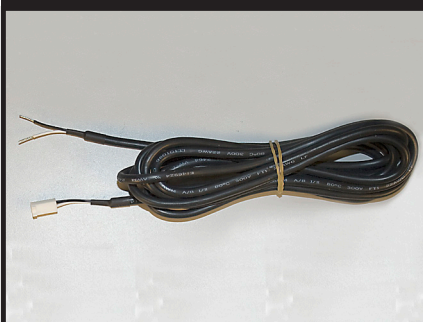
Order No. V3017

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

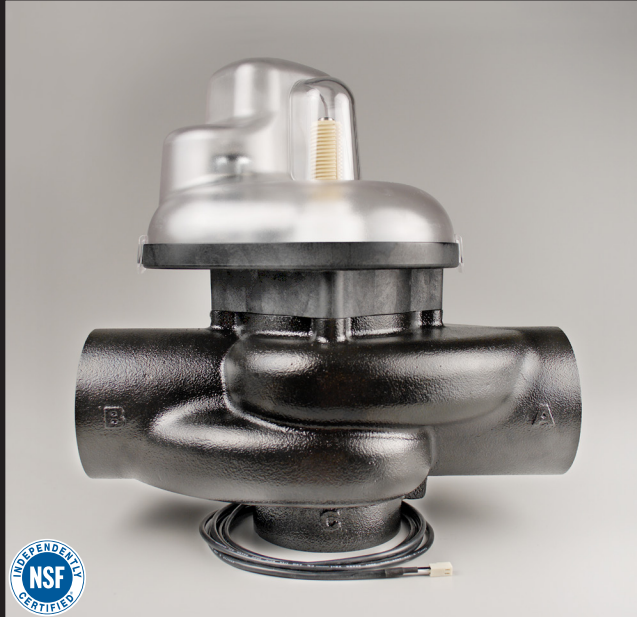
**2"
No Hard Water Bypass Valve**



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