



# Control Valves, Fittings and Accessories



**WS2HF**  
165 gpm



**WS3**  
250 gpm



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



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



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



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



**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, 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, 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 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent 3/4" - 1" SharkBite® 3/4" - 1" John Guest®	1" - 1.25" NPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent 3/4" - 1" SharkBite® 3/4" - 1" John Guest®	1" - 1.25" NPT 3/4" - 1.5" Sweat 3/4" - 1.5" Solvent 3/4" - 1" SharkBite® 3/4" - 1" John Guest®
<b>Valve Material</b>	Fiber Reinforced Composite	Fiber Reinforced Composite	Fiber Reinforced 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 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" Brine QC Fitting 1/2" O.D. Poly Tube Compression	3/8" Brine QC Fitting 1/2" O.D. Poly Tube Compression	3/8" Brine QC 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.
<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  
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.
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" & 3" WATER SPECIALIST VALVE SPECIFICATIONS



SPECIFICATIONS	WS2HF	WS3
<b>Service @ 15 psi drop Backwash @ 25 psi drop</b>	165 gpm (includes meter) 175 gpm	250 gpm (includes meter) 220 gpm
<b>Tank Applications: Softener Filter (1)</b>	18" - 63" diameter 18" - 54" diameter	18" - 96" diameter (1) 18" - 63" diameter
<b>Inlet/Outlet Fitting Connections</b>	2" Female NPT	3" Female NPT
<b>Valve Material Cycles Regeneration</b>	Lead Free Brass Up to 9 Downflow	Lead Free Brass Up to 9 Downflow
<b>Operating Pressures Operating Temperatures</b>	20 - 125 psi 40° - 110° F	20 - 125 psi 40° - 110° F
<b>Meter: Flow Rate Range</b>	1.5 - 150 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 11.3" with 6" Flange QC Base is 11.4"	with 6" Flange QC Base is 12.5"
<b>Shipping Weight with Meter</b>	48 lbs. (no meter)	57 lbs. (no meter)
<b>Certifications and Optional Third-Party Testing</b>	NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP52	NSF/ANSI/CAN 61 NSF/ANSI/CAN 372 IP52

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**



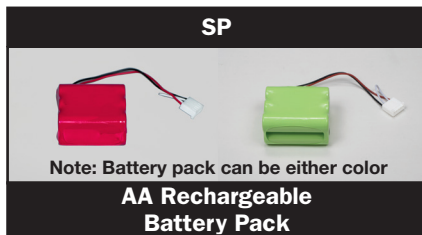
**WS1.5 SD/SP**



**WS2 SD/SP**



**WS2QC SD/SP**



**BATTERY SPECIFICATIONS**

**2 OPTIONS FOR OPERATION**

**SP Model:** 6 AA nickel metal hydride

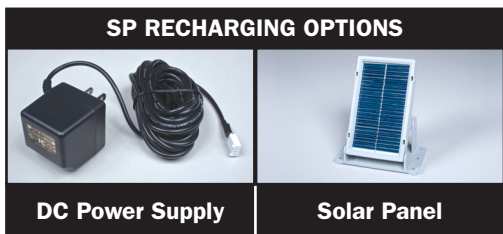
batteries rechargeable for SP model

**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.



**SP CHARGING SPECIFICATIONS**

**2 OPTIONS FOR OPERATION**

- Amorphous silicon solar panels capable of three tilt angles


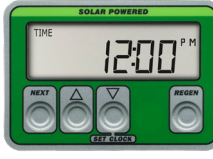



- DC power supply with 15VDC output 500mA

# CLACK CONTROLLER SPECIFICATIONS



SPECIFICATIONS	WS1	CS	TB/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>Data Extraction</b>	No	No	No	No
<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>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	WS2HF & WS3			Relay Expansion Board	System Controller (SC)
		Pod	Main Board			
WS1, WS1.25, WS1.5, WS2, WS2QC, WS1TT	WS1, WS1.25, WS1.5, WS2, WS2QC, WS1TT	WS2HF, WS3				WS1, WS1.25, WS1.5P, WS1.5, WS2, WS2QC
LCD	LCD	Monochrome Graphics	N/A	N/A		LCD Backlit
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	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	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 - 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

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" & 1.25" Control Valve Fittings and Accessories



# 1" & 1.25" Control Valve Fittings and Accessories



# Control Valve Accessories

1.5"

**WS1.5P QC x 1.5" Stainless Steel**





Order No. V4430-11 • NPT

**WS1.5P QC x 1.5"**





Order No. V4430-01 • NPT

**WS1.5P QC x QC**





Order No. V4430-03

**WS1.5P Elbow QC x 1.5"**





Order No. V4430-07 • NPT

**WS1.5P Elbow QC x QC**





Order No. V4430-09

2.0"

**WS2P QC x 2" Stainless Steel**





Order No. V4460-11 • NPT

**WS2P QC x 2"**





Order No. V4460-01 • NPT

**WS2P QC x QC**





Order No. V4460-03

**WS2P Elbow QC x NPT**





Order No. V4460-04

**WS2P Elbow QC x QC**





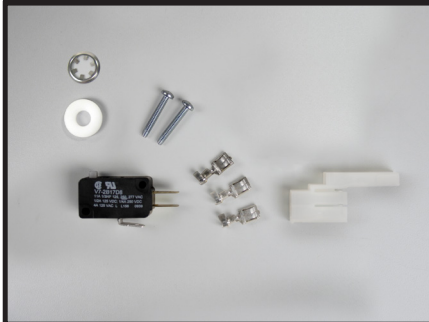
Order No. V4460-06

# Control Valve Accessories



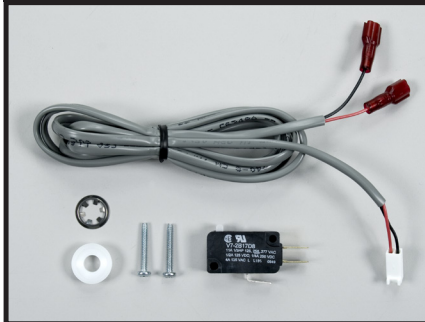
# Control Valve Accessories

Auxiliary Microswitch Kit



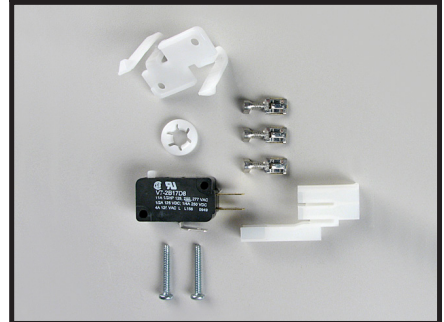
Order No. V3009

WS1 Series Microswitch Assembly



Order No. V3014

WS2 Auxiliary Switch Kit



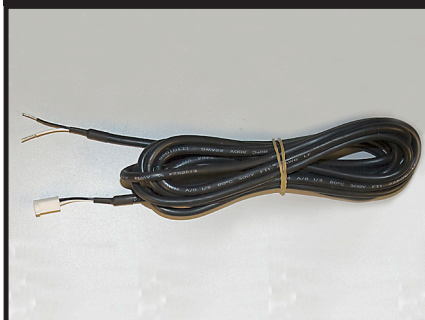
Order No. V3017

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" & 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



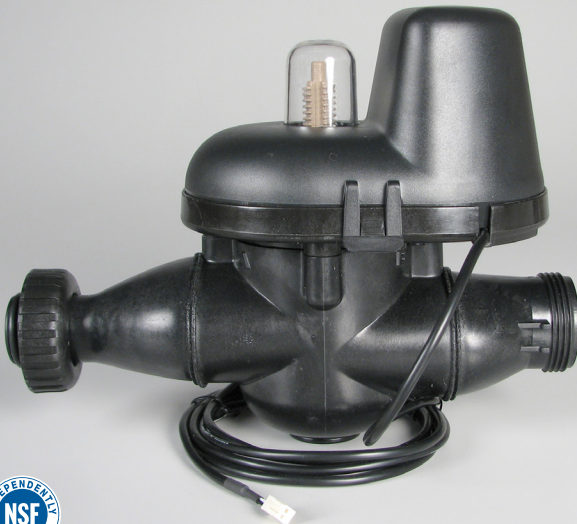
Order No. V3070FF • F x F

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" 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

