

est. 1947

**DUFF** CO.

When you need it now... or don't know how

CLACK WS1

# WS1

## WATER SPECIALIST CONTROL VALVE



shown with  
optional bypass

**NSF**

Certified to NSF/ANSI 44, 61 and 372.

- Solid state microprocessor with easy access front panel settings
- Three modes of operation; meter immediate, meter delayed, or time clock delayed
- Double backwash feature offers optimum regeneration, cleaning ability, and efficiency
- Capable of 36 pre-programmed regeneration cycles based on control valve setting
- Days override feature; 1 – 28 days available
- Backwash and brining ability to 21" diameter tanks
- Downflow/upflow regeneration
- Stores system configuration and operation data in nonvolatile memory
- Coin Cell Lithium battery back-up with an 8 hour carry over
- Level VI 15-volt output DC power supply provides safe and easy installation
- Control valve design provides optimum service and backwash rates
- Pre or Post treated water regenerant refill
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127
- Reliable and proven DC drive

**DWC**  
DUFF WATER CONDITIONING  
Products for Quality Water

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# Water Specialist 1" Control Specifications

Inlet/Outlet Fittings.....	¾" to 1.5" NPS
Cycles .....	up to 6
Valve Material .....	Noryl (1) or equivalent
Regeneration .....	downflow/upflow

## FLOW RATES

Service @15 psi drop (includes bypass and meter) .....	27 gpm
Backwash @ 25 psi drop (includes bypass) .....	27 gpm
Cv Service .....	7.0
Cv Backwash .....	5.4

## OPERATING PRESSURES

Minimum/Maximum .....	20 psi – 125 psi
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## OPERATING TEMPERATURES

Minimum/Maximum .....	40° – 110° F
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## METER

Accuracy .....	± 5%
Flow Rate Range.....	0.25 – 27 gpm
Gallon Range.....	20 – 50,000 gallons
Totalizer .....	1000 - 9,999,000 gallons

## DIMENSIONS & WEIGHT

Distributor Pilot.....	1.050" OD Pipe (¾" NPS)
Drain Line .....	¾" or 1" NPT
Brine Line .....	¾" or ½" OD Poly Tube
Mounting Base.....	2 ½" - 8 NPSM
Height From Top Of Tank.....	7 ¾"
Weight .....	4.5 lbs.

## ELECTRICAL SPECIFICATIONS

## POWER SUPPLY

	U.S.	International
Supply Voltage .....	100VAC to 120VAC .....	200VAC to 240VAC
Supply Frequency .....	50/60 Hz.....	50/60 Hz
Output Voltage .....	15VDC .....	15VDC
Output Current .....	500 mA.....	500 mA

## TANK APPLICATIONS

Water Softener .....	6" – 21" diameter
Water Filter (2).....	6" – 21" diameter

## CYCLES OF OPERATION (Softener Downflow)

Cycle	Range of times minutes
1. Backwash 1 <sup>st</sup> (upflow) .....	6 - 12
2. Regenerate Draw/Slow Rinse (downflow) .....	45 - 75
3. Backwash 2 <sup>nd</sup> (upflow) .....	3 - 12
4. Fast Rinse (downflow) .....	3 - 8
5. Regenerant Refill (in service with treated water).....	As Programmed
6. Service (downflow)	

### Options: Backwash Filter, Bypass, Weather Cover

Compatible with the following typical concentration of regenerants or chemicals: Sodium chloride, potassium chloride, potassium permanganate, sodium bisulfite, chlorine and chloramines

1. Noryl is a trademark of Sabic Innovative Plastics IP B.V. Company
2. Filter tank size calculated @ 10 gpm of backwash per square foot of bed area