Trouble Shooting Guide for DWS and DW-PRV Valves

Problem	Probable cause	Correction
Valve fails to open.	Valve installed backwards.	Check flow arrow, reverse valve in line.
	Blocked ports to solenoid or manual bleed.	Clean ports.
	Cover stem fully closed.	Turn cover stem counter-clockwise to open.
	No water pressure at valve inlet.	Check upstream valves and pressure, back-flow, master valve or gate valve, isolation valve.
	No electrical signal to solenoid.	Check for power at solenoid and controller.
	Regulator not adjusted.	Turn regulator screw in to increase pressure.
	Internal foreign matter.	Remove cover, clean valve thoroughly.
	Internal metering pin left out.	Remove cover, replace metering pin flat side down.
	If after long satisfactory service, Check diaphragm assy. for wear.	Eliminate other causes, then replace worn pin bearing or diaphragm assy.
Valve fails to close.	Internal foreign matter.	Remove cover, clean valve thoroughly.
	Matter under solenoid plunger.	Remove solenoid, clean and check proper position of grommet.
	Manual bypass left open.	Close manual bypass screw.
	Residual electrical signal at solenoid.	Remove power from solenoid or at controller.
	Ruptured diaphragm.	Replace diaphragm.
Downstream pressure to low.	Valve installed backwards.	Check flow arrow, reverse valve in line.
	Lack of operating pressure	Check pressure at valve inlet, check pressure at back flow.
	Lack of operating flow	Check other in-line valves for open, insulation valve, gate valves, master valves.
	Internal foreign matter.	Remove cover, clean valve thoroughly.
	Restriction in Regulator block.	Remove and clean block passages.
	Regulator not adjusted. If after long satisfactory service, Check diaphragm assy. for wear.	Turn regulator screw in to increase pressure. Eliminate other causes, then replace worn pin bearing or diaphragm assy.

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GRISWOLD CONTROLS

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Problem	Probable cause	Correction
Downstream pressure to high.	Internal foreign matter.	Remove cover, clean valve thoroughly.
	Regulator not adjusted.	Turn regulator screw out to decrease pressure.
	Ruptured diaphragm.	Replace diaphragm.
	Cover Manual bypass left open.	Close cover manual bypass screw.
Valve closes to slowly.	Lack of differential pressure across valve.	Slowly close flow stem until valve closes at desired rate. Set flow control at (4) full turns from completely open.
Valve closes to quickly.	If after long satisfactory service, Check diaphragm assy. for wear.	Eliminate other causes, then replace worn pin bearing or diaphragm assy. Slowly open flow stem until valve closes slower.

Multiple valves connected to a single clock-controller station should be wired in parallel. The valves are designed to operate with a nominal 24 VAC at the valve connection. Table A lists the minimum voltage and current requirements as a function of the upstream water pressure.

Another factor to consider is the pressure loss within the DW-PRV pressure control valves. The optimum-size valve may or may not be the same as the pipe size. First, estimate the gallons per minute (GPM) that must flow through the valve. Then subtract the desired downstream pressure from the minimum upstream pressure. Pressure loss caused by the pressure-regulation function should be less than this figure. Table B indicated the minimum-size valve you can select for a given flow rate.

A. Minimum Power To Activate Valve

Pressure (PSI)	Voltage (60 Hz RMS)	Current (60 Hz RMS)
100	21.0 VAC	375 mA
125	22.0 VAC	390 mA
150	23.0 VAC	405 mA

B. Pressure Loss (in PSI) at Various Flow Rates (minimum flow rate: .01 GPM)

Valve Size		Flow Rate (gpm) 1-8	10	15	20	30	40	50	60	80	100	120	140	160
¾"	P L	2.9	4.7	5.6	7.5	10.8								
1"	R O	2.9	4.4	5.4	7.2	9.2	10.3	13.7						
1 ¼"	E S	2.9	4.1	5.1	6.0	8.1	9.1	12.2	16.3					
1 ½"	S S	2.3	2.5	2.6	2.8	3.4	3.6	4.4	7.0	11.1	14.2			
2"	S	2.3	2.3	2.4	2.5	2.5	2.6	2.7	2.9	3.4	5.0	5.7	8.0	11.5

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