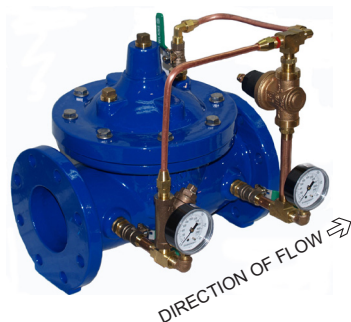


SPECIFICATION SUBMITTAL SHEET



SIZES

GLOBE:

- | | |
|---------------|---|
| Threaded ends | <input type="checkbox"/> 2" 400 psi max. |
| Flanged ends | <input type="checkbox"/> 2" thru 10" |
| | <input type="checkbox"/> ANSI Class 150, 250 psi max. |
| | <input type="checkbox"/> ANSI Class 300, 400psi max. |
| Grooved ends | <input type="checkbox"/> 2 1/2" thru 8" 300 psi max. |

TEMPERATURE RATING: ☐ Water 33°F to 140°F

PILOT SPRING RANGE: ☐ 15-150 psi

STANDARD FEATURES

- ☐ Epoxy Coated, FDA Approved
- ☐ Pilot Assembly
 - "Wye" Type Strainer
 - Opening Speed Control (sizes 2" - 3")
 - Isolation Valves
- ☐ Inlet and Outlet Pressure Gauges
- ☐ ANSI Class 150 Flanges

SCHEMATIC DIAGRAM

Item	Description of Standard Features
1	Main Valve
2	850XL Isolation Valve
3	SXL "Wye" Type Strainer
4	Pressure Gauge
5	Restriction Fitting
6	NR3XL Pressure Reducing Control

OPTIONS

(add suffix letters to ZW209)

Function

- ☐ C 40XL Hydraulic Check with Isolation Valve
- ☐ L SC1 Closing Speed Control*
- ☐ O SC1 Opening Speed Control (Standard 2" - 3")

Connections

- ☐ G IPS Grooved
- ☐ TH NPT Threaded
- ☐ Y ANSI Class 300 Flanges

Main Valves Options

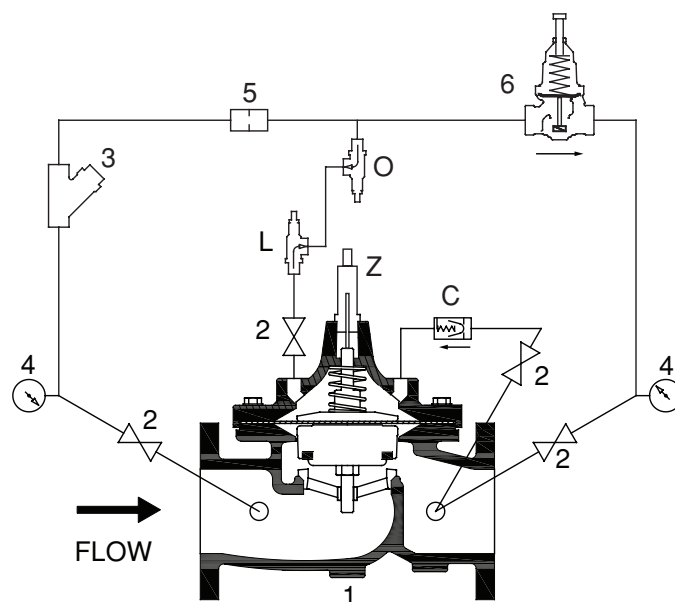
- ☐ Z ZPI Visual Position Indicator

Pilot System

- ☐ HP 20-200 psi High Pressure Range PV-PRD Pilot (replaces NR3XL)
- ☐ ST Stainless Steel Tubing and Fittings
- ☐ RV Pilot on Reverse Side
- ☐ GL Liquid Filled Gauge

APPLICATION

The Zurn Wilkins Model ZW209 Pilot Operated Pressure Reducing Valve is designed for many applications where the reduction of high inlet pressures to safe and stable outlet pressure is required. The pilot assembly reacts to changes in downstream pressure allowing the main valve to modulate between the closed and open position ensuring a constant downstream set pressure. Once the downstream pressure reaches the pilot setting, the main valve will seal shut preventing damage downstream. Pressure regulation is not dependent upon flow rate, resulting in minimal pressure loss through the valve. In addition the Model ZW209 comes standard with epoxy coating internally and externally for corrosion protection, as well as isolation valves and pressures gauges for quick and easy maintenance or repair.



STANDARDS COMPLIANCE:

- Lead Plumbing Law Certified by IAPMO R&T**
- ** (0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)
- ANSI/AWWA C530

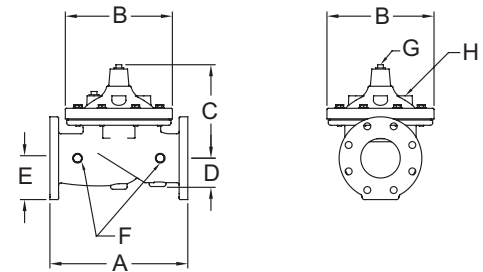
MATERIALS

Main Valve Body	Ductile Iron ASTM A536
Main Valve Bonnet	Ductile Iron ASTM A536
Disc Guide	Bronze ASTM B 176
Seat	Bronze ASTM B 176
Disc	Buna-N Rubber
Diaphragm	Nylon Reinforced Buna-N
Stem	Stainless Steel
Spring	Stainless Steel

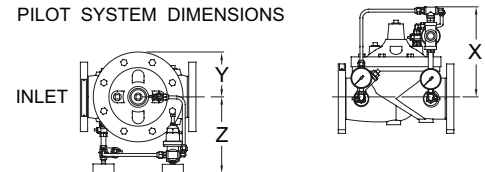
*The closing speed control (optional) on this valve should always be open at least three (3) turns off its seat.

MAIN VALVE DIMENSIONS

DIM		VALVE SIZE inches (mm)							
		2 (50)	2 1/2 (65)	3 (80)	4 (100)	6 (150)	8 (200)	10 (250)	
A	Threaded	9 7/16	n/a	n/a	n/a	n/a	n/a	n/a	
	Class 150 Flange	9 3/8	11	12	15	20	25 3/8	29 3/4	
	Class 300 Flange	10	11 5/8	13 1/4	15 5/8	21	26 7/16	31 1/8	
	Grooved	9	11	12 1/2	15	20	25 3/8	29 3/4	
B	Diameter	6 3/4	8 1/16	9 3/16	11 11/16	15 3/4	20 1/8	23 11/16	
C	Max.	6 3/16	7 3/8	8 1/8	10 3/16	12 5/16	15 9/16	17 5/8	
D	Max.	1 3/4	2 1/8	2 9/16	3 7/16	4 15/16	5	5 13/16	
E	Class 150 Flange	3	3 1/2	3 3/4	4 1/2	5 1/2	6 3/4	8	
	Class 300 Flange	3 1/4	3 3/4	4 1/8	5	6 1/4	7 1/2	8 3/4	
F	NPT Body Tap	3/8	1/2	1/2	3/4	3/4	1	1	
G	NPT Cvr. Plug Tap	1/2	1/2	1/2	3/4	3/4	1	1	
H	NPT Cover Tap	3/8	1/2	1/2	3/4	3/4	1	1	
Valve Stem Internal Thread UNF		10-32	10-32	1/4-20	1/4-20	1/4-20	3/8-16	3/8-16	
Stem Travel (inches)		3/4	7/8	15/16	1 3/16	1 3/4	2 3/8	2 13/16	
Approx. Wt. Lbs.		35	50	70	140	285	500	700	
Pilot System Dimensions									
X	Max. (inches)	8 1/2	8 1/2	9 1/2	12	13	14	17 1/2	
Y	Max. (inches)	3 1/2	4	4 1/2	6	8	10	12	
Z	Max. (inches)	9	9	9 1/2	10	11 1/2	13	14 1/2	



PILOT SYSTEM DIMENSIONS



OPERATION

The Model ZW209 utilizes a pressure reducing pilot valve that installs on the discharge side of the control circuitry. The pilot is a direct acting, normally open, spring loaded, diaphragm actuated valve. The operation of the ZW209 begins with accurately sizing the valve, then fine tuning the control circuit by adjusting the pilot spring to the desired downstream pressure.

Inlet pressure is piped to the inlet port of the pressure reducing pilot. A sensing line runs internally from the discharge side of the pilot to its lower control chamber under the diaphragm. Thus, downstream pressure exceeding the preset acts to close the pilot while the adjustable spring seeks to keep it open. The result is a modulating action in the pilot that is transmitted to the bonnet of the main valve. This creates a mirror modulation of the diaphragm assembly in the main valve. Downstream pressure is maintained within narrow limits regardless of changing flow rates or varying inlet pressures.

FLOW CHARACTERISTICS

Valve Size	inches	2	2 1/2	3	4	6	8	10
	mm	50	65	80	100	150	200	250
Suggested Flow (GPM)	Max. Continuous	210	300	460	800	1800	3100	4900
	Max Intermittent	260	375	600	1000	2250	4000	6150
	Min. Continuous	15	20	30	50	115	200	300
Suggested Flow (Liters/sec)	Max. Continuous	13	19	29	50	113	195	309
	Max. Intermittent	16.4	23	37	62	142	246	388
	Min. Continuous	0.9	1.3	1.9	3.2	7.2	13	19

Suggested flow calculations are based on flow through Schedule 40 Pipe. Maximum continuous flow is approx. 20 ft./sec (6.1 meters/sec) & maximum intermittent is approx. 25 ft./sec (7.6 meters/sec) and minimum continuous flow is approx. 1.25 ft./sec (0.4 meters/sec). Many factors should be considered in sizing pressure reducing valves including inlet pressure, outlet pressure and flow rates.

NOTICE:

In cases where design flow falls below the minimum continuous flow rate, a low flow by-pass shall be installed.

SPECIFICATIONS

The Pressure Reducing Valve shall be a diaphragm actuated, pilot controlled valve. The main valve body shall be ductile iron ASTM A 536. The stem of the basic valve shall be guided top and bottom. The diaphragm shall not be used as a seating surface. All internal and external ferrous surfaces shall be coated with a high quality, fusion epoxy coating. The pilot control shall be field adjustable from 15 psi to 150 psi. Pilot control shall include a solenoid to override and close main valve. The Pressure Reducing Valve shall be a ZURN WILKINS Model ZW209.

JOB NAME _____

CONTRACTOR _____

JOB LOCATION _____

ENGINEER _____

TYPICAL INSTALLATION

