Automatic Control Valves
Zurn Engineered Water Solutions® is a recognized leader in commercial, municipal, and industrial markets, delivering sustainable building solutions for new construction and retrofit applications.

At Zurn we are committed to providing smart solutions that save both time and money. Our goal is serving the customer through innovation, continuous improvement, and assurance behind every installation.

Choose Zurn for a reliable, recognized manufacturer to supply your entire installation, from behind the wall rough-in, to finish trim product and fixture systems.
Zurn Wilkins Value Proposition

**Engineer**
- Specification under one part number with a standardized feature set
- Web-based Zurn tools simplify the specification process
- Full range of approvals from 1-1/4” to 10”
- Specify entire plumbing project using One Choice. One Zurn.

**Contractor**
- Isolation valves and gauges come standard allowing for simple installation and maintenance (commissioning and service)
- Repair parts readily available
- Excellent customer and technical support and training

**Distributor**
- Best in industry lead time
- Bundle entire plumbing project using One Choice. One Zurn.
- Superior brand equity

**Building Owner**
- Zurn Wilkins automatic control valves offer the lowest total cost of ownership
- Products come standard with isolation valves, enabling inline service and maintenance
- Conserves water through superior performance over direct acting PRVs (regulators)
Simple Yet Efficient Design

Features and Benefits

Lead-Time:
Industry-leading lead-time

Standard Accessories:
Pressure Gauges, Isolation Valves, and Wye Strainers come standard

Approvals:
Full set of approvals up to 10"

ZurnSpec(SM):
Platform of online tools to assist in specification

Epoxy Coating Standard:
Valves come standard with inside and outside NSF Listed epoxy coating, providing resistance to harsh water and environmental conditions

Drip Tight Seal:
Rubber disc fully retained to provide a drip tight seal

Even Seal Closure:
Diaphragm assembly is guided top and bottom by a precision machined stem

Increased Diaphragm Life:
Fully supported diaphragm reduces fatigue

Ease of Repair:
O-ring stem seals for positive sealing

Lead Law Compliant:
Materials comply with Reduction of Lead in Drinking Water Act

In-line Service:
Replaceable seat and internal components allow complete service without removal from the pipeline

* Refer to www.zurn.com for updated information
# Automatic Control Valve Function Matrix

<table>
<thead>
<tr>
<th>Function</th>
<th>Product Description</th>
<th>Operational Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pressure Reducing Valves</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure Reducing Valve</td>
<td></td>
<td>Designed to reduce a high inlet pressure to a lower downstream pressure.</td>
</tr>
<tr>
<td>Pressure Reducing Valve with Low-flow By-pass</td>
<td></td>
<td>Designed to reduce a high inlet pressure to a lower downstream pressure, and is equipped with a direct acting PRV to handle very low flows from zero to 10 GPM.</td>
</tr>
<tr>
<td>Pressure Reducing Valve with Solenoid Shut-Off</td>
<td></td>
<td>Designed to reduce a high inlet pressure to a lower downstream pressure, and can be closed electrically</td>
</tr>
<tr>
<td>Pressure Reducing / Pressure Sustaining Valve</td>
<td></td>
<td>Designed to reduce a high inlet pressure to a lower downstream pressure, and maintain inlet pressure above a predetermined, user adjusted value.</td>
</tr>
<tr>
<td>Pressure Reducing Valve with Downstream Surge Protection</td>
<td></td>
<td>Designed to reduce a high inlet pressure to a lower downstream pressure, and will provide quick closure should downstream demand rapidly decrease, thereby preventing surges in the downstream piping</td>
</tr>
<tr>
<td><strong>Equipment Protection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess Pressure Shut-off Valve</td>
<td></td>
<td>Valve will close when downstream pressure exceeds a pre-set limit.</td>
</tr>
<tr>
<td><strong>Automated Open/Close</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solenoid Operated Valve</td>
<td></td>
<td>Designed to open or close when the valve receives an electric signal.</td>
</tr>
<tr>
<td><strong>Relief/Sustain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure Relief / Pressure Sustaining Valve</td>
<td></td>
<td>Relieves excess pressure or maintains inlet pressure.</td>
</tr>
<tr>
<td><strong>Level Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Modulating Float Valve</td>
<td></td>
<td>Controls the water level in a tank.</td>
</tr>
<tr>
<td><strong>Fire Protection Systems</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Protection Pressure Reducing Valve</td>
<td></td>
<td>Designed to reduce a high inlet pressure to a lower downstream pressure in Fire Protection Systems.</td>
</tr>
<tr>
<td>Fire Pump Pressure Relief Valve</td>
<td></td>
<td>Relieves excess pressure in a Fire Protection System</td>
</tr>
<tr>
<td>Fire Protection Pump Suction Control</td>
<td></td>
<td>Maintains a minimum suction pressure to a Fire Protection Pump.</td>
</tr>
<tr>
<td><strong>System/Pump Protection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check Valve</td>
<td></td>
<td>Valve closes when downstream pressure exceeds upstream pressure.</td>
</tr>
<tr>
<td>Model #</td>
<td>Market Segments</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>ZW209</td>
<td>Commercial, Education, Healthcare, Industrial, Irrigation, Penal, Retail, Waterworks</td>
<td></td>
</tr>
<tr>
<td>ZW209BP</td>
<td>Commercial, Education, Healthcare, Irrigation, Penal, Retail</td>
<td></td>
</tr>
<tr>
<td>ZW209E</td>
<td>Commercial, Education, Healthcare, Industrial, Irrigation, Penal, Waterworks</td>
<td></td>
</tr>
<tr>
<td>ZW209H</td>
<td>Commercial, Education, Healthcare, Industrial, Penal, Waterworks</td>
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</tr>
<tr>
<td>ZW209Q</td>
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<td>ZW207</td>
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<td>ZW206</td>
<td>Commercial, Industrial, Irrigation, Penal, Waterworks</td>
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<tr>
<td>ZW205</td>
<td>Commercial, Education, Industrial, Penal, Waterworks</td>
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<tr>
<td>ZW204</td>
<td>Industrial, Irrigation, Waterworks</td>
<td></td>
</tr>
<tr>
<td>ZW209FP</td>
<td>Fire Protection</td>
<td></td>
</tr>
<tr>
<td>ZW205FP</td>
<td>Fire Protection</td>
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<tr>
<td>ZW215FP</td>
<td>Fire Protection</td>
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</tr>
<tr>
<td>ZW218</td>
<td>Commercial, Industrial, Irrigation, Penal, Waterworks</td>
<td></td>
</tr>
</tbody>
</table>

\[\text{💧} = \text{Not for use in fire protection applications.} \quad \text{🔥} = \text{Specifically designed for use in fire protection applications.}\]
Zurn Wilkins Automatic Control Valves

Specification Overview

GLOBE SIZES, END CONNECTIONS, STANDARDS, PRESSURE RATING

<table>
<thead>
<tr>
<th>End Connections</th>
<th>ANSI Standard</th>
<th>Size Range</th>
<th>Pressure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threaded</td>
<td>ANSI B1.20.1</td>
<td>1-1/4&quot; - 3&quot;</td>
<td>400 psi</td>
</tr>
<tr>
<td>ANSI CLASS 150</td>
<td>ANSI B16.42; ANSI/</td>
<td>1-1/2&quot; - 10&quot;</td>
<td>250 psi</td>
</tr>
<tr>
<td></td>
<td>AWWA C110/ A21.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANSI CLASS 300</td>
<td>ANSI B16.42</td>
<td>1-1/2&quot; - 10&quot;</td>
<td>400 psi</td>
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<tr>
<td>IPS Grooved ends</td>
<td>ANSI/AWWA C606</td>
<td>1-1/2&quot; - 10&quot;</td>
<td>300 psi</td>
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FUNCTIONAL DATA

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>1-1/4</th>
<th>1-1/2</th>
<th>2</th>
<th>2-1/2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DN</td>
<td>32</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>80</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>250</td>
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<tr>
<td>CV Factor</td>
<td>GPM</td>
<td>24</td>
<td>27</td>
<td>55</td>
<td>80</td>
<td>130</td>
<td>200</td>
<td>460</td>
<td>830</td>
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<tr>
<td></td>
<td>Liter/Sec</td>
<td>5.8</td>
<td>6.5</td>
<td>13</td>
<td>19</td>
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<td>48</td>
<td>110</td>
<td>200</td>
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<tr>
<td>Equivalent Length</td>
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<td>65</td>
<td>55</td>
<td>63</td>
<td>70</td>
<td>116</td>
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<td></td>
<td>Meters</td>
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<td>19</td>
<td>21</td>
<td>35</td>
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<td>63</td>
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<tr>
<td>K Factor</td>
<td></td>
<td>5.6</td>
<td>8.2</td>
<td>5.4</td>
<td>5.2</td>
<td>4.7</td>
<td>5.9</td>
<td>5.7</td>
<td>5.3</td>
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<tr>
<td>K Factor</td>
<td></td>
<td>0.02</td>
<td>0.02</td>
<td>0.04</td>
<td>0.06</td>
<td>0.09</td>
<td>0.16</td>
<td>0.52</td>
<td>1.29</td>
</tr>
<tr>
<td>Liquid Displaced from Diaphragm Chamber When Valve Opens</td>
<td>Gallons</td>
<td>0.02</td>
<td>0.02</td>
<td>0.04</td>
<td>0.06</td>
<td>0.09</td>
<td>0.16</td>
<td>0.52</td>
<td>1.29</td>
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<tr>
<td></td>
<td>Liters</td>
<td>0.10</td>
<td>0.10</td>
<td>0.13</td>
<td>0.21</td>
<td>0.32</td>
<td>0.59</td>
<td>1.95</td>
<td>4.88</td>
</tr>
</tbody>
</table>

MATERIALS/INTERNALS

- Main Valve Body: Ductile Iron ASTM A536
- Main Valve Cover: 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

OPERATING TEMPERATURE RANGE:

Water 33°F to 140°F

OPTIONS AND ACCESSORIES

Function Options
- BP Low-flow by-pass on ZW209 Pressure Reducing Valve
- Q Surge Control
- E Solenoid to add electrical shut-off to any valve
- H Add a pressure sustaining feature to main valve
- R Add a pressure reducing feature to main valve
- C Add a hydraulic check valve feature to main valve
- L Closing Speed Control
- O Opening Speed Control

Connection Options
- G IPS grooved connections
- TH NPT female threaded connections
- Y ANSI Class 300 flanges
- Z Visual position indicator

Main Valve Options
- SS Stainless steel seat and internal trim
- V Viton rubber

Pilot Options
See individual specs for pilot options with each model

* Refer to www.zurn.com for updated information
STANDARD EQUIPMENT

Wye Type Strainer
Opening Speed Control (sizes 1-1/4" thru 3")
Pilot Isolation Valves
Inlet and Outlet Pressure Gauges
Epoxy Coated
ANSI Class 150 Flanges

OPTIONS (add suffix letters to ZW209)

Function | Description
----------|----------------
BP    | with Low Flow By-Pass
Q     | with Surge Control
E     | Solenoid Shutoff
H     | with Pressure Sustaining

Connections | G | IPS Grooved
            | TH | NPT Threaded
            | Y  | ANSI Class 300 Flanges

Main Options | SS | Stainless Steel Seat/Retainer/Cover Guide
             | V  | Viton Rubber Internals
             | Z  | Visual Position Indicator

Pilot System | HP | 30-300 psi High Pressure Range
            | PV-PRD Pilot (Replaces NR3)
            | ST | Stainless Tubing and Fittings
            | RV | Pilot Installed on Reverse Side
            | GL | With Liquid Filled Gauge(s)

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

TYPICAL APPLICATION

- ZW209 pilot operated pressure reducing valve is designed for applications where the reduction of high inlet pressures to a safe and stable outlet pressure is required.
- The pilot assembly reacts to changes in downstream pressure, allowing the main valve to modulate, ensuring a constant downstream set pressure.
- Pressure regulation is not dependent upon flow rate, resulting in minimal pressure loss through the valve.
- Available with an optional checking feature.

OPERATING TEMPERATURE RANGE

Water  33°F to 140°F

PILOT SPRING RANGES

- 15-150 psi standard
- 30-300 also available

* Refer to www.zurn.com for updated information
Model ZW209BP - Pressure Reducing Valve with Low-Flow By-Pass

- ZW209BP is a pressure reducing automatic control valve with a by-pass to handle low-flow rates
- ZW209BP maintains the downstream pressure within narrow limits, regardless of inlet pressure fluctuations or varying flow rates
- The by-pass line is equipped with a direct acting PRV in parallel with the main valve to handle very low flows from zero to approximately 10 GPM

Model ZW209E - Pressure Reducing Valve with Solenoid Shut-Off

- ZW209E is a pressure reducing automatic control valve with a solenoid shut-off in the pilotry
- Maintains the downstream pressure within narrow limits, regardless of inlet pressure fluctuations or varying flow rates
- The solenoid and accelerator pilotry allows the valve to be shut down remotely via an electronic signal

* Refer to www.zurn.com for updated information
Model ZW209H - Pressure Reducing / Pressure Sustaining Valve

- ZW209H is a pressure reducing valve used where it is also critical to sustain upstream pressure
- Maintains the downstream pressure within narrow limits, regardless of inlet pressure fluctuations or varying flow rates
- Sustains upstream pressure to a critical user and will completely shut-off supply to downstream users in the unlikely event that the upstream pressure drops below a pre-set value

Model ZW209Q - Pressure Reducing Valve with Downstream Surge Protection

- ZW209Q is a pressure reducing valve used where a sudden decrease in downstream demand can create a pressure surge in the plumbing system
- Maintains the downstream pressure within narrow limits, regardless of inlet pressure fluctuations or varying flow rates
- In the event of a pressure surge created by a sudden decrease in downstream demand, the ZW209Q will close rapidly, protecting the plumbing system
- Once the surge dissipates the ZW209Q will return to normal operation

* Refer to www.zurn.com for updated information
TYPICAL APPLICATION

- ZW207 excess pressure shut-off valve is commonly used in conjunction with a standard ZW209 pressure reducing valve.
- In instances where the ZW209 cannot react quick enough or becomes damaged, the ZW207 will shut down the system, protecting against excess pressure.
- ZW207 is designed for many applications where protection of downstream components from high pressure is required.

OPTIONAL FEATURES

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>40XL Hydraulic Check with Isolation Valve</td>
</tr>
</tbody>
</table>

Connections

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

Main Options

- SS Stainless Steel Seat/Seal Ring Retainer/Stem Guide
- Z ZPI Visual Position Indicator

Pilot System

- LP3 5-15 psi Low Pressure Range PV-RLF Pilot
- LP2 10-35 psi Low Pressure Range PV-RLF Pilot
- LP 30-90 psi Low Pressure Range PV-RLF Pilot
- HP 150-300 psi High Pressure Range PV-RLF Pilot
- ST Stainless Steel Tubing and Fittings
- RV Pilot on Reverse Side
- GL Liquid Filled Gauge

STANDARD EQUIPMENT

- Wye Type Strainer
- Closing Speed Control (sizes 1 1/4" thru 4")
- Pilot Isolation Valves
- Inlet Pressure Gauge
- Epoxy Coated
- ANSI Class 150 Flanges

OPERATING TEMPERATURE RANGE

Water 33°F to 140°F

PILOT SPRING RANGES

- 15 to 150 psi (standard)
- 30 to 300 psi (also available)

* Refer to www.zurn.com for updated information
PILOT SYSTEM SPECIFICATIONS

Rubber Parts:
Buna-N Rubber Synthetic Rubber

Solenoid Control Body:
Brass ASTM B283

Enclosure:
NEMA Type 1,2,3,3S,4,4X General Purpose Watertight

Voltages:
24,120,240,480-60Hz AC, 110, 220-50Hz AC, 6, 12, 24, 120, 240-DC Others Available

Max. Operating Pressure Differential:
200 psi

Coil:
Insulation Molded Class F
Watts AC, 60Hz 6.1
AC Volt Amps Inrush 30
AC Volt Amps Holding 16
Watts DC 10.6

OPERATING TEMPERATURE RANGE
Water 33°F to 140°F

TYPICAL APPLICATION
- ZW206 solenoid operated control valve is used to control the flow of water in remote locations or hazardous environments via an electrical signal from remote locations or hazardous environments
- Can be used to initiate flow or as a protection/shut-off device
- Factory configured as normally closed (energized to open) or normally open (energized to close)
- Used in conjunction with the Zurn Wilkins 375MS and the Zurn Wilkins Electronic Solenoid Timer (EST) system can prevent against flooding from backflow discharge
- Complete Flood Control Integrated System (FCIS) available as a turnkey assembly

OPTIONS (add suffix letters to ZW206)

Function  Description
C  40XL Check Valve with Isolation Valve
L  SC1 Closing Speed Control
O  SC1 Opening Speed Control

Connections
G  IPS Grooved
TH  NPT Threaded
Y  ANSI Class 300 Flanges

Main Options
SS  Stainless Steel Seat/Retainer/Cover Guide
Z  Visual Position Indicator

Pilot System
ST  Stainless Tubing and Fittings
NC  Normally Closed (energize to open) Main Valve, 120vac Solenoid
NO  Normally Open (energize to close) Main Valve, 120vac Solenoid
24NC  Normally Closed (energize to open) Main Valve, 24vac Solenoid
24NO  Normally Open (energize to close) Main Valve, 24vac Solenoid
NS  Non-Standard Solenoid Specify Voltage/AC/DC/Operation
MO  Manual Operator on Solenoid Valve 
    (to control during power failure)
W  Independent Operating Pressure
F  Atmospheric Drain
RV  Pilot Installed on Reverse Side

STANDARD EQUIPMENT
Wye Type Strainer
Pilot Isolation Valves
Epoxy Coated
Closing Speed Control (sizes 6” thru 10”)
ANSI Class 150 Flanges

* Refer to www.zurn.com for updated information
Model ZW205 - Pressure Relief Pressure Sustaining Valve

TYPICAL APPLICATION
- ZW205 pilot operated pressure relief/pressure sustaining automatic control valve can be plumbed in two different ways
  1 - Mounted on a branch line - ZW205, in a relieving function, will open when the pressure exceeds a pre-set limit, relieving pressure from the system
  2 - Mounted inline - ZW205, in a sustaining function, maintains a minimum upstream pressure by closing off as the upstream pressure begins to drop
- Pilot assembly reacts to changes in upstream pressure, allowing the main valve to modulate between the closed and open position, maintaining desired upstream set pressure
  - As long as the upstream pressure is below the set point of the pilot assembly, the main valve will stay in the closed position (sustaining)
  - Once the upstream pressure exceeds the set point of the pilot assembly, the main valve will open and relieve the excess pressure (relief)
- Available with an optional checking feature

STANDARD EQUIPMENT
- Wye Type Strainer
- Closing Speed Control (sizes 1 1/4” thru 4”)
- Pilot Isolation Valves
- Inlet Pressure Gauge
- Epoxy Coated
- ANSI Class 150 Flanges

OPTIONAL FEATURES

<table>
<thead>
<tr>
<th>Function</th>
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<tbody>
<tr>
<td>C</td>
<td>40XL Hydraulic Check with Isolation Valve</td>
</tr>
<tr>
<td>L</td>
<td>SC1 Closing Speed Control</td>
</tr>
<tr>
<td>O</td>
<td>SC1 Opening Speed Control</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
</tr>
<tr>
<td>TH</td>
</tr>
<tr>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
</tr>
<tr>
<td>Z</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Pilot System</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST</td>
</tr>
<tr>
<td>W</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>RV</td>
</tr>
<tr>
<td>GL</td>
</tr>
</tbody>
</table>

OPERATING TEMPERATURE RANGE
- Water: 33°F to 140°F

PILOT SPRING RANGES
- 5 to 15 psi
- 10 to 35 psi
- 30 to 90 psi
- 50 to 200 psi (standard)
- 150 to 300 psi
* Refer to spec sheet for various ranges

* Refer to www.zurn.com for updated information
TYPICAL APPLICATION

- ZW204 pilot operated non-modulating float automatic control valve opens or closes based on the position of a float
- Maintains accurate fluid levels in tanks
  - Once the fluid level reaches the low set-point of the float rod assembly, the main valve opens to fill the tank
  - Once the fluid level reaches the high set-point of the float rod assembly, the main valve closes drip-tight
- ZW204 is a non-modulating valve - it is either fully open or fully closed
- Standard configuration - float pilot is remote-mounted from the valve
- "VM" option allows for valve mounted pilotry (illustrated below)

OPTIONS (add suffix letters to ZW204)

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>40XL Hydraulic Check with Isolation Valve</td>
</tr>
<tr>
<td>L</td>
<td>SC1 Closing Speed Control</td>
</tr>
<tr>
<td>O</td>
<td>SC1 Opening Speed Control</td>
</tr>
</tbody>
</table>

Connections

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

Main Options

- SS: Stainless Steel Seat/Retainer/Cover Guide
- Z: Visual Position Indicator

Pilot System

- ST: Stainless Steel Tubing and Fitting
- VM: Valve Mounted Float Pilot
- R1, R2, R3: 1', 2', or 3' Float Rod Extension (5' total length max)
- W: Independent Operating Pressure
- RV: Pilot Installed on Reverse Side

OPERATING TEMPERATURE RANGE

Water: 33°F to 140°F

* Refer to www.zurn.com for updated information

STANDARD EQUIPMENT

Wye Type Strainer
Pilot Isolation Valves
Epoxy Coated
ANSI Class 150 Flanges

* Refer to www.zurn.com for updated information
Zurn Wilkins Automatic Control Valves for Fire Protection

**STANDARD EQUIPMENT**
- Wye Type Strainer
- 3-Way Gauge Isolation Valves
- Epoxy Coated
- ANSI Class 300 Flanges

**OPTIONS**

<table>
<thead>
<tr>
<th>Main Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Grooved Ends (inlet rating 300 psi)</td>
</tr>
<tr>
<td>X</td>
<td>ANSI Class 150 Flanges (inlet rating 250 psi)</td>
</tr>
<tr>
<td>RV</td>
<td>Pilot Installed on Reverse Side</td>
</tr>
<tr>
<td>SS</td>
<td>Stainless Steel Seat/Retainer/Cover Guide</td>
</tr>
</tbody>
</table>

**OPERATING TEMPERATURE RANGE**

- Water: 33°F to 140°F

**TYPICAL APPLICATION**

- The Fire Protection Series of pilot operated automatic control valves come fully equipped to handle fire protection plumbing needs
- Standard features:
  - Epoxy coating inside and out for corrosion protection
  - Pressure gauges for quick and easy installation, maintenance, or repair
  - Full complement of agency approvals
- Provided in grooved, flanged, or threaded end connections
- State-of-the-art design and construction with necessary approval sets

*Refer to www.zurn.com for updated information*
Model ZW209FP - Fire Protection Pressure Reducing Valve

- ZW209FP pilot operated pressure reducing valve is designed for fire suppression systems to reduce high inlet pressures
- Reacts to changes in downstream pressure, allowing the main valve to modulate, ensuring a constant downstream set pressure
- Pressure regulation is not dependent upon flow rate, resulting in minimal pressure loss

Model ZW205FP - Fire Pump Relief Valve

- ZW205FP fire pump relief valve can be installed on a branch line and will open when the pressure exceeds a pre-set limit
- Maintains downstream pressure within narrow limits, regardless of inlet pressure fluctuations or varying flow rates

Model ZW215FP - Fire Protection Pump Suction Control

- ZW215FP fire protection pump suction control valve prevents fire pumps from over-drawing from the supply line
- Prevents damage to the pump or the supply network
- Will close if suction pressure drops below the set pressure and open once suction

* Refer to www.zurn.com for updated information
**TYPICAL APPLICATION**
- ZW218 check valve is generally used after a pump to prevent damage from backflow.
- Fully opens when inlet pressure is greater than outlet pressure.
- Closes drip tight when outlet pressure is greater than the inlet pressure.

**OPTIONAL FEATURES**

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

**Main Options**
- SS  Stainless Steel Seat/Retainer/Cover Guide
- Z  ZPI Visual Position Indicator

**Pilot System**
- ST  Stainless Tubing and Fittings
- RV  Pilot Installed on Reverse Side

**STANDARD EQUIPMENT**
Standard with open and closing speed controls
Epoxy Coated
ANSI Class 150 Flanges

**OPERATING TEMPERATURE RANGE**
Water  33°F to 140°F

* Refer to www.zurn.com for updated information
## Repair Kits for All Zurn ZW200 Series ACV Parts

### Wilkins ZW200 Series

#### ACV Rubber Repair Kits

Rubber Repair Kit contains: diaphragm, stem o-rings, and disc (with spring discs for 4" and larger sizes)

<table>
<thead>
<tr>
<th>Size</th>
<th>Repair Kit Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/4&quot; - 1-1/2&quot;</td>
<td>RK114-112-ZW200R</td>
</tr>
<tr>
<td>2&quot;</td>
<td>RK2-ZW200R</td>
</tr>
<tr>
<td>2-1/2&quot;</td>
<td>RK212-ZW200R</td>
</tr>
<tr>
<td>3&quot;</td>
<td>RK3-ZW200R</td>
</tr>
<tr>
<td>4&quot;</td>
<td>RK4-ZW200R</td>
</tr>
<tr>
<td>6&quot;</td>
<td>RK6-ZW200R</td>
</tr>
<tr>
<td>8&quot;</td>
<td>RK8-ZW200R</td>
</tr>
<tr>
<td>10&quot;</td>
<td>RK10-ZW200R</td>
</tr>
</tbody>
</table>

#### ACV Complete Repair Kits

Complete Repair Kit contains: spring and complete stem assembly (with spring discs for 4" and larger sizes)

<table>
<thead>
<tr>
<th>Size</th>
<th>Repair Kit Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/4&quot; - 1-1/2&quot;</td>
<td>RK114-112-ZW200C</td>
</tr>
<tr>
<td>2&quot;</td>
<td>RK2-ZW200C</td>
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<tr>
<td>2-1/2&quot;</td>
<td>RK212-ZW200C</td>
</tr>
<tr>
<td>3&quot;</td>
<td>RK3-ZW200C</td>
</tr>
<tr>
<td>4&quot;</td>
<td>RK4-ZW200C</td>
</tr>
<tr>
<td>6&quot;</td>
<td>RK6-ZW200C</td>
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<td>RK8-ZW200C</td>
</tr>
<tr>
<td>10&quot;</td>
<td>RK10-ZW200C</td>
</tr>
</tbody>
</table>

#### ACV Seat Repair Kits

Seat Repair Kit contains: seat and seat o-ring (with seat screws for 8" and larger sizes)

<table>
<thead>
<tr>
<th>Size</th>
<th>Repair Kit Part Number</th>
</tr>
</thead>
<tbody>
<tr>
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<td>RK212-ZW200SK</td>
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<td>RK8-ZW200SK</td>
</tr>
<tr>
<td>10&quot;</td>
<td>RK10-ZW200SK</td>
</tr>
</tbody>
</table>

---

* Rubber Repair Kit Items
† Complete Repair Kit Items
‡ Seat Repair Kit
## Model ZPI Valve Position Indicator

- Positive Visual Indicator of current operating position
- Frictionless
- Leak Proof
- Easy Maintenance and Cleaning
- Protected Indicator Rod
- Can be installed to replace the top plug on any Zurn Wilkins basic main valve

<table>
<thead>
<tr>
<th>Model ZPI Size</th>
<th>Height Above Cover</th>
<th>NPT</th>
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<tbody>
<tr>
<td>1-1/4&quot;</td>
<td>4-1/4&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>4-1/4&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>2&quot;</td>
<td>4-1/4&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>2 1/2&quot;</td>
<td>4-1/4&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>3&quot;</td>
<td>4-1/4&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>4&quot;</td>
<td>4-1/4&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>6&quot;</td>
<td>6&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>6-3/8&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>6-3/8&quot;</td>
<td>1&quot;</td>
</tr>
</tbody>
</table>

## Pressure Gauges

Standard Equipment on all Zurn Wilkins Pressure Reducing and Pressure Relief Automatic Control Valves

- Face Diameter: 2 1/2"
- Connection Size: 1/4" NPT Bottom Mount
- Range: 0-300 psi for 150# Flange and Grooved End Connections, 0-400 psi for Threaded, 300# Flange End Connections
- Accuracy: +/- 3-2-3% of Span
- Bourdon Tube: Phosphor Bronze
- Window: Plastic
- Movement: Brass

## Model 40XL2 Check Valve

- Size: 3/8" thru 3/4"
- Body: Cast Brass
- Poppet: Polyetherimide
- Seal Ring: NBR
- Spring: Stainless Steel

## Model SXL Wye Strainer

- Size: 3/8" thru 3/4"
- Body and Cap: Cast Bronze ASTM B584 or B806, Lead-Free
- Screen: 20 Mesh Stainless Steel, 300 Series
Pilot Restriction Fitting

- Corrosion Resistant
- Operates In Any Position
- Easy Adjustments
- Automatic Operation
- No Lubrication Required
- Easy Maintenance

Model 850XL Isolation Valve

- Size: 3/8" thru 3/4"
- Body: Cast Bronze ASTM B584 or B806, Lead-Free
- Ball: Chrome Plated Bronze ASTM B584 or B806, Lead-Free
- Seats: TFE Virgin Teflon
- Stem: Brass ASTM B16
- Stem Packing: PTFE Virgin Teflon
- Thrust Washer: PTFE Virgin Teflon
- Handle and Nut: Stainless Steel

Model PV-ACL Accelerator Pilot

- Corrosion Resistant
- Automatic Operation
- No Lubrication Required
- Easy Adjustments
- Easy Maintenance
- Accelerates the opening and closing of any Automatic Control Valve
- Used on any solenoid or float controlled Automatic Control Valve for faster closure
- Available as both a 2-way valve and a 3-way valve
- Additional port available on the bottom of the valve

SPECIFICATIONS

- Size: 1/2"
- End Detail: 1/2" NPT Female
- Control Port: 1/8" NPT Female
- Pressure Rating: 400 psi Max
- Temperature Rating: 140° F Max
- Body: Cast Lead-Free Bronze

Model SC1 Opening and Closing Speed Controls

- Corrosion Resistant
- Automatic Operation
- No Lubrication Required
- Easy Adjustments
- Easy Maintenance
- Needle valve allowing free flow in one direction and restricted flow in the opposite direction
- Used to slow down the rate at which the main valve opens or closes

SPECIFICATIONS

- Size: 3/8"
- End Detail: 3/8” NPT (one connection male one connection female)
- Pressure Rating: 400 psi Max
- Temperature Rating: 140° F Max
- Body: Cast Lead-Free Bronze
Frequently Asked Questions

How do I size a Pilot Operated Pressure Reducing Automatic Control Valve?

- Determine the actual inlet pressure, the desired outlet pressure, and the maximum and minimum continuous flow rates. Using the Submittal Sheet, choose the size of valve that will satisfy the maximum and minimum continuous flow rates. Verify that the valve will not be in a potential cavitation zone and the desired pressure drop across the valve does not fall into a cavitation zone.

  If the pressure drop across a single valve results in cavitation, a second valve may need to be plumbed in series. Set each valve such that the pressure drop is equal for each valve.

How do I control water hammer or surging that is caused by my Automatic Control Valve?

- Water hammer and surging is caused by a rapidly closing and opening of a valve. This can be resolved with the use of Model SC1 speed controls. The closing speed control can be adjusted to prevent the rapid closure of the control valve, mitigating water hammer. The opening speed control can be adjusted to allow the control valve to open slowly, mitigating surging.

My flow rate is below the minimum continuous flow rate of the Automatic Control Valve. How do I handle this?

- Water flows under the minimum continuous flow rate can be handled by a direct acting pressure reducing valve (PRV) plumbed in parallel to the control valve (ACV). When installed in parallel with the ACV, the PRV is set to the desired static operating pressure required by the water system. The ACV is then set 5 psi below the setting of the PRV. This ensures that all low flows will flow through the PRV.

How do I adjust a Pressure Reducing Automatic Control Valve?

- Go to www.zurn.com to find instruction sheets for each valve model, which contain specific procedures and operating instructions.

What is the difference between a Direct Acting Pressure Reducing Valve (PRV) and a Pilot Operated Pressure Reducing Automatic Control Valve (ACV)?

- Direct acting pressure reducing valves (PRV’s) exhibit a condition called fall-off. With PRV’s, the downstream pressure decreases as the flow rate increases.

  A pilot operated pressure reducing automatic control valve (ACV) has the ability to hold its downstream pressure at a fairly constant value, regardless of changes in inlet pressure or changes in water demand. ACV’s have the ability to achieve flow rates far in excess of what a comparably sized PRV could provide.

If you still have questions, please contact Zurn Wilkins Customer Care at 855-ONE-ZURN (855-663-9876) for assistance.
### Flow Chart and Main Valve Dimensions

**FLOW CHART**

(Based on normal flow through a wide open valve)

**Body Minimum Friction Loss**

![Flow Chart Diagram](image)

<table>
<thead>
<tr>
<th>DIM</th>
<th>ANSI CLASS</th>
<th>VALVE SIZE inches</th>
<th>1-1/4&quot;</th>
<th>1-1/2&quot;</th>
<th>2&quot;</th>
<th>2-1/2&quot;</th>
<th>3&quot;</th>
<th>4&quot;</th>
<th>6&quot;</th>
<th>8&quot;</th>
<th>10&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Threaded</td>
<td></td>
<td>7-1/4</td>
<td>7-1/4</td>
<td>9-7/16</td>
<td>11</td>
<td>12-1/2</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>150</td>
<td></td>
<td>N/A</td>
<td>8-1/2</td>
<td>9-3/8</td>
<td>11</td>
<td>12</td>
<td>15</td>
<td>20</td>
<td>25-3/8</td>
<td>29-3/4</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td></td>
<td>N/A</td>
<td>9</td>
<td>10</td>
<td>11-5/8</td>
<td>13-1/4</td>
<td>15 5/8</td>
<td>21</td>
<td>26-7/16</td>
<td>31-1/8</td>
</tr>
<tr>
<td></td>
<td>Grooved</td>
<td></td>
<td>N/A</td>
<td>8-1/2</td>
<td>9</td>
<td>11</td>
<td>12-1/2</td>
<td>15</td>
<td>20</td>
<td>25-3/8</td>
<td>29-3/4</td>
</tr>
<tr>
<td>D</td>
<td>Max</td>
<td>1-3/8</td>
<td>1-3/8</td>
<td>1-3/4</td>
<td>2-1/8</td>
<td>2-9/16</td>
<td>3-7/16</td>
<td>4-15/16</td>
<td>5</td>
<td>5-13/16</td>
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</tr>
<tr>
<td>E</td>
<td>150</td>
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<td>2-1/2</td>
<td>3</td>
<td>3-1/2</td>
<td>3-3/4</td>
<td>4-1/2</td>
<td>5-1/2</td>
<td>6-3/4</td>
<td>8</td>
<td></td>
</tr>
<tr>
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<td>3-1/4</td>
<td>3-3/4</td>
<td>4-1/8</td>
<td>5</td>
<td>6-1/4</td>
<td>7-1/2</td>
<td>8-3/4</td>
<td></td>
</tr>
<tr>
<td>F</td>
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<td>3/8</td>
<td>3/8</td>
<td>3/8</td>
<td>1/2</td>
<td>1/2</td>
<td>3/4</td>
<td>3/4</td>
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<tr>
<td>G</td>
<td>NPT Cover Plug Tap</td>
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<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>3/4</td>
<td>3/4</td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>NPT Cover Tap</td>
<td>3/8</td>
<td>3/8</td>
<td>3/8</td>
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<td>1/2</td>
<td>3/4</td>
<td>3/4</td>
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</tr>
</tbody>
</table>

**Valve Stem Internal Thread UNF**

- 10 - 32: 10 - 32
- 10 - 32: 10 - 32
- 10 - 32: 10 - 32
- 10 - 32: 10 - 32
- 1/4 - 20: 1/4 - 20
- 1/4 - 20: 1/4 - 20
- 3/8 - 16: 3/8 - 16
- 3/8 - 16: 3/8 - 16

**Stem Travel (mm)**

- 7/16: 7/16
- 7/16: 7/16
- 7/16: 7/16
- 7/16: 7/16
- 15/16: 15/16
- 15/16: 15/16
- 2-3/8: 2-3/8
- 2-3/8: 2-3/8

**Approximate Weight Lbs.**

- 23: 23
- 25: 25
- 35: 35
- 50: 50
- 70: 70
- 140: 140
- 285: 285
- 500: 500
- 700: 700

### Flow Chart

**Pressure Drop (PSI)**

**Flow (GPM)**

**Body Minimum Friction Loss**

<table>
<thead>
<tr>
<th>DIM</th>
<th>ANSI CLASS</th>
<th>VALVE SIZE mm</th>
<th>32</th>
<th>40</th>
<th>50</th>
<th>65</th>
<th>80</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
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<tbody>
<tr>
<td>A</td>
<td>Threaded</td>
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<td>184</td>
<td>184</td>
<td>238</td>
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<td>N/A</td>
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<tr>
<td></td>
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<td></td>
<td>N/A</td>
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<td>238</td>
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<td>305</td>
<td>381</td>
<td>508</td>
<td>645</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td></td>
<td>N/A</td>
<td>229</td>
<td>254</td>
<td>295</td>
<td>337</td>
<td>397</td>
<td>533</td>
<td>670</td>
<td>790</td>
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<td></td>
<td>Grooved</td>
<td></td>
<td>N/A</td>
<td>216</td>
<td>229</td>
<td>279</td>
<td>318</td>
<td>381</td>
<td>508</td>
<td>645</td>
<td>750</td>
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<tr>
<td>B</td>
<td>Diameter</td>
<td></td>
<td>142</td>
<td>142</td>
<td>171</td>
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<td>232</td>
<td>296</td>
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<td>511</td>
<td>601</td>
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<tr>
<td>C</td>
<td>Max</td>
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<td>146</td>
<td>146</td>
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<tr>
<td>D</td>
<td>Max</td>
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<td>F</td>
<td>NPT Body Tap (in.)</td>
<td>3/8</td>
<td>3/8</td>
<td>3/8</td>
<td>1/2</td>
<td>1/2</td>
<td>3/4</td>
<td>3/4</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>NPT Cover Plug Tap (in.)</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>3/4</td>
<td>3/4</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>NPT Cover Tap (in.)</td>
<td>3/8</td>
<td>3/8</td>
<td>3/8</td>
<td>1/2</td>
<td>1/2</td>
<td>3/4</td>
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<td></td>
</tr>
</tbody>
</table>

**Valve Stem Internal Thread UNF**

- 10 - 32: 10 - 32
- 10 - 32: 10 - 32
- 10 - 32: 10 - 32
- 10 - 32: 10 - 32
- 1/4 - 20: 1/4 - 20
- 1/4 - 20: 1/4 - 20
- 3/8 - 16: 3/8 - 16
- 3/8 - 16: 3/8 - 16

**Stem Travel (mm)**

- 10: 10
- 10: 10
- 18: 18
- 21: 21
- 23: 23
- 29: 29
- 43: 43
- 60: 60
- 71: 71

**Approximate Weight (kg)**

- 10: 10
- 11: 11
- 16: 16
- 23: 23
- 32: 32
- 64: 64
- 129: 129
- 227: 227
- 318: 318