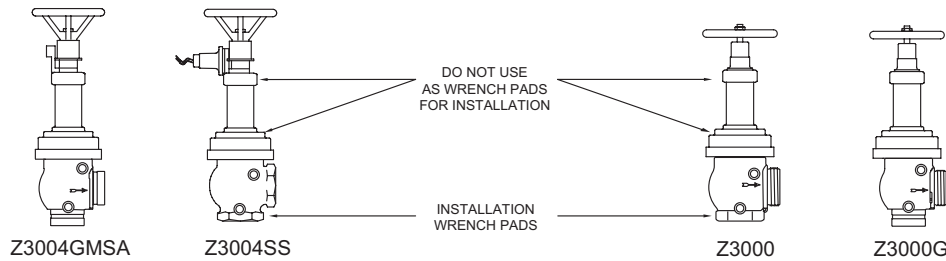


# Model Z3000, Z3004 & Z3005

For Pressure-Tru™ 2 1/2" Pressure Reducing Valve  
Angle Bodies, Grooved or Threaded



## ❑ Installation ❑ Testing ❑ Maintenance Instructions



### Model Z3004 Series

#### APPLICATION:

The Z3004 Series Pressure Reducing Valve is UL® Listed and C-UL® Listed as a floor control valve in automatic sprinkler systems as well as a standpipe valve for CLASS I and CLASS III systems.

#### SPECIFICATIONS:

- ❑ Rated up to 400 psi inlet pressure
- ❑ Can be adjusted in the field
- ❑ Open-Close indicating feature
- ❑ Built-in automatic checking device
- ❑ Regulates pressure under both flow and no-flow conditions
- ❑ Available with monitor switch adapter
- ❑ 2½" female inlet and outlet connections
- ❑ Available with integral supervisory switch
- ❑ Tapped and plugged inlet and outlet for pressure gauge

### Model Z3000 and Z3005 Series

#### APPLICATION:

The Z3000 and Z3005 Series Pressure Reducing Valves are UL® Listed and C-UL® Listed as standpipe valves for CLASS I and CLASS III systems.

#### SPECIFICATIONS:

- ❑ Rated up to 400 psi inlet pressure
- ❑ Can be adjusted in the field
- ❑ Regulates pressure under both flow and no-flow conditions
- ❑ Available with cap and chain
- ❑ Tapped and plugged inlet and outlet for pressure gauge

#### The MSA bracket can be used with the following supervisory switches.

Potter Roemer	6223
System Sensor	PIBV2
Potter Electric	PCVS
Guardian	9391
Crocker	8152

### INSTRUCTIONS

1. Flush pipe thoroughly to remove any debris, rust or scale that could damage seal ring or seat.
2. Install valve with arrow pointing in direction of flow. Only use hex on body connections as wrench surface. Wet systems: Valves may be installed in any position. Dry Systems: Install valve within 45 degrees of vertical, hand wheel up, slope inlet piping minimum 1/4 inch per foot to drain excess water to riser after testing.
3. After Installation, the valve shall be full flow tested in accordance with NFPA 13 and/or NFPA 14 and then tested periodically thereafter in accordance with NFPA 25; flow enough water annually to completely flush rust and debris, full flow test every five years. Initial testing must be done with design inlet pressure and flow rate so the proper outlet pressure can be verified.
4. Valves installed in sprinkler systems shall have:
  - a) Unions or rubber gasket fittings installed immediately upstream or downstream to permit replacement.
  - b) A relief valve of at least 1/2" size and 175 psi max. installed on the downstream side and plumbed to a safe drainage.
  - c) Pressure gauges installed on the inlet and outlet.
  - d) Shall not be set for less than 50 psi.
5. It is suggested that a line size Tee connection be installed downstream of sprinkler system valves to allow full flow testing as required every five years by NFPA 25.
6. Bleed all trapped air from supply riser and at remote points of sprinkler piping when filling. Trapped air may cause outlet pressure fluctuations at low flows.
7. On dry systems, it is recommended to use Pressure Reducing Valves (PRV's) only in semiautomatic dry systems. If used in automatic dry systems, the system must be designed in such a manner that all excess water properly drains to the riser and the valve must be installed vertically to reduce the amount of pipe corrosion near the valve seat due to standing water (reference step #2 above). Hand wheel operation does not force the internal pressure reducing stem to open on all PRV's, and excess pipe corrosion near the valve seat can cause the PRV stem not to operate freely and potentially prevent the automatic dry system from triggering. Ensure system design conforms to all requirements of AHJ. Nitrogen fill systems are recommended with all dry systems to reduce the amount of corrosion in all system components.
8. For Class I & Class III Standpipe Systems:
  - a) The outlet pressures indicated in the illustrations on pages 2-3 are at the outlet of the valve. To determine the pressure at a specific hose nozzle, the hydraulic calculation information provided in NFPA 13 and the NFPA Fire Protection Handbook, should be followed. In any case, the design flow demand required from the hose nozzle shall not exceed the flow range specified in the illustrations on pages 2-3.
  - b) The valve may be adjusted to provide residual pressures less than 100 psig (689 kpa), when permitted by the authority having jurisdiction, but not lower than 65 psig (448 kpa).

WARNING: This product is NOT Lead Free in accordance with U.S. Federal Law and is illegal in the U.S. for use in potable services or to install in water systems anticipated for human consumption.

⚠ **WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)  
⚠ **ADVERTENCIA:** Cáncer y daño reproductivo - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)  
⚠ **AVERTISSEMENT:** Cancer et néfastes sur la reproduction - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

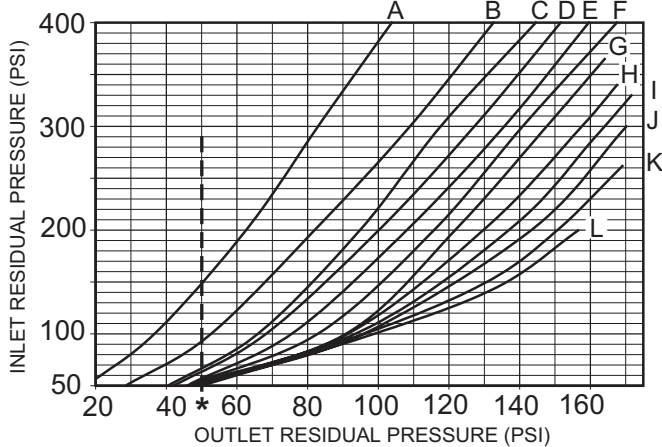
# Residual Pressure Charts

For Pressure-Tru™ 2 1/2" Angle Valves

Models: Z3000, Z3004, Z3005, Z3000G & Z3004G

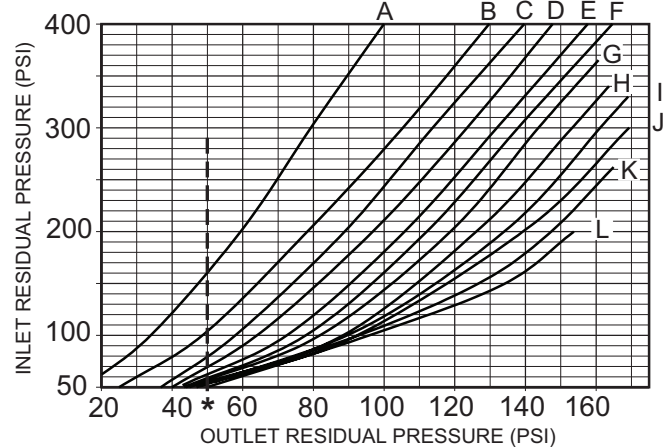
Z3000 SERIES ANGLE BODY

50GPM



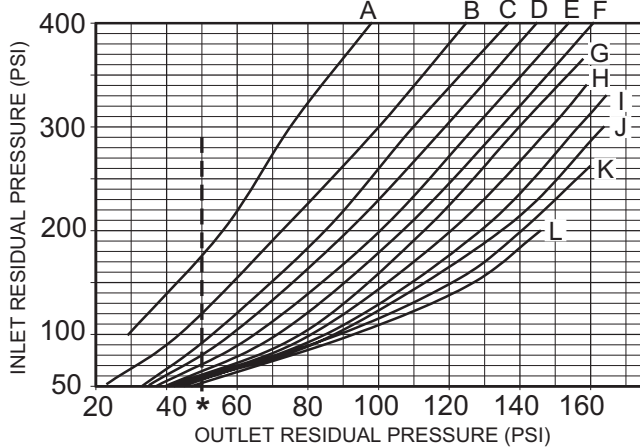
Z3000 SERIES ANGLE BODY

100GPM



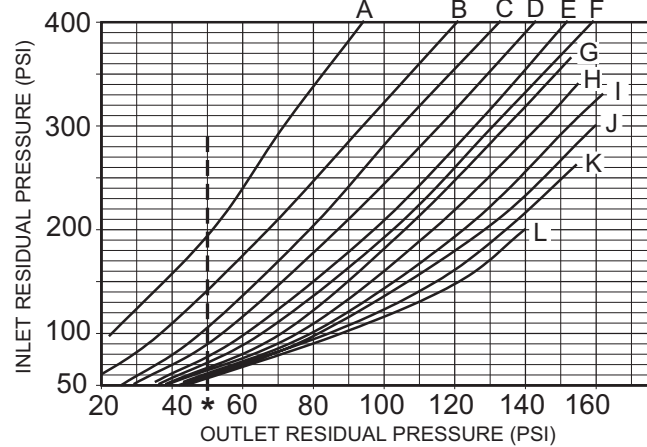
Z3000 SERIES ANGLE BODY

150GPM



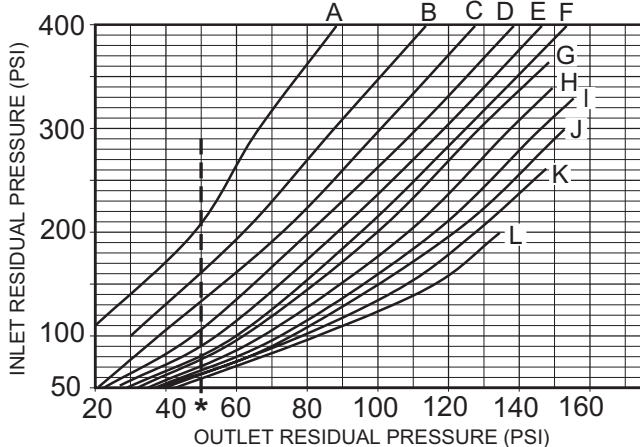
Z3000 SERIES ANGLE BODY

200GPM



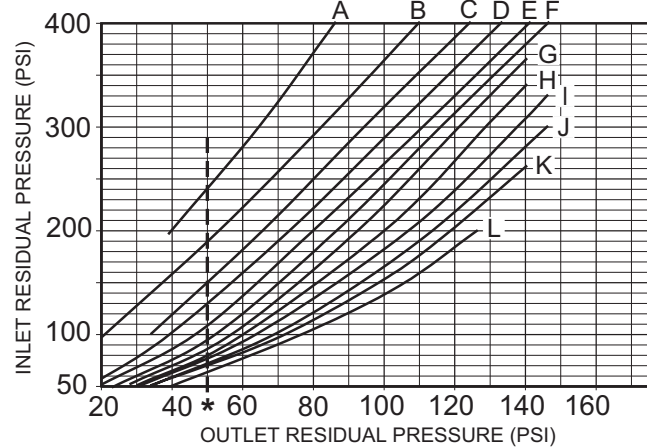
Z3000 SERIES ANGLE BODY

250GPM



Z3000 SERIES ANGLE BODY

300GPM



"A" DIMENSION SETTINGS (inches)

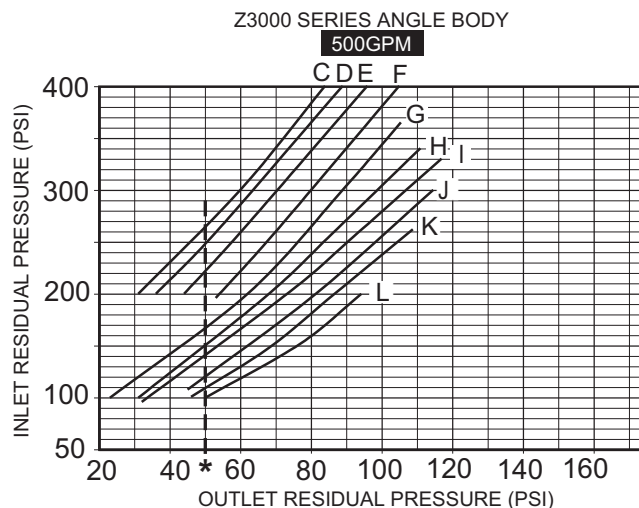
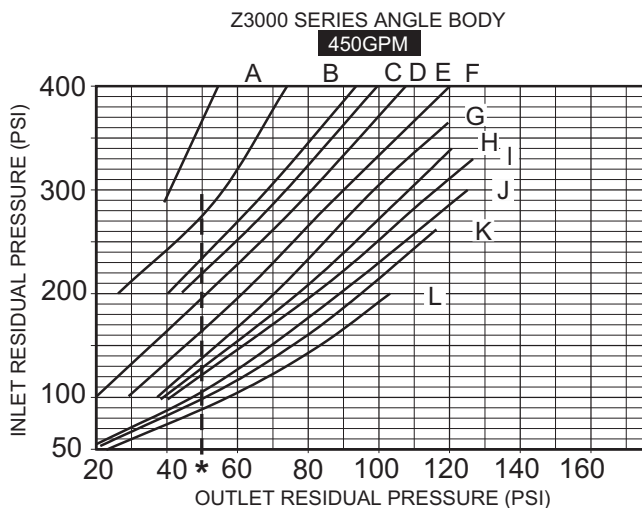
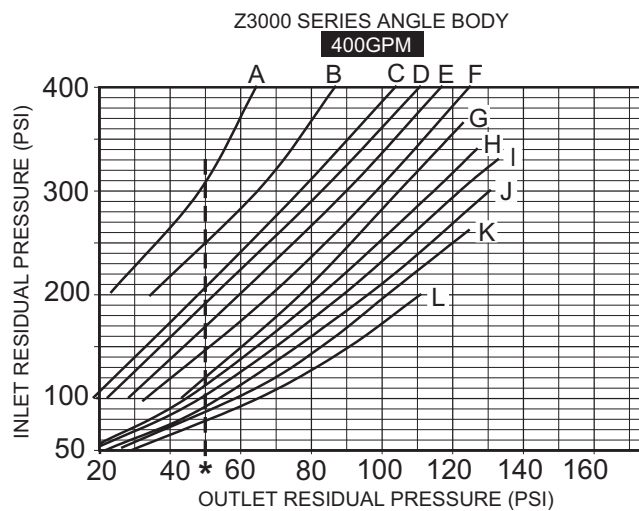
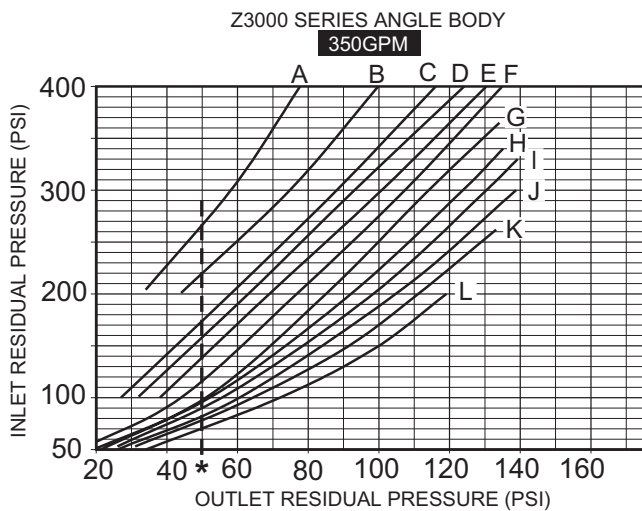
A	B	C	D	E	F	G	H	I	J	K	L
3/8	1/2	5/8	11/16	3/4	13/16	7/8	15/16	1	1-1/16	1-1/8	1-3/16

Note: Curve accuracy= ± 5 PSIG \*50 PSI Minimum setting for sprinkler systems

# Residual Pressure Charts

For Pressure-Tru™ 2 1/2" Angle Valves

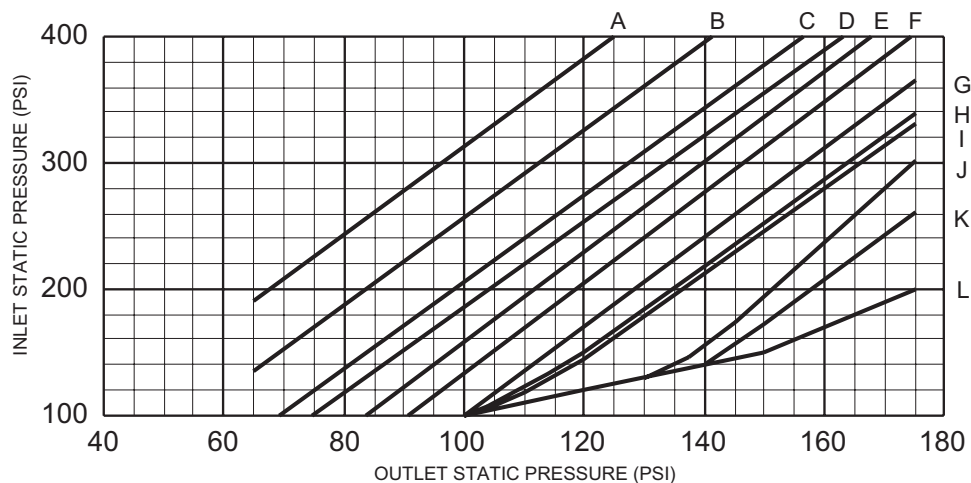
Models: Z3000, Z3004, Z3005, Z3000G & Z3004G



## STATIC PRESSURE CHART

For Pressure-Tru™ Angle and In-line Valves  
(2-1/2" Inlet and Outlet)

**MODELS:**  
Z3000, Z3004 AND Z3005  
(ALL)



"A" DIMENSION SETTINGS (inches)											
A	B	C	D	E	F	G	H	I	J	K	L
3/8	1/2	5/8	11/16	3/4	13/16	7/8	15/16	1	1-1/16	1-1/8	1-3/16

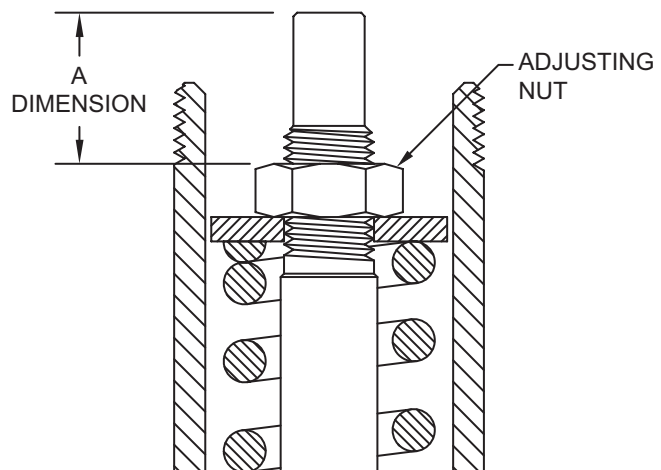
Note: Curve accuracy= ± 5 PSIG \*50 PSI Minimum setting for sprinkler systems

## FIELD SETTING INSTRUCTIONS

1. Pressure gauges should be installed upstream and downstream of the Pressure-Tru™ Valve.
2. Refer to flow data charts on pages 2-3 to determine the proper "A" DIMENSION setting.
3. Open valve by rotating hand wheel counter-clockwise.
4. Remove wheel handle assembly by loosening the upper coupling nut.
5. Insert a 1 1/16" deep well socket (for 2-1/2" valve) or a 15/16 deep-well socket (for 1 1/2" valve) into bell housing and onto adjusting nut.
6. Turn the adjusting nut clockwise to increase the "A" DIMENSION setting and counter-clockwise to reduce the "A" DIMENSION setting. Decreasing the "A" DIMENSION setting lowers the downstream pressure.

**NOTE:** Do not exceed 175 PSI static or maximum "A" DIMENSION setting of 9/16" (1-1/2" valve) and 1-3/16" (2 -1/2" valve) (see illustration).

7. After installation, the valve shall be tested in accordance with NFPA 14 and tested periodically thereafter in accordance with NFPA 25.



**CAUTION:** To prevent a false reading during the setting process it is necessary that a test valve be opened and closed to relieve the locked up pressure in the system.

If the system requires the valve to remain in a static position to maintain a regulated dead-end service pressure, it is good engineering practice to incorporate a pressure relief valve within the system.

VALVES WHICH ARE FIELD SET DIFFERENT THAN ABOVE INSTRUCTIONS WILL RENDER THE WARRANTY VOID.

## CHOOSING THE CORRECT SETTINGS

In designing a sprinkler system, a minimum of 20 psi pressure differential (the difference between the inlet static pressure and the valve outlet set static pressure) is recommended to assure a well regulated and efficient system. In choosing the correct setting for the Pressure-Tru™ valve, refer to the Residual Pressure Charts, Static Pressure Charts and the following procedures:

1. Determine the standpipe residual or "flow pressure" at the valve inlet.
2. Determine the demand in gallons per minute required downstream of the valve.
3. Locate the appropriate flow chart based on GPM required, valve type and size.
4. Locate the inlet residual pressure on the vertical axis of the chart and draw a horizontal line from this pressure across the chart.
5. Locate the desired valve outlet residual pressure on the horizontal axis of the chart and draw a vertical line from this pressure.
6. The curve nearest the intersection of the two lines drawn is the appropriate setting for the valve.
7. To determine the static outlet pressure, locate the static chart for the appropriate valve size. Determine the valve inlet static pressure shown on the vertical axis and draw a horizontal line from that pressure to the appropriate curve determined above, then draw a vertical line down to the horizontal axis and read the static outlet pressure.

## VALVE CARE AND MAINTENANCE

Since the Pressure-Tru™ Valve is an automatic valve, it is imperative to make sure that the system is free of rocks and debris. This can be ensured by flushing the system. Upon completion of valve installation and testing, it is important that it be filled slowly to prevent water hammer. It is recommended that a flow test be run periodically to allow the Pressure-Tru™ Valve to open and reset itself. If valve repair is required, the system should be drained. Access to internal components can be achieved by removing the wheel handle assembly, adjusting nut, spring, bell housing and flange. The body need not be removed from the system. Contact the factory for repair parts.

Proper performance is dependent upon licensed, qualified personnel performing regular, periodic testing according to ZURN WILKINS' specifications and prevailing governmental & industry standards and codes and upon following these installation instructions. Failure to do so releases ZURN WILKINS of any liability that it might otherwise have with respect to that device. Such failure could also result in an improperly functioning device.