

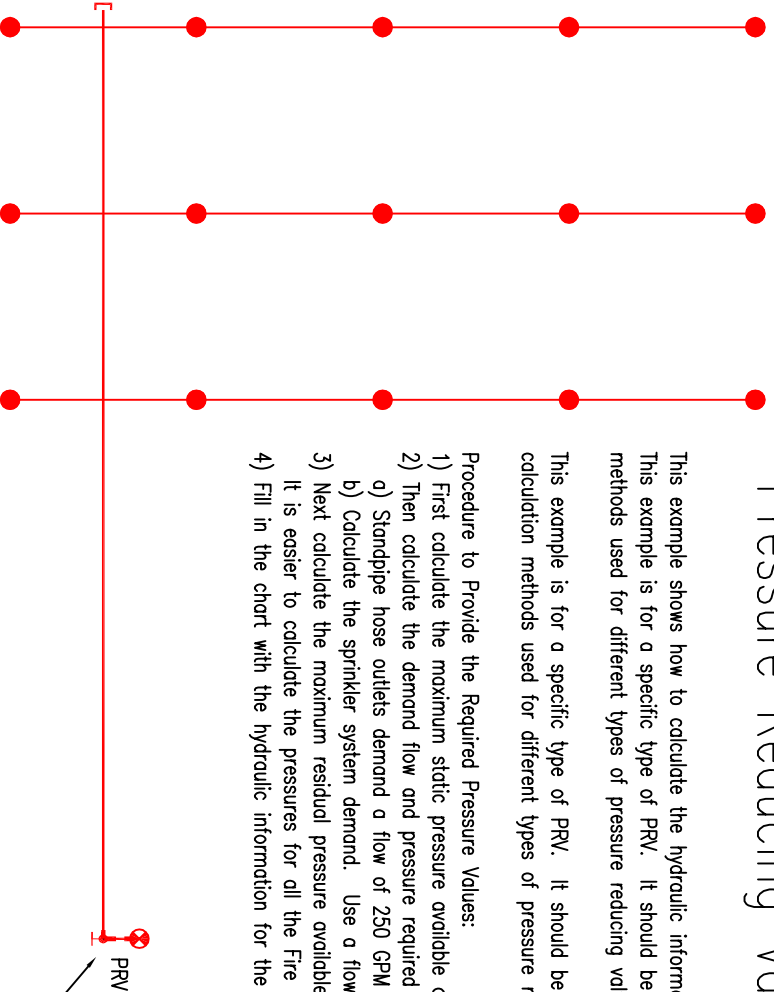
Pressure Reducing Valve Calculation Example

This example shows how to calculate the hydraulic information required in order to factory set a Pressure Reducing Valve. This example is for a specific type of PRV. It should be noted that there may be other requirements and other calculation methods used for different types of pressure reducing valves.

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Procedure to Provide the Required Pressure Values:

- 1) First calculate the maximum static pressure available on the supply side of the PRV at all levels.
- 2) Then calculate the demand flow and pressure required on the system side of each PRV.
- 3) Standpipe hose outlets demand a flow of 250 GPM and Minimum Required Pressure of 100 PSI at the PRV outlet.
- 4) Calculate the sprinkler system demand. Use a flow of 225 GPM at 110 PSI at the PRV outlet – typical each level.
- 5) Next calculate the maximum residual pressure available at the demand flow on the supply side of each PRV at all levels.
- 6) It is easier to calculate the pressures for all the Fire Sprinkler outlets and then pressures for the Hose outlets.
- 7) Fill in the chart with the hydraulic information for the manufacturer.



In order to factory set a Pressure Reducing Valve you must supply the manufacturer with hydraulic information. Below is a typical chart showing required information. This chart is for a Dixon Powhattan 18-459 PRV.

Specification Chart

Qty	Location		Inlet		Outlet/Desired		Actual		Type
	Tag	Style	Size (in.)	Static (PSI)	Residual (PSI)	Residual @ Flow (GPM)	Static (PSI)	Residual (PSI)	

1. Customer is requested to furnish as much information as possible to ensure delivery of the appropriate valve. Flow values for inlet static and residual pressure readings are needed for all types of valves (standpipe or sprinkler). Please provide a Desired Residual Outlet pressure range.
2. Styles available: 18-457, 18-458, 18-459
3. Sizes available: 1 1/2" or 2 1/2" (18-458 2 1/2" only)
4. Valve columns are to be filled out by the factory. Actual valves operate to within ± 10% of the final specified setting.
5. Valves are permanently tagged for correct floor placement.

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

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PRV REQUIRED - VALVE SPECIFIC

Typical Floor Calculation – Requires a System Flow of 225 gpm @ 110 psi at the Pressure Reducing Valve discharge.
 Typical Hose Valve Outlet – Requires a System Flow of 250 gpm @ 100 psi at the Pressure Reducing Valve discharge.

City Water Test
 Static Pressure – 90 PSI
 Residual Pressure – 75 PSI
 Residual Flow – 1200 GPM
 AT 2'-0" above 1st Floor

Fire Pump
 Rated Pressure – 150 PSI
 Rated Flow – 500 GPM
 Churn – 118 %

