



# Liquid Thermal Expansion PRV Sizing Information Sheet

**MERCER VALVE CO., INC.®**  
AUTO SEAT TECHNOLOGY®

Contact Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Location: \_\_\_\_\_  
Tag/PSV No.: \_\_\_\_\_

Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_  
Quantity: \_\_\_\_\_

Per ASME and API codes, in most thermal relief applications, an NPS 3/4" x NPS 1" valve is acceptable. This is because every hydraulic expansion application is for a relieving liquid and the required relieving rate is small, therefore specifying an oversized device is reasonable. Fill out this form if there is a reason to believe that this size is not adequate.

*Please indicate the units used for each field.*

## 1. Requested Connection Size and Type

*The requested may not be available since it depends on orifice/valve sizing result.*

- Threaded: \_\_\_\_\_
  - MNPT x FNPT
  - FNPT x FNPT
- Lift Lever?  None  Open Lever  Closed Lever

- Flanged: \_\_\_\_\_
  - RF x RF
  - RTJ x RF
  - RTJ x RTJ

## 2. Operating Data

- Operating Pressure: \_\_\_\_\_
- Set Pressure: \_\_\_\_\_
- Atmospheric Pressure: \_\_\_\_\_
- Allowable Overpressure : \_\_\_\_\_
- Known Inlet Pressure Drop: \_\_\_\_\_
- Operating Temperature: \_\_\_\_\_
- Total Heat Transfer Rate: \_\_\_\_\_  watts *or*  Btu/h
- Back Pressures:
  - Constant Superimposed: \_\_\_\_\_
  - Variable Superimposed: \_\_\_\_\_
  - Built-up: \_\_\_\_\_

## 3. Fluid Data

- Liquid Name: \_\_\_\_\_
- Does This Require Sour Service Trim?
  - Yes  No  NACE MR0175
- Density: \_\_\_\_\_  kg/m<sup>3</sup> *or*  lb/ft<sup>3</sup>
- or* Specific Gravity: \_\_\_\_\_ (referred to water at 15.6 °C/60 °F)
- Viscosity: \_\_\_\_\_
- Cubical Expansion Coefficient: \_\_\_\_\_  1/°C *or*  1/°F
- Specific Heat: \_\_\_\_\_  J/kg-K *or*  Btu/lb-F



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