



# Liquid Vaporization Due to Fire PRV Sizing Information Sheet

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

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

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

*Please indicate the units used for each field.*

## 1. Vessel Data

- Vessel Diameter: \_\_\_\_\_
- Vessel Length (seam to seam): \_\_\_\_\_
- Normal Fluid Level (height or %): \_\_\_\_\_
- Vessel Height Above Grade: \_\_\_\_\_
- Vessel Orientation:
  - Vertical       Horizontal       Sphere
- Is There Drainage and Fire Fighting Equipment?
  - Yes       No

### ➤ Type of Ends:

- End 1:  Flat Head     2:1 Elliptical     Hemispherical  
 End 2:  Flat Head     2:1 Elliptical     Hemispherical

- Environmental Factor *F*: \_\_\_\_\_  
(*F*=1 for bare vessel)

- Insulation (if applicable):
  - Thickness: \_\_\_\_\_
  - Thermal Conductivity: \_\_\_\_\_

## 2. 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

## 3. Operating Data

- Operating Pressure: \_\_\_\_\_
- Set Pressure: \_\_\_\_\_
- Atmospheric Pressure: \_\_\_\_\_
- Back Pressures:
  - Constant Superimposed: \_\_\_\_\_
  - Built-up: \_\_\_\_\_

- Allowable Overpressure (up to 21% MAWP): \_\_\_\_\_
- Known Inlet Pressure Drop: \_\_\_\_\_
- Operating Temperature: \_\_\_\_\_

- Variable Superimposed: \_\_\_\_\_

## 4. Fluid Data (Liquid being vaporized)

- Fluid Name: \_\_\_\_\_
- Molecular Weight: \_\_\_\_\_
- Saturation Temperature at Set Pressure: \_\_\_\_\_
- Latent Heat of Vaporization at Set Pressure: \_\_\_\_\_

- Does This Require Sour Service Trim?
  - Yes     No     NACE MR0175
- Ratio of Specific Heats: \_\_\_\_\_
- Compressibility Factor *Z*: \_\_\_\_\_  
(*Z* = 1.0 if value is unknown)



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