

# THERMAL EXPANSION RELIEF VALVE

## 648 SERIES

### SPECIFICATION

Sioux Chief 648 Series thermal expansion relief valve shall be used to provide means for controlling increased pressure caused by thermal expansion in water distribution systems. Thermal expansion relief valve shall discharge water and excess pressure as needed to prevent explosions or other damage to the water heater or surrounding structure. Discharged water shall be directed through an outlet line to the floor drain or water heater pan. Valve connections shall conform to appropriate standards including ASTM fitting end specifications.

### MATERIALS

Brass valve body<sup>1</sup>, PTFE seats, stainless steel springs, EPDM o-rings and relief seat, anodized aluminum handle

### CERTIFICATIONS

Tested to IAPMO IGC 128-2019 and CSA B125.3-2018.  
IAPMO Listed, File: 13009

### COMPLIANCE

Thermal relief valves are compliant with the following model code language:  
2021 Uniform Plumbing Code (UPC) - Section 608.3  
2021 International Plumbing Code - Section 607.3  
2021 International Residential Code - Section P2903.4, .4.1, .4.2, .9.2

### INSTALLATION LIMITATIONS

Maximum Temperature: 180°F. Do not expose the valve or supply tubing to excessive heat. Do not install damaged valves. Do not solder or braze in close proximity to valve unless it is protected with a heat-blocker to keep the valve under 180°F. Keep valve free from hazardous chemicals or chemical vapors.

### DIMENSIONS

- A:** Valve inlet 3/4" Nom.
- B:** Valve outlet 3/4" Nom.
- C:** Relief connection 3/8", 1/2" Nom.

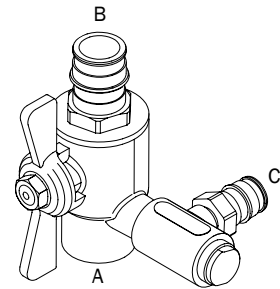
<sup>1</sup> Material is C69300 and C46500. Brass is dezincification and SCC resistant, and is compliant with NSF-61 Annex G and California No Lead Plumbing Law

|                  |                 |
|------------------|-----------------|
| ITEM # SUBMITTED | _____           |
| JOB NAME         | _____           |
| LOCATION         | _____           |
| ENGINEER         | _____           |
| CONTRACTOR       | _____           |
| PO#              | _____ TAG _____ |



648XG3XRV

648-WG3WR



### Select Item Number

| ITEM NO.   | VALVE INLET                  | VALVE OUTLET    | RELIEF CONNECTION |
|------------|------------------------------|-----------------|-------------------|
| 648-WG3CR  | 3/4" FSWT                    | 3/4" F1960 PEX  | 3/8" Compression  |
| 648-WG3HR  | 3/4" FSWT                    | 3/4" F1960 PEX  | 3/8" Hose barb    |
| 648-WG3WR  | 3/4" FSWT                    | 3/4" F1960 PEX  | 1/2" F1960 PEX    |
| 648-XG3CR  | 3/4" FSWT                    | 3/4" F1807 PEX  | 3/8" Compression  |
| 648-XG3HR  | 3/4" FSWT                    | 3/4" F1807 PEX  | 3/8" Hose barb    |
| 648-XG3XR  | 3/4" FSWT                    | 3/4" F1807 PEX  | 1/2" F1807 PEX    |
| 648-3SMARX | 3/4" FIP swivel <sup>2</sup> | 3/4" MIP thread | 1/2" F1807 PEX    |
| 648WG3WRV  | 3/4" F1960 PEX               | 3/4" F1960 PEX  | 1/2" F1960 PEX    |
| 648XG3XRV  | 3/4" F1807 PEX               | 3/4" F1807 PEX  | 1/2" F1807 PEX    |

#### Accessories - Available Separately:

- 648-ARW: TERV component, 1/8" MIP x 1/2" F1960 PEX  
Adjustable relief: 80-125 psi
- 648-ARX: TERV component, 1/8" MIP x 1/2" F1807 PEX  
Adjustable relief: 80-125 psi

<sup>2</sup> Do Not use pipe dope on FIP threads