



2" HOTV Oil Temperature Valve

**Specifications, Applications,  
Service Instructions & Parts**

**HANSEN OIL  
TEMPERATURE VALVE**  
1", 1½", 2", 2½", 3"  
(25 mm, 40 mm, 50 mm,  
65 mm, 80 mm)

**for Oil-Cooling Circuits**

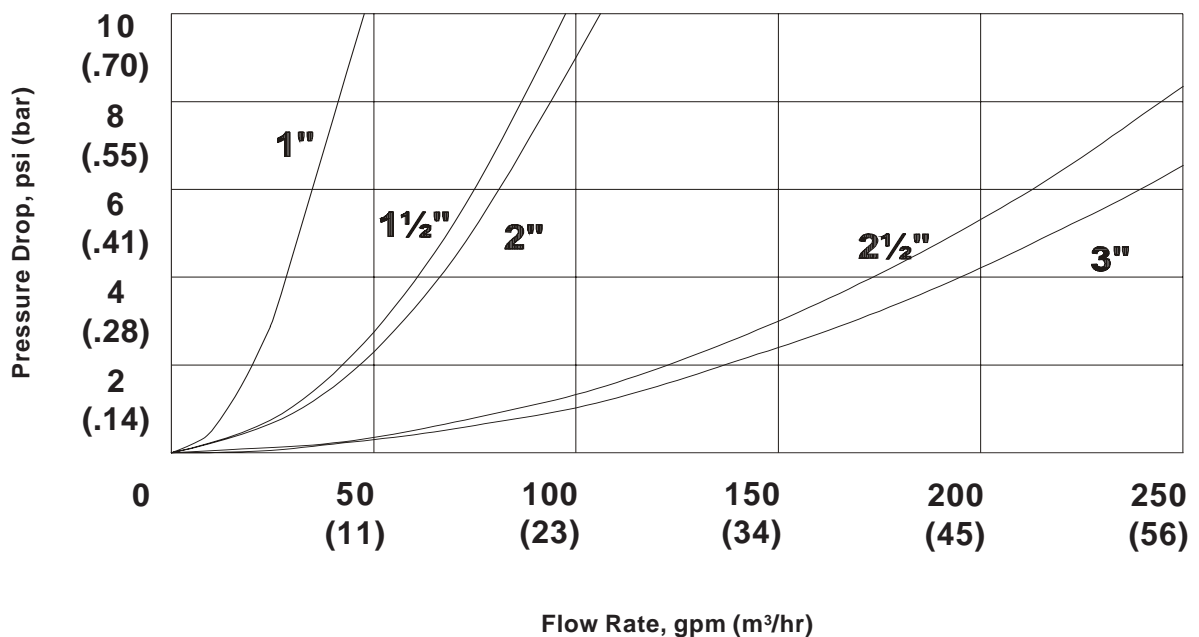
**INTRODUCTION**

The Hansen Oil Temperature Valve is a 3-way mixing valve used to accurately control the oil temperature of screw compressors or other oil-cooling circuits within appropriate design parameters. The internal thermostatic element modulates to maintain a near constant temperature at the outlet of the valve.

As oil and refrigerant are circulated through the screw compressor, the oil is heated. The hot oil is fed to the valve and it is also fed to a heat exchanger, which provides cold oil to the opposite side of the valve. The thermostatic element modulates the flow of oil from the cold oil port and the hot oil port to maintain the nominal temperature setting at the outlet.

**FLOW RATE VS. PRESSURE DROP**

Viscosity Oil@140°F(60°C) Specific Gravity=0.85



**ADVANTAGES**

Easy to service—the valve can stay inline  
 Durable Teflon® sliding seal is compatible with most refrigerants, oils, and temperatures, unlike O-ring designs  
 Suitable for mixing or diverting applications

**KEY FEATURES**

Rugged, all-steel construction, weld ends  
 Low pressure drop  
 Thermostatic element is stainless steel with a plated sensing bulb  
 Suitable for oils operating with ammonia, R22, R134a, and other compatible refrigerants

**SPECIFICATIONS**

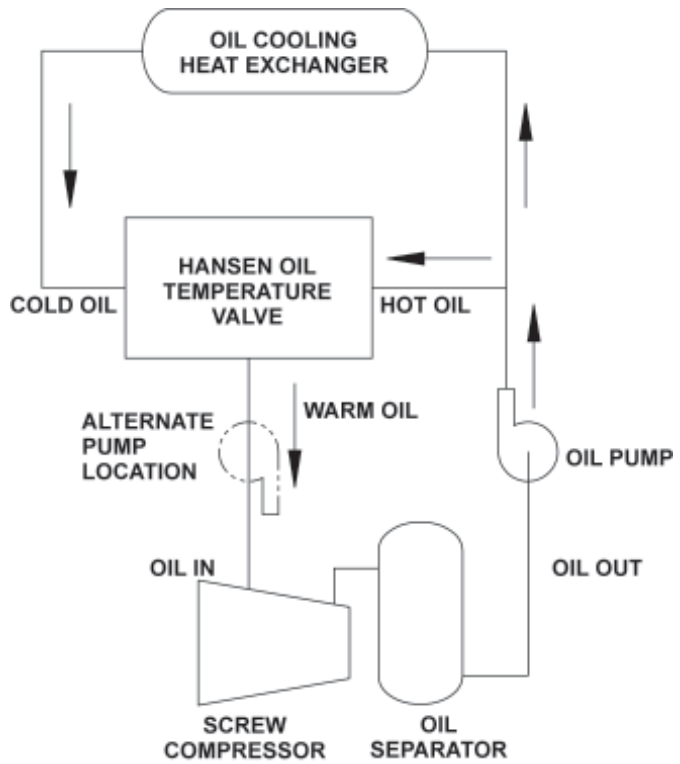
Safe Working Pressure: 400 psig (27 bar) standard, contact Hansen for higher pressures  
 Body: 1" ASTM A29, 1018 CRS  
 Body: 1½"-3", Cast steel, ASTM A352 LCB  
 Cover: Steel plate, ASTM A36  
 Sliding Seal: Composite Teflon®  
 Cover Gasket: Non-asbestos, fiber gasket  
 Temperature Range: ±10°F (±6°C) of nominal temperature

**CONFIGURATION SELECTION**

1½" SW (40 mm) and 2" SW or BW (50 mm)

Two models are available for the 1½" (40 mm) and 2" (50 mm) sizes, HOTV and HOTW. The only difference is the position of the hot oil and cold oil inlets.

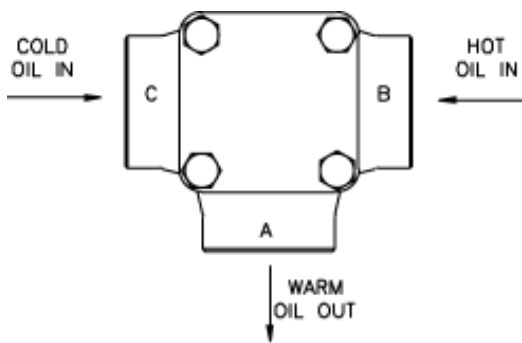
**TYPICAL MIXING APPLICATION**



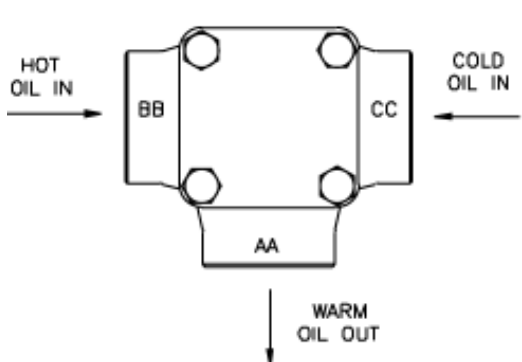
1" SW (25mm), 2½" SW or BW (65mm) and 3" BW (80mm)

The 1" (25mm), 2½" (65 mm) and 3" (80 mm) sizes only require one model. The "T-body" style of these valves allows reversal of inlets by simply turning the valve around.

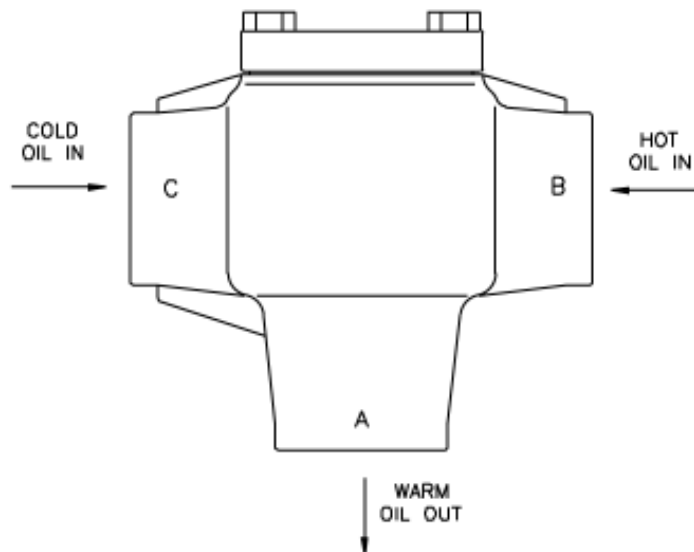
**TOP VIEW HOTV**



**TOP VIEW HOTW**



**FRONT VIEW HOTV**

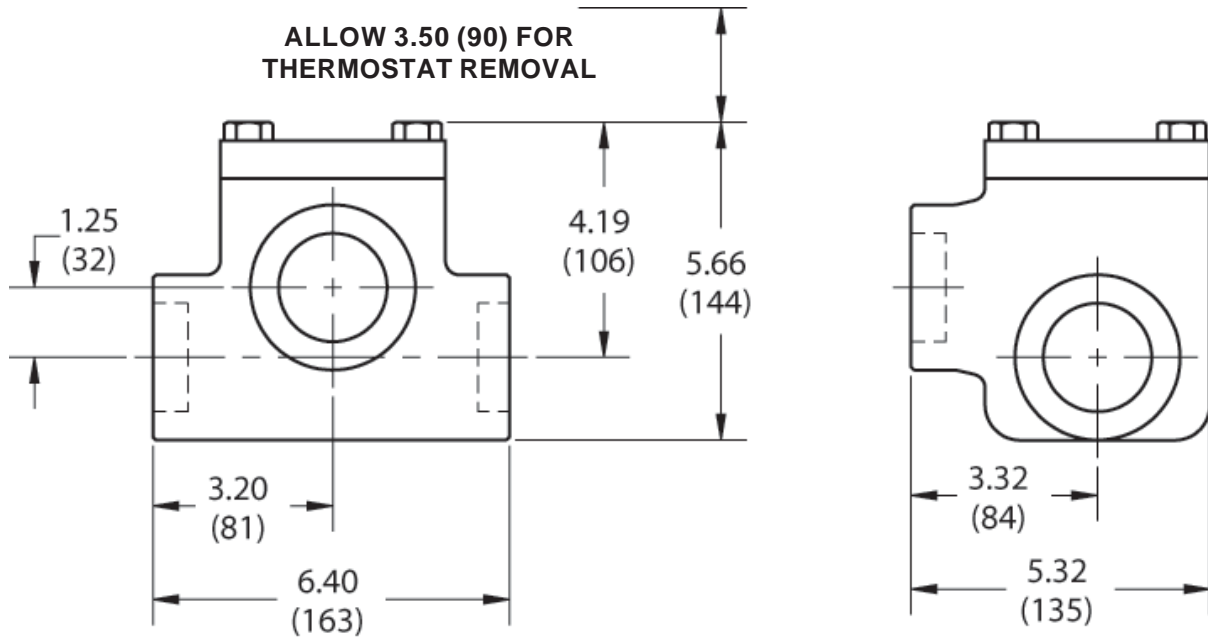


## INSTALLATION

Remove the cover and element before welding the valve body in the line. The valve can be mounted in any position. Avoid mounting valve at the high point of the system where a gas pocket may form. After the valve is welded in the line, reassemble it and check for leaks before placing it in service.

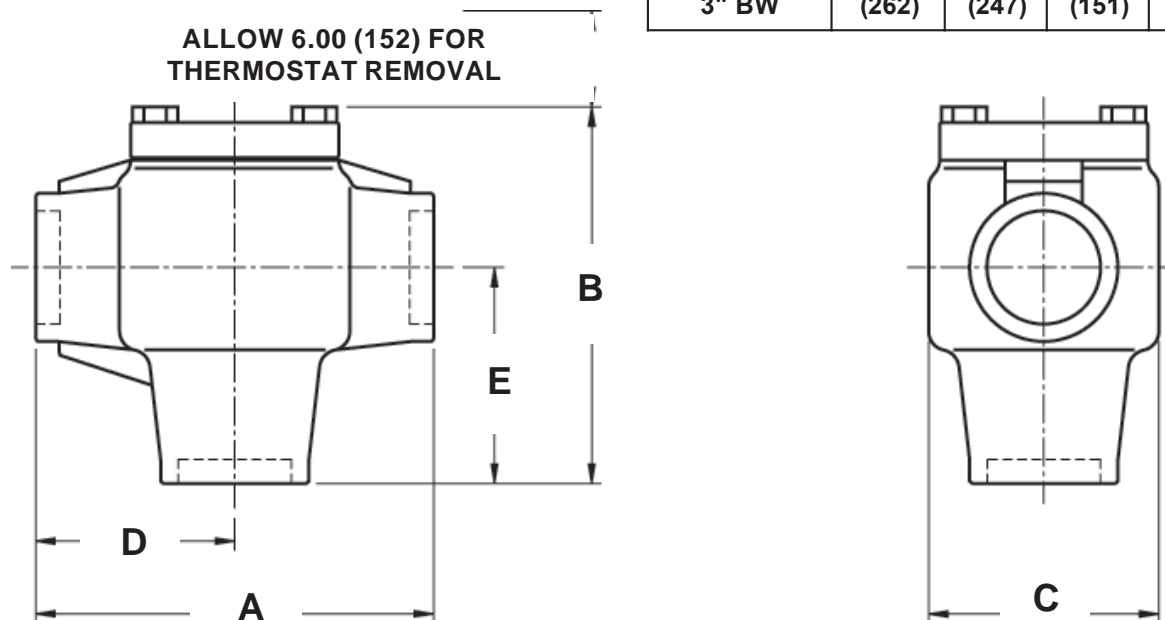
### INSTALLATION DIMENSIONS, INCH (mm)

**1½" SW (40mm) and 2" SW or BW (50mm)**

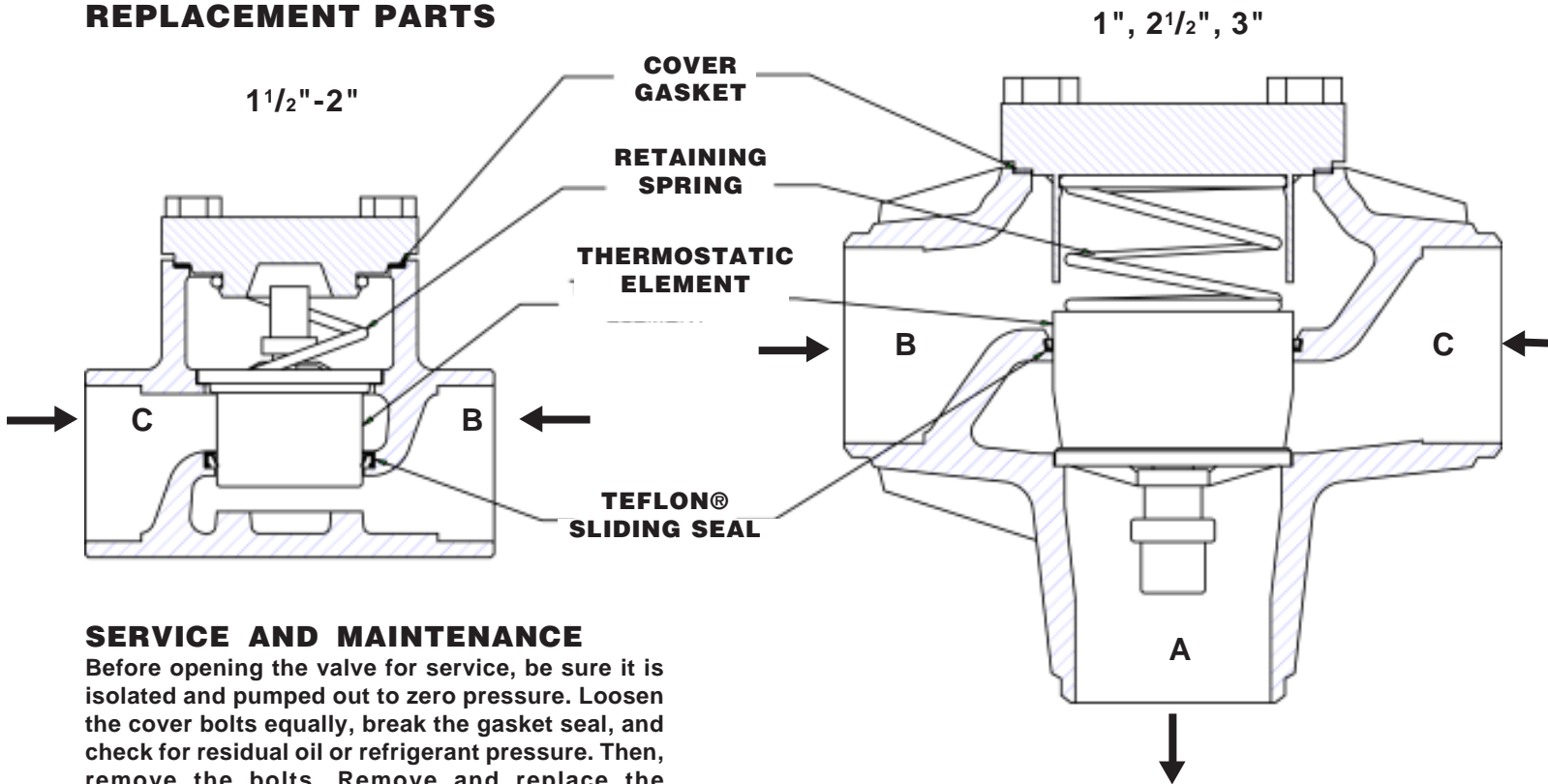


**1" SW (25mm), 2½" SW or BW (65mm) and 3" BW (80mm)**

| INSTALLATION DIMENSIONS |                 |                |                |                |                |
|-------------------------|-----------------|----------------|----------------|----------------|----------------|
| Valve Size              | A               | B              | C              | D              | E              |
| 1" SW                   | 5.28"<br>(135)  | 5.60"<br>(143) | 3.50"<br>(90)  | 2.64"<br>(68)  | 3.43"<br>(88)  |
| 2½" SW/BW<br>3" BW      | 10.30"<br>(262) | 9.75"<br>(247) | 5.96"<br>(151) | 5.15"<br>(131) | 5.60"<br>(142) |



## REPLACEMENT PARTS



## SERVICE AND MAINTENANCE

Before opening the valve for service, be sure it is isolated and pumped out to zero pressure. Loosen the cover bolts equally, break the gasket seal, and check for residual oil or refrigerant pressure. Then, remove the bolts. Remove and replace the thermostatic element if necessary. Reinstall the retaining spring. Replace the cover gasket. Reinstall cover.

For 1", 1 1/2" and 2" valves torque the cover bolts equally to 60 ft-lbs (80 Nm), and for 2 1/2" and 3" valves, torque the cover bolts equally to 125 ft-lbs (170 Nm). Check for leaks before returning the valve to service.

## CAUTION

These instructions and related safety precautions must be read completely and understood before selecting, using, or servicing these valves. Only knowledgeable, trained technicians should install, operate, or service these valves. Stated temperature and pressure limits should not be exceeded. Components should not be removed from a system unless it has been evacuated to zero pressure. See also Safety Precautions in the current List Price Bulletin and the Safety Precautions Sheet supplied with product. Escaping fluids can cause injury, especially to the eyes and lungs.

## WARRANTY

Hansen valves are guaranteed for one year F.O.B. our plant. No consequential damages or field labor is included.

## ORDERING INFORMATION

**To Order:** Specify catalog number HOTV (or optional HOTW for 1 1/2" or 2"), size, connection style (socket weld or butt weld), and temperature setting. Temperature setting of 120°F (49°C) is standard; See temperature Selection Chart for other available temperatures.

## TEMPERATURE SELECTION CHART

| CAT NO.     |           | SIZE   | TEMPERATURE RANGES |   |   |   |   |
|-------------|-----------|--------|--------------------|---|---|---|---|
|             |           |        | A                  | B | D | F | G |
| Socket Weld | Butt Weld |        |                    |   |   |   |   |
| HOTV        | --        | 1"     |                    | X | X |   | X |
| HOTV        | --        | 1 1/2" | X                  | X | X | X |   |
| HOTV        | HOTVB     | 2"     | X                  | X | X | X |   |
| HOTV        | HOTVB     | 2 1/2" | X                  | X |   |   | X |
|             | HOTV      | 3"     | X                  | X |   |   | X |
| HOTW        | --        | 1 1/2" | X                  | X | X | X |   |
| HOTW        | --        | 2"     | X                  | X | X | X |   |

\* Consult Factory for other temperatures.

## PARTS LIST

| Thermostatic Element Replacement Kit<br>(Consists of 1 thermostatic element and 1 cover gasket) |                     |             |            |            |
|---|---------------------|-------------|------------|------------|
| Range   | Nominal Temperature | Part Number |            |            |
|   |                     | 1"          | 1 1/2", 2" | 2 1/2", 3" |
| B   | 120°F (49°C)        | 30-1112     | 30-1104    | 30-1109    |
| A   | 130°F (54°C)        | -           | 30-1103    | 30-1106    |
| D   | 140°F (60°C)        | 30-1113     | 30-1105    | -          |
| F   | 150°F (66°C)        | -           | 30-1117    | -          |
| G   | 170°F (77°C)        | 30-1115     | -          | 30-1116    |

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