

Gauge Siphon

The CT7 provides a thermal barrier for instrument protection between the hot vapors and the pressure instrument

General Application

The CT7 makes a valuable contribution to the installation and use of pressure gauges on steam and other hot vapor applications and provides a seal barrier for a gauge or other pressure measuring device.

TECHNICAL DATA

Materials

CS, 316 SS

Connections:

½" NPT

Pressure (max):

6,000 psig (414 barg)

Temperature (max):

850°F (454°C)



Features

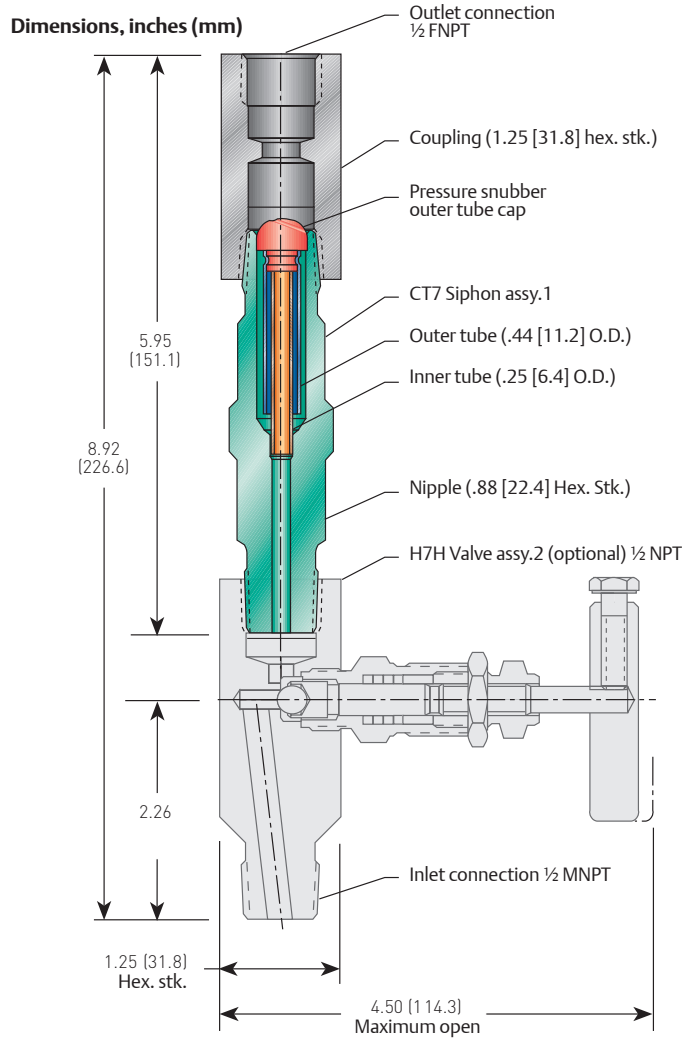
- Cost savings of up to 50% against old style 'pigtail' siphon.
- Compact design requires minimum space for installation.
- Creates a condensate barrier between the live steam process line and the device. Low heat transfer coefficient provides a predictable temperature of the pressure measurement instrument.
- Forms a barrier to prevent freezing of instruments on wet air lines and acts as a freeze protector for aqueous liquid service.
- Immediate installation of piping without instruments during construction saves time.
- Reduces gauge whip by enabling close coupling to process.

CT7 SERIES

Gauge Siphon

High Temperature Applications

As vapor temperature increases, lengthening the condensate leg further reduces the gauge temperature. This can be accomplished either by mounting two CT7 siphons in series or connecting the CT7 to an H7H hand valve. This enables the condensate to ‘hang-up’ between the valve orifice and the top of the ¼” tube, also occupying the lower part of the siphon, preventing high temperature from reaching the instrument.



Standard Materials

| Part no. ^[2] | NPT connection | | Coupling | Nipple | Inner and outer tubes | Maximum pressure and temperature ratings |
|--------------------------|----------------|-------|----------|----------|-----------------------|---|
| | Outlet | Inlet | | | | |
| CT7-44 ^[3] | ½" F | ½" M | A108 | A582-303 | 304 SS | 1500 psig at 850°F (103 barg at 454°C) 6000 psig at 200°F (414 barg at 93°C) |
| CT7C-44 ^[3,4] | ½" F | ½" M | A108 | A105 | CS | 1500 psig at 850°F (103 barg at 454°C) 6000 psig at 200°F (414 barg at 93°C) |
| CT7S-44 ^[5] | ½" F | ½" M | A479-316 | A479-316 | 316 SS | 1500 psig at 850°F (103 barg at 454°C) 6000 psig at 200°F (414 barg at 93°C) |

NOTES

- Shipping weight 1.2 lb (0.55 kg) each.
- For ordering information, request part number CT7-44, CT7C-44, CT7S-44, CT7-46, CT7C-46 or CT7S-46.
- CS is zinc TCP plated to prevent corrosion.
- For Dowtherm® applications. Dowtherm® is a registered trademark of the Dow Chemical Company.
- Meets requirements of NACE.

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Heat Loss Data

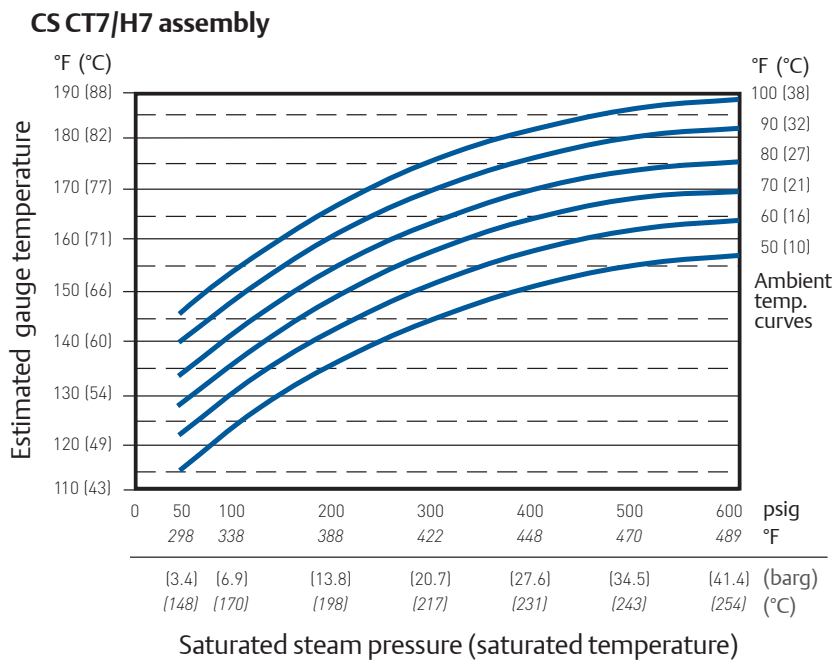
Using the charts

The gauge temperature of a CT7/H7 assembly can be estimated knowing the CT7/H7 material, the saturated steam condition and the ambient air temperature.

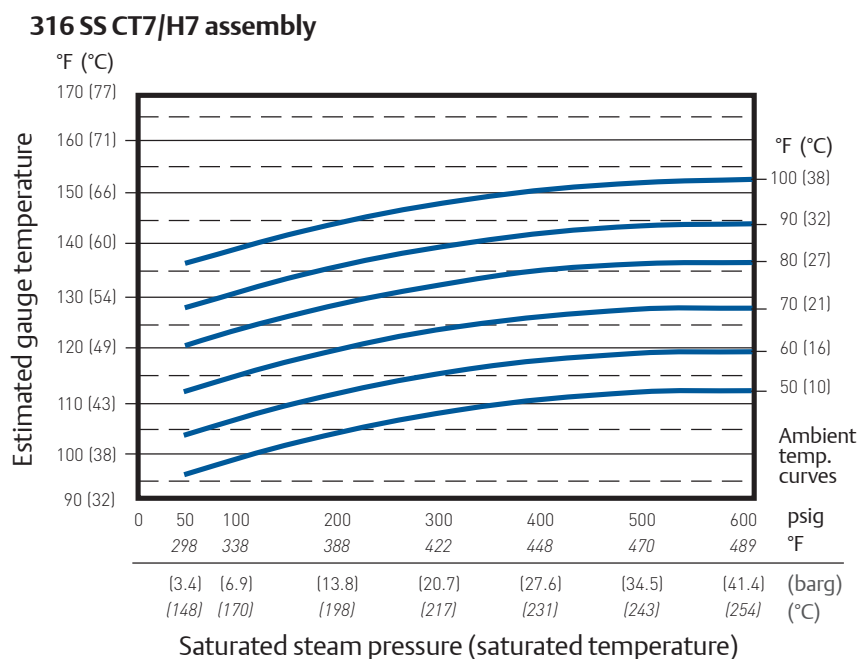
Example: assume a CS CT7/H7 with 400 psig (27.6 barg) 448°F (231°C) saturated steam and 80° (27°C) ambient air. Read the CS chart up from 400 psig (27.6 barg) to the 80°F (27°C) curve, and then left to an estimated gauge temperature of 170°F (77°C).

NOTE

The estimated gauge temperature for a 316 SS CT7/H7 under the same conditions would be 135°F (57°C).



Estimated gauge temperature vs. saturated steam pressure for various ambient temperatures (CS)



Estimated gauge temperature vs. saturated steam pressure for various ambient temperatures (316 SS)

CT7 SERIES

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Selection Guide

| CT7 | S | -44 | -SG |
|--------------|--------------------------------|--|---|
| BASIC SERIES | MATERIALS OF CONSTRUCTION | CONNECTIONS | OPTIONS |
| CT7 | CS Coupling/ 303 Nipple | 44 1/2" FNPT Outlet x 1/2" MNPT Inlet | SG Sour Gas meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l (ppm)) and NACE MRO103-2005 (316 SS Only) |
| C | CS Coupling/CS Nipple | 46 1/2" FNPT Outlet x 3/4" MNPT Inlet | |
| S | 316 SS Coupling/ 316 SS Nipple | | |