

Atmospheric Gauge Tank

Nonpressurized vessel for measuring low flow rates, calibrating metering devices, and temporary storage

APPLICATIONS

- Measurement of low liquid rates from a separator
- Calibration of oil meters mounted on the separator oil lines
- Measurement of a large volume of oil at atmospheric pressure
- Determination of the shrinkage factor

ADVANTAGES

- Accurate, reliable volume measurements in low flow rates
- Temporary oil storage when flow rate is too low to efficiently drive oil to the burners
- Large volume dead oil sampling
- Sight-glass level on each tank compartment
- Flame arrestors on each gas vent line
- Overpressure shearing roof
- Grounding strap
- Sampling points and pressure and temperature ports



Atmospheric gauge tank.

The atmospheric gauge tank, a nonpressurized vessel, is used to measure low flow rates or to calibrate metering devices on the separator oil lines in a testing system. When the flow rate is too low to efficiently drive oil to the burners, the tanks can also be used for temporarily storing the oil.

These skid-mounted units have two compartments, except the model FGTS-B tank, which has only one.

As a transfer pump empties one compartment, the other is being filled. A sight-glass level built into each tank is used to calculate the change in volume based on the physical dimensions of the tank.

Safety features include flame arrestors on each vent from the tank, a grounding strap, and a shearing roof that opens at 0.5 psi [3.45 kPa] burst pressure in the event the vessel is overpressured accidentally. The grounding strap attached to the tank prevents a static charge buildup.

The atmospheric gauge tank is frequently part of the standard equipment for well testing. However, it cannot be used when H₂S is present in the effluent because the gas released from the tank is vented into the atmosphere, and that would be hazardous to personnel in the area.

Atmospheric Gauge Tank

Specifications			
Model	FGTS-B	FGTS-C	FGTS-CW
Type	Single compartment	Dual compartment	Dual compartment
Service	General	General	Winterized
Height, ft [m]	8.53 [2.60]	9.68 [2.95]	9.68 [2.95]
Footprint, ft [m]	19.4 × 7.2 [5.9 × 2.2]	25.6 × 7.9 [7.8 × 2.4]	25.6 × 7.9 [7.8 × 2.4]
Capacity, bbl [m ³]	2 × 50 [2 × 8]	2 × 100 [2 × 16]	2 × 100 [2 × 16]
Weight, lbm [kg]	10,000 [4,536]	17,527 [7,950]	26,450 [12,000]
Working pressure	Atmospheric	Atmospheric	Atmospheric
Temperature, degF [degC]	32 to 212 [0 to 100]	32 to 212 [0 to 100]	-40 to 212 [-40 to 100]
Connections			
Inlet, in	3-in, Fig. 602, female	3-in, Fig. 602, female	3-in, Fig. 602, female
Outlet, in	3-in, Fig. 602, male	3-in, Fig. 602, male	3-in, Fig. 602, male
Documentation	Quality file and load test	Quality file and load test	Quality file and load test
Reference	M-807480	M-872892	P-497858
Codes	ANSI [†] B31.3	ANSI B31.3	ANSI B31.3

[†] American National Standards Institute

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