



Series DTFF Variable-Area Flowmeter for Low Flow Rates

Specifications - Installation and Operating Instructions



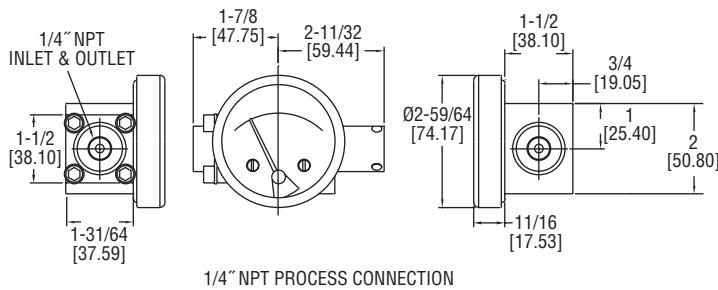
The Series DTFF Fixed-Orifice Flowmeter for Low Flow Rates measures water, oil, or air flow rates with great accuracy at an affordable price. Rugged stainless steel construction ensures great compatibility and is an excellent choice for high line pressure applications, with a maximum pressure of 3000 psig (200 bar). This is all without sacrificing the sensitivity required for low flow measurements. With a wide variety of flow ranges available, the Series DTFF can be used with many different applications all at an economical price.

Calibration

All Series DTFF Fixed-Orifice Flowmeter for Low Flow Rates are calibrated at the factory for mounting in the horizontal position and should be installed that way for maximum accuracy.

The unit will normally retain its accuracy tolerance for the useful life of the device. If you want to check the accuracy, do so only with instruments of certified accuracy. Do not attempt to check accuracy with other flowmeters piped in series. Even minor variations in piping and back pressure can cause significant differences in indication. If in doubt, return the flowmeter to the factory for a calibration check.

Model	Range	Calibration
DTFF-1S-2W	0 to 2 GPH	Water
DTFF-1S-4W	0 to 4 GPH	Water
DTFF-1S-5W	0 to 5 GPH	Water
DTFF-1S-8W	0 to 8 GPH	Water
DTFF-1S-10W	0 to 10 GPH	Water
DTFF-1S-15W	0 to 15 GPH	Water
DTFF-1S-20W	0 to 20 GPH	Water
DTFF-1S-25W	0 to 25 GPH	Water
DTFF-1S-40W	0 to 40 GPH	Water
DTFF-1S-2O	0 to 2 GPH	Oil
DTFF-1S-4O	0 to 4 GPH	Oil
DTFF-1S-5O	0 to 5 GPH	Oil
DTFF-1S-8O	0 to 8 GPH	Oil
DTFF-1S-10O	0 to 10 GPH	Oil
DTFF-1S-15O	0 to 15 GPH	Oil
DTFF-1S-20O	0 to 20 GPH	Oil
DTFF-1S-25O	0 to 25 GPH	Oil
DTFF-1S-40O	0 to 40 GPH	Oil
DTFF-1S-5A	1.5 to 5 SCFM	Air



SPECIFICATIONS

Service: Compatible gases & liquids & oils.

Wetted Materials:

Body: 316 SS;
Spring: 302 SS;
Range spring: 302 SS;
Magnet: PTFE-coated;
Orifice piston: Acetal;
Diaphragm: Fluoroelastomer.

Temperature Limit: -22 to 200°F (-30 to 93°C).

Pressure Limit: 3000 psig (200 bar).

Accuracy: Liquid/oil calibration: $\pm 2\%$ FS; Air calibration: $\pm 5\%$ FS.

Repeatability: $\pm 1\%$ FS.

Size: Diameter dial face 2.5" (63.5 mm).

Process Connections: 1/4" female NPT.

Weight: 4 lb (1.81 kg).

Location

Select a location where the flowmeter can be easily read and where the temperature will not exceed 200°F (93°C). The mounting surface and piping to the flowmeter should be free from excessive vibration. If pulsing flow or vibration causes excessive pointer oscillation, contact factory for ways to provide additional dampening.

Because the device operates through a magnetic coupling system, magnetic material near the flow block can affect accuracy. To minimize the effect of outside interference, keep magnetic materials at least 3 inches (7.6 cm) away from the unit.

Inlet Piping

It is a good practice to have the inlet port of the flowmeter be as free of elbows, restrictions and size changes as possible. Inlet piping should be as close to the flowmeter connection size as possible to avoid possible turbulence, which can occur with drastic size changes. The length of the inlet piping has very little effect on normal pressure fed flowmeters.

For vacuum service, the inlet piping should be as short and open as possible to allow operation at or near atmosphere pressure, thus maintaining the accuracy of the device. Note that for vacuum service, any flow control valve must be installed on the discharge side of the flowmeter.

Outlet Piping

Piping on the outlet port should be at least as large as the flowmeter connection. For flowmeters fed by air or gas pressure, the piping should be as large and short as possible. This is so pressure within the device will be at or near atmospheric for maximum accuracy. This is less important for water or liquid flowmeters since the flowing media is generally not compressible, and therefore back pressure will not affect the calibration of the instrument.

Operation

If the media is likely to be dirty, it is recommended that a 50-micron filter is placed upstream of the inlet port to assure a clean fluid medium flows through the flowmeter. After all connections are complete, introduce flow as slowly as possible to avoid damage. With liquid flow, it may be necessary to purge air from the system before readings stabilize. No lubrication or periodic servicing is required. Keep case exterior, including front cover, clean for best visibility.

MAINTENANCE/REPAIR

Upon final installation of the Series DTFF, no routine maintenance is required. The Series DTFF is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.

WARRANTY/RETURN

Refer to "Terms and Conditions of Sales" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.

