DP Diagnostics

MONITOR, VERIFY, AND TRUST YOUR DP METER

Orifice Plate Flow Meters - with Diagnostic Capabilities
The Most Advanced Orifice Meter System on the Market

- DP Diagnostics Supply Diagnostic Capable Orifice Plate Meters
- The Most Widely Used Differential Pressure (DP) Meter
- Simple & Reliable
- No Moving Parts
- ISO / API Stated Uncertainty Up to 0.5%
- Accurate & Repeatable Flow Metering
DP Diagnostics Supplies Orifice Meters to All Industries

- **Size**: As stated by ISO 5167 (50mm / 2” ≤ D ≤ 1000mm / 40”)
- **Flanges**: #150 - #2500
- **Material**: All standard materials available.
- **Length**: A standard orifice meter is approximately 5D long. A diagnostic ready orifice meter is approximately 12D long.
- **DP Transmitter**: Any DP transmitters may be used.
- **Calibration Requirements**: Meter and diagnostics performance are predictable from ISO / API. No calibration is required for standard installations.
- **Installation Requirements**: Orifice meters are installed according to the recommendations made by ISO / API.
- **Performance**: Orifice meters give a discharge coefficient performance of ±0.5% (an expected industry standard). Turndowns of up to 8:1 without transmitter stacking.

A Orifice Meter Installed with Diagnostics.
DP Diagnostics Supplies a Unique, Powerful, Industrially Proven, Patent Pending Diagnostics System

Orifice Meter with Optional Extra DP Transmitters for Diagnostic Capabilities

\[ \Delta P_t = \Delta P_{ppl} + \Delta P_r \]

Pressure Field through the Orifice Meter

- A Downstream Pressure Tap Allows 3 DP’s to be Read.
- The Pressure Field Through the Meter is Monitored.
- The Diagnostic System Multiplies the Meters Capability.
- 3 DP’s are Compared to Assure Correct Meter Operation.
- A Simple Live Diagnostics Plot is Shown in the Control Room.
The Diagnostics Results are Represented as 3 Points and a Box. If the Points Remain in the Box this Ensures Good Flow Measurement.

Orifice Meter Problems that Produce a Warning with Diagnostics Include:

1. Incorrect Inlet or Throat Diameter Keypad Entry.
2. Two-Phase Flow.
4. Contamination Build-Up Through the Meter.
5. Blocked Impulse Lines.
7. A Buckled Plate
8. A Plate Installed Backwards.
9. A Worn or Damage Orifice Leading Edge.
10. Incorrectly Spanned DP Transmitter, etc..

DP Diagnostics can retrofit a diagnostic system to an existing 3rd party orifice meter if a downstream tap is supplied. Downstream pressure tappings at >6D can be used due to the availability of a correction factor.

Contacts:
DP Diagnostics LLC, PO Box 121, Windsor, Colorado, 80550, USA
Telephone: 1-970-686-2189, Email: info@dpdiagnostics.com
Website: www.dpdiagnostics.com