



# GRAFTEL LLC.

## MODEL 1403 BALANCED FLOW METER

High Accuracy Replacement for Orifice Plates, Venturi Meters and Other Flow Measurement Devices  
Flow Rate Measurement of Liquids, Gasses, Steam or Two Phase Flow

### AWARDED 2007 NASA INVENTION OF THE YEAR

Lab Calibrations Retain Full Accuracy in Field Even for Flow Meters Close to Bends, Valves, Junctions and Other Disturbances

- Accuracies up to 0.2% of reading
- Accuracy unaffected by entrance and exit lengths
- Reduced system pressure drop
- Reduced vibration
- Elimination of scaling for most fluids
- Direct drop-in replacement to an orifice plate

#### Balanced Flow Meter Advantages over Orifice Plates

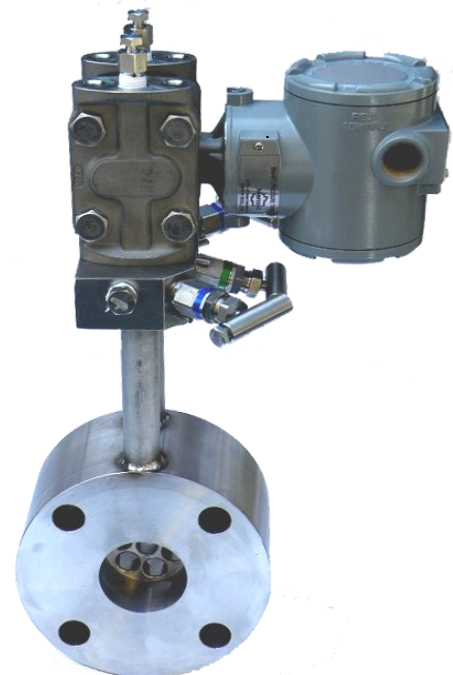
- Ten times improvement in accuracy
- 100% increase in pressure recovery
- No need for straight pipe runs before or after the plate
- Extreme resistance to scaling
- 15 times reduction in noise energy/vibration
- Permanent pressure loss, accuracy and discharge coefficient comparable with a venturi meter

#### Balanced Flow Meters Custom Made for Your Application

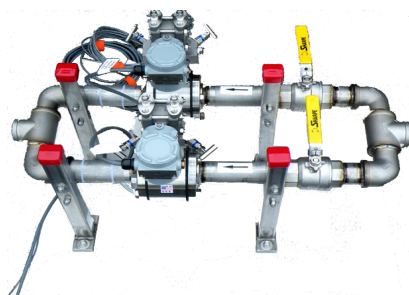
- Line sizes 0.25" to 36"
- Liquid flow rate accuracies to 0.2% of reading
- Gas flow rates accuracies to 0.5% of reading
- Stainless steel, titanium or special alloys as needed to prevent erosion or corrosion
- Measured pressure drops similar to orifice plates and venturi meters
- ISO 17025 certified, NIST traceable calibrations included
- Appendix B, 10 CFR 50 Part 21 applicable calibration upon request
- Can be supplied Appendix B safety related for nuclear power applications, recent NUPIC and NIAC audits

The customer specifies: The fluid, pipe size, desired maximum pressure drop, temperature range and the desired measurement accuracy. Graftel would provide a full custom design to meet customer specs. When a temperature sensor is added, this unit becomes a heat rate meter as well as a flow meter

With balanced flow meter, welded on three valve manifold, Delta P transmitter. Transmitter has choice of analog outputs, digital outputs and local display. Embedded temperature probe with transmitter may be added



Complete multi-plate instrumented systems can also be ordered to customer Specifications



With balanced flow meter and welded on three valve manifold

