

## CheckSonic Ultrasonic Gas Flowmeter

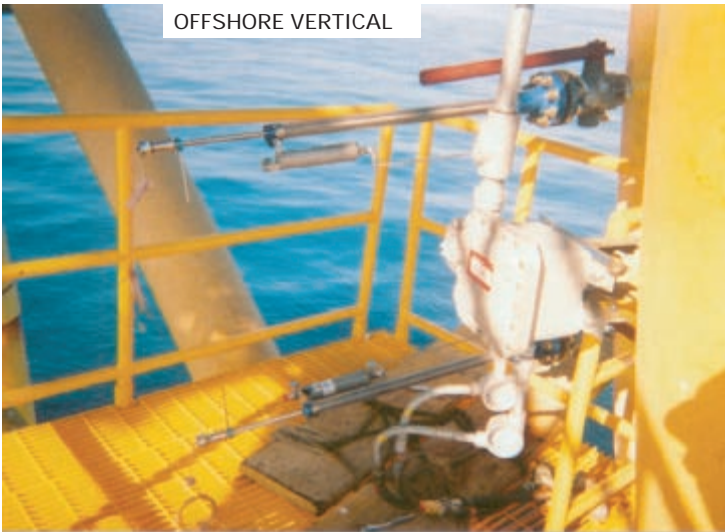
BELOW GRADE



The Instromet CheckSonic Single Path Ultrasonic Flow Meter is a one-of-a-kind flow meter. With easy to install hot tap, inserted through a 2" or 3" bore valve, retractable transducers, sophisticated digital electronics and the unique bounce path configuration results in a meter ideally suited for certain gas measurement applications. The proven accuracy (better than  $\pm 1.0\%$ ), repeatability and linearity make the CheckSonic one of the world's finest non-custody transfer meters.

The single path meter has a very high repeatability and accuracy due to the linear performance of the meter. Bounce path technology gives increased accuracy. The absence of moving parts makes the single path meter ideally suited for measurement of pulsating flows over a large flow range, immune to particles and liquid residue.

OFFSHORE VERTICAL



ABOVE GRADE



### FEATURES

- ▲ No pressure drop
- ▲ Wide rangeability/turn down ratio 50:1
- ▲ Bi-directional flow
- ▲ No moving parts
- ▲ Very low cost ownership (maintenance)
- ▲ Insensitive to contamination
- ▲ Interfaces with major flow computer mfg.
- ▲ Measures pulsating flow accurately

### APPLICATIONS

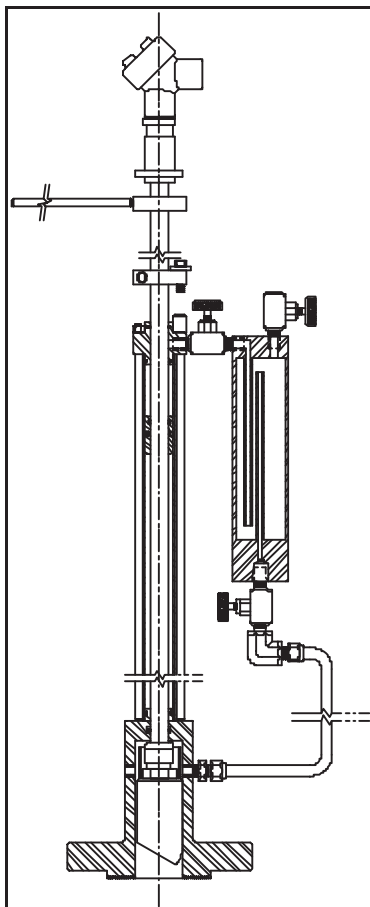
- ▲ Underground (natural) gas storage
- ▲ Gas compressor control
- ▲ Gas processing plants
- ▲ Measurement and regulation stations
- ▲ In-plant metering
- ▲ Power plants
- ▲ Check measurement
- ▲ Pipeline leak detection
- ▲ System balancing
- ▲ Gas well flowline measurement

**STANDARD METER SPECIFICATIONS:**

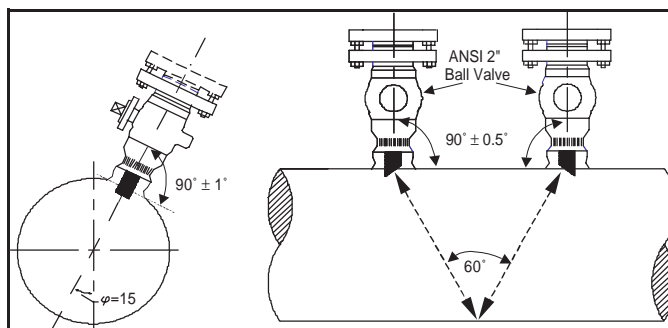
<b>PIPE DIAMETERS:</b>	8" to 64" ; 200 mm to 1600 mm
<b>OUTPUTS:</b>	Dual frequency: 0 to 10,000 Hz; Modbus or ASCII RS 232/485
<b>PERFORMANCE:</b>	Rangeability of 2' to 100'/sec; .6m to 30m per sec. Accuracy within 1.0% @ 5' to 100' per second. Repeatability = 0.2%; Bi-directional flow. Velocity Range: -100' to 100' per second; - 30m to 30m per second. Extended Range of 1' to 120'/sec.; 0.3m to 36m/sec.
<b>RESPONSE TIME:</b>	1 update per second.
<b>APPROVALS:</b>	FM Class, Div 1, Group C,D.
<b>POWER:</b>	12/24 VDC, 7 Watts consumption
<b>PRESSURE RANGE:</b>	220 to 1475 PSIG; 15 to 100 bar.
<b>GAS TEMPERATURE:</b>	-20° to 140° F, -29° to 60° C
<b>TRANSDUCER RATING:</b>	250 to 3330 PSIG, -20° to 176° F, 17 to 230 Bar, -29° to 60° C
<b>RECOMMENDED STRAIGHT PIPE:</b>	10D Upstream and 5D Downstream

Included with each meter:

- Frequency Splitter Card
- Telebyte Converter
- Uniform software program for monitoring and configuring flow meter with a laptop computer

**CheckSonic Transducer Assembly**


Designed for check metering, with two transducers for a single path. With addition of two or four more transducers, a hot tap multi path meter can be designed and installed to give improved measurement.

**Typical Hot Tap Location**


(Hot tap procedure by others)

**Transducer with Insertion Tube**
