

Doppler Ultrasonic Insert Velocity Sensor



For use in full pipes or partially full pipes (when used in conjunction with an EchoFlo ultrasonic depth sensor).

- ✓ Doppler ultrasonic insert sensor with MASP Technology
- ✓ Easy to install in existing pipework through a 2" ball valve
- ✓ Works great in dirty water and animal waste
- ✓ No moving parts, no blockages, no worries
- ✓ Minimal straight run requirements
- ✓ Completely submersible design (IP68)

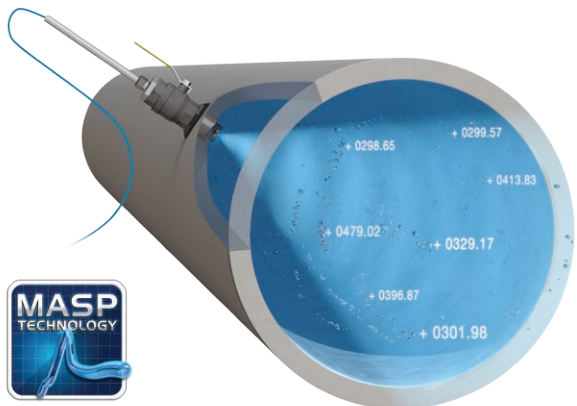
Installation

Insertion sensors measure velocity only and require access to the outside wall of the pipe in which the sensor is to be mounted. These sensors can be installed into existing pipework through a 2" ball valve (recommended) or just through a 2" female thread fitting.

True average velocity measurement with MASP Technology

MACE velocity sensors use continuous wave Doppler ultrasound to measure the speed of dirt, bubbles and other particles in the stream flow.

MACE Doppler ultrasonic velocity sensors utilizing MACE Advanced Signal Processing (MASP) technology "see" across the entire stream profile to give a true average velocity.



Doppler Ultrasonic Insert Velocity Sensor Specifications



COMPATIBILITY:

The Doppler ultrasonic insert velocity sensor is compatible with:

- MACE AgriFlo XCi (Requires a Doppler card)
- MACE FloPro XCi (Requires a Doppler card)
- MACE HVFlo XCi (includes factory installed Doppler card)

TECHNICAL SPECIFICATIONS:

**For use in full pipes or partially full pipes
(when used in conjunction with an EchoFlo depth sensor)**

Pipe size 0.1 to 2.54 m (4 in. to 100 in.) diameter

Process fitting 2" BSP or 2" NPT

Max. process fitting pressure¹ 1034 kPa (150psi)

Max. operating pressure² 253kPa (37psi)

Shaft dimensions 330 mm (L) x 20 mm (D)
13 in. (L) x 0.8 in. (D)

Head dimensions 45 mm (D) x 25 mm (H)
1.8 in. (D) x 1 in. (H)

Wetted materials Nickel plated brass and epoxy

Pipe intrusion area 11.25 cm² (1.74 in²)

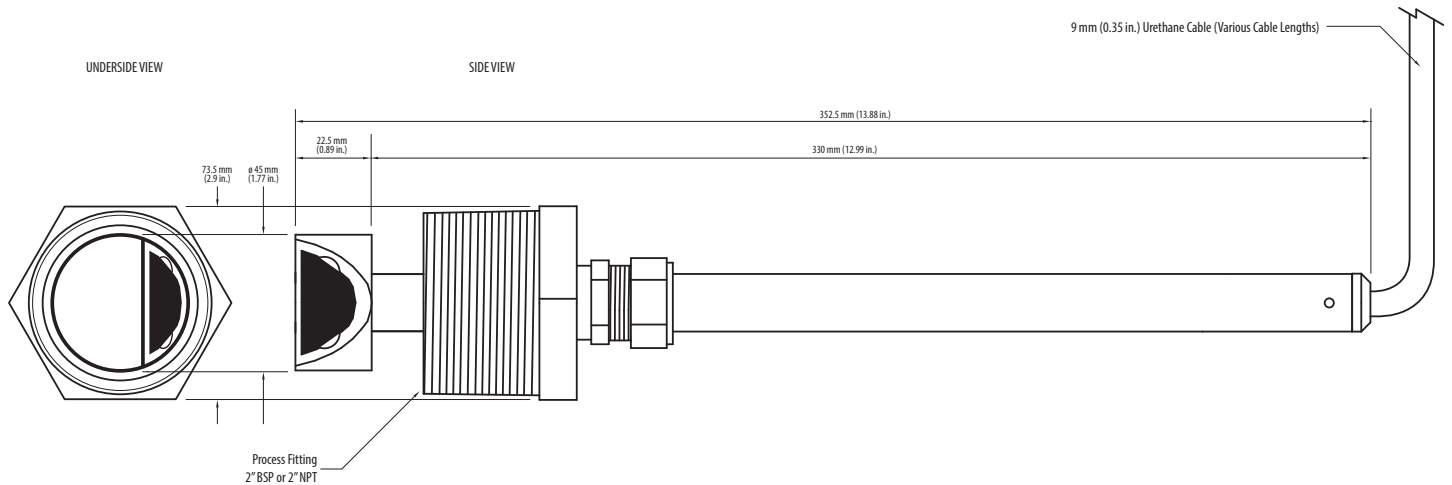
1 The pipe must be de-pressurized prior to insertion or removal

2 The stream flow may be suitable for Doppler ultrasonic flow measurement in pressures >253kPa (37psi) if it contains at least 100 parts per million of suspended solids that are >75 microns in size.

VELOCITY MEASUREMENT:

Method	Submerged Ultrasonic Doppler
Range	±0.025 to ± 8.0 m/s (±0.08 to ± 26 ft/s)
Resolution	1 mm at 1.0 m/s (0.04 in. at 3.3 ft/s)
Accuracy	±1% up to 3.0 m/s (±1% up to 10 ft/s)
Urethane sensor cable	9 mm (D) up to 50 m (L) (0.35 in. (D) up to 164 ft. (L))
Min. operating depth	40 mm (1.57 in.)
Max. operating temperature	60° C (140° F)

DIMENSIONAL DRAWING:



Note to end users: These specifications are subject to change at any time without notice. MACE takes no responsibility for the use of these figures. Please consult MACE for the latest specifications before using them in contract submittals or third party quotes etc. MACE reserves the right to change specifications without prior warning. All quoted figures are based on test conditions and are subject to variation due to site conditions.

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