Flow Sensors

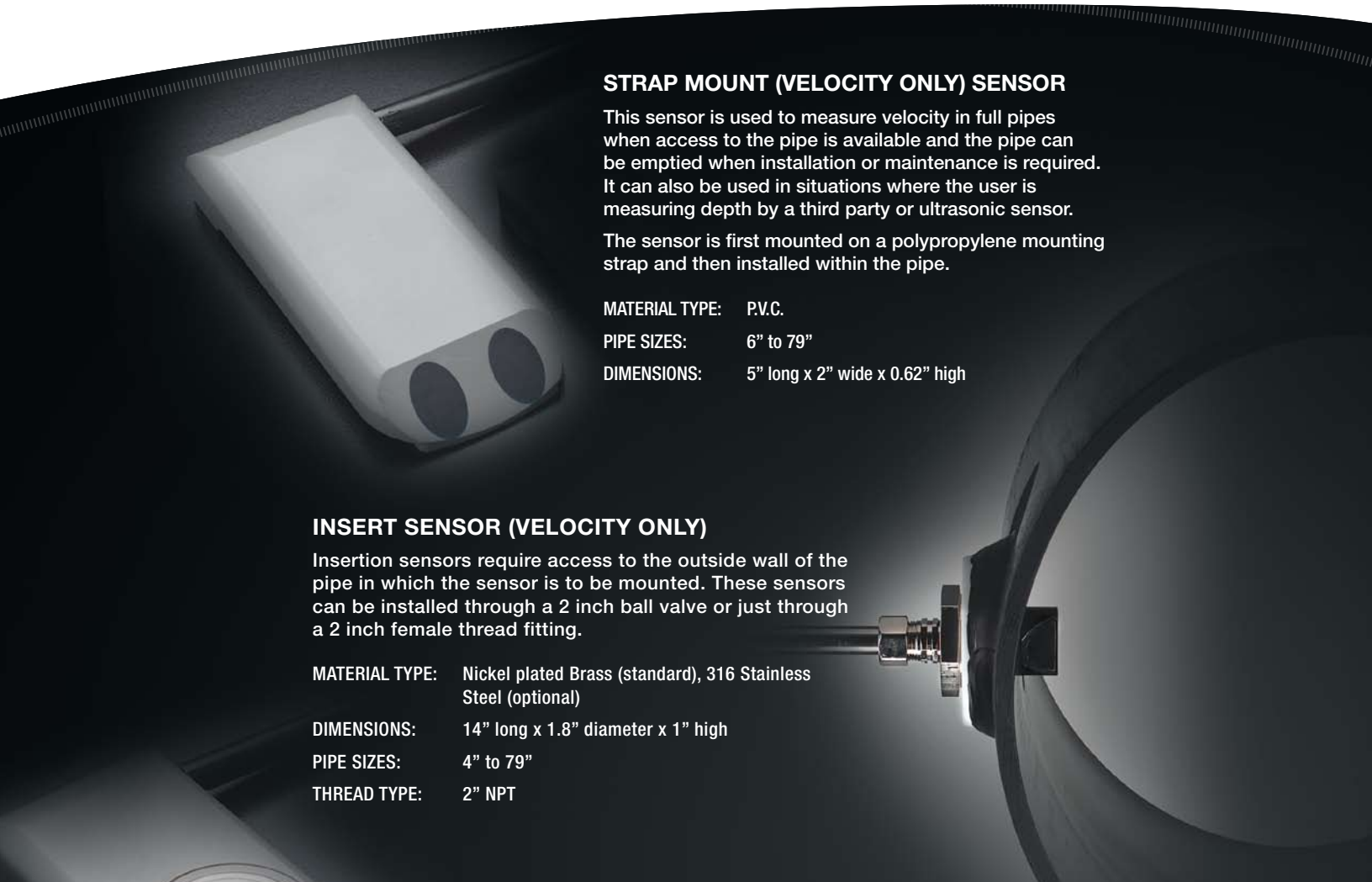
These sensors are compatible with the Mace AgriFlo, FloPro and HVFlo ultrasonic flow meters.

STRAP MOUNT (VELOCITY ONLY) SENSOR

This sensor is used to measure velocity in full pipes when access to the pipe is available and the pipe can be emptied when installation or maintenance is required. It can also be used in situations where the user is measuring depth by a third party or ultrasonic sensor.

The sensor is first mounted on a polypropylene mounting strap and then installed within the pipe.

MATERIAL TYPE:	P.V.C.
PIPE SIZES:	6” to 79”
DIMENSIONS:	5” long x 2” wide x 0.62” high



INSERT SENSOR (VELOCITY ONLY)

Insertion sensors require access to the outside wall of the pipe in which the sensor is to be mounted. These sensors can be installed through a 2 inch ball valve or just through a 2 inch female thread fitting.

MATERIAL TYPE:	Nickel plated Brass (standard), 316 Stainless Steel (optional)
DIMENSIONS:	14” long x 1.8” diameter x 1” high
PIPE SIZES:	4” to 79”
THREAD TYPE:	2” NPT

STRAP MOUNT VELOCITY/ DEPTH SENSOR

This type of sensor is used in open channels or pipes that run partially full. This sensor is used to measure depth (using a capacitive pressure diaphragm) and velocity. Access to the monitoring point is required for installation and maintenance.

The sensor is first mounted on a polypropylene mounting plate and then installed within the pipe or channel.

DEPTH SENSOR

This type of sensor is a depth only strap mount sensor that is typically used to measure the depth of a surcharge event in a sewer system manhole or depth over a weir or flume.

MATERIAL TYPE:	P.V.C.
DIMENSIONS:	5” long x 2” wide x 0.62” high
PIPE SIZES:	6” to 79”
DEPTH RANGE:	158”, 394”

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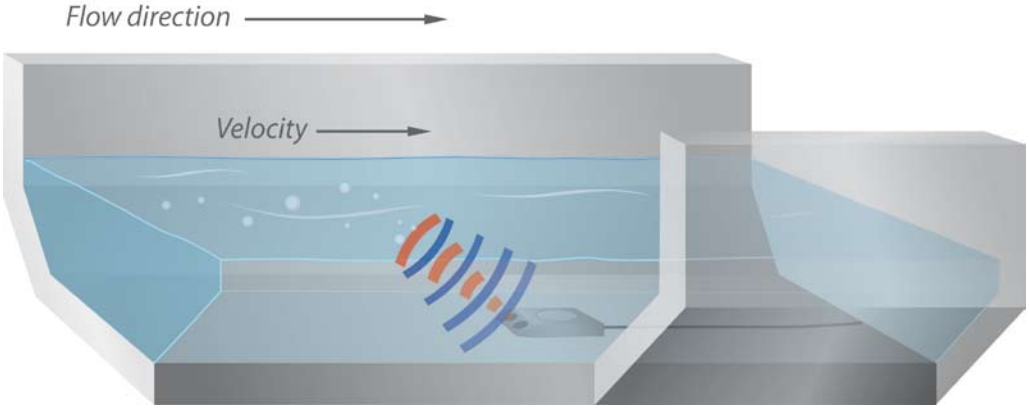
About Doppler ultrasonics

The Doppler Effect (after C. J. Doppler 1803-53) is defined as, "the apparent change in the frequency of sound or electromagnetic radiation due to relative motion between the source and the observer," (Uvarov & Isaacs (1986). Dictionary of Science).

MACE Flo-series instruments utilise the Doppler Effect to measure velocity of stream flows.

The MACE Flo-Series instruments transmit an ultrasonic (sound) wave into the flow. This sound wave is reflected by acoustically reflective particles (e.g. air bubbles, suspended solids) and the instrument detects the reflected frequencies. The difference between the transmitted frequency and the received frequencies is directly proportional to the velocity of the stream flow.

In full or partially full pipes, the velocity of the stream flow varies markedly across the cross-section of the pipe. Typically, velocity is zero along the wall of the pipe and increases to a maximum at or about the centre of the pipe. MACE Flo-series instruments receive reflected frequencies from particles moving at these different velocities. The greater the area of flow moving at a particular velocity, the greater the number of reflections with the respective frequency shift. The average velocity of the stream is therefore calculated by averaging those frequency reflections received across the whole stream profile.



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