CeramTec

MATERIAL DATA

MEASUREMENT & SENSORS

Ultrasonic Technology for Liquid and Heat Metering

2 MHz Water Coupled Sensor

THE CERAMIC EXPERTS

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CeramTec
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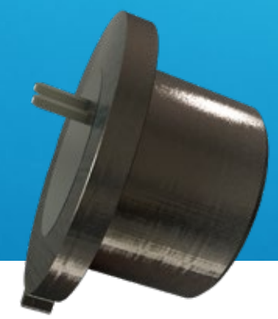
Next Generation Flow Sensors

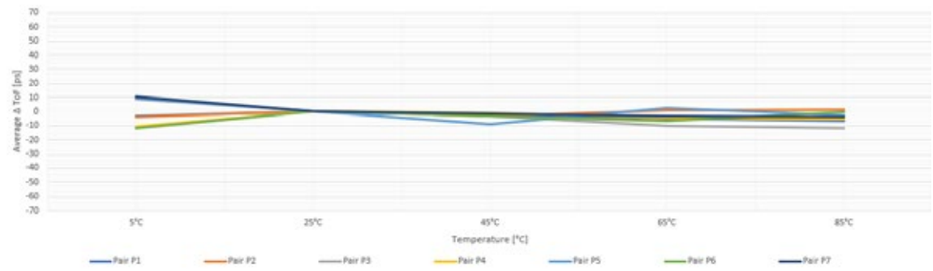


Sensor design expertise meets automation proficiency
CeramTec is dedicated to the production of liquid coupled sensors of the highest quality, with a primary emphasis on stability across a wide range of standard metering temperatures. Our company has complete control over the manufacturing process, with vertical integration extending from powder and piezoceramic production to full assembly technology.

This end-to-end oversight facilitates highly reciprocal behaviour between sensors, resulting in consistent and reliable performance across the full range of metering temperatures. By leveraging a highly repeatable process, our sensors do not require pairing to create a platform for accurate measurement. This repeatability extends the boundaries of accuracy achievable in domestic flow meters with the most current electronics, while also streamlining the calibration process for our customers - saving valuable time and resources.

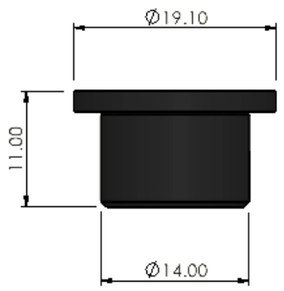
Zero flow drift measurements over temperature range
Test conditions:
- Measurements done in CeramTec standard brass flow tube with stainless steel reflectors, in water
- Distance between transducers 75 mm
- ToF measurements taken using TI board EVM430-FR6047

Delta ToF measurements calibrated at 25°



2 MHz Water Coupled Sensor

Parameters	Target Value
Transceiver frequency Fm (Acoustic)	2000 kHz +/- 2%
Path length	Tested at 75 mm & 100 mm (Other lengths on request) (1)
Operating temperature	-25°C to +105°C. (-40°C to +130°C, in development) (2)
Resistance pressure	Safe Over-Pressure (3): Currently Tested to 100 bar at Room Temperature
Zero flow drift between 5°C - 85°C	Max ±11ps when measured with ScioSense TDC-GP30 and TI EVM430-FR6047
Compliance to standards	IP68 ISO9001 WRAS approved polymer in contact with liquid
Upcoming compliance to standards	ISO 4064-2:2014 MID Testing protocol AWWA - Water hammer test
Measurement media	Compatible with glycol and water



(1) Custom lengths can be tested on request from customer.
(2) Samples available Q2 2024.
(3) The pressure at which no damage will be caused to the functionality of the part when returned to operating pressures.

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