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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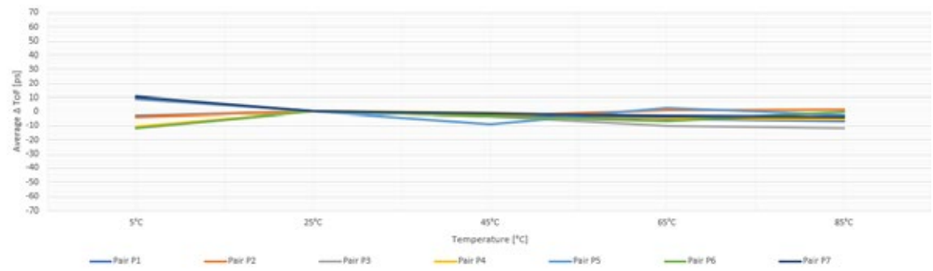
Next Generation Flow Sensors

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

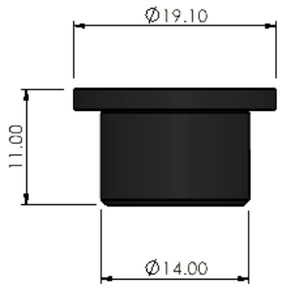
Delta ToF measurements calibrated at 25°



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	Maximum burst pressure 70 bar
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.



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