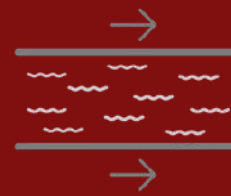


# PORTASONIC® 2.FLO



Portable, Clamp-on, Ultrasonic Transit Time Flow Meter



# PORTASONIC® 2.FLO

**Portable, clamp-on ultrasonic transit time flow meter**

PN: 2618949-PSO

Non-invasive for measuring the flow rates of most clean liquids in pipes with gas/solid content less than 10% of volume, built-in thickness gauge and ability to incorporate heat quantity measurements



## MULTIPLE METRICS

Measure wall thickness (includes A-scan functionality), volumetric flow rate, mass flow rate, energy (heat quantity) flow rate all from one instrument

## TOTAL FLOW

All measured values can be totalised giving you the total flow rate that has been measured during a particular measurement session

## INTUITIVE

Unique Human Machine Interface (HMI) driven menu that emphasises intuitiveness and user-friendliness



## APPLICATIONS

Commonly used for fire sprinkler systems, waste water, fuel monitoring, foam proportioner testing

# PORTASONIC® 2.FLO

## VERSATILE

Capable of working on pipes DN15 – DN 2500, across multiple different pipes/pipe sections.

Large internal database of pipe, fluid and lining materials (19+ for fluids, 23+ for pipe and lining materials)

## CLAMP ON

Clamp-on therefore no installation costs such as drilling into pipes and no downtime to the pipe network is present

## RELIABLE

Measures flow velocities between 0.01 m/s – 25m/s.



## DIAGNOSTICS



It has a built-in signal oscilloscope for sensor positioning and diagnostics to achieve maximum accuracy with the measurement while providing visibility of the potential issues with the installation for troubleshooting purposes.

## NON CONTACT



The fluid cannot damage the flowmeter, which could contribute to a longer lifespan and lower maintenance cost compared to inline flowmeters which are in contact with the fluid and risk being damaged by the pressurised flowing fluid

## ACCURATE

Accurate to +/- 0.5% under ideal conditions. Resolution of 0.25mm/s. Repeatability of 0.15% of measured value.

## NO RISK

As there is no contact with the fluid being measured, there is no risk of pressure loss throughout your pipe network

## LONG-LIFE

IP65 main unit enclosure. Battery life up to 12 hours' continuous use, standard 9V PP3 battery

## ROBUST

Sensors temperature range -20°C to +150°C. Sensors rated IP66

# HOW TO TEST

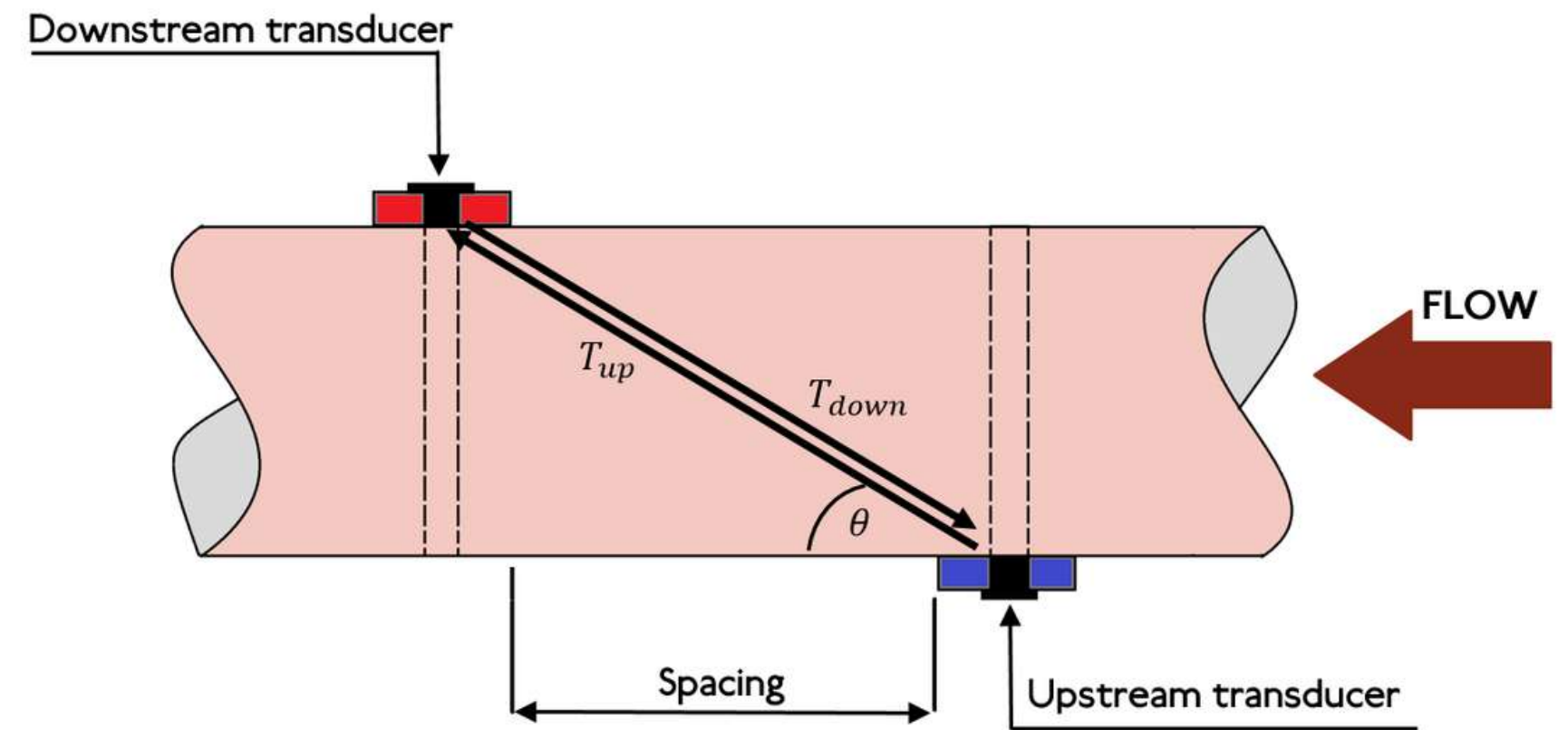
Portasonic® 2.FL0 is used to measure the flow rates of most clean liquids with gas/solid content less than 10% of volume in pipes.

The equipment comes with clamp on transducers for non-invasive measurement.

The unit uses two sensors, one that acts as ultrasonic transmitter and the other as a receiver.

The software calculates the time it takes for the ultrasonic pulse to pass from the transmitter to the receiver, which is dependent on the flow rate.

There are three methods of operation; V-method (2 passes), W-method (4 passes) or Z-method (1 pass) which refers to transducer positioning. Our recommendation is to choose the number of passes which will result in a pass length in the fluid of 100mm or greater.

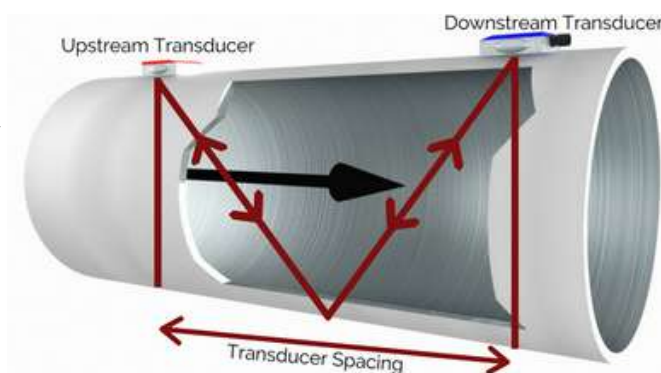


$$V = \frac{Dt}{\sin 2\theta} \frac{\Delta T}{T_{up} T_{down}}$$

- $\theta$  = the include angle to the flow direction
- $t$  = the travel times of the ultrasonic beam
- $D$  = the pipe diameter
- $T_{up}$  = the time taken for the beam from the upstream transducer to reach the downstream transducer
- $T_{down}$  = the time taken for the beam from the downstream transducer to reach the upstream transducer
- $\Delta T = T_{up} - T_{down}$

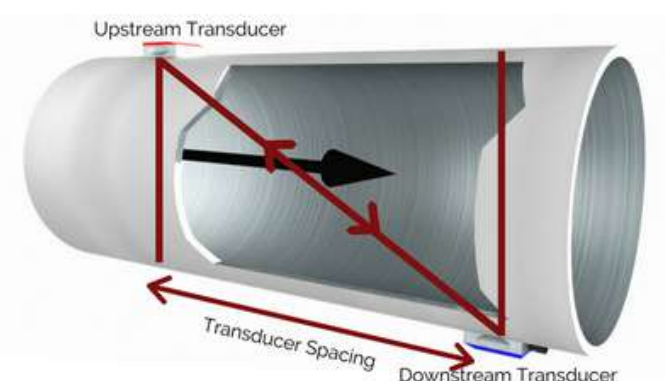
## V Method

The most commonly used method.  
Simplest to set up.  
(2 passes)



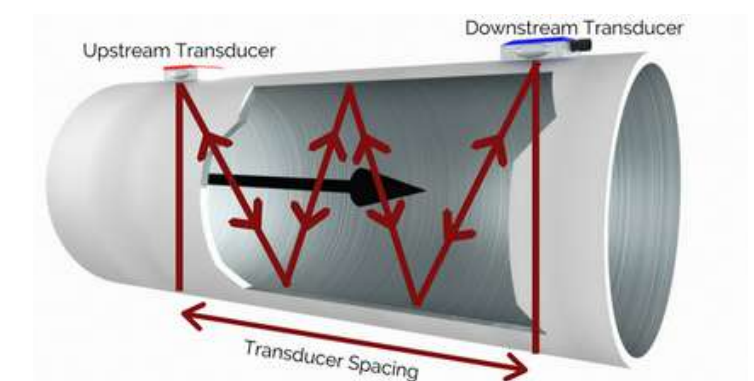
## Z Method

Common for large diameter pipes. (1 pass)



## W Method

Common for smallest diameter pipes. (4 passes)



# TECHNICAL SPECIFICATIONS

<b>DIMENSIONS</b>	220mm (L) x 85mm (W) x 33mm (D)
<b>WEIGHT</b>	434 grams
<b>PIPE DIAMETER RANGE</b>	DN15 – DN 2500 (1/2 inch – 98 inches), please enquire for larger pipes
<b>LIQUID TYPES</b>	Most clean liquids with gas/solids less than 10% volume
<b>ACCURACY</b>	+/- 0.5% of measured value under ideal conditions
<b>FLOW VELOCITY</b>	0.01m/s – 25 m/s
<b>RESOLUTION</b>	0.25 mm/s
<b>REPEATABILITY</b>	0.15% of measured value
<b>TURN DOWN RATIO</b>	1/100
<b>MEASUREMENT RATE</b>	1 Hz as standard
<b>MEASUREMENT UNITS</b>	Flow Velocity, Volumetric Flow Rate, Mass Flow Rate, Energy Flow Rate (Heat Quantity), Volume, Mass, Energy

<b>DISPLAY</b>	Full 128 x 68 pixel graphics with backlight
<b>ADDITIONAL FEATURES</b>	<ul style="list-style-type: none"><li>• Integrated thickness gauge, measures 2mm – 20mm range</li><li>• Signal oscilloscope for sensor positioning and diagnostics</li></ul>
<b>POWER SUPPLY</b>	9V PP3 battery, up to 12 hours continuous use
<b>OPERATING TEMPERATURE</b>	Main Unit: -10°C to +65°C Sensors: -20°C to +150° C
<b>IP RATING</b>	Main Unit: IP 65 enclosure Sensors: IP 66
<b>SENSOR DIMENSIONS</b>	<ul style="list-style-type: none"><li>• Standard Model No. DM10: 40mm (L) x 20mm (W) x 25mm (D)</li><li>• Large Model No. DS10: 60mm (L) x 30mm (W) x 35mm (D)</li></ul>
<b>SENSOR MATERIAL</b>	Housing: Stainless Steel Front Face: PEEK (Polyetheretherketone)
<b>CABLE LENGTH</b>	1.5m as standard (additional lengths available upon request)

**WARRANTY** Main Unit: 3 years  
Sensor: 1 year  
Lifetime customer support

**CERTIFICATIONS** CE, Coltraco is ISO 9001:2015  
and ISO 14001 approved

## PACKAGE

**Portasonic® 2.FL0 is delivered in a package with everything required to carry out testing:**

- 1 x Portasonic® 2.FL0 Main Unit
- 1 x Pair of Standard Transducers for pipes DN15 – DN700 (set of 2)
- 1 x Pair of Beaded Chain Clamps (set of 2)
- 1 x 10mm width Ultrasonic Thickness Gauge Probe (measures 2mm – 20mm)
- 1 x Measuring Tape
- 1 x Ultrasonic Couplant
- 1 x User Manual
- 1 x Installation Manual
- 1 x Robust Carrying Case



# CUSTOMER CARE COMMITMENT

Technical Support provided free of charge for the unit's lifetime. Every unit provided by Coltraco comes with a 3 year warranty supporting the manufacturing quality of the main unit and 1 year on sensor.

OPTIONAL PORTACARE® after sales package.

We have local partners to support you worldwide through our global network of Partners, Distributors and ODA (Organisational Delegated Authorities).

ODAS are Service Centres which provide regional support for caliibration in UK, France, Greece, UAE, India, Singapore and USA, Brazil, Trinidad.

Coltraco Ultrasonics

★REVIEWS.io

“The instruments acquired by Benguella Enterises (Pty) Ltd has enabled our technicians to work faster delivering accurate undisputed test results. The staff at Coltraco has been truly most supportive and professional during the years of dealing with them. We can vouch for a...”

★★★★★ Verified Reviewer

Coltraco Ultrasonics

★REVIEWS.io

“We have been working with Coltraco since 2009 and we are always happy to continue working togheter. Good customer service with prompt answer from the Coltraco's team. Right time of delivery and material always received in excellent...”

★★★★★ Verified Reviewer

Coltraco®, Coltraco North America®, Portamarine®, Portalevel®, Permalevel®, Portagauge®, Portasonic®, Portamonitor®, Portasteele®, Portascanner®, Permascanner®, Safesite®, Safesite® are trademarks or registered trademarks of Coltraco Limited, UK. DuPont™, FM-200®, FE-25™, FE-13™, and FE-241™ are trademarks or registered trademarks of E.I. du Pont de Nemours and Company and its affiliates. Novec™ 1230 is a trademark owned by 3M.

