

PORTABLE ULTRASONIC FLOW METER

PORTASONIC® 2.FLo

BROCHURE

Introducing the Portasonic® 2.FLO

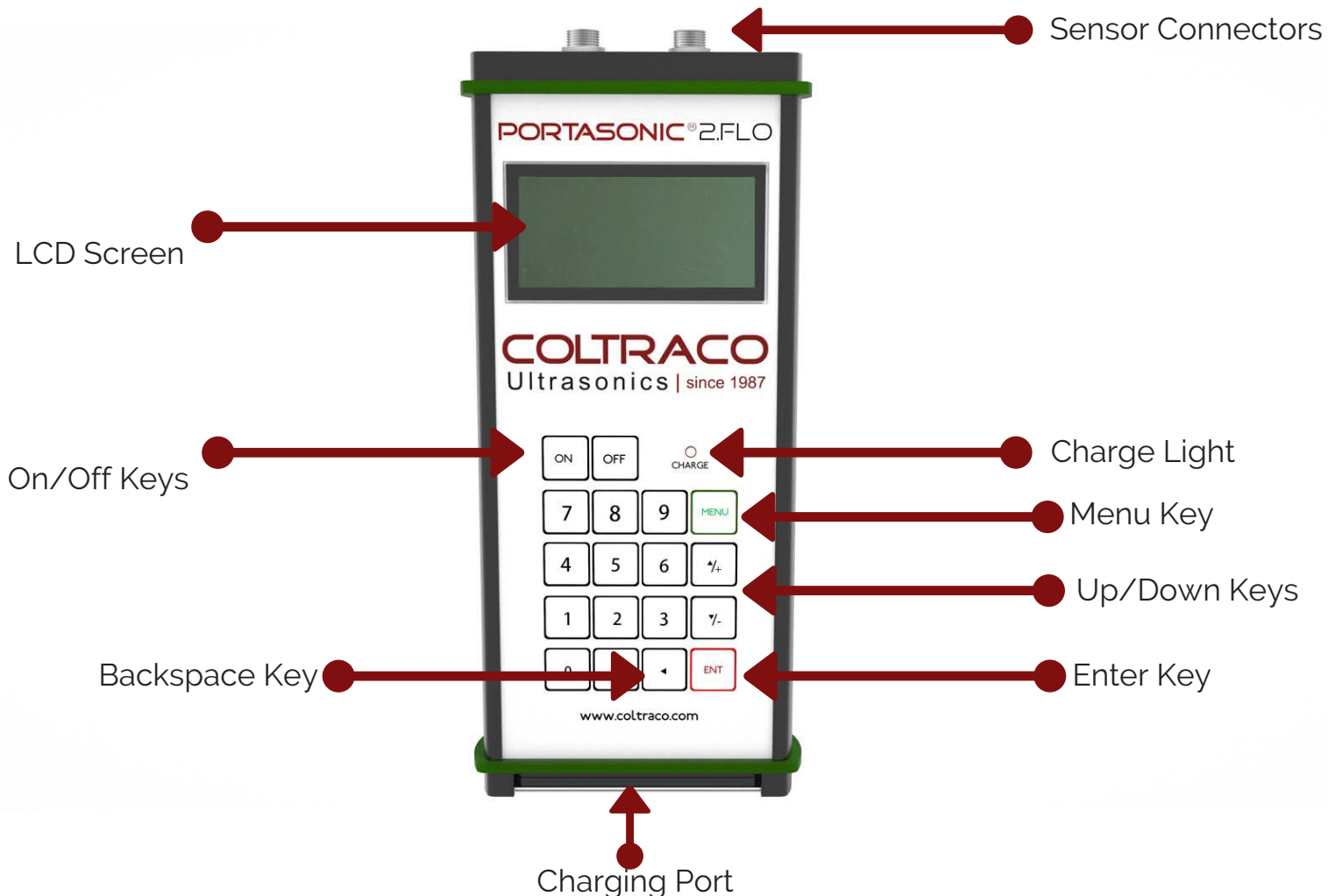
Portasonic® 2.FLO is the second generation of ultrasonic flow meter by Coltraco Ultrasonics.

- **Type** – Portable Ultrasonic Transit Time Flow Meter
- **Function** – Used to measure flow rates of clean liquid
- **Part Number** – PSO12



ACCURATE, RELIABLE & ROBUST

Meet the Portasonic® 2.FLO



Advantages of the Portasonic® 2.FLo

Non invasive

flow measurement from outside of a pipe with clamp-on sensor.

Accurate

+/- 1% of reading at rates > 0.2 m/s, calibrated at an ISO 17025 certified lab.

Long term reliability

battery life, light weight, compact and reliable.

Robust

Prevent water ingress into the charging port with new watertight flap.



Easy to use

simple set up thanks to unique clamp-on design

Variable

Use in different environments: 3 different modes of operation.

Integrity testing

Through the conducting spot checks at mandated intervals.

Cost Saving

Cost and time effective with easy digital set up.

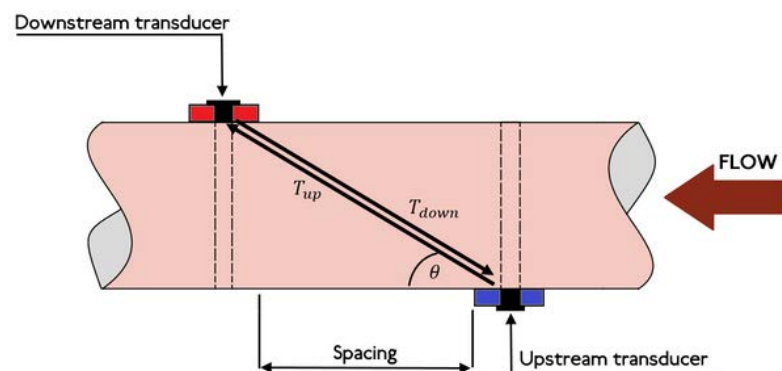
How does the Portasonic® 2.FLo work?

The Portasonic® 2.FLo ultrasonic flow meter is used to measure flow rates of clean liquid (liquid with not more than 5% solids or 2% gas) in pipes.

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

The unit uses two sensor, one that acts as ultrasonic transmitters and the other a receivers. There are three methods of operation; V-method, W-method or Z-method which refers to transducer positioning (see next page).

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.



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

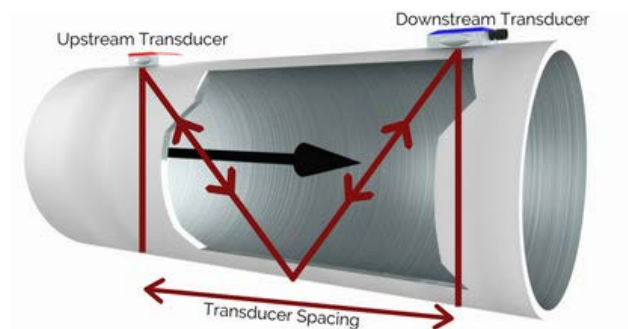
θ = the include angle to the flow direction
 t = the travel times of the ultrasonic beam
 D = the pipe diameter
 T_{up} = the time taken for the beam from the upstream transducer to reach the downstream transducer
 T_{down} = the time taken for the beam from the downstream transducer to reach the upstream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

mathematical equations that show how the Portasonic 2.FLo work

Methods of Measurement

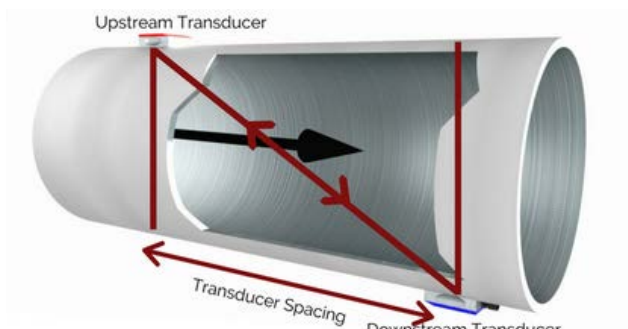
V Method

V-method is for pipes with an inner diameters ranging from 15 mm to 400 mm.



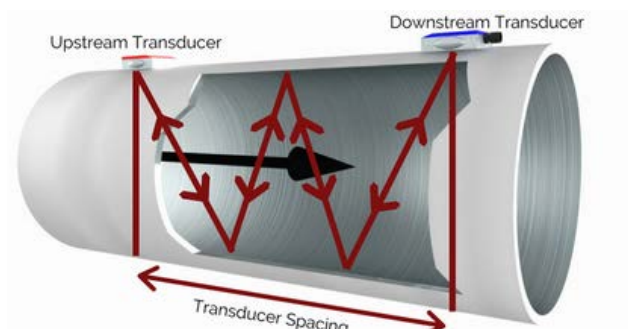
Z Method

Z-method is commonly used when the pipe diameter is above 200mm.



W Method

W-method is usually used on plastic pipes with a diameter from 15mm to 50mm.



Industries

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PHARMA-
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*

Applications

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SPRINKLER
SYSTEMS

HEAVY FUEL
OIL METERING

BALANCING
SYSTEMS

ULTRAPURE
WATER

HYDRAULIC
SYSTEM
TESTING

CONDENSATE
MEASUREMENT

PUMP
VERIFICATION

LEAK
DETECTION

MARINE
MAINTENANCE

Sensor Options

For fluid temperature exceeding 90°C, high temperature sensor available up to 160°C.
For installation in tight spaces, please note the sensor dimensions below. Loose sensors can be supplied if options below are too large.

Small Sensor



(With mount) Pipe Diameter Range: 15mm – 100mm
(With mount) Sensor Dimensions: 318mm x 59mm x 85mm
(Without mount) Pipe Diameter Range: 15mm – 100mm
(Without mount) Sensor Dimensions: 45mm x 25mm x 32mm
Operating Temperature: -30°C to 90°C

Medium Sensor



(With mount) Pipe Diameter Range: 100mm – 300mm
(With mount) Sensor Dimensions: 568mm x 59mm x 85mm
(Without mount) Pipe Diameter Range: 50mm – 700mm
(Without mount) Sensor Dimensions: 64mm x 39mm x 44mm
Operating Temperature: -30°C to 90°C

Large Sensor (Extension)



(With mount) Pipe diameter range: 300mm – 700mm
(With mount) Sensor Dimensions: 188mm x 59mm x 49mm
(Without mount) Pipe Diameter Range: 300mm – 6000mm
(Without mount) Sensor Dimensions: 97mm x 54mm x 53mm
Operating Temperature: -30°C to 90°C

Technical Specifications

Linearity (variance in accuracy across liquid measurements)	0.5%
Repeatability (consecutive measurements)	0.2%
Accuracy	±1% of reading at rates>0.2 mps
Velocity	±32 m/s
Pipe Size	15mm-6000mm
Totalizer	7-digit totals for net, positive and negative flow
Liquid Types	Virtually all liquids
Security	Setup values Modification Lockout. Access code needs unlocking
Display	4x16 English letters
Communication Interface	RS-232, baud-rate: from 75 to 57600.
Transducer Cord Length	Standard 5m x 2, optional 10m x 2
Power Supply	3 AAA built-in Ni-H batteries. When fully recharged it will last over 12 hours of operation. 100V-240VAC for the charger
Data Logger	Built-in data logger can store over 2000 lines of data (exportable)
Manual Totalizer	7-digit press-key-to-go totalizer for calibration
Pipe Materials	Carbon Steel, Stainless Steel, Cast Iron, Ductile Iron, Copper, PVC, Aluminium, Asbestos, Fiberglass, ABS, Bronze, GRP, Glass, Polyethylene
Case Size	210x90x30mm
IP Rating	IP54
Main Unit Weight	500g with batteries

Customer Care Commitment

Enjoy Coltraco Ultrasonics' after sales support

Every unit comes with 3 year warranty supporting the manufacturing quality of the main unit and 1 year on sensor,

Technical Support provided free of charge for the unit's lifetime.

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

OPTIONAL ACCESSORIES

If you are testing multiple banked rows of cylinders you can test the 2nd, 3rd and 4th rows using an Extension Rod. Other accessories available on request.

OPTIONAL TOTAL CARE PACKAGE: PORTACARE® for extra support.



CUSTOMER TESTIMONIALS

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Thank you very, very much for the quick response on the Calibration and Repair on our Liquid Level Indicators. My day's been made !

Safety Servicing Company, South Africa, 2018

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Coltraco quality is always the assurance for safety, we are proud of yours performance.

- Capt. Thum, RTBS Group, Singapore, 2018

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