

FLOW + HEAT

PERMAFLOW®

Fixed, clamp-on, ultrasonic transit
time flow and heat meter



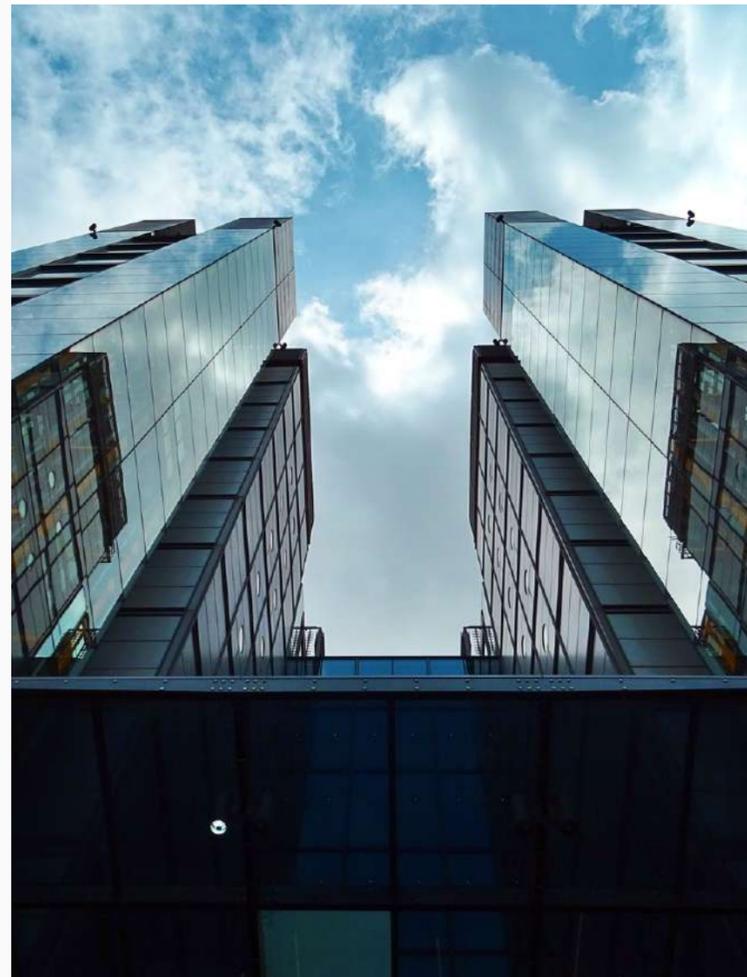
PERMAFLOW®

**Fixed, clamp-on,
ultrasonic transit time
flow and heat meter**

PN: 3578010-FLOW

Measure and monitor volumetric flow rate, mass flow rate, energy (heat quantity) flow rate - from one instrument

Non-invasive (no drilling required) for measuring flow rates of most liquids with gas/solid content less than 10% of volume



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

DATALOGGING & COMMUNICATIONS

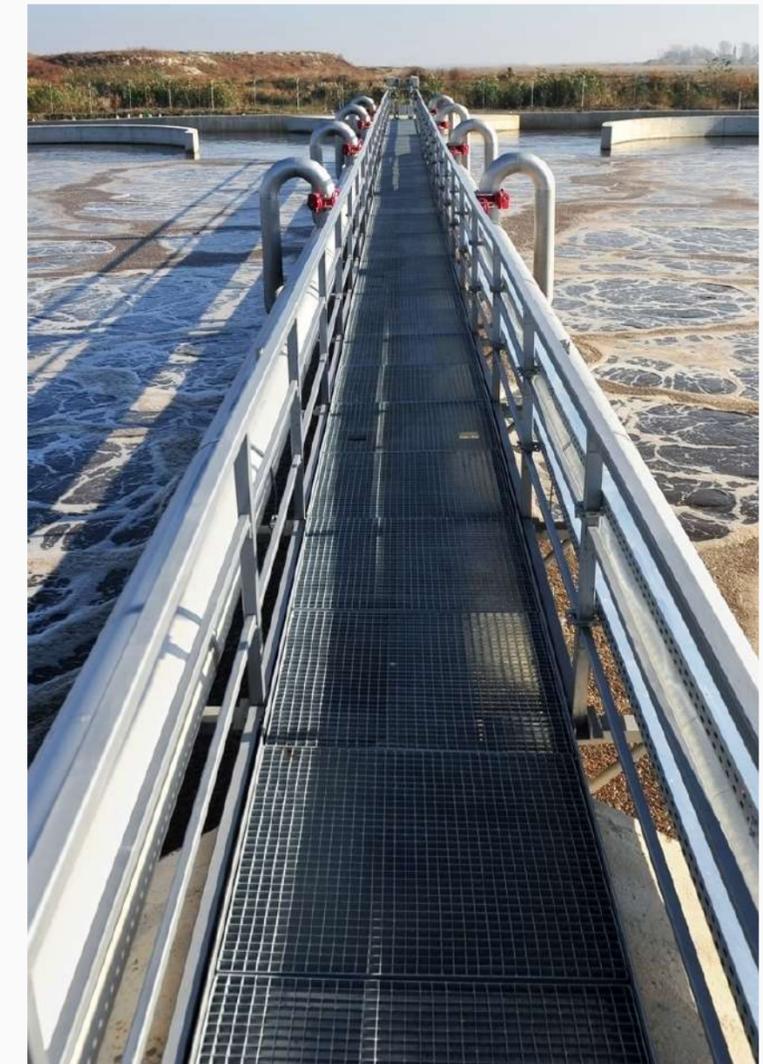
Connection to PC is available as standard using both built-in USB and RS232, all measurements can be logged in its 16 MB built-in memory

HEAT METERING

It has a unique ability to incorporate PT100 thermometer inputs so heat quantity measurement can be monitored alongside volumetric flow rates.

RECOMMENDED

Commercial building heat metering, fuel monitoring, waste water and many more



PERMAFLOW®

VERSATILE

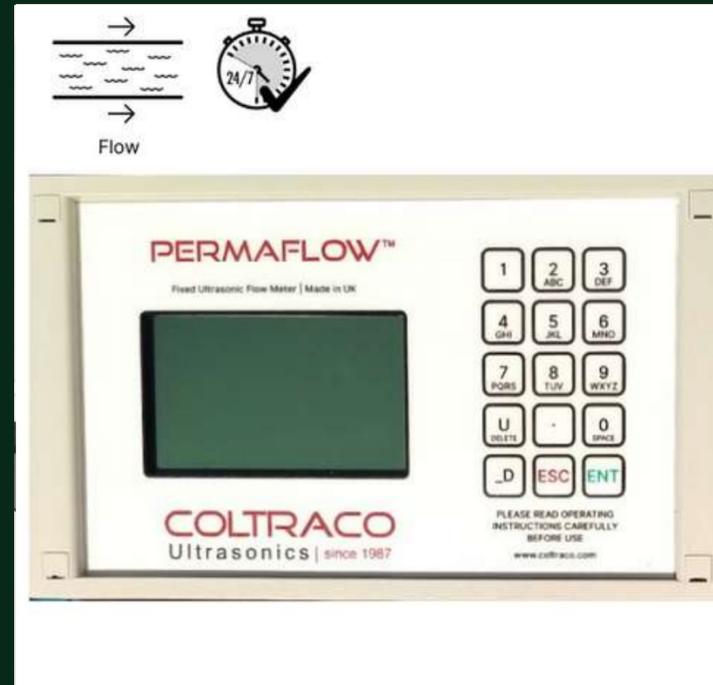


Capable of working on pipes DN15 – DN 2500; virtually any clean liquids; on a wide range of pipe materials. Without contact with the fluid, there are also fewer issues with the flowmeter being damaged by the nature of the fluid it is measuring compared to inline flowmeters

ACCURATE



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



OPTIONAL PLUG INS



There are multiple communication and plug-in IO modules available as options, refer to page 5

TOTAL FLOW



All measured values can be totalised giving total flow rate measured during a particular measuring session

LOW COST



No installation costs such as drilling into pipes, therefore no downtime to the pipe network is present. Only one individual is required to operate the instrument

RELIABLE

Capable of measuring flow velocities between 0.01m/s – 25m/s.

MONITORING

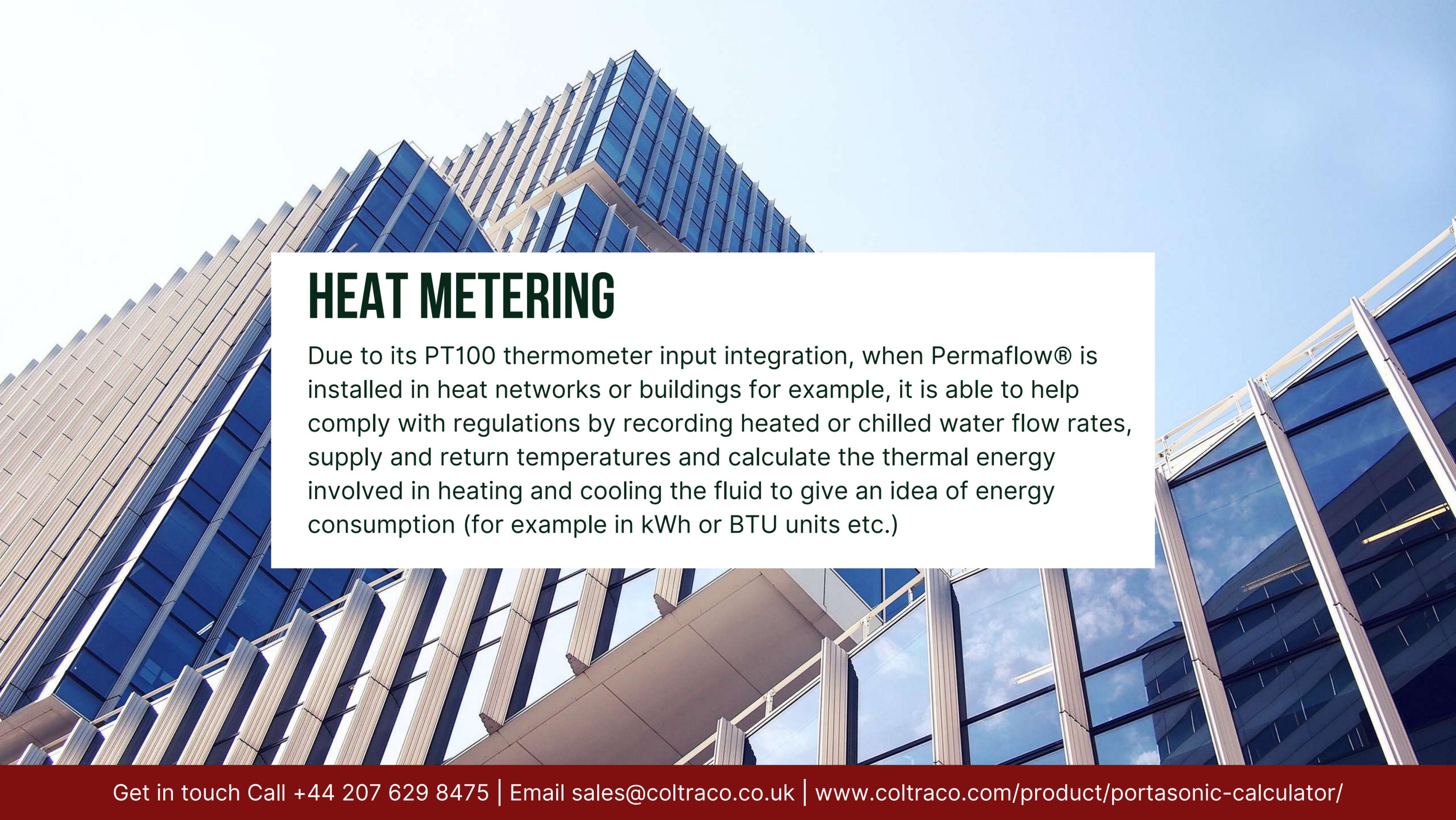
24/7 flow rate, heat monitoring and customisable alert options are available

ROBUST

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

DATALOGGING

Unique Human Machine Interface (HMI) driven menu emphasises userfriendliness



HEAT METERING

Due to its PT100 thermometer input integration, when Permaflow® is installed in heat networks or buildings for example, it is able to help comply with regulations by recording heated or chilled water flow rates, supply and return temperatures and calculate the thermal energy involved in heating and cooling the fluid to give an idea of energy consumption (for example in kWh or BTU units etc.)

TECHNICAL SPECIFICATIONS

DIMENSIONS	215mm (L) x 185mm (W) x 100mm (D)
WEIGHT	840grams
PIPE DIAMETER RANGE	DN15 – DN 2500 (1/2 inch – 98 inches), please enquire for larger pipes
LIQUID TYPES	Most clean liquids with gas/solids less than 10% volume
ACCURACY	+/- 0.5% of measured value under ideal conditions
FLOW VELOCITY	0.01m/s – 25 m/s
RESOLUTION	0.25 mm/s
REPEATABILITY	0.15% of measured value
TURN DOWN RATIO	1/100
MEASUREMENT RATE	1 Hz as standard
MEASUREMENT UNITS	Flow Velocity, Volumetric Flow Rate, Mass Flow Rate, Energy Flow Rate (Heat Quantity), Volume, Mass, Energy – also suitable for heat metering applications
DISPLAY	Full 240 x 160 pixel graphics with backlight
POWER SUPPLY	12V – 36V DC configurations at 10W, DC PSU supplied as standard (AC options are available, please enquire)

ADDITIONAL FEATURES	Signal oscilloscope for sensor positing and diagnostics
OPERATING TEMPERATURE	Main Unit: -10°C to +65°C Sensors: -20°C to +150° C
IP RATING	Main Unit: IP 65 enclosure Sensors: IP 66
SENSOR DIMENSIONS	Standard Model No. DM10: 40mm (L) x 20mm (W) x 25mm (D) Large Model No. DS10: 60mm (L) x 30mm (W) x 35mm (D)
SENSOR MATERIAL	Housing: Stainless Steel Front Face: PEEK (Polyetheretherketone)
CABLE LENGTH	3.0m as standard (additional lengths available upon request)
DATALOGGING AND COMMUNICATIONS	<ul style="list-style-type: none">• 16 MB datalogger included as standard – all measurement values can be logged• Serial Communications RS232 and USB included as standard, can be used for device control (command line interface) and datalogger download via PC• 4 – 20 mA, Digital, Modbus, Relay, OPTO, Open Collector Output available as optional plug-in modules

WARRANTY

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

CERTIFICATIONS

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

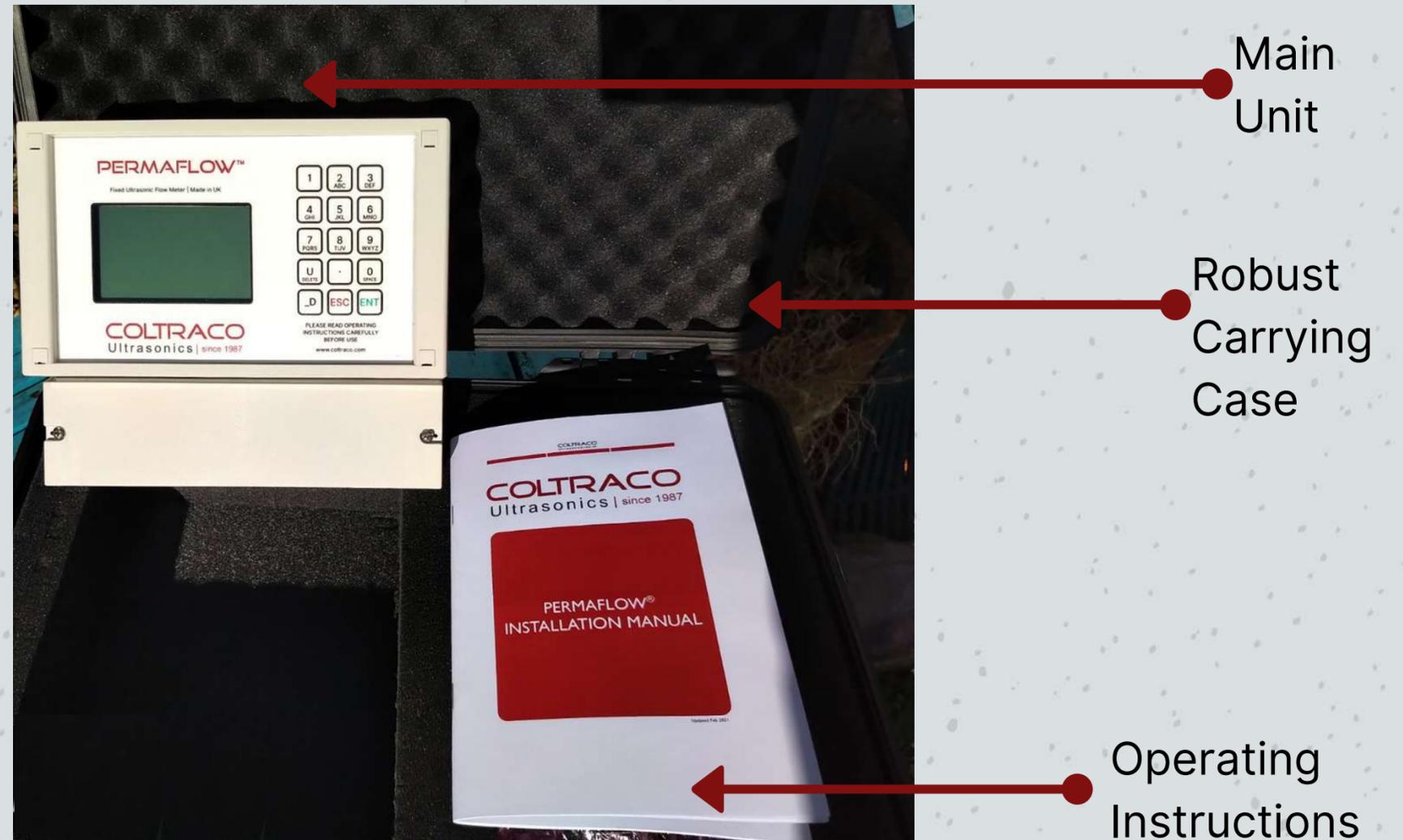
PACKAGE

Permaflow® is delivered in a package with everything required to carry out testing:

- 1 x Main Unit
- RS232 and USB communications included
- DC power supply included
- Any additional plug-in modules that are selected
- 1 x Pair of Standard Transducers for pipes DN15 – DN700 (set of 2)
- 1 x Pair of Jubilee Clips for your pipe sizes (set of 2)
- 1 x Measuring Tape
- 1 x Ultrasonic Couplant
- 1 x User Manual
- 1 x Installation Manual

OPTIONAL PLUG-IN MODULES

- PT100 Thermometer Input (for heat metering applications)
- 4 – 20 mA Current Input
- 4 – 20 mA Current Output
- Digital Input Modbus RTU
- Relay Output
- OPTO Output
- Open Collector Output



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

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