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## Ultimo Density/Viscosity Meter

Non-invasive, in-line process measurement  
 for all liquids and solids

The Ultimo Density and Viscosity Meter ("DVM") is a non-invasive technology and device that continuously measures the density and viscosity of any liquid or loose solid material or combination of liquid and solid.

- Non-invasive** ◀
- Density and viscosity measurement** ◀
- Inline measurement** ◀
- No radiation** ◀
- Simple, standard two-point calibration** ◀

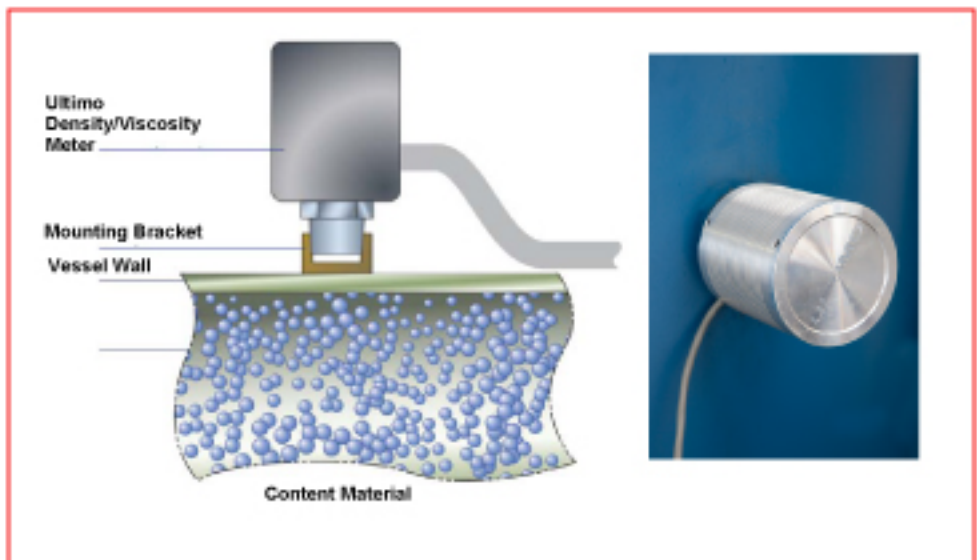


Figure 1. Horizontal Pipe Installation

Figure 2- DVM Model V4.0

### Measurement Principle

Ultimo's proprietary vibration-based percussion technology generates, acquires and analyzes oscillations at a vessel wall to determine the density and viscosity of the material inside. The device's self-learning software discriminates between valuable and ambient vibrations. The surface area engaged in the vicinity of the device's mounting position captures a vast amount of interface information and provides, as a result, high sensitivity and exceptional precision of measurement.

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**No radiation**

**Real-time  
process  
measurement**

**install on almost  
any vessel or  
pipe**

**Not limited by  
process pressure**



Figure 3. Ultimo DVM

## Standard Features

- Non-invasive and non-contact exterior installation
- Suitable for process vessels, reactors and pipes
- Analog, digital and binary outputs
- Two-point calibration
- Self diagnosing
- Fail safe functionality

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**Install anywhere** ◀

**Non-invasive** ◀

**No radiation** ◀

**Density and viscosity measurement** ◀

## Benefits

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Non-invasive - the DVM mounts on the exterior of the vessel with no penetration of the wall and no contact with the material, vapors or the vessel's environment.

Outstanding accuracy and precision

Easy to install and use - no holes to drill.

Easily relocated

Install any time - full or empty.

Install and calibrate without process interruption

No radiation - No special licensing, permitting or insurance endorsements are required.

No parts to stock

No risk of leaks or pressure loss

No clogging potential

Cost effective - the DVM is designed for a long service life. No periodic maintenance or cleaning required.

Versatile - can be used with:

### Vessel Wall Construction

- Metals
- Plastic
- Fiberglass

### All free-flowing non-gaseous materials

- Liquids
  - Slurries
  - Loose solids
-

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**Real-time process measurement** ◀

**Non-invasive** ◀

**Simple, standard two-point calibration** ◀

## Technical Specifications

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Electrical Power	24 V DC, 5A
Output:	Analog : 4-20 mA current loop Digital : ModBus-based RS 485 Binary : 20A Relay Contact @ 110/220 VAC
Communications	Digital ModBus-based RS 485
Process Temperature	Up to 100 C
Ambient Temperature	From -20 to +60 C
Enclosure	IP 67 or NEMA 4
Wall Thickness	From 0.125" (3.175mm) to 0.5" (12.5mm)

