



# **PORTABLE ViscoDens**

---

**VDM-250.1**

***IN PROCESS TO EXCELLENCE***

**VDM-250** is a unique combination of Viscometer and Density meter.

Resonance technology, based on the changes of frequency of vibration element in the measured liquid, allows to receive highly accurate Kinematic Viscosity measurements in seconds.

**VDM-250** measures Density and Dynamic Viscosity and calculates Kinematic Viscosity:

$$\mu = \eta / \rho \quad (\mu - \text{Kinematic Viscosity}; \eta - \text{Dynamic Viscosity}; \rho - \text{Density})$$

## Specifications

### Measuring range:

Density	0... 3 g/cm <sup>3</sup> (0... 3000 kg/m <sup>3</sup> )
Dynamic Viscosity	Up to 2000 mPa·s(cP)
Temperature	-40... +85°C (-40... +185°F)

### Accuracy:

Density	±0.0003 or ±0.0005 g/cm <sup>3</sup> (±0.3 or ±0.5 kg/m <sup>3</sup> )
Dynamic Viscosity	±1% of span
Temperature	±0.1°C (±0.2°F) or ±0.2°C (±0.4°F)

### Repeatability:

Density	±0.00015 or ±0.00025 g/cm <sup>3</sup> (±0.15 or ±0.25 kg/m <sup>3</sup> )
Dynamic Viscosity	±0,5% of span
Temperature	±0.1°C (±0.2°F)

### Supported measuring units

Real Density: g/cm<sup>3</sup>, kg/m<sup>3</sup>, lb/gal, lb/ft<sup>3</sup>; API; SG  
 Dynamic Viscosity: mPa·s, cP  
 Kinematic Viscosity: mm<sup>2</sup>/s, cSt  
 Tables ASTM D 1250  
 Alcohol Tables  
 Referred Density: at 15°C, 20°C, 60°F; API60; SG60  
 Temperature in °C or °F

### Ambient temperature

-40... +85°C (-40... +185°F)

### Depth of submersion

Up to 6 meters (20 ft.)

### Sensor:

Type	Vibrating element (Resonance principle)
Material	Stainless steel SS 316 L; NiSpan C; Hastelloy C22

### Intrinsically safe:

Controller	ATEX II (2G) EEx ib [ia] IIB T4
Sensor	ATEX II 1G EEx ia IIB T4

### Power supply

NiMH 3.6V-1500 mAh

### Operating time without charging

Appr. 12 hours

### Dimensions, weight:

Controller	180 x 80 x 40 mm (7.1 x 3.2 x 1.6"), 0.6 kg (1.3 lb)
Sensor	220 x ø45 mm (8.7 x ø1.7"), 1 kg (2.2 lb)

### Temperature compensation

Automatic

### Viscosity compensation

Automatic

### Reporting formats

Dynamic viscosity in mPa·s or cP; temperature in °C or °F

### Data handling

Backlighted LCD display (2x16)  
 Local memory up to 1980 results with date/time stamped  
 Build in Bluetooth for data transfer to printer or PC  
 Optional Windows - based software

### Delivery

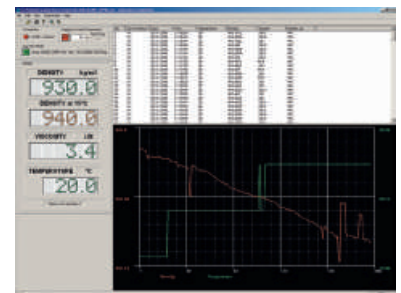
Delivered in compact carrying case

## Advantages

- Direct density and viscosity measurement
- Density, reference density, specific gravity, API, ...
- Automatic temperature compensation
- No sampling required
- ATEX, IEC Hazloc certification
- Safe operation, low maintenance
- At any depths up to 6 meters
- Record level, density and viscosity; average per tank
- Record level of liquid
- Rigid construction for heavy duty outdoor operation
- Local results storage and Bluetooth data transfer

## Applications

- Spot density and viscosity or density/viscosity/level profile in storage tanks
- Products consistency and adulteration check
- Density, viscosity and level control at outlets and delivery points
- Level gauge calibration
- In-tank blending and mixing control
- Molasses density control in ethanol production
- Food, milk and dairy products
- % alcohol check in beverage industry
- Petroleum products, fuels, lubricants



## SOFTWARE

Data transmission to PC, pocket PC or portable printer via Bluetooth connection. Compatible for a Windows XP/Vista/7.

**For more information please visit [www.lemis-process.com](http://www.lemis-process.com)**



**USA**  
**LEMIS USA, Inc.**  
 15556 Summit Park Dr. Suite 601  
 Montgomery  
 TX 77356, USA  
 Ph.: +1 281 465 8441

**EUROPE**  
**AS LEMIS Baltic**  
 26 Ganību dambis  
 Rīga, LV-1005  
 Latvia, EU  
 Ph.: +371 6738 3223  
 Fax: +371 6738 3270

**INDIA**  
**LEMIS India PVT LTD**  
 504, Bhumiraj Costarica, 5th floor  
 Plot 1&2, Sector 18, Sanpada  
 Navi Mumbai-400705, INDIA  
 Ph.: +91 22 6721 5655  
 Fax: +91 22 6794 2666

**E-mail: [info@lemis-process.com](mailto:info@lemis-process.com)**