LEMIS®
process

250 SERIES

DM-250.2N - Density Meter
DM-250.2L - Density & Level
VM-250.2N - Viscosity Meter
VDM-250.2N - Density & Viscosity

Portable Submersible Density & Viscosity Meter

VDM-250.2N

IN PROCESS TO EXCELLENCE

VDM-250.2N OVERVIEW

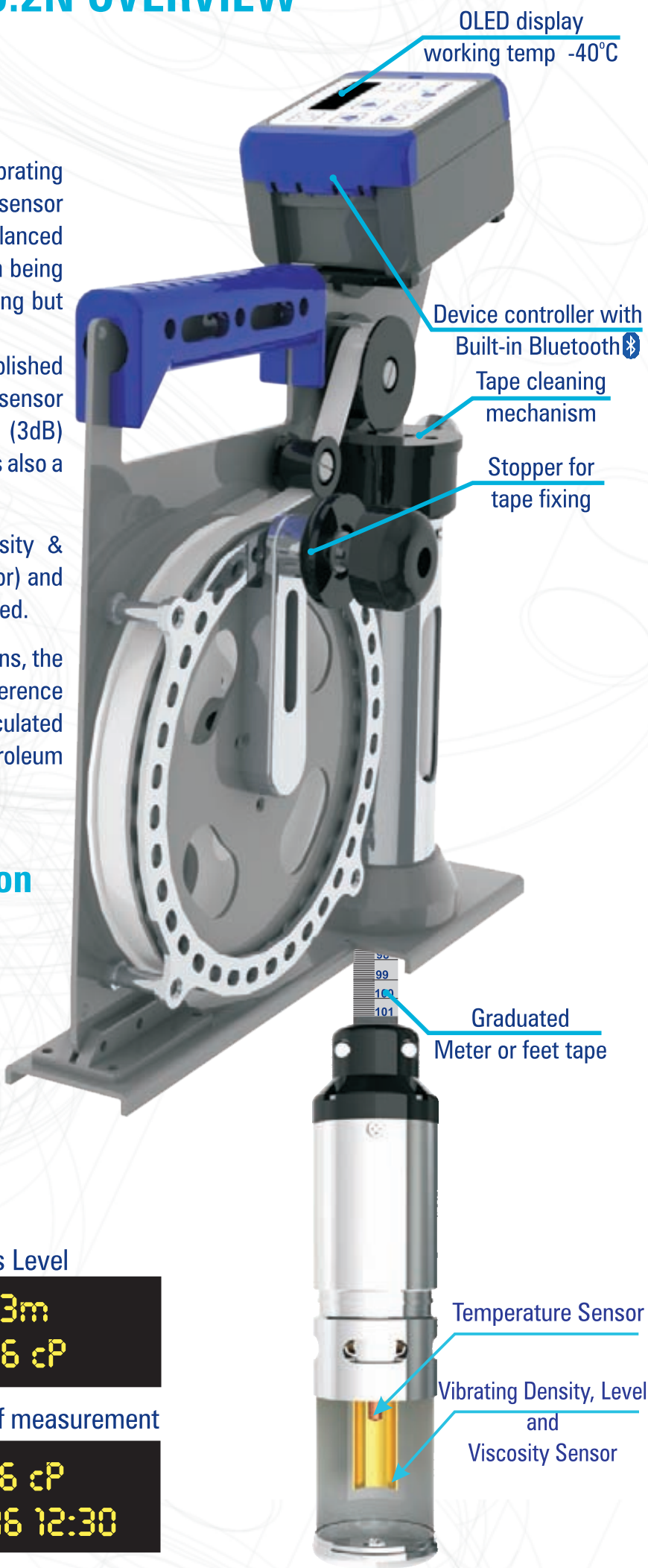
Principle of Determination

Density & Viscosity

Density & viscosity measurements employ the vibrating element sensor. This consists of a compact cylindrical sensor which is vibrated in the hoop mode which delivers balanced drive. This means that the sensor is virtually unique in being capable of being installed not just with a rigid mounting but also suspended on cables or using tape measures.
Density & viscosity are determined using the well established resonant frequency principle. By alternately driving the sensor into vibration at the upper and lower half power (3dB) frequencies the bandwidth can be determined, which is also a function of the dynamic density & viscosity of the fluid.

Thus a single sensor will report the dynamic density & viscosity and temperature (form an integral RTD sensor) and thus kinematic density & viscosity can also be determined.

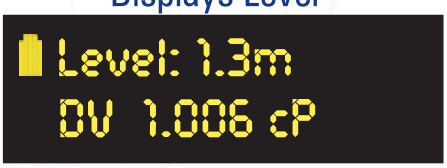
By using calculations based on the ASTM D341equations, the kinematic density & viscosity can be calculated at a reference temperature. Base density & viscosity can be calculated based on the methods defined in the Manual of Petroleum Measurement Standards.



Easy Measurement Visualization

Displays Viscosity and Temperature

Displays Level

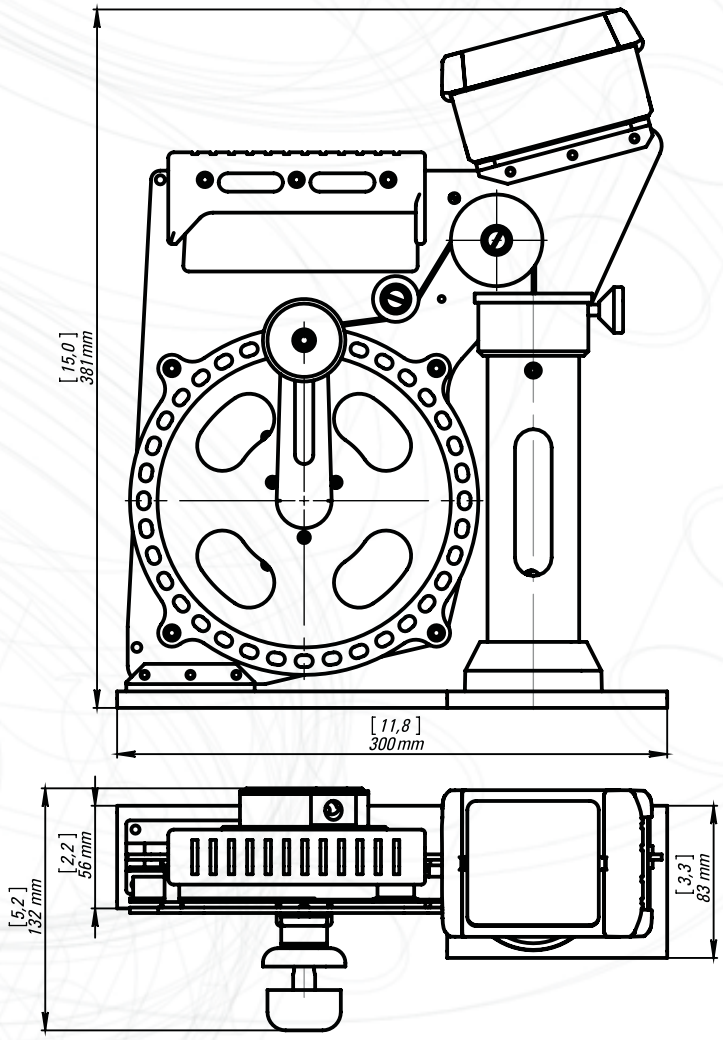


Displays Different Viscosity units

Displays Date of measurement

The portable viscosity meter VDM-250.2N is designed for viscosity and level measurements of any pure liquids directly in tanks, without sampling, at the depth up to **30 meters**.

Dimensions



Advantages

- Direct density and viscosity measurement
- Record spot vicosity and average per tank
- Automatic temperature compensation
- No sampling required
- ATEX, IEC Hazloc certifcation
- Safe operation, low maintenance
- At any depths up to 30 meters
- Economical and easy to operate
- Measures highly viscous liquids up to 2000 cP
- Rigid construction for heavy duty outdoor operation
- Local results storage and Bluetooth and USB data transfer

Applications

- Petroleum industry
- Ethanol production
- Food & Beverages
- Chemical industry
- Cosmetic industries
- Pharmaceutical industry

Specifications

Measuring range:	
Density	0… 3g/cm³ (0… 3000 kg/m³)
Density Standard calibration	0.6… 1.2g/cm³ (600… 1200 kg/m³)
Dynamic Vicsosity	Up to 2000 mPa·s(cP)
Viscosity calibration	0,1-100 mPa·s(cP) 1-1000 mPa·s(cP) 1-2000 mPa·s(cP)
Temperature	-40… +85°C (-40... +185°F)
Accuracy:	
Density	±0.0003 or ±0.0005 g/cm³ (±0.3 or ±0.5 kg/m³)
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/cm³ (±0.15 or ±0.25 kg/m³)
Dynamic viscosity	±0.5% of span
Temperature	±0.1°C (±0.2°F)
Supported measuring units	Real Density: g/cm³, kg/m³, lb/gal, lb/ft³; API; SG Referred Density: at 15°C, 20°C, 60°F; API60; SG60 Dynamic Viscosity: mPa·s; cP Kinematic Viscosity: mm²/s; cSt Tables ASTM D 1250 Alcohol Tables Temperature in °C or °F
Ambient temperature	-40… +50°C (-40... +122°F)
Depth of submersion	Up to 30 meters (100 ft.)
Sensor:	
Type	Vibrating element (Resonance principle)
Material	Stainless steel SS 316 L; NiSpan C; Hastelloy C22
Weather raiting	IP68
Hazardous environment Approvals	
Controller	II 2G (1G) Ex ib [ia Ga] IIB T4 Gb
Sensor	II 1G Ex ia IIB T4 Ga
Charging device	USB with IP68 protected connecter
Power supply	NiMH 3.6V-2500mAh
Operating time without charging	up to 24 hours
Dimensions, weight:	
Level block with sensor	376 x 300 x 104 mm (14.8 x 11.8 x 4.1 in), 3 kg (6.6 lb)
Temperature compensation	Automatic
Viscosity compensation	Automatic
Data handling	OLED Display (2x12) with backlight Local memory up to 2000 results with date/time stamped Build in Bluetooth and USB for data transfer to printer or PC Optional Windows - based software
Delivery	Delivered in compact carrying case

Multifunctional software allows to view results in a convenient user-friendly form;
Compatible for a Windows 7/8/10*

Immediate printout of the measurements by Bluetooth
No need for PC**

Delivered in compact carrying case

Options: * Ordered separately

For more information please visit www.lemis-process.com

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