

# **GAS DENSITY METER**

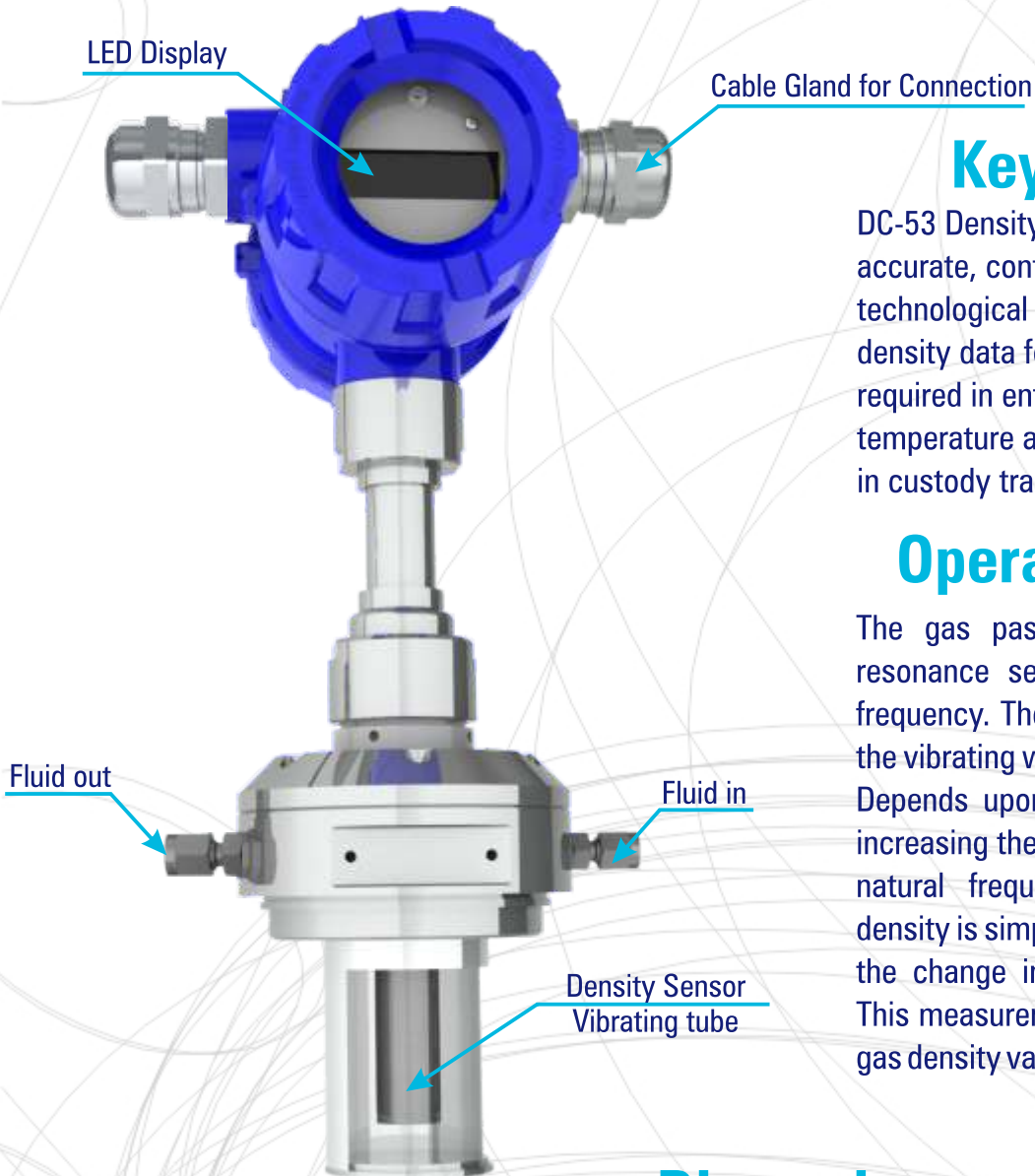
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**DC-53**

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**IN PROCESS TO EXCELLENCE**

# DC-53 Overview



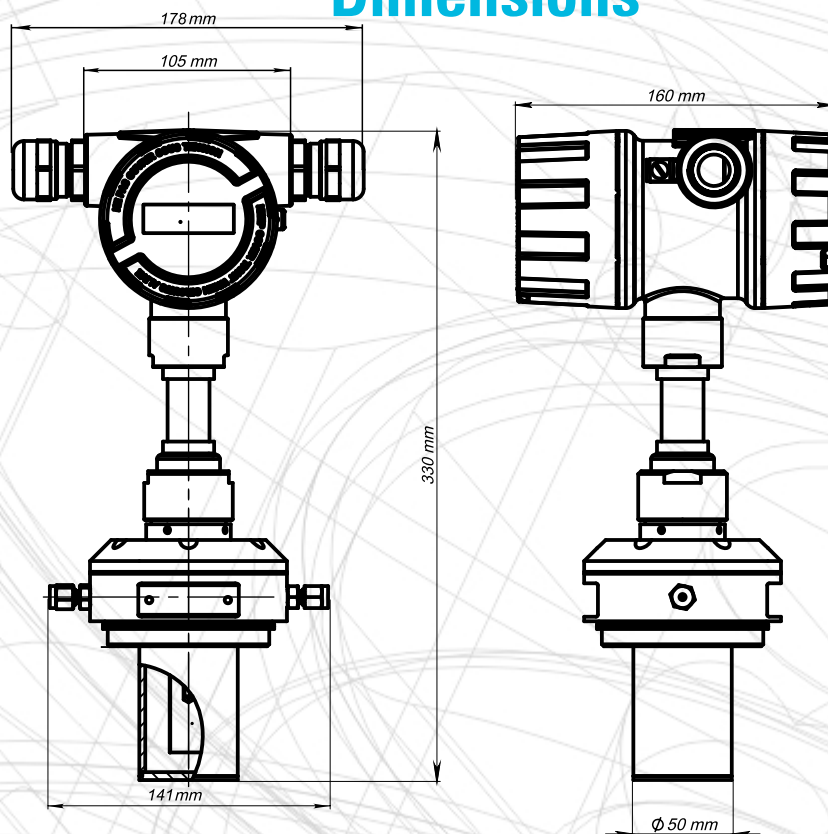
## Key application

DC-53 Density Meter is designed for accurate, continuous monitoring of the technological process. High-accuracy density data for natural gas mixtures are required in entire range of pressure, temperature and compositions encountered in custody transfer.

## Operating principle

The gas passed over the cylinder tube resonance sensor vibrating at its natural frequency. The mass of gas in contact with the vibrating walls vibrates with the cylinder. Depends upon the gas density and, since increasing the vibrating mass decreases the natural frequency of vibration, the gas density is simply determined by measuring the change in sensor resonant frequency. This measurement method provides precise gas density values in seconds.

## Dimensions



# Specifications

## Measuring range:

Density	1... 400 kg/m <sup>3</sup> (0001... 0.4 g/cm <sup>3</sup> )
Density Standard Calibration	1...10 kg/m <sup>3</sup> 10...100 kg/m <sup>3</sup> 25...250 kg/m <sup>3</sup> 40...400 kg/m <sup>3</sup>
Standard Temperature	-40°C to +85°C (-40°F to +185°F)
Extended Temperature	+20°C to +150°C (+68°F to +302°F)

## Accuracy:

Density	±0.1% of reading
Temperature	±0.5°C (±0.9°F)

## Repeatability:

Density	±0.1% of scale
Temperature	±0.1°C (±0.2°F)

## Resolution:

Density	0.1 kg/m <sup>3</sup>
Temperature	0.01°C (0.02°F)

Operating pressure Up to 50 Bar (up to 725 psi)

Supported measuring units Real density: g/cm<sup>3</sup>, kg/m<sup>3</sup>, lb/gal, lb/ft<sup>3</sup>;  
Referred density: at 15°C; 20°C;  
60°F; API60;

Ambient temperature -20... +60°C (-4... +140°F)

## Sensor:

Type	Vibrating element (Resonance principle)
Material	Stainless steel SS 316 L, NiSpan C, Teflon

Power supply 24 VDC

## Dimensions, weight

Height	330 mm (5.76 in)
Width	220 mm (5.55 in)
Length	160 mm (3.9 in)
Weight	approx.4.5 kg (approx. 9.9 lb)

Process connection NPT 1/8", 1/4", 1/2"  
ANSI 1/2", 1" \*  
DIN 10, 15, 25 \*

Weather rating IP68

Digital output Standard: RS485, Modbus  
or user choice of signals and protocols

Analog output 4-20 mA up to 2 channels and HART

Implosion protection marking ATEX II 1/2G Ex ia IIB T4;  
IECEx Ex ia IIB T4 Ga /Gb

Quality Assurance ISO 9001:2015

## APPLICATIONS

- Gas blending
- Synthesis gas mixtures
- Industrial gas purity
- Enhanced gas flow control
- Fiscal custody transfer
- Biogas composition
- Refinery flare gas monitoring
- Portable gas measurement

## ADVANTAGES

- DIN rail mount
- Small form factor for easy installation
- ATEX Hazardous area certification
- Less than 120ml fluid sample required for measurement

## SOFTWARE:



Multifunctional software allows to proceed the measurements results in use-convenient form;  
Compatible for a Windows 7/8/10



\* Device Modification DC-53S with connection flanges

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



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