

# LBM 1000 - LBM 3000 P.D. meters



LBM 3000 with mechanical register



LBM 3000 with VEGA II

[www.isoilmeter.com](http://www.isoilmeter.com)



## LBM 1000 - LBM 3000 P.D.Meters

LBM 1000 with ENCODER      LBM 3000 with VEGA II

ISOIL PD meter series **LBM** sizes 8" and 10" offers high accuracy:  $\pm 0,1\%$  with a repeatability of  $\pm 0,01\%$ , over a large range of flow rate. This accuracy remains constant during long periods of use.

Visual indication of the flow rate measured can be obtained when associated with mechanical register or electronic flow computer directly mounted on the meter or remote by means of a pulses emitter (see VEGA II or VEGA T leaflets).

Stainless steel construction guarantees compatibility with aggressive liquids.

### Applications

- » for barges loading and unloading
- » petroleum products transfer in refineries, loading terminals and pipelines

### Filtering and air elimination

To assure a measuring accuracy and preserve the meter from damage, the fluid under measurement must be properly filtered and air or gas must be eliminated. Isoil produces a wide range of strainers and strainer – air separators (see FA - FDA leaflet).

### Operation

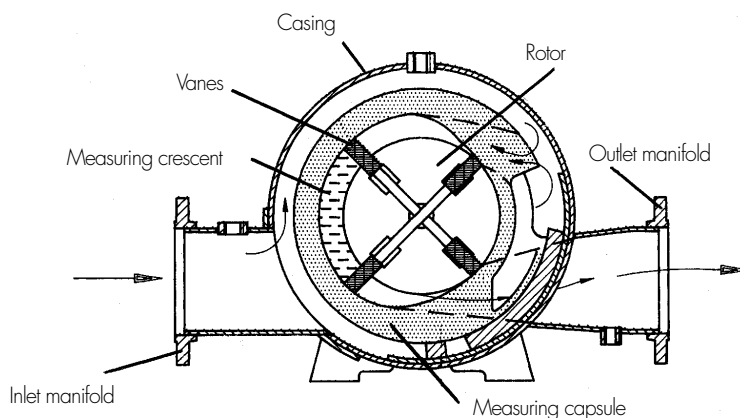
While rotating, the vanes are driven by the internal surface of the single body. This means that the self – lubricating vanes are always in contact with the internal surface of measuring chamber, therefore product leakage is avoided and though high accuracy is granted.

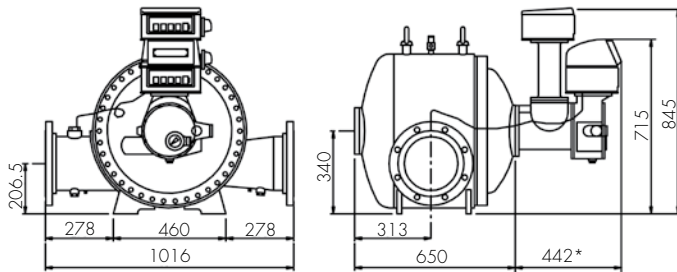
The calibration mechanism allows micrometric adjustment. It is not necessary to change gears.

When an electronic counter is used, the calibration mechanism is substituted with a  $90^\circ$  driving gear, if the electronic counter is mounted directly on the meter. If the electronic counter is remote, the meter mounts a pulses emitter or encoder (see Encoder Isoil 6422 data sheet).

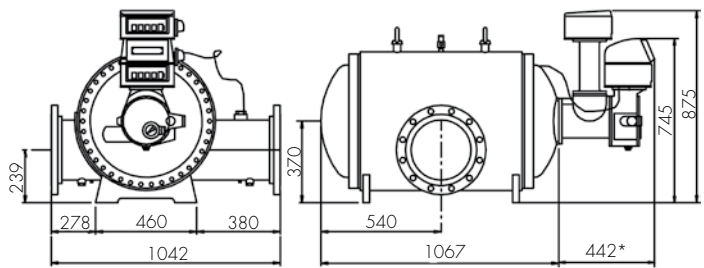


LBM 1000 with bearings in oil bath

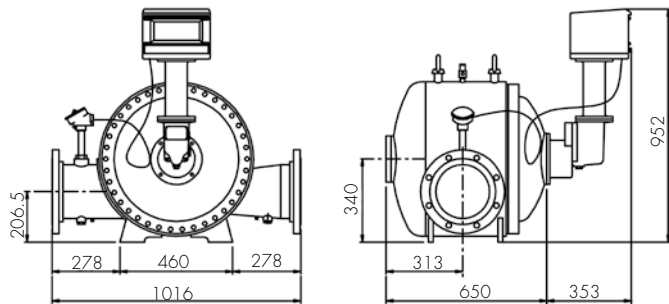
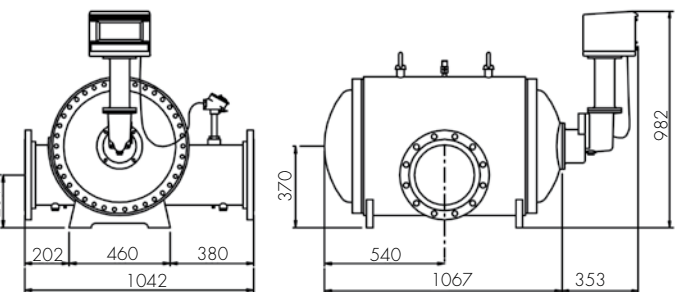


**P.D. meter with mechanical counter LBM 1000 8"**

\* Without compensator dimension is 323

**LBM 3000 10"**

\* Without compensator dimension is 323

**P.D. meter with electronic counter LBM 1000 8"****LBM 3000 10"****Type Weight**

<b>LBM 1000</b>	430 Kg
<b>LBM 3000</b>	795 Kg

**Accessories****Weight**

<b>Vr Counter</b>	6 Kg
<b>Preset</b>	5 Kg
<b>Printer</b>	5 Kg
<b>VEGA II Counter</b>	20 Kg

**Technical specifications**

	<b>STANDARD</b>		<b>UPON REQUEST</b>
	<b>LBM 1000</b>	<b>LBM 3000</b>	<b>LBM 1000 / LBM 3000</b>
<b>EU Directives compliance</b>			
PED (dir. 97/23/CE)	Compliant directive 97/23/CE, with risk category depending on the measured liquid		
ATEX (dir. 94/9/CE)	Non electrical equipment, compliant directive 94/9/CE, suitable for installation in hazardous area II 2G, marking Ex II 2 G c T1 ... T6		
<b>Working conditions</b>			
Flow rate:	[700 ; 7,850] l/min @ 10 cSt	[1,500 ; 15,7000] l/min @ 10 cSt	
Working pressure:	1,930 kPa max	1,930 kPa max	Higher available upon request
Test pressure:	2,990 kPa	2,990 kPa	Higher available upon request
Working temperature:	[-30; +100] °C	[-30; +100] °C	Higher and lower available upon request
<b>Construction</b>			
Manifold and flanges:	Carbon Steel with corrosion prevention treatment	Carbon Steel with corrosion prevention treatment	Carbon Steel for low temperature
External body:	Carbon Steel with corrosion prevention treatment	Carbon Steel with corrosion prevention treatment	Carbon Steel for low temperature
Internal body:	Cast Iron Meehanite	Cast Iron Meehanite	
Covers:	Carbon Steel with corrosion prevention treatment	Carbon Steel with corrosion prevention treatment	Carbon Steel for low temperature
Rotor:	Cast Iron Meehanite	Cast Iron Meehanite	
Vanes:	Aluminium with rilsan tip (max 60°C)	Aluminium with rilsan tip (max 60°C)	Aluminium with PTFE tip
Gaskets:	Nitrile	Nitrile	Viton or PTFE
Ball Bearings:	Stainless Steel	Stainless Steel	Ball bearings in oil bath
Drive:	Mechanical	Mechanical	Magnetic drive
Flanged:	8" ANSI150 RF	10" ANSI150 RF	Other sizes and standards
Readout (with mechanical register)	m <sup>3</sup>	m <sup>3</sup>	Others upon request
Volume per revolution:	14.77 litres	29.55 litres	
Flow direction:	Left (IN) to right (OUT)	Left (IN) to right (OUT)	Right (IN) to left (OUT)
<b>Performances</b>			
Accuracy:	± 0.15%	± 0.15%	
Repeatability:	± 0.02%	± 0.02%	
Pressure drop:	Refer to the diagram attached	Refer to the diagram attached	

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## Accessories

### Automatic valve

8", 10" ANSI 150 - Body in carbon steel - Diaphragm in NBR  
- Two Stages shut-off - Flow limiting - Non return

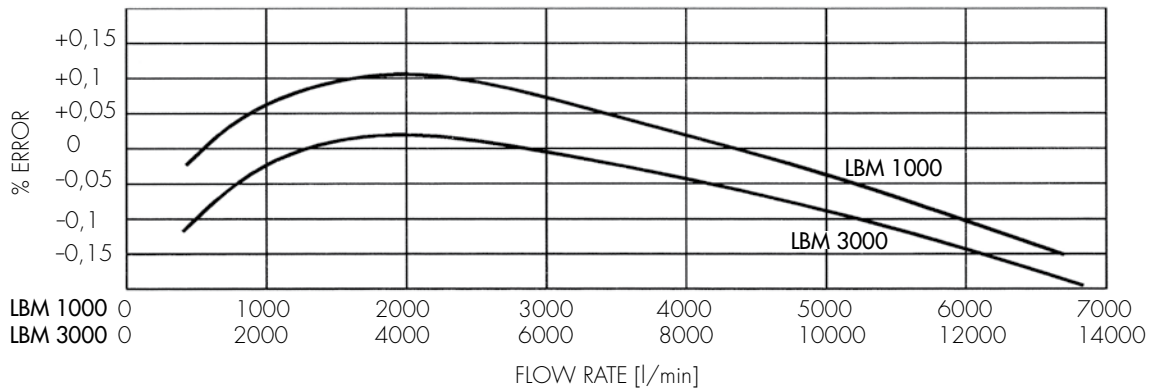
### Pulse emitter

Encode EM6422, EEx-d housing 64 pulses per litre - Intrinsically safe type 345  
- Pulse output: 1, 5, 50, 100 per litre - Other pulses output on request

### Automatic temperature compensator

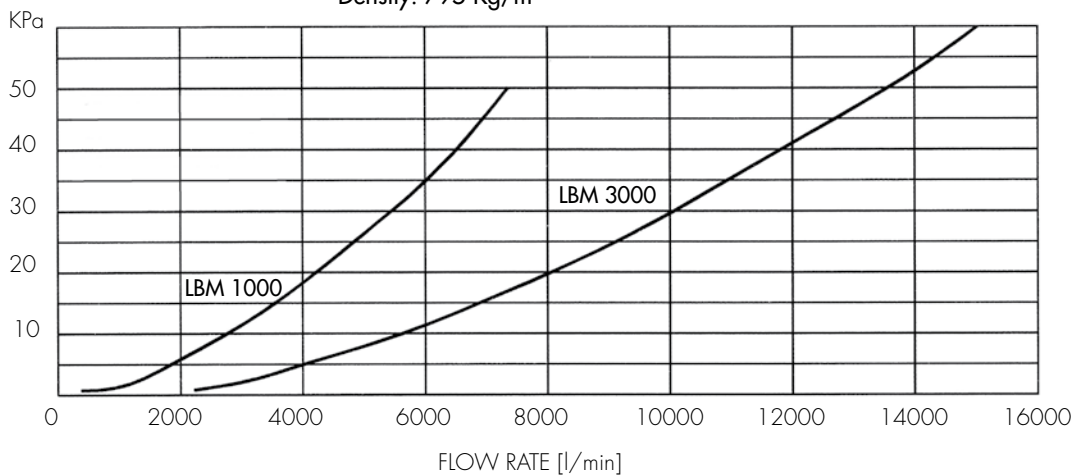
Mechanical setting alfa coefficient or temperature electronic compensator (Vega counter)

## Typical accuracy curves



## Pressure drop

Viscosity at 5°C: 2 cSt  
Density: 795 Kg/m<sup>3</sup>



**ISOIL**  
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The solutions that count

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