Positive displacement meters
BM 200 - 400 - 600

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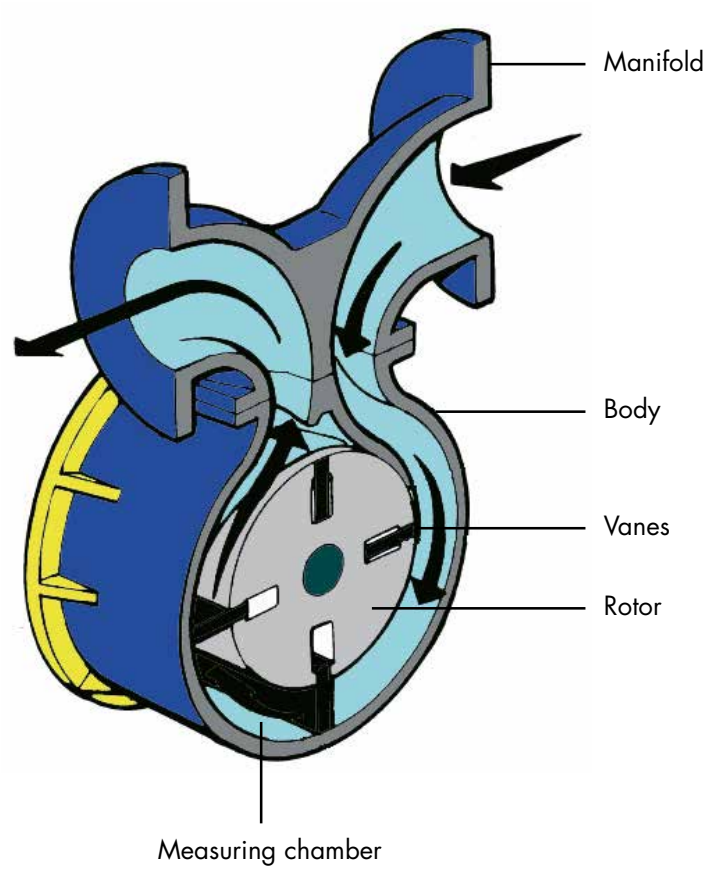
Positive displacement meters
BM 200 - 400 - 600

ISOIL **BM** p.d. meters sizes 3", 4" and 6" grant high accuracy in measurement (±0,1%) and a repeatability of 0,02% over a wide range of flow rates. Correct usage and maintenance ensure this accuracy through long periods of use.
Measured flow rate can be displayed on a mechanical register or, thanks to a pulses emitter, on an electronic counter (e.g. ISOIL mod. VEGA T, VEGA II and VEGA 3).

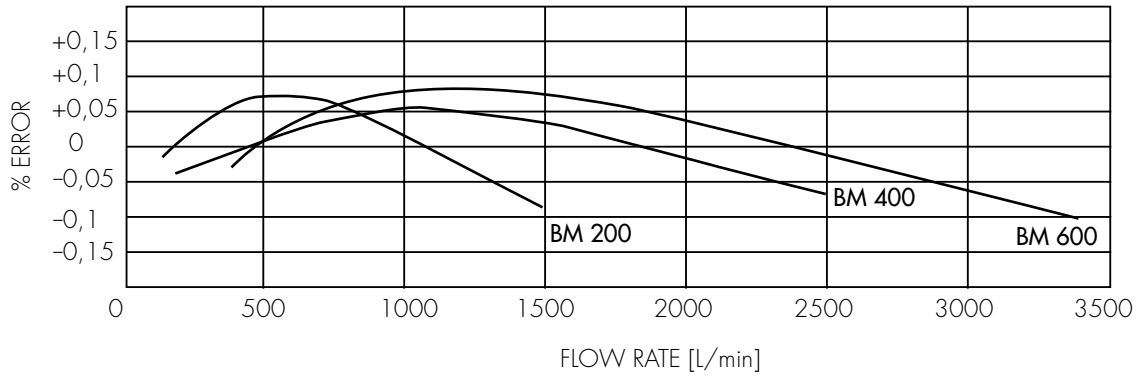
Applications
» tank trucks, tank wagons and barges loading/unloading
» aircraft refueling
» transfer lines
» calibration of other meters and/or tanks (Master Meter)

Filtering and air elimination
In order to assure precise measurement and preserve the meter from damage, the fluid under measurement should be properly filtered and air or gas must be eliminated. Strainer air separators (e.g. ISOIL mod. SFA, SFDA, FDA, DSH, DSV) or strainers (Y strainers) together with air separators (ISOIL mod. DV) are therefore required.

Working principle
Fluid enters the meter trough the manifold thus exerting pressure on the vanes and rotating the rotor inside the measuring chamber. Here the vanes, made of self-lubricating material, flow on the internal surface of the chamber, thus preventing leakage and granting high accuracy in measurement.
Since the measuring chamber has a fixed and known volume for each meter type, flowing liquid can be measured.
Thanks to a seal mounted on the front cover or to a magnetic drive, a shaft connects rotor movement to a mechanical or electronic counter. In this way the number of rotor rotations can be counted and the total amount of fluid is then calculated by multiplying the number of rotor rotations by the volume of the measuring chamber.



Accuracy curves



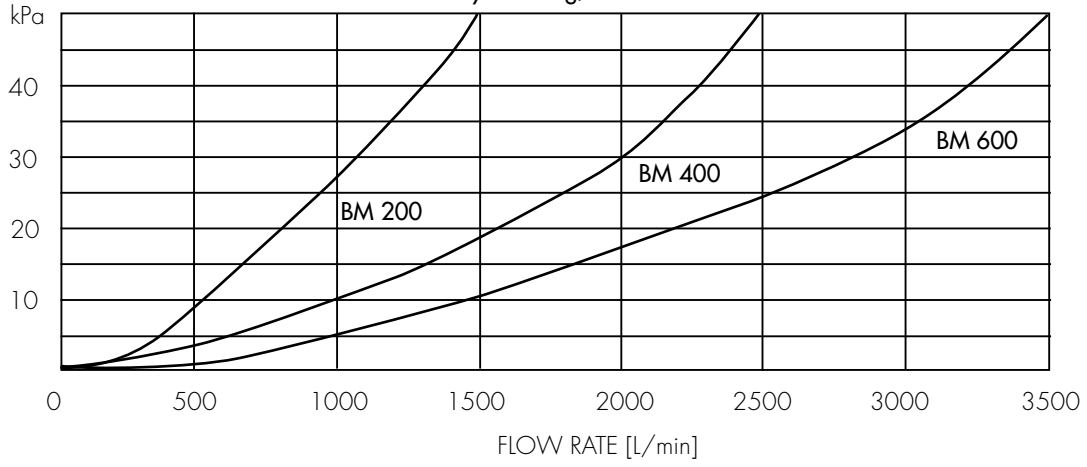
Technical specifications

	STANDARD			UPON REQUEST
	BM 200	**BM 400**	**BM 600**	
EU Directives				
PED	Compliant with Directive 2014/68/UE. Risk category depending on the measured liquid			
ATEX	Non electrical equipment compliant with Directive 2014/34/UE suitable for installation in hazardous area II 2G, Marking Ex II 2 G c Tx			
Working conditions				
Flow rate:	[100 ; 1,300] L/min @ 10 cSt	[200 ; 2,400] L/min @ 10 cSt	[300 ; 3,400] L/min @ 10 cSt	
Maximum flow rate avio	1,400 L/min	2,600 L/min	4,000 L/min	
Working pressure:	1,000 kPa max			Higher values
Test pressure:	1,700 kPa			
Working temperature:	[-30; +100] °C*			Other values
Construction				
Manifold and flanges:	Carbon Steel		Carbon Steel or Aluminium (aviation)	
Body:	Carbon Steel with corrosion prevention treatment			
Covers:	Carbon Steel with corrosion prevention treatment			
Rotor:	Aluminium			Stainless Steel SS316
Vanes:	Graphite			PTFE
Gaskets:	Nitrile			Viton or PTFE
Ball bearings:	Stainless Steel			Graphite bushes
Seal:	Viton lip seal			Mechanical or magnetic drive
Flanges:	3" ANSI150 RF	4" ANSI150 RF	6" ANSI150 RF or FF (aviation)	Other sizes and standards
Readout (with mechanical register):	Litres	Litres or m^3	m^3	Others
Flow direction:	Left to right			Right to left
Performances				
Accuracy:	± 0.1%			
Repeatability:	0.02%			

**Temperature indicated on the device plate always has a 60°C range.*

Pressure drop

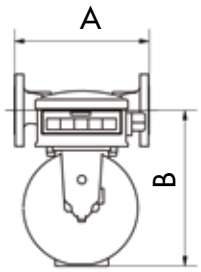
Viscosity at 15°C = 2 cSt
Density= 795 kg/m^3



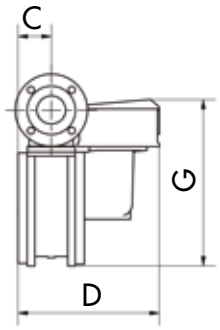
Accessories

Pulse emitter	Encoder EM6422 Ex-d Pulses emitter EM 345 Ex-i EM T2 Ex-d inside Veeder Root 7887 register
VEGA II compensation	Achieved by an algorithm based on "alfa" coefficient or on density
Unit drum (for Master Meter)	Allows the reading of 1/10 of the last digit
Instant flow rate	Mechanical needle indicator
Ticket printer	Veeder Root. Zero start or cumulative
Preset	Veeder Root 7889, with one or two pneumatic micro switches or electric Ex-d ATEX micro switches
Extension for mechanical counter	L = 250 mm, 500 mm, 1000 mm, 3000 mm
ISOVALVE automatic valve	3", 4" or 6" 2 stages or Multistep closure Flow limiting Non-return

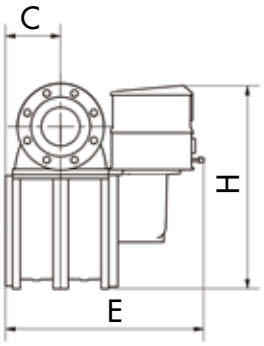
BM with mechanical counter



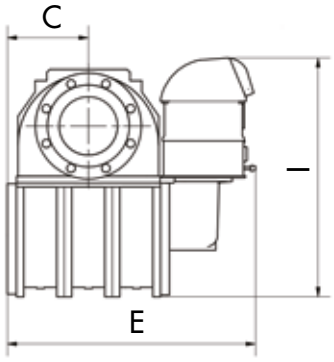
BM 200



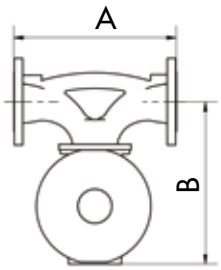
BM 400



BM 600



BM with EM6422



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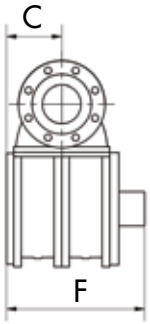
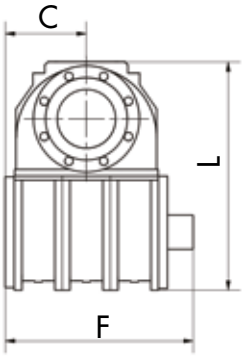


BM 600



Type	A	B	C	D	E	F	G	H	I	L	Weight mechanical counter	Weight pulse emitter
BM 200 3"	356	411,5	100	400	427	274	440	535	630	-	90 kg	72 kg
BM 400 4"	400	428,5	165	530	557	404	440	535	630	-	128 kg	110 kg
BM 600 6"	400	451,5	230	660	687	534	440	535	630	601,5	181 kg	148 kg

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