

Small Capacity Flowmeters

ETL's small capacity flowmeters provide precise volumetric measurement of small quantities of liquids or low flows found in a broad range of industries including automotive, aviation, mining, power, chemical, pharmaceutical, food, paint, petroleum & environmental. Applications include the metering of additives for fuel, consumer products, water treatment & flotation cells, corrosion inhibitors, catalysts, emulsifiers, oils, grease, fragrances, adhesives, solvents, ink & insecticides.

FEATURES

- High accuracy & repeatability, direct reading flowmeter
- No requirement for flow conditioning (straight pipe runs)
- Stainless steel rotors
- Measures high & low viscosity liquids
- Quadrature pulse output option & bi-directional flow

METER SELECTION

- Aluminum meters are used for petroleum products including oils and grease, fuels and fuel oils.
- Stainless steel meters are for the chemical, cosmetic, food, and pharmaceutical industries & water based liquids.
- Blind pulse meters are available with a reed switch & open collector outputs. Quadrature pulse outputs are optional.

INTEGRAL INSTRUMENTS

Meter options include integral LCD totalisers, flow rate totalisers & batch controllers. These instruments provide monitoring & control outputs including 4~20mA, scaled pulse, alarms & batch control. Instruments include:

- BT 5 digit reset, 8 digit cumulative totaliser.
- RT 6 digit reset, cumulative totaliser & flow rate.
- EB 6 digit 2 stage batcher & cumulative totaliser.

(Instruments also available for remote mounting and with I.S. approvals)

GENERAL SPECIFICATION

Flow rates : 0.5 ~ 550 litres / hr. (0.16~ 145 USgal/hr) *

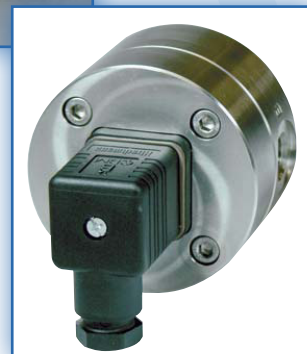
Sizes : 4~8mm (1/8~3/8"NB)

Materials : Aluminum or 316 Stainless steel

* see also small & large capacity data sheets for other size meters



Two oval shaped gears (rotors) are the only moving parts within the measuring chamber



Pulse meter



Specifications

Model prefix :	OM004	OM006	OM008
Nominal size (inches)	4mm (1/8")	6mm (1/4")	8mm (3/8")
Flow range - litres / hr (US gal./hr)	0.5 ~ 36 (0.13 ~ 9.5)	2 ~ 100 (0.5 ~ 27)	15 ~ 550 (4 ~ 145)
Accuracy @ 3cp	±1% o.r. (± 0.2% with optional RT12 using NLC)		
Repeatability	typically ± 0.03%		
Temperature range	-20°C ~ +120°C (-4°F ~ +250°F)		
Maximum pressure			
aluminium	15 bar (220 psig)		
316L stainless	34 bar (500 psig)		
high pressure stainless	refer factory		
Protection class	IP66/67 (NEMA4X), optional Exd IIB T6 or I.S.		
Recommended filtering	75 micron (200 mesh) minimum		
Electrical - for pulse meters (see also optional outputs)			
Output pulse resolution	pulses / litre (pulses / US gallon) - nominal		
Reed switch	2890 (10940)	2100 (7950)	355 (1345)
Hall effect	2890 (10940)	2100 (7950)	710 (2690)
** Reed switch output	30Vdc x 200mA max.		
Hall effect output (NPN)	3 wire open collector, 5~24Vdc max., 20mA max.		
Optional functions			
Display	flowrate, total (accumulative & resettable)		
Preset batching	1 & 2 stage high speed batch control		
Optional outputs			
Flow	4 ~ 20mA, high & low flow rate alarms		
Pulse	scaled pulse (programmable), pulse amplifier		

* Max. flow is to be reduced as viscosity increases, max. press. drop 100Kpa. (15 psi)

** Maximum thermal shock 10°C (50°F) / min. applies to the reed switch

Model coding

OM004	4mm (1/8")
OM006	6mm (1/4")
OM008	8mm (3/8")

Body material

A	Aluminium
S	316 Stainless Steel
H	High Pressure 316SS

Rotor material

5	316 stainless steel
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Bearing type

1	Ceramic
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O-ring material

1	Viton (standard) -15~+200°C (-5~+400°F)
2	Ethylene Propylene Rubber -150°C (300°F) max.
3	Teflon encapsulated viton -150°C (300°F) max.
4	Buna-N (Nitrile) -65~+100°C (-53~+212°F)

Temperature limits

2	120°C (250°F) - see note 1
5	120°C (250°F) - see note 2

Process connections

1	BSP female threaded
2	NPT female threaded

Cable entries

0	3-6mm cable gland
1	M20 x 1.5mm
2	1/2" NPT

Model No. Example

OM006	S	5	1	1	-	5	1	2	R2
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Integral options

2 NPN open collector phased outputs	QP	Quadrature pulse output
IECEX & ATEX approved	E1	Explosion proof ~ Exd
IECEX & ATEX approved	Q1	Exd with Quadrature pulse
accum. & reset totals, pulse output	B2	BT11 dual totaliser
IECEX & ATEX approved	B3	Intrinsically safe BT11 (I.S.)
flow rate, totals & all outputs	R2	RT12 Flow Rate Totaliser
IECEX & ATEX approved	R3	Intrinsically safe RT12 (I.S.)
dc 2 stage batch controller	E0	EB10 batch controller
consult factory	SB	Specific build requirement

(1) 120°C (250°F) rating of the pulse meter, 80°C (180°F) rating with BT, RT & EB options.

See temperature code 5 for higher temperature with BT, RT, & EB

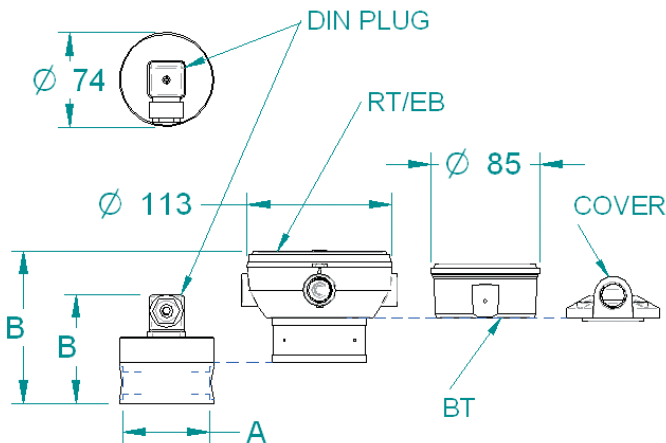
(2) Cooling fin is fitted with integral instruments for operation from 80-120°C (180-250°F)

Recommended strainer

ST004S1	4mm (1/8") - 316SS
ST006S1	6mm (1/4") - 316SS
ST008S1	8mm (3/8") - 316SS



DIMENSIONS



ALL DIMENSIONS IN MILLIMETERS

	A		B	B
Thread		Configuration	OM004/006	OM008
B.S.P.	68	DIN PLUG	79	86
N.P.T.	68	RT/EB REGISTER	112	119
		BT REGISTER	103	110
		COVER	92	99

ACCURACY & PRESSURE DROP

