



Positive Displacement Flowmeters

## Small capacity flowmeters

**KOBOLD** 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/BENEFITS

- 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

**KOBOLD** 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 medium & large capacity data sheets for other size meters



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



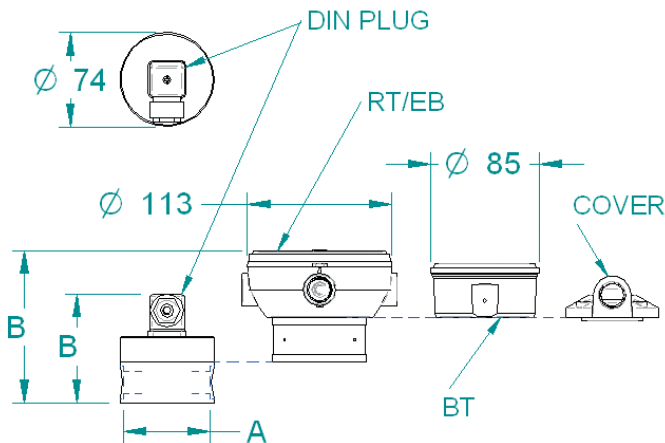
Pulse meter



## 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	<table border="1"> <tr> <td>aluminium</td> <td colspan="2">15 bar ( 220 psig )</td> </tr> <tr> <td>316L stainless</td> <td colspan="2">34 bar ( 500 psig )</td> </tr> <tr> <td>high pressure stainless</td> <td colspan="2">refer factory</td> </tr> </table>			aluminium	15 bar ( 220 psig )		316L stainless	34 bar ( 500 psig )		high pressure stainless	refer factory	
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high pressure stainless	refer factory											
Protection class	IP66/67 (NEMA4X), optional Exd IIB T6 or I.S.											
Recommended filtering	75 micron ( 200 mesh ) minimum											
<b>Electrical - for pulse meters (see also optional outputs)</b>												
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.											
<b>Optional functions</b>												
Display	flowrate, total (accumulative & resettable)											
Preset batching	1 & 2 stage high speed batch control											
<b>Optional outputs</b>												
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												

## DIMENSIONS



ALL DIMENSIONS IN MILLIMETERS

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

## 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

with DIN plug & BT11 only	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

2 NPN open collector phased outputs	QP	Quadrature pulse output
IECEX & ATEX approved	E1	Explosion proof ~ Exd
IECEX & ATEX approved	O1	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

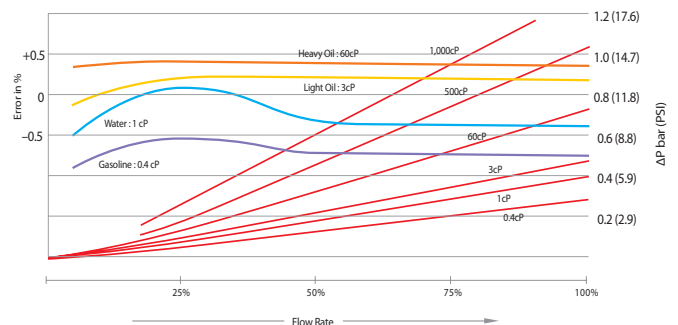
(2) Cooling fin is fitted with integral instruments for operation from 80~120°C ( 180~250°F )

## Recommended strainer

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



## ACCURACY & PRESSURE DROP



Data sheet No. DSOMLRG-0307



PED

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