

## OM004 (1/8"), OM006 (1/4") and OM008 (3/8") Oval Gear Meters



The OM Small Capacity Oval Gear Meters have an increased flow range and offers the ability to handle a wide range of fluid viscosities with exceptional levels of repeatability.

### OM Electronic Choices:

Options include electronic LCD totalisers, flowrate totalisers and batch controllers (4-20mA, scaled pulse, alarms and batch control)

- G5 LCD 6-digit reset, cumulative totalizer and flow rate, pulse output
- G6 LCD 6-digit reset, cumulative totalizer and flow rate analog (4-20mA) and pulse outputs
- G7 Blind analog (4-20mA) output
- BT11 LCD 5-digit reset, 8-digit cumulative totalizer, pulse output
- RT14 LCD 6-digit reset, cumulative totalizer and flow rate, analog and pulse outputs
- RT40 LCD 6-digit reset, cumulative totalizer and flow rate. Backlit Display, pulse output
- EB10 LCD 6-digit 2 stage batcher and cumulative totaliser (Available for remote mounting and with I.S. approvals - RT14 and BT11 only)
- E018 ATEX/IECEx EXd, backlit rate/tot, pulse out, 4-20mA, lin, HART (AL), incl. Line Bushsing
- E018 ATEX/IECEx EXd, backlit rate/tot, pulse out, 4-20mA, lin, HART (SS), incl. Line Bushsing
- F018 backlit rate/tot, pulse out, 4-20mA, 10 pt lin, HART
- F018 Intrinsically Safe backlit rate/tot, pulse out, 4-20mA, 10 pt lin, HART
- F130 2 Stage batch controller backlit
- F130 2 Intrinsically Safe Stage batch controller backlit

**ACCURACY:  $\pm 1.0\%$  OF READING**

### Select Your Body Material:

Aluminum or Stainless Steel

### Features and Benefits:

- ✓ High accuracy and repeatability, direct volumetric reading.
- ✓ No requirement for flow conditioning (straight pipe runs).
- ✓ Stainless Steel rotors (Optional PPS Rotor for OM008 meter).
- ✓ Measures high and low viscosity liquids
- ✓ Quadrature pulse output option and bi-directional flow
- ✓ Blind 4-20mA output option
- ✓ Optional Exd I/IIB approval (ATEX, IECEx)
- ✓ PF option available for metering pulsating flows
- ✓ Only two moving parts

### SPECIFICATIONS

Model Prefix:	OM004 (1/8")	OM006 (1/4")	OM008 (3/8")
Nominal size (inches):	1/8" (4mm)	1/4" (6mm)	3/8" (8mm)
*Flow range - (GPH):	(0.13-9.5)	(0.5-27)	(4-145)
- (LPH):	(0.5 - 36)	(2 - 100)	(15 - 550)
**Accuracy @ 3cp:	$\pm 1\%$ of reading (accuracy is $\pm 0.2\%$ of reading with optional RT14 with non-linearity correction)		
Repeatability:	Typically $\pm 0.03\%$ of reading		
Temperature range:	-4° F - +250° F (-20° C - +120° C), refer factory for lower temperature		
Maximum pressure:	<b>PSI (bar) Threaded Meter</b>		
Aluminium meters:	220 (15)		
316 stainless steel:	495 (34)		
Intermediate press. SS meter:	1450 (100)		

**Electrical** - for pulse meters (see below for optional outputs)

Output pulse resolution:	<b>Pulses / gallon (Pulses / litre) - nominal</b>		
Reed switch:	10600 (2800)	3975 (1050)	1345 (355)
Hall effect:	10600 (2800)	3975 (1050)	2690 (710)
QP-Quadrature Hall option:	10600 (2800)	3975 (1050)	2690 (710)
PF-Pulsating Flow (Hall Effect):	10600 (2800)	3975 (1050)	675 (178)
HR-High resolution Hall effect:	42400 (11200)	15900 (4200)	N/A
Reed switch output:	30Vdc x 200mA max. [maximum thermal shock 50° F (10° C) / minute]		
Hall effect output (NPN):	3 wire open collector, 5-24Vdc max., 20mA max.		
Optional outputs:	4-20mA, scaled pulse, quadrature pulse, flow alarms or two stage batch control		

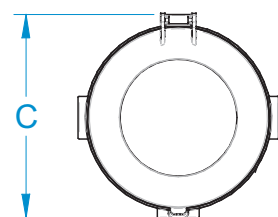
### Physical

Protection class:	IP66/67 (NEMA4X), optional Exd I / IIB T4/T6, integral ancillaries can be supplied I.S. (intrinsically safe)
Overall dimensions:	Refer Below
Recommended filtration:	200 mesh (75 microns)

\* Maximum flow is to be reduced as viscosity increases, see flow de-rating guide. Max. recommended pressure drop is 100Kpa. (14.5 psi)

**OM Series Oval Gear Meters**All dimensions are inches  $\pm .079$  (millimeters  $\pm 2\text{mm}$ )

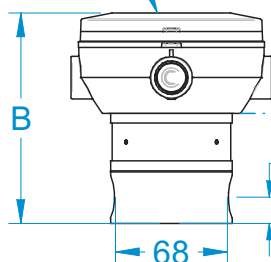
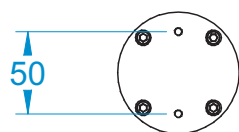
OPTION	B			C
	OM004	OM006	OM008	
EB10 / RT12 GRN HOUSING	4.8 / 122	4.8 / 122	5.0 / 129	4.9 / 124
RT40 / RT12 ALLOY HOUSING, G5 / G6 / G7	4.9 / 125	4.9 / 125	5.2 / 132	3.8 / 96
BT	4.4 / 113	4.4 / 113	4.7 / 120	3.7 / 94
COVER	3.6 / 92	3.6 / 92	3.9 / 99	2.8 / 72

EB10  
RT12 GRN HOUSINGRT40  
RT12 ALLOY HOUSING

G5 / G6 / G7

BT11

COVER

Om008: 5/8" (16mm)  
OM004 & OM006: 7/16" (12.5mm)

MOUNTING FOOTPRINT

### SIZE

<b>OM004</b>	= 1/8 in.	( 4mm )	0.13-9.5 GPH	0.5-36 L/hr
<b>OM006</b>	= 1/4 in.	( 6mm )	0.5-27 GPH	2-100 L/hr
<b>OM008</b>	= 3/8 in.	( 8mm )	4-145 GPH	15-550 L/hr
<b>OM008</b>	= 1/4 in. high pressure	( 6 mm )	4-145 GPH	15-550 L/hr
<b>OM015</b>	= 1/2 in.	( 15mm )	0.26-10.6 GPM	1-40 L/min
<b>OM025</b>	= 1 in.	( 25mm )	2.6-40 GPM	10-150 L/min
<b>OM040</b>	= 1-1/2 in.	( 40mm )	4-66 GPM	15-250 L/min
<b>OM050</b>	= 2 in.	( 50mm )	8-120 GPM	30-450 L/min
<b>OM080</b>	= 3 in.	( 80mm )	10-200 GPM	35-750 L/min
<b>OM080E</b>	= 3 in.	( 80mm )	13-260 GPM	50-1000 L/min
<b>OM100</b>	= 4 in.	( 100mm )	20-400 GPM	75-1500 L/min

### BODY MATERIAL

- A** = Aluminum
- E** = Extended flow aluminum version
- P** = PPS ( 73 PSI / 5 Bar)
- M** = Intermediate pressure aluminum meter ( 2000 PSI [138 Bar] max.) (OM025 only)
- S** = 316L Stainless Steel
- N** = Intermediate press. 316L SS meters (OM004N-025N = 1450 PSI [100 bar] , OM040N-050N = 725 PSI [50 bar])
- H** = High Pressure 316SS (OM004H-040H = 5800 PSI [400 bar] max. OM050H = 4350 PSI [300 bar])

### ROTOR MATERIAL

- 0** = PPS - PTFE filled (Polyphenylene Sulfide)
- 1** = Keishi cutting of PPS rotors (for high viscosity liquids)
- 5** = Stainless steel (standard on OM004 & OM006, optional on other sizes)
- 7** = Keishi cutting of stainless steel rotors (for high viscosity liquids)

### BEARING TYPE

- 0** = No Bearing - PPS rotor option only
- 1** = Carbon Ceramic (standard with stainless steel rotors)

### O-RING MATERIAL

- 1** = FKM (Viton™) (**standard for Alum.**) -5° F minimum (-15° C)
- 2** = EPR (Ethylene Propylene Rubber) - for ketones only
- 3** = PTFE encapsulated FKM (Viton™) - (**standard for SS**)
- 4** = Buna-N (Nitrile), -40° F minimum (-40° C)

### MAXIMUM TEMPERATURE LIMIT

- 2** = 250° F (120° C) max. (reduced to 80° C when fitted with integral instruments)
- 3** = 300° F (150° C) max. (Hall Effect output only, not available with HP meters)
- 5** = 250° F (120° C) max. (includes integral cooling fin)
- 8** = 176° F (80° C) max. (applies to Mech. Reg., OM025P & OM008 with PPS rotors)

*Continued on next page.*

## PROCESS CONNECTIONS

- 1 = BSPP ( G ) female threaded
- 2 = NPT female threaded
- 3 = Sanitary Fittings (Sanitary Fittings are 1/2" larger than the meter size)
- 4 = ANSI-150 RF flanged
- 5 = ANSI-300 RF flanged
- 6 = PN16 DIN flanged

## CABLE ENTRIES

- 0 = 3-6mm cable gland or no cable entry [Exclusive to B2 & B3 options (OM004 to OM008 and mechanical display models only)]
- 1 = M20 x 1.5 mm
- 2 = 1/2" NPT (OM004-OM008) 1/2" NPT Adaptor used for other sizes







## INTEGRAL OPTIONS

- = Combination Reed Switch and Hall Effect Sensor
- G5 = [GG 500] Rate / Total Display with pulse out and optional Ex. Power  
[Local Display w/ Pulse (60°C)]
- G6 = [GX 500] Rate / Total Display w/ 4-20mA out [Local Display w/ 4-20mA (60°C)]
- G7 = [GA 500] Loop powered 4-20mA analog output [Local 4-20mA (60°C)]
- RS = Reed Switch only - to suit Intrinsically safe installations
- E1 = Explosionproof Exd IIB T4/T6 (aluminum & stainless meters) [IECEX & ATEX approved] [120° C]
- E2 = Explosionproof Exd I/IIB T4/T6 (stainless meters only) [IECEX & ATEX mines approved] [120° C]
- QP = Quadrature pulse (2 NPN phased outputs) [not available with high press models]
- Q1 = Explosionproof Exd (with quadrature pulse, but not available with high pressure meter)  
[IECEX & ATEX approved]
- HR = High resolution Hall effect output (Hall Effect only) [OM004:11200ppL, OM006:4200ppL]
- H1 = Explosionproof - Exd with HR Hi-res. Hall option [IECEX & ATEX approved]
- PF = Pulsating flow option (Hall effect output only) [for injected combustion engines]
- P1 = Explosionproof - Exd with PF pulsating flow option [IECEX & ATEX approved]
- B2 = BT11 totaliser with pulse output [with scaleable pulse output]
- B3 = Intrinsically safe BT11 with pulse output [IECEX & ATEX approved]
- R0 = RT12 rate totaliser with all outputs (Alloy housing) [scaled pulse, alarms, 4-20mA]
- R2 = RT12 rate totaliser with all outputs (GRN housing) [scaled pulse, alarms, 4-20mA]
- R3 = Intrinsically safe RT12 with all outputs (GRN housing) [IECEX & ATEX approved]
- R4 = RT40 rate totaliser with backlit large digit LCD [scaleable pulse output, backlight]
- E0 = EB10 batch controller [2 stage DC batcher & totaliser]
- M3 = 4-digit Mechanical Totalizer - litres [Resolution depends on size]
- M4 = 4-digit Mechanical Totalizer - gallon [Resolution depends on size]  
[Consult Factory for Availability with High Pressure Meters]

At Great Plains Industries, we've been building rugged, reliable, liquid flowmeters for over 35 years. The GPI Industrial Meter family includes a full line of Precision and Industrial Turbine meters plus Oval Gear meters in various materials, sizes and fitting options.

We design products to meet the needs of our customers. This includes maintaining appropriate, industry standard approvals. Approvals vary by product line and may be dependent on meter application.

The Approval symbol is listed under product specifications on individual product pages. If no approval mark is found, check the chart to the right. For details about specific "Approvals" refer to the chart.

<b>3-A</b>	<b>3-A Sanitary Standards, Inc.</b> "Flowmeters for Milk and Milk Products, Number 28-03" for GSCPS Models and L Option Meters.
<b>ATEX</b> 	<b>Ex II 1 G</b> Per 94/9/EC.
<b>CE</b>	Product reviewed for EMC Directive 2004/108/EC. Includes: Euro Norms 61000-6-2 (2005) and 61000-6-3 (2007) on A1 and G2 Series Meters. Note: <b>For Oval Gear Meters, the CE Approval is applied when meter is part of a system.</b>
	<b>Factory Mutual Approved</b> Intrinsically Safe for Class I, II, III, Division 1, All Groups. Nonincendive for Class I, II, III, Division 2 Groups A, B, C, D, F, G.
	<b>Factory Mutual Approved</b> Class 1, Div. 1, Group D (01A31GM Only)
	<b>Factory Mutual Approved</b> Intrinsically safe for Class I & II, Div. 1, Groups A, B, C, D, E, F & G, T6 Ta=-40° C to 60° C hazardous locations, and for use in Class I, Zone 0 as Ex is IIC T6 Ta=-40° C to 60° C.
<b>FC</b>	<b>Federal Communication Commission</b> Industry Canada Approval Class B; digital service, part 15 of FCC Rules.
	<b>Ex ia IIC T6 Ta=60° C</b>
<b>IP44/IP54/IP66</b>	<b>Ingress Protection Code</b> IP44 (Greater than 1 mm and splashed water); IP54 (Dust protected and splashed water); IP66 (Dust-tight and heavy seas).
<b>IP/NEMA</b>	Pulse versions of <b>Oval Gear Meters</b> have enclosure ratings that vary from IP54 / NEMA 13 to IP66 / NEMA 16 depending on the application.
<b>NEMA 4</b>	NEMA Requirements: Enclosure constructed for indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment. Protection against falling dirt, rain, sleet, snow, windblown dust, splashing or hose directed water that will be undamaged by the external formation of ice on the enclosure. <i>GPI products are tested to NEMA requirements.</i>
<b>RoHS</b>	Restriction of Hazardous Substances Directive 2002/95/EC and 2011/65/EU
	Indicates that the product was tested and has met the certification requirements for electrical, plumbing and/or mechanical products.