OM SERIES
LARGE CAPACITY

FLOMEC®

OM SERIES LARGE CAPACITY (OVAL GEAR METERS)

The **FLOMEC® OM Large Capacity Oval Gear Meters** have fitting sizes of 3 inches and 4 inches, and handle volumetric flow measurement of clean liquids used in a wide range of applications.

FEATURES / BENEFITS

- High accuracy and repeatability, direct volumetric reading
- Measures high and low viscosity liquids
- Quadrature pulse output option and bi-directional flow
- Optional Exd I/IIB approval (ATEX, IECEx)
- No requirement for flow conditioning (straight pipe runs)
- Only two moving parts

PRODUCT CONFIGURATION

1 PRODUCT IDENTIFIER
OM = Oval Gear Meter

2 METER SIZE
080 = 3 inch (80mm), 10-200 GPM (35-750 L/min)
080E = 3 inch Extended Flow (80mm), 13-260 GPM (50-1000 L/min)
100 = 4 inch (100mm), 20-400 GPM (75-1500 L/min)
100E = 4 inch Extended Flow (100mm), 40-660 GPM (150-2500 L/min) (Only available with Aluminum Rotors)

3 BODY MATERIAL
A = Aluminum
E = Extended flow Aluminum version
S = 316L Stainless Steel (OM080 only)

4 ROTOR MATERIAL / BEARING TYPE
00 = PPS (not available for 300ºF (150ºC)) / No bearing
10 = Keishi cut PPS (for high viscosity liquids) (not available for 300ºF (150ºC)) / No bearing
44 = Aluminum/Hardened Steel Roller (100E only)
51 = Stainless Steel / Carbon Ceramic (080 only)
71 = Keishi cut Stainless Steel rotors (for high viscosity liquids) / Carbon Ceramic (080 only)

5 O-RING MATERIAL
1 = FKM (Viton™) -5º F minimum (-15º C)
3 = PTFE encapsulated FKM (Viton™) (included KALREZ shaft seals) 5º F minimum (-15º C)
4 = Buna-N (Nitrile), -40º F minimum (-40º C)

6 MAXIMUM TEMPERATURE LIMIT
-2 = 250º F (120º C) max.
-3 = 300º F (150º C) max. (OM080 only) (Hall Effect output only)
-5 = 250º F (120º C) max. (includes integral cooling fin)
-8 = 176º F (80º C) max. (meters with integral instruments)

7 PROCESS CONNECTIONS
0 = No fittings
1 = BSPP (G) female threaded (ISO 228)
2 = NPT female threaded
4 = ANSI-150 RF Flanged
6 = PN16 DIN Flanged

8 CABLE ENTRIES
1 = M20 x 1.5 mm
2 = 1/2 in. NPT
6 = 3 x 16 mm drilled holes (for R7/F15/F18/F19/F31)

9 INTEGRAL OPTIONS
___ = Combination Reed Switch and Hall Effect Sensor
SS = Stainless Steel terminal cover
RS = Reed Switch only - to suit Intrinsically safe installations
E1 = Explosion proof Exd IIB T3...T6 (aluminum & stainless meters) [IECEx & ATEX approved]
E2 = Explosion proof Exd I/IIB T3...T6 (stainless meters only) [IECEx & ATEX mines approved]
FP = cFMus Approved, USA and Canada, Flameproof Class 1 Zone 1
QP = Quadrature pulse (2 NPN phased outputs)
QPN = Quadrature pulse (2 NPN phased outputs) with Australian NMI & NZ approval for trade sale
Q1 = Explosion proof Exd (with quadrature pulse) [IECEx & ATEX approved]
Q1N = Explosion proof Exd (IECEx & ATEX) with Quadrature pulse with Australian NMI & NZ approval for trade sale
R4 = RT40 rate totalizer with backlit large digit LCD [scalable pulse output, backlight]*#
R5 = RT14 backlit rate totalizer with all outputs (GRN Housing)*#
R6 = RT14 IECEx/ATEX Intrinsically Safe rate totaliser with 4-20mA and pulse outputs, in GRN housing*#
R7 = RT40 backlit rate totaliser in GRN housing*#^
B11 = EB11 dual stage batch controller in GRN housing*#
F15 = F115 bi-directional flow rate/totaliser, 4-20mA and pulse outputs, in a GRN housing*#^
F18 = F018 backlit rate/tot. pulse out, 4-20mA, 10 pt lin, HART*#^
F19 = F018 Intrinisic Safe, backlit rate/tot. pulse out, 4-20mA, 10 pt lin, HART [IECEx & ATEX approved]*#^
F31 = Intrinsically safe F130 2 stage batch controller [IECEx & ATEX approved]*#^

10 DISPLAY CALIBRATION:
__ = Displays in Litres (DEFAULT)
G = Displays in US Gallons

**Temp code 5 required for integral instruments between 176ºF (80ºC) & 250ºF (120ºC)*
#Temp code 8 required for integral instruments below 176ºF (80ºC)
^Requires Cable Entry option 6

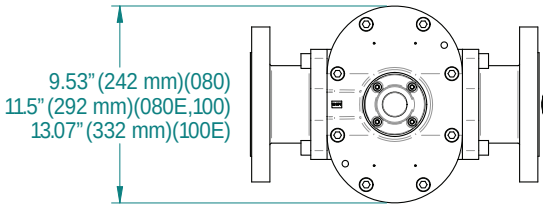
	1	2	3	4	5	6	7	8	9	10
--->>>>	OM	080	A	51	1	-3	2	2	R5	G

SPECIFICATIONS

	OM080	OM080E	OM100	OM100E
Nominal Size:	3" (80 mm)	3" (80 mm)	4"(100 mm)	4"(100 mm)
Nominal Flow* Range @ 3cP:	10-200 GPM	13-260 GPM	20-400 GPM	40-600 GPM
	35-750 L/min	50-1000 L/min	75-1500 L/min	150-2500 L/min
Accuracy:	±0.5% of reading (±0.2% of reading with optional RT14)			
Repeatability:	Typically ± 0.03% of reading			
Temperature Range:	-40˚F - +300˚F (-40˚C - +150˚C)			
Max. Pressure (Aluminum):	175 psi (12 bar)	175 psi (12 bar)	145 psi (10 bar)	145 psi (10 bar)
Max. Pressure (Stainless Steel):	175 psi (12 bar)	n/a	n/a	n/a
Protection Class:	IP66/67 (NEMA 4X) Optional EXd I/IIB T3...T6, integral ancillaries can be supplied I.S. (Intrinsically Safe)			
Recommended Filtration:	40 Mesh (400 µm)			

	OM080	OM080E	OM100	OM100E
Electrical:				
Output Pulse Resolution:	Pulses / gallon (Pulses / L) - Nominal			
Reed Switch:	10.0 (2.65)	5.68 (1.55)	4.15 (1.10)	2.1 (0.56)
Hall Effect:	40.5 (10.7)	22.7 (6.00)	16.6 (4.40)	8.5 (2.24)
QP Quadrature Hall Effect:	20.0 (5.33)	11.4 (3.00)	8.3 (2.20)	4.24 (1.12)
Read Switch Output:	30V (dc) x 200 mA max. (maximum thermal shock 18° F [10° C] / minute)			
Hall Effect Output:	3 wire open collector. 5-24V (dc) max., 20 mA max.			
Optional Outputs:	4-20 mA, scaled pulse, quadrature pulse, flow alarms or two stage batch control			

**Maximum flow is to be reduced as viscosity increases, see flow de-rating guide. Max recommended pressure drop is 14.5 psi (1 bar).*

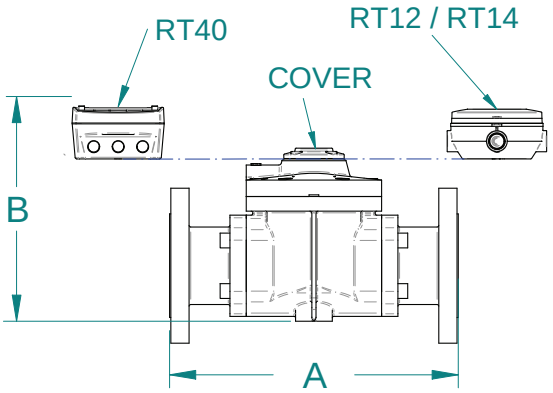


DIMENSIONS

All dimensions are ± .079" (±2 mm)

MODULAR FITTING	A			
	OM080	OM080E	OM0100	OM0100E
Flanged	13.9" (354 mm)	15.0" (382 mm)	15.3" (388 mm)	16.3" (414 mm)
Threaded	10.5" (266 mm)	11.6" (294 mm)	11.6" (294 mm)	12.6" (320 mm)

CONFIGURATION	B				
	OM080A	OM080S	OM080E	OM0100	OM0100E
RT12 / RT14 GRN HOUSING	10.2" (260 mm)	10.1" (257 mm)	10.9" (277 mm)	12.7" (322 mm)	15.7" (399 mm)
RT40	10.3" (264 mm)	10.2" (260 mm)	11.0" (281 mm)	12.8" (326 mm)	15.9" (403 mm)
COVER	8.4" (213 mm)	8.1" (206 mm)	9.0" (229 mm)	10.7" (274 mm)	13.9" (352 mm)



APPLICATIONS

- Oils
- Fuel
- Diesel
- Truck Metering
- Bunker C Fuel Oil
- Chemical Additive Injection
- Batching
- Molasses
- Clean Fluids
- Oil-Based Paints
- Industrial Fluids
- Chemical Feed Lines

APPROVALS

CE NEMA 4X **IP66/67**

FM APPROVED — Class 1, Zone 1, AEx db 11B T4 Gb Ta=-40°C to +120°C
Ex db 11B T4 Gb Ta=-40°C to +120°C

STAINLESS STEEL MODELS ONLY

ATEX 1 M2 Ex db 1Mb **OR** ATEX 11 2 G Ex db 11B T6...T3 Gb

IECEx Ex db 1 Mb Ex db 11B T6.....T3 Gb

Refer to Specific Conditions for Process and Ambient Temperature