Flomec large capacity flowmeters

Volumetric flow measurement of clean liquids used in receipt verification, loading, un-loading and distribution management at petroleum plants, mine sites, marine and aviation facilities. For pumped or gravity fed distribution of fuels, oils, solvents, alcohols.

Features / Benefits

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

Meter Selection

- **Aluminium** meters for petroleum products (oils and grease, fuels and fuel oils)
- **Stainless steel** meters for the chemical, cosmetic, food and pharmaceutical industries (water based liquids)
- **Blind pulse** meters available with reed switch and Hall Effect outputs. Optional Quadrature pulse and Integral 4-20mA outputs are available

Integral Instruments

Options include integral LCD totalisers, flow rate totalisers and batch controllers (4-20mA, scaled pulse, alarms and batch control)

- BT LCD 5-digit reset, 8-digit cumulative totaliser
- RT12 LCD 6-digit reset, cumulative totaliser and flow rate, analog and pulse outputs
- RT40 LCD 6-digit reset, cumulative totaliser and flow rate. Backlit Display
- EB LCD 6-digit 2 stage batcher and cumulative totalizer
- M/V* = Mechanical registers (see model numbering)

(Available for remote mounting and with I.S. approvals)

General Specification

Flowrates: 10 - 660 US gal/min. (35 - 2500 litres/min.)*
Sizes: 3" - 4" NB (80-100 mm)
Materials: Aluminium, 316 Stainless steel

NMI Approved Meters

Meters 1" and above available with optional NMI pattern approval and quadrature pulse output

National Measurement Institute (NMI) Weights and Measures Approval – Australia

* *See also **Small and Medium Capacity** data sheets for other size meters.*

Specifications

Model Prefix:	OM080	OM080E	OM100	OM100E
Nominal size (inches):	3" (80mm)	3" (80mm) E	4" (100mm)	4" (100mm) E
*Flow range - (GPM):	10 - 200	13 - 260	20 - 400	40 - 660
- (LPM):	35 - 750	50 - 1000	75 - 1500	150 - 2500
**Accuracy @ 3cp:	± 0.5% of reading (accuracy is ± 0.2% of reading with optional RT12 with non-linearity correction)			
Repeatability:	Typically ± 0.03% of reading			
Temperature range:	-4° F - +250° F (-20° C - +120° C), refer factory for lower temperature			
Maximum pressure:	**PSI (bar) Threaded Meters**			
Aluminium meters	175 (12)	175 (12)	145 (10)	145 (10)
316 stainless steel	175 (12)	-	-	-

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

Output pulse resolution:	**Pulses / gallon (Pulses / litre) - nominal**			
Reed switch:	10.0 (2.65)	5.68 (1.55)	4.15 (1.10)	2.10 (.560)
Hall effect:	40.5 (10.70)	22.7 (6.00)	8.30 (4.40)	8.50 (2.24)
Quadrature Hall option:	20.0 (5.33)	11.4 (3.00)	8.30 (2.20)	4.24 (1.12)
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:	40 mesh (350 microns)

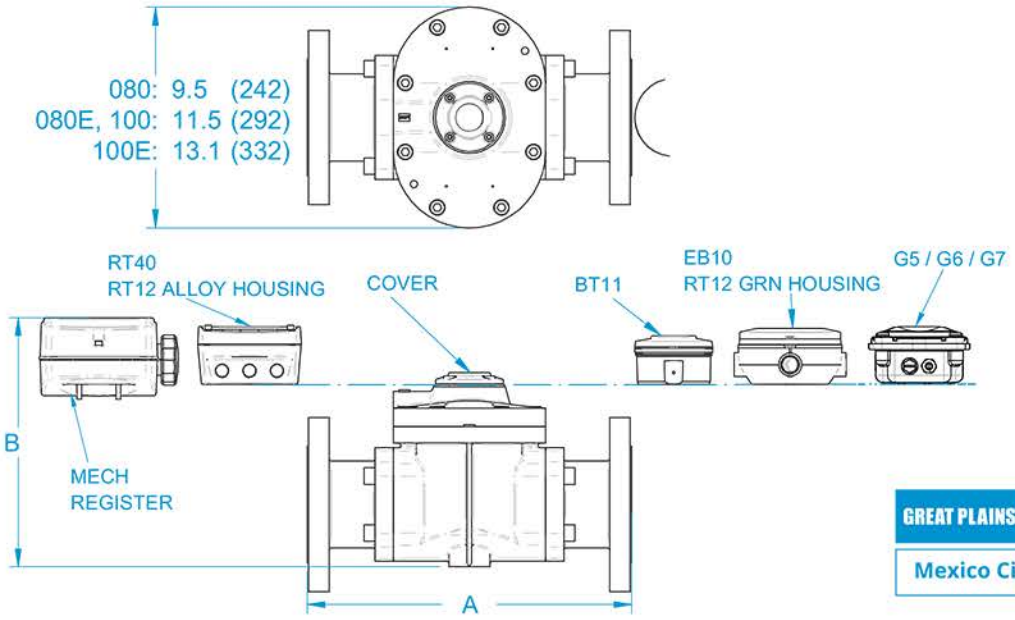
* Maximum flow is to be reduced as viscosity increases, see flow de-rating guide. Max. recommanded pressure drop is 100Kpa. (15 psi)
** Accuracy ± 1% of reading with M - Series mechanical registers and accuracy ± 0.5% of reading with V-series mechanical register.

All dimensions are inches ± .079 (millimeters ±2mm)

MODULAR FITTING	A				CONFIGURATION	B				
	OM080	OM080E	OM100	OM100E		OM080A	OM080S	OM080E	OM100	OM100E
A.N.S.I. 150 DIN16 JIS 10K	13.9 / 354	15.0 / 382	15.3 / 388	16.3 / 414	EBREGISTER / RT12 GRN HOUSING	10.2 / 260	10.1 / 257	10.9 / 277	12.7 / 322	15.7 / 399
					BT REGISTER	9.9 / 252	10.2 / 259	10.6 / 269	12.3 / 314	15.4 / 391
					RT40 REGISTER / RT12 ALLOY HOUSING, G5 / G6 / G7	10.3 / 264	10.2 / 260	11.0 / 281	12.8 / 326	15.8 / 403
B.S.P. N.P.T	10.5 / 266	11.6 / 294	11.6 / 294	12.6 / 320	COVER	8.4 / 213	8.1 / 206	9.0 / 229	10.7 / 274	13.9 / 352
					MECH. REGISTER	10.6 / 270	N/A	11.3 / 288	13.1 / 333	16.4 / 416

Service & Warranty: For technical assistance, warranty replacement or repair contact your Flomec distributor or GPI:

In North or South America: **888-996-3837 / GPI.net**
Outside North or South America: **+61 2 9540 4433 / flomec.com.au**



GREAT PLAINS INDUSTRIES GPI
Mexico City · Sydney · Wichita

MODEL CODING PULSE METERS

FLOMEC™ OMˆ Oval Gear Pulse Meter

ˆIncludes MG oval gear meters

Model	Size			
OM080ˆ	3"	(80mm)	35~750 L/min	10~200 GPM
OM080ˆ	3" extended flow	(80mm)	50~1000 L/min	13~260 GPM
OM100ˆ	4"	(100mm)	75~1500 L/min	20~400 GPM
OM100ˆ	4" extended flow	(100mm)	150~2500 L/min	40~660 GPM

Body material

A	Aluminium
E	Extended flow Aluminium
S	316L Stainless Steel OM080S only

Rotor material

0	PPS - Teflon filled (Polyphenylene Sulfide) (not available for 150°C meters) N/A OM100E
1	Keishi cut PPS rotors (for high viscosity liquids) (not available for 150°C meters) N/A OM100E
4	Aluminium (aluminium meters only) (standard on OM100E)
5	Stainless steel, OM080 only
6	Keishi cut aluminium rotors (for high viscosity liquids)
7	Keishi cut stainless steel rotors (for high viscosity liquids) OM080 only

Bearing type

0	No Bearing (PPS rotors only)
1	Carbon Ceramic (stainless steel rotors only)
4	Hardened steel roller bearings (aluminum rotors only) (only suitable for lubricious fluids)

O-ring material

1	Viton (standard) -15°C minimum (-5°F)
2	EPR (Ethylene Propylene Rubber) - for ketones only
3	Teflon encapsulated viton (includes KALREZ shaft seals on 080 to 100E sizes)
4	Buna-N (Nitrile), -40°C minimum (-40°F)

Temperature limits

-	2	120°C (250°F) max. (reduced to 80°C when fitted with integral instruments)
-	3	150°C (300°F) max. (Hall only, SS terminal cover) OM080 only
-	5	*120°C (250°F) max. (includes integral cooling fin)

Process connections

0	No fittings (consult factory for bolt patterns)
1	BSPP (G) female threaded
2	NPT female threaded
4	ANSI-150 RF flanged
6	PN16 DIN flanged
7	JIS 10kg/cm2 flanged
9	Customer nominated

Cable entries

1	M20 x 1.5mm (M16 x 1.5mm for R0 and R4 options)
2	1/2" NPT (OM004-OM008) 1/2"NPT Adaptor used for other sizes

Integral options

		Nil
	SS	Stainless steel terminal cover
	RS	Reed Switch only - to suit Intrinsically safe installations
IECEx & ATEX approved	E1	Explosionproof Exd IIB T4/T6 (aluminum & stainless meters)
IECEx & ATEX mines approved	E2	Explosionproof Exd I/IIB T4/T6 (stainless meters only)
ANZEx approved	E3	ANZEx certified EXd IIB T4/T6
ANZEx mines approved	E4	ANZEx certified EXd I/IIB T4/T6 (mines approval, SS meters only)
not available with high press models	QP	Quadrature pulse (2 NPN phased outputs)
IECEx & ATEX approved	Q1	Explosionproof Exd (with quadrature pulse but n/a with HP meter)
OM004:11200ppL, OM006:4200ppL	HR	High resolution Hall effect output (Hall Effect only)
IECEx & ATEX approved	H1	Explosionproof ~ Exd with HR Hi-res. Hall option
for injected combustion engines	PF	Pulsating flow option (Hall effect output only)
IECEx & ATEX approved	P1	Explosionproof ~ Exd with PF pulsating flow option
with scaleable pulse output	B2	*BT11 totaliser with pulse output
IECEx & ATEX approved	B3	*Intrinsically safe BT11 with pulse output
scaled pulse, alarms, 4~20mA	R0	*RT12 rate totaliser with all outputs (Alloy housing)
scaled pulse, alarms, 4~20mA	R0P	*RT12 rate totaliser (Alloy housing with facia protector)
scaled pulse, alarms, 4~20mA	R2	*RT12 rate totaliser with all outputs (GRN housing)
IECEx & ATEX approved	R3	*Intrinsically safe RT12 with all outputs (GRN housing)
scaleable pulse output, backlight	R4	*RT40 rate totaliser with backlit large digit LCD (Alloy housing)
scaleable pulse output, backlight	R4P	*RT40 rate totaliser (Alloy housing with facia protector)
2 stage DC batcher & totaliser	E0	*EB10 batch controller
	G5	GG500 display
	G6	GX500 display with 4-20mA transmitter
	G7	GA500 4-20mA transmitter
IECEx & ATEX approved	E10	ATEX/IECEx EXd E110 backlit rate/tot, pulse, 4-20mA (Al)
IECEx & ATEX approved	E11	ATEX/IECEx EXd E110 backlit rate/tot, pulse, 4-20mA (SS)
IECEx & ATEX approved	E12	ATEX/IECEx EXd E112 backlit rate/tot, pulse, 4-20mA, 16 pt lin. (Al)
IECEx & ATEX approved	E13	ATEX/IECEx EXd E112 backlit rate/tot, pulse, 4-20mA, 16 pt lin. (SS)
IECEx & ATEX approved	E18	ATEX/IECEx EXd E018 backlit rate/tot, pulse, 4-20mA, lin, HART (Al)
IECEx & ATEX approved	E19	ATEX/IECEx EXd E018 backlit rate/tot, pulse, 4-20mA, lin, HART (SS)
	F10	F110 backlit rate/tot, pulse out and 4-20mA
	F11	Intrin. safe F110 backlit rate/tot, pulse out and 4-20mA
	F12	F112 backlit rate/tot, pulse out, 4-20mA and 10 pt lin.
	F13	Intrin. safe F112 backlit rate/tot, pulse out, 4-20mA and 10 pt lin.
	F16	F116 backlit Differential/Sum indicator, pulse out and 4-20mA
	F18	F018 backlit rate/tot, pulse out, 4-20mA, 10 pt lin, HART
	F19	Intrin. Safe F018 backlit rate/tot, pulse, 4-20mA, 10 pt lin, HART
	SB	Specific build requirement

* Temp code 5 required with integral LCD instruments when operating temperature falls between 80ºC (180ºF)~120ºC (250ºF)

Model No. Example

OM80	S	5	1	1	-	5	1	1	R2

MODEL CODING
MECHANICAL METERS

FLOMEC™ OMˆ Oval Gear Mechanical Meter

ˆIncludes MG oval gear meters

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OM100ˆ	4"	(100mm)	75~1500 L/min	20~400 GPM
OM100ˆ	4" extended flow	(100mm)	150~2500 L/min	40~660 GPM

Body material

A	Aluminium
E	Extended flow Auminium
S	316L Stainless Steel

Rotor material

0	PPS - Teflon Filled (Polyphenol Sulphide) N/A OM100E
1	Keishi cut PPS rotors (for high viscosity liquids) N/A OM100E
4	Aluminium (aluminium meters only) (standard on OM080E and OM100E)
5	Stainless steel, OM080 only
6	Keishi cut aluminium rotors (for high viscosity liquids)
7	Keishi cut stainless steel rotors (for high viscosity liquids) OM080 only

Bearing type

0	No Bearing (PPS rotors only)
1	Carbon Ceramic (stainless steel rotors only)
4	Hardened steel roller bearings (aluminum rotors only) (only suitable for lubricious fluids)

O-ring material

1	Viton (standard) -15°C minimum (-5°F)
2	EPR (Ethylene Propylene Rubber) - for ketones only
3	Teflon encapsulated viton (includes KALREZ shaft seals on 080 to 100E sizes)
4	Buna-N (Nitrile), -40°C minimum (-40°F)

Temperature limits

-	8	80°C (176°F) max. (all meters with mechanical registers)

Process connections

0	No fittings (consult factory for bolt patterns)
1	BSPP (G) female threaded
2	NPT female threaded
4	ANSI-150 RF flanged
6	PN16 DIN flanged
7	JIS 10kg/cm2 flanged
9	Customer nominated

Cable entries

0	No cable entry

Totaliser capacities

OM015~025	OM040~100		Mechanical Registers
999.9 litres		M1	3 digit mechanical totaliser - litres
9999.9 litres	99999 litres	M3	4 digit mechanical totaliser - litres
9999.9 gal.	99999 gal.	M4	4 digit mechanical totaliser - U.S. gallons
	OM050~100		**Large digit Mechanical Registers**
	999999 litres	V1	5 digit mechanical reset register - litres

Model No. Example

OM100	A	4	4	1	-	8	1	0	M3