

**Flomec large capacity flowmeters** are suited for receipt verification, loading, un-loading & distribution management at petroleum depots, mine sites, marine & aviation facilities. Common transfer applications involve fuels, oils, solvents, alcohols along with the blending of bio & ethanol fuels either pumped or gravity fed. The meters are compact & light weight in construction, important benefits when used in mobile installations or within confined spaces.

## Features / Benefits

- High accuracy & repeatability, direct reading flowmeter
- No requirement for flow conditioning ( *straight pipe runs* )
- Various rotor material options
- Measures high & low viscosity liquids
- Quadrature pulse output option & bi-directional flow
- Integral 4-20mA output option
- Optional Exd I/IIB approval (ATEX, IECEx)



## Meter selection

- **Aluminium** meters are used for petroleum product including oils and grease, fuels and fuel oils.
- **Stainless steel** meters are for the chemical, water based liquids or where Aluminium is not suited or permitted.
- **Blind pulse** meters are available with reed switch & Hall Effect outputs. Quadrature pulse & Integral 4-20mA outputs are optional.



## Integral instruments

**Flomec** 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 and are also available with robust mechanical registers:

- BT LCD 5 digit reset, 8 digit cumulative totaliser.
- RT12 LCD 6 digit reset, cumulative totaliser & flow rate. Analogue and Pulse Outputs
- RT40 LCD 6 digit reset, cumulative totaliser & flow rate. Backlit Display
- EB LCD 6 digit 2 stage batcher & cumulative totaliser.
- M / V\* = Mechanical registers ( *see model numbering* )



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

## General specification

Flow rates : 35 ~ 2500 litres / min. (10~ 660 USgal/min.) \*

Sizes : 80~100mm (3"~4" NB)

Materials : Aluminium, 316 Stainless steel

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

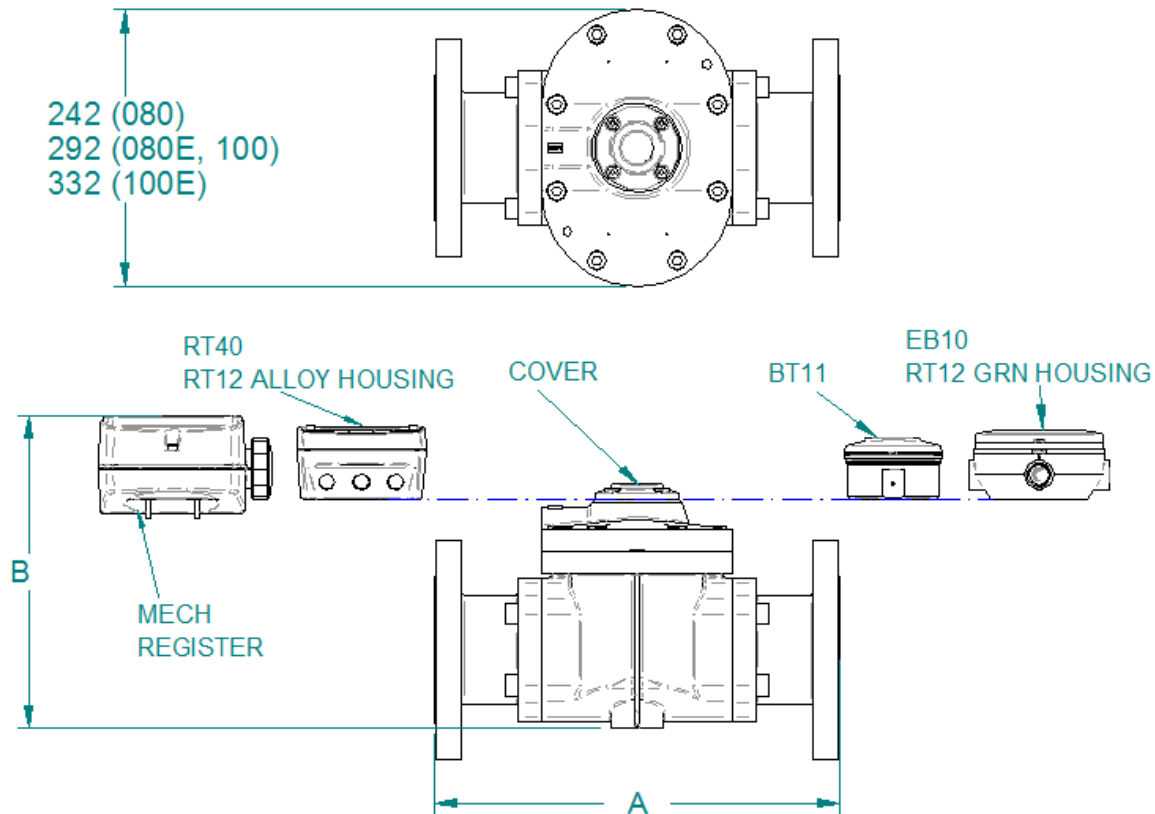
## NMI Approved Meters

Many applications require the use of NMI approved meters. Flomec Series Flowmeters 1" and above are available with optional NMI pattern approval with quadrature pulse output.

## Specifications

Model Prefix	OM080 (3")	OM080 (3") E	OM100 (4")	OM100 (4") E
Nominal size ( inches )	80mm (3")	80mm (3") E	100mm (4")	100mm (4") E
*Flow range - litres/min	35 ~ 750	50 ~ 1000	75 ~ 1500	150 ~ 2500
- US gal/min	10 ~ 200	13 ~ 260	20 ~ 400	40 ~ 660
**Accuracy @ 3cp	± 0.5% of reading (accuracy ± 0.2% of reading with optional RT12 with non-linearity correction)			
Repeatability	typically ± 0.03% of reading			
Temperature range	-20°C ~ +120°C ( -4°F ~ +250°F ), refer factory for lower temperature			
Maximum pressure	(Threaded meters)bar (PSI)			
aluminium meters	12 (175)	12 (175)	10 (145)	10 (145)
316 stainless steel meters	12 (175)	-	-	-
<b>Electrical</b> - for pulse meters ( see below for optional outputs )				
Output pulse resolution	pulses / litre ( pulses / US gallon ) - nominal			
Reed switch	2.65 (10)	1.55 (5.68)	1.1 (4.15)	0.56 (2.1)
Hall effect	10.65 (40.5)	6.0 (22.7)	4.4 (8.3)	2.24 (8.5)
Quadrature Hall option	5.33 (20)	3.0 (11.36)	2.2 (8.3)	1.12 (4.24)
Reed switch output	30Vdc x 200mA max. ( maximum thermal shock 10°C (50°F) / 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			
<b>Physical</b>				
Protection class	IP66/67 (NEMA4X) - for Pulse Meter; IP65 (NEMA 4) - for Mechanical Series; optional Exd I / IIB T4/T6, integral ancillaries can be supplied I.S. ( intrinsically safe )			
Overall dimensions	Refer Below			
Recommended filtration	350 microns (40 mesh)			
* Maximum flow is to be reduced as viscosity increases, see flow de-rating guide. Max. Recommended 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.				

### Over all Dimensions:



ALL DIMENSIONS ARE IN MILLIMETERS ±2mm

Modular Fitting	A				Configuration	B				
	OM080	OM080E	OM100	OM100E		OM080-A	OM080-S	OM080E	OM100	OM100E
A.N.S.I. 150	354	382	388	414	EB REGISTER/BT12 GRN HOUSING	260	257	277	322	399
DIN 16	354	382	388	414	BT REGISTER	252	249	269	314	391
JIS 10K	354	382	388	414	RT40 REGISTER/BT12 ALLOY HOUSING	264	260	281	326	403
B.S.P.	266	294	294	320	COVER	213	206	229	274	352
N.P.T.	266	294	294	320	MECH. REGISTER	270	N/A	288	333	416

## Model Coding – Flomec Pulse Meters

### Meter size

OM080	80mm (3")	35-750 L/min	10-200 GPM
OM080	80mm (3" extended flow)	50-1000 L/min	13-260 GPM
OM100	80mm (3" extended flow)	75-1500 L/min	20-400 GPM
OM100	80mm (3" extended flow)	150-2500 L/min	40-660 GPM

### Body material

A	Aluminium
E	Extended flow Aluminium version
S	316L Stainless steel (OM080 meter only)

### Rotor material

0	PPS-Teflon Filled (Polyphenylene Sulfide) (Not available for OM100E)
1	Keishi cutting Teflon Filled-PPS rotors (Not available for OM100E)
4	Aluminium (Aluminium meters only)
5	Stainless steel (OM080 meter only)
6	Keishi cutting of Aluminium rotors (for high viscosity liquids)
7	Keishi cutting of stainless steel rotors (for high viscosity liquids)

### Bearing type

0	No bearing (PPS rotors only)
1	Carbon-Ceramic (Standard with Stainless steel rotors)
4	Hardened steel roller bearings (Aluminum rotors only)

### O-ring material

1	Viton (standard) -15°C (+5°F) minimum
2	Ethylene Propylene Rubber (EPR); -40~+120°C (-40~+250°F)
3	Teflon encapsulated viton - application specific; 15°C (+5°F) minimum
4	Buna-N (Nitrile) -40~+100°C (-40~+212°F)

### Temperature limits

-	2	120°C (250°F) - see note 1
080A or 080S Hall only	-	3 *150 °C (300°F) max.
& for o-ring code 1 or 3	-	5 *120 °C (250°F) max. (Includes integral cooling fin) see note 2

### Process connections

1	BSP female threaded
2	NPT female threaded
3	* Tri-clamp hygienic ferrules
4	ANSI-150 RF flanges
5	ANSI-300 RF flanges
6	PN16 DIN flanges
7	JIS10kg/cm2 flanges
9	Customer nominated

\* tri-clamp ferrules are 1/2" larger than the meter size

### Cable entries

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

### Integral options

	00	Nil
	SS	Stainless Steel Terminal Cover
	RS	Reed Switch Only- to suit Intrinsically Safe Installations (I.S)
Not available with high press models	QP	Quadrature pulse ( 2 NPN Phased outputs)
IECEX & ATEX approved	E1	Explosion proof ~ Exd IIB T4/T6 (Aluminium & stainless meters)
IECEX & ATEX mines approved	E2	Explosion proof ~ Exd IIB T4/T6 (stainless meters only)
IECEX & ATEX approved	Q1	Exd with Quadrature pulse
for injected combustion engines	PF	Pulsating flow option (hall effect output only)
IECEX & ATEX approved	P1	Exd with PF pulsating flow option.
with scaleable pulse output	B2	BT11 dual totaliser with pulse output
IECEX & ATEX approved	B3	Intrinsically safe BT11 (I.S.)
Scaled pulse, alarm, 4 ~ 20mA	R0	RT12 Flow Rate Totaliser with all outputs(Alloy housing)
Scaled pulse, alarm, 4 ~ 20mA	R2	RT12 Flow Rate Totaliser with all outputs (GRN housing)
IECEX & ATEX approved	R3	Intrinsically safe RT12 (I.S.)
Scaled pulse + Backlighting	R4	RT40 large LCD flow rate totaliser (Alloy housing)
2 stage DC batcher and totaliser	E0	EB10 batch controller
	FI	Loop powered 4 ~ 20mA analog output(80°C max)
Not available with High Press. Models	A1	Exd with Loop powered 4 ~ 20mA analog output(80°C max)
	SB	Specific build requirement

OM080 A 4 4 1 - 5 1 1 R2 ( refer factory for model availability )  
# (Meter close couple option with strainer/Air-Eliminator, please refer factory for part no. or strainer data sheet)

\*(1) 120°C (250°F) rating for the pulse meter, 80°C (180°F) rating with BT, RT, EB & FI options.  
See temperature code 5 for higher temperature with BT, RT, & EB  
\*(2) Cooling fin is fitted with LCD instruments for operation between 80~120°C (180~250°F)



## Model Coding - Flomec Mechanical Meters

### Meter size

OM080	3"	( 80mm )	35~7.10~200 GPM
OM080	3" extended flow	( 80mm )	50~1.13~260 GPM
OM100	4"	( 100mm )	75~1.20~400 GPM
OM100	4" extended flow	( 100mm )	150~.40~660 GPM

### Body material

A	Aluminium
E	Extended flow aluminium version
S	316L Stainless Steel (OM080 meter only)

### Rotor material

0	PPS-Teflon Filled (Polyphenol Sulphide) (Not available for OM100E)
1	Keishi cutting of Teflon Filled-PPS rotors (Not available for OM100E)
4	Aluminium ( Aluminium meters only )
5	Stainless steel (OM080 meter only)
6	Aluminium - keishi cut for high viscosity liquids
7	Stainless steel - keishi cut for high viscosity liquids

### Bearing type

0	No Bearing- PPS rotors only
1	Carbon-Ceramic ( stainless steel rotors only )
4	Hardened steel roller bearings ( aluminium rotors only )

### O-ring material

1	Viton ( standard ), -15°C ( + 5°F ) minimum
2	EPR ( Ethylene Propylene Rubber ); -40~+ 120°C ( -40°F~+ 250°F )
3	Teflon encapsulated viton - application specific -15°C ( + 5°F ) minimum
4	Buna-N ( Nitrile ), -40°C~+ 100°C ( -40°F~+ 212°F )

### Temperature limits

8	80°C (180°F) max.
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### Process connections

1	BSP female threaded
2	NPT female threaded
3	* Tri-clamp hygienic ferrules
4	ANSI-150 RF flanges
5	ANSI-300 RF flanges
6	PN16 DIN flanges
7	JIS 10kg/cm2 flanges
9	Customer nominated

### Cable entries

0	no cable entry
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### Totaliser capacities

99999 litres	M3	4 digit mechanical totaliser - litres
99999 gal.	M4	4 digit mechanical totaliser - U.S. gallons

### Large digit mechanical registers

999999 litres	V1	5 digit mechanical reset register - litres
999999 litres	V3	5 digit register + 7888 ticket printer - litres
999999 litres	V5	5 digit register + preset batch register - litres
999999 litres	V7	5 digit register + preset + 7888 printer - litres
	SB	Specific build requirement

### Model No. Example

OM100	A	4	4	1	-	8	1	0	V1
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(#Meter close couple option with strainer/Air-Eliminator, please refer factory for part no. or strainer data sheet)



\* triclamp ferrules are 1/2" larger than the meter size

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Data sheet No. DSOMLAR-0213

