

**FLAMEC** 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 )
- Compact & light weight construction
- All metal rotors
- Quadrature pulse output option & bi-directional flow

### METER SELECTION

- **Aluminum meters** are used for petroleum products including oils and grease, fuels and fuel oils.
- **Ductile iron meters** are for applications where aluminum is not suitable or permitted.
- **Blind pulse meters** are available with a reed switch & open collector outputs. Quadrature pulse outputs are optional.

### INTEGRAL INSTRUMENTS

**FLAMEC** meter options include integral LCD totalisers, flow rate totalisers & batch controllers. These instruments provide monitoring & control outputs including 4~20mA, scaled pulse, alarms & batch. Robust mechanical registers complete range :

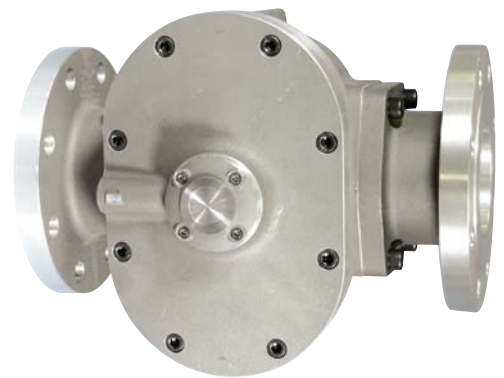
- BT 5 digit reset, 8 digit cumulative totaliser.
- RT 6 digit reset, cumulative totaliser & flow rate.
- EB 6 digit 2 stage batcher & cumulative totaliser.
- M\* = Mechanical registers ( *see model numbering* )

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

### GENERAL SPECIFICATION

**Flow rates** : 35 ~ 1500 litres/min. ( 13~ 400USgal/min ) \*  
**Sizes** : 80~100mm ( 3"~4" NB )  
**Materials** : Aluminum or ductile iron

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



Pulse meter



with LCD register



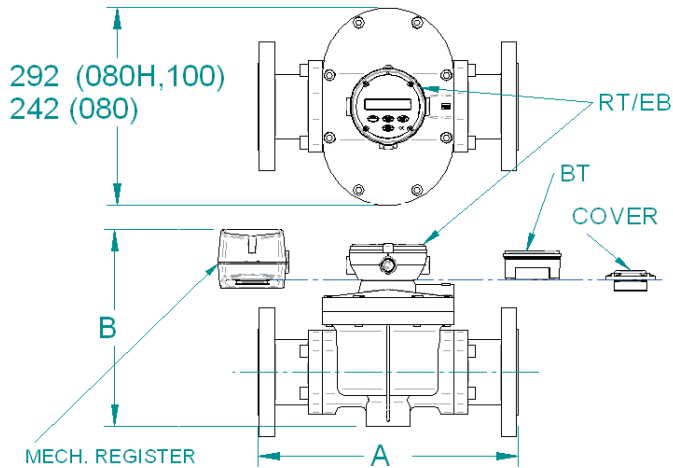
with 3 or 4 digit mechanical register

## Specifications

| Model prefix :   | OM080   | OM80H         | OM100        |
|--|---|---------------|--------------|
| Nominal size ( inches )  | 80mm ( 3" )   | 80mm ( 3" )   | 100mm ( 4" ) |
| * Flow range ( litres / min )                                      | 35 ~ 750  | 50 ~ 1000     | 75 ~ 1500    |
| * Flow range ( USGM )  | 10 ~ 200  | 13 ~ 260      | 20 ~ 400     |
| Accuracy @ 3cp   | ± 0.2% of reading ( 15:1 turndown ) ± 0.5% for 20:1         |               |              |
| Repeatability  | typically ± 0.03%   |               |              |
| Temperature range  | -20°C ~ +120°C ( -4°F ~ +250°F )                            |               |              |
| Maximum pressure ( threaded meters )                               | bar ( PSI )   |               |              |
| aluminium  | 12 ( 180 )  | 12 ( 180 )    | 10 ( 150 )   |
| Ductile iron   | 12 ( 180 )  | 12 ( 180 )    | 10 ( 150 )   |
| Protection class   | IP66/67 (NEMA4X), optional Exd IIB T6 or I.S.               |               |              |
| Recommended filtering  | 350 microns ( 40 mesh ) minimum                             |               |              |
| <b>Electrical - for pulse meters ( see also optional outputs )</b> |   |               |              |
| Output pulse resolution :  | pulses / litre ( pulses / US gallon ) - nominal             |               |              |
| Reed switch  | 2.32 ( 8.8 )  | 1.55 ( 5.87 ) | 1.1 ( 4.15 ) |
| Hall effect  | 9.3 ( 35.2 )  | 6.2 ( 23.5 )  | 4.4 ( 16.6 ) |
| Quadrature Hall option   | 4.65 ( 17.6 )   | 3.1 ( 11.8 )  | 2.2 ( 8.3 )  |
| Reed switch output   | 30Vdc x 200mA max. ( max. temp. shock 10°C ( 50°F ) / min ) |               |              |
| 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 mechanical registers ( IP65 )</b>                      |   |               |              |
| 3 digit reset totaliser  | 9999 litres or gallons ( 6 digit accumulative )             |               |              |
| 4 digit reset totaliser  | 99999 litres or gallons ( 8 digit accumulative )            |               |              |
| <b>Optional outputs</b>  |   |               |              |
| Flow   | 4 ~ 20mA, high & low flow rate alarms                       |               |              |
| Pulse  | scaled pulse ( programmable ) , pulse amplifier             |               |              |

\* Maximum flow on fuels may be maintained for intermittent periods of refuelling.  
\* Max. flow is to be reduced as viscosity increases, max. press. drop 100Kpa ( 15psi )

## DIMENSIONS



|                 | A    | A     | A     | Configuration  | B    | B     | B     |
|-----------------|------|-------|-------|----------------|------|-------|-------|
| Modular Fitting | OM80 | OM80H | OM100 |                | OM80 | OM80H | OM100 |
| A.N.S.I. 150    | 354  | 382   | 382   | RT/EB REGISTER | 251  | 270   | 313   |
| DIN 16          | 354  | 382   | 382   | BT REGISTER    | 242  | 260   | 304   |
| JIS 10K         | 354  | 382   | 382   | COVER          | 213  | 230   | 275   |
| B.S.P.          | 260  | 294   | 294   | MECH. REGISTER | 276  | 295   | 338   |
| N.P.T.          | 260  | 294   | 294   |                |      |       |       |

## Model coding

|       |                       |
|-------|-----------------------|
| OM080 | 80mm ( 3" )           |
| OM80H | 80mm ( 3" high flow ) |
| OM100 | 100mm ( 4" )          |

### Body material

|   |              |
|---|--------------|
| A | Aluminium    |
| D | Ductile iron |

### Rotor material

|   |           |
|---|-----------|
| 4 | Aluminium |
|---|-----------|

### Bearing type

|   |                                |
|---|--------------------------------|
| 4 | Hardened steel roller bearings |
|---|--------------------------------|

### 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 |
| 4 | ANSI-150 RF flanges |
| 5 | ANSI-300 RF flanges |
| 6 | PN16 DIN flanges    |
| 9 | Customer nominated  |

### Cable entries

|   |   |                                     |
|---|---|-------------------------------------|
| Code O with mechanical register options | 0 | 3-6mm cable gland ( B2/B3 options ) |
|   | 1 | M20 x 1.5mm                         |
|   | 2 | 1/2" NPT                            |

### Model No. Example

|       |   |   |   |   |   |   |   |   |    |
|-------|---|---|---|---|---|---|---|---|----|
| OM080 | A | 4 | 4 | 1 | - | 5 | 1 | 1 | R2 |
|-------|---|---|---|---|---|---|---|---|----|

### Integral options

|                                     |    |                                    |
|-------------------------------------|----|------------------------------------|
| 2 NPN open collector phased outputs | QP | Quadrature pulse output            |
| IECEX & ATEX approved               | E1 | Explosion proof - Exd              |
| IECEX & ATEX approved               | Q1 | 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              |
| M* = M1 litres, M2 gallons          | M* | 3 digit mechanical reset totaliser |
| M* = M3 litres, M4 gallons          | M* | 4 digit mechanical reset totaliser |
| 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

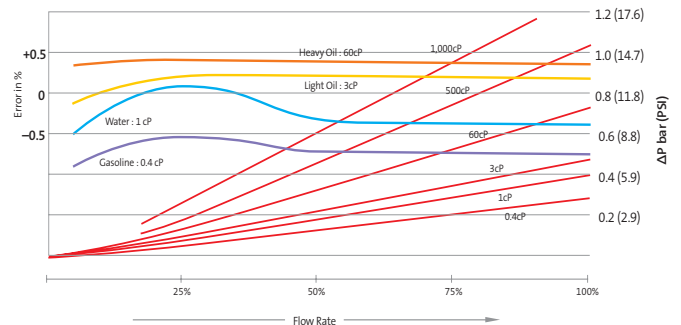
(2) Cooling fin is fitted with integral instruments for operation between 80~120°C (180~250°F)

## Recommended strainer ( air eliminators available )

|         |                      |
|---------|----------------------|
| ST080S1 | 80mm ( 3" ) - 316SS  |
| ST100S1 | 100mm ( 4" ) - 316SS |



## ACCURACY & PRESSURE DROP



# FLAMEC

In the interest of product development, the design & specifications may alter without notification

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