

**Trimec** 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*)
- Measures high & low viscosity liquids
- Quadrature pulse output option & bi-directional flow
- Optional Exd I/II approval (ATEX, IECEx)
- Only two moving parts

## General specification

Flow rates: 35 - 1500 litres/min (10 - 400 US gal/min) \*

Sizes: 80 - 100mm (3" - 4")

Materials: Aluminum, 316 Stainless steel (080 only)

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

## Meter selection

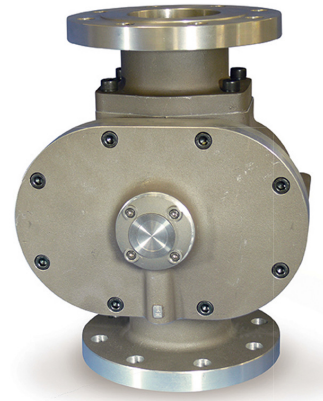
- **Aluminum** meters are used for petroleum products including oils and grease, fuels and fuel oils.
- **Stainless steel** meters are for chemicals, cosmetic, food and pharmaceutical industries, water base liquids or where aluminum is not suited or permitted.
- **Blind pulse** meters are available with reed switch & Hall Effect outputs. Quadrature pulse outputs and Integral 4-20mA are optional.

## Integral instruments

**Trimec** 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:

- FRT LCD 7 digit flow rate, total, accumulated total, alarm values and preset totalisers.
- RT12 LCD 8 digit reset, cumulative totaliser, analogue and pulse outputs.
- RT40 LCD 6 digit reset, cumulative totaliser & flow rate. Backlit display.
- EB10 LCD 6 digit 2 stage batcher & cumulative totaliser.
- M\* = Mechanical registers (*see model numbering*)

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

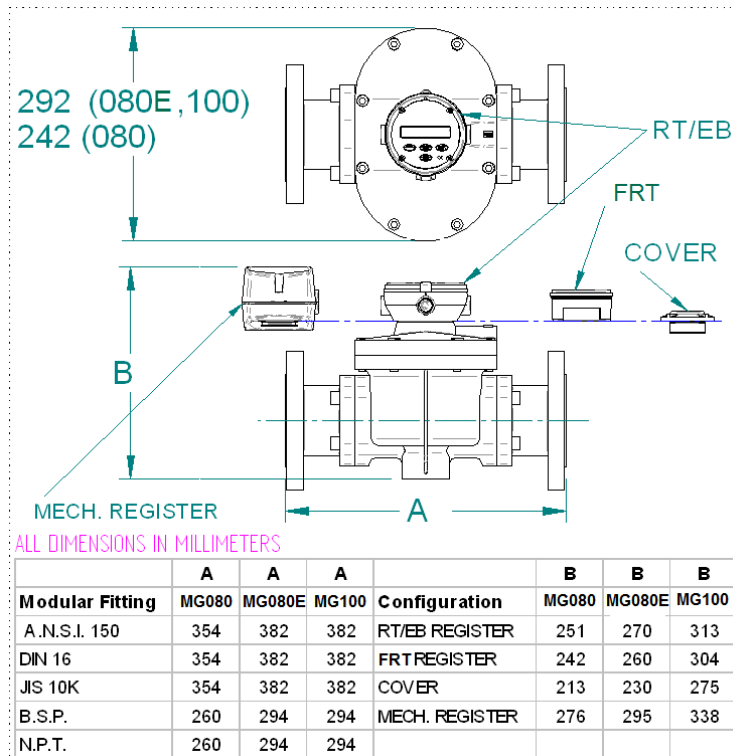


## Specifications

Nominal size ( inches )	MG080 (3")	MG080 (3") E	MG100 (4")
*Flow range - (LPM) litres/min	35 - 750	50 - 1000	75 - 1500
- (GPM) US gal/min	10 - 200	13 - 260	20 - 400
Accuracy @ 3cp	± 0.5% of reading (± 0.2% of reading with optional RT12)		
Repeatability	typically ± 0.03% of reading		
Temperature range	-30°C - +120°C (-22°F - +250°F)		
Maximum pressure	(Threaded meters) bar (PSI)		
Aluminium meters	12 (175)	12 (175)	10 (145)
Stainless Steel	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)
Hall effect	10.65 (40.5)	6.0 (22.7)	4.4 (8.3)
Quadrature Hall Effect option	5.33 (20)	3.0 (11.4)	2.2 (4.15)
Reed switch output	30Vdc x 200mA max. (maximum thermal shock 10°C (18°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), 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 1 Bar (14.5 psi).

## Over all Dimensions:



## Model Coding

### Meter size

<b>M G080</b>	80mm (3")	35 - 750 l/min	10 - 200 US gal/min
<b>M G080E</b>	80mm (3") Extended flow	50 - 1000 l/min	13 - 260 US gal/min
<b>M G100</b>	100mm (4")	75 - 1500 l/min	20 - 400 US gal/min

### Body material

<b>A</b>	Aluminium
<b>E</b>	Extended flow aluminium
<b>S</b>	316 stainless steel (080 only)

### Rotor material / Bearing type

<b>0 0</b>	PPS (not available for 150 °C meters) / No bearing
<b>1 0</b>	Keishi cut PPS (for high viscosity liquids) (not available for 150 °C meters) / No bearing

### O-ring material

<b>1</b>	Viton (standard) -15 - +200°C (-5 - +400°F)
<b>3</b>	Teflon encapsulated viton (includes KALREZ shaft seals on 080 to 100 sizes), -15 °C min.
<b>4</b>	Buna-N (Nitrile) -40 - +100°C (-53 - +212°F)

### Temperature limits

<b>2</b>	120°C (250°F) - max.
<b>3</b>	150 °C (300°F) max. - (Hall Effect output only) (Includes SS terminal cover) (080 only)
<b>5</b>	*120 °C (250°F) max. (Includes integral cooling fin)
<b>8</b>	*80°C (176°F) max. (Meters with integral instruments)

### Process connections

<b>0</b>	No fittings
<b>1</b>	BSPP female threaded
<b>2</b>	NPT female threaded
<b>4</b>	ANSI-150 RF flanges
<b>6</b>	PN16 DIN flanges
<b>9</b>	Customer nominated

### Cable entries

<b>0</b>	3 - 6 mm cable gland (with mechanical register options) or M 16 x 1.5 (exclusive to FRT)
<b>1</b>	M20 x 1.5mm (M 16 x 1.5mm for R4 option)
<b>2</b>	1/2" NPT Adaptor

### Integral options

	<b>00</b>	Nil
	<b>SS</b>	Stainless steel terminal cover
	<b>RS</b>	Reed Switch only - to suit Intrinsically Safe installations
IECEx & ATEX approved	<b>E1</b>	Explosion proof ~ Exd IIB T4/T6 (aluminium & stainless meters)
IECEx & ATEX mines approved	<b>E2</b>	Explosion proof ~ Exd IIB T4/T6 (stainless meters only)
	<b>QP</b>	Quadrature pulse (2NPN phased outputs)
IECEx & ATEX approved	<b>Q1</b>	Explosionproof Exd (with quadrature pulse but n/a with HP meter)
M G004:11200ppL, M G006:4200ppL	<b>HR</b>	High resolution Hall Effect output (Hall Effect only, 004 - 006 only)
IECEx & ATEX approved	<b>H1</b>	Explosionproof - Exd with HR H-res. Hall option (004 - 006 only)
No output - display only	<b>F1</b>	*FRT-00 Flow Rate Totaliser
4-20mA output proportional to flowrate & scaled pulse output	<b>F2</b>	*FRT-AP Flow Rate Totaliser
Alarm and/or scaled pulse output	<b>F3</b>	*FRT-ALP Flow Rate Totaliser
2 stage batch control	<b>F4</b>	*FRT-BC Flow Rate Totaliser
Scaled pulse, alarm, 4 ~ 20mA	<b>R2</b>	*RT12 Flow Rate Totaliser with all outputs (GRN housing)
IECEx & ATEX approved	<b>R3</b>	*Intrinsically safe RT12 (I.S.) (GRN housing)
Scaled pulse + backlighting	<b>R4</b>	*RT40 backlit rate totaliser (Alloy housing with facia protector)
	<b>R5</b>	*RT14 backlit rate totaliser with all outputs (GRN housing)
2 stage DC batcher and totaliser	<b>E0</b>	*EB10 batch controller
M* = M 1 litres, M2 gallons	<b>M*</b>	3 digit mechanical reset totaliser
M* = M 3 litres, M4 gallons	<b>M*</b>	4 digit mechanical reset totaliser
	<b>420</b>	Loop powered 4 ~ 20mA analog output
	<b>SB</b>	Specific build requirement

### Model No. Example

<b>M G080</b>	<b>S</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>R2</b>	(refer factory for model availability)
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\* Temp code 5 required when operating temperature is between 80 °C (180 °F) and 120 °C (250 °F).

^ Temp code 8 required for all integral instruments.

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