

Piston Positive Displacement Flowmeter

Rotary piston flowmeters provide high levels of accuracy & repeatability for flowrate measurement or totalising for dispensing & batching. These meters suit a wide range of liquids including extremely viscous lubricants, chemicals & food bases to non-conductive low viscosity solvents, either pumped or gravity fed.

Features / Benefits

- Flow: 12 ~330 litres/min (3.2 ~ 90 US gal/min)
- Size: 50mm (2") female threaded, ANSI or DIN flanged (other sizes & flow ranges available)
- High accuracy & repeatability, direct reading flowmeter
- No requirement for flow conditioning (straight pipe runs etc.)
- Simple to install, Easy to service (low number of parts)
- Measures high & low viscosity liquids
- Measures conductive & non-conductive clean liquids

Meter selection

Meters are selected based on flow range, pressure, temperature, material compatibility and functionality.

- **Aluminium** flow meters are ideal for lubricants including oils and grease, fuels and fuel oils.
- **Stainless steel** flow meters are suited for chemicals, water based products and the food, cosmetic and pharmaceutical industries.
- **Pulse meters** have two pulse outputs which can be interfaced to most electronic instrumentation. The reed switch is ideal for rate measurement and does not require external power. The open collector hall effect output produces high resolution pulses ideal for precise dispensing and preset batch control.
- **Meters** available with integral or remote totalisers, flow rate totalisers and preset batch controllers.



Applications include:

chemicals, additives, resins, acids, alcohols, essences, edible oils, flavourings, food bases, insecticides, adhesives, latex, emulsions, paints, inks, oils, fuels, grease, solvents, lubricants

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Specifications

Model prefix	CM02A	CM02S
Nominal size (inches)	50mm (2")	50mm (2")
Flow range	12 ~ 330 litres / min (3.2 ~ 90.0 US gal / min)	
Accuracy @ 3cp	± 0.5% of rate (± 0.2% with optional Display)	
Repeatability	typically ± 0.03%	
Temperature range	-10°C ~ +120°C (-14°F ~ +250°F)	
Maximum pressure	20 bar (435 psi)	30 bar (1450 psi)
Materials		
Body materials	Aluminium	316 stainless steel
Piston materials	PEEK	PEEK
O-ring materials	viton, nitrile (Buna-N), EPR or teflon encapsulated viton	
Electrical		
Output pulse resolution	pulses / litre (pulses / US gallon) - nominal	
Reed Switch	2.5 (9.5)	
Hall Effect	20 (76)	
**Reed switch output	30Vdc x 200mA max. (max. temp. shock 10°C (50°F) / min)	
**Hall effect output	3 wire NPN open collector, 5~24Vdc max., 20mA max.	
Electrical connection	M20 x 1.5mm pitch	
Physical		
Process connections	2"BSPP female threaded (other options available)	
Protection class	IP66/67 (NEMA4X)	
Dimensions	refer < www.trimec-europe.com >	
Pressure drop chart	refer < www.trimec-europe.com >	
Chemical resistance chart	refer < www.trimec-europe.com >	
Recommended filtering	150 micron (100 mesh)	

* Maximum flow on fuels may be maintained for intermittent periods of refuelling.

* Maximum flow is to be reduced as viscosity increases, max. pressure drop 100Kpa.

Optional functions (with FRT instruments):

Flow rate display : 7 digits, programmable engineering units
Resettable total : 7 digits, programmable eng. units
Accumulated total : 7 digits, programmable eng. units
Preset batching : 7 digits, programmable eng. units

Optional outputs (with FRT instruments):

Analog : 4~20mA programmable zero & span
Scaled pulse : programmable (e.g. 1 pulse/litre, /10 gal etc)
Flow rate alarms : programmable high & low flow rate alarms

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Ordering information

Meter size	
CM02	2" (50mm)
Body material	
A	Aluminium
S	316L Stainless Steel
Piston material	
2	PEEK
9	Special purpose materials, e.g. for 200°C
Partition material	
2	Stainless Steel
O-ring material	
1	Viton (standard - 204°C max.)
2	Ethylene Propylene Rubber to 150°C
3	Teflon encapsulated viton to 150°C
4	Buna-N (Nitrile - 100°C max.)
Temperature limits	
1	60°C (140°F)
2	120°C (250°F) (see note 1)
3	150°C max. (Peek piston & NPN Hall Effect output)
5	120°C (see note 2)
6	200°C max. (S/S meter, aluminum piston, coil output)
Process connections	
1	BSP (RP) female threaded
2	NPT female threaded
3	2 1/2" Triclamp Ferrule
4	ANSI150-RF Flanges
5	ANSI300-RF Flanges
6	DIN PN16 Flanges
9	Customer nominated
Cable entries	
0	M16 x 1.5 (exclusive to FRT Rate Totaliser)
1	M20 x 1.5mm
2	1/2" NPT

Model No. Example

CM02 S 2 2 1 5 1 1 R2

Integral options

Glass reinforced nylon	00	GRN terminal cover
	SS	Stainless terminal cover
No output - display only	F1	FRT-00 Flow Rate Totaliser
4-20mA output proportional to flowrate & scaled pulse output	F2	FRT-AP Flow Rate Totaliser
Alarm and/or scaled pulse output	F3	FRT-ALP Flow Rate Totaliser
2 stage batch control	F4	FRT-BC Flow Rate Totaliser
Alarms & 4-20mA	R2	RT12 flowrate totaliser
	R3	Intrinsically Safe RT12
Scaled pulse output	R4	RT40 large LCD flowrate totaliser
Ecobatch	E0	EB10 batch controller
Consult factory	SB	Specific build requirement

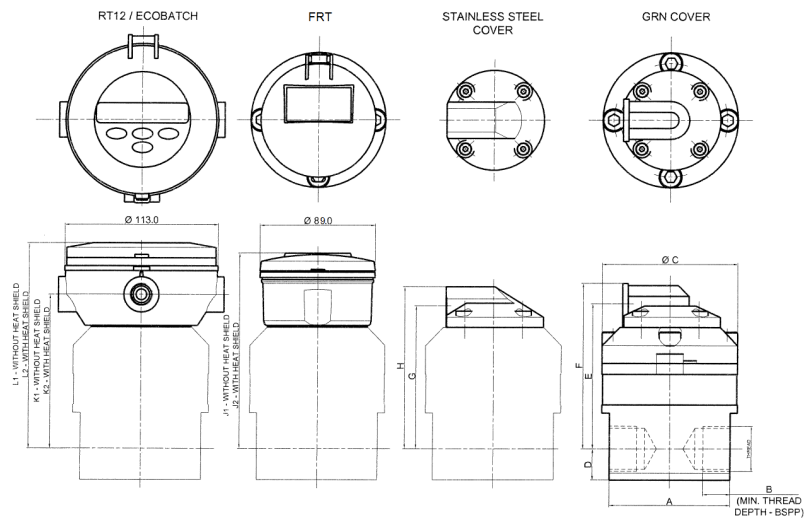
(1) 120°C (250°F) rating of the pulse meter, 80°C (180°F) rating with RT, FRT & EB integral options.

See temperature code 5 for higher temperature (with RT, FRT & EB).

(2) Cooling fin is fitted with FRT, RT or EB integral options for operation between 80-120°C (180-250°F).

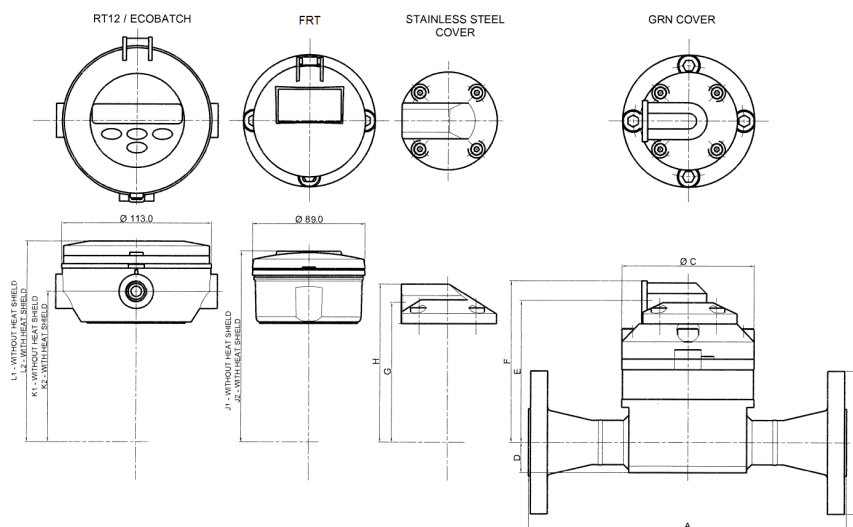
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Threaded Meter Dimensions



Meter	Thread	A	B	Ø C	D	E	F	G	H	J1	J2	K1	K2	L1	L2
CM02	2" BSPP or NPT	144	40	164	40	190	146.1	129.6	143.6	168.1	187.1	137.6	156.6	175.6	194.6

Flanged Meter Dimensions



Meter	Thread	A	Ø B	Ø C	D	E	F	G	H	J1	J2	K1	K2	L1	L2
CM02	2" CL150			164	40	190	146.1	129.6	143.6	168.1	187.1	137.6	156.6	175.6	194.6
	2" CL300														
	DN50 PN16/40														

DSCM02 – 2103

Trimec Europe Ltd
Unit 2, The Old Grain Store
Ditchling Common Industrial Estate
Ditchling, East Sussex
BN6 8SG
Phone: +44 1444 248777
Fax: + 44 1444 243750
sales@trimec-europe.com

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