



# CMF Thermal Mass Flowmeter

## Low cost OEM Digital Flowmeter



- **Rugged gas flowmeter with no moving parts**
- **Linear output signal with flow**
- **Eliminates gross errors of volumetric flow measurement**
- **+/-3% FS including linearity, repeatability, hysteresis & thermal coefficient**
- **On-board digital calibration and linearisation**
- **Wide range of gas compatibility - only stainless steel and Viton in the gas path**
- **More robust than hot wire or MEMS sensors**

The CMF has been developed using the 40 year's mass flow measurement & control experience within Chell to produce a practical, low cost, rugged flowmeter suitable for demanding industrial applications.

There are no moving or delicate parts within the flow passage so the CMF is therefore very rugged indeed.

As a Rotameter replacement, they provide 5 times better performance with an electrical output linear with flow, which may be used for logging and control purposes.

The unobstructed internal flow passages are easily cleaned with suitable solvents should the flowmeter become contaminated in use.

With a temperature range from 15 to 50°C, the CMF performs well in elevated gas temperatures and ambient environments.

CMF Specifications	
Full scale range	10, 50, 100, 500 sccm 1, 5, 10, 30, 50, 86,100 slpm
Accuracy (includes non-linearity, hysteresis non-repeatability and thermal coefficient to 45°C)	±3% of full scale
Thermal coefficient (45°C to 50°C)	±0.075% of full scale/°C
Output - linear with flow	1-6 VDC
Line pressure effect	1% full scale/bar
Working temperature	15 to 50°C
Working pressure	0.5 to 3 bar (gauge)
Burst pressure	11 bar (gauge)
Pressure drop at full scale	<0.025 bar
Leak Integrity (to Helium)	< 1x10 <sup>-9</sup> mbar.l/s
Power supply	18 to 30 VDC (less than 100mA)
Dimensions	91mm x 50mm x 26mm
Weight	350g
Gas connection	G¼ female thread
Connector	RJ11
Flow path materials	Stainless Steel S303, S316 and Viton®

### Ordering Codes

**Example: To order a CMF with 86 slpm range**

**CMF- 86000**

ie. express the range in cm<sup>3</sup>/min

Note:- sccm = cm<sup>3</sup>/min referred to STP

slpm = litre/min referred to STP

### Continuing Development

The CMF is subject of an intensive development programme and options such as new ranges, digital outputs, local displays, different fittings, etc. etc. are all being worked on at the moment. If you have a particular specification in mind, including enhanced performance, please do not hesitate to ask, your need may already be in progress.



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