

CMG

Gas Flow Monitor (Butane and Propane)

The CMG is a flowmeter designed to measure the fuel flow to a gas burner. Its sensing element is the Micro Flow sensor chip, a MEMS thermal mass-flow sensor.

The monitor displays instantaneous or totalized flow. Available outputs include alarm, instantaneous flow (analog output), totalizer pulse (NPN open collector) and event, for managing complex air/fuel ratio control and flow control.



Specifications

Model No.	CMG150	CMG250	CMG400	CMG500
Pipe size	Rc 1/2"	Rc 1"	Rc 1 1/2"	Rc 2"
Compatible gases	Butane*2, propane*3 (depending on model No.). Gas must be dry and without corrosive components (chlorine, sulfur, acid, etc.). It must also be clean, without dust or oil mist.			
Measurement range	Propane 0.20 to 2.00 Butane 0.10 to 1.00	0.40 to 4.00 0.30 to 3.00	1.0 to 10.00 0.80 to 8.00	2.5 to 25.0 2.0 to 20.0
(m³/h (normal))*1				
Display range	Propane 0.00 to 3.00 Butane 0.00 to 1.50	0.00 to 6.00 0.00 to 4.50	0.00 to 12.00 0.00 to 10.00	0.0 to 30.0 0.0 to 25.0
(m³/h (normal))				
Power	100/200Vac or 24Vdc			
Power consumption	AC model: 2W or less. DC model: 5.5W or less.			
Instantaneous flow rate display accuracy*1	±6% rdg. ±1 digit (10 to 40°C)			
Instantaneous flow rate output	1-5Vdc			
Event output 1	4-20mA			
Event output 2	1a contact (closes when alarm occurs)			
Operating pressure	NPN open collector output			
Straight pipe length*4	100kPa max.			
Protective structure	Not required			
Mask color	IP54 (JIS C 0920)			
Mass	Yellow			
	Approx. 850g	Approx. 800g	Approx. 2.1kg	Approx. 2kg

Notes *1: % rdg.: percentage of indicated reading. The unit m³/h (normal) refers to volumetric flow rate adjusted for 0°C, 101.325kPa (1 atmosphere).

*2: Butane gas composition: butane 75%, propane 25%.

*3: Propane gas composition: propane 98%, butane 2% (class B).

*4: Straight pipe length needed for pipe with 90° bend. For the straight pipe length to enlarging/reducing pipes or valves other than the above, contact Yamatake.

Selection Guide

I II III IV V VI VII VIII IX X Example: CMG150P002000100

Segment	Basic No.	Model No. selection	Description
I	Basic No.	CMG ↓ ↓ ↓ ↓ ↓ ↓	Gas flow monitor
II	Pipe size	15 ○ – – – – – 25 – ○ – – – – – 40 – – ○ – – – – 50 – – – ○ – – –	15A (1/2B) 25A (1B) 40A (1-1/2B) 50A (2B)
III	Piping type	0 ○ ○ ○ ○ ○ ○	Rc thread
IV	Gas type	B ○ ○ ○ – – – P – – – – ○ ○ ○	Butane Propane
V	Flow rate range	001 ○ – – – – – 002 – – – ○ – – 003 – ○ – – – – 004 – – – – ○ – 008 – ○ – – – – 010 – – – – ○ – 020 – – – ○ – – 025 – – – – – ○ 040 – – – ○ – – 050 – – – – – ○	1m³/h (normal) 2m³/h (normal) 3m³/h (normal) 4m³/h (normal) 8m³/h (normal) 10m³/h (normal) 20m³/h (normal) 25m³/h (normal) 40m³/h (normal) 50m³/h (normal)
VI	Output	0 ○ ○ ○ ○ ○ ○ 1 ○ ○ ○ ○ ○ ○	1-5Vdc 4-20mA + event
VII	Pressure	0 ○ ○ ○ ○ ○ ○	Low (0 to 100kPa)
VIII	Communications	0 ○ ○ ○ ○ ○ ○	None
IX	Power	0 ○ ○ ○ ○ ○ ○ 1 ○ ○ ○ ○ ○ ○ 2 ○ ○ ○ ○ ○ ○	24Vdc 100Vac 50/60Hz 200Vac 50/60Hz
X	Options	00 ○ ○ ○ ○ ○ ○ D0 ○ ○ ○ ○ ○ ○ Y0 ○ ○ ○ ○ ○ ○	None With inspection data With traceability certification

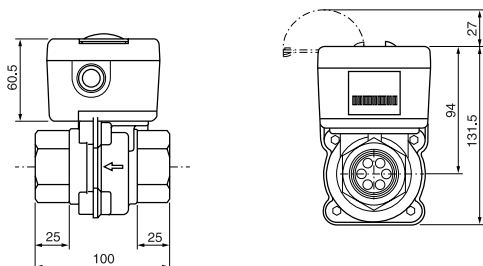
• A circle (○) denotes availability.

* The 1-5Vdc output model does not have an optional event output. To use totalizer pulse output, cumulative flow event output, or upper/lower limit alarm, select a 4-20mA model.

Dimensions

(Unit: mm)

• CMG150/250



• CMG400/500

