CMS

Gas Mass Flowmeter (Hydrogen and Helium)

The CMS is a highly reliable gas mass flowmeter that uses the Yamatake μF (Micro Flow) sensor as its sensing element. The μF sensor is a MEMS thermal mass-flow sensor capable of measuring ultra-low flow rates. The integration of the μF sensor and advanced channel design technology has achieved high accuracy and high rangeability at a low cost.

Specifications

Model No.	CMS0010	CMS0050	CMS0200	CMS0500	CMS1000	CMS2000
Compatible gases	Hydrogen and helium. Gas must be dry and without corrosive components (chlorine, sulfur, acid, etc.). It must also be clean, without dust or oil mist.					
Flow rate range	0 to 10L/min (standard)	0 to 50L/min (standard)	0 to 200L/min (standard)	0 to 500L/min (standard)	0 to 1000L/min (standard)	0 to 2000L/min (standard)
	"Standard" refers to the flow rate adjusted for 20°C, 101.325kPa (1 atmosphere).					
Measurement accuracy	1/5 to 1/1 of flow rate range: ±5% rdg. 1/100 to 1/5 of flow rate range: ±1% FS % rdg.: percentage of indicated reading. % FS: percentage of full scale.					
Operating pressure	-0.07 to +1.0MPa					
Sampling cycle	100ms ±20ms					
Power	12 to 24Vdc					
Current consumption	100mA max.					
Mass	Approx.800g			Approx. 1400g		Approx. 2000g

Selection Guide

I II III IV V VI VII VIII IX X XI XII Example: **CMS0050BTUH000100**

Segment	Model No. selection				Description
I	Basic No.	**CMS**	↓	↓	Gas mass flowmeter
II	Flow rate range (hydrogen conversion value)	**0010**	○	–	0 to 10L/min (standard)
		0050	○	–	0 to 50L/min (standard)
		0200	○	–	0 to 200L/min (standard)
		0500	–	○	0 to 500L/min (standard)
		1000	–	○	0 to 1000L/min (standard)
		2000	–	○	0 to 2000L/min (standard)
III	Display	**B**	○	○	Integrated display
IV	Material	**T**	○	○	SUS316
V	Connection	**U**	○	–	9/16-18 UNF
			–	○	3/4-16 UNF
		T	○	–	Rc 1/4"
			–	○	Rc 1/2"
		S	○	–	1/4" Swagelok
			–	○	1/2" Swagelok
		V	○	–	1/4" VCR
			–	○	3/8" VCR
VI	Gas	**H**	○	○	Hydrogen/helium (selectable)
VII	Output	**2**	○	○	0–5Vdc 1–5Vdc, 4–20mA (selectable)
VIII	Option 1	**0**	○	○	None
		1	○	○	RS-485 communications
IX	Option 2	**0**	○	○	None
X	Option 3	**1**	○	○	Gas-contacted parts treated to be oil-inhibited
XI	Option 4	**0**	○	○	None
		D	○	○	With inspection data
		Y	○	○	With traceability certification
XII	Design code	**0**	○	○	Product version

• A circle (○) denotes availability.

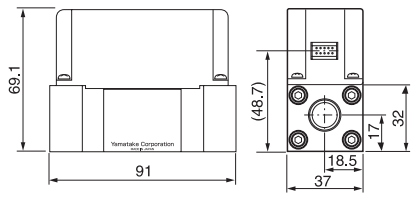
Accessories (sold separately)

Part No.	Description
81446628-001	Mounting bracket (**CMS0010/0050/0200**)
81446721-001	Mounting bracket (**CMS0500/1000**)
81446856-001	Mounting bracket (**CMS2000**)
81446594-005	Harness (2m long)
81446594-006	Harness (5m long)
81446594-007	Harness for RS-485 communications (2m long)
81446594-008	Harness for RS-485 communications (5m long)

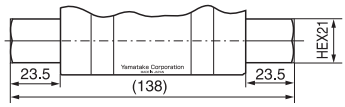
Dimensions

(Unit: mm)

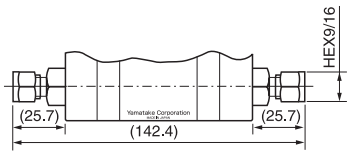
• CMS0010/0050/0200



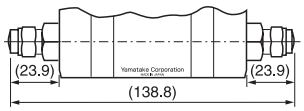
9/16-18UNF connection type



Rc 1/4" connection type

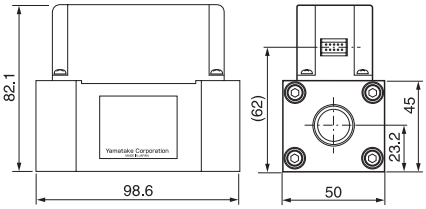


1/4" Swagelok connection type

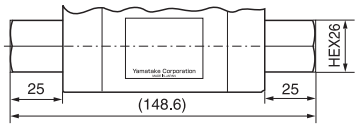


1/4" VCR connection type

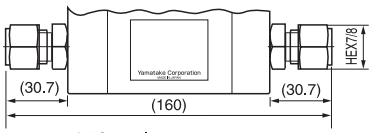
• CMS0500/1000



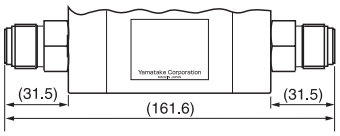
3/4-16UNF connection type



Rc 1/2" connection type

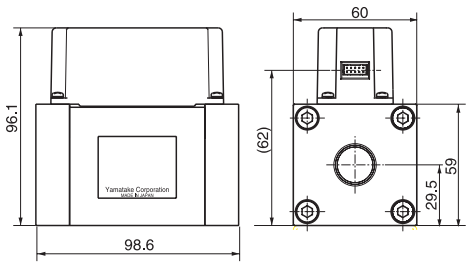


1/2" Swagelok connection type

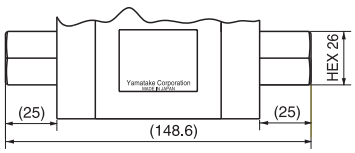


3/8" VCR connection type

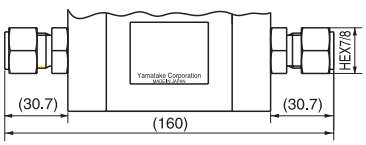
• CMS2000



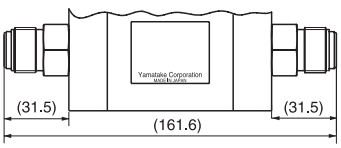
3/4-16UNF connection type



Rc 1/2" connection type



1/2" Swagelok connection type



3/8" VCR connection type

• Harness