Digital Mass Flow Controller

MODEL DF-200C SERIES

The DF-200 series is a high performance digital mass flow controller with ±1%S.P. accuracy and ≤1 sec response.
It also has multple-gas and multiple-range function of seven gases and the ease of changing the flow rate range of each gases.

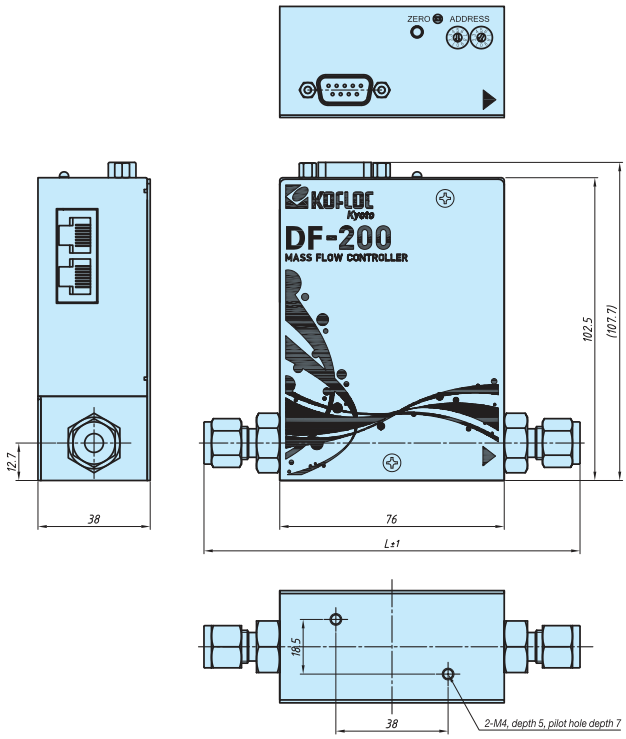
- ☐ High accuracy(±1%RD),Fast response (1 sec.max.in all range)
- ☐ Multiple ranges and multiple gases supported
- ☐ Communications functions installed as standard feature(RS485)
- ☐ RoHS/CE Standard compliant

Standard specifications of DF-200C

Sensor type		Thermal sensor
Valve type		Normally closed proportional solenoid valve
Applicable gases*1		Multiple gases : N_2 (Air, H_2, He, Ar, O_2, CO_2)*2
Flow range*3		10/30/50/100/300/500 SCCM, 1/3/5/10 SLM*2
Control range		2 to 100% (F.S.)
Response*4		Total flow rate control range ±1 sec (within ±2% F.S.)
Accuracy*5		±1.0% S.P. (> 35% F.S.) ±0.35% F.S. (≤ 35% F.S.)
Repeatability		±0.25% F.S.
Operating differential pressure*6		50 to 300 kPa (100 to 300 kPa for Ar and CO_2)
Inlet maximum pressure		500kPa (G)
Proof pressure		980kPa (G)
External leak rate		≤1.0 x 10^{-8} Pa·m^3/sec (He)
Temperature	Working temp.	5 to 50℃
	Accuracy guaranteed temp.	15 to 35℃
	Allowable storage temp.	-10 to 60℃
Allowable operating humidity		10 to 90% RH (without dew condensation)
Materials of gas contact part		SUS316, SUS316L, magnetic stainless steel, Ni, PTFE, PCTFE, and FKM
Electrical connection		D-sub 9-pin, KFC standard (SEMI standard compliant), RJ-45 modular jacks (two)
Flow rate setting signal		0 to 5 V DC (input impedance: approx. 1 MΩ)
Flow rate output signal		0 to 5 V DC (load resistance 10 kΩ)
Digital communication		Address setting with RS485 rotary switch : up to 99 devices (9600 bps)
Required power supply (DC)		+15 V DC (±5%): 150 mA, -15 V DC (±5%): 150 mA
Joint*7		1/4 SWL (standard), 1/4 VCR, Rc 1/4
Mounting posture		Horizontal installation recommended.
Weight*8		Approx. 850 g

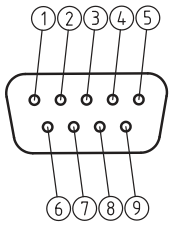
*1 The gases must be dry and clean, free of corrosive components and foreign matter such as dust and mist.
*2 Dedicated software is available to change gases or change the actual full scale (F.S.) within the range of 30 to 100% (30 to 80% for CO_2 only) of the specified full scale.
*3 The flow rate calibration units SCCM and SLM indicate a mass flow rate converted to a volume flow rate in cc/min and L/min at 0° C and 1 atm.
*4 Guarantee for calibration gas: N_2.
*5 Accuracy for calibration gas: N_2, flow range (max. full scale).
*6 The operating differential pressure may differ depending on specifications.
*7 Contact us for any other joints.
*8 Exclusive of weight of joint.

Dimensional drawings



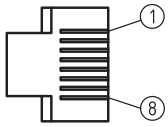
Fitting	Dimension L[mm]
なし(9/16-18UNF)	76.0
1/8F900	122.8
1/4F900	127.4
1/4UJR	123.8
Rc1/4	102.0

Wiring connections



D-sub connector (male)

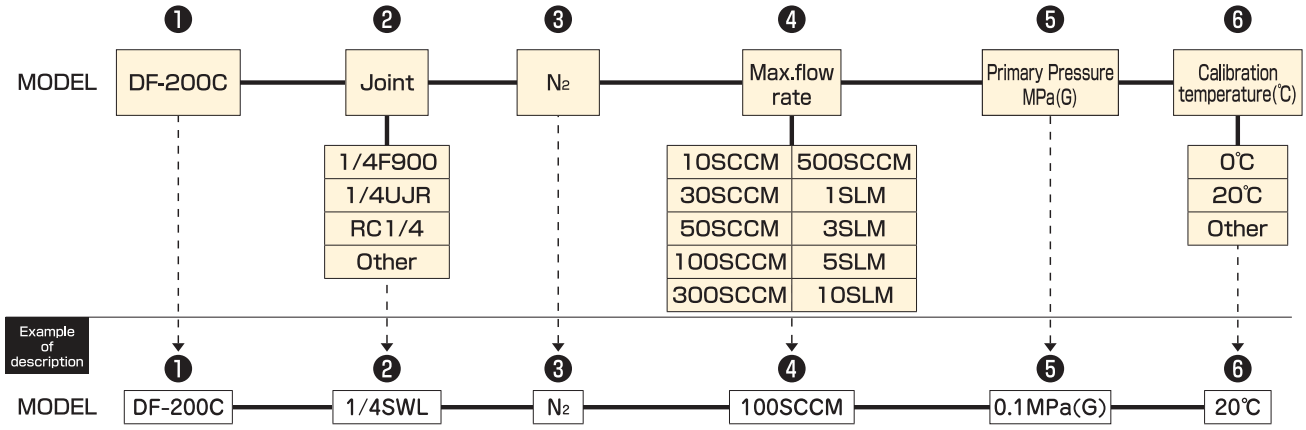
Pin #	Signal name
1	Valve open/close input
2	Flow rate output
3	Power +15 V DC
4	Power COM
5	Power -15 V DC
6	Flow rate setting input Hi
7	Flow rate output COM
8	Flow rate setting input Lo
9	Valve voltage output



RJ-45 connector (female)

Pin #	Signal name
1	Digital signal COM
2	Digital signal COM
3	N.C.
4	Serial output (-)
5	Serial output (+)
6	N.C.
7	N.C.
8	N.C.

Ordering



Contact

Scientific approach to fluids

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【Information】

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