

MODEL DF-300C SERIES



The Model DF-300C Series is a mass flow controller with an integral indicator that operates on a 24-V power supply, as developed in response to the requests from users of the DF Series.

It inherits the features of the DF-200C Series with enhanced convenience, including accuracy of $\pm 1\%$ S.P., response ≤ 1 sec (in all ranges), and the multiple-gas, multiple-range versatility, i.e., support of seven gases (including reference gas) and the ease of changing the flow rate range of each gas.

- High accuracy ($\pm 1\%$ S.P.), fast response (≤ 1 sec in all ranges)
- Support of multiple ranges and multiple gases
- Communication functions installed as standard feature (RS485)
- RoHS CE standard compliant
- Driven by single 24 V DC supply voltage
- With or without indicator (selectable)
- Selectable Input/output signal



Standard specifications of DF-300C

Sensor type	Thermal sensor	
Valve type	Normally closed proportional solenoid valve	
Applicable gases* ¹	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 $\pm 2\%$ F.S.)	
Accuracy* ⁵	$\pm 1.0\%$ S.P. ($> 35\%$ F.S.) $\pm 0.35\%$ F.S. ($\leq 35\%$ F.S.)	
Repeatability	$\pm 0.25\%$ 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	$\leq 1.0 \times 10^{-8}$ Pa·m ³ /sec (He)	
Temperature	Working temp.	5 to 50°C
	Accuracy guaranteed temp.	15 to 35°C
	Allowable storage temp.	-10 to 60°C
Permissible ambient humidity 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 15-pin male, high density, HR-10A (two)	
Flow rate setting signal	0 to 5 V DC (input impedance: approx. 1 M Ω), or 4 to 20 mA (input impedance: approx. 250 Ω)	
Flow rate output signal	0 to 5 V DC (load resistance 10 k Ω), or 4 to 20 mA (load resistance ≤ 500 Ω)	
Digital communication	Address setting with RS485 rotary switch or indicator: up to 99 devices (9600 bps)	
Event input	Three contact inputs (non-insulated)	
Event output	Three NPN open collectors (non-insulated, max. rating 35 V, 50 mA)	
Required power supply (DC)	+24 V DC ($\pm 10\%$), 300 mA max. (DC jack, D-sub)	
Joint* ⁷	1/4 SWL(standard), 1/4 VCR, Rc 1/4	
Mounting posture	Horizontal installation recommended.	
Weight* ⁸	Approx. 950 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 CO₂ 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: N₂.

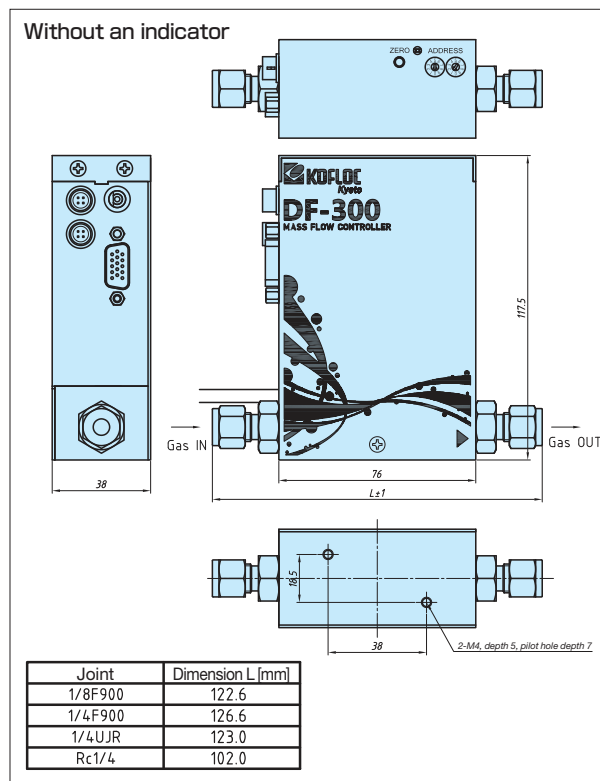
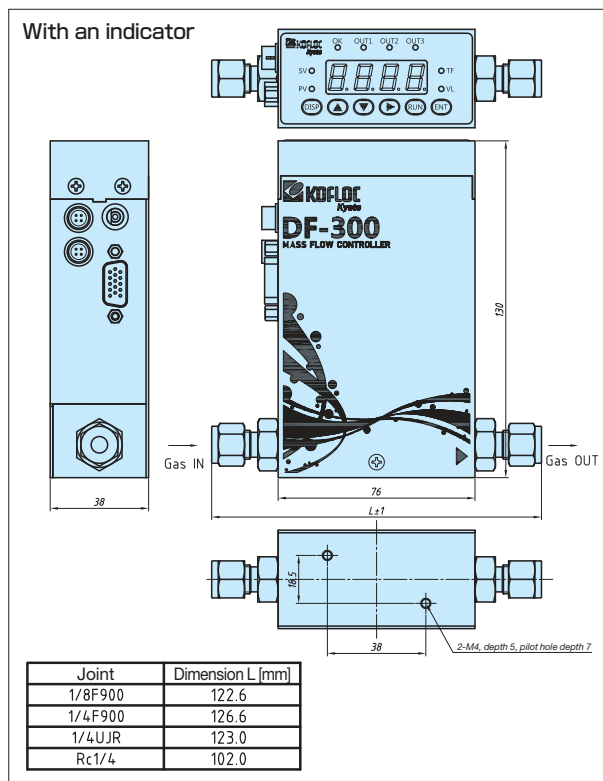
*⁵ Accuracy for calibration gas: N₂, flow range (max. full scale).

*⁶ The operating differential pressure may differ depending on specifications.

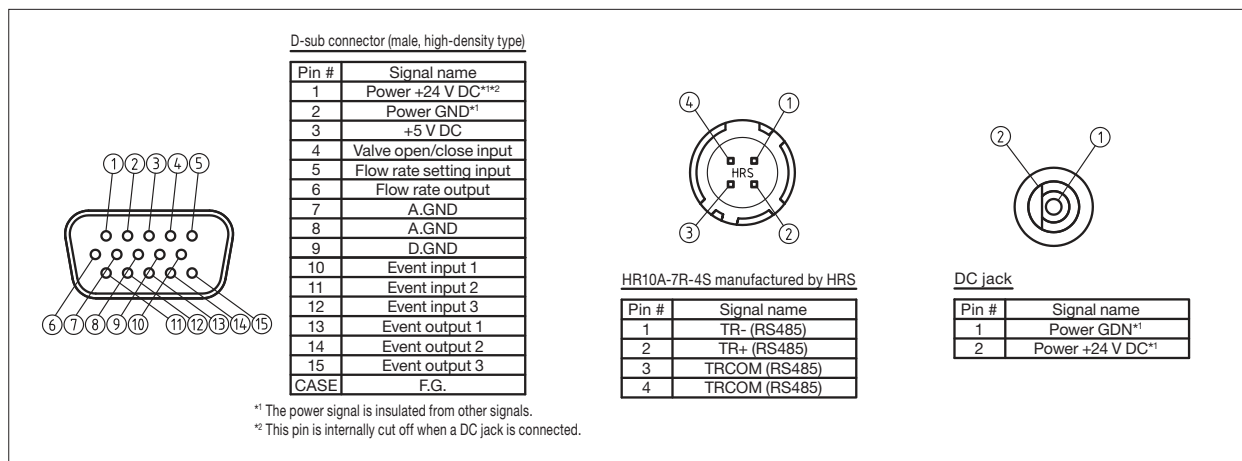
*⁷ Contact us for any other joints.

*⁸ Exclusive of weight of joint.

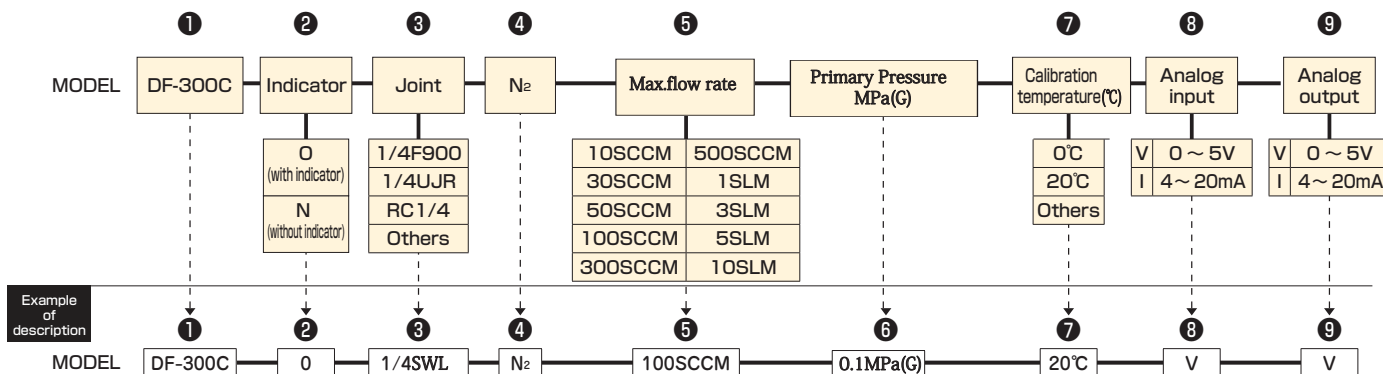
Dimensional drawings



Wiring connections



Ordering



Contact

Scientific approach to fluids

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【Information】

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