

High temperature digital mass flow controller

SEC-8000F Series

Digital/Analog communication model

SEC-8000D Series

DeviceNet™ communication model

◆ Digital control circuit is incorporated into high temperature model.

- High accuracy ±1.0% S.P. (Set point) guaranteed
- High-speed response Within 1 second (T98) Variable PID is incorporated
- High temperature model Extensive model lineup for operating temperature

◆ Digital network realized and highly-sophisticated fluid control system available set up

- Intelligent gas panel has been established.
- Simple gas panel has been established by reducing wiring.

◆ Ultra clean

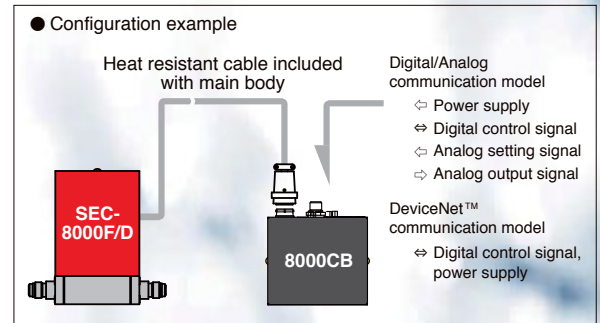
◆ RoHS directive compliant model



Complies with RoHS directive, preserves the environment and improves corporate value.

Corporate Social Responsibility (CSR) is achieved through global environmental protection activity. Continually promoting making efforts to develop and manufacture global environmentally friendly products as the unified HORIBA group companies, top manufacturer of environment analysis equipment.

* RoHS directive means Restriction of Hazardous Substances, a regulation by the EU (European Union) to restrict the use of the six substances (hazardous substances) of lead, mercury, cadmium, hexavalent chrome, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) contained in products and components.



● Digital/Analog communication models

MODEL	mass flow controller	SEC-8440F	SEC-8450F	SEC-8455F	SEC-8460F	SEC-8470F	SEC-8440F	SEC-8450F	SEC-8455F	SEC-8460F	SEC-8470F
	Mass flow meter	SEF-8440F	SEF-8450F	SEF-8455F	SEF-8460F	SEF-8470F	SEF-8440F	SEF-8450F	SEF-8455F	SEF-8460F	SEF-8470F

● DeviceNet™ communication models

MODEL	mass flow controller	SEC-8440D	SEC-8450D	SEC-8455D	SEC-8460D	SEC-8470D	SEC-8440D	SEC-8450D	SEC-8455D	SEC-8460D	SEC-8470D
	Mass flow meter	SEF-8440D	SEF-8450D	SEF-8455D	SEF-8460D	SEF-8470D	SEF-8440D	SEF-8450D	SEF-8455D	SEF-8460D	SEF-8470D

Wetted materials	316L Stainless Steel					316L Stainless Steel (Polished surface)	316L Stainless Steel			316L Stainless Steel (Polished surface)
Valve Type	Normally open					Normally close	Normally open			Normally close
Full-scale flow rate (N: conversion flow rate)	5/10/20/30 50/100/200 300/500 SCCM 1/2 SLM	3/5/10 SLM	10/20 SLM	20/30/ 50 SLM	100 SLM	5/10/20/30 50/100/200 300/500 SCCM 1/2/3/5 SLM	10/20 SLM	30/50 SLM	50/100 SLM	150 SLM
Flow rate control range	2-100% of F.S.									
Flow rate measuring range(SEF)	0-100% of F.S.									
Response	≤1 second									
Accuracy *1	±1.0% S.P. (Flow rate > 30% F.S.) ±0.3% F.S. (Flow rate ≤ 30% F.S.)									
Linearity	≤ ±0.5% F.S.									
Repeatability	≤ ±0.2% F.S.				≤ ±0.3% F.S.	≤ ±0.2% F.S.				≤ ±0.3% F.S.
Operating differential pressure *2	50-300kPa(d)	100-300kPa(d)	20/30 SLM 100-300kPa(d) 50 SLM 150-300kPa(d)	100-300kPa(d)	50-300kPa(d)	100-300kPa(d)	30 SLM 100-300kPa(d) 50 SLM 150-300kPa(d)	50 SLM 100-300kPa(d) 100 SLM 150-300kPa(d)	100-300kPa(d)	100-300kPa(d)
Operating differential pressure(SEF)	≤ 300kPa(d)									
Pressure resistance	1000kPa(g)									
Leak integrity	≤ 5 × 10 ⁻¹⁰ Pa · m ³ /s(He)									
Operating temperature(SEC/SEF-8000F/D)	HL: 80-100°C HM: 100-120°C					AMB: 15-35°C MM: 35-60°C MH: 60-80°C				
Operating temperature(8000CB)	5-45°C									
Standard fitting *3	1/4 inch VCR equivalent		3/8 inch VCR equivalent	1/2 inch VCR equivalent 3/4 inch VCR equivalent	1/4 inch VCR equivalent			3/8 inch VCR equivalent	1/2 inch VCR equivalent 3/4 inch VCR equivalent	
Mounting orientation	Free									

● Digital/Analog communication models

Flow rate setting signal	0.1 to 5 V DC (input impedance 1MΩ or higher)/2 to 100% F.S.
Flow rate output signal	0 to 5 V DC (minimum load resistance 2kΩ)/0 to 100% F.S.
Digital interface	With address function: RS-485 (transmission speed 38400bps) F-Net Protocol
Power supply	+15VDC ±5% 150mA -15VDC ±5% 150mA

● DeviceNet™ communication models

Digital interface	DeviceNet™ Protocol
Power supply	Comforming to ODVA standards, DC 24V, 4.0VA

*1: The flow rate precision guaranteed temperatures conform to SEMI standards. *2: Operating pressure may change depending on use conditions. Contact us separately.
*3: SEC(F)-8440F/D is compatible with an integrated gas system fitting. (Option) - SCCM and SLM are notations indicating the gas flow rate (mL/min, L/min, at 0°C and 101.3kPa).

Dimensions

SEC/SEF-8000F/D

*1 SEC/SEF-8460F/D : 4-M8

8000CB

(DeviceNet™ communication model
Please contact HORIBA Digital/Analog communication model)

*2 Digital/Analog model : 98.5mm

Model	H	T	W	I	(1/4" VCR)	(1/4" Swagelok)	(3/8" VCR)	(3/8" Swagelok)	(1/2" VCR)	A	B	C	D	E	
SEC/SEF-8440F/D	120.5	32	76	124	—	127	—	—	—	19	38.1	6.75	18.5	12.7	
SEC/SEF-8450F/D	127	32	108	156	—	159	—	—	—	20.2	67.7	3.7	24.6	14.6 inner; 12 outer	
SEC/SEF-8455F/D	150	50	108	156	—	159	—	—	—	20.1	67.7	12.7	24.6	14.6 inner; 12 outer	
SEC/SEF-8460F/D	150	80	125	172	—	172	177	179	—	31.5	80	15	50	20	
SEC/SEF-8470F/D	132.8	49	78.3	—	—	—	—	—	150.4	See the drawing.					22

Unit: mm

Note that components or production methods may be modified for productivity reasons at any time without notice provided that such modification does not alter the product specifications.

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HORIBA STEC, Co., Ltd.

<http://www.horiba-stec.jp/e>

Please read the operation manual before using this product to ensure safe and proper handling

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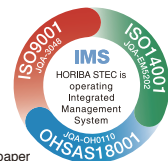
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