

Product specifications

Common specifications

Mass Flow controller model	SEC-N112MGM	SEC-N112MGR(W)	SEC-N122MGM	SEC-N122MGR(W)
	SEC-N114MGM	SEC-N114MGR(W)	SEC-N124MGM	SEC-N124MGR(W)
	SEC-N115MGM	SEC-N115MGR	SEC-N125MGM	SEC-N125MGR
	SEC-N116MGM	SEC-N116MGR	SEC-N126MGM	SEC-N126MGR
	SEC-N117MGM	SEC-N117MGR	SEC-N127MGM	SEC-N127MGR
Mass Flow meter mode	SEF-N112MGM	SEF-N112MGR(W)	SEF-N122MGM	SEF-N122MGR(W)
	SEF-N114MGM	SEF-N114MGR(W)	SEF-N124MGM	SEF-N124MGR(W)
	SEF-N115MGM	SEF-N115MGR	SEF-N125MGM	SEF-N125MGR
	SEF-N116MGM	SEF-N116MGR	SEF-N126MGM	SEF-N126MGR
	SEF-N117MGM	SEF-N117MGR	SEF-N127MGM	SEF-N127MGR
Full-scale flow rate (N ₂ conversion flow rate)	R01 : 10 SCCM R1.5: 17.5 SCCM 01 : 30 SCCM 1.5 : 55 SCCM 02 : 100 SCCM 2.5 : 175 SCCM	03 : 300 SCCM 3.5 : 550 SCCM 04 : 1 SLM 4.5 : 1.75 SLM 05 : 3 SLM 5.5 : 5.5 SLM 06 : 10 SLM		6.5: 22 SLM 07 : 30 SLM 08 : 50 SLM
Valve type	C: Normally close			
Flow rate at fully closed control valve	≤ 2 % F.S.			
Flow rate control range	2-100 % of F.S.			
Flow rate measuring range (SEF)	0-100 % of F.S.			
Accuracy *1	±1.0 % S.P. (Flow rate > 30 % F.S.) ±0.3 % F.S. (Flow rate ≤ 30 % F.S.)			
Operating temperature	5 to 50 °C (recommended temperature range: 15 to 45 °C)			
Response	≤1 second: over full flow rate range			
Linearity	≤± 0.5 % F.S.			
Repeatability	≤± 0.2 % F.S.			
Operating differential pressure	50 to 300 kPa (d) MR, MG-5,5, 06: 100 to 300 kPa (d)		200 to 300 kPa (d)	
Operating differential pressure (SEF)			≤ 300 kPa (d)	
MAX. Operating pressure			450 kPa (g)	
Pressure resistance			1000 kPa (g)	
Leak integrity	≤ 5x10 ⁻¹² Pa·m ³ /s (He)	≤1x10 ⁻¹⁰ Pa·m ³ /s (He)	≤ 5x10 ⁻¹² Pa·m ³ /s (He)	≤1x10 ⁻¹⁰ Pa·m ³ /s (He)
Wetted materials	SUS316L PTFE magnetic stainless *2	SUS316L PTFE magnetic stainless *2 Elastomer	SUS316L PTFE magnetic stainless *2	SUS316L PTFE magnetic stainless *2 Elastomer
Standard fitting	1/4 inch VCR equivalent, 1/4 inch Swagelok equivalent *3			
Mounting orientation	Free			

*1 The precision is that associated with the full-scale MR and MG number values. The flow rate precision guaranteed temperatures conform to SEMI standards. For details, please contact HORIBA STEC.

*2 Neither PTFE nor magnetic stainless steel are used for mass flow meter. *3 1/4" Swagelok equivalent is applicable with SEC-N1xxRW Series.

*4 3/8" Swagelok equivalent is applicable with SEC-N13xR, SEC-N14xR. *5 Outlet pressure is required 0 kPa (g) or higher.

Communication/power supply

Digital/Analog communication model

SEC-N102(W)

Mass Flow controller model	SEC-N112MGM	SEC-N112MGR(W)	SEC-N122MGM	SEC-N122MGR(W)	SEC-N132MGM	SEC-N132MGR	SEC-N142MGM	SEC-N142MGR	SEC-N172R	
Mass Flow meter model	SEF-N112MGM	SEF-N112MGR(W)	SEF-N122MGM	SEF-N122MGR(W)	SEF-N132MGM	SEF-N132MGR	SEF-N142MGM	SEF-N142MGR	SEF-N172R	
Flow rate setting signal	0.1 to 5 V DC (2% to F.S.); input impedance 1 MΩ or higher									
Flow rate output signal	0 to 5 V DC (0% to F.S.); minimum load resistance 2 kΩ									
Digital interface	With address function: RS-485 (transmission speed 38400 bps) F-NET Protocol									
Power supply	+15 V ±5 % 150 mA -15 V ±5 % 200 mA	+15 V ±5 % 150 mA -15 V ±5 % 250 mA					+15 V ±5 % 150 mA -15 V ±5 % 150 mA			+15 V ±5 % 150 mA -15 V ±5 % 200 mA

DeviceNet™ communication model

SEC-N104(W)



Mass Flow controller model	SEC-N114MGM	SEC-N114MGR(W)	SEC-N124MGM	SEC-N124MGR(W)	SEC-N134MGM	SEC-N134MGR	SEC-N144MGM	SEC-N144MGR	SEC-N174R
Mass Flow meter model	SEF-N114MGM	SEF-N114MGR(W)	SEF-N124MGM	SEF-N124MGR(W)	SEF-N134MGM	SEF-N134MGR	SEF-N144MGM	SEF-N144MGR	SEF-N174R
Digital interface	DeviceNet™ Protocol								
Power supply	Conforming to ODVA standards, 24 V DC								
	7.0 VA			4.0 VA			7.0 VA		

CC-Link™ communication/Analog communication

SEC-N105



Mass Flow controller model	SEC-N115MGM	SEC-N115MGR	SEC-N125MGM	SEC-N125MGR	SEC-N135MGM	SEC-N135MGR	SEC-N145MGM	SEC-N145MGR	SEC-N175R
Mass Flow meter model	SEF-N115MGM	SEF-N115MGR	SEF-N125MGM	SEF-N125MGR	SEF-N135MGM	SEF-N135MGR	SEF-N145MGM	SEF-N145MGR	SEF-N175R
Flow rate setting signal	0.1 to 5 V DC/0.2 to 10 V DC/4.32 to 20 mA (2 % to F.S.)								
Flow rate output signal	0 to 5 V DC/0 to 10 V DC/4 to 20 mA (0 % to F.S.)								
Digital interface	By CC-Link™ Protocol station type: Remote device station; Occupied station: 1 occupied station; CC-Link™ version: Ver. 1.10								
Power supply	24 V DC (13 to 32 V DC)								
	7.5 VA			4.5 VA			7.5 VA		

SEC-N132MGM	SEC-N132MGR	SEC-N142MGM	SEC-N142MGR	SEC-N172R	Mass Flow controller model
SEC-N134MGM	SEC-N134MGR	SEC-N144MGM	SEC-N144MGR	SEC-N174R	
SEC-N135MGM	SEC-N135MGR	SEC-N145MGM	SEC-N145MGR	SEC-N175R	
SEC-N136MGM	SEC-N136MGR	SEC-N146MGM	SEC-N146MGR	SEC-N176R	
SEC-N137MGM	SEC-N137MGR	SEC-N147MGM	SEC-N147MGR	SEC-N177R	
SEF-N132MGM	SEF-N132MGR	SEF-N142MGM	SEF-N142MGR	SEF-N172R	Mass Flow meter model
SEF-N134MGM	SEF-N134MGR	SEF-N144MGM	SEF-N144MGR	SEF-N174R	
SEF-N135MGM	SEF-N135MGR	SEF-N145MGM	SEF-N145MGR	SEF-N175R	
SEF-N136MGM	SEF-N136MGR	SEF-N146MGM	SEF-N146MGR	SEF-N176R	
SEF-N137MGM	SEF-N137MGR	SEF-N147MGM	SEF-N147MGR	SEF-N177R	
09: 100 SLM	10 : 200 SLM		300/500/1000 SLM		Full-scale flow rate (N ₂ conversion flow rate) Full scale flow ranges are distinguished by BIN number except SEC(F)-N17xR
C: Normally close/O: Normally open			Normally close		Valve type
≤ 2 % F.S.			≤ 5 % F.S.		Flow rate at fully closed control valve
2-100 % of F.S.			5-100 % of F.S.		Flow rate control range
0-100 % of F.S.					Flow rate measuring range (SEF)
±1.0 % S.P. (Flow rate > 35 % F.S.) ±0.35 % F.S. (Flow rate ≤ 35 % F.S.)			±2.0 % F.S.		Accuracy *1
5 to 50 °C (recommended temperature range: 15 to 45 °C)					Operating temperature
≤1 second: over full flow rate range			≤ 2 second (T98)Typical		Response
≤±0.5 % F.S.			≤1.0 % F.S.		Linearity
≤±0.2 % F.S.			≤1.0 % F.S.		Repeatability
100 to 300 kPa (d)		200 to 300 kPa (d)		150 to 300 kPa (d) (300/500 SLM)*5 250 to 350 kPa (d) (1000 SLM)	Operating differential pressure
≤ 300 kPa (d)			≤ 350 kPa (d)		Operating differential pressure (SEF)
450 kPa (g)			350 kPa (g)		MAX. Operating pressure
1000 kPa (g)					Pressure resistance
≤ 5 x 10 ⁻¹² Pa·m ³ /s (He)	≤ 1 x 10 ⁻¹⁰ Pa·m ³ /s (He)	≤ 5 x 10 ⁻¹² Pa·m ³ /s (He)	≤ 1 x 10 ⁻¹⁰ Pa·m ³ /s (He)	≤ 1 x 10 ⁻⁷ Pa·m ³ /s (He)	Leak integrity
SUS316L	SUS316L Elastomer	SUS316L	SUS316L Elastomer	SUS316/SUS304 PTFE magnetic stainless *2 Elastomer	Wetted materials
1/2 inch VCR equivalent, 3/8 inch Swagelok equivalent *4				1/2 inch VCR equivalent, 1/2 inch Swagelok equivalent	Standard fitting
Free					Mounting orientation

- SCCM, SLM are numbers that represents flow rate (mL/min, L/min, at 0°C/101.3 kPa).
- 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.

PROFIBUS™ communication/Analog communication



SEC-N106

Mass Flow controller model	SEC-N116MGM	SEC-N116MGR	SEC-N126MGM	SEC-N126MGR	SEC-N136MGM	SEC-N136MGR	SEC-N146MGM	SEC-N146MGR	SEC-N176R
Mass Flow meter model	SEF-N116MGM	SEF-N116MGR	SEF-N126MGM	SEF-N126MGR	SEF-N136MGM	SEF-N136MGR	SEF-N146MGM	SEF-N146MGR	SEF-N176R
Flow rate setting signal	0.1 to 5 V DC/0.2 to 10 V DC/4.32 to 20 mA (2 % to F.S.)								
Flow rate output signal	0 to 5 V DC/0 to 10 V DC/4 to 20 mA (0 % to F.S.)								
Digital interface	PROFIBUS™-DP Protocol								
Power supply	7.5 VA			4.5 VA			7.5 VA		

EtherCAT® communication mode



SEC-N107

Mass Flow controller model	SEC-N117MGM	SEC-N117MGR	SEC-N127MGM	SEC-N127MGR	SEC-N137MGM	SEC-N137MGR	SEC-N147MGM	SEC-N147MGR	SEC-N177R
Mass Flow meter model	SEF-N117MGM	SEF-N117MGR	SEF-N127MGM	SEF-N127MGR	SEF-N137MGM	SEF-N137MGR	SEF-N147MGM	SEF-N147MGR	SEF-N177R
Digital interface	EtherCAT® Protocol								
Power supply	7.5 VA			6.8 VA			7.2 VA		