

SEC-E series

Model	SEC- (Mass flow controller)	E40/E40MK3	E50/E50MK3	E431X	E441X
	SEF- (Mass flow meter)	E40	E50	E431X	E441X
Type of gas *1	Noncorrosive gases (MK3 can be used with N ₂ , O ₂ , Air, H ₂ , Ar, and He.)			N ₂ , O ₂ , Air, H ₂ , Ar, C ₃ H ₈ , CH ₄ , C ₄ H ₁₀	
Wetted materials	SUS316, Fluorine rubber, PTFE, magnetic stainless steel				
Valve type	Closed when power off				
Standard flow rate range (N ₂ equivalent F.S.)	10/20/30/50/100/ 200/300/500 SCCM 1/2/3/5/10 SLM	20/30 SLM		50/100 SLM	200 SLM
Flow rate control range (SEC)	2~100% F.S.			5~100% F.S.	
Flow rate measuring range (SEF)	0~100% F.S.				
Response speed *2	≤ 1 second (T98)				
Accuracy	±1% F.S.				
Linearity	±0.5% F.S.				
Repeatability	±0.2% F.S.			±0.5% F.S.	
Operating differential pressure (SEC)	10 SCCM~5 SLM : 50~300kPa (d)		10~30 SLM:100~300kPa (d)	100~300kPa (d)	200~350kPa (d)
Maximum operating pressure (SEF)	≤ 300 kPa (G)			≤ 350 kPa (G)	
Pressure resistance	≤ 1 MPa (G)				
Leak integrity *3	1 × 10 ⁻¹⁰ Pa · m ³ /s (He) or below			1 × 10 ⁻⁹ Pa · m ³ /s (He) or below	
Operating temperature	5 to 50°C (accuracy guaranteed: 15 to 35°C)			5 to 45°C (accuracy guaranteed: 15 to 35°C)	
Flow rate setting signal	0.1 to 5 VDC (input impedance: more than 1 MΩ)/2 to 100% F.S.			0.25 to 5 VDC (input impedance: more than 1 MΩ)/5 to 100% F.S.	
Flow rate output signal	0 to 5 VDC (minimum load resistance: 2 kΩ)				
Power supply	+15VDC ±5% 50mA -15VDC ±5% 150mA 3VA		+15VDC ±5% 50mA -15VDC ±5% 200mA 3.9VA		
Standard fitting *4	1/4 Swagelok type			3/8 Swagelok type	

*1: For use of our mass flow controllers with gases other than those listed here, contact us. *2: Typical value *3: Mechanical leak (in conformity with SEMI standard)

*4: Non-standard joints can also be used. For more details, contact us.

※ The SEC-E40, SEC-E50, SEC-E40MK3, and SEC-E50MK3 have an automatic zero adjustment function.

※ Inlet pressure for the SEC-E40/ SEC-E50/ SEC-E40MK3/ SEC-E50MK3/ E431X: maximum 300 kPa (G) . For the SEC-E441X: maximum 350 kPa (G).

※ SCCM and SLM are symbols to represent flow rates (mL/min., L/min. at 0°C, 101.3 kPa).