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### SEF-400 series

Model	SEC-( <small>mass flow controller</small> )	310	320	405	410	510	510A	520A
	SEF-( <small>mass flow meter</small> )	310	320	405	410	510	510A	520A
Materials used in gas contact area	SUS316, Viton							
Valve type	Open at power-off: O Close at power-off: C	Open at power-off: O			Open at power-off: O Close at power-off: C			
Standard flow rate range (N <sub>2</sub> equivalent F.S.) <sup>1</sup>	5/10/20/30/50/ 100/200/500 SCCM			10/20/30/50/100/ 200/300/500 SCCM 1/2/3/5 SLM		10/20 SLM	30/50 SLM	
Flow rate control range	2 to 100% F.S.			5 to 100% F.S.				
Response speed	Less than 6 sec (T98)							
Accuracy	± 1% F.S.	± 2% F.S.	± 0.5% F.S.	± 1% F.S.			± 2% F.S.	
Linearity	± 0.5% F.S.	± 1% F.S.	± 0.5% F.S.	± 0.5% F.S.				
Repeatability	± 0.2% F.S.	± 0.4% F.S.	± 0.2% F.S.	± 0.2% F.S.			± 0.4% F.S.	
Operating differential pressure (for SEC series)	50 to 300kPa (d)						100 to 300kPa (d)	
Maximum operating pressure	300 kPa (G)							
Pressure Resistance	1 MPa (G)							
Leak Integrity	1 x 10 <sup>-8</sup> Pa·m <sup>3</sup> /s (He)							
Operating temperature	5 to 50 °C (accuracy guaranteed between 15 and 35°C)							
Flow rate setting signal	0.1 to 5VDC (Input impedance : more than 1MΩ)			0.25 to 5VDC (Input impedance : more than 1MΩ)				
Flow rate output signal	0 to 5VDC (Minimum load resistance 2kΩ)							
Drive power source	+15 VDC ± 5%, 60 mA; -15 VDC ± 5%, 150 mA, 3.15 VA							
Standard Fitting	1/4 Swagelok type							

<sup>1</sup> Compatible with the following gases: N<sub>2</sub>, Ar, H<sub>2</sub>, O<sub>2</sub>, CO<sub>2</sub>, CH<sub>4</sub>, C<sub>3</sub>H<sub>8</sub>  
<sup>\*</sup> SCCM and SLM are symbols indicating gas flow rate (mL/min, L/min at 0°C, 101.3 kPa).  
<sup>\*</sup> Viton<sup>®</sup> is registered trademark of E. I. DuPont de Nemours.

Model	SEC-( <small>mass flow controller</small> )	551	552	610	620	623	400MK2	500MK2	400MK3	500MK3
	SEF-( <small>mass flow meter</small> )	551	552	610	620	623	—	—	—	—
Materials at gas contact area	SUS316, Viton <sup>*</sup>									
Valve type	Open at power-off: O Close at power-off: C	Open at power-off: O								
Standard flow rate range (N <sub>2</sub> equivalent F.S.)	30/50/100 SLM		50/100/150 SLM		150/200 SLM (Hz: 300 SLM)	10/20/30/50/100 200/300/500 SCCM 1/2/3/5 SLM	10/20 SLM	10/20/30/50/100 200/300/500 SCCM 1/2/3/5 SLM	10/20 SLM	
Flow rate control range	5 to 100% F.S.		10 to 100% F.S.			5 to 100% F.S.				
Response speed	Less than 6 sec (T98)									
Accuracy	± 1% F.S.	± 2% F.S.	± 1% F.S.	± 2% F.S.	± 2% F.S.					
Linearity	± 0.5% F.S.	± 1% F.S.	± 0.5% F.S.	± 1% F.S.	± 1% F.S.					
Repeatability	± 0.2% F.S.	± 0.4% F.S.	± 0.2% F.S.	± 0.4% F.S.	± 0.5% F.S.	± 0.2% F.S.				
Operating differential pressure (for SEC series)	50 to 300 kPa (d) (Pressure may be limited with some gas types and flow rates.)						50 to 300kPa (d)			
Maximum operating pressure	300 kPa (G)									
Pressure Resistance	1 MPa (G)									
Leak Integrity	1 x 10 <sup>-8</sup> Pa·m <sup>3</sup> /s (He)									
Operating temperature	5 to 50°C (accuracy guaranteed between 15 and 35°C)									
Flow rate setting signal	0.25 to 5VDC (Input impedance : more than 1MΩ)		0.5 to 5VDC (Input impedance : more than 1MΩ)			0.25 to 5VDC (Input impedance : more than 1MΩ)				
Flow rate output signal	0 to 5VDC (Minimum load resistance 2kΩ)									
Drive power source	+15 VDC ± 5%, 60 mA; -15 VDC ± 5%, 150 mA, 3.2 VA					+15 VDC ± 5%, 60 mA; -15 VDC ± 5%, 150 mA, 3.15 VA				
Standard Fitting	3/8 Swagelok type					1/4 Swagelok type				

<sup>\*</sup> The SEC-400MK3 and SEC-500MK3 are compatible with the following gases: Air, N<sub>2</sub>, O<sub>2</sub>, Ar, H<sub>2</sub>, He  
<sup>\*</sup> SCCM and SLM are symbols indicating gas flow rate (mL/min, L/min at 0°C, 101.3 kPa).  
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