

# Specifications of SEC-Z500X Series

▶ EtherCAT® communication model 

Mass flow controller model	*1	SEC-Z517KX	SEC-Z517MGX	SEC-Z527MGXN	SEC-Z527MGX	SEC-Z537MGX	SEC-Z547MGX	SEC-Z557MGX	SEC-Z567MGX	Mass flow controller model	*1
Mass flow meter model	*1	SEF-Z517KX	SEF-Z517MGX	SEF-Z527MGXN	SEF-Z527MGX	SEF-Z537MGXN	SEF-Z547MGXN	SEF-Z557MGX	SEF-Z567MGX	Mass flow meter model	*1
Full-scale flow rate (N <sub>2</sub> conversion flow rate)		1/2 SCCM	MR/MG number #R1.5: 17.5 SCCM #1.5: 55 SCCM #2.5: 175 SCCM #3.5: 550 SCCM #4.5: 1.75 SLM #5.5: 5.5 SLM	#R01: 10 SCCM #01: 30 SCCM #02: 100 SCCM #03: 300 SCCM #04: 1 SLM #05: 3 SLM #06: 10 SLM	MR/MG number #6.5: 22 SLM #07: 30 SLM #08: 50 SLM	MR/MG number #09: 100 SLM	MR/MG number #10: 200 SLM	MR/MG number #11: 300 SLM	MR/MG number #12: 500 SLM	Full-scale flow rate (N <sub>2</sub> conversion flow rate)	
Valve Type		O: Normally open C: Normally close				O: Normally open C: Normally close		C: Normally close		Valve Type	
Flow rate at fully closed control valve		≤ 2% F.S.				≤ 2% F.S.		≤ 2% F.S.		Flow rate at fully closed control valve	
Flow rate control range		2-100% of F.S.				2-100% of F.S.		2-100% of F.S.		Flow rate control range	
Flow rate measuring range (SEF)		0-100% of F.S.				0-100% of F.S.		0-100% of F.S.		Flow rate measuring range (SEF)	
Accuracy	*2	±1.0% F.S.	±1.0% S.P. (Flow rate > 25% F.S.) ±0.25% F.S. (Flow rate ≤ 25% F.S.)		±1.0% S.P. (Flow rate > 35% F.S.) ±0.35% F.S. (Flow rate ≤ 35% F.S.)		±2% S.P. (flow rate > 50% F.S.) ±1% F.S. (flow rate ≤ 50% F.S.)			Accuracy	*2
Operating temperature		5 to 50°C (recommended temperature range: 15 to 45°C)				5 to 50°C (recommended temperature range: 15 to 45°C)		5 to 50°C (recommended temperature range: 15 to 45°C)		Operating temperature	
Response		≤ 1 second: over full flow rate range				≤ 1 second: over full flow rate range		≤ 2 second: over full flow rate range		Response	
Linearity		≤ ±0.5% F.S.				≤ ±0.5% F.S.		±1% F.S.		Linearity	
Repeatability		≤ ±0.2% F.S.				≤ ±0.2% F.S.		±0.5% F.S.		Repeatability	
Operating differential pressure		50 to 300 kPa (d)	50 to 300 kPa (d) #5.5, #06: 100 to 300 kPa (d)	200 to 300 kPa (d)		100 to 300 kPa (d)	200 to 300 kPa (d)	150 to 350 kPa (d)	250 to 350 kPa (d)	Operating differential pressure	
Operating differential pressure (SEF)		≤ 300 kPa (d)				≤ 300 kPa (d)		≤ 300 kPa (d)		Operating differential pressure (SEF)	
MAX. Operating pressure		450 kPa(g)				450 kPa(g)		450 kPa(g)		MAX. Operating pressure	
Pressure resistance		1000 kPa(g)				1000 kPa(g)		1000 kPa(g)		Pressure resistance	
Leak Integrity		≤ 5 x 10 <sup>-12</sup> Pa·m <sup>3</sup> /s (He)				≤ 5 x 10 <sup>-12</sup> Pa·m <sup>3</sup> /s (He)		≤ 5 x 10 <sup>-12</sup> Pa·m <sup>3</sup> /s (He)		Leak Integrity	
Digital interface		EtherCAT® Protocol				EtherCAT® Protocol		EtherCAT® Protocol		Digital interface	
Wetted materials		316L Stainless Steel (polished surface)				316L Stainless Steel (polished surface)		316L Stainless Steel (polished surface)		Wetted materials	
Power supply		DC 24 V, 6.8 VA				DC 24 V, 6.8 VA		DC 24 V, 6.8 VA		Power supply	
Standard Fitting	*3	1/4 inch VCR equivalent Option: 1.125 inch IGS	1/4 inch VCR equivalent Option: 1.125 inch IGS		1/2 inch VCR equivalent Option: 1.5 inch IGS		1/2 inch VCR equivalent			Standard Fitting	*3
Mounting orientation		Free				Free		Free		Mounting orientation	

\*1 The gas type and full scale settings for the SEC(SEF)-Z517MGX, Z527MGX, Z527MGXN, Z537MGX, Z547MGX, Z557MGX and Z567MGX can be changed by the operator, using special software.  
 \*2 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.  
 \*3 IGS: Integrated Gas System  
 ● SCCM and SLM are notations indicating the gas flow rate (mL/min, L/min, at 0°C and 101.3 kPa).