

## Product Specifications

Model	GR-511F
Valve Type	Normally closed/Piezo actuator
Leak integrity	$\leq 7 \times 10^{-11}$ Pa·m <sup>3</sup> /s (He)
Maximum operating pressure	300 kPa (A)
Pressure resistance	350 kPa (A)
Operating temperature	5-50 °C (Recommend 15-40 °C)
Power supply	+15 VDC±5 %, 250 mA -15 VDC±5 %, 250 mA
Power consumption	7.5 VA
Interface	Analog
Gas *1	He, Ar, N <sub>2</sub>
Standard fittings	1/4 inch VCR or equivalent, 1.5 inch C-seal, 1.5 inch W-seal
Pressure full scale	1.333 kPa (A) (10 Torr), 2.666 kPa (A) (20 Torr), 6.666 kPa (A) (50 Torr)
Pressure control range	1-100 %F.S.
Pressure accuracy *2	±0.5 %R.S.
Zero temperature coefficient	±0.04 %F.S./ °C
Span temperature coefficient	±0.04 %R.S./ °C
Response *3	≤ 1 sec
Pressure setting signal	0.1-10 VDC (1-100 %F.S.) Input impedance ≥ 1 MΩ Option:0.05-5 VDC (1-100 %F.S.) Input impedance ≥ 1 MΩ
Pressure output signal	0-10 VDC (0-100 %F.S.) Minimum resistance 2 kΩ Option:0-5 VDC (0-100 %F.S.) Minimum resistance 2 kΩ
Flow full scale *4	20, 50, 100 SCCM
Flow accuracy *5 *6	±1 %R.S. (Flow rate > 25 %F.S.) ±0.25 %F.S. (Flow rate ≤ 25 %F.S.)
Flow rate output signal	0-5 VDC (0-100 %F.S.) Minimum resistance 2 kΩ
Wetted material	SUS316L
Mounting orientation *7	Free
Weight *8	1.5 kg

Model	GR-517F
Valve Type	Normally closed/Piezo actuator
Leak integrity	$\leq 7 \times 10^{-11}$ Pa·m <sup>3</sup> /s (He)
Maximum operating pressure	300 kPa(A)
Pressure resistance	350 kPa(A)
Operating temperature	5-50 °C (Recommend 15-40 °C)
Power supply	24 VDC±4 V, 6.9 VA
Interface	EtherCAT® Protocol
Gas *1	He, Ar, N <sub>2</sub>
Standard fittings	1/4 inch VCR or equivalent, 1.5 inch C-seal, 1.5 inch W-seal
Pressure full scale	1.333 kPa(A)(10 Torr), 2.666 kPa(A)(20 Torr), 6.666 kPa(A)(50 Torr)
Pressure control range	1-100 %F.S.
Pressure accuracy *2	±0.5 %R.S.
Zero temperature coefficient	±0.02 %F.S./deg.C.
Span temperature coefficient	±0.02 %R.S./deg.C.
Response *3	≤ 1 sec
Flow full scale *4	20, 50, 100 SCCM
Flow accuracy*5 *6	±1 %R.S. (Flow rate output > 25 %F.S.) ±0.25 %F.S. (Flow rate output ≤ 25 %F.S.)
Wetted material	SUS316L
Mounting orientation *7	Free
Weight*8	1.8 kg

\*1 Please consult about other specifications.

\*2 Guaranteed only for STEC calibration condition.

\*3 Guaranteed only for calibration gas (N<sub>2</sub>) and calibration condition. Depends on gas or usage condition, response time may be changed.

\*4 SCCM denote gas flow rate in ml/min under 0 deg.C and 101.3 kPa(A).

Flow accuracy complies with SEMI E56-0309. Guaranteed for calibration gas (N<sub>2</sub>), full scale and pressure condition.

\*5 Flow accuracy complies SEMIE56-0309 and guaranteed only calibration condition (calibration gas, calibration full scale and operating pressure).

\*6 A flow rate exceeding 100 % F.S. cannot be guaranteed for accuracy.

\*7 Please make a zero point adjustment for both pressure and flow rate in an actual-use environment to eliminate mounting operation effect.

\*8 Reference value with standard fitting.

·In notation of pressure unit, (A) shows absolute pressure.

·SCCM is symbol representing the gas flow rate (ml/min, at 0 °C 101.3 kPa) .

·F.S. is a percentage of the full scale and %R.S. is a percentage of the reading scale