



GFC S | Gas Flow Controller

PRECISE CONTROL. UNPARALLELED PERFORMANCE.

Pivotal Systems' GFC paves the way for the future of gas flow control. The GFC combines Pivotal's patented, high accuracy GFM system with patented control valve technology. As such, it leapfrogs the current MFC technology by offering an order of magnitude improvement on key flow metrics, thereby enabling advanced wafer-manufacturing processes. At Pivotal Systems, we aim to significantly enhance fab productivity and capital efficiency by utilizing our innovative solutions.

Benefits of GFC-S

- Highly accurate NIST traceable measurements run-to-run
- Significantly reduces downtime
- Widest flow range
- Industry's best flow accuracy for entire flow range
- Advanced flow monitoring/self-diagnosis

Key Features

- No calibration ever required
- Innovative control technology
- Unaffected by variations in the upstream or downstream pressure or temperature
- No fixed orifice

PIVOTAL
SYSTEMS

GFC S Specifications (GFC S5, GFC S20, GFC S200, GFC S1000, GFC S2000)

PERFORMANCE	Flow Range	0.025 - 2000 sccm (5 part numbers to cover this range), 0.5-100% FS
	Flow Accuracy	±0.5% of Setpoint for actual gas: 0.025-5 sccm (GFC S5), 0.1 - 20 sccm (GFC S20), 1 - 200 sccm (GFC S200) 5 - 1000 sccm (GFC S1000), 10 - 2000 sccm (GFC S2000)
	Settling Time	10% - 100% Bin FS ≤ 100 ms, 0.5% - 10% Bin FS ≤ 300 ms
	Leak Integrity	≤ 1E-9 atm.cc/sec (He)
	Leak By Rate	0.01 sccm (GFC20), 0.1 sccm (GFC200), 0.5 sccm (GFC1000), 1.0 sccm (GFC2000)
	Repeatability	±0.2% of setpoint for 0.5%-100% FS
OPERATING CONDITIONS	Supply Pressure	Standard: 100 - 300kPaG (14.5 - 43.5 psig) Low pressure gases C4H9F, SiH 2Cl2, C3H10Si, BCl3, C4F6, C4F6-q, C4F8, C5F8, SiCl4 and WF6 the inlet pressure range can be as low as -81 kPaG (-11.7 psig)
	Downstream Pressure	Vacuum to 53 kPa (0 - 400 Torr)
	Proof Pressure	2.07 MPaG (300 psig)
	Design Pressure (Burst Pressure)	2.65 MPaG (385 psig)
	Operating Temperature	Standard: 15-50°C, High Temperature: 15-70°C
MATERIALS	Wetted Surface	316 SS per Semi F20
	Surface Finish	5 µin average Ra
	Seals	Metal (PCTFE - Optional)
ELECTRICAL	EtherCAT	24 VDC
	DeviceNet	11 - 24 VDC, 5 W
	Analog and RS-485	±15 VDC, 150 mA
	In-Rush Current	<200 mA