FRC | Flow Ratio Controller

A NEW LEVEL OF GAS CONTROL

Pivotal is now introducing a flow ratio controller that uses Pivotal's proprietary control valve to improve wafer uniformity and wafer to wafer uniformity.

It's the industry's fastest flow ratio controller, with a settling time under one second.

Benefits of FRC

- Ratio control at +–1% setpoint
- Channel flow control 0, 2 to 100%
- Repeatability is = +– 0.2% SP
- Input ratio range 0, 1 to 100% of total flow

Key Features

- Based on patented position-control valve design
- DNET / ECAT
- 3 or 4 channels

PIVOTAL
SYSTEMS

FRC Specifications

PERFORMANCE	Full Scale Range (each channel) N2 Equivalent	1000 sccm
	Percentage Accuracy	±1.0% SP (Flow ≥ 5% of Channel Full Scale)
	Channel Flow Control Range	0, 2 to 100% Full Scale
	Input Ratio Range	0, 1% to 100% of total flow within flow channel control range
	Percentage Repeatability	±0.2% of SP
	Resolution	0.02% of channel Full Scale
	Leak Integrity	≤ 1E-9 atm • cc/sec (He)
	Leak By RateThrough Closed Valve	≤ 0.05% FS
	Downstream Pressure	0-50 Torr
	Upstream Pressure	≤200 Torr
	Normal Operating Pressure Differential	≤200 TorrTorr (@4K split 25%)
	Percentage Settling Time	<500 ms
	Settling Time - Fully Developed Flow	< 1 sec
	Maximum Inlet Pressure	150 psig (non-operational)
	Warm Up Time	60 min
	Normal Operating Temperature	10 to 65°C
	Storage Temperature	-20 to 65°C
	Storage Humidity	0 to 95% relative humidity, non-condensing
Materials	Fittings – Inlet – Outlet	1/4" VCR Male (non-rotatable) Male (non-rotatable)
	Wetted Materials	316 SS per SEMI F20
	Surface Finish	5 µin average Ra
	Seals	Metal
ELECTRICAL / COMMUNICATIONS (DNET)	Input Power Required	11-24 VDC (<20 Watts)
	Connector	5 Pin microconnector (DeviceNet™)
ELECTRICAL / COMMUNICATIONS (ECAT)	Input Power Required	+24 VDC ± 10% (13 Watts)
	Connector	2x RJ-45 (comm.) male, M8 male, 5 pin (power)
	Comm Rate	100 Mbps