VACUUM FLOW RESTRICTOR

The Vacuum Flow Restrictor (VFR) is a reliable flow setting device for vacuum applications. Completely customized to your conditions, the VFR sets a repeatable flow rate from 0.1 sccm to 40 slpm based upon your gas type and pressure or vacuum conditions. High flow rate accuracy and repeatability is achieved through proprietary porous metal technology and NIST traceable primary standard equipment.

FEATURES

- Correlated vacuum conditions ranging down to mtorr
- Flow accuracy precision to +/- 2% at the set point flow conditions available
- Each VFR individually calibrated to your conditions
- +/- 0.1% flow repeatability
- Significant cost advantage over standard flow controller technology
- No need for expensive re-calibrations

BENEFITS

1. Customization to exact flow specified
2. Reliable and robust design in custom hardware options
3. Tamper-proof flow rate set to your conditions
4. Long-life, anti-clog technology
5. Compact design saves critical space
6. Manufactured in ISO Class 5 cleanroom

ORDERING INFORMATION

1. Desired flow rate (in sccm or slpm)*
2. Specify gas (ex. Nitrogen)
3. Upstream pressure (in psi or torr)
4. Downstream pressure (in psi or torr)
5. Specify hardware configuration (custom optional)
6. Specify operating gas temperature (°C or °F)

*Ultra low flow and high flow rates available. Contact a Mott sales representative for more information.

SPECIFICATIONS

Flow Ranges Available	0.1 sccm to 40 slpm* *Condition specific
Max Inlet Pressure / Max Differential Pressure	1500 psig
Accuracy	+/- 7.5% Base* *Up to +/- 2% of reading available
Repeatability	+/- 0.1% of reading
Operating Temperature	Up to 450°C
Warm-up Time	N/A
Wetted Hardware	316L Stainless Steel
Wetted Surface Finish	10 Ra (average)
Leak Integrity (External)	1 x 10^{9} atm cc/sec Helium Leak Rating
Fittings (compatible with)*	1/4" Face Seal / IGS 1.125" C-Seal *Other Fittings Available on Request

OPERATING CONDITIONS AVAILABLE

Upstream	Downsteam
Positive pressure	Vacuum
ATM	Vacuum
Vacuum	Vacuum

The applications for Vacuum Flow Restrictors cover a wide range of upstream and downstream pressure conditions.
These 3 Figures illustrate typical flow curves where the upstream and downstream pressure (vacuum) conditions can be:

-Figure 1: Pressure to Vacuum (partial to full)
-Figure 2: Atmospheric Pressure to Vacuum (partial to full)
-Figure 3: Vacuum to Vacuum

The actual flow performance of your Vacuum Flow Restrictor will be dependent on specific operating conditions for your application, i.e., gas type, pressure, and temperature conditions.

Figure 1: Typical Flow Performance Curves for Case of Downstream Conditions at Full Vacuum

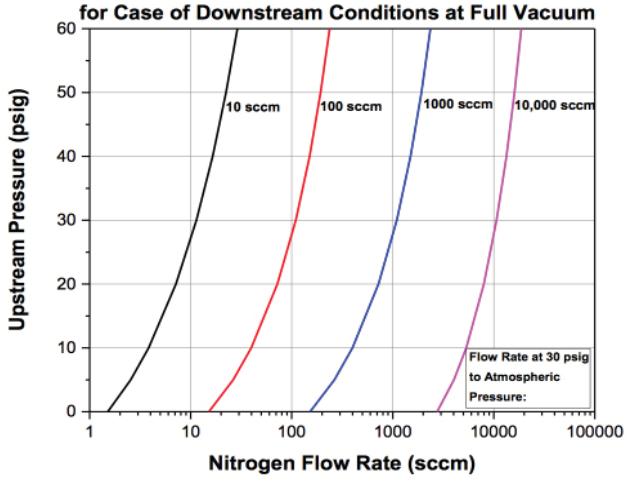

Figure 2. Typical Flow Performance Curves for Case of Upstream Conditions at Atmospheric Pressure

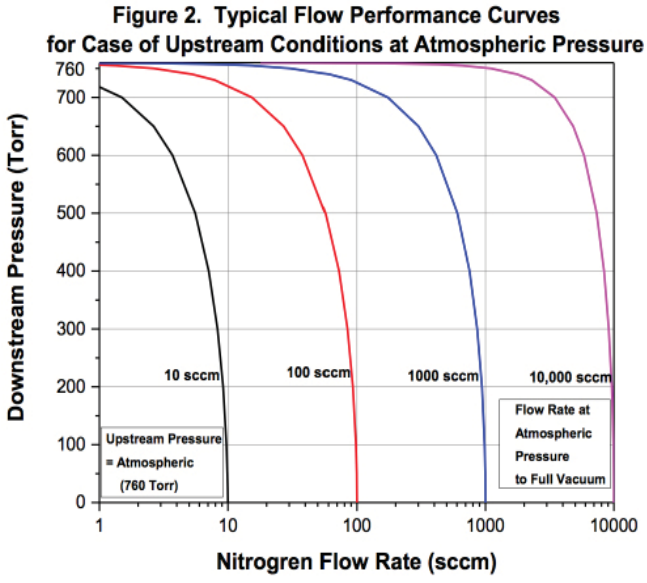

Figure 3. Typical Flow Performance Curves for Case of Downstream Conditions at 5 Torr