

Advanced Gas Source Control

Description

The system is designed to deliver gas from the cylinder to the MBE system in a precisely controlled manner. A pressure control algorithm is used to accomplish this task and to minimize gas transient. The gas is delivered to the upstream side of a precision orifice of known conductance at a precisely controlled set point pressure. From the upstream pressure and the conductance of the orifice, the mass flow rate into the injector can be calculated.

The orifice and start/stop valves are located on the injector to ensure an abrupt on/off control of the gas supply to the injector. For toxic gasses, the pressure control panel, regulator panel, and gas bottle are located in a gas cabinet.

The pressure set point and control valves are controlled from a 19" rack mountable pressure control unit. This unit allows manual control of the required valves and set point pressure. An onboard microprocessor controls the required valves to maintain the set point pressure. The pressure control unit can also be remotely controlled by RoboMBE™ process automation software.

Features

- Remote operation of valves and set point pressure (RoboMBE Automation Compatible)
- Abrupt Start/Stop of Gas Flow into Injector
- Reproducibility of better than 0.2% of Maximum sccm
- Precise control over a three decade range of sccm
- Electropolished (<10 Ra) stainless steel gas components
- Run-Vent Control Option

