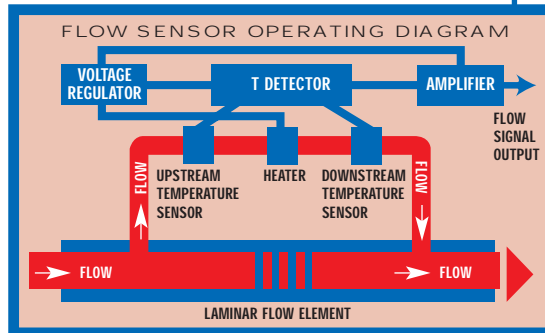


PORTER: THE STANDARD OF EXCELLENCE IN MASS FLOW

Porter Mass Flow products reflect nearly three decades of experience in the design and manufacture of precision instruments for the measurement and control of gas flow. They incorporate design principles that are simple and straightforward, yet flexible enough to operate under a wide variety of process parameters. The result is flowmeters, flow controllers and control valves that are accurate, reliable and cost-effective solutions for any mass flow application.



PRINCIPLE OF OPERATION

The sensing system utilizes a bypass sensing tube with a heater wound around the center of the tube and precision temperature sensors equidistant upstream and downstream of the heater. A patented laminar flow element package in the main flowstream creates a pressure drop which forces a fixed percentage of total flow through the sensor tube for temperature differential detection.

At zero flow, temperature at both sensors is equal. As gas flows through the sensor tube, heat is displaced to the downstream sensor, creating a temperature differential between the two sensors. The resulting signal is amplified to 0-5 Vdc or 4-20 mAdc output, which is directly proportional to Mass Flow rate. The flow controller circuit compares the output signal with a setpoint input and generates a control voltage to a solenoid-operated control valve, forming a closed loop control system.

