

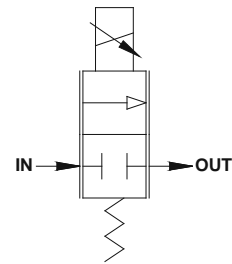
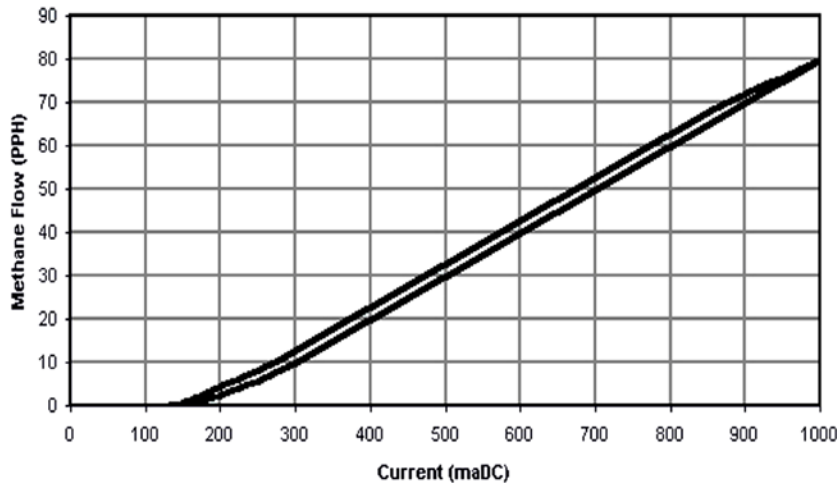
PROPORTIONAL GAS METERING VALVE

2-WAY NORMALLY CLOSED PROPORTIONAL VALVE
FOR GASEOUS FUEL CONTROL (PATENTED)

COMPONENT FEATURES

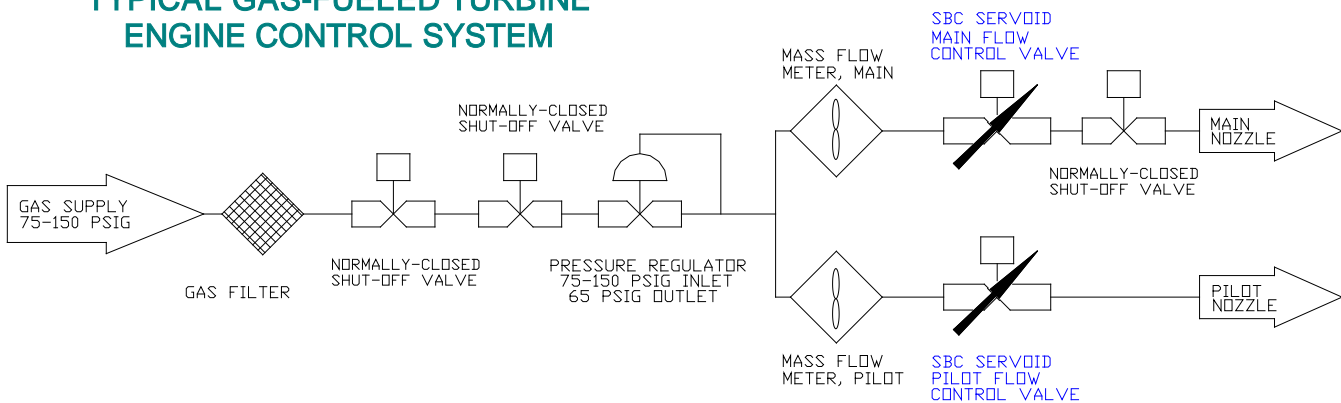
- Gas Control: Propane, Methane & Natural Gas – including Sour Gas
- Flow rates up to 25 scfm [80 pph methane] with supply pressure of 65 psig [5.5 bar] and 19 psi [1.31 bar] differential (ESEOD of 0.20")
- Design pressure: 75 psig – Contact factory for higher pressures
- Poppet design provides inlet and outlet pressure balancing
- Turn-down ratios in excess of 1,000:1
- Metallic poppet & seat provide long reliable life with crisp lift-off
- Fast response time (20 msec typical)
- Robust design with computerized calibration insures reliability & repeatability for 100's of millions of cycles
- Fully encapsulated coil – durability that comes with a reduced cost

TYPICAL FLOW CURVE



FLOW SCHEMATIC

TYPICAL GAS-FUELED TURBINE ENGINE CONTROL SYSTEM



SOUTH BEND CONTROLS

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BULLETIN PV-220

PROPORTIONAL METERING VALVE TECHNOLOGY

The Gas Metering Valve's current-driven, proportional DC solenoid driver responds to either analog or digital (1 kHz pulse-width-modulated) signals. Input current (0 to 1.00 ampere) is translated into a specific displacement with infinite resolution. The displacement is applied to a metering orifice with resulting flow control. Multiple coil resistances are available to accommodate different voltage power supplies.

- Linear & Proportional flow control in OEM devices: Microturbine Fuel Systems, Fuel Cells etc.
- Utilizes suspended armature design with no sliding friction to minimize hysteresis.
- Metallic poppet & seat combination provide consistent lift-off and repeatable low flow control.
- Proven technologies with high accuracy and long term reliability – 100's of millions of cycles.

This type of valve can be used with gaseous media in any system which requires proportional flow control with high accuracy and repeatability. Typical uses include metering of Natural Gas for small turbine power generation systems, hydrogen metering for fuel cells and metering vacuum in critical processes. Additional applications have been in life & health support systems where air and oxygen or anesthetic gases must be independently controlled and blended in varying ratios to suit the patients' respiratory needs.

