

XVG Gas Fuel Metering Valve

Today's high performance and low emissions industrial gas turbines demand more than just reliable fuel control. They demand stable, fast and ACCURATE fuel flow control using a variety of supply pressures and gases.

Building on Precision Engine Controls' quarter century plus of electric fuel metering valve experience, the XVG (next generation gas valve) offers the latest technology in flow control, contamination resistance and precision control over a wide flow range, in a compact package.

Using integrated sensors, this flow-through design automatically compensates for variations in pressure and temperature providing the precise fuel flow demanded under varying conditions. Fuel flow measurement is as simple as reading the valve feedback. Valve feedback is given in terms of fuel flow; not valve position and is especially suited for DLE applications. The valve is programmable for flow versus demand. Complete closed-loop fuel control is possible when using the optional 4-20mA interfaces.

The 24 VDC integrated digital electronics features real-time health and data monitoring through an isolated, RS232 serial interface. A terminal block provides convenient interface for electrical installation.

The XVG design is robust which translates into high reliability. The valve contains a single direct acting solenoid actuator with no mechanical linkages, and only one moving part.

The flow tube design is balanced allowing smooth, fast valve operation over a wide pressure range. The flow through, self cleaning action makes this valve contamination resistant. A fail-safe closing spring, and easy to clean, soft seats, provide a positive shut-off.

The smooth flow through design also results in superior flow performance. The high turn-down ratio allows operation over a wide range and low supply pressure. The XVG can also handle fuel flow ranges for 1 to 10 MW gas turbine engines.

All these features are contained in a compact package that is a drop-in replacement for the widely successful Precision Engine Controls VG1.5 fuel metering valve.



Standard Design Features

- Flow Control and Measurement
- Turbine Fuel Control Optional
- Integrated Digital Electronics
- 24 VDC Operation
- 4 to 20 mA or 0 to 5 VDC interface
- RS232 Programmable
- Health Monitoring
- Fast Response
- Long Life Ball Screw
- Contamination Resistant
- Flow Through Design
- 100:1 Turn Down Ratio
- Fail Safe Shut-off
- Fits VG1.5 Installation

PRECISION
ENGINE CONTROLS CORPORATION

www.precisioneng.com

Tel: 800-200-4404 Fax: 858-792-3200 E-mail: pecnttl@precisioneng.com

XVG Gas Fuel Metering Valve

Technical Specifications

Electrical Characteristics

Input Voltage24 VDC
Minimum Voltage16 VDC
Maximum Voltage32 VDC
Steady State Current2 A typical / 3 A maximum
Peak Current5 A for 60 ms
Fuel Demand Analog Input: **Current** 4 to 20 mA
Voltage0 to 5 VDC
Fuel Flow Analog Feedback: **Current** 4 to 20 mA
Voltage0 to ±5 VDC
Serial InterfaceRS232 (isolated)
Bandwidth-3 dB @ 6 Hz
Electrical Connections0.75 - 14 NPTF threaded conduit to 16-26 AWG terminal block w/grounding provisions

Mechanical Characteristics

Fuel MediaNatural Gas or other man-made gases
Maximum Operating Pressure . .435 psig (30 Barg)
Proof Pressure1740 psig (120 Barg)
Minimum Controllable Flow . . .1% of maximum fuel flow
Maximum Controllable Flow . .8,000 pph
Leakage Flow<1 pph
Flow Accuracy± 3% of point
Linearity± 1% of full scale
Step Response (10% to 90%) . .< 100 ms
Dry Weight< 38 lbs (17.2 Kg)

Environmental Characteristics

Temperature LimitsAmbient: -40°F (-40°C) to +200°F (93°C)
Fuel-29°F (-20°C) to +257°F (125°C)
WeatherproofNEMA 4 or IP65
VibrationMil-std-810F, Method 514-5, Category 22 (10 to 2000 Hz)
ShockMil-std-810F, Method 516.5, Procedure 1, (20 G peak, 11 ms duration)
HumidityMil-std-810F, Method 507.4 (95% Relative, Non-condensing)
EMCPer 89/336/EEC European EMC Directive
CertificationsCSA (Canada and US): Class I, Division 1, Groups B, C and D; T4 (Pending)
European Directive
Compliance (CE Mark)EE x d IIB + H2; T4 94/9/EC ATEX (Pending)
97/23/EC Pressure Equipment (PED)
73/23/EEC Low Voltage Equipment (LVD)
98/37/EC Machinery
89/336/EEC Electromagnetic Compatibility (EMC)

Materials

Housing6061-T6 Anodized Aluminum
Wetted Components300 Series Stainless Steel NACE MR0175 Compliant
SealsPTFE and Viton®



www.precisioneng.com

Tel: 800-200-4404 Fax: 858-792-3200 E-mail: peccntl@precisioneng.com