

CONTINENTAL
CONTROLS
CORPORATION



GV 1 Electronic Gas Fuel Valve

ISO 9001 Certified

For Metering Fuel on Gas Engines

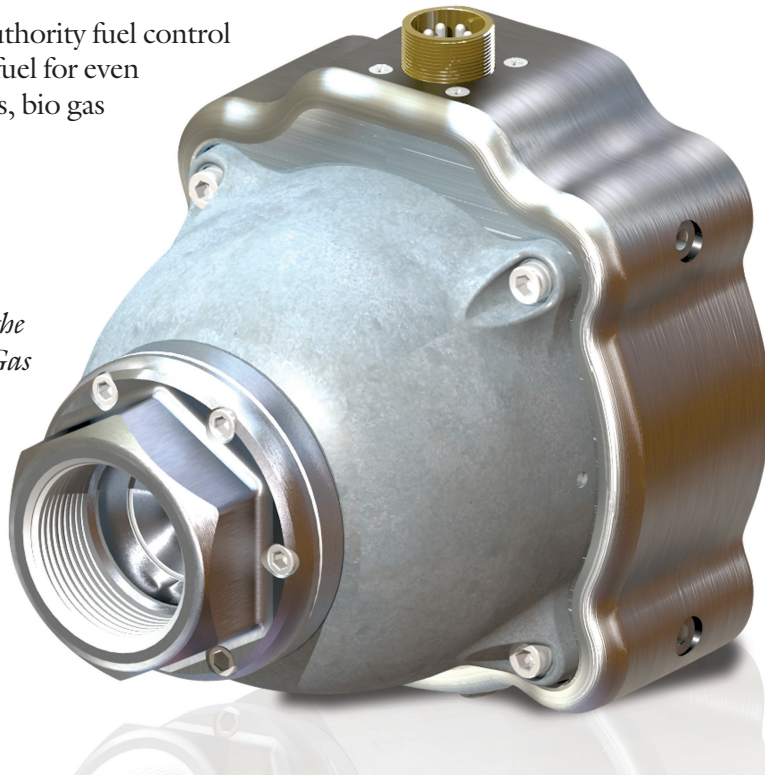
THE CONTINENTAL CONTROLS SOLUTION

All gas engines are now required to precisely control the ratio of air and fuel in order to lower emissions and improve engine efficiency. The electronics to manage that control is sometimes integrated into a stand-alone driver/controller and sometimes it is included in an engine control system or possibly a PLC. In either of these cases a common problem in the past has been how to quickly and accurately control the amount of fuel to the engine, based on changes in load, gas quality and several other factors.

Often the solution has been to select a valve that was designed for another application or even another media (not necessarily for natural gas). Many times the valve was not designed for the specific flows and pressures for a specific stationary gas engine. This often resulted in unreliable valves that offered only a limited range of control and valves that often would stick or malfunction. The GV 1 is designed specifically to control gaseous fuels for small to midsized gas engines. It is designed to be easily adapted to work with a wide variety of AFR controls and carburetors or mixers.

It will offer full authority fuel control to allow enough fuel for even low BTU field gas, bio gas or land fill gas.

Typical configuration of the GV 1 Electronic Gas Fuel Valve with 1 1/2" pipe thread flanges.



**FULL AUTHORITY
FUEL CONTROL**

**EXTREMELY
FAST ACTING**

**USE WITH A
VARIETY OF AFR'S**

**CAN BE CONTROLLED
WITH A PLC**

**FAST VARIABLE
PRESSURE CONTROL**

**SIZED FOR ENGINES
50hp TO 500hp
(DEPENDING ON SUPPLY PRESSURE)**

**WORKS WITH
TURBOCHARGED OR
NA ENGINES**

**USE WITH EXISTING
CARBURETOR
OR VENTURI**

**GOOD FOR
ALTERNATIVE FUELS
(BIO GAS, LAND FILL GAS, FIELD GAS)**

LOW COST

APPLICATIONS

OEM

The valve can be modified with inlet and outlet adapters to meet most OEM requirements.

CLOSED LOOP PRESSURE CONTROL

The electronic pressure regulator consists of a pressure transducer, the electronic circuit, and a gas valve operated by a voice coil actuator. The transducer measures the gas injection pressure. The electronic circuit compares the gas injection pressure to its set point and adjusts the current in the voice coil actuator to regulate the gas flow in order to maintain the pressure at its set point. The control provides integral or "reset" control of the pressure, i.e. there is no droop in the pressure as the flow increases.

Generally variable pressure control is regarded as one of the most effective techniques for controlling Air Fuel Ratio to a gas engine. The pressure downstream of the GV 1 can be monitored via the 4-20ma pressure feedback signal.

COMMAND/ I/O

4-20ma Pressure Control Input
4-20ma Pressure Feedback Output
RS-232 Mod Bus
CAN Bus J-1939

GAS SUPPLY PRESSURE

The GV 1 can operate from 0psi to about 2psi above boost pressure (for turbocharged applications).

OPERATING TEMPERATURE

From -40 to 185 Degrees F

PERFORMANCE

Response < 30 ms Full Stroke
Static Accuracy .2" w.c.

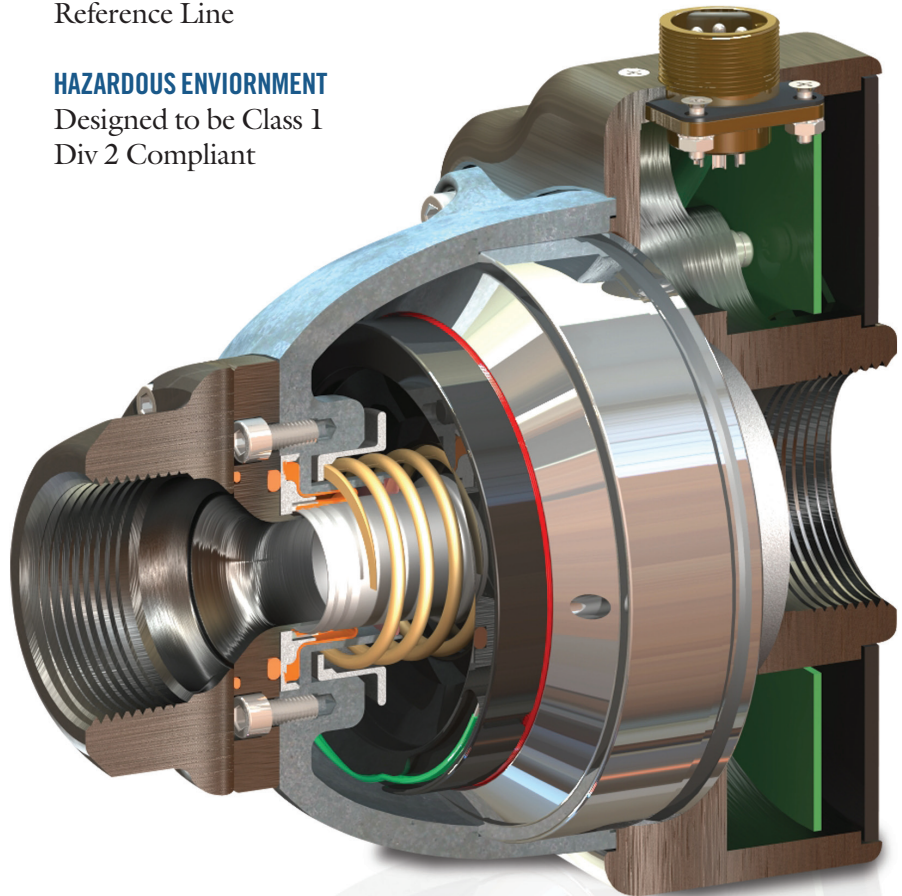
ADDITIONAL SPECIFICATIONS

9-32vdc Input Power
28 psig Max Turbo Boost Pressure
1/4" NPT Port for Turbo Reference Line

HAZARDOUS ENVIRONMENT

Designed to be Class 1
Div 2 Compliant

The GV 1 Electronic Gas Fuel Valve is voicecoil actuated which makes it very fast and smooth acting with low maintenance and a high MTBF. The valve will stroke with very little friction and almost no hysteresis.



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