CONTINENTAL CONTROLS CORPORATION

– A VALVE YOU CAN TRUST –

ALV10

ADVANCED LIQUID FUEL VALVE

BENEFITS

- **Flow capacity up to 24,000 lbs/hr (configurable to application)**
- **Accurate and repeatable start flows**
- **Flow accuracy ±3.0% of reading, or 0.5% of full scale**
- **100 milliseconds response (10–90%)**
- **Built-in position sensor (LVDT)**
- **Built-in turbine flowmeter**
- **Closed loop on flow corrects for flow changes**
- **10 calibration flow points for high accuracy & repeatability**
- **Built-in acceleration control (configurable)**
- **Fail-safe closed**
- **Temperature range -40°C to +85°C**
- **24 VDC @ 6.0 A power**
- **RS-232 serial communication**

LIQUID FUEL METERING VALVES FOR GAS TURBINES

The ALV10 is designed for gas turbines between 250 kW and approximately 48 MW. It is the ideal complement to the AGV10 or AGV50 gas valves to create a state-of-the-art, high-performance dual system with on-the-fly switching.

The valve is fail-safe closed so electronic failure, loss of power, or mechanical failures will all cause the valve to close. Utilizing the built-in fuel measurement provides very accurate and repeatable starts. This flow measurement is reported back via the 4–20 mA fuel flow return signal, or optionally, serially, via Modbus. The ALV10 is a servo-actuated electronic fuel valve that provides excellent accuracy, speed, and near maintenance-free operation.

It is possible by monitoring the compressor discharge pressure to build the turbine acceleration schedule into the ALV10. This embedded acceleration option allows the valve to be used on applications with older turbine control systems (such as CCC Black Boxes) which lack the ability to schedule acceleration.

The ALV10 is an intelligent electronic liquid fuel valve designed to meet the needs of all gas turbine applications. The ALV10 is a unique design with an on-board computer and internal flow meter. A unique differential pressure regulator incorporated in the fuel valve maintains a constant pressure drop across the valve so that fuel flow at a given position of the fuel valve will stay consistent over time.



ALV10
FUEL METERING VALVE

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ALV10 SPECIFICATIONS

Maximum fuel flow capacity:	24,000 lbs/hr (55.60 gpm)
Fuel:	Diesel #2, Jet A, biodiesel, naphtha, methanol
Maximum operating pressure:	1600 psig
Minimum filtration requirement:	2–3 micron absolute
Operating temperature:	-40°C (-40°F) to +85°C (+185°F) -20°C (-4°F) to +85°C (+185°F) [ATEX]
Response time:	60 ms (10–90% flow command)
Flow accuracy:	±3.0% of reading or 0.5% of full scale
Fuel demand signal [to fuel control valve]:	4–20 mA (standard) 0–50 mA (optional), 0–200 mA (optional) 0–5 VDC (optional)
Compressor discharge pressure (PCD) fuel demand signal [to fuel control valve]:	4–20 mA (standard for imbedded acceleration schedule)
Fuel feedback signal [from fuel control valve]:	4–20 mA fuel flow feedback, 4–20 mA position feedback
Power input:	20–30 VDC, 5.0 A max
Electrical interface:	MS connector (D38999/20FE99PN) or 3/4" ridged conduit, 84" pigtail wires
Data communication interface:	RS-232 Modbus ASCII
Valve materials:	Body: 6061-T6 anodized aluminum Wetted components: 300 Series stainless steel, 6061-T6 & 7075-T6 anodized aluminum Seals: Nitrile
Fuel ports:	12 SAE O-ring ports
Dimensions:	20.1"L x 16.7"H x 9.3"W
Approximate weight:	45 lbs.
Certifications:	C SA US Class I, Div 1, 2, Group D: T4 Ex II 2 G EX d II A T4 CE 0344 UKCA 8505 Pressure Equipment Directive **(PED)** CE 0036 UKCA 0168

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ISO 9001 CERTIFIED