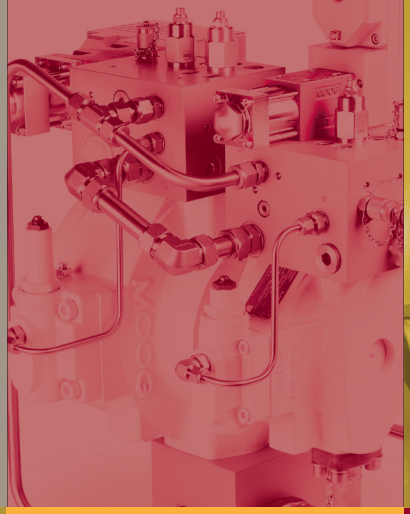
RKP
LIQUID FUEL METERING SYSTEM

Energy Saving, Compact



ENERGY EFFICIENCY FOR GAS TURBINE OPERATORS

With today's escalating energy costs, the manufacturers of Dual Fuel Gas Turbines are constantly looking for ways to improve efficiency, and meet ever more stringent emissions requirements. Key to these needs is the Liquid Fuel Metering function, which directly controls the supply of liquid fuel to the turbine burners (e.g. comparable to diesel). Moog has been working on fuel metering technology to improve performance for over 20 years.

Moog has developed a new fuel efficient fuel metering system using tandem variable displacement RKP pumps with up-rated compensator and revised spring configuration to improve frequency response. Liquid fuel Moog Direct Drive Valves (DDVs) are mounted to the pump to independently control flow to the main burner and the pilot burner and to ensure fuel is supplied on demand rather than by spilling excess flow (as in the traditional system). Consequently the new Moog system typically uses a 22 kW AC motor whereas the traditional system often requires a 30 kW motor, already demonstrating reduced in service running costs (energy saving).

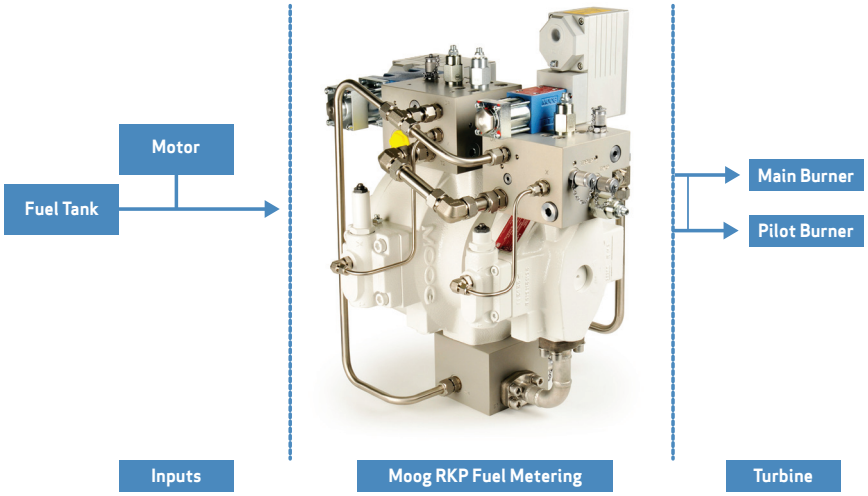
This technology has already been applied to turbines of power levels of up to 15 MW corresponding to fuel flow rates ofup to 100lpm (26.4 gpm) at 100 bar (1450 psi). Typical fuel types that have been accommodated include diesel and diesel derivatives. The system is ATEX certified for use in Group 2, Category 3 hazardous areas.

ADVANTAGES

- Improved reliability due to integrated construction
- Reduced fuel consumption due to improved fuel metering accuracy
- Reduced energy costs due to improved pumping efficiency
- Simplified installation due to integrated construction
- Wide range of flow-rates from single standardised compact package
- Improved start-up performance due to independent fuel metering streams

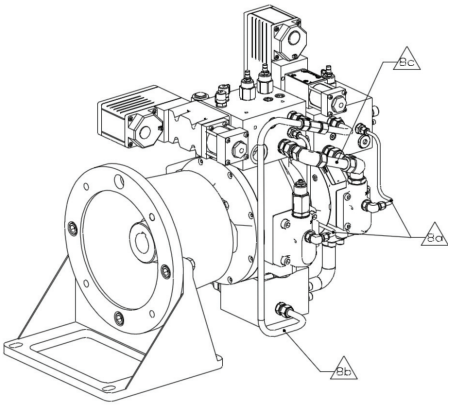
INDUSTRY APPLICATIONS

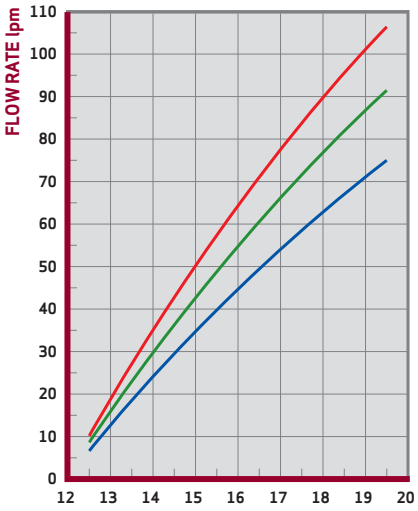
- Fuel metering for gas turbines
- Wider applications where very precise fuel metering of liquid flow is required



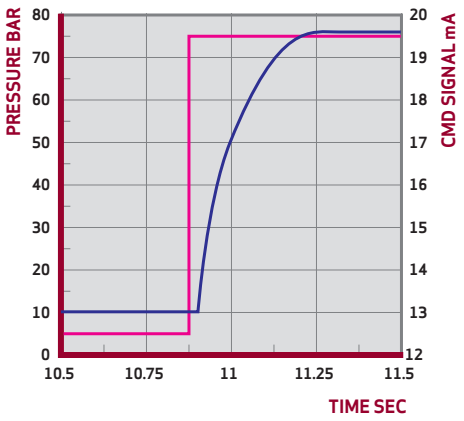
TYPICAL TECHICAL DATA

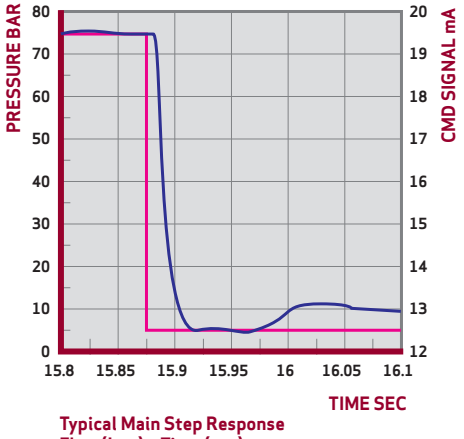
Model Type	E050 Series
Flow Rate	Pilot Burner; 0-30lpm; Main Burner 0-120lpm
Hydraulic Connections	Fuel Inlet 2" SAE, Pilot Outlet 0.5" SAE, Main Outlet 1.5" SAE Relief and Drain Port 1" BSP
Dimension (LxBxH)	650 (25.9") x 464 (18.26")x 587 mm (23.11")
Drive Coupling	Bell housing, Rotex coupling
Motor	22kW AC
Mass	300kg (approx)
Control Signals	4-20mA (2off), 24V supply
Operating Pressure	< 120 bar
Flow Accuracy	<2% (load independent)
Step Response (90%)	300 ms increasing < 150 ms decreasing
Frequency Response	-3dB @ 10Hz 90 deg lag @ 9 Hz
Temperature Range	-20 to +80 DegC





Typical Main Burner Flow (lpm) v Demand (mA)





Typical Main Step Response Flow (lpm) v Time (sec)

The above data is typical for Moog RKP Fuel Metering products and can be adjusted to suit specific needs. Please consult Moog for further performance details or to discuss your requirements.

Moog has offices around the world. For more information or the office nearest you, contact us online.

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