

**Gas Turbine Electric Valve Actuators**

**Application Challenge**

Industrial gas turbine packages must deliver efficient and dependable performance with low operating and maintenance costs in order to compete in today's global market place. In order to accomplish this goal, manufacturers and retrofitters are turning to all electric servo solutions for their actuator needs, eliminating the need for pumps and tubing normally associated with hydro-mechanical or pneumatic designs.

Exlar Corporation, a worldwide leader in the design and manufacture of industrial electric servo actuators offers solutions.

**Fuel Control Valve**

The use of electric actuated fuel control valves on gas turbines can replace pressure regulator/gas loaders, throttle valves, and associated electrohydraulic actuators. Exlar's servo electric actuators integrate a high performance servo motor and a specially designed roller screw mechanism for converting electric motor power into linear motion. The roller screw, which consists of multiple threaded helical rollers assembled in a planetary arrangement around a threaded shaft, is capable of carrying heavy loads for thousands of hours even in very arduous conditions. This, combined with high torque servo motor technology, provides a compact and powerful linear actuator solution for fuel valves.

**Inlet Guide Vanes**

For gas turbines with variable guide vanes, Exlar actuators provide superior performance to other technologies. Precise positioning and feedback provides the ability to fine-tune injector airflow to maintain CO and NOx emissions.

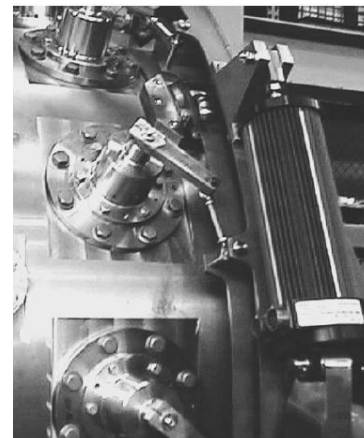
**Bleed Valve**

High accuracy and speed make Exlar servo electric actuators an excellent choice for your variable air bleed valves and inlet bleed heat valves.

**Fuel Metering Valve**

For gas metering utilizing ball valves, Exlar electric servo rotary actuators provide high accuracy positioning. Directly coupled to the shaft, all linear linkages are eliminated. Gear reduction ratios are available up to 100:1.

Each Exlar actuator, when supplied with Exlar's all-digital positioner, will respond to command



signal changes in less than 5 mSec. The speed of the response combined with the dynamic capability of the all-electric actuator delivers repeatability much greater than typical pneumatic or hydraulic cylinders and allows for end-

to-end travel time of a 6 inch stroke actuator of less than 200 mSec. This performance makes Exlar's actuators the obvious choice for applications such as turbine controls.

Exlar's gas turbine linear and rotary actuators are designed for use in Class I Div I Groups B, C and D areas.



EL30 Linear



ER115 Rotary



SV Positioner

**Linear Actuators**

- Thrust: to 885lbs
- Stroke: 3"-6" in
- Speed: to 25 in/sec
- Model: EL30

**Rotary Actuators**

- Torque: to 4696 lb-in
- Reduction: to 100:1
- Direct couple to valve
- Model: ER115

**Contact us at 952-500-6200 or email [info@exlar.com](mailto:info@exlar.com) to discuss your application.**

**You may also visit [www.exlar.com](http://www.exlar.com) to locate the sales rep nearest you.**