

Hazardous Environment Electric Actuators

ENGINEERED TO MOVE

Demanding applications such as gas turbine control require reliable operation in hazardous environments. Diakont's industry-leading line of 100% explosion-proof electromechanical actuators (EMAs) have been used to increase efficiency, safety, and reliability in the gas turbine industry. Ideal for applications such as control valves and inlet guide vanes (IGV), Diakont EMAs provide exceptional torque and durability while requiring minimal maintenance. Diakont EMAs incorporate progressive technology, including precisely machined roller screws and high-force permanent magnet synchronous motors (PMSM). These components are integrated into a single unit, thus providing exceptional performance in a compact footprint.





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High Performance Solutions

Constructed with rugged roller screws and permanent magnet synchronous motors (PMSM), Diakont actuators provide industry-leading torque density and longevity. Diakont actuators also require minimal maintenance, making them ideal for replacing fluid-based actuators.

Applications

- Inlet guide vane
- Bleed valve
- Gas fuel control

Advantages and Benefits

Integrated motor and roller screw

Rugged technology for hazardous locations – class 1, division 1, 1ExdIIBT3

Highly vibration proof design – 10g

High impact tolerance – 15g

Best-in-class service lifetime

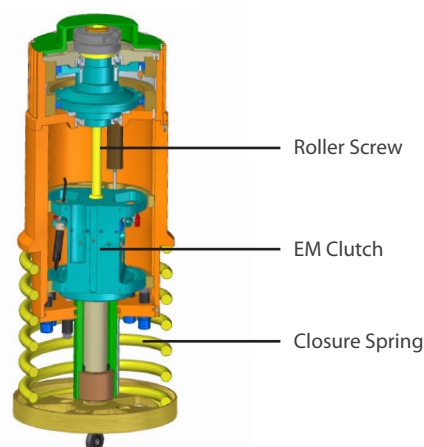
Very high positioning accuracy – 0.0004"

Specifications

| | |
|-----------------------------|--|
| Rated force | Up to 4,500 lbf (20,000 N) |
| Maximum speed | 9.8"/sec (250 mm/sec) |
| Fail safe option | Fail safe spring and internal EM clutch |
| Positioning accuracy | ± 0.002" to 0.0004" (±0.05 mm to 0.01 mm) |
| MTBF | 100,000 hours |
| Environmental | IP54 (optional IP65, IP66) |
| Temperature | -40°F to 212°F (-40°C to 100°C) |
| Hazardous locations | 1ExdIIBT3 |
| Vibration proof | 10g (1-2,000 Hz) |
| Mounting | Front and rear flange, trunion, rear clevis, and custom mounting |
| Voltage | 24V / 48V (other voltage options available) |
| Dimensions | Customizable |

Fail Safe Option

Actuators with a fail safe spring are required for gas fuel control. Utilizing a closure spring and a unique fail safe electromagnetic (EM) clutch, Diakont EMAs with the fail safe spring option provide 100% guaranteed valve closure during fast-trip scenarios. In the event of a trip command from the control system, loss of communication, or loss of power to both EMA channels, the output shaft immediately closes the valve under the spring's force. The system automatically reengages within four seconds.



Electric Actuator with
Fail Safe Spring

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