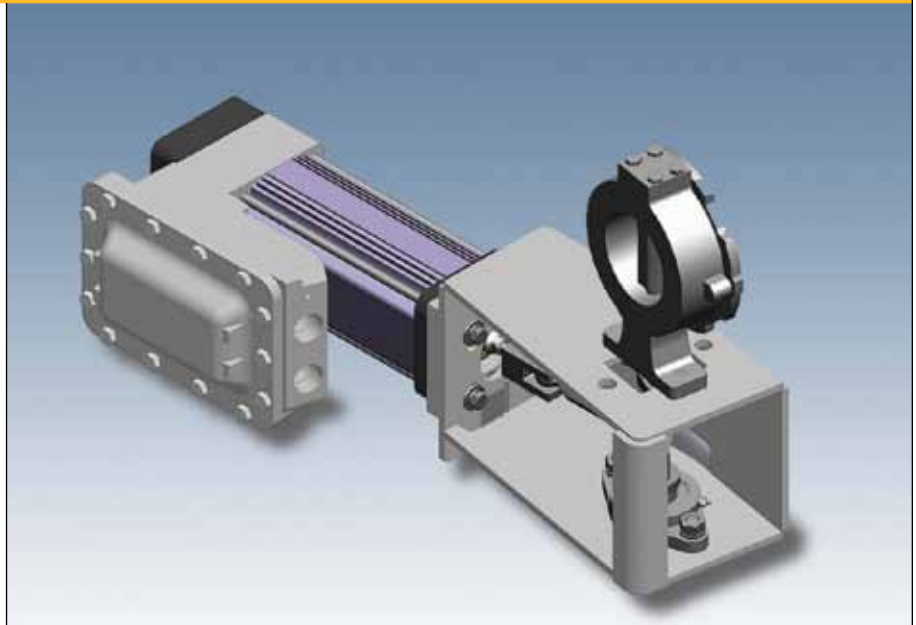


24 Vdc Linear Actuator (BV & VGV) Systems

The newly developed bleed valve and variable guide vane systems utilizing 24 Vdc linear actuators are a recent addition to pre-engineered products in Solar's upgrade product portfolio.



Primary Goals	
●	Operational Efficiency
●	Emissions Control
●	Machinery Efficiency
●	Reliability Enhancement

This new design, in conjunction with the 24 Vdc pre-engineered fuel modules, provides a complete electric solution for both SoLoNOx™ and conventional combustion engines and utilizes the latest control system algorithms.

The 24 Vdc actuators are designed to replace existing hydraulic or pneumatic-hydraulic bleed valve or variable guide vane actuators and provide a consistent, tunable emission and engine controls system solution. The ease of installation, improved reliability and maintainability, along with the enhanced system performance, makes this design a simple but superior upgrade solution.

Benefits

- **No hydraulic oil lines**—eliminates issues related to oil leaks and variations in oil pressures.
- **Reliable operation**—battery-provided backup electrical power.
- **Longer service life**—electric actuation means fewer mechanical components and less associated wear and tear.

- **More accuracy and less hysteresis**—electric variable control provides a more precise positioning of the guide vanes and bleed valves.
- **Increased flexibility**—allows for variable guide vane exercising during engine non-operation (Solar Service Bulletins 8.6/112 and 8.6/113).
- **More effective servicing**—includes force monitoring for preventive maintenance.
- **Improved operation**—more reliable engine starts at high ambient temperatures, and improved emission control at high ambient temperature, part load conditions (SoLoNOx engine only).
- **Complete 24 Vdc retrofit fuel solution**—complements existing aftermarket 24 Vdc fuel control modules.
- **Improved emissions**—for gas turbines that have been retrofitted with SoLoNOx combustion systems when combined with an aftermarket 24 Vdc SoLoNOx fuel module.

Application

		Standard Combustion		SoLoNOx Combustion	
Product	Type	Guide Vane	Bleed Valve	Guide Vane	Bleed Valve
C40	HED				✓(3")**
	CED			✓	✓(3")**
C50, T60	HED	✓	✓(3")	✓	✓(3" & 4")
	CED	✓	✓(3")	✓	✓(3")
T70	HED	✓*	✓(4")	✓*	✓(4")
	CED	✓*	✓(4")	✓*	✓(4")

* Provided the air inlet casting has the required clevis mounting holes.

** Provided engine does not have piston operated BV.

Technical Information

Certifications: NEC/CSA – Class I, Division 1
ATEX – Zone 1

Power Requirements: 18-32 Vdc, 30 A peak, 25 A continuous at full load
Actuator will operate at a reduced speed over the voltage range of 18 to 19.99 Vdc

Control System Requirement: *Turbotronic™* 3MX or *Turbotronic* 4

Output Force: 600 lbf peak, 550 lbf continuous

Temperature: Actuator Operating Range: -20°F to +200°F (-28.9°C to +93°C)
Storage: -65°F to +200°F (-54°C to +93°C)
Controller Operating Range: -20°F to +180°F (-28.9°C to +82°C)
Storage: -65°F to 180°F (-54°C to 82°C)

Communication: Control Command: 4-20 mA
Control Feedback: 4-20 mA
Control I/O: 0-24 Vdc
Setup/Monitoring: RS485

Weight: Actuator: 26 pounds
Controller: 35 pounds

Envelope: Actuator: 13.25" x 8.1" x 5.6" with shaft retracted
Controller: 13.375" x 11.375" x 5.25"

Additional Information

www.solarturbines.com

For more information about 24 Vdc linear actuators from Solar, contact the field office nearest you or visit the website.