



OLYMPUS

Gas Turbine Air Controls



Linear Guide Vane Actuator



Rotary Bleed Valve



- ✓ Essential parts for part load dry low emissions operating strategies
- ✓ Part load efficiency and exhaust heat improvement
- ✓ Load rejection improvement
- ✓ Reduce start time and starter power, increase start reliability
- ✓ Competitive solutions for all small-medium sized turbines
- ✓ 24 VDC safe battery power only required
- ✓ Independently certified for Zone 1 (Division 1) hazardous areas
- ✓ Fast acting and accurate

OLYMPUS

Gas turbine air controls

Air controls are important to improve the starting reliability and load flexibility of gas turbines. These parameters have assumed more importance to turbine operators as they reduce their costs for relatively little increase in overhead.

Air bleed and variable geometry compressor design will help control ignition parameters under any ambient conditions to improve ignition reliability and reduce the power requirements and length of engagement time of the starter system.

When running at part load, air controls may be employed to reduce the flow of air supplied by the gas turbine compressor which in turn will reduce the power required to drive it and therefore improve fuel efficiency. Similarly the temperature at the gas turbine exhaust can be increased which will improve the efficiency of heat recovery boilers etc. which is desirable in combined heat and power and combined cycle plant.

When shedding load in a generator application, the fast and proportional reaction of the air bleed valve helps to control power turbine overspeed of multi-shaft gas turbines by venting off excess compressor discharge air.

In the last ten years HEINZMANN has supplied hundreds of electric guide vane servo systems to a gas turbine OEM in Europe in the last ten years for machines from 4 through 20 MW shaft power. HEINZMANN now offers electric bleed air control valves for the same range of turbines based on its high performance electric actuation technology.

STG LGV-4500/50 S

Linear guide vane actuator



Features

- ➔ **Stroke configurable up to 50 mm (at the time of ordering)**
- ➔ **Force up to +/- 4500 N**
- ➔ **Mounting options to suit most applications**
- ➔ **Process feedback of position and force**
- ➔ **Highly efficient gearhead optimises utilisation of electrical power**

This is a position servo assembly consisting of a digital electronic controller, rotary servo motor and rotary to linear gearbox. In application, the unit is usually mounted in trunnions and connected by a spherical jointed coupling to a mechanism which transfers the linear motion to rotate several stages of variable inlet stator blades on an axial compressor.

The unit receives a 4-20 mA process demand signal and positions its output shaft in direct proportion to it. The unit returns 4-20 mA process feedback signals in proportion to actual position and output force. Output force up to +/- 4500 N may be maintained and the unit only requires standard 24 VDC nominal battery supplies to operate.

The unit is independently certified explosion proof for use in hazardous areas.

Only 24 VDC nominal battery power supplies are required, making the application very convenient and safe compared to competitive high voltage systems.

STG RBV-80

Rotary bleed valve



Features

- ➔ **Electric rotary positioning servo**
- ➔ **Valve specified for high temperature and pressure with low leakage**
- ➔ **Direct connection to 80 mm butterfly valve**
- ➔ **Precise, drift-free operation**

This is a servo assembly complete with valve which provides fast and precise bleeding of gas turbine compressor discharge air. This assists with:

1. Dry low emission fuel systems
2. Improving part load compressor efficiency of single shaft gas turbines
3. Increasing part load exhaust temperatures for combined cycle power generation systems
4. Improving power turbine overspeed limitation on multi-shaft gas turbines

In application the valve is usually connected between the gas turbine compressor discharge and the exhaust. The unit accepts a 4-20 mA process demand signal from the turbine governor and positions the butterfly valve in direct proportion to the demand. When the valve is closed, the servo system forces the butterfly against the valve seal thus providing positive shut off of the compressor discharge air thus maintaining compressor performance.

Metso type LM valves are specified with temperature and pressure ratings to exceed the conditions pertaining at the discharge of modern high-pressure ratio gas turbine compressors.

To help with limitation of overspeed on load rejection on multi-shaft turbines, the unit is very responsive in operation. A multi-turn digital encoder provides precise drift free positioning of the valve.

The unit is independently certified for use in hazardous areas to ATEX standards (CSA pending).

Only 24 VDC nominal battery supply is required which makes application very convenient and safe compared to competitive high-voltage systems.



The HEINZMANN Group

Quality & Precision since 1897



The Group started 1897 with Heinzmann GmbH & Co. KG, and now includes REGULATEURS EUROPA, HEINZMANN DATA PROCESS and CPK Automotive as member companies.

The HEINZMANN Group boasts a combined total of fourteen global subsidiaries, including seven production sites and an international distributor network.

The product portfolio comprises engine management system solutions, as well as exhaust gas aftertreatment solutions, for industrial combustion engines and turbines; it also encompasses automation systems, primarily for the shipping industry.

HEINZMANN UK – Specialist for Turbine Control

Heinzmann UK Ltd., member of the HEINZMANN Group, is expert in Turbine Control and has been equipping and retrofitting turbine systems across the world for more than 30 years. Development and production take place on site in Great Britain.

Heinzmann UK Ltd.

Stanley House
Wallis Road
Skippers Lane Industrial Estate
Middlesbrough TS6 6JB
Great Britain
Phone: +44 (0)1 642 467 484
Fax: +44 (0)1 642 458 488
info@heinzmannuk.com

Head Office

Heinzmann GmbH & Co. KG

Am Haselbach 1
D-79677 Schönau
Germany
Phone: +49 7673 8208 0
info@heinzmann.de
www.heinzmann.com



Worldwide representations: www.heinzmann.com/representations

www.heinzmann-turbine-controls.com