

# **GH & GHL-SERIES**

### Gas-Over-Oil Valve Actuators







### COMPANY







For over 30 years Paladon Systems has been supplying valve actuators and control systems on a global basis.

Since its inception in 1981, Paladon Systems has continuously developed its design, engineering, organisational, quality and management capabilities. Today Paladon Systems designs and manufactures many valve automation technologies that lead the industry in terms of cost efficiency, operational performance and environmental responsibility.

Paladon Systems' vast experience with supporting the Oil, Gas and Power industries with valve automation solutions for the most critical applications in extreme operating environments has resulted in product designs that offer unsurpassed quality and reliability across all industries and applications.

Holding ISO 9001 certification for over 20 years, today Paladon Systems hold accreditation and approvals from almost all major institutes, engineering companies and end users.

Now headquartered in Italy since the 2018 reorganization, is also based in the UK at the historical facility, founded in 1981, and in Houston, United States, thanks to great cooperation with a US partner. With a comprehensive suite of valve automation solutions backed by a dedicated team of field service engineers, Paladon Systems is **Total Valve Control**.





### **INTRODUCTION**

Paladon Systems GH and GHL-Series gas-over-oil valve actuators use high pressure process gas to provide the energy required to power the valve actuator. To provide increased safety and reliability, the process gas acts upon hydraulic fluid stored in gas-over-oil tanks, creating hydraulic pressure that is subsequently used to power the valve actuator.

As standard the gas-over-oil control system provides local open and close control using either the high pressure process gas or via a hydraulic hand pump. Numerous additional control system options are available; including remote control and high/low and rate-of-drop linebreak detection.

Although gas-over-oil valve actuators and control systems are more complicated than direct gas type actuators, they offer many benefits including increased safety, reliability and operational lifespan.







### **KEY FEATURES**

- Low or high pressure control system designs available
- Suitable for operation on sour and wet power gas
- Compact, rugged and reliable manifolded control systems
- Modular control system manifolds to allow for quick, simple and inexpensive control system functionality changes or servicing
- Fully enclosed controls with lockable cover to provide excellent environmental protection and protection from unauthorised operation
- Hydraulic manual override as standard to allow for local open and close operation on loss of power gas supply
- Local open and close valve operation using power gas as standard
- Independent open and close valve speed control as standard
- PED or ASME approved gas-over-oil and power gas storage tanks for safe containment of power gas
- Scotch-yoke valve actuators with symmetrical, canted and demi-canted yoke designs to ensure optimum actuator sizing and Lloyds certified for operation down to -65°C (-85°F)
- Linear valve actuator systems available
- Double-acting and spring-return valve actuator configurations
- Valve actuators certified to IP66M
- Valve actuators 3<sup>rd</sup> party approved for SIL 3 applications
- Valve actuators certified in accordance with PED 93/27/EC

#### **PERFORMANCE DATA**

Supply Pressures
GH & GHL-Series

13 to 250 Barg (90 to 3,625 psig)

Torque Output
GH-Series

Up to 680,000 Nm (6,018,000 lb in)

-65 to +80°C (-85 to +176°F) (HY-Series only)

Thrust Output
GHL-Series

Up to 289,134 N (65,000 lbf)

-45 to +60°C (-49 to +140°F)

-20 to +80°C (-4 to 176°F) -20 to +140°C (-4 to +284°F)

#### Ambient Operating Temperatures

- Ultra-low
- Low
- Standard
- High



# **CONTROL SYSTEM OPTIONS**

In addition to bespoke gas-over-oil control systems, Paladon Systems provides the following standard control system functionality:

- Local manual control using a hydraulic handpump
- Local control using power gas
- Remote control using solenoid valves
- Automatic high/low linebreak control using either a pressure pilot valve or electrical pressure transmitter
- Automatic rate-of-drop linebreak control using either a mechanical or electrical linebreak sensor
- Positional control using either 3-15 psig pneumatic positioners or 4-20 mA electrical positioners





# LOCAL MANUAL CONTROL SCHEMATIC





# **REMOTE CONTROL SCHEMATIC**





# AUTOMATIC HIGH/LOW LINEBREAK SCHEMATIC





### AUTOMATIC RATE-OF-DROP LINEBREAK SCHEMATIC

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