



TOTAL VALVE CONTROL



www.paladonsystems.com

Today Paladon Systems designs and manufactures many valve automation technologies that lead the industry in terms of cost efficiency, operational performance and environmental responsibility.

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.



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 holds 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 Uk at the historical facility, founded in 1981, and in Houston, United States, thanks to a 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.



CLIENT BENEFITS

- Focus
- Agility
- Performance
- Stability
- Relationships
- Quality
- Ease of conducting business

FOCUS

Valve Automation is our primary business and competency, allowing us to outperform companies whose focus is often diluted across multiple disciplines.

AGILITY

Our smaller size allows us to communicate quickly and efficiently, both internally and externally; ultimately allowing us to effectively manage our client requirements, no matter how demanding or dynamic they might be.

PERFORMANCE

With a consistent on-time delivery well above the industry standard, we lead the way in what clients can expect from their valve automation solution providers.

STABILITY

Privately owned and with nearly 40 years of experience with the most critical valve automation applications, our clients can trust us to support them in long term and mutually beneficial relationship.

RELATIONSHIPS

Our close customer relationships allow us to fully understand market and client requirements. All our product solutions have been driven by market requirements, from conceptual design through to production, installation, operation and maintenance.

QUALITY

Quality consciousness coupled with our vast experience of supplying valve automation solutions for the most demanding applications gives us the ability to provide our clients with robust solutions with low costs of ownership.

EASE OF CONDUCTING BUSINESS

All our design, application and configuration engineering and project management activities are conducted from our Italy and UK plants with closely integrated sales and engineering departments.



PRODUCTS

- **Rotary Scotch-Yoke Valve Actuators** 7
- **Linear Piston Valve Actuators** 8
- **Gas-over-Oil & Direct Gas Systems** 9
- **Self-Contained Electro-Hydraulic Systems** 10
- **Turbine Bypass Systems** 10
- **Valve Positioning Systems** 10
- **High Integrity Pressure Protection Systems (HIPPS)** 10
- **Hydraulic Power Units** 10
- **Subsea Systems** 10
- **Autonomous Shutdown Valves (ASV)** 10
- **Global Onshore & Offshore Support** 10

ROTARY SCOTCH-YOKE VALVE ACTUATORS

are designed to operate any quarter-turn valve or mechanism. Available in pneumatic, hydraulic, double-acting and spring-return configurations.

- Torque outputs up to 680,000 Nm (6,018,000 lb in)
- Fabricated all steel construction as standard for excellent corrosion resistance and lightweight designs. Stainless steel designs also available
- Guide bar frame design eliminate side forces and low friction seals ensure high efficiency at low supply pressures
- Symmetrical, demi-canted and canted scotch-yoke designs for optimum and cost effective valve actuator sizing
- Scragged (set removal) springs to ensure optimum and stable torque output characteristics
- 3rd party approved for use in SIL3 certified systems
- Compliant to PED 97/23/EC
- Hydraulic valve actuators Lloyds certified for operation down to -65°C (-85°F)



LINEAR PISTON VALVE ACTUATORS

are designed to operate any linear valve or mechanism and are available in pneumatic, hydraulic, double-acting and spring-return configurations.

- Thrust outputs up to 289,134 N (65,000 lbf)
- All steel construction with no external threads
- Enclosed weatherproof housings, certified to IP66
- Pedestal and close-coupled valve mounting options
- Scragged (set removal) springs to ensure optimum and stable thrust output characteristics
- 3rd party approved for use in SIL3 certified systems
- EN ISO 5210 valve interface



GAS-OVER-OIL & DIRECT GAS SYSTEMS

are typically used for on/off valve control in gas transmission pipelines. These systems use the pressure in the pipeline to provide the motive power for the valve actuators to operate rotary and linear valves.

- Compact and highly reliable manifolded control systems
- Modular control system manifolds to allow for quick, simple and inexpensive control system on-site functionality changes or servicing
- Fully enclosed controls with lockable cover to provide excellent environmental protection and protection from unauthorised operation
- PED or ASME approved gas-over-oil and power gas storage tanks for safe containment of power gas





SELF-CONTAINED ELECTRO-HYDRAULIC SYSTEMS

provide on/off or positional control of linear and rotary valves. Completely self-contained, these systems give operators the low installation costs offered by electric actuator systems, but with the power and fail-safe capabilities which have traditionally only been available from pneumatic or hydraulic systems.

- Low power requirements down to 100 W
- Zero emissions
- Solar powered systems that generate no carbon footprint during operation available
- Systems using biodegradable fluid available
- Fail-close and fail-last designs available
- Partial valve stroke testing function with comprehensive diagnostics package available to permit the implementation of cost effective preventive maintenance programs
- All common communication protocols supported including HART and Foundation Fieldbus

TURBINE BYPASS SYSTEMS

protect gas turbines in coal fired power stations during critical start-up and shutdown operations, or in the event of a system abnormality.

- Extremely lower power requirements and zero power requirements when actuated valves are in a static position; resulting in low OPEX
- No requirement for cooling systems results in low CAPEX and OPEX



- Systems using biodegradable fluid available
- Use of seated poppet style proportional solenoid valves eliminate the constant bleed associated with designs using spool type solenoid valves; reducing operating power requirements and improving system safety



VALVE POSITIONING SYSTEMS

provide precise hydraulic positioning of choke, control, globe or ball valves via continual modulation or stepping control.

- Suitable for use with spring-return and double-acting valve actuators
- System designs using biodegradable fluid available
- All common communication protocols supported including HART and Foundation Fieldbus
- Diagnostics package to permit implementation of cost effective preventive maintenance programs
- Emergency Shutdown (ESD) systems with fast open or closed fail-safe positions



HIGH INTEGRITY PRESSURE PROTECTION SYSTEMS (HIPPS)

are independently instrumented protective devices that act as the last line of defence for protecting downstream operations from over pressurization.

- Streamlined procurement process for reduced CAPEX and lead times
- Turn-key systems in full compliance with IEC 61508 Edition 2 and IEC 61511
- Certified up to SIL3 with complete documentation packages
- Projects executed using a standard design methodology under the responsibility of a TÜV Functional Safety Expert
- Topsides and subsea designs



HYDRAULIC POWER UNITS

provide motive power and control logic to operate either single or multiple hydraulically actuated valves.

- Bespoke designs to meet specific customer requirements including the monitoring of pressures, levels and flow rates
- Systems available with redundant sub-systems to provide unsurpassed reliability
- Stand-alone units utilising solar panels and rechargeable battery packs provide an ideal solution when no local utilities are available
- Full PLC control available with all common communication protocols supported



SUBSEA SYSTEMS

are suitable for the operation of either rotary or linear subsea valves and are available in either double-acting or spring-return configurations.

- Non-pressure compensated designs suitable for operation down to 150 m (492 ft)
- Pressure compensated designs suitable for operation down to 1,000 m (3,281 ft)
- All common ROV and diver override interface standards available



AUTONOMOUS SHUTDOWN VALVES (ASV)

are designed primarily for the operation of subsea PLEM valves used in CALM Buoy and similar tanker loading and offloading terminals. The ASV can also be employed in land based applications where external power is limited or unavailable.

- Fully automated fail-safe operation of subsea PLEM valves including automatic linebreak detection and valve shutdown
- Remote status monitoring, override control and in-situ diagnostics
- Significantly reduced risk of pollution and loss of sealine inventory when compared to all competing system designs
- Fully self-contained subsea system able to operate 5 to 7 years before requiring battery replacement



GLOBAL ONSHORE & OFFSHORE SUPPORT

is available from a dedicated team of certified Paladon Systems onshore and offshore site engineers. They specialise in all site activities from installation of new equipment, to modification and servicing of existing equipment irrespective of the original supplier.

- Installation of electric, pneumatic and hydraulic valve actuators
- Calibration and testing
- Refurbishment and resealing
- Hydraulic flushing
- On-site modifications
- On-site support and supervision
- Site surveys of actuated valve installations



A NEW FOCUS

Since 2018 Paladon Systems is refocusing their Italian and UK operations.

The Italian facility will focus on the manufacture of all the following valve automation technologies for all international projects:

- All actuator types
- All pneumatic and hydraulic control systems
- Electro-hydraulic on/off and positional systems
- Gas-over-oil actuator systems
- Direct gas actuator systems
- Subsea actuators
- Turbine bypass systems
- Hydraulic power units
- HIPPS



The UK facility will focus geographically with all the following bespoke valve automation technologies:

- Electro-hydraulic on/off and positional systems
- Turbine bypass systems
- Hydraulic power units
- HIPPS
- Subsea systems including the Autonomous Shutdown Valve (ASV)





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