

CONTROL SYSTEMS







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**.





WHAT MAKES OUR CONTROL SYSTEMS DIFFERENT?

Every Paladon Systems control system is bespoke; however, based on our 36 years' experience some of our key design considerations include:

- Minimizing pipe & wiring runs to reduce pressure drops, leak paths, vibration and the possibility of mechanical impact damage.
- Using manifolds wherever possible to reduce leak paths and overall system size and weight.
- Using low power electrical control components to reduce End User operating costs, the system's carbon footprint during operation and to allow for the use of integrated solar panels and rechargeable battery packs when appropriate.
 - Using industry leading electrical control components to provide End Users with unsurpassed communications for improved process control, and to allow for the implementation of preventive maintenance programs.
- Increasing accessibility to control components to simplify and reduce End User commissioning and maintenance costs.
- Using biodegradable fluid to reduce End User disposal costs and avoid any potential damage to the environment.
- Quality and pride in our work is reflected in every control system we design and supply. Compare the look of our control systems to our competitors and it becomes clear why we are different.





COMMON CONTROL SYSTEM TYPES

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.

Partial Valve Stroke Test Systems ensure maximum system reliability and process uptime. SMART diagnostic packages record a 'signature' of a system's health during commissioning. The results of all future partial valve stroking tests are compared against the 'signature' and any discrepancies are flagged to allow operators to take proactive corrective actions before a system's reliability reaches a point where it could affect process uptime.

- Manual and automatic partial valve stroke test supported.
- All common communication protocols supported including HART, Foundation Fieldbus, Bluetooth and Wi-Fi.
- Diagnostics package to permit implementation of cost effective preventive maintenance programs.

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.







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 100W.
- 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.

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.
- Topside and subsea designs.

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 low power requirements and zero power requirements when valves are static; results 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.









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.



Subsea Systems are suitable for the operation of either rotary or linear subsea valves and are available in either doubleacting 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.

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