

VALVE ACTUATION & CONTROL



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Carbon Steel &  
316 Stainless Steel

**ACTUATORS  
& GEARBOXES**

## Company

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VALVE ACTUATION & CONTROL

We lead, actuate  
and control  
**unlike any other**

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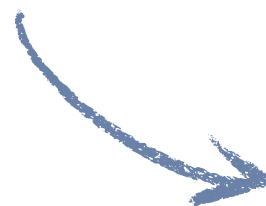
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**COMPLETE VALVE  
ACTUATION  
AND CONTROL**



Headquarters in Italy  
Castell'arquato

# Certifications are our product guarantee

## Since its foundation in 2002

PRO CONTROL has been dedicated to sustainable progression and continuous development, as well as innovation and growth. With over 20 years of experience in delivering customized technologies to industries including Oil & Gas, Petrochemical, Mining, Minerals, and Renewable Energy, PRO CONTROL has emerged as an international leader. Today, we offer comprehensive solutions for valve actuation and control requirements, as well as HIPPS systems integration. Given the overall safety challenges and high-risk operations inherent in these industries, technical expertise and firsthand experience are essential to ensuring better, faster, and safer operations at all times. Our commitment to sustainability and quality assurance is reflected in our internal integrated systematic process, which determines whether our products and services meet customer and project specified requirements, while also establishing and maintaining set standards for developing or manufacturing reliable products. The PRO CONTROL product range is engineered for maximum efficiency and reliability in any environmental condition, meeting, at a minimum, the following international standards:

- PED 2014/68/EU mod. H1
- ATEX 2014/34/EU
- EAC CU-TR
- UKCA

PRO CONTROL's actuators are SIL3 certified by TUV, with full SAR and final integration SIL certification conducted internally by our team of TUV qualified and certified engineers. Our success is defined by the loyalty of our clients. To ensure we are well-equipped for future challenges, we consistently invest in strengthening our position in the global market and enhancing our product portfolio capabilities to better meet the needs of our customers. PRO CONTROL's organizational management system adheres to the following international standards:

- ISO 9001 Quality
- ISO 45001 Occupational Health and Safety
- ISO 14001 Environmental
- ISO 26000 Social Responsibility
- ISO 31000 Risk Management

Accountability is the essential component of our high-performing team and encourages each of us to take responsibility for continued growth, bringing value through our knowledge, skills and personality. The future begins today: with our visions, decisions and investments.

## Corporate Social Responsibility

PRO CONTROL has pursued ambitious growth through targeted investments, ensuring our continuous advancement. We take pride in the unwavering commitment of all our associates to conduct business with honesty and integrity, fully compliant with all relevant local and international laws. Our dedication to fostering a healthy work culture is unwavering. It is imperative that our employees feel valued, safe, and empowered to seize opportunities for personal and professional growth. We maintain a firm commitment to preventing occupational risks, constantly monitoring potential hazards, incidents, and unsafe behaviors. Scheduled inspections are conducted to continuously enhance the health and safety of all workers. We regularly review our policies to ensure they align with and effectively address the evolving global landscape. Our efforts are directed towards promoting an ethical culture within our workplace and among our business partners. Ethics, transparency, and customer commitment are the cornerstones of PRO CONTROL's journey. We adhere to all relevant legislation and uphold best practices, rejecting discrimination based on age, disability, gender identity, marital status, pregnancy, origin, religion, or sexual orientation.

Operating within a framework of equality of opportunity is our responsibility, and all employees are expected to support and uphold the principles of our commitment to equality, diversity, and inclusion. PRO CONTROL is actively engaged in safeguarding our local environment and prioritizes sustainable solutions in our operations. As your trusted partner, we assure you of our commitment to providing accurate product information and safe products. Social responsibility is ingrained in our ethos, and we continually strive to minimize the environmental impact of our operations. We persist in cultivating a culture grounded in our core values of **Teamwork, Respect, and Courage**. We not only assess the outcomes delivered by our team members but also pay close attention to the manner in which they are achieved, ensuring the consistent embodiment of these values in both professional and personal realms, whether within or beyond the company's walls. Our HSE & Social Responsibility Policy articulates our steadfast dedication to establishing a secure working environment for all employees. This commitment is reinforced by stringent health and safety protocols aimed at mitigating any potential adverse health impacts on our workforce.



Italian Headquarters

# the central HUB

DETAILED KNOWLEDGE OF THE PROCESS, EFFECTIVE PLANNING,  
INTEGRITY AND CLOSE COORDINATION, TO ENSURE  
ON TIME DELIVERIES

## Advanced project management for fast-track and speedy assistance

PRO CONTROL's integrated capacity management is geared towards continuous enhancement, optimization, and efficiency, standardizing planning and processes while leveraging all available resources and personnel skills to their fullest extent. Our operations, encompassing manufacturing and project management, are seamlessly integrated with our Sales and Technical departments, all orchestrated from our Headquarters in Italy, serving as the cornerstone of successful order execution. From initial planning, through engineering, production, and timely delivery, to comprehensive after-sales support, **PRO CONTROL** ensures robustly implemented strategies backed by dedicated support and global assistance for our customers. Our ability to manufacture and deliver ahead of schedule is facilitated by a tailor-made risk-based manufacturing process management system, honed over 20 years of manufacturing expertise. This system enables concurrent execution of multiple functions and activities, effectively managing risks and enhancing project performance in an inherently uncertain environment, considering risk both quantitatively and qualitatively.

As an integral part of our community, **PRO CONTROL** recognizes the importance of continuous engagement with the environment, actively contributing as a responsible participant. We place great value on the contributions of our suppliers, fostering enduring relationships with those who provide products and services that enhance our competitive edge, fostering mutual growth and development. Our commitment to sustainable, trust-based relationships is underscored by ongoing collaboration aimed at process improvement and delivering greater value to our partnerships.





## Awareness, Competence, Expertise

Collaboration, innovation, consolidation, and the pursuit of these objectives are pivotal milestones for **PRO CONTROL**, shaping our future endeavors. The skills and expertise of each team member are indispensable in enabling us to introduce groundbreaking technologies and solutions across a myriad of complex processes, propelling business growth and raising industry awareness. At the core of our strategy lies an integrated organizational philosophy, wherein we harness our collective skills and expertise to leverage each other's strengths and mitigate weaknesses. This collaborative synergy is made possible by the mutual respect and recognition shared among all involved parties, fostering a cohesive team dynamic. Our workforce at **PRO CONTROL** is characterized by a relentless drive towards objectives, with a laser focus on results, underpinned by genuine expertise and unwavering awareness.



# Integrated Engineering and Service

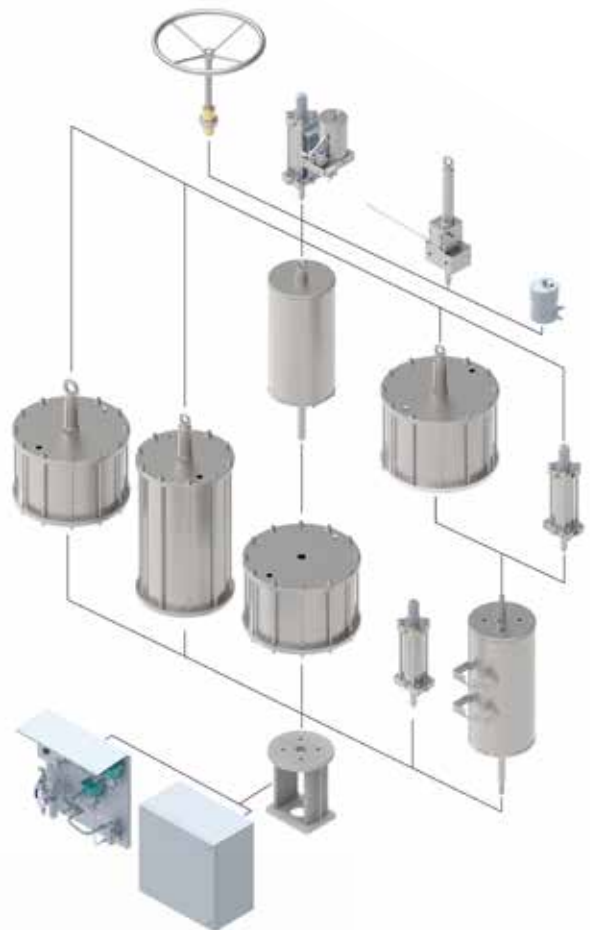
## Modular design philosophy

PRO CONTROL's engineering philosophy revolves around modularity, facilitating swift and seamless assembly and servicing operations. Our symmetrical drilled parts are designed to accommodate various components such as power cylinders, spring containers, manual overrides, and control systems, offering flexibility in meeting diverse operational requirements. This modularity enables rapid on-site changeovers if necessary.

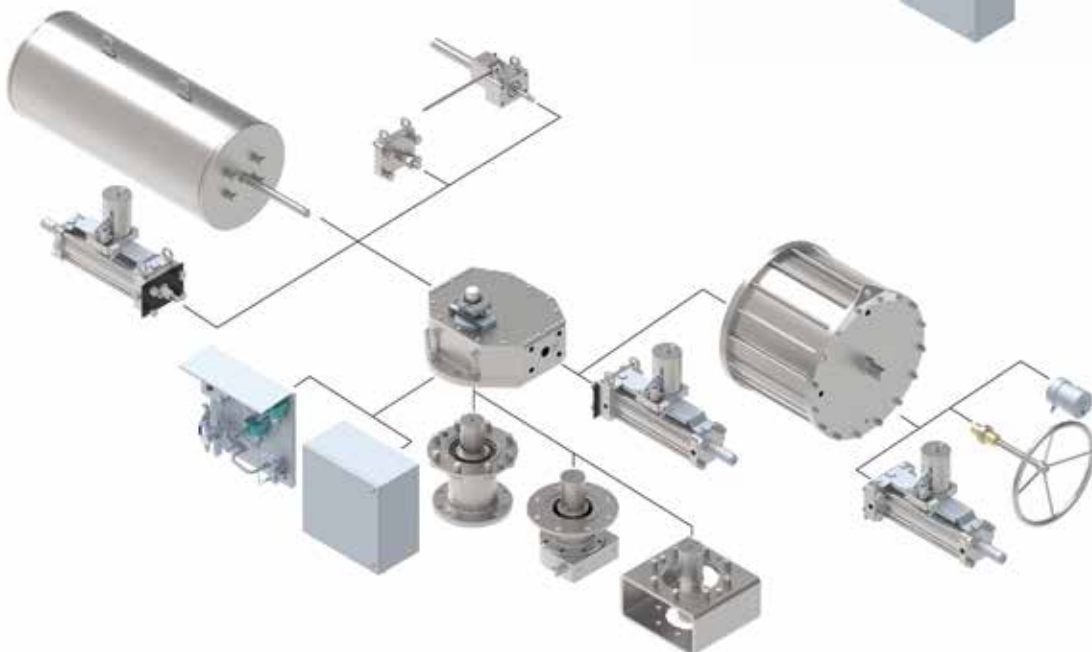
With a substantial inventory of finished and semi-machined components readily available, our actuators can be assembled, rigorously tested, and promptly shipped to our clients. This streamlined process ensures unparalleled delivery times, allowing us to meet our customers' needs efficiently and effectively. This forward-looking engineering philosophy not only underscores our commitment to providing practical solutions but also reflects our dedication to optimization and efficiency, contributing to sustainability.

By designing our products with modularity in mind, we empower our customers to adapt to evolving operational demands swiftly and efficiently, thus minimizing resource consumption and waste.

LINEAR ACTUATOR  
MODULES



QUARTER-TURN  
ACTUATOR MODULES







## Single source partner for start-up, commissioning, field services and system safety upgrades

PRO CONTROL serves as a comprehensive single-source partner, offering integrated service and engineering solutions with full on-site assistance, including commissioning. Our commitment extends throughout the entire lifecycle of the product, from sale and installation to commissioning. This unwavering dedication is upheld by our team of skilled engineers, who provide expert support in understanding and resolving even the most complex situations.

Backed by strong engineering expertise, PRO CONTROL actuators and control systems are customized to meet the specific requirements of both customers and plants, integrating safety solutions to enhance overall comfort and security. We pride ourselves on our ability to diagnose and swiftly resolve our customers' issues, whether it's installation, pre-commissioning, commissioning, troubleshooting, or routine maintenance. Our aim is to deliver prompt and precise service, recognizing that speed and accuracy are essential for optimal performance.

In any operation, accuracy is paramount for effective response. By thoroughly understanding the operational dynamics, processes, and associated risks of each plant, we are able to design tailored solutions that address unique challenges effectively. At PRO CONTROL, we are committed to providing unparalleled service and support, ensuring our customers' operations run smoothly and efficiently.

## Start-up of HPU (Hydraulic Power Unit) connected with actuated valves

At PRO CONTROL, we are committed to delivering exceptional support and solutions tailored to meet the unique requirements of each customer, ensuring optimal performance and satisfaction.

PRO CONTROL's experienced engineers collaborate closely with site surveyors to effectively address the needs of our customers. Reactivity, proactiveness, and proximity are among the core values we uphold in fulfilling our mission and achieving our objectives. Our comprehensive services encompass:

- CONTROL SYSTEM ASSEMBLY
- SYSTEM CALIBRATION
- FULL FUNCTIONAL TESTING
- PARTIAL STROKE SETTING & TESTING
- SYSTEM LEAKAGE TESTING
- TORQUE TESTING
- TOTAL CUSTOMER SITE SUPPORT
- PREVENTIVE MAINTENANCE PROGRAMS AND SPARE PARTS MANAGEMENT
- SITE SURVEY, ENGINEERING, AND SERVICING ON ALL BRANDS

# One-Stop Shop with HIPPS Integration

## Electronic HIPPS

- Not dependent field initiator location.
- 2oo3 pressure sensing voting logic.
- Interlocking manifold with automatic voting logic.
- Selection (2oo3 → 1oo2).
- Automatic & scheduled partial stroke test.
- Complete array of diagnostics.



## Dedicated engineering and full assistance at site until commissioning

PRO CONTROL High Integrity Pressure Protection System (HIPPS), are designed to safeguard downstream equipment in Gas, Chemical, and Oil Refinery plants from over-pressurization. Engineered and constructed in compliance with IEC 61508 and IEC 61511 standards, our HIPPS features bespoke PRO CONTROL SIL3 certified actuators, complete with a unique integrated quick exhaust valve and adjustable end-of-stroke damper device. These components ensure rapid stroking times and optimal valve drive train protection. PRO CONTROL is an ISO 9001 certified HIPPS integrator and solution provider, equipped with the expertise to engineer, manufacture, and deliver integrated HIPPS systems tailored to meet client specifications. Our offerings include both skid-assembled and standalone systems, meticulously crafted to ensure seamless integration and operation within client facilities. Our HIPPS systems comprise API6D/API6A Valves, Spring Return Actuators, Control Systems, Logic Solver, and Field Initiators. Depending on client preferences, these components can be supplied as individual items or pre-assembled on skids, connected through flanged pipes, pups, and block and bleed manifolds for ease of installation and maintenance.



## PRO CONTROL HIPPS

Operating at a higher Safety Integrity Level (SIL) than conventional Process Shut-Down (PSD) and Emergency Shut-Down (ESD) systems, our HIPPS feature Logic Solvers that can be programmable or Solid State SIL3 or SIL4 certified. HIPPS systems serve as an essential barrier between high-pressure and low-pressure sections within installations. By promptly shutting off the upstream high pressure before it exceeds the downstream system design pressure, HIPPS prevents loss of containment through rupture and explosion. These systems are indispensable for reducing the risk profile of a plant, safeguarding both human life and the environment. Our HIPPS solutions offer added peace of mind through features such as Partial Stroke Testing (PST). This can be effortlessly performed using a dedicated auto-reset direct-acting solenoid valve, with remote position feedback provided by a limit switch or a 4-20mA signal.



## Mechanical HIPPS

- Standalone assembly.
- Simpler & independent operation.
- Fit for purpose / Plug & Play.
- Integrated Pressure Sensing / Logic Solver.
- No electrical wiring.
- Lower total cost of ownership.



# Oil & Gas Industry applications



Full 316SS HPU (Hydraulic Power Unit) complete with Accumulator for Linear Hydraulic Double Acting actuator for North Sea Offshore Installation



**316SS**  
stainless steel actuator



**CORROSION UNDERMINES PLANT OPERATIONS AND SAFETY BY WEAKENING EQUIPMENT INTEGRITY AND POTENTIALLY LEADING TO FAILURES. 316 STAINLESS STEEL OFFERS SUPERIOR RESISTANCE TO CORROSION, ENSURING PROLONGED EQUIPMENT LIFESPAN AND ENHANCED SAFETY MEASURES.**

## 316 Stainless Steel Actuators and Gearboxes

PRO CONTROL technologies are engineered to excel in challenging environments, prioritizing worker safety and plant integrity. Our actuators and control systems are built to withstand freezing arctic conditions, extreme temperatures, dust, electromagnetic interference, coastal and hot humid marine environments, and more, all while maintaining peak performance.

In our commitment to continuous improvement, we offer alternative materials of construction, including our complete product range crafted from 316 Stainless Steel. This material, renowned for its corrosion resistance, is the optimal choice for highly corrosive environments. Not only do PRO CONTROL 316 Stainless Steel actuators and gearboxes enhance plant safety, but they also contribute to reducing carbon footprints by minimizing the need for chemical coatings. Additionally, they significantly lower regular field maintenance costs from an operational and production standpoint. Complementing our bespoke actuators, PRO CONTROL offers a comprehensive range of control systems for valve automation.

From simple pneumatic panels to sophisticated Control Stations and Hydraulic Power Units (HPU) capable of managing singular or multiple actuators simultaneously, we provide tailored solutions to meet diverse automation needs.

## Offshore, FPSO, Onshore, Pipelines and Petrochemical

The PRO CONTROL product line features high-grade Carbon Steel and 316 Stainless Steel actuators and gearboxes, tailored for demanding applications in harsh environments. Our actuators and control systems are meticulously engineered to seamlessly operate a wide range of valves, ensuring uninterrupted plant operation and peak efficiency.

# The benefits of 316 Stainless Steel in Offshore and Marine applications

## Impactful decisions

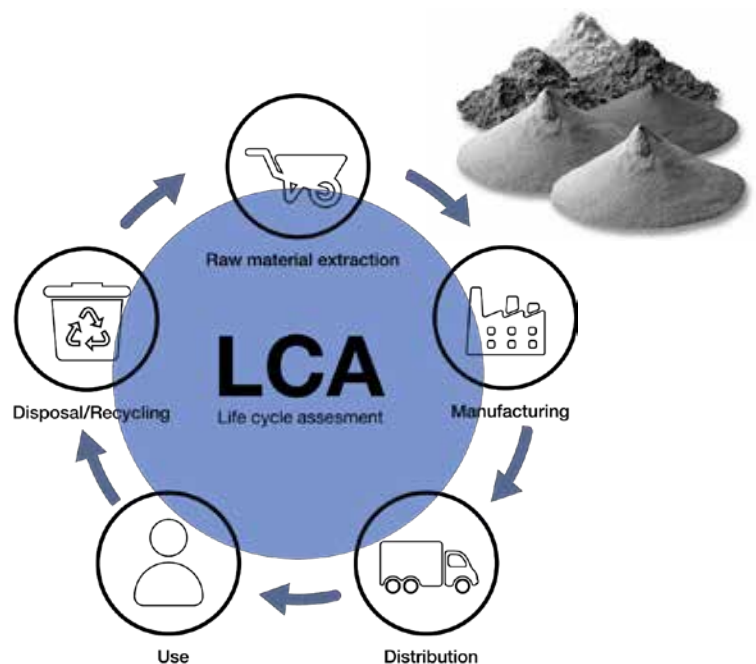
Offshore Oil and Gas production and severe service applications present a myriad of challenges that demand meticulous materials selection for critical equipment. Reliability is paramount: any downtime can result in significant financial losses and environmental risks.

The unique conditions prevalent in various offshore regions and critical applications, necessitate tailored approaches to ensure operational efficiency, safety, and longevity of equipment. To address this, the industry has long relied on materials that can withstand harsh environmental conditions, with 316 stainless steel (316SS) emerging as a preferred choice. Let's delve into the factors influencing materials selection for critical equipment in the offshore industry, emphasizing their distinct environmental conditions and their impact on Mean Time Between Failures (MTBF) analysis.

316 Stainless Steel is often considered as a material for critical equipment in offshore Oil and Gas platforms due to several key properties that make it highly suitable for such applications:

- **Corrosion Resistance:** one of the most significant advantages of 316SS is its excellent corrosion resistance, particularly where exposure to seawater, salt, and corrosive chemicals is prevalent. The presence of molybdenum enhances its resistance to pitting and crevice corrosion, making it ideal for components exposed to corrosive conditions.
- **Strength and Durability:** 316SS offers good mechanical properties, including high tensile strength, toughness, and durability, making it capable of withstanding the demanding conditions encountered in offshore operations. Its strength and toughness ensure the integrity and reliability of critical equipment, such as piping systems, valves, actuators, and gearboxes, even under high-pressure and high-temperature conditions.
- **Cleanliness:** in offshore Oil and Gas production, maintaining cleanliness and hygiene standards is essential, especially in facilities where hydrocarbons are processed or in presence of biofouling.
- **Compatibility with Regulatory Standards:** offshore Oil and Gas operations are subject to stringent regulatory standards and requirements aimed at ensuring safety, environmental protection, and operational reliability. 316SS complies with industry standards and specifications for material performance and reliability, making it a preferred choice for critical equipment where compliance with regulatory requirements is paramount.

316 Stainless Steel has a long history of successful use in many industries and applications, with a proven track record of reliability and performance. Its widespread adoption and acceptance by industry professionals and regulatory bodies reinforce its reputation as a trusted material for critical equipment in offshore environments and severe service applications. Among the various options available, 316 Stainless Steel stands out as a cornerstone material due to its remarkable properties and sustainability advantages, in fact its significance extends beyond its mechanical properties: one of the often-overlooked aspects of 316 Stainless Steel is its contribution to sustainability. Not only it is highly durable and corrosion-resistant, but it is also 100% recyclable in its original form. This characteristic makes it an integral part of the circular economy, where materials are reused, reducing the need for virgin resources and minimizing environmental impact. The composition of 316 Stainless Steel, rich in chromium, nickel, and molybdenum, renders it valuable and recyclable. Efficient collection and recycling processes ensure that end-of-life 316 Stainless Steel products can be transformed into new materials with minimal energy consumption and waste generation.





## Unlocking Sustainable production with Additive Manufacturing: Our forward-looking perspective

Additive manufacturing, or 3D printing, has emerged as a promising avenue for sustainable production. When applied to metals like 316 Stainless Steel, additive manufacturing offers several sustainability benefits. By building components layer by layer, it reduces material usage and energy consumption compared to traditional subtractive manufacturing methods. Additionally, additive manufacturing enables the creation of complex geometries and customized designs, optimizing part functionality and minimizing material requirements. This capability not only enhances product performance but also reduces material waste during production, making it ideal for Life Cycle Assessment (LCA).

This innovative approach, now integrated into our Hydraulic High-Pressure Compact Manifold for hydraulic actuator control systems, is revolutionizing the industry landscape. At PRO CONTROL, we've embarked on a journey to redefine traditional manufacturing paradigms, leveraging additive manufacturing to pioneer compact manifold solutions. These solutions, tailored for both low and high flow capacity circuits, not only exemplify our commitment to continuous improvement but also embody our dedication to sustainability. The decision to embrace additive manufacturing stemmed from our core belief in enhancing product efficiency while minimizing environmental impact. Before employing additive manufacturing, we've managed to streamline our standard manifold design, significantly reducing the number of fittings and potential hydraulic leak points in the field with an engineered compact design. But our quest for innovation didn't end there. We sought to push the boundaries further, exploring avenues to shrink dimensions and shed weight from our manifold build. The result was a groundbreaking achievement, with over a 60% reduction in weight and dimensions.

Through Powder Bed Fusion (PBF), we've unlocked a fast, high-quality printing process that aligns seamlessly with our sustainability objectives. The PBF process initiates with the creation of a 3D model, meticulously sliced into discrete layers. Each layer is then meticulously bonded atop the other, culminating in a finished product of exceptional quality and precision. The benefits of Powder Bed Fusion printing are multifaceted: not only does it minimize material wastage and cost, but it also facilitates rapid prototyping and low-volume production. Furthermore, it enables the construction of functionally graded parts, offering unparalleled customization and flexibility. The efficient recycling of un-melted powder further underscores its eco-friendly credentials, while the reduction in machining fixtures signifies a streamlined and resource-efficient production process. In tandem with our commitment to innovation, we adhere to the highest additive manufacturing standards, including API STD 20S and DNV ST-B203. These standards ensure the integrity and reliability of our products, aligning seamlessly with our ethos of excellence and sustainability. Moreover, our adoption of additive manufacturing isn't just about redefining manufacturing processes; it's about transforming metal scrap into metal powder, forging a sustainable and **circular economy**. By harnessing innovative technologies, we're not only revolutionizing manufacturing but also contributing to a greener and more sustainable future. Additive manufacturing represents a paradigm shift in manufacturing, offering a sustainable and forward-looking approach to production.

At PRO CONTROL, we're proud to spearhead this transformation, leveraging additive manufacturing to deliver forward-looking solutions that redefine industry standards while minimizing environmental impact.

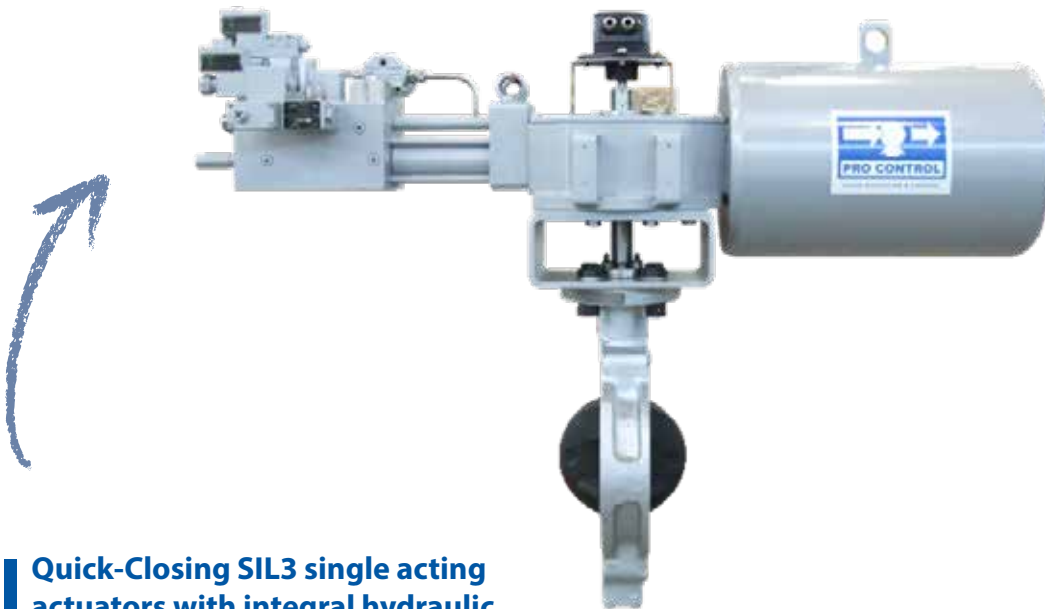


**3D PRINTED  
High Pressure Hydraulic  
Control Manifold**

# Operational Efficiency and Safety in Power Generation applications

## Precise, continuous and trouble free operations

In the dynamic realm of power generation, swift and precise control stands as the cornerstone of operational efficiency and safety. At the forefront of our offerings are the Quick-Closing SIL3 certified single acting actuators, meticulously designed with integral quick-damping solutions. These state-of-the-art systems enable ultra-fast valve shutdowns, boasting stroking times of up to 0.099 seconds. By swiftly arresting valve movement, these actuators safeguard against potential damages to the valve drive train, ensuring unparalleled reliability and longevity in power generation processes. In an industry where seamless operation is imperative, **PRO CONTROL** delivers versatile technologies tailored to accommodate both local and remote modes of operation. With a focus on precision, and risk mitigation, our solutions empower plants to maintain continuous and trouble-free operations, minimizing downtime and maximizing efficiency.



**Quick-Closing SIL3 single acting actuators with integral hydraulic quick-damping solutions to shutdown valves in stroking time up to 0,099 seconds, avoiding damages to valve drive train**

# Tackling Severe Service challenges in Mining and Metals operations



## Hydraulic actuators, along with Hydraulic Power Units(HPU), designed to operate multiple actuators simultaneously

PRO CONTROL offers tailored solutions designed to meet the unique demands of valve operation in both slurry pipeline operations and metals processing applications. In slurry pipeline operations, PRO CONTROL's heavy duty high-torque actuators, paired with PRO CONTROL's Hydraulic Power Units (HPU), provide the necessary power and precision to operate valves effectively in challenging environments and remote areas, ensuring smooth and reliable performance despite the harsh conditions. Similarly, in metals processing applications, where corrosive substances and extreme temperatures are prevalent, PRO CONTROL's advanced control systems and actuators are indispensable. These solutions are engineered to withstand the rigors of metal transport and processing, offering exceptional durability and reliability to keep operations running smoothly. Whether it's controlling the flow of abrasive slurries or regulating the movement of molten metals, with a focus on sustainability, performance, efficiency and safety, PRO CONTROL ensures optimal valve operation in even the most demanding industrial settings. PRO CONTROL's HPUs are designed to accommodate various configurations and additional features including accumulators, redundant pumps or controls, and multiple prime movers, such as solar-powered, to provide backup for traditional electrical drives. With PRO CONTROL's comprehensive range of HPU options, customers can rest assured knowing their critical operations are backed by reliable and adaptable power solutions.

# Featured items

## 316 stainless steel actuators

Technical features	
Construction	Scotch yoke Compact / Heavy duty
Action	Spring return / Double acting
Material	AISI 316 Stainless steel
Valve application	On-Off / Modulating / HIPPS Quarter-Turn / Linear Pneumatic / Hydraulic
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Torque	Quarter-Turn Nm 2.000.000
Thrust	Linear N 10.000.000
Temperature range	°C -29°/+100° (F°-20°/+212°) °C -60° (F°-76°) on request
Design pressure	Pneumatic Barg 12 Hydraulic Barg 250 (Barg 690 on request)
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3

### Advanced solutions for valve operation in the harshest applications

**PRO CONTROL** solutions are engineered to meet the harshest applications to overcome severe service and highly corrosive environments challenges, while operating at full capacity, fully aligned with IOGP JIP33 requirements and compliant to the most relevant industry standards such as ISO12490, EN15714, ASME VIII and API6DX. Sustainable success is based on long-term vision and innovative strategy with clear commitment towards no brainer solutions: our product range includes full 316 Stainless Steel actuators and gearboxes, currently the most efficient response to highly corrosive environments. Count on us for robust, reliable products that ensure uninterrupted operations, crucial for the success of your projects.

**PRO CONTROL** offers a range of quarter-turn and linear actuators in 316 Stainless Steel, ideal for a wide array of applications delivering exceptional performance prioritizing sustainability, contributing to lower the plant's carbon footprint, while minimizing life cycle costs.



## 316 stainless steel gear boxes



### Features

- Zero maintenance and self-locking movement;
- Blind tapped threaded connection, absence of a cover plate;
- Dome water run off position indicator;
- Graduated Open & Close rotation scale;
- Input shaft axial needle roller thrust bearings;
- Aluminum bronze quadrant rotation bushings with O-ring sealing
- O-ring sealed position indicator, o-ring sealed lower modular mounting flange;
- IOGP S-562 / API6D 25th Ed. compliant;
- Stainless steel SS316 Grease injection nipples on gear housing and position indicator quadrant shaft void;
- Stainless steel SS316 housing overpressure relief valve;
- Limit switch box standard Namur drive slot located in the position indicator, standard predrilled for limit switch mounting (assembly kit supplied if requested);
- Pad-lockable hand wheel and fluorosilicone O-rings.

Technical features	
Material	AISI 316 Stainless steel
Valve application	On-Off
Torque	Up to Nm 16.000
Stroke range	0-90° (+/- 5° adjustable)
Temperature range	°C -29/+100° (F°-20/+212°) °C -60° (F°-76°) on request
IP Protection	IP66/67/68 TÜV Tested & Certified
Padlockable flange	Yes

## Enhanced corrosion resistance through Electropolishing

Electropolishing, according to ASTM B912, stands out as an effective method for shielding 316 Stainless Steel surfaces as it meticulously eliminates surface imperfections like burrs and pits: such imperfections can serve as initiation points for corrosion, especially in areas with elevated salinity. By eradicating these flaws, electropolishing fosters a smoother and more homogeneous surface, curbing the likelihood of corrosion initiation. The corrosion resistance and surface integrity imparted by electropolishing contribute to the long-term durability of 316 Stainless Steel actuators and gearboxes even in the most aggressive offshore environments. The corrosion resistance and surface integrity imparted by electropolishing contribute to the long-term durability of 316 Stainless Steel actuators and gearboxes even in the most aggressive offshore environments.



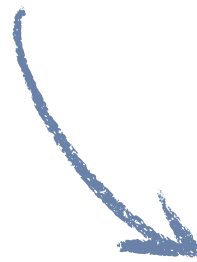
# Featured items

## Squash 316 stainless steel actuators

Introducing **PRO CONTROL** Compact Squash Actuator Series, designed to tackle restricted space challenges in harsh marine and splash zone environments. Crafted in 316 Stainless Steel to ensure maximum resistance, our Squash series actuators provide a reliable solution for applications where reliability on demand is paramount. With an IP67M protection rating, these actuators are ready to withstand even the toughest situations. In order to face the constant operational demands in offshore installations, which require reliable low maintenance and trouble free operation of actuated valve solutions, **PRO CONTROL** brings to market its innovative 316 Stainless Steel API 6DX Compact thrust to torque Squash design series actuators, which complement our current range of 316 Stainless Steel Scotch Yoke actuators and 316 Stainless Steel offshore gearboxes and redefine clients OPEX costs.

Offshore installations face relentless environmental challenges, particularly harsh and corrosive conditions that threaten equipment integrity, and it's pretty obvious that material selection becomes paramount. Unlike conventional materials, 316 Stainless Steel ensures longevity, reliability and peace of mind at a fraction of the life cycle costs of conventional products, making it the material of choice for safeguarding critical assets against corrosion and lost revenue. At the heart of **PRO CONTROL**'s latest Squash series solutions lies an in depth review of current compact design actuators in order to present Operators and Contractors with an evolved and improved heavy duty application product crafted from 316 Stainless Steel boasting constant high torque output, true rotary positioning features and enhanced operational efficiency. The benefits of **PRO CONTROL**'s 316 Stainless Steel Squash series actuators extends beyond space-saving advantages. They offer peace of mind, enabling our customers to challenge the demanding offshore industry with confidence.

Technical features	
Construction	Compact Squash design Pneumatic / Hydraulic
Action	Spring return / Double acting
Material	AISI 316 Stainless steel
Valve application	Quarter-Turn +/-5° travel adjustment
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Torque	Nm 150.000
Temperature range	°C -29/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Pneumatic Barg 12 Hydraulic Barg 250
IP Protection	IP66/67M
ATEX	Yes
PED	Yes
SIL Capability	3



# Optimizing space constraints with Squash Actuator series







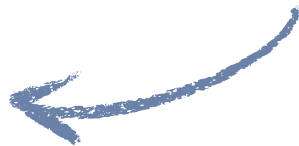
# Featured items

## Customized actuators

In the realm of larger diameter and high pressure class applications, Gate and Globe valves encounter formidable operational challenges, necessitating robust and reliable actuation solutions. To address these demands while prioritizing innovation and bespoke design, **PRO CONTROL** introduces its Heavy-Duty High-Thrust Output Multi-Spring Actuator.

At **PRO CONTROL**, innovation is the key to transforming complex goals into simplified solutions that create value. Our Heavy-Duty High-Thrust Output Multi-Spring Actuator exemplifies this philosophy by offering unique bespoke design solutions tailored to meet specific customer needs. Unlike standard executions, our Multi-Spring executions are entirely bespoke designed and meticulously engineered to address the precise requirements of each application, ensuring optimal performance and reliability. Our commitment to innovation and bespoke design enables us to deliver tailored solutions that exceed expectations and add value to every project.

Technical features	
Configuration	Multi-Spring Pneumatic / Hydraulic
Material	Carbon steel / AISI 316 Stainless steel
Valve application	Rising Stem Gate, Globe, Ball valves
Design	ASME VIII Div.1 and EN13445
Actuator Thrust Output	3.000.000 N and over Spring Starting Thrust up to 2.500.000 N
Temperature range	°C -29°/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Pneumatic Barg 12 Hydraulic Barg 400
IP Protection	IP67/68 spring / power cylinder enclosures
ATEX	Yes
PED	Yes
SIL Capability	3



# Multi-Spring Actuators for Larger Diameter and High Pressure Class Valve Applications

# Pneumatic actuators

## Compact Quarter-Turn pneumatic actuators

**SPS-K  
SPD-K**

● Series



### Technical features

Construction	Scotch yoke
Action	Spring return / Double acting
Material	Carbon steel / Stainless steel
Valve application	On-Off / Modulating
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Torque	Up to Nm 1.000
Temperature range	°C -29°/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 12
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3

### NO CAST IRON OR ALUMINUM COMPONENTS

PRO CONTROL compact actuators series has been designed to achieve the lowest overall dimension and weight with many significant cost and performance benefits.

## Quarter-Turn pneumatic actuators

**SPS  
SPD**

● Series



### Technical features

Construction	Scotch yoke heavy duty
Action	Spring return / Double acting
Material	Carbon steel / Stainless steel
Valve application	On-Off / Modulating / HIPPS
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Torque	Nm 2.000.000
Temperature range	°C -29°/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 12
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3

### CONSTANT PRESSURES & HIGH CYCLE CONTINUOUS USE

Regardless of how excessive the use of the application is, PRO CONTROL quarter-turn pneumatic actuator SPS-SPD Series can sustain constant pressures and are the perfect choice for high cycle continuous use.

## Linear pneumatic actuators

LPS  
LPD  
● Series



### Technical features

Construction	Linear
Action	Spring return / Double acting
Material	Carbon steel / Stainless steel
Valve application	On-Off / Modulating / HIPPS
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Thurst	N 3.000.000
Temperature range	°C -29°/+100° (F°-20°/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 12
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3

### OPTIMAL MAXIMUM PRESSURE RATINGS

PRO CONTROL linear pneumatic actuators LPS-LPD Series have optimal maximum pressure ratings which allow for a high range of output forces.



# Hydraulic actuators

## Compact Quarter-Turn hydraulic actuators

**SHS-K**  
**SHD-K**

● Series



### Technical features

Construction	Scotch yoke
Action	Spring return / Double acting
Material	Carbon steel / Stainless steel
Valve application	On-Off / Modulating
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Torque	Up to Nm 1.000
Temperature range	°C -29°/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 250 (Barg 690 on request)
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3

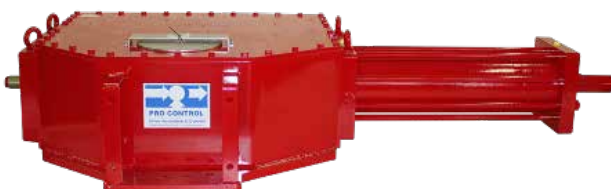
### NO CAST IRON OR ALUMINUM COMPONENTS

PRO CONTROL compact actuators series has been designed to achieve the lowest overall dimension and weight with many significant cost and performance benefits.

## Quarter-Turn hydraulic actuators

**SHS**  
**SHD**

● Series



### Technical features

Construction	Scotch yoke heavy duty
Action	Spring return / Double acting
Material	Carbon steel / Stainless steel
Valve application	On-Off / Modulating / HIPPS
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Torque	Nm 3.000.000
Temperature range	°C -29°/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 250 (Barg 690 on request)
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3

### HIGH FORCES AND SPEED

PRO CONTROL Quarter-Turn hydraulic actuators SHS-SHD Series can generate very high forces and speed and are ideal for critical valve applications.



## Linear hydraulic actuators

LHS  
LHD

Series



### Technical features

Construction	Linear
Action	Spring return / Double acting
Material	Carbon steel / Stainless steel
Valve application	On-Off / Modulating / HIPPS
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Thrust	N 10.000.000
Temperature range	°C -29°/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 250 (Barg 690 on request)
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3

### HIGH SPEED & ACCURACY

PRO CONTROL linear hydraulic actuators LHS-LHD Series are the perfect match to generate very high speed with smooth and precise valve operation.



# Electro-Hydraulic actuators & HPU

## Electro-Hydraulic actuators

### ENGINEERED COMBINATION

Engineered combination of actuators and a self-contained power unit to provide operation and control, the self-contained electro-hydraulic actuators are independent from pipeline pressure power source and they do not exhaust any gas to the atmosphere.



### Technical features

Construction	Self-Contained / Skid mounted unit
Action	Spring return / Double acting
Material	Carbon steel / Stainless steel
Valve application	Quarter-Turn / Linear On-Off / Modulating / HIPPS
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Torque / Thrust	Nm 2.000.000 Nm / N 10.000.000
Temperature range	°C -29°/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 250 (Barg 690 on request)
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3

### Features

- Hydraulic mineral or biodegradable oil.
- PLC or relay based control logic.
- Electric motor or diesel pumps.
- Typical power range from 1.1 Kw up to 4 Kw
- and from 1000-3000 turns in single and three phases.
- Hydraulic accumulator (bladder or piston type) sized based on client demand for numbers of required powerless strokes.
- Remote & Local Open / Close.
- Pressure / Voltage / Level / Pressure alarm.
- Electronic pressure transmitter (4-20Ma).
- The HPUS can include accumulators, redundant pumps
- or controls, and the multiple prime movers can be Solar-Powered or Gas-Powered pumps to back-up traditional electrical drives.

## HPU Hydraulic power units



### CRITICAL APPLICATIONS

When supporting critical applications it is essential to understand and decode customer requirements in order to supply bespoke solutions and ensure the highest performance.



### Technical features

Construction	Skid mounted unit / Open type / Closed type
Employed Materials	Carbon steel / Stainless steel / Cast iron
Valve application	As per actuator category
Design	As per project requirements
Temperature range	As per project requirements
Design pressure	As per project requirements

### Features

- ESD Capability for "Emergency-Shut-Down" services.
- Remote & Local PST "Partial Stroke Test" and operation capability.
- Various electric motor pump voltages available.
- Pressure & Voltage alarms.
- Electronic pressure transmitter (4-20Ma).
- Position Feedback-Device (4-20 Ma) and / or switches.
- All control signals available by 24Vdc hardwire contacts and / or by integrated software solution.
- LCD display for easy calibration Position & Diagnostic.
- Oil-Level-Protection.
- Hydraulic energy stored in high pressure compact accumulators.
- Automatic fail safe in case of electric power failure.

# Gas operated actuators

**SGO  
LGO**

● Series

**SGS-SGD  
LGS-LGD**

● Series



## Features

- Gas-Hydraulic tanks and weatherproof lockable cabinet.
- Basic control system.
- Hydraulic hand pump for emergency control.
- Remote and ESD operation by solenoid valves or different type of line break detection.

### BESPOKE SOLUTIONS FOR TRANSMISSION PIPELINES

**PRO CONTROL** Gas-Over-Oil actuators **SGO-LGO** Series are used on gas transmission pipelines, with sweet or sour gas, due to the non availability of any other means of motive power.

### Technical features

Construction	Quarter-Turn / Linear
Action	Double acting
Material	Carbon steel / Stainless steel
Valve application	On-Off
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Torque / Thrust	Nm 2.000.000 / N 10.000.000
Temperature range	°C -29/+100° (F°-20/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 100 (Barg 150 on request)
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	On request

# Self-Contained hydraulic shutdown systems

## UNMANNED AND REMOTE SERVICES

PRO CONTROL Self-Contained hydraulic control systems are engineered to suit unmanned and remote services where external power source is not available, no exhaust gas is released into the atmosphere during operation.



## Features

- Zero emission solution, no hazardous gas fugitive emission.
- No need of external power source.
- Designed for Non-Powered, unmanned and remote service.
- Adaptable for use with telemetry systems.
- SCADA or other remote control signals.
- Inherent spring fail safe design.
- Closed loop arrangement prevent system breathing in harsh environmental conditions.
- Large capacity accumulator to handle fast operating time due to optimized design of hydraulic flow path.
- Designed to meet a large range of engineering standards in order to supply one or several actuated valves.

## Technical features

Construction	Modular Self-Contained
Action	Spring return
Material	Carbon steel / Stainless steel
Valve application	Quarter-Turn / Linear
Design	ISO 12490 / API 6DX / EN15714 / ASME VIII
Temperature range	°C -29°/+100° (F°-20°/+212°) °C -60° (F°-76°) on request
Design pressure	Barg 250 (Barg 690 on request)
IP Protection	IP66/67M
ATEX	Yes
EAC CU TR	Yes
PED	Yes
SIL Capability	3



# Control systems

## Actuator control panels

### Features

Control systems are generally an integral part of each PRO CONTROL actuator. They are individually engineered according to our clients specific Functional & Operational requirements.



PRO CONTROL'S DEDICATED ENGINEERS HAVE ATTENDED SPECIFIC TRAINING COURSES ON PROPRIETARY TUBE & FITTING PREPARATION



## Actuator weatherproof cabinets



### Features

For the most corrosive, saline and sandy environments, control system components are recommended to be assembled inside weatherproof control cabinet which are available in stainless steel [SS316 GRADE] or GRP material. The control cabinet is also available with transparent inspection shatter-proof window or can be coated in accordance with customer specific coating systems.

Cabinets are weatherproof rated IP66 (or NEMA 4x) and are generally supplied complete with a blind door with Twin-Comb mapping locks with external parts in SS316. The SS316 hinged door allows a 120° opening as per CEI EN 60204-1.



## Actuator modular manifolds



### Features

PRO CONTROL is a manufacturer of bespoke compact pneumatic & hydraulic manifold control systems. Control system components can be typically assembled onto an open stainless steel [SS316L GRADE] back plate complete with a robust Sun-Shade protection roof, mounted on board the actuator or suitable for remote mounting. In order to minimize all potential leakage points across control system components, fittings and tubing, PRO CONTROL has designed compact manifold solutions, suitable for both low up to high flow capacity circuits.

Manifold solutions provide the availability to utilize different brands for solenoid valves and to provide all demanded local functionalities.



CAN YOU IMAGINE WHAT THIS WOULD LOOK LIKE IF BUILT TRADITIONALLY?

# Actuator accessories

## Passive fire protection



### Features

Passive fire protection is a key element in hydrocarbon process industry plant safety and it is considered a reliable method of lowering plant risks. **PRO CONTROL** actuators can be provided with suitable fireproof protection (rigid SS boxes, flexible blankets or intumescent coating) that will guarantee safe working conditions for a significant period of time, in temperatures of over 1100°C, engineered in accordance with market standards (as per UL1709).

## PROLOCK mechanical blocking & PST device



### Features

Dec clutchable mechanical blocking device to allow a Pre-Set Valve & Actuator partial stroke of approximate 20 Degrees. During normal operation the Prolock System allows the valve to ESD on demand. When a partial stroke test (PST) is required, the PROLOCK is "engaged" and the ESD Valve will only travel to the specified percentage of stroke required. Being a mechanical travel limiter, **PRO CONTROL** Prolock does not introduce any chance of a spurious trip. Prolock is vibration resistant, it is mounted between the valve and the actuator.

## Hydraulic dampers



### Features

**PRO CONTROL** has created the hydraulic damper series bearing in mind the users interests and engineering requirements in order to reduce surge pressure hammer blow, resulting from rapid valve closure, typical of Non-Return valves. The working principle consists in the dissipation in oil of the energy generated by the valve disc during its Closing / Opening movement.

- Compact solution consisting of a fully enclosed cylindrical rotational device, ideally suited for Heavy-Duty operation which allows our clients long maintenance free periods due to Non-Exposed rotating components.
- The bespoke designed hydraulic chamber cavities allow an easy and efficient drainage of hydraulic fluid from one chamber to the other through an interconnecting manifold.
- The interconnecting manifold has an incorporated flow regulator for fine throttling and different speed settings across the valve stroke.
- Several models available to cover all swing check valves and eccentric butterfly valves with no dimensions or torques limitation.
- For butterfly valves it is possible to fit the damper with an eccentric counterweight to reach the complete closure of the terminal part.

#### Technical features

Material	Carbon steel / Stainless steel
Valve application	Quarter-Turn
Torque	Up to Nm 500.000
Temperature range	°C -29°/+100° (F°-20°/+212°) °C -60° (F°-76°) on request





VALVE ACTUATION & CONTROL

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