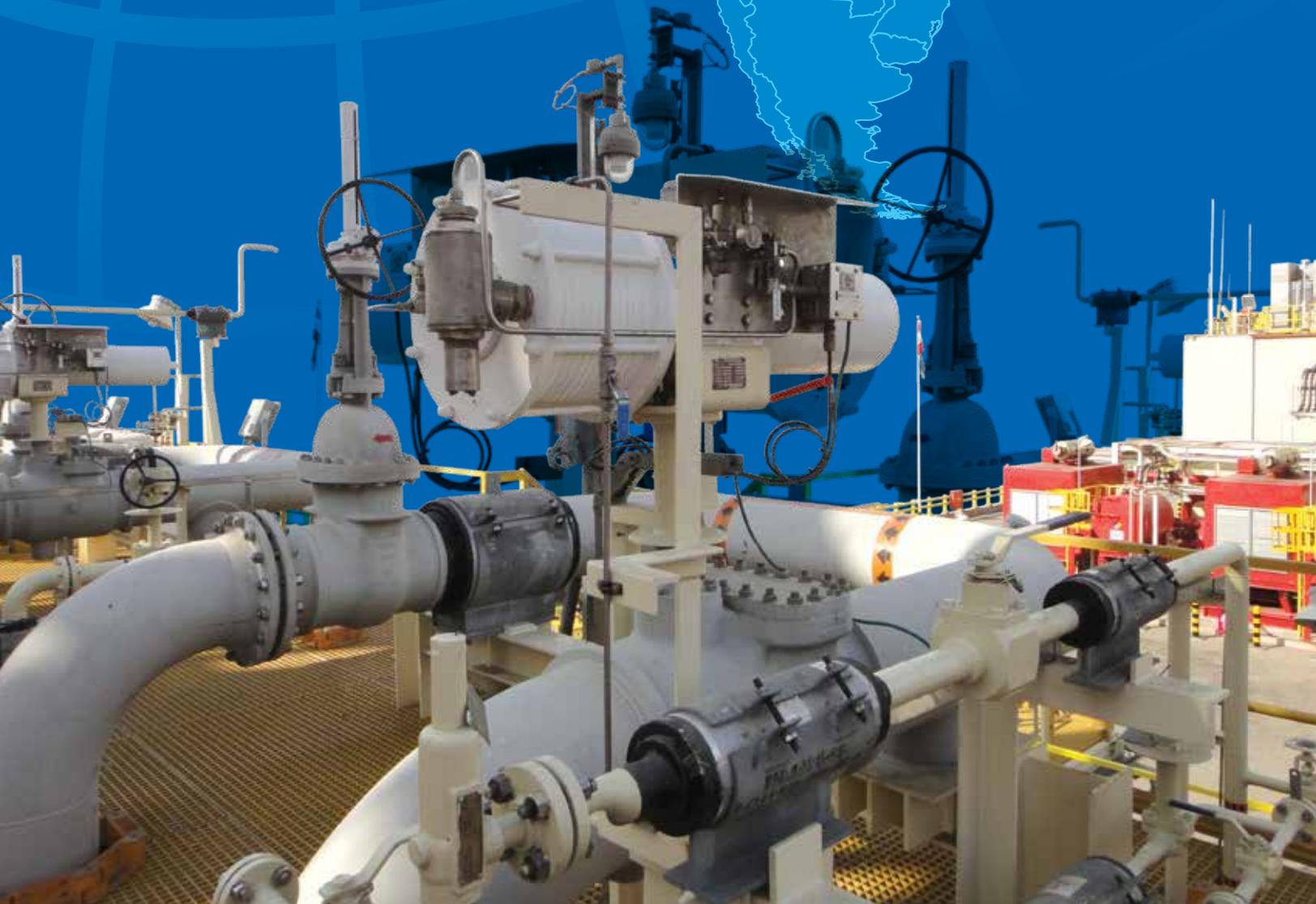




 **paladon**  
AMERICAS



**SCOTCH YOKE ACTUATORS**



## PALADON SYSTEMS OVERVIEW

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

Since our inception in 1981 we have continuously developed our design, engineering, organizational, quality and management capabilities. Today we design and manufacture many valve automation technologies that lead the industry in terms of operational performance, reliability and environmental responsibility.

Our vast experience with supporting the Oil, Gas and Power industries with solutions for the most critical applications 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 we hold accreditation and approvals from almost all the major institutes, engineering companies and end users.

Headquartered in England, we also have facilities and offices in Scotland, Italy, Russia, Malaysia and the US to support our growing global client base.

With over 10,000 actuators installed across the globe and a comprehensive suite of valve automation solutions backed by a dedicated team of field service engineers, we are **Total Valve Control**.



Paladon Americas is the newest addition to the worldwide family of Paladon Systems. With our multi-million dollar inventory and knowledgeable staff, centrally located in Houston, TX we are able to service your immediate automation needs. While providing the American market with automation solutions we strive to deliver exceptional quality actuators and cutting edge technology.

**855-PALADON** (855-725-2366)

Fax: 832 310 2370

14514 Luthe Road

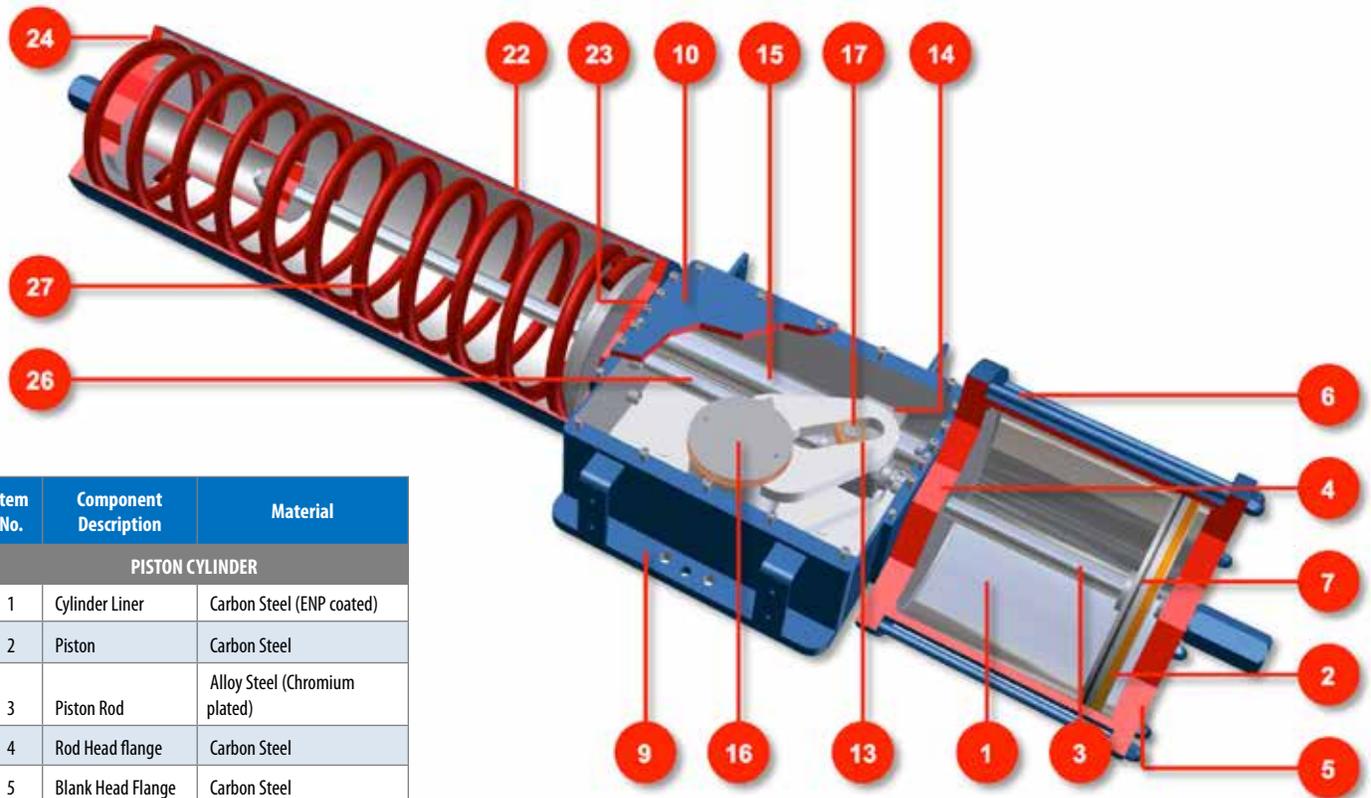
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# MATERIALS OF CONSTRUCTION



Item No.	Component Description	Material
<b>PISTON CYLINDER</b>		
1	Cylinder Liner	Carbon Steel (ENP coated)
2	Piston	Carbon Steel
3	Piston Rod	Alloy Steel (Chromium plated)
4	Rod Head flange	Carbon Steel
5	Blank Head Flange	Carbon Steel
6	Tie Rod	Carbon Steel
7	'O'-Rings	NBR
8	Bearing	Fe-Bz-Teflon
<b>YOKE HOUSING</b>		
9	Housing	Carbon Steel
10	Cover	Carbon Steel
11	Scotch Yoke	Alloy Steel
12	Bushing	Bronze
13	Sliding Block	Bronze
14	Guide Block	Carbon Steel
15	Guide Bar	Alloy Steel (Chromium plated)
16	Position Indicator	Carbon Steel
17	Roller Pin	Alloy Steel
18	Connection	Carbon Steel
19	Plug	Alloy Steel
20	Spring	Spring Steel
21	Plate	Stainless Steel
<b>SPRING CYLINDER</b>		
22	Spring Liner	Carbon Steel
23	Spring Head Flange	Carbon Steel
24	Spring End Flange	Carbon Steel
25	Flange	Carbon Steel
26	Push Bar	Alloy Steel (ENP)
27	Spring	Spring Steel
28	Du Bearing	Fe-Bz-Teflon

**Call 855-725-2366**

**to find out more**

**about Paladon -**

**Total Valve Control.**



## ROTARY ACTUATORS (SCOTCH YOKE)

Paladon Systems PN & HY-Series pneumatic and hydraulic scotch-yoke actuators have been specifically designed to guarantee long cycle life in the most critical applications and extreme operating environments. A fabricated frame and all-steel construction coupled with an Ingress Protection rating of IP66 as standard result in lighter and more corrosion resistant actuators than traditional ones that employ castings.

Available in double-acting (fail last) and spring-return configurations, PN & HY-Series actuators are suitable for on/off, modulating and ESD valve applications.



FILE  
PILOT

15

## PRODUCT FEATURES & BENEFITS

- Fabricated steel frame and all-steel construction result in lighter and more corrosion resistance than competing cast body designs
- IP66 ingress protection as standard ensures the actuators are ideal for offshore and coastal applications
- Electroless nickel plated cylinder as standard with hard chromium plating, Xylan® or Electro-film available for high operating efficiency and extended piston seal life
- Springs contained within a fully welded canister (which is post weld heat treated) to guarantee simple and safe removal
- Springs are scragged (set removal) in order to warrant optimum and stable performance
- Easy and economical maintenance due to simplified design, no special tools required
- Compliant to PED 97/23/EC
- Suitable for high frequency and high speed operation
- Several yoke lever configurations (cants) allowing selection of the actuator output torque that best suits the valve torque characteristic
- Guide bar frame design used to eliminate side forces and low friction seals ensure high efficiency
- Modular construction means greater flexibility when selecting cylinder/spring combinations, and reduces production downtime during field servicing



UPSTREAM  
GAS SUPPLY  
68.95 BARG MAX  
30 BARG MIN

## PERFORMANCE DATA

### Supply Pressures

PN-Series	40 to 175 psig (2.7 to 12 Barg)
HY-Series	90 to 3,625 psig (13 to 250 Barg)

### Torque Output Range

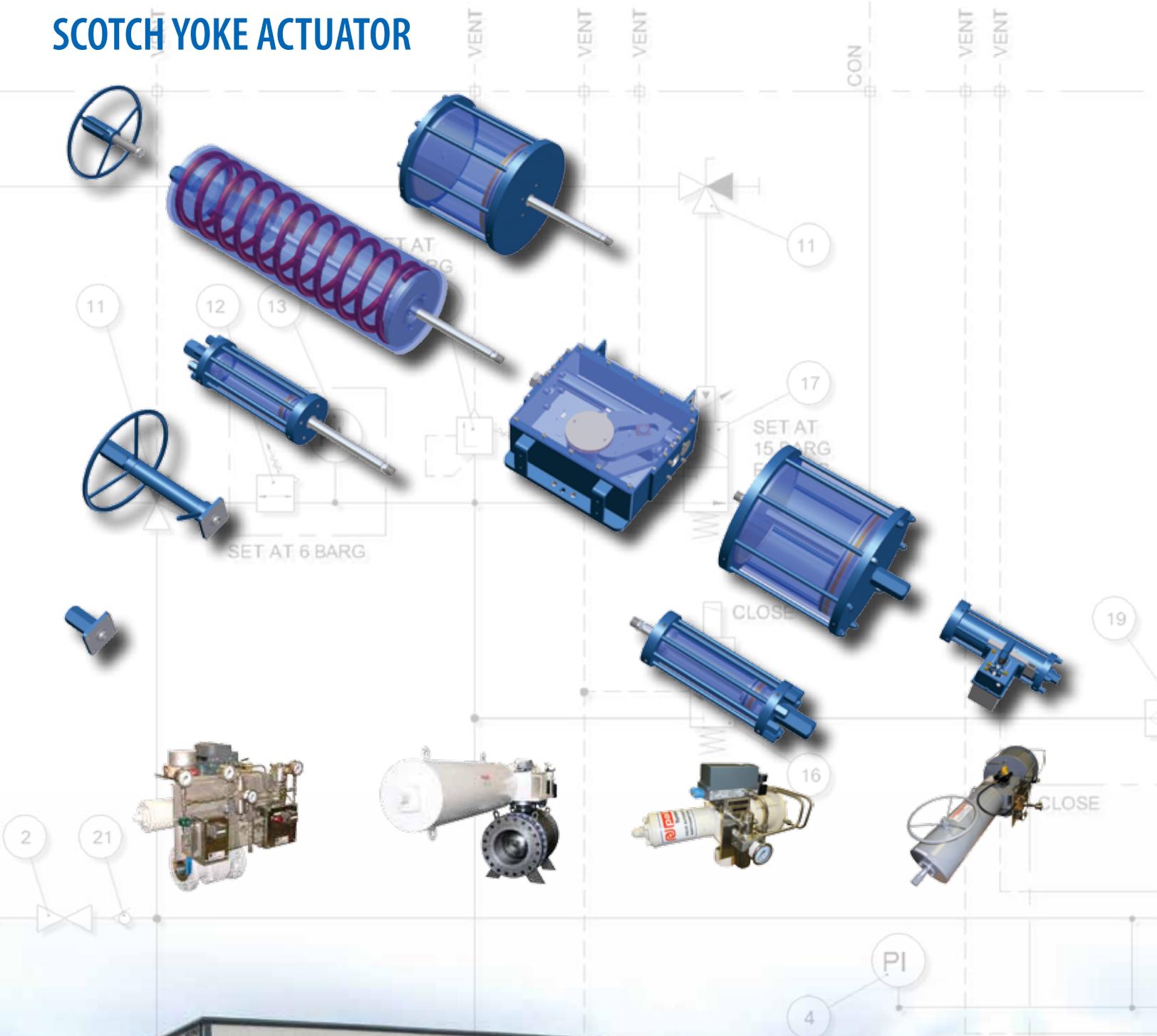
PN & HY-Series	Up to 5,310,000 lbs.in. (600,000 Nm)
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### Ambient Operating Temperatures

Ultra-low only)	-85 to +176°F (-65 to +80°C) (HY-Series only)
Low	-49 to +140°F (-45 to +60°C)
Standard	-4 to +176°F (-20 to +80°C)
High	-4 to +284°F (-20 to +140°C)



# ANATOMY OF THE PALADON SCOTCH YOKE ACTUATOR



## ADDITIONAL PRODUCTS

### Linear Piston Actuators

PNL and HYL-Series actuators are designed to operate any linear valve or mechanism, and are available in pneumatic, hydraulic, double-acting and spring-return configurations. Utilizing the same cylinder and piston components from the PN and HY-Series, reliable operation and low cost of ownership are ensured for even the most severe applications.



### Valve Positioning Systems

These manifolded and compact hydraulic systems provide precise positioning of choke, control, globe or ball valves; either for continual modulation or stepping functions. Semi-rotary and linear designs are available, both in double-acting and spring-return configurations. All common communication protocols are supported, including; infrared, HART and Foundation Fieldbus.



### Electro-Hydraulic Systems

These 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.



### HIPPS

As oil and gas resources become harder to find, producers are forced to operate in environments of ever increasing severity and risk. A HIPPS is an independently instrumented protective device which acts as the last line of defence for protecting downstream operations from over pressurization. Typically certified to SIL 3, our turn-key HIPPS packages give producers the most dependable pressure protection devices available in the market today.



### Hydraulic Power Units

Provide motive power and control logic to operate either single or multiple hydraulic rotary and linear valve actuator systems. Full PLC control available with all common communication protocols supported.



### Gas-over-Oil & Direct Gas Systems

Typically used for on/off valve control in gas pipelines, these systems use the pressure in the pipelines to provide the motive power for the actuators. Suitable for operation of rotary or linear valves, they are available in either double-acting or spring-return configurations. A fully manifolded control system ensures reliable operation and the modular design permits quick and inexpensive field modifications to the control system logic.



### Subsea Systems

These hydraulic systems are suitable for operation of either rotary or linear subsea valves and are available in either double-acting or spring-return configurations. Supporting ROV and diver override operation, non-pressure compensated designs are available for operating depths to 200m and pressure compensated designs for operation down to 2,000m.



### Autonomous Shutdown Valves (ASV)

Designed primarily for operation of subsea PLEM valves used in CALM Buoy and similar tanker loading and offloading terminals, the ASV can also be employed in any land based or subsea applications where external power is limited or even unavailable. These systems offer operators increased environmental protection with lower OPEX than traditional technologies.



### Rack And Pinion Actuators

Pneumatic rack and pinion actuators are durable, compact, and designed for a multitude of quarter turn applications. Available in over 17 variations of both double acting and spring return, at input pressures from 20 PSIG to 150 PSIG and up to 75,000 in/lbs of torque to meet all your output requirements. Our actuators are designed to industry standards that include ISO 5211 and accessory mounting patterns that conform to NAMUR for ease of installation. Materials used in construction, both inside and out, ensure the longest life possible in the most demanding applications.

