

PNL & HYL-Series, Linear Valve Actuators

Introduction

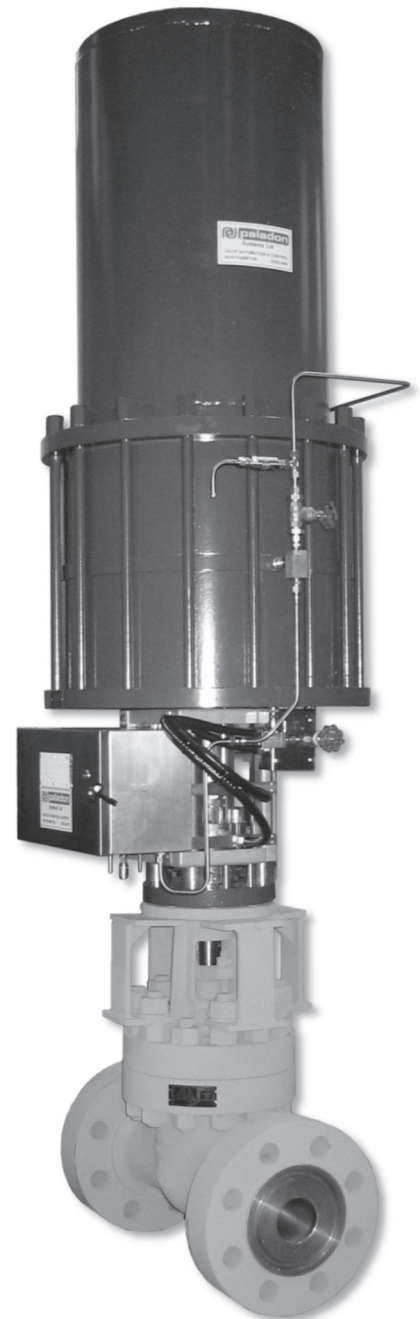
Paladon's PNL and HYL-Series high performance valve actuators are designed specifically to control all makes and sizes of rising stem valves such as gate and control valves. When designing this next generation of pneumatically and hydraulically powered linear actuators we set ourselves the following fundamental targets:

- To have a compact and reliable actuator
- To achieve a highly modular design permitting easy field maintenance and easy application to the various valves to be automated
- To accommodate the most current customer-driven design requirements in terms of performance reliability, corrosion and environmental resistance, and maintenance-free life

The rigorous testing that the actuators have undergone, both in the field and on the test bench, have exceeded our expectations and guarantee long cycle-life under severe service conditions.

Applications

PN & HY-Series valve actuators are designed to operate any sliding stem valve including; wedge gate, expanding gate, through conduit, globe, knife gate, swing check and lift and turn ball valves.



PNLHYL-1

Key Features

- Available in double-acting or spring-return (fail-safe) configurations
- All steel construction with no external threads
- Totally enclosed weatherproof housings, certified to IP66
- Scragged springs (set removal) ensure optimum performance and reliability
- Electroless nickel plated cylinders as standard; chrome, Xylan or electrofilm coatings are also available
- EN ISO 5210 valve interface
- Valve stem position indicator can accommodate position switches or transmitter
- All actuators are fitted with lifting lugs and control accessory mounting pads
- Available with optional hand wheel, gearbox or hydraulic manual overrides

Valve Mounting Options

Pedestal

- The standard valve mounting design uses a pedestal or a yoke to mount the actuator above the valve from the valve bonnet bolting

Compact

- Where space is at a premium, this design allows the actuator body to be directly mounted on the valve body, thus eliminating the height incurred when using pedestal type mounting

Integral

- Incorporates the valve bonnet and back seat into the end cap of the actuator, with the valve stem being completely integral with the actuator



Performance Data

Supply Pressures

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

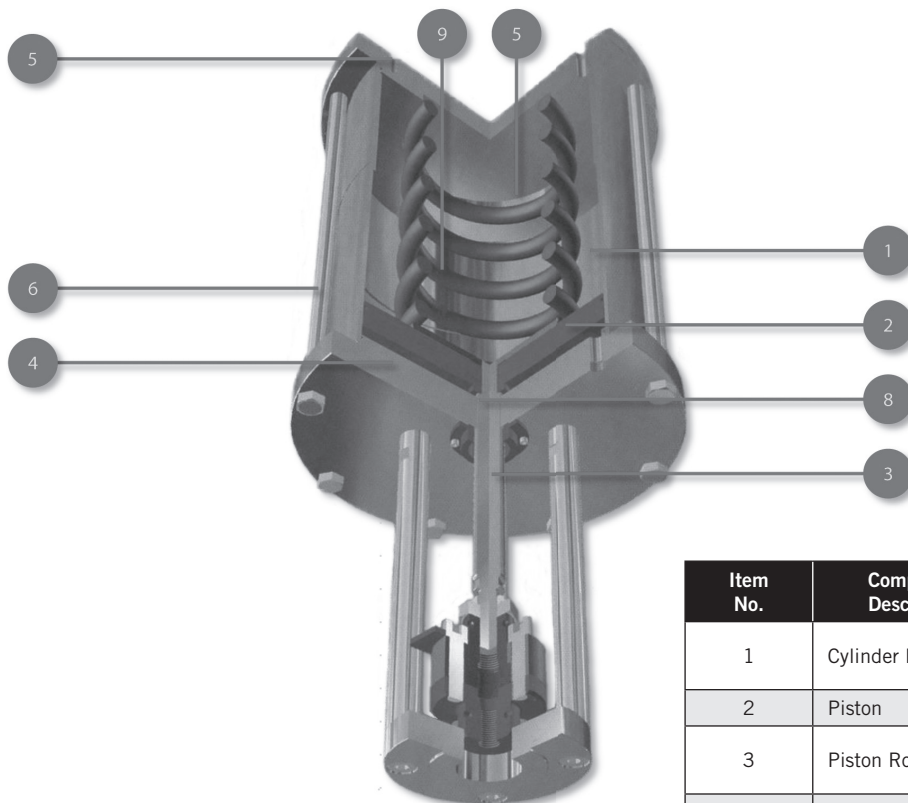
Torque Output Range

- PNL & HYL-Series Up to 50,000 lbs.in (222,000 Nm)

Ambient Operating Temperatures

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

Materials of Construction



Item No.	Component Description	Material
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
9	Spring	Spring Steel

Additional Products

- **PN & HY-Series Scotch-Yoke Actuators**

PN & HY-Series actuators are high performance pneumatic and hydraulic scotch-yoke actuators designed to operate any quarter-turn mechanism in both double-acting and spring-return configurations.

- **Electro-Hydraulic Control Systems**

These systems use electric pumps to pressurize hydraulic accumulators to provide hydraulic power. Stand-alone units using solar panels are also available when local utilities are unavailable or unreliable.

- **Electro Hydraulic Positional Control Systems**

Suitable for both Choke and Control Valve applications, operating from either existing ring main or self-contained power sources. Available for both Offshore Hazardous locations and Industrial Power Generation.

- **GH-Series Gas-over-Oil and DG-Series Direct Gas Actuators**

GH-Series and DG-Series actuators are typically used in gas pipeline applications. For GH-Series, the hydraulic supply pressure is provided by the pipeline gas pressure acting on oil within the tanks in the control system. For DG-Series, the pipeline gas is used directly to power the actuator.

- **Subsea Actuators**

The rugged and flexible design does not require pressure compensation for depths down to 650 ft (200m). For deeper applications, a pressure compensated design is available for depths down to 6,500 ft (2,000m).

- **Autonomous Shutdown Valve (ASV)**

The ASV is designed to be applied to pipeline loading systems, Calm Buoy, SLS and similar systems. The ASV provides full automatic fail-safe operation of subsea valves to isolate pipelines from flexible risers.