



# CGO SERIES

## Gas/Oil Rotary Actuator

Designed & engineered for severe-service applications

- Electronic Line Break Protection
- Torques up to 4,000,000 in-lb
- SIL 2 Capable

# Design & Materials

## Pressure Vessels

- Complies with ASME VIII or GB150
- Heat shrink technology
- Nickel plated inside - eliminates corrosion and contamination, prolonging service life.



Other Manufacturers



Cowan Dynamics  
(nickel-plated)



## Torque Limiter

- Ensures reliable operating of the valve while preventing damage to the valve stem and actuator from damage

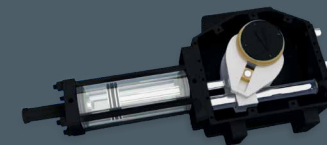
## Optional Solar Power Module

## Optional Electronic Line Break Protection Module



## Pneumatic Control Manifold

- Zero leakage within 5 to 150 Bar, especially suitable for nitrogen gas application.
- The specifically designed muffer is used for venting noise reduction.
- Solenoid valves are SIL 3 capable



## Scotch-Yoke Mechanism

- Quarter turn stroke: -5° to 95° adjustable
- The cylinder features dual seals to guarantee zero leakage
- Symmetric and canted yokes are available to satisfy various valve torque profiles



## Hydraulic Hand Pump

- Integrated with a four-position directional control valve for open, closed, automatic and bypassed operation shifting.
- Hydraulic outlet is consistent for every stroke operation.

# Line Break Protection

The CGO Series is an electronic line break detection and protection system for real time monitoring of pipeline pressure, pressure drop rate, etc..

## Low Power Consumption

- Power requirement of 0.8W

## Intelligent

- Records high-pressure, low-pressure and pressure drop rate extremes
- Analyses line pressure recorded data to improve pipeline pressure fluctuation predictions at the CGO location

## OLED

- Supports a low temperature display down to -40°C

## Communication

- Local communication: USB, with PC software
- Remote communication: RS485, with standard MODBUS-RTU protocol.



**Trending and Monitoring to precision down to 1%**

# Specifications

Cowan CGO Series Gas-Over-Oil Actuators uses natural gas or nitrogen gas as the motive power and hydraulic oil as the driving medium to actuate the pipeline valve to a fully open or fully closed position.

- **Explosion-Proof Level: Ex d IIB T4 (Ex d IIC T6 available)**
- **Ingress Protection Level: IP 65 (IP 68 available)**
- **Safety Integrity Level: SIL 2**
- **Air Supply Pressure: 5 – 150 Bar**
- **Suitable for Rotary (Quarter-Turn) valves. Linear design also available.**
- **Nitrogen Gas Application: High-sulfur natural gas and oil pipelines can use nitrogen gas as a power supply. With the bubble tight pneumatic control manifold, the nitrogen bottles only need to be replaced once or twice a year.**

PERFORMANCE									
Actuator Model	03	06	09	15	30	60	100	200	300
Maximum Output Torque (in-lb)	39,828	79,657	119,485	199,142	398,284	796,567	1,327,612	2,655,224	3,982,836

## Standard Configuration

Gas/Oil tanks, Scotch-yoke actuator, Manual override, Control Manifold, Gas Storage Tank, Shuttle Valve, filter, muffler, etc.

## Electronic LBP vs Mechanical LBP

Item	Electronic LBP	Mechanical LBP
<b>Components</b>	Controller, transmitter, solenoid valve	Rate tank, time delay valves, differential pilot
<b>Precision</b>	High, 0.1%	Low, less than 0.1%
<b>Setting &amp; Testing</b>	Easy and measurable	Very difficult and unmeasurable, special tools required
<b>Even Record</b>	Yes, query-able and traceable	No, not query-able and untraceable
<b>Power Supply</b>	Direct 24VDC, Solar + battery (optional) Internal battery (optional)	N/A

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**Pneumatic Process Control Panels**

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