

# Power Chokes®

## Electric Choke Actuator

An alternative to hydraulic or manually actuated chokes, Power Chokes® compact electric choke actuator is designed to support Managed Pressure Drilling (MPD), well control and pressure and flow control operations. It can be retrofit on existing chokes, with rapid install in the field and no requirement for specialized tools.

The electric choke achieves stroke speeds of less than 8 seconds and with precision better than 0.1%. The electric choke actuation eliminates the need for a Hydraulic Power Unit (HPU) thus allowing a smaller footprint on the rig and less maintenance compared to the hydraulic alternative.

Other major features include: high accuracy choke positions; immediate transitions between open and close with no lag or overshoot, manual override; higher duty cycle; adaptability to manual or automated control systems and increased operating thrust to provide positive shut off. In extremely cold weather conditions, where hydraulic choke actuation may not be feasible, the electric choke is an ideal solution. Its versatile design with pressure ratings of 5K, 10K, and 15K psi, while classified for use in hazardous areas around the world.

### APPLICATIONS

- Managed Pressure Drilling (MPD) Application – Automatic Back Pressure control
- Well Control – API 16C compliant
- Flow back, coil tube drilling, production (high erosion), and well test snubbing
- Harsh Environment
- Hazardous area: ATEX Zone 1, IECEx Zone 1, US and Canada Class 1, Division 1
- Ingress progression: NEMA 4X, IP65 or better
- Ambient temperature: -20°C to +40°C or better (optional Tamb available upon request)

### FEATURES & BENEFITS

- Small footprint; compact design, inline or right angle motor mounting available in different orientations
- API 6A & 16C compliant. ABS & DNV type approval
- Ethernet communication protocol adds to monitor and control capabilities for a Programmable Logic Controller (PLC) while reducing cabling. Other communication protocols available on request
- Stroke time less than 8 seconds
- Interchangeable parts which can be used on both hydraulic and manual choke valves
- Field-proven choke valve design with robust field-proven electric motor provides a robust and reliable actuator
- Full sealing capability



### CONTROL SYSTEMS

- Servo drive controller in a hazardous area or safe area designs
- Multidrive panel designs
- Local controls for hazardous area locations (push buttons, lights, etc.)
- Remote communications to PLC/HMI panels allow monitoring, control, and automation.
- Pre-packaged Well control and MPD solutions
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### TECHNICAL SPECIFICATIONS

<b>Electric requirements model</b>	460VAC, 3-phase, or 230VAC 3-phase
<b>Electric choke assembly rating</b>	API 6A/ 16C, Material class: EE-NL, Performance requirements (PR): 2, Product specification level: 1-4 and 3G, NACE MR0175
<b>Pressure (psi)</b>	Application Programme Interface (API) 5,000, 10,000, 15,000 Drop tight seal
<b>Accuracy</b>	Less than ±0.1% choke position control
<b>Stroke time</b>	Less than 8 seconds
<b>Choke speed control</b>	With industry-standard 4-20mA signal; optional protocols will be available upon request. Absolute encoder available for choke position from motor
<b>Change in direction between open and close line size</b>	Immediate (0.5 seconds or less)
<b>Failure mode</b>	Stays in place upon loss of power. Handwheel manual override
<b>Safety</b>	Inbuilt torque limits, overload protection with alarms; local/ remote panel available; HMI/PLC monitoring
<b>Trim size</b>	1", 1.5", 2", 3" and 4"
<b>Electric actuator controls</b>	A servo drive is required and fully certified enclosures are available in zone 1 and safe area with options for singular or multiple drives. This can be provided with blind or redundant push-button controls
<b>Hazardous area</b>	ATEX Zone 1, IECEx Zone 1, US & Canada Class 1 Division 1
<b>Other Power Chokes® offerings</b>	Electric control panels (HMI) / PLC controls or button/joystick controls), Pressure Relief Valve (PRV) system, Automatic Back Pressure (ABP) and Managed Pressure Drilling (MPD) controls solution

For further questions or quotation requests, contact [Sales@powerchokes.co](mailto:Sales@powerchokes.co).

Visit [www.powerchokes.co](http://www.powerchokes.co) for chokes, controls, PRV's, RCDs and MPD solutions.

