

# PowerChokes®

## Automatic Back Pressure (ABP) System

PowerChokes® ABP system uses field-proven Expro PowerChokes® technology and proprietary software for positioning accuracy, stability and reliability.

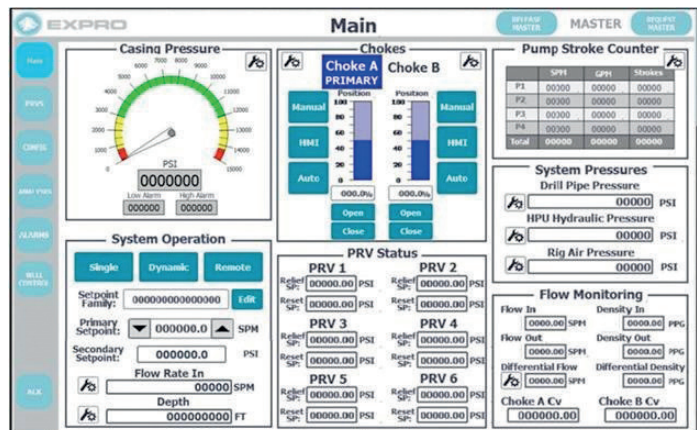
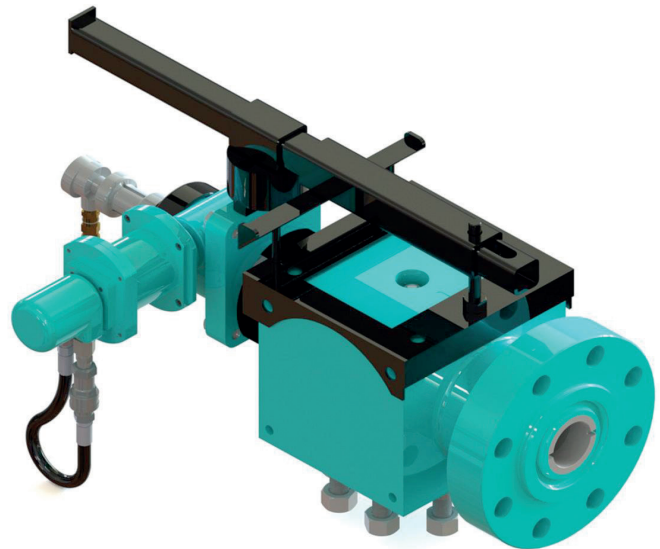
Touch screen HMI. Capable of mounting anywhere on the rig for complete control.

### Features

- Drilling connection mode feature for maintaining a constant pressure profile on the reservoir
- ABP can be used with Expro's PowerChokes – 1" to 4"
- Integration to rig systems and well modelling software
- Dual pressure sensor technology for safe operations
- Configurable with rig-up without the requirements for software updates
- Expro PRV system integration
- Electric and hydraulic choke options
- Flow meter integration
- Permanent installation or portable system design options
- Ramp tables available to automate drilling processes
- Manual or auto choke control

### Benefits

- Faster connection time
- Reduces mud costs
- Mitigates and detects influxes and kicks
- Can increase the rate of penetration
- Fast response to system pressure fluctuations
- Accurate control over the entire flow range
- Extended drill equipment life (bit)
- Avoids well control issues
- Can reduce choke plugging during sand and debris producing wells
- Can manage surging and swab effects
- Training available for the end user to work with the system on their own
- Field proven technology since 2012 with and ethos of continuous improvement of the system



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### Touch screen HMI capable of mounting anywhere on the rig for complete control:

- PLC with 12" touch screen HMI can control up to 6 PRVs separately
- Provides much needed redundancy, each PRV open/close events, valve pressures and sequence during the valve pop off
- Intelligent maintenance indicator alerting the operator of abnormal conditions and events
- Optional battery backup so the system is never down
- Optional dual setpoints. One open setpoint to prevent overpressure and one re-set setpoint to prevent low pressures. Additional dynamic setpoints are also available which update on operational requirements
- Optional remote communication for both control and monitoring of valves
- System configurable which allows for multiple valves with multiple failure mechanisms from one system. Fail open, fail close and fail in position

### Conforms to:

- API 6A and API 16C
- API 3000, 5000 and 15000 PSI ratings
- ABS and DNV type approved
- PED Assessment module: module B1 + module F and CE mark
- CSA certified class 1 division 2
- ATEX certified suitable for zone 2
- Electric actuator certifications: FM factory mutual (USA), CSA (Canada), ATEX, GOST (Russia), IECEx
- Drop-tight seat seal

### Conforms to:

- H2S services - NACE MR0175
- API material class EE-NL or better
- Valve body of forged construction, API 75k material, impact-tested
- Metal to metal sealing (no elastomers in gate and seat seal), provide extended service life between maintenance periods
- 316SS enclosure, IP 65 ingress protection



### Utility requirements:

- Control panel power requirements: 120/230 VAC, 1-Phase, 50Hz/60Hz, 10 A
- HPU: Rig air 110 PSI

### Utility requirements:

- Visual and digital position indicator
- High CV value to allow large flow rates to be accommodated
- Drop tight seal
- Piston actuated
- 1½", 2" and 3" trim
- Dual pump options available
- Hard and dynamic setpoints available
- In-house software allows software modifications
- Additional certification available on request