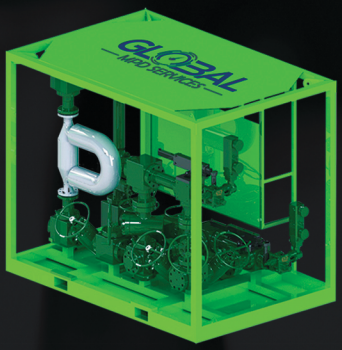
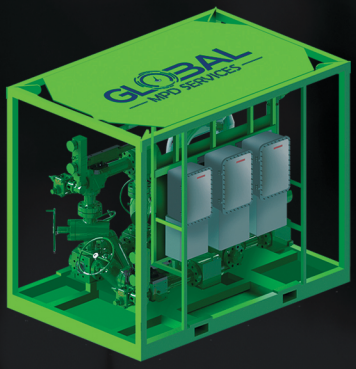
Automatic Choke Control

Global MPD Service's Field-proven Automatic Choke Control is a vital piece of safety equipment for today's MPD operations.





Our Managed Pressure Drilling (MPD) Choke Manifold has been designed to automatically maintain the annulus surface's back-pressure during all MPD applications or underbalanced drilling operations. Within a predetermined operating window, the MPD Automatic Choke uses a set of two CORTEC model CX-3 worm-gear that allows fine incremental flow control adjustments and is controlled by a PLC system to maintain the selected set point pressure. The HMI interface panel for operator input of required settings display the control system input and output parameters.

The complete assembly of the MPD Choke Manifold is integrated with a Coriolis flow meter for early kick detection or any other flow variation and is installed in an approved skid and crash frame with a lifting sling set and fork lift pockets. It includes an integrated, explosion-proof instrumentation distribution system.

The MPD Automatic Choke Control System is activated by a software empowered by SafeKick, which is designed to automatically control the electrical chokes to accurately maintain, either independently or in parallel, a pre-determined upstream set point pressure using very user-friendly touch screen interface options during MPD drilling operations.

Main Operational Safety Features of the MPD Manifold and Automatic Choke Control

- 100% operational redundancy of the MPD chokes
- Digital and Backup Mechanical Choke position readouts on MPD Chokes
- A fixed choke mode for more accurate Back-Pressure Control at higher flow rates
- 100% redundancy of the Upstream and Downstream Pressure Transmitters
- Choke failure and choke plugging logic activates audible and visual alarms
- Defaults into last position logic in case of a power failure on MPD Chokes
- Permanent recording of all control system events and input-output data
- L-Shape double block and bleed API gate valve philosophy on Choke and bypass line flow paths