

Modus™ Managed Pressure Wells Solution

Enhances operational performance with simple, precise pressure management while capturing data in a digital platform

Applications

- Conventional drilling programs
- Managed pressure drilling
- Underbalanced drilling
- Gas-to-surface event reduction

Features

- Dual chokes (parallel/independent digitally controlled)
- Dual snap pressures and position settings
- Flow monitoring
- Hydraulic modeling of downhole conditions
- Digital data capture and real-time sharing

Benefits

- Manage wellbore pressure with reduced mud-weight changes
- Improve drilling safety and reduce risk of reservoir damage
- Enhance detection of kick/loss incidents
- Increase ROP with lighter mud weights
- Improve real-time visualization of wellbore hydraulic conditions



Using Weatherford's industry-leading monitoring and modeling software capability, the comprehensive Modus solution enhances pressure management, improves detection and visualization of kick/loss incidents, and digitally captures data for post-job analyses and process improvement.

System Description

Built on more than five decades of experience as the industry's MPD leader, the Modus managed pressure wells solution creates a comprehensive pressure management strategy that precisely and continually manages the primary well-control barrier, eliminating pressure spikes, improving hole stability, optimizing drilling plans, manipulating effective mud weights, and increasing rates of penetration (ROP).

The Modus solution uses a modular approach to allow for flexible and efficient installation. It controls dual electric chokes in parallel or independently. An integrated flowmeter measures flow out, resulting in an instantaneous display of flow out differential volume in the browser-based user interface. Relevant data is collected, stored, and can be transferred via a WITS interface.

By automating the management of pressure, the Modus solution can react to changes in downhole pressure to protect personnel, well bores, the environment, and numerous additional assets.

As part of an overall well integrity system, the Modus solution enables safe drilling in narrow, shifting, and unknown mud-weight windows by managing ECDs, delivering a trusted approach to all your wells and we continue to innovate and push the industry forward.



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Specifications

Choke

Inner-diameter trim	3 in. (76.2 mm)
Connections (5,000 API RTJ 6BX)	4-1/16 in. (103.19 mm)
Operating temperature	-20 to 250°F (-28 to 121°C)
Rated pressure	5,000 psi (34 MPa)
Actuation	Electrical (15 Sec full stroke)

Control Unit

Operating temperature	-4 to 122°F (-20 to 50°C)
Power required drive controller (supplied from PLC)	2- drive Controllers 110 V, single-phase, 13 A (per)
Power required PLC panel (system power requirement)	110 V, single phase, 30 A
Shipping weight	2,582 lb (1,625 kg)
Hazardous area classification panels	Zone 2, ATEX/IECEX

Choke Skid and Manifold

Rated pressure	5,000 psi (34 MPa)
Chokes (2 per skid – in parallel or independent control)	4 in.
Pressure relief valve	2 in. FIG 1502
Shipping weight	10,400 lb (4,717 kg)
Hazardous area classification panels	Zone 1, ATEX/IECEX

Detection Skid and Manifold

Rated pressure	1,170 psi at 250°F (8 MPa at 121°C)
Coriolis meter	4 in.
Pressure relief valve	2-in. FIG 1502
Shipping weight	5,300 lb (2,404 kg)
Hazardous area classification panels	Zone 1, ATEX/IECEX

Sea-Can

Size (W x L x H)	8 ft x 20 ft x 8 ft 6 in. (244 cm x 604 cm x 259 cm)
Shipping weight (tare)	7,818 lb (3,546 kg)
Shipping weight (gross)	27,100 lb (12,292 kg)
Hazardous area classification	Zone 2, ATEX/IECEX

