

DRILLING

VICTUS™

INTELLIGENT MPD

Achieving unmatched safety and cost savings
through an end-to-end MPD solution



Weatherford®

DRILL WITHOUT DEFEAT

Victus™ intelligent MPD gives you the confidence to beat your drilling challenges.

For every well you drill, you have every reason to use managed pressure drilling (MPD). The proven gains make it difficult to justify drilling without it. Based on five decades of MPD leadership, Victus helps you to achieve all your drilling objectives with unmatched safety and cost savings.

It precisely maintains bottomhole pressure by integrating rig equipment for machine-to-machine communication, real-time analysis of downhole conditions, and rapid automated responses from a central location. At all times—whether you deploy Victus in deep water, in shallow water, or on land—you can drill without defeat.



**CIRCULATED
OUT 2 INFLUXES
IN HOURS**

OFFSHORE EGYPT



**SAVED
20,000 BARRELS
OF MUD**

ONSHORE SAUDI ARABIA



**REACHED
20,000-FT TD**

DEEPWATER BRAZIL



**SAVED OVER
\$18 MILLION**

DEEPWATER US



VICTORY OVER YOUR CHALLENGES

Victus intelligent MPD includes a proven system that detects, controls, and circulates out influxes. The system uses a time-tested algorithmic model calibrated with decades of data in thousands of wells for worldwide operators. As a result, you can eliminate drilling hazards and use your blowout preventer only when absolutely necessary.

Alongside these safety benefits, Victus enables you to reduce well construction costs. Faster rates of penetration (ROP), reduced drilling fluid expenses, fewer rig days, and optimized well architecture add up to significant cost savings.



ACCURACY IN ACTION

INTELLIGENT CONTROL SYSTEM

As the brains behind the MPD operation, our intelligent control system provides fast, precise pressure control in dynamic well conditions. Using an advanced hydraulics model, the system precisely estimates bottomhole pressure and determines the required amount of backpressure to apply from the surface within seconds.

**DETECTS, CONTROLS
& CIRCULATES OUT
INFLUXES**

**INDUSTRY'S
MOST ADVANCED
HYDRAULICS MODEL**

**DEVELOPED WITH
OVER 3.5 MILLION
HOURS OF MPD DATA**

**1ST DNV-CERTIFIED
MPD CONTROL SYSTEM**

Advanced hydraulics model precisely determines real-time bottomhole pressure by taking into account the effects of fluid and formation temperature, fluid compressibility, and wellbore cuttings

Smart control algorithms react fast to downhole conditions by sending automated commands to MPD equipment in less than a second

PLC system easily integrates anywhere on the rig to provide a reliable infrastructure and cybersecurity

Simplified user interface helps you stay focused on critical parameters and sends alerts on unexpected events

Condition-based monitoring tracks MPD equipment performance and enables proactive maintenance

Reliable automated reporting, as daily summaries or post-job analyses, further optimizes drilling performance

Remote control via a single user interface enables robotic riser installation, complete AID shut-off, RCD latching and unlatching, and flow routing

Data consistency spans from well planning to real-time operations and post-job reporting



EXPEDITED OFFSHORE INSTALLATION

AUTOMATED MPD RISER SYSTEM

The heart of intelligent MPD is the automated MPD riser for offshore and deepwater applications. Its integrated, compact, and smart design reduces installation to less than 20 minutes, which results in more than 80% faster rig up and down time. Our expedient process in no way compromises the time saved during MPD operations.

REDUCE INSTALLATION
TIME FROM **2 DAYS** TO
20 MINUTES

REMOVE PEOPLE
FROM DANGER
ZONES

CONNECT UMBILICAL
& FLOWLINES
ALL AT ONCE

SAFE, RELIABLE
OPERATIONS
EVERY TIME

Connection hub integrates subsea control umbilical and flowlines into one easy-to-connect component

Robotic arm attaches the connection hub to the hands-free flow spool to eliminate manual work in the moonpool

Smart rotating control device (RCD) technology enables predictive maintenance and early leak detection

Subsea surveillance system enables visual monitoring during connection hub installation and MPD operations to reduce the need for ROVs

Single subsea control umbilical provides high-performance fiber-optic cables for fast and reliable data transmission

ENGINEERED FOR TOP PERFORMANCE

TOPSIDE EQUIPMENT

After decades of building and operating topside equipment, we developed a best-in-class design that fits any rig-floor footprint and offers customization to well, rig, and operator needs. In addition to our state-of-the-art MPD manifold, this equipment includes a buffer manifold, pressure relief valve, junk catcher, and fluid extraction system.



MPD manifold is completely customizable depending on operational and customer needs

Manifold can control up to four chokes for increased redundancy to enable continued drilling

Choke swapping can be remotely performed in the event of plugging using the intelligent control system

Coriolis flowmeter can be installed upstream* of the choke to facilitate critical flow measurement with higher gas content in returning mud

Each upstream choke leg can be equipped with its own flowmeter for continued operation

Electric or hydraulic valves** can be remotely operated from the intelligent control system

Design improvements maximize operational performance by reducing frictional pressure loss in the entire system

Junk catcher can be integrated with the MPD manifold to reduce the footprint and manual handling

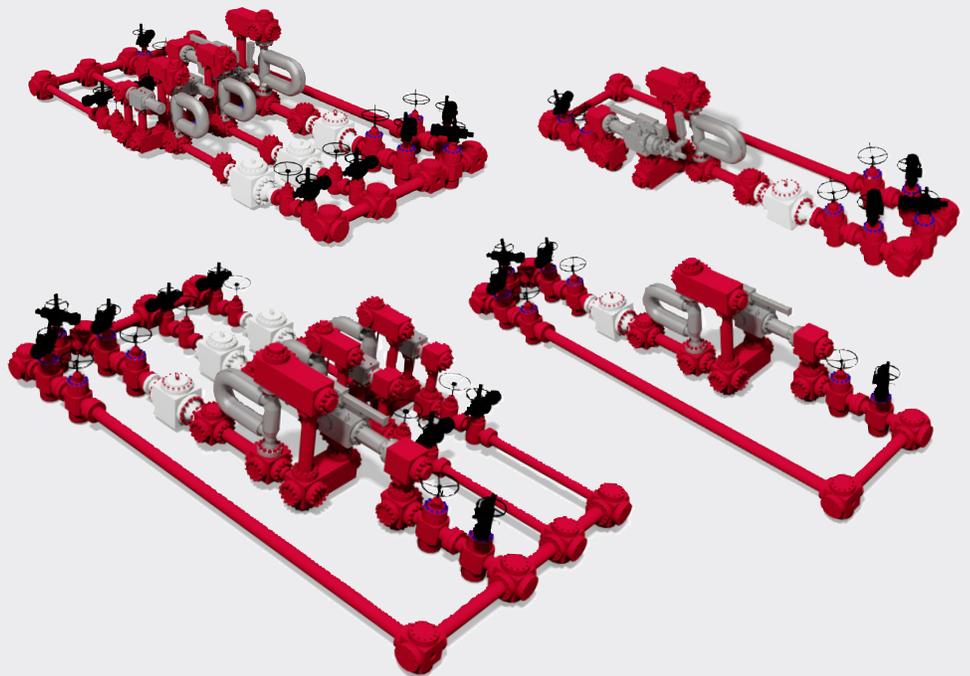
Fluid extraction system continuously extracts mud samples for gas composition analysis and reservoir characterization without interrupting operations

DESIGN BASED ON
**DECADES OF
PERFORMANCE**

**BUILT-IN
REDUNDANCIES
TO CONTINUE
DRILLING**

**DETECTS
& CONTROLS
INFLUXES IN
SECONDS**

**SMALL,
MODULAR
RIG FOOTPRINT**



* Coriolis flowmeter can also be installed downstream of the choke, depending on customer requirements and drilling necessity.

** Manual valves are also an option. The unique placement of the valves in the manifold depends on the application and requirements from customers and governing agencies.



KNOWLEDGE THAT EMPOWERS

TECHNICAL SPECIALISTS

Our highly technical specialists are key to every successful MPD operation. Working with you, they deliver a high-quality end-to-end solution, which spans R&D, manufacturing, installation and commissioning, MPD operations, and customer service. And of course, safety is a priority at all times.



Centuries of cumulative knowledge
in equipment design

Turnkey installation and commissioning
with PMP® certified specialists and ABS
and DNV compliance experts

Exceptional consulting engineers
for operators and drilling contractors,
from well planning to drilling optimization

Supportive customer service to maintain
equipment for optimal performance well
after well

Hands-on training and development
for new MPD engineers

Operational excellence systems in place
to monitor and track job performance and
share knowledge

* PMP is a registered trademark of Project Management Institute, Inc.

5 DECADES
OF MPD EXPERIENCE

7,600+ JOBS
WORLDWIDE

98.2% OF OPERATIONS
WITH **ZERO NPT** IN 2018



DRILL WITHOUT DEFEAT

In every well that you drill, make victory yours using the most advanced MPD solution on the market. To learn more, please contact your Weatherford representative or visit our website.

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