

XDR™

WELL SERVICING EQUIPMENT 2016

Workover Lift capacities from
75,000 to 330,000 lbs



XDR



XDR - 1 Rig, 4 Capabilities

The XDR rigs and product range are available to service all of your well servicing needs. Equipped with the revolutionary XDR Snub Drill, the XDR rig can perform well flushing, workover, completions and snubbing, resulting in **higher productivity at a reduced cost**.

Every XDR rig is compatible with vertical wellhead configurations and offers **ease of access to site**, rapid deployment through **fast wellsite setup times** and **safer operations** with reduced crew numbers using **innovative design** and embedded control features.

Audited by:



Mercedes-Benz

Powered by the Mercedes Actross 4148/4160



INNOVATIVE DESIGN FEATURES

XDR



Programmable Logic Control (PLC)

The XDR rigs come equipped with a **full set of self-diagnostic tools** including weight on drawworks winch, position of hook, speed of winch travel, total distance winched, pump pressures, torque value recording for rod and tube and PLC controlled crown saver status. The XDR rig has a USB port allowing for critical rig performance data to be extracted and provided to relevant stakeholders.

The XDR rig has optional **remote direct access support** capability, with XDR offering real-time, **24/7 global manufacturer's support based in Brisbane**. Our goal is to ensure all XDR rigs in the field remain operational with minimal downtime.

Embeded Safety Features

The XDR rig has been engineered with safety as the top priority. The rigs' unique **self supporting mast** and **XDR Snub Drill** eliminates the need for guy wires, offering a safer work environment with **minimised risk of potential falling objects**. The XDR rig is equipped with state-of-the-art technology, allowing for greater rig automation such as **auto level and overlift capacity control**, further reducing human exposure to hazards.

XDRTM

Safer
Greater
Productivity
Lower Costs

FEWER CREW
REQUIRED

XDR RIGS ARE
FASTER TO SETUP

FASTER WINCH
SPEEDS.
PLC CONTROLLED

INTEGRATED RIG
PIPE HANDLER
MUD SYSTEM

AUTOMATED WATER
MANIFOLD. INSTANT
REVERSE FLUSHING

INDUSTRY
COMPLIANT
ON DELIVERY

IN ROAD GAUGE

CUSTOMISABLE
TO YOUR NEEDS

LOWER
MAINTENANCE
DUE TO DESIGN

3000M WIRELINE
ON BOARD THE RIG

THE BENEFITS OF USING XDR EQUIPMENT

ACTROS

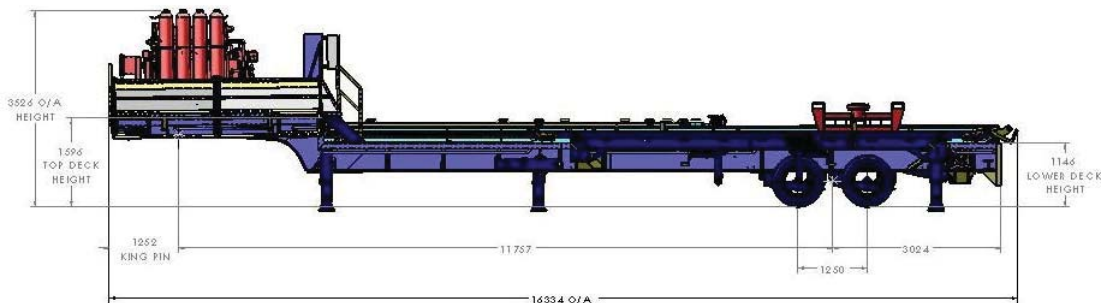
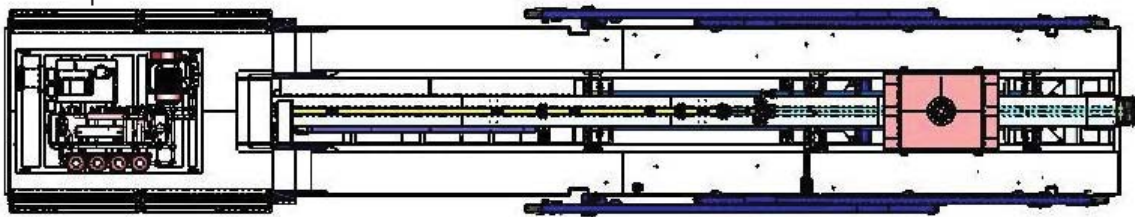
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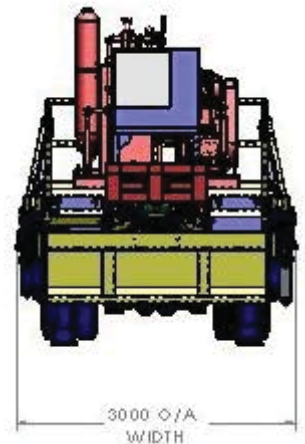
The XDR mud tank system comes mounted on a standard triaxle trailer, 30,000 litre capacity, mud manifold operated from the main control panel on the rig. The pump is powered by the onboard Cat/Cummins diesel engine. A choice of mud pumps can be made depending on our clients requirements.



The XDR Power Cat is a single tubing length pipe handler. The unit has the option to be configured with your main Koomie Unit onboard, link hoses to the BOP are permanently housed under the pipehandler allowing for short connection hoses to the Well control BOP. Your BOP can be attached onboard during move/demove operations. The Power Cat and Koomie Unit are intergrated and controlled from the rigs main control panel.



TRANSPORT CONFIGURATION



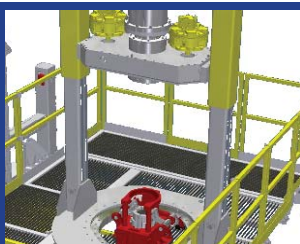


RAPID RESPONSE WORKOVER RIG

The XDR rigs are custom built per our clients requirements. We offer various combinations of onboard equipment with hoisting capacities from 75,000lbs [34,000kg] up to 220,000lbs [100,000kg] on rigid body trucks and 330,000 [150,000kg] trailer mounted. Equipped with XDR's revolutionary **Snub Drill**, the XDR rigs can perform well flushing, workover and completions, resulting in **higher productivity at a reduced cost**.

Every XDR rig is compatible with vertical wellhead configurations and offers **ease of access to site**, rapid deployment through **fast wellsite setup times** and **safer operations** with reduced crew numbers through **innovative design** and embedded control features.

With the inclusion of the XDR Snub Drill, the XDR workover rigs are capable of drilling at depths of up to 3,000 metres.



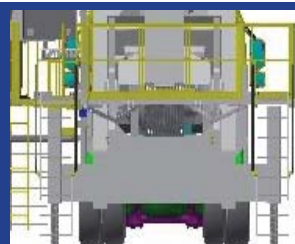
1 RIG, 4 CAPABILITIES

- Well Flushing
- Workover
- Completions
- Snubbing



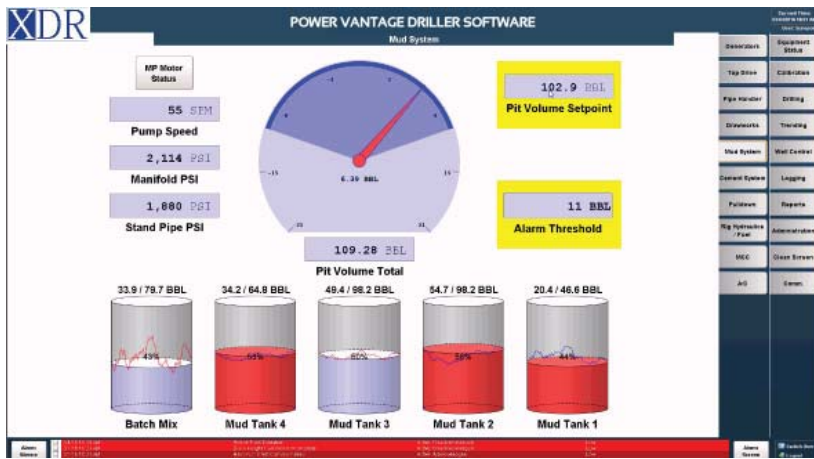
RAPID RESPONSE

- Faster Tripping Times
- 30 minute well set up
- Increased profitability



ENGINEERED FOR SAFETY

- Power Swivel Ready
- Automated processes
- Less human intervention



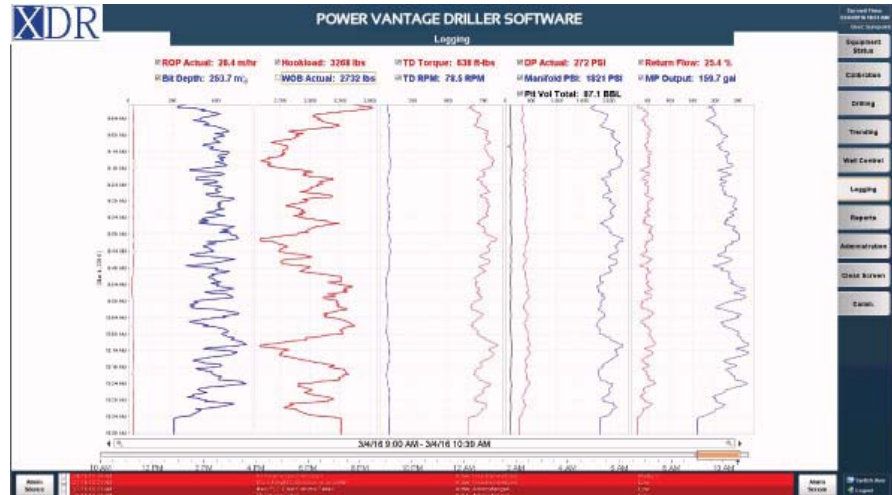
POWER VANTAGE SOFTWARE

Technology at work for you

System Overview

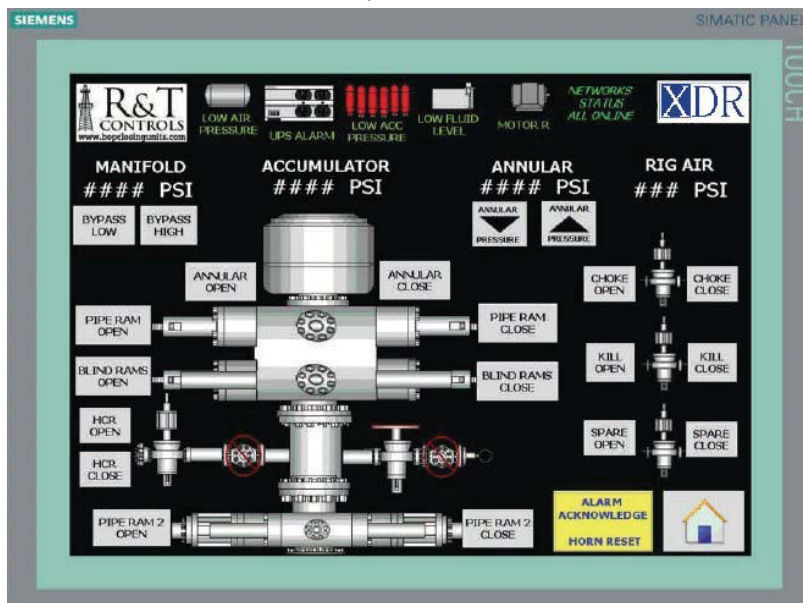
At XDR we use leading edge technologies to deliver the most user friendly control system possible while providing an exceptionally high level of functionality. The Power Vantage driller software system is designed to increase productivity, reduce downtime, and simplify troubleshooting of any issue that may arise; in addition to this XDR builds all systems with the capability to remote connect if an internet connection is available and provide direct technical support for the automation system remotely to anywhere in the world.

- DRILLERS CONSOLE
- DRILLERS HMI
- DRIVE HOUSE HMI
- USER CONFIGURED SCREENS
- HMI INTERFACE CALIBRATIONS
- POWER GENERATION SYNC
- PERMISSIVE SCREEN FOR FAULT FINDING
- MUD TANK VOLUME TOTALISER
- DATA ACQUISITION AND TRENDING
- BUILT IN IADC TOWER REPORTS
- ALARM LOGGING
- REMOTE ACCESS TECHNICAL SUPPORT
- WELL CONTROL FEATURE
- CLIENT REMOTE ACCESS
- WITSML CONFIGURED
- DESIGNED TO INTERNATIONAL STANDARDS WITH SIL ANALYSIS

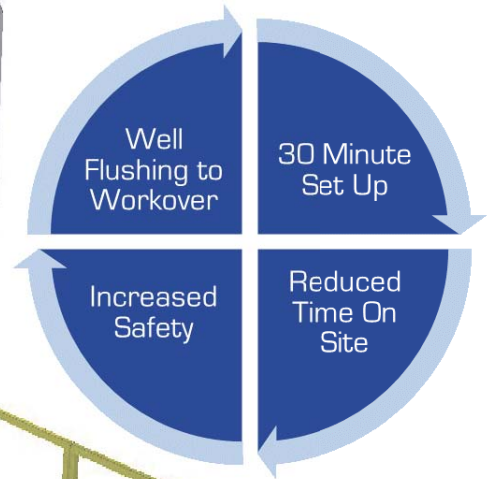
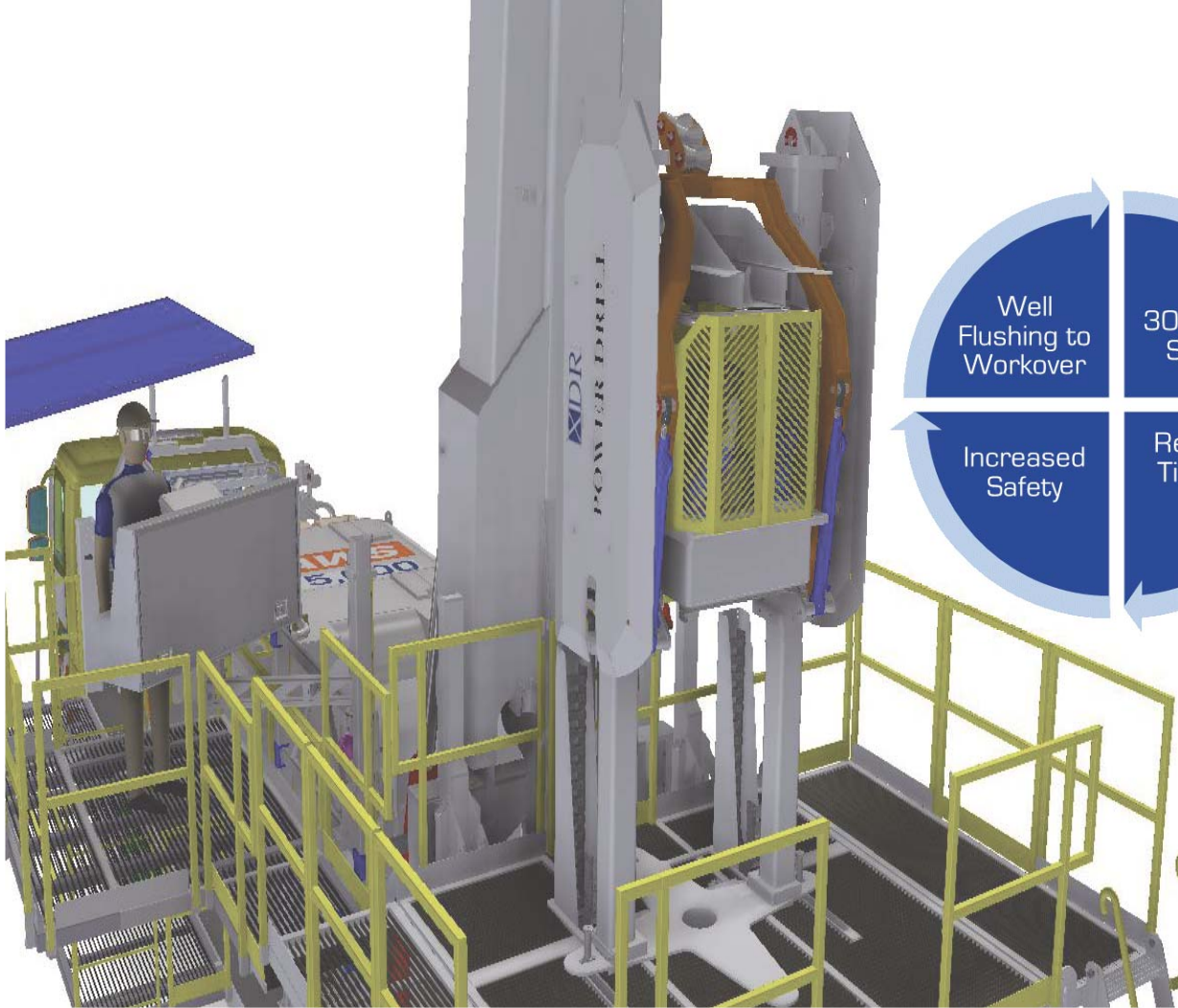


All hardware and software used by the Power Vantage Driller system is chosen based on its functionality, reliability, and ease of replacement in the event of a failure. The major equipment for our typical installations include the use of Woodward Easy-Gen generator controls, Siemens S120 series variable frequency drive line-up, Siemens S7-300 series PLC hardware programmed under the TIA portal software suite, and Ignition SCADA software.

- ISO 13849, AS 4024, IEC/AS 61508, AS 62061



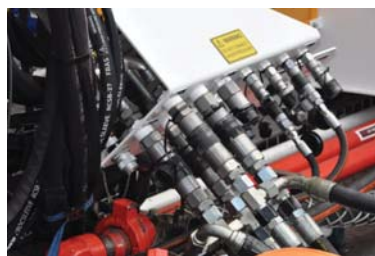
The PLC and HMI systems communicate across the rig via Ethernet networking as it provides the fastest response time available, is capable of redundant cables with instant fail-over, and allows for expandability to wireless communications as an option. Remote PLC I/O racks are deployed in specific locations across the rig to reduce the amount of cable with connectors to reduce the risk of failure at a connection point.



XDR SNUB DRILL

Extended Capability through Innovative Design

With the addition of the XDR Snub Drill, the **XDR Rigs** are capable of carrying out **well workover and well completion services**. XDR's Snub Drill is **easily lifted into place over the well**, where it is physically connected to the XDR rigs. Umbilical CAN and hydraulic connections are taken from the rig and connected to the Snub Drill. The XDR Snub Drill is set up and operated from the rigs control panel. The rigs main winch is taken out of high speed mode and set to variable fine feed, then the **XDR Rig is ready for drilling activities**.



Standards and Accreditation

Our manufacturing facility Hydco Pte Ltd has submitted its Quality Management System (QMS) to API (American Petroleum Institute) for accreditation under API Q1 9th Edition. The XDR Equipment is manufactured under our QMS that conforms to the requirements of international standards ISO 9001 and API Q1 9th Edition.

The XDR Equipment is designed and manufactured to API (American Petroleum Institute) and Australian Standards. During the design and quotation stage for our products we work closely with our clients to understand their specific build standards and requirements. Our rigs have been audited by the



Outlined below is an indicative list of some of the API and other standards applied in the manufacture of the XDR Equipment:

API Standards:
API 4F - Specification for Drilling and Well Servicing Structures.
API 9B - Application, Care and Use of Wire Rope for Oilfield.
API 8C - Specification for Drilling and Production Hoisting Equipment.
API 7K - Drilling and Well Servicing Equipment.
Other Standards:
AS1170.2 - Structural Design Actions (Wind)
AS1418 - Crane Code (As Required)
AS4024 - Design and Safety of Machinery
AS3990:1993 - Mechanical equipment steelwork
As/Nzs 3000-2007 - Wiring Rules
As/Nzs 2381.1-2005 - General
As/Nzs 60079.0-2012 - General - Electrical Equipment in Explosive Atmospheres (HAVD)
As/Nzs 60079.14-2009 +A1-2011 - Installation and maintenance
As/Nzs 60079.17-2009 - Inspection and Testing
As/Nzs 60079.1 Ex d
As/Nzs 60079.2 ex p
As/Nzs 60079.7 Ex e
As/Nzs 60079.11 Ex i
As/Nzs 60079.15 Ex n
As/Nzs 5000.1-2005 - Electrical Cable

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