

POWER DRILL TECHNICAL SPECIFICATIONS

The XDR Power Drill 5000 maximum operating envelope is defined by the following parameters:

Torque	6.9 kN.m / 5000 lbf.ft
Rotational speed	100 rpm
Maximum drill string weight	35000 kg / 77000 lb. on slips and spanner box
Maximum load carried by chuck	16000 kg / 36000 lb.
Oil flow rate to hydraulic motors	200 l/min
Oil pressure to hydraulic motors	190 bar
Stroke	1150 mm
Mass of drill assembly	1800 kg / 4000 lb.
Mass of diverter assembly	700 kg / 1600 lb.
Drill head lifting lugs max combined WLL	2500 kg

The Power Drill utilises or is designed to operate with the following components and specifications.

Chuck	Custom 6900N.m XDR chuck
Diverter assembly	Customised component
Diverter mounting flange	API 7 1/16" 5000 psi
Flare line	6" Fig 100 1000 PSI CWP hammer union
Hydraulic Motors	Brevini
Proximity Sensor	IFM inductive sensor
Rotation Sensors	IFM inductive sensor
Rubber sealing element	Washington 4010-B 3 1/2" - 4" Note: not provided, operator to supply.

The system has been designed to the following standards:

- API 4F Specification for Drilling and Well Servicing Structures
- AS 3990 Mechanical equipment – steelwork

-Diverter assembly provides blow out control during well cleaning but has not been designed for well pressure control. The rubber sealing element (“Washington Shorty”) is a non-rotating device that diverts gases into the flare line. The specified model is a Washington 4010-B 3 1/2” - 4”, which is not provided by XDR as part of the Power Drill

- In built lifting points on the main diverter assembly for easy assembly and transport

In built lifting lugs and fork tine pockets on drill head unit

-The slips are rated to 125 tons of holding force. The foot clamp inserts will be subjected to high levels of loads and wear and thus the condition of the slip inserts should be monitored.

-The Power Drill features a slew ring interface with the diverter assembly to allow the Power Drill’s orientation to be adjusted

-Custom breaker mechanism – preventing torque from being transferred to the BOP.

-The custom XDR chuck is a 7 jaw, self-centring chuck, which is capable of transmitting 6900N.m of torque and is able to grip any pipe size between 60mm and 115mm. Furthermore the chuck can be opened up to a 182mm (7 1/16”) diameter, allowing for upsets to travel through the power drill. The chuck is bolted to the bottom of the gearbox, as shown in Figure 8 and the jaws are powered by two hydraulic motors.

-Equipped with mantis system for pipe feed in control