

Top Mount Pulser

Field Configurable

- Our configurable design allows for a single TMP to run all
- Change collar and orifice sizes in minutes directly in the field
- Less assets on location reduce overall cost
- Our TMP reduces the number of tools and parts needed to improve reliability and cost efficiency for our clients

High LCM

- Designed for most extreme LCM conditions
- Unique valve design reduces fluid through the screen
- · Pulser design uses high velocity flow around the screen for cleaning
- · Screen utilizes multiple slot designs to reduce blockage

Run with NEUTRINO™ for **Ultra High Speed Telemetry**

- Our TMP is designed to run with NEUTRINO™, the Wolverine Ultra High Speed Telemetry System capable of 2-10 bits/sec
- At 2 bits/sec we deliver 4 times the speed of other telemetry systems
- NEUTRINO™ uses an encoding method that is 40% more efficient than other encoding methods
- Integrated Stroke Counter directly on the pumps for superior noise reduction
- · A complete surface gear system

Low Power Consumption

Proprietary power consumption technology for unmatched run time

Designed for Reliability

- · A rugged design for the harshest downhole conditions
- In field configuration with basic tools and minimal training
- Fewer parts for higher drilling reliability

Fully Customizable

- Our assets are designed, tested and manufactured entirely in house giving Wolverine the ability to customize any aspect of our tools to fit the needs of our customers
- We believe in working from the ground up to produce superior products which allows our industry leading engineers to find solutions with unmatched speed and efficiency.



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HIGH SPEED PULSER



TOP MOUNT PULSER - NEUTRINO MWD

Features:

- Compatible with Neutrino MWD, Tolteq and GE Systems
- 2-10 Bit/Sec (Neutrino MWD)

Tool Size (OD)	4 3/4"	6 ½" & 6 ¾"	8"
Connection Uphole	3 ½" IF(NC38) Box	4 ½" IF(NC50) Box	6 ⁵ / ₈ " Reg Box
Connection Downhole	3 ½" IF(NC38) Pin	4 ½" IF(NC50) Pin	6 ⁵ / ₈ " Reg Pin
Pin ID (Customizable)	2 ½"	3"	3 1/4"
Orifice/Collar Size	Orifice/Collar Size Configurable on Rigsite		
Flow Range (GPM)	200-500	300-800	400-1000
Battery Life	486hrs @ 2bits/sec (2 bat config) 552hrs @ 0.5bits/sec		
Pulse Width (configurable)	0.32s/pulse	(Reliable 0.0	64s/pulse)
Operating Voltage VDC	24-36		
Max Pressure psi	20,000		
Max Temperature	175°C (in progress)		
Sand Content	<1%		
LCM	50lb/barrel		

Wolverine MWD Pulsers offer high-speed mud pulse data transmission, allowing users to obtain more downhole drilling data and gain a more comprehensive understanding of drilling dynamics and environment. This allows teams to optimize their drilling parameters and programs in order to take remedial actions for drilling dysfunction when it matters most, while drilling.



Wolverine Oilfield Technologies is a subsidiary of NewTech Services Holding Limited, an international oilfield services company founded in 2009. NewTech Services Holding Limited develops technology and expertise within 4 Business Divisions: Drilling Services, Completion Systems, Integrated Project Management and Capital Equipment.

NewTech Services Holding Limited supplies technology products and services to the oil and gas exploration and production industry in Russia and CIS, Europe, Middle East, North and South America.

Wolverine Oilfield Technologies is a subsidiary of NewTech Services Holding Limited specializing in drilling technology products such as MWD/LWD/RSS. www.nt-serv.com



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