

# GORDON

— TECHNOLOGIES —

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## **GT SHOCK MISER UBHO/PULSER SUB:**

The Gordon Technologies “Patent Pending” **SHOCK MISER UBHO/PULSER SUB** offers an innovative design that simply makes MWD tools work better. The design consists of 2 parts:

- 1) **The Shock Miser UBHO Pulser Sub**
- 2) **The Shock Miser Mud Pulse Transmitter Valve Assembly**

### **HOW IT WORKS:**

The Shock Miser UBHO Sub has a built in “bi-directional” shock absorber that isolates the MWD tool from harmful axial (Z axis) shock and vibration.

The patented design also dampens lateral shock and vibration and torsional shock created from motor stalls and stick/slip by partially isolating the MWD tool from the drill string.

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### **FEATURES:**

- Reduces Axial shock and vibration by up to 80%
- Reduces Torsional and Lateral shock and vibration by up to 50%
- Does NOT move vital MWD sensors further from the bit
- Increases MWD mud pulse amplitude by up to 300%
- Allows for faster data rates to reduce rig downtime and improve real time log quality
- Minimizes wear and extends life of the Pulser and UBHO Sleeve
- Allows for a wider range of flow rates
- Eliminates rig site maintenance of MWD Pulser and UBHO Sub
- Filters debris from the mud system, reducing potential for MWD failures
- Rated for 200°C/400°F
- Improved LCM resistance (up to 40 lb/bbl of medium/fine nut plug)
- Available in 4-3/4” O.D. and larger sizes
- Compatible with Salt Saturated, Water base, and Oil Base mud systems



## Shock Miser UBHO/Pulser Sub Tool Specifications

Tool Size	Flow Rate Range	Dog Leg Severity Rotating/Sliding	AVG/MAX Pressure Drop	Sub Length	Sub Weight
4-3/4" or 5" O.D.	150 – 350 gpm	30/40 degrees/100 ft	250/350 psi	39"	100 lbs
6-1/2" O.D.	220 – 750 gpm	DS Dependent	250/350 psi	39"	150 lbs
8" O.D.	350 – 1,200 gpm	DS Dependent	250/350 psi	39"	190 lbs
9-1/2" O.D.	350 – 1,200 gpm	DS Dependent	250/350 psi	39"	220 lbs

## LCM Restrictions

Tool Size	3-1/8", 3-1/2"	4-3/4"	6-1/2", 7-1/4", 7-3/4", 9"
Maximum Allowable Ball Diameter Thru Tool (Inches)	3/16"	1/4"	1/2"
Max FINE/MED Nut Plug (lb/bbl) well mixed	20	40	40
Glass Beads (lb/bbl)	20	40	40
Quickseal/Ultraseal (lb/bbl)	20	40	40
Cottonseed Hulls/Wood Fibers (lb/bbl)	10	20	20

## Shock Miser UBHO/Pulser Sub Sizes, Flow Rate Range, and TFA

Sub Size	Flow Rate Range	TFA Open	Delta P @ Min Flow rate 9 / 14 ppg mud	Delta P @ Max Flow rate 9 / 14 ppg mud
4-3/4" UF	150 - 230 gpm	.695 sq-in	100/160 psi	150/210 psi
4-3/4" LF	180 - 250 gpm	.787 sq-in	100/130 psi	150/190 psi
4-3/4" SF	220 - 280 gpm	.831 sq-in	120/150 psi	180/220 psi
4-3/4" HF	250 - 350 gpm	.976 sq-in	110/140 psi	180/220 psi
5" HF	250 - 350 gpm	.976 sq-in	110/140 psi	180/220 psi
6-1/2" LF	220 - 550 gpm	1.072 sq-in	150/200 psi	210/280 psi
6-1/2" SF	450 - 600 gpm	1.261 sq-in	150/200 psi	260/350 psi
6-1/2" HF	550 - 750 gpm	1.498 sq-in	180/230 psi	300/400 psi
8" LF	350 - 550 gpm	1.072 sq-in	150/200 psi	210/280 psi
8" SF	450 - 600 gpm	1.261 sq-in	150/200 psi	260/350 psi
8" HF	550 - 750 gpm	1.498 sq-in	180/230 psi	300/400 psi
8" XF	700 – 1,200 gpm	1.748 sq-in	160/220 psi	320/420 psi
9-1/2" XF	700 – 1,200 gpm	1.748 sq-in	160/220 psi	320/420 psi

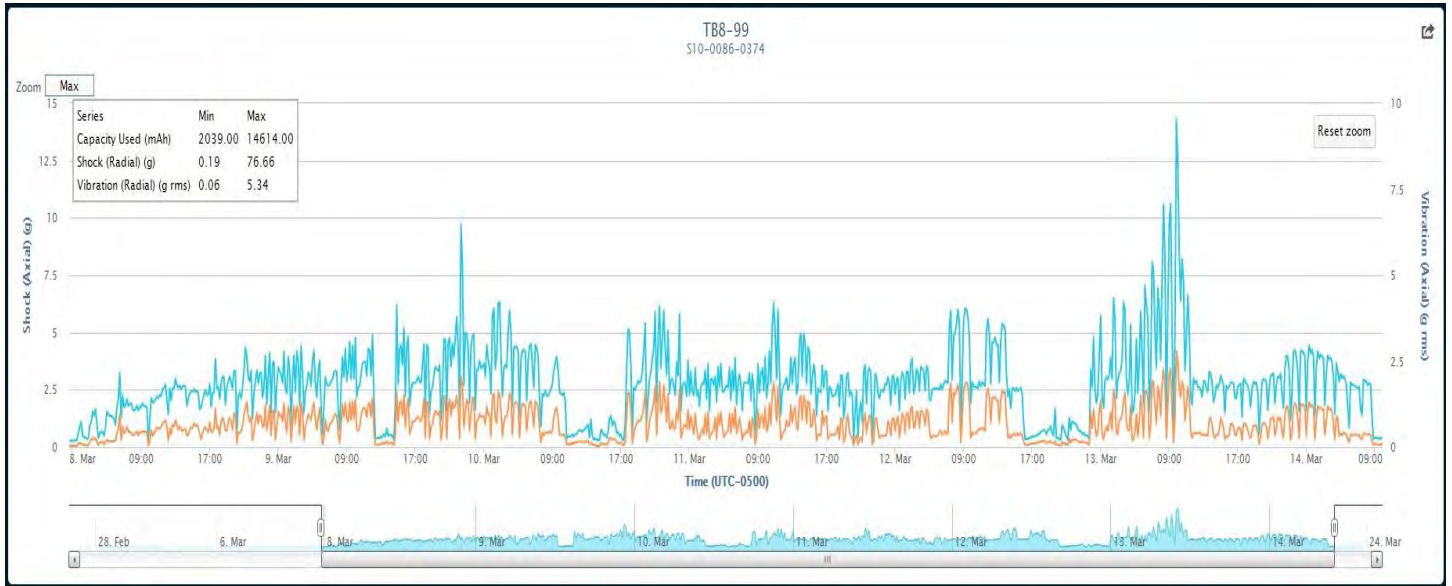
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## Comparison Data: Sample #1 – With and Without Shock Miser

TB8-99 Run in lateral Job # OD0215DPM116 Rig Duke 20 Garfield Co OK PDC Bit

4034 total feet drilled, 121 circ hours, 3 runs **NO SHOCK MISER** **BLUE = Axial Shock** **ORANGE = Axial Vibe**



TB8-46 Run in lateral Job # OD0315DPM122 Rig Duke 20 Garfield Co OK PDC Bit

4359 total feet drilled, 112 circ hours, 1 run **YES SHOCK MISER** **BLUE = Axial Shock** **ORANGE = Axial Vibe**





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Comparison Data: Sample #2 – Vibration Dampener verses Shock Miser

