



GORDON

TECHNOLOGIES

"Providing Innovation with Excellence"

SHOCK MISER SPECIFICATIONS

ABOUT US

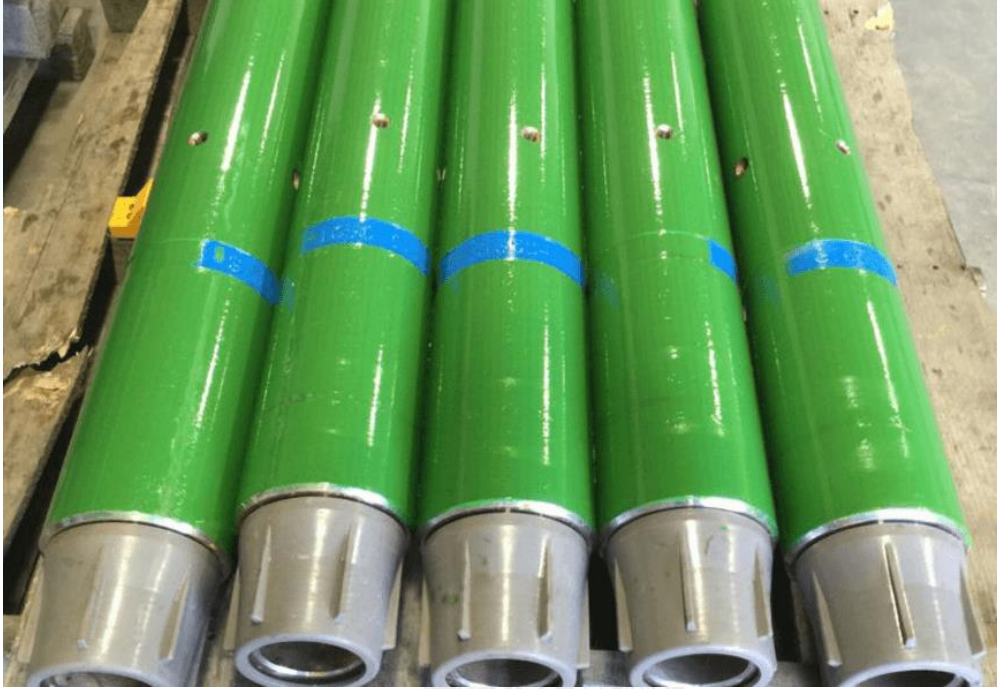


GORDON TECHNOLOGIES IS DEDICATED TO THE DEVELOPMENT OF ADVANCED MWD TECHNOLOGIES, PROVIDING MORE EFFICIENT DRILLING PROCESSES.



In 2014, Gordon Technologies was created to provide innovative MWD technology to create a faster, more robust, and more reliable MWD system than any other on the market. Gordon Technologies' goal is to provide high quality operational support and engineering services to its customers. We continue to follow the philosophy of "Providing Innovation with Excellence" with the Shock Miser UBHO Sub and the GT MWD Systems.

THE PATENTED SHOCK MISER SYSTEM ISOLATES THE MWD TOOL FROM HARMFUL SHOCK AND VIBRATION GENERATED DURING DRILLING CONDITIONS.



FEATURES

SHOCK AND VIBRATION REDUCTION

- Reduces Axial shock and vibration by up to 80%
- Reduces Torsional and Lateral shock and vibration by up to 50%

ADVANCED MECHANICAL DESIGN

- Reduces rig site human error by providing standardized UBHO configurations
- Filters debris from the mud system, reducing potential for MWD failures
- Minimizes wear and extends life to the Pulser and UBHO sleeve
- Compatible with salt-saturated, water, and oil based mud systems
- Allows for a wider range of flow rates
- Increases MWD mud pulse amplitude by up to 300%
- Allows for faster data rates to reduce rig downtime and improve real time log quality
- Rated for 200 degC/400 degF
- Improved LCM resistance (up to 40 lb/bbl of medium/fine nut plug)

SHOCK MISER UBHO/PULSER SUB TOOL SPECIFICATIONS

Tool Size	Flow Rate Range [gpm]	Dog Leg Severity Rotating/Sliding	AVG/MAX Pressure Drop [psi]
3-1/2" O.D.	60 – 180	40/60 degrees/100 ft	350/500
4-3/4" to 5" O.D.	150 – 350	30/40 degrees/100 ft	250/350
5-1/4" O.D.	250 – 425	30/40 degrees/100 ft	250/350
6-1/2" to 6-3/4" O.D.	250 – 750	DS Dependent	250/350
8" O.D.	350 – 1200	DS Dependent	250/350
9-1/2" O.D.	350 – 1200	DS Dependent	250/350

LCM RESTRICTIONS

Tool Size	3-1/2"	4-3/4" – 5-1/4"	>6-1/2"
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

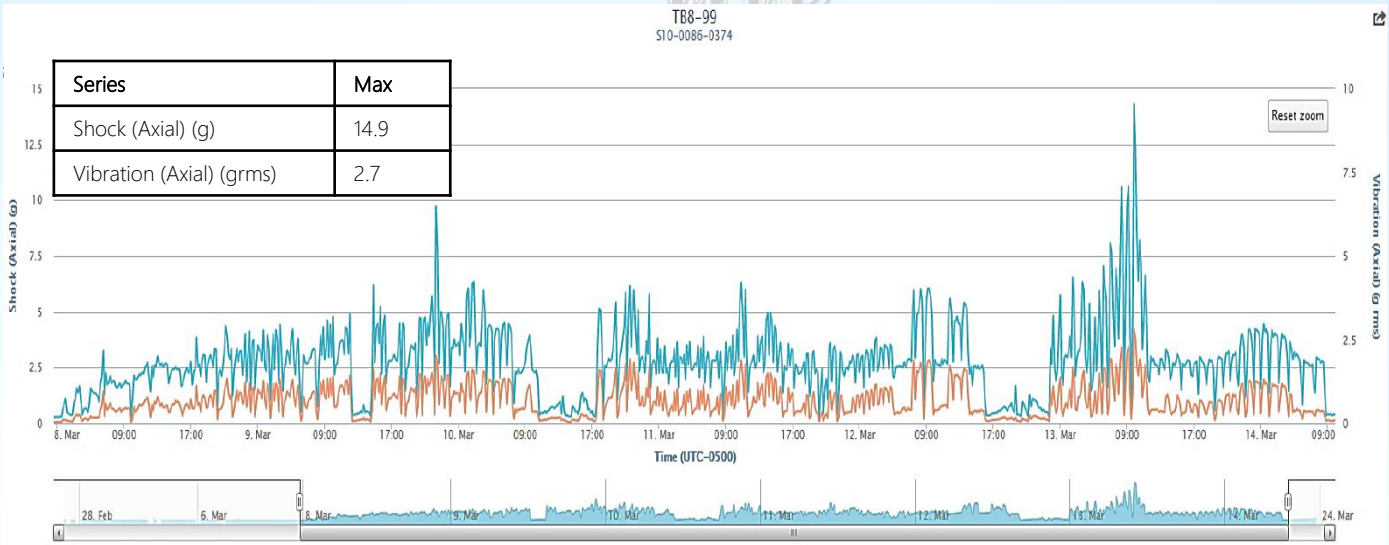
SHOCK MISER UBHO SUB SIZES, FLOW RATE RANGE, TFA

Sub Size	Flow Range (WBM) [gpm]	Flow Range (OBM) [gpm]	TFA Open [in ²]	ΔP @ Min Flow 9 / 14 ppg mud [psi]	ΔP @ Max Flow 9 / 14 ppg mud [psi]
4-3/4 & 5 ULF	150 – 230	150 – 250	0.695	100/150	150/210
4-3/4 & 5 LF	180 – 250	180 – 280	0.787	100/130	150/190
4-3/4 & 5 SF	220 – 280	220 – 320	0.831	120/150	180/220
4-3/4 & 5 HF	250 – 350	250 – 350	0.976	110/140	180/220
5-1/4 HF	280 – 375	280 – 375	0.976	140/170	200/280
5-1/4 XF	300 – 425	300 - 425	1.073	140/180	210/290
6-1/2 & 6-3/4 ULF	250 -500	250 - 550	0.976	150/180	180/220
6-1/2 & 6-3/4 LF	250 – 500	250 – 600	1.072	140/170	210/280
6-1/2 & 6-3/4 SF	350 – 650	350 - 650	1.261	160/200	260/280
6-1/2 & 6-3/4 HF	550 – 800	700 - 800	1.498	180/230	300/400
6-3/4 HF SUPER	550 – 800	700 – 800	1.498	180/230	300/400
6-3/4 XF SUPER	700 - 1000	700 - 1200	1.749	160/220	320/470
8 LF	350 – 550	350 – 690	1.072	150/200	210/280
8 SF	450 – 600	450 – 750	1.261	150/200	260/350
8 HF	550 – 750	550 – 940	1.498	180/230	300/400
8 XF	700 – 1200	700 – 1500	1.749	160/220	320/420
8 MF	1000 – 1300	1000 – 1625	1.98	210/330	360/560

COMPARISON DATA

WITHOUT SHOCK MISER:

JOB #OD0215DPM116, 3 RUNS – RIG DUKE 20 – GARFIELD CO, OK PDC BIT
121 CIR HOURS & 4,034 FEET DRILLED
(BLUE = AXIAL SHOCK, ORANGE = AXIAL VIBE)



WITH SHOCK MISER:

JOB #OD0315DPM122, 3 RUNS – RIG DUKE 20 – GARFIELD CO, OK PDC BIT
112 CIR HOURS & 4,359 FEET DRILLED
(BLUE = AXIAL SHOCK, ORANGE = AXIAL VIBE)

