

Drilling Dynamics Monitor (DDM™)

SureDrill-DDM™



APS's Drilling Dynamics Monitor (DDM™)* measures and records weight on bit, torque on bit, bending on bit, internal and annular pressure and temperature. Captured data may be transmitted in real time via APS's SureShot™ MWD/LWD system, or stored in the DDM's downhole memory for later download and analysis.

The DDM tool can be equipped with vibration monitoring to measure, calculate and record axial, lateral and angular down-hole shock and vibration. Real-time vibration alarms may be transmitted via SureShot.

* U.S. Patent #6,547,016

Product Preliminary Specifications – DDM Tool

Weight on Bit	4-3/4 in.	6-3/4 in.	8 in.
Operating Range	± 30,000 lbs	± 60,000 lbs	± 100,000 lbs
Accuracy	± 5% absolute	± 5% absolute	± 5% absolute
Repeatability	± 1% absolute	± 1% absolute	± 1% absolute
Resolution	1%	1%	1%
Torque on Bit			
Operating Range	± 14,000 ft-lbs	± 30,000 ft-lbs	± 50,000 ft-lbs
Accuracy	± 5% absolute	± 5% absolute	± 5% absolute
Repeatability	± 1% absolute	± 1% absolute	± 1% absolute
Resolution	1%	1%	1%
Bending on Bit			
Operating Range	± 11,000 ft-lbs	± 45,000 ft-lbs	± 45,000 ft-lbs
Accuracy	± 5% absolute	± 5% absolute	± 5% absolute
Repeatability	± 1% absolute	± 1% absolute	± 1% absolute
Resolution	1%	1%	1%
Pressure – Bore & Annulus			
Operating Range	0-20,000 psi	0-20,000 psi	0-20,000 psi
Accuracy	0.1% FSR	0.1% FSR	0.1% FSR

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Product Preliminary Specifications – DDM Tool (continued)

General	4-3/4 in.	6-3/4 in.	8 in.
Borehole Size Range	5-1/4 in. to 6-1/2 in.	8-3/8 in. to 9-7/8 in.	10-5/8 in. to 17-1/2 in.
Connection	3-1/2 IF	4-1/2 IF	6-5/8 Reg.
Nominal O.D.	5.25 in. / 4.90 in. necks	7.25 in. / 6.91 in. necks	8.22 in. / 8.00 in. necks
Nominal I.D.	1.50 in.	3.25 in.	2.813 in.
Nominal Length (Shoulder - Shoulder)	84.0 in.	84.0 in.	92.5 in.
Memory	32 MB	32 MB	32 MB
Material	P550	P550	P550
Environmental			
Max. Sliding Bend Radius^[1]	24.0°/100 ft	22.0°/100 ft	20.0°/100 ft
Max. Rotating Bend Radius^[1]	12.0°/100 ft	10.0°/100 ft	8.0°/100 ft
Operating Temperature	-15°C to 150°C 175°C Option	-15°C to 150°C 175°C Option	-15°C to 150°C 175°C Option
Max. Survival Pressure	26,500 psi	26,500 psi	26,500 psi

^[1] Provisional.

