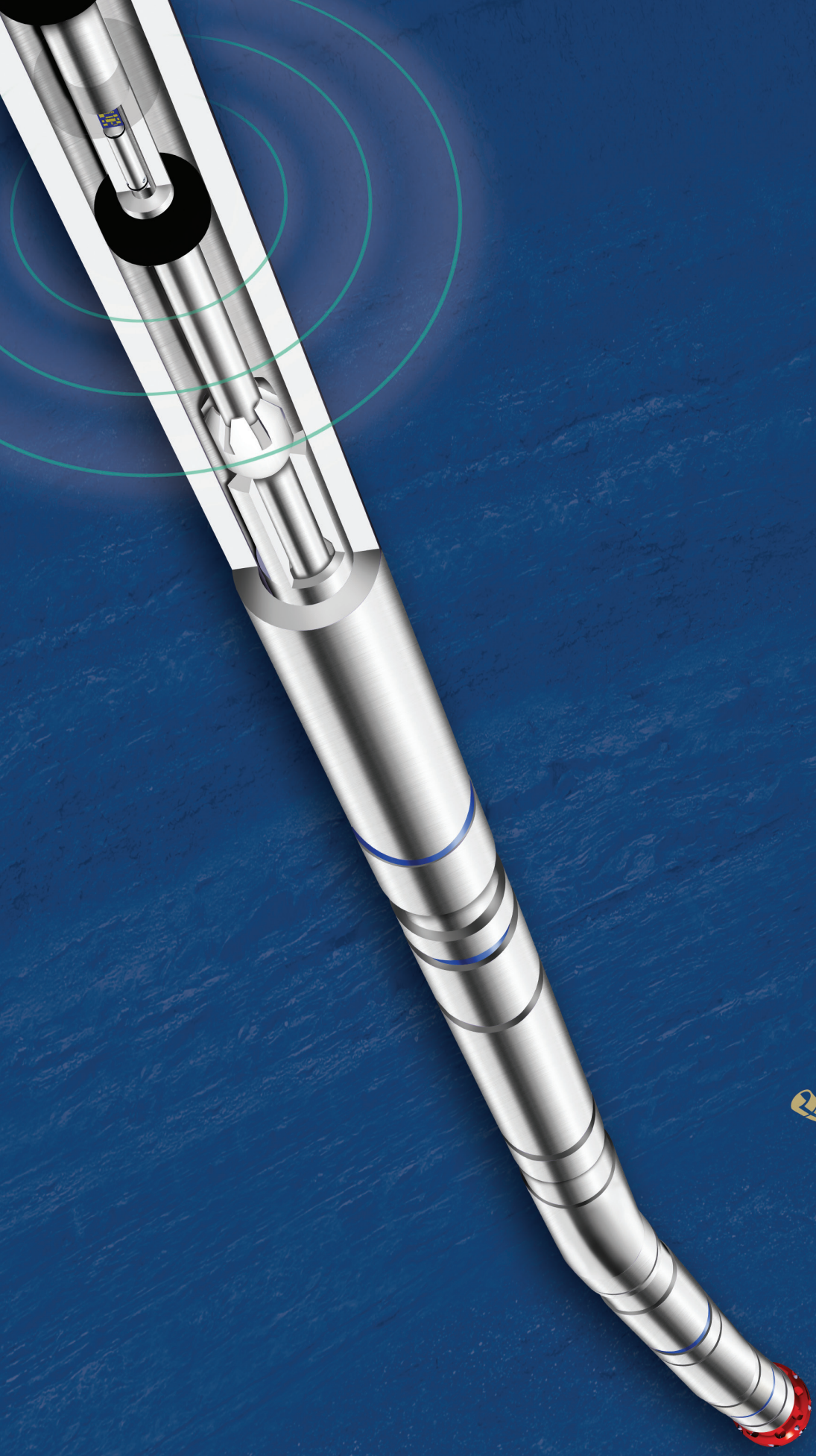

Directional Drilling Catalog

HUNTING

MWD Components
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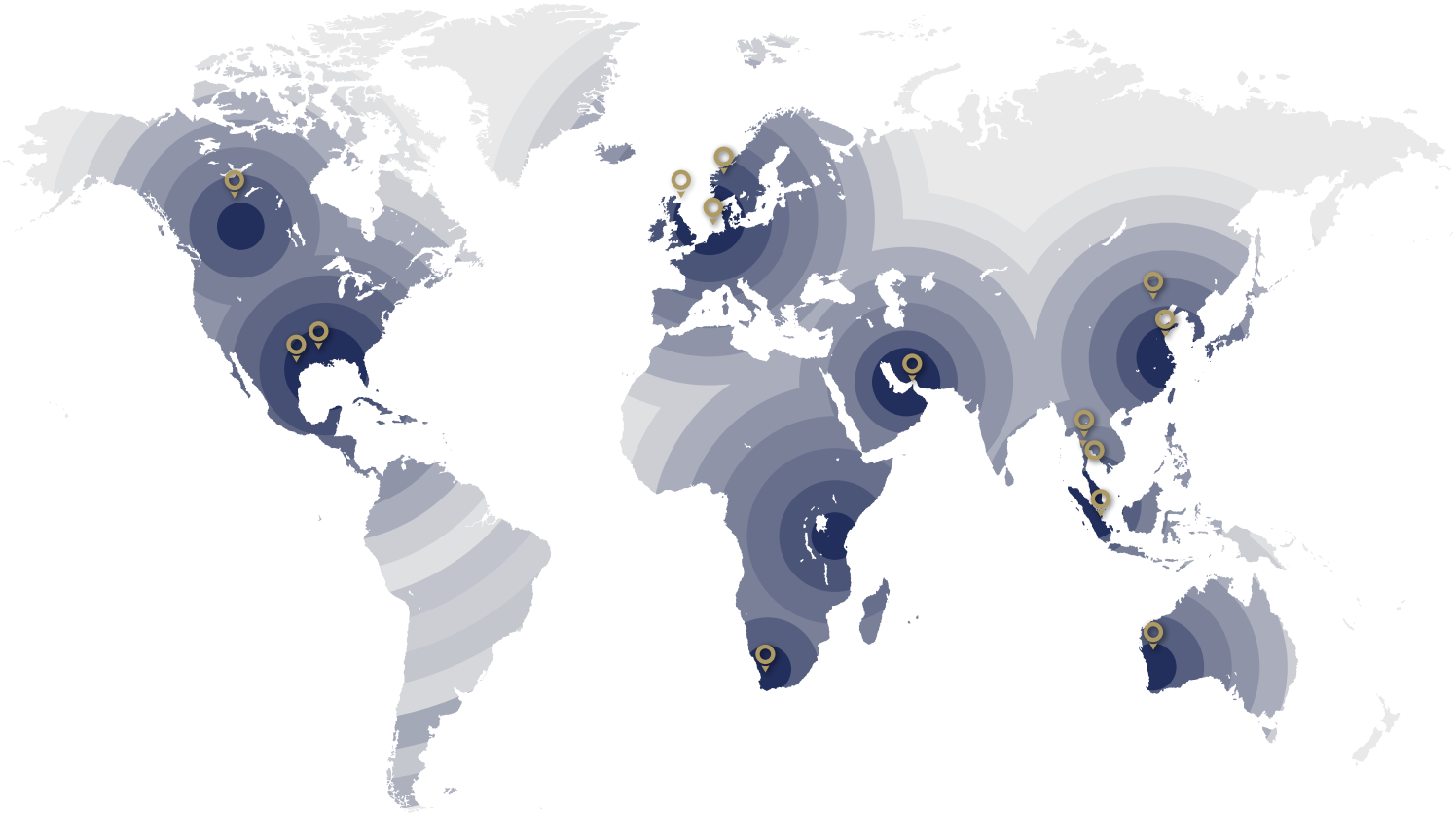
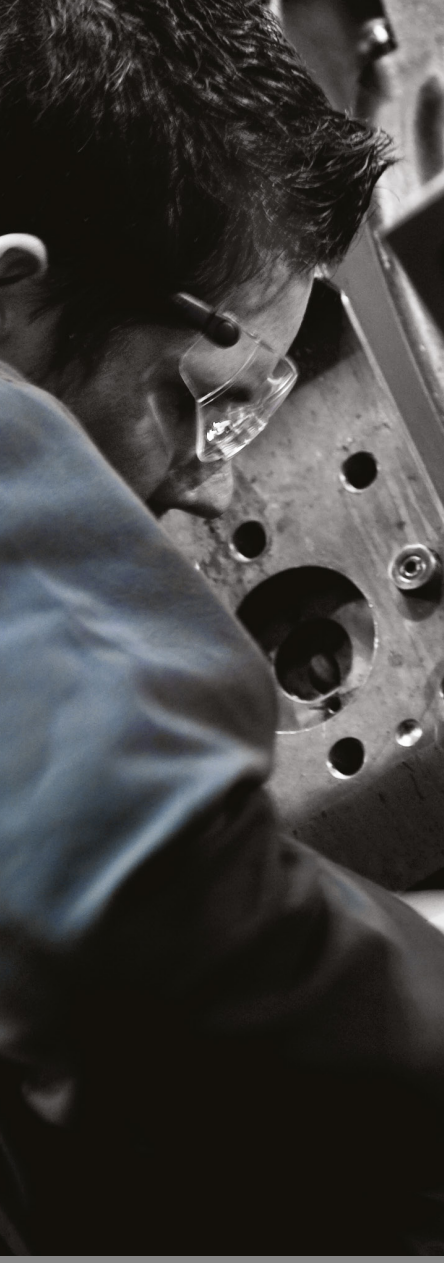
Hunting provides products and services to the world's leading national, international energy companies and oil service companies enabling the extraction of oil and gas. Manufacturing and sales locations are located in the key energy producing regions of the world.





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All of the Electronic Parts are tested & certified. We guarantee Customer Satisfaction!

Can be made to Customer “Tool” Specifications

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		Description
	01-1002	Low Profile Centralizer Blade (Bow Spring)
	01-1006	Collar, Bow Spring, (4 Blade) MWD
	01-1098	Roll Pin - Spiral (for Bow Spring Collar)
	30-1009	MWD Fishing Neck (Standard); Nitronic 50 HS
	30-1010	MWD Fishing Neck (Top); Nitronic 50 HS (Spearpoint with ACME Connection) for Top Shaft
	30-1010-P	Dowel Pin, 1/4” OD X 1-1/2” Length (for MWD Fishing Neck)
	30-1011	Top Shaft; BeCu HT (for connection with MWD Fishing Neck)
	30-1013	Spearpoint Assembly; Nitronic 50 HS (Fishing Neck & Top Shaft All-in-one Part)
	30-1014	Short Interconnect Shaft with Integral Spearpoint
	30-1015	Top Plug Shaft; BeCu HT (Solid Dummy)
	30-1020	Slip Split Ring Set; BeCu
	30-1030	Threaded Ring; BeCu HT
	30-1031	Threaded Ring; Nit 50 HS

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Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
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		Description
	30-1040	Interconnect Shaft; BeCu HT
	30-1040S	Interconnect Shaft, SHORT
	30-1040W	Interconnect Shaft, WIRED
	30-1040SW	Interconnect Shaft
	30-1050	Interconnect Bushing (1-7/8” OD x 1” Long); Nit 50
	30-1051	Interconnect Bushing (1-7/8” OD x 2” Long); Nit 50
	30-1060	Bumper Sleeve - 1.94” OD
	30-1070	Spring, Compression
	30-1080	Washer, MWD; BeCu HT
	30-1081	Washer, MWD; Nitronic 50
	30-1090	Thread Protector for Pin (Female for Male Thread); Alum - Red
	30-1095	Thread Protector for Box (Male for Female Thread); Alum - Red
	30-2010	Interconnect Housing; BeCu HT

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		Description
	30-2011	Interconnect Housing; Nit 50 HS
	30-2020	Bulkhead Retainer, (Top) 90˚ Angle; BeCu
	30-2025	Bulkhead Retainer, (Bottom) 45˚ Angle; BeCu
	30-2030	Split Shell Set; BeCu
	30-2050	Vent Plug (5/16” Hex); Stainless
	30-2050R	Vent Plug (5/16” Hex); with Partial Vent Slot
	30-2051	Vent Plug (1/4” Hex); Stainless
	30-2052	Vent Plug (Slotted); Stainless
	30-2070	Intermodule End (No Holes); BeCu HT
	30-2087	Pressure Housing, Solenoid 14.200”; BeCu HT
	30-2088	Pressure Housing, Gamma 24.000”; BeCu HT
	30-2089	Pressure Housing, Pulser Driver 30.750”; BeCu HT
	30-2090	Pressure Housing, Battery 51.850”; BeCu HT

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Directional Drilling Tools
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		Description
	30-2091	Pressure Housing, XXT 53.550”; BeCu HT
	30-2092	Pressure Housing, XXT2 54.000”; BeCu HT
	30-2093	Pressure Housing, Sensor 62.750”; BeCu HT
	30-3070	Intermodule End, Battery; BeCu HT
	30-4010	Intermodule End, Gamma; BeCu HT
	30-5020	Pressure Bulkhead, OFS; BeCu HT
	30-5040	Oil Fill Housing; BeCu HT
	30-5041	Pressure Bulkhead, OFS (All-In-One with Oil Fill Cap); BeCu HT
	30-5050	Compensator Housing; BeCu HT
	30-5060	Compensator Membrane Support; BeCu HT
	30-5061	Compensator Membrane, HNBR
	30-5070	Screen Housing; BeCu HT
	30-5071	Screen Housing (with Fluid By-Pass); BeCu HT

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Directional Drilling Tools
MWD Components

		Description
	30-5075	Bellow; HNBR Rubber
	30-5076	Bellows Shaft; 3/16” Wide X 4-1/4” Long
	30-5080	Screen-Standard Slotted (for Screen Housing); Stainless
	30-5081	Screen-Large Slot (for Oil Screen Housing); Stainless
	30-5090	Piston Cap, 7/8” Hex, Nitronic 50 HS
	30-5091	Piston Cap, with Venting Slots; Nit 50 HS
	30-5092	Piston Cap; BeCu
	30-5093	Piston Cap, with T-Seal Slot; Nit 50 HS
	30-5094	Piston Cap, 4 Poly Pak Style; 17-4 HT
	30-5095	Spring, Main (MWD)
	30-5096	Spring, Main (15 lb MWD)
	30-5100	Signal Valve Shaft; 17-4 HT
	30-5105	Poppet Tip Bolt; Nit. 50

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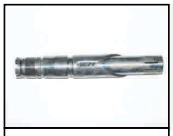
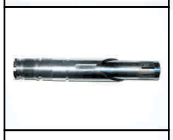
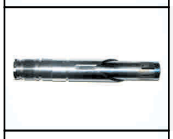
MWD Components

		Description
	30-5110	Pulser Helix; 17-4 HT (Standard) 1.160 ID
	30-5111	Pulser Helix; 17-4 HT (Old Style) 1.140 ID
	30-5112	Pulser Helix; 17-4 HT (With Wrench Flats) 1.160 ID
	30-5113	Pulser Helix; (With Wrench Flats and ID Bored Out)
	30-5114	Pulser Helix w/Locking Ring Profile & Wrench Flats
	30-5120	Oil Fill Plug (Hex); Nitronic 50
	30-5130	Abrasion Ring (Small) 1.875”; 17-4 HT
	30-5140	Abrasion Ring (Large) 2.125”; 17-4 HT
	30-5141	Abrasion Ring; 17-4 HT & HNBR Rubber
	30-5150	Poppet Housing (3” Bore); BeCu HT
	30-5151	Poppet Housing (2” Bore); BeCu HT
	30-5155	Internal Ram Stop; 17-4 HT
	30-5156	External Ram Stop; Stainless

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		Description
	30-5157	Solenoid Spacer
	30-6010	Wear Cuff; 17-4 HT
	30-6011	Wear Cuff (Old Style - for 3-1/2” Muleshoe Sleeve); 17-4 HT
	30-6013	Wear Cuff with Rounded Spanner Wrench Slots - Opening Faces Threads
	30-6014	Wear Cuff with Wrench Flats Opening Facing Up Away from Threads
	30-6030	Muleshoe Key, (Small) for 3-1/2” Sleeve; 17-4 HT
	30-6031	Muleshoe Key, (Medium) for 4-3/4” Sleeve; 17-4 HT
	30-6032	Muleshoe Key, (Large) for 6-1/2” Sleeve; 17-4 HT
	30-6035	Bottom Sleeve; 17-4 HT
	30-6035-1.25C	Bottom Sleeve, All-in-one Ceramic with 1.25” Orifice
	30-6035-1.35C	Bottom Sleeve, All-in-one Ceramic with 1.35” Orifice
	30-6035-1.50C	Bottom Sleeve, All-in-one Ceramic with 1.50” Orifice
	30-6035-1.25TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.25” Orifice

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Directional Drilling Tools
MWD Components

		Description
	30-6035-1.28C	Bottom Sleeve, All-in-one Ceramic with 1.28” Orifice
	30-6035-1.28TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.28” Orifice
	30-6035-1.35TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.35” Orifice
	30-6035-1.40C	Bottom Sleeve, All-in-one Ceramic with 1.40” Orifice
	30-6035-1.40TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.40” Orifice
	30-6035-1.50TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.50” Orifice
	30-6040	Small Mule Shoe Assembly 3-1/2” (Includes Old Style Wear Cuff, Key & Retainer Rings)
	30-6050	Medium Mule Shoe Assembly 4-3/4” (Includes Wear Cuff, Key, Bottom Sleeve, Retainer Rings & Set Screws)
	30-6060	Large Mule Shoe Assembly 6-1/2” (Includes Wear Cuff, Key Bottom Sleeve, Retainer Rings & Set Screws)
	30-6066	Split Locking Ring; BeCu
	30-6080	Wear Sleeve, 2”; Stainless Steel
	30-6081	Wear Sleeve, 3”; Stainless Steel
	30-6211	Retainer Ring - LARGE

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Custom machining, fabrication and engineering services also available.

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		Description
	30-6213	Retainer Ring - MEDIUM
	30-6215	Retainer Ring - SMALL
	30-6300	Rubber Fin - 13” Length X 2-13/16” Fin OD
	30-6305	Rubber Fin, 13” (Extended Brass with 3 Set Screw Holes)
	30-6310	Rubber Fin - 13” Length X 3-1/4” Fin OD
	30-6316	Short Rubber Fin, 5” Long
	30-6360	Cable End 0˚; Aluminum - Red
	30-6361	Cable End 45˚; Aluminum - Red
	30-6362	Cable End 90˚; Aluminum - Red
	30-7302	Transducer Protector - Aluminum
	30-7303	Transducer Protector Adapter 1/2” NPT; 17-4 HT
	30-7304	Transducer Protector Adapter 1/4” NPT; 17-4 HT
	30-7305	Transducer Protector Adapter 7/16”-20; 17-4 HT

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Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
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		Description
	30-7308	Transducer Protector Adapter 1/2” NPT; 17-4 HT; With shorter threads
	30-7400	Snubber Assembly, Gamma (Less Rubber Insert)
	30-7401	Snubber Assembly, Battery (Less Rubber Insert)
	30-7402	Snubber Assembly, Directional (Less Rubber Insert)
	30-7403	Snubber Assembly, Pulser Driver (Less Rubber Insert)
	30-7450	Bushing; BeCu (for Directional Chassis & Snubbers)
	30-7451	Pin; BeCu (for Directional Chassis & Snubbers)
	30-7485	Directional Chassis (Strong Back); Anodized Aluminum

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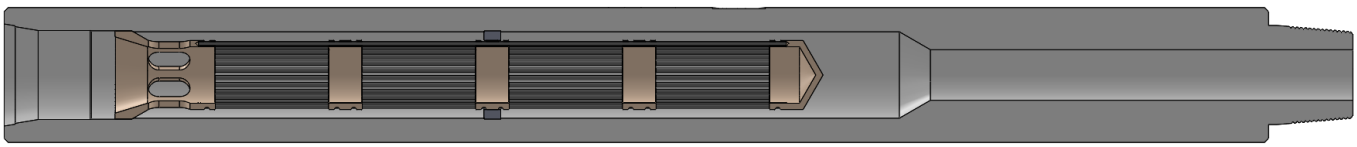
Downhole Filter Sub Sales and Rentals



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Downhole filters help save project time by preventing debris from clogging bits, motors, and sensitive downhole electronics. These filters are typically installed above the bottomhole assembly. After retrieval at the surface, these filters can be cleaned and re-used.

20-1500	3 1/2" OD Downhole Filter Sub 60" Long (w 2 7/8" AOH Pin x Box Connection) w/Filter
20-1450	3 3/4" OD Downhole Filter Sub 72" Long (w 2 7/8" AOL Pin x Box Connection) w/Filter
20-1430	4 3/4" OD Downhole Filter Sub 72" Long (w 3 1/2" AOH Pin x Box Connection) w/Filter
20-1415	6 1/2" OD Downhole Filter Sub 72" Long (w 4 1/2"XH Pin x Box Connection) w/Filter
20-1420	6 3/4" OD Downhole Filter Sub72" Long (w 4 1/2" IF Pin x Box Connection) w/Filter
20-1410	8" OD Downhole Filter Sub 72" Long (w 6 5/8" Reg Pin x Box Connection) w/Filter
20-1400	9 1/2" OD Downhole Filter Sub 72" Long (w 7 5/8" Regular Pin x Box Connection) w/Filter
20-1435	4 3/4" OD NON MAG Downhole Filter Sub 72" Long (w 3 1/2" IF Pin x Box Connection W 3 5/16" ID) w/Filter
20-1425	6 3/4" OD NON MAG Downhole Filter Sub 72" Long (w 4 1/2" IF Pin x Box Connection w 3 5/16" ID) w/Filter
20-1445	8" OD NON MAG Downhole Filter Sub 80" Long (w 6 5/8" Reg Pin x Box Connection) w/Filter

Filter subs may be rented by the day or by the month.

Directional Drilling Tools
Ceramic & Carbide Parts

		Description
	30-6035-1.25C	Bottom Sleeve, All-in-one Ceramic with 1.25” Orifice (straight or ceramic bore)
	30-6035-1.35C	Bottom Sleeve, All-in-one Ceramic with 1.35” Orifice (straight or ceramic bore)
	30-6035-1.50C	Bottom Sleeve, All-in-one Ceramic with 1.50” Orifice (straight or ceramic bore)
	30-6035-1.28C	Bottom Sleeve, All-in-one Ceramic with 1.28” Orifice (straight or ceramic bore)
	30-6035-1.40C	Bottom Sleeve, All-in-one Ceramic with 1.40” Orifice (straight or ceramic bore)
	80–0001	Ceramic Servo Orifice – Standard (for Screen Housing) [3 to 4 Times Longer Lasting than Carbide]
	80–0005	Ceramic Bore Sleeve (aka Piston Wear Sleeve) 2" [White]
	80–0006	Ceramic Bore Sleeve (aka Piston Wear Sleeve) 3" [White]
	80–0007	Ceramic Bore Sleeve (aka Piston Wear Sleeve) 3" [Green] (Hot ISO–Static Press (Tetragonal Zirconia Polycrystal)
	80–0025	Ceramic Poppet Shaft Orifice
	80–0035	Tungsten Caebide Poppet Shaft Orifice
	30-6035-1.25TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.25” Orifice (straight or tapered bore)
	30-6035-1.28TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.28” Orifice (straight or tapered bore)

Custom machining, fabrication and engineering services also available.

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		Description
	30-6035-1.35TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.35” Orifice (straight or ceramic bore)
	30-6035-1.40TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.40” Orifice (straight or ceramic bore)
	30-6035-1.50TC	Bottom Sleeve, All-in-one Tungsten Carbide with 1.50” Orifice (straight or ceramic bore)
	80–0002	Tungsten Carbide Servo Orifice – Standard (for Screen Housing)
	80–0003	Tungsten Carbide Servo Poppet Tip (3 Piece Set with 4 Screws)
	80–0004	Tungsten Carbide Servo Poppet Tip (Cylindrical)
	80–0008	Carbide Main Orifice, 1.5" OD X 1.20" ID
	80–0009	Carbide Main Orifice, 1.5" OD X 1.23" ID
	80–0010	Carbide Main Orifice, 1.5" OD X 1.25" ID
	80–0011	Carbide Main Orifice, 2" OD X 1.24" ID
	80–0012	Carbide Main Orifice, 2" OD X 1.28" ID
	80–0013	Carbide Main Orifice, 2" OD X 1.35" ID
	80–0014	Carbide Main Orifice, 2" OD X 1.40" ID

Custom machining, fabrication and engineering services also available.

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		Description
	80–0015	Carbide Main Orifice, 2" OD X 1.50" ID
	80–0016	Carbide Main Orifice, 2" OD X 1.55" ID
	80–0017	Carbide Main Orifice, 2" OD X 1.60" ID
	80-0018	Carbide Main Orifice, 2" OD X 1.20" ID
	80-0019	Carbide Main Orifice, 2" OD X 1.25" ID
	80-0026	Carbide Main Orifice, 2" OD X 1.31" ID
	80-0027	Carbide Main Orifice, 2" OD X 1.45" ID
	80–0020	Tungsten Carbide Poppet Tip, 1.122" (Available as a 2-piece (braised) or a 1-piece (all-carbide)
	80–0021	Tungsten Carbide Poppet Tip, 1.086" (Available as a 2-piece (braised) or a 1-piece (all-carbide)
	80–0022	Tungsten Carbide Poppet Tip, 1.040" (Available as a 2-piece (braised or a 1-piece (all-carbide)
	80–0029	Tungsten Carbide Poppet Tip, 1.167 (Available as a 2-piece (braised) or a 1-piece (all-carbide)
	80-0030	Tungsten Carbide Poppet Tip, 1.125" (Available as a 2-piece (braised) or a 1-piece (all-carbide)
	80-0038	Carbide Sleeve Poppet Tip, 1.040" (Available as a 2-piece (braised) or a 1-piece (all-carbide)

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Directional Drilling Tools
Ceramic & Carbide Parts

		Description
	80-0039	Carbide Sleeve Poppet Tip, 1.086"
	80-0040	Carbide Sleeve Poppet Tip, 1.122"
	80-0041	Carbide Sleeve Poppet Tip, 1.125"
	80-0042	Carbide Sleeve Poppet Tip, 1.145"
	80-0043	Carbide Sleeve Poppet Tip, 1.167"
	36-123	Poppet Bolt, Nitronic 50 1/2“ Socket Head (Hex Head available upon request)

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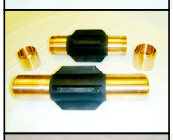
			Description
	100-200	981991-B	Pigtail, Battery
	100-201	981992	Pigtail, Electronic
	100-202	981954	Pigtail, Gamma (TOP)
	100-203	981955	Pigtail, Gamma (BOTTOM)
	100-204	981990	Pigtail, Pulser
	100-300	90005	Transorb (MWD) - With Metal End Connect
	100-301	90005	Transorb (MWD) - Without Metal End Connect
	100-304		Transorb Snubber
	30-1038	981681	Connector: 6 Pin, 4 Socket, Battery, High Temp (Black) Wetech Style
	30-1039	981680	Connector: 4 Pin, 6 Socket, Non-Battery, High Temp (Red) Wetech Style

Directional Drilling Tools
MWD Electronics

		Description
	30-BOB-1	Test Box, Multi Use
	30-BOB-2	Break Out Box, Standard Can be made to Customer “Tool” Specifications
	30-1040W	Interconnect Shaft - Wired
	200-201	Interconnect Shaft - Wiring Service
	200-202	Interconnect Shaft - Reworked (Customer Supplies Connectors)

Directional Drilling Tools
Running Gear

		Description
	01-1000	Centralizer, Conductive (Adjustable), 1.75” OD, with Blades, Pins & Springs
	01-1003	Coil Spring (for 1.75” OD Centralizer)
	01-1004	Collar, Bow Spring, (3 Blade)
	01-1010	Centralizer Non-Conductive (Adjustable), 100% S.S. 1.75” OD, with Blades, Pins & Springs
	01-1011	Centralizer Conductive (Adjustable), 100% S.S. 1.75” OD, with Blades, Pins & Springs
	05-1000	Centralizer Non-Conductive (Adjustable), 1.75 OD, with Blades, Pins & Springs
	05-1001	Tube Collet Stabilizer Assembly (for 1.760” ID)
	05-1001NM	Tube Collet Stabilizer Assembly, 1.760” ID; Non-Magnetic
	05-1004	Tube Collet Stabilizer Assembly; 1.79” ID; 2-13/16” OD
	05-1004NM	Tube Collet Stabilizer Assembly (Non-Magnetic); 1.79” ID; 2-13/16” OD
	05-1007	Tube Collet Stabilizer Assembly; 1.875” ID; BeCu
	05-1007NM	Tube Collet Stabilizer Assembly (Non-Magnetic); 1.875” ID; BeCu
	07-1010	Hammer Union; 15000 psi; 2”

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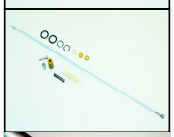
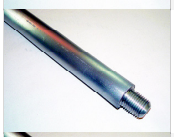
Directional Drilling Tools
Running Gear

		Description
	10-1001	Slick Line Rope Socket, 1-3/4” OD X .092 Line
	10-1002	Rope Socket (TOP) for 5/16” Conductive Wireline; Carbon Steel
	10-1003	Rope Socket (BOTTOM) for 5/16” Conductive Wireline; Carbon Steel
	10-1004	Rope Socket (TOP) for 5/16” Conductive Wireline; Stainless Steel
	10-1005	Rope Socket (BOTTOM) for 5/16” Conductive Wireline; Stainless Steel
	10-1009	Tear Drop Sub (Short)
	10-1010	Re-Head Assembly for 5/16” Conductive Wireline
	10-1018	Tattletale 1/4” OD X 1” Length; Lead
	10-1100	Repair Kit for Centralizer (Conductive Type)
	14-1000 AL1	Spacer Bar (Aluminum) - 1’ Length X 1-3/4” OD
	14-1000 AL2	Spacer Bar (Aluminum) - 2’ Length X 1-3/4” OD
	14-1000 AL3	Spacer Bar (Aluminum) - 3’ Length X 1-3/4” OD
	14-1000 AL4	Spacer Bar (Aluminum) - 4’ Length X 1-3/4” OD

MWD Components
Ceramic & Carbide Parts
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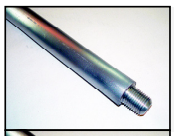
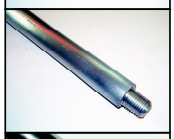
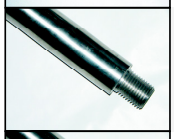
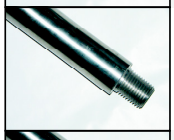
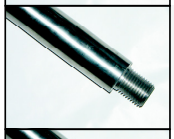
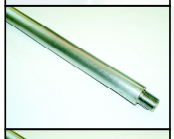
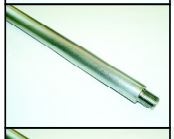
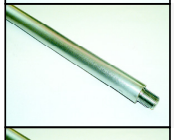
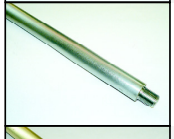
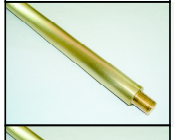
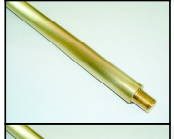
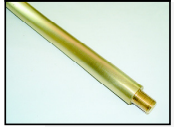
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

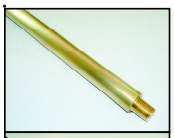
Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Running Gear

		Description
	14-1000 AL5	Spacer Bar (Aluminum) - 5’ Length X 1-3/4” OD
	14-1000 AL6	Spacer Bar (Aluminum) - 6’ Length X 1-3/4” OD
	14-1005 SS2	Weight Bar (Stainless Steel) - 2’ Length X 1-3/4” OD, 1-1/4” 8R Box X 1-1/4” Pin
	14-1005 SS3	Weight Bar (Stainless Steel) - 3’ Length X 1-3/4” OD, 1-1/4” 8R Box X 1-1/4” Pin
	14-1005 SS4	Weight Bar (Stainless Steel) - 4’ Length X 1-3/4” OD, 1-1/4” 8R Box X 1-1/4” Pin
	14-1005 SS5	Weight Bar (Stainless Steel) - 5’ Length X 1-3/4” OD, 1-1/4” 8R Box X 1-1/4” Pin
	14-1009 CS2	Weight Bar (Carbon Steel) - 2’ Length X 1-3/4” OD, 1-1/4” 8R Box X 1-1/4” Pin
	14-1009 CS3	Weight Bar (Carbon Steel) - 3’ Length X 1-3/4” OD, 1-1/4” 8R Box X 1-1/4” Pin
	14-1009 CS4	Weight Bar (Carbon Steel) - 4’ Length X 1-3/4” OD, 1-1/4” 8R Box X 1-1/4” Pin
	14-1009 CS5	Weight Bar (Carbon Steel) - 5’ Length X 1-3/4” OD, 1-1/4” 8R Box X 1-1/4” Pin
	14-1010 BR2	Weight Bar (Brass) - 2’ Length X 1-3/4” OD
	14-1010 BR3	Weight Bar (Brass) - 3’ Length X 1-3/4” OD
	14-1010 BR4	Weight Bar (Brass) - 4’ Length X 1-3/4” OD

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Running Gear

		Description
	14-1010 BR5	Weight Bar (Brass) - 5' Length X 1-3/4" OD
	14-1015	Spang Jar, 30" Stroke, 1-1/4" 8R Box X 1-1/4" Pin
	14-1098	Compression Spring (Coil), R-Type
	14-1099	R-Type Overshot, 1-3/4" OD (aka Kuster or Bulldog)
	14-1100	J-Latch Assembly
	14-1101	J-Latch Spring
	14-1105	1-3/8" JD Pulling Tool
	14-1110	On/Off Latch
	15-1000	Soft Landing Assembly, 1-3/4" OD
	15-1001	Compression Spring, 1-3/4" OD Soft Landing
	15-1002	Soft landing Assembly 2-1/2" OD
	15-1003	Compression Spring, 2-1/2" OD Soft Landing
	15-1006	Wiper Rubber, Spiral with Chains, for 5/16" Line

MWD Components
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Mud Motors

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Directional Drilling Tools
Running Gear

		Description
	15-1008	Finger, Rubber
	15-1009	Finger Guide, 1-3/4” Hole
	15-1010	Slick Line Swivel, 1-3/4” OD
	15-1015	Slick Line Swivel (1-3/4”) with Fishing Neck
	21-1018	Landing Cone 1-1/4” 8R Box
	21-1025	Bull Plug (BOTTOM), Dog Ear Style, Tensor Thread; Brass
	21-1030	Top Plug, 1.75” OD; Brass
	21-1031	Top Plug for Steering Tool 1.75” OD; Brass
	25-1011	Crossover, 1-1/4” Kuster Box X 1-1/4” Kuster Pin
	25-1012	Crossover, 1-1/4” 8R Pin X 1-3/16”-12 UN Box
	25-1013	Crossover, 1-3/16” -12 UN Pin X 1-1/4”-8R Pin
	25-1014	Crossover, 5/8” SR Pin X 1-1/4-8R Box
	25-1015	Crossover, 1-1/4” 8R Box X 1-1/4”-8R Box

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Running Gear

		Description
	25-1017	Crossover, 5/8” SR Pin X 5/8” SR Pin
	25-1019	Crossover, 5/8” SR Box X 1-1/4”-8R Pin
	25-1020	Crossover, 1-3/16” -12 Box X 5/8”-SR Pin
	25-1021	Crossover, 1-1/4”-8R Pin X 1-1/4”-8R Pin
	25-1022	Crossover, 1-3/16” 12 UN Box X 1-1/4”-8R Box
	25-1025	Crossover, (Decelerator), 1” 8R Box X 1-1/4”-8R Pin
	25-1026	Crossover, 1” 8R Pin X 1-1/4”-8R Box
	25-1027	Crossover, 1” 8R Box X 1-1/4”-8R Box
	25-1028	Crossover, 1-3/16” - 12 Pin X 5/8” SR Box Box
	25-1029	Crossover, 1-3/16” - 12 Pin X 1-3/16” - 12 Box Box
	25-1030	Crossover, 1-3/16” - 12 Pin X 1-1/4” 8R Box
	25-1031	Crossover, 1” 8R Pin X 1-1/4”-8R Pin
	30-6645	Stinger Non Circulating - MWD

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Running Gear

MWD Components
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Running Gear
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Mud Motors

		Description
	30-8500	Fin Cutter, 4-1/2” XH; 17-4 HT (patent 8,006,769 B2)
	30-8501	Fin Cutter, 4-1/2” IF; 17-4 HT (patent 8,006,769 B2)
	30-8502	Fin Cutter, 3-1/2” IF; 17-4 HT (patent 8,006,769 B2)
	30-8503	Fin Cutter, 6-5/8” FH; 17-4 HT (patent 8,006,769 B2)
	30-8504	Fin Cutter, 6-5/8” REG; 17-4 HT (patent 8,006,769 B2)
	30-8505	Fin Cutter, 4” FH; 17-4 HT (patent 8,006,769 B2)
	35-1000	Stinger, Flow Thru, 1-3/8” OD
	35-1001	Stinger, Flow Thru, 1-3/4” OD
	35-1002	Stinger, Flow Thru, 1-7/8” OD
	35-1005	Stinger, Flow Thru, 1-3/4” OD
	35-1010	Stinger, Solid 1-3/8” OD
	35-1011	Stinger, Solid 1-3/4” OD
	35-1012	Stinger, Solid 1-7/8” OD

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Running Gear

		Description
	35-1027	UBHO Sleeve, 2.70” OD
	35-1027K	UBHO Key 2.70” OD
	35-1028	UBHO Sleeve, 2.40” OD
	35-1028K	UBHO Key 2.40” OD
	37-1001	Line Rubber, 5/16” DMI
	37-1002	Line Rubber, DMI (Small)
	37-1010	Line Rubber, Bowen Pack Off, 5/16” Wireline
	37-1021	Line Rubber, SDS Packing, 5/16” (Standard)
	37-1025	Bowen Pack Off cap (Night Cap), Complete

Directional Drilling Tools
Handling Equipment

		Description
	21-1001	Lifting Eye w/Shackle, 1-3/4” OD
	21-1005	Aluminum Tool Stand (12”)
	21-1007	Aluminum Tool Stand (40”)
	21-5000 21-5005 21-510	Mobile Test Stand With Chain Vice With Petol Friction Vice
	30-6350	Lifting Bail Assembly-MWD
	30-6650	Interconnect Alignment Tool
	30-6661	Friction Wrench 1” ID
	30-6662	Friction Wrench 1.5” ID
	30-6667	Friction Wrench, 1.75” ID
	30-6663	Friction Wrench 1.875” ID
	30-6665	Friction Wrench, 2” Sure Grip
	30-6669B	Alignment Wrench - Beefy; 24” Length
	30-6669BL	Alignment Wrench - Beefy Extra Long; 33.5” Length

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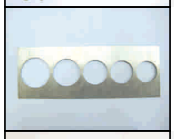
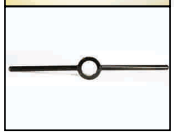
Directional Drilling Tools
Handling Equipment

		Description
	30-6670	Mule Shoe Knock Out Tool
	30-6685	Gauge Plate
	30-6690	Spanner Wrench
	30-6691	Spanner Wrench Pins
	30-6692	Spanner Wrench with Full Circle
	30-6693	Spanner Wrench; Full Circle; 2 Handle

Directional Drilling Tools
Drill Pipe Screens

SPIRAL DRILL PIPE SCREENS



**** Prices INCLUDE Outer Ring for Connection of your choice***

2' Spiral Tube Screen, 2-7/8" OD Body, 1/4" Thick with 5/16" Slots; Carbon Steel

ITEM	DESCRIPTION
20-10	LARGE Top - Fishing Neck Style
20-11	LARGE Top - Open Top Style

MWD Components
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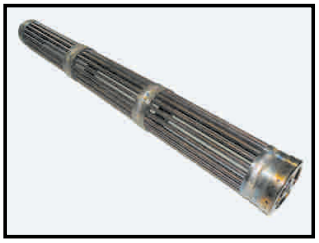
Mud Motors

BAR (or ROD) DRILL PIPE SCREENS



2' Bar Style Drill Pipe Screen, 1/4" Thick; 17-4 HT Stainless Steel

ITEM	DESCRIPTION
20-30	LARGE Top - Fishing Neck Style
20-31	LARGE Top - Open Top Style
20-32	SMALL Top - Fishing Neck Style
20-33	SMALL Top - Open Top Style

** Prices INCLUDE Outer Ring for Connection of your choice - UP TO - the 4-1/2" IF Size.*

Directional Drilling Tools
Drill Pipe Screens

BAR (or ROD) DRILL PIPE SCREENS

2' Slotted Tube Drill Pipe Screen, 1/4" Thick with 1/4" Slots; Carbon Steel

ITEM	DESCRIPTION
20-20	EXTRA LARGE Top (2-7/8" OD) - Fishing Neck Style
20-21	EXTRA LARGE Top (2-7/8" OD) - Open Top Style
20-22	LARGE Top (2-1/2" OD) - Fishing Neck Style
20-23	LARGE Top (2-1/2" OD) - Open Top Style
20-24	SMALL Top (2" OD) - Fishing Neck Style
20-25	SMALL Top (2" OD) - Open Top Style
20-26	EXTRA SMALL Top (1-3/4" OD) - Fishing Neck Style

Outer Ring for 2-1/2" OD Body SLOTTED Screens Only

Note: 2" OD Body & 2-7/8" OD Body Slotted Drill Pipe Screens can use STANDARD Outer Rings.
2-1/2" OD Body Slotted Drill Pipe Screens MUST use:

ITEM	DESCRIPTION
20-28	4-1/2" IF Outer Ring (for 2-1/2" OD Slotted Screen)
20-29	4-1/2" XH Outer Ring (for 2-1/2" OD Slotted Screen)

3' Slotted 7 Gauge Cone Screens

ITEM	DESCRIPTION
20-35	LARGE Top, Fishing Neck Style
20-36	LARGE Top, Open Top Style
20-37	SMALL Top, Fishing Neck Style
20-38	SMALL Top, Open Top Style

** Prices INCLUDE Outer Ring for Connection of your choice - UP TO - the 4-1/2" IF Size.*

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Drill Pipe Screens

PERFORATED RETRIEVABLE DRILL PIPE SCREENS

*** Prices INCLUDE Outer Ring for Connection of your choice**

"Premium" Perforated Cone Style Drill Pipe Screen, 3' Long, Heavy Duty 7 Gauge 304 SS, *5/16" Holes* - With Extended Collar

ITEM	DESCRIPTION
20-40	LARGE Top - Fishing Neck Style
20-41	LARGE Top - Open Top Style
20-42	SMALL Top - Fishing Neck Style
20-43	SMALL Top - Open Top Style

Perforated Cone Style Drill Pipe Screen, 3' Long, Heavy Duty 7 Gauge 304 SS, *5/16" Holes*

ITEM	DESCRIPTION
20-50	LARGE Top - Fishing Neck Style
20-51	LARGE Top - Open Top Style
20-52	SMALL Top - Fishing Neck Style
20-53	SMALL Top - Open Top Style

** Prices INCLUDE Outer Ring for Connection of your choice - UP TO - the 4-1/2" IF Size.*

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Drill Pipe Screens

PERFORATED RETRIEVABLE DRILL PIPE SCREENS

"Premium" Perforated Cone Style Drill Pipe Screen, 3' Long, Heavy Duty 7 Gauge 304 SS, *1/4" Holes* - With Extended Collar

ITEM	DESCRIPTION
20-60	LARGE Top - Fishing Neck Style
20-61	LARGE Top - Open Top Style
20-62	SMALL Top - Fishing Neck Style
20-63	SMALL Top - Open Top Style

Perforated Cone Style Drill Pipe Screen, 3' Long, Heavy Duty 7 Gauge 304 SS, *1/4" Holes*

ITEM	DESCRIPTION
20-64	LARGE Top - Fishing Neck Style
20-65	LARGE Top - Open Top Style
20-66	SMALL Top - Fishing Neck Style
20-67	SMALL Top - Open Top Style

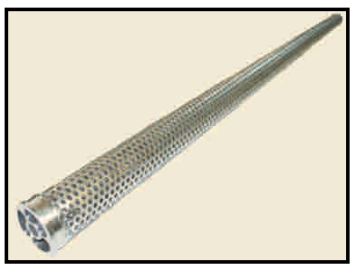
** Prices INCLUDE Outer Ring for Connection of your choice - UP TO - the 4-1/2" IF Size.*

Directional Drilling Tools
Drill Pipe Screens

PERFORATED RETRIEVABLE DRILL PIPE SCREENS

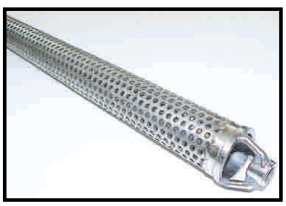
"Premium" Perforated Cone Style Drill Pipe Screen, 3' Long, Standard Weight 11 Gauge 304 SS, *3/16" Holes* - With Extended Collar

ITEM	DESCRIPTION
20-70	LARGE Top - Fishing Neck Style
20-71	LARGE Top - Open Top Style
20-72	SMALL Top - Fishing Neck Style
20-73	SMALL Top - Open Top Style



Perforated Cone Style Drill Pipe Screen, 3' Long, Standard Weight 11 Gauge 304 SS, *3/16" Holes*

20-74	LARGE Top - Fishing Neck Style
20-75	LARGE Top - Open Top Style
20-76	SMALL Top - Fishing Neck Style
20-77	SMALL Top - Open Top Style



20-78	EXTRA SMALL Top - Fishing Neck Style

** Prices INCLUDE Outer Ring for Connection of your choice - UP TO - the 4-1/2" IF Size.*

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Drill Pipe Screens

PERFORATED NON-RETRIEVABLE DRILL PIPE SCREENS

*** Prices INCLUDE Outer Ring for Connection of your choice**

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

ITEM	DESCRIPTION
12” Long	
20-80	LARGE Top - 7 Gauge
20-81	SMALL Top - 7 Gauge
20-90	LARGE Top - 11 Gauge
20-91	SMALL Top - 11 Gauge
20-91a	EXTRA SMALL Top - 11 Gauge
18” Long	
20-82	LARGE Top - 7 Gauge
20-83	SMALL Top - 7 Gauge
20-93	LARGE Top - 11 Gauge
20-94	SMALL Top - 11 Gauge
20-94a	EXTRA SMALL Top - 11 Gauge
24” Long	
20-84	LARGE Top - 7 Gauge
20-85	SMALL Top - 7 Gauge
20-96	LARGE Top - 11 Gauge
20-97	SMALL Top - 11 Gauge
20-97a	EXTRA SMALL Top - 11 Gauge

** Prices INCLUDE Outer Ring for Connection of your choice - UP TO - the 4-1/2” IF Size.*

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Drill Pipe Screens

NON-RETRIEVABLE DRILL PIPE SCREENS

*** Prices INCLUDE Outer Ring for Connection of your choice**

ITEM	DESCRIPTION
36" Long	
20-86	LARGE Top - 7 Gauge
20-87	SMALL Top - 7 Gauge
20-98	LARGE Top - 11 Gauge
20-99	SMALL Top - 11 Gauge
20-99a	EXTRA SMALL Top - 11 Gauge

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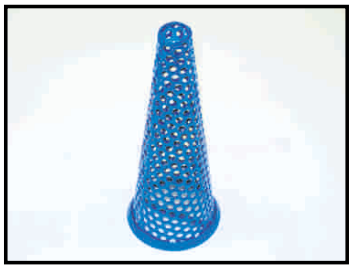
NON-RETRIEVABLE DRILL PIPE SCREENS – aka "Witches Hat"



16 Gauge (Light Weight)
Standard Length: 10"

Note: As with ALL of our Screens, Special Lengths, Sizes, Modifications can be made upon Request.

*** Prices INCLUDE Outer Ring for Connection of your choice**

20-100	LARGE Top - 16 Gauge
20-101	SMALL Top - 16 Gauge
20-101a	EXTRA SMALL - 16 Gauge

** Prices INCLUDE Outer Ring for Connection of your choice - UP TO - the 4-1/2" IF Size.*

Directional Drilling Tools
Drill Pipe Screens

OUTER RINGS - For LARGE Top Screens



ITEM	DESCRIPTION
20-200	4-1/2” XH Outer Ring (Equivalent to 4” IF)
20-201	4-1/2” IF Outer Ring (Equivalent to 5” XH)
20-202	4-1/2” FH Outer Ring
20-203	5-1/2” Full Hole Outer Ring
20-204	HT-55 Outer Ring
20-205	6-5/8” Full Hole Outer Ring (Equivalent to 5-12” IF)
20-206	7-H90 Outer Ring (Equivalent to 6-5/8” REG)
20-207	XT-50 Outer Ring
20-208	XT-57 Outer Ring

OUTER RINGS - For SMALL Top Screens

ITEM	DESCRIPTION
20-220	3-1/2” IF OR 3-1/2” XH Outer Ring
20-221	HT-38 Outer Ring
20-222	XT-39 Outer Ring
20-223	HT-40 Outer Ring
20-224	4” FH (Full Hole) Outer Ring
20-225	4-1/2” XH “Special” Outer Ring - to fit 2-1/4” ID Regular
20-226	4-1/2” IF “Special” Outer Ring - to fit 2-1/4” ID Regular

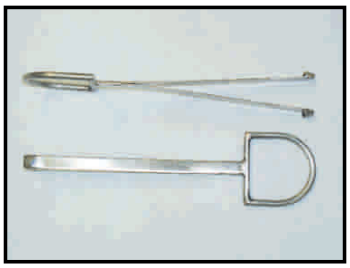
OUTER RINGS - For EXTRA SMALL Top Screens

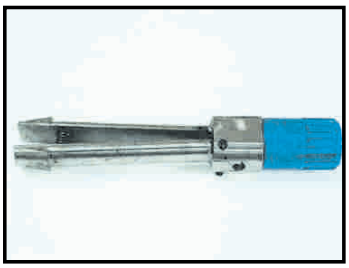
ITEM	DESCRIPTION
20-230	2-7/8” IF Or AOH Outer Ring

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Drill Pipe Screens

ACCESSORIES - For Open Top Screens





ITEM	DESCRIPTION
20-304	Extractor Tool (Tongs)
20-305	Retrieving Tool - Spring Loaded (Small)
20-306	Retrieving Tool - Spring Loaded (Large)

ADDITIONAL ITEMS

ITEM	DESCRIPTION
20-660	Standard Reed Fishing Neck
20-661	Pee Wee Fishing Neck (1/2” OD Body)

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Directional Drilling Tools
Float Valves

	Description
62-0019	1F2R - Model 'F' Float Valve
62-0039	2F3R - Model 'F' Float Valve
62-0083	3-1/2"IF - Model 'F' Float Valve
62-0105	4R - Model 'F' Float Valve
62-0127	5R - Model 'F' Float Valve
62-0143	5F6R - Model 'F' Float Valve
62-0019	1F2R - Model 'G' Float Valve
62-0051	2F3R - Model 'G' Float Valve
62-0095	3-1/2" IF - Model 'G' Float Valve
62-0117	4R - Model 'G' Float Valve
62-0130	5R - Model 'G' Float Valve
62-0161	5F6R - Model 'G' Float Valve
62-0020	1F2R - Model 'GA' Float Valve
62-0052	2F3R - Model 'GA' Float Valve
62-0094	3-1/2" IF - Model 'GA' Float Valve
62-0118	4R - Model 'GA' Float Valve
62-0126	5R - Model 'GA' Float Valve
62-0162	5F6R - Model 'GA' Float Valve

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Other sizes, replacement parts, and kits available upon request.

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Repair Kits

Model F

	1F2R	2F3R	3-1/2"IF	4R	5R	5F6R
Rubber Kit Part No.	60-0017	60-0038	60-0082	60-0104	60-0129	60-0150
Metal Kit Part No.	60-0016	60-0037	60-0081	60-0103	60-0130	60-0151

Model G

	1F2R	2F3R	3-1/2"IF	4R	5R	5F6R
Rubber Kit Part No.	60-0015	60-0036	60-0083	60-0113	60-0033	60-0175
Metal Kit Part No.	60-0014	60-0035	60-0084	60-0014	60-0131	60-0174

Model GA

	1F2R	2F3R	3-1/2"IF	4R	5R	5F6R
Rubber Kit Part No.	60-0013	60-0050	60-0094	60-0116	60-0132	60-0160
Metal Kit Part No.	60-0012	60-0049	60-0093	60-0115	60-0134	60-0159

*Model "G" and "GA" Repair Kits also available.**Individual Repair Parts also available.*

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Job Box

30-BOX-60	Job Box - 60” - Aluminum
30-BOX-88	Job Box - 88” - Aluminum
30-BOX-96	Job Box - 96” - Aluminum
30-BOX-108	Job Box - 108” - Aluminum
30-BOX-132	Job Box - 132” - Aluminum

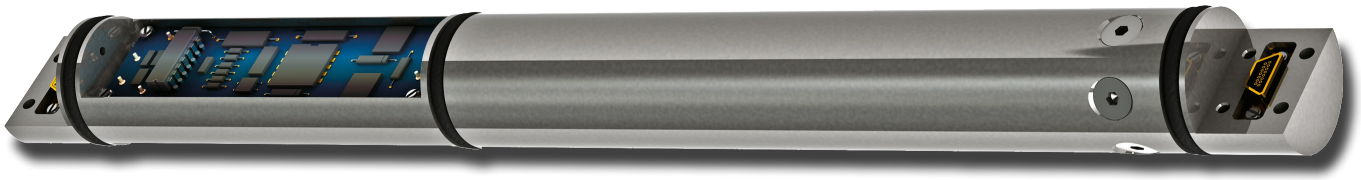
Custom Job Boxes Available Upon Request

Custom machining, fabrication and engineering services also available.

Directional Drilling Tools
Gamma Tools

MWD Gamma Detector Module (MWD-GDM)

Titan Division / Instruments



MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Features

- Proprietary shock and vibration technology
- Continuous operation at 347°F (175°C)
- High sensitivity and repeatability
- Low power operations
- Industry standard MDM 15-pin connectors
- Retrievable and collar-mounted tools available

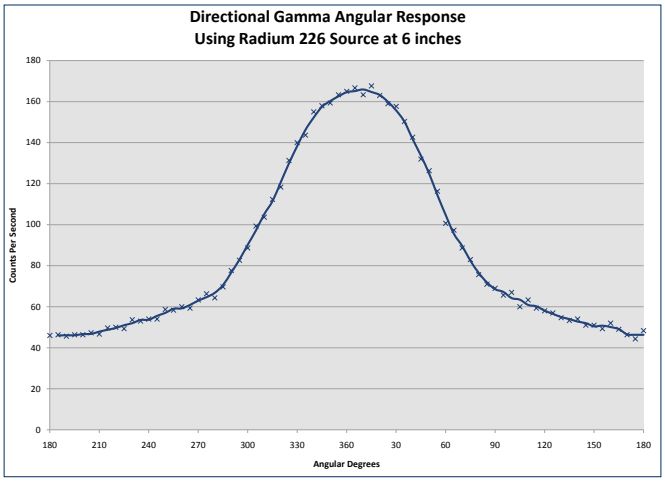
Benefits

- Compact and rugged
- High survivability in underbalanced and air drilling environments
- Unaffected by pulser electrical noise
- Detector design minimizes vibration induced noise
- Maximizes battery life
- Standard connectors allow drop-in replacement capabilities
- Resists intense agitator operation
- Customizable options include choice of negative or positive pulse outputs, standard or directional (focused) GR and floating or ungrounded chassis for EM applications

Hunting's ruggedized MWD Gamma Detector Module has been field proven in both conventional MWD drilling applications and in the harsh multiphase drilling environments associated with electromagnetic (EM-MWD) systems to deliver timely and accurate downhole measurements which are vital to achieving a well's objective.

The tool's scintillation crystals and integral PMT assemblies are manufactured in-house using proprietary assembly and shock-mounting technology. This technology provides outstanding protection at higher shock and vibration loads, and minimizes detector failures associated with severe downhole drilling conditions.

Hunting's MWD-GDM provides solid, reliable detectors for downhole MWD systems.



Directional Drilling Tools
Gamma Tools

MWD Gamma Detector Module (MWD-GDM)

Titan Division / Instruments

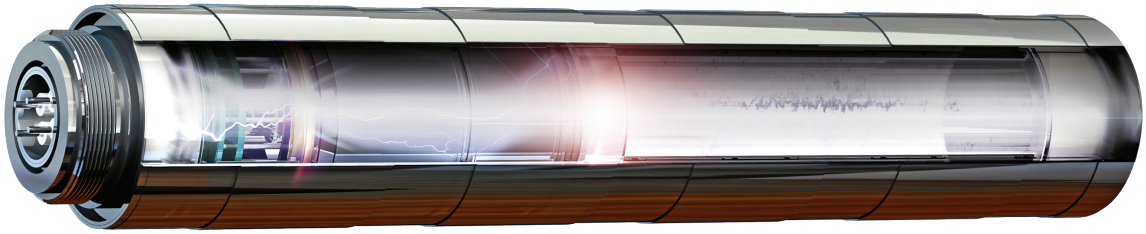
Specifications

Part Number Series Standard Ruggedized MWD Focused MWD	 8100-17558SH 8100-17558DG
Measurements	
Thin Bed Resolution 8 in. hole diameter @ 50% points	6.8 in (173 mm)
Measurement Range	0 to 5000 API
Accuracy	±5% to 150°C (302°F) ±10% to 175°C (347°F)
Sensitivity (beryllium copper housing)	0.82 counts per API
Effective Angular Window	±45°
Environmental	
Operating Temperature Rating	-40 to 175°C (-40 to 347°F)
Survival Temperature	200°C (392°F)
Max. Heat/Cool Range	3°C/min (5.4°F/min)
Vibration (3 Axis)	30 G RMS (50 – 1000 Hz sweep)
Shock (Z Axis)	500 G (0.5 ms)
Shock (X-Y Axis)	1000 G (0.5 ms)
Mechanical	
O.D. with Shock Rings	1.49 in (37.8 mm)
Length	15.38 in (39.1 mm)
Electrical Connections	MDM 15-pin male/female
Electrical (with Hamamatsu PMT)	
Operating Voltage Range	18-38 VDC
Max. Voltage Input	40 VDC
Operating Current (constant power)	10±5 mA
Output Pulse TTL or CMOS	Negative (+5 to 0 V)
Output Pulse Width	2 to 5 µs
Active NaI Crystal Size	0.84 x 4.18 in (21.3 x 106.2 mm)
Front/Back Count Ratio	3.5

Directional Drilling Tools
Gamma Tools

Highly Integrated Detector

Titan Division / Instruments



Features

- Patented shock and vibration mounting technology†
- PMT coupled directly to crystal with exclusive coupler†
- Qualified for up to 200°C (392°F)
- Customized packaging and interface options to customer specifications available.

Benefits

- Extreme shock and vibration resistance
- HID packaging improves pulse height resolution by up to 25%
- Patented compound coupler reduces interface light loss to improve output pulse height.

Log data obtained from nuclear logging tools provide some of the fundamental information required to characterize and assess a reservoir's performance. These include formation identification and correlation, porosity measurements, gas detection, fluid contact migration and clay typing.

It is, therefore, vital to obtain the most accurate data possible. Hunting's Highly Integrated Detectors (HID) provide high resolution and accuracy along with the outstanding reliability required to perform these tasks.

†US patents: 7,115,873 7,381,957 7,485,865 7,485,851

The HID detector combines the photomultiplier tube (PMT) and crystal in a hermetically sealed package. Hunting's proprietary packing allows for external shock energy to be substantially dampened, and it minimizes the effects caused by change in temperature.

The HID is excellent for these applications:

Wireline	Other	MWD/LWD
Natural Gamma Ray	Ore Grading	Standard Gamma Ray
Perforation Gamma Ray	Continuous Mining Detectors	Directional Gamma Ray
PLT, Tracer & Geothermal	Industrial Monitoring	Near Bit Detectors

Specifications

Part Number Series	E2920
Measurements	
Pulse Height Resolution	Less than 9% with typical PMT
Environmental	
Operating Temperature Rating	-40 to 200°C (-40 to 392°F)
Survival Temperature	-55 to 205°C (-67 to 401°F)
Max. Heat/Cool Range	3°C/min (5.4°F/min)
Vibration (3 Axis)	30 G RMS (15 – 300 Hz random)
Shock (3 Axis)	1,000 G, 0.5 ms
Mechanical	
Crystal Diameter	0.70 to 2.00 in (17.8 to 50.8 mm)
Crystal Length	1.00 to 12.00 in (25.4 to 304.8 mm)
Electrical (with Hamamatsu PMT)	
Voltage	1000 to 1750 VDC
Signal	Analog Gamma counts
PMT Amplification	105 to 106

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
1.68” 5/6 4.0 (16.97) 1.68” OD, 5/6 Lobe, 4 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
1 7/8” - 3”	1” AMMT	1” AMMT	2,000 lbs	25,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

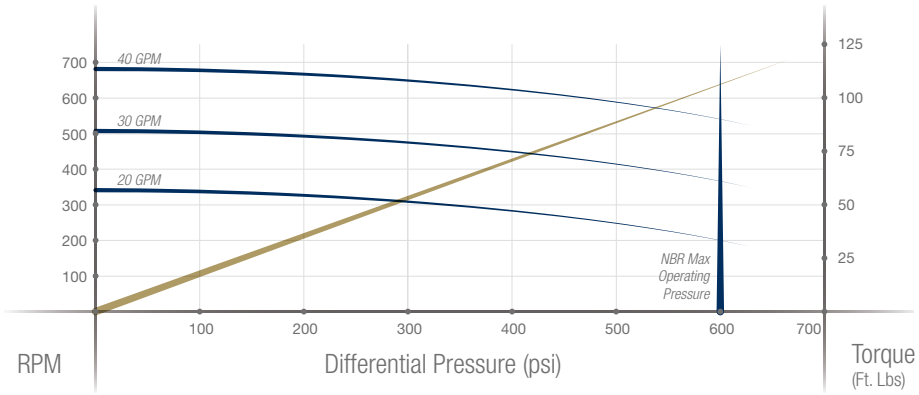
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	16.97	20 - 40 GPM	339 - 679 RPM	600 psi	96 ft. lbs	900 psi	144 ft. lbs	150° F*
HR	Contact a Hunting representative for more information.							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	9 ft.	Straight Configuration: 80 RPM				
Fixed Bend	NA	NA	NA	NA	NA	NA	NA	NA
Adjust-able	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
1.68” 5/6 4.4 (11.10) 1.68” OD, 5/6 Lobe, 4.4 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
1 7/8” - 3”	1” AMMT	1” AMMT	2,000 lbs	25,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

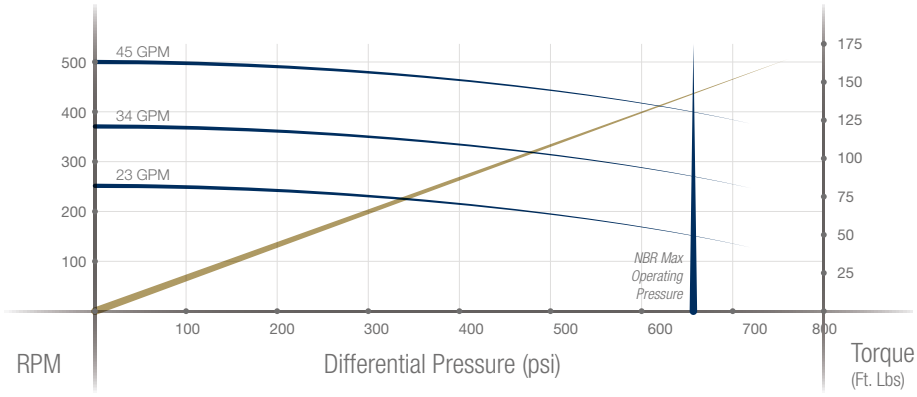
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	11.1	23 - 45 GPM	250 - 500 RPM	600 psi	145 ft. lbs	990 psi	218 ft.lbs	150° F*
HR	Contact a Hunting representative for more information.							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	11 ft. 2 in	Straight Configuration: 80 RPM				
Fixed Bend	NA	NA	NA	NA	NA	NA	NA	NA
Adjust-able	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
2.12” 5/6 2.5 (6.67) 2.12” OD, 5/6 Lobe, 2.5 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
3” - 4 1/2”	1.5” AMMT	1.5” AMMT	3,000 lbs	30,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

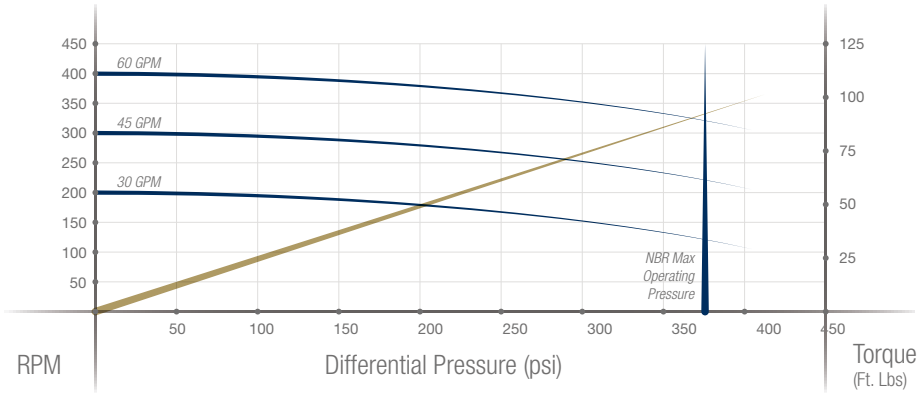
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	6.67	30 - 60 GPM	200 - 400 RPM	375 psi	94 ft. lbs	563 psi	141 ft. lbs	150° F*
HR	Contact a Hunting representative for more information.							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	9 ft. 2 in.	Straight Configuration: 80 RPM				
Fixed Bend	NA	NA	NA	NA	NA	NA	NA	NA
Adjust-able	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
2.87” 7/8 3.3 (3.37) 2.87” OD, 7/8 Lobe, 3.3 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
3 1/2” - 4 1/2”	2 3/8” Reg or 2 3/8” PAC	2 3/8” Reg or 2 3/8” PAC	8,800 lbs	40,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

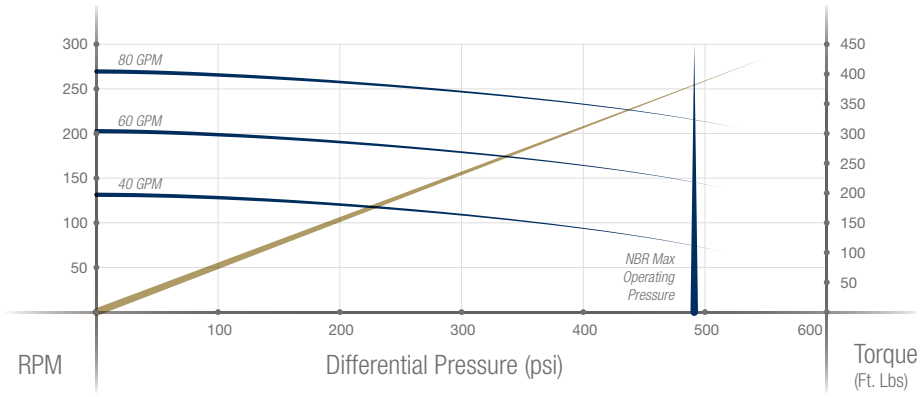
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	3.37	40 - 80 GPM	135 - 270 RPM	495 psi	396 ft. lbs	743 psi	594 ft. lbs	150° F*
HR	Contact a Hunting representative for more information.							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	10 ft	Straight Configuration: 80 RPM				
Fixed Bend	38”	NA	10 ft	60	50	40	30	20
Adjust-able	38”	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
3 1/2” Hole	Slick	15.58	20.58	27.18	32.98	38.17
	Stabilized					
4 1/2” Hole	Slick	2.39	7.39	13.99	19.79	24.98
	Stabilized					

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
3.50” 7/8 4.3 (1.85) 3.50” OD, 7/8 Lobe, 4.3 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
4 1/2” - 4 3/4”	2 7/8” Reg	2 7/8” TSHD	8,800 lbs	115,000 lbs

Recommended Drilling Fluid Properties

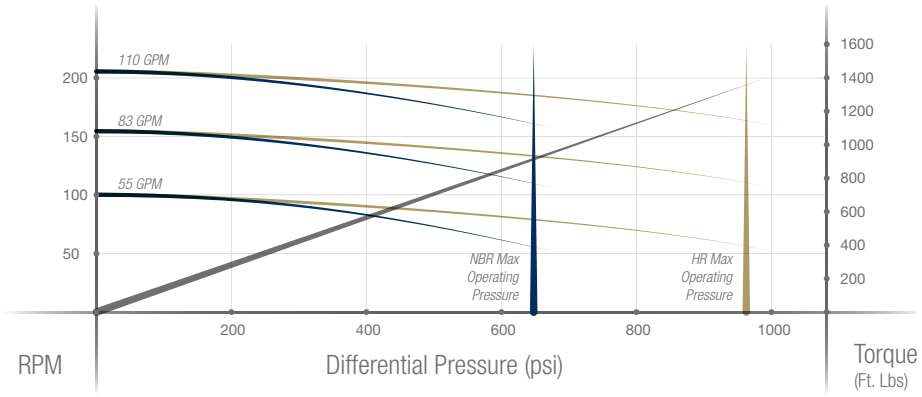
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	1.85	55 - 110 GPM	102 - 204 RPM	645 psi	922 ft. lbs	968 psi	1,384 ft. lbs	150° F*
HR	1.85	55 - 110 GPM	102 - 204 RPM	968 psi	1,384 ft. lbs	1,451 psi	2,075 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	16 ft. 5 in	Straight Configuration: 80 RPM				
Fixed Bend	41”	NA	16 ft. 5 in	60	50	40	30	20
Adjust-able	41”	NA	16 ft. 5 in	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
4 1/2” Hole	Slick	8.84	11.89	15.91	19.44	22.61
	Stabilized					
4 3/4” Hole	Slick	6.72	9.76	13.78	17.31	20.48
	Stabilized					

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
3.75” 4/5 3.5 (1.55) 3.75” OD, 4/5 Lobe, 3.5 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
4 3/4” - 5 7/8”	2 7/8” Reg	2 7/8” Reg	11,000 lbs	115,000 lbs

Recommended Drilling Fluid Properties

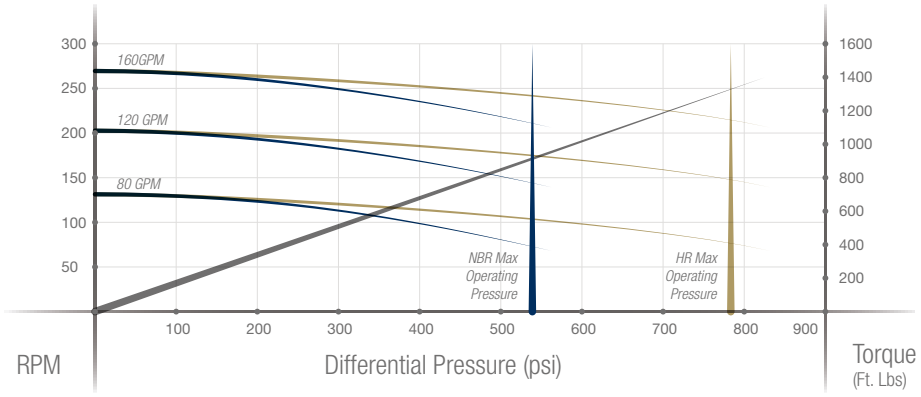
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	1.55	80 - 160 GPM	124 - 248 RPM	525 psi	861 ft. lbs	788 psi	1,292 ft. lbs	150° F*
HR	1.55	80 - 160 GPM	124 - 248 RPM	788 psi	1,292 ft. lbs	1,181 psi	1,937 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	21 ft. 6 in	Straight Configuration: 80 RPM				
Fixed Bend	50”	NA	18 ft	60	50	40	30	20
Adjust-able	50”	NA	18 ft	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
4 3/4” Hole	Slick	9.11	11.89	15.56	18.78	21.69
	Stabilized					
5 7/8” Hole	Slick	1.95	4.73	8.40	11.62	14.51
	Stabilized					

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
3.75” 5/6 4.2 (1.56) 3.75” OD, 5/6 Lobe, 4.2 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
4 3/4” - 5 7/8”	2 7/8” Reg	2 7/8” Reg	11,000 lbs	115,000 lbs

Recommended Drilling Fluid Properties

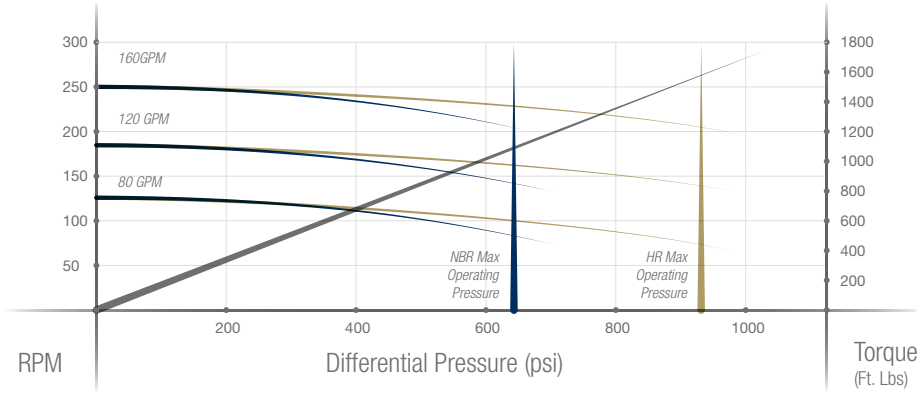
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	1.56	80 - 160 GPM	125 - 250 RPM	630 psi	1,052 ft. lbs	945 psi	1,578 ft. lbs.	150° F*
HR	1.56	80 - 160 GPM	125 - 250 RPM	945 psi	1,578 ft. lbs	1,418 psi	2,367 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

	Bit to Bend	Bit to Stabilizer	Overall Length
Straight	NA	NA	23 ft. 7 in
Fixed Bend	50”	NA	20 ft. 2 in
Adjust-able	50”	NA	20 ft. 2 in

Continuous Maximum Rotary RPM

1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight Configuration: 80 RPM				
60	50	40	30	20
60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
4 3/4” Hole	Slick	8.14	10.61	13.89	16.76	19.34
	Stabilized					
5 7/8” Hole	Slick	1.74	4.22	7.50	10.37	12.95
	Stabilized					

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
3.75” 7/8 10.1 (1.95) 3.75” OD, 7/8 Lobe, 10.1 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
4 3/4” - 5 7/8”	2 7/8” Reg	2 7/8” Reg	11,000 lbs	115,000 lbs

Recommended Drilling Fluid Properties

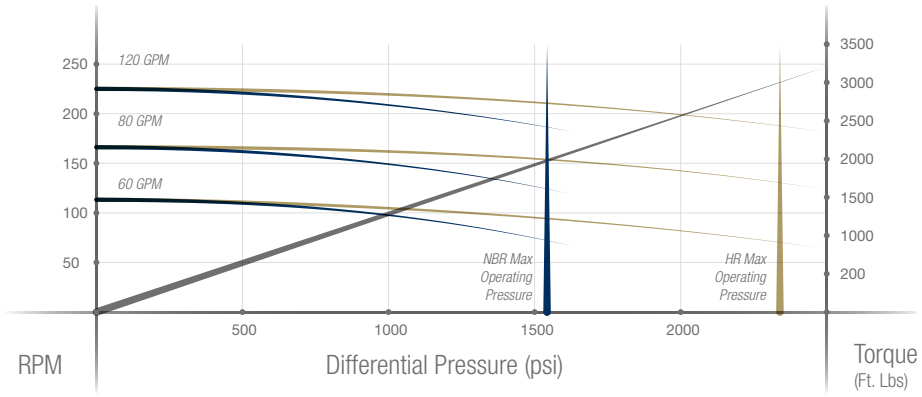
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	1.95	60 - 120 GPM	117 - 234 RPM	1,515 psi	2,030 ft. lbs	2,273 psi	3,045 ft. lbs	150° F*
HR	1.95	60 - 120 GPM	117 - 234 RPM	2,273 psi	3,045 ft. lbs	3,409 psi	4,568 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	29 ft. 4 in	Straight Configuration: 80 RPM				
Fixed Bend	50”	NA	25 ft. 6 in	60	50	40	30	20
Adjust-able	50”	NA	25 ft. 6 in	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
4 3/4” Hole	Slick	6.43	8.39	10.98	13.26	15.30
	Stabilized					
5 7/8” Hole	Slick	1.38	3.34	5.93	8.20	10.24
	Stabilized					

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5” 3/4 11.0 (2.02) 5” OD, 3/4 Lobe, 11.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	22,000 lbs	90,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

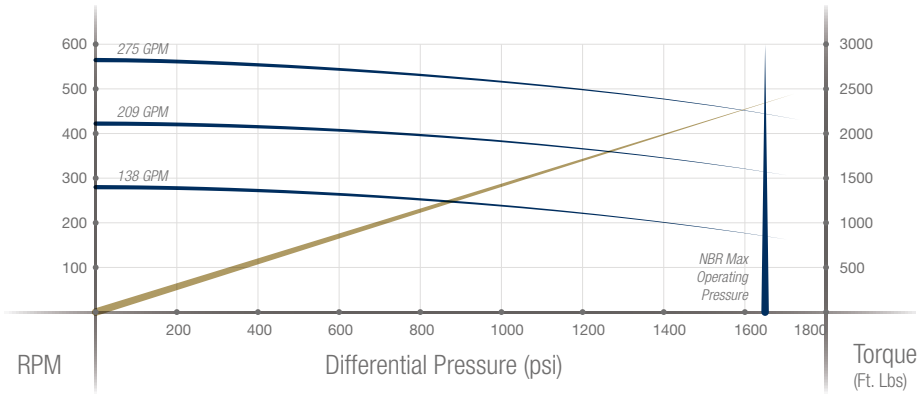
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	2.02	138 - 275 GPM	278 - 556 RPM	1,650 psi	2,360 ft. lbs	2,475 psi	3,539 ft. lbs	150° F*
HR	Contact a Hunting representative for more information.							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	29 ft	Straight Configuration: 80 RPM				
Fixed Bend	NA	NA	NA	NA	NA	NA	NA	NA
Adjust-able	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole						
6 1/8” Hole						
6 1/2” Hole						

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5” 4/5 6.0 (1.02) 5” OD, 4/5 Lobe, 6.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	30,500 lbs	90,000 lbs

Recommended Drilling Fluid Properties

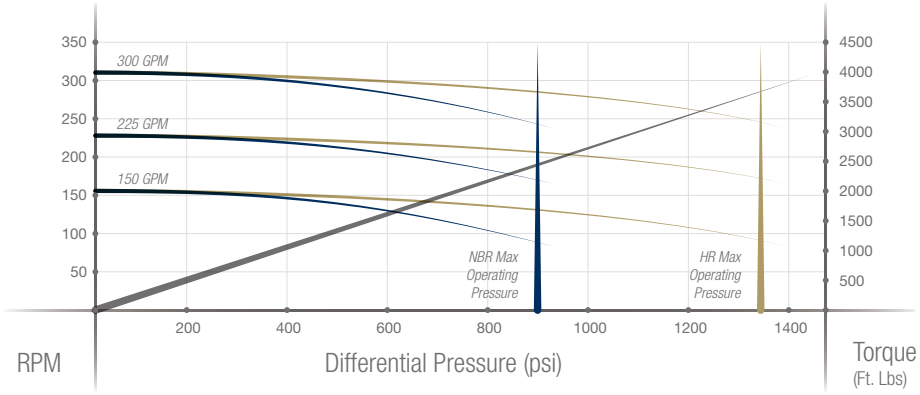
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	1.02	150 - 300 GPM	153 - 306 RPM	900 psi	2,493 ft. lbs	1,350 psi	3,740 ft. lbs	150° F*
HR	1.02	150 - 300 GPM	153 - 306 RPM	1,350 psi	3,740 ft. lbs	2,025 psi	5,609 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	25”	26 ft	Straight Configuration: 80 RPM				
Fixed Bend	60”	25”	24 ft	60	50	40	30	20
Adjust-able	60”	25”	24 ft	60	40	Not recommended	Not recommended	Not recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole	Slick	7.46	9.54	12.30	14.73	16.90
	Stabilized	9.13	10.93	13.32	15.41	17.29
6 1/8” Hole	Slick	6.96	9.05	11.80	14.23	16.40
	Stabilized	9.24	11.05	13.43	15.53	17.40
6 1/2” Hole	Slick	5.46	7.55	10.31	12.73	14.90
	Stabilized	9.58	11.39	13.77	15.87	17.75

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5” 5/6 8.3 (1.00) 5” OD, 5/6 Lobe, 8.3 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	30,500 lbs	90,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

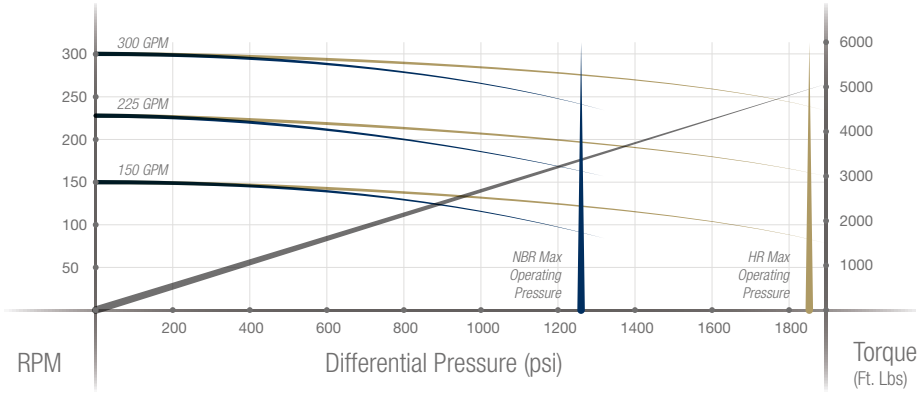
	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	1.00	150 - 300 GPM	150 - 300 RPM	1,245 psi	3,337 ft. lbs	1,868 psi	5,005 ft. lbs	150° F*
HR	1.00	150 - 300 GPM	150 - 300 RPM	1,868 psi	5,005 ft. lbs	2,801 psi	7,507 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	25”	30 ft. 8 in	Straight Configuration: 80 RPM				
Fixed Bend	60”	25”	28 ft. 8 in	60	50	40	30	20
Adjust-able	60”	25”	28 ft. 8 in	60	40	Not recommended	Not recommended	Not recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole	Slick	6.25	8.00	10.31	12.34	14.16
	Stabilized	7.73	9.29	11.34	13.14	14.76
6 1/8” Hole	Slick	5.83	7.58	9.98	11.92	13.74
	Stabilized	7.81	9.36	11.42	13.22	14.84
6 1/2” Hole	Slick	4.58	6.33	8.64	10.67	12.49
	Stabilized	8.05	9.60	11.65	13.45	15.07

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5” 6/7 7.0 (.82) 5” OD, 6/7 Lobe, 7.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	30,500 lbs	90,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

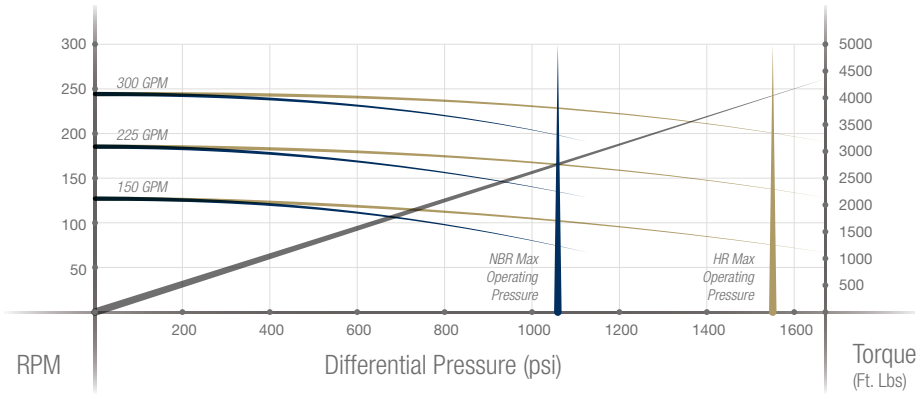
	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.82	150 - 300 GPM	123 - 246 RPM	1,050 psi	2,793 ft. lbs	1,575 psi	4,190 ft. lbs	150° F*
HR	0.82	150 - 300 GPM	123 - 246 RPM	1,575 psi	4,190 ft. lbs	2,363 psi	6,284 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	25”	28 ft	Straight Configuration: 80 RPM				
Fixed Bend	60”	25”	26 ft	60	50	40	30	20
Adjust-able	60”	25”	26 ft	60	40	Not recommended	Not recommended	Not recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole	Slick	6.86	8.78	11.32	13.55	15.55
	Stabilized	8.44	10.12	12.35	14.30	16.05
6 1/8” Hole	Slick	6.40	8.32	10.86	13.09	15.09
	Stabilized	8.54	10.22	12.44	14.40	16.15
6 1/2” Hole	Slick	5.02	6.94	9.48	11.71	13.71
	Stabilized	8.82	10.51	12.73	14.68	16.43

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5” 6/7 8.0 (.81) 5” OD, 6/7 Lobe, 8.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	30,500 lbs	90,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

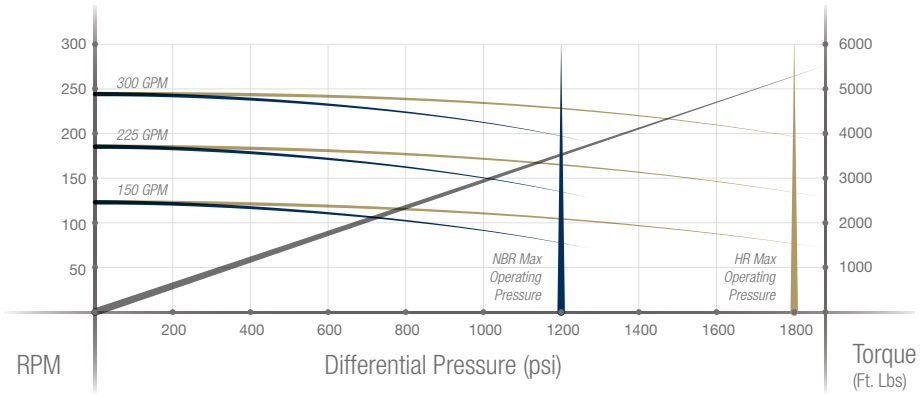
	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.81	150 - 300 GPM	122 - 243 RPM	1,200 psi	3,540 ft. lbs	1,800 psi	5,310 ft. lbs	150° F*
HR	0.81	150 - 300 GPM	122 - 243 RPM	1,800 psi	5,310 ft. lbs	2,700 psi	7,965 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	25”	31 ft	Straight Configuration: 80 RPM				
Fixed Bend	60”	25”	29 ft	60	50	40	30	20
Adjust-able	60”	25”	29 ft	60	40	Not recommended	Not recommended	Not recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole	Slick	6.18	7.92	10.21	12.22	14.02
	Stabilized	7.66	9.20	11.23	13.02	14.62
6 1/8” Hole	Slick	5.77	7.50	9.79	11.80	13.60
	Stabilized	7.73	9.27	11.31	13.10	14.70
6 1/2” Hole	Slick	4.53	6.26	8.55	10.56	12.36
	Stabilized	7.97	9.51	11.54	13.33	14.93

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
5” 7/8 2.6 (.26) 5” OD, 7/8 Lobe, 2.6 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	30,500 lbs	90,000 lbs

Recommended Drilling Fluid Properties

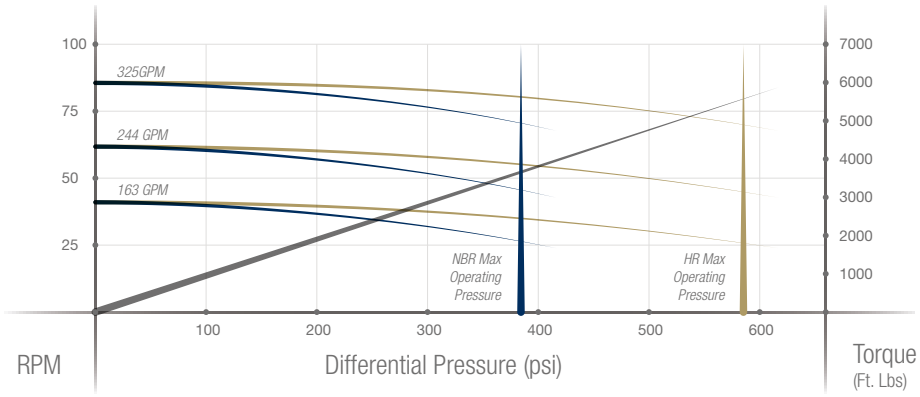
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.26	163 - 325 GPM	42 - 85 RPM	390 psi	3,771 ft. lbs	585 psi	5,657 ft. lbs	150° F*
HR	0.26	163 - 325 GPM	42 - 85 RPM	585 psi	5,657 ft. lbs	878 psi	8,485 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	25”	30 ft. 2 in	Straight Configuration: 80 RPM				
Fixed Bend	60”	25”	28 ft. 2 in	60	50	40	30	20
Adjust-able	60”	25”	28 ft. 2 in	60	40	Not recommended	Not recommended	Not recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole	Slick	6.35	8.13	10.48	12.55	14.40
	Stabilized	8.02	9.63	11.75	13.62	15.29
6 1/8” Hole	Slick	5.93	7.71	10.06	12.12	13.98
	Stabilized	8.11	9.72	11.84	13.70	15.38
6 1/2” Hole	Slick	4.65	6.43	8.78	10.85	12.70
	Stabilized	8.36	9.97	12.09	13.96	15.63

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5” 7/8 3.8 (.52) 5” OD, 7/8 Lobe, 3.8 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	30,500 lbs	90,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

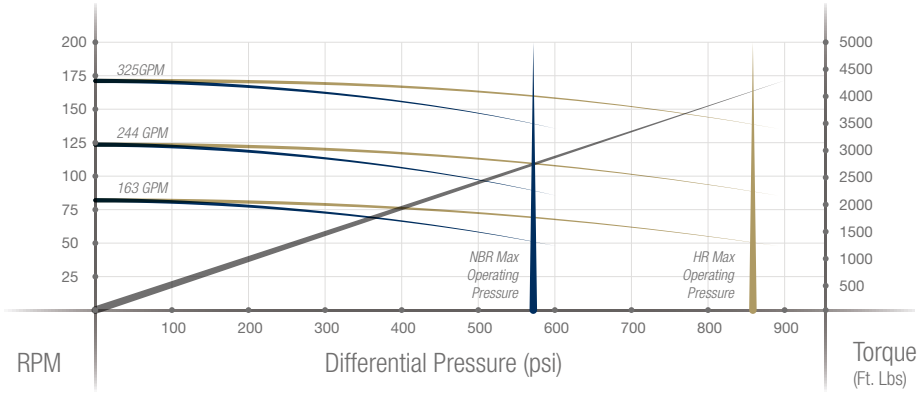
	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.52	163 - 325 GPM	85 - 169 RPM	570 psi	2,787 ft. lbs	855 psi	4,181 ft. lbs	150° F*
HR	0.52	163 - 325 GPM	85 - 169 RPM	855 psi	4,181 ft. lbs	1,283 psi	6,271 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	25”	26 ft	Straight Configuration: 80 RPM				
Fixed Bend	60”	25”	24 ft	60	50	40	30	20
Adjust-able	60”	25”	24 ft	60	40	Not recommended	Not recommended	Not recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole	Slick	7.46	9.54	12.30	14.73	16.90
	Stabilized	9.13	10.93	13.32	15.41	17.29
6 1/8” Hole	Slick	6.96	9.05	11.80	14.23	16.40
	Stabilized	9.24	11.05	13.43	15.53	17.40
6 1/2” Hole	Slick	5.46	7.55	10.31	12.73	14.90
	Stabilized	9.58	11.39	13.77	15.87	17.75

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5” 7/8 4.5 (.46) 5” OD, 7/8 Lobe, 4.5 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	30,500 lbs.	90,000 lbs.

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

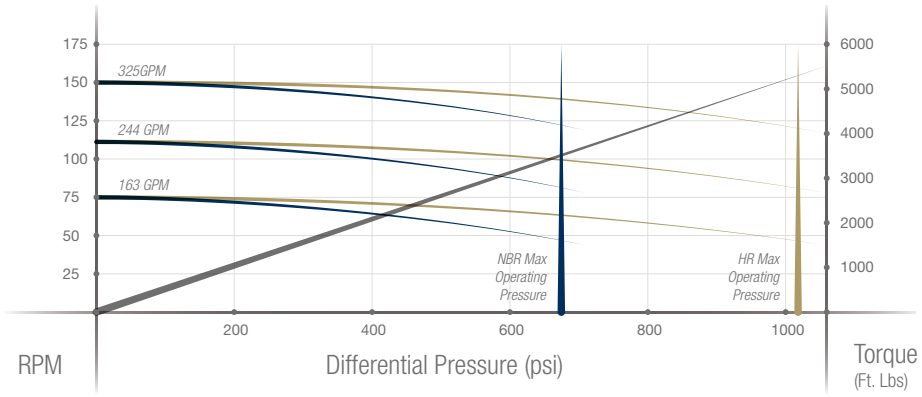
	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.46	163 - 325 GPM	75 - 150RPM	675 psi	3,503 ft. lbs	1,013 psi	5,255 ft. lbs	150° F*
HR	0.46	163 - 325 GPM	75 - 150 RPM	1,013 psi	5,255 ft. lbs	1,519 psi	7,882 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	25”	29 ft. 6 in	Straight Configuration: 80 RPM				
Fixed Bend	60”	25”	27 ft. 6 in	60	50	40	30	20
Adjust-able	60”	25”	27 ft. 6 in	60	40	Not recommended	Not recommended	Not recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole	Slick	6.50	8.32	10.72	12.84	14.73
	Stabilized	8.02	9.63	11.75	13.62	15.29
6 1/8” Hole	Slick	6.06	7.88	10.29	12.40	14.29
	Stabilized	8.11	9.72	11.84	13.70	15.38
6 1/2” Hole	Slick	4.76	6.58	8.98	11.10	12.99
	Stabilized	8.36	9.97	12.09	13.96	15.63

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5” 9/10 2.1 (.17) 5” OD, 9/10 Lobe, 2.1 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8” - 6 3/4”	3 1/2” Reg	3 1/2” IF Box	30,500 lbs	90,000 lbs

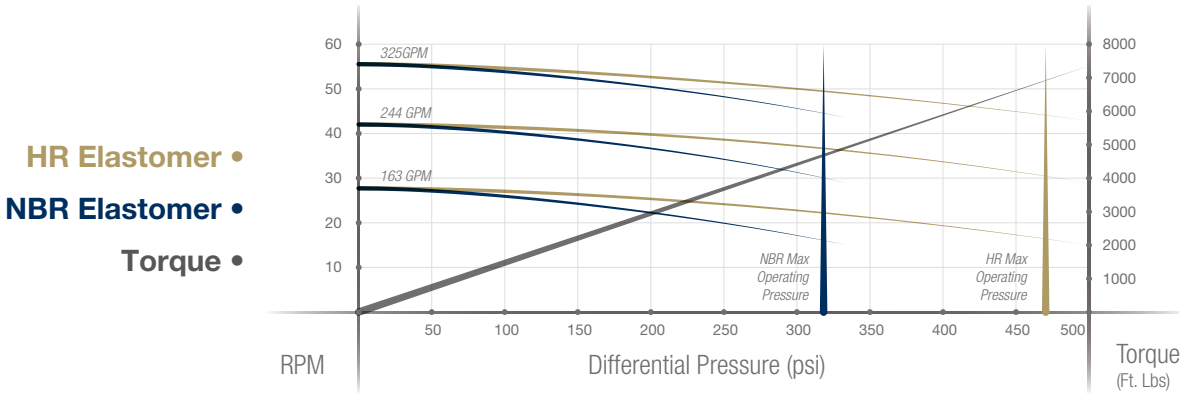
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.17	163 - 325 GPM	28 - 55 RPM	315 psi	4,631 ft. lbs	473 psi	6,946 ft. lbs	150° F*
HR	0.17	163 - 325 GPM	28 - 55 RPM	473 psi	6,946 ft. lbs	709 psi	10,419 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	25”	30 ft	Straight Configuration: 80 RPM				
Fixed Bend	60”	25”	28 ft	60	50	40	30	20
Adjust-able	60”	25”	28 ft	60	40	Not recommended	Not recommended	Not recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6” Hole	Slick	6.39	8.18	10.54	12.62	14.48
	Stabilized	7.89	9.48	11.57	13.41	15.06
6 1/8” Hole	Slick	5.96	7.75	10.11	12.19	14.05
	Stabilized	7.98	9.56	11.65	13.49	15.14
6 1/2” Hole	Slick	4.68	6.47	8.83	10.91	12.77
	Stabilized	8.22	9.81	11.90	13.74	15.39

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5" SBB 4/5 6.0 (1.02) 5" OD, 4/5 Lobe, 6.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8" - 6 3/4"	3 1/2" Reg	3 1/2" IF Box	30,500 lbs.	90,000 lbs.

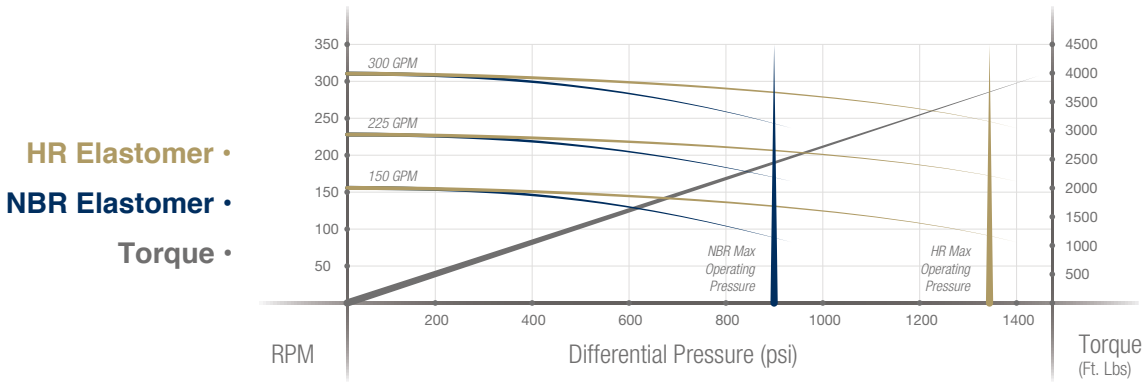
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	1.02	150 - 300 GPM	153 - 306 RPM	900 psi	2,493 ft. lbs	1,350 psi	3,740 ft. lbs.	150° F *
HR	1.02	150 - 300 GPM	153 - 306 RPM	1,350 psi	3,740 ft. lbs.	2,025 psi	5,609 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	26 ft. 8 in.	Straight Configuration: 80 RPM				
Fixed Bend	48"	NA	24 ft. 5 in.	80	65	50	35	25
Adjustable	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6" Hole	Slick	6.87	8.80	11.34	13.58	15.58
6 1/8" Hole	Slick	6.41	8.34	10.88	13.12	15.12
6 1/2" Hole	Slick	5.03	6.96	9.50	11.74	13.74

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5" SBB 5/6 8.3 (1.00) 5" OD, 5/6 Lobe, 8.3 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8" - 6 3/4"	3 1/2" Reg	3 1/2" IF Box	30,500 lbs.	90,000 lbs.

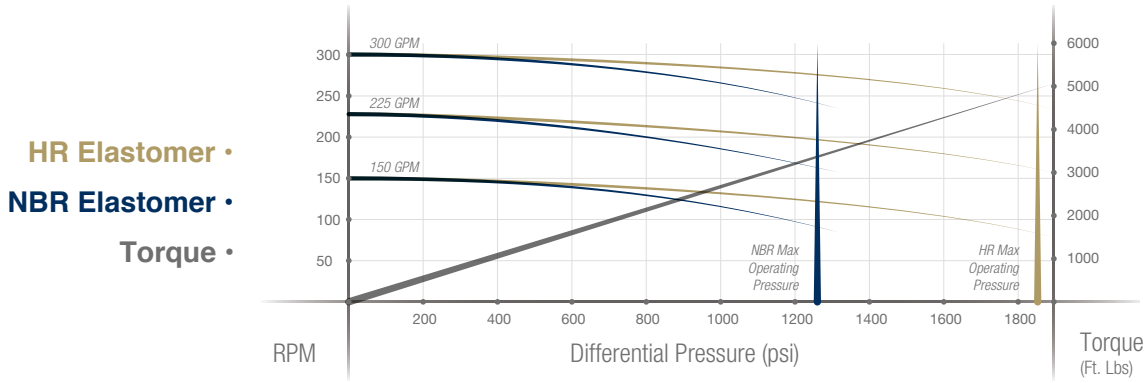
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	1.00	150 - 300 GPM	150 - 300 RPM	1,245 psi	3,337 ft. lbs	1,868 psi	5,005 ft. lbs.	150° F *
HR	1.00	150 - 300 GPM	150 - 300 RPM	1,868 psi	5,005 ft. lbs.	2,801 psi	7,507 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	31 ft. 5 in.	Straight Configuration: 80 RPM				
Fixed Bend	48"	NA	29 ft. 6 in.	80	65	50	35	25
Adjustable	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6" Hole	Slick	5.83	7.47	9.62	11.52	13.22
6 1/8" Hole	Slick	5.44	7.08	9.23	11.13	12.83
6 1/2" Hole	Slick	4.27	5.91	8.06	10.00	11.66

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5" SBB 6/7 7.0 (.82) 5" OD, 6/7 Lobe, 7.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8" - 6 3/4"	3 1/2" Reg	3 1/2" IF Box	30,500 lbs.	90,000 lbs.

Recommended Drilling Fluid Properties

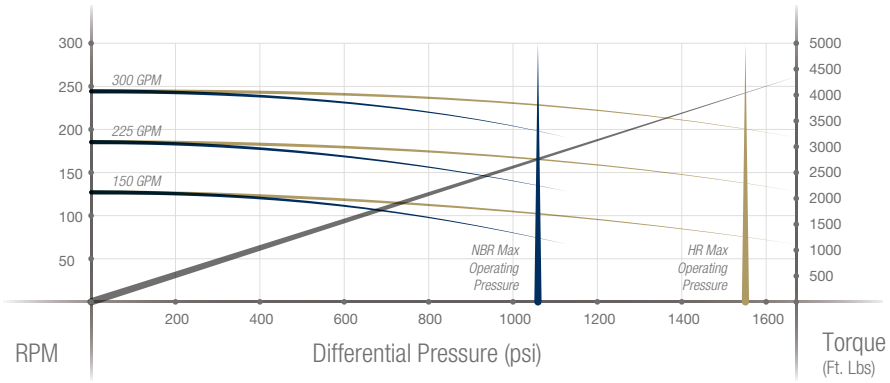
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.82	150 - 300 GPM	123 - 246 RPM	1,050 psi	2,793 ft. lbs	1,575 psi	4,190 ft. lbs.	150° F *
HR	0.82	150 - 300 GPM	123 - 246 RPM	1,575 psi	4,190 ft. lbs.	2,363 psi	6,284 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	28 ft. 10 in.	Straight Configuration: 80 RPM				
Fixed Bend	48"	NA	26 ft. 3 in.	80	65	50	35	25
Adjustable	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6" Hole	Slick	6.36	8.15	10.50	12.57	14.42
6 1/8" Hole	Slick	5.94	7.72	10.07	12.14	14.00
6 1/2" Hole	Slick	4.66	6.44	8.80	10.87	12.72

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5" SBB 6/7 8.0 (.81) 5" OD, 6/7 Lobe, 8.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8" - 6 3/4"	3 1/2" Reg	3 1/2" IF Box	30,500 lbs.	90,000 lbs.

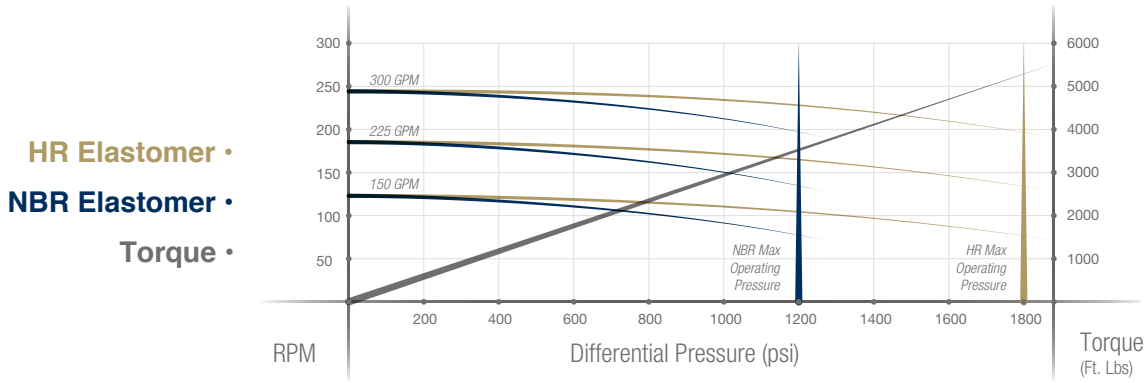
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.81	150 - 300 GPM	122 - 243 RPM	1,200 psi	3,540 ft. lbs	1,800 psi	5,310 ft. lbs.	150° F *
HR	0.81	150 - 300 GPM	122 - 243 RPM	1,800 psi	5,310 ft. lbs.	2,700 psi	7,965 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	31 ft. 8 in.	Straight Configuration: 80 RPM				
Fixed Bend	48"	NA	29 ft. 1 in.	80	65	50	35	25
Adjustable	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6" Hole	Slick	5.78	7.40	9.54	11.42	13.10
6 1/8" Hole	Slick	5.39	7.01	9.15	11.03	12.71
6 1/2" Hole	Slick	4.23	5.85	7.99	9.87	11.55

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5" SBB 7/8 2.6 (.26) 5" OD, 7/8 Lobe, 2.6 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8" - 6 3/4"	3 1/2" Reg	3 1/2" IF Box	30,500 lbs.	90,000 lbs.

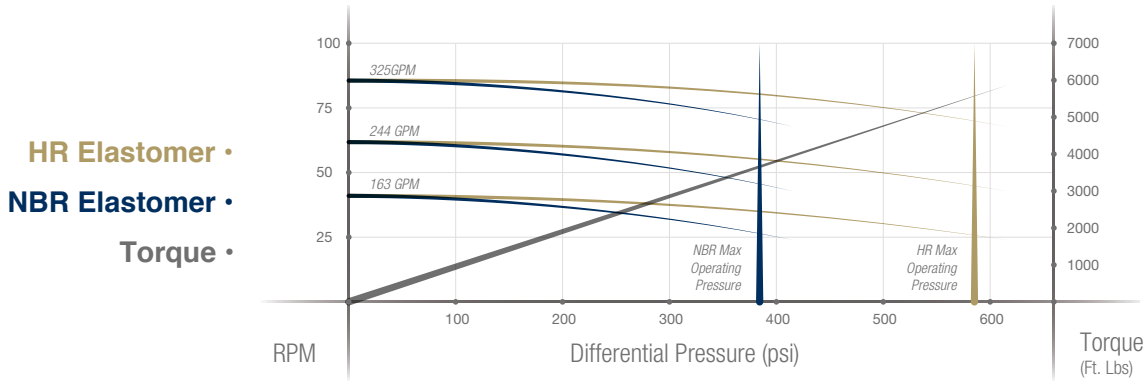
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.26	163 - 325 GPM	42 - 85 RPM	390 psi	3,771 ft. lbs	585 psi	5,657 ft. lbs.	150° F *
HR	0.26	163 - 325 GPM	42 - 85 RPM	585 psi	5,657 ft. lbs.	878 psi	8,485 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	30 ft. 10 in.	Straight Configuration: 80 RPM				
Fixed Bend	48"	NA	28 ft. 4 in.	80	65	50	35	25
Adjustable	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6" Hole	Slick	5.93	7.59	9.78	11.71	13.43
6 1/8" Hole	Slick	5.53	7.19	9.38	11.31	13.04
6 1/2" Hole	Slick	4.34	6.00	8.19	10.12	11.85

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5" SBB 7/8 3.8 (.52) 5" OD, 7/8 Lobe, 3.8 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8" - 6 3/4"	3 1/2" Reg	3 1/2" IF Box	30,500 lbs.	90,000 lbs.

Recommended Drilling Fluid Properties

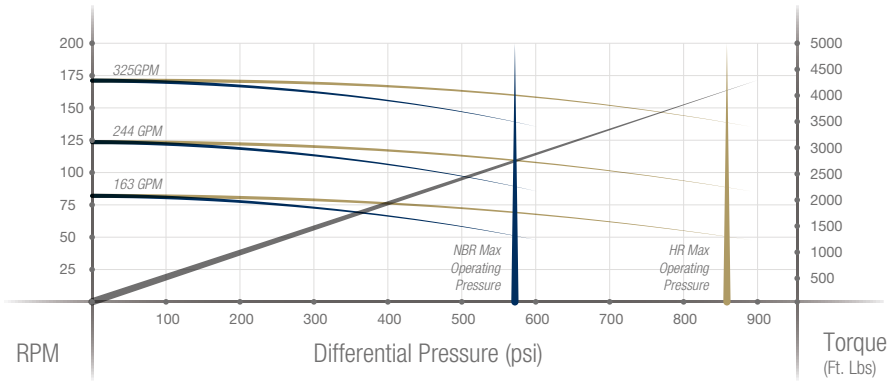
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.52	163 - 325 GPM	85 - 169 RPM	570 psi	2,787 ft. lbs	855 psi	4,181 ft. lbs.	150° F *
HR	0.52	163 - 325 GPM	85 - 169 RPM	855 psi	4,181 ft. lbs.	1,283 psi	6,271 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	26 ft. 8 in.	Straight Configuration: 80 RPM				
Fixed Bend	48"	NA	24 ft. 5 in.	80	65	50	35	25
Adjustable	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6" Hole	Slick	6.87	8.80	11.34	13.58	15.58
6 1/8" Hole	Slick	6.41	8.34	10.88	13.12	15.12
6 1/2" Hole	Slick	5.03	6.96	9.50	11.74	13.74

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5" SBB 7/8 4.5 (.46) 5" OD, 7/8 Lobe, 4.5 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8" - 6 3/4"	3 1/2" Reg	3 1/2" IF Box	30,500 lbs.	90,000 lbs.

Recommended Drilling Fluid Properties

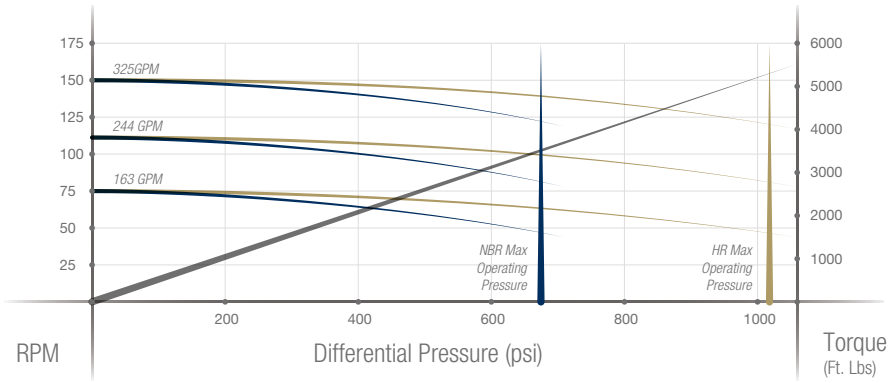
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.46	163 - 325 GPM	75 - 150 RPM	675 psi	3,503 ft. lbs	1,013 psi	5,255 ft. lbs.	150° F *
HR	0.46	163 - 325 GPM	75 - 150 RPM	1,013 psi	5,255 ft. lbs.	1,519 psi	7,882 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

	Bit to Bend	Bit to Stabilizer	Overall Length
Straight	NA	NA	30 ft. 3 in.
Fixed Bend	48"	NA	27 ft. 9 in.
Adjustable	NA	NA	NA

Continuous Maximum Rotary RPM

	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	Straight Configuration: 80 RPM				
Fixed Bend	80	65	50	35	25
Adjustable	NA	NA	NA	NA	NA

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6" Hole	Slick	6.05	7.75	9.99	11.95	13.72
6 1/8" Hole	Slick	5.65	7.34	9.58	11.55	13.31
6 1/2" Hole	Slick	4.43	6.13	8.37	10.33	12.10

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
5" SBB 9/10 2.1 (.17) 5" OD, 9/10 Lobe, 2.1 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
5 7/8" - 6 3/4"	3 1/2" Reg	3 1/2" IF Box	30,500 lbs.	90,000 lbs.

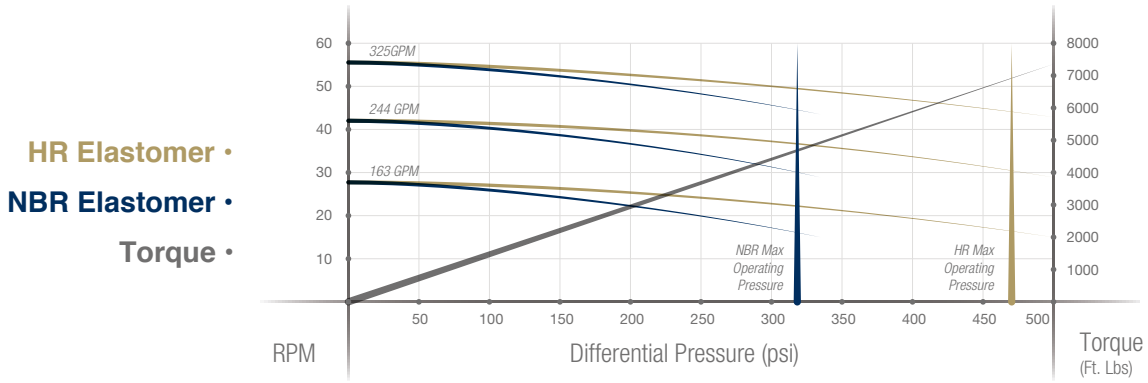
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.17	163 - 325 GPM	28 - 55 RPM	315 psi	4,631 ft. lbs	473 psi	6,946 ft. lbs.	150° F *
HR	0.17	163 - 325 GPM	28 - 55 RPM	473 psi	6,946 ft. lbs.	709 psi	10,419 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	30 ft. 9 in.	Straight Configuration: 80 RPM				
Fixed Bend	48"	NA	28 ft. 3 in.	80	65	50	35	25
Adjustable	NA	NA	NA	NA	NA	NA	NA	NA

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
6" Hole	Slick	5.96	7.63	9.83	11.76	13.50
6 1/8" Hole	Slick	5.56	7.23	9.43	11.37	13.10
6 1/2" Hole	Slick	4.36	6.03	8.23	10.17	11.91

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
6.5” 6/7 2.7 (.22) 6.5” OD, 6/7 Lobe, 2.7 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	54,250 lbs	200,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

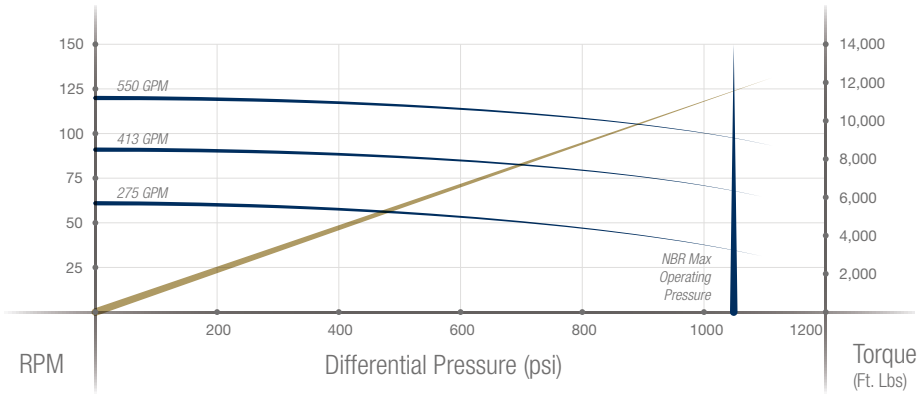
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.22	275 - 550 GPM	61 - 121 RPM	1,050 psi	11,448 ft. lbs.	1,575 psi	17,172 ft. lbs	150° F*
HR	Contact a Hunting representative for more information							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	31”	32 ft. 2 in	Straight Configuration: 80 RPM				
Fixed Bend	NA	31”	NA	NA	NA	NA	NA	NA
Adjust-able	NA	31”	NA	NA	NA	NA	NA	NA

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
7 7/8” Hole	Slick					
	Stabilized					
8 1/2” Hole	Slick					
	Stabilized					
8 3/4” Hole	Slick					
	Stabilized					

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.50” 7/8 2.9 (.17) 6.50” OD, 7/8 Lobe, 2.9 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	54,250 lbs	200,000 lbs

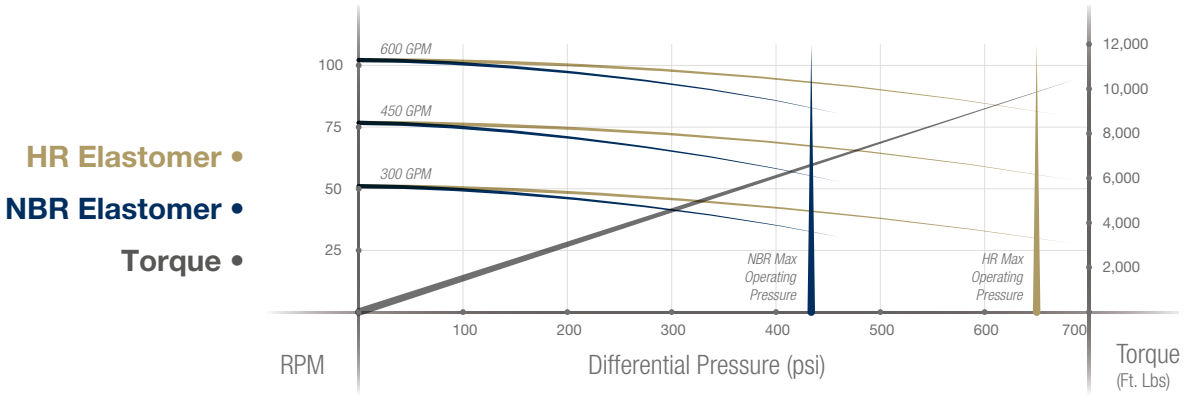
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.17	300 - 600 GPM	51 - 102 RPM	435 psi	6,638 ft. lbs	653 psi	9,957 ft. lbs	150° F*
HR	0.17	300 - 600 GPM	51 - 102 RPM	653 psi	9,957 ft. lbs	979 psi	14,936 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	31”	33 ft	Straight Configuration: 80 RPM				
Fixed Bend	72”	31”	29 ft	60	50	40	30	20
Adjust-able	72”	31”	29 ft	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
7 7/8” Hole	Slick	5.64	7.39	9.71	11.74	13.57
	Stabilized	7.54	9.01	10.95	12.65	14.18
8 1/2” Hole	Slick	3.89	5.64	7.96	10.00	11.82
	Stabilized	7.93	9.40	11.34	13.04	14.57
8 3/4” Hole	Slick	3.19	4.95	7.26	9.30	11.13
	Stabilized	8.09	9.56	11.49	13.20	14.72

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.50” 7/8 3.0 (.20) 6.50” OD, 7/8 Lobe, 3.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	54,250 lbs	200,000 lbs

Recommended Drilling Fluid Properties

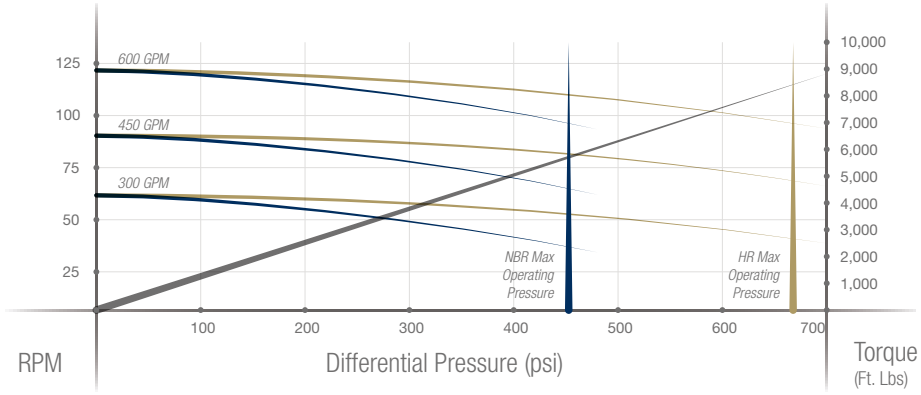
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.20	300 - 600 GPM	60 - 120 RPM	450 psi	5,598 ft. lbs.	675 psi	8,397 ft. lbs	150° F*
HR	0.20	300 - 600 GPM	60 - 120 RPM	675 psi	8,397 ft. lbs.	1,013 psi	12,596 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	31”	30 ft. 6 in	Straight Configuration: 80 RPM				
Fixed Bend	72”	31”	26 ft. 7 in	60	50	40	30	20
Adjust-able	72”	31”	26 ft. 7 in	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
7 7/8” Hole	Slick	6.15	8.07	10.60	12.82	14.82
	Stabilized	8.17	9.74	11.82	13.65	15.28
8 1/2” Hole	Slick	4.25	6.16	8.69	10.92	12.91
	Stabilized	8.64	10.21	12.29	14.11	15.75
8 3/4” Hole	Slick	3.48	5.40	7.93	10.16	12.15
	Stabilized	8.83	10.40	12.47	14.30	15.94

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
6.75” 4/5 7.0 (.50) 6.75” OD, 4/5 Lobe, 7.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	58,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

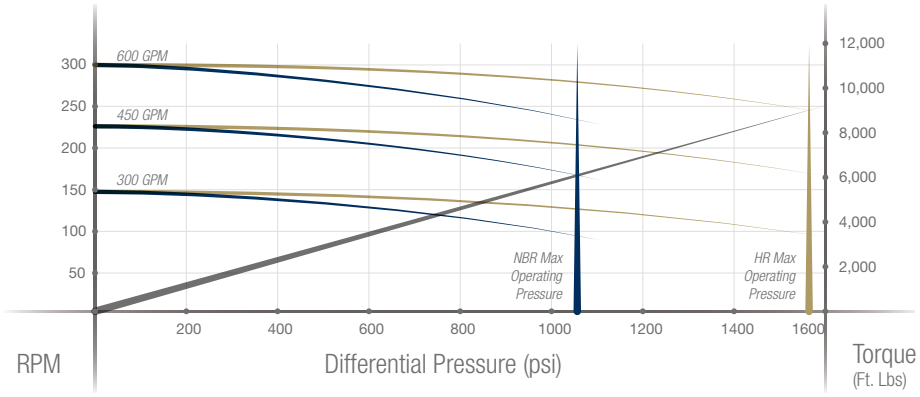
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.50	300 - 600 GPM	150 - 300 RPM	1,050 psi	6,048 ft. lbs.	1,575 psi	9,072 ft. lbs	150° F*
HR	0.50	300 - 600 GPM	150 - 300 RPM	1,575 psi	9,072 ft. lbs.	2,363 psi	13,608 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	33 1/2”	31 ft. 4 in	Straight Configuration: 80 RPM				
Fixed Bend	75”	33 1/2”	27 ft. 8 in	60	50	40	30	20
Adjust-able	75”	33 1/2”	27 ft. 8 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	27 ft. 8 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	5.31	7.14	9.56	11.69	13.59
	Stabilized	8.14	9.66	11.66	13.42	15.00
8 3/4” Hole	Slick	4.61	6.44	8.86	10.99	12.89
	Stabilized	8.32	9.83	11.84	13.60	15.17

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75” 7/8 2.1 (.13) 6.75” OD, 7/8 Lobe, 2.1 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	58,000 lbs	200,000 lbs

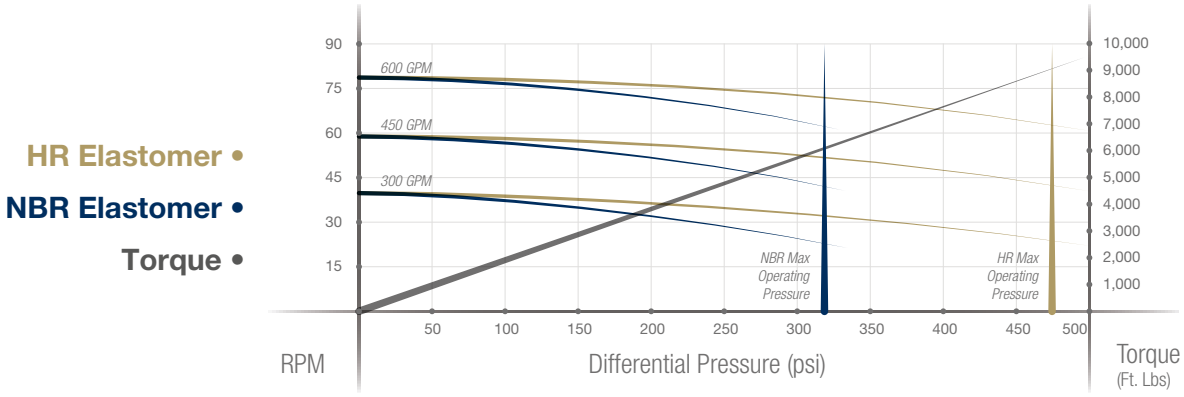
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.13	300 - 600 GPM	39 - 78 RPM	315 psi	5,960 ft. lbs	473 psi	8,940 ft. lbs	150° F*
HR	0.13	300 - 600 GPM	39 - 78 RPM	473 psi	8,940 ft. lbs	709 psi	13,410 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	33 1/2”	33 ft	Straight Configuration: 80 RPM				
Fixed Bend	75”	33 1/2”	29 ft. 4 in	60	50	40	30	20
Adjust-able	75”	33 1/2”	29 ft. 4 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	29 ft. 4 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	5.01	6.73	9.01	11.01	12.81
	Stabilized	7.70	9.15	11.06	12.74	14.24
8 3/4” Hole	Slick	4.35	6.07	8.35	10.35	12.15
	Stabilized	7.85	9.30	11.21	12.89	14.40

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
6.75” 7/8 3.0 (.28) 6.75” OD, 7/8 Lobe, 3.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	58,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

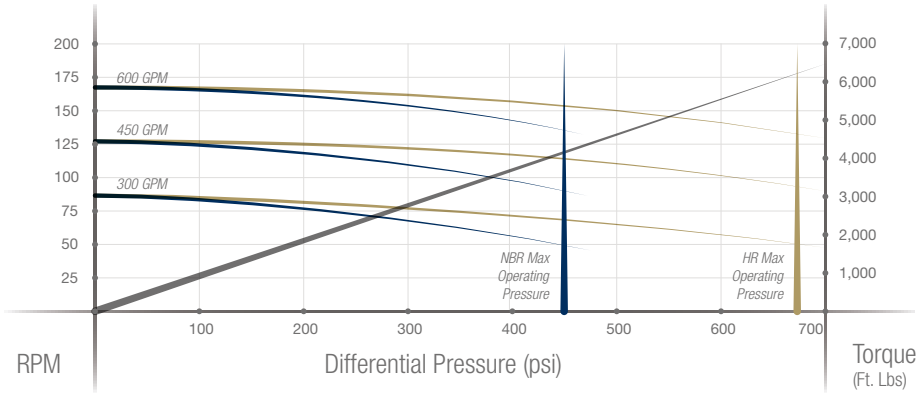
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.28	300 - 600 GPM	84 - 168 RPM	450 psi	4,113 ft. lbs.	675 psi	6,170 ft. lbs	150° F*
HR	0.28	300 - 600 GPM	84 - 168 RPM	675 psi	6,170 ft. lbs.	1,013 psi	9,254 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	33 1/2”	24 ft. 3 in	Straight Configuration: 80 RPM				
Fixed Bend	75”	33 1/2”	20 ft. 7 in	60	50	40	30	20
Adjust-able	75”	33 1/2”	20 ft. 7 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	20 ft. 7 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	7.17	9.65	12.91	15.78	18.35
	Stabilized	10.79	12.68	15.17	17.36	19.33
8 3/4” Hole	Slick	6.23	8.70	11.97	14.84	17.41
	Stabilized	11.11	13.00	15.49	17.69	19.65

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75” 7/8 3.5 (.15) 6.75” OD, 7/8 Lobe, 3.5 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	58,000 lbs	200,000 lbs

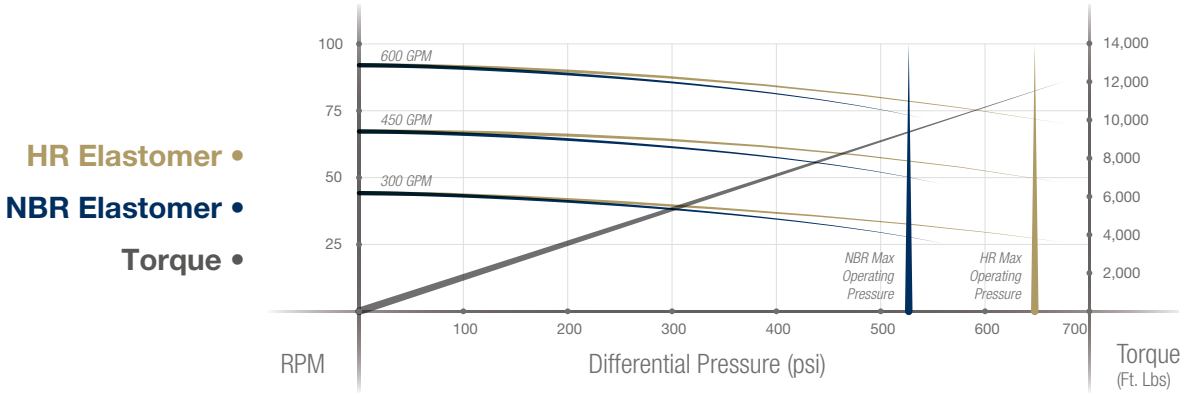
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.15	300 - 600 GPM	45 - 90 RPM	525 psi	9,224 ft. lbs	788 psi	13,836 ft. lbs	150° F*
HR	0.15	300 - 600 GPM	45 - 90 RPM	648 psi	11,377 ft. lbs	1,181 psi	20,755 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	33 1/2”	35 ft. 6 in	Straight Configuration: 80 RPM				
Fixed Bend	75”	33 1/2”	31 ft. 10 in	60	50	40	30	20
Adjust-able	75”	33 1/2”	31 ft. 10 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	31 ft. 10 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	4.61	6.20	8.29	10.14	11.79
	Stabilized	7.12	8.47	10.26	11.83	13.24
8 3/4” Hole	Slick	4.00	5.59	7.69	9.53	11.18
	Stabilized	7.24	8.60	10.39	11.96	13.36

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75” 7/8 5.0 (.29) 6.75” OD, 7/8 Lobe, 5.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	58,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

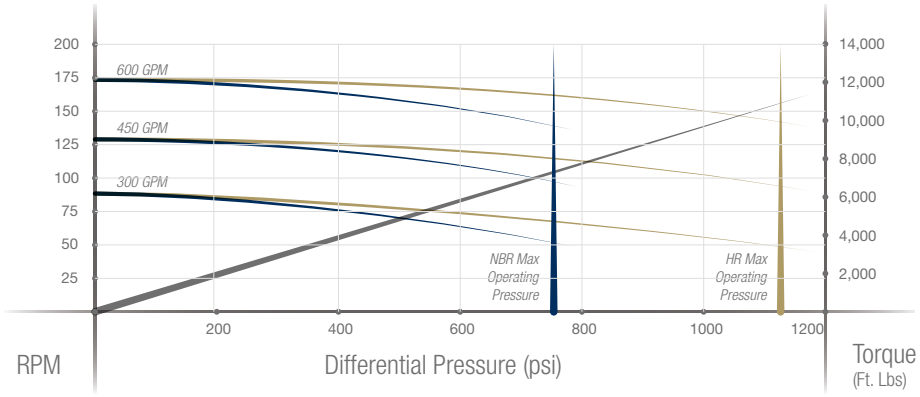
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.29	300 - 600 GPM	87 - 174 RPM	750 psi	7,260 ft. lbs.	1,125 psi	10,890 ft. lbs.	150° F*
HR	0.29	300 - 600 GPM	87 - 174 RPM	1,125 psi	10,890 ft. lbs.	1,688 psi	16,335 ft. lbs.	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	33 1/2”	30 ft	Straight Configuration: 80 RPM				
Fixed Bend	75”	33 1/2”	26 ft. 5 in	60	50	40	30	20
Adjust-able	75”	33 1/2”	26 ft. 5 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	26 ft. 5 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	5.57	7.50	10.04	12.27	14.26
	Stabilized	8.53	10.10	12.18	14.01	15.65
8 3/4” Hole	Slick	4.84	6.76	9.30	11.53	13.53
	Stabilized	8.72	10.29	12.37	14.20	15.84

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
6.75” 7/8 5.7 (.24) 6.75” OD, 7/8 Lobe, 5.7 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	58,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

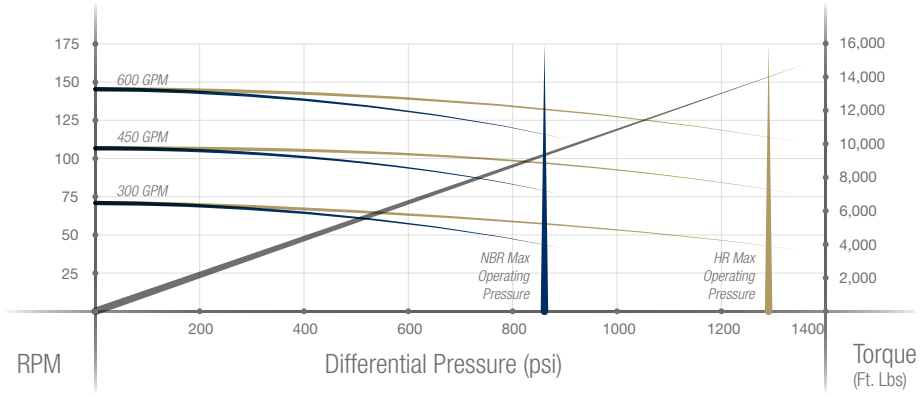
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.24	300 - 600 GPM	72 - 144 RPM	855 psi	9,251 ft. lbs.	1,283 psi	13,877 ft. lbs.	150° F*
HR	0.24	300 - 600 GPM	72 - 144 RPM	1,283 psi	13,877 ft. lbs.	1,924 psi	20,815 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	33 1/2”	35 ft. 6 in	Straight Configuration: 80 RPM				
Fixed Bend	75”	33 1/2”	31 ft. 10 in	60	50	40	30	20
Adjust-able	75”	33 1/2”	31 ft. 10 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	75”	33 1/2”	31 ft. 10 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	4.61	6.20	8.29	10.14	11.79
	Stabilized	7.12	8.47	10.26	11.83	13.24
8 3/4” Hole	Slick	4.00	5.59	7.69	9.53	11.18
	Stabilized	7.24	8.60	10.39	11.96	13.36

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
6.75” 7/8 6.0 (.26) 6.75” OD, 7/8 Lobe, 6.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	58,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

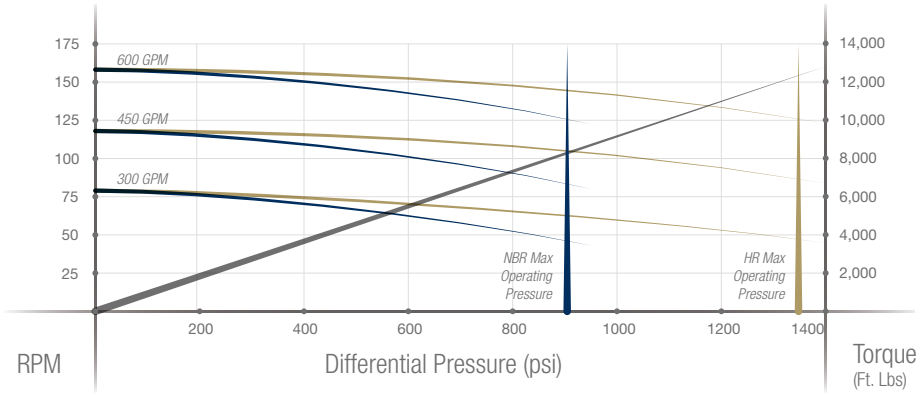
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.26	300 - 600 GPM	78 - 156 RPM	900 psi	8,163 ft. lbs	1,350 psi	12,245 ft. lbs	150° F*
HR	0.26	300 - 600 GPM	78 - 156 RPM	1,350 psi	12,245 ft. lbs	2,025 psi	18,367 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	33 1/2”	33 ft. 2 in	Straight Configuration: 80 RPM				
Fixed Bend	75”	33 1/2”	29 ft. 2 in	60	50	40	30	20
Adjust-able	75”	33 1/2”	29 ft. 2 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	29 ft. 2 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	4.98	6.69	8.96	10.95	12.73
	Stabilized	7.66	9.10	11.00	12.67	14.17
8 3/4” Hole	Slick	4.32	6.04	8.30	10.29	12.08
	Stabilized	7.81	9.25	11.15	12.82	14.32

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
6.75” 9/10 4.0 (.27) 6.75” OD, 9/10 Lobe, 4.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8” - 8 3/4”	4 1/2” Reg	4 1/2” XH Box	58,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

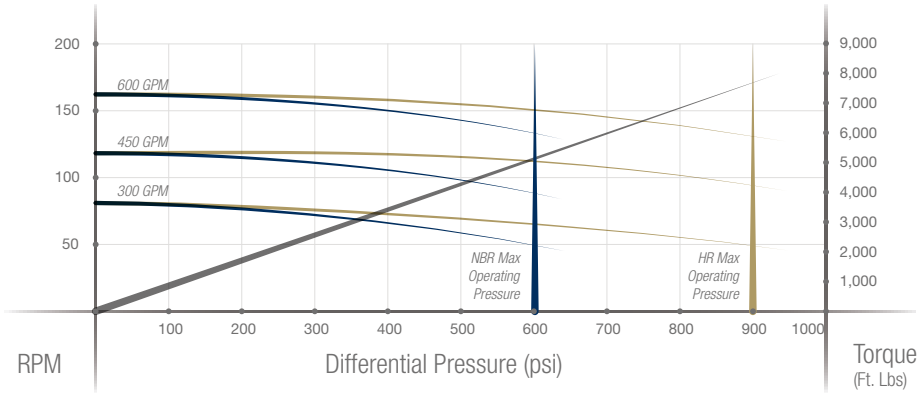
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.27	300 - 600 GPM	81 - 162 RPM	600 psi	5,070 ft. lbs	900 psi	7,605 ft. lbs	150° F*
HR	0.27	300 - 600 GPM	81 - 162 RPM	900 psi	7,605 ft. lbs	1,350 psi	11,408 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

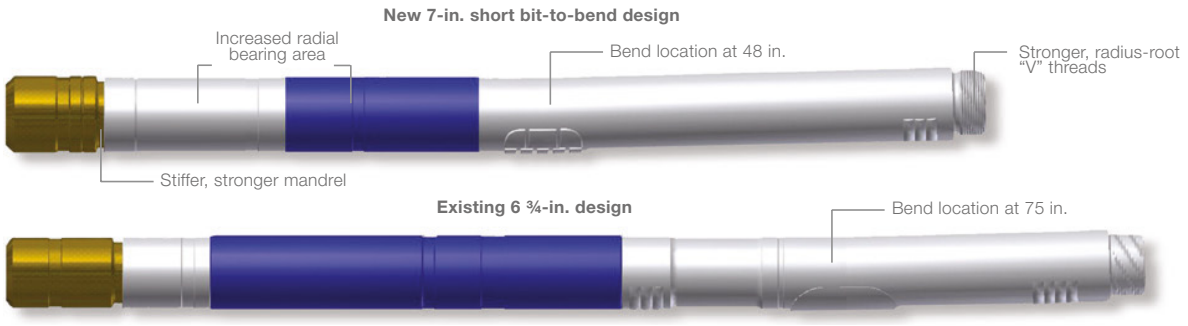
	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	33 1/2”	27 ft	Straight Configuration: 80 RPM				
Fixed Bend	75”	33 1/2”	23 ft. 4 in	60	50	40	30	20
Adjust-able	75”	33 1/2”	23 ft. 4 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	23 ft. 4 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	6.32	8.50	11.37	13.90	16.17
	Stabilized	9.59	11.32	13.60	15.61	17.41
8 3/4” Hole	Slick	5.49	7.66	10.54	13.07	15.33
	Stabilized	9.84	11.57	13.85	15.85	17.65

Directional Drilling Tools
Mud Motors

7-in. Mud Motor



MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Features

- Bit-to-bend from 75 in. to 48 in.
- 11% larger radial bearing support area
- Bearing mandrel section 5x stronger build sections
- Square stub Acme threads replaced with radius-root "V" threads
- Increased transmission

Benefits

- Improved build rates
- Faster RPM capability
- Faster kickoff from vertical
- Higher side loads
- Higher radial loads in shorter areas
- 35% increase in torsonial strength; 5x increase in bending fatigue life
- Able to handle 20% higher torque

Hunting's 7-in. mud motor design introduces one of the shortest bit-to-bend lengths in the industry, reduced from 75 in. to 48 in. This significant improvement helps deliver rapid build rates, improved motor steering and a faster kickoff from vertical.

Ideal for any type of directional or horizontal drilling, this progressive-cavity, positive-displacement mud motor delivers a shorter radius and provides an increased radial bearing support area that can withstand higher side loads and push the bit harder. In combination with the motor's ability to handle higher torque transmission, drillers are able to drill faster and longer with less component stress.

Hunting's 7-in. mud motor is exceptionally durable because of its improved ability to handle bending while maintaining pressure on the bit. This benefit results from the tool's innovative radius-root "V" threads that deliver a 35% increase in torsional strength and a five-time increase in bending fatigue life.

Suitable for conventional or high-temperature conditions onshore or off, Hunting's 7-in. mud motor has a higher dogleg capability, making it the preferred choice in reaching horizontal access to the target in less time.

Able to survive 100 rotary RPM, Hunting's 7-in. mud motor has a robust bearing mandrel section that's five times stronger than conventional designs. That translates into less downtime and substantial savings.

Mud motor specification sheets available on request.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
7” 4/5 7.0 (.50) 7” OD, 4/5 Lobe, 7.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
8 1/2” - 9 7/8”	4 1/2” Reg	4 1/2” XH Box	90,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

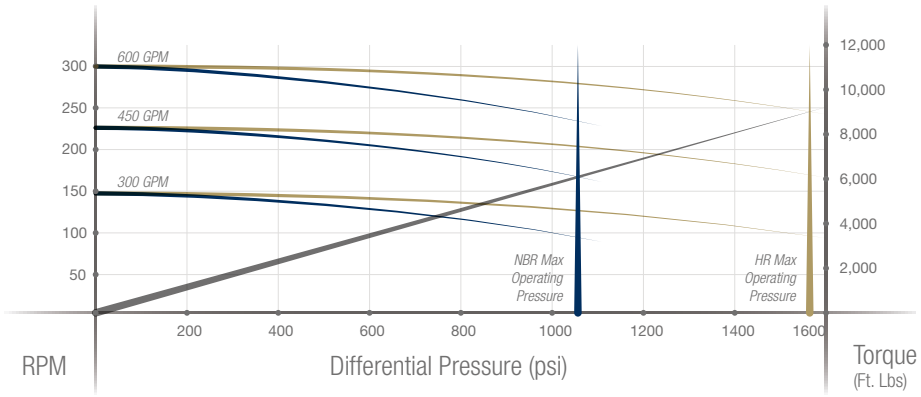
	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.50	300 - 600 GPM	150 - 300 RPM	1,050 psi	6,048 ft. lbs	1,575 psi	9,072 ft. lbs	150° F*
HR	0.50	300 - 600 GPM	150 - 300 RPM	1,575 psi	9,072 ft. lbs	2,363 psi	13,608 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	31 ft	Straight Configuration: 100 RPM				
Fixed Bend	48”	NA	27 ft. 6 in	100	100	80	35	25
Adjust-able	60”	NA	27 ft. 6 in	70	50	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	27 ft. 6 in	80	60	45	30	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	4.59	6.35	8.67	10.70	12.53
	Stabilized	8.96	10.68	12.94	14.94	16.72
8 3/4” Hole	Slick	3.75	5.51	7.83	9.87	11.69
	Stabilized	9.14	10.86	13.13	15.12	16.91

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
7” 7/8 3.5 (.15) 7” OD, 7/8 Lobe, 3.5 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
8 1/2” - 9 7/8”	4 1/2” Reg	4 1/2” XH Box	90,000 lbs	200,000 lbs

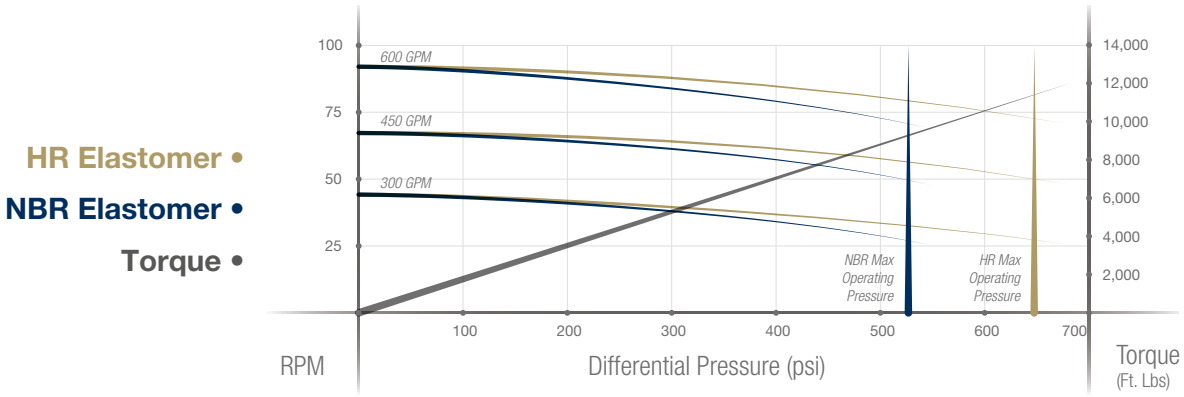
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.15	300 - 600 GPM	45 - 90 RPM	525 psi	9,224 ft. lbs	788 psi	13,836 ft. lbs	150° F*
HR	0.15	300 - 600 GPM	45 - 90 RPM	648 psi	11,377 ft. lbs	1,181 psi	20,755 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	35 ft. 2 in	Straight Configuration: 100 RPM				
Fixed Bend	48”	NA	31 ft. 8 in	100	100	80	35	25
Adjust-able	60”	NA	31 ft. 8 in	70	50	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	31 ft. 8 in	80	60	45	30	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	4.00	5.54	7.56	9.34	10.93
	Stabilized	7.72	9.22	11.21	12.95	14.52
8 3/4” Hole	Slick	3.27	4.81	6.83	8.61	10.20
	Stabilized	7.85	9.36	11.34	13.09	14.66

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
7” 7/8 5.0 (.29) 7” OD, 7/8 Lobe, 5.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
8 1/2” - 9 7/8”	4 1/2” Reg	4 1/2” XH Box	90,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

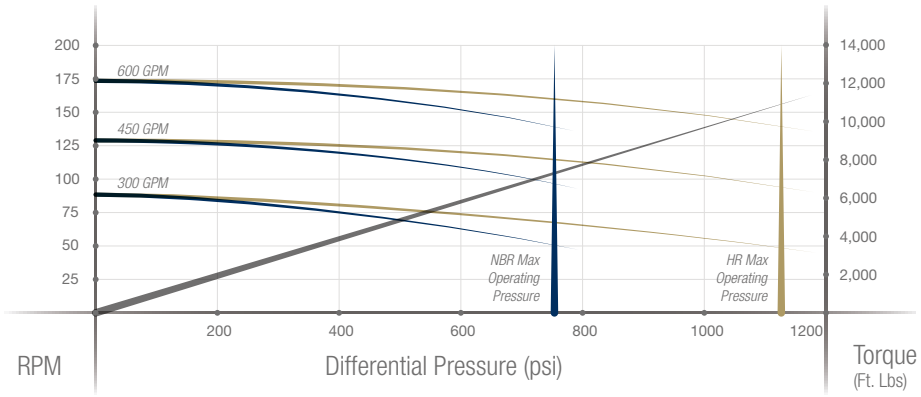
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.29	300 - 600 GPM	87 - 174 RPM	750 psi	7,260 ft. lbs	1,125 psi	10,890 ft. lbs	150° F*
HR	0.29	300 - 600 GPM	87 - 174 RPM	1,125 psi	10,890 ft. lbs	1,688 psi	16,335 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	29 ft. 8 in	Straight Configuration: 100 RPM				
Fixed Bend	48”	NA	26 ft. 3 in	100	100	80	35	25
Adjust-able	60”	NA	26 ft. 3 in	70	50	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	26 ft. 3 in	80	60	45	30	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	4.81	6.65	9.08	11.21	13.13
	Stabilized	9.43	11.23	13.60	15.68	17.55
8 3/4” Hole	Slick	3.93	5.77	8.20	10.33	12.25
	Stabilized	9.64	11.43	13.08	15.89	17.75

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
7” 7/8 5.7 (.24) 7” OD, 7/8 Lobe, 5.7 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
8 1/2” - 9 7/8”	4 1/2” Reg	4 1/2” XH Box	90,000 lbs	200,000 lbs

Recommended Drilling Fluid Properties

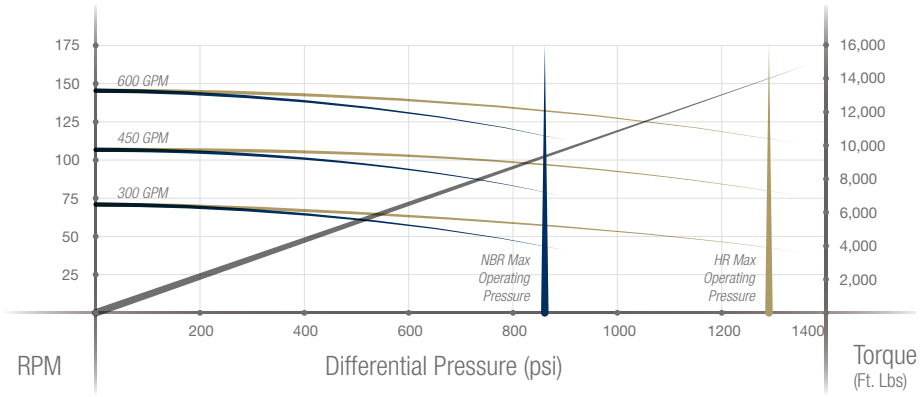
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.24	300 - 600 GPM	72 - 144 RPM	855 psi	9,251 ft. lbs	1,283 psi	13,877 ft. lbs	150° F*
HR	0.24	300 - 600 GPM	72 - 144 RPM	1,283 psi	13,877 ft. lbs	1,924 psi	20,815 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	NA	35 ft. 2 in	Straight Configuration: 100 RPM				
Fixed Bend	48”	NA	31 ft. 8 in	100	100	80	35	25
Adjust-able	60”	NA	31 ft. 8 in	70	50	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	31 ft. 8 in	80	60	45	30	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2” Hole	Slick	4.00	5.54	7.56	9.34	10.93
	Stabilized	7.72	9.22	11.21	12.95	14.52
8 3/4” Hole	Slick	3.27	4.81	6.83	8.61	10.20
	Stabilized	7.85	9.36	11.34	13.09	14.66

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
8” 4/5 6.0 (.25) 8” OD, 4/5 Lobe, 6.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
9 7/8” - 12 1/4”	6 5/8” Reg	6 5/8” Reg Box	87,000 lbs	327,000 lbs

Recommended Drilling Fluid Properties

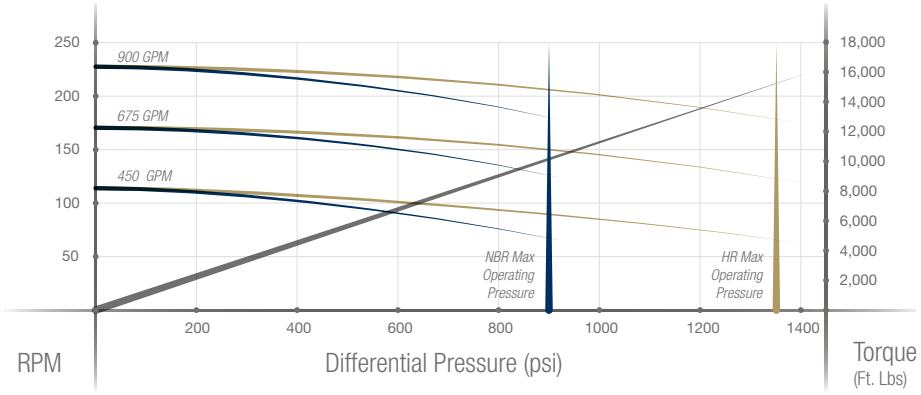
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.25	450 - 900 GPM	113 - 225 RPM	900 psi	10,197 ft. lbs	1,350 psi	15,296 ft. lbs	150° F*
HR	0.25	450 - 900 GPM	113 - 225 RPM	1,350 psi	15,296 ft. lbs	2,025 psi	22,943 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	42”	39 ft. 2 in	Straight Configuration: 100 RPM				
Fixed Bend	98”	42”	34 ft. 9 in	60	50	40	30	20
Adjust-able	98”	42”	34 ft. 9 in	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
9 7/8” Hole	Slick	4.53	6.00	7.93	9.62	11.14
	Stabilized	6.37	7.56	9.13	10.51	11.74
12 1/4” Hole	Slick	0.47	1.94	3.89	5.56	7.08
	Stabilized	7.41	8.59	10.16	11.54	12.78

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
8” 7/8 2.5 (.07) 8” OD, 7/8 Lobe, 2.5 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
9 7/8” - 12 1/4”	6 5/8” Reg	6 5/8” Reg Box	87,000 lbs	327,000 lbs

Recommended Drilling Fluid Properties

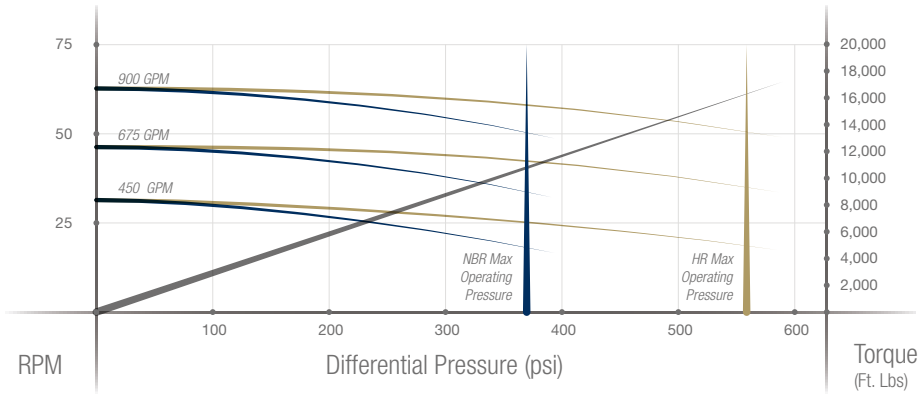
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.07	450 - 900 GPM	32 - 63 RPM	375 psi	10,973 ft. lbs	563 psi	16,459 ft. lbs	150° F*
HR	0.07	450 - 900 GPM	32 - 63 RPM	563 psi	16,459 ft. lbs	844 psi	24,688 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	42”	38 ft. 8 in	Straight Configuration: 80 RPM				
Fixed Bend	98”	42”	34 ft. 3 in	60	50	40	30	20
Adjust-able	98”	42”	34 ft. 3 in	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
9 7/8” Hole	Slick	4.53	6.00	7.93	9.62	11.14
	Stabilized	6.37	7.56	9.13	10.51	11.74
12 1/4” Hole	Slick	0.17	1.94	3.87	5.56	7.08
	Stabilized	7.41	8.59	10.16	11.54	12.78

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
8” 7/8 3.0 (.17) 8” OD, 7/8 Lobe, 3.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
9 7/8” - 12 1/4”	6 5/8” Reg	6 5/8” Reg Box	87,000 lbs	327,000 lbs

Recommended Drilling Fluid Properties

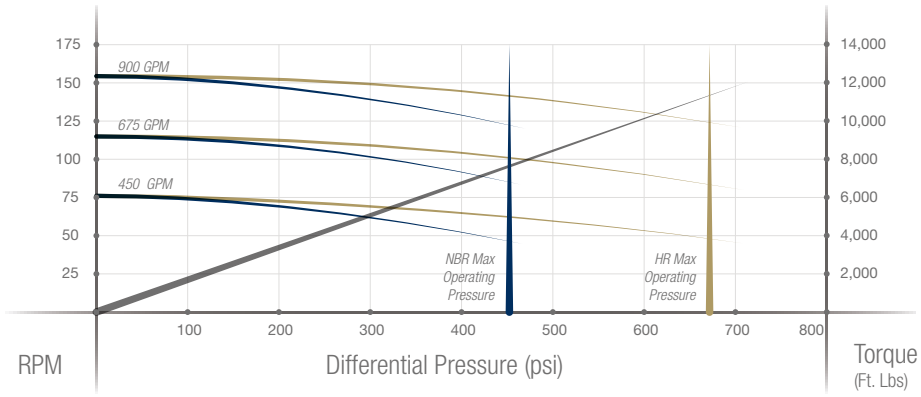
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.17	450 - 900 GPM	77 - 153 RPM	450 psi	7,497 ft. lbs	675 psi	11,246 ft. lbs	150° F*
HR	0.17	450 - 900 GPM	77 - 153 RPM	675 psi	11,246 ft. lbs	1,013 psi	16,868 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	42”	30 ft. 10 in	Straight Configuration: 80 RPM				
Fixed Bend	98”	42”	26 ft. 5 in	60	50	40	30	20
Adjust-able	98”	42”	26 ft. 5 in	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
9 7/8” Hole	Slick	6.00	7.93	10.49	12.73	14.75
	Stabilized	8.17	9.62	11.53	13.20	14.71
12 1/4” Hole	Slick	0.63	2.56	5.12	7.36	9.37
	Stabilized	10.03	11.47	13.38	15.06	16.57

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
8” 7/8 3.4 (.09) 8” OD, 7/8 Lobe, 3.4 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
9 7/8” - 12 1/4”	6 5/8” Reg	6 5/8” Reg Box	87,000 lbs	327,000 lbs

Recommended Drilling Fluid Properties

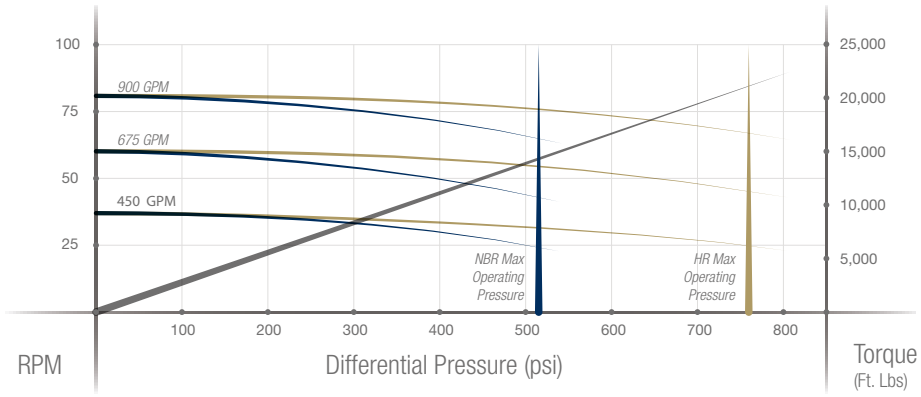
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.09	450 - 900 GPM	41 - 81 RPM	510 psi	14,300 ft. lbs	765 psi	21,451 ft. lbs	150° F*
HR	0.09	450 - 900 GPM	41 - 81 RPM	765 psi	21,451 ft. lbs	1,148 psi	32,176 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	42”	42 ft. 6 in	Straight Configuration: 80 RPM				
Fixed Bend	98”	42”	38 ft	60	50	40	30	20
Adjust-able	98”	42”	38 ft	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
9 7/8” Hole	Slick	4.13	5.46	7.22	8.77	10.15
	Stabilized	5.85	6.96	8.42	9.70	10.85
12 1/4” Hole	Slick	0.43	1.76	3.55	5.07	6.45
	Stabilized	6.71	7.81	9.27	10.56	11.71

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
8” 7/8 4.0 (.17) 8” OD, 7/8 Lobe, 4.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
9 7/8” - 12 1/4”	6 5/8” Reg	6 5/8” Reg Box	87,000 lbs	327,000 lbs

Recommended Drilling Fluid Properties

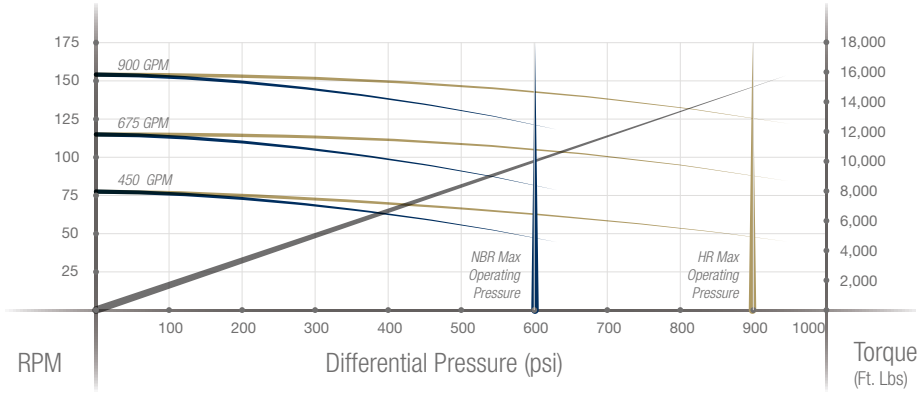
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.17	450 - 900 GPM	77 - 153 RPM	600 psi	9,996 ft. lbs	900 psi	14,994 ft. lbs	150° F*
HR	0.17	450 - 900 GPM	77 - 153 RPM	900 psi	14,994 ft. lbs	1,350 psi	22,491 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	42”	34 ft. 6 in	Straight Configuration: 80 RPM				
Fixed Bend	98”	42”	30 ft	60	50	40	30	20
Adjust-able	98”	42”	30 ft	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
9 7/8” Hole	Slick	5.26	6.96	9.20	11.17	12.93
	Stabilized	7.28	8.61	10.35	11.89	13.27
12 1/4” Hole	Slick	0.55	2.25	4.49	6.46	8.22
	Stabilized	8.69	10.02	11.77	13.30	14.68

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
8” 9/10 3.0 (.11) 8” OD, 9/10 Lobe, 3.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
9 7/8” - 12 1/4”	6 5/8” Reg	6 5/8” Reg Box	87,000 lbs	327,000 lbs

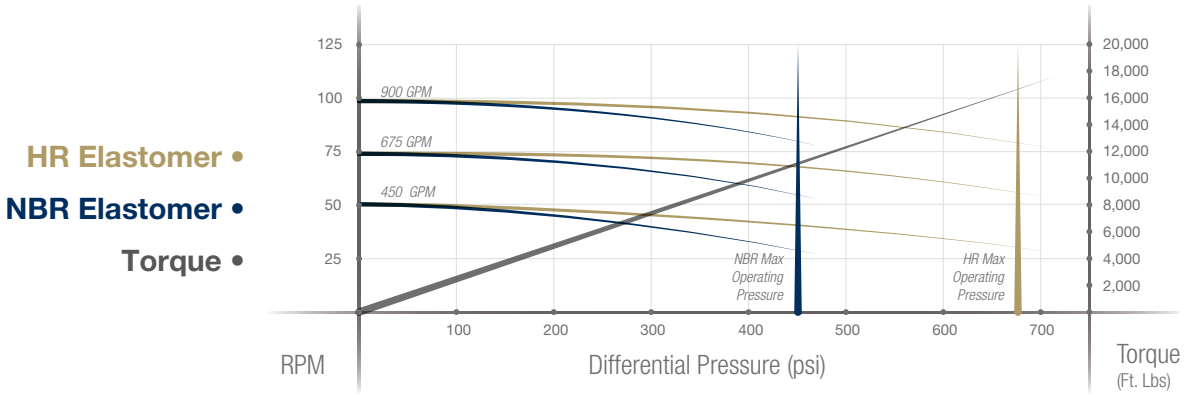
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.11	450 - 900 GPM	50 - 99 RPM	450 psi	11,052 ft. lbs	675 psi	16,578 ft. lbs	150° F*
HR	0.11	450 - 900 GPM	50 - 99 RPM	675 psi	16,578 ft. lbs	1,013 psi	24,867 ft. lbs	150° F*

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	42”	37 ft	Straight Configuration: 80 RPM				
Fixed Bend	98”	42”	32 ft. 6 in	60	50	40	30	20
Adjust-able	98”	42”	32 ft. 6 in	60	40	Not Recommended	Not Recommended	Not Recommended

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
9 7/8” Hole	Slick	4.84	6.40	8.46	10.27	11.90
	Stabilized	6.76	8.00	9.65	11.10	12.40
12 1/4” Hole	Slick	0.51	2.07	4.13	5.94	7.56
	Stabilized	7.94	9.19	10.84	12.29	13.58

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
9.62” 5/6 4.0 (.11) 9.62” OD, 5/6 Lobe, 4.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
12 1/4” - 24”	6 5/8” Reg or 7 5/8” Reg	6 5/8” Reg or 7 5/8” Reg	101,750 lbs	489,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

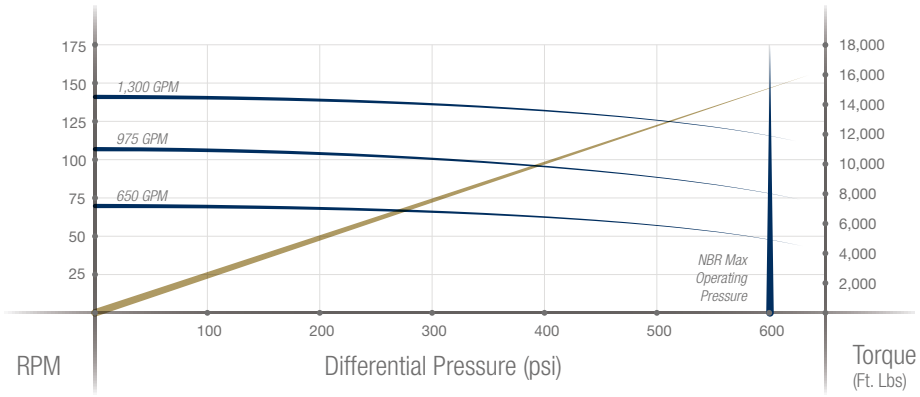
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.11	650 - 1300 GPM	72 - 143 RPM	600 psi	15,054 ft. lbs	900 psi	22,581 ft. lbs	150° F*
HR	Contact a Hunting representative for more information							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	46 1/2”	37 ft	Straight Configuration: 80 RPM				
Fixed Bend	105”	46 1/2”	32 ft. 9 in	60	50	40	30	20
Adjust-able	105”	46 1/2”	32 ft. 9 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	32 ft. 9 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
12 1/4” Hole	Slick	3.77	5.33	7.39	9.21	10.83
	Stabilized	7.12	8.35	9.90	11.42	12.70
17 1/2” Hole	Slick				0.25	1.88
	Stabilized	9.78	11.02	12.65	14.08	15.37

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
9.62” 5/6 5.0 (.14) 9.62” OD, 5/6 Lobe, 5.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
12 1/4” - 24”	6 5/8” Reg or 7 5/8” Reg	6 5/8” Reg or 7 5/8” Reg	101,750 lbs	489,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

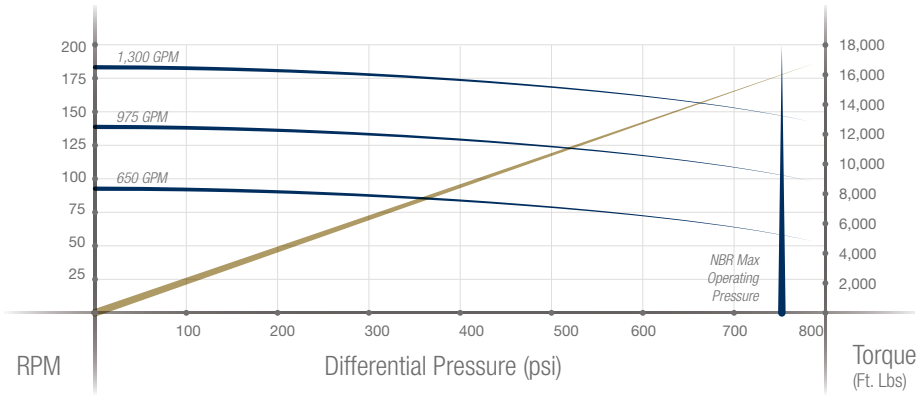
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.14	650 - 1300 GPM	91 - 182 RPM	750 psi	16,035 ft. lbs	1,125 psi	24,053 ft. lbs	150° F*
HR	Contact a Hunting representative for more information							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	46 1/2”	39 ft. 10 in	Straight Configuration: 80 RPM				
Fixed Bend	105”	46 1/2”	33 ft	60	50	40	30	20
Adjust-able	105”	46 1/2”	33 ft	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	33 ft	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
12 1/4” Hole	Slick	3.75	5.30	7.35	9.16	10.78
	Stabilized	7.08	8.31	9.94	11.37	12.65
17 1/2” Hole	Slick				0.25	1.87
	Stabilized	9.72	10.95	12.58	14.00	15.28

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
9.62” 7/8 3.9 (.07) 9.62” OD, 7/8 Lobe, 3.9 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
12 1/4” - 24”	6 5/8” Reg or 7 5/8” Reg	6 5/8” Reg or 7 5/8” Reg	101,750 lbs	489,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

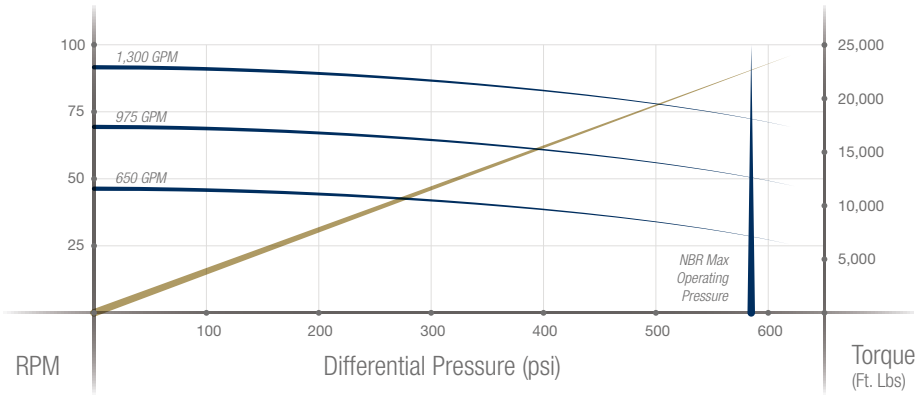
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.07	650 - 1300 GPM	46 - 91 RPM	585 psi	22,499 ft. lbs.	878 psi	33,749 ft. lbs	150° F*
HR	Contact a Hunting representative for more information							

** For temperatures exceeding 150° F, please refer to Hunting’s derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	46 1/2”	45 ft. 6 in	Straight Configuration: 80 RPM				
Fixed Bend	105”	46 1/2”	38 ft. 7 in	60	50	40	30	20
Adjust-able	105”	46 1/2”	38 ft. 7 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	38 ft. 7 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
12 1/4” Hole	Slick	3.18	4.51	6.25	7.79	9.16
	Stabilized	6.06	7.15	8.59	9.86	10.99
17 1/2” Hole	Slick				0.21	1.59
	Stabilized	7.94	9.03	10.47	11.74	12.87

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
9.62” 9/10 4.0 (.09) 9.62” OD, 9/10 Lobe, 4.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
12 1/4” - 24”	6 5/8” Reg or 7 5/8” Reg	6 5/8” Reg or 7 5/8” Reg	101,750 lbs	489,000 lbs

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

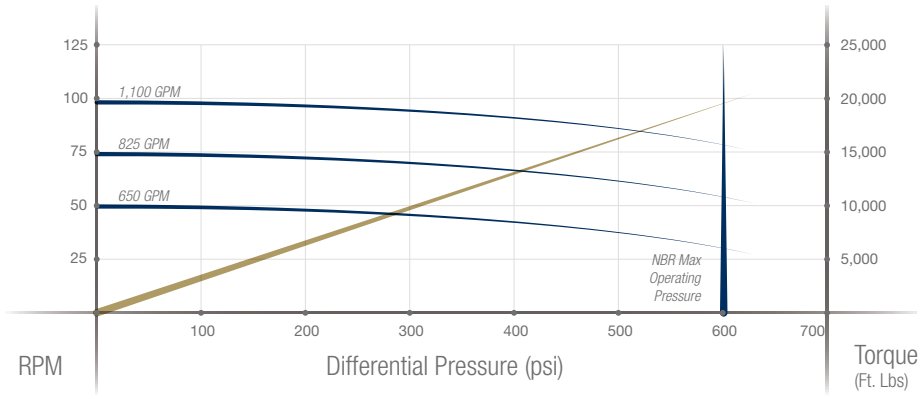
Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.09	550 - 1100 GPM	50 - 99 RPM	600 psi	19,386 ft. lbs	900 psi	29,079 ft. lbs	150° F*
HR	Contact a Hunting representative for more information							

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Bend	Bit to Stabilizer	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Straight	NA	46 1/2”	37 ft. 4 in	Straight Configuration: 80 RPM				
Fixed Bend	105”	46 1/2”	30 ft. 5 in	60	50	40	30	20
Adjust-able	105”	46 1/2”	30 ft. 5 in	60	40	Not Recommended	Not Recommended	Not Recommended
TDS	Contact Hunting	NA	30 ft. 5 in	60	50	40	30	20

Predicted Build Rates *Degrees / 100 Ft.*

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
12 1/4” Hole	Slick	4.06	5.75	7.97	9.93	11.68
	Stabilized	7.65	8.95	10.67	12.18	13.54
17 1/2” Hole	Slick				0.27	2.03
	Stabilized	10.77	12.08	13.80	15.31	16.66

Directional Drilling Tools
Vibration Tools

Vibration Dampener

Designed to absorb axial vibrations in the drill string.

Features

- State-of-the-art non-bevel spring design
- Patented torque transmission section
- Compensating piston inside the tool

Benefits

- Reduce bit vibration and bit wear
- Increase rate of penetration
- Smoother drilling
- Faster drilling
- Lower repair costs

The Hunting Vibration Dampener is a vibration isolator, whereas the industry standard bevel spring shock sub is a vibration carrier.

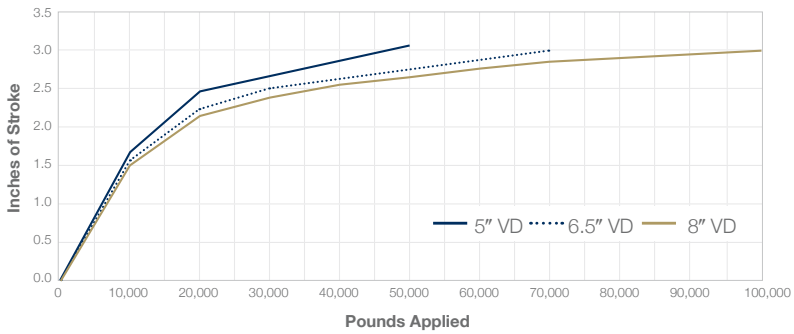
The Hunting Vibration Dampener is designed to absorb axial vibrations in the drill string. It will reduce abuse on all of your components, from the bit to the drilling rig, thus lowering repair costs. A state-of-the-art, patented torque transmission section, and a state-of-the-art non-bevel spring design make this tool unique to the industry.

The Hunting Vibration Dampener can be located directly above the drilling motor, drill collars or above/in the BHA assembly.

A compensating piston inside the tool is used to keep the pressure across the internal seals to a minimum.

The 5-in. Vibration Dampener's 50,000-lb maximum rating; the 6.5-in. Vibration Dampener's 70,000-lb maximum rating and the 8-in. Vibration Dampener's 100,000-lb maximum rating will compress the tool 3 in.

Hunting Vibration Dampener Compression



Directional Drilling Tools
Non Magnetic Drill Collars

Drill Collars

Features

- Manufactured from Non Magnetic and AISI 4145 H-MOD 30-36RC
- Available in Slick, Spiral and Flexi profile
- NS-1™ approved wear band application suitable for flexi non magnetic drill collars
- All our equipment is manufactured to NS-1™
- Can support any NS-2™, DS1 cat 3-5 and API operations

Benefits

- Bespoke manufacturing to suit customer specific requirements
- First rental company worldwide to receive NS-1™ Facility Approval for drilling products
- Innovative wear band inhibits excessive wear to flexi tool joints and centre journals
- Cost effective to the customer
- Large inventory
- Fast response times

A component of a drill string that provides weight on bit for drilling. Drill collars are thick-walled tubular pieces machined from solid bars of steel

All our equipment is manufactured to conform to NS-1™ and can support any NS-2 ™, DS1 cat 3-5 and API operations. Ongoing investment in new equipment enables HEMS to provide rental equipment that is in immaculate order and within spec. Our Drill Collars are manufactured from Non Magnetic and AISI 4145 H-MOD 30-36RC material in Slick, Spiral and Flexi profile.

Hunting has developed a **wear band application** for our Non Magnetic Flexi Drill Collars that is applied to the tool joints and the centre journals, limiting the amount of wear that is typically experienced on this equipment.

The application has been tested and awarded a Fearnley Procter NS-1™ Level 2 certificate. The wear band application does not disturb the magnetic permeability of the tool. Following this application the hot spot inspection on the equipment provides results within the accepted ± 0.05 MT.

The application involves a semi automatic mig process together with a wear particle aggregate dropped into the molten weld pool.

Standard Drill Collar Specification / Slick, Spiral, Flexi Profile

Body O.D. (in)	Body I.D. (in)	Min Ns2 bevel Dia. (in)	Min DS1 Cat 3-5 bevel Dia. (in)	Length (ft) SH/SH	Connections
4 3/4	2 1/4	4 5/8	4 39/64	31ft, 6-15ft	NC38
6 3/4	2 13/16	6 21/64	6 21/64	31ft, 6-15ft	NC50
8 1/4	2 13/16	7 11/16	7 5/32	31ft, 6-15ft	6 5/8 Reg
9 1/2	3	8 51/64	8 31/64	31ft, 6-15ft	7 5/8 Reg

Directional Drilling Tools
TDS Motors

Tilted Drive Sub (TDS)

Features

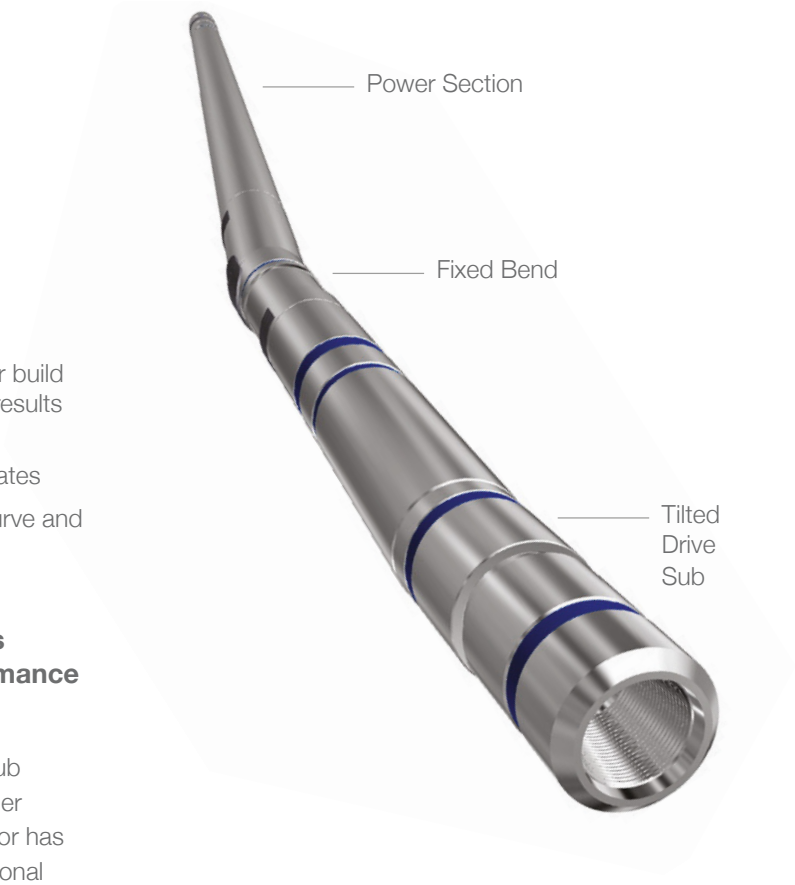
- Patented tilted drive sub at bit box
- Additional 0.25° bend at bit box
- Available in 6.75” and 7”
- Available in all power sections

Benefits

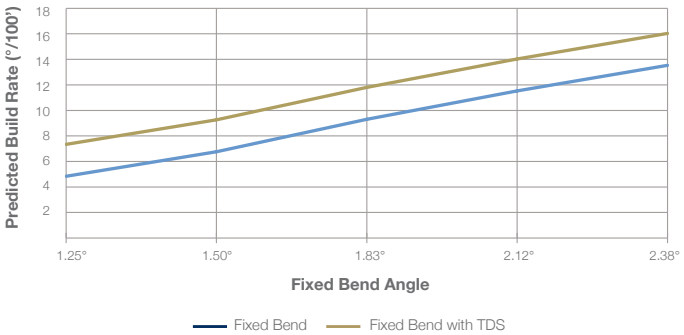
- Lower degree fixed bend housing obtains greater build rates, allowing for a higher rotary RPM limit that results from the lower bend angle
- Reacts quicker, resulting in instantaneous build rates
- Higher rotary RPM limits provide high ROP for curve and lateral runs

The Hunting Tilted Drive Sub mud motor is specifically designed for increased performance in unconventional shale plays.

The Hunting TDS mud motor utilizes a tilted drive sub assembly to achieve instantaneous build rates, higher rotary RPM limits and high ROP. The TDS mud motor has a traditional fixed bend housing along with an additional 0.25° bend at the bit box. This additional bend at the bit box allows you to run a lower fixed bend angle and achieve the same buildup rates, i.e., a traditional 6.75” 7/8 5.0 fixed bend motor set at 2.12° will achieve 11.53°/100’ with a surface RPM limit of 30 RPM, while a 6.75” TDS motor set at 1.83° will achieve 11.8°/100’ with a surface RPM limit of 40 RPM (actual buildup rates are application specific).



6.75” 7/8 5.0 Slick Build Rate Comparison



Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 4/5 7.0 (.50) 6.75" OD, 4/5 Lobe, 7.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

Recommended Drilling Fluid Properties

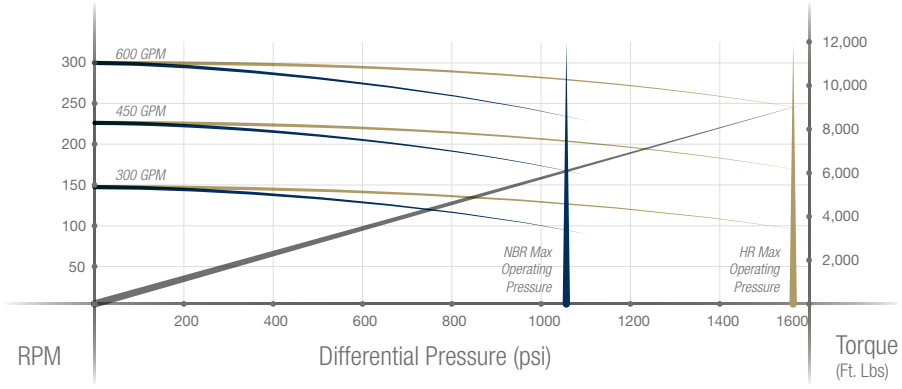
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.50	300 - 600 GPM	150 - 300 RPM	1,050 psi	6,048 ft. lbs	1,575 psi	9,072 ft. lbs.	150° F *
HR	0.50	300 - 600 GPM	150 - 300 RPM	1,575 psi	9,072 ft. lbs.	2,363 psi	13,608 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Lower Bend	Bit to Upper Bend	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Fixed Bend	18"	75"	27 ft. 8 in.	60	50	40	30	20
Adjustable	18"	75"	27 ft. 8 in.	60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	7.70	9.53	11.95	14.08	15.98
8 3/4" Hole	Slick	7.03	8.86	11.28	13.40	15.31

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

drilling.tools@hunting-intl.com
www.hunting-intl.com/drilling-tools/mud-motors

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 6/7 5.0 (.29) 6.75" OD, 6/7 Lobe, 5.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

Recommended Drilling Fluid Properties

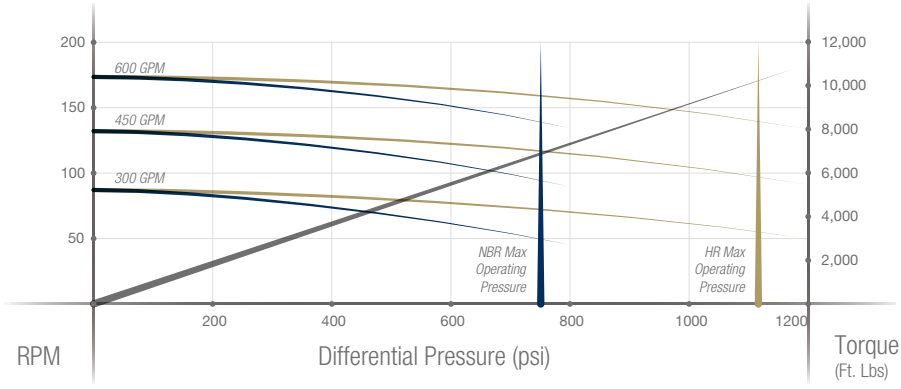
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.29	300 - 600 GPM	87 - 174 RPM	750 psi	6,788 ft. lbs	1,125 psi	10,181 ft. lbs.	150° F *
HR	0.29	300 - 600 GPM	87 - 174 RPM	1,125 psi	10,181 ft. lbs.	1,688 psi	15,272 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Lower Bend	Bit to Upper Bend	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Fixed Bend	18"	75"	26 ft. 10 in.	60	50	40	30	20
Adjustable	18"	75"	26 ft. 10 in.	60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	7.94	9.83	12.33	14.52	16.48
8 3/4" Hole	Slick	7.22	9.11	11.60	13.80	15.76

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 7/8 2.1 (.13) 6.75" OD, 7/8 Lobe, 2.1 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

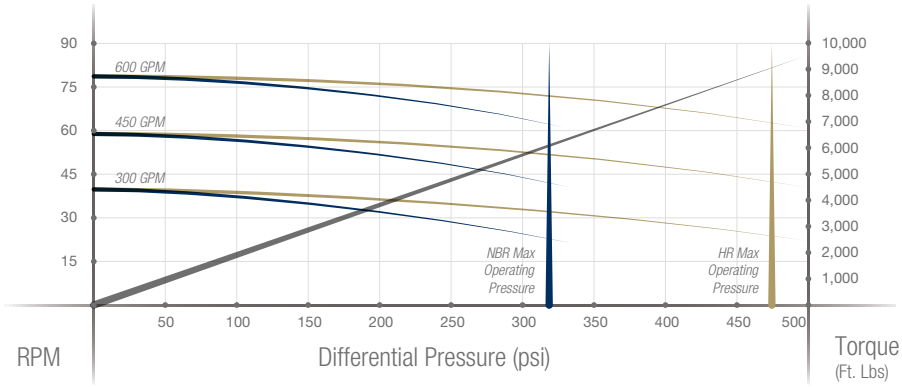
	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.13	300 - 600 GPM	39 - 78 RPM	315 psi	5,960 ft. lbs	473 psi	8,940 ft. lbs.	150° F *
HR	0.13	300 - 600 GPM	39 - 78 RPM	473 psi	8,940 ft. lbs.	709 psi	13,410 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Lower Bend	Bit to Upper Bend	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Fixed Bend	18"	75"	29 ft. 4 in.	60	50	40	30	20
Adjustable	18"	75"	29 ft. 4 in.	60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	7.30	9.03	11.30	13.31	15.10
8 3/4" Hole	Slick	6.64	8.36	10.64	12.64	14.44

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 7/8 3.0 (.28) 6.75" OD, 7/8 Lobe, 3.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

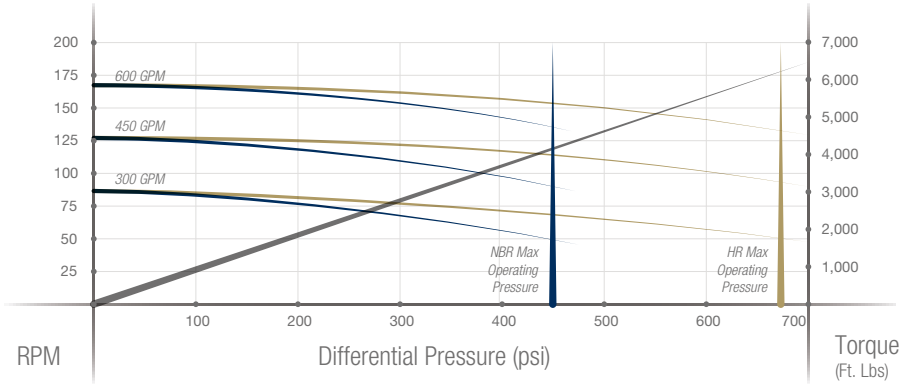
	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.28	300 - 600 GPM	84 - 168 RPM	450 psi	4,113 ft. lbs	675 psi	6,170 ft. lbs.	150° F *
HR	0.28	300 - 600 GPM	84 - 168 RPM	675 psi	6,170 ft. lbs.	1,013 psi	9,254 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •

NBR Elastomer •

Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Lower Bend	Bit to Upper Bend	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Fixed Bend	18"	75"	20 ft. 7 in.	60	50	40	30	20
Adjustable	18"	75"	20 ft. 7 in.	60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	10.24	12.71	15.98	18.85	21.42
8 3/4" Hole	Slick	9.30	11.77	15.04	17.91	20.48

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

MWD Components
Ceramic & Carbide Parts
MWD Electronics
Running Gear
Handling Equipment
Drill Pipe Screens
Float Valves/ Job Boxes
Gamma Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 7/8 3.5 (.15) 6.75" OD, 7/8 Lobe, 3.5 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

Recommended Drilling Fluid Properties

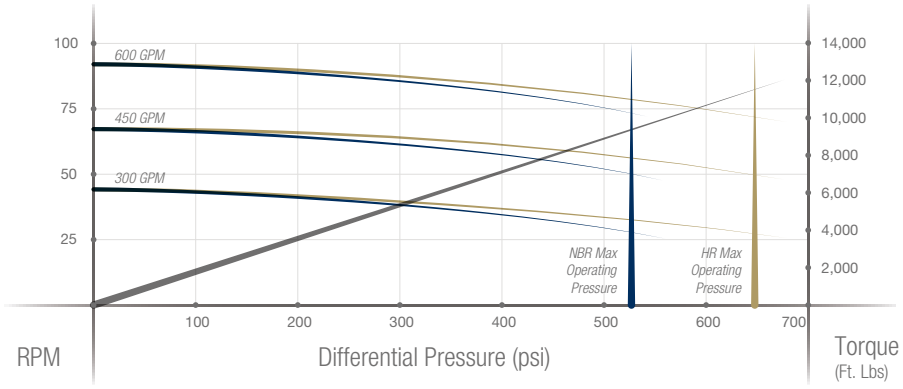
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.15	300 - 600 GPM	45 - 90 RPM	525 psi	9,224 ft. lbs	788 psi	13,836 ft. lbs.	150° F *
HR	0.15	300 - 600 GPM	45 - 90 RPM	648 psi	11,377 ft. lbs.	1,181 psi	20,755 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Lower Bend	Bit to Upper Bend	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Fixed Bend	18"	75"	31 ft. 10 in.	60	50	40	30	20
Adjustable	18"	75"	31 ft. 10 in.	60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	6.76	8.35	10.45	12.29	13.94
8 3/4" Hole	Slick	6.15	7.74	9.84	11.68	13.34

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 7/8 5.0 (.29) 6.75" OD, 7/8 Lobe, 5.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

Recommended Drilling Fluid Properties

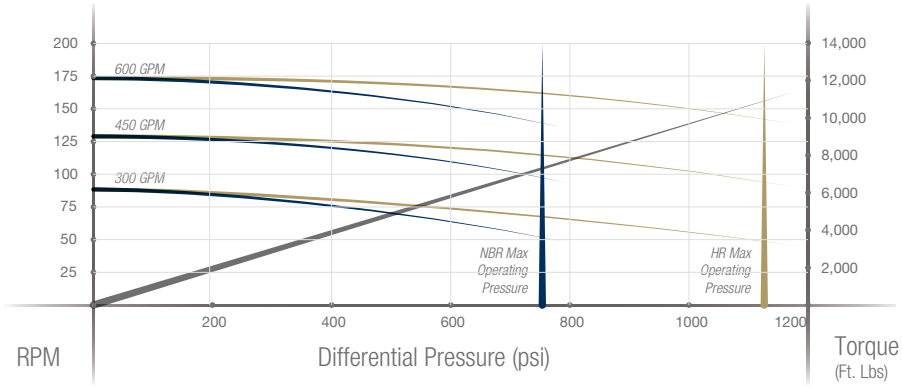
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.29	300 - 600 GPM	87 -174 RPM	750 psi	7,260 ft. lbs	1,125 psi	10,890 ft. lbs.	150° F *
HR	0.29	300 - 600 GPM	87 -174 RPM	1,125 psi	10,890 ft. lbs.	1,688 psi	16,335 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Lower Bend	Bit to Upper Bend	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Fixed Bend	18"	75"	26 ft. 5 in.	60	50	40	30	20
Adjustable	18"	75"	26 ft. 5 in.	60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	8.07	9.99	12.26	14.76	16.76
8 3/4" Hole	Slick	7.34	9.26	11.80	14.03	16.03

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 7/8 5.7 (.24) 6.75" OD, 7/8 Lobe, 5.7 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

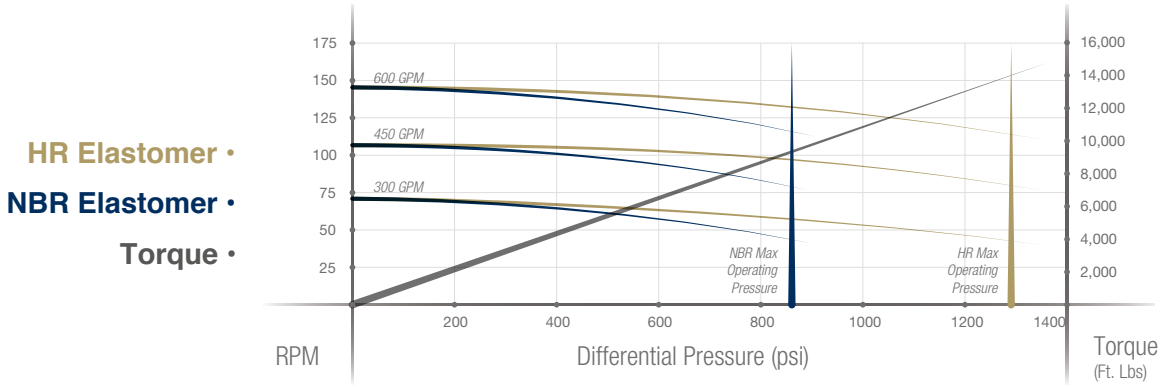
Recommended Drilling Fluid Properties

Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.24	300 - 600 GPM	72 - 144 RPM	855 psi	9,251 ft. lbs	1,283 psi	13,877 ft. lbs.	150° F *
HR	0.24	300 - 600 GPM	72 - 144 RPM	1,283 psi	13,877 ft. lbs.	1,924 psi	20,815 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*



Dimensional Data

	Bit to Lower Bend	Bit to Upper Bend	Overall Length
Fixed Bend	18"	75"	31 ft. 10 in.
Adjustable	18"	75"	31 ft. 10 in.

Continuous Maximum Rotary RPM

1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
60	50	40	30	20
60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	6.76	8.35	10.45	12.29	13.94
8 3/4" Hole	Slick	6.15	7.74	9.84	11.68	13.34

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 7/8 6.0 (.26) 6.75" OD, 7/8 Lobe, 6.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

Recommended Drilling Fluid Properties

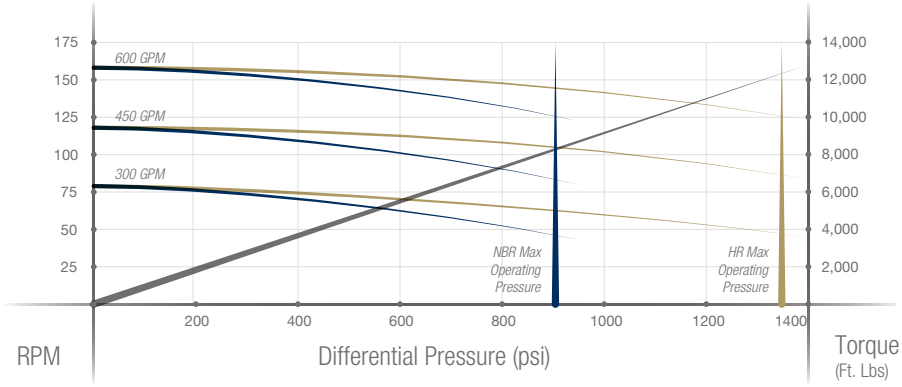
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.26	300 - 600 GPM	78 - 156 RPM	900 psi	8,163 ft. lbs	1,350 psi	12,245 ft. lbs.	150° F *
HR	0.26	300 - 600 GPM	78 - 156 RPM	1,350 psi	12,245 ft. lbs.	2,025 psi	18,367 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Lower Bend	Bit to Upper Bend	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Fixed Bend	18"	75"	29 ft. 2 in.	60	50	40	30	20
Adjustable	18"	75"	29 ft. 2 in.	60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	7.26	8.98	11.25	13.24	15.02
8 3/4" Hole	Slick	6.60	8.31	10.58	12.57	14.36

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

Directional Drilling Tools
Mud Motors

Mud Motor Specification Sheet
6.75" TDS 9/10 4.0 (.27) 6.75" OD, 9/10 Lobe, 4.0 Stages

Physical Data

Bit size range	Bit box connection	Top sub connection	Maximum weight on bit	Maximum overpull
7 7/8" - 8 3/4"	4 1/2" Reg	4 1/2" XH Box	58,000 lbs.	200,000 lbs.

Recommended Drilling Fluid Properties

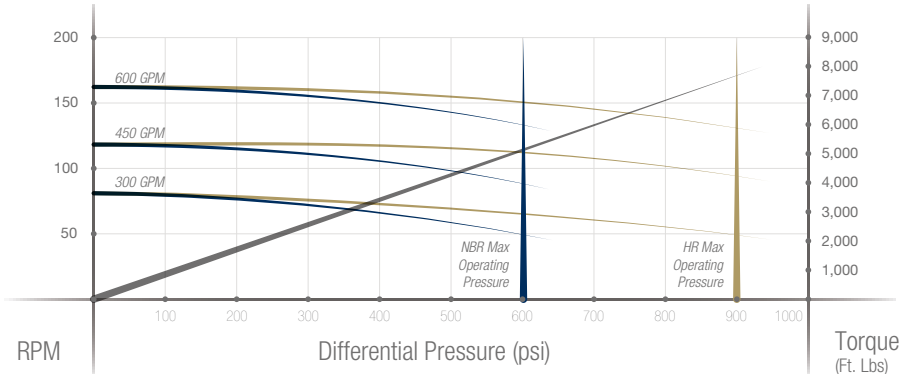
Sand content (Maximum)	Low gravity solids (LGS) (Maximum)	Total solids (Maximum)	pH	Aniline point (OBM) (Minimum)	Chlorides (Maximum)	Lost circulation material (LCM)
Trace	4%	8%	8 to 10	165° F	150,000 ppm	Thoroughly mix before pumping downhole

Performance Specifications

	Rev / Gal	Flow range	Speed range	Max operating diff pressure	Torque at max operating diff pressure	Stall diff pressure	Torque at stall pressure	Max temp for max operating diff pressure
NBR	0.27	300 - 600 GPM	81 - 162 RPM	600 psi	5,070 ft. lbs	900 psi	7,605 ft. lbs.	150° F *
HR	0.27	300 - 600 GPM	81 - 162 RPM	900 psi	7,605 ft. lbs.	1,350 psi	11,408 ft. lbs.	150° F *

** For temperatures exceeding 150° F, please refer to Hunting's derating of differential pressure due to downhole temperature.*

HR Elastomer •
NBR Elastomer •
Torque •



Dimensional Data

Continuous Maximum Rotary RPM

	Bit to Lower Bend	Bit to Upper Bend	Overall Length	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
Fixed Bend	18"	75"	23 ft. 4 in.	60	50	40	30	20
Adjustable	18"	75"	23 ft. 4 in.	60	40	N/R	N/R	N/R

N/R = Not Recommended

Predicted Build Rates

Hole Size	Configuration	1.25° Bend	1.50° Bend	1.83° Bend	2.12° Bend	2.38° Bend
8 1/2" Hole	Slick	9.08	11.26	14.13	16.66	18.93
8 3/4" Hole	Slick	8.24	10.42	13.30	15.83	18.09

Note: Predicted Build Rates are in degrees per 100 feet. Predicted Build Rates are based on theoretical calculations of a non-flexing mud motor.

drilling.tools@hunting-intl.com
www.hunting-intl.com/drilling-tools/mud-motors