

**SureShot-MP**



**Fixed-mount Pulser**

**Retrievable Pulser with Stinger**

# Rotary Pulser

## Fixed-mount or Retrievable Positive Mud Pulse Transmitter

APS Technology's patented Rotary Pulser\* is the toughest, most advanced mud pulse transmitter in the industry. Our Rotary Pulser chews through LCM content which would choke any other pulser, over a wide range of mud weights and conditions.

APS's commitment to continuous improvement has increased reliability and decreased power consumption in our pulser. Recent improvements include an ultra-reliable, high-efficiency DC brushless motor and controller which can run thousands of hours without a failure. The motor/controller combo is 30% more efficient when pulsing and consumes 1/3 the quiescent power of the previous generation. Other improvements include more durable shafts and seals, and better serviceability.

The APS Rotary Pulser is designed to operate with batteries or with the APS Turbine Alternator.† It offers a reliable, economical alternative to pulsers from other OEMs. Crossovers to other popular MWD systems are available, or can be custom-designed. All materials are highly wear-resistant to provide exceptional reliability and service life in demanding drilling environments.

Features	Advantages	Benefits
New DC brushless motor	<ul style="list-style-type: none"> <li>&gt; Increased reliability</li> <li>&gt; Improved power consumption</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Improved MTBF</li> <li>&gt; Works with 8 DD cell (28v) and 10 DD cell (36v) systems</li> </ul>
Oscillating rotary motion	<ul style="list-style-type: none"> <li>&gt; Self-clearing</li> <li>&gt; Low shaft speed</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Reliable operation with high LCM concentrations</li> <li>&gt; Improved seal reliability / life</li> </ul>
Open flow path	<ul style="list-style-type: none"> <li>&gt; No screens to plug</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Enhanced reliability in wells with poor solids control</li> </ul>
Direct-drive magnetic coupling	<ul style="list-style-type: none"> <li>&gt; Rugged drive train</li> <li>&gt; No rotating seals in mud</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Enhanced service reliability</li> <li>&gt; Reduced service cost</li> </ul>
Tungsten carbide flow surfaces	<ul style="list-style-type: none"> <li>&gt; Superior fluid erosion properties</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Extended component life</li> <li>&gt; Reduced service cost</li> </ul>
Adjustable pulse width and magnitude	<ul style="list-style-type: none"> <li>&gt; Adaptable to all flow rates, depths and mud weights</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Extends the range of reliable operation</li> </ul>
Wide range of pulser sizes for 3.125 in. (79 mm) to 9.5 in. (241 mm) or larger BHAs	<ul style="list-style-type: none"> <li>&gt; Easily convertible between sizes, and between fixed-mount or retrievable configurations</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Reliable operation in any hole size</li> <li>&gt; Reduced inventory</li> </ul>
Retrievable or fixed-mount options	<ul style="list-style-type: none"> <li>&gt; Basic design and construction are consistent without regard to configurations</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Adaptable to fit customer needs</li> <li>&gt; Reliable service in all configurations</li> </ul>

\* U.S. Patents #6,714,138 and #7,327,634 † U.S. Patent #7,201,239

# Rotary Pulsar

## Fixed-mount or Retrievable Positive Mud Pulse Transmitter

### Product Specifications

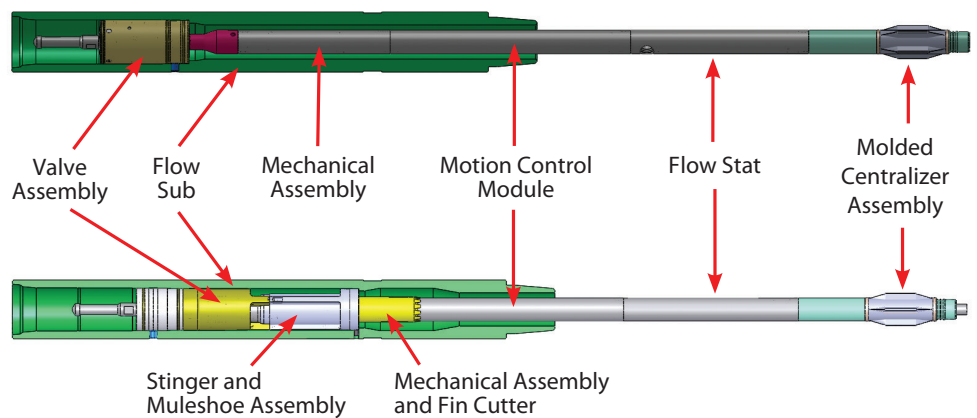
<b>Signal Transmission</b>	Positive mud pulse	
<b>Pulse Height</b>	Adjustable	
<b>Retrievable/Reseatable</b>	Available	
<b>Fixed Mount</b>	Available	
<b>Activation</b>	Electromechanical	
<b>Operating Voltage</b>	28 - 40 VDC	
<b>Pulsar Sub O.D.</b>	9.5 <sup>§</sup> , 8, 6.25 to 6.75, 4.75, 3.5 & 3.125 in.**	241 <sup>§</sup> , 203, 159 to 171, 121, 89 & 79 mm**
<b>Flow Ranges (8.4 ppg mud)</b>	9.5 in. or larger – 650 to 1200 gpm 8 in. – 300 to 1100 gpm 6.25 to 6.75 in. – 150 to 750 gpm 4.75 in. – 150 to 350 gpm 3.125 & 3.5 in. – 70 to 250 gpm	241 mm or larger – 41 to 76 L/sec 203 mm – 19 to 69 L/sec 159 to 171 mm – 9 to 47 L/sec 121 mm – 9 to 22 L/sec 79 & 89 mm – 4 to 16 L/sec
<b>Sand Content</b>	< 1% by volume recommended, 3% by volume maximum	
<b>LCM Tolerance</b>	50 lb. per bbl medium nut plug	143 kg/m <sup>3</sup> medium nut plug
<b>Operating Temperature</b>	-13° to 302°F; 347°F option	-25° to 150°C; 175°C option
<b>Maximum Pressure</b>	20,000 psi; 25,000 psi option	137.9 MPa; 172.4 MPa option
<b>Differential Pressure</b>	No requirement	
<b>Dogleg Capability</b>	API connection limited	

\* Specifications subject to change without notice

<sup>§</sup> Larger O.D. subs can be accommodated using the pulsar for 9.5 in. (241 mm) O.D.

\*\* Pulsars for 3.125 in. (79 mm) & 3.5 in. (89 mm) BHAs are available in fixed-mount only

### Fixed-mount Pulsar



### Retrievable Pulsar

#### Headquarters • Wallingford • USA

7 Laser Lane, Wallingford, CT 06492 USA

Phone: 860.613.4450 • Fax: 203.284.7428

contact@aps-tech.com

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Specifications subject to change without notice.

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