REDUcing FRICTION FOR WELL INTERVENTION OPERATIONS
Applications

- Plug milling operations
- Well stimulation operations
- Ball seat milling operations
- Well cleanouts
- Well re-entry operations
How does it work?

Optional shock sub enhances axial vibration from pressure pulses

Vibration can be generated either by activation ball or pump activation

Power section spins fluid restrictor to create pressure pulses

Fluid restrictor can be tailored to specific flow rates, pressure drop and frequencies

PATENT PENDING
ActiPulse – Ball Activated Vibration

- Activation ball size = 0.875"
- Tool Drift = 0.75"
- Dissolvable balls can be utilized for activation and reactivation if other ball activated tools need to be engaged
- Tool is easily reset at well site to be used on multiple runs

PATENT PENDING
Adjustable Technology

Pump activated vibration-plugged ball seat is used - POWERPULSE

For On-Demand vibration-the ball drop seat is used - ACTIPULSE
Jointed Tubing Application

- Can be run anywhere in the tubing string—similar to drilling practices
- Tool can be activated when needed (ActiPulse)
- Dissolvable activation balls can be used to allow other balls to pass through tool

Complete Assembly is Utilized (including shock sub)
Coil Tubing Application

- Tool is run as part of tool string
- Can be run above or below emergency disconnect
- Shock sub is removed to accommodate close proximity in BHA
# Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
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<tbody>
<tr>
<td>Tool Size</td>
<td>2 7/8 inch (73 mm)</td>
</tr>
<tr>
<td>Assembly #</td>
<td>IA10006</td>
</tr>
<tr>
<td>Length</td>
<td>66 inch (1.68 m)</td>
</tr>
<tr>
<td>Length with Oscillation Sub</td>
<td>103 inch (2.61 m)</td>
</tr>
<tr>
<td>Max Recommended Flow</td>
<td>160 GPM (0.61 m³/min)</td>
</tr>
<tr>
<td>Average Operating Flow</td>
<td>100 to 130 GPM (0.38 to 0.60 m³/min)</td>
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<tr>
<td>Frequency Range</td>
<td>9 to 15 Hz</td>
</tr>
<tr>
<td>Average Operating Flow Pressure Drop</td>
<td>330 to 580 psi (2000 to 4000 kPa)</td>
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<tr>
<td>Max Temp. [For Hi-Temp Applications Please Contact Sales For Additional Information]</td>
<td>286 °F (140 °C)</td>
</tr>
<tr>
<td>Recommended Make-Up Torque</td>
<td>Min 3,000 Ft-lbs.</td>
</tr>
<tr>
<td>Torsional Strength</td>
<td>5,520 Ft-lbs. (7,480 Nm)</td>
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<tr>
<td>Body Connections Torsional Strength</td>
<td>5,520 Ft-lbs. (7,480 Nm)</td>
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<tr>
<td>Tensile</td>
<td>140,000 Lbs. (62,300 daN)</td>
</tr>
<tr>
<td>Drift Diameter</td>
<td>0.75”</td>
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<tr>
<td>Activation Ball Size [Please Contact Sales For Other Size Options]</td>
<td>0.875”</td>
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</table>