POWERFUL DOWNHOLE PNEUMATIC HAMMER
FOR UNDERGROUND MINING

Description
Downhole pneumatic hammer PP 110-3.5NS is aimed at blasthole drilling in spatially restricted underground iron-ore mining with block caving, instead of series-produced pneumatic hammer PP-2.5 (M48). The new mechanism is an open pneumatic hammer with multi-unit air distribution system and long auxiliary outlet from power stroke chamber. The hammer operates at a high content of water in the mixture for effective underground dust control.

Technical specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Mixture work pressure, MPa</td>
<td>0.5</td>
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<tr>
<td>Drillhole diameter, mm</td>
<td>112</td>
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<td>Blow energy, J (P_m = 0.5 MPa)</td>
<td>200</td>
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<td>Blow capacity, kW (P_m = 0.5 MPa)</td>
<td>3.5</td>
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<td>Hammer length without impact tool, mm</td>
<td>575</td>
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<tr>
<td>Hammer service life, m</td>
<td>1 000</td>
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Test unit with downhole pneumatic hammer PP 110-3.5NS.

Technical appraisal and economic advantages
Effective operation with a pluggable instrument owing to high energy intensity, which ensures a 1.5 times increase in the output per shift of interblock drilling with available drill rig NKP 100 MP.

Application areas
Mining operations, construction.

Development stage
Development prototype.

Patent situation
Patent applied for but not yet granted.
**Commercial offers**
Co-production or licence agreement.

**Estimated cost**
Agreed price.

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