A PLANT FOR SCREENING GROUND MATERIALS

Description
The plant (set-up) is intended to separate into fractions the undersized material obtained in the production of road-metal crushed stone, with the maximal particle size of 5 mm. The plant consists of two units – the sieve separation unit and air-centrifugal separation unit.

Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of fractions</td>
<td>up to 5</td>
</tr>
<tr>
<td>Particle size in a fraction</td>
<td>variable, depending on the size of sieves used; for example, less than 0.2; 0.2 - 1; 1 - 2; 2 - 3; 3 - 5 mm</td>
</tr>
<tr>
<td>Productivity with respect to the initial material</td>
<td>1.5 - 2 t/h</td>
</tr>
<tr>
<td>Power consumption</td>
<td>up to 5 - 7 kW</td>
</tr>
<tr>
<td>Overall dimensions</td>
<td>3500 × 3000 × 1500 mm</td>
</tr>
<tr>
<td>Mass</td>
<td>up to 0.7 t</td>
</tr>
</tbody>
</table>

Technical appraisal and economic benefits

- The units of the plant can be used separately from each other.
- The unit of air-centrifugal separation allows one to obtain the fractions with particle size from 30 to 200 micrometers, with the productivity up to 500 kg/h with respect to the initial material.

Application areas

Obtaining fractionated natural materials, for example marble and granite aggregates for use in the production of decorative materials for finishing works – artificial stone, plastering compositions and spackling mixtures. The unit of air-centrifugal separation can be used to separate fine fractions after grinding and to carry out aspiration (purification from dust emission).

Development stage

An industrial sample was manufactured; it is in operation at a marble open pit.

Patent situation

Know-how is protected.
**Commercial offers**
Production according to agreements for manufacturing and supply.

**Estimated cost**
450—550 thousand rubles (depending on bundling).

**Contacts**
Nikolay Z. Lyakhov, Dr. Sci. in Chemistry, Director
Institute of Solid State Chemistry and Mechanochemistry, Siberian Branch of the Russian Academy of Sciences
18, Kutateladze Str., Novosibirsk, 630128 Russia
Phone: (383) 332-86-83
Fax: (383) 332-28-47
E-mail: lyakhov@solid.nsc.ru
http://www.solid.nsc.ru