INDENT CYLINDER SEPARATOR

SEED PROCESSING

CONVEYING | DRYING | SEED PROCESSING | ELECTRONIC SORTING | STORAGE | TURNKEY
OPTIMAL LENGTH
GRADING OF ALL
GRANULAR MATERIALS

SEPARATING UNWANTED
PRODUCT IMPURITIES

All over the world, the Cimbria indented cylinder separators are delivered and operating successfully. A large number of worldwide patents justify high research and development expenditure and indicate the high technological standards of our equipment and machines.

Cimbria manufactures machines in series production which enables them to guarantee short delivery time. Before it is delivered, each machine has to pass several specific quality controls to ensure the highest quality standards and a long service life.

As a member of the Cimbria Group of Companies, we have access to a global network of highly-qualified partners offering permanent support to customers and their plants.
The indent cylinder is used for grading by length all granular materials such as wheat, oats, fine seeds, lentils, for separating stalks from sunflower and beet seeds and for separating unwanted long or short product impurities. The size of grains can vary between 1.0 mm and 24 mm.

Depending on the required grading the incoming product will be sorted according to roundness or length.

**APPLICATION**

**MACHINE RANGE**

- HSR 1010-16010 R/L
  - Round grain / long grain cylinder

- HSR 1020-16020 R-L
  - Round grain and long grain cylinder battery

- HSR 1010-16010 R-RN/L-LN
  - Round grain / long grain cylinder with regrader

- HSR 1020-160 20 R-L-RN-LN
  - Flour mill separator with round grain and long grain regrader

**SERIES PRODUCTION**

Cimbria Heid produce machines in series production. During production each machine has to pass several specific quality controls to meet the requirements at the highest level.
The product passes from the inlet housing into the interior of the rotating cylinder, the cover of which is provided with impressed pockets or so-called indents.

The grains that embed themselves in the indents, will be carried and after a certain distance, will fall out of the pockets into the trough (yellow arrows), and will be discharged by a screw conveyor.

All grains which are larger than the indents, will remain inside the shell and be carried to the outlet where the shell empties into the outlet casing (green arrows). Depending on the required grading the incoming product will be sorted according to roundness or length.

EXCHANGE OF CYLINDER SEGMENTS
In order to keep the cost of product changes and cleaning work as low as possible for the operator of the plant, we have divided the cylinder shell into several segments and provided them with quick-release catches. This allows a simple and fast exchange of the grading segments. On request, the segments can also be equipped with cleaning doors.

TROUGH SEALING
All separator types are provided with sealing between the trough and the cylinder shell. This prevents unwanted grains from getting into the trough and ensures even more precise grain separation.

DRIVES
No chain drives, belt drives or gearwheel drives are used in our grain separators, which guarantees considerably smoother running. It reduces maintenance costs and the risk of equipment failure. We use geared motors which we purchase from one of the largest gear manufacturers in the world. We are therefore in a position to give very quick and accurate service.

CYLINDER SHELL
The cylinder shell is the most important part of the separator. The quality of the separation and the quantity of the waste depend on the construction of the cylinder. For this reason we attach special importance to the quality and workmanship of its construction.
**DESIGN**

The round, fully-closed housing of our separators is unique in the trade. Its design facilitates easy access to the cylinder segments. When the protective hood is opened, the machine is stopped automatically by a safety switch.

---

**CLEANING OF THE CYLINDER POCKETS**

A compressed-air cleaning system which ensures faster emptying of the pockets and thus prevents a decline in the separator's output is available on request.

---

**CHECKING THE SEPARATION**

Our separator is equipped with two particularly large inspection windows on the outlet side. This enables the operator to check the correct setting of the separator during operation, with no risk of accident. Samples can be taken at any time without physical hazard to the operator from the two openings below the windows.

---

**STIRRING DEVICE**

For heavily flowing, products such as grass seeds or rice, we recommend the installation of our stirring device, which will increase the efficiency and output of the separator significantly.

---

**SPECIFIC QUALITY CONTROLS ENSURE HIGH QUALITY STANDARDS AND LONG SERVICE LIFE**

---
CYLINDER SHELLS & FEATURES

CYLINDER SHELL
Cimbria HSR is one of the few manufacturers of grain separation cylinders which fabricates its own cylinder segments. This makes us independent of suppliers and enables us to fulfill special customer requirements.

We have minimized the distance between the individual pockets in order to achieve the highest possible number of grading pockets per cm². We can therefore provide a higher sorting output and better separation quality than our competitors.

The staggered arrangement of our pockets increases the service life of the segments.

HARDENED SEGMENTS
On request, we will supply hardened segments which have a far longer service life and can be used for processing particularly abrasive products.

POCKET SHAPES
We offer spherical and teardrop pockets depending on the product to be sorted and on the grading task. This enables us to optimise the grading quality and to minimize the waste.

ADDITIONAL FEATURES

CYLINDER INCLINATION
On request we supply adjustable inclination packages (0°-3°) or fixed inclination packages. This optimises the separation results further.

WEAR-RESISTANT LINING
For processing particularly abrasive products we can line neuralgic parts inside the machine with an exchangeable wear-resistant covering.

ADJUSTABLE SPEED
On request we supply geared motors with mechanical or electronic speed control.

AUTOMATIC TROUGH ADJUSTMENT
On request the trough regulation system can be provided with adjusting motors.

SPLITTING FEATURE
By splitting the grain flow we are able to achieve an outstanding max. output of 45 t/h with our separator type HSR16010.

ATEX
For operation in potentially explosive environments we offer geared motors approved for ATEX zones D21 and D22.
### Dimensions and Specifications

<table>
<thead>
<tr>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
<th>HSR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1010</td>
<td>2010</td>
<td>3010</td>
<td>4010</td>
<td>5010</td>
<td>6010</td>
<td>8010</td>
<td>10010</td>
<td>12010</td>
<td>16010</td>
<td></td>
</tr>
<tr>
<td>CAPACITY T/H:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHEAT</td>
<td>0.3</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
<td>4.0</td>
<td>5.0</td>
<td>6.0</td>
<td>8.0</td>
<td>10.0</td>
<td>12.0</td>
<td>16.0</td>
</tr>
<tr>
<td>BARLEY</td>
<td>0.25</td>
<td>0.8</td>
<td>1.6</td>
<td>2.4</td>
<td>3.2</td>
<td>4.0</td>
<td>4.8</td>
<td>6.4</td>
<td>8.0</td>
<td>9.6</td>
<td>12.8</td>
</tr>
<tr>
<td>RICE (WHITE)</td>
<td>0.2</td>
<td>0.4</td>
<td>0.8</td>
<td>1.2</td>
<td>1.6</td>
<td>2.0</td>
<td>2.4</td>
<td>3.2</td>
<td>4.0</td>
<td>4.8</td>
<td>6.4</td>
</tr>
<tr>
<td>SUGAR BEET SEED</td>
<td>0.2</td>
<td>0.3</td>
<td>0.6</td>
<td>1.0</td>
<td>1.3</td>
<td>1.6</td>
<td>1.9</td>
<td>2.6</td>
<td>3.2</td>
<td>3.8</td>
<td>4.4</td>
</tr>
<tr>
<td>SUNFLOWERS (UNMILLED)</td>
<td>0.1</td>
<td>0.3</td>
<td>0.6</td>
<td>1.0</td>
<td>1.3</td>
<td>1.6</td>
<td>1.9</td>
<td>2.6</td>
<td>3.2</td>
<td>3.8</td>
<td>5.0</td>
</tr>
<tr>
<td>ALFALFA</td>
<td>0.1</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
<td>1.2</td>
<td>1.6</td>
<td>2.0</td>
<td>2.4</td>
<td>3.2</td>
</tr>
<tr>
<td>MOTOR CAPACITY KW</td>
<td>0.37</td>
<td>0.37</td>
<td>0.55</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td>AIR REQUIREMENT M3/MIN</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>DIMENSIONS MM:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LENGTH</td>
<td>1155</td>
<td>1675</td>
<td>2975</td>
<td>2545</td>
<td>3045</td>
<td>3545</td>
<td>4045</td>
<td>3320</td>
<td>3820</td>
<td>4325</td>
<td>5325</td>
</tr>
<tr>
<td>WIDTH</td>
<td>400</td>
<td>705</td>
<td>705</td>
<td>920</td>
<td>920</td>
<td>920</td>
<td>920</td>
<td>1150</td>
<td>1150</td>
<td>1150</td>
<td>1150</td>
</tr>
<tr>
<td>HEIGHT</td>
<td>745</td>
<td>630</td>
<td>630</td>
<td>870</td>
<td>870</td>
<td>870</td>
<td>870</td>
<td>1240</td>
<td>1240</td>
<td>1240</td>
<td>1240</td>
</tr>
<tr>
<td>NET WEIGHT KG</td>
<td>128</td>
<td>210</td>
<td>340</td>
<td>490</td>
<td>555</td>
<td>615</td>
<td>735</td>
<td>990</td>
<td>1120</td>
<td>1245</td>
<td>1315</td>
</tr>
</tbody>
</table>

### Typical Flow Charts

- **Indented Cylinders in Series Arrangement**
- **Indented Cylinders Parallel Arrangement**
- **Indented Cylinder Battery for Four Mills**