Electrostatic High Tension Roll Separator (270dia.)

Overview
The improved mineral technologies Electrostatic High Tension Roll Separators provides improved separation efficiencies and ease of operability.

PRODUCTION 1800mm x 270mm Dia.

Features
- 1800mm long x 270mm dia. separation roller dynamically balanced and fitted with individual geared-motor (0.75kW) drives mounted externally
- Adjustable position corona electrode incorporating high-performance secondary separation plate providing improved separation of coarse non-conductors and fine conductors
- Each horizontal pair of rolls are independently speed-controlled
- Dual brass separation roll brushing on each separation stage
- Adjustable splitter design which accommodates middling, non-conductor or conductor retreat without chute changes
- Positive and robust splitter locking mechanism with positioning scale for accurate setup of parallel separators
- Ability to set splitter for super non-conductor product stream (ultra clean non-conductors)
- Individual separation module inspection doors for operator convenience and reduction of heat loss during on-line inspection.
- Operator protection guarding to IP20 behind inspection doors for enhanced operator safety
- Local control station incorporating E/Stop with an additional E/stop at the rear of the separator
- Discharge launder c/w conductor, mids & non-conductor outlets
- Fully enclosed separator for containment of dust, with provision for dust extraction system connection (by others)
- Labyrinth sealed bearings for extended life
- Removable separation roll “cassettes” to allow ease of maintenance
- Fluted feedroller with geared motor (0.37kW) and variable frequency drive for precise feed control and automated operation or
- Electro / Pneumatic feed gate control in conjunction with calibrated feed slides for feed rate control

Image opposite depicts a production HTR 2x3x1800x270dia. with integrated sampling launder option
Control Panel
- Incorporating 40kv 15mA Glassman HT power supply (positive or negative)
- Emergency Stop, Local Main Isolator, Fault Reset and Remote / Local Selector
- HT termination point for plant connection
- Integration with plant PLC systems available
- Power supply 240v 50hz

Options Available
- Electrode – Glassless and Glass Composite
- Discharge Launders – Standard and Integrated Sampling

Applications
Separation of dry granular materials with differing electrical conductivities, eg: mineral sands, hard rock ilmenite and rutile, cassiterite, tantalite, wolframite, iron ore
## Design Data and Configuration Details

<table>
<thead>
<tr>
<th>Dimension</th>
<th>2 x 3 (6 Roll)</th>
<th>2 x 2 (4 Roll)</th>
<th>1 x 3 (3 Roll)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot; Height Above Floor (mm)</td>
<td>2990</td>
<td>2300</td>
<td>2900</td>
</tr>
<tr>
<td>&quot;B&quot; Width (mm)</td>
<td>1200</td>
<td>1200</td>
<td>750</td>
</tr>
<tr>
<td>&quot;C&quot; Length (mm)</td>
<td>2550</td>
<td>2550</td>
<td>2550</td>
</tr>
<tr>
<td>&quot;D&quot; Depth Below Floor (mm)</td>
<td>850</td>
<td>850</td>
<td>850</td>
</tr>
<tr>
<td>Outlet Connection</td>
<td>50NB Pipe (2 x Conductor, 2 x Mids, 1 x Non-Conductor)</td>
<td>50NB Pipe (1 x Conductor, 1 x Mids, 1 x Non-Conductor)</td>
<td></td>
</tr>
<tr>
<td>Feed Connection</td>
<td>2 x 65NB table D Flanges (800mm Centres)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust Connection</td>
<td>1 x 65NB table D Flanges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Panel Size</td>
<td>800mm x 1800mm x 400mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Panel Weight (kg)</td>
<td>125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Tension Power Supply</td>
<td>15mA</td>
<td>7.5mA</td>
<td>7.5mA</td>
</tr>
<tr>
<td>Power Consumption (kW)</td>
<td>5.5</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

### Equipment Details

- **Equipment No.:**
  - HTR9000
  - HTR9005
  - HTR9004

- **Separator Nett Weight (kg):**
  - 2600
  - 2400
  - 1700

- **Typical (tph) Subject to testwork:**
  - Upto 8
  - Upto 6
  - Upto 4

- **Material Content:**
  - Dry, Free-Flowing

- **Material Size Range:**
  - 40 microns to 800 microns

- **Feed Temperature:**
  - Up to 120°C

- **Control Panel Size:**
  - 800mm x 1800mm x 400mm

- **Control Panel Weight (kg):**
  - 125

- **High Tension Power Supply:**
  - 15mA
  - 7.5mA
  - 7.5mA

- **Power Consumption (kW):**
  - 5.5
  - 4
  - 3

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Leaders in Mineral Separation

[www.mineraltechnologies.com](http://www.mineraltechnologies.com)
Laboratory 1 x 1 x 300mm x 270mm Dia. Separator

Features

- 300mm long x 270mm dia. separation roll dynamically balanced and fitted with variable frequency geared-motor drive
- Heated separation roll and feedbin with thermostatic control to simulate plant conditions and ensure separation at the correct temperature
- Chromed separation roll supplied as standard to prevent corrosion of surface (a burnished steel roll is available as an option)
- Adjustable position corona electrode incorporating high-performance secondary separation plate providing improved separation of coarse non-conductors and fine conductors
- Single brass non-conductor wiper brush
- Three adjustable splitters giving 4 product streams to assist in assessing separation performance
- Ability to set splitter for super non-conductor product stream (ultra clean non-conductors)
- Drain free product chute comprising 4 outlets: Conductors, two x Middlings, and Non-Conductors
- Feed roll with geared motor and variable frequency drive for precise feed rate setting. Feed rate is directly proportional to roll speed for rapid adjustment

Integral HT Control Panel

- Incorporating 40kv 1.8mA Glassman HT power Supply [negative as standard, positive available at client’s request]
- Local main Isolator
- Heating controls for feed bin and separation roll
- Digital readouts for kV, mA, rpm and temperature
- HT power supply 240v 50hz

Design Data

<table>
<thead>
<tr>
<th>Capacity:</th>
<th>Up to 350 kg/hr</th>
<th>Separator Dimensions: 1100 wide x 900 deep x 1750 high</th>
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</thead>
<tbody>
<tr>
<td>Moisture Content:</td>
<td>Dry, Free-Flowing</td>
<td>Separator Weight: 265</td>
</tr>
<tr>
<td>Size Range:</td>
<td>40 microns to 800 microns</td>
<td>Power Consumption (kW) 0.8</td>
</tr>
<tr>
<td>Feed Temperature:</td>
<td>Up to 120°C</td>
<td></td>
</tr>
</tbody>
</table>