LC3 ‘Low Cut’ Coal Spiral Separator

Overview
After an extensive research and development program, Mineral Technologies’ new LC3 Spiral Separator marks a breakthrough in spiral technology.

Comparative test results show that the LC3, with its unique trough design, is capable of d50 cut points significantly lower than those achievable with conventional coal spirals. The ability to target a cut point in the sg range 1.45 to 1.60, opens up new possibilities for coal processors who recognise the operational simplicity and reliability of spiral separation. With demonstrated effectiveness at reducing losses of clean coal to reject, the performance potential can be considerably enhanced by integrating the LC3 into a multi-stage circuit solution (even one as simple as recirculating the middling to spiral feed).

The LC3’s capabilities are not limited to low cut-points. Testing indicates that the LC3 is also effective in traditional applications with traditional cut points, making it attractive for selection in a flexible and robust processing solution.

Mechanical Features
- 8 turns with continuously changing trough profiles
- 2 slide style reject splitters at turns 4 and 6
- Number of starts – single, twin and triple
- Highly wear-resistant polyurethane materials of construction.

Design Data
Head Feed (per start)

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<tbody>
<tr>
<td>Capacity</td>
<td>Up to 3.5 t/h per start (typically 2.0 to 2.5 t/h/start)</td>
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<tr>
<td>Pulp Density</td>
<td>20 to 40% solids (typically 25 to 35)</td>
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<tr>
<td>Size Range</td>
<td>Particle size range 0.1 – 1.5mm (capable of transporting some tramp coarse up to 3mm)</td>
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<tr>
<td>Pulp Volume</td>
<td>Not greater than 7 m³/h per start for optimal low cut point performance</td>
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Note:
1. The above operational data are indicative only. Please consult Mineral Technologies for advice on optimal settings for specific applications.
2. In some cases, elevated levels of coarse material have been found to accelerate wear rates.

Application
- The principal area of application is coal treatment where lower than traditional cut points are required.
- Multistage spiral circuits with lower cut points and enhanced metallurgical performance.
- The LC3 is also effective in traditional spiral applications with traditional cut points
- Separation of pumice and other low density materials are also appropriate applications.
**LC3 SPIRALS**

**TOP ENTRY DETAIL OPTION**

*SPIRAL AVAILABLE IN SINGLE / TWIN / TRIPLE CONFIGURATIONS*

*DISTRIBUTOR AVAILABLE AS MK9 OR MK7 T.E. OR S.E.*

**DOUBLE ROW SPIRAL BANK BANK OF 4**

**PIPE LOCATION TYPICAL BOTTOM FEED**

**DOUBLE ROW SPIRAL BANK BANK OF 6**

(REFER TYPICAL ELEVATION)

**TYPICAL FEED HOSE ARRANGEMENT**

**FEED PIPE**

**REMOVABLE RAIL**

**TYPICAL ELEVATION BOTTOM ENTRY**

*NOTE: LAUNDER/FEED PIPE/DISTRIBUTOR/SUPPORT STAND DIMENSIONS, SPECIFICATIONS & LOCATIONS MAY VARY TO SUIT SPIRAL BANK COMBINATIONS - TRIPLE START SPIRALS DRAWN FOR ILLUSTRATION PURPOSES ONLY*

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**ESTIMATED MASS (tonnes)**

<table>
<thead>
<tr>
<th>SPIRAL BANK</th>
<th>4x2</th>
<th>6x2</th>
<th>8x2</th>
<th>10x2</th>
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</thead>
<tbody>
<tr>
<td>TWIN START</td>
<td>1.80</td>
<td>2.94</td>
<td>3.70</td>
<td>4.50</td>
</tr>
<tr>
<td>TRIPLE START</td>
<td>2.20</td>
<td>3.40</td>
<td>4.20</td>
<td>5.27</td>
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**Mineral Technologies**

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NOTE: MINERAL TECHNOLOGIES RESERVES THE RIGHT TO ALTER SPECIFICATIONS WITHOUT PRIOR NOTICE

FOR CERTIFIED DRAWINGS SUITABLE FOR ENGINEERING DESIGN PURPOSES PLEASE REFER TO MINERAL TECHNOLOGIES

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Leaders in Mineral Separation