Mineral Technologies
A Downer Company

CELEBRATING 80 YEARS

Fine Coal

Around the world, many coal washeries employ one or more banks of our signature LD7, LD7RC or LC3 spiral separators.

We specialise in maximising fine coal recoveries in the 100 micron to 2mm fraction.

Benefits of Mineral Technologies' fine coal processing equipment.

- High coal recoveries over a wide particle size range.
- Highly selective process which improves product grade and/or yield.
- Compact and low weight - reduces footprint and installation costs.
- Low maintenance requirement and long life - greater plant availability.
- No reagents or chemicals required in these circuits.
- The LC3 spiral model helps customers make cleaner, higher value products from their circuits.

Downer
Relationships creating success

Mineral Processing Solutions

Fine Coal

LC3 – Low cut spiral separator

Mineral Technologies' LC3 spiral separator was designed specifically to meet our customer's requirements – incorporating continuously changing trough profiles. Traditionally designed as an eight turn spiral, the four turn has since proved to be most popular with its lower height profile, but still providing the benefits of the taller version.

Comparative test results show that the LC3, with its unique trough design, is capable of d50 cut points that is 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, offers new possibilities for coal processors who recognise the operational simplicity and reliability of spiral separation.

The LC3 has demonstrated effectiveness at reducing losses of clean coal to reject, considerably enhancing processing capability.

Testing also indicates that the LC3 is effective in traditional applications with traditional cut points, making it attractive for selection in a flexible and robust processing solution.

LD7RC Spiral Separator

This spiral separator combines both a rougher and cleaner processing stage into a single spiral. This model is particularly suited to duties more demanding than those of conventional coal spirals.

The principal area of application is coal treatment where increased levels of high-gravity and near-gravity material in the feed result in a greater demand on the separation duty.

Separation of pumice and other low-density minerals is also an appropriate application.

By recirculating the middlings, the separation performance of the 2-stage system can be further improved.

LD7 Spiral separator

The LD7 features an improved tramp oversize handling capability, and enhanced reject carrying capacity. This spiral achieves a significantly higher volumetric feed rate in the sg range of 1.55-2.00.

It includes a specially calibrated, auxiliary reject, slide splitter at the end of turn 2. The splitter position indicators make it easy to reproduce the splitter locations and enable consistency of settings across a bank of the spiral separators.

It's reduced height meets most plant space requirements. The LD7 was also designed to be easily retrofitted into existing LD4E installations.

Applications

- Supplementation of coal washing jigs
  - treating the fraction finer than 2.0mm
- Replacement of coarse flotation
  - treating the fraction coarser than 0.1mm
- Supplementation of heavy media circuits
  - treating the fraction finer than 1.0mm
- Re-treatment of 2.0 x 0.1mm material from slurry ponds, gob piles and coal preparation plant waste streams

Talk to our local team of experts for recommendations based on your specific deposit type and regional variances.