



CLASSIFIERS

# mtUCC

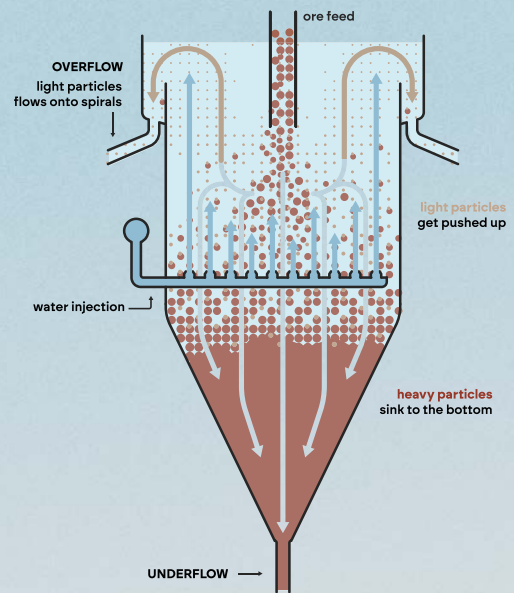
The Up Current Classifier for sharp, single-stage classification with throughputs from 2 to 500 tph.

How it works



# Every design feature contributes to maintaining a stable classification environment.

The Mineral Technologies Up Current Classifier (mtUCC) is engineered for simplicity and reliability – giving you sharp, single-stage separation without the usual complexity. With no moving parts and no need for constant adjustment, it delivers steady performance even when feed conditions change. It's purpose-built to integrate with our spiral systems, helping you recover more with less effort.



## Controlled up-current

A carefully regulated upward water flow creates a stable classification environment.

## Natural particle response

Heavier particles settle while lighter particles remain suspended within the hindered-settling zone.

## Stable classification

Consistent bed density produces repeatable separation and reliable product quality.

## Ready for downstream recovery

A balanced overflow integrates directly with spiral circuits or other beneficiation stages.

## Technical Features

### Unique Nozzle System

Purpose-designed teeter-water nozzles eliminate slurry back-seepage into the injection lines, maintaining clean water delivery and stable bed-pressure control. The geometry ensures even distribution across the teeter zone, improving separation consistency.

### Refined Cone and Underflow Control

The cone profile, washwater locations, and valving arrangement are engineered for hydraulic stability and reliable underflow discharge. The streamlined valve configuration supports smooth, predictable operation with reduced risk of bridging or choking.

### Optimised Overflow for Downstream Spirals

Overflow launders can be configured to feed multiple mtSpiral starts directly, offering a simple, integrated flow path. When paired with our MK9 riser tubes, the system delivers uniform head, balanced slurry distribution, and improved spiral performance characteristics of the orebody.



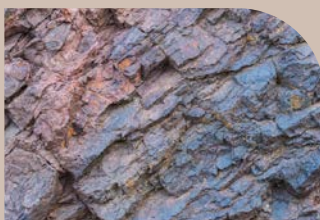
### Mineral Sands

Removal of silica and upgrading of heavy minerals.



### Silica Sand

Particle sizing for high-purity industrial applications.



### Iron Ore

Desliming and beneficiation.



### Coal

Separation of low-density, high-ash material.

Suitable wherever accurate particle-size or density classification improves downstream processing.

### Typical applications include:

- > Mineral sands
- > Silica sand
- > Iron ore
- > Coal
- > Pre-classification ahead of gravity circuits
- > Desliming
- > Beneficiation circuits



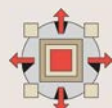
### Stable, Predictable Operation

The simplified underflow control and uniform teeter-water distribution maintain a consistent hindered-settling zone, delivering reliable cut points and steady performance across variable feed conditions.



### Direct Spiral Integration

Designed to interface seamlessly with mt Spirals, the UCC provides balanced, controlled overflow via our MK9 riser tubes – minimising redistribution equipment and simplifying circuit layout.



### Flexible Plant Fit

The compact body and configurable launder/underflow arrangements allow the UCC to slot into tight spaces or be retrofitted between existing spiral banks without major structural changes.



### Extended Wear Life

Strategic use of wear-resistant materials in high-velocity and high-impact zones ensures long service intervals and reduced downtime in abrasive mineral environments.



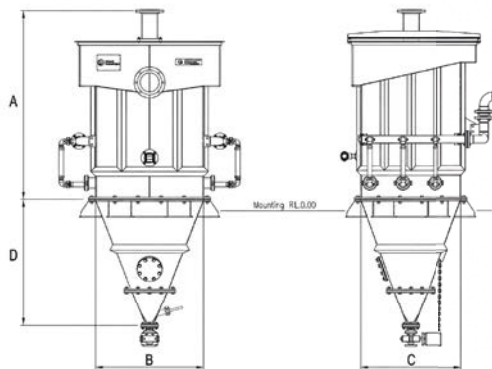
### Low Operating Cost

Efficient water usage, minimal instrumentation, and a mechanically simple discharge system reduce maintenance requirements and keep OPEX low over the equipment lifecycle.

### Benefits of Solution

# mtUCC Configurations

Mineral Technologies offers UCC models across a wide range of capacities and applications.



| Parameter                             | Silica                       | Mineral Sands               | Iron Ore                     |
|---------------------------------------|------------------------------|-----------------------------|------------------------------|
| Solid SG                              | 2.7                          | 3.5                         | 4.5                          |
| Cut points                            | 50 / 100 / 150 $\mu\text{m}$ | 50 / 75 / 100 $\mu\text{m}$ | 75 / 125 / 175 $\mu\text{m}$ |
| Nominal feed capacity UCC Square      | 2 – 78 t/h                   | 3 – 93 t/h                  | 12 – 248 t/h                 |
| Nominal feed capacity UCC Rectangular | 16 – 155 t/h                 | 26 – 186 t/h                | 93 – 496 t/h                 |
| Feed solids                           | 50 % w/w                     | 50 % w/w                    | 50 % w/w                     |
| Slurry SG                             | 1.44                         | 1.55                        | 1.64                         |

Mineral DNA

## We start with the mineral not the equipment.

**FACT:** No two ore bodies behave the same. That's why one-size-fits-all solutions rarely deliver the best recovery.

Let us help you discover your ore body's Mineral DNA, and whether mtUCC is the right technology to recover more of what matters.

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