



# ROYTEC

Global Separation Solutions

Johannesburg | Perth | Toronto | Yantai | Santiago

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## ROYTEC CCD CIRCUIT CAPABILITY

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**MARKET LEADERS IN  
LIQUID / SOLID SEPARATION**

# ROYTEC CCD CIRCUIT CAPABILITY

**ROYTEC GLOBAL is an International Company specializing in Liquid / Solid and mineral Separation technologies for the Mining and Industrial sectors.**

Roytec is privately owned by Directors and Managers. We are passionate about excellence in our services and we pride ourselves in delivery to our promises. Our equipment is fully supported by Roytec Specialists based in Johannesburg, South Africa; Perth, Australia; Toronto, Canada; Yantai, China and Santiago, Chile.

## ROYTEC CCD CIRCUIT CAPABILITY STATEMENT

Roytec is one of the leading thickener suppliers globally, with strong references and technology in Counter-Current-Decantation circuit design.

We have designed and constructed many CCD circuits over the past few years including;

Las Chispas/Ausenco – Mexico – Au/Ag  
Sable Zinc/Jubilee – Zambia – Zn  
Etoile/Chemaf – DRC – Cu/Co  
Somika/Kinmin – DRC - Cu  
Rio Zim – Zimbabwe - Cu  
Somika/Karu – DRC – Cu  
Langer Heinrich – Namibia - U  
Uranium One – RSA – U.



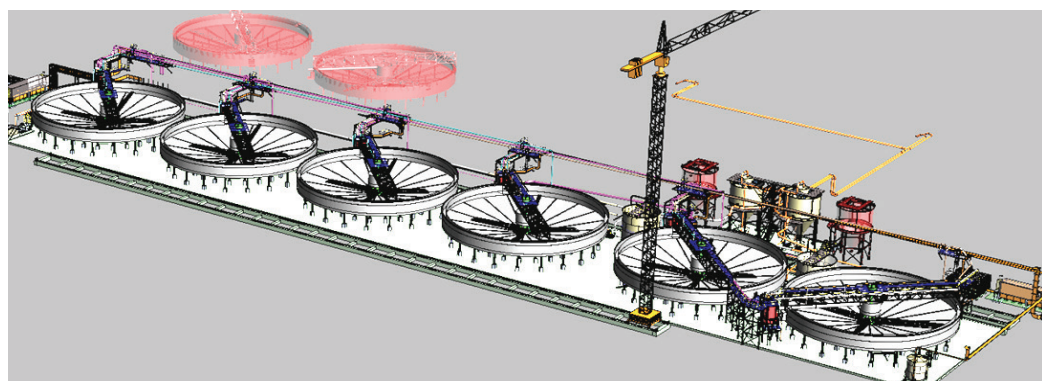
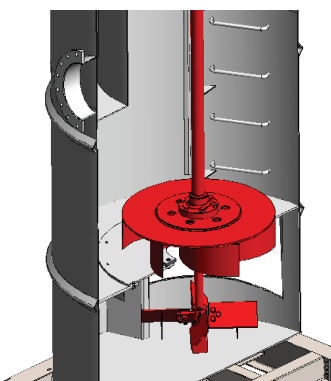
The Roytec CCD design incorporates several unique technologies;

### 1. HIGH EFFICIENCY INTERSTAGE MIXING

Where **high-tenor underflows are blended with low-tenor overflows** giving mixing efficiencies approaching 100%.

### 2. MIXER/PUMPER DESIGNS

Many of our CCD circuits are “flat” – with all tank lips at the same elevation. This is achieved with a Mixer/Pump addition, designed to pump overflow from the previous stage directly into the mixing chamber. This design can result in significant civil savings without the need for overflow tanks & pumps.



### 3. CLOSED CIRCUIT DILUTION

Roytec's unique ETAQ controlled internal dilution system **allows operators to set the ideal solids content prior to flocculation.**

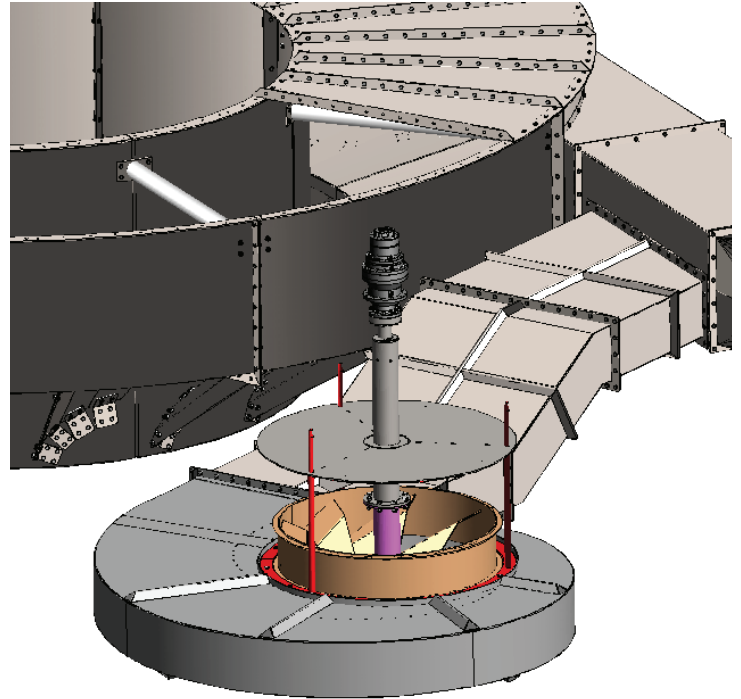
In many CCD circuits this involves diluting from ~35% solids to ~ 10% solids to enable optimum floc action.

This additional hydraulic load & energy is effectively dissipated by the RadFlow Feedwell designed specifically for this duty.

### 4. FLOCC DILUTION MANAGEMENT

In most cases, better floc activity is accomplished by **adding flocculant at make-up strength (2.5g/l) directly into the suction of the ETAQ dilution pump.**

This also eliminates the unwanted dilution associated with floc dilution water.



### 5. HIGH DENSITY SPECIFICATION

All our CCD thickeners have our **High Density specifications** – increased side wall height and increase torque rating. Dewatering pickets can be added.

Increased underflow density translates directly to higher CCD efficiency.

### 6. CONTROL PHILOSOPHY FOR INDIVIDUAL THICKENERS AND CCD CIRCUIT

The control of the individual thickeners making up the CCD circuit is important to efficiency/metal recovery.

Our well proven control philosophies limit the surging of underflow pump discharge to control the momentary Wash Ratio within acceptable limits.



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## Other ROYTEC equipment

- Vacuum Belt Filters & Vacuum Disc Filters
- Thickeners using RadFlow Feedwell Technology
- Dual Media Filters
- BGRIMM Flotation Cells, Magnetic Separators and Attritioning Mills
- Filter Presses & Tower Presses
- Ceramic Disc Filters
- Ion Exchange Systems
- Flocculant / Coagulant Preparation Dosing Plants
- Linear Screens
- Dynamic Bed & Pinned Bed Clarifiers
- Vibrating Screens



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