

Metso

New benchmark in high intensity pneumatic flotation

Concorde Cell™

Recover the
unachievable
ore value



Recover the unachievable ore value

The Concorde Cell™ sets a new benchmark in high intensity pneumatic flotation by recovering unachievable fine and ultra-fine particles. This results in significant revenue gains for your operation as well as minimizes plant operating costs, energy and water consumption per metal production targets.

The need to process more finely disseminated and complex ore grades, as well as declining ore grades and the demand for improved flotation selectivity, all bring new challenges to minerals processing flowsheets. The Concorde Cell technology helps flotation circuits overcome these challenges and achieve improved efficiency in fine and ultra-fine particle recovery.

Superior recovery

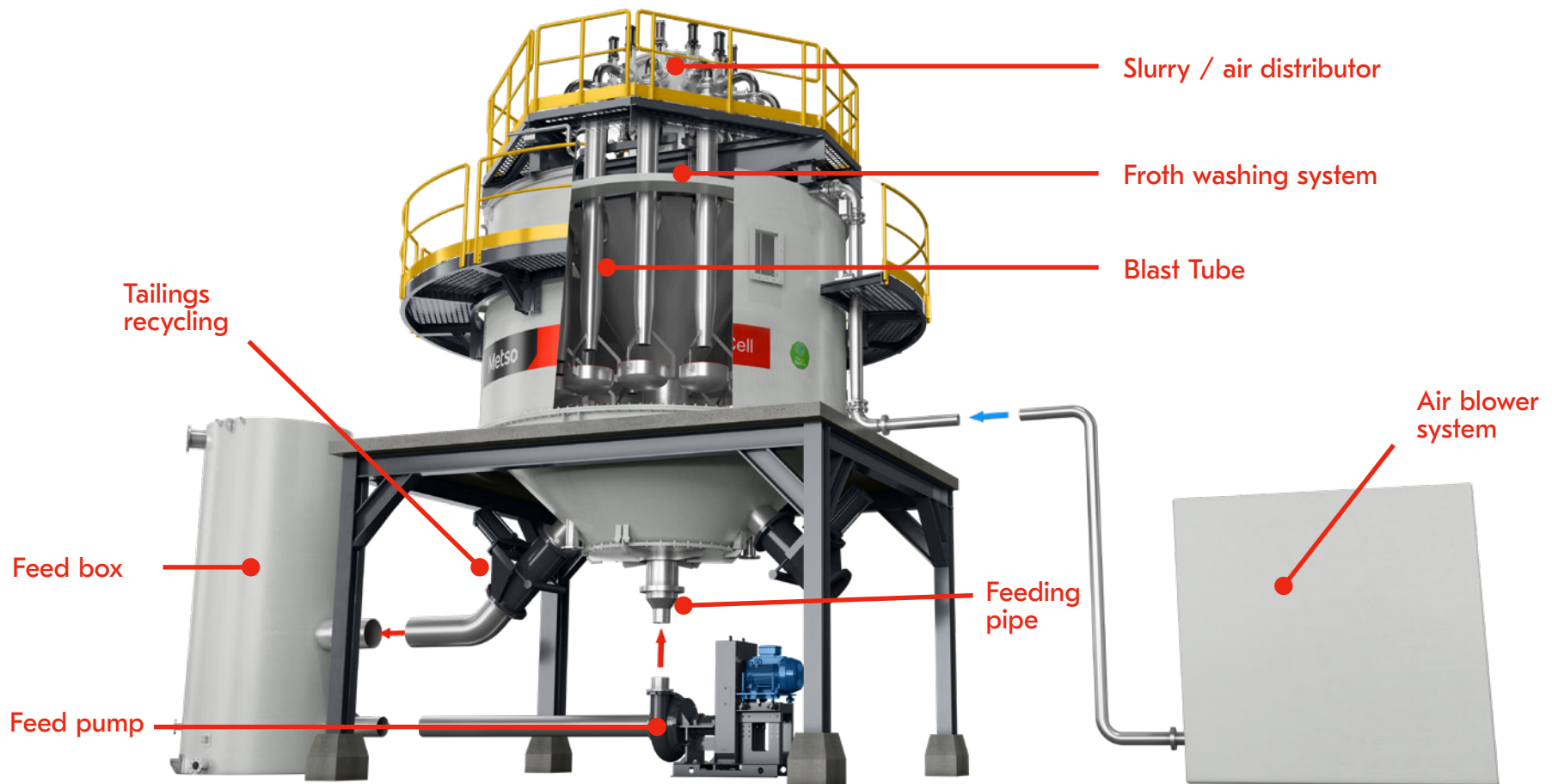
- Superior recovery of fine and ultra-fine particles
- Very high shear environment with increased bubble surface area flux for faster flotation kinetics
- Optimized froth recovery and improved selectivity
- Forced air allows wider process control and stability for further flotation optimization

Innovative technology

- First fine and ultra-fine solution for previously inaccessible ore types
- Pre-aerated slurry raised to supersonic velocities and exposed to high local energy dissipation for increased bubble particle collection
- Blast Tubes treat 100% of fresh feed combined with tailings internal recycle for improved performance
- Flotation cell froth area and froth washing designed for process duty requirement
- The cell is easily maintained with no moving parts

Concorde Cell™ Component breakdown

Standalone unit with integrated local control panel & real-time froth imaging system that allow process management & optimization.



Metso Slurry Pumps

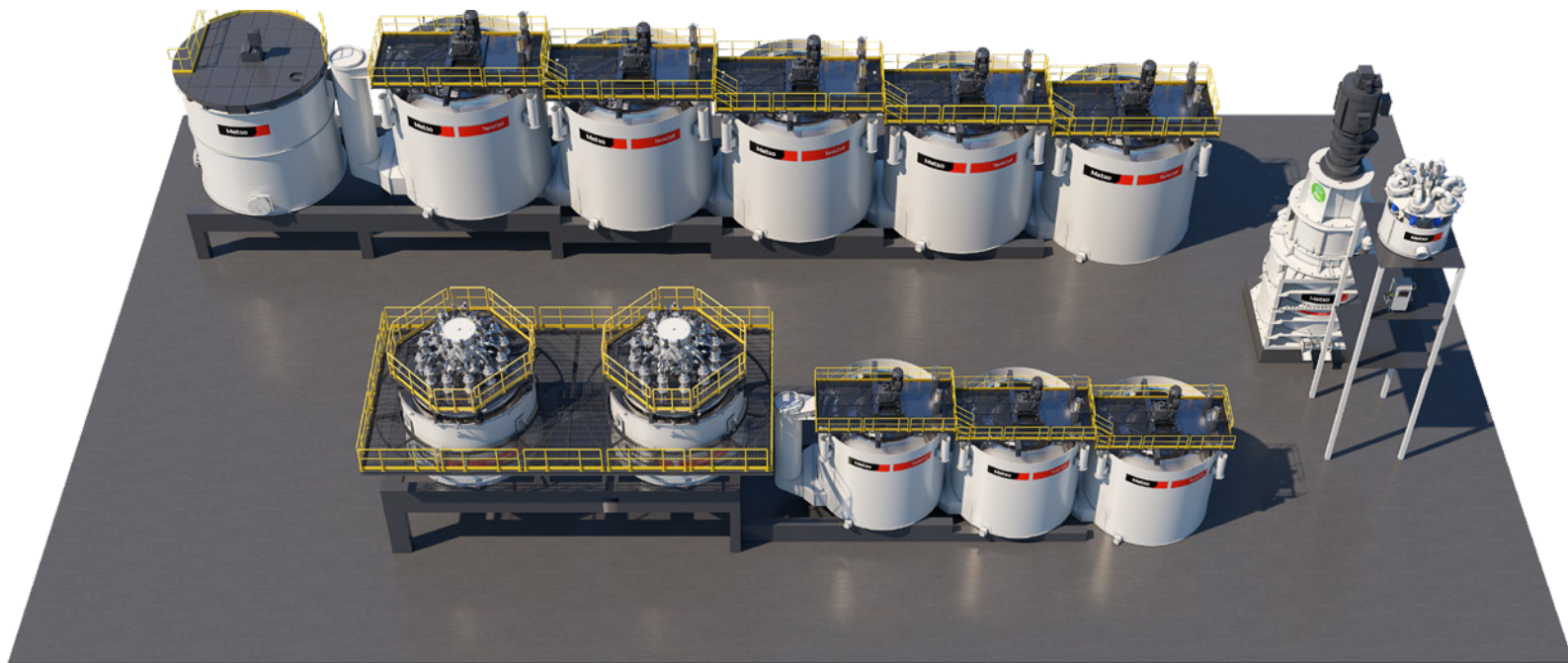
Metso offers a uniquely tailored and optimized slurry handling proposition for the Concorde Cell, including pumps, spare parts as well as optimization and maintenance services.

Concorde Cell™

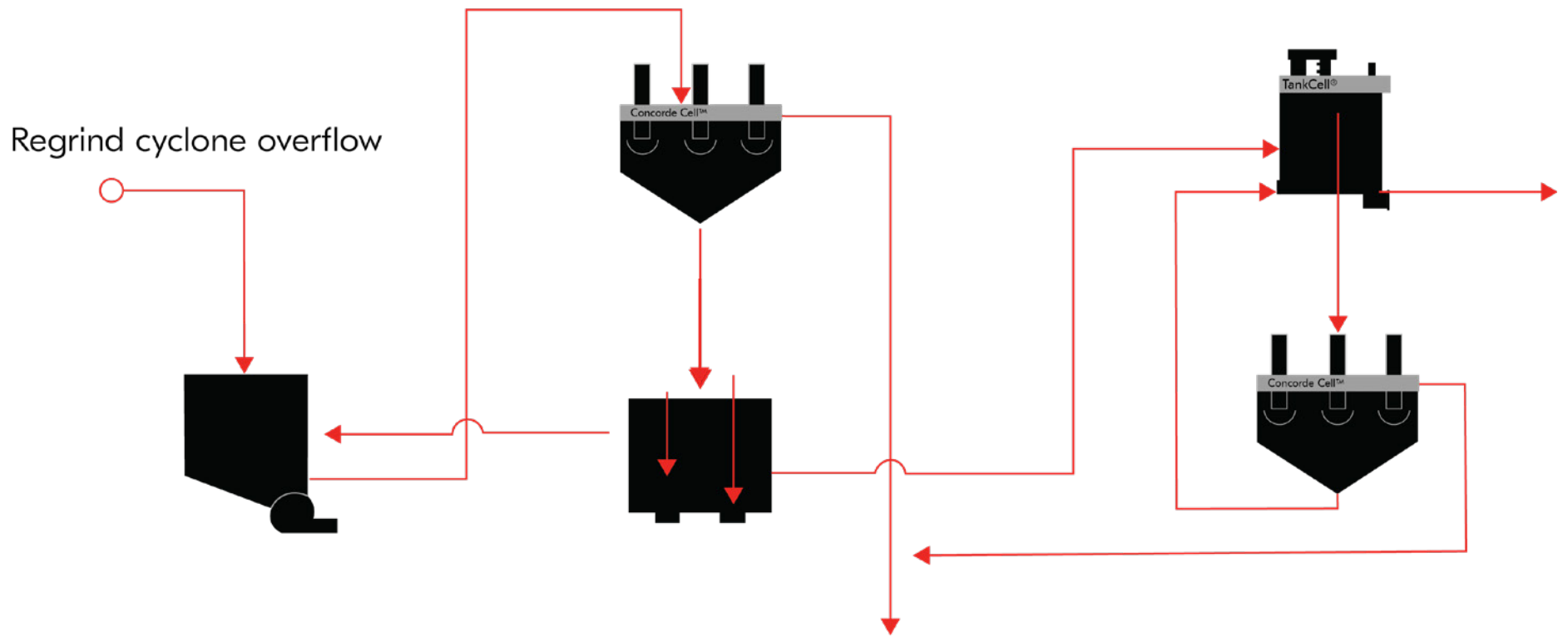
Technical details

Datasheet

Max slurry density	1.35 t/m ³
Typical Blast Tube capacity	85 m ³ /h
Flotation cell capacity	Up to 3000 m ³ /h
Typical feed solids percentage	10 - 25 %
Typical particle size range	10 - 45 µm
Tailings recycling ratio	Up to 1:2
Typical air-to-pulp ratio	0.5 - 1.5
Froth level	Up to 1.0 m



Principle of operation

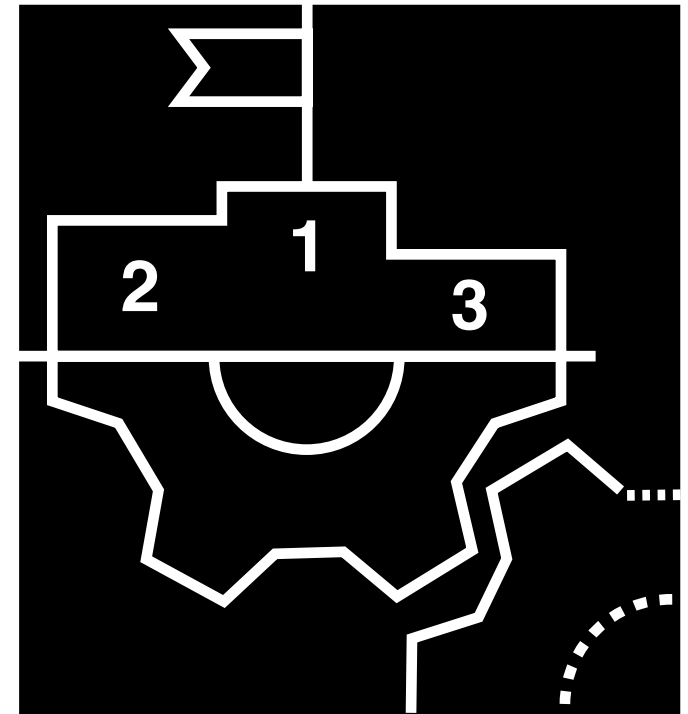


Concorde Cell™

Outperform Recovery



The Concorde Cell technology for improving fine and ultra-fine particle recovery is Metso's proposition for more finely disseminated and complex orebodies. Combining the well-proven TankCell® with Concorde Cells is a low risk and high benefit approach for minerals processing flowsheets. The Concorde technology offers a superior recovery rate for fine and ultra-fine particles. The cell produces very high shear and extremely fine bubbles which increases recovery in particles under 20 microns.

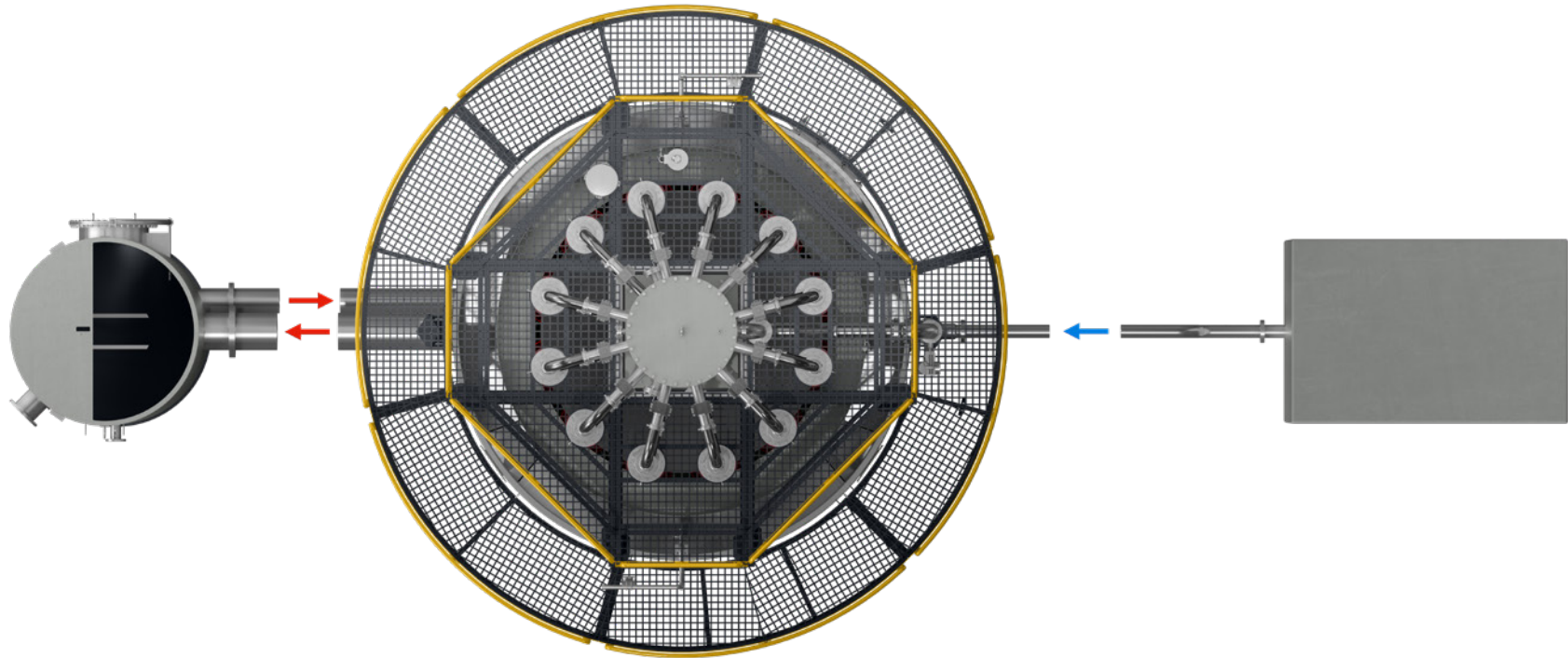


Key features

- High energy dissipation and smaller bubble size distribution produced by supersonic shockwaves
- Forced air allows higher air-to-pulp ratios
- Internal tailings recycling and integrated level control independent of flotation air control

Concorde Cell™

Technology Leap



The patented Concorde technology is the first fine and ultra-fine solution for complex and previously inaccessible ores types within various mineral processing flowsheets (e.g. gold, copper, nickel, platinum, silver, lead, zinc & molybdenum).

The Concorde forced air Blast Tubes treat 100% of fresh feed combined with tailings recycling for improved performance, so it allows for finer grinding to get extra liberation without the risk of valuable particles being reported into tailings.

Concorde Cell™

Reclaim Resources



Concorde Cell™ joins Planet Positive portfolio

The Concorde technology enables efficient use of earth's resources with increased recovery of fines and smaller plant footprint, helping miners to minimize energy and water consumption per metal production targets.

The Concorde Cell is part of the Planet Positive portfolio, which focuses on the most environmentally efficient technologies (>100) in our portfolio.



- High local energy dissipation, making energy usage more efficient
- Allows recovery of particles that are otherwise unrecoverable
- Decreases particles being reported to tailings
- Decreases plant footprint due to faster flotation kinetics

Testing capabilities

Lab cell

- For laboratory batch conditions
- Feed flowrates: 0.2 – 0.3 m³/h

Pilot unit

- For onsite pilot scale testing
- Feed flowrates: 0.9 – 2 m³/h

Demo unit

- Industrial scale demonstrative unit for extended continuous testing
- Feed flowrates: 32 – 50 m³/h

Please note that numbers shown on this page are only indicative.



Concorde Cell™

Blast Tube retrofit kit

Improve and optimize the metallurgical performance of your self-aspirated pneumatic flotation cell by upgrading to the Concorde Cell technology.

Benefits include:

- In-depth selection, engineering and installation of the retrofit kit
- Better process control and stability that allows optimization through the addition of forced air
- Enhanced metallurgical performance
- Maximization of your flotation footprint



Delivery scope:

- Slurry/air distributor
- Blast Tubes
- Flotation air control
- Flotation blower arrangement
- Slurry pumps
- Control panel



As a modular solution for safer installation and faster ROI in ore recovery, the Metso Concorde Cell™ Plant Units ensure superior quality implementation through maximized pre-fabrication in a controlled workshop environment with minimized on-site works.

One-stop-shop

The Concorde Cell™ Plant Units provide a comprehensive solution for customers, covering a wide scope from beginning test work to maintenance and services. Drawing on decades of engineering and design experience, each unit integrates pre-designed components such as connecting launders, pipes and pump sumps to ensure a seamless operation. These plant units feature a complete sampling and automation portfolio, along with a modular basic design that conveniently accommodates add-ins such as platforms for flotation cell access doors and connecting launders. This flexibility allows for tailored solutions that meet the diverse needs of our end customers and EPCMs alike.

Faster return on investment

The Concorde Cell™ Plant Units are designed for rapid deployment and enhanced efficiency, featuring pre-fabricated and pre-installed containerized units that streamline the setup process. Utilizing standard transportation and lifting protocols, these units lead to minimized downtime, particularly in brownfield cases. Their compact design ensures a reduced footprint and lower plant height, thus facilitating easier integration into existing facilities. This innovative approach results in a shorter order-to-operation timeline, allowing for more workshop hours and less site work, ultimately leading to a quicker return on investment for our customers.

