

# Metso

New benchmark in high intensity pneumatic flotation

## Concorde Cell™

Recover the  
unachievable  
ore value





SIMATIC

Concorde Cell Stopped

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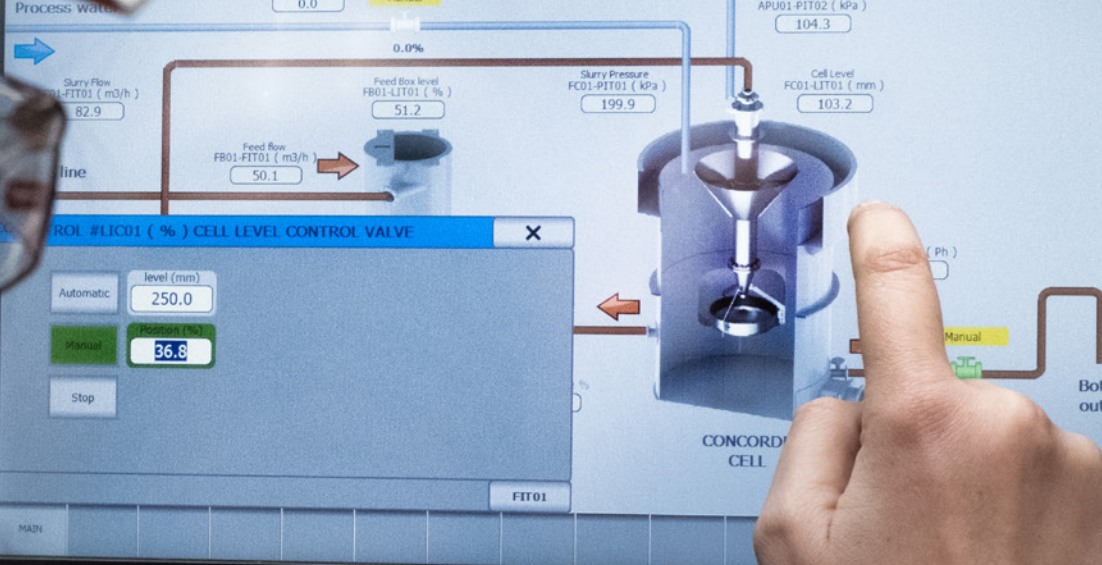
ALARMS

SYSTEM

Show extra information START-UP SEQUENCE

Automatic Air Pressure APU01-PIT01 (kPa) 120.2  
Automatic Air Flow APU01-FIT01 (m3/h) 45.6

Speed (%) 39.0  
Manual Water Flow FC01-FIT02 (m3/h) 0.0  
Automatic 18.5%



CELL LEVEL CONTROL VALVE

Automatic level (mm) 250.0

Manual Position (%) 36.8

Stop

FIT01

Outotec

TYPE	PNEUMATIC FLOTATION MACHINE
MODEL	ConcordeCell™ CD-2000-1-EL
MAX PULP S.G.	1.4 t/m <sup>3</sup>

# 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

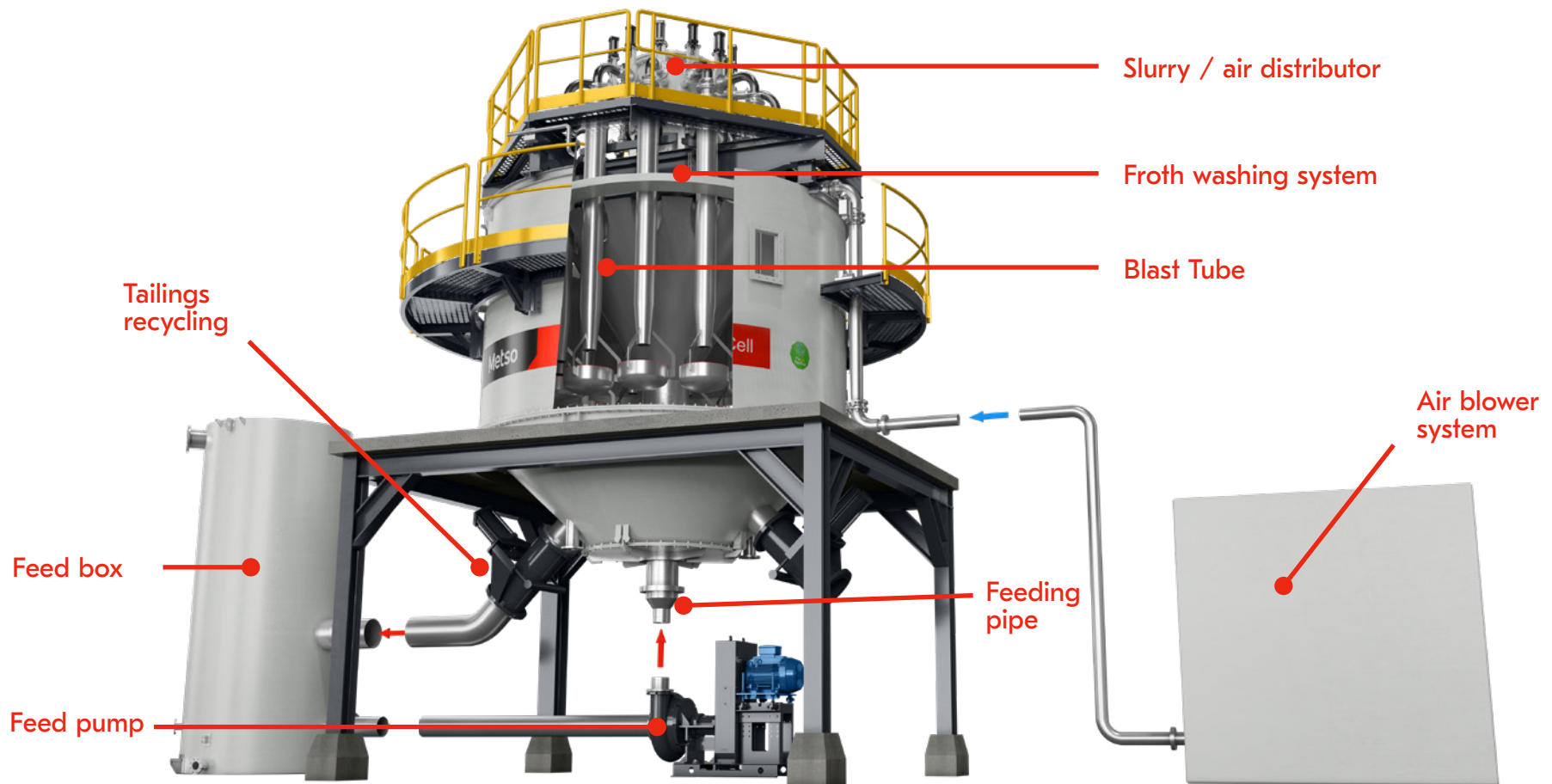
- Superior recovery of fine and ultra-fine particles
- Very high shear environment with increased bubble surface area flux for faster flotation kinetics
- Optimized froth recovery and improved selectivity
- Forced air allows wider process control and stability for further flotation optimization

## 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

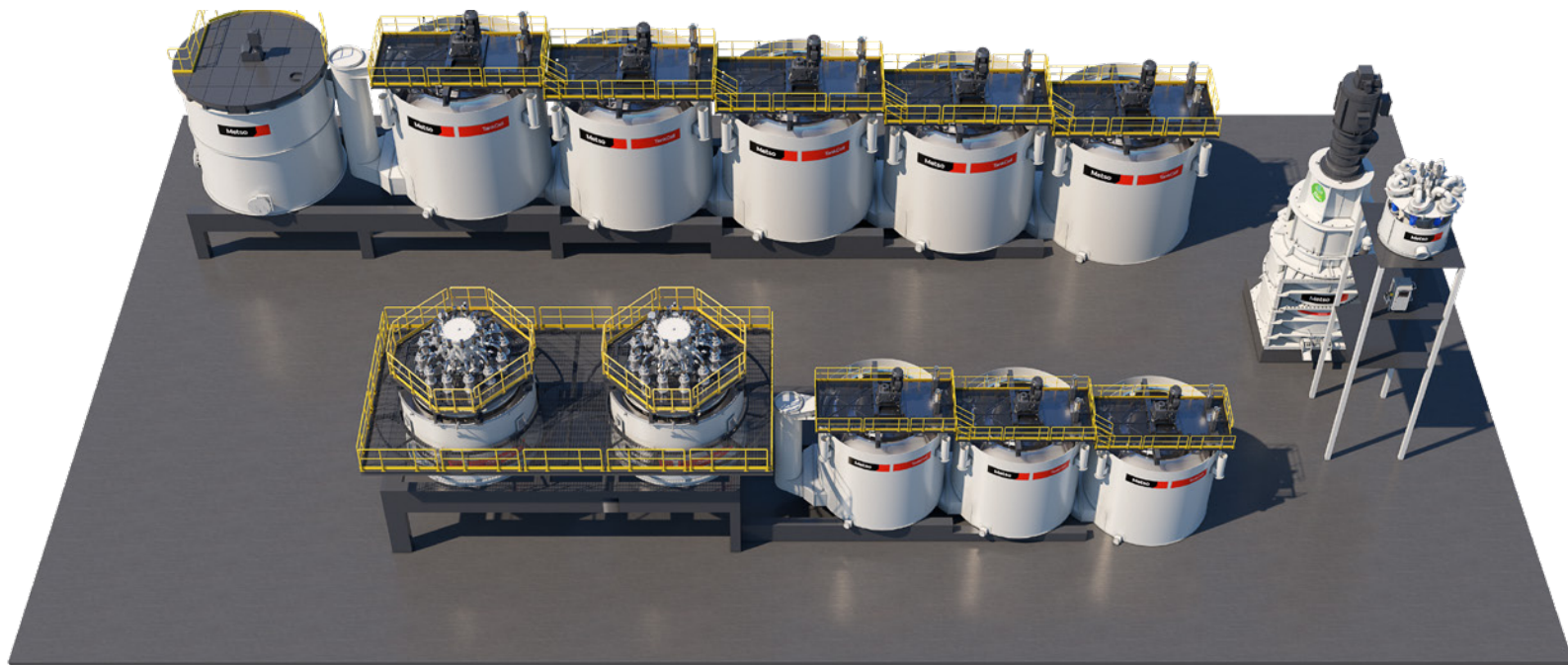
Metso offers a uniquely tailored and optimized slurry handling proposition for the Concorde Cell, including pumps, spare parts as well as optimization and maintenance services.

# Concorde Cell™

## Technical details

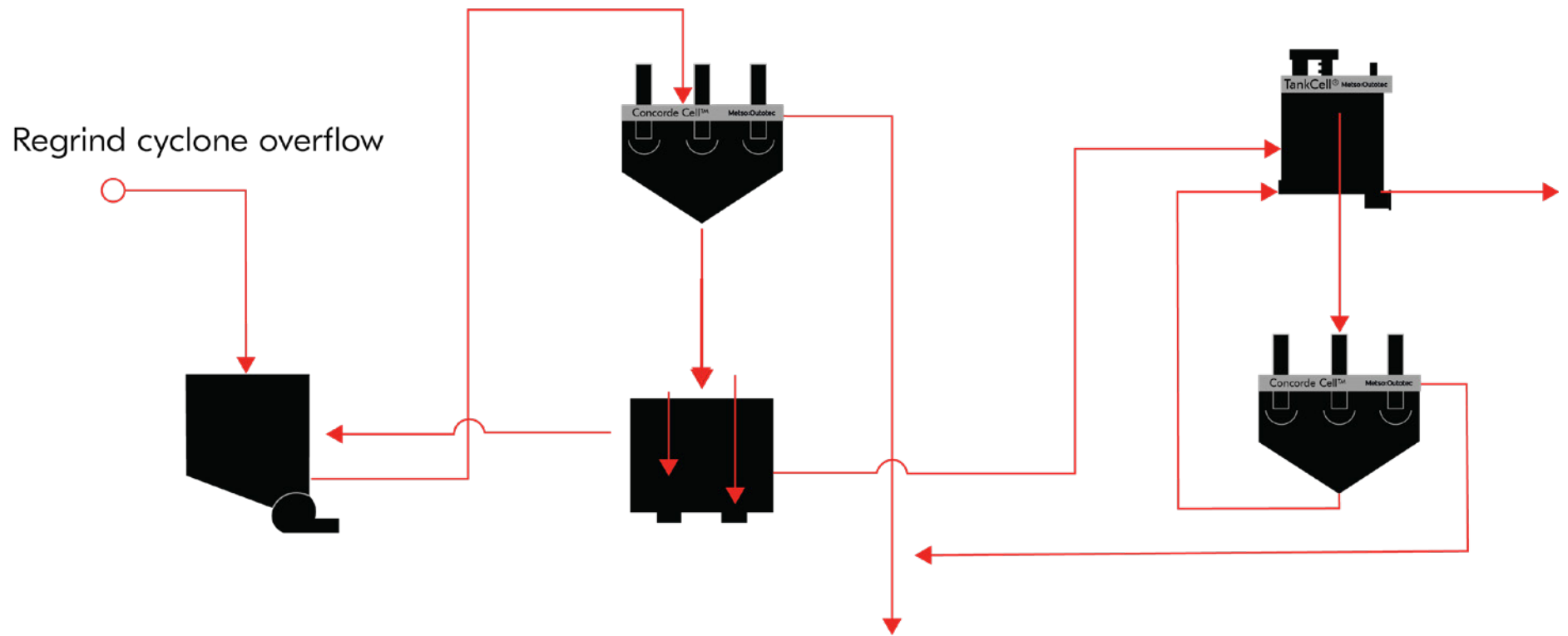
### Datasheet

Max slurry density	1.35 t/m <sup>3</sup>
Typical Blast Tube capacity	85 m <sup>3</sup> /h
Flotation cell capacity	Up to 3000 m <sup>3</sup> /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



Concorde Cell™

# Principle of operation

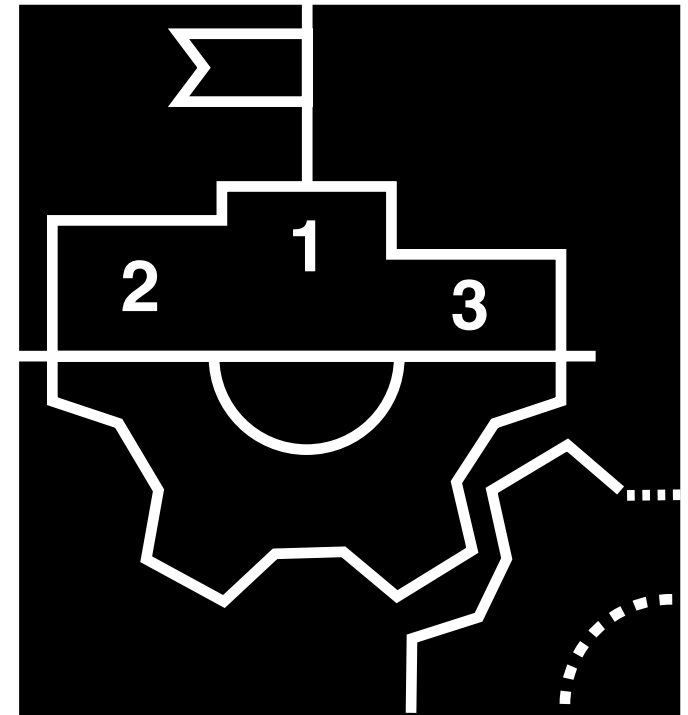


Concorde Cell™

# 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.

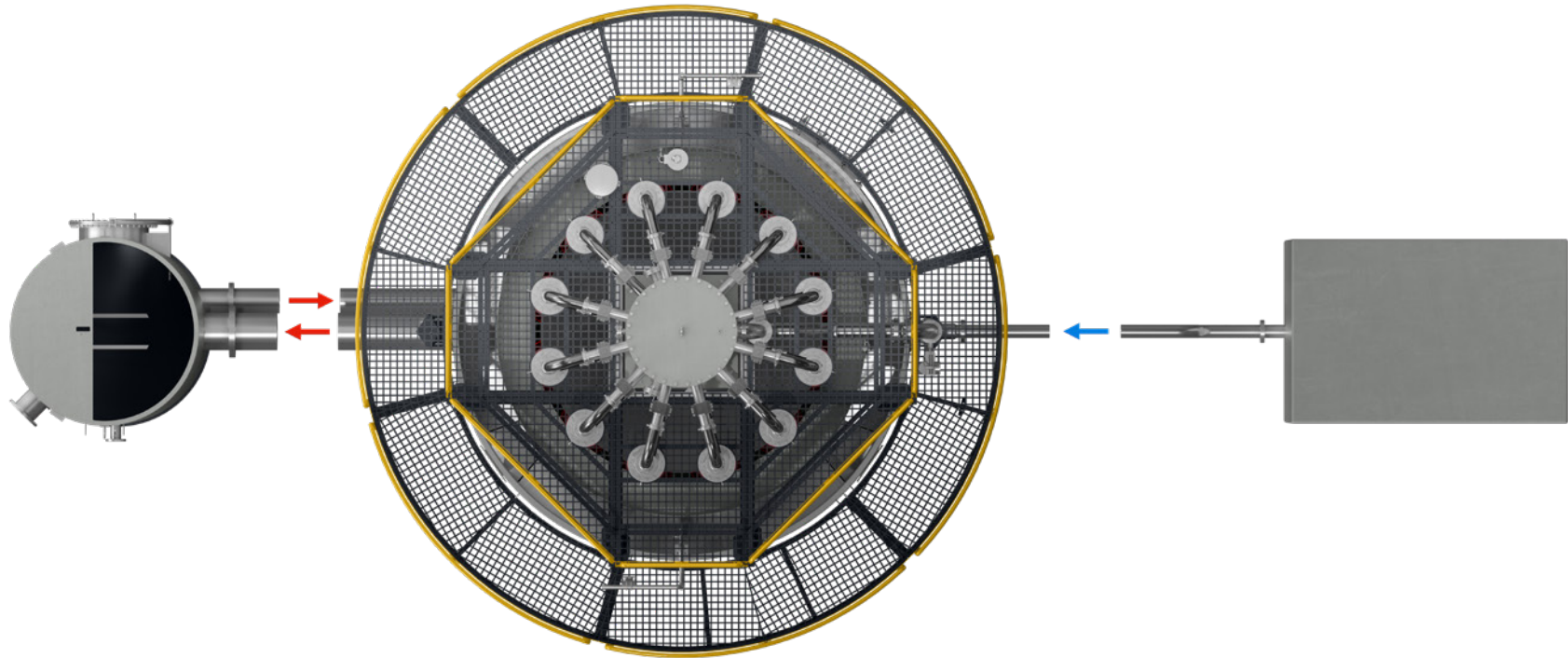


## Key features

- 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 m<sup>3</sup>/h

## Pilot unit

- For onsite pilot scale testing
- Feed flowrates: 0.9 - 2 m<sup>3</sup>/h

## Demo unit

- Industrial scale demonstrative unit for extended continuous testing
- Feed flowrates: 32 – 50 m<sup>3</sup>/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

Metso is a frontrunner in providing sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing and metals refining industries globally. By helping our customers increase their productivity, improve their energy and water efficiency and environmental performance with our process and product expertise, we are the **partner for positive change**.

Metso

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