Metso:Outotec

Flotation solutions

TankCell®

Unmatched technological leadership





Why choose TankCell®?

Metso Outotec TankCell® flotation units provide superior metallurgical performance based on forced air technology, and are easy to operate while allowing a flexible layout.

Our solutions are designed to maximize your return on investment by enabling gains in throughput, grade and recovery, all whilst improving the sustainability of your process and minimizing its environmental impact at the same time.

Reliable technology

Developed over decades with a large global installation base and a wide range of cell sizes

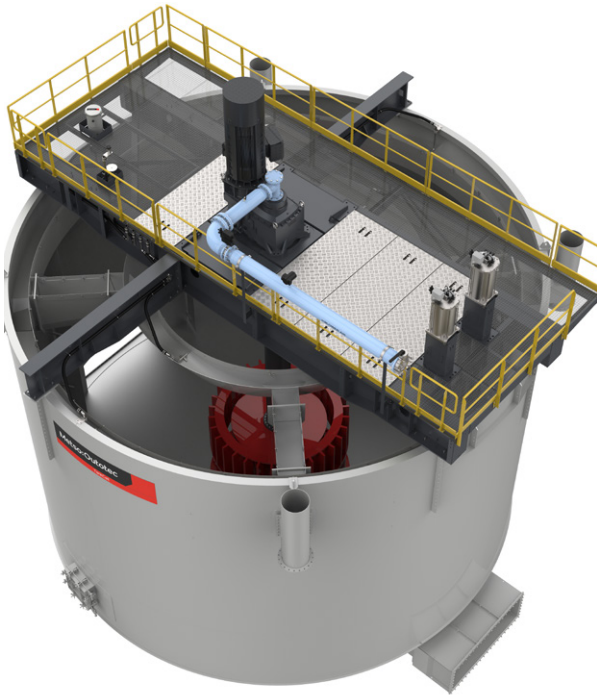
Unmatched performance

Proven performance for all flotation applications allows for low total cost of ownership, high availability and reduced footprint

Improved efficiency

Comprehensive automation offering and Life Cycle Services play a key role in efficiency and productivity







World's best flotation performance
The industry-leading TankCell range provides the world's best flotation performance and has the widest range of cell sizes on the market, from 5 to 630 m^3.

Our cells provide superior performance across all duties in rougher, scavenger and cleaner circuits.

Based on in-depth test work, we can design a tailor-made flotation circuit for your plant that will deliver optimized cell volume, froth carry rate, and residence time.

Wide range of cell sizes
TankCell flotation units are built to last. For example, Metso Outotec rotors and stators are the most wear-resistant available.

The cells are easy to operate, low on power and air consumption, and allow for a modular layout.

The wide range of cell sizes up to 630 m^3 enables a compact, economical, and efficient plant design without risk of short circuiting, even for today's high-tonnage operations. Fewer units mean substantial savings in construction costs, piping, cables, instrumentation and auxiliary equipment.

Benefits

- Lower energy consumption
- Reduced plant footprint
- High availability
- Less auxiliary equipment
- Proven superior metallurgical performance for all flotation applications
- Low cost of ownership
- Easy operation and maintenance

TankCell®

Technical specifications

Wide range of cell sizes

	Effective volume		Drive type	Installed power		Air feed per shaft		Air pressure in shell	
	m^3	ft^3		kW	HP	Am^3/min	ACFM	kPag	psig
TankCell e5	5	176	V-belt	11	15	2	75	20	2,3
TankCell e10	10	352	V-belt	22	30	4	149	25	3,6
TankCell e20	20	705	V-belt	37	50	6	224	31	4,5
TankCell e30	30	1 057	V-belt	45	60	8	298	36	5,3
TankCell e50	50	1 762	V-belt	55	75	13	484	34	5,0
TankCell e70	70	2 467	V-belt	75	100	18	671	36	5,2
TankCell e100	100	3 525	V-belt / Gear	110	150	24	894	39	5,7
TankCell e130	130	4 582	V-belt / Gear	132	200	28	1 043	45	6,6
TankCell e160	160	5 639	Gear	160	200	32	1 192	47	6,9
TankCell e200	200	7 049	Gear	185	250	36	1 341	52	7,6
TankCell e300	300	10 574	Gear	250	350	42	1 565	65	9,4
TankCell e500	500	17 623	Gear	400	550	58	2 161	63	9,2
TankCell e630	630	22 245	Gear	500	700	73	2 720	66	9,6

* Values are subject to variations. Applicable up to 1.4 pulp s.g. and normal site conditions (1000 m, -5 to +40C).

How much could you be saving?

Try out our online value calculator to see what economic and environmental benefits the FloatForce mixing mechanism can bring to your operation



FloatForce

Rotor-stator mixing mechanism

Improve metallurgical performance and energy efficiency while reducing operating costs with FloatForce, our mixing mechanism.

By improving flotation hydrodynamics and pumping performance at high air dispersion rates, the Metso Outotec FloatForce enhances particle recovery in the flotation cell while reducing power consumption and the risk of sanding at the same time.

Direct impact on key areas of flotation
The mixing mechanism performance has a direct impact on the three key areas of flotation. The three key areas of flotation include metallurgical performance, energy consumption and operating costs.

Aging and worn mechanisms not only impact product quality by preventing cells from operating at maximum efficiency, but they also require frequent maintenance. This inevitably leads to increased downtime and costs for your operation.

The FloatForce rotor is the result of extensive laboratory, pilot and plant-scale research and development, including computational fluid dynamics to optimize the final rotor and stator shape, as well as the position in the flotation cell. The design features wide pumping channels with separated air dispersion slots to ensure optimal mixing efficiency.

Benefits

- Up to 20% less energy consumed
- Cost efficient
- Increased recovery
- More efficient mixing at the same air dispersion rate
- Maintained mixing at a higher dispersed aeration rate
- Interchangeable with conventional mixing mechanisms
- Increased wear life due to polyurethane lining that is double the standard thickness

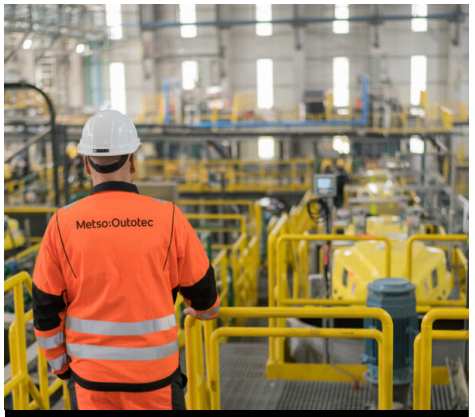
TankCell®

Aftermarket solutions available



Life Cycle Services

LCS takes our entire after-market portfolio and conveniently bundles them into customizable and easily manageable packages. Depending on the scale of your needs, our packages are flexible and equipped to cover either a single-event or to span multiple years, and are measured against strict KPIs.



Inspections

Our inspections offer a clear understanding of current equipment condition and maintenance needs, including future spare parts requirements. This information is useful to minimize unscheduled downtime, better plan long-term operating expenses, and achieve overall operational improvements



Upgrades

Upgrades are a great way to get new life out of your equipment, allowing you to achieve modern-day performance which brings numerous benefits. These include increasing capacity, production, safety, ROI and cashflow, while at the same time, decreasing downtime and maintenance.



Flotation process optimization

Lost recovery in the flotation process results in lost revenue. Mines now must process more complex ores, making operation of flotation circuits more difficult. Metso Outotoc experts can help identify the optimum feed size, cell design and operational parameters to maximize recovery and revenue.

Planet Positive



Sustainability is one of Metso Outotec's key strategic priorities. Our flotation solutions, such as TankCell® and FloatForce, are a part of the Metso Outotec Planet Positive portfolio and offering, since they are designed to improve water-efficiency, lower emissions & lower amount of energy consumed.

Planet Positive is our all-encompassing approach to sustainability, which covers the environmental, social and financial aspects. Our Planet Positive offering has a central role in our sustainability agenda and 1.5 °C journey as it represents the key means of improving the resource efficiency of our customers' operations.

Our long-term goal is to provide customers with products and services that are even more sustainable. We will continuously develop our flotation portfolio and offering, with a focus on energy efficiency, reducing emissions, water efficiency, circular solutions, health and safety.

Metso Outotec is a frontrunner in sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing and metals refining industries globally. By improving our customers' energy and water efficiency, increasing their productivity, and reducing environmental risks with our product and process expertise, we are the **partner for positive change.**

Metso:Outotec

Metso Outotec, Töölönlahdenkatu 2, FI-00100, Helsinki, Finland
tel. +358 20 484 100
mogroup.com

© 2022 Metso Outotec. All trademarks and registered trademarks are the property of their respective owners. 4789-09-22-EN-MNG