

Metso

Metso Plus

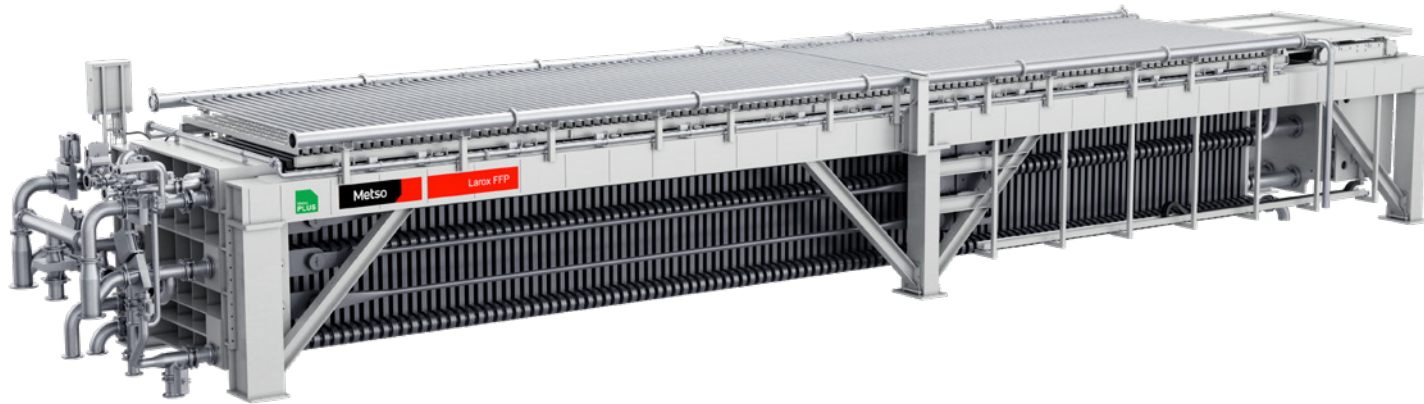
Mining Filtration

Leading sustainable
dewatering innovations



Leading sustainable dewatering innovations

With nearly a century of experience in supplying filtration equipment and services, Metso has the most comprehensive and sustainable filtration portfolio on the market. We produce smart and sustainable dewatering solutions for various mining applications in concentrates, tailings and bulk filtration. Metso is always evolving to solve the toughest challenges that the customers may face.



Strong legacy

Metso has nearly a century of experience in supplying filtration equipment and services



Unrivaled diversity

The most comprehensive and sustainable portfolio on the market coupled with a comprehensive Services offering



Smart dewatering

Smart and advanced automation features from control systems to automatic process adjustments for optimized performance and remote-control options



Leading process know-how

Metso has a unique Dewatering Technology Center (DTC) in Lappeenranta, Finland where R&D and testing is done with close cooperation on research with universities



Metso Plus

While society continues to ask more of our industry, as technology providers, we need to enable our customers to deliver more – more efficiently, more profitably and more sustainably. The comprehensive Metso Plus portfolio of equipment, parts and expert services has been designed to deliver just that – more performance to where it's most needed.

Metso Plus offering helps our customers cut their CO2 emissions and achieve their other sustainability priorities such as reducing pollution. In addition to direct emissions reductions, Metso Plus products can decrease the carbon emitted in manufacturing and delivering products and they offer potential for recycling materials. Metso Plus services can improve our customers' processes during modernizations and upgrades, as well as optimize existing production processes.

In the long run, such cumulative gains can be very significant. Metso Plus demonstrates our commitment to our customers and towards more sustainable filtration and dewatering practices. It emphasizes the change where we can make the biggest difference. Metso Plus enables both cost and resource efficiencies to our customers and is built on our extensive expertise and the reliability of our products plus our excellent service.

Pressure filtration

Larox® PF filter

Proven, flexible and reliable Larox PF filter provides advanced filtration efficiency for a wide range of applications. This pressure filter has a fully automatic, horizontally oriented recessed plate pack with diaphragms. The continuous filter cloth ensures thorough cloth washing and guaranteed cake discharge from each chamber every cycle.

Benefits

- Adapts to varying process conditions
- Short cycle time
- Reduces wash liquid consumption
- Ensures the highest specific filtration capacity
- Designed for flexible processes
- Constant short technical time, independent of filter size



Key features:



1 - 28 chambers
installed



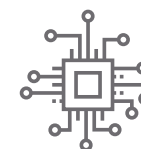
1.6 m² - 168 m²
filtration area



Up to 16 bars
operating pressure



33, 45, 60 and 75 mm
chamber depth



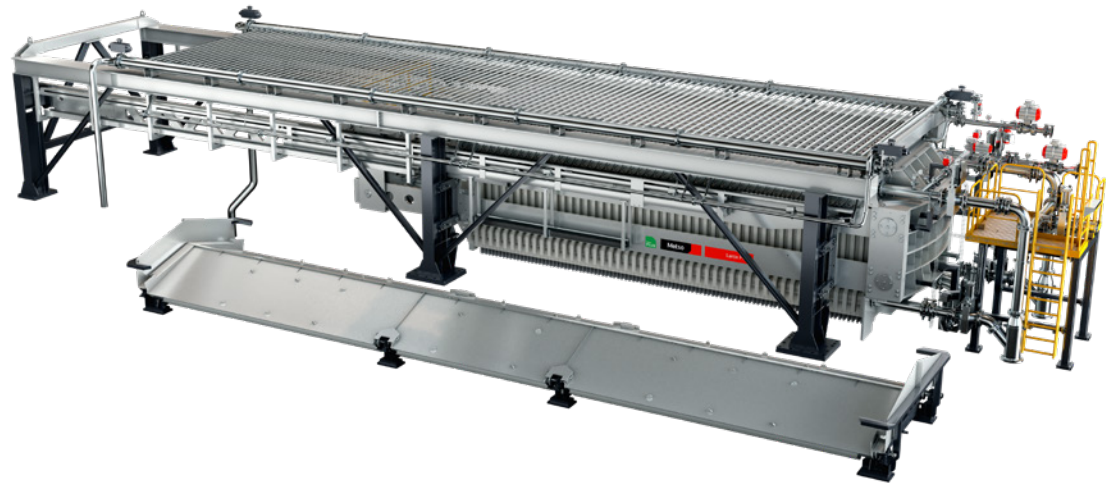
Enhanced
automation system

Pressure filtration Larox® FFP

Reliable and optimized Larox FFP filter provides high volume processing for concentrates, tailings and bulk applications. The integrated perimeter protection satisfies occupational health and safety requirements, while the modular design reduces installation costs and simplifies maintenance. FFP filters are available with automatic control of both mechanical operation and process optimization. The filter's programmable logic controller controls all operations.

Benefits

- Ensures high availability and capacity
- Simple installation, operation, and maintenance
- Flexible and fully automatic operation
- Adjusts automatically to process changes
- Possibility to operate remotely for improved support



Key features:



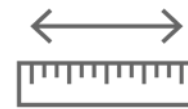
1 - 120 chambers
installed



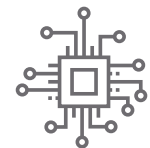
Up to 1980 m²
filtration area



Up to 16 bars
operating pressure



40, 45, 50, and 60 mm
chamber depth



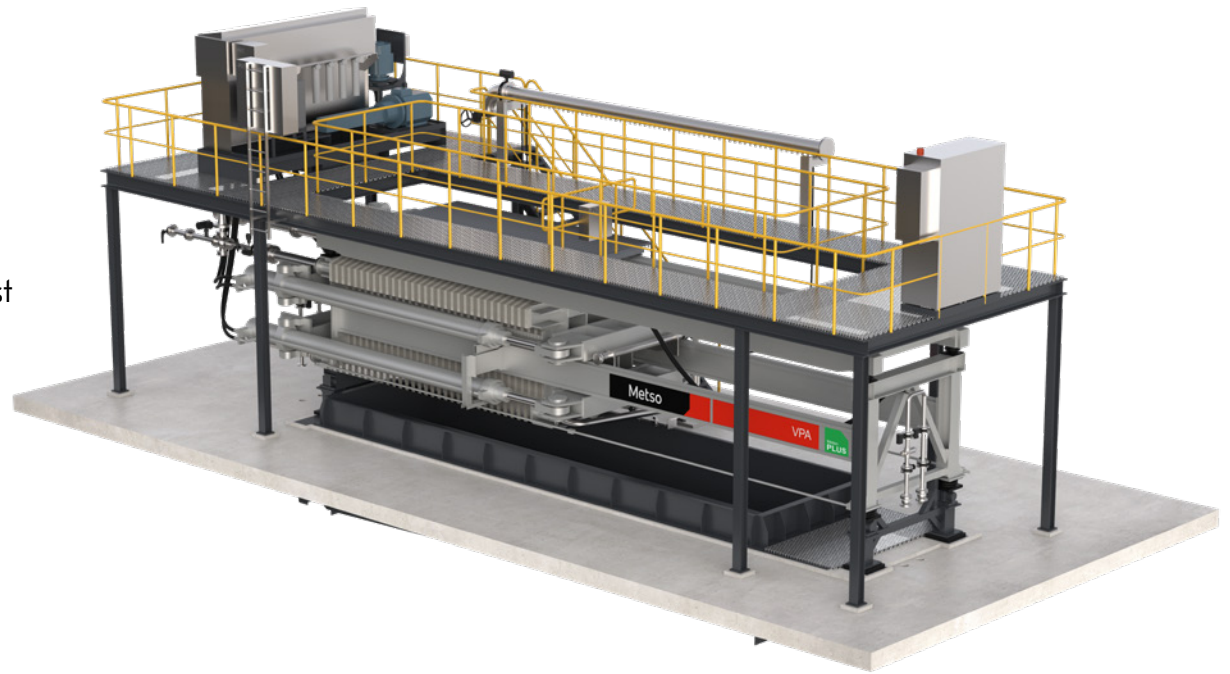
Advanced
control system

Pressure filtration VPA filter

Metso VPA filter is a reliable and optimized dewatering solution with high volume processing for difficult tailings applications and concentrate filtration. The membrane technology eliminates cracks in the cakes and compensates for the shrinking, resulting in reduced compressed air consumption and total dewatering cost. The VPA filter load cell weighing system, which is integrated to the control system provides accurate production information and can be used to optimize the filtration and drying steps in the filter cycle for optimum performance.

Benefits:

- Ensures high availability and capacity
- Easy to change cloths
- Low maintenance, dewatering and operation cost
- Environmentally friendly
- Controlled by fully automated system



Key features:



Up to 66
chambers installed



Up to 515 m²
filtration area



Up to 10 bars
operating pressure



30, 40 and 50 mm
chamber depth



Few moving parts

Pressure filtration FPS filter

Metso FPS filter is a standard filter press solution for safe and reliable operation. It offers efficient solid-liquid separation in a broad range of standard applications such as filtration in bulk mining, metallurgical refineries and industrial minerals. The FPS filter press is available with different safety device options, and features Siemens S7 series control and an HMI system for easy, stable operation.

Benefits:

- Ensures high availability
- Wide variety of applications
- Standard design that reduces CAPEX
- Short lead time

Key features:



Up to 130
chambers installed



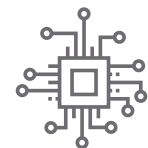
Up to 850 m²
filtration area



Up to 16 bars
operating pressure



30, 35 and 40 mm
chamber depth



Shorter technical time
than traditional filter press



Pressure filtration FP filter

Metso FP filter is a reliable dewatering solution for delivering and exceeding process performance targets. The filter presses are available with semi or fully automatic control in filtration areas of up to 1200 m². They are designed to the latest Eurocode standards and ensure operator safety with perimeter protection and safety interlocks.

Benefits

- Reduces cycle times through membrane squeezing
- Produced homogeneous filter cake for increased product quality
- Low wash liquid and cleaning time
- Low energy consumption during cake drying
- Customizable and adaptable to individual conditions
- Safe operation



Key features:



Up to 174
chambers installed



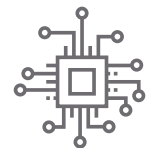
Up to 1,200 m²
filtration area



Up to 16 bars
operating pressure



25, 30, 40, 50, and 60
mm chamber depth



Shorter technical time
than traditional filter press

Vacuum filtration CC filter

Get high availability with CC filters – a throughput solution boosting energy efficiency for difficult mining applications. Latest technology Hybrid CC filter plates are designed for harsh mining conditions. With high availability and less power consumption our straightforward but effective ceramic CC filter technology helps achieve greater productivity and the best filtration performance.

Benefits:

- Prevents air penetrating the wet filter plate
- Requires very low energy consumption
- Achieves a high vacuum level due to low air leakage
- High availability
- Low operating costs



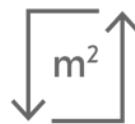
Key features:



3.8 m disc
diameter



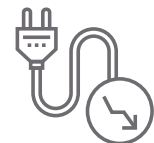
Up to 20 discs



144 & 240 m²
filtration area



Near absolute vacuum
operating pressure



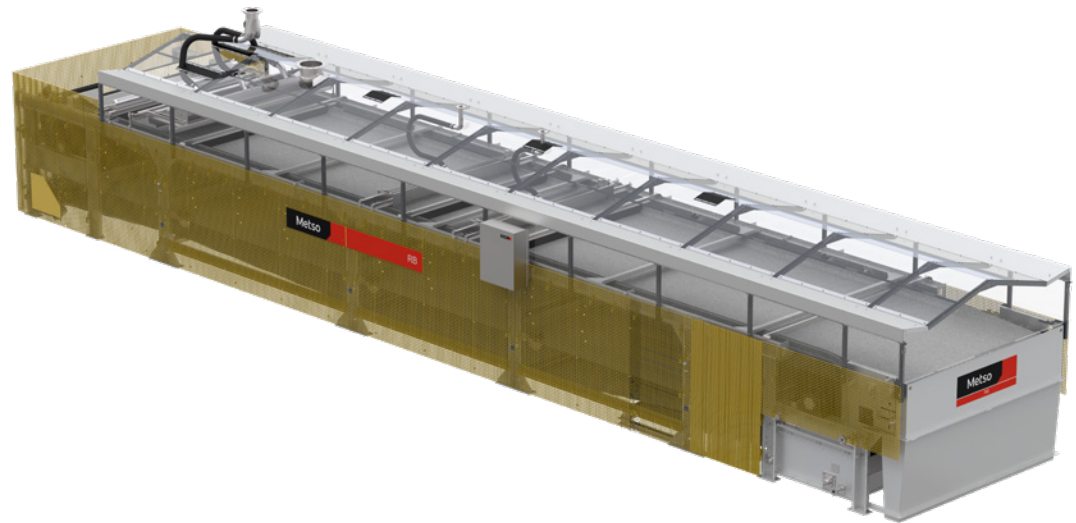
Lowest energy
consumption filter

Vacuum filtration RB filter

Metso RB filter with its modular structure, robust and high-capacity design ensures superior filtration performance in mining and tailings applications. RB filters are tough enough for even the highest capacities, while still bringing superior performance in separation, washing, and cake dewatering. Horizontal belt filters offer a wide variety of benefits, including good cake washing, continuous and visible processing, fully automatic and flexible operation, and relatively high speeds.

Benefits

- Easy installation, operation, and maintenance
- Modular structural design
- Flexible and fully automated operation
- Adjusts automatically for process changes
- High availability and consistent performance



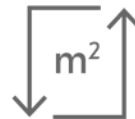
Key features:



3 & 4.25 m
filtration width



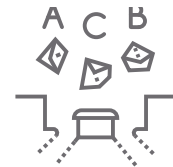
Up to 40 m
filtration length



Up to 170 m²
filtration area



Advanced cake
washing options



Large variety of
applications

Vacuum filtration SC filter

Ensures high productivity, cost-efficiency, and reliability with the SC filter. This is a proven, industry-leading solution for dewatering iron, mineral concentrates, tailings, and industrial minerals. SC filters are designed for simple maintenance, their robust structure makes the filters suitable for even the harshest environments.

Benefits:

- Simplifies maintenance and minimizes downtime
- Reduces vacuum losses from large flow areas
- High vacuum and filtration rates
- Discharges cake efficiently and continuously
- High tonnage and low moisture rates



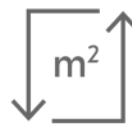
Key features:



3.8 m disc
diameter



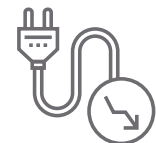
Up to 20 discs



Up to 240 m²
filtration area



Vacuum
operation



Standardized paste
backfill installation

Customer case

VPA filters improved the efficiency of TISCO's Jianshan Filtration Plant



Challenges

- Before 2013, the plant was equipped with three sets of US-made pressure filters and four sets of domestic filters, which, in terms of energy consumption and production efficiency, were not enough
- The plant had experienced unplanned shutdowns frequently. Although they had been attempting to improve the management level, no proper improvement in productivity was seen

Solution

- Four sets of Metso VPA2050-50 pressure filters were integrated into the upgrade project implemented by TISCO in 2013

Result

- Processing capacity increased from 3,250,000 t/a to 3,880,000 t/a
- Filter cake moisture reduced from 9.5%-10% to 9.1%-9.3%
- Cycle time dropped by 18%
- Efficiency improved by over 22%
- Energy savings increased by approximately 40%
- The annual saving can reach up to 5,400,000 kWh, which results in savings of approximately EUR 750,000





Your #1 service partner from pit to port

Are you looking to optimize production, reduce risks, lower operating costs and improve your sustainability performance?

End-to-end solutions

We carry the industry's most comprehensive aftermarket offering, and it's not limited to Metso equipment. We offer parts, process optimization and everything in between.

Optimized performance

Our expertise covers every stage of the minerals process. We connect the dots and solve bottlenecks in a holistic way, elevating your process performance to a whole new level.

Digital mine

Our 45+ digital solutions help add an extra boost to your performance, identifying hidden improvement areas and modeling the solutions with sophisticated simulations.

Trusted partner

Our dedicated team of experts bring you the unique advantage of local presence backed up with a solid global network of first-class engineering, manufacturing and service.

- Support, manufacturing and parts stock close by
- Reliable, high-performing parts and services
- High safety/ethical/environmental standards
- Training and expertise

Sustainable operations

Responsibly produced, long-lasting parts, designed and optimized to minimize wastage, improve energy efficiency and emphasize safety.

**You set the target.
We provide the solution.**



Metso is a frontrunner in sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing and metals refining industries globally. We improve our customers' energy and water efficiency, increase their productivity, and reduce environmental risks with our product and service expertise. We are the **partner for positive change**.

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