## Rotable filter plate management program

Filter plates are the heart of PF, FFP and VPA filters models and must be kept clean and in great condition to ensure good filtration results and a long lifetime for the equipment. Their filter plates include multiple wear parts that require periodic change outs, depending on filter utilization and specific operating practices. Changing the wear parts in a filter plate is time consuming. Having new or reconditioned filter plates available to be exchanged during maintenance reduces equipment downtime significantly.

Metso Outotec offers cost effective program options to manage the OEM filter plates exchange and refurbishment for different filter models under our LCS Rotable filter plate management program. Depending on the filter model, Metso Outotec will provide new stand-by plates, supply the repair labor, spare parts kits, installation as well as wear rate monitoring of the components to define improvement opportunities. Specifically, for PF-filters, a rotable plate pack refurbishment program is available and includes a complete stand-by plate pack as part of the agreement.



## Reduced total cost of maintenance

When plate packs reach their scheduled change out times, they are removed from the filter and immediately replaced by the standby unit. The removed plate pack is then refurbished to like-new condition in our Metso Outotec service centers, with an OEM guarantee and placed back into the standby rotation at your plant, ready for the next change out. This allows multiple plate rotations over a given period, avoiding the need to invest in new expensive metal components. This program ensures minimized maintenance times and the lowest sustainable cost amongst the available options for our customers.

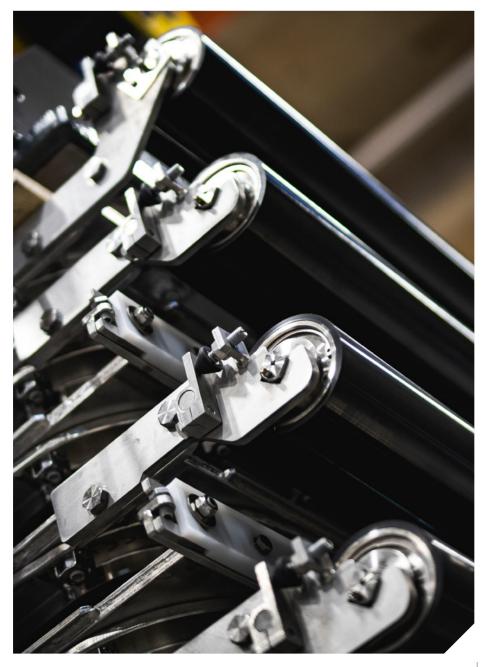
For Ceramic (CC) filters, Metso Outotec additionally offers long-term supply agreements and lifetime guarantees for ceramic plates that cannot be repaired.

## Core outcome:

• Filter plate exchange with minimal downtime and lowest maintenance lifecycle costs

## Other benefits:

- Complete solution, reducing customers administrative burden
- · Minimum spare and capital parts inventory



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LCS Programs for Metso Outotec filters	Program 1 Inspections and technical support	Program 2  Maintenance and reliability	Program 3  Rotable filter plate management	Program 4  Process optimization
Spare and wear parts				
Parts inventory management and optimization	•	•	•	•
Maintenance specific spare parts kits	•	•	•	•
Assesments and monitoring				
Equipment inspections	•	•	•	•
Connected Analytics	•	•	•	•
Maintenance and reliability engineering		•	•	•
Maintenance management				
Maintenance supervision	•	•	•	•
Technical support (remote/ at site)	•	•	•	•
Maintenance planning $\&$ scheduling support		•	•	•
Maintenance execution		•	•	•
Maintenance management system (CMMS)		recommended	recommended	recommended
Major repairs/refurbishments			•	•
Operation and process optimization				
Process advisory	recommended	recommended	recommended	•
Filter optimizer - APC				•
Thickener optimizer - APC				•
Financing options				
Upgrades & CAPEX deferred payments	•	•	•	•
Metso Outotec Inventory Solutions (MOI)	•	•	•	•
Payment options				
Fixed monthly billing	•	•	•	•
Performance/KPI based billing	recommended	•	•	•
Cost per ton billing	recommended	•	•	•