

METAL7



FILTERING SOLUTIONS
VACUUM DISC FILTER

METAL7.COM

Improve the efficiency of dewatering
while minimizing maintenance

GROUPE M7



ABOUT METAL7

A PARTNERSHIP THAT LASTS

Creating high-performance solutions for iron ore pelletizing plants and the liquid metals industry is who we are.

With our world-class expertise in surface engineering and our proficiency in complex industrial processes, we have built a solid reputation with multiple worldwide top mining companies in the metallurgical sector. Our innovation team continuously addresses customers' challenges and strives to develop and improve our products to help our clients increase the reliability and performance of their critical equipment and processes.

Part of *Groupe M7*, we are recognized as a strategic partner of choice for innovative natural resources transformation solutions.

**ENHANCED FILTRATION
IMPROVES BALLING AND FIRING**

Complex mineralogy and energy consumption force iron ore producers to seek better dewatering solutions for optimal pelletizing feed.

Many key parameters need to be addressed during the filtration process, with filter cake moisture stability being critical. At initial levels of 30 to 50%, surplus water needs to be removed prior to the balling process, targeting a moisture content from 8 to 10% for most plants.

The efficiency of the filtration process significantly impacts all subsequent operations.

THE CHALLENGE

Obtain a consistent filter cake moisture content while achieving high throughput.

THE SOLUTION

M7 equipment optimizes filtering capacity by providing steady throughput with minimal downtime. This results in a significant improvement in tonnage, and lower energy consumption in downstream processes.

Its distinctive mechanical design and the use of proprietary surface coating technologies on critical components provide industry-leading sealing and durability. Leakages are minimized, maintenance frequency is reduced, and stable performance at low operating costs is achieved.



BENEFITS OF M7 VACUUM DISC FILTERS

- 01** Enhanced preservation of vacuum integrity throughout the system
- 02** Increased productivity & extended product life
- 03** Proven consistency in filter cake moisture level
- 04** Continuous and efficient cake release
- 05** Demonstrated energy savings



**UP TO 45%
INCREASE IN TONNAGE**

As demonstrated in retrofit projects without increasing vacuum requirements

VALVE HEAD OEM SPARE PARTS

In addition to manufacturing the most efficient vacuum disc filters in the industry, we also provide replacement parts and performance upgrades.



UHMW WEAR PLATES & COATED VALVE PLATES

Our valve and wear plates are manufactured with M7 specialty coating technology and UHMW to avoid wear and resulting vacuum losses and extended downtime.

- 01 Plates mounted with **8 compression springs** to ensure maximum sealing of end components
- 02 Special coating with enhanced lubrication properties applied to the valve plate for wear resistance
- 03 Greasing ports on the valve plate are optimized to improve lubrication and prevent grease leakage in the vacuum area
- 04 Central support shaft between the valve plate and the wear plate reinforces the assembly of the trunnion end components
- 05 Nylon bushings are pressed into the valve plate to ensure lubrication of the central shaft



M7 VACUUM DISC FILTER DISTINCTIVE FEATURES

CENTRAL BARREL

- Chain and sprocket driven
- Large vacuum tubes with rubber lining
- Tubes designed for quick and easy replacement
- Sealing ferrule between sectors and barrel vacuum tubes

AGITATOR SHAFT

- Direct drive
- Rubber-lined shaft and paddle

BEARING HOUSINGS

- Large plain bearings on both sides (drive and idler) for maximum support
- **Ceramic coated** trunnion bearing journals to reduce wear and significantly extend service life
- Labyrinth seals or V seals assembled on both sides of each housing to prevent grease leakage and dust contamination

SLURRY TANK

- Overflow management
- Large bottom valve for cleaning of the tank

AUTOMATIC SCRAPING SYSTEM

We offer an automatic scraping system for safe cleaning of filter cake chutes, without operator intervention.

LEAF TESTING CAPABILITY

We can run tests in our **in-house laboratory** to analyse end-users' slurry to optimize and confirm system's performance.

