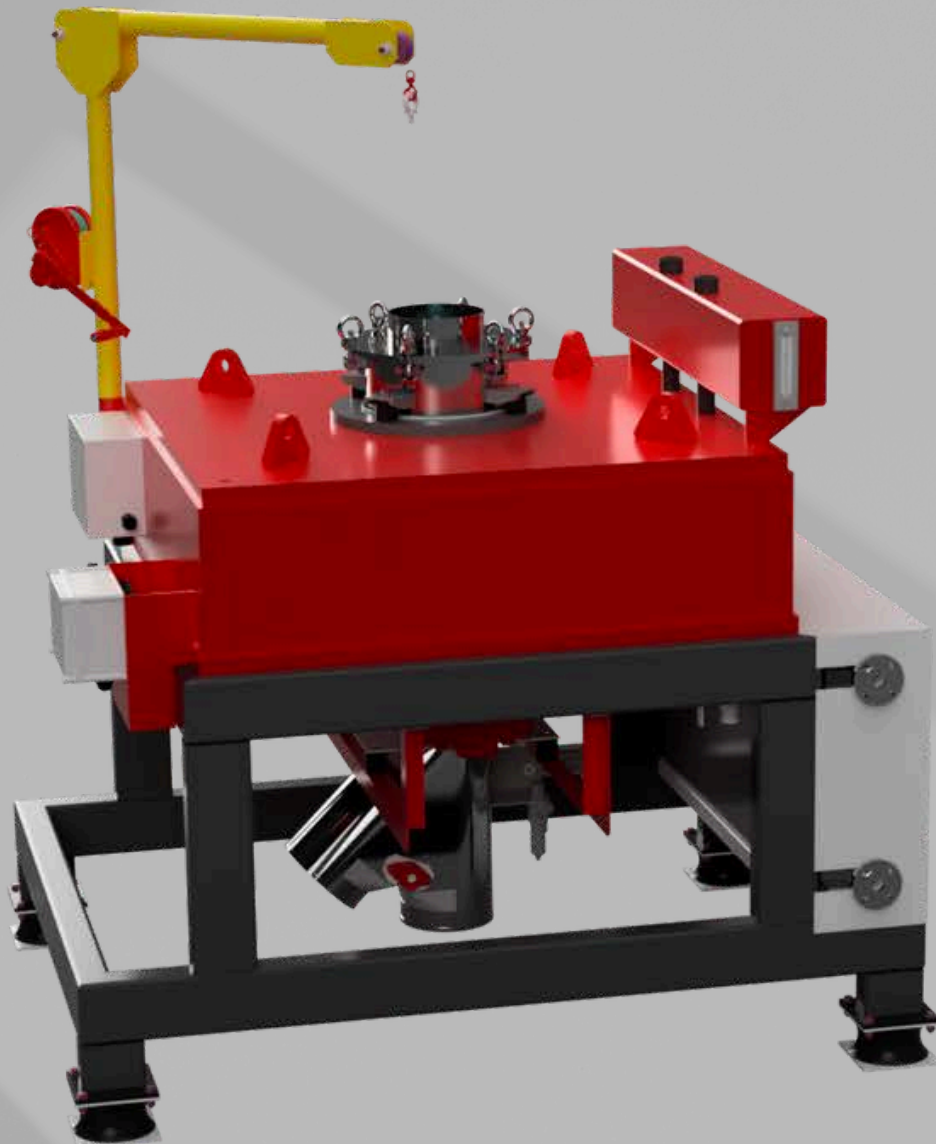




High Intensity Dry Filter (HIDF)



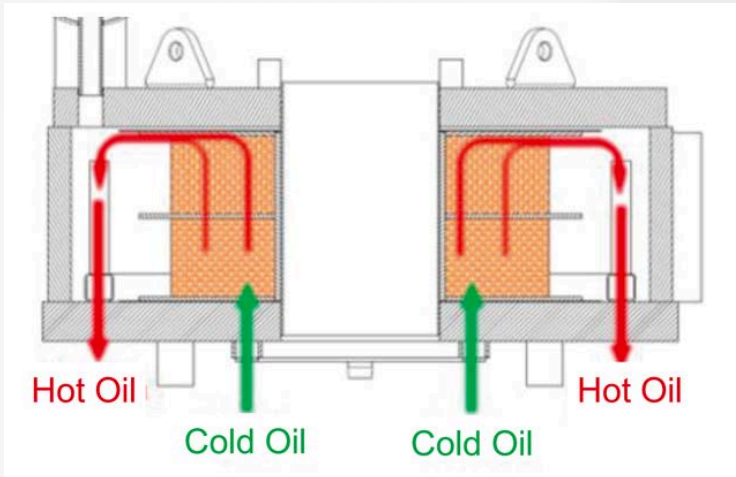
High Intensity Dry Filter (HIDF)



PRODUCT SUMMARY

Designed to remove fine magnetic and paramagnetic contaminants from dry powders and granular materials. An advanced vibrating mechanism applies a product specific frequency/amplitude to the magnet matrix and product canister. This enhances material 'flowability', prevents clogging, and ensures your product is exposed to the high intensity magnetic capture zones.

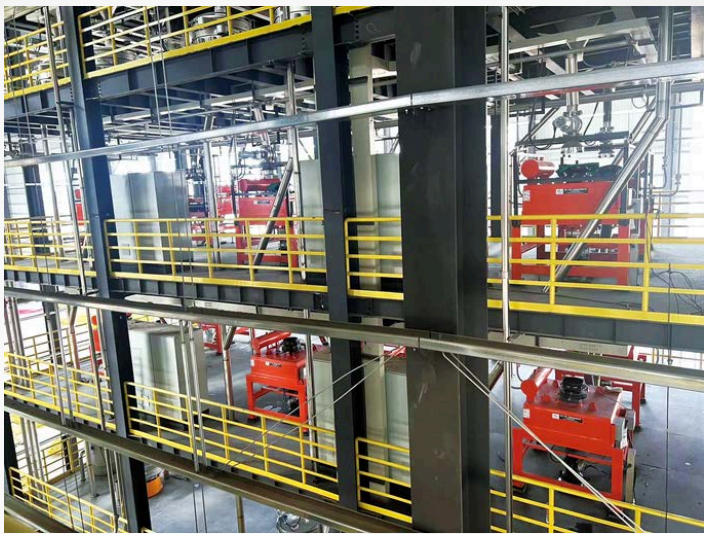
Controlled by custom designed PLC logic and hardware, the system automatically flushes out captured magnetics and continues to ensure your product meets the highest grades 24/7.



Unique coil cooling circuit

APPLICATIONS

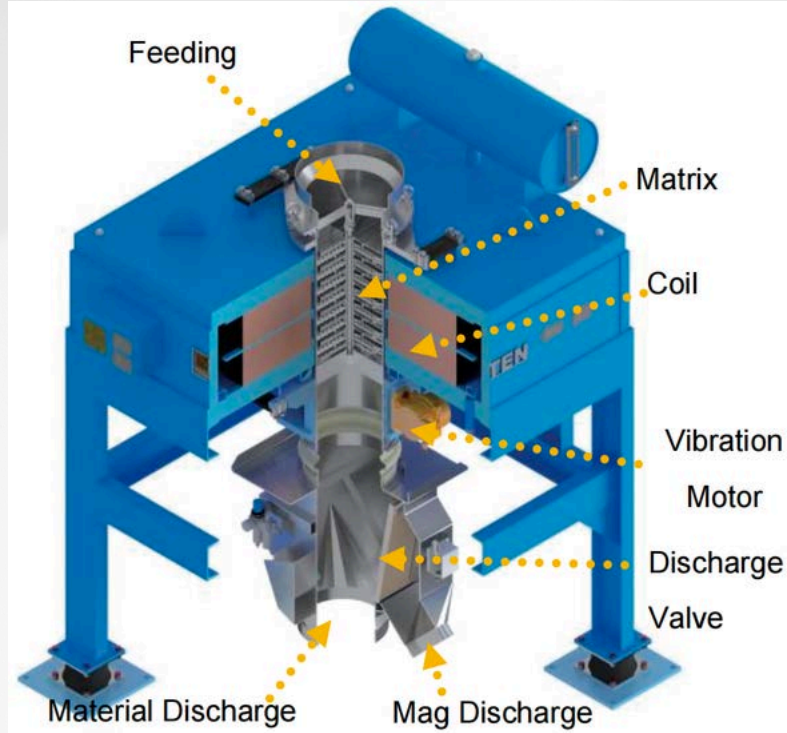
- Lithium
- Carbon
- Graphite
- Talc
- Silica
- Zircon powder
- Other difficult to convey dry powders



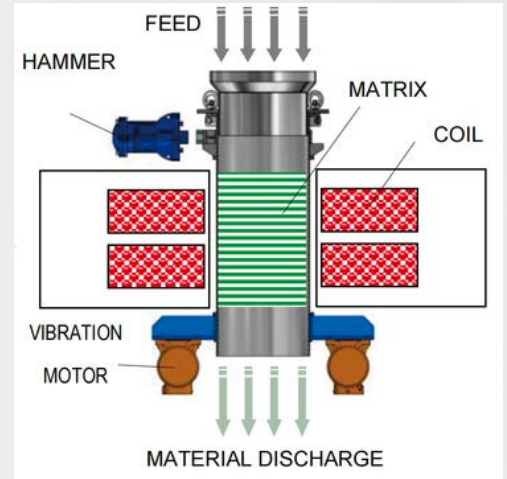
High Intensity Dry Filter (HIDF)



OVERVIEW



Product flow is from top to bottom through the magnetic field in the canister containing the magnetic Matrix, Paramagnetic particles are effectively captured on the Matrix as non-magnetic material passes through. This process ensures efficient extraction of weakly magnetic impurities



As the Matrix becomes loaded with magnetic material and reaches saturation point, the feed is closed, Matrix demagnetised and the system is cleaned, effectively discharging the accumulated magnetic materials and restoring the Matrix capturing capacity.

To enhance processing efficiency, the canister is equipped with dual counter-rotating vibration motors. These motors generate high-frequency vertical vibrations, enabling smooth passage and dispersion of ultrafine materials.

Beneath the magnetic zone, a three-way diverter valve (controlled by a PLC system) automates magnetics and slag discharge, ensuring continuous and efficient cyclic operation.



Diverter valve



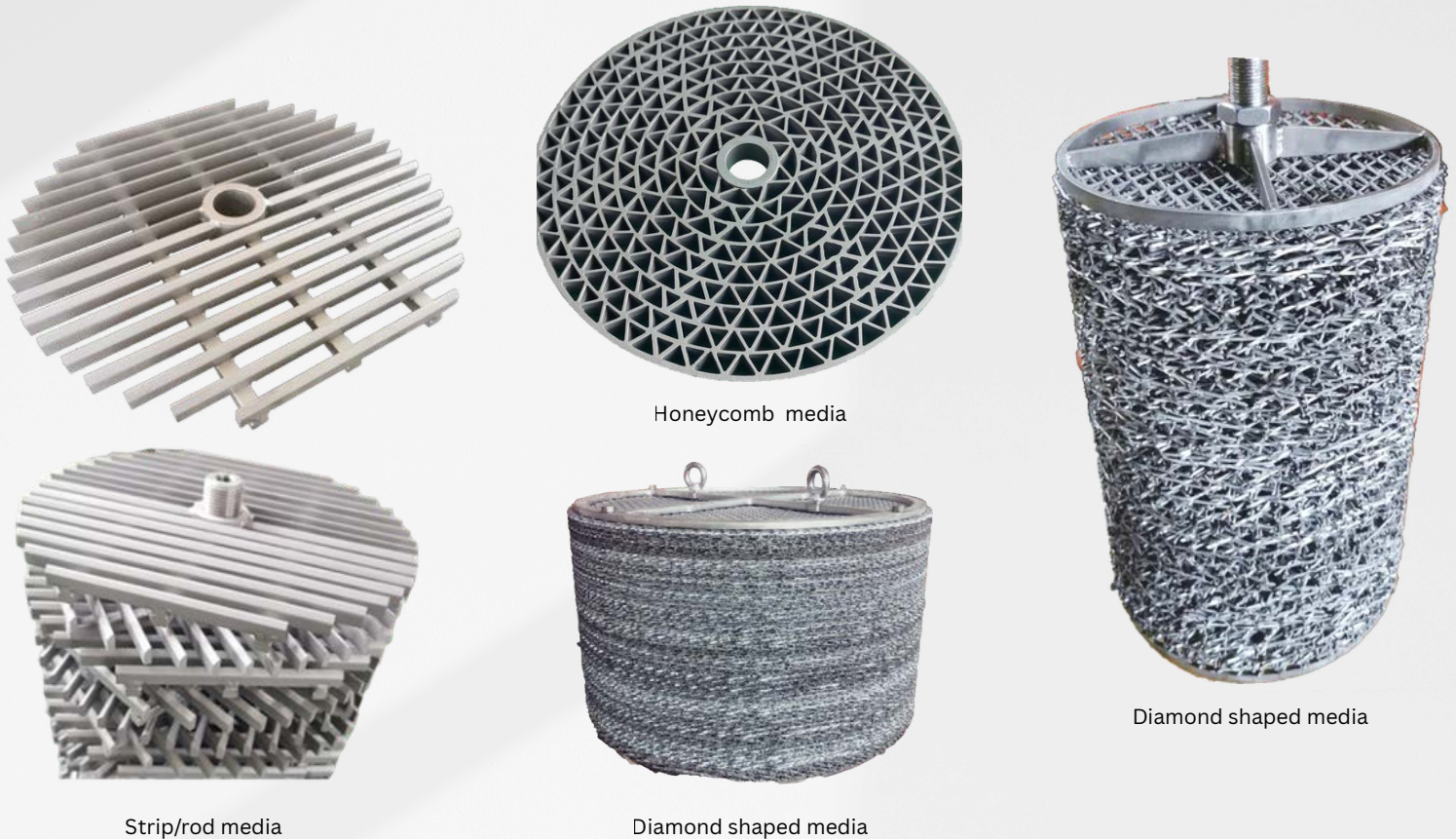
High Intensity Dry Filter (HIDF)



MATRIX

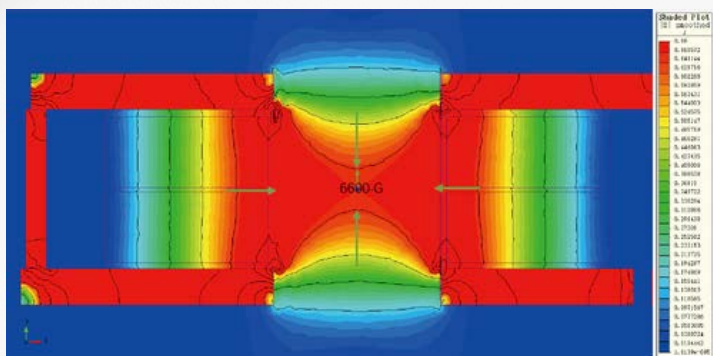
The Matrix have many different configurations, specifically designed and selected for the customers product and recovery/grades required. Manufactured from corrosion resistant materials, it provides long service life and excellent magnetic permeability. The form of design provides very high magnetic gradients and amplifies the background magnetic Gauss.

It is engineered with a 22-layer structure, providing an extended magnetic separation zone with an effective height of 450 mm. This configuration offers a 25% increase in both the number of matrix layers and the magnetic field area compared to similar products on the market.

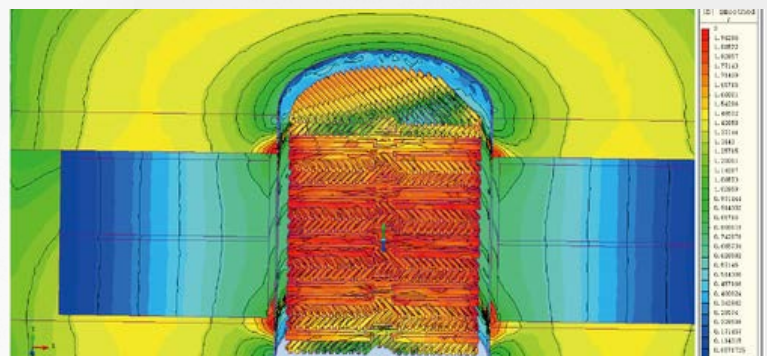


OPTIMISED MAGNETIC FIELD DESIGN

FEA analysis helps in optimizing the design, ensuring durability, and predicting operational efficiency before physical testing.



Mag-Field without Matrix



Mag-Field with Matrix

The equipment produces background field strength of 0-3500 or 0-5000 Gauss (Gauss range is subject to the model ordered).

Dry magnetic filter can achieve large flow capacity (300m³/h), ultra high core field strength design (core field strength 5 000 Gauss, working field strength 20 000 Gauss)

High Intensity Dry Filter (HIDF)



KEY FEATURES AND BENEFITS

High-Efficiency Filtration

- Captures ultra-fine particles for optimal material purity using high field strength and focused magnetic designs

Advanced Electromagnetic Technology

- Ensures precise separation with minimal energy consumption.

Constant Digital Control Magnetic Strength

- Consistent and reliable automatic control of the magnetic force.
- (Many other alternatives can vary significantly through temperature variations, resulting in large inconsistencies)

Low Maintenance & Durable Design

- Built for continuous operation
- Designed by Engineers and Operators to ensure maintenance, spares, servicing and use is streamlined in all aspects

Advanced (yet Simple) Operation

- HMI Control Panel
- Plant control available
- Multiple user programable 'configurations' for quick recall and use
- Self cleaning continuous operation

Customizable Solutions

- Available in various sizes and configurations to suit specific process requirements.

Factory Acceptance Testing (FAT) before releasing from production on 100% of our products.

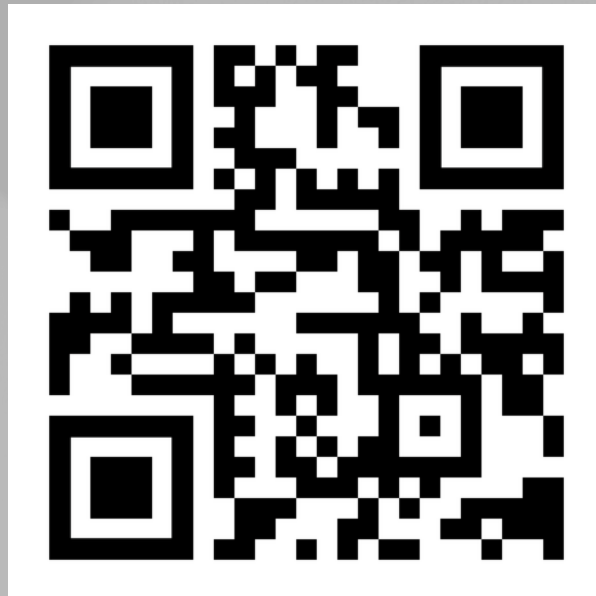
DATA SHEET

TYPE	WITH/WITHOUT MATRIX GAUSS DATA	MATRIX DIA (mm)	Reference Capacity (kg/h)				WEIGHT (kg)	POWER (kw)	
			Ternary/ precursor	Lit- Ca	Lit- Hy	Graphite			Ferric pho
DN 150	3500/14000 Gauss	150	150-300	150-350	200-450	150-300	150-300	2700	6.5
DN 250		250	450-600	500-650	600-800	450-650	450-600	3220	12
DN 300		300	600-800	650-1000	800-1200	650-1000	600-800	4010	14
DN 400		400	900-1200	1000-1500	1200-1650	1000-1500	900-1200	5250	16.5
DN 150	5000/20000 Gauss	150	150-300	150-350	200-450	150-300	150-300	3000	11.5
DN 250		250	450-600	500-650	600-800	450-650	450-600	3700	14.8
DN 300		300	600-800	650-1000	800-1200	650-1000	600-800	4385	21
DN 400		400	900-1200	1000-1500	1200-1650	1000-1500	900-1200	5550	24





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