

Dry Vibrating Magnetic Filters

...Only from Eriez.

For Fine Powders

High intensity electromagnetic filter to remove fine, ferrous contaminants from dry powder. Developed for the pharmaceutical, cosmetic, abrasives, specialty glass, specialty metallic powder and industrial minerals market.

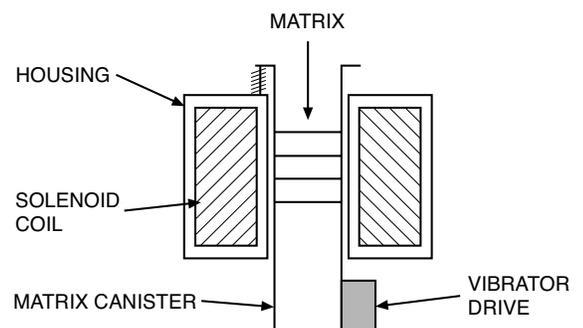
Eriez unique Vibrating Magnetic Filter incorporates vibrating filter elements to provide a high capacity material flow. As the material flows through the magnetized elements, the iron bearing contaminants are captured, resulting in a high-purity product. Ferrous contaminants are typically reduced to the ppm level when treating materials such as alumina, talc, and silica and zircon flours. The exceptionally high intensity field generated by the electromagnet provides peak separation efficiency.

PRINCIPLE OF OPERATION

The electromagnet consists of a solenoid coil encased in a steel housing. A high intensity uniform magnetic field is generated in the bore of the coil.

Within the bore is a canister, packed with filter elements, which are referred to as the matrix. The matrix consists of a stack of expanded steel plates arranged with staggered openings to accommodate the material flow. The matrix amplifies the externally applied magnetic field, produces regions of extremely high gradient and provides collection sites for the capture of ferrous contaminants.

A dual vibratory drive system, mounted on the canister, imparts a high frequency, low amplitude vibration to the matrix. When feed material flows through the magnetized matrix, the iron bearing contaminants are captured and held, resulting in a high purity product. The non-magnetic product flows freely through the canister, aided by the matrix vibration.



DRY VIBRATING MAGNETIC FILTERS

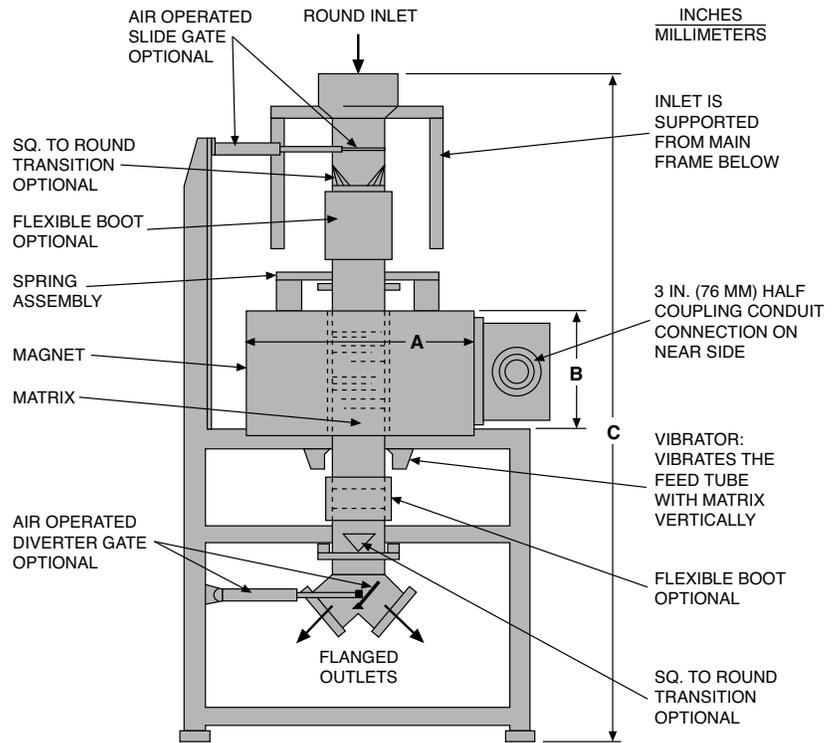
FEATURES

- High intensity, high gradient magnetic field
- High frequency, low amplitude vibration
- Two magnetic field strengths available
- Four sizes available, including a laboratory model

Two different magnetic field strengths are available. The standard design generates a magnetic field of 2000 gauss. The high intensity design generates a magnetic field of 5000 gauss. Four different filter sizes are available to meet a range of capacity requirements.

The readings below refer to the strength of the magnetic field in the open bore of the canister with the matrix removed. This uniform “open bore” magnetic field provides the background energy necessary to induce the matrix. The matrix amplifies the background magnetic field, increasing the effective magnetic collecting force several fold.

The matrix consists of a series of stainless steel expanded metal discs stacked six inches (150 mm) high. The matrix, in turn, converges the magnetic flux throughout the network of openings, producing regions of very high magnetic gradient effectively capturing iron-bearing contaminants.



MODEL NO.	FIELD STRENGTH	CANISTER DIAMETER		CAPACITY		APPROX. WEIGHT		WATTS	A		B		C		COOLING WATER	
		gauss	in	mm	lbs/hr	kg/hr	lb		kg	kw	in sq	mm sq	in	mm	in sq	mm sq
20-4	2000	4	102	800	370	1300	590	2.2	24	610	11	280	48	1220	--	--
20-6	2000	6	152	1800	820	2200	1000	2.4	35	890	13	330	55	1405	--	--
20-9	2000	9	229	4000	1820	4400	2000	2.9	40	1016	14	356	60	1524	--	--
20-12	2000	12	305	7200	3270	6400	2900	4.3	48	1219	14-7/8	378	60	1524	--	--
50-4	5000	4	102	800	360	2000	910	10.0	25	635	12-3/8	314	70	1780	10	38
50-6	5000	6	152	1800	820	3100	1410	11.3	32	813	13	330	70	1780	10	38
50-9	5000	9	229	4000	1820	8900	4000	14.8	40	1016	14	356	70	1780	10	38
50-12	5000	12	305	7200	3270	9000	4100	20.6	48	1219	14-7/8	378	70	1780	20	76

Capacity may vary to material density and amount of magnetics in the material.

Dimensions and specifications are subject to change without notice.

Note: Note: Some safety warning labels or guarding may have been removed before photographing this equipment.

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World Authority in Advanced Technology for Magnetic, Vibratory and Inspection Applications