



Rare Earth Magnetic Drum Separator



A unique 5 pole magnetic element is employed in the Reading Rare Earth Drum (RED) to generate a field intensity in excess of 0.7 Tesla on the drum skin. The magnetic element design affords the maximum field gradient and the 5 poles enables additional cleaning of the magnetic stream. This gives a very selective separation at high throughputs compared to alternative magnetic separators.

Features

- Designed for high capacity, heavy duty applications
- Magnetic drums with individual VFD geared-motor drives (1.1kW) mounted externally
- Feed hopper incorporating proprietary fluted feed roll with individual VFD gear-motor drives for precise feed control
- Provision for dust containment and extraction
- Proprietary design ‘Taconite’ sealed bearings integral to drum housing
- Magnetic drum and feedlips fabricated with stainless steel
- Product collection launders, outlets (mag/mids/non-mags) to suit separator configuration
- Individual separation module inspection doors with operator protection guarding behind
- Removable magnetic drum “cassettes” to allow ease of maintenance
- Custom designed hybrid RED/RER units available



Design Data

Capacity:	(dependant on particle size range and application)
Typically:	Below 500 micron - upto 15 t/h/m 0.5mm – 2mm - upto 25 t/h/m 2mm – 10mm - upto 40 t/h/m
Moisture Content:	Dry, free-flowing
Size Range:	>75micron to 10mm
Feed Temperature:	Refer magnet type in configuration table

Applications

- Removal of magnetics from most granular, free flowing feedstocks
- Production of very pure magnetic concentrates
- Production of clean ilmenite concentrates
- Cleaning of garnet and staurolite concentrates
- Iron – ore fines

Configurations Available

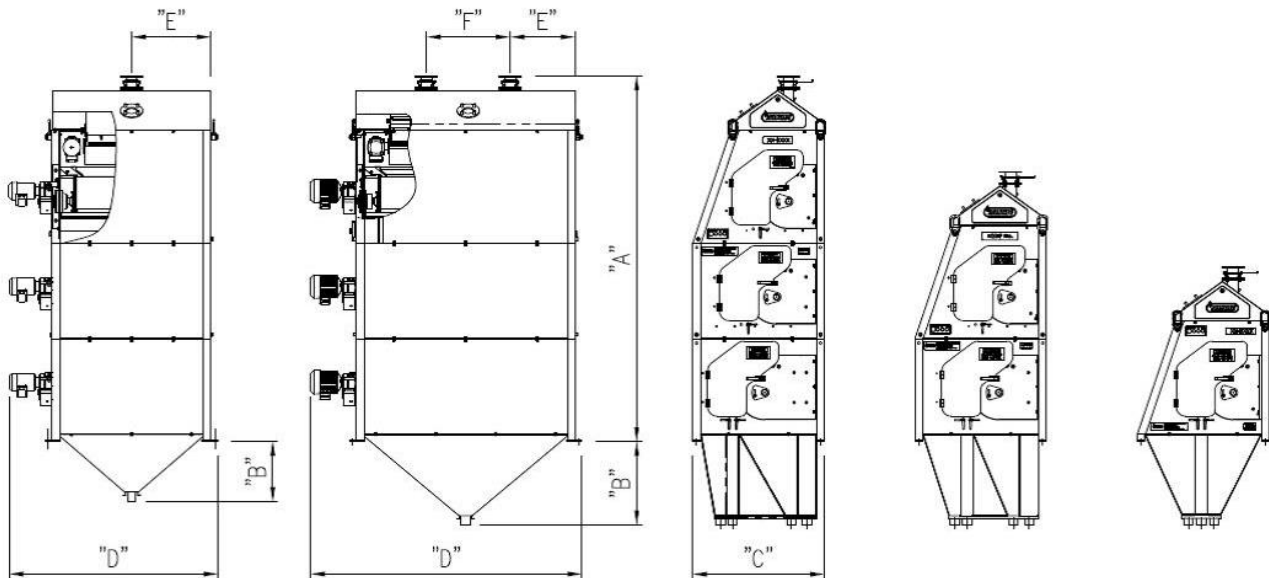
RED separators are available with magnetic drum diameters of 400mm or 600mm.

The equipment offers flexibility by utilising a modular design allowing a variety of internal transfer chutes to be fitted to suit most applications.

There are two nominal lengths of separation drum (1.0 metre and 1.5 metre) with machines available with one, two or three separation stages.

The option of a low intensity "scalper" drum is available offering removal of highly susceptible magnetic particles and protection against tramp steel.

Below are the general dimensions of the three machine configurations available, The 2 and 3 stage machines are available in a magnetic, non-magnetics or middlings retreat configuration. There is an option to provide individual magnetic, middling or non-magnetic products from each separation drum.



400mm Dia. Configuration

		1000mm Long			1500mm Long		
		1x1	1x2	1x3	1x1	1x2	1x3
Equipment No.		RED9016	RED9011	RED9018	RED9012	RED9041	RED9043
Separator Nett Weight		750	1400	1900	975	1700	2600
Dimension	"A" (height)	1460	2160	2960	1460	2260	3060
	"B" (Underfloor)	500			700		
	"C" (Width)	1100			1100		
	"D" (Length)	1770			2300		
	"E"	642			540		
	"F" (Feed Centres)	Single feed point only 80NB Table D Flange				700mm Centres – 2 x 80NB Table D Flanges	
Magnet Type		Depends on feed temperature (maximum temperature must be within the range of the M and H Magnet Types)					
Dust Extraction requirement		150 m³/h			150 m³/h		
Dust Extraction Connection		1 x 80NB Table D Flange			1 x 80NB Table D Flange		
Power Consumption (kW)		1.5	2.6	3.7	1.5	2.6	3.7

600mm Dia. Configuration

		1000mm Long			1500mm Long		
		1x1	1x2	1x3	1x1	1x2	1x3
Equipment No.		RED9024	RED9023	RED9022	RED9021	RED9020	RED9019
Separator Nett Weight		950	1800	2500	1250	2300	3500
Dimension	"A" (height)	1680	2680	3680	1680	2680	3680
	"B" (Underfloor)	600			750		
	"C" (Width)	1350			1350		
	"D" (Length)	1920			2450		
	"E"	642			540		
	"F" (Feed Centres)	Single feed point only 80NB Table D Flange			700mm Centres – 2 x 80NB Table D Flanges		
Magnet Type		Depends on feed temperature (maximum temperature must be within the range of the M and H Magnet Types)					
Dust Extraction requirement		150 m ³ /h			150 m ³ /h		
Dust Extraction Connection		1 x 80NB Table D Flange			1 x 80NB Table D Flange		
Power Consumption (kW)		2.6	4.8	7.0	2.6	4.8	7.0

Control Panel

		1000mm Long			1500mm Long		
		1x1	1x2	1x3	1x1	1x2	1x3
Equipment No.		RED9400-1	RED9400-2	RED9400-3	RED9400-1	RED9400-2	RED9400-3
Size:		800mm Wide x 400mm Deep x 1300mm High					
Weight :		160kg					
Protection Rating:		IP.54					

Note:

Mineral Technologies reserves the right to alter specifications without prior notice.
 For Certified Drawings suitable for Engineering Design purposes please refer to Mineral Technologies

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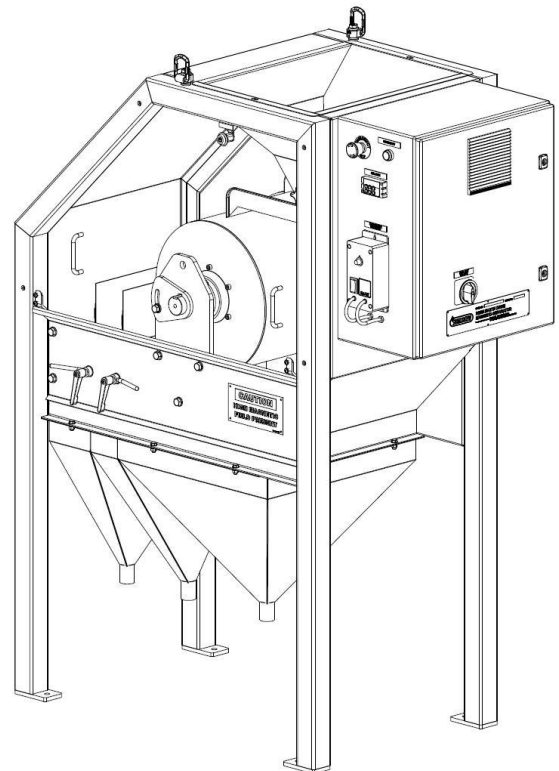


Laboratory 1x1x300x400dia. and 600dia.

A unique 5 pole magnetic element is employed in the Reading Rare Earth Drum (RED) to generate a field intensity in excess of 0.7 Tesla on the drum skin.. This is a highly versatile laboratory scale unit offering the operator easy adjustment of all controls and direct scale-up factors to production equipment.

Features

- Suitable for high capacity, heavy duty applications
- Fully controllable 200mm wide vibratory feeder
- Separation drum with Variable frequency geared-motor drive
- Rare Earth Separation Drum or optional Low Intensity Separation Drum available on request
- Removable stainless steel free draining product discharge chute
- Adjustable position,- product splitters
- Proprietary design 'Taconite' sealed bearing integral to the drum housing
- Large capacity feed hopper
- Adjustable arc position of magnetic element
- Easily relocatable / transportable
- Separator supplied with integral control panel and machine isolator
- Readily removable safety guarding for cleaning purposes



Design Data

Capacity:	(dependant on particle size range and application)
Typically:	Below 500 micron - upto 3 t/h/m 0.5mm – 2mm - upto 5 t/h/m 2mm – 10mm - upto 8 t/h/m
Moisture Content:	Dry, free-flowing
Size Range:	>75micron to 10mm
Feed Temperature:	maximum temperature must be within the range of the H Magnet Type

Applications

- Removal of magnetics from most granular, free flowing feedstocks
- Production of very pure magnetic concentrates
- Production of ilmenite, chromite, hematite concentrates
- Cleaning of garnet and staurolite concentrates
- Removal of magnetic contaminants from gem stone concentrates
- Iron-ore fines



General Specifications

Equipment Description		400dia.	600dia.
Equipment No.		RED9103	RED9104
Separator Nett Weight (kg)		475	490
Dimension	"A" height (mm)	1850	2034
	"B" Width (mm)	1435	1605
	"C" Depth (mm)	1130	1130
Power Requirements / Consumption		240V / 50hZ / 15 Amps	

Note:

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