



# DRUM SEPARATORS

## HEAVY DUTY MODELS

*Setting industry standards with High-Intensity  
Rare Earth Permanent Magnets*



### FEATURES & BENEFITS

**Heavy Duty Drum Type Magnetic Separators engineered for optimum performance**

- Wide variety of drum diameters and widths available
- High intensity permanent magnetic element
- Variety of magnetic field strengths available to precisely match the application
- Continuous duty applications
- Heavy duty bearings and rotating components
- Fully housed with discharge chutes
- Mill and Chemical Duty drives available
- Variable speed drives
- Optional hoppers and vibratory feeders

Eriez Rare Earth Drum Separators effectively collect fine ferromagnetic and paramagnetic materials in ore treatment operations. Powerful permanent magnets enable more efficient separation performance for a broader range of application than ever before.

ONLY FROM ERIEZ

Type RE (Rare Earth), Model HF (drum in housing with feeder or feed hopper) and Model HFP (drum in housing with feeder or feed hopper and discharge chutes) Permanent Magnetic Drum Separators provide efficient separation and years of trouble-free automatic removal of magnetics from rock products, minerals, ores, etc.

# PRINCIPLE OF OPERATION

As material reaches the drum, the magnetic field attracts and holds ferrous particles to the drum shell. As the drum revolves, it carries the material through the stationary magnetic field. The nonmagnetic material falls freely from the shell, while the magnetic particles are held firmly until they are carried out of the magnetic field. (See illustration).

## STANDARD DRUM SEPARATORS

For many years, Eriez Permanent Magnetic Drums have used ceramic or alnico magnet materials as their power source. When built with Eriez designed circuits, these separators provide good magnetic fields for a nominal cost and effectively remove both tramp and fine iron contaminants in most applications. They continue to be the magnets most frequently used to improve the product purity of dry bulk materials.

## RARE EARTH DRUM SEPARATORS

Eriez Rare Earth Drum Separators made with Erium® 3000, a high quality rare earth permanent magnetic power source, develop magnetic fields up to 25 times stronger than conventional ceramic or alnico units, with no increase in size. The additional strength improves the removal of weakly magnetic or very fine iron contaminants from a wide variety of granular and powdery, dry bulk materials.

## FEATURES OF DRUMS IN HOUSING

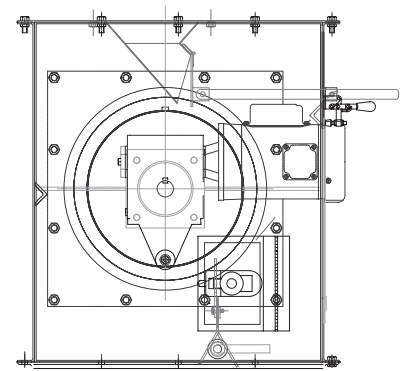
**DUST-TIGHT HOUSINGS ARE STANDARD**  
Housings of Model HF and HFP are continuously welded at all joints. Inspection panels are located at both front and side of housings. Bolted-on Drum Support Panels and Hinged Inspection Panels are sealed with 1/8 inch (3 mm) thick neoprene gaskets. All input and output openings are flanged for ease of connection to duct work.

Drums can be removed from housings without removing the housing from the flowline. Model HF and HFP Drum In Housing have an opening in the side through which the drum may be removed. A heavy steel drum support panel bolted to the housing covers the opening and supports the drum. There is a drum removal opening on the drive side of both types of drum housings.

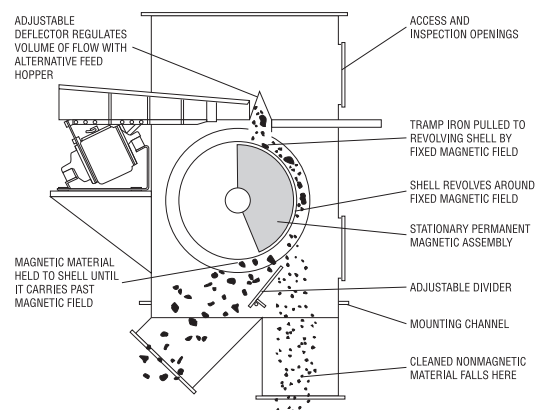
The drives for the drum-in-housings include as standard a direct drive gearmotor. The gearmotor is mounted directly to the drum shaft. This provides positive power transmission to the drum and eliminates the belts and sheaves required with a belt drive system. The motors are totally enclosed fan cooled with 230/460 VAC, 60 Hertz, 3 phase electrical input. Other optional input voltages are available as are explosion-proof motors.

A V-belt drive system is also available. (This drive system is shown in the accompanying schematics of the drum-in-housing specifications).

## DRUM IN HOUSING



## PRINCIPLE OF OPERATION

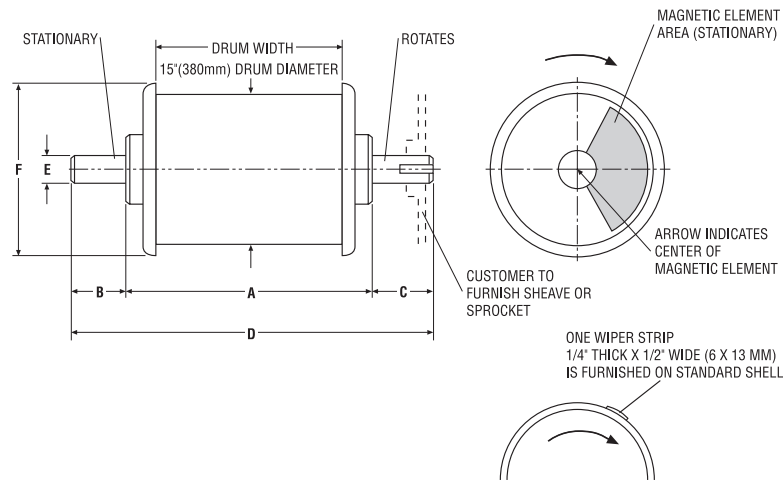


# TYPE RE - RARE EARTH DRUM

Rare Earth Drum Separators have application wherever a high degree of product purity is required. Rare Earth Drums are effective in removing very fine ferrous particles, locked particles, and even strongly paramagnetic particles. Magnetic lines of flux are concentrated in each internal pole, creating an extremely high-gradient magnetic field. RE Drums are also used to concentrate paramagnetic minerals such as specular hematite, ilmenite, and other feebly magnetic materials. They can be retrofitted into Model HF or HFP housings.



## SPECIFICATIONS



Drum Width		Approximate Maximum Capacity		A		B		C		D		E		F		Approx. Weight	
in	mm	TPH	MTPH	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
12	305	15	14	15-3/4	400	4-9/16	116	9	229	31-1/4	794	2-7/16	62	16-3/4	425	246	112
14	356	18	16	17-3/4	450	4-9/16	116	9	229	33-1/4	845	2-7/16	62	16-3/4	425	270	123
16	406	20	18	19-3/4	500	4-9/16	116	9	229	35-1/4	895	2-7/16	62	16-3/4	425	294	134
18	457	23	20	21-3/4	552	4-9/16	116	9	229	37-1/4	946	2-7/16	62	16-3/4	425	318	144
20	508	25	23	23-3/4	603	4-9/16	116	9	229	39-1/4	997	2-7/16	62	16-3/4	425	348	158
24	610	30	27	27-3/4	705	4-9/16	116	9	229	43-1/4	1099	2-7/16	62	16-3/4	425	420	191
30	762	38	34	33-3/4	857	4-9/16	116	9	229	49-1/4	1251	2-7/16	62	16-3/4	425	510	232
36	915	45	41	39-3/4	1010	4-9/16	116	9	229	55-1/4	1403	2-7/16	62	16-3/4	425	624	283
42	1067	53	48	45-3/4	1162	4-9/16	116	9	229	61-1/4	1556	2-7/16	62	16-3/4	425	744	339
48	1219	60	54	51-3/4	1314	4-9/16	116	9	229	67-1/4	1708	2-7/16	62	16-3/4	425	858	390
60	1524	75	68	63-3/4	1619	4-9/16	116	9	229	79-1/4	2013	2-7/16	62	16-3/4	425	1088	494

Keyway size (W x D x L): 5/8 x 5/16 x 3-1/2 in. (16 x 8 x 90 mm)

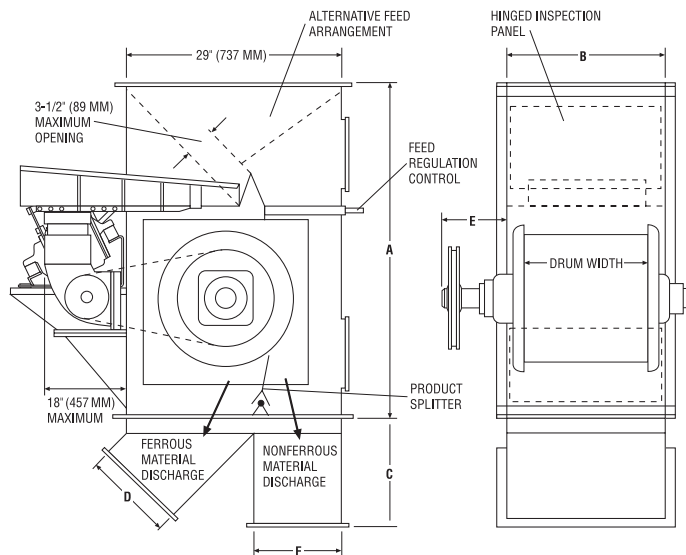
NOTE: Capacities listed serve as guidelines only. Contact your Eriez representative for assistance in selecting the right magnetic drum for your specific application.

# MODEL HFP - DRUM IN HOUSING WITH FEED PROTECTION

HFP Drums provide exceptional controlled feed as well as discharge features. The steel hopper has a nonmagnetic stainless steel portion near the drum to prevent the hopper from being magnetically induced. The chute-type feed hopper is designed to provide increased efficiency of separation by more effectively directing the material flow to the face of the drum. It also prevents material from plunging directly onto the drum shell, to reduce the possibility of physical damage to the shell caused by impinging heavy material.



## SPECIFICATIONS

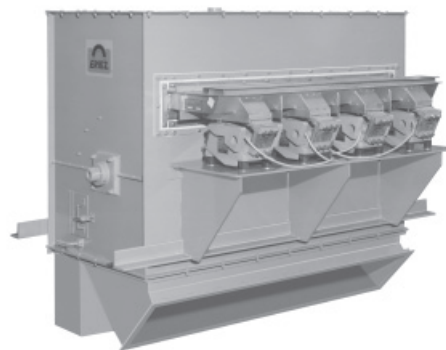


Drum Width		Approximate Maximum Capacity		A		B		C		D		E		F		Approx. Weight		Motor	
in	mm	TPH	MTPH	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	hp	kw
12	305	15	14	39-1/2	1003	16-1/8	410	14-3/8	365	11-5/8	295	8-3/8	213	10	254	466	212	3/4	.56
14	356	18	16	39-1/2	1003	18-1/8	460	14-3/8	365	11-5/8	295	8-3/8	213	10	254	520	236	3/4	.56
16	406	20	18	39-1/2	1003	20-1/8	511	14-3/8	365	11-5/8	295	8-3/8	213	10	254	614	278	3/4	.56
18	457	23	20	39-1/2	1003	22-1/8	562	14-3/8	365	11-5/8	295	8-3/8	213	10	254	713	323	3/4	.56
20	508	25	23	39-1/2	1003	24-1/8	613	14-3/8	365	11-5/8	295	8-3/8	213	10	254	783	355	3/4	.56
24	610	30	27	39-1/2	1003	28-1/8	714	14-3/8	365	11-5/8	295	8-3/8	213	10	254	855	388	3/4	.56
30	762	38	34	39-1/2	1003	34-1/8	867	14-3/8	365	11-5/8	295	8-3/8	213	10	254	910	413	1	.75
36	915	45	41	39-1/2	1003	40-1/8	1019	14-3/8	365	11-5/8	295	8-3/8	213	10	254	1004	456	1-1/2	1.12
42	1067	53	48	39-1/2	1003	46-1/8	1172	14-3/8	365	11-5/8	295	8-3/8	213	10	254	1074	488	3	2.25
48	1219	60	54	39-1/2	1003	52-1/8	1324	14-3/8	365	11-5/8	295	8-3/8	213	10	254	1158	526	3	2.25
60	1524	75	68	39-1/2	1003	64-1/8	1628	14-3/8	365	11-5/8	295	8-3/8	213	10	254	1312	596	5	3.75

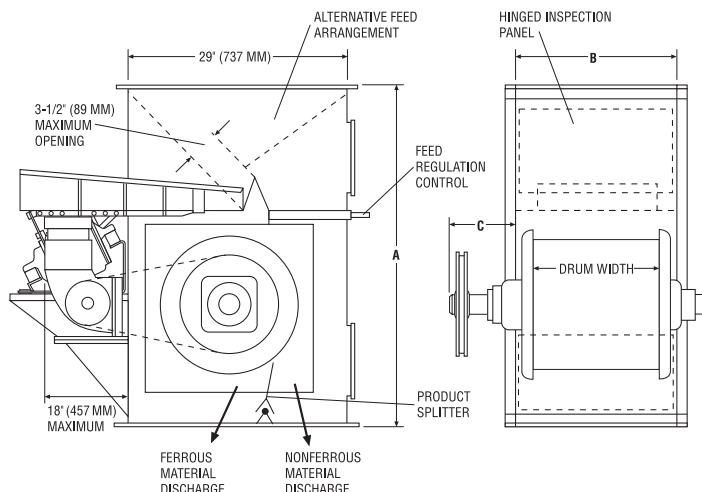
# MODEL HF - DRUM IN HOUSING

Model HF Drums are designed for installations where space is limited and where customers wish to furnish their own discharge chutes. The Model HF housing has a steel hopper with a nonmagnetic stainless steel portion that feeds the drum at 12 o'clock position. Adjustable feed control is operated from outside the housing with a built-in swing gate. The feed control gate can be used as a "free-swinging" gate by releasing the thumb screw tension against the gate lever. In the "free-swinging" position, the hopper feed opening is about one-half the listed maximum opening. Any material surges, large lumps of material in the material flow will force

the "free-swinging" gate back to allow passage without clog-ups or damage to the drum shell or hopper.



## SPECIFICATIONS



Drum Width		Approximate Maximum Capacity		A		B		C		Approx. Weight		Motor	
in	mm	TPH	MTPH	in	mm	in	mm	in	mm	lb	kg	hp	kw
12	305	15	14	39-1/2	1003	16-1/8	410	8-3/8	213	391	179	3/4	.56
14	356	18	16	39-1/2	1003	18-1/8	460	8-3/8	213	445	202	3/4	.56
16	406	20	18	39-1/2	1003	20-1/8	511	8-3/8	213	539	243	3/4	.56
18	457	23	20	39-1/2	1003	22-1/8	562	8-3/8	213	638	289	3/4	.56
20	508	25	23	39-1/2	1003	24-1/8	613	8-3/8	213	708	321	3/4	.56
24	610	30	27	39-1/2	1003	28-1/8	714	8-3/8	213	770	350	3/4	.56
30	762	38	34	39-1/2	1003	34-1/8	867	8-3/8	213	835	379	1	.75
36	915	45	41	39-1/2	1003	40-1/8	1019	8-3/8	213	929	422	1-1/2	1.12
42	1067	53	48	39-1/2	1003	46-1/8	1172	8-3/8	213	999	453	3	2.25
48	1219	60	54	39-1/2	1003	52-1/8	1324	8-3/8	213	1083	492	3	2.25
60	1524	60	54	39-1/2	1003	64-1/8	1628	8-3/8	213	1237	562	5	3.75

# TECHNICAL AND TESTING SERVICES

Eriez maintains industry's finest magnetic and vibratory test laboratories at its Technical Center at the Erie, Pennsylvania headquarters. Magnetic separation test equipment ranging from conventional plates, grates, and traps to superconducting high gradient magnetic separators, is available to help determine the most effective way to remove contaminants or concentrate valuable minerals.

Customers are encouraged to participate in the testing of their samples as Eriez technicians seek the most efficient, reliable, economical, and permanent solution to their processing problems.



*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**

