



INSTALLATION MANUAL

MAGNETIC DRUM SEPARATOR - DRUM ONLY



TOLL FREE: 888.582.0821

P.O. #: Order #: Part #:

Sold To:

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Table of Contents

Installation Guidelines	Pg 1
Operating Illustration	Pg 2
Troubleshooting	Pg 2
Comment or Concerns	Pg 2

Installation Guidelines

The Drum Separator provides automatic separation of ferrous and non-ferrous material. The unit comes ready to install into customers locking blocks.

The unit must be installed to allow sufficient space to perform preventative maintenance and allow for collection and removal of the separated material; ferrous and non-ferrous.

IMI Drum Separators are ideal for automatic ferrous particle capture in processing systems. The drum rotates around a stationary powerful permanent magnetic field. Ferrous particles in the material being processed are captured and held against the rotating drum surface by the magnetic field. Non-ferrous material falls free, while the ferrous material is released when it rotates out of the magnetic field.

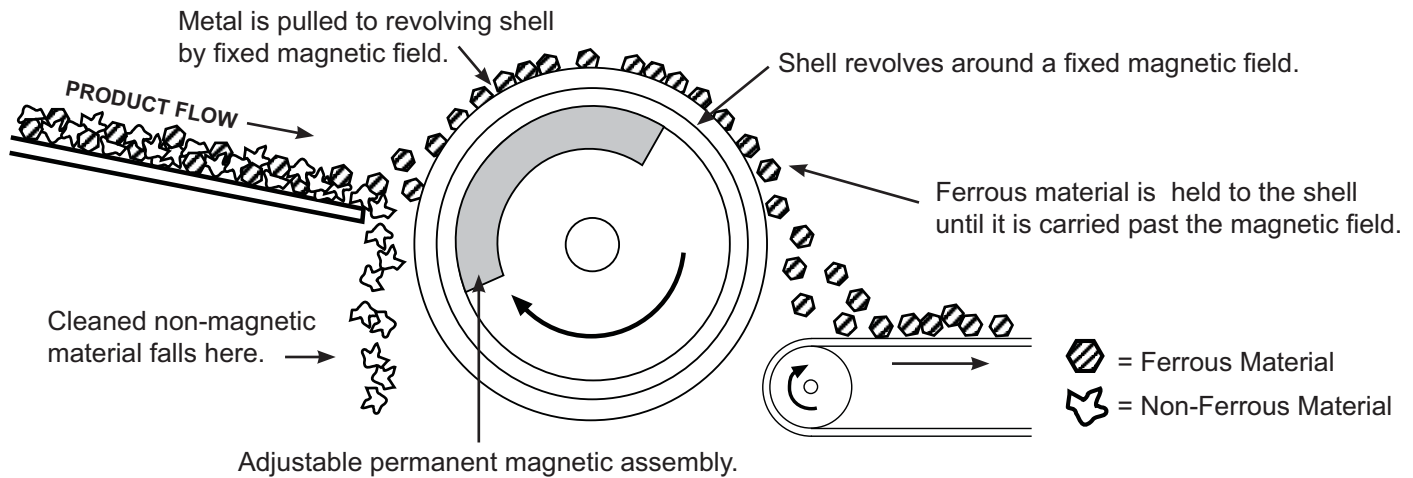
The drum shell is made of stainless steel. The shell is covered with replaceable three piece manganese wear plate.

The drum separator has spherical roller bearings on both ends. The bearings are exterior to the drum shell. Grease bearings using Zerk fitting on the side of the bearing hub. The greasing interval is determined by the operating environment.

The drum also comes with two 5-7/8" bore locking collars. These are to be installed just outside the bearing housing on journaled portion of the shaft 5-7/8" Diameter.

A flat has been milled on one end of the fixed shaft. The flat must be at the 12 O'clock position for correct magnet placement. An arrow is engraved on one end of the shaft to indicate the center of the magnet. Both bearing hubs are provided with bolt patterns for connection of drive components.

Operating Illustration



Troubleshooting

METAL MATERIAL MIXED WITH NON-FERROUS MATERIAL:

1. Make sure magnet is adjusted with milled flat on shaft indicating magnet alignment. Milled flat should be at the 12 O'clock position.
2. Make sure material is evenly spread across the entire face of the drum and in as thin a burden as possible.

METAL MATERIAL MIXED WITH NON-FERROUS MATERIAL:

1. Inspect drum outer shell for visible dents or damage. If none, proceed to step #2.
2. Separate motor and drive from drum.
3. Engage motor to see if drive will turn freely. If yes, go to step #4. If not, service motor or drive.
4. With drive separated from drum, rotate drum by hand to check freedom of rotation. If drum turns hard check the bearings.
5. Please call factory with any questions at 1-888-582-0821

Comments or Concerns?

We believe Industrial Magnetics, Inc. offers the finest Drum Separators available today. Great pride has gone into the design and manufacture of this unit. Any comments or concerns should be directed to our Customer Service Department at 1-888-582-0821. **We appreciate the opportunity of serving you!**

INDUSTRIAL MAGNETICS, INC.

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AUTOMATION

888-582-0823

MAG-MATE™

888-582-0822

TRAMP METAL

888-582-0821



INSTRUCTION MANUAL FOR DODGE™ SET SCREW & ECCENTRIC COLLAR MOUNTED BALL BEARINGS

INSTALLATION

WARNING

To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

1. Clean shaft and bearing bore thoroughly. File flats on shaft at set screw locations to permit easy removal of bearing.
2. Slip bearing into position. Be sure that bearing is not on a worn section of the shaft. For tighter fits tap inner ring face only with soft driver. **DO NOT HAMMER ON HOUSING.**
3. The bearing outer ring OD is spherical and swivels in the housing to accommodate misalignment. Snug hold-down bolts and use shaft to swivel each bearing until its final position is in the center of free movement top to bottom as well as side to side. Pass shaft through both bearings without forcing. This will prevent preloading of the bearings. Flat washers should be used with hold down bolts to protect coated housing. Housing slippage depends on the mounting hold-down bolt tightening torque, number of bolts and friction characteristics between mounting surfaces. Coated housings have reduced friction characteristics, auxiliary load carrying devices such as shear bars are advisable for side or end loading of pillow blocks and radial loads for flange units where normal to heavy loading or shock loading is encountered.
4. Shim mounting surfaces for full housing contact and vertical shaft adjustment – tighten hold-down bolts to proper torque (Table 1). Turn shaft by hand. Resistance to turning should be the same as before tightening of hold-down bolts.
5. For set screw mounted bearings the setscrews should be tightened alternately and in small increments to the torque specified in Table 1. After 24 hours of operation, the setscrews should be retightened to the torque in Table 1 to assure full locking of the inner race to the shaft. Care should be taken that the socket key or driver is in good condition with no rounded corners and the key is fully engaged in the setscrew and held square with the setscrew to prevent rounding out of the setscrew socket when applying maximum torque. Do not drill through the setscrew holes for spot drilling of the shaft. (Some inner rings have tempered setscrew threads and can be damaged by a drill.) If spot drilling is required, locate bearings on the shaft and center punch through the setscrew hole. Remove bearing and spot drill the shaft, then reassemble bearing over the spot drill position and assemble as above. Milled or filed flats are preferable to spot drilling.
6. For eccentric collar mounted bearings – slide collar against cam end to inner race. Use a punch in the hole provided in the collar, tap collar smartly in the direction of shaft rotation. Tighten setscrews to proper torque (Table 1). To remove bearings – loosen setscrew and tap collar in the direction opposite of shaft rotation.

TABLE 1

		SET SCREWS			HOLD-DOWN BOLTS	
SETSCREW SIZE	KEY HEX ACROSS FLATS	RECOMMENDED TORQUE			BOLT SIZE	RECOMMENDED TORQUE
		STANDARD BALL BEARING INSERT		CORROSION RESISTANT STAINLESS STEEL		
		MIN. (IN.-LBS.)	MAX. (IN.-LBS.)	(IN.-LBS.)		
(IN.)	(IN.)				(IN.)	(IN.-LBS.)
#10	3/32	28	33	25	3/8-16	240
1/4	1/8	66	80	60	1/2-13	600
5/16	5/32	126	156	117	5/8-11	1200
3/8	3/16	228	275	206	3/4-10	2100
					7/8-9	2040
(MM.)	(MM.)	MIN. (N.-M.)	MAX. (N.-M.)	(N.-M.)	(MM.)	(N.-M.)
M5	2.5	3.2	3.7	2.8	M10	29
M6	3	6.2	7.7	5.8	M12	50
M8	4	14.2	17.8	13.4	M16	124
M10	5	26	31	23	M20	238
					M22	322

LUBRICATION

High Speed Operation—In the higher speed ranges too much grease will cause overheating. The amount of grease that the bearing will take for a particular high speed application can only be determined by experience. If excess grease in the bearing causes overheating, it will be necessary to remove the grease fitting to permit excess grease to escape. The bearing has been greased at the factory and is ready to run. When establishing a relubrication schedule, note that a small amount of grease at frequent intervals is preferable to a large amount at infrequent intervals.

Lubrication Guide

Use a No. 2 Lithium base grease or equivalent.

Suggested Lubrication Period in Weeks								
Hours Run Per Day	1 to 250 RPM	251 to 500 RPM	501 to 750 RPM	751 to 1000 RPM	1001 to 1500 RPM	1501 to 2000 RPM	2001 to 2500 RPM	2501 to 3000 RPM
8	12	12	10	7	5	4	3	2
16	12	7	5	4	2	2	1	1
24	10	5	3	2	1	1	1	1

WARNING

Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed: Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Reliance Electric Industrial Company nor are the responsibility of Reliance Electric Industrial Company. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

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