



INSTALLATION MANUAL

ROTODRAWER™ - ROTARY STYLE DRAWER-IN-HOUSING



TOLL FREE: 888.582.0821

Introduction And Operating Principle

The Rotary Style Drawer-In-Housing Magnet (RotoDrawer™) features a motorized, cylindrical configuration of Rare Earth magnetic tubes on a horizontal plane that continually rotate through a gravity fed product stream. The rotational design of the magnet, and the splitter bars, serve to break up any clumps of product and keep the product flowing through the housing while capturing any ferrous metal contamination and purifying the product.

Installation

The Air-Actuated, Self-Cleaning Rotary Style Drawer-in-Housing magnetic assembly comes ready to install.

The top and bottom flanges allow for the unit to be welded or bolted into the product flow. If the unit is to be bolted into place, either mild steel or stainless steel bolts can be used. If the flanges have not been pre-drilled by IMI for bolt installation, any drill bit suitable for 304 stainless steel will do a quality job. **A minimum 3/8" diameter bolt is recommended.**

The RotoDrawer™ must be installed to allow sufficient space for preventive maintenance and tramp metal removal. Allowance must be made for the drawer movement during the cleaning cycle and removal of the tramp metal catch pan.

The gear motor must be connected to a properly sized motor starter or other control furnished by others. Consult the nameplate of the gear motor for voltage and full load current data. A wiring diagram, showing motor connections, is located inside the motor terminal box.

The unit requires 80 to 100 psi of shop air to operate. The filter regulator is located on one side of the Housing assembly. The standard, electrically operated solenoid valve requires a 120 VAC/60 Hz single phase power source to operate. The solenoid is energized via a user supplied, normally open (NO) switch. A momentary push-button is typically used in many applications. Pushing the button opens the drawer, cleaning the unit. Releasing the button removes power from the solenoid, allowing the drawer to close.

The cable from the solenoid contains three conductors: blue, brown & green/yellow. To be connected as follows:

Brown - Connected to **switched** leg of 120 VAC supply circuit

Blue - Connected to **neutral** leg of 120 VAC supply circuit

Green/Yellow - Connected to **ground** bus of circuit

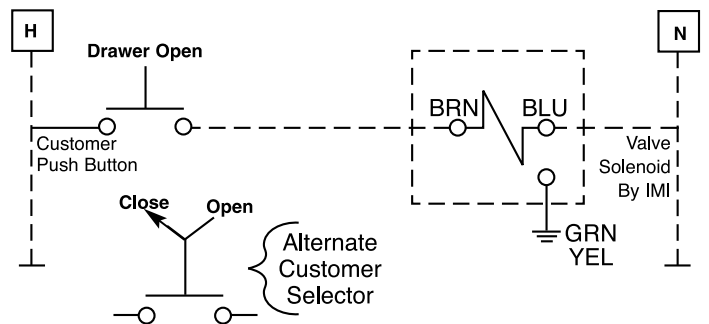
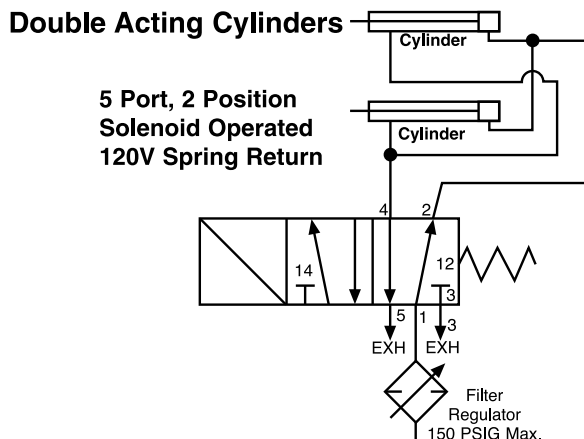
Solenoid Specifications: Coil -120V/60 Hz - 110V/50 Hz, 1.07 VA, Rated for continuous duty at 85%-105% of rated voltage. Enclosure rated for NEMA 4/IP65. Molded with three pin plug-in connector.

Cable - 6 ft lg., 3 conductor cord, equivalent to 20/3 SVT (.14 in. dia. (3.5mm) - .28 in. dia. (7mm)) O.D.

Coil Resistance: 6.6 MEGOhms cold, DC resistance, Measure with a Digital Multimeter (DMM) connected to brown & blue leads

Self Cleaning Pneumatic Schematics

Self Cleaning Electrical Schematics

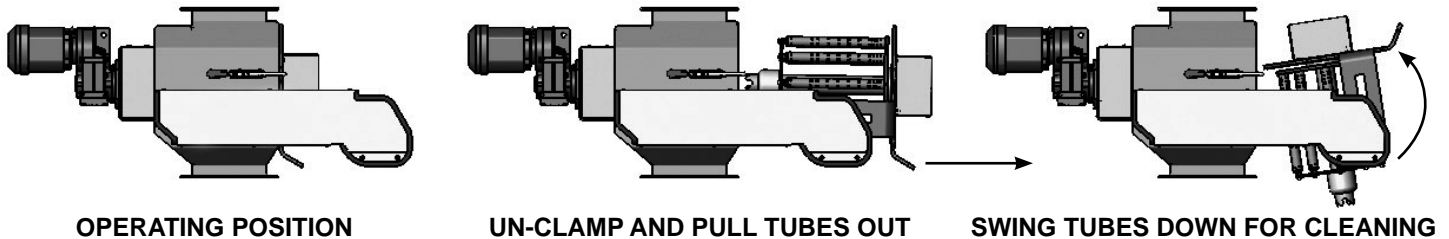


Cleaning Guidelines

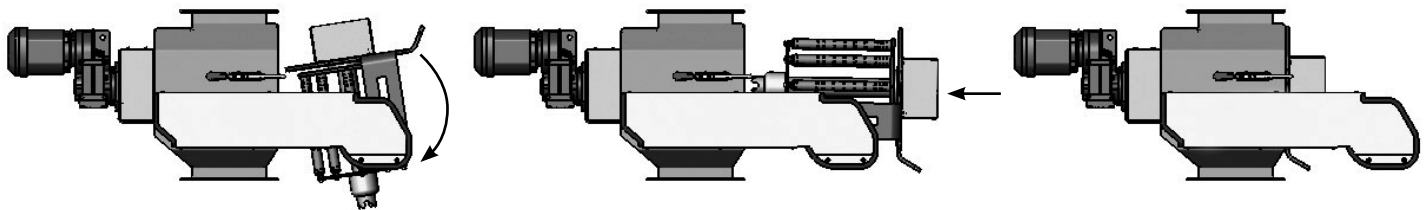
Ensure that the product flow has been shut off and that the drawer assembly is empty of product. The recommended cleaning interval is at least twice in an 8 hour shift. However, cleaning is dependent on the amount of tramp metal being separated from your particular product. If you see heavy concentrations of metal, additional cleaning is necessary. The drive motor does not need to be turned off and can continue to run during the cleaning operation.

SimpleClean™ (Manual) Procedures

1. Ensure that the product flow has been shut off and that the drawer assembly is empty.
2. Release *door clamps* on side of housing.
3. Open door & pull drawer *Tube Assembly (1)* out using the *handle bars* on the *Magnet Door front plate (8)*.
4. Rotate the *handle bars* upward to place the *Tube Assembly (1)* in the cleaning position.



5. Use an air hose to blow the collected tramp metal off the *Tube Assembly (1)* or a rag/gloved hand to wipe the collected tramp metal down to the back end of the tubes where a non-magnetic area allows for most collected material to easily fall away or to be wiped off of the tubes.
6. Rotate the *handle bars* down to place the tube assembly into the operating orientation.
7. Place hands on the *Bearing Cover Box (17)* and push the *Tube Assembly (1)* back into the housing.



Self-Clean Procedures

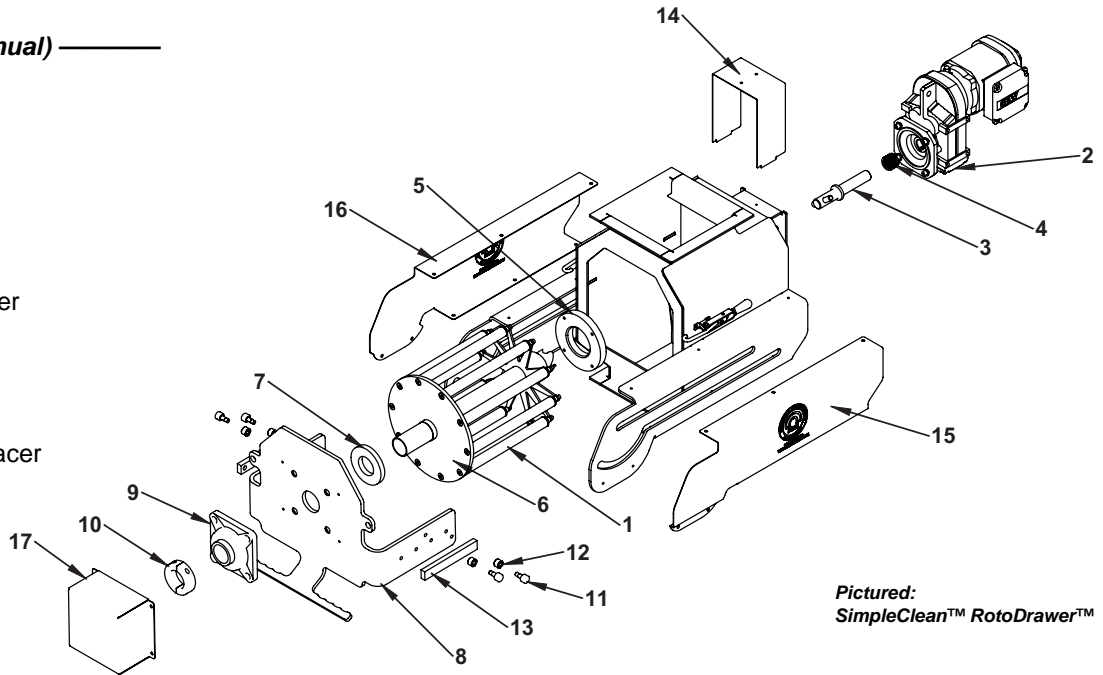
1. Ensure that the product flow has been shut off and that the drawer assembly is empty of product.
2. Activate the air cylinders by energizing solenoid valve. This opens the drawer, sliding the tube assembly through the wiper seals located in the seal plate. The wiper seals clean the collected metal off the tubes while the drawer opens, by pushing it on to a non-magnetic section at the ends of the tubes. The metal then falls off the tubes and into the provided catch pan.
3. After the drawer is fully extended and stops, de-energize the solenoid valve. The air cylinders will then close the drawer for operation.
4. Restart the product flow.

IMPORTANT NOTE: COMPRESSED AIR MUST BE SUPPLIED TO THE FILTER-REGULATOR AT ALL TIMES TO ENSURE THAT THE DRAWER REMAINS IN THE CLOSED POSITION DURING BOTH OPERATION (PRODUCT FLOWING) AND IDLE TIMES. FAILURE TO SUPPLY COMPRESSED AIR DURING THESE TIMES CAN RESULT IN POSSIBLE PRODUCT ESCAPING THE UNIT AND/OR CONTAMINATES ENTERING THE PRODUCT FLOW AREA. CONSULT OUR ENGINEERING DEPARTMENT IF THE AIR SUPPLY CANNOT BE GUARANTEED AND THE DRAWER MUST REMAIN CLOSED.

Illustration & Parts

SimpleClean™ (Manual)

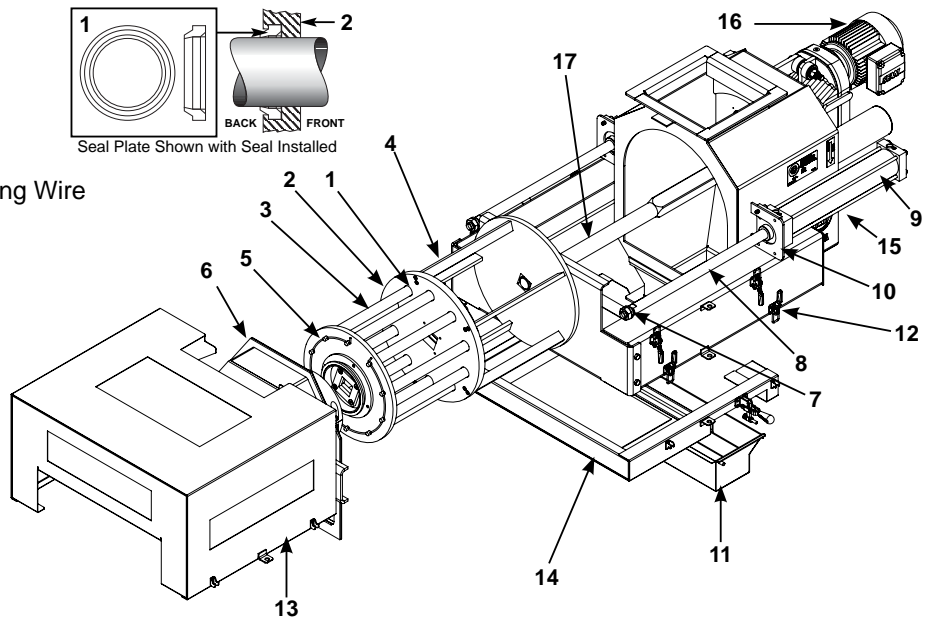
Ref. No.	Description
1.	Tube Assembly
2.	Gear Motor
3.	Driver and Key
4.	Driver Springs
5.	DE Bearing
6.	Tube Mount
7.	Tube Mount Spacer
8.	Magnet Door
9.	NDE Bearing
10.	Retainer Clamp
11.	Cam Follower
12.	Cam Follower Spacer
13.	Slack Plate
14.	Coupling Cover
15.	Track Cover
16.	Track Cover
17.	Bearing Cover



Pictured:
SimpleClean™ RotoDrawer™

Self-Clean

Ref. No.	Description
1.	Wiper Seal
2.	Seal Plate
3.	Tube Assembly
4.	Splitter Bars
5.	Tube Mounting Plate with Retaining Wire
6.	Drawer Cover
7.	Cylinder Bolts
8.	Cylinder Rods
9.	Cylinder
10.	Cylinder Mount
11.	Catch Pan
12.	Guard Assembly Clamps
13.	Guard Assembly Top
14.	Guard Assembly Bottom
15.	Rear Access Door & Clamp
16.	Gear Motor
17.	Rotator Shaft



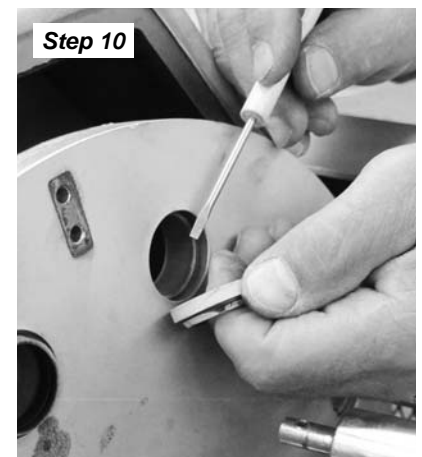
Not Shown
Door Gasket, Air Valve / Regulator Set, Tube Assembly Bolts

Pictured:
Self-Clean RotoDrawer™

Wiper Seal Replacement (Self-Clean Models)

Wiper seals should be inspected for normal wear every three to six months to ensure the integrity of the seal is intact. To replace worn out or damaged washer seals:

1. Turn off power to the *Motor (16)* for safety.
2. Activate *Air Cylinders (9)* to open the drawer until it stops. For safety, turn off air supply to *Regulator Valve Assembly*. Disconnect supply tubing from all cylinder ports.
3. Remove *Guard Assembly (13 & 14)*.
4. Remove bolts from the *Drawer Cover (6)* and slide the *Drawer Cover* down toward the end of the *Rotator Shaft (17)*.
5. Use Pliers or similar tool to remove the *Retaining Wire (5)* from the ends of the *Tube Assembly and Mounting Plate (5)*.
6. Slide the *Mounting Plate (5)* down toward the *Drawer Cover (6)* at the end of the *Rotator Shaft (17)*.
7. Remove the screws that attach the *Wiper Plate (2)* from the *Splitter Bars (4)*.
8. Slide the *Wiper Plate (2)* down toward the end of the *Tube Assembly (3)* without removing the *Wiper Plate (2)* from the *Tube Assembly*. **CAUTION: The Tube Assembly must be supported before removing the Wiper Plate. See next step.**
9. Use a non-ferrous wire or spacer to support the magnetic tubes and to keep them from being attracted to each other before removing the *Wiper Plate (2)*.
10. Once the *Magnetic Tubes* are supported, Slide the *Wiper Plate (2)* off and use a small flat head screwdriver or similar tool to push the *Wiper Seals (1)* from the *Wiper Plate (2)*.
11. Gently push new *Wiper Seals (1)* in.
12. After new seals are installed in the *Wiper Plate (2)*, reassemble the unit carefully by reversing the previous steps.



Comments or Concerns?

We believe Industrial Magnetics, Inc. offers the finest Rotary Style Drawer-in-Housing 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 to serve you!**

INDUSTRIAL MAGNETICS, INC.

Rev.040313

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TRAMP METAL

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