VM-3671

Installation, Operation and Maintenance Instructions

VIBRATING CONVEYORS
MODEL VMC

ERIEZ MAGNETICS HEADQUARTERS: 2200 ASBURY ROAD, ERIE, PA 16506–1440 U.S.A.
WORLD AUTHORITY IN ADVANCED TECHNOLOGY FOR MAGNETIC, VIBRATORY and INSPECTION APPLICATIONS

Introduction

This manual describes Eriez' new electro magnetic vibrating conveyors.

The easy-to-clean pans provide low cost movement of a wide variety of materials. The pans can be supplied open or enclosed, with liners or screens, and with a variety of inlets and outlets in light duty applications.

A careful reading of these Installation, Operation and Maintenance Instructions will assure the most efficient and dependable performance of this equipment.

Please include the model and serial number found on the nameplate with any correspondence concerning your conveyor.

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ERIEZ VIBRATING CONVEYORS - MODEL VMC

TYPICAL ERIEZ MODEL VMC CONVEYORS

Installation

DAMAGE IN SHIPMENT
When you receive your feeder or conveyor, examine it carefully for damage. If damage is found, report it immediately to Eriez Magnetics and the carrier.

HANDLING
It is important to handle this equipment carefully to avoid twisting or bending the frame or pans. If lift lugs are provided, they must be used; otherwise, lift with slings under the lower frame of the unit.

A spreader board over the pan should be used to prevent your chain or cable from bending the pan while lifting.

A large amount of weight placed on the pans or springs could damage the unit.

INSTALLATION
Conveyors are normally base mounted. Base pads should be fastened to floor or framework to maintain the conveyor position. Adequate space must be provided between pan and/or base and any surrounding solid object to prevent interference. The conveyor can also be suspended. Suspension is hung from the base using eyebolts with rubber isolation springs. See Fig. 1.

The isolation assemblies should be welded to suitable overhead structure. Wire rope and/or turnbuckles may be used for greater suspension heights. Tension on suspension parts should be equal. Conveyors are normally mounted horizontally but can be mounted up to 10 degrees downslope. In this position a velocity of 60 feet per minute (15 mpm) can be obtained, depending on material characteristics.

If feeding the conveyor from a storage hopper, take care to eliminate headload.

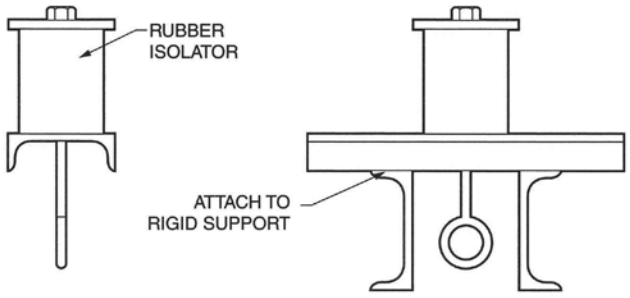


Figure 1
Typical Suspension Isolator

WIRING
THESE CONVEYORS MUST BE OPERATED FROM AN ERIEZ CONTROLLER. The drive coil is prewired with a powercord which is to be terminated in the ERIEZ controller.

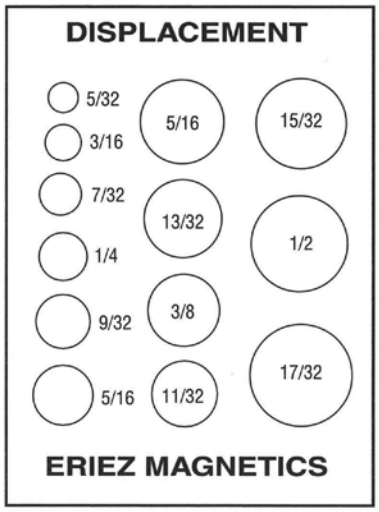
The controller is to be wired with 230 volt, 60hz 1 phase power per instructions in the controller.

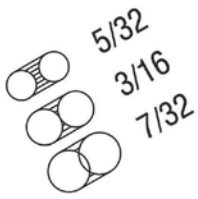
SPECIAL TROUGHS AND ATTACHMENTS
Eriez Engineering Service Department should always be consulted before undertaking the design or construction of special troughs. The troughs as furnished by Eriez **should not** be modified or attachments added without first consulting Eriez, as the conveyors are a tuned mass system and damage will result.

Operation

DEFLECTION

Eriez VMC conveyors are normally set at approximately 3/16" (4.7mm) pan deflection. This can be checked with an Eriez deflection sticker. The sticker is read while the equipment is operating by looking at the optical illusion in which the printed circles appear as double. Read the deflection where a pair of circles just touch together. A deflection sticker is shown actual size in Fig. 2.





This is how the circles would look if the pan deflection were 3/16" (4.7mm).

Figure 2

The deflection may also be read by holding a pencil very steadily (resting against a solid object) and touching the pan side with the pencil point while the pan is operating. Then stop the equipment and measure the deflection indicated by the line drawn on the side of the pan.

Do not operate at pan deflections greater than 3/16" (4.7 mm) because spring damage will result.

DEFLECTION ADJUSTMENT

Maximum tray deflection is factory set at 3/16". Lower deflections can be obtained by adjusting the ERIEZ controller. If a lower maximum deflection is required, consult the ERIEZ factory.

NOTE: Material build-up on the pan may increase pan deflection.

⚠ CAUTION

Do not operate the unit with any associated equipment in direct contact with any part of the vibratory unit.

Maintenance

The VMC Conveyor is designed to be maintenance free and no periodic maintenance is required. If the leaf springs become damaged by accident or abuse, they must be replaced.

SPRING REPLACEMENT

Before disassembling the springs, note how the clamps, springs, and spacers are arranged. They must be reassembled in the same order. There must always be a plastic spacer on both sides of the leaf springs.

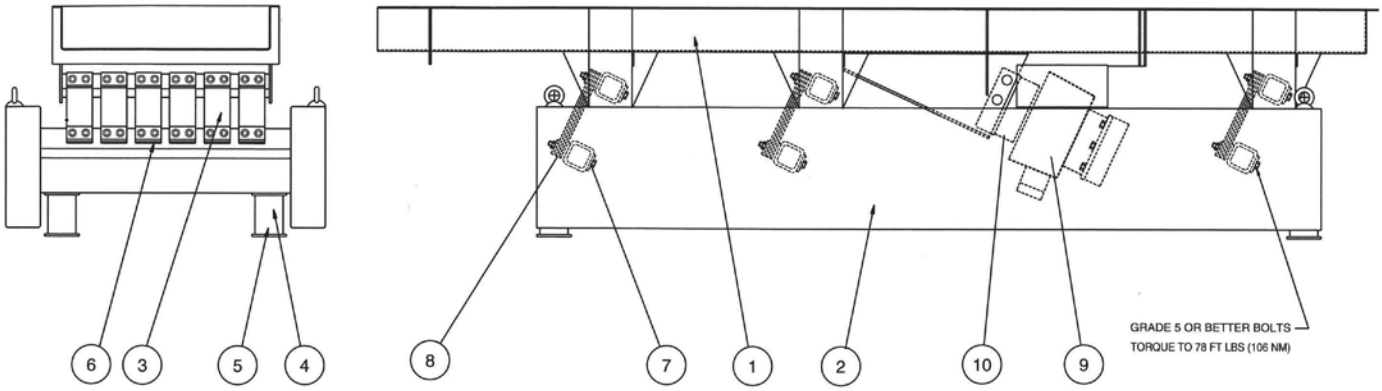
Torque spring bolts to 78 ft. lbs. (106 Nm)

After replacing the springs, the air gap between the attractor bar and the coil face should be checked and adjusted if necessary.

ATTRACTOR BAR GAP

The gap between the attractor bar and the coil laminations is factory set at 0.20 inch (5mm). If this gap is changed, conveyor performance will also change. To adjust the gap, loosen the attractor bar mounting bolts and insert a 0.20 inch thick spacer in the gap, move the attractor bar to contact the spacer and tighten the bolts to 78 ft lbs torque. (Be sure that the attractor bar is centered over the coil laminations.)

Parts List



Item Number	Name	Quantity
1	Trough (Specify Width & Length)	1
2	Base Assembly (Specify Width & Length)	1
3	Spring	As req'd.
4	Vibration Isolator (Specify Size)	4
5	Isolator Base Plate	4
6	Spring Clamp	As req'd.
7	Backing Plate	As req'd.
8	Spring Spacer	As req'd.
9	Drive Assembly	1
10	Attractor Assembly	1
11	Suspension Assembly	(See Fig. 1 on Page 5)

When ordering parts be sure to specify conveyor Model and Style, Part Number and Quantity.

Troubleshooting

PROBLEM	CAUSE	POSSIBLE SOLUTION
Low Deflection	Heavy load on pan.	Reduce load, improve hopper design.
	Pan hitting fixed object.	Provide clearance.
	Unit out of tune due to damaged springs.	Replace springs.
	Object added to pans.	Remove object.
	Malfunctioning control.	Consult factory.
No Deflection	See 'low deflection.'	See 'low deflection.'
	Control failure.	Consult factory.
	No electricity.	Check for electricity at terminals.
High Deflection	Broken or damaged springs.	Replace springs.
	Object added to pans.	Remove object.
	Excessive temperature.	Remove heat or reduce speed.
	Material build-up on pan.	Keep pan clean.
Noisy Operation	Mounting has come loose or is inadequate.	Check mounting and correct.
	Pan hitting material or object.	Provide clearance.
	High deflection.	See 'high deflection.'
	Cracks or breaks in pan or frame.	Repair cracks or breaks.
	Loose object on pan.	Remove or secure objects.
	Loose spring bolts.	Tighten bolts.

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