Fluidized Bin Bottom



Operators Manual





KICE INDUSTRIES, INC.

Congratulations...

When you purchased your new Kice Fluidized Bin Bottom, you bought a dependable and quality-built product. The series of Fluidized Bin Bottoms manufactured by Kice, and the range of options and materials, should satisfy nearly every conceivable industrial Fluidized Bin Bottom need.

We are proud of our products and the people at Kice who build them. At Kice, the manufacturing process starts in our own foundry by following the construction standards and manufacturing techniques that have proven superior over the last 60 years.

This owner's manual is intended as a guide for proper installation, operation and maintenance to keep your Kice Fluidized Bin Bottom operating safely and efficiently on the job. Service and factory reconditioning information is also included for your benefit.

Sincerely,

Drew Kice President Kice Industries, Inc.

Warranty

The company warrants the equipment manufactured by the Company to be free of defects in material and workmanship for a period of one year from the date of shipment. Company agrees to repair or replace, at its option, any parts found to be defective in the opinion of the Company. Company is not liable for any costs in connection with the removal, shipment or reinstallation of said parts. This warranty does not apply to abrasion, corrosion, or erosion.

Purchaser agrees to look to the warranty, if any, of the manufacturer or supplier of equipment manufactured by others and supplied to the Company for any alleged defects in such equipment and for any damages or injuries caused thereby or as a result thereof. PURCHASER SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ELECTRICAL MANUFACTURER'S RECOMMENDATIONS, UNDERWRITERS CODE AND ALL SAFETY PRECAUTIONS.

The only warranty extended under this agreement is the above express warranty and there are no other warranties, express or implied, including warranties of merchantability, fitness for a particular purpose or otherwise which extend beyond the face hereof. The Company and its dealers shall not in any event be liable for consequential or incidental damages and this agreement provides purchaser's sole and exclusive remedy. Any actions for breach of this agreement or warranty must be commenced within one year after the cause of action has occurred.

GENERAL INFORMATION

The Kice Fluidized Bin Bottom is built in either a round or square design and is equipped with a porous membrane of mold resistant 4 ply polyester belting, designed for fluidizing fine ground product. The membrane is pitched to a flanged discharge. The flanged discharge should be equipped with a pressure tight butterfly valve (quick load out bins) or a close tolerance rotary airlock valve for metering out the material.

BIN BOTTOM DESIGN

The unit is supplied with a pre-drilled upper flange to be bolted to a mating flange on the bottom of a bin hopper having a minimum of 60 degree slope. Proper caulking should be used between flanges to make them air tight.

The chambers under the membrane are equipped with two inlet tubes, a manifold is provided to a common inlet. If more than one Bin Bottom is connected to a compressed air source, then control valves must be used on the inlet to each Bin Bottom. The control valves may be manual or remote solenoid operated on/off valves. These valves must be able to seal and operate with a maximum of 20 psig system pressure. The air quantity (CFM) will vary with the size of the bin, the type of stock, and the speed at which the product is to be discharged from the bin. An average amount of air supplied is 10 scfm per square foot of membrane.

Pressure will vary with density and head of material above the membrane. When units are applied on the basis of 5 square feet of bin cross section per square foot of membrane, and at 10 scfm per square foot of membrane, the following approximate operating pressure will apply when fluidizing hard wheat patent flour at 14% moisture.

Head of Material	Operating Pressure	Break-Thru Pressure*
35 feet	6 PSIG	8 PSIG
60 feet	12 PSIG	15 PSIG
80 feet	15 PSIG	20 PSIG

*NOTE: Break-Thru pressures are for 30 to 45 second duration



WARNING: Use only dry, oil free, clean compressed air for fluidizing. Normal pressure drop across the membrane when applied at 10 CFM/1 square foot is approximately 1 psig.

Your Kice designed Fluidized Bin Bottom should give you many years of trouble free service. Special shapes and sizes available upon request.

!!!BEFORE FLUIDIZING!!! MAKE SURE A VENT TUBE OR FILTER IS OPEN ON TOP OF THE BIN

Open the valve in the fluidizing air line to the bin bottoms ahead of the fluidizing pads. Then turn on the fluidizing air pump, checking the pressure which will start high, then drop considerably when the air "breaks through" the stock making it "fluid" from top to bottom. This may take several minutes if the stock has packed down in the bin, although this may vary from product to product and length of time material has been in storage.

NOTE: The discharge valve (butterfly or airlock) on the hopper outlet is closed at this point. Before opening the butterfly valve, or starting a gearmotor on an airlock valve;

1. The pneumatic conveying system air pump must be turned on and checked to be sure all connections are tight and going to the desired location.

2. The gravity spouting from the bin to the truck must be secured.

BIN BOTTOM MAINTENANCE



WARNING: When performing maintenance, all energy sources associated with the equipment must be locked and tagged out in compliance with 29 CFR 1910.147, local enforcement authorities, OSHA, and facility safety practices.

Replacing Belting

The Fluidized Bin Bottom is bolted to the bin or tank bottom. The entire Bin Bottom assembly may be dropped for access or after proper safety and lockout procedures have been done the Bin Bottom may be accessed from inside.

Remove fasteners on a section and remove the hold down frame of material to be replaced.

Clean the area between the underneath side of the material and the inside bottom of the unit.

If the replacement material is not pre-cut, cut a new section of material with SHARP scissors or another cutting device using the hold down frame as a pattern.

Using the hold down frame as a template use a soldering iron or other "hot" boring device to bore the bolt holes. Note: This can be done using a drill but is not recommended as the material threads may pull. Using a soldering iron or other hot device will seal the bolt holes to prevent thread unravelling.

Once replacement piece is cut, install in the opening, re-install the hold down flange using the fasteners originally removed or equivalent.

It is recommended that all material in all sections be replaced at the same time.

Once all sections have been replaced and the hold down frames reinstalled, system is ready for operation.

Replacement Part List

Reference Kice part number and equipment serial number when ordering. The equipment serial number is important as frame configurations have changed over the years. If the serial number is not provided, material will be cut to the latest bin bottom configuration. Bulk material is also available for order, sold by the linear foot for standard or custom installations. Reference part numbers below.

Kice Part No.	Description
BBR36BELTING	Replacement Belting BBR36
BBR42BELTING	Replacement Belting BBR42
BBR48BELTING	Replacement Belting BBR48
BBR60BELTING	Replacement Belting BBR60
BBR72BELTING	Replacement Belting BBR72
BBR90BELTING	Replacement Belting BBR90
BBS36BELTING	Replacement Belting BBS36
BBS42BELTING	Replacement Belting BBS42
BBS48BELTING	Replacement Belting BBS48
BBS60BELTING	Replacement Belting BBS60
BBS72BELTING	Replacement Belting BBS72

Pre-Cut Material (cut to latest bin bottom configuration):

Note: Pre-cut material ships without mounting holes.

Bulk Material Sold by the Linear Foot:

Model	Bulk Material Part No.	Material Width	Linear Feet Required
BBR36	POLYAIRSLD4PLY	48 in	4ft
BBR42	POLYAIRSLD4PLY	48 in	5 ft
BBR48	POLYAIRSLD4PLY-52	52 in	6 ft
BBR60	POLYAIRSLD4PLY-52	52 in	8 ft
BBR72	POLYAIRSLD4PLY-52	52 in	11 ft
BBR90	POLYAIRSLD4PLY-52	52 in	17 ft
BBS32	POLYAIRSLD4PLY	48 in	4 ft
BBS42	POLYAIRSLD4PLY	48 in	5 ft
BBS48	POLYAIRSLD4PLY-52	52 in	6 ft
BBS60	POLYAIRSLD4PLY-52	52 in	8 ft
BBS72	POLYAIRSLD4PLY-52	52 in	14 ft

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