Aerator For Finely Ground Dry Materials

Application

MKD - aerators introduce low pressure air into any finely ground dry material. The air is equally distributed in controlled quantities to give the material an ability to flow by gravity from bins, hoppers or chutes.

Applications Include

Gypsum, portland cement, bentonite, casein glue, fuller's earth, soda ash, lime, flour, bran, clay, sawdust, carbon black, chemicals, barytes, ore, feed, cereals, diatomaceous earth, pigments, soap powder, detergents, fly ash and plastic molding compounds.

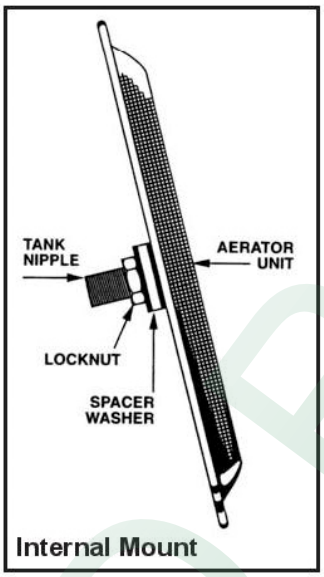
Features

"LL Series has a diffusion area approximately 2½ times that of "L" Series. When installed in larger bins, it will reduce the number of aerators and the amount of piping required.

Easy installation. Requires only the one drilled hole in bin wall; unit is held in place by means of special tank nipple and locknut provided.

Integral orifice controls air consumption at any recommended pressure.

Non-clogging diffuser provides equal distribution of air will not clog with even the finest materials.



Internal Mount

Specifications

Tank Nipple and Locknut:	"L" Series 1/8" (3mm) brass "LL" Series 1/4" (6mm) plated steel
Spacer Washers:	Nickel plated steel
Diffuser Frame:	Up to 180°F (82°C) cotton (canvas) Up to 600°F (316°C) fiberglass
Diffuser Frame:	Galvanized steel 16 mesh or stainless steel mesh type 316
Body:	Zinc plated steel or stainless steel

How to order

Order by Model No. from this table

Diffuser	Diffuser Supported By	Body	Model Number	
			"L" Series	"LL" Series
			Size 3¾" × 7½"	Size 6" × 12"
Cotton (Canvas)	Galvanized Steel 16 Mesh	Zinc Plated Steel	L LBF900000	LL LLF900000
	Stainless Steel Mesh Type 316	Stainless Steel	L-SS LBF900002	LL-SS LLF900002
Fiberglass	Galvanized Steel 16 Mesh	Zinc Plated Steel	L-FG LBF900001	LL-FG LLF900001
	Stainless Steel Mesh Type 316	Stainless Steel	L-SS-FG LBF900003	LL-SS-FG LLF900003

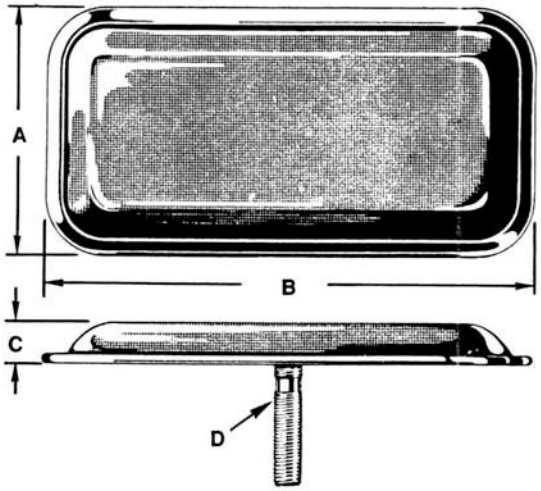
SHIPPING WEIGHT: 3¾" × 7½" "L" Series ¾ lbs.
6" × 12" "LL" Series 1¾ lbs.

How many to order

Measure the length of the sloping side of the hopper where the aerators are to be installed. Select the series to be used (L or LL) and the spacing of the units. Read down the column until the approximate length of the slope is reached.

"L" Series Mounted On		"LL" Series Mounted On		No. of Aerators to order for One Row
12" Centers (30.5 cm)	15" Centers (38 cm)	20" Centers (51 cm)	24" Centers (61 cm)	
1'8" 50.8 cm	1'11" 58.42 cm	2'8" 81.28 cm	3'0" 91.44 cm	2
2'8" 81.28 cm	3'2" 96.52 cm	4'4" 132.08 cm	5'0" 152.4 cm	3
3'8" 111.76 cm	4'5" 134.62 cm	6'0" 182.88 cm	7'0" 213.36 cm	4
4'8" 142.24 cm	5'8" 172.72 cm	7'8" 233.68 cm	9'0" 274.32 cm	5
5'8" 172.72 cm	6'11" 210.82 cm	9'4" 284.48 cm	11'0" 335.28 cm	6
6'8" 203.2 cm	8'2" 248.92 cm	11'0" 335.28 cm	13'0" 396.24 cm	7
7'8" 233.68 cm	9'5" 287.02 cm	12'8" 386.08 cm	15'0" 457.2 cm	8
8'8" 264.16 cm	10'8" 325.12 cm	14'4" 436.88 cm	17'0" 518.16 cm	9
9'8" 294.64 cm	11'11" 363.22 cm	16'0" 487.68 cm	19'0" 579.12 cm	10

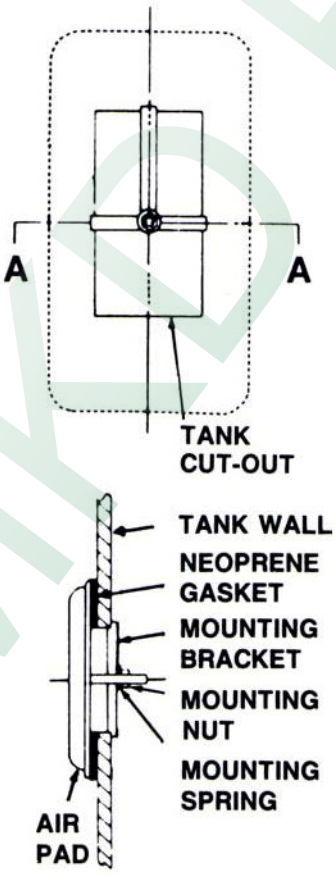
Dimensions



	"L" Series	"LL" Series
A	3¾" 95.25mm	6" 152.4mm
B	7½" 190.5mm	12" 304.8mm
C	7/16" 11.09mm	11/16" 17.44mm
D	⅛" Pipe x 2" Long OD = 0.405 10.29mm x 50.8mm	¼" Pipe x 2" Long OD = 0.540 13.72mm x 50.8mm

External Mount Accessory

It doesn't take a complete production shut-down to install an aeration system anymore. No need to empty the storage vessel or even climb down inside. MKD Belting has an accessory for the MKD - aerator which allows it to be installed form the outside through a single small hole in the bin wall. *Meets OSHA standards.* You simply slide the unit through the hole and tighten it down using the T-Bar, nut and spring assembly. Hole cut out size is 3-3/16" x 6-5/8" (81mm x 168mm) for Model "LL" and 3" x 4" (76mm x 102mm) for Model "L"



Air Supply Piping

Piping of adequate size to carry the required volume of low pressure air must be provided to assure reliable operation of the MKD - aerators. As a general guide, the following minimum pipe sized should be used for the manifolds to which the aerators are attached. In all cases the number of pipe fittings should be held to a minimum.

"L" Series		"LL" Series	
Pipe Size	Number of Bin-Flo Aerators	Pipe Size	Number of Bin-Flo Aerators
¾" 19.05 mm	1-5	1" 25.4 mm	1-5
1" 25.4 mm	6-9	1¼" 31.75 mm	6-8
1¼" 31.75 mm	10-12	1½" 38.1 mm	9-11

Air Supply

The best and usually the most economical air supply is from a positive displacement low pressure blower. For test applications or applications involving less then 30 CFM, compressors may be used with a pressure reducing regulator and filter or moisture trap on the low pressure side. This table shoes the volume of air one MKD - aerator (uncovered) will use at various operating pressures.

Air Consumption Per Aerator In Cubic Feet Per Minute

Air Pressure P.S.I.G.	"L" Series	"LL" Series
½	2.7	6.0
1	4.2	7.5
1½	5.0	9.1
2	5.7	10.4
2½	6.1	11.7
*3	6.5	12.7
3½	6.9	13.8
4	7.1	14.7
4½	7.4	15.6
5	7.6	16.4

***3 P.S.I.G. is recommended and used on most applications.**

15 P.S.I.G. is maximum pressure.

IMPORTANT NOTE

A continuous air supply must be maintained at all times to insure proper operation of the MKD - aerator. Lack of air supply will cause material build up on the aerator and result in damage to the MKD - aerator

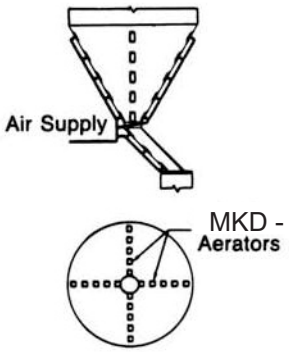
Typical Installations

The first aerator in each row is near the edge of the discharge opening and the others are spaced as required in a straight row up the sloping side of the hopper. Number and location of rows depends upon bin size and configuration.

Conical Hopper

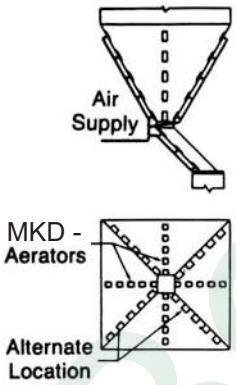
Four are normally required. The "L" Series should be used in small cones as the smaller aerator adapts better to the curved surface.

To prevent clogging of material in the discharge pipe or chute, install one row of aerators on the under side of the slope.



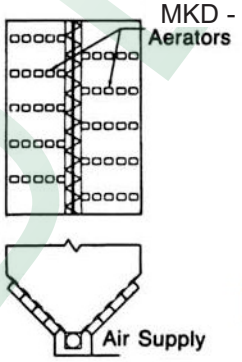
Pyramidal Hopper

Four rows centered on the sloping sides usually assure full and uniform flow. For minimum retention of material in the corners, an alternate location in the corners is suggested. To prevent clogging of material in the discharge pipe or chute, install one row of aerators on the under side of the slope.



V-Bottom Bin

This layout may be used in bins emptied by screw conveyor, belt conveyor or other means where the discharge opening runs the entire length of the bin. It provides full and uniform flow to the discharge opening without bridging over the outlet. Number or rows of aerators required and spacing will depend upon size of bin as well as material being handled.



Flat-Bottom Silo

This layout illustrates the methods of installing MKD - aerators in flat-bottomed bins or silos. Aerators are mounted on steel channels, inclined as shown. In large bins or silos, additional rows should be provided to minimize dead storage between rows.