



# FRACTIONATING ASPIRATOR



	US STANDARD		METRIC	
MODEL #	FA24	FA48	FA24	FA48
Height	78 3/4"	79 1/2"	2.000 mm	2.019 mm
Width	43 3/4"	67 3/4"	1.111 mm	1.921 mm
Length	58"	58"	1.676 mm	1.676 mm
Height w/Feed Hopper	66"	66"	1.676 mm	1.676 mm
Diameter Air Discharge	10"	12"	254 mm	305 mm
Size of Discharge	11" x 8"	11" x 16"	280 x 203 mm	280 x 406 mm
HP	1 1/2 or 2	2 to 5	1.1 or 1.5 kW	1.5 or 4.0 kW
Capacity	100 - 200 bu/hr	200 - 400 bu/hr	2.7 - 5.4 mt/h	5.4 - 10.8 mt/h
Weight	1,025 lbs	1,410 lbs	470 kg	640 kg

## CRITICAL ASPECTS

- 1.) The Fractionating Aspirator can be furnished with the standard, high and low speed fans. Standard speed is applicable for most applications, but low speed should be specified for light products such as vegetable and grass seed. On large products, or products with poor aerodynamic characteristics, such as corn or soybeans, the high speed fan produces the best results. Also, when it is desired to lift a portion of the lighter good product to ensure a complete removal of all light material, the high speed fan should be used.
- 2.) Operate within the specified capacity range. Underloading must be avoided as air bypasses insufficient product mass and results in poor aspiration. Overloading results in reduced separation efficiency.
- 3.) A constant feed rate must be maintained. Surges result in fluctuating efficiency, similar to underloading and overloading the machine.
- 4.) The Fractionating Aspirator is best applied when it is required to subdivide the lifted material for possible separate uses as opposed to having all lifted material mixed together as with most common aspirators.



## PERFORMS FOUR CLEAN, ACCURATE, DENSITY SEPARATIONS USING CONTROLLABLE AIR

The Fractioning Aspirator is designed to separate product of different terminal velocities by lifting the lighter material out of the heavier material. The lighter material is divided into three separate fractions based on weight: heaviest, intermediate, and lightest.

Depending on the product and the type of separation required, the heaviest fraction of the lifted light material may be suitable for re-combining with the main product stream.

## FEATURES

- Advanced principles of air control to classify particles on the basis of “product terminal velocity”.
  - High pressure adjustable air capacity handles any separation need, from heavy particles to light dust.
  - A rubber covered roll, at inlet, ensures uniform curtain of product at entry of air stream; eliminates bridging and prevents product damage.
  - All discharges are by gravity, no augers to damage product.
  - The aerodynamic design of the air column produces “laminar” air in separation so there is no mixing of product.
  - Adjustable air bleeder prevents settling of dust in exhaust pipe.
  - Requires only three settings for precise separation.
- Equipped with a magnetic gauge which indicates air flow. This provides a reference scale for resetting air velocity to achieve repetitive results or indicates changes in external conditions that affect performance.
- Micrometer setting provides precise control on intermediate separations.
- Requires minimal operator experience and supervision.



**2Year  
Warranty**

## PRINCIPLES OF SEPARATION

- 1.) The product is fed at an even rate into a vertically rising air stream, the intensity of which determines the “cut point” of the separation. A higher air speed will lift out some good product with the light material and for some applications, this may be desirable to ensure that the main product stream is perfectly clean.
- 2.) The lifted material is conveyed by the air stream into a sloping air column (70 degree slope) with two intermediate settling chambers to outlets at the base of the machine. The sloping air column then terminates in an expansion chamber with its own discharge outlet at the machine base.
- 3.) The width of the sloping air column can be adjusted; narrowed down or opened up. This adjustment controls the air velocity in the column; at a given air volume, the narrower the column width, the faster the air speed. The variable width of the sloping air column is “tapered” in that the width remains basically the same at the product aspiration points where it pivots, but it expands or contracts along the remaining length of the column.
- 4.) If more air volume is applied to the main product, particles with terminal velocity approaching that of the main product particles will be lifted, along with the lightest material, into the sloping air column. By adjusting the column width, and the air velocity, the “drop point” can be controlled, to deposit the lifted particles to go into the first intermediate fraction (heavy) or second intermediate fraction (medium), with the lightest particles (dust, chaff, etc.) going into the expansion chamber.
- 5.) The selected width of the adjustable air column does not affect the amount of material lifted out of the main product. This is controlled solely by the amount of air passing through the main product stream. The variable width column controls where the lifted material is deposited. This flexibility provides precise control of the separations made, to suit market requirements and to assure maximum recovery of usable product.

