CEA·Carter-Day Duo-Aspirators

FOR REFINED, CRITICAL ASPIRATIONS
CLOSED/OPEN CIRCUITS
Models 24"–36"–48"–60"–72"

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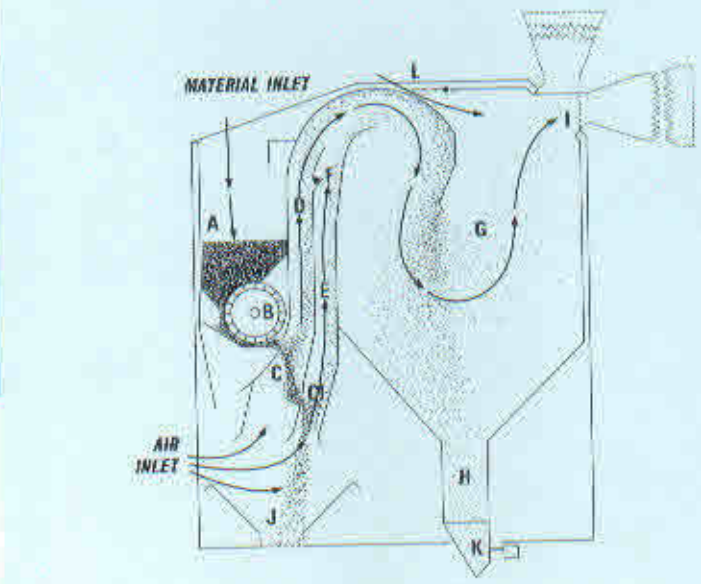
A COMBUSTION EQUIPMENT ASSOCIATES COMPANY

CARTER-DAY DUO-ASPIRATORS

For Refined Aspiration

OPEN CIRCUIT

Models 24"-36"



REDESIGNED AIR SYSTEM

The new 24" and 36" Carter Duo-Aspirator Open Circuit models have several improved features over previous units; all designed to provide increased efficiency and simpler operation with less maintenance. A major change is the double air duct (or double air leg) permitting two-stage aspiration for greater efficiency. Air concentration in first duct can be adjusted to increase or decrease air flow; allowing second duct for finish aspiration. Conveyors have been eliminated. Gravity discharge, with weighted gates for seals, replace conveyors. A new drive assembly with motorized reducers has eliminated all transmissions and idlers. Feed roll is only revolving shaft in machine. Adjustable (within 90 degrees) exhaust outlet can be connected to plant's present dust control or separate fan.

MATERIAL AND AIR FLOW

In the 24" and 36" Open Circuit models material to be aspirated enters the machine through hopper (A) where feed roll (B) distributes the material evenly into the air stream at points (C) and (C1) (Double air duct system). Heavy aspirated material is discharged through outlet (J). Lighter materials are carried up the double air legs (D & E) where air flow concentration is adjusted (from outside) at (F); to increase or decrease air volume in the aspirating chamber (G). Heavier materials drop into hopper (H) and discharge by gravity through weighted gate seal (K). Dust and lighter materials are carried in air stream and discharged through exhaust outlet (I) to plant's dust control on separate fan. The machine's total volume of aspirating air passing through material is controlled by adjustable by-pass (L).

*Capacities are based upon the handling of wheat weighing 60 pounds per bushel or 48 pounds per cubic foot. Other free-flowing granular materials are commonly handled at approximately the same capacities by volume.

SPECIFICATIONS

SIZE	CAPACITY* ON WHEAT BUSHELS PER HOUR	OVERALL DIMENSIONS			H.P. MOTOR REQUIRED	FAN SIZE	DIAMETER OF STANDARD DESIGN CYCLONE DUST COLLECTOR REQUIRED**	WEIGHT	
		WIDTH	LENGTH	HEIGHT				NET	GROSS
24"	50-200	38¾"	54"	68"	1/3	No. 25	No. 50	515	635
36"	200-300	50¾"	54"	68"	1/3	No. 30	No. 60	630	750

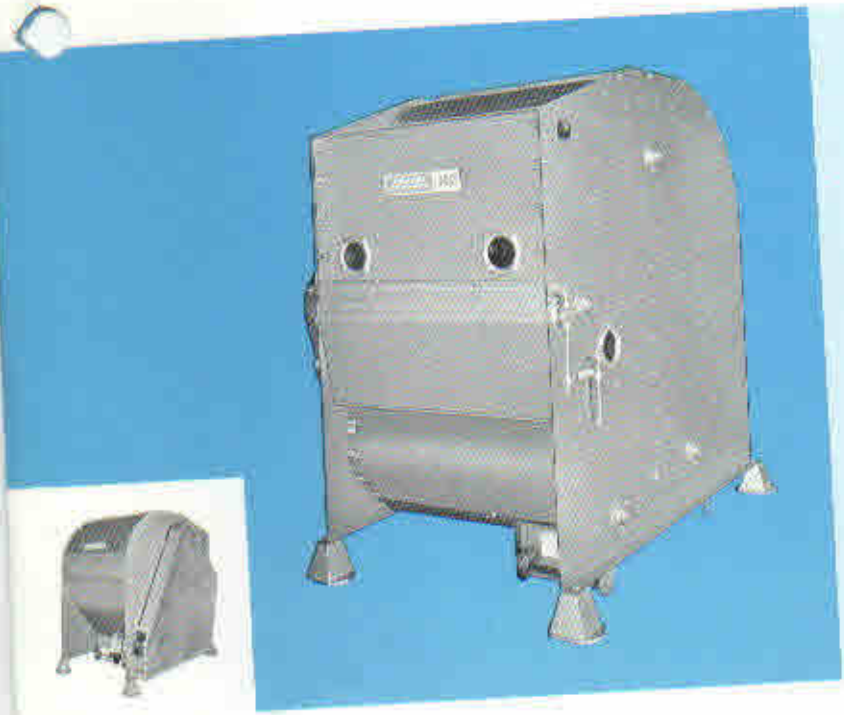
** These are standard applications for small grains.

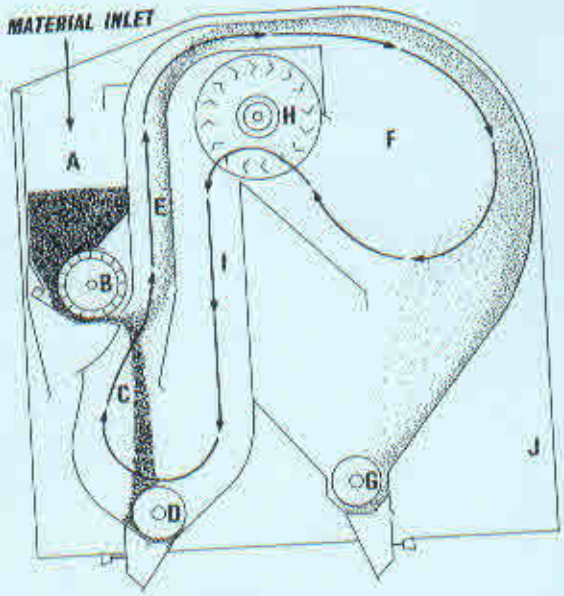
CARTER-DAY DUO-ASPIRATORS

For Critical Aspiration

CLOSED CIRCUIT

Models 24"-36"





REDESIGNED, GREATER EFFICIENCY

The new 24" and 36" Closed Circuit Carter Duo-Aspirators have improved their efficiency for critical aspiration by the adaption of a transverse flow-through fan in its air system. Another major improvement has been a larger feed roll providing greater contact area, eliminating possibilities for material bridging above the feed roll. In these closed circuit models the air is continually moving in one direction continually recirculating under enclosed, controlled conditions. The impeller runs across the width of the machine for more uniform air flow; recirculated air moves through the fan. Aspiration adjustment is controlled by fan impeller speed. Clean material discharge is at front; aspiration discharge is near the rear. Gates of both discharge points are equipped with adjustable weights; preventing air leakage into the machine.

MATERIAL AND AIR FLOW

Material to be aspirated is fed into the machine from hopper (A), under feed roll (B) where it is evenly distributed through the air stream at (C). Heavier cleaned material is discharged by conveyor (D). Lighter drawn out material is carried up air duct (E) into the collector chamber (F) where they settle to the conveyor (G) and discharged from the machine. The air stream continues in its recirculatory course by returning back and up through the transverse fan (H) and back down through (I) to the point of aspiration (C). Simpler aspiration controls. Fan speed adjustment (J) controls air volume; faster fan operates, the more air volume and vice versa.

*Capacities are based upon the handling of wheat weighing 60 pounds per bushel or 48 pounds per cubic foot. Other free-flowing granular materials are commonly handled at approximately the same capacities by volume.

SPECIFICATIONS

SIZE	CAPACITY * ON WHEAT. BUSHELS PER HOUR.	OVERALL DIMENSIONS			H.P. MOTOR REQUIRED	R.P.M. DRIVE SHAFT	WEIGHTS	
		WIDTH	LENGTH	HEIGHT			NET	GROSS
24"	50-200	35¼"	62"	63"	1	675	735	910
36"	200-300	47¼"	62"	63"	1	675	830	1030

CARTER-DAY DUO-ASPIRATORS 48" – 60" – 72"/OPEN CIRCUIT MODELS

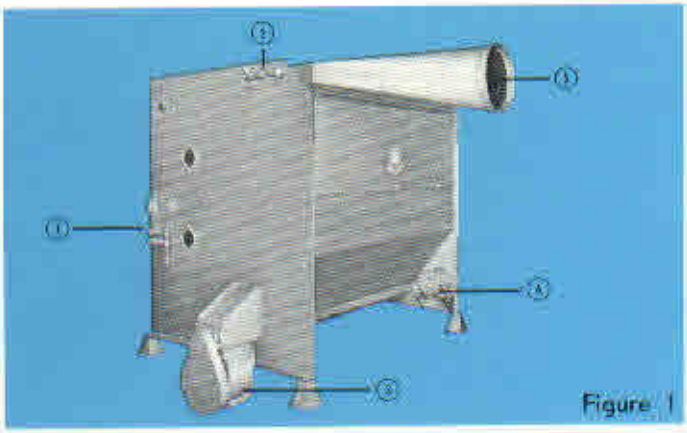


Figure 1

Figure 1 shows the 60" Open Circuit Model Duo-Aspirator at the rear and right end. Shown in this view are the right end adjustment control for volume of material from feed roll (1) and quadrant for control of air (2), rotary air lock valve (3) on light materials discharge from expansion chamber, the drive motor (4). Fan connection at (5)

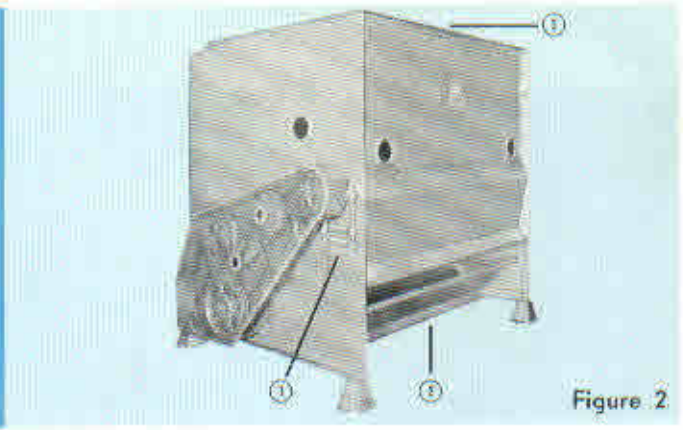


Figure 2

Figure 2 is the same Duo-Aspirator at left end and front (feed end) showing motor drive and drive to the light materials discharge conveyor shaft and feed roll. (1) is adjustment control for volume of material from feed roll. (2) is the clean material discharge. Feed inlet at (3).

Size	Capacity* on wheat, Bushels per hour	Overall Dimensions			H.P. Motor Required	R.P.M. Drive Shaft	C.F.M.	Fan**	Fan Exhaust Pipe	Weight	
		Width	Length	Height						Net	Gross
48"	300-400	66⅛"	52" + 19½"	68"	½ - 1200 R.P.M.	150	3000	#30	15"	1100#	1400#
60"	400-500	78⅛"	52" + 24½"	68"	½ - 1200 R.P.M.	150	3750	#35	17"	1300#	1600#
72"	500-600	90¼"	52" + 30½"	68"	½ - 1200 R.P.M.	150	4500	#35	18"	1500#	1800#

**Use next largest size fan for seed corn applications.

CARTER-DAY DUO-ASPIRATORS 48" – 60" – 72"/CLOSED CIRCUIT MODELS

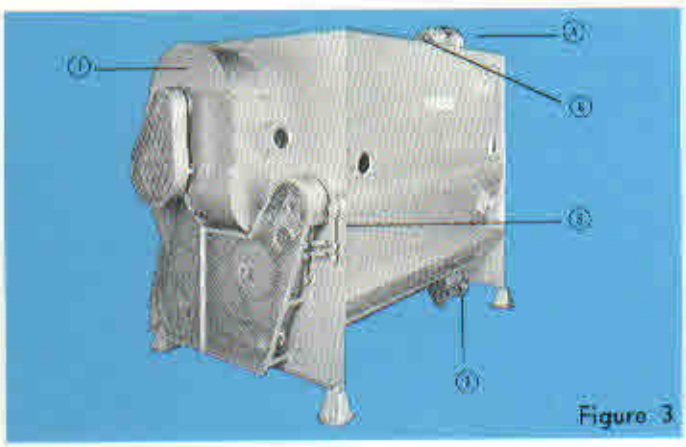


Figure 3

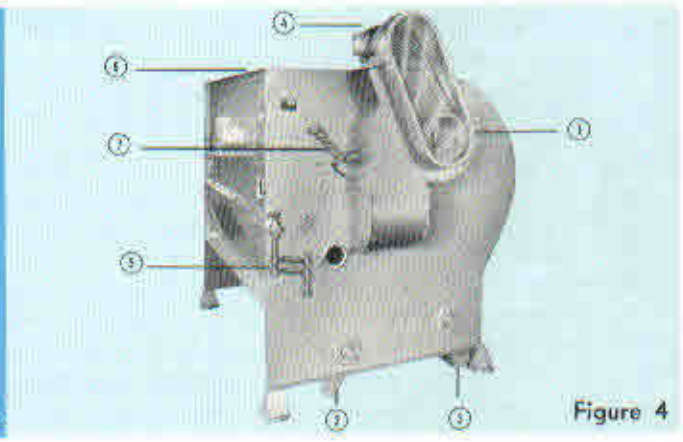


Figure 4

To equalize air movement through the material aspirated, these larger size Closed Circuit Models are equipped with two fans, one at each end (1) in Figures 3 and 4. Closed circuit models include two screw conveyors; one to bring clean material to discharge side (2) in Figure 4 another conveyor to bring air liftings material to aspiration discharge (3) in Figures 3 and 4. These conveyors also mean added efficiency in the settling chamber by creating better air seals. Both gates to clean material discharge (2) and aspiration discharge (3) are equipped with adjustable weights to prevent air leakage. Drive motor is located at (4). Tension volume controls (5) are located near front of machine for controlling material flow entering at top of machine at (6) feed inlet. The screw regulator (7) located near the return air duct controls the volume of air circulated within the machine.

Size	Capacity* on wheat, Bu. per hr.	Overall Dimensions			H.P. Motor Required	R.P.M. Drive Shaft	Weights	
		Width	Length	Height			Net	Gross
48"	300-400	78"	62"	79"	2 - 1800 R.P.M.	600	1250#	1650#
60"	400-500	90"	62"	79"	2 - 1800 R.P.M.	550	1325#	1725#
72"	500-600	102"	62"	79"	2 - 1800 R.P.M.	700	1400#	1800#

*Capacities are based on the handling of wheat, which weighs 60 pounds per bushel or 48 pounds per cubic foot. Other free flowing granular materials are commonly handled at approximately the same capacities by volume.

B 2-75 3M

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