



# LDA

*Solutions for Life*

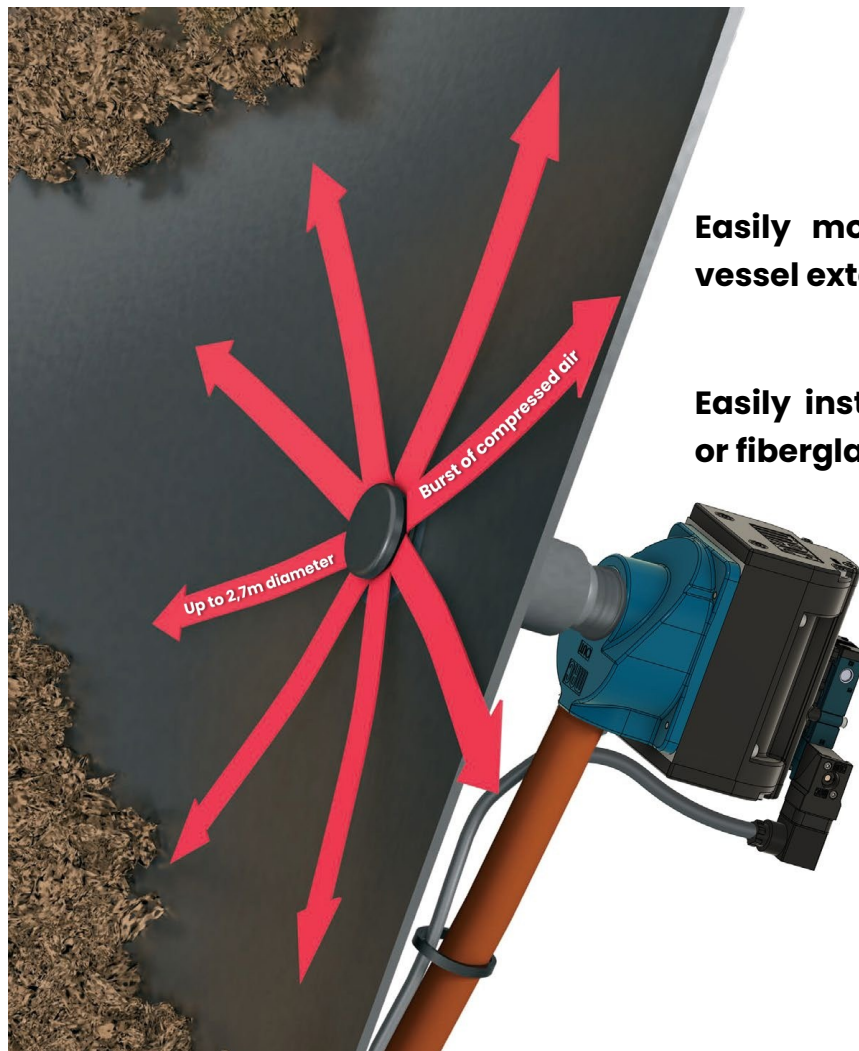
**The AirSweep®**



## Solve tough flow problems by eliminating ratholes, bridging and material build up.

The **AirSweep®** material activation system delivers on-demand product flow, which eliminates bridging and blockages, it also cleans interior surfaces.

Each AirSweep® nozzle directs a **360° high-volume burst** of compressed air or inert gas along the inside walls of process equipment or vessels. This breaks friction and sweeps the stalled material back into the flow stream. The patented nozzle design ensures an **immediate reseal** after each pulse. Sequenced pulsing of strategically-positioned AirSweep® units activate **bulk material** to produce a first-in, first-out controlled flow.



**Easily mounted and maintained from vessel exterior.**

**Easily installs in metal, concrete, wood or fiberglass silos, bins, hoppers, chutes**

**Any place where materials can get stuck in a process.**

## Benefits

System is mounted on the outside of the vessel for easy cleaning and maintenance.

Energy efficient - uses plant air.

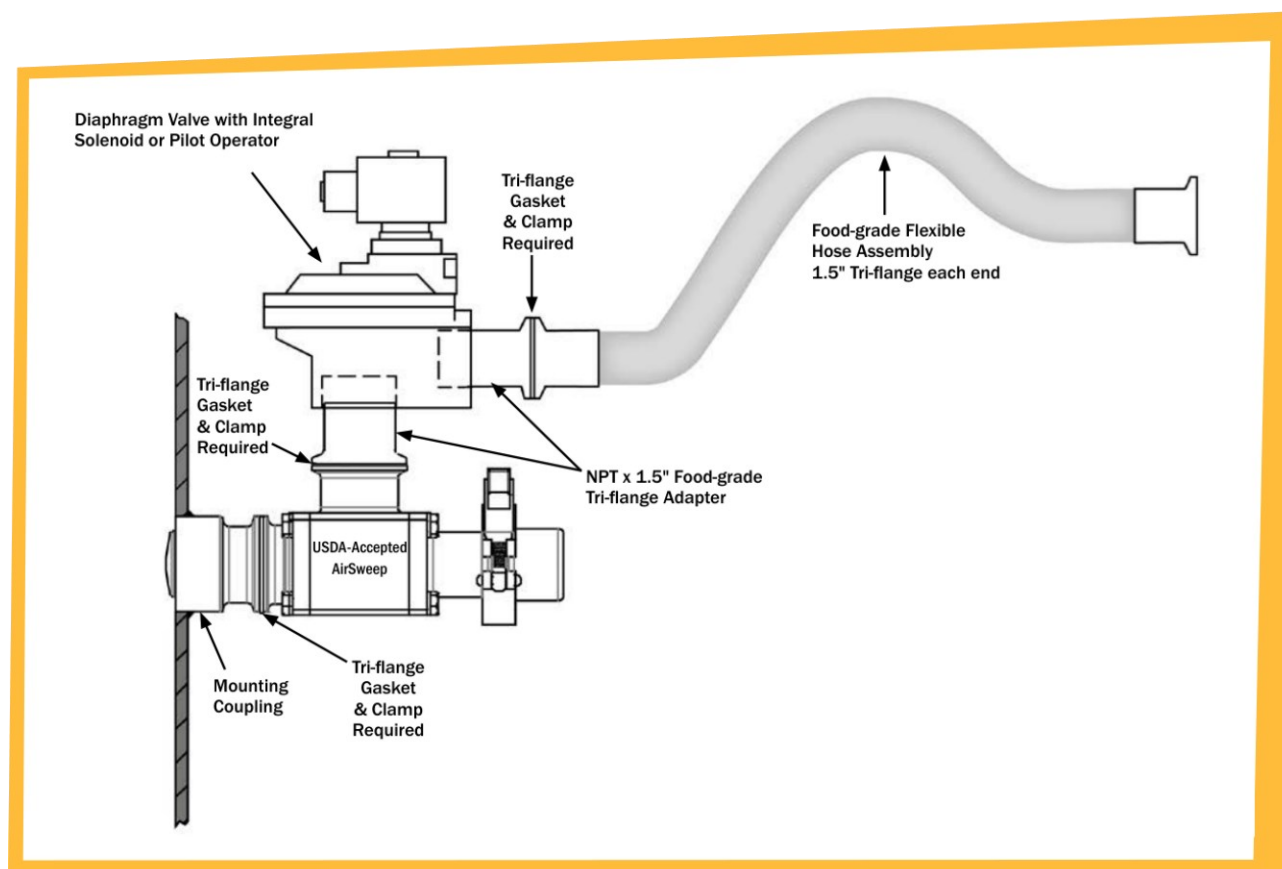
Mount to metal, concrete, fiberglass or wood vessels.

Manufactured from high grade steel for long service life.



## Main AirSweep® System Components

The main components of the AirSweep® system include the AirSweep® nozzles, solenoid-operated diaphragm valves, sequence timer/controller and associated piping and electrical connections. All other components that may be installed within the system are considered optional accessories.



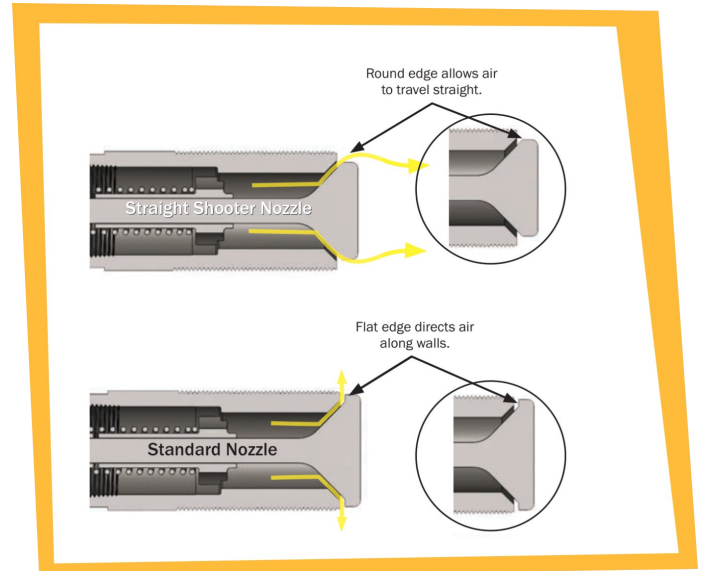
### USDA-Accepted AirSweep® Main Components (Atex)

Components for Model USDA-135		Components for Model USDA-185
Component	Description	Description
Mounting Coupling	316SS Mounting Coupling	316SS Mounting Coupling
Tri-flange Clamp	304SS Tri-flange Clamp	304SS Tri-flange Clam
Tri-flange gasket	Gasket for Clamp	Gasket for Clamp
Flexible hose assembly	Food-Grade Hose Assembly, 1" Plicord Gray Food Hose, 30" AOL. Sure Seal Hose Fitting, 304 SS, 1-1/2" Tri-flange, both ends	Food-Grade Hose Assembly, 1-1/2" Plicord Gray Food Hose, 30" AOL. Sure Seal Hose Fitting, 304 SS, 1-1/2" Tri-flange both ends
Tri-flange adapter (male)	Food Grade Tri-Clamp Adapter, 1.5" Clamp x 1.0" NPT Male 316L SS	Food Grade Tri-Clamp Adapter, 316L SS 1.5" Clamp x 1.5" NPT Male

## Straight Shooter vs. Standard AirSweep®

The Straight Shooter is designed for applications where a focused column of air is required to reach and **activate material not accessible** by the standard AirSweep® 360-degree pulse pattern. The Straight Shooter is available in all standard AirSweep® sizes (3/4", 1-1/2" and 2").

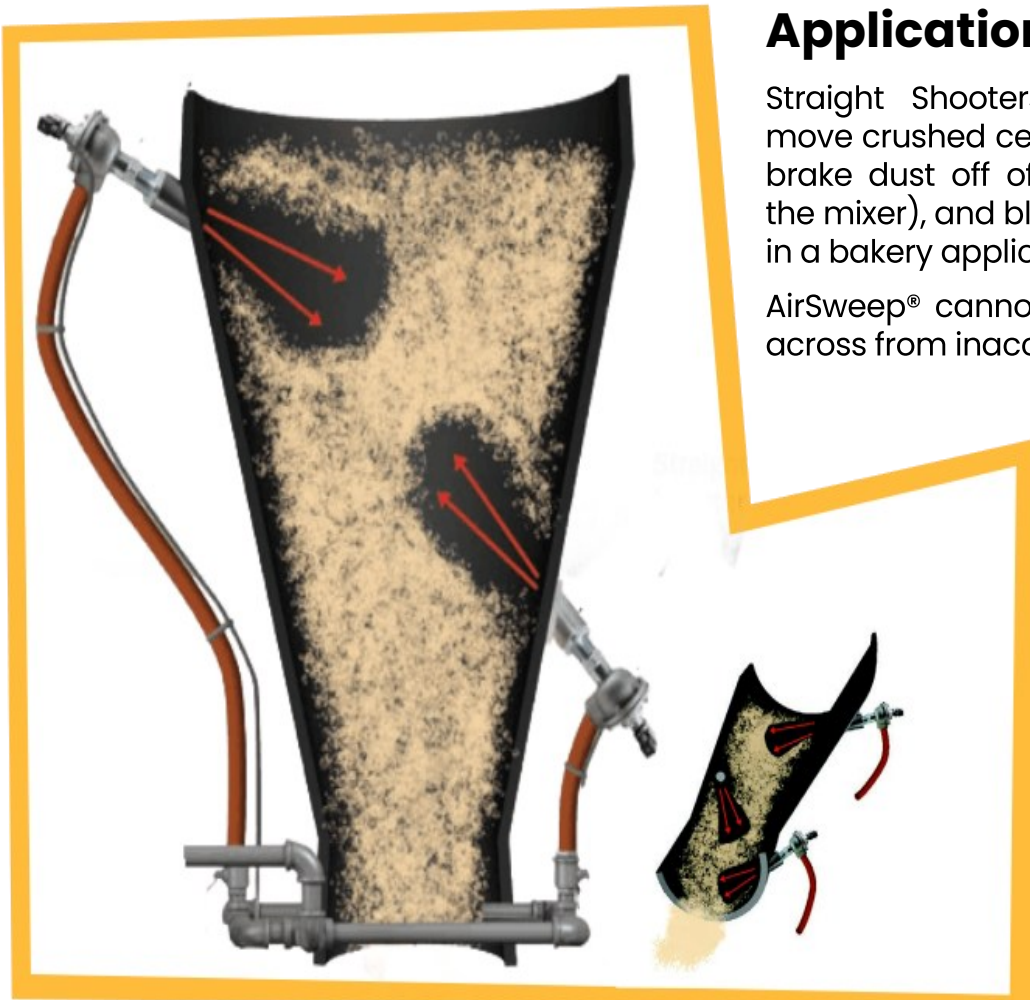
The Straight Shooter's design allows the powerful air pulse to **extend** in a tight column directly in front of the nozzle. The unit instantly re-seals to prevent clogging or material feedback. The "fire hose" effect of the air pulse makes these mini-blasters perfect **for larger-sized pieces of material** or for areas where the standard



## Applications:

Straight Shooters are being used to move crushed ceramic tile, blow metallic brake dust off of mixer paddles (inside the mixer), and blow off flour and crumbs in a bakery application.

AirSweep® cannot be mounted, such as across from inaccessible walls.





## Ideal for applications requiring sanitary equipment or frequent cleaning.

The AirSweep® system includes a **USDA-certified model**, making it the ideal solution for industries that require the highest standards of **hygiene and cleanliness**. This model is perfect for applications in food processing, pharmaceuticals, and other sanitary environments, where contamination risks must be minimized.



- Designed and fabricated according to sound sanitary design principles
- Quick and easy removal/disassembly with simple hand tools
- All surfaces resistant to corrosive products and cleaning/sanitizing chemicals

## Atex

An explosive atmosphere can be caused by a variety of substances and chemicals in the air, such as flammable gases, mists or vapours, or fine organic dusts like grain flour or wood. This includes petrochemical industries, underground mining and food production.

The ATEX certification assures customers that AirSweep® aids the most effective material flow for **powders, bulk solids, granular materials, moist or sticky materials and more!** It has been fully tested and approved to be safe to use in hazardous environments.



**Airsweep® is Atex certified**

II 1/3 D Ex h III C T135°C Da/Dc  
II 1/3 G Ex h II c T4 Ga/Gc



**Model VA-06**



**Model VA-012**



**Model VA-51**



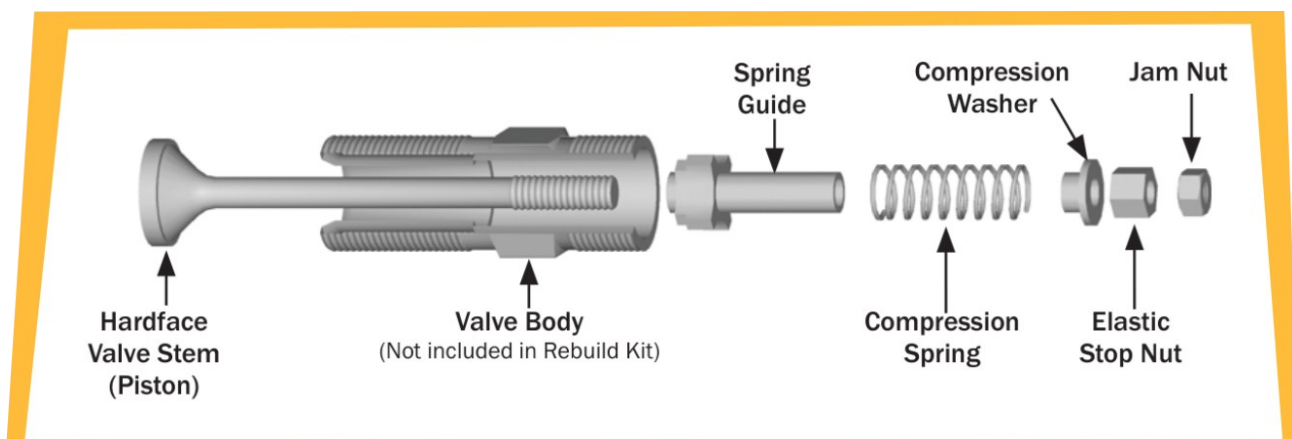
**USDA series**

**The new AirSweep® Hardface Series is ideal for applications involving abrasive materials such as cements, minerals, carbon, clay, fly**



The nozzle is an AirSweep® component that comes in contact with materials and is treated to resist abrasion, wear, and corrosion. The Hardface Series is easily retrofitted to existing AirSweep installations.

	Carbon Steel	Stainless steel
Models	VA-06-CS-HF VA-12-CS-HF VA-51-CS-HF	VA-06-SS-HF VA-12-SS-HF VA-51-SS-HF
Hardening Method	Induction Hardened	Chromium Carbide Surfaced
Rockwell Hardness	55-60 HRC	50-54 HRB



## Signal to your Valves

The sequencer is specifically used to manage and control the timing for AirSweep® systems by Control Concepts. AirSweep® systems deliver timed bursts of air to clear materials from vessel walls in industries like cement, food processing, and pharmaceuticals. The sequencer ensures precise timing for air release, optimizing flow and preventing clogging.



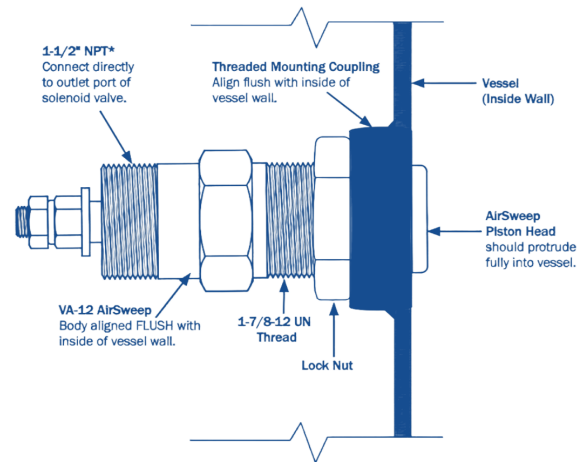
## Different Sequencers

**The Sequencer** ensures precise and programmable control of valve activation for efficient material flow management. The sequencer allows manual activation of individual outputs directly from the keyboard and provides the flexibility to select the number of outputs required. Both activation time and interval time are adjustable, with activation ranging from 0.05 to 5.00 seconds and interval time from 1 to 999 seconds.



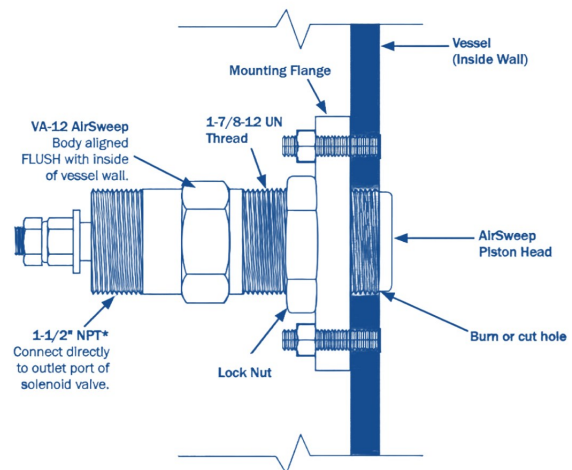
## MC-12 Mounting Coupling Installation (Weld to vessel)

This method we use a Weld sleeve to weld the thread on to the vessel wall. This way the body is aligned with the vessel wall and can be connected directly to an outlet port or a MAC Valve. With this we only need to make one hole into the wall.



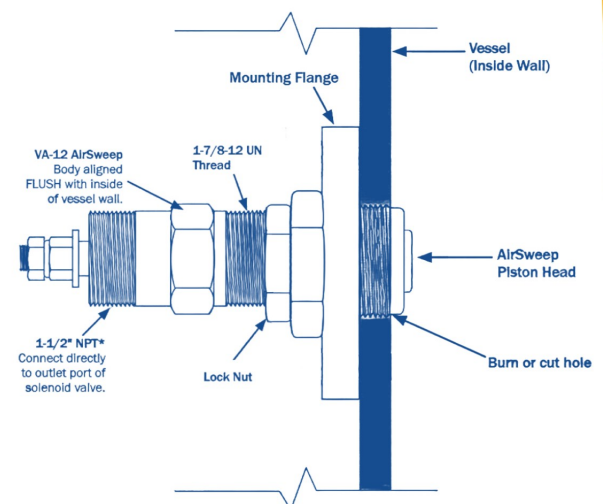
## MF-12 Mounting Flange Installation (Bolt to vessel)

This way we bolt the AirSweep® into the hopper walls and lock them in place with bolts. This way the body is aligned with the vessel wall and can be connected directly to an outlet port or a MAC Valve. This method doesn't require a welder.



## MF-12 Mounting Flange Installation (Outside-in)

This way we bolt the air sweep into the hopper walls and lock them in place with bolts. This way the body is aligned with the vessel wall and can be connected directly to an outlet port or a MAC Valve. This method doesn't require a welder.





## AirSweep® proven success with a variety of materials!



### **Food/ agriculture**

Animal Feeds  
Cocoa  
Brewers grain  
Corn  
Coffee  
Flour  
Grains  
Hops  
Salt  
Soybeans  
Spices  
Starches  
Sugar  
And more...



### **Mining**

Aluminum  
Bentonite  
Coal  
Copper  
Diatomaceous  
Earth  
Gypsum  
Iron ore  
Limestone  
Magnetite  
Phosphate  
Shale  
Soda ash  
And more...



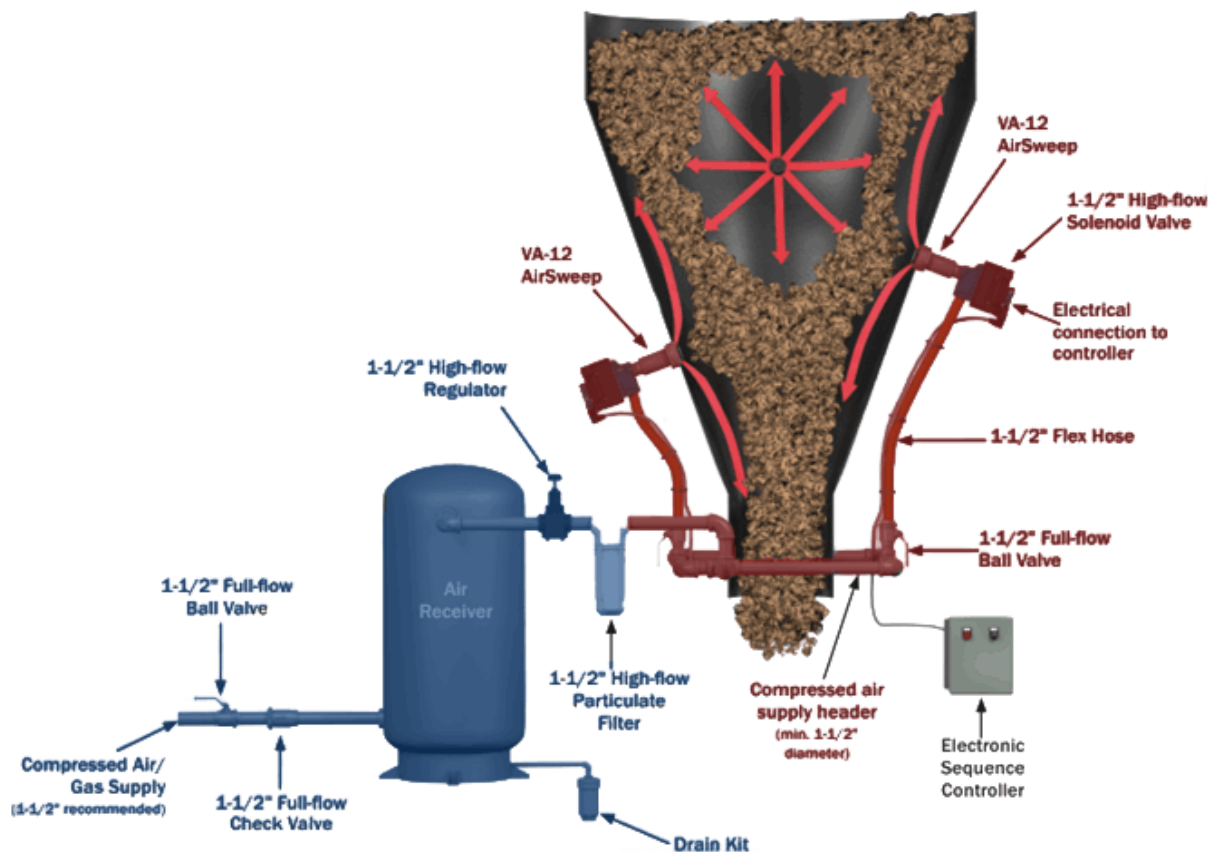
### **Chemicals**

Activated carbon  
Adipic acid  
Aluminum  
Chlmoride  
Boric acid  
Chlorine  
Herbicide  
Hydrated lime  
Iron oxide  
Polyacrylamide  
Titanium oxide  
Zinc  
And more...



### **Other**

Acetate  
Cement  
Chalk  
Cork  
Detergent  
Fertilizer  
Fly ash  
Pharmaceutical  
Plastics  
Polymers  
Resins sludge  
Wax flakes  
Wood chips  
And more...



## **PNE004643:**

Air Reservoir 270L – 54mm Mapress 2" filter & regulator compatible with the VA-12 & VA-51

## **PNE004776:**

Air Reservoir 150L – 28mm Mapress 1" filter & regulator compatible with the VA-06

## **PNE005075**

Airsweep® set VA-06 Stainless Steel 304 with solenoid valve 24VDC

## **PNE005076**

Airsweep® set VA-12 Carbon steel with solenoid valve 24VDC

## **PNE005077**

Airsweep® set VA-12 Stainless Steel 304 with solenoid valve 24VDC

## **PNE005072**

Airsweep® set VA-51 Carbon steel with solenoid valve 24VDC

## **PNE005078**

PNE005075	
PNE004280	Airsweep® VA-06-304-BSP-TB-C
PNE003580	PV03B-A0E 24VDC/5,4W
PNE003418	PV03B-0C0 3/4"
PNE003329	Exhaust kit
CIT000702	Hex sock Head cap screw M5 L65 SS A2
PNE000207	Hose barb 3/4"-19mm
PNE004102	Compressed Air Hose 19-26,5mm
PNE004103	Hose Clamp 22-29
PNE004287	Ball valve 3/4"
CIT000393	Mapress T-piece 28-3/4"-28
CIT000174	Screw Connection M-F 3/4"
Options	
PNE003918	Outside/In mounting VA-06 SS316
PNE004179	Seal NBR Ø35x57-VA-06

PNE005077	
PNE004579	Airsweep® VA-12-304-BSP-TB
CIT000491	Lock Nut LN-12 304
PNE003400	PV06B-A0E-4IP-DEWJ-1JA EVVT 8W
PNE003503	PV06B-0C0 1-1/2
PNE003329	Exhaust kit
CIT000702	Hex Sock Head Cap M5 L65 SS A2
CIT000138	Hose barb female 1-1/2"-38mm
CIT000139	Hose barb Male 1-1/2-38mm
CIT000140	Compressed Air Hose 38-52mm
PNE004098	Hose Clamp 48-60
PNE004341	Ball Valve 1-1/2"
PNE004129	Reducing Nipple 2"-1-1/2" M-F
CIT000466	Mapress T-fitting 54-2-54
CIT000176	Screw connection M-F 1-1/2"
Options	
PNE004477	Mounting Coupling MC-12-CS
PNE004599	Outside in mounting SS304
PNE004066	Outside in mounting SS316
PNE004178	Seal NBR Ø60x89 VA-12

PNE005078	
PNE004580	Airsweep® VA-51-304-BSP-TB
CIT000490	Lock Nut LN-51 SS304
PNE003400	PV06B-A0E-4IP-DEWJ-1JA EVVT
PNE003503	PV06B-0C0 1-1/2
PNE003329	Exhaust kit
CIT000702	Hex Sock Head Cap M5 L65 SS A2
CIT000139	Hose barb Male 1-1/2-38mm
CIT000140	Compressed Air Hose 38-52mm
PNE004098	Hose Clamp 48-60
PNE004341	Ball Valve 1-1/2" M-F
PNE004129	Reducing Nipple 2"-1-1/2" M-F
CIT000466	Mapress T-fitting 54-2-54
PNE004293	Double nipple 1-1/2"
CIT000176	Screw connection M-F 1-1/2"
Options	
PNE004478	Mounting Coupling MC-51-CS
PNE004597	Outside in mounting SS304
PNE004097	Outside in mounting SS316
PNE004177	Seal for O/I mounting

PNE005076	
PNE004065	Airsweep® VA-12-CS-BSP-TB
CIT000491	Lock Nut LN-12 SS304
PNE003400	PV06B-A0E-4IP-DEWJ-1JA EVVT
PNE003503	PV06B-0C0 1-1/2
PNE003329	Exhaust kit
CIT000702	Hex Sock Head Cap M5 L65 SS A2
CIT000138	Hose barb female 1-1/2"-38mm
CIT000139	Hose barb Male 1-1/2-38mm
CIT000140	Compressed Air Hose 38-52mm
PNE004098	Hose Clamp 48-60
PNE004341	Ball Valve 1-1/2"
PNE004129	Reducing Nipple 2"-1-1/2" M-F
CIT000466	Mapress T-fitting 54-2-54
CIT000176	Screw connection M-F 1-1/2"BSP
Options	
PNE004477	MC-12-CS
PNE004599	Outside in mounting SS304
PNE004066	Outside in mounting SS316
PNE004178	Seal NBR Ø60x89 VA-12

PNE005072	
PNE004096	Airsweep® VA-51-CS-BSP-TB
CIT000490	Lock Nut LN-51 SS304
PNE003400	PV06B-A0E-4IP-DEWJ-1JA EVVT
PNE003503	PV06B-0C0 1-1/2
PNE003329	Exhaust kit
CIT000702	Hex Sock Head Cap M5 L65 SS A2
CIT000139	Hose barb Male 1-1/2-38mm
CIT000140	Compressed Air Hose 38-52mm
PNE004098	Hose Clamp 48-60
PNE004341	Ball Valve 1-1/2" M-F
PNE004129	Reducing Nipple 2"-1-1/2" M-F
CIT000466	Mapress T-fitting 54-2-54
PNE004293	Double nipple 1-1/2" SS
CIT000176	Screw connection M-F 1-1/2"
Options	
PNE004478	Mounting Coupling MC-51-CS
PNE004597	Outside in mounting SS304
PNE004097	Outside in mounting SS316
PNE004177	Seal for O/I mounting



For a detailed AirSweep® System proposal engineered specifically for your application, please answer all applicable questions.

Company Name \_\_\_\_\_  
Contact Name and Title \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip or Postal Code \_\_\_\_\_  
Country \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_  
Email \_\_\_\_\_

## 1. Description of Application / Problem:

\_\_\_\_\_  
\_\_\_\_\_

## 2. Description of Material in Vessel:

\_\_\_\_\_  
\_\_\_\_\_

(A) Moisture content \_\_\_\_\_ % Min. \_\_\_\_\_ % Max.

(B) Range of particle size: Min. \_\_\_\_\_ ☐ inches ☐ mm, or \_\_\_\_\_ Mesh

Max. \_\_\_\_\_ ☐ inches ☐ mm, or \_\_\_\_\_ Mesh

Percent Under 60 Mesh \_\_\_\_\_ % / Under 200 Mesh \_\_\_\_\_ %

(C) Temperature (Max): \_\_\_\_\_ Please check one: ☐ °F or ☐ °C

(D) Density: \_\_\_\_\_ ☐ lb/ft.<sup>3</sup> ☐ kg/m<sup>3</sup>

(E) Special characteristics: \_\_\_\_\_  
\_\_\_\_\_

Mesh	Micron	Inches
4	4760	.185
6	3360	.131
8	2380	.093
12	1680	.065
16	1190	.046
20	840	.0328
30	590	.0232
40	420	.0164
50	297	.0116
60	250	.0097
70	210	.0082
80	177	.0069
100	149	.0058
140	105	.0041
200	74	.0029
230	62	.0023
270	53	.0021
325	44	.0017
400	37	.0015
625	20	.0008
1250	10	.0004
2500	5	.0002

## 3. Description of Vessel (Please submit a drawing)

(A) Vessel construction: ☐ Carbon Steel ☐ SS 304 ☐ SS 316 ☐ Concrete ☐ Other \_\_\_\_\_

(B) Capacity: \_\_\_\_\_ ☐ tons ☐ metric tons, or \_\_\_\_\_ ☐ cubic feet ☐ cubic meter

(C) Wall thickness: \_\_\_\_\_ ☐ inches ☐ mm

(D) Slope of wall: \_\_\_\_\_ ° from Horizontal

(E) Size of discharge opening (Please specify unit of measurement): \_\_\_\_\_

(F) Size of vessel before slope: (Diameter or H x W x D. Please specify unit of measurement) \_\_\_\_\_

(G) Type of gate: \_\_\_\_\_

(H) Number of vessels like this one: \_\_\_\_\_

*Continued on the next page.*





**4. Flow of Material:**

(A) Level of material is typically \_\_\_\_\_ to \_\_\_\_\_ ☐ feet ☐ meter above bottom discharge.

(B) Vessel is filled by ☐ Conveyor ☐ Feeder ☐ Bucket ☐ Other \_\_\_\_\_

**AND**

Discharges onto ☐ Conveyor ☐ Feeder ☐ Truck ☐ Other \_\_\_\_\_

(C) Required flow from vessel is: ☐ Continuous ☐ Intermittent

(D) Current discharge is: ☐ Air ☐ Gravity

(E) Required rate of flow is \_\_\_\_\_ ☐ tons / hour ☐ metric tons / hour

**5. System Control**

(A) Is stand-alone control required? ☐ Yes ☐ No

(B) Will manual override be needed? ☐ Yes ☐ No

(C) Voltage requirement: ☐ 110 ☐ 220 ☐ 24 ☐ Other \_\_\_\_\_

(D) Please specify any special features required for system control:

\_\_\_\_\_  
\_\_\_\_\_

**6. Air Supply**

(A) Air supply available at vessel: \_\_\_\_\_ ☐ PSI ☐ BAR and \_\_\_\_\_ ☐ CFM ☐ m<sup>3</sup>/min

(B) Air supply pipe size diameter: \_\_\_\_\_ ☐ inches ☐ mm

**7. Please indicate any other flow aids that have been tried with this application:**

\_\_\_\_\_

**8. Who is the end user?**

\_\_\_\_\_





## Stay in contact!

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## Find us!

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