

VIBRATORS WON'T CUT IT: AIRSWEEP® SLICES THROUGH STICKY FOOD JUST LIKE AN AIR KNIFE

A cheese company found themselves in a very sticky situation. The whey protein concentrate (WPC), which has a very high moisture and fat content, was prone to bridging over the discharge. Unfortunately, this wasn't just delaying production. **The caked material had sparked a fire in one of their baghouses.** Bridging had become an urgent safety concern.



High moisture and fat content materials like whey often cause bridging problems.

THE PROBLEM

STICKY INGREDIENT, STRICT USDA REGULATIONS, STALLED PRODUCTION – AND NO WHEY OUT

Many factories use vibrators to dislodge whey protein and other sticky substances. However, vibrators can actually worsen the bridging problem. By settling material and shaking out the air, they pack the substance – much like banging a cup of flour on the table. That works if you're baking brownies, but not if you're trying to improve material flow in a factory. FSMA, USDA and FDA standards and guidelines mean that food manufacturers must rely on equipment designed to meet those strict standards. **The cheese company needed a safe, effective, USDA-accepted solution.**

THE SOLUTION

USDA-ACCEPTED AIR SYSTEM SLICES THROUGH BLOCKAGES AND CUTS PRODUCTION TIME

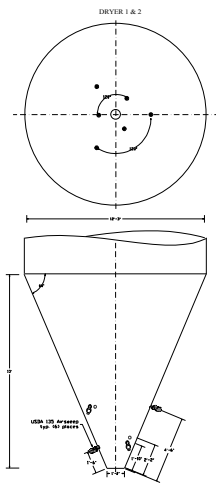
That solution was [AirSweep® USDA 135](#). Unlike vibrators – which condense moist powders and eventually damage the vessel – the AirSweep® uses high-pressure, high-volume bursts of compressed air. These pulses are like an “air knife” that slice through thick, dense substance and dislodge any blockages.

HOW AIRSWEEP WORKS

1. Each AirSweep® nozzle disperses a powerful burst of high-pressure, high volume air or inert gas in 250 millisecond bursts.
2. The quick pulse sends a shock wave along the inner vessel wall, lifting and activating stalled material and breaking the friction bond between the material and vessel wall.
3. The system is pulsed in a pre-set sequence when material is to be discharged from the bin.
4. A typical system may consist of 3 or 4 AirSweep® nozzles, high-flow solenoid valves, sequence timer/controller, air filters, regulator, air receiver, flex hoses and ball valves.



AirSweep® USDA 135



AirSweep® Placement Diagram

The [AirSweep® USDA 135](#) is designed specifically for applications that require sanitary equipment and frequent cleaning. It is used by several food companies around the world, including for powdered baby formula.

The cheese company initially ordered three **AirSweep® USDA 135** units in the baghouse hopper, which were mounted with couplings and placed 120 degrees apart.

Initial testing proved that they worked well, except for whey materials that were treated with lecithin, which makes it stickier and easier to dissolve in water. They installed an additional three units, including one which was placed in the drop tube discharge. **This immediately solved the problem.**

THE RESULT

THE BEST WHEY: COMPANY REPLACES VIBRATORS WITH AIRSWEEP®

Since the AirSweep® USDA 135 was installed, **the cheese company has not experienced any bridging issues.** They are now implementing the AirSweep® system in their other factories in the United States.



*Control Concepts, Inc. provides
a 7-year warranty on the
AirSweep® unit.*

AIRSWEEP®
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MORE INFORMATION

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[Read about our experience in the food industry](#)

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