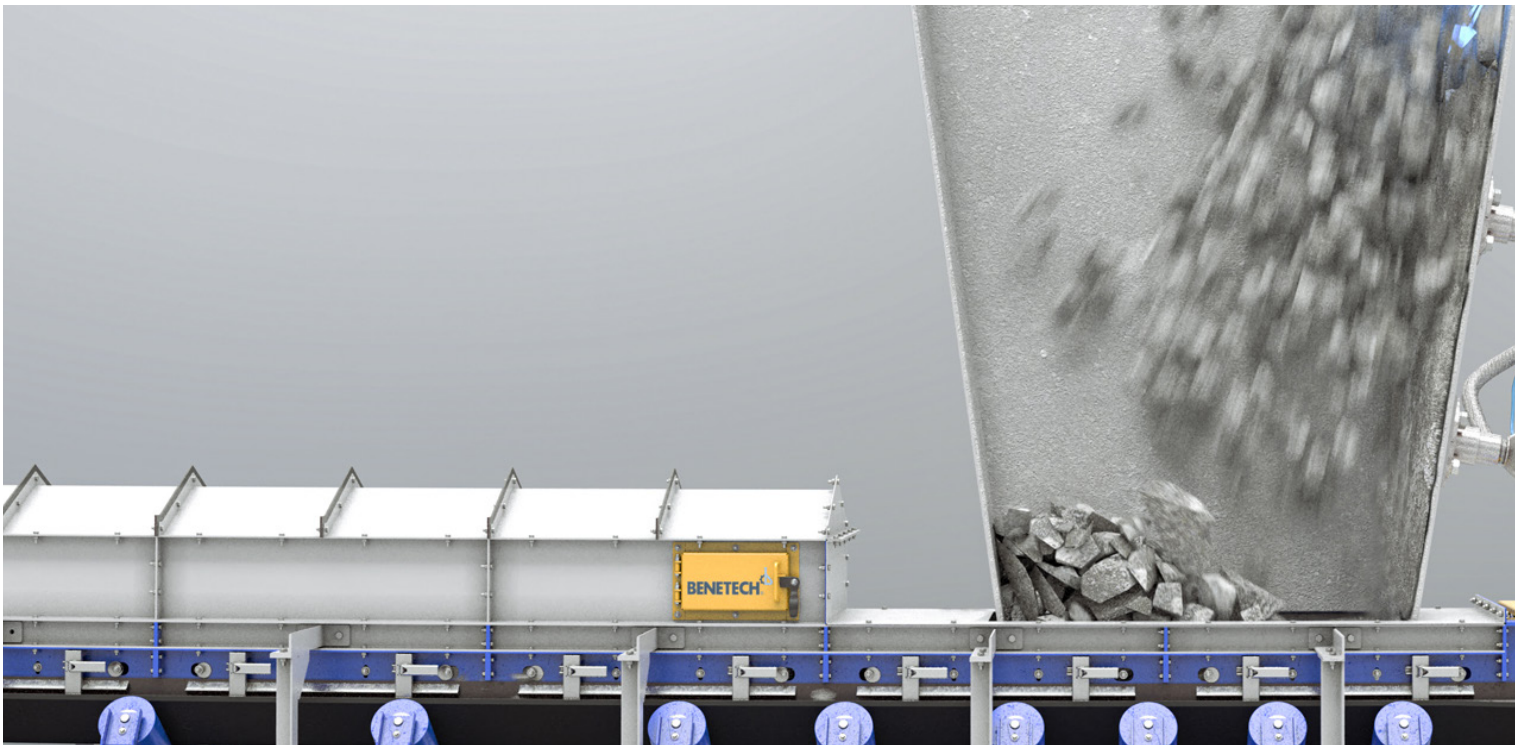
BENETECH®

CLEAN SWEEP AIR CONTROL

Pluggage Problem Solver

Poor material flow can cause material build-up, halting your production.

With the ease of maintenance in mind, Benetech's engineering team has created the Clean Sweep AC.



Clean Sweep AC Overview

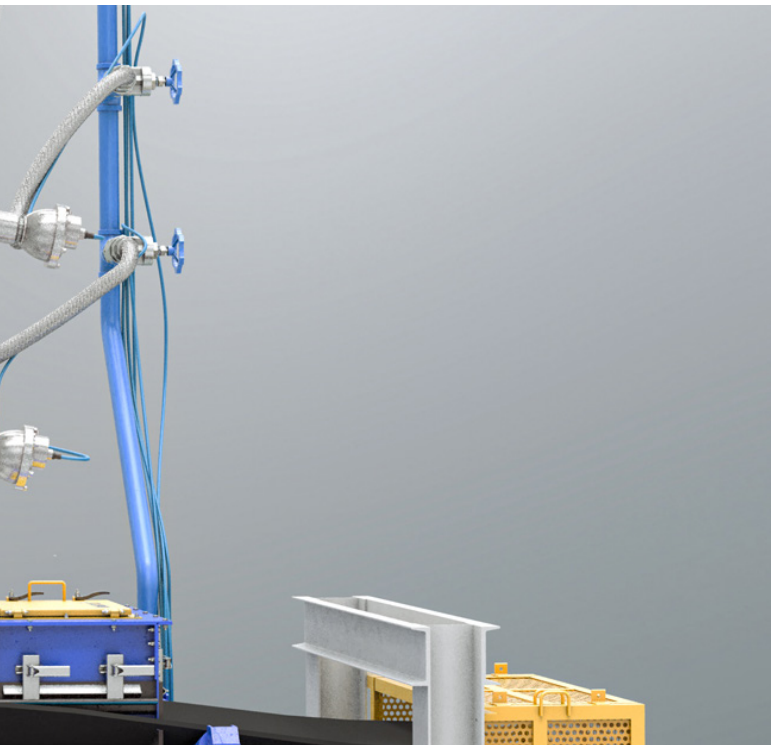
Improved Efficiency

The Clean Sweep is specifically designed to improve bulk material flow before pluggage can occur. Clean Sweep nozzles remove accumulated material from inside of chute, silo, or bin wall. A 360-degree pulse of air is delivered to dislodge wet and sticky material before it can build up and cause pluggage problems.

A steady material flow is essential for production as unplanned stoppages can be costly.

The Clean Sweep is the only radial, pneumatic cleaning system specifically designed for bulk material handling and not to damage ceramic-lined chutes.

Easy to install and maintain, Clean Sweep AC is your trouble-free answer to ensuring uninterrupted material flow, especially for wet and sticky substances such as sand, cement, gypsum, pet food, and bulk solids.



Maintenance

Simple to Install

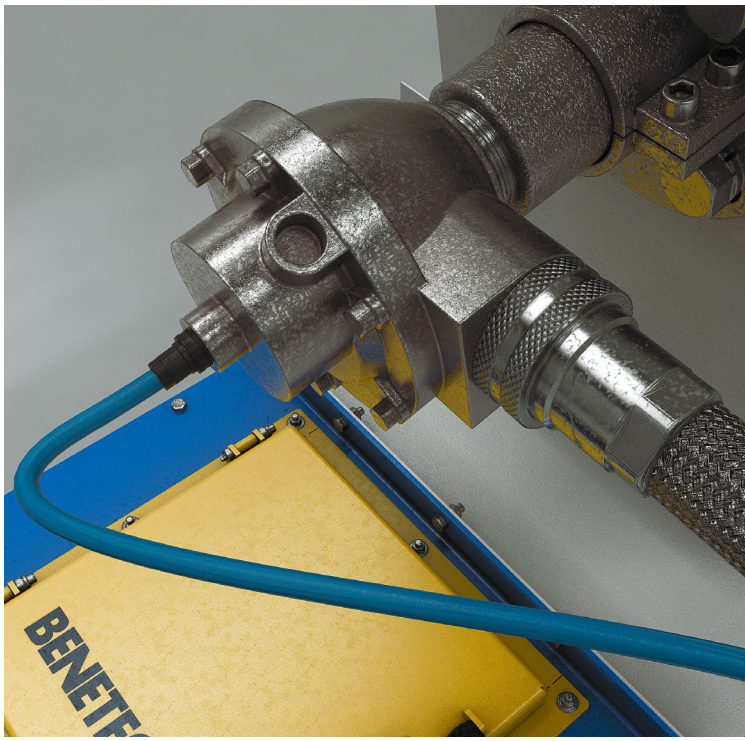
The Clean Sweep system's unique design includes a remote air tank and control station conveniently accessible at ground level. The control station at ground level means there is no need to worry about installing sizeable compressed air tanks on chutes, silos, or bunkers. The Clean Sweep AC control system panel and sequence timers can be located in an area convenient to operations, making it easy to meet any changing air pressure and sequencing adjustments needed. You can adjust the timing sequence and firing rates to be expanded to accommodate various chute configuration changes.

Features

Removes Material Buildup

Eliminate Build-Up and Keep Material Free Flowing with the Clean Sweep.

- Improved Efficiency
- Ease-of-Use
- No Large Compressed Air Usage Required
- Simple to Install & Easy to Maintain
- Automatic Cleaning



How It Works

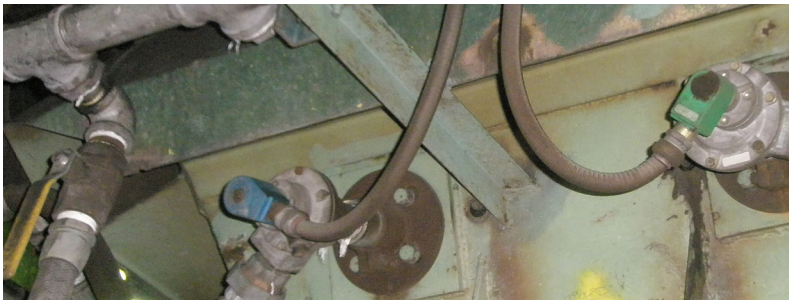
The Clean Sweep AC removes material buildup before pluggage can occur.

Compressed Air

Using standard plant compressed air at 80 to 100 psi, the Clean Sweep removes the buildup of wet, frozen, or sticky materials from the walls of chutes, bins, hoppers, silos, and bunkers.

Automatically, unsupervised, and without interfering with normal material handling operations, loss of material flow due to pluggage is eliminated where the nozzles are correctly positioned.

Each nozzle is supplied with a precise burst of air through a quick open/close air-operated solenoid as compressed air is delivered sequentially to the nozzles.



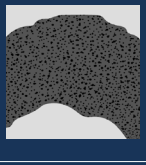
Electronic controls trigger the Clean Sweep nozzles, firing in a predetermined order.

Issues Caused by Build-Up

Common problems of poor material flow include plugged transfer chutes, silos, bins & hoppers.

Caking

Sticky material builds up on the inner wall of the chute, silo, bin, or hopper.

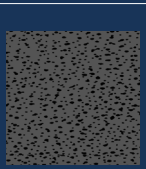


Bridging

Material bridges across the inner walls of the chute, stopping material flow.

Ratholing

Material builds up on the inner chute walls, limiting material throughput.



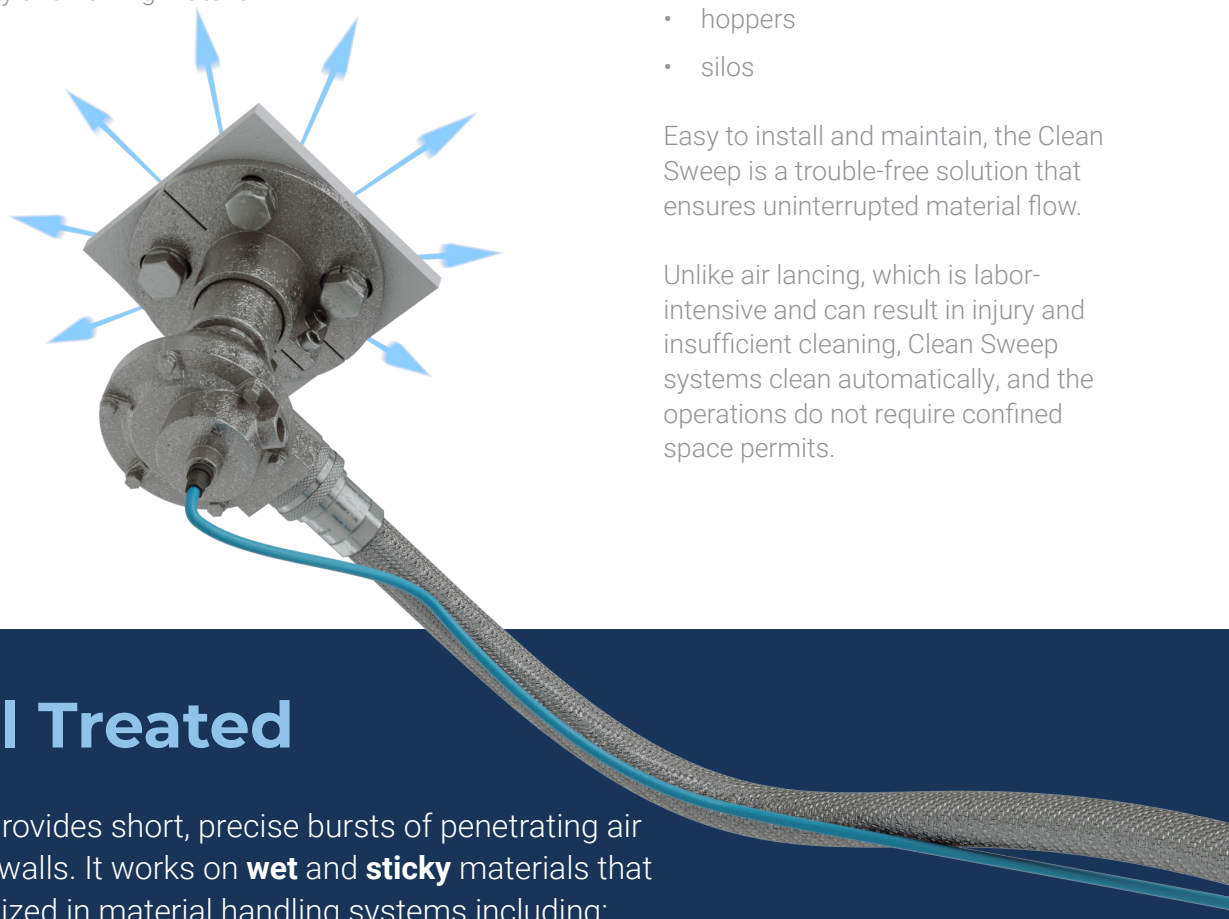
Plugging

Material sticks to the inner walls causing a complete pluggage stopping material flow.

Electronic Controls
360° Nozzles

Let Material Flow

Each nozzle directs air 360° along the surface of the chute work for a distance of approximately 2-3 feet. As a result, the Clean Sweep AC does not allow material to crust or layer, dislodging and breaking up any potential accumulations that can be easily carried away by gravity and flowing material.



Automatic Cleaning

The radial Clean Sweep AC automatic cleaning system prevents buildup and pluggage of:

- transfer chutes
- hoppers
- silos

Easy to install and maintain, the Clean Sweep is a trouble-free solution that ensures uninterrupted material flow.

Unlike air lancing, which is labor-intensive and can result in injury and insufficient cleaning, Clean Sweep systems clean automatically, and the operations do not require confined space permits.

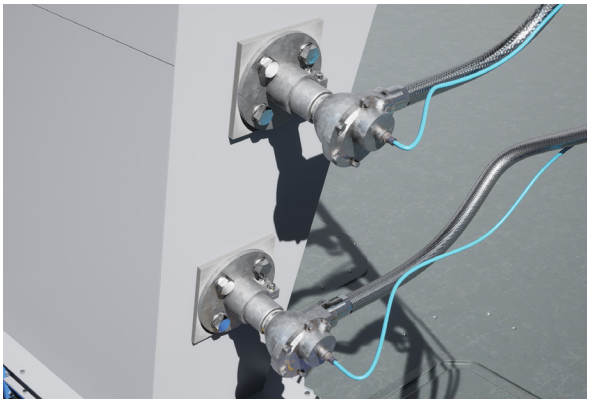
Material Treated

Clean Sweep AC provides short, precise bursts of penetrating air along the surface walls. It works on **wet** and **sticky** materials that tend to bridge. Utilized in material handling systems including:

Aluminum	Copper	Lignite	Salt
Bentonite	Fly Ash	Limestone	Sand
Cement	Gypsum	Soda Ash	Soybeans
Coal	Iron Oxide	Animal Feed	Wood Chips

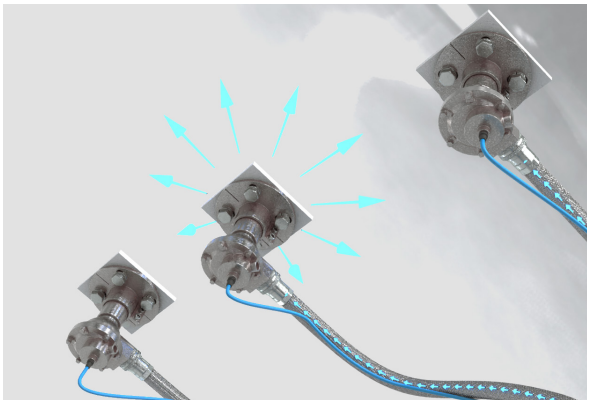
Installation

Easy to work with from start-up to operation.



Automatic & Unsupervised

Using standard plant compressed air at 80 to 100 psi, Clean Sweep AC removes the buildup of wet, frozen, or sticky materials from the walls of chutes, bins, hoppers, silos, and bunkers. Automatically, unsupervised, and without interfering with normal material handling operations. Loss of material flow due to pluggage is virtually eliminated where Clean Sweep AC nozzles are correctly positioned.



360° Bursts of Plant Air

The system's electronic controls trigger Clean Sweep AC nozzles, firing in a predetermined order. Each nozzle is supplied with a precise burst of plant air through a quick open/close air-operated solenoid. As compressed air is delivered sequentially to the nozzles, each nozzle directs air 360° along the surface of the chute work for a distance of approximately 2-3 feet. Clean Sweep AC breaks up any potential accumulations.

Sequencing Adjustments

An activated radial Clean Sweep AC nozzle emits circular bursts along the chute wall for a tenth of a second. making air pressure rates and sequencing adjustments to meet changing requirements is easy. The sequence timer is not installed on the silo bunker; instead, it is located in an easily accessible location. Adjustments can be made in minutes, seconds, and Clean Sweep AC can be expand to accommodate a variety of chute configuration changes.

Ordering

Clean Sweep AC Part Numbers

The Clean Sweep AC Kit includes:

- steel nozzle with high-pressure hose
- solenoid valves
- flange mounting plate and weld plate
- all the necessary connection hardware between nozzles and the system headers

Nozzles Description	Kit NEMA Rating	Nozzles Per Kit	Kit Part Number	Descriptions *inclues nozzles and mechanical equipment
Nozzle Equipment Kit	4	2	PACS-SYS-02-NEMA4	(2) NOZZLE PACS EQUIPMENT KIT, NEMA 4 PILOT VALVE ENCLOSURE*
	4	5	PACS-SYS-05-NEMA4	(5) NOZZLE PACS EQUIPMENT KIT, NEMA 4 PILOT VALVE ENCLOSURE*
	4	8	PACS-SYS-08-NEMA4	(8) NOZZLE PACS EQUIPMENT KIT, NEMA 4 PILOT VALVE ENCLOSURE*
	4	12	PACS-SYS-12-NEMA4	(12) NOZZLE PACS EQUIPMENT KIT, NEMA 4 PILOT VALVE ENCLOSURE*
	7/9	4	PACS-SYS-04-NEMA79	(4) NOZZLE PACS EQUIPMENT KIT, NEMA 7/9 PILOT VALVE ENCLOSURE*
	7/9	6	PACS-SYS-06-NEMA79	(6) NOZZLE PACS EQUIPMENT KIT, NEMA 7/9 PILOT VALVE ENCLOSURE*

*INCLUDES NOZZLES AND MECHANICAL EQUIPMENT
*WHEN ORDERING, PLEASE SPECIFY QUANTITY OF KITS AND OPTIONS REQUIRED PER SYSTEM

Options Description	NEMA Rating	# Nozzles to be controlled	Part Number	Descriptions
Sequence Timer Panel For Automatic Operation	4X	2-10	PACS-CONTROL-NEMA4X-10CH	(10) CHANNEL CONTROL PANEL, NEMA 4X ENCLOSURE**
	4X	11-22	PACS-CONTROL-NEMA4X-22CH	(22) CHANNEL CONTROL PANEL, NEMA 4X ENCLOSURE**
	7/9	2-10	PACS-CONTROL-NEMA79-10CH	(10) CHANNEL CONTROL PANEL, NEMA 7/9 ENCLOSURE**
	7/9	11-22	PACS-CONTROL-NEMA79-22CH	(22) CHANNEL CONTROL PANEL, NEMA 7/9 ENCLOSURE**

**WITH SELECTOR SWITCH, MANUAL ELECTRIC ACTIVATION SWITCH, INDICATING LIGHTS, PRE-WIRED, ASSEMBLED & TESTED

Nozzles Description	Kit NEMA Rating	Nozzles Per Kit	Kit Part Number	Descriptions *inclues nozzles and mechanical equipment
Pushbutton Control For Manual Operation	N/A	1	96574	(1) NOZZLE MANUAL PUSHBUTTON CONTROL, AIR ACTUATED (NO ELECTRICAL)

Options Description	NEMA Rating	# Nozzles to be controlled	Part Number	Descriptions
Air Receiver Tank	N/A	2-10	PACS-TANK-30GAL	30 GALLON TANK KIT, ASME-Code***
	N/A	11-22	PACS-TANK-60GAL	60 GALLON TANK KIT, ASME-Code***

***INCLUDES TANK, BALL VALVES, PRESSURE REGULATOR, SAFETY VALVE, PRESSURE GAUGE, CONDENSATE SEPARATOR

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