AIRSWEEP® MAX MATERIAL ACTIVATION XCELLENCE

MODEL VA-51-MAX

IMPROVED FOR MAXIMUM PERFORMANCE AND SAVINGS

Up to 52% more airflow | Activates 6 to 8 feet of material (1.83 to 2.44 Meters) | Ideal for large hoppers, bins or chutes

SOLVE TOUGH FLOW PROBLEMS

The AirSweep® material activation system delivers on-demand product flow, eliminates hang-ups and blockages, cleans interior surfaces and enhances batch uniformity.

PATENTED DESIGN

360° activation of material for controlled flow

Each AirSweep nozzle directs high-pressure, high-volume 360° bursts of compressed air or inert gas along the inside walls of process equipment or vessels, breaking friction to lift and sweep stalled material back into the flow stream.

The patented nozzle seals shut after each pulse to prevent material feedback.

Sequenced pulsing of strategically-positioned AirSweep units activate bulk material to produce first-in, first-out controlled flow.

Product Highlights

BENEFITS

- **Powerful:** Up to 52% increased air flow
- **Convenient:** can be disassembled and reassembled with a wrench and a pair of pliers
- **Longest product warranty** of 7 years
- **Versatile:** can be mounted to metal, concrete, fiberglass or wooden vessels

STANDARD MATERIALS OF CONSTRUCTION

- Carbon Steel
- 304 Stainless Steel
- 316 Stainless Steel
- Other materials upon request

Applications

AirSweep® Systems have successfully handled the following materials and more!

Foods		Mined		Chemicals		Other	
Animal feeds	Meal	Borax	Magnetite	Adipic acid	Iron oxide	Acetate	Pharmaceuticals
Brewers grain	Oat hulls	Coal	Phosphate	Boric acid	Lead chromate	Cements	Plastics
Chocolate	Rice bran	Copper	Shale	Calcine	Polyacrilimide	Chalk	Resins
Grains	Salts	Gypsum	Soda ash	Calcium carbonate	Sodium sulfite	Detergents	Sludge
Flour	Starch	Lead	Trona	Herbicides	Titanium dioxide	Fertilizer	Tobacco
Hops	Sugar	Limestone	Uranium	Hydrated Lime	Zinc	Fly ash	Wax flakes/pellets

Contact us for a detailed AirSweep® System proposal, engineered specifically for your application.

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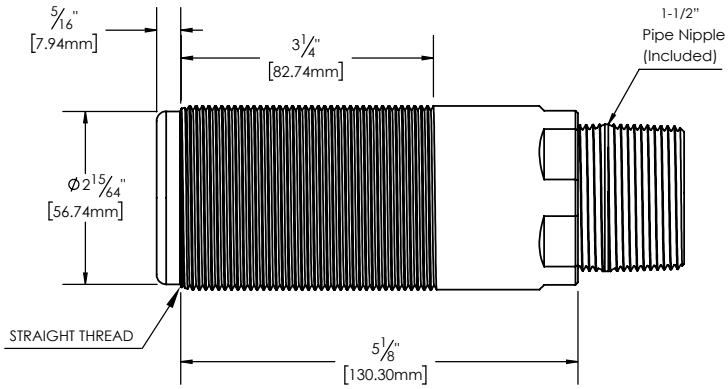
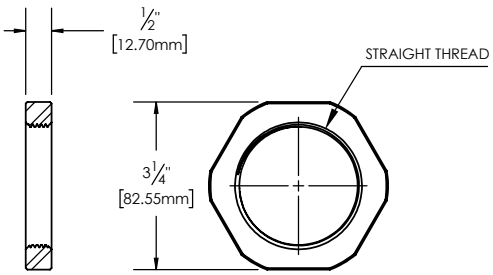
MODEL VA-51-MAX PRODUCT SPECIFICATIONS

VA-51-MAX-NPT* (BSPT available upon request)

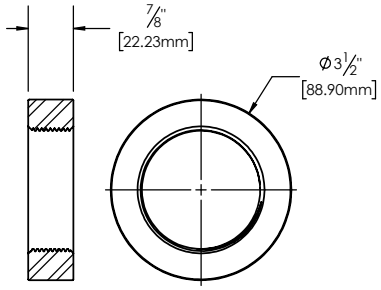


Lock Nut LN-51-xx*

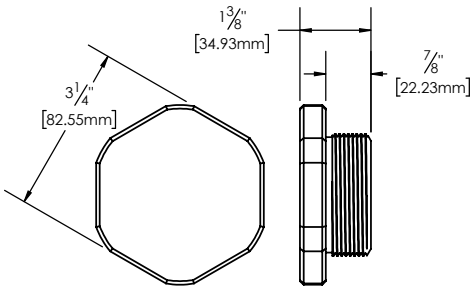


MOUNTING OPTIONS

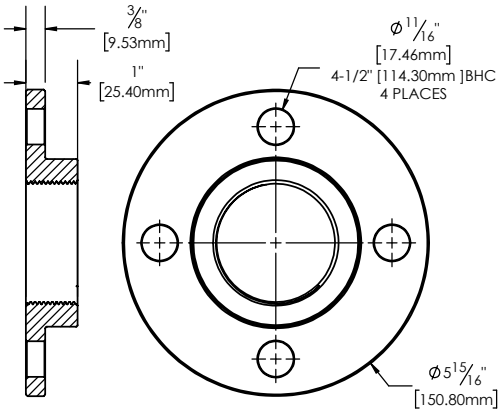
Mount Coupling MC-51-xx* (Weld to vessel)



Plug/Heat Sink P-51-xx*/HS-51A



Mounting Flange MF-51-xx* (Bolt to vessel)



* "-xx" in Part Number = Material Type

Additional mounting options available upon request

Component weights

Component	Carbon Steel	304 Stainless Steel	316 Stainless Steel
VA-51- MAX-NPT	4.50 lb (2.04 kg)	4.31 lb (1.95 kg)	4.39 lb (1.99 kg)
LN-51	0.65 lb (0.29 kg)	0.66 lb (0.29 kg)	0.66 lb (0.29 kg)
MC-51	1.29 lb (0.58 kg)	1.31 lb (0.59 kg)	1.31 lb (0.59 kg)
MF-51	3.04 lb (1.38 kg)	3.09 lb (1.4 kg)	3.08 lb (1.4 kg)

Performance (per unit)*

Material Activation Diameter	Compressed air/gas consumption (per pulse)
6 feet (1.83 m)	1.88 ft^3 (.053 m^3) @ 60 psi (4.14 bar)
8 feet (2.44 m)	3.33 ft^3 (.094 m^3) @ 100 psi (6.89 bar)

*Average per 75lbs/ft^3 material; 250 millisecond pulse

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TYPICAL AIRSWEEP VA-51-MAX SYSTEM

A typical AirSweep material activation system consists of strategically-located AirSweep units, high-flow solenoid valves, electronic sequence controller and air receiver.

The average AirSweep® System uses less than 10 cfm of compressed air or gas making it energy and cost efficient.

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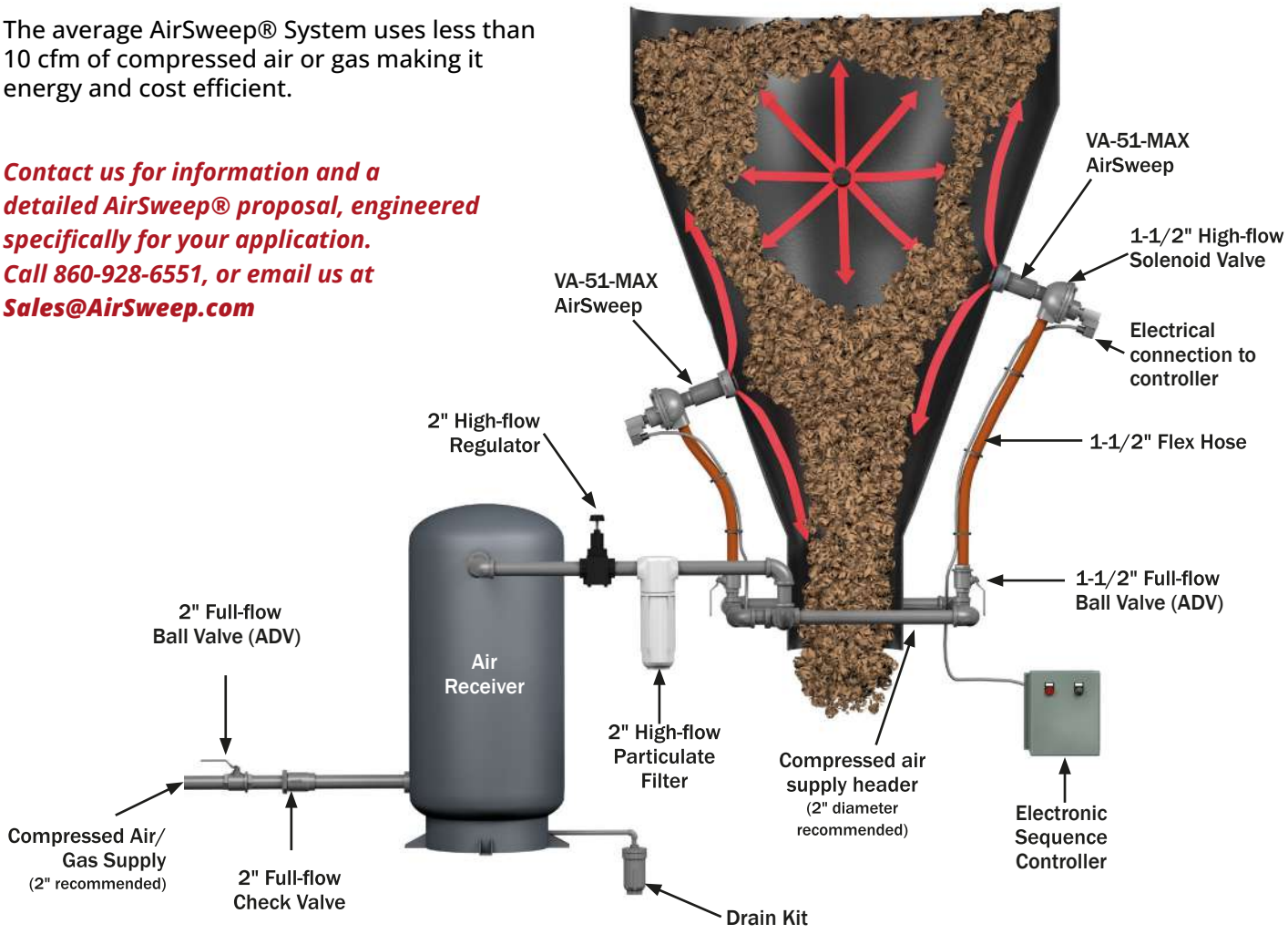

Typical AirSweep Components

- **AirSweep.** VA-51-MAX (ATEX rated)
- **Solenoid Valve.** Delivers rapid, high-volume pulse of compressed air/gas to the AirSweep
- **Flex Hose Assembly.** Connects the solenoid valve to hard-piped header loop
- **2" Full-flow Ball Valve.** Isolation valve for individual nozzles. The use of auto-drain valves (ADV) is highly recommended in pneumatic applications for safety and OSHA compliance.
- **2" High-flow Particulate Filter.** Point-of-use particulate filtration that enhances life of system components by removal of in-line contaminants
- **80-gallon Air Receiver (227.1 L).** Compressed air reservoir ensures instantaneous volume for system
- **2" High-flow Regulator.** Regulates compressed air supply within 60-100 psi for proper AirSweep operation
- **2" Full-flow Check Valve.** Ensures one-way flow to system
- **2" Full-flow Ball Valve.** System shut-off
- **Electronic Sequence Controller.** Controls sequenced pulsing of AirSweep system; adjustable for any process (NEMA 4-7/9 XP enclosures in stock)

Important Note: For safety and future flexibility during installation and maintenance, we recommend instituting the use of unions as needed (also available for purchase).

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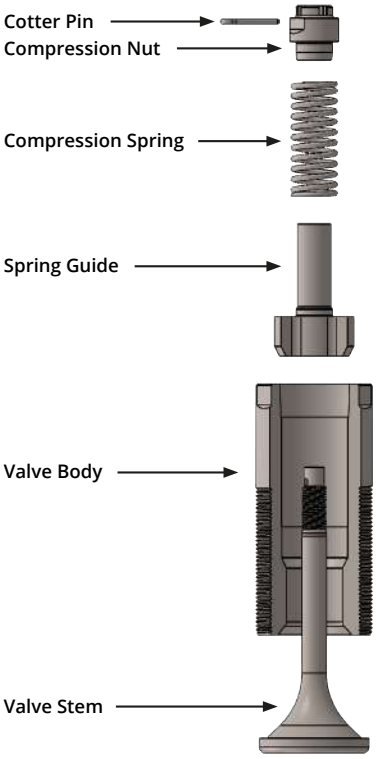
VA-51-MAX ASSEMBLY AND MOUNTING

Individual Parts



Mounting Options

Lock Nut

Mounting Coupling
(Weld to vessel)

Mounting Flange
(Bolt to vessel)

Qty.	Description	Carbon Steel	304 Stainless Steel	316 Stainless Steel
1	Valve Body	VB-51-MAX-CS	VB-51-MAX-SS	VB-51-MAX-316
*1	Spring Guide	SG-51-MAX-CS	SG-51-MAX-SS	SG-51-MAX-316
*1	Valve Stem	VCW-51-MAX-CS	VCW-51-MAX-SS	VCW-51-MAX-316
*1	Compression Spring	-	-	CS-1251-316
*1	Compression Nut	-	-	CPN-1251-316
*1	Cotter Pin	-	-	CP-1251-316
1	Lock Nut	LN-51-CS	LN-51-SS	LN-51-316
1	Mounting Coupling	MC-51-CS-T	MC-51-SS-T	MC-51-316-T
1	Mounting Flange	MF-51-CS-T	MF-51-SS-T	MF-51-316-T

*This part is included in the rebuild kit

Maintenance & Rebuild Kits

PARTS

- Valve Stem
- Spring Guide
- Compression Spring
- Compression Nut
- Cotter Pin

Spring Kit (SK) Parts

- Compression Spring
- Cotter Pin

NOTES

1. Perform a visual inspection of the Valve Stem, Spring Guide, Compression Spring, and Compression Nut for wear and proceed with one of the two options below depending on the outcome of your inspection:
a. If after inspection it is determined that there will be no performance impact with the reuse of the inspected parts, then it is advised to order P/N: SK-51-MAX-316.
This is a Spring Kit consisting of a new Compression Spring and Cotter Pin (only).
b. If it is determined that all inspected parts need replacement, then it is advised to order the full Rebuild Kit P/N: RK-51-MAX-Material Type. Reference the chart below for P/N's based on the material type.

Carbon Steel	304 Stainless Steel	316 Stainless Steel
-	-	SK-51-MAX-316
RK-51-MAX-CS	RK-51-MAX-SS	RK-51-MAX-316

2. Recommended service interval of internal parts:
Approximately 1 million cycles (Typical service interval under standard operating conditions. Some environments, materials and processes may result in a shorter useful service interval.)

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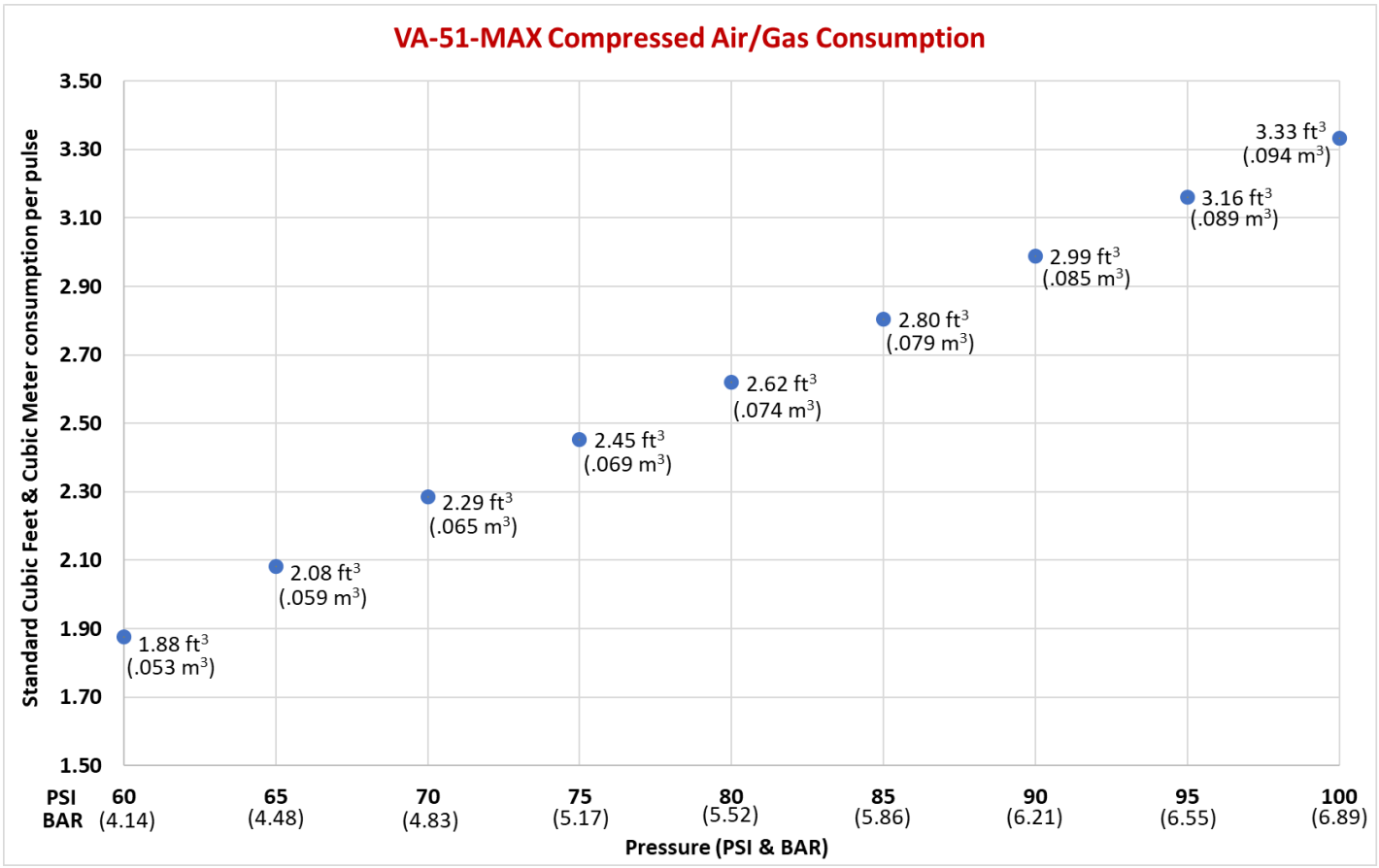
VA-51-MAX TYPICAL OPERATING PARAMETERS

Recommended operating pressure	60 to 100 psi (4.14 to 6.89 bar)
Typical effective diameter of material activation (dry, powdered material, 60-75 lbs/ft³)	6 to 8 feet (1.83m to 2.44m) around each nozzle
Recommended pulse time	250 milliseconds
Approximate air/gas consumption rate per 250 millisecond pulse	1.88 ft³ (.053 m³) @ 60 psi (4.14 bar) 3.33 ft³ (.094 m³) @ 100 psi (6.89 bar)
Typical sequence rate range (application/material dependent)	3 pulses to 12 pulses per minute
Typical (approx.) compressed air/gas consumption rate range (based on typical sequence rate range of 3 to 12 pulses/min)	5.63 to 22.52 scfm @ 60 psi (4.14 bar) 9.99 to 39.99 scfm @ 100 psi (6.89 bar)



● = Consumption per 250 millisecond pulse

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