

Magnum Force™ Ionizing Air Systems



Magnum Force Ionizing Air Knife System

Description

SIMCO Industrial Static Control's Magnum Force Ionizing Air Systems combine static eliminators with blower generated air knives and nozzles to produce a continuous jet of clean ionized air for removal of particulate from flat or contoured surfaces. Each system includes one or more ionizing air knives or ionizing nozzles and a blower system. The blower system performance levels are custom configured for each application and each system includes a blower, motor, silencer and filter. The Magnum Force systems use a blower instead of compressed air, reducing operational costs by 30% to 70% (see chart on reverse).

The Magnum Force Ionizing Air Knife System is designed for easy configuration into large halo systems for automotive and truck body cleaning prior to painting. Other applications include:

- **Plastic** automotive interior parts, appliances and product cleaning prior to painting
- **Wooden** panels, doors and cabinet cleaning
- **Liquid** blow-off
- **Metal** Can and bottle cleaning
- Thermoformed and injection molded parts cleaning
- **Glass** and plastic sheet cleaning

The Magnum Force Ionizing Nozzle delivers a focused, high velocity air jet at a distance of up to 48". Ionizing Nozzles can also be used for spot finishing with an air knife system when used for surface and liquid blow-off.

Features and Benefits

Blower

- Costs savings of 30% - 70% by eliminating compressed air.
- Up to 34% quieter than other systems.

Ionizing Air Knife System

- Combined air knife lengths up to 220" and air velocities from 5,000 to 25,000 fpm per blower.
- Adjustable blades provide air jet control
- Static bars facilitate easy removal of particulate and reduces quality rejects caused by contamination.
- Liquid blow-off configurations available.
- Easy installation and positioning.
- Corrosion resist body and brackets.

Ionizing Nozzle

- Concentrated air jet optimizes cleaning
- Install up to 48" away from target surface.
- Static bar option facilitate easy removal of particulate and reduces quality rejects caused by contamination.

Magnum Force Air Knife System vs. Compressed Air Knife Operation Costs

Air Knife Length	Annual cost (2000 hrs.) compressed air knife	Annual Savings with the Magnum Force	Blower Size	Annual Savings with the Magnum Force System
24"	\$ 2,020	\$ 170	3 HP	\$ 1,850
60"	5,040	575	10HP	4,465
90"	7,560	828	15HP	6,732
120"	10,080	1,104	20HP	8,976
180"	15,120	1,380	25 HP	13,740

1. Based on a system using static bar and removing medium to heavy particulate.
 2. Compressed air calculations based on 40psi 3.5scfm/in with National Operating Cost of \$0.20/1000.
 3. Magnum Force System blower calculations based on 220 VAC input, 3600 RPM blower with National Electrical Operating Cost of \$0.05 per hour

Specifications

Magnum Force Ionizing Air Knife

Standard Unit Overall Lengths (OAL)

- 4" dia. up to 48"; 6" dia. up to 120"
- Available in 6" increments. Custom sizes available

Air Output Velocity Control

- Output orifice adjustable from .032" to .250"

Standard Inlet Location

- Air knife supplied standard with end inlet.
- Center inlet and double top inlet options available

Mounting

- Stainless steel, flanged support collars and hardware

Housing

- Extruded aluminum with cast aluminum flanged end collars

Finish

- Anodized for corrosion protection
- Powder-coated cast aluminum ends and center inlet collars

Options

- Sound enclosures
- Nozzles and knives for liquid blow-off
- Non-standard voltage for motors
- Sound proof wrapping for ducting

Static Bars and Power Supplies for Air Knife

Standard

- SIMCO MEB Shockless Static Bar and F167 Power Supply

Options

- Blue Bar HL Shockless Static Bar; UL Classification, Class 1, Div. 1, Group D hazardous locations. FM Approved with XPM167 Power Supply
- R50 Blue Bar Shockless Static Bar and D167Q Power Supply or M167 Power Supply with monitoring system
- R51 Blue Bar Shockless Static Bar and M165 Power Supply with Monitoring System

Magnum Force Ionizing Nozzle

Finish

- Anodized for corrosion protection
- Spun aluminum casting

Input Connection

- 4" flexible hose

Mounting

- 3/4" and 1" pipe, multiple units mounted on a custom plenum

Air Flow Discharge Distance

- Model X50 - up to 24"
- Model X75 - up to 48"
- Model X125 - up to 30"

Options

- Standard and articulating manifold assemblies

Shockless Static Bars available for Nozzle

- MEB Static Bar and F167 Power Supply
- R50 Blue Bar Static Bar and M167 Power Supply
- R51 Blue Bar Static Bar and M165 Power Supply
- Blue Bar HL Static Bar and XPM 167 Power Supply

When performance monitoring is required, the True AC Power Supply may be used with the Blue Bars.

Blower

Air Output Velocity

- 5,000 to 25,000 fpm
- Specification certified by Air Movement and Control Association (AMCA)

Power Requirements

- 208-230 or 460 Volts, 60 Hz 3-phase
- Totally enclosed fan-cooled motor (TEFC)
- Fan size varies to fit application

Silencer/Filter

- 10 micron replaceable cartridge in coated steel casing

Housing

- Reinforced fiberglass composite materials

Base

- Powder coated steel

dB Level

- 78dB to 120dB depending on HP and motor RPM options

Options

- Wash Down
- Explosion Proof