Ionizing Air Nozzles

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1 Ionizing Air Nozzles

Ionizing Air Nozzles

1.1 Overview

Ionizing air nozzles produce a high-velocity ionized air flow which simultaneously cleans and neutralizes static charges.

1.2 Benefits

The nozzles operate on compressed air and provide a pinpoint ionized air source for being used in critical cleaning and/or static neutralising.

1.3 Applications

Ionizing air nozzles produce a high-velocity ionized air flow which simultaneously cleans and neutralises static charges on parts and materials. Nozzles can be fitted and installed in many configurations to meet specific requirements. power units supply the high voltage necessary for

operation. If required, all nozzles can be fitted with a stop valve. Type HE can be fitted on a standard air header.

2 Models

2.1 Airknife with Anti-static Bar

Air knives with a anti-static bar combine the effects of air amplification and ionization to produce a high-velocity "sheet" of ionized air (amplification ratio as high as 25:1). This combined effect can be used for static neutralizing and dust removal in a single operation, for instance in the automotive finishing, printing, packaging, plastics and textile industries. The air knife is very compact and does not have any moving parts. anti-static bars produce an electrical field which causes air molecules to break down into positive and negative ions. These ions are picked up by the high-velocity air flow produced by the air knife and propelled into the work area where they neutralize the charged surface or product.

MEB: Air knife with anti-static bar

A type MEB shock-proof anti-static bar combined with an airknife come in standard lengths. The compressed air is blown across the high-voltage points over the entire width and amplified by the ambient air carried along. The air flow is saturated by the positive and negative ions produced by the anti-static bar. The air flow neutralises the static charge, enabling any contamination to be easily blown away.

Model	MEB
Working distance	3000 mm
Working width	76 150 310 460 610 mm
Housing material	aluminum
Inner bar matarial	PVC
Ionisation point	special alloy
Cable	metal shielded
Weight	2,6 kg/m
Ambient temperature	0 - 55°
Use circumstances	industrial
Protection classification	-
Operating voltage	7 kV AC
Air consumption	on request
Pressure	Max. 10 bar
Airconnection	1/4" BSP
Options	airfilter
Suitable power unit	A2A7S
Input voltage	-
Approval	UL

Performax Easy: Air knife with anti-static bar

The Airknife with Performax Easy is especially useful for situations where the ionisation or cleaning needs to be mobile s.a. cleaning parts with a robot. With the 24V connection it is easy to install in such applications. The Airknife with Performax Easy is standard available in 3 lenghts, 12, 18 and 24 inch. Longer combiations on request.

Model	Performax Easy
Working distance	3000 mm
Working width	310 460 610 mm
Housing material	aluminum/steel
Inner bar matarial	reinforced plastic
Ionisation point	special alloy
Cable	low voltage
Weight	4 kg/m
Ambient temperature	0 - 55°
Use circumstances	industrial
Protection classification	IP66
Operating voltage	9 kV AC
Air consumption	on request
Pressure	Max. 10 bar
Airconnection	1/4" BSP
Options	airfilter
Suitable power unit	integrated
Input voltage	24 V DC $<$ 0,5 A
Approval	-

2.2 Ionizing Air Nozzles

Ionizing air nozzles produce a high-velocity ionized air flow which simultaneously cleans and neutralizes static charges on parts and materials. The nozzles operate on compressed air and provide a pin-point ionized air source for being used in critical cleaning and/or static neutralizing. Nozzles can be fitted and installed in many configurations to meet specific requirements. power units supply the high voltage necessary for operation. If required, all nozzles can be fitted with a stop valve. The HE and H types can be fitted on a standard air header.

HE: Ionizing nozzle

The high voltage at both emitter points is current limited. Being installed outside the air flow, the high-voltage points are hardly subject to fouling, if at all. The nozzle blowoff force is high at a relatively low air consumption.

Model	HE
Working distance	250 mm
Housing material	plastic
Ionisation point	special alloy
Cable	PVC and PE
Weight	0,04 kg
Ambient temperature	0 - 55°
Use circumstances	industrial
Operating voltage	7 kV AC
Noise level	66 dB using 1 bar (at 1 metre)
Air consumption	3,5 Nm3/h using 1 bar
Max. pressure	7 bar
Airconnection	1/8" BSPT on nozzle
Option	multiple nozzles on header
Suitable power unit	A2A7S

Flat: Ionizing nozzle

The Flat ionizing air nozzle is used to clean and neutralize electrostatically charged surfaces. The use of compressed air allows awkward places to be neutralized and cleaned as well. Connected to a SIMCO power unit, the ionizing air nozzles produce an air flow which is rich in positive and negative ions. When this air flow is pointed to an electrostatically charged area, electrons are exchanged until the area is neutralized. This makes that the material is neutralized during the blow-off process and prevents the blown-off particles from being re-attracted. The current of the Flat Nozzle is limited, so that the emitter point is safe to touch. The Flat Nozzle is especially suitable for neutralising at the feeding and delivery sections of machines in the printing industry.

Model	Flat
Working distance	50 - 300 mm
Housing material	ABS and PVC
Ionisation point	special alloy
Cable	PVC en PE
Weight	0,23 kg incl. 3 m HV cable
Ambient temperature	0 - 55°
Use circumstances	industrial
Operating voltage	7 kV AC
Noise level	-
Air consumption	-
Max. pressure	6 bar
Airconnection	1/8" BSP
Option	-
Suitable power unit	A2A7S

BW: Ionizing nozzle

This nozzle has been designed especially for neutralising and cleaning (small) bottles on the inside, etc. Ionisation takes place at the end of the tube from which the air is blown. The high-voltage point is not shockless. The tubes are available in two diameters and in a required length. A flexible version of the tube is also possible (type BFW)

Model	BW
Working distance	150 mm
Housing material	plastic, stainless steel
Ionisation point	special alloy
Cable	PVC en PE
Weight	0,06 kg
Ambient temperature	0 - 55°
Use circumstances	industrial
Operating voltage	3,3 kV AC
Noise level	58 dB using 1 bar (at 1 metre)
Air consumption	with 1/4" tube 4 Nm3/h using 1 bar
Max. pressure	6 bar
Airconnection	1/8" BSPT
Option	flexible tube
Suitable power unit	A2A3S

3 Technical data

Airknife with Anti-static Bar

Model	Working distance	Working width	Housing material
MEB	3000 mm	76 150 310 460 610 mm	aluminum
Performax Easy	3000 mm	310 460 610 mm	aluminum/steel

Model	Inner bar matarial	Ionisation point	Cable	Weight
MEB	PVC	special alloy	metal shielded	2,6 kg/m
Performax Easy	reinforced plastic	special alloy	low voltage	4 kg/m

Model	Ambient temperature	Use circumstances	Protection classification	Operating voltage	Air consumption
MEB	0 - 55°	industrial	-	7 kV AC	on request
Performax Easy	0 - 55°	industrial	IP66	9 kV AC	on request

Model	Pressure	Airconnection	Options	Suitable power unit	Input voltage	Approval
MEB	Max. 10 bar	1/4" BSP	airfilter	A2A7S	-	UL
Performax Easy	Max. 10 bar	1/4" BSP	airfilter	integrated	24 V DC < 0,5 A	-

Ionizing Air Nozzles

Model	Working distance	Housing material	Ionisation point	Cable	Weight
HE	250 mm	plastic	special alloy	PVC and PE	0,04 kg
Flat	50 - 300 mm	ABS and PVC	special alloy	PVC en PE	0,23 kg incl. 3 m HV cable
BW	150 mm	plastic, stainless steel	special alloy	PVC en PE	0,06 kg

Model	Ambient temperature	Use circumstances	Operating voltage	Noise level	Air consumption
HE	0 - 55°	industrial	7 kV AC	66 dB using 1 bar (at 1 metre)	3,5 Nm3/h using 1 bar
Flat	0 - 55°	industrial	7 kV AC	-	-
BW	0 - 55°	industrial	3,3 kV AC	58 dB using 1 bar (at 1 metre)	with 1/4" tube 4 Nm3/h using 1 bar

Model	Max. pressure	Airconnection	Option	Suitable power unit
HE	7 bar	1/8" BSPT on nozzle	multiple nozzles on header	A2A7S
Flat	6 bar	1/8" BSP	-	A2A7S
BW	6 bar	1/8" BSPT	flexible tube	A2A3S