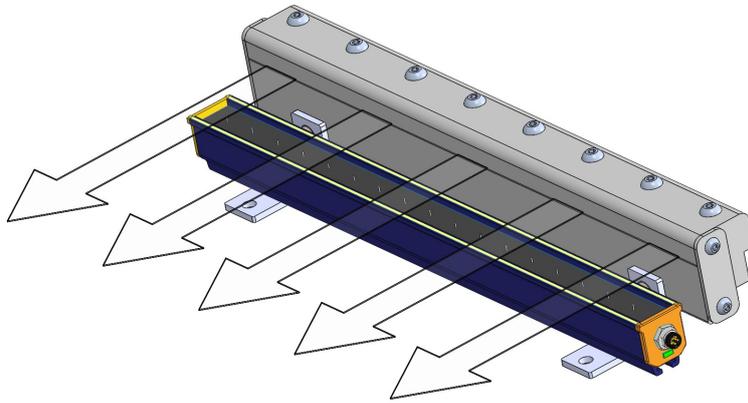


User's Manual

Air knife with ionizing bar

Air knife



simco.nl/6399





This manual was originally written in English.

The product may have undergone changes that are not reflected in this manual.

Simco (Nederland) B.V.
Aalsvoort 74
7241MB LOCHEM
Phone +31 573 288 333
Email cs@simco-ion.nl
Internet <https://simco-ion.nl>

Trade register Apeldoorn No. 08046136

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Explanation of symbols

The following symbols may appear in this manual or on the product



WARNING Indicates special information to prevent injury or significant damage to the product or the environment



DANGER Indicates information for preventing electric shocks



NOTE Important information for making the most efficient use of the product and for preventing damage to the product or the environment



HINT Advice about the use of the product

Preface

This manual describes the installation and usage of Air knives in combination with an anti-static bar.

Any mention of an Air knife elsewhere in this manual refers to the air knife/anti-static bar combination.

This manual must always be accessible to the operating personnel.

Read this manual completely before installing and commissioning this product.

Instructions in this manual must be followed to ensure proper operation of the product and to make a warranty claim.

The warranty provisions are described in the General Terms and Conditions of Sale of Simco (Nederland) B.V.



NOTE

If there are any problems or doubts, please get in touch with Simco-ION Netherlands or the agent in your region.



NOTE

Product names may be abbreviated in the documentation.

Below the abbreviations and full product names with the link to the relevant documentation.

Abbreviated product name	Full Simco-ION product name	Documentation link
Air knife Also named: Air knife, Air knives, product, device	Air knife	6399

Introduction

Device applications

The Air knife is designed to neutralise and clean flat and curved surfaces and can be supplied with an MEB, a Performax Easy, Performax IQ Easy, EasION IQ 4.1, EasION, 1/2" SS, VicinION IQ, or a P-SH-N-Ex.

The P-SH-N-Ex is suitable for use in Explosion-hazardous areas.

The air knife performs at its best at a distance of between 50 mm and 300 mm.

Specific conditions of use

The product is intended to be a part of a machine or process.

Device description

The air knife is equipped with one or more air connections, to which an air line can be connected. If there is overpressure at this connection, a narrow flow of air will be emitted from the air slot. The anti-static bar produces positive and negative ions, which are picked up by the air flow. The electrons are then exchanged on the surface to be cleaned; the surface is neutralised and any impurities are blown away.

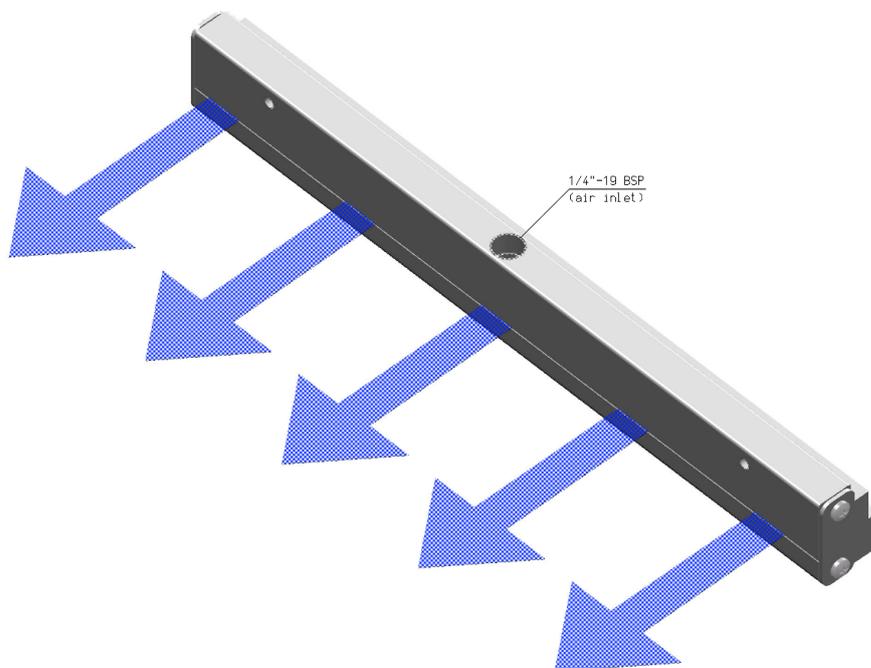


Figure: Device

Description and operation

Checking package contents

Device

Warranty card

Memory card with User Manual (Credit card format)

Safety

The following safety guidelines must be observed in order to avoid injuries and damage to objects or the product.



WARNING

- A qualified electrician must carry out electrical installation and repairs in accordance with national and local regulations.
- The product is intended solely for blowing off and, at the same time, neutralizing electrostatically charged surfaces. Any other use is not recommended.
- Metal parts in the vicinity of the product, including machine frames, must be earthed to prevent unwanted charging of the metal parts
- Touching the sharp emitter pins may cause injury.
- A small amount of ozone is emitted during the operation of the product. The ozone concentration is so low that no damage to health can occur.
- Always read the accompanying manual before connecting the anti-static bar



DANGER

- Never use a damaged product. Touching the live parts will cause an electric shock.
- The power must be turned off before any work on the equipment is started to prevent electric shock.
- The equipment must be properly earthed. Earthing is necessary to ensure proper and safe operation and to prevent electric shocks upon contact.
- Touching high-voltage parts will result in an electric shock. An electric shock can cause a shock reaction, including from areas with contact-protected high voltage.
- High-voltage can be dangerous for people with a pace maker.



NOTE

- Making modifications, adjustments, etc., without prior written consent or carrying out repairs using non-original parts will invalidate the equipment's guarantee and withdraw the CE approval for the product.

Technical specifications

Mechanical

Effective length	12"–72" (Performax Easy) 6"–96" (Performax IQ Easy) 6"–72" (EasION IQ 4.1/EasION) 3"–108" (MEB) 3"–72" (P-SH-N-Ex) 42"–60" (1/2" SS) 6"–36" (VicinION IQ)
Operating distance for neutralisation	50–1000 mm
Operating distance for neutralisation and cleaning	50–300 mm
Weight	3 kg/m

Ambient conditions

Use	Industrial, indoor use
Ingress Protection class	See the manual provided with the anti-static bar
Temperature Ambient (Tamb)	0–55°C



NOTE

Please see the manual that accompanies the anti-static bar for details of its technical specifications.

A five-micron autodrain filter/separator must be fitted in the air supply circuit.

Air data

Air supply	
Air connection(s)	1/4"–19 BSP
Air pressure	Max. 10 bar
Compressed air consumption	See figure below



NOTE

- The compressed air must be clean and free of moisture and oil.
- Always use the required compressed air filtration according to the [Technical specifications](#).

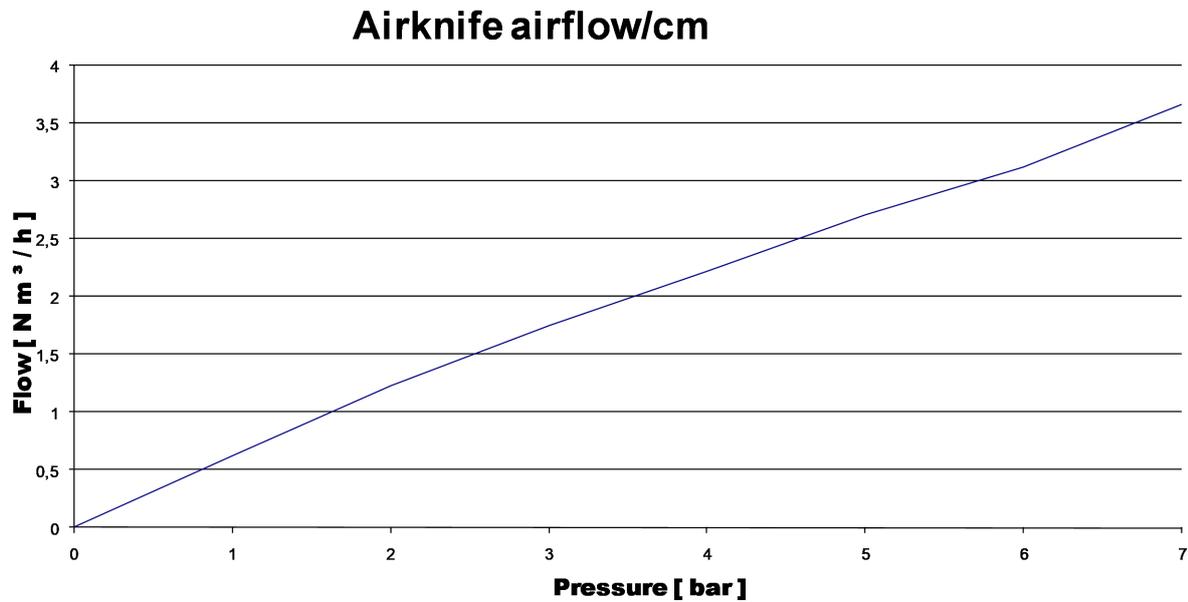


Figure: Airflow Air knife

Dimensions

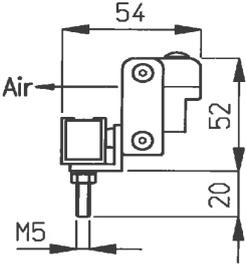


Figure: Dimensions MEB with airknife

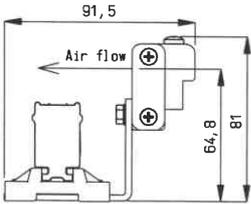


Figure: Performax Easy dimensions

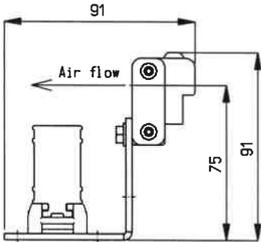


Figure: EasION IQ 4.1 dimensions

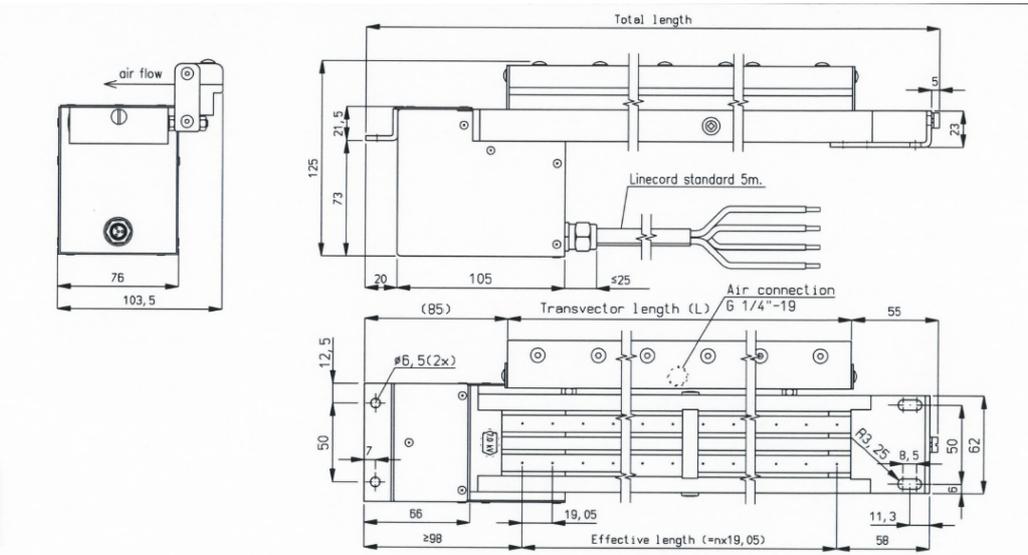


Figure: P-SH-N-Ex dimensions

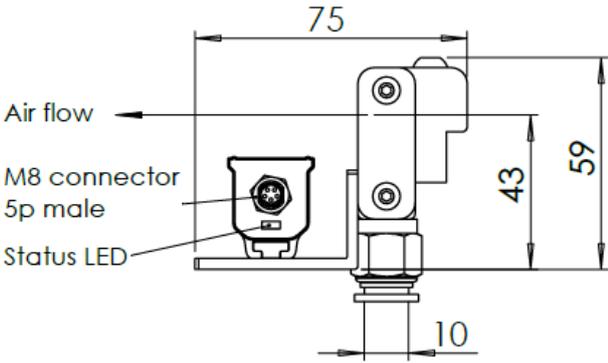


Figure: Vicinion IQ dimensions

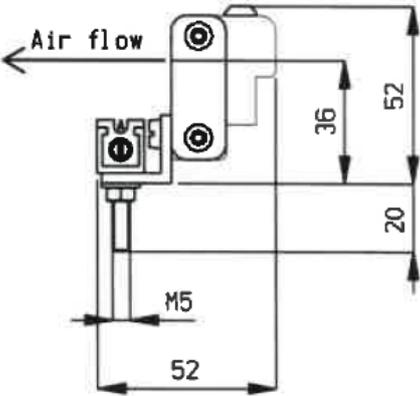


Figure: 1/2" SS dimensions

Installation precautions

Checks

- Check that the device is undamaged and that the correct version has been received.
- Check whether the necessary accessories are included.
- Check whether the details of the packing slip correspond to the details of the product received.



NOTE

Check that the voltage shown on the rating plate corresponds with the required mains voltage



NOTE

If there are any problems or doubts, please get in touch with Simco-ION Netherlands or the agent in your region.

Installation precautions

Device installation location

In places where the material is neutralised, it should have a layer of air. The air knife should be fitted so that it can still be adjusted to achieve optimum results.

Blowing direction: perpendicular or opposite to the material direction.

Blow-off angle: between 90° and approx. 45° in relation to the material (should be established by experimenting).

Mechanical installation

Mounting the Air knife

- Directly in front of the area in which static electricity and/or contamination is causing problems
- At a distance of 50–1000 mm from the material to be neutralised
- Using the mounting materials provided.

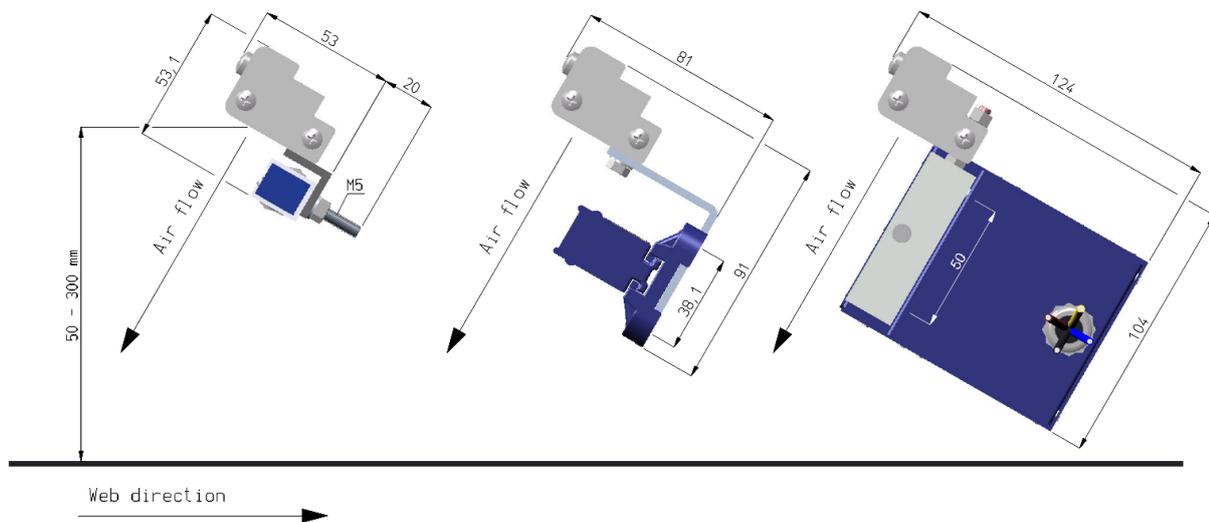


Figure: Mounting position



NOTE

- The compressed air hose(s) must be fixed to the machine frame, to prevent forces to the air connection.
- The compressed air to be used must be clean, dry and free of oil.
- Use an autodrain filter/separator.

Electrical connection

Connecting the Air knife

When connecting the air knife it is important to factor in a drop in pressure across the lines used. The table below is intended to facilitate selection of the appropriate line.

Table: *Pressure loss across the line of 0,35 bar*

		Line external diameter					
		6.4 mm 1/4"	9.5 mm 3/8"	12.7 mm 1/2"	19.1 mm 3/4"	25.4 mm 1"	31.8 mm 1-1/4"
Line length	3	49.5	110.1	204.5	431.4	815.4	1661.0
	6	35.0	77.9	144.6	305.0	576.5	1174.6
	9	28.6	63.6	118.0	249.1	470.8	959.0
	12	24.8	55.1	102.2	215.7	407.7	830.5
	15	22.1	49.3	91.4	192.9	364.6	742.9
	18	20.2	44.9	83.5	176.1	332.9	678.1
	21	18.7	41.6	77.3	163.1	308.2	627.8
	24	17.5	38.9	72.3	152.5	288.3	587.3
	27	16.5	36.7	68.2	143.8	271.8	553.7
30	15.7	34.8	64.7	136.4	257.8	525.2	



NOTE

- Hook up the air connection(s) to your compressed air installation
- To do so, use the air hose or metal line.

Connecting the anti-static bar



WARNING

- A qualified electrician must carry out electrical installation and repairs in accordance with national and local regulations.

Please refer to the accompanying manual(s) for details of how to connect the anti-static bar and any associated power supply.

Commissioning

- The anti-static bar does not work if the emitters are covered
- Remove the protective cap (if fitted) from the anti-static bar
- The purpose of the protective cap is to protect the emitters during transport and installation
- Supply the air knife with the required compressed air
- Switch on the anti-static bar (see the accompanying manual).

Functional check

Anti-static bar



WARNING

When working in Explosion-hazardous zones, only measuring instruments approved for such zones may be used.

When an anti-static bar is in use a TensION device can be used to verify that there is high voltage at the emitter points.

An electrostatic fieldmeter can be used to measure the efficiency of the anti-static bar. Measure the charge on the material before and after it has passed the air flow. The charge measured should have disappeared after the air flow has passed.

Please also refer to the manual(s) for the anti-static bar/power unit.

Air knife

The air knife outflow depends directly on the compressed air pressure. The air outflow must be regular over the entire length of the air knife.

Maintenance

General maintenance rules

- Keep the device clean and dry.
- Switch off the device before cleaning.
- Clean the device regularly to improve the operation.
- Check the connection cable(s) periodically for damage.



NOTE

Clean the Exterior of the air knife only, using a soft cloth or brush; make sure that no dirt gets into the air slot.

Regular cleaning



NOTE

The cleaning interval time depends on the type and degree of contamination. The higher the degree of environmental contamination, the shorter the cleaning interval must be.

- Brush the dirty parts with a hard, non-metallic brush.
- Vacuum the device or blow it off with clean compressed air (max. 6 bar).



NOTE

Do not damage the emitter points.

Troubleshooting

Air knife faults

Table: *Air knife faults*

Problem	Cause	Solution
No air from air knife	No compressed air	Connect compressed air hose
	Filter clogged	Remove blockage
Air knife has irregular and/or insufficient blowing power	Air slot is clogged	Remove blockage (see maintenance section)
	Air filter is clogged	Clean filter
Air slot is clogged	Polluted compressed air	Use a filter

Anti-static bar fault

Please consult the accompanying manual for details of how to handle anti-static bar faults.

Warranty

The Simco-ION warranty conditions are described in and published on the internet. These conditions can be viewed on:

https://www.simco-ion.co.uk/wp-content/uploads/Extended-warranty-conditions_GB.pdf

Simco-ION Warranty Conditions GB

Warranty Period

The device has a one-year warranty as standard, which commences on the invoice date.

The warranty becomes four years by registering the device on the Simco-ION website.

To register the device, it is necessary to state the serial number of the device. This information can be found on the device nameplate.

<https://www.simco-ion.co.uk/warranty>

Warranty registration site GB

Repairs

Review these conditions before submitting equipment for repair (RMA procedure) to Simco-ION.



NOTE

- Only Simco-ION can and may repair this product.
- In the event of a defect within or outside the warranty, the product can be offered to Simco-ION for repair.

- Refer to the problem analysis in chapter Troubleshooting, and follow the advice.
- If it is certain that the Simco-ION product causes the problem, offer it for repair.
- Use the RMA procedure before offering the product to Simco-ION.

Return Merchandise Authorisation

In case of problems and questions, please get in touch with Simco-ION or a Simco-ION representative in your region.

A malfunctioning or defective product can be returned to Simco-ION for repairs following the RMA (Return Merchandise Authorisation) procedure below.

RMA Request

- Fill in the Simco-ION RMA form at <https://www.simco-ion.nl/repair> or <https://www.simco-ion.co.uk/repair>
- By entering the item and serial numbers, you can determine whether your product will be repaired under warranty or if costs are involved.

Return sending

- Pack the defective product properly.
- Indicate the RMA number on the package.
- Send the package to the stated return address of Simco-ION.

Storage and disposal

Storage

Always store the Simco-ION products in a dry and cool place.

Disposal



- When disposing of the product, follow the local environmental regulations.
- Do not dispose the product with regular waste at the end of its life, but offer it at an official point. This way, you help to protect the environment.

Spare parts

There are no spare parts available for this product.

Closing

Simco (Nederland) B.V.
Aalsvoort 74
7241MB LOCHEM
Phone +31 573 288 333
Email cs@simco-ion.nl
Internet <https://simco-ion.co.uk>