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

User's Manual

Inline ionizer

Blowflex Easy

simco.nl/161600

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.eu/

Trade register Apeldoorn No. 08046136

Table of Contents

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 is intended for the installation and use of the inline ionizer type Blowflex Easy.

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
Blowflex Also named: ionizer, inline ionizer, device or product	Blowflex Easy	1616

Introduction

Device applications

The Blowflex Easy is an inline ionizer intended for discharging and cleaning of electrostatically charged surfaces or parts.

The device works independently and displays its operating status via the device status LED. In chapter Functional check you can read which statuses the device has.

Specific conditions of use

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

The product must NOT be used in a fire or explosion-hazardous environment.

Device description

The purpose of the inline ionizer is to eliminate static electricity that, for example, arises in a production process. The ionizer produces an airflow that is rich in positive and negative ions. By directing this airflow at an electrostatically charged surface, an exchange of electrons occurs, neutralising the surface during the blowing process. This prevents the blown-off particles from being attracted again.

The ionizer's air outlet is has a G ¼'' internal thread, so it can easily be fitted with the desired nozzle.

The ionizer operates on 24 V DC. The high voltage required for ionisation is generated internally. The high voltage is only present when a 24 V DC supply voltage is supplied to the ionizer.

Available device versions

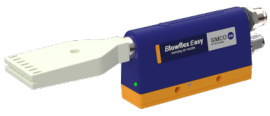
Two Blowflex versions are available

1. Blowflex Easy – works stand-alone (manual operation)
2. Blowflex IQ Easy 4.0 – works with the Smart SLC 4.0 (IQ operation) and stand-alone (manual operation)

This manual is about the Blowflex Easy.

The Blowflex has the different configuration types as shown in the table and figures below.

No.	Product id	Product description	Additional Product description
1	16 16 00 0000	Blowflex Easy Basic	1/4 BSPP (G) Air exit
2	16 16 00 0001	Blowflex Easy Inline	8 mm Air hose exit
3	16 16 00 0002	Blowflex Easy Inside Cleaning	1/4" Stainless steel tube exit
4	16 16 00 0003	Blowflex Easy Flat Nozzle	Flat Nozzle air exit
5	16 16 00 0004	Blowflex Easy Round plastic	Round plastic nozzle air exit
6	16 16 00 0005	Blowflex Easy Round stainless	Round Stainless steel nozzle air exit
7	16 16 00 0008	Blowflex Easy Bended tube	1/4" Bended Stainless steel tube air exit
8	16 16 00 0011	Blowflex Easy Inside Cleaning	3/8" Stainless steel tube exit
9	16 16 00 0012	Blowflex Easy Bended tube	3/8" Bended Stainless steel tube air exit

1. Basic	2. Inline	3. Inside Cleaning 1/4"
		
4. Flat Nozzle	5. Round plastic	6. Round stainless steel
		
7. Bended tube 1/4"	8. Inside Cleaning 3/8"	9. Bended tube 3/8"
		

Read the chapters Technical specifications and Installation for more information.

Names and functions of parts

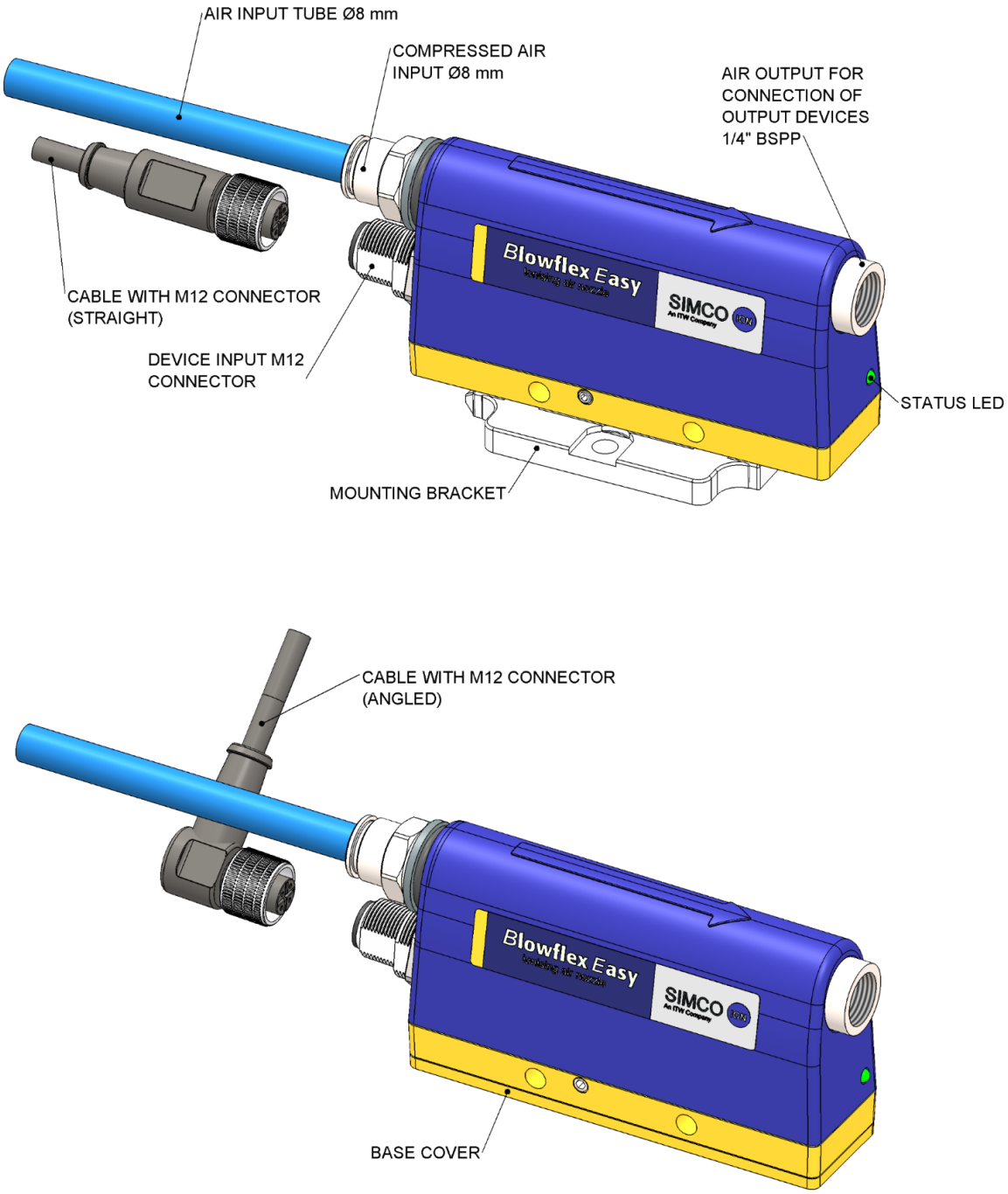


Figure: Blowflex inline ionizer

Description and operation

Checking package contents

Device

Mounting brackets

Hex screw driver 2 mm plastic

Warranty card

Memory card with User Manual (Credit card format)

Operation

When the device is connected to a 24 V DC power source, it can be switched on and off by turning the power source on and off.

Read the sections Technical specifications and Installation for more information.

Safety

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

WARNING

Electrical installations and repairs must be carried out by a qualified electrician in accordance with national and local regulations.

- The product must not be used in a fire or explosion-hazardous environment.
- The product is intended solely for blowing off and, at the same time, neutralizing electrostatically charged surfaces. Any other use is not recommended.
- When using compressed air pressure of more than 1 bar, depending of which exit-nozzle, -pipe or -hose is used, the noise level emitted may be higher than 80 dB. Hearing protection is therefore mandatory when being close to the product.
- To be protected from blown-up dust or blown away objects, it is recommended to wear safety glasses during use.
- The air outlet opening must not be sealed during use. This can create a danger of ejecting objects.
- 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.

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.
- High-voltage can be dangerous for people with active implanted medical devices for example a pacemaker, insuline pump or coclear implant.

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.
- To guarantee the service life of the product, it must be supplied with clean, compressed air, which is free from moisture and oil. Contamination of the high-voltage emitter(s) will reduce the performance and can cause the product to malfunction.

NOTE

When the device is connected to a DIN rail power supply or an external power supply:

- For personal protection and to ensure proper functioning, the yellow/green or grey and blue wires must be both connected to earth.
- In the Simco-ION desktop power supply these connections are already established.

Technical specifications

Required power supply	
Supply voltage	21 – 27 V DC
Current consumption	Max. 0,3 A DC
Connection	Simco-ION Desktop Power supply: M12 connector, Female, 5-pins or wired to any other power supply

Ambient conditions	
Use	Industrial, indoor use
Ingress Protection class	IP66 (Connector properly tightened)
Temperature Ambient (Tamb)	0–55°C
Relative Humidity (RH)	< 90%, non condensing

Power and cabling, operate stand-alone

Input	**24 V DC ±2%**	**24 V DC ±5%**	**24 V DC ±10%**
Standard Simco-ION 5 x 0,34 mm^2	3,125 Ω : 62 m	2,25 Ω : 45 m	0,75 Ω : 15 m
Max. cable length	62 m	45 m	15 m
M12 Male-Female cable	Simco-ION Din-rail Power Supply	Simco-ION Desktop Power supply	-

Mechanical

Weight	
Basic/Inline/Flat/Round	200 g to 260 g, depending on type
Inside Cleaning 1/4"	230 g + 8 g/10 cm pipe length
Inside Cleaning 3/8"	230 g + 33 g/10 cm pipe length
Material	
Casing	PC-ABS/PUR
Universal Mounting Bracket	PA66/6

Air data

Compressed air input	
Air filtration	Upstream water separator and oil extraction filter: Industrial use: 20-40 µm Electronic use: 20 µm Pharmaceutical use: 0.01 µm
Compressed air connector	Push-in fitting for hose ø8 mm. Such as Festo Quick Star (QS)
Compressed air output	
Blowflex Easy Basic	G ¼" (BSPP) internal thread
Blowflex Easy Inline	Push-in fitting for hose ø8 mm. Such as Festo Quick Star (QS)
Pressure range	
Basic or Inline	0,3 - 4 bar (3 - 58 PSI)
Flat nozzle	0,3 - 4 bar (3 - 58 PSI)
Inside Cleaning 1/4"	0,3 - 3 Bar (3 - 44 PSI)
Inside Cleaning 3/8"	0,3 - 5 Bar (3 - 72 PSI)
Round nozzle plastic	0,3 - 3 bar (3 - 44 PSI)
Round nozzle stainless steel	0,3 - 3 bar (3 - 44 PSI)
Pressure vs Flow	See figure Air consumption Blowflex inline ionizer

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.

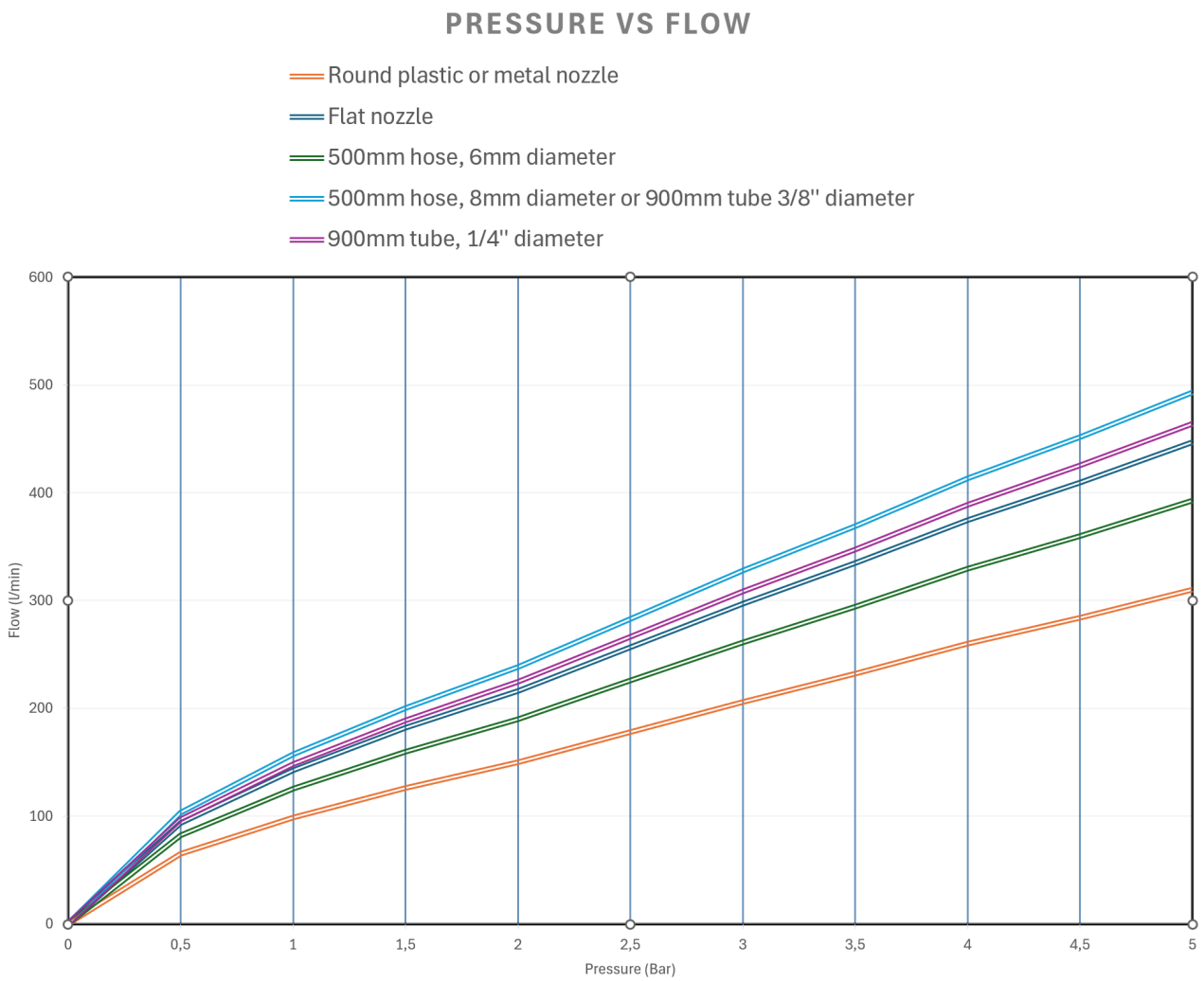


Figure: Air consumption Blowflex inline ionizer

Dimensions

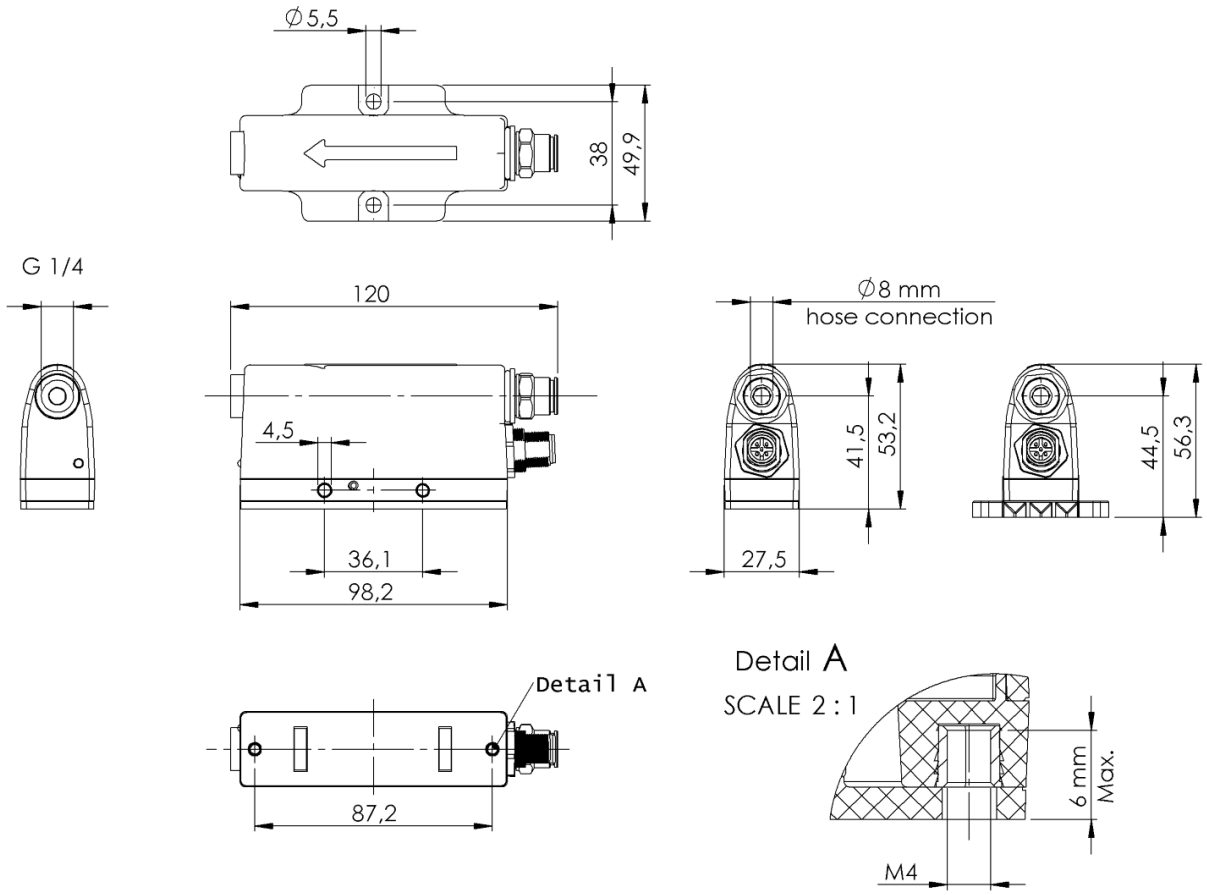


Figure: Dimensions Blowflex Basic

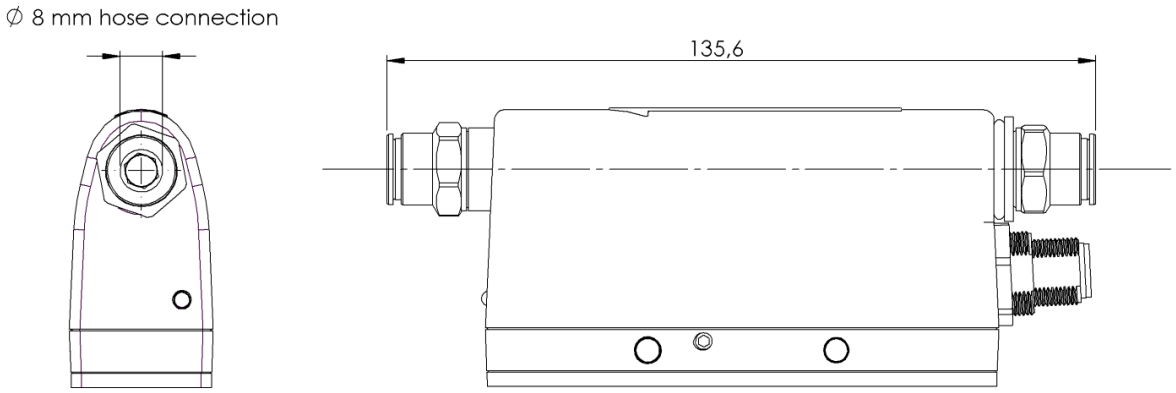


Figure: Dimensions Blowflex Inline

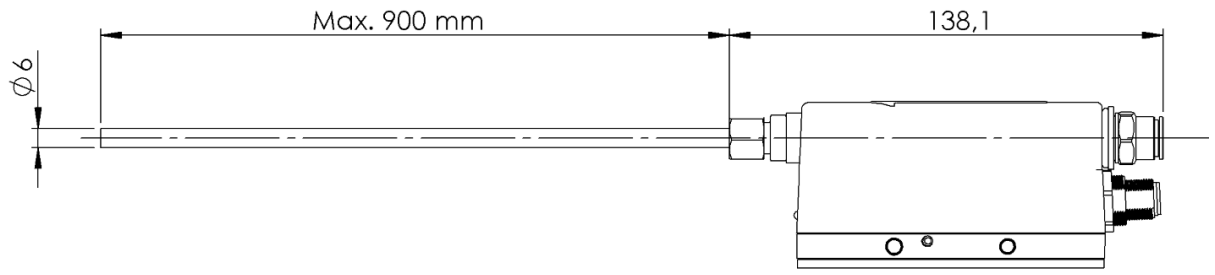


Figure: Dimensions Blowflex inside cleaning (1/4")

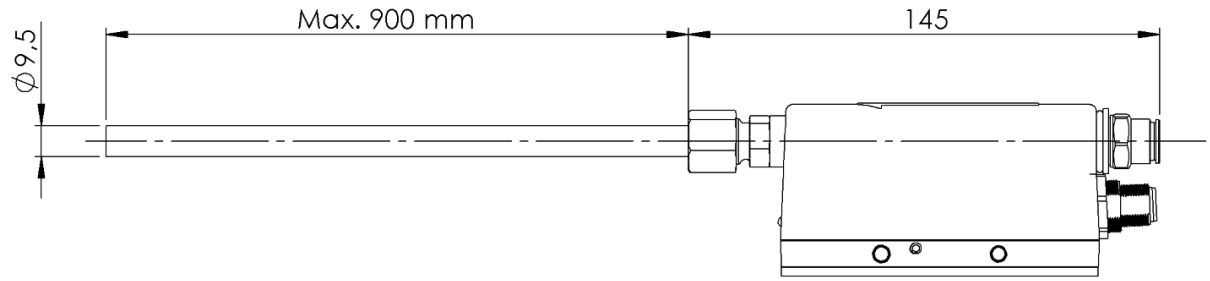


Figure: Dimensions Blowflex inside cleaning (3/8")

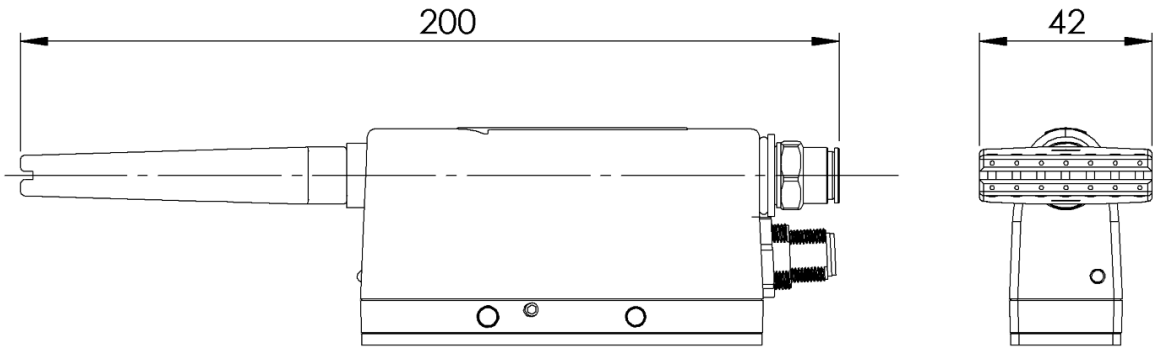


Figure: Dimensions Blowflex Flat Nozzle

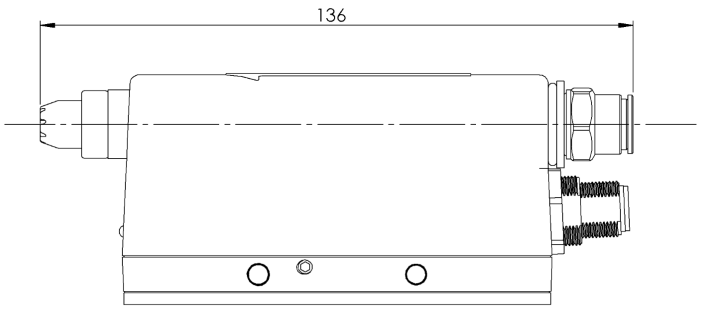


Figure: Dimensions Blowflex Round plastic

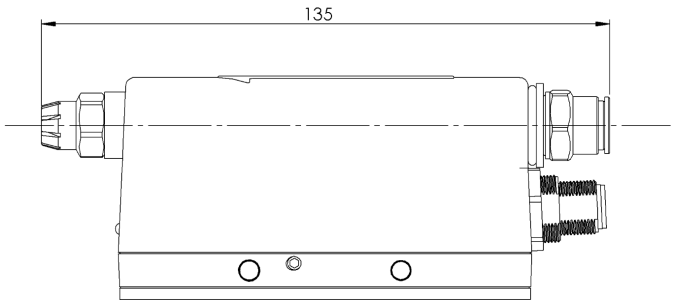


Figure: Dimensions Blowflex Round stainless steel

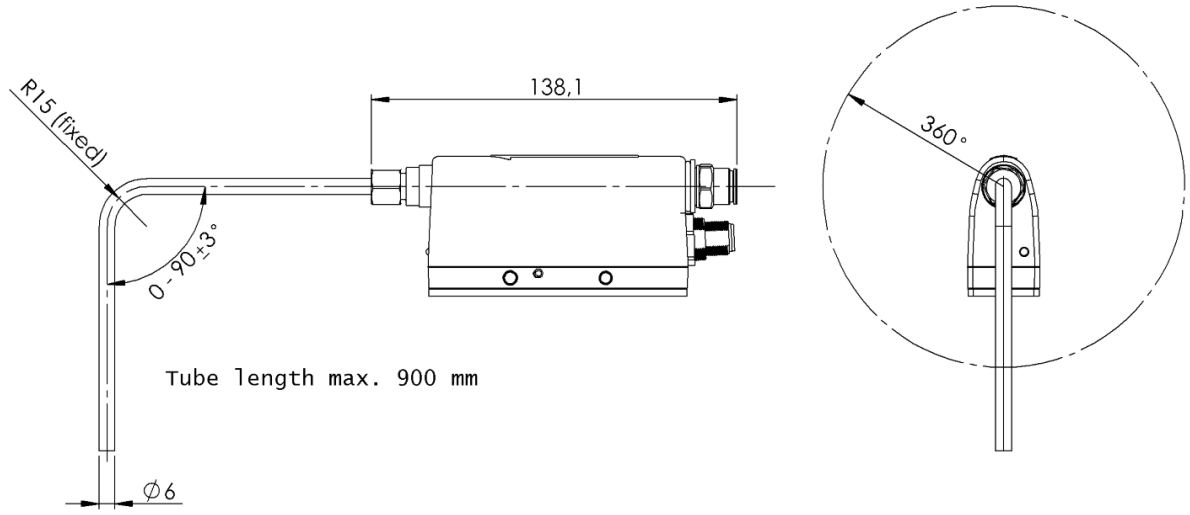


Figure: Dimensions Blowflex bended tube (1/4")

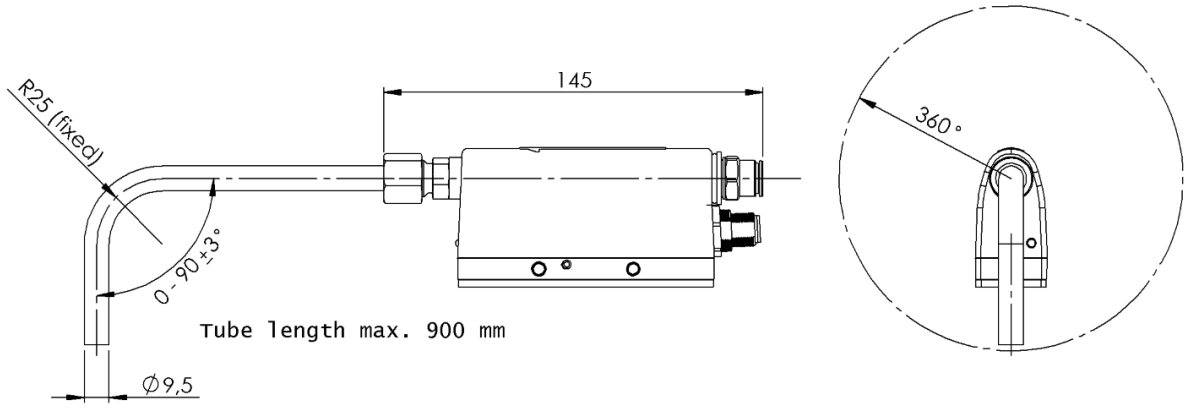


Figure: Dimensions Blowflex Bended tube (3/8")

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

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

Place the Blowflex as close as possible to the object or surface to be discharged and blown off. The compressed air hose and the power cable can be tied together with suitable materials. You can use a standard Simco-ION device cable as a power cable (see accessories) or make your connection cable with an M12 connector.

Optimal operation

For optimal operation of a Blowflex Basic or Inline, the following must be taken into account:

- Fit at least a 100 mm straight pipe or air hose at the outgoing air connection. This will reduce turbulence at the output of the ionizer.

> **NOTE**
>
> Never use the device without any outgoing pipes or air hozes

- Use only stainless steel air couplings and ozone-resistant pipes and air hoses at the outgoing air connection.

> **NOTE**
>
> - PA and PU air hose will degrade due to ozone from the device.
> - Festo hose types PFAN and PTFEN will not degrate due to ozone.
> - It is recommended to use stainless steel pipes.

- The diameter of the pipe or hose at the outgoing air connection affects the performance. A pipe with a large diameter (8 mm) will perform better than a small diameter (6 mm).
- Keep the pipe or hose length at the outgoing air connection as short as possible.
- Avoid sharp bends in the pipes or hoses at the outgoing air connection.
- Elbow, T, and Y-couplings at the outgoing air connection cause a severe reduction in operation.
- Never install a pressure control valve or valve at the outgoing air connection.
- Unevenness in the air pipe causes a reduction in performance.

Mechanical installation

NOTE

- The compressed air connection and the 24 V DC power supply must be within reach of the connection hose and cable. Neither the hose nor the cable should be subject to tensile stress during use.
- The device must be supplied with clean, moisture- and oil-free compressed air. Contaminated air degrades the ionizer, causing discharge times to become longer and the maximum working pressure to become lower.
- A pressure control valve with a filter must be placed between the compressed air connection and the compressed air inlet of the device, to regulate the compressed air to the desired pressure.
- When mounting or changing the inlet- and outlet air connection of the ionizer, never use a wrench torque higher then 1 Nm. A higher torque may damage the device.

NOTE

When mounting the Blowflex Easy using its mounting holes, never use a higher wrench torque than 2 Nm. A higher torque may damage the device.

NOTE

- When mounting the mounting bracket to the machine, never use a higher wrench torque than 1 Nm. A higher torque may damage the bracket.
- When locking the device and the mounting bracket, never use a higher wrench torque than 0,5 Nm. A higher torque may damage the brackets or the device.

Mounting the Blowflex Easy (mounting holes)

The Blowflex Easy has several mounting holes that allows the ionizer to be mounted in different ways.

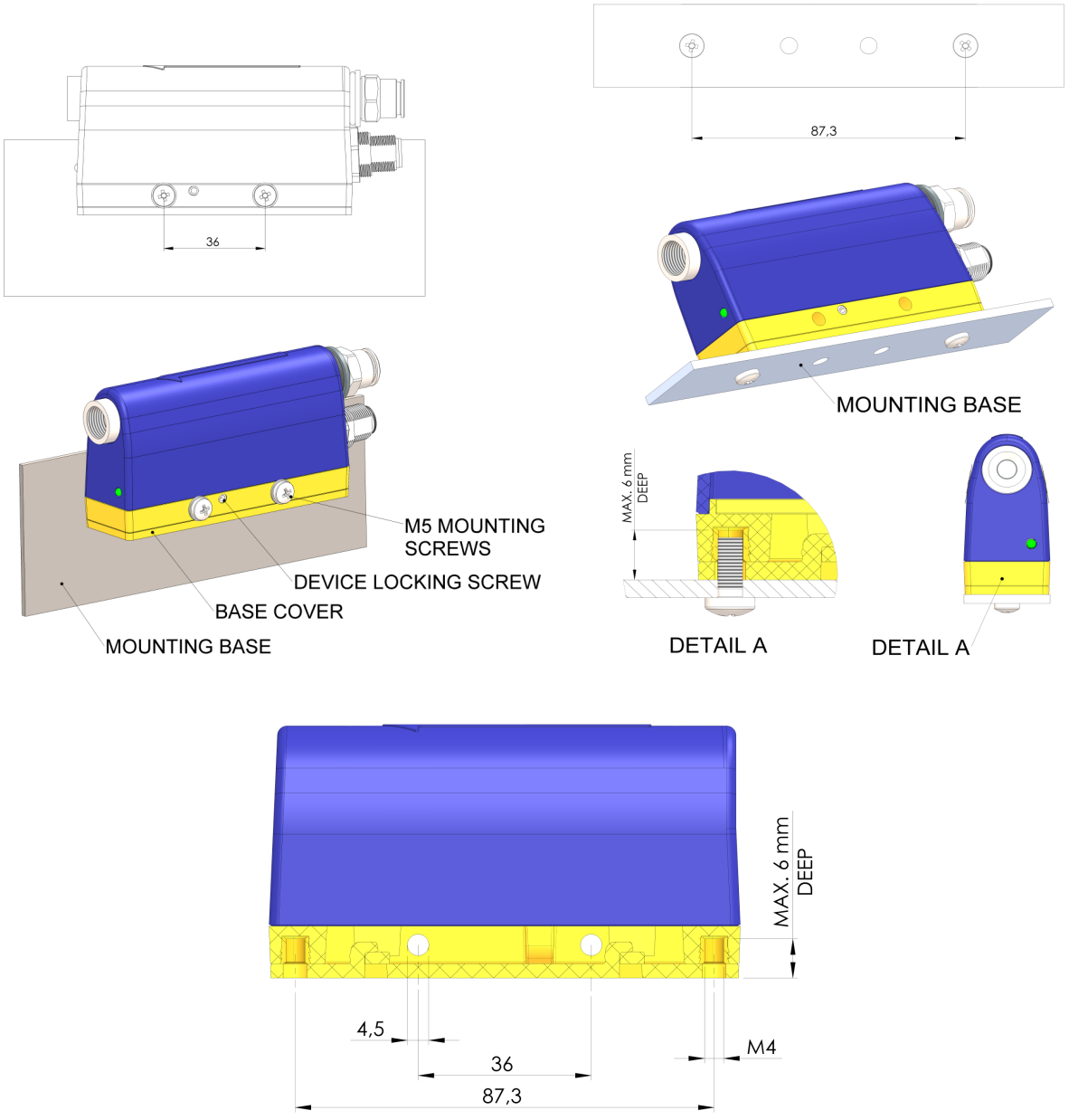


Figure: Mounting the ionizer using Blowflex Easy mounting holes

Mounting steps (Blowflex Easy mounting holes)

- Mount the ionizer according to one of the possibilities in figure Mounting the ionizer using Blowflex Easy mounting holes.
- Connect the ionizer to the compressed air line.
- Connect the ionizer to the power cable. See chapter Electrical connection.

Mounting the Blowflex Easy (slide bracket)

The Blowflex Easy comes with a mounting bracket base that allows it to be mounted in different ways. The base has two removable side pieces for narrow mounting.

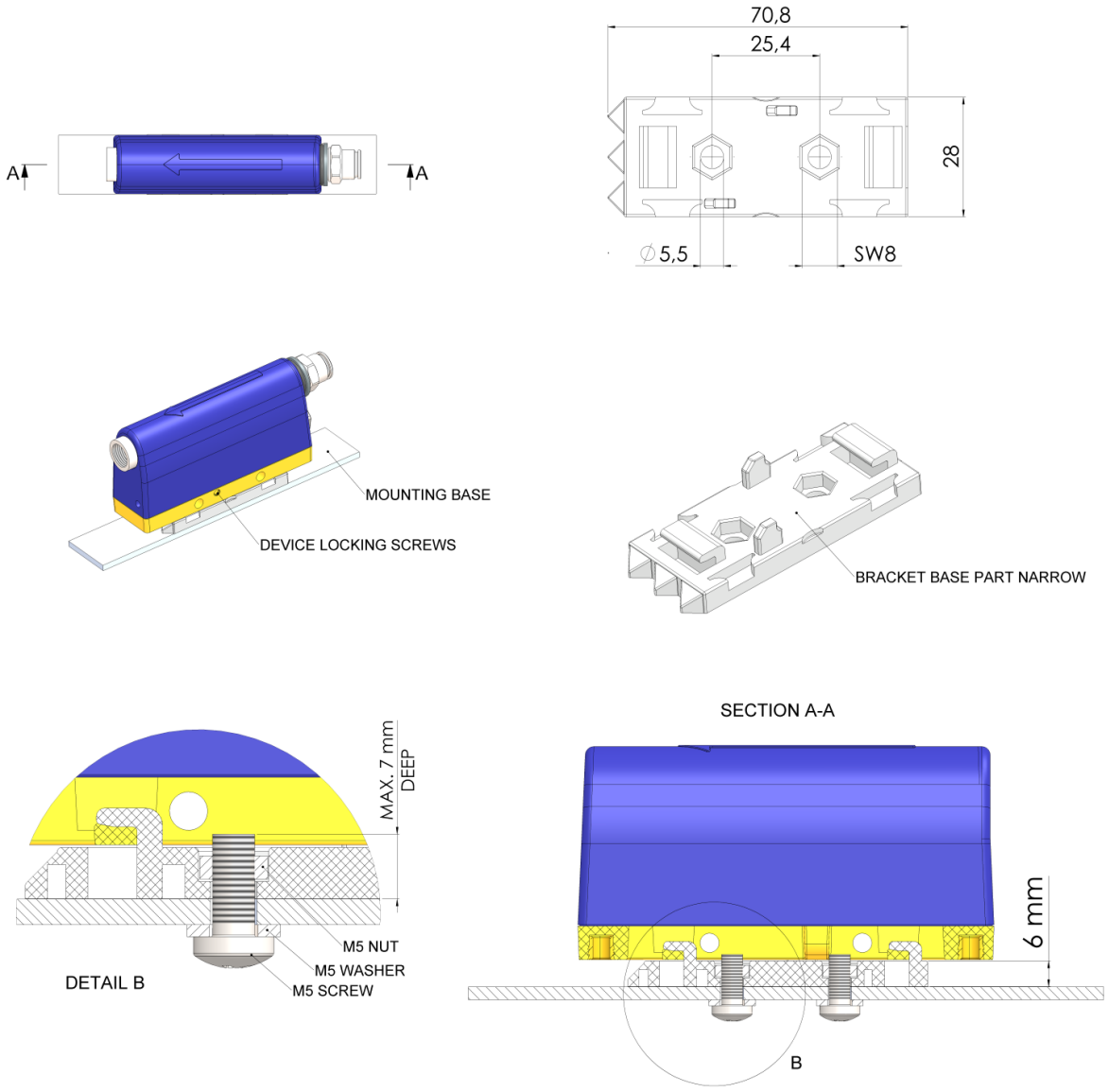


Figure: Mounting the ionizer using the narrow mounting bracket (slide bracket)

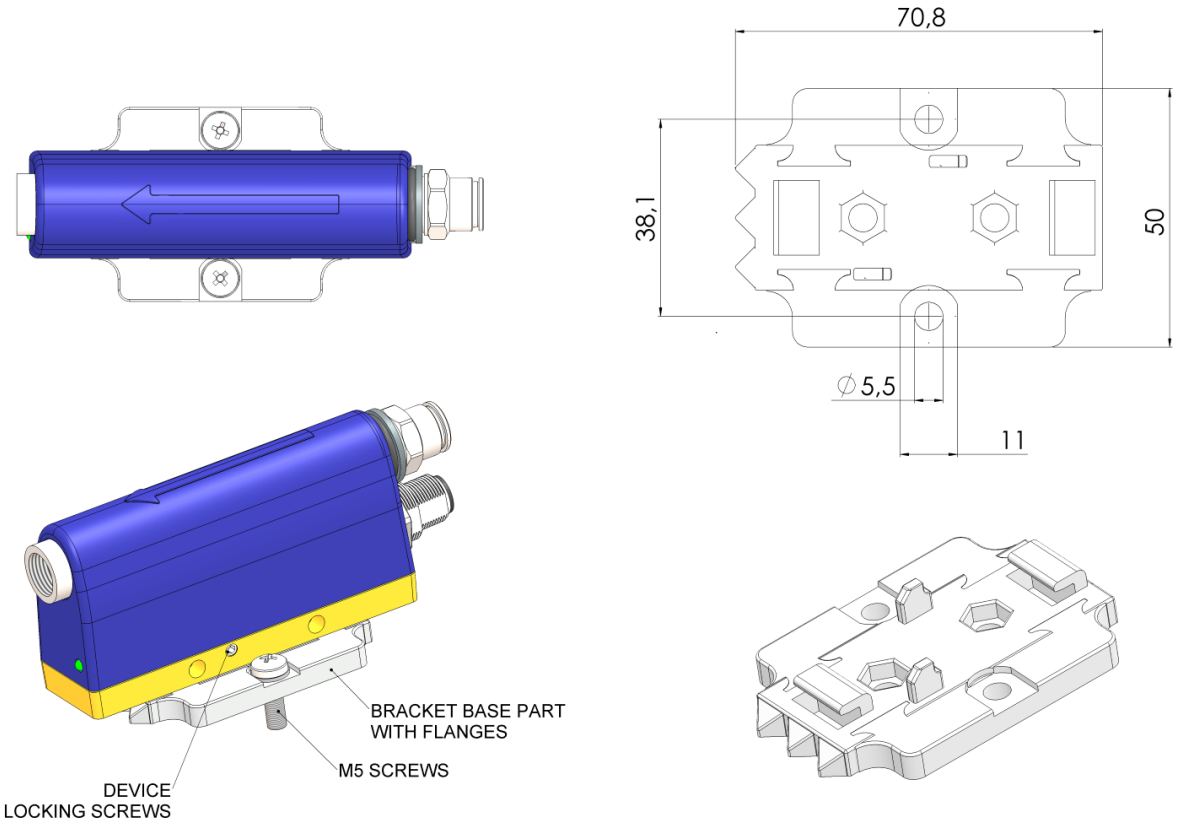


Figure: Mounting the ionizer using the wide mounting bracket (slide bracket)

Mounting steps (slide bracket)

- Loosen the two device locking screws from the ionizer.
- Remove the Blowflex Easy Base cover from the ionizer.
- Mount the ionizer according to figures Mounting the ionizer using the narrow mounting bracket (slide bracket) or Mounting the ionizer using the wide mounting bracket (slide bracket).

  Mount the slide bracket on the desired position, using suitable M5 cylinder head screws, nuts and washers

  Place the Blowflex on the slide bracket

  Slide the Blowflex over the slide bracket until it stops

  Tighten the two device locking screws
- Connect the ionizer to the compressed air line.
- Connect the ionizer to the power cable. See chapter Electrical connection.

Electrical connection

NOTE

- Always use a device connector suitable for the device type.
- When connecting the device connector to the device, never use a torque higher than 0,5 Nm (hand-tight). A higher torque may damage the connector or the device.
- The device male input connector can NOT be rotated. Rotating the connector will damage the device.

NOTE

When the device is connected to a DIN rail power supply or an external power supply:

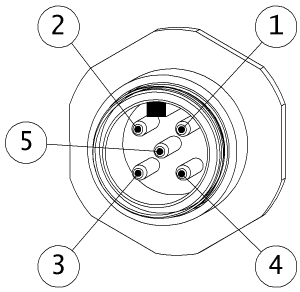
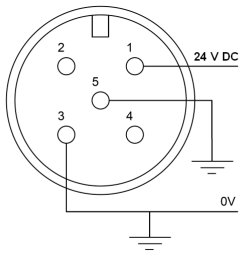
- For personal protection and to ensure proper functioning, the yellow/green or grey and blue wires must be both connected to earth.
- In the Simco-ION desktop power supply these connections are already established.

- Screw the power cable with the device connector to the device.
- Connect the other side of the power cable to the 24 V DC power supply according table M12 connection functions.

HINT

Refer to the 24 V DC power supply manual to connect the power supply.

Table: *M12 connection functions*

Configuration of the male M12 connector on the device	
	Pin 1 = 24 V DC supply voltage Pin 2 = N.C. Pin 3 = Ground (0 V) Pin 4 = N.C. Pin 5 = Functional ground
Connecting power supply	
	• Connect pin 1 of the M12 connector to the positive output terminal of the 24 V DC power supply via the brown wire of the M12 cable. • Connect pin 3 to the 0 V / Gnd output terminal of the 24 V DC power supply via the blue wire of the M12 cable. • **Important!** Also connect 0 V / Gnd to ground for proper and safe operation. • **Important!** Connect pin 5 to the ground via the yellow/green or grey wire of the M12 cable for proper and safe operation.

Commissioning

Blowflex startup procedure

- Connecting the Air

  Connect the compressed air hose to the Air inlet of the inline ionizer.

NOTE

For first use, we recommend setting the compressed air to 2 Bar, for example. For minimum and maximum pressure, see the data in the chapter Technical specifications.

- Connecting the electric power

  Connect the power cable to the device. See the data in chapter

  Installation/Electrical connection.

- Switch on the power supply of the device.
- Adjust the compressed air pressure to optimise the cleaning of the object.

Blowflex switch off procedure

WARNING

To prevent wearing and pollution of the emitter pin of the device, it is advisable to switch off the power supply when the compressed air is disconnected or not present for a longer period of time.

- Switch off the compressed air pressure.
- Switch off the power supply of the device.

Functional check

Functional check Blowflex Easy via status LED

Table: *Status LED indications*

LED indication	Conduct	Status	High Voltage
Green	On	In operation	On
Off	Off	No power	Off

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.
- Empty or replace the compressed air filters regularly.

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

When there is suspected lower effectiveness / imbalance / long decay times, the emitter point can be cleaned with the wooden end of a cotton bud, for example the RS 558-802 cotton buds with wood handle. To do this, first disassemble any attached connectors from the air outlet. Then use the wooden stick to remove any debris, if needed afterwards compressed air can be gently used to remove left over debris. The device can then be reassembled. Please contact your local agent for assistance or further information.

NOTE

If the result of dry cleaning is not satisfactory, continue with wet cleaning.

Wet cleaning with a damp cloth

- Clean the device and the connection cable(s) with a suitable cleaning agent (e.g. isopropyl alcohol).

  Veconova 10 can also be used for stubborn dirt (www.eco-nova.nl).

- Only clean the outside of the device.
- Allow the device to dry completely before switching it on again.

Troubleshooting

Table: *Faults when connected to a 24 V DC power supply*

Signalling	Issue	Cause	Solution
LED off	Blowflex not working	No supply voltage	Switch on the power supply
		Wiring fault	Locate the fault and repair the wiring See chapters Installation and Commissioning
Any	No compressed air from the Blowflex outlet/nozzle	Compressed air not connected	Connect compressed air See chapters Installation and Commissioning
		Any compressed air valve in the air connection does not allow air to pass through. The Blowflex does not have a compressed air valve.	Connect compressed air correctly See chapters Installation and Commissioning
LED green	No discharge	Compressed air pressure set too low or too high	Optimise the compressed air pressure See chapters Installation and Commissioning
		Ionisation section is contaminated by moist air or air contaminated with oil	Use dry, clean, compressed air to blow the high-voltage parts dry. Blow through with power supply off. If this does not provide a solution: Blowflex repair by Simco-ION. See chapter Repairs
		Ionisation section in Blowflex defective or worn out	Blowflex repair by Simco-ION See chapter Repairs

Signalling	Issue	Cause	Solution
LED green	Poor discharge	Compressed air pressure set too low or too high	Adjust compressed air pressure
		Ionisation section is contaminated by moist air or air contaminated with oil	Use dry, clean, compressed air to blow the high-voltage parts dry. Blow through with power supply off. If this does not provide a solution: Blowflex repair by Simco-ION. See chapter Repairs
		Ionisation section in Blowflex defective or worn out	Blowflex repair by Simco-ION See chapter Repairs

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

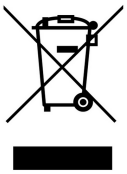
- Pack the defective product properly.
- Indicate the RMA number on the package.
- Send the package to the stated return address of Simco-ION.

Storage and disposal

Storage

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

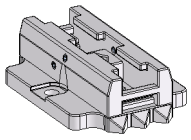
Disposal



- 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

Table: *General spare parts*

No	Part number	Product image	Description	Comment
1	4532000100		Mounting Bracket Bars	
2	7519020365		Device-cable M12 female straight 5 m	
	7519020366		Device-cable M12 female straight 10 m	
3	7519020375		Device-cable M12 female right angled 5 m	
	7519020376		Device-cable M12 female right angled 10 m	
4	4524001200		Power supply 100-240 V/24 V 3m, Simco-ION Desktop power supply	
	7519020425		Simco 100-240 V/24 V Din-rail Power Supply	
	7519020430		Simco 100-240 V/24 V UL Din-rail Power Supply	

Closing

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