



# BOS Cleantec

## NEGATIVE AIR MACHINES



## Operation and Maintenance Manual

Please read this manual carefully before using the machine –  
it is essential for ensuring correct and safe operation!



- **READ ALL SAFETY AND OPERATING INSTRUCTIONS!**
- **KEEP THE MANUAL FOR FUTURE REFERENCE!**

**Non-observance of warnings and instructions may result in electric shock, fire and/or severe injuries!**

This manual only applies to BOS Clean negative air machines. They may only be used in dry conditions without any danger of explosion.

The machines are not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge as to how to use the machine. Children must be kept at a distance from the machine.

Disclaimer: This manual has been reviewed, but 100% accuracy is not guaranteed. As part of our policy of continuous product development we reserve the right to revise features and specifications of the product. Therefore, any claims based on the data, pictures, drawings or text in this manual cannot be accepted. We cannot guarantee that there are no errors.



## GENERAL NOTES

The products covered by this manual have been manufactured in Finland to existing laws, decrees and regulations as stated in the Declaration of Conformity below.

- The person in charge of machine operation must be acquainted with the construction and operation of the machine and must ensure safe operation.
- The machine may only be used by people who are familiar with it.
- Safety features must not be removed or disabled during use, nor must any alterations be made to the way they were originally installed.
- Should it be necessary to install the machine in a way that prevents the operation of any safety features, the person in charge of machine operation must be informed.

- **The products covered by this manual are only intended for the uses for which they have been designed and which have been stated in the manual!**
- **The products must not be used for any other purposes!**
- **The machine operator and the person in charge of the machine are liable for any damage resulting from unintended use!**
- **The manufacturer accepts no liability for any consequences of not using the machine according to the instructions!**

- Always store the manual where the machine operator can refer to it.
- Read the manual carefully before machine installation and commissioning.
- Observe the operating and maintenance instructions to ensure trouble-free machine operation.
- Observe the safety guidelines.
- For maintenance, only use spare parts and components approved by the manufacturer.

The BOS Cleantec negative air machines have been designed and constructed in compliance with general safety and electrical safety guidelines. The machines are intended for the purpose of air quality improvement and air purification, for example during construction and renovation projects involving dust from asbestos, quartz, flour, wood etc.

- A variety of sizes available for both large and small spaces
- Air flow control
- Lightweight and durable, for professional use
- Low power consumption: 240 V / 50 Hz
- Low noise level: <73 dBA
- Large range of filters and accessories



## TECHNICAL DATA

	BOS Clean M	BOS Clean L	BOS Clean XL
Max air flow without filter	3200 m <sup>3</sup> /h	4800 m <sup>3</sup> /h	5400 m <sup>3</sup> /h
Air flow with hepa filter	1000 m <sup>3</sup> /h	3200 m <sup>3</sup> /h	4000 m <sup>3</sup> /h
Static pressure	630 Pa	1300 Pa	1300 Pa
Operating voltage / frequency	200–277 V 1~ 50/60 Hz	240 V 1~ 50 Hz	240 V 1~ 50 Hz
Motor / W / A	0.44 kW / 2.2 A	1.1 kW / 7.2 A	1.1 kW / 7.2 A
Fuse A	10 A	10 A	10 A
Power cord (3G 3*1.5 mm <sup>2</sup> )	2 m	2 m	2 m
Operating switch	Yes	Yes	Yes
Speed control	Yes	In model 'i'	In model 'i'
Sound/noise level	<70 dBA	<73 dBA	<70 dBA
Material	Marine aluminium	Marine aluminium	Marine aluminium
Safety locking device for HEPA filter	Yes	Yes	Yes
Intake/outlet	Ø 254/305 mm	Ø 305 mm	Ø 305 mm
Outlet duct	Lay-flat or flexible duct	Lay-flat or flexible duct	Lay-flat or flexible duct
Dimensions (height*width*length)	400*350*720 mm	660*550*1,050 mm	820*710*1,050 mm
Weight w/o filter	14 kg	40 kg	48 kg
IP rating	54	55	55
Carrying handle (t)	Yes	Yes	Yes
Casters	-	Yes	Yes
Indicator	Yes	-	-
Differential pressure gauge	-	Yes	Yes
Hour meter	-	Yes	Yes

***Green indicator light for indicating 'power on' status***

***Differential pressure gauge, in pascals (Pa), for monitoring filter condition (colour indication of when the filter requires replacing)***

***Hour meter for maintaining a log book / machine card***



## INTENDED USE

The BOS Cleantec negative air machines are intended for removing airborne particles from indoor air.

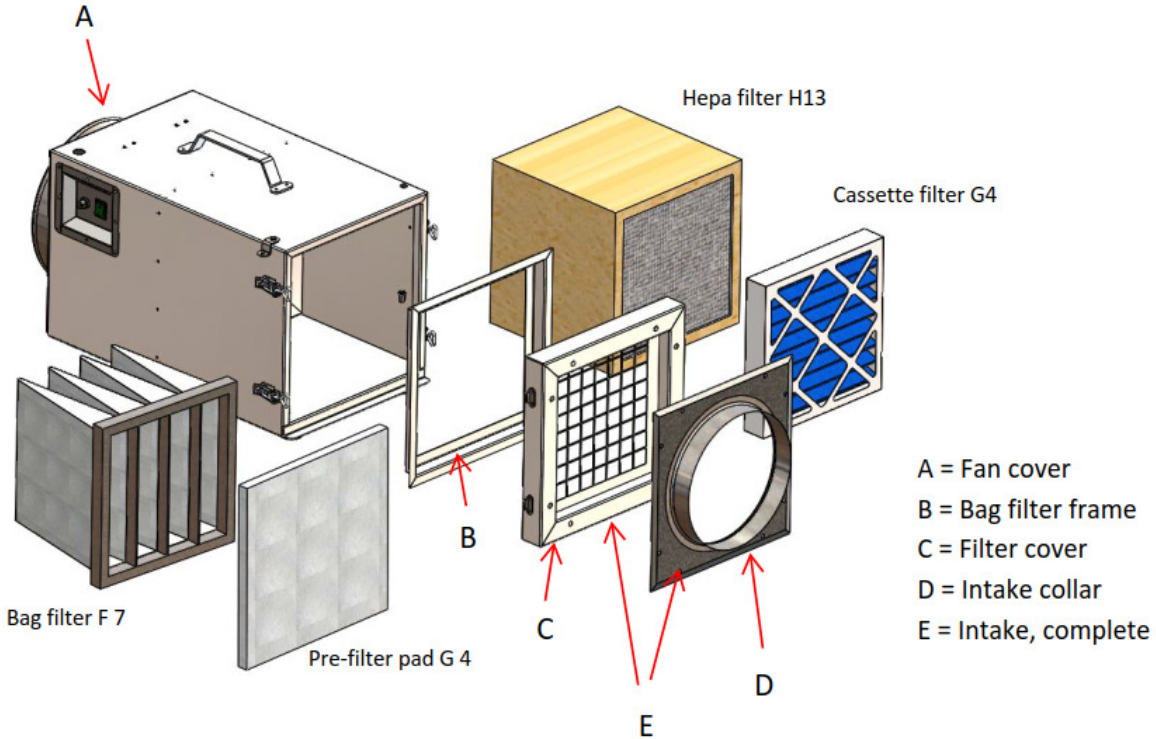
Correctly installed and used, they prevent and limit the spread of dust during machining, while at the same time purifying the air. The BOS Clean negative air machines are also suitable for general ventilation and can be operated 24/7.

They are designed for professional use in, for example, hotels, schools, hospitals, factories and offices as well as during construction and renovation projects.

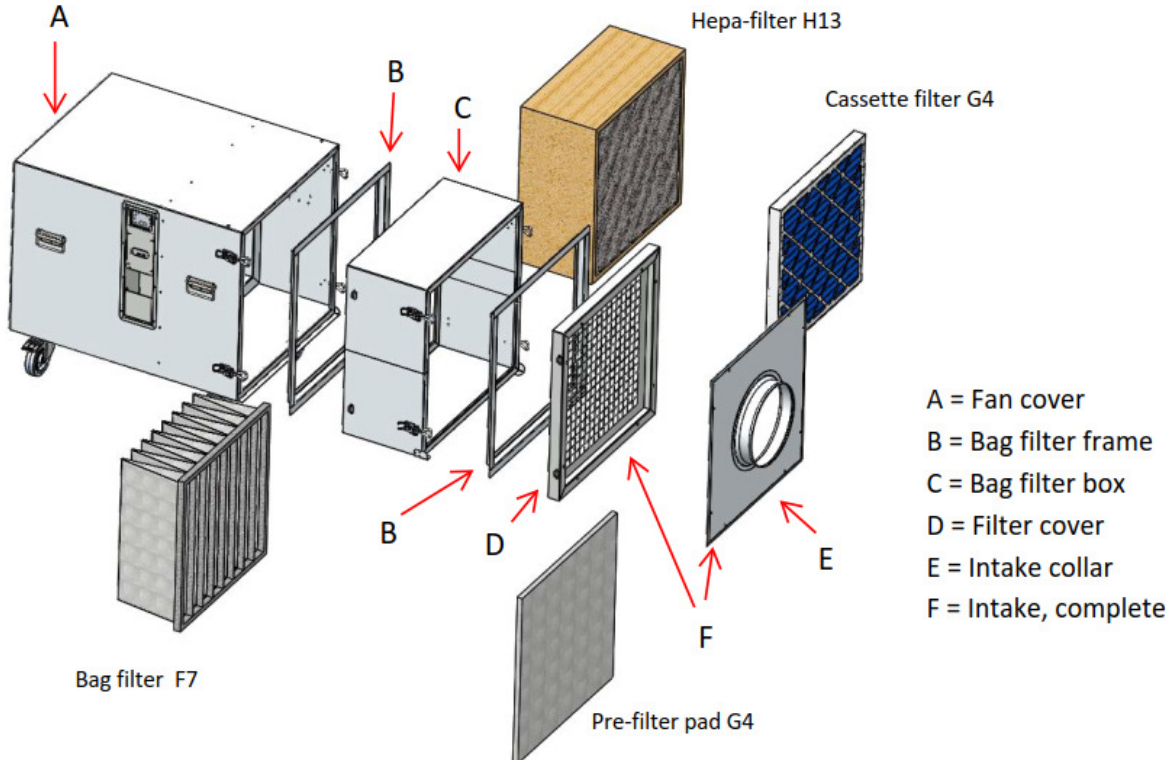
- **ONLY USE THE MACHINES IN DRY CONDITIONS WITHOUT ANY DANGER OF EXPLOSION!**
- **The intake must be protected and must be kept free from foreign objects!**
- **The information on the type plate must be observed during maintenance and when ordering spare parts!**
- **Observe national regulations!**
- **Make sure to use an earthed power source!**
- **Make sure the power cord is intact!**
- **Observe local regulations governing the use of these machines!**
- **The machine operator shall be liable for any damage resulting from unintended use!**
- **The BOS Cleantec negative air machines must not be altered in any way – the manufacturer accepts no liability for any damage resulting from any alterations!**
- **To achieve optimum filtration performance, the machines should only be used with filters recommended by the manufacturer!**
- **The type plate is located on the machine end or in the vicinity of the power cord!**
- **Observe the instructions given on the type plate and in this manual!**

## CONSTRUCTION AND CONTROLS

### Bos Cleantec M



### Bos Cleantec L and XL





## SPARE PARTS AND ACCESSORIES

When ordering spare parts, please always state the model, type and serial number of the machine. This information can be found on the CE plate, which is located on the machine end (models L and XL) or in the vicinity of the power cord (model M).

Bag filter housing (models BOS L and BOS XL)

Bag filter frame (BOS M, L and XL)

Filter cover (BOS M, L and XL)

Intake, complete (BOS M, L and XL)

Fan cover (BOS M, L and XL)

Electric motor

Fan

Flexible duct Ø 305 mm x 10 m

Flexible duct Ø 254 mm x 10 m

Lay-flat outlet duct

Clamp

Reducer

Bag filter mounting frame

HEPA filter H13, HPM / HCG

Bag filter F7

Cassette filter G4

10 filter pads G4

Filter roll G3



## OPERATING AND SAFETY INSTRUCTIONS

### PLEASE CAREFULLY OBSERVE THE FOLLOWING BEFORE AND DURING OPERATION:

- The machine operator must ensure that the machine is fit for the intended purpose.
- The machine operator must ensure that the voltage and current supplied match the ratings on the CE plate.
- All legislative requirements must be observed.
- There must be no flammable particles or danger of explosion present in the operating environment.
- No flammable or explosive materials or substances must be used or stored at the location where the machine is used.
- The machine must be protected from moisture, vibration and getting wet.
- Only use spare parts that are suitable for the machine (are approved by the manufacturer).
- Do not cover the machine during operation.
- It is not recommended to use the machine without a filter / filters.
- The machine must be kept as clean as possible.
- Do not stay continuously in the immediate vicinity of the machine when it is in operation.
- The machine must not be used for transferring explosive, toxic or aggressive gases.
- The operating temperature must not exceed +50 °C or fall below -20 °C.
- The machine must not be altered in any way.

*The person(s) working at the location must wear a helmet, hearing and respiratory protection, safety goggles, clothing and footwear as well as other personal protective equipment depending on the work performed.*

*The centrifugal fan has a very high intake capacity, and the intake cone may easily suck in hair or clothing, for example, causing injury. The protective grid at the intake must not be removed. A negative air machine must never be used with the intake unprotected. Also, the outlet discharges air powerfully. Any objects sucked into the fan may be ejected with a lot of force, causing injury. Always ensure that the air discharged by the fan is released to a safe place and that there are no people or sensitive materials in the vicinity of the outlet. A negative air machine must never be used with the outlet unprotected. Non-observance of these instructions may result in severe injuries.*





## OPERATION

### 1. Transport

The machine must be protected against dirt and moisture during transport. The machine must not be stored outdoors unprotected. Exercise extreme care and caution when moving or lifting the machine. Avoid impacts and knocks during transport and handling.

Before commissioning, inspect the machine to make sure it is exactly as it should be (and without any transport damage).

### 2. Storage

Store the machine in a dry place protected from weather conditions.

Avoid extreme temperatures (high and low) during storage.

### 3. Commissioning

Mount the negative air machine in a horizontal or vertical position and make sure to protect it from weather conditions. Ensure unobstructed discharge. Protect the machine against vibration and impacts. Protect the motor impeller against foreign objects. Ensure an adequate flow of cooling air to the motor. The maximum permissible operating temperature is +50 °C.

Provide the machine with a filter / filters fit for the purpose. Ensure proper tightness of the latches and, consequently, that of the filter(s).

### 4. Electrical connection

These negative air machines are equipped with a motor (M: 0.44 kW / 2.2 A, L and XL: 1.1 kW / 7.2 A) that requires 1-phase (1~) power. Only connect the machine to a power source with a protective earth system.

- **Make sure to use an earthed power source!**
- **Make sure the power cord is intact!**
- **Electrical connections must be made by a qualified electrician!**
- **The components of electrical equipment must be inspected at regular intervals!**



## MAINTENANCE

- **Before starting any maintenance or cleaning work on the machine, make sure to disconnect it from the power source.**
- **Risk of injury!**
- **Risk of electric shock!**

All maintenance and repair work that requires removal of motor guards must be performed by an authorised service workshop. Only genuine spare parts may be used.

During handling and transport, the product under load must be protected to ensure the safety of people.

Routine maintenance and care covers changing the filters and cleaning the machine. Any maintenance and repair work on the electrical equipment must be performed by a professional service workshop authorised by the manufacturer.

If it is at all possible that the machine might have been used in conditions where the filters may have been contaminated with asbestos or other hazardous substances, the filters must be changed as set out in regulations concerning asbestos or in legislation concerning other hazardous substances. The housing and end covers must also be cleaned after use.

As to maintenance work performed by the operator, the machine must be disassembled, cleaned and serviced without causing any danger to the service personnel or other people. The relevant safety measures to be taken involve disposal of any toxic content (such as filters contaminated with asbestos) before disassembling the machine, ensuring compartmentation of the place of disassembly, putting on personal protective equipment, and cleaning the place of maintenance.

- **Any repairs must be performed by a professional service workshop approved by the manufacturer.**
- **The manufacturer accepts no liability for any maintenance work performed by a third party.**



## WARRANTY

Provided that the operating and maintenance instructions are strictly adhered to, the product is covered by a 12-month factory warranty starting from the date of purchase.

Any defects discovered during this warranty period are rectified free of charge, provided that

- the defect is in materials or components
- the defect has occurred during normal use
- all maintenance and repair works on the machine have been performed by the manufacturer or an authorised representative – the manufacturer accepts no liability for any maintenance works performed by a third party
- a warranty claim has been submitted in writing.

The warranty does not cover defects resulting from normal wear and tear, negligence, improper use or maintenance/repair works not performed by the manufacturer.

The product has been manufactured to existing international regulations. In case of any questions regarding commissioning or malfunctions, please contact the manufacturer.

For maintenance or warranty repair, the machine should be sent to the following address:

**Bierkühl Oy**  
**Pellonlaita 1, 50600 Mikkeli, FINLAND**  
**Tel.: +358 440 178 111**

Bierkuhl reserves the right to make changes.



## ENVIRONMENT/RECYCLING

- **Waste materials must be disposed of in compliance with the relevant legislative requirements and without harming the environment.**
- **A discarded machine or any part of it must not be disposed of together with household waste!**
- **Discarded machine parts and accessories must be taken to an environmentally compatible recycling point.**

If an appropriate recycling point cannot be found, the product can also be returned to the seller or manufacturer to be recycled.

Metal parts (housing and motor) can be recycled as scrap metal.

Electronic parts (frequency converter, switches and other electrical components) should be taken to an authorised recycling facility.

Other parts can be recycled as mixed waste.

In observance of the European Directive on waste electrical and electronic equipment and its implementation in accordance with national law, discarded electric tools must be collected separately and returned to an approved recycling facility.



## DECLARATION OF CONFORMITY

**Manufacturer:** Bierkühl Oy, Pellonlaita 1, 50600 MIKKELI, FINLAND  
**Tel.:** +358 440 178 111  
**Website:** [www.bierkuhl.com](http://www.bierkuhl.com)  
**Product designation:** Negative air machine M / L / XL  
**Product name:** BOS Cleantec  
**Intended use:** Creation of negative pressure / purification of air  
**Serial number:**  
**Year of manufacture:**

We hereby declare that the product named above has been designed to comply with the Finnish Government Decree on the safety of machinery (400/2008) and meets the requirements of the Machinery Directive( 2006/42/EY).

We also declare that the following Directives and harmonised standards have been applied:

Essential characteristics and performance	Harmonised technical specification
Safety of machinery	SFS-EN ISO 12100:2010
Electrical equipment of machinery – Part 1: General requirements	SFS-EN 60204-1:2007
Decree on the safety of machinery	Finnish Government Decree No. 400/2008
Machine Directive (MD)	2006/42/EC
Low Voltage Directive (LVD)	2014/35/EU
Electromagnetic Compatibility (EMC) Directive	2004/108/EC 2014/30/EU
Restriction of Hazardous Substances (RoHS) Directive	2011/65/EU
Waste Electrical and Electronic Equipment Directive (WEEE)	2012/19/EU

**This product conforms with the requirements to achieve CE marking.**

**Bierkühl Oy 30.03.2016**

**Pentti Hiltunen**  
**Managing director**