



BOS® Cleantec

BOS® CLEANING 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® Cleaner duct cleaning brushing 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, 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 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® Cleaner duct cleaning brushes have been designed and constructed in compliance with general safety and electrical safety guidelines. They are intended for the cleaning and disinfection of air ducts. BOS® Cleaner BC 370e is for small and medium-sized ducts (100–315 mm in diameter), and BC 750e is for ducts 250–700 mm in diameter.

- Powered duct cleaning brush, available in two models: BC 370e for small ducts and BC 750e for large ducts.
- Lightweight and durable, for professional use.
- Low power consumption.
- Low noise level: <40 dBA.
- Continuously variable brush speed 50–560 rpm.
- Wide selection of brushes for ducts of different sizes and for different types of dirt.
- Fast-response electrical pedal for changing the direction of brush rotation.

TECHNICAL DATA

	BOS® Cleaner 370e	BOS® Cleaner 750e
Operating voltage	240 V	240 V
Frequency	50 Hz	50 Hz
Motor	0.55 kW / 1,9 A	0.75 kW / 3,1 A
Fuse	10 A	10 A
Speed control	With the drive converter	With the drive converter
Power cord (rubber cable), 3G 3*1.5 mm ²	5 m	5 m
Operating switch	Yes	Yes
Brush speed	50–560 rpm, continuously variable	50–560 rpm, continuously variable
Brush/direction control	Electrical pedal	Electrical pedal
Brush connector	M12	M12
Material, housing/drum	Painted steel / marine- grade aluminium EN AW 5754	Painted steel / marine- grade aluminium EN AW 5754
Dimensions (height/width/length)	925/470/690 mm	1200*500*1060
Weight	44 kg	76 kg
IP rating	54	54
Cleaning shaft length	20 m	27 m
Cleaning shaft	PA MOQ 18/12 + 10 mm flexible steel shaft	LDPE outer sheath + 11 mm glass fibre rod, 12 mm steel shaft inside PA tube
Shaft mounting adapter (Easy Service System Adapter)	ESSA	ESSA
Wheels	Ø 200 mm	Ø 250 mm / Ø 100 mm locking swivel wheels
Indicator	Yes	Yes
Emergency stop switch	Yes	Yes
Hour meter	In the frequency converter	In the frequency converter
Max. brush size	Ø 400 mm	Ø 700 mm

INTENDED USE

The BOS® Cleaner duct cleaning brushes have been designed for professional use. When working with the machines, the following safety aspects should be considered:

- Protect the machine against moisture and vibration!
- ONLY USE THE MACHINE IN DRY CONDITIONS WITHOUT ANY DANGER OF EXPLOSION or hazardous substances!
- Protect the machine against moisture and vibration!
- The machine must not get wet during cleaning!
- Do not cover the machine during operation!
- 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!
- No-one must stay in the vicinity of the machine while it is being used for cleaning!
- The machine operator shall be liable for any damage resulting from unintended use!
- BOS® Cleaner duct cleaning brushes must not be altered in any way. The manufacturer accepts no liability for any damage resulting from any alterations!
- Clean the machine and the shaft carefully after use!
- To achieve the best possible results, the machine should only be used with brushes recommended by the manufacturer!
- The type plate is located next to the electric box!
- Observe the instructions given on the type plate and in this manual!

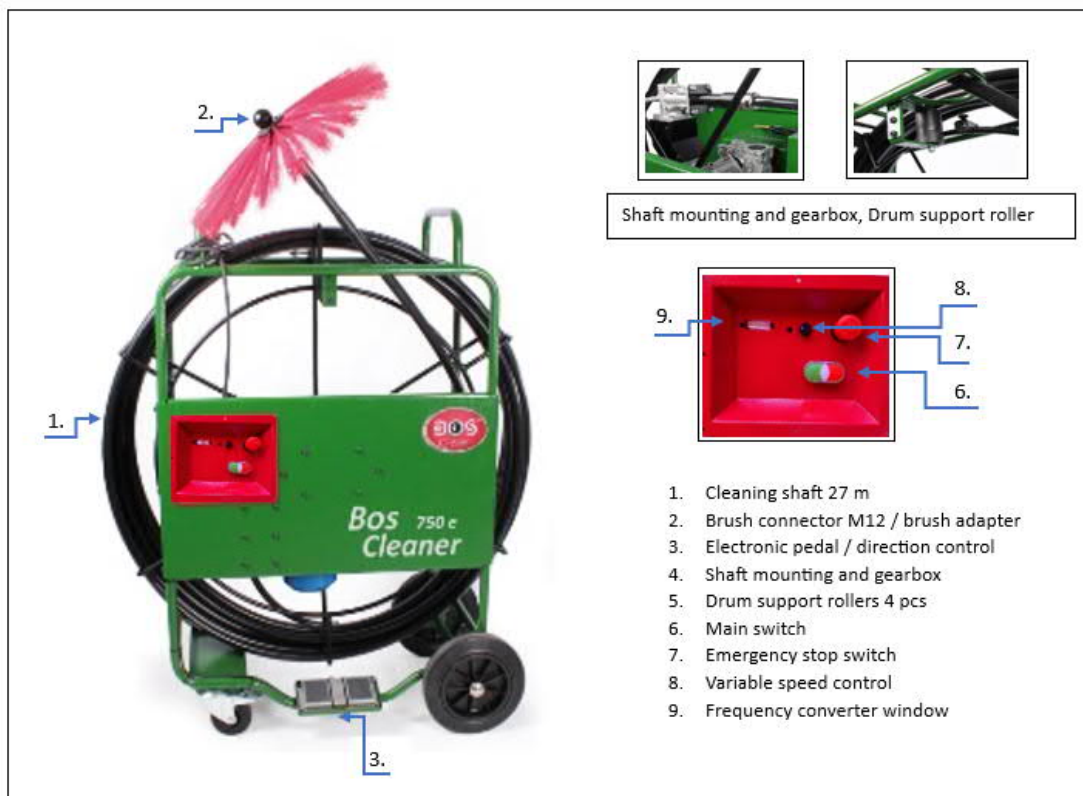
PLEASE NOTE THAT THE MACHINE MAY ONLY BE CONNECTED TO A POWER SOURCE WITH A PROTECTIVE EARTH SYSTEM!

CONSTRUCTION AND CONTROLS

BOS® Cleaner 370e












BOS® Cleaner 750e



ACCESSORIES AND SPARE PARTS

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 inside of the switch panel.

Basic brush M12 100–400 mm, soft, PP bristle	
Soft brush, 200–1000 mm, plastic centre PEH 300, PES Ø 0.5 mm	
Combination brush, disc 200/400–800/1000 mm, plastic centre PEH 300, PES Ø 0.5 mm / nylon (PA 6.6) Ø 0.75 mm	
Hard brush, 300–600 mm, plastic centre PEH 300, nylon (PA 6.6) Ø 1.0 mm	
Soft brush M12 for small ducts, 125–350 mm, plastic centre PEH 300, PES Ø 0.35 mm	
Brush adapter for brushes with nylon centre, M12	
Flexible brush adapter for M12 brushes	
Ready-to-use shaft	
Motor-end and brush-end shaft repair kits	

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.
- 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 in the vicinity of explosive, toxic or aggressive gases.
- The operating temperature must not exceed +40 °C or fall below -20 °C.
- The machine must not be altered in any way.

It is recommended that these machines are used by two operators at a time, to avoid accidents caused by the force of the rotating shaft and brush.

The shaft may only be rotated while the brush is inside a duct. Before starting the work, make sure the brush is properly attached.

The person(s) performing the work 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.

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. The machine must be transported in a vertical position and securely tied down. 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 machine in a vertical position on a flat surface, and make sure to protect it from weather conditions. Provide for lighting, ventilation and the necessary equipment (platforms, ladders). Protect the machine against vibration and impacts. Check that all the components are in place and that the machine is in proper working order. Ensure an adequate flow of cooling air to the motor. The maximum permitted operating temperature is 50 °C. The frequency converter features an overheating protection mechanism that is triggered in the case of motor overheating. The motor works when the temperature is at the correct level. The machine must be powered off when not in use.

4. Operation

- Before starting any work, make sure the work area is clear and free of obstacles that might be in the way when working.
- Wear personal protective equipment.
- For efficient cleaning, create a negative pressure inside the ductwork to be cleaned.
- Equip the machine with a brush that is suitable for the work. Check the condition of the shaft and the attachment the brush. Adjust the brush speed to suit the job at hand.
- Connect the machine to the power source, and power it on.
- Insert the shaft into the duct, and start cleaning.
- Feed the shaft steadily. For best results, rotate the brush both clockwise and counter-clockwise.
- It is recommended to work in pairs when cleaning ducts with a powered duct cleaning brush.

5. Electrical connection

Ensure that the current and voltage supplied are correct and match the ratings given in this manual! The machine requires single-phase (1~) power of 230 V, 50–60 Hz. 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!**
- **Inspect the components of the electrical equipment at regular intervals!**

MAINTENANCE

- Remove all dirt and dust from the machine after every use!
- Do not use running water for cleaning!
- 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.

A machine that is in continuous, professional use must be serviced at intervals of one year.

If any electrical or mechanical faults are discovered, the machine must be taken to be serviced without delay.

During handling and transport, the machine must be protected to prevent further damage and personal injuries.

Routine maintenance and care covers cleaning the machine and checking the condition of the shaft as well as tightening the steel cable if necessary. A shaft with minor damage can be repaired using a heat-shrink tube. Any maintenance and repair work on the electrical equipment must be performed by a professional service workshop authorised by the manufacturer.

- The electric motor and the frequency converter must be carefully cleaned using a damp cloth or low-pressure compressed air!
- Any repairs must be performed by a professional service workshop approved by the manufacturer!
- Any connections and repairs of electrical equipment must only be performed by a licensed electrician!
- After every use, all dirt and grease must be removed from the shaft using a mild detergent!
- The manufacturer accepts no liability for any maintenance work performed by a third party!

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.
- It is recommended that the valuable materials and components contained in the machine are recycled and reused.

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.

Note that the European Directive on waste electrical and electronic equipment and its implementation in accordance with national law require that discarded electric tools are collected separately and returned to an approved recycling facility.



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 work 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

Bierkühl reserves the right to make changes.

DECLARATION OF CONFORMITY

Manufacturer: Bierkühl Oy, Pellonlaita 1, 50600 MIKKELI, FINLAND

Tel.: +358 440 178 111

Website: www.bierkuhl.com

Product designation: Powered duct cleaning brush

Product name: BOS® Cleaner

Intended use: Cleaning of air ducts

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 60204-1:2018
Decree on the safety of machinery	Finnish Government Decree No. 400/2008
Machine Directive (MD)	2006/42/EY
Low Voltage Directive (LVD)	2014/35/EU
Electromagnetic Compatibility (EMC) Directive	2004/108/EY 2014/30/EU
Restriction of Hazardous Substances (RoHS) Directive	2011/65/EU
Waste Electrical and Electronic Equipment (WEEE) Directive	2012/19/EU

This product conforms to the requirements to achieve CE marking.

Bierkühl Oy, 25 April 2023



Pentti Hiltunen
Managing Director