

**User manual and installation guide**

**[bluechimney.uk](http://bluechimney.uk)**

Version 2

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## 1.0 Product information

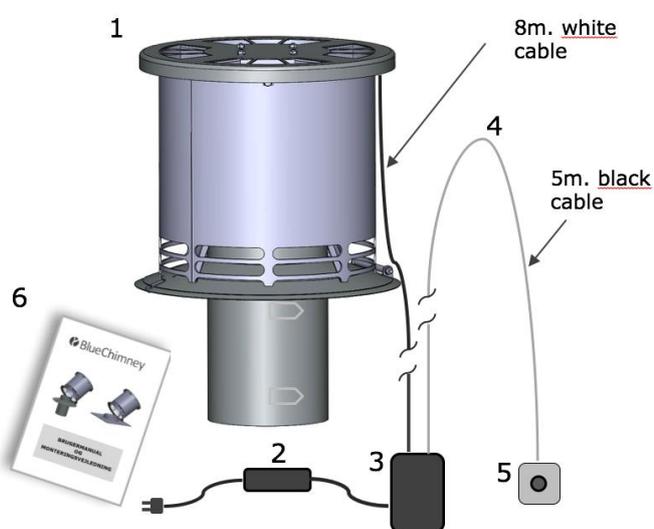
BlueChimney is a new smoke extractor and smoke diluter for wood burning stoves and closed fireplace inserts with a total efficiency of up to 15 kilowatts.

BlueChimney creates a natural draught in the chimney by extracting the air up through the chimney and then diluting it. This ensures a good draught in the chimney irrespective of the weather conditions. This also improves combustion, makes it easier to light the fire and causes less smoke in the living room when lighting the fire. Outside, smell and smoke are reduced as the smoke is diluted up to 25 times.

The smoke extractor makes almost no sound and is powered by a 24 VDC low voltage EC engine of high quality. You are allowed to install the DraftOptimizer yourself because the smoke extractor does not require earth connection. Just connect it to an existing socket outlet. BlueChimney can be installed on all round vents with an inside diameter of between Ø146-200 mm. For a square shaped brick chimney up to 240x240 in mm, it is possible to get a square shaped connector.

### 1.1 Contents

1. BlueChimney, along with 8 metres of black engine cable. Including connector for round vent (Ø146-200 mm)
2. Power supply w/ net cable
3. Control box
4. 5 metres of white control cable
5. Continuously variable speed adjustment
6. User manual and installation guide



### 1.2 Use

BlueChimney can be used for chimneys where a steady natural draught is wanted.

Before lighting a fire in the fireplace, BlueChimney must be started on full speed. When the logs burn, the air supply and speed of BlueChimney should be adjusted until bright and calm flames appear in the fireplace.

A switched off BlueChimney will not prevent the natural draught in the chimney. However, it is recommended to always let BlueChimney run at minimum speed while the fireplace is in use. This ensures that smoke always disappears through the venting system and does not escape into the house.

### 1.3 Function

BlueChimney has been constructed to have a long life span and it can withstand high temperatures (up to 500°C). When burning wood, the temperature often exceeds 350°C.

BlueChimney *lifts* the draught 16 pascal in a natural way. This method resembles the natural draught in a good chimney. The speed adjustment ensures that it is always possible to obtain good combustion.

BlueChimney dilutes the smoke up to 25 times and fans out the diluted smoke. This way, a unique dilution and diffusion effect is obtained.

BlueChimney is an open unit and when you light the fire correctly, there is no risk of smoke poisoning or obstruction.

BlueChimney has automatic built-in safety, protection and maintenance functions which start the fan when the temperature exceeds 35°C. This protects the engine if you forget to switch on BlueChimney. On warm summer days, BlueChimney can start automatically to maintain the bearings and cool the engine (maintenance function).

**IMPORTANT!** BlueChimney does not rectify problems of an incorrectly lit fire, problems caused by badly functioning and wrongfully dimensioned fireplaces, wrong or moist fuel and bad stoking habits. Damages to BlueChimney as a result of these are not covered by the warranty.

#### 1.4 Chimney sweeping

Cleaning of the chimney can be done while the BlueChimney is running.

**When cleaning the chimney from the top**, the opening of the BlueChimney can be handled with one hand. The fastener is turned to the side, and the BlueChimney is lightly tipped back so the chain tightens. From here, there is easy and unhindered access so the chimney can be cleaned.

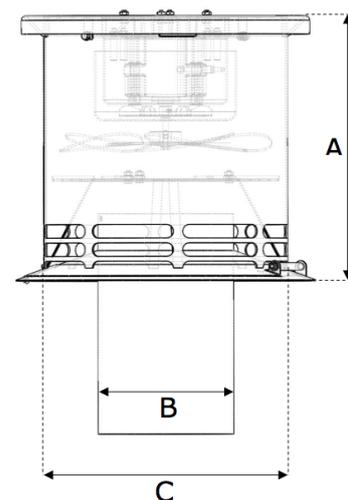
**When cleaning from the bottom of the chimney**, the cleaning brush should be led up all the way until it hits the hotplate which withstands heavy mechanical pressure from the chimney sweep's cleaning tools. This way the chimney sweep ensures that the chimney is always cleaned all the way to the top.

#### 1.5 Warranty

BlueChimney is covered by national rules of warranty and complaint from the date of purchase. In case of complaint, the following should be sent to Blue Chimney ApS, [info@bluechimney.dk](mailto:info@bluechimney.dk): description of problem including photos if possible, production number and a copy of the receipt. The production number can be noted down here.

#### 1.6 Specifications and dimensions

Model	BlueChimney
Engine type	EC - IQ <sup>2</sup> 3620 GreenTech
Voltage	24 VDC
Revolutions	400-1.300 RPM
Amperage	1,3 A
Power consumption	1,8 W - 22 W
Weight	6,8 kg
Measurements	A: 280 mm
	B: Ø 146 mm
	C: Ø 265 mm
Max operation temperature	500°C
Automatic engine protection	35°C
Material	AISI 304
Material: propeller and	Aluminium



#### 1.7 Installation

BlueChimney should be placed in the middle of the vent on top of the chimney. If you have a chimney cap, it must be removed because the smoke extractor works as a rain cap. National rules of

movements on roofs must be followed.

BlueChimney is secured the following way:

Round vent hole:

When the vent hole is round(Ø146-200 mm), the round flange is lowered into the hole. To ensure the flange is firmly fixed, the 6 arms are bent outwards on the lowering pipe. They must be bent so much outwards that they fit the inner dimension of the chimney and are firmly fixed.

Square vent hole up to 240x240 mm (brick chimney):

When the vent hole is square shaped, it is necessary to replace the enclosed round flange with a square shaped flange made for brick chimneys (must be bought separately).



Installation of square shaped flange on brick chimney:

First, dismantle the round flange which is part of the BlueChimney by loosening the black engine cable from the cable holder. Turn the fastener and open the unit by tipping BlueChimney backwards. Open the lowest link on the safety chain and release the chain link from the opening in the pipe. Close the unit without turning the fastener into the locked position. Loosen the hinge bolt by unscrewing the lock nut and pulling out the hinge bolt from the hinge eyes. The BlueChimney unit can now be lifted off of the round flange and be put on the flange for the brick chimney. Mount the long hinge bolt in the hinge eyes and mount the lock nut on the bolt. Fasten the distance chain in the opening in the pipe of the flange and close the chain.

Close the BlueChimney unit and turn the fastener so the BlueChimney unit is locked to the flange. Place the sealing mat above the chimney opening. Mount the flange on the concrete cover.

## 1.8 Electrical connection

**Important! The BlueChimney power supply should always be connected to constant current.**

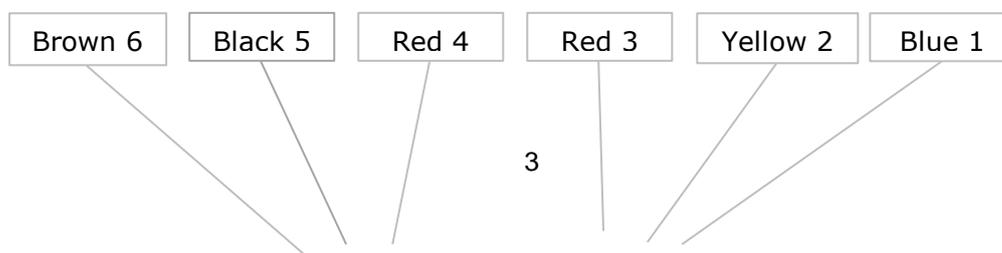
BlueChimney is powered by a 24 VDC low voltage EC-engine and requires no ground connection. You are allowed to install the BlueChimney yourself by connecting it to an existing socket outlet. National rules of movement on roofs must be followed.

Run the engine cable down along the chimney through the flashing or through the roof and down into the attic where there is access to power. The cable should be fastened to the chimney. **IMPORTANT! Make sure that 0.5 m of cable can be pulled loose so the unit can be removed from the chimney for service at a later time.** If the control box and the power supply are installed outside in open space, the parts must be placed in a waterproof installation box with at least an IP 54 protection.

Installation of engine cable for control box:

Open the lid of the control box and put the black engine cable through the opening in the side of the box as shown in the photo. Mount the cords as described below:

- Red cord in no. 4 terminal (24V+)
- Black cord in no. 5 terminal (GND)
- Brown cord in no. 6 terminal (CTRL)





Mounting of control cable to control box:

Put the white control cable through the other opening in the side of the control box and mount the cords as described below:

- Blue cord in no. 1 terminal (GND)
- Yellow cord in no. 2 terminal (CTRL)
- Red cord in no. 3 terminal (24V+)

Mounting of speed regulator:

The white control cable is run through the loft and through the floor to the wanted location for the speed regulator. This can be done through the chimney's loft collar/top and down along the wall to the wood burning stove.

The white control cable is mounted on the speed regulator by removing the back of the speed regulator and mounting the cords as described below:

- Red cord in no. terminal (24V+)
- Yellow cord in no. 2 terminal (CTRL)
- Blue cord in no. 3 terminal (GND)

The white control cable is placed in the cable slit before the back is clicked back on. The speed regulator can then be mounted on the wall with self-adhesive tape or screws.

**Note: The speed regulator cannot be mounted outside**

Power supply:

Finally, put the plug from the power supply in the control box, and connect the power supply to a switched on socket outlet. Now, the BlueChimney is ready for use.



**Important! The power supply should always be connected to constant current – also in the summer period** - and cannot be placed where there is a risk of water, splashes, moisture or temperatures above 50 °C. The power supply must be placed so it's freely ventilated. If placed outside, the power supply and the control box have to be in shade and in a waterproof IP 54 installation box.

Changing the engine cable:

If it becomes necessary to extend the black engine cable, it is recommended to replace the whole cable so joints are avoided.

Tools: Cross-point screwdriver size 2 and a socket spanner size 7 mm.



**1. Installation of top ring:**

The top is dismantled by removing the two Philip screws underneath the top ring on either side of the unit.

Philip screw

2.

**Dismantling of cooling unit:**

The black engine cable is pulled loose from the cable holder underneath, and the whole cooling unit is lightly removed from the unit. **IMPORTANT:** Be very careful that

the impeller wings don't fold.



**3. Dismantling of cooling top:**

The four lock nuts which fasten the cooling top to the cooling house are dismantled and removed. Now, the cooling top with the cooling pipes can be lightly removed. Remember to let the black cable slide along with it when you remove the cooling top.

**4. Removing the cords from terminal:**

Press the terminal holders lightly with a pen or the like, and at the same time lightly pull the cords from the terminals.

After this, pull the whole cable out of the cooling pipe and run the new cable into the cooling pipe. Pull the cable through so there is a good length of cable to work with.

**5. Mounting of cords in terminal:**

Strip the cable approx. 5 cm. Then strip each of the end of the cords approx. 5 mm. The metal wires are twisted/turned a few times so that the twisted ends become straighter and firmer.



The cords are fastened to the terminals by pressing the terminal holders and at the same time pushing the ends of the cords into the terminals. See illustration.  
 Make sure that the cord is pushed all the way into the terminal opening before you let go of the terminal holder.

The cooling unit is assembled and the parts are mounted in reverse order.

## 1.9 Maintenance and troubleshooting

### 1.9.1 Troubleshooting plan

Problem	Cause	Check
<i>BlueChimney is not running.</i>	It needs current  Something prevents it from rotating  Don't know	Is the socket outlet switched on and does it function? Is the plug in the socket outlet? Is there current to the power supply? Is the power supply intact (light in the diode)? Have all the cords been mounted correctly? Are the cables defective?  Is there a lot of soot in the unit? Are there any foreign bodies (birds, branches)?  Contact dealer
<i>BlueChimney runs but does not extract enough.</i>	The ventilation system is not tight  Low pressure in the house  The fireplace is too big	Are smoke pipes, connections, chimney and cleaning hatches tight?  Does the exhaustion in the house work? (Cooker hood, exhaustion from bathroom, tvangsstyret luftskifte?)  Is the efficiency of the fireplace more than 15 kW? Is the fireplace an open fireplace?
<i>BlueChimney is defect</i>	Defect parts must be replaced	Parts that are easily replaced: Cooling house with engine Axial wing Engine print Control box print Speed regulator Propeller

### 1.9.2 Maintenance

When used regularly, the BlueChimney needs maintenance corresponding to the periodical chimney sweep visits. However, at least once a year the BlueChimney should be cleaned thoroughly by an expert.

**IMPORTANT! Disconnect the power from unit before you start cleaning.**

When cleaning, the top ring should be dismantled and the BlueChimney cleaned thoroughly on the inside. The axial wing should be carefully cleaned to remove soot or it can be replaced. The safety net must be cleaned from soot and dirt.

### 1.10 EC Declaration of Conformity

The following manufacturer

Manufacturer:	BlueChimney ApS
Address:	Snerlevej 14, 4180 Sorø, DK

Herewith declares that the product

Product name:	BlueChimney
Product type:	BC1GL01

is in conformity with the following EC directive(s)

Directive reference	Directive
2006/42/EC	Machinery Directive
2004/108/EC	EMC Directive
2011/65/EU	ROHS Directive

The following standards have been applied to ensure conformity with directive(s)

Standard reference	Standard
DS/EN ISO 12100:2011	Machine safety – General principles of construction – risk assessment and risk reduction
DS/ISO/TR 14121-2:2012	Machine safety – risk assessment – Part 2: Practical guidance and examples of methods
DS/EN 60204-1:2006	Machine safety – Electrical equipment in machines – Part 1: General requirements
DS/EN ISO 13857:2008	Machine safety – safety distances to prevent hands, arms, legs and feet from contact with danger areas

Date: September 4 2015 Place: Sorø, Denmark

Name: Morten A.N. Bjørklund, Managing Director