

# 1 NON FIRE-RATED EXHAUST BOX FANS

Ventilation box fan

## BESB50043EC

### BESB50043EC

Box fan with EC motor – available in four sizes. Low energy consumption, low sound and noise level and low service costs.



### PRODUCT BENEFITS

- Economy fan
- Low energy consumption
- Low operating costs

### Product description

DESCRIPTION:

The BESB box fan is a low-energy fan with backward-curved B impeller and sound-damping insulation.

BESB is available in 4 sizes - BESB250, 315, 400 and 500. BESB315, 400 and 500 are supplied with an airflow measurement outlet.

MOTORS:

All BESB box fans are equipped with an EC motor. Get an overview of the individual sizes below.

TEMPERATURE:

In normal operation, the BESB box fan tolerates temperatures up to 80 °C.

Combustion-gas fan

If there is a need for a certified combustion gas fan, we draw your attention to the FSB box fan, described under the product group Fire Safety

OUTDOOR VARIANT:

BESB can be ordered in an outdoor version (OD), which has the following features.

- Suitable for outdoor assembly
- Temperature range - tolerates hot air up to 200 °C

### Accessories

Désignations	Variants
FLF500-Ø500, flex connection	FLF500
MAC12 constant pressure regulator	MAC 12
HW050X08002U0UL	EFC1P2

### Fan data

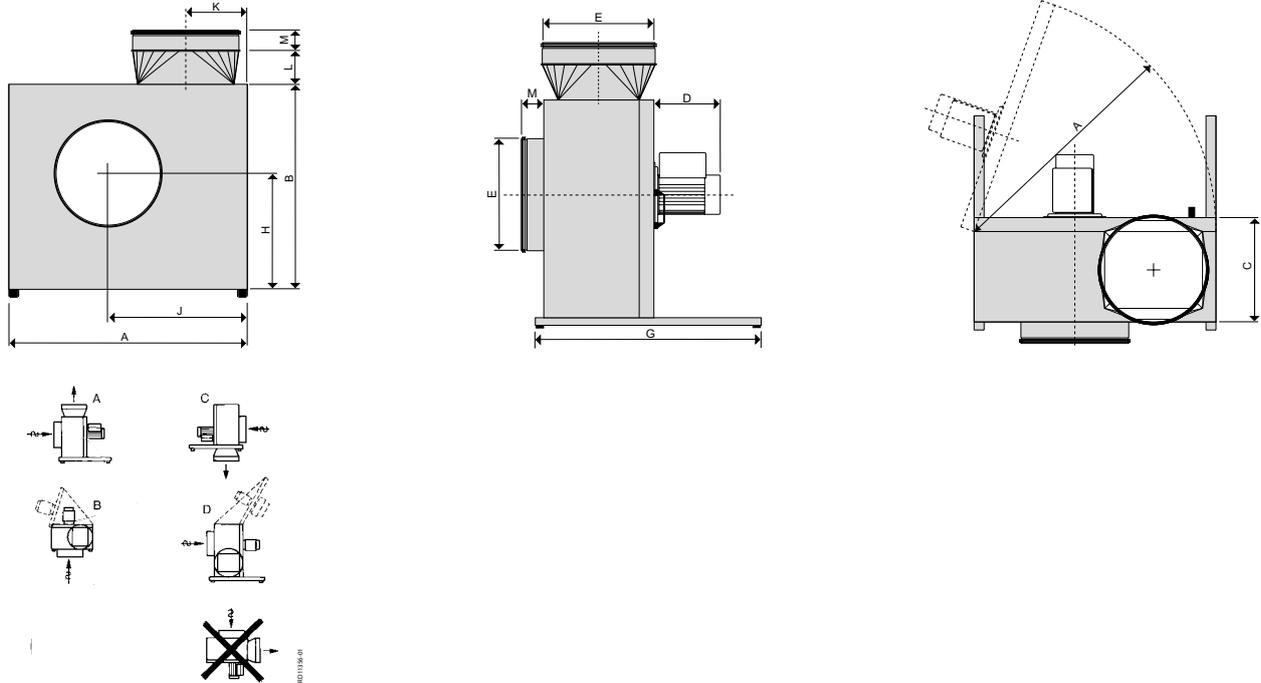
Max. Total efficiency (A-D) (%)	74,6
Ventilation energy class - Average climate	D
Efficiency level requirements	64, N(2015)
ECO efficiency level during optimal operating point	89
EC motor	EC motor with integral VSD
Nominal speed (RPM)	1757
Power supply	3 x 400 V
Overload protection	Integrated in motor control
Engine power (kW)	2,2

## Ventilation box fan

**BESB50043EC****BESB50043EC**

## Dimensional data

A (mm)	990
B (mm)	860
C (mm)	425
G (mm)	850
E Ø (mm)	500
Weight (kg)	91



The box fan can be mounted in different positions, however, space for insulating the ducts must be taken into account.

In installation options B and D, with the door facing upwards, special fittings must be used to hold the door (accessory).

The box fan should not be screwed onto the supporting base. The base must be stable and vibration free, with no sagging. The outdoor model can be installed according to options A and B.

## Airflow data

Minimum airflow	1330
Max. airflow (m <sup>3</sup> /h)	10800

## Electrical datas

Frequency (Hz)	50
Max. current (A)	3,8
Power supply	Three-phase
Max. power	2,19
Engine power (kW)	2,2
Motor Amp/kW	3,8 / 2,2

## Regulatory data

Ventilation energy class - Average climate	D
--------------------------------------------	---

Ventilation box fan

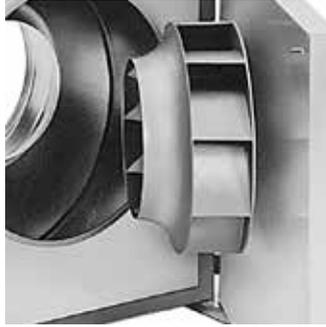
**BESB50043EC**  
**BESB50043EC**

Installation



BESB box fans are made from Aluzinc® AZ185 class C4 in accordance with EN/ISO12944-2 and insulated with 50-mm mineral wool.

As standard BESB can handle a gas temperature of up to 80°C, but in an OD version can withstand temperatures right up to 200 C.

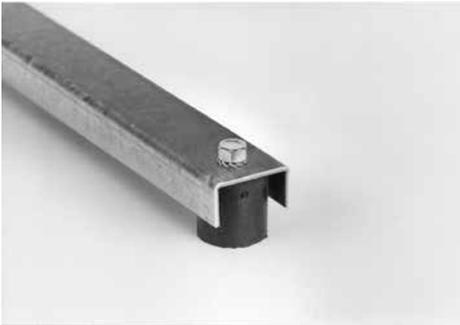


The ventilator impeller is a B-impeller made from cast aluminium.

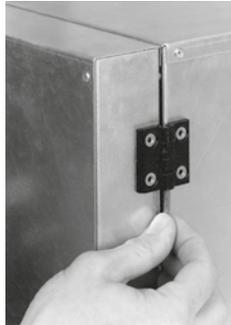
It has backward curved blades, thus ensuring low energy consumption and the further advantage that less dirt is attracted, with impaired impeller efficiency as a result.



The spigots on BESB have rubber gaskets, with a transition piece on the extract side specially developed for minimum pressure drop.



To minimise noise and vibration, the box fan is fitted as standard with efficient vibration dampers mounted on brackets.

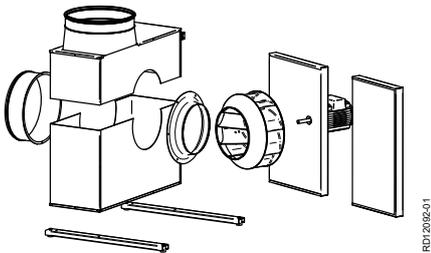


The BESB box fan is mounted with split hinges, which enable the door to be removed for installation and servicing, even in very confined conditions or for transport to difficult locations.



The BESB box fan is designed to transport air with an air humidity of less than 80% RH.

BESB is available in a special OD variant with a condensation outlet for air with over 80% RH.



If there are problems moving the BESB box fan in one piece, it may be ordered in a SPLIT version.

- > The box fan must be assembled by an approved EXHAUSTO fitter
- > The box fan must be tested before the fitter hands over the fan

RDF120182-01

## Ventilation box fan

**BESB50043EC**  
BESB50043EC

The BESB box fan is a low-energy fan, in which fan housing, centrifugal impeller and motor all work together as one technology.

All BESB box fans fulfil the 2015 requirements laid down in the Ecodesign Directive EC327/2011.

BESB is listed by the Danish electrical power utility companies as an 'energy-saving fan'® – that is a highly energy-efficient fan.

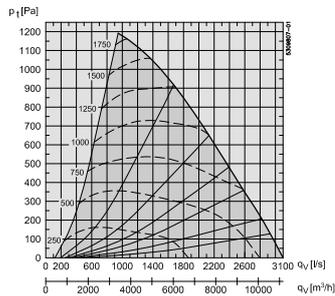
All BESB box fans are equipped with an EC motor. BESB box fans are equipped with an EC motor, which is directly connected to the fan impeller.

The EC motor for IP54 is a permanent-magnet motor of class IE5 with motor control for 1 x 230 V or 3 x 400 V connection. The motor control and the motor are protected from overloading, blocking, over and under voltage, and over heating.

The motor control is factory programmed by EXHAUSTO for optimal operation of the fan. It only requires mains connection and a control signal from an EXHAUSTO EFC1P2 or MAC12 controller or a 0-10V signal.

The motor controls also provide a Modbus interface for fan control and alarm read-offs etc.

## Curve



As standard, BESF can handle medium temperatures up to 80°C.