

# *freeAir*® plus

## **Operating Manual**

**[ G ] General**


**[ O ] Operation**

**[ I ] Installation**

**[ S ] Service**


## Quick Start Guide


### Comfort-Level

Press the  - Button repeatedly to change the Comfort Level. More blue LEDs indicate a more active operation (minimum ventilation, humidity, CO2, cooling ... etc.). However, a change in Comfort Level does not have to lead to the immediate increase in fan speed.

Blinking blue LEDs indicate Service Operation.

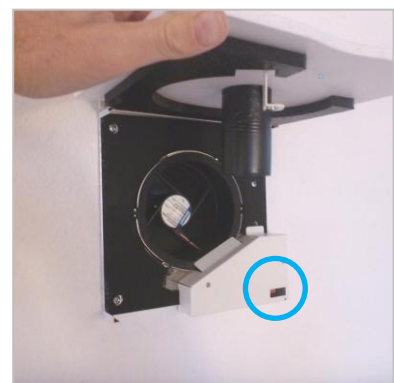
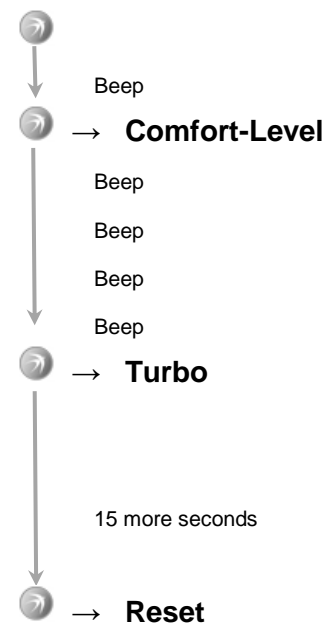
### Turbo / Reset

If you want to ventilate your rooms on the highest fan level for 30 minutes (Turbo mode), push the  - Button until you hear 4 short beeps.

The unit performs a software reset when you press the  - Button for 15 more seconds until the LEDs turn off. This is e.g. required for software updates.

### Standby

The unit switches on as soon as it is connected to the power supply. When the unit is not needed, you can activate the standby mode via the DIP-Switch (behind the front plate).



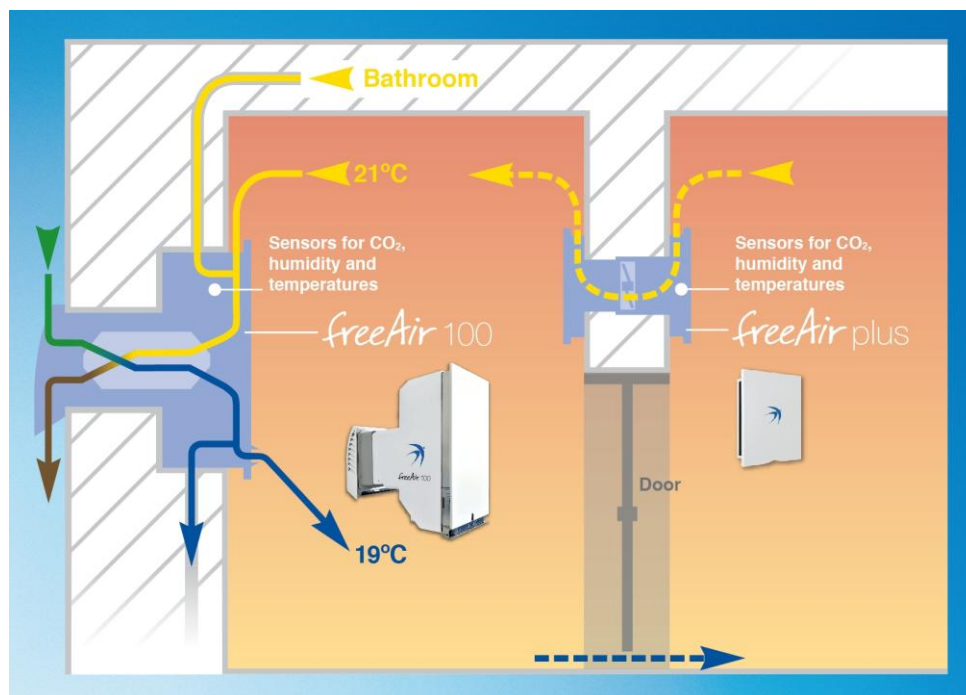
Dear customer

We thank you for choosing our freeAir ventilation system. Please read and follow this manual thoroughly.

After successful installation please select the desired Comfort Level. The sensor technology and the intelligent control of your freeAir will do the rest.

Enjoy the heightened sense of wellbeing offered by constant good air quality.

Your bluMartin-Team



## General

### Safety – General

This manual is only valid for the intelligent active transfer unit freeAir plus.

This manual is delivered as part of the device. Please keep this manual readily available.

Please make sure that all persons operating the device are familiar with this manual. Please observe all instructions given in this manual.

Installation, commissioning and servicing must only be performed by sufficiently qualified personnel.

Failure to comply with this manual voids the warranty.

Please also observe our general terms and conditions at [www.bluMartin.de/cos](http://www.bluMartin.de/cos).

### Safety – Icons

**DANGER** 

This sign indicates danger by potentially deadly electrical shock.

**DANGER** 

This sign indicates that instructions must be followed precisely in order to prevent injuries of persons or material damage.

**Warning** 

To avoid any property damage please pay special attention to this sign.

**Notes**

This sign emphasizes important information.

**Safety indications**

**DANGER** 

- The device is operated electrically. Some parts of the device carry line voltage even several minutes after unplugging the device.
- Never open the device while appliance is plugged in.
- Electrical installation as well as electrical service work must only be performed by qualified personnel.
- Electrical installation has to be in accordance with the appropriate national association or the safety regulations of your country.
- All instructions and notes with respect to maintenance (see Service paragraph) are to be implicitly followed.
- The device may only be operated in perfect technical condition and unaltered condition. In case of error or damages that constitute a safety issue turn the device off. Prevent the device from being turned back on by unauthorized persons, and have the device immediately repaired by a qualified technician.
- Only use original bluMartin GmbH repair and service parts.

## Intended use

The freeAir plus is an intelligent active transfer unit that ventilates rooms in apartments or houses. The device is installed in an inside wall.

Stale air is drawn from the Preferred Room that is connected via the freeAir plus. Fresh air from the Outdoor Air Room (e.g. the corridor) streams in the Preferred Room (e.g. the sleeping room) through the gap under the door or through another appropriate passive vent. If the measured air quality in the Outdoor Air Room is lower than in the Preferred Room, the ventilation is reduced.

## Inappropriate use

The device is exclusively to be used for ventilation purposes.

**DANGER** 

Only air not containing flammable, explosive or corrosive components or air not containing any other dangerous or hazardous components may be used for ventilating purposes.

## Disposal

Dispose the freeAir plus in accordance with your local rules, regulations or guide lines.

Please pay special attention to correctly sorted separation of metal, plastics and electronics.

## Transport and storage

Components of the freeAir plus may only be transported in the intended packaging. Packaging must be protected from moisture.

## Included in shipping



freeAir plus



front plates

## Technical Data

Dimensions front plate	25 x 25 cm
Wall thickness	10 to 22 cm including render/ plaster ( < 12 cm with spacers supplied)
Wall breakthrough	16 cm round
Airflow rate	10 to 70 m <sup>3</sup> /h
Power supply	85 to 265 V AC
Mains fuse	0,315 A slow (on motherboard)
Line frequency	45 to 65 Hz
Total Power Consumption	Standby → 0,5 W; 30 m <sup>3</sup> /h → 0,9 W; 50 m <sup>3</sup> /h → 1,4 W; 70 m <sup>3</sup> /h → 2,5 W
Weight	3 kg
Sound pressure level	30 m <sup>3</sup> /h → 13 dB (A) (at 1 m distance); 50 m <sup>3</sup> /h → 25 dB (A); 70 m <sup>3</sup> /h → 37 dB (A);
Sound insulation factor	33 dB (EN ISO 10140-2; D <sub>n, e, w</sub> )
Control	Intelligent 5 level Comfort Control
Airflow control	Automatic; virtually infinitely variable
CO <sub>2</sub> control (VOC)	Automatic
Dehumidification	Automatic
Summer cooling	Automatic
Temperature range	0 to +40°C
Colour	Plastic front plate white (RAL9016) or Front plate primer painted (ready to paint, lacquer or design)



## Operation

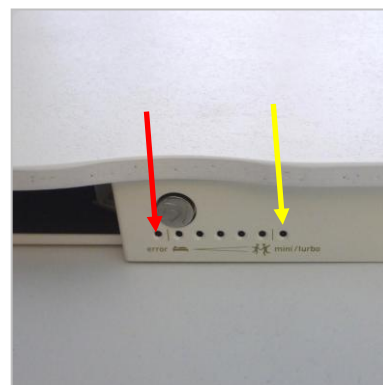
### Warning

Follow all safety and applications for the freeAir plus under chapter [G] General.

## Indicators and Control Elements


### Start-up

After connecting the freeAir plus to electrical power, or after a reset, the red and yellow LED will be on for a few seconds (system is searching for a USB connection to a PC). Afterward, the freeAir plus is ready for operation.



### -Button

Operating the freeAir plus is so simple, this button is the only control element you need. Comfort selection as well as starting or stopping turbo operation is done via this button (see below).

Press the -Button multiple times to select your preferred comfort level.

The freeAir operation activity increases ventilation, CO<sub>2</sub>, humidity and cooling, the more blue LEDs are lit. You may or may not hear a change in fan speed.



### Audible Signals

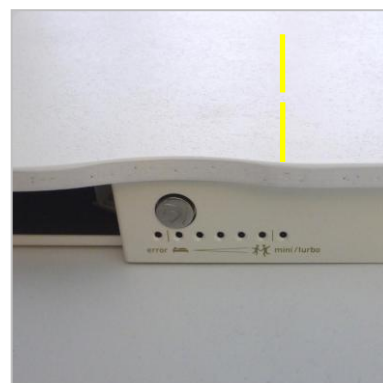
A continuous beep sound indicates elevated temperatures (see chapter [S] Service).



### Yellow LED

During turbo operation, the yellow LED will blink.


Yellow LED stays on, indicates reduced ventilation, in cases where the air quality in the Outdoor Air Room (e.g corridor) is worse compared to the air quality in the Preferred Room (e.g. Bedroom).

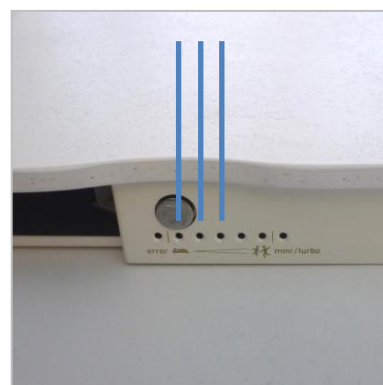


### Blue LEDs

Number of blue lit LEDs indicates selected comfort level.

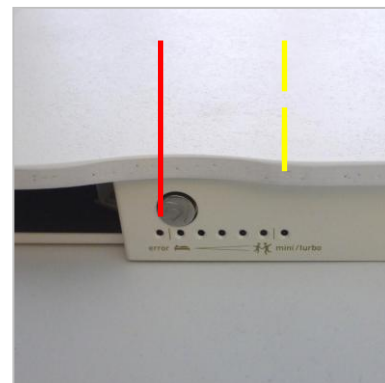
#### Note

Blue LEDs turn off after 3 minutes. Pressing the -Button, will turn them back on.



### Red LED

Red LED stays on and blinking yellow LED indicates a control error (see chapter [S] Service)



### USB-Port

The USB port on the right side of the freeAir, is used to connect to your free copy of freeAir-Connect software for updates.

#### Note

For software updates, visit [WWW.bluMartin.de](http://WWW.bluMartin.de) under service and Downloads.



### Fan

After removal of the front cover, the fan is freely accessible.

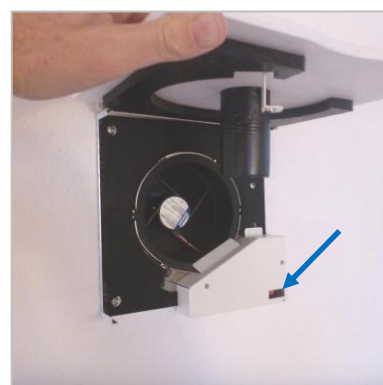
#### Warning

- Do not reach into the spinning fan! Spinning blades will lead to injuries.
- Do not stick any objects into the fan.
- Always secure the front cover with safety screw.




#### Note

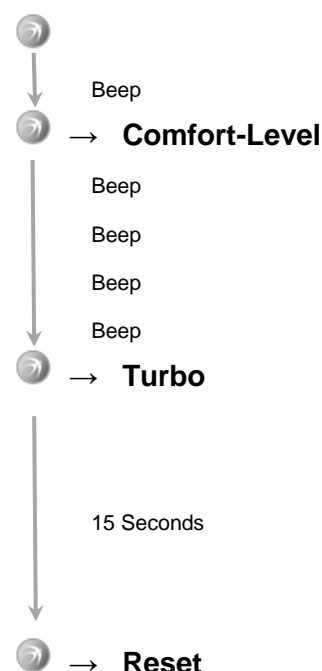
For cleaning operations, activate the standby operation at the DIP switch. To do this, push the very right DIP switch upwards.




## Comfort-Operation


The freeAir plus will operate in Comfort-Mode after it is turned on. The device will automatically operate as expected: The connected Preferred Room will be supplied with as much fresh air as possible (based on intended use of the device, correct installation and available fresh air in the Outdoor Air Room, fresh air is drawn from). The freeAir plus will take minimal ventilation, VOC content, relative and absolute humidity, temperature and potential cooling into account.

Use the -Button to select Comfort-Level 1 (one blue LED is lit), if you are sensitive to noise in the bedroom. Comfort-Level 3 is considered standard operation.



## Turbo-Operation

If you wish to ventilate for 30 minutes at the highest power level, press and hold the -Button until you hear 4 short beeps.

Normal Comfort-Operation will resume afterward. Maximum power ventilation can be interrupted by pressing the -Button.

## Reset

Press and hold the -Button for 20 seconds until all LDS are off.

The freeAir plus will respond with a software reset, (also required for a software update), and return to normal Comfort-Level operation.

### Note

The freeAir plus includes a VOC-sensor that measures the concentration of volatile organic compounds, thereby comparing air quality in both connected spaces. To simplify, VOC data is converted to CO<sub>2</sub> values.

## Installation

### DANGER

Please regard the safety advices in part General [G]. Observe all notes with respect to safety and use of the freeAir plus.

### Notes

- Your freeAir plus draws stale air from the room that is connected via the freeAir plus. To ensure an unhindered air inflow from the Outdoor Air Room (e.g. carridor) to the Preferred Room, please take care that there is an **appropriate opening with a cross section of at least 80 cm<sup>2</sup>** (e.g. a gap under the door of 1 cm).
- The side of the device with the operating element is mounted in the Outer Room
- The Outdoor Air Room is continuously supplied with fresh air by a freeAir 100 ventilation unit.

## Installation site

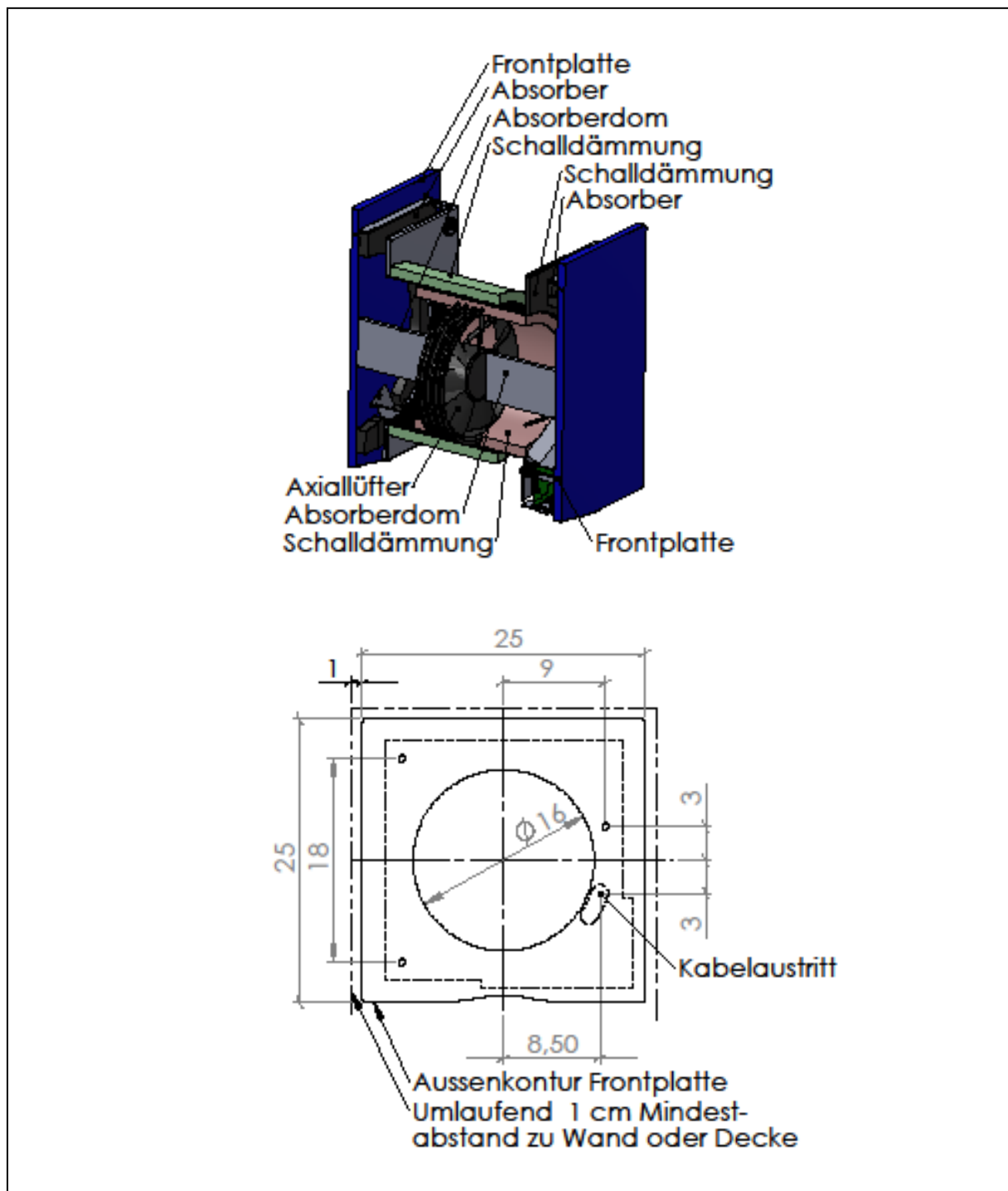
### DANGER

- The freeAir plus must not be installed in immediate vicinity of flammable material or harmful chemicals.
- During planning consider all relevant local building, safety and fire codes. Especially in situations where indoor air is used for combustion (wood stove, fire place...etc.).

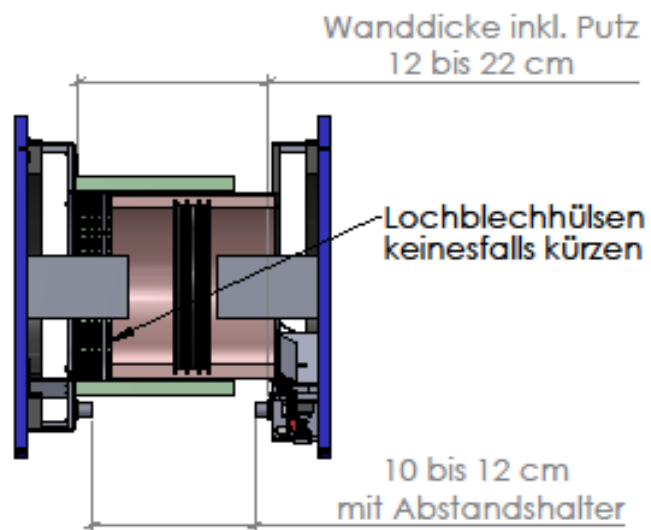
### Notes

- During operation the room temperature must be between 0°C and 40°C.
- Condensation of water must not occur in the freeAir plus unit.

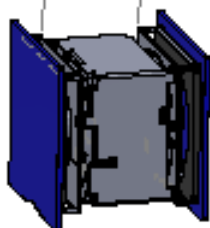
Drawings



### Wanddicke inklusive Putz

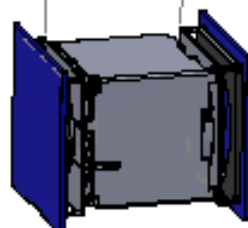


14 bis 16 cm



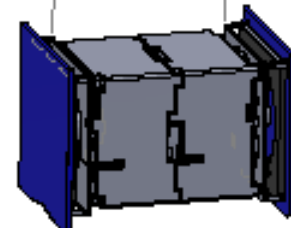
Rohbaublock 14

20 bis 22 cm



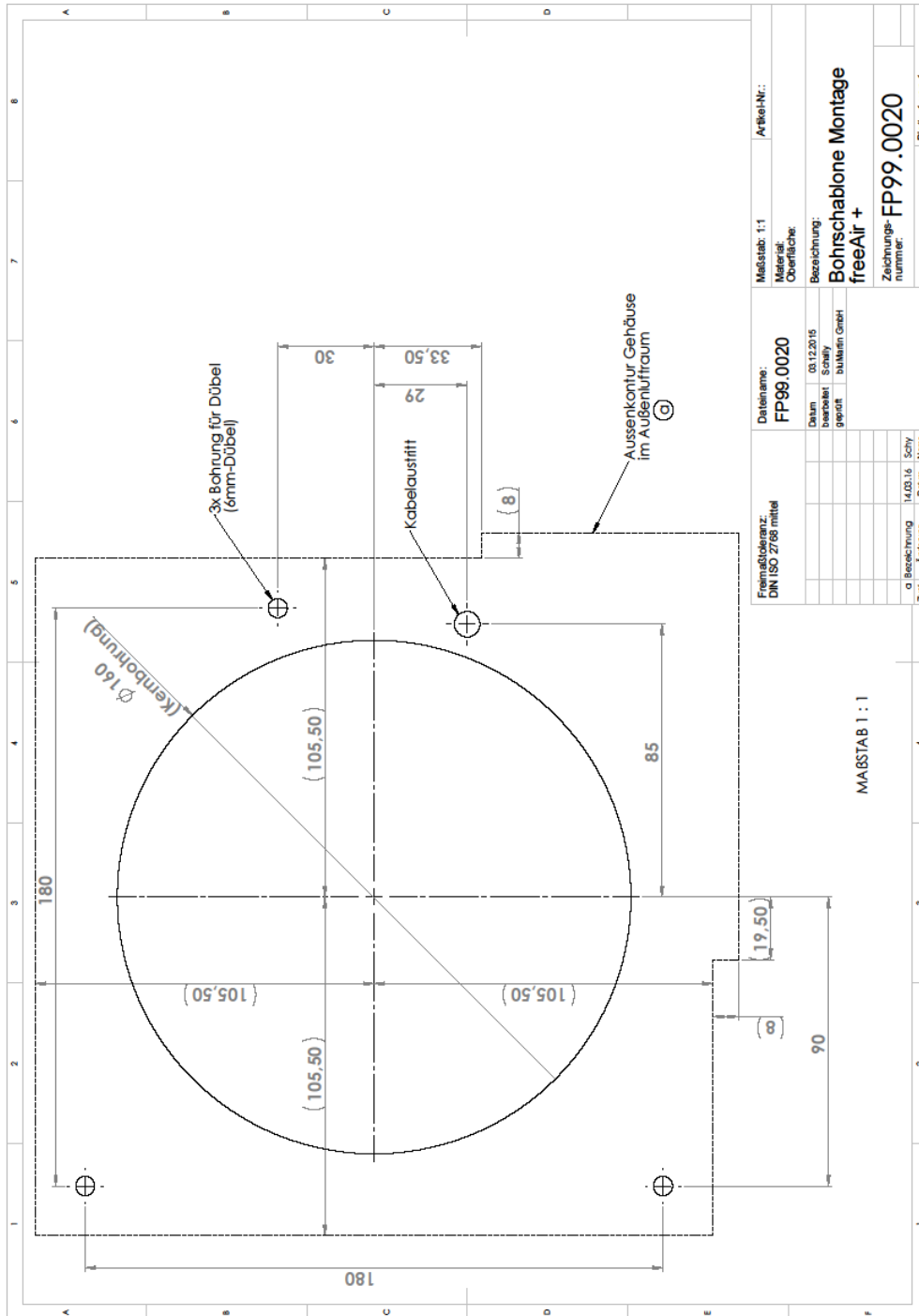
Rohbaublock 20

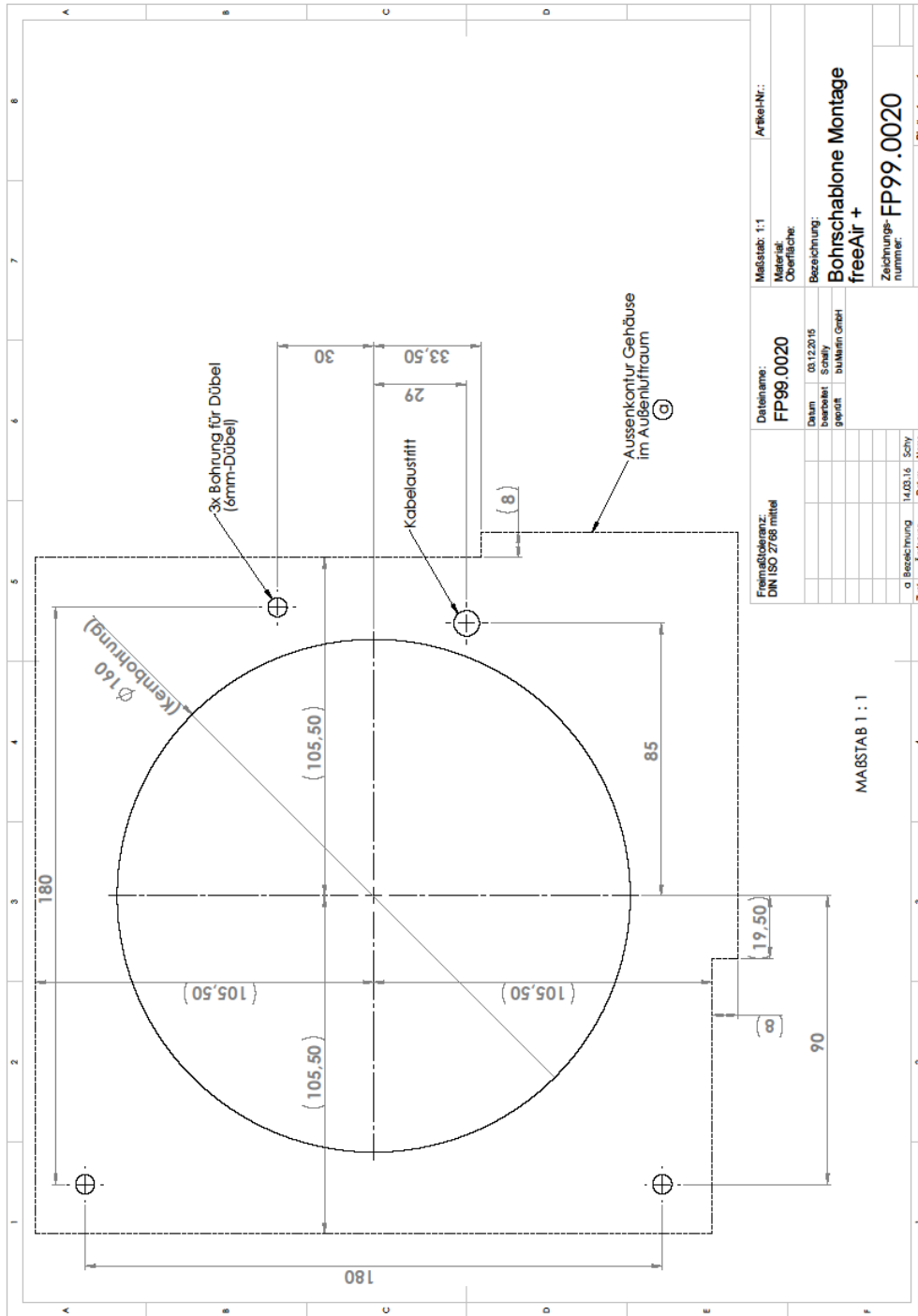
26 bis 28 cm



Rohbaublock 2x14







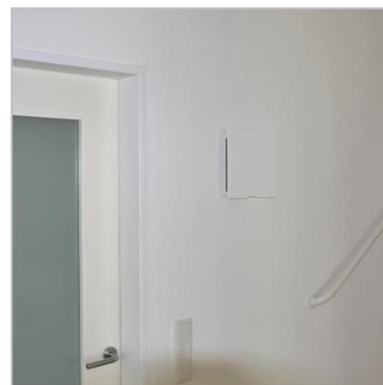
Freimaßstab: DN ISO 2788 mittel		Dateiname: FP99.0020		Meißstab: 1:1		Artikel-Nr.:	
Zust. Änderung		Datum		Material		Bohrschablone Montage	
o Bezeichnung		03.12.2015		Oberfläche		freeAir +	
Zust. Änderung		geprüft		Bezeichnung:		Zeichnungs-	
Zust. Änderung		geprüft		Bohrschablone Montage		nummer:	
Zust. Änderung		geprüft		freeAir +		FP99.0020	
Zust. Änderung		geprüft		freeAir +		Blatt: 1 von 1	

### Brickwork (without brickwork block)

1. Determine the mounting position and sketch a round cut-out with a diameter of 16 cm on the wall.

**Note**

Technically speaking the higher up on the wall the device is installed the better the performance. For optical reasons the device can also be placed lower.



2. Drill the hole into the wall.



3. An authorized electrician installs the connection line 3 x 1,5 mm<sup>2</sup> in the Outdoor Air Room.



4. First insert the side of the device without the operating element in the Preferred Room (e.g. sleeping room). The side of the device with the operating element is inserted in the **Outdoor Air Room** (e.g. corridor).

**Note**

The Outdoor Air Room is continuously supplied with fresh air by a freeAir 100 ventilation unit.



5. Mark 3 drillholes for an exact horizontal position.

**Note**

The both hooks for the front plate must face upwards.



6. Set the drillholes precisely in both frames.



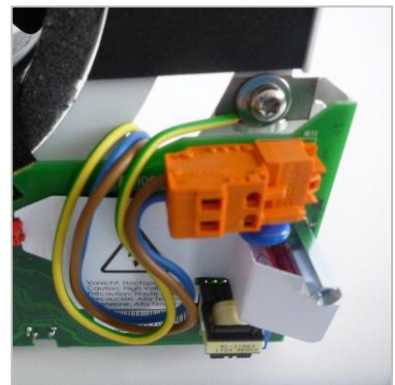
7. If your wall is thinner than 12 cm please mount the both halves of the device with the supplied spacers.

**Note**

Never shorten the mesh tube, otherwise the fronts will not fit.



8. An authorized electrician connects the freeAir plus with a connecting line 3 x 1,5 mm<sup>2</sup> to the power supply. If possible please connect all ventilation units of a housing unit to an own shared fuse.



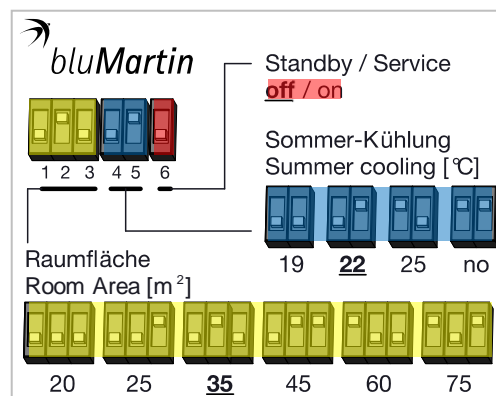
9. Activate the power supply at the fuse box only after closing of the casing.



## DIP switch

### Standby / Service

If you want to deactivate the device, please move the very right switch upwards into position on.



### Summer cooling (°C)

A special feature of your freeAir plus is the automatic summer cooling. When the air in the Outer Air Room is cooler than in the Preferred Room during the warmer seasons (mostly at night), the freeAir plus increases the airflow automatically.

Please select the desired temperature for the connected room.

### Room Area (m<sup>2</sup>)

Please select the ventilated floor space. Consider all connected rooms.

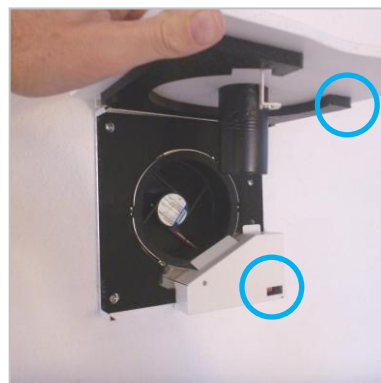
This indication is the basis for calculating the minimum ventilation.

## Front plate installation

1. Paint the front plates in a colour of your choice (wall paint or lacquer).



2. Set the fitting front plate (please note the foam cutting) on the top of the device and pivot the plate downward until the plate is held by the magnet.



### Note

Before please set the DIP switch correctly (see above in this chapter).

3. Mount the front plate safety screw.

### DANGER

A missing safety screw on the front plate may cause injuries by the fan.



## Service

### Note

The annual cleaning of the freeAir plus does not require any tools, except a Torx-10-screwdriver for the removal of the front plate safety screws.

### DANGER

Observe all references to safety and use of the freeAir plus in part General [G].

## Device Test

After correct installation of the freeAir plus test the turbo operation.

## Connect Software


For checking of device functions and for possible updates, we recommend:


- laptop (Windows 7, 8 or 10)
- USB cable (A plug to mini B plug)
- our free software freeAir-Connect and free updates for the freeAir plus ([www.bluMartin.de/service/downloads](http://www.bluMartin.de/service/downloads)).

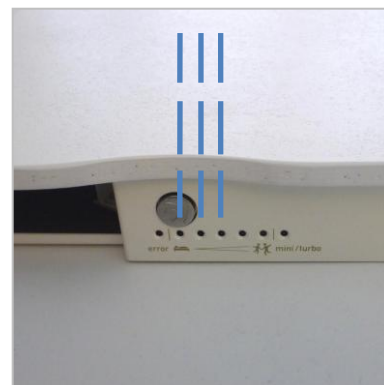




## Standby / Service Operation

To switch to standby mode please move the 6th DIP-switch upwards to the on position. All LEDs turn off and the fan is out of operation. When you press the -button thereupon, the service mode is active and the blue LEDs blink.

Via the -button now an permanent air flow of 30 m<sup>3</sup>/h, 40, 50, 55, 65, 70 or 90 (not possible during normal operation) can be selected instead of the Comfort Level.



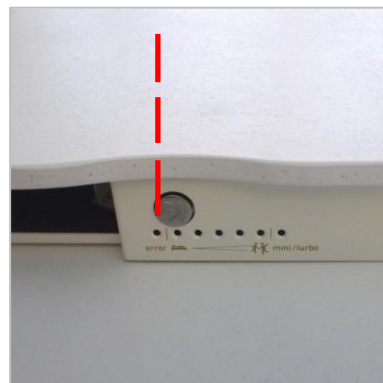
### Note

In service operation the sensor control isn't active. Therefore this mode should only be used during maintenance work.

## Error Messages


### Fire alarm

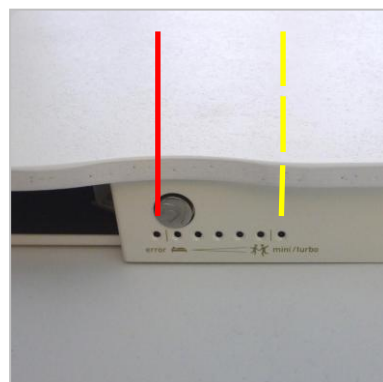
The temperature sensor indicates more than 80°C.  
The device turns off, beeps and the red LED blinks.




### Control error

The device continues to operate with the smallest volume flow.

The red LED is illuminated and the yellow LED flashes:  
Please press the -button for the display of the causes of error described below.

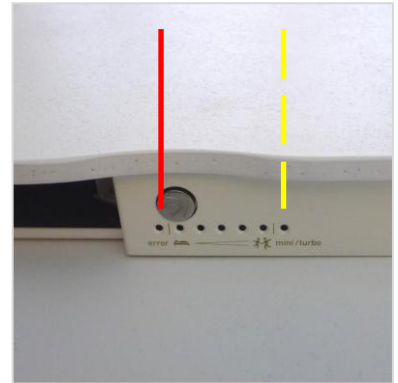



### Notes

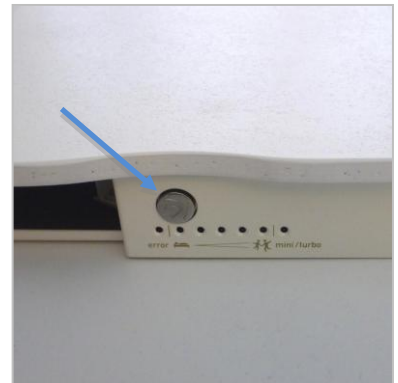
- Error messages can be deleted by a reset. Press the -button for approx. 20 seconds until the LEDs turn off.
- If the unit does not fan, please check if the very right DIP switch has been pushed into the upper position (standby).
- Even when used properly, the unit may pause occasionally.

## Control Error Analysis

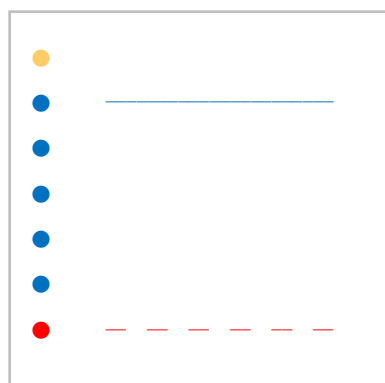
1. A control error is indicated.



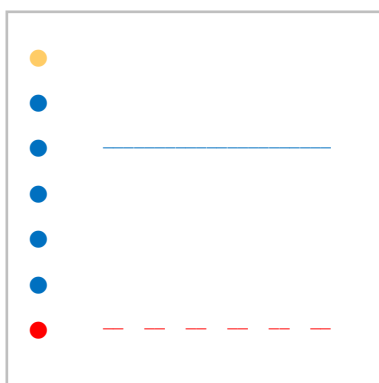
2. Press and hold the -button.



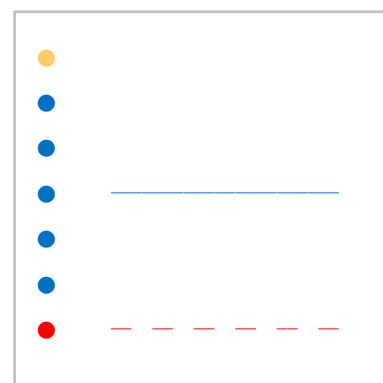
3. Indication of the cause of error:



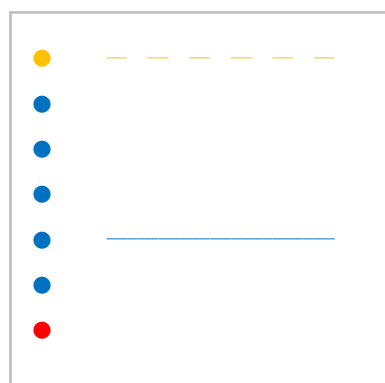
VOC sensor



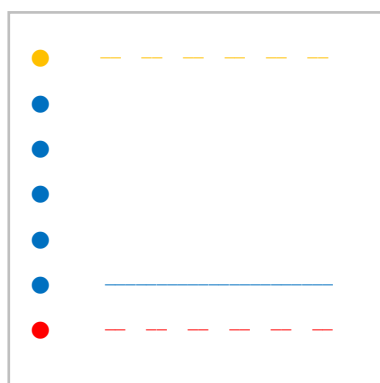
temperature sensor



humidity sensor



fan



DIP switch

4. In case you can't rectify the fault please contact your service partner and tell him the cause of error as well as the serial number of your freeAir plus.

**Note**

Reshipment of the device has to be coordinated with your service partner. The device has to be shipped using the appropriate packaging.

bluMartin GmbH  
Argelsrieder Feld 1 b  
82234 Wessling  
Germany

Mail [info@bluMartin.de](mailto:info@bluMartin.de)  
Phone +49-8153-889033-0  
Fax +49-8153-889033-99  
Web [www.bluMartin.de](http://www.bluMartin.de)

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