

Flexibox 900 (Bag filter)

Quick setup guide

Rev. 1.3

Dantherm[®]
CONTROL YOUR CLIMATE

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Target group

The target group for this service manual are specialists who will install and prepare the Flexibox 900 for use in telecom free cooling.

This installation manual and the product use various displays and labels to ensure safe use. Ignoring these displays and labels and using the product incorrectly could result. Please read the following warning symbol information before reading the rest of this section, and be sure to strictly observe all instructions.

Introduction

Introduction

This is the quick setup guide for the Dantherm Flexibox 900 .

The Flexibox is available in different variants according to the following notation.

FB900-230V-C3-BFi-M6

	Filter type:
	ISO ePM10 60% (M6)
	Bagfilter
	C3 - CC3000 controller included
	PC3 - CC3000 controller not included but prepared
	Voltage
	230VAC
	48VDC
	Flexibox 900



Warning Not following these instructions could result in death or serious injury



Caution Not following these instructions could result in injury or property damage.



The symbol means something that should NOT be done

Safety

Project safety is your responsibility!

Follow the instructions in this quick setup guide regarding the installation and use of the product. Not following these instructions could result in injury, death, or damage to equipment.

All work should be performed by qualified personal using safe work practices.

All proper personal protective equipment should be used.

PPE required for this installation includes but is not limited to:

- Safety glasses
- Hard hat
- Safety shoes
- Hearing protection
- Cut resistant gloves
- Face shield
- Proper work attire (long sleeve shirt and long pants)

Please strictly observe the following: Special skills are required to install the Dantherm Flexibox unit. Non-qualified personnel should not attempt any of the actions shown in this quick guide. Dantherm shall not be responsible for improper installation or any accidents, damage, or injury resulting from improper installation.

Copyright

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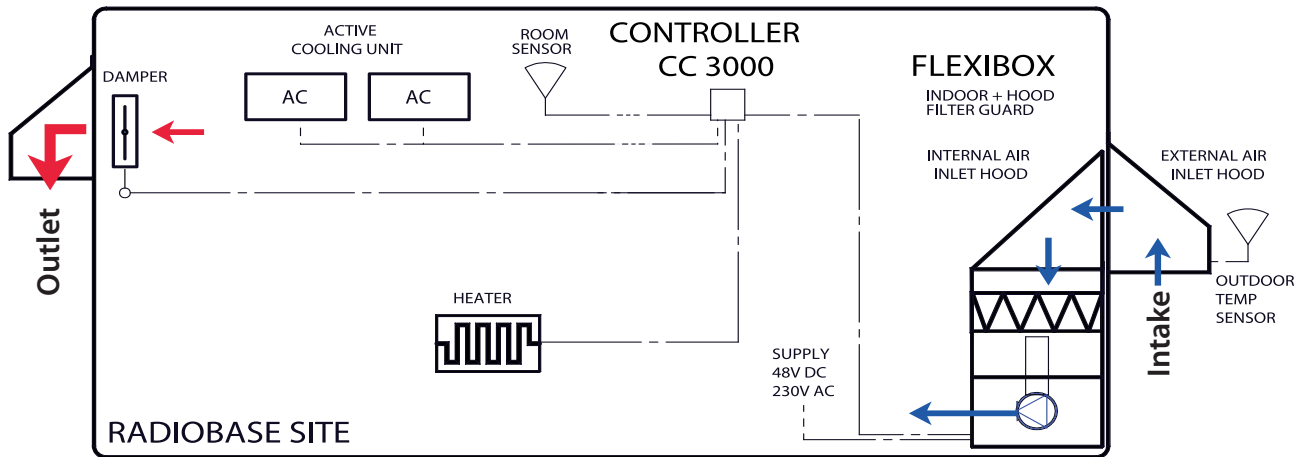
Reservations

Dantherm reserves the right to make changes and improvements to the product and the service manual at any time without prior notice or obligation.

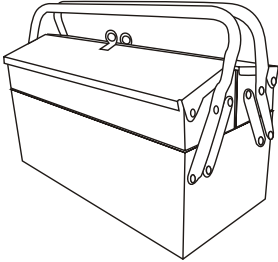

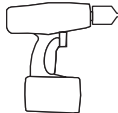

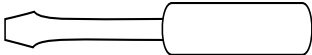
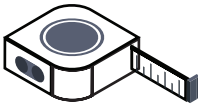
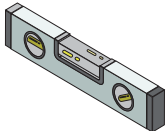
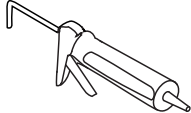
Quick setup guide

Part number of this quick setup guide is 098400



















Flexibox 900 Indoor flow

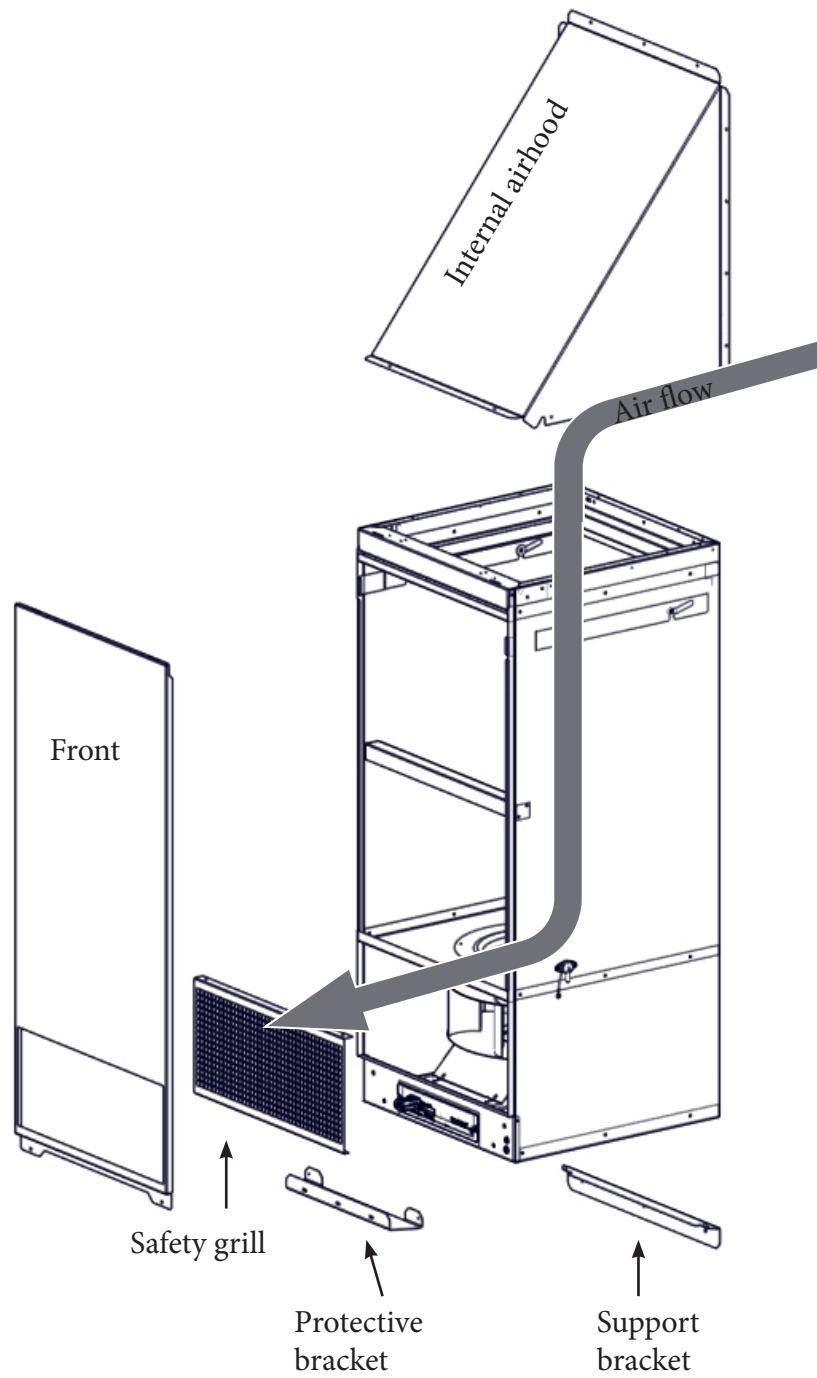


Tools needed

	1x		~
	1x		+ 
	1x		
	2x		+ 
	1x		

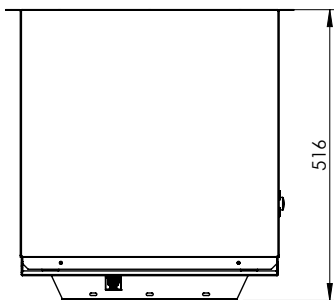
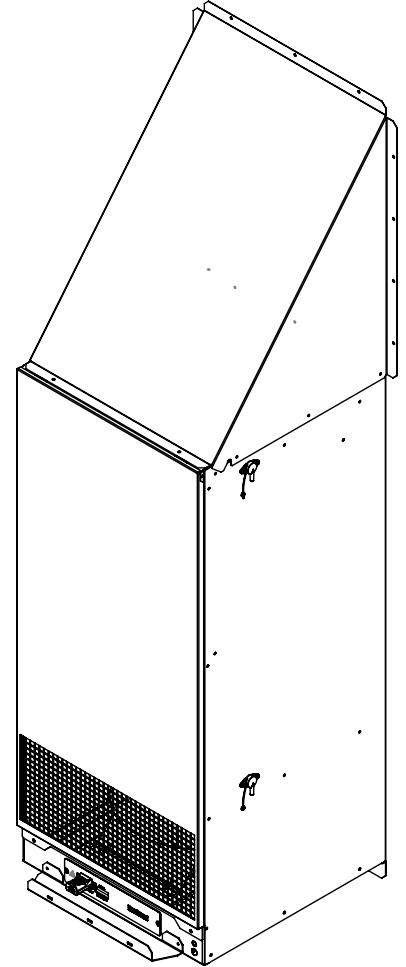
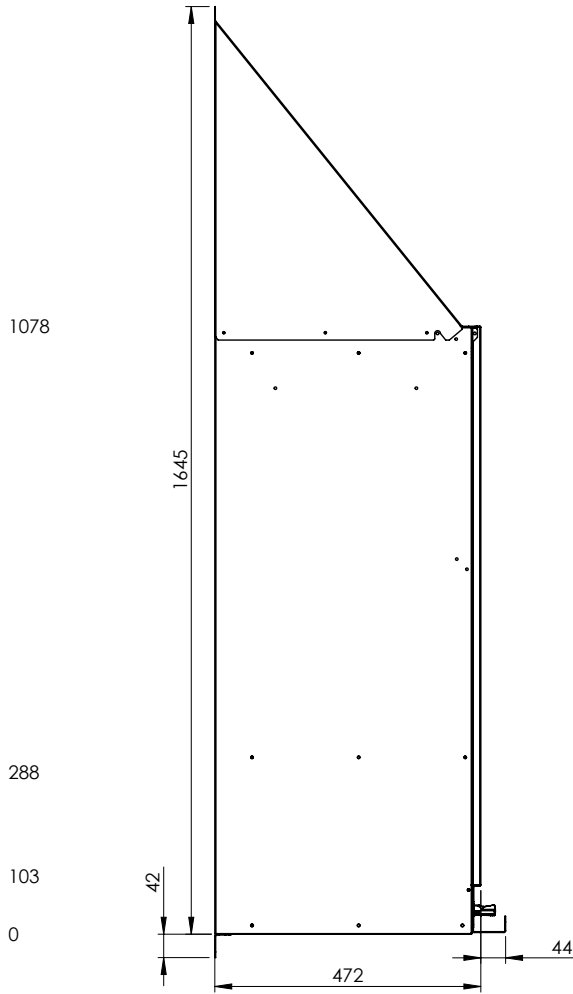
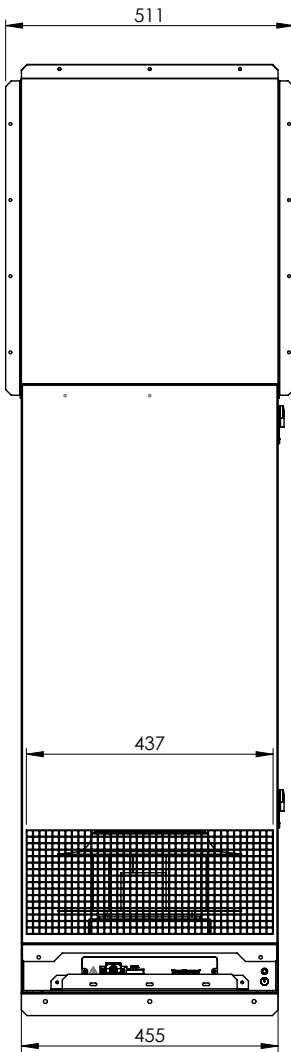
Parts included

230V Indoor		
Flexibox 900 Indoor 230V		1
Controller CC3000		1
SD card		1
Cable 8-wire w. Anytec terminal		1
Power Plug, AC Power		1
Power connector 2 pos 48V		-
Indoor Sensor		1
Internal Air Hood		0
Nylon Cable Clamps	-	2
Weather strip		1
Screws ø4x12, PH, T20, Hardened		8
Suspension bracket		1
Brace, Protection		1
Machine screw, M4x10, PH,T20		2
Sheet metal screw, ST 4,2x13 PHH		2
Cable tie	-	3
Sheet metal screw, ø4,8x 38, PHZ, A2		16
Rawplug, 8 x 40		16
Cable tie with clips	-	3
Hex cap screw, M8x16		1
Lock washer, M8, ø8,2x14x0,8mm, serrated		1
Wall mount		-

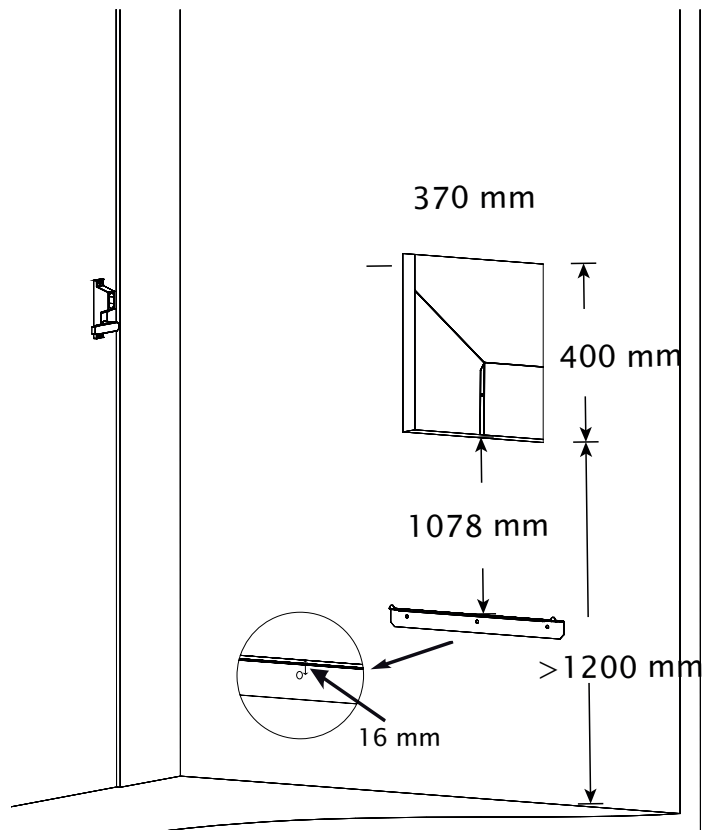


Indoor

Dimensions

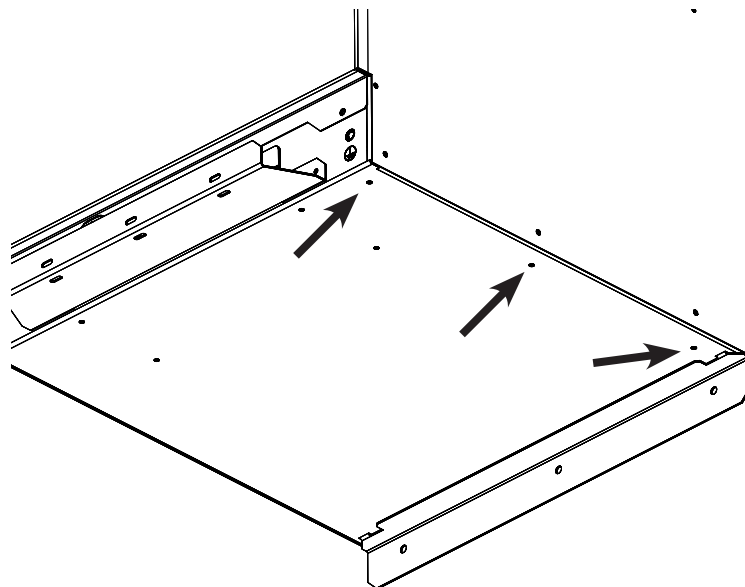


Cut hole
Flexibox 900 Indoor



Note:

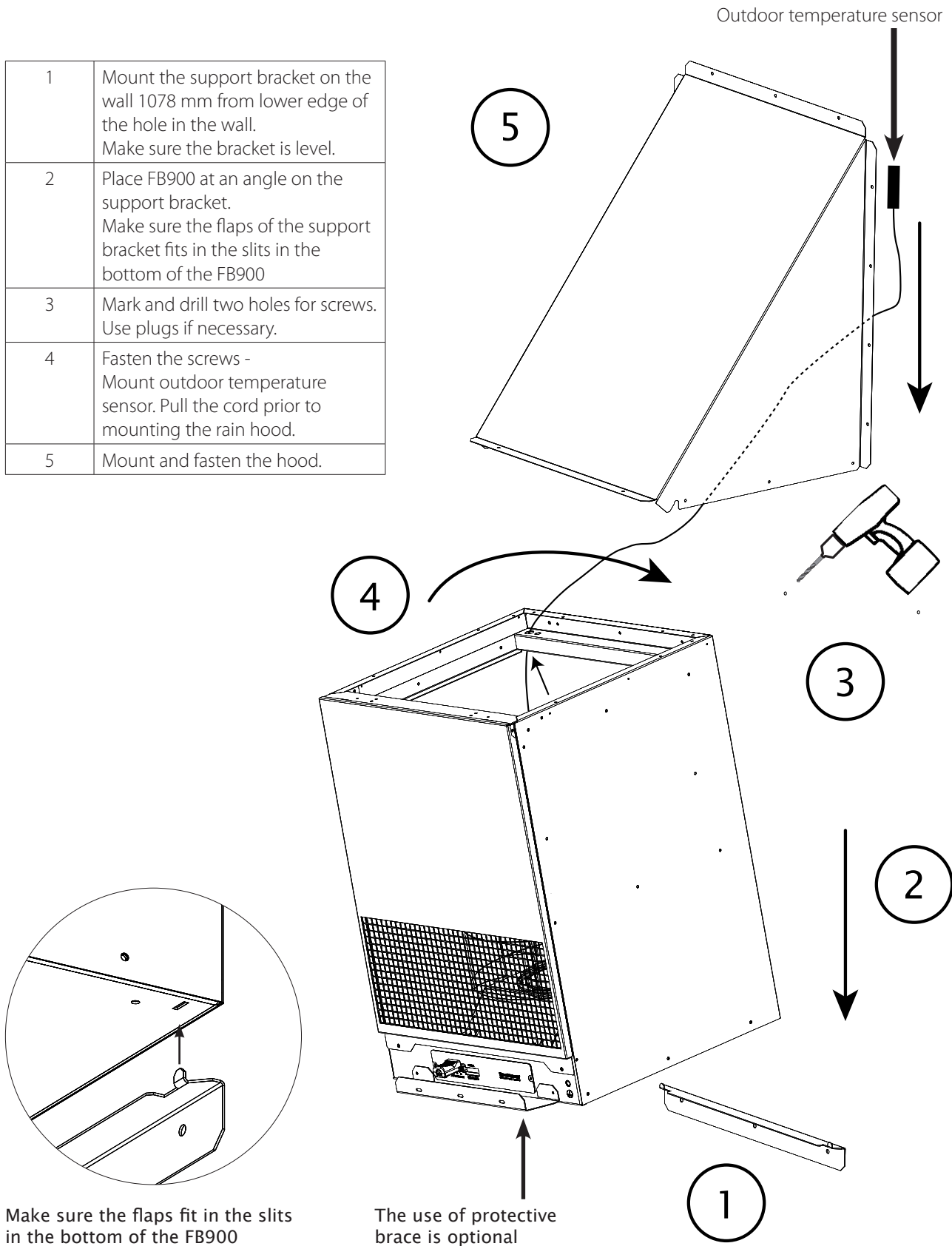
The three holes in the bottom of the Flexibox 900 can be used for attaching cable ties with clips.



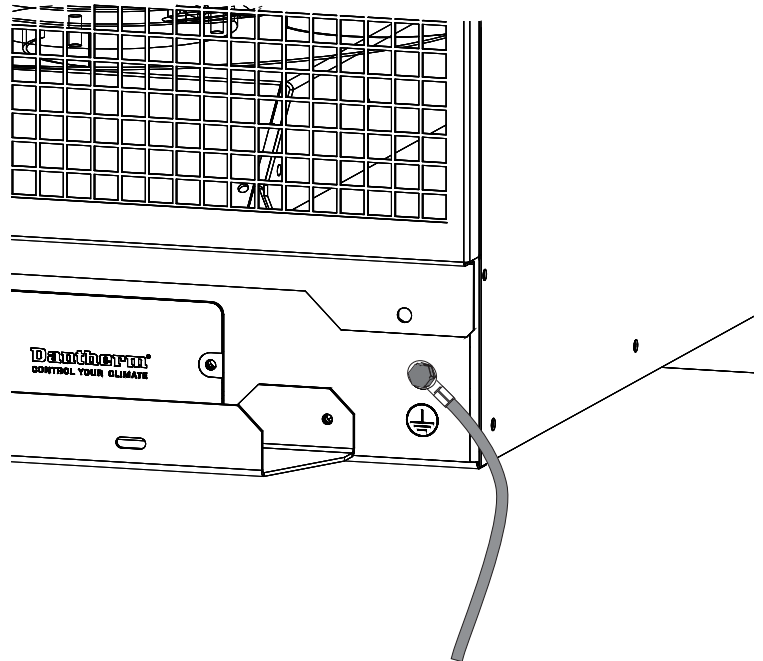
Indoor

Mounting procedure Flexibox 900 Indoor

1	Mount the support bracket on the wall 1078 mm from lower edge of the hole in the wall. Make sure the bracket is level.
2	Place FB900 at an angle on the support bracket. Make sure the flaps of the support bracket fits in the slits in the bottom of the FB900
3	Mark and drill two holes for screws. Use plugs if necessary.
4	Fasten the screws - Mount outdoor temperature sensor. Pull the cord prior to mounting the rain hood.
5	Mount and fasten the hood.



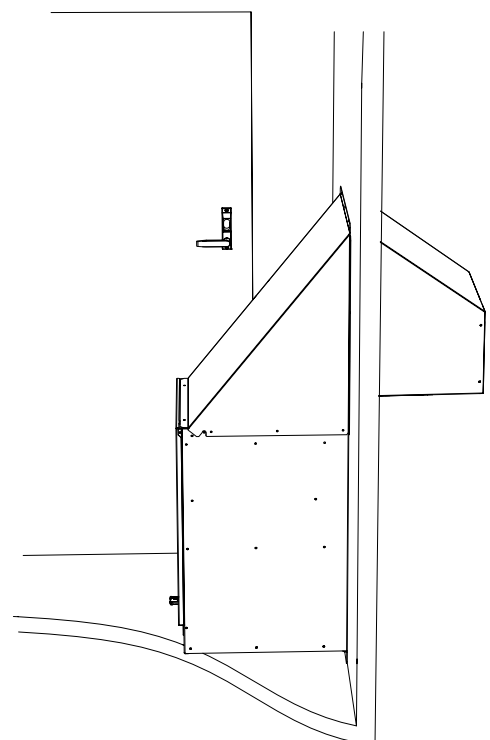
Connect earth
Flexibox 900 Indoor



Dantherm offers the following weather protection solutions:

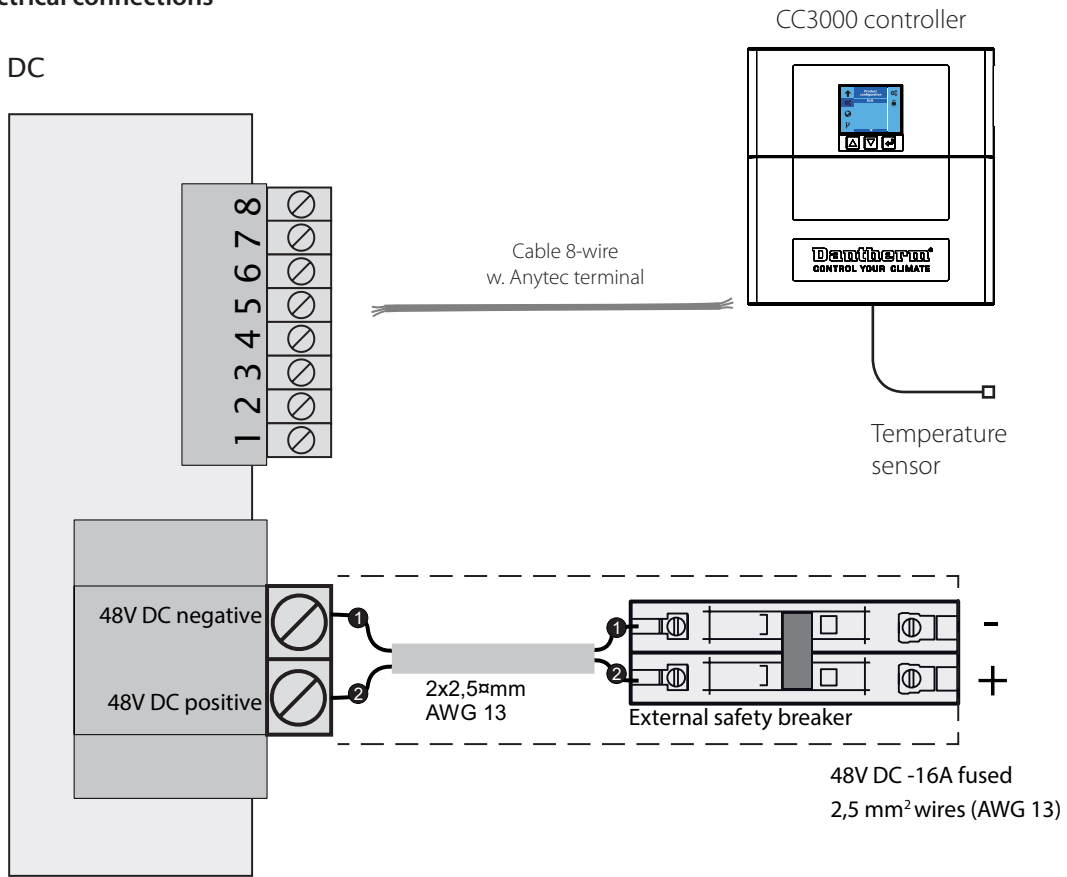
Art No	Description	
299653	External rain hood	
075575	AirMaze Panel, unpainted	
086924	AirMaze Panel, painted, with bug screen	

External Rain hood for
Flexibox 900 Indoor

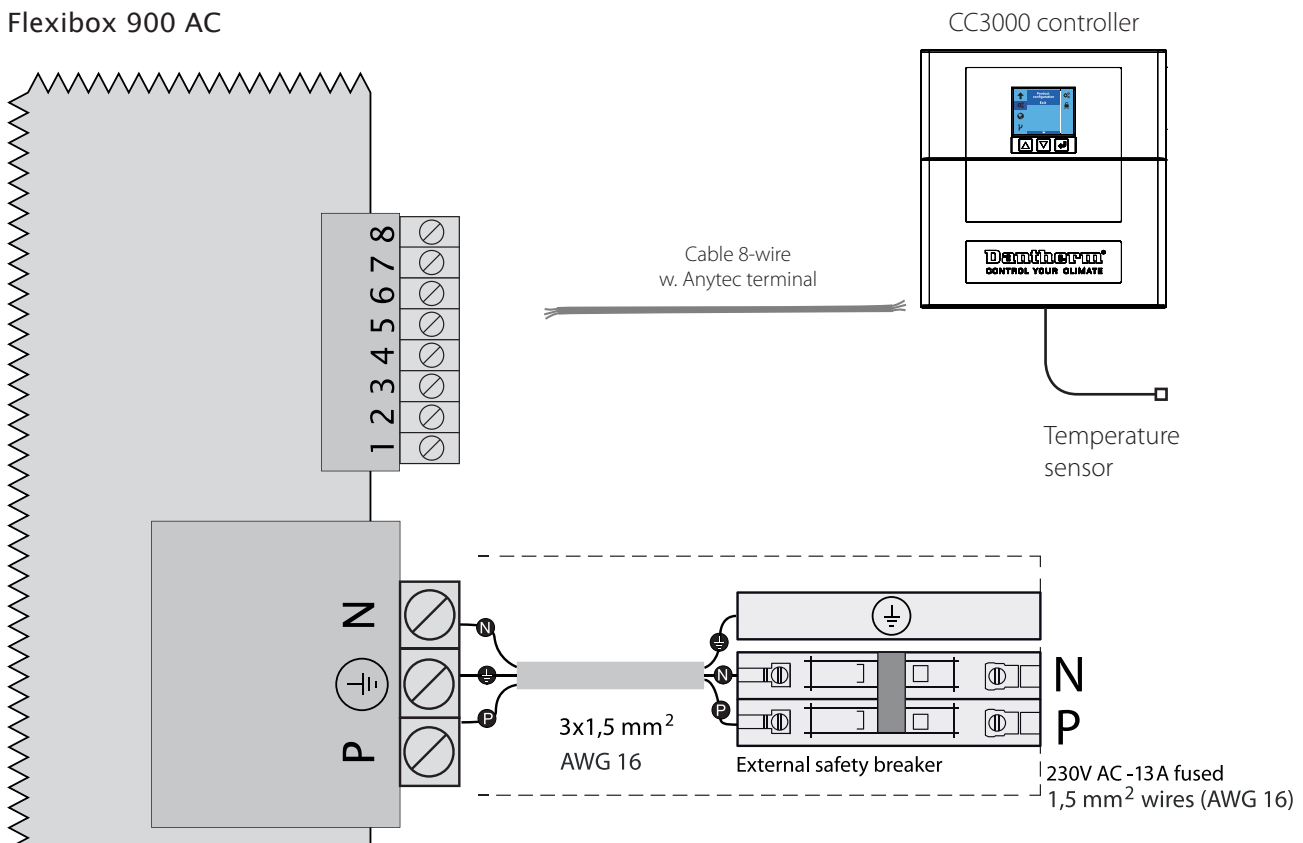


Mandatory electrical connections

Flexibox 900 DC

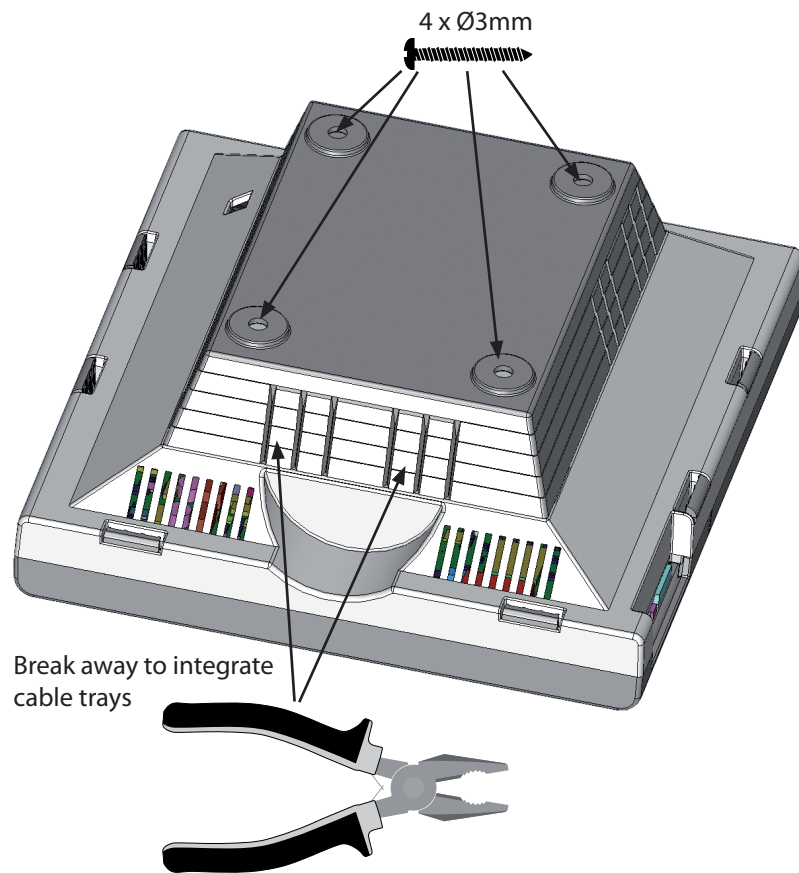


Flexibox 900 AC

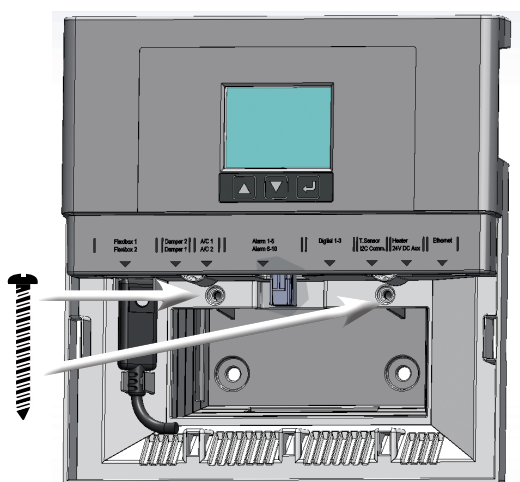


Controller CC3000

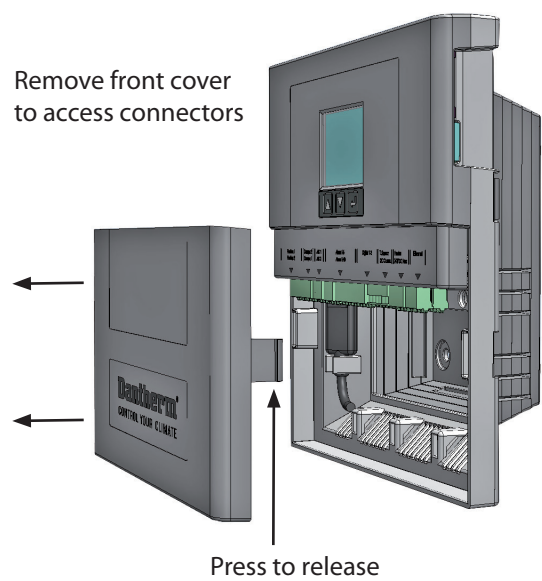
Controller CC3000 rear



Fasten main part to the wall mount



Access connectors

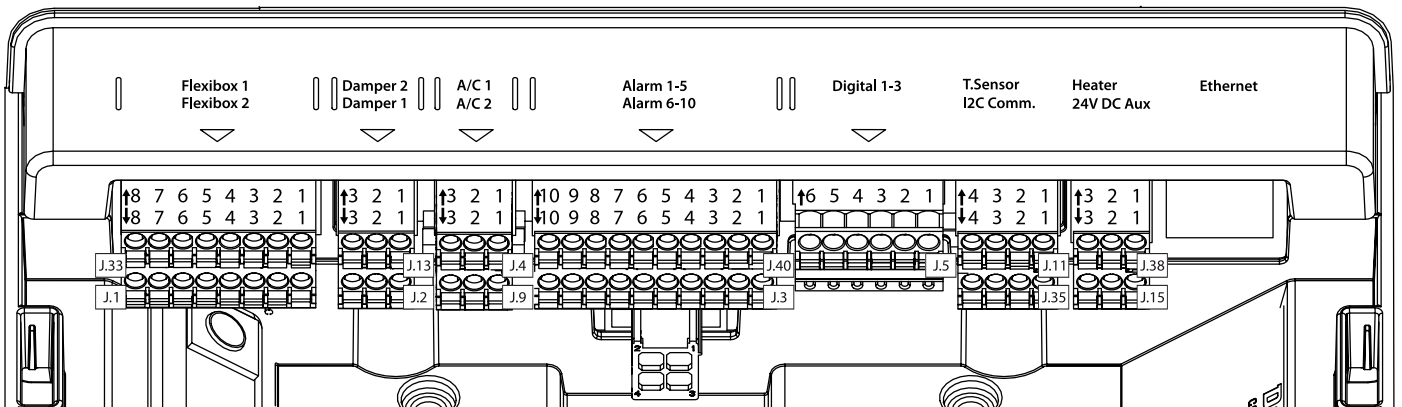


Controller CC3000

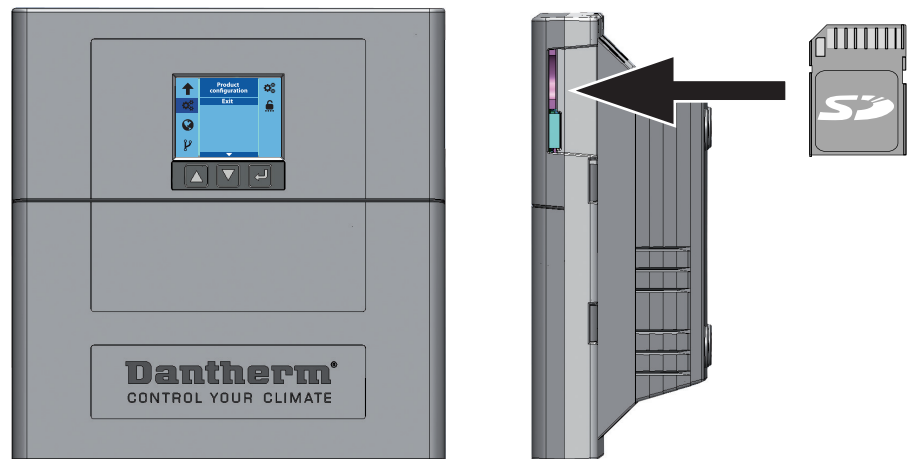
Connect controller CC3000 to Flexibox 900



Mount all green connectors from extra equipment such as: Flexibox Aircon, alarms, Temp, RH sensors and digital in and output.



System Setup



At startup insert SD card in the slot located on the side of the CC3000 controller. This will allow you to select the config file for your FB900.

Note: When the SD card is inserted the controller will automatically update firmware. See instructions in display. The firmware update may take up to 6 minutes. Until the SD card is inserted the controller will remain inactive and the buttons will not function.

For product configuration and advanced use please refer to the user manual for the CC3000 controller.

How to:

Check correct installation.

After installation of controller and cooling product, correct connectivity can be checked by use of a selftest function. > See manual for CC3000.



If automatic sequence is started, controller will activate all outputs one by one. Time duration for each step is 3 minutes, which should be sufficient for the installer to check that fans, dampers, air conditioners, heaters and alarms are correctly connected.

Test steps can be bypassed by pressing down key.

A manual sequence can also be used, if only certain outputs are checked. Use up/down key to select output and press enter. Output is now activated. Pressing enter again, will deactivate output.

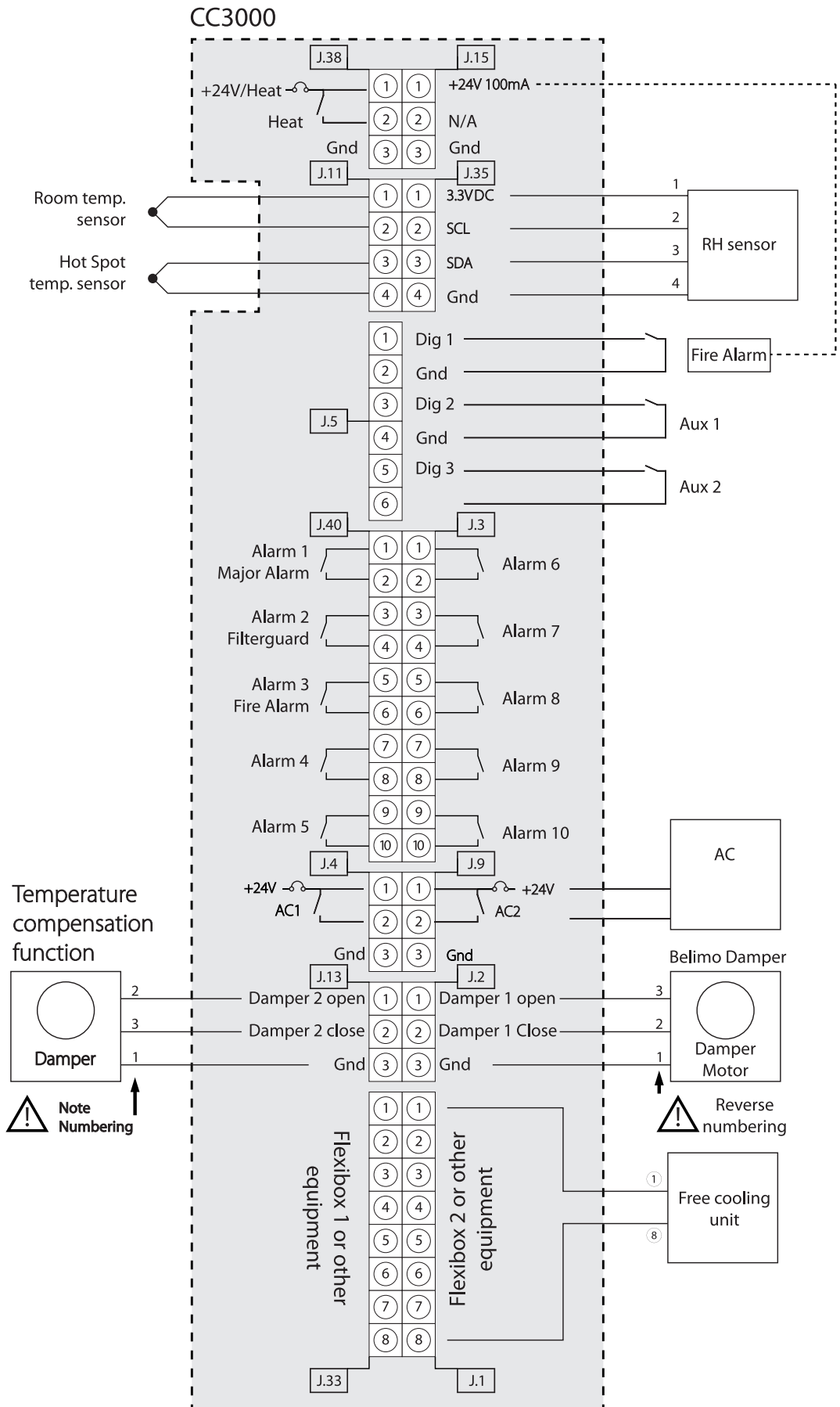
After connectivity check, go to main menu and check that indoor/outdoor temperature reading is correct and that set point is correct.

If shelter temperature is below set point, indoor temperature sensor can be heated by hand, to check that fan starts when temperature reach set point.

Note: If sensor temperature reach air conditioner set point and air conditioner is started, it has a minimum runtime of 3 minutes.

Controller CC3000

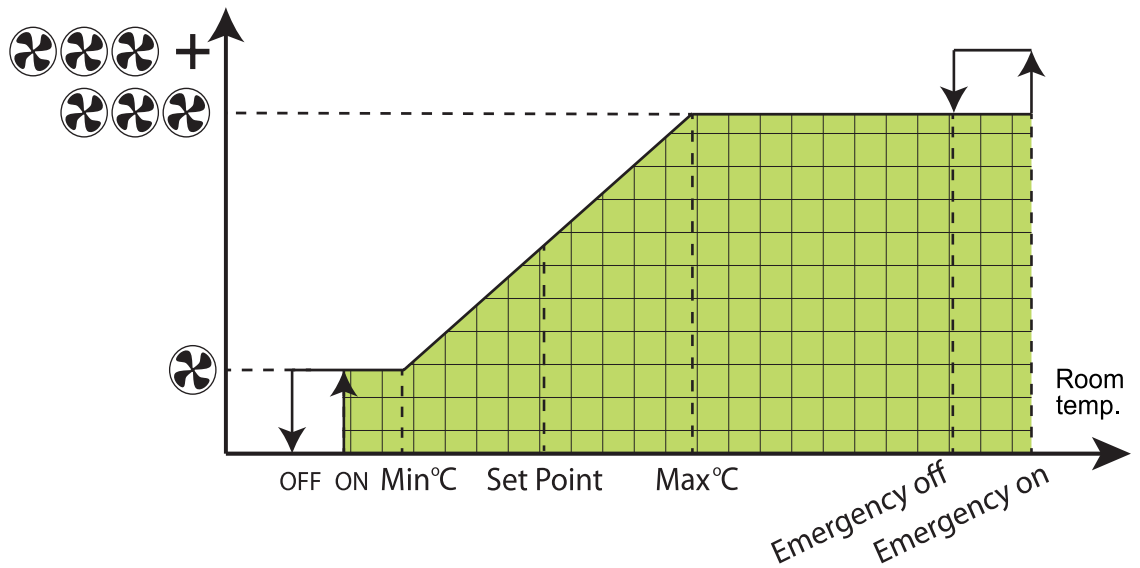
Connections diagram



Default Cooling strategies (can be changed using the CC3000 controller.)

Free Cooling
Mode

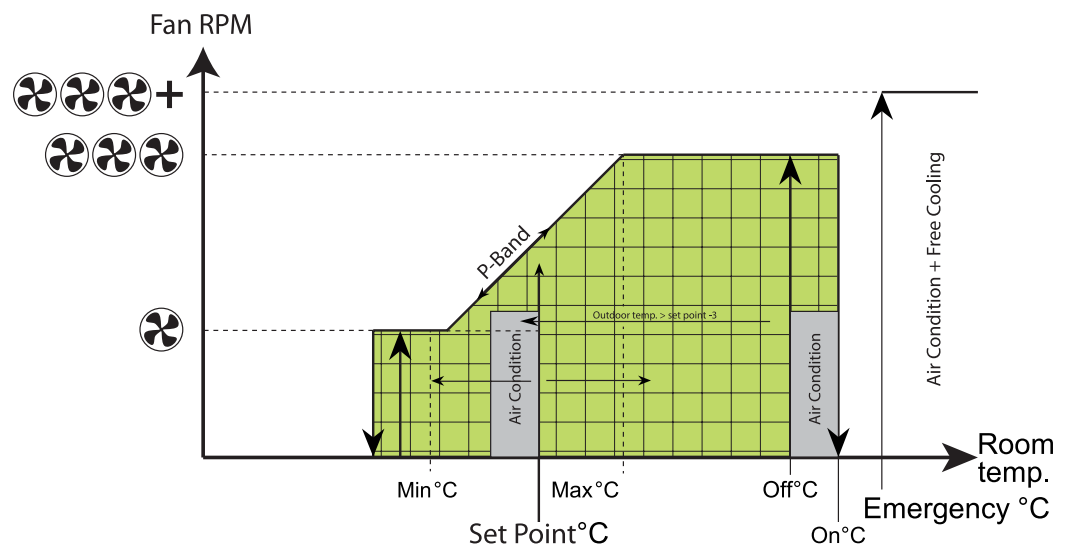
	Description	Value
Off	Temperature when fan stops	20
On	Temperature when Fan starts	23
Min °C	Temperature at bottom of P-band	25
Max °C	Temperature at top of P-band	29
Set Point	The wanted indoor temperature; fan speed will be adjusted between Min°C and Max °C	27
Emergency on	Fan run 100%	38
Emergency off	Fan go back to nominal speed	36



Standard Mode
(Freecooling <> A/C)

	Description	Value
Off	Temperature when fan stops	20
On	Temperature when Fan starts	23
Min °C	Temperature at bottom of P-band	25
Max °C	Temperature at top of P-band	29
Set Point	The wanted indoor temperature; fan speed will be adjusted between Min°C and Max °C	27
A/C 1 on	External Air Con unit 1 start if connected	31
A/C 1 off	External Air Con unit 1 stops if connected	29
A/C 2 on	External Air Con unit 2 start if connected	33
A/C 2 off	External Air Con unit 2 stops if connected	31
Emergency on	Fan run 100% and both A/C 1 and A/C 2 starts	38
Emergency off	Fan stops both A/C 1 and A/C 2 continue to run	36

A/C unit 1 start at set point if outdoor temperature is less than 3°K colder than set point.
If outdoor temperature is more than 3°K colder than setpoint the A/C unit 1 will start at 31°C

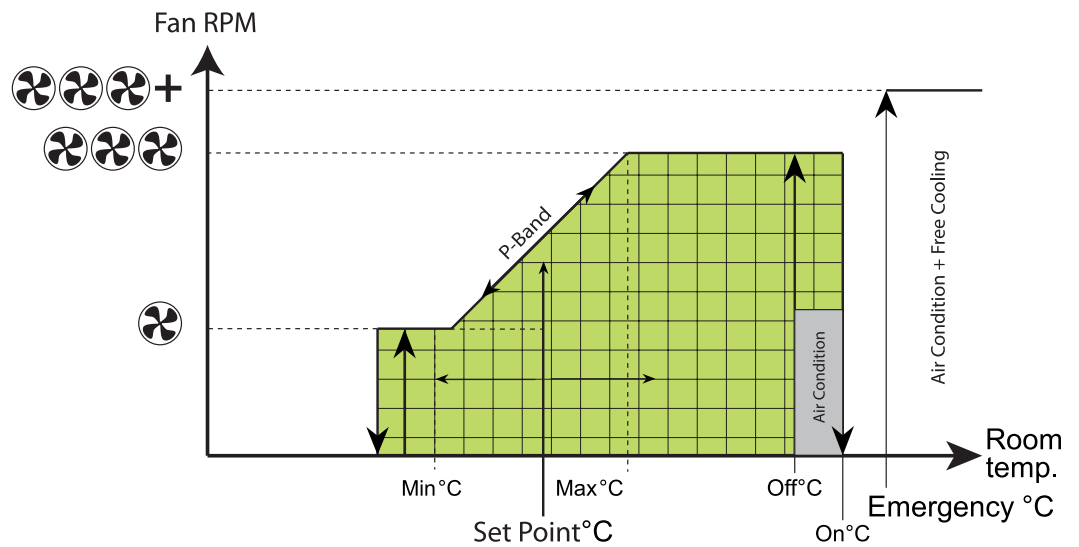


**Energy save Mode
(Freecooling > A/C)**

	Description	Value
Off	temperature when fan stops	20
On	Temperature when Fan starts	23
Min °C	temperature at bottom of P-band	25
Max °C	Temperature at top of P-band	29
Set Point	The wanted indoor temperature; fan speed will be adjusted between Min°C and Max °C	27
A/C 1 on	External Air Con unit 1 start if connected	31
A/C 1 off	External Air Con unit 1 stops if connected	29
A/C 2 on	External Air Con unit 2 start if connected	33
A/C 2 off	External Air Con unit 2 stops if connected	31
Emergency on	Fan run 100% and both A/C 1 and A/C 2 starts	38
Emergency off	Fan stops both A/C 1 and A/C 2 continue to run	36

If outdoor temperature is less than 1°C colder than indoor room temperature the Flexibox Fan will stop.

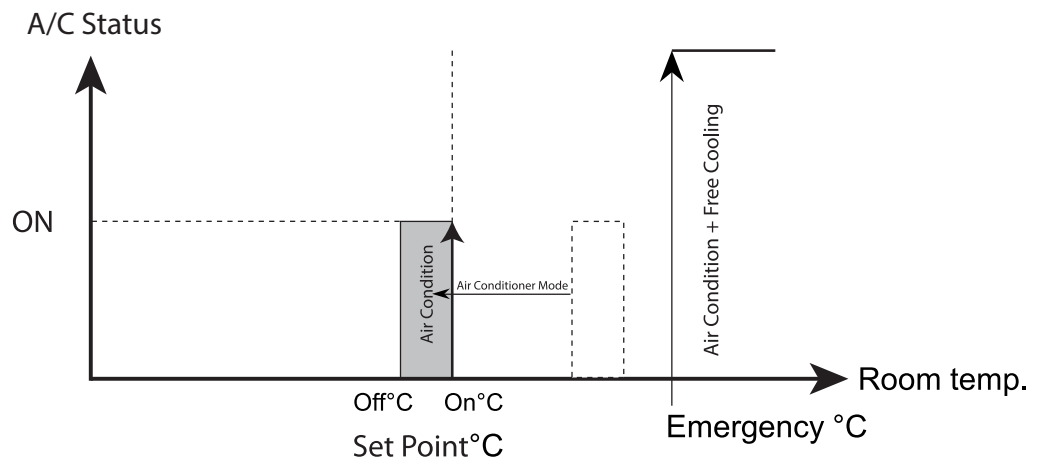
The connected Air-con units will start and stop according to the table above.



Air Conditioner Mode

	Description	Value
Set Point	External Air Con unit 1 start if connected	27
A/C 1 off	External Air Con unit 1 stops if connected	25
A/C 2 on	External Air Con unit 2 start if connected	29
A/C 2 off	External Air Con unit 2 stops if connected	27
Emergency on	Fan run 100% and both A/C 1 and A/C 2 starts	38
Emergency off	Fan stops both A/C 1 and A/C 2 continue to run	36

The free cooling unit is not active, only the connected Air conditioners



Spare Parts list for FB 900 indoor bag filter.

	Description	Spare part no.
For FB 900 DC	Fan 48V DC	093712
	Satellite PCB 48V DC	093713
	Fuse 58V DC / 10 Amp	094152
For FB 900 AC	Fan 230V AC	093714
	Satellite PCB 230V AC	093716
	48V DC Power supply for 230V AC models	093717
	Fuse 4A, 250V Ø5,2 x 20mm	096645
Common for FB 900 DC and FB 900 AC	CC3000 control including SD card configured for all units	093719
	CC 3000 Connector Kit	092081
	Controller Cable for CC3000	093724
	Temperature sensor 8000 mm cord	096873
	Outdoor Temperature sensor 2000 mm cord (for Outdoor Units)	087429
	Damper actuator for both 48V and 230V controller LM24A KTE	840021



Declaration of Conformity for Machinery

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Declaration of following product:

Product name: **Flexibox 900**

Product No: 368462

- 2006/42/EC Directive on the safety of machines
- 2014/35/EU Low Voltage Directive
- 2014/30/EU EMC Directive
- 2011/65/EU RoHS Directive

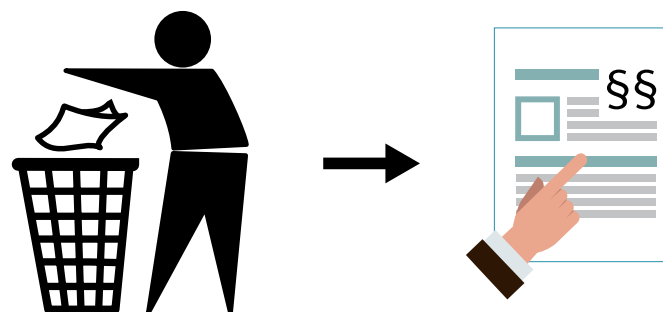
- and is manufactured in conformity with the following harmonised standards::

- EN 12100:2011 Safety of Machinery
- EN 60950-1:2006 Safety
- EN 61 000-6-2:2005 Immunity
- EN 61 000-6-3:2007 Emission

Skive, 29.08.2016

Recycling

The unit should be recycled according to national rules and procedures to protect the environment. Please consult your local authorities for further information.



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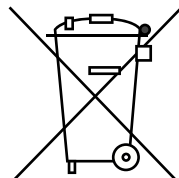
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