Address: ____ **Project:** _____ **Date:** _____

A Dutch and Germanversion of this manual is also available on the website of www.StienenBE.com. Go to https://www.stienenbe.com/en/pig-farming/cb-2000-series/ to download the desired manual.

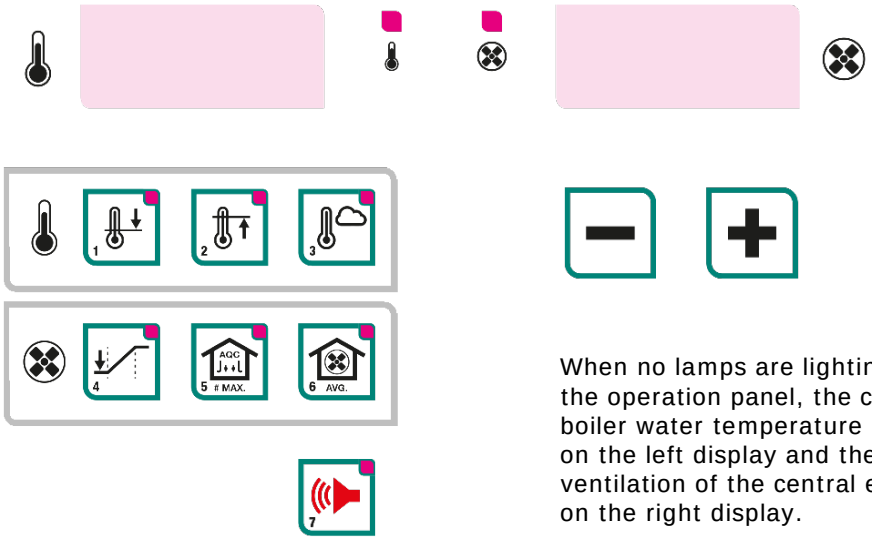
CE This device complies with the essential requirements and other applicable provisions of the guidelines from Directive 2014/30/EU, Low Voltage Directive 2014/35/EU and Machine Directive 2006/42/EC.
Tests: EN 61000-3-2, EN 55014-1, EN 55014-2, EN 60355-1, EN 60204, EN 61010.

Technical specifications

Supply voltage	: 230Vac 50/60Hz
Power consumption	: 25VA
Housing material	: ABS
Dimension	: hxwxd 215x225x120mm
IP-class	: IP-54
Environment temperature	: -5°C up to +40°C
Environment conditions	: The CBA-2600 is only suitable for installation in dry, non-corrosive and non-condensing indoor areas. Do not expose the CBA-2600 to direct sunlight, solar radiation, heat, moisture or humidity.

ATTENTION!
THE SOFTWARE VERSION IN ALL THE CB-CONTROLLERS MUST BE 4.60 OR HIGHER.

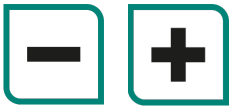
Keyboard



When no lamps are lighting up on the operation panel, the current boiler water temperature is shown on the left display and the current ventilation of the central exhaust on the right display.

Checking / changing a value

If a key is pressed and the lamp lights up continuously, then a measuring value or a calculated setting is shown on the display. When the lamp is blinking a setting is shown on the display.

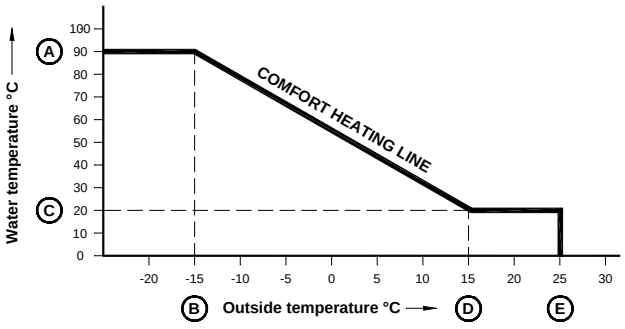


The value of the setting can be changed by means of the **+** and **–** (plus and minus) key.

Temperature

The comfort heating line can be used to control the water temperature on the basis of the actual weather conditions: the water temperature depends on the preset comfort heating line and the current outside temperature then.

If the outside temperature falls to below the stop temperature (E), the boiler water temperature is calculated according to the preset comfort heating line. If the outside temperature rises to a higher value than the stop temperature (hysteresis = 1°C), the calculated boiler water temperature becomes equal to 5°C (frost protection). In case of an invalid outside temperature, the water temperature which was calculated the last will be maintained.



Central heating control on the basis of heat request

The highest heat request for the CH group is determined from the room data received through the communication loop. The calculated boiler water temperature is made equal to the highest heat request received, limited by the maximum boiler water temperature setting (see firing line). However, the calculated boiler water temperature **never becomes less** than the **minimum heat request** setting.

Because the central control will automatically switch over to the preset comfort heating line if the communication with the room computers is disturbed, the comfort heating line has to be set even if central heating control on the basis of heat request is used.

Setting the comfort heating line

Push this key to set (lamp flashing) the minimum water temperature (**C**) shown on the left-hand display. Push the plus or minus key to change the value. Push key **[3]** immediately afterwards to set the outside temperature (**D**) corresponding with the minimum water temperature.

If the CH control works on the basis of heat request, the right display will first show the **minimum heat request setting**. Push key **[1]** again to set the minimum water temperature.

This key enables the maximum water temperature (A), shown on the left-hand display, to be set (lamp flashing). Push the plus or minus key to change the value. Push key **[3]** immediately afterwards to set the outside temperature **(B**) corresponding with the maximum water temperature.

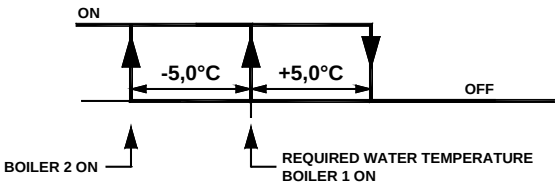
Push this key to show the momentary outdoor temperature on the left-hand display. Push the key again to set the firing limit (E) (the lamp will flash).

If you push the – key the calculated boiler water temperature is shown on the right-hand display.

Every central heating must be given a unique identification number (see installer code 6.02). At the room you can specify which central heating has to control the heat request in the room (the room passes the heat request on to this control).

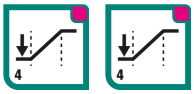
2 CH boilers

If the central heating consists of 2 CH boilers, you have to enter a relay output both at “Boiler 1” and at “Boiler 2”. The 2nd CH boiler is switched on when the difference between the required water temperature and the water temperature measured is greater than –5.0°C. The CH boilers will switch off again when the water temperature is 5.0°C higher than the required water temperature.



VENTILATION

If you push this key, the right-hand display will show the minimum ventilation.



If there are no measuring fans in the rooms the left-hand display show the start percentage of the central exhaust. Below this percentage the fans of central exhaust are running on minimum. Above this percentage the fans of central exhaust are controlled up to maximum.

If you push this key, the right-hand display will show the maximum ventilation.

With measuring fans	Only if there are measuring fans in the rooms will the left-hand display show the room number of the room requesting the highest capacity. The right-hand display shows the maximum flap position for the room requesting the highest capacity.
Without measuring fans	If there are no measuring fans in the rooms the left-hand display show the end percentage of the central exhaust. Below this percentage the fans of central exhaust are controlled up to maximum. Above this percentage the fans of central exhaust are running on maximum.

With measuring fans	The right-hand display shows the average ventilation for all rooms. The left display shows the calculated ideal flap position for all rooms.
Without measuring fans	The right-hand display shows the average ventilation for all rooms; the left-hand display is blank.

Functioning of the central exhaust system

The central exhaust system comprises 2 control sections:

1st section: Room control

- The measuring fan in every room checks that the calculated ventilation percentage is reached. If not, the flap will be opened or closed further. The room with the largest valve position determines how the central exhaust system is controlled.
- In a room without a measuring fan the room temperature is decisive for the flap position.

2nd section: Central controller

The central controller gathers information from all climate controls. The central exhaust system is controlled depending on the ventilation requirements in the rooms.

REMARK: Central exhaust distinguishes between a room **with** a measuring fan and a room **without** a measuring fan. Rooms using the same central exhaust must either **all have** a measure fan or **all have no** measuring fan. A mixture of rooms with and without measuring fans must never be applied since this might have **fatal consequences** for the entire ventilation control.

ERROR

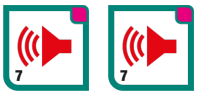
The left-hand display now shows an error code as specified in the table below. The right-hand display enables you to set whether a **defective sensor** must be passed on via the “ERROR” delay (1) or must not be passed on (0). If “do not pass on” (0) has been set **the** “🌡” **lamp flashes**. The error will only be passed on to the “ERROR” relay after the delay time set the by the installer has expired. With a hardware alarm the “ERROR” relay will be set immediately, without any delay

Error code	Lamp 🌡	Lamp	Description
F00	○	○	No error.
F01	●	○	Boiler water temperature out of limits or malfunction sensor.
F02	●	○	Malfunction outside temperature sensor
F10	○	●	Did not receive data from CB-climate controller
F40	●	●	Hardware alarm (room without measuring fan detected while central controller setting specifies that all rooms have measuring fans).

Note:	Error code 40 will not occur if the CBA-2600 has been set to rooms without measuring fans although some rooms do have measuring fans. ○ = lamp off, ● = lamp on.

Combinations of error messages may be displayed too; e.g. F52 is a combination of the errors F02, F10 and F40.

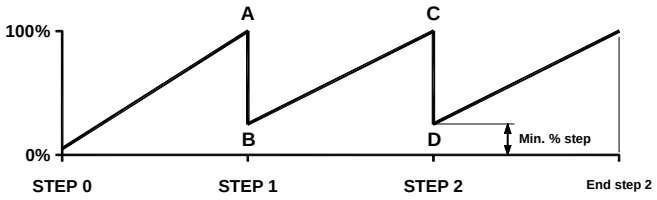
Error in another room



If the error relay in a room is falling off and you press twice on the "  " key, the left display shows an "A" and the right display shows the corresponding room number (of course only if the room is part of the same communication-loop).

Step setting when using more than one ventilation groups

Adjusting the various ventilation steps is important since the switching on/off of the ventilation steps must not lead to any pressure differences. Since this adjustment is quite important for the proper operation of the extraction system, it is vital that you proceed very accurately. Follow the sequence specified below to adjust the various steps.



Example:	**Step no.**	**Capacity each group**	**Total capacity**	**MIN % op CBA-2000** (switch on point)	**Min. % step on CBA-2600**
Controlled group	0	12.000 M^3/h	12.000 M^3/h	(12.000/32.000)*100% = **38 %**	--
2nd ventilation group	1	10.000 M^3/h	22.000 M^3/h	(22.000/32.000)*100% = **69 %**	17 %
3rd ventilation group	2	10.000 M^3/h	32.000 M^3/h	(32.000/32.000)*100% = **100 %**	17 %

1 CBA-2600 Determine the ventilation points (in a percentage) at which every step must switch on (see example)

2 *CBA-2000* Set the room temperature for all CB climate controls at 30°C

3 *CBA-2000* Enter the calculated percentage for the end of step 0 (controlled group 100%) under  **[5]** for all climate controls

4 CBA-2600 Select line numbers 5.12, end step 0 (**A, C** etc.) on the CBA-2600

5 *CBA-2000* Wait for some minutes for the system to set (controlled group is now completely on)

6 *CBA-2000* Put the switch on the front of all climate controls in the "MANUAL" position (the flap stays in the position set under  **[5]**)

7 *CBA-2000* Select a climate control that is representative of the system and write down its momentary ventilation, as shown on the right-hand display.

8 CBA-2600 Push the **[3]** key of the CBA-2600, the CBA-2600 will switch on another step. The minimum ventilation of the controlled group with this step is displayed now (**B, D** etc.)

9 CBA-2600 Wait for some minutes for the system to set (controlled group is running at minimum capacity)

10 CBA-2600 Now change the number on the right-hand display on the CBA-2600 so that the momentary ventilation on the climate control (CBA-2000) is in accordance with the measured value written down under point 7.

11 *CBA-2000* Put the switch on the front of all climate controls in the automatic ("AUTOM.") position.

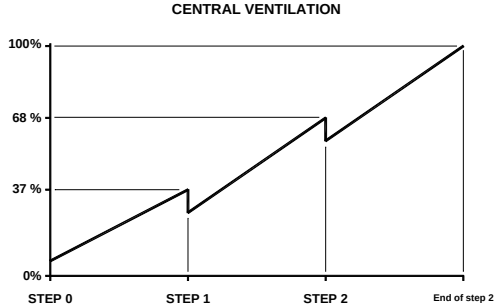
12 *CBA-2000* Now enter the percentage for the next step on all climate controls under **[1]**

13 CBA-2600 Push the [**3**] key of the CBA-2600.

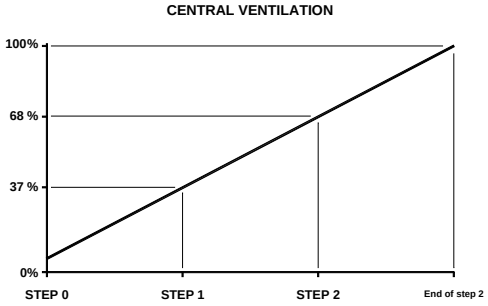
Repeat points 5 - 13 for steps 2, 3 and 4.

Afterwards, return the switch on the CBA-2000 climate controls to the automatic ("AUTOM.") position and set the room temperature on the climate controls at the value required by the user.

REMARK:	If the system has no measuring fan, you can adjust the step by temporarily fitting a measuring fan in a room that is representative of the system.



Without correction of the controlled group



With correction of the controlled group

With a central exhaust or ECOVENT System all climate controllers, which are part of the loop, are provided with an RS-485 communication extension PCB (CB-COM).