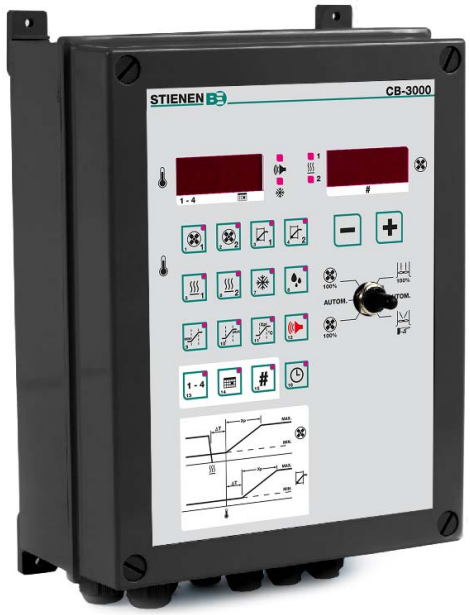
Device address: ___ **Project:** _____ **Date:** _____ **House:** _____



CB-3000 CLIMATE CONTROL

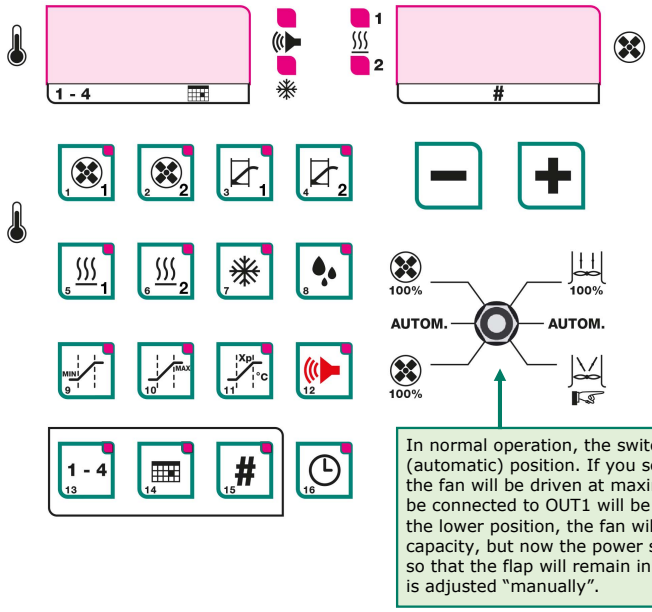
CE This appliance complies with the essential requirements and other applicable stipulations of Directive 2014/30/EU, Low Voltage Directive 2014/35/EU, and Machine Directive 2006/42/EC. Tests: EN 61000-3-2, EN 55014-1, EN 55014-2, EN 60355-1, EN 60204, EN 61010.

A Dutch, German and Russian version of this manual is available on the website www.StienenBE.com. Go to https://www.stienenbe.com/en/pig-farming/pig-farming-computerization/cb-3000/ to download the desired manual.

Technical specifications

Supply voltage	: 230Vac 50/60Hz
Power consumption	: 30VA (maximum)
Dimension	: hxdxw 300x230x120mm (including mounting bracket)
Housing material	: ABS
IP-class	: IP-54
Environment temperature	: -5°C up to +40°C (23°F up to 104°F)
Environment conditions	: The CB-3000 is only suitable for installation in dry, non-corrosive and non-condensing indoor areas. Do not expose the CB-3000 to direct sunlight, solar radiation, heat, moisture or humidity.

CONTROL PANEL



Attention!: When the **CURVE** is **ON** you **CANNOT** change the setting.

When no LEDs in the keys are lighting, the temperature measured in the room is shown on the left display and the current ventilation of the room on the right display.

In normal operation, the switch must be in the "AUTOM." (automatic) position. If you set the switch to the upper position, the fan will be driven at maximum capacity and any flap that may be connected to OUT1 will be fully opened. If the switch is set to the lower position, the fan will again be driven at maximum capacity, but now the power supply to the AQC flap is switched off so that the flap will remain in the required position when the flap is adjusted "manually".

TEMPERATURE

If the setting is between -9.9°C and +9.9°C, the setting is relative to the room temperature (ΔT). If a value equal to or higher than 10.0ºC is set, this will be an absolute temperature setting.

Room temperature setting

If the left display shows a value after you press key **[1]**, this means that temperature compensation has been activated or the growth curve is active. The right display shows the room temperature setting.

Temperature settings of flap 1, flap 2, heating 1, heating 2 and cooling

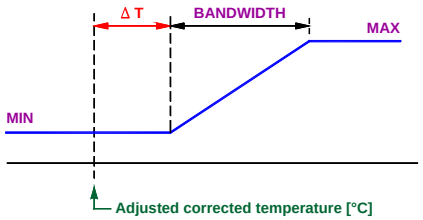
If you press key **[2]**, the left display will show the current temperature measured for the 2nd ventilation group's control (step control). The right display shows the relevant calculated ventilation value.

The right display shows the temperature setting for the 2nd ventilation group's control.

Replace by:

- To set the temperature for flap 1.
- To set the temperature for flap 2.
- To set the temperature for heating 1.
- To set the temperature for heating 2.
- To set the temperature for the cooling.
- To set the relative humidity value for the cooling on RH.

VENTILATION



You can set the minimum ventilation by pressing key **[1]** followed by key **[9]**.

You can set the maximum ventilation by pressing key **[1]** followed by key **[10]**.

You can set the bandwidth by pressing key **[1]** followed by key **[11]**.

Replace by:

To set the ventilation for 2nd ventilation group.

To set the ventilation for flap 1.

To set the ventilation for flap 2.

Switching off the ventilation

Ventilation can be switched off by setting "MAX" ventilation to 0%.

RH-control

You can set the start percentage for RH correction by pressing key **[1]** followed by key **[8]**. The right display shows the start percentage of the RH control. RH correction is active if this percentage is exceeded. Below this percentage the correction is 0%.

You can set the ratio for RH correction by pressing key **[8]**, followed by key **[1]** and then key **[11]**.

Humidification

If you press key **[8]**, the left display will show the relative humidity measured.

If you press key **[8]** again, the right display will show the start percentage for humidification. Humidification is switched on if the measured result is 1% below the setting; humidification will remain operational until the measured result is 1% more than the setting.

Time proportional cooling (spray cooling)

If you press key **[7]**, the left display will show the current temperature measured for cooling control. The right display is blank.

The right display shows the temperature setting for cooling control.

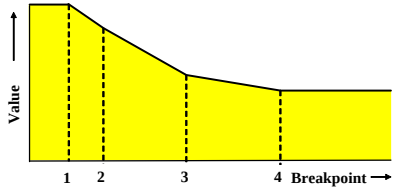
Press first key **[7]** and then press key **[8]**. If an RH sensor has been installed, you can enter the relative humidity value setting at which the cooling must switch off. If the relative humidity exceeds the preset value, the cooling will switch off.

You can set the minimum flap position by pressing key **[7]** followed by key **[9]**.

You can set the maximum flap position by pressing key **[7]** key followed by key **[10]**.

You can set the bandwidth by pressing key **[7]** key followed by key **[11]**.

GROWTH CURVES



The curves can be used to pre-program the climate control process on the basis of the animals' age.
You must press a sequence of keys to set a curve. A curve consists of a maximum of 4 breakpoints.

Note! If the **CURVE** of the setting you want to change is active, you can only change the relevant setting by changing the setting of the curve.

Room temperature curve

The left display shows the breakpoint number that was set last on the left. You can change the breakpoint number (1., 2., 3. or 4.) on the left display using the plus and minus keys.

The left display shows the day number with the relevant breakpoint to the right of the breakpoint number. You can change the day number on the left display using the plus and minus keys.

The right display shows the setting (value) of the breakpoint shown on the left display. If the set value is lower than 10.0°C, the setting is relative in respect to the main control.

Curve active

If the curve of a control is active, the left display will show the calculated setting, whereas the right display **is blank** (the light is continuously on).

Switching the curves on / off

You can switch off all growth curves by pressing key **[14]** and setting the day number to 0. If all curves are switched on, you can switch off a curve by setting the day number of the first breakpoint to 0.

Curve correction

Curve correction is mainly applied if, as a result of e.g. a disease or a deviating increase in weight, the setting must be increased or decreased. Then the entire curve is adjusted using the correction value set.

Minimum ventilation

The right display shows the curve correction for the minimum ventilation (the light with the key blinks). The left display shows the setting used for the control operation.

Maximum ventilation

The right display shows the curve correction for the maximum ventilation (the light with the key blinks). The left display shows the corrected setting used for the control operation.

Room temperature

The right display shows the curve correction for the room temperature (the light with the key blinks). The left display shows the corrected setting used for the control operation.

Curve minimum and maximum ventilation / flap position

The following keys are used to set the minimum ventilation curve; otherwise setting this curve is identical to setting the room temperature curve. Use key **[10]** to set the curve of the maximum ventilation.

Replace  by:

 To set the curve for the 2nd ventilation group.

 To set the curve for flap 1.

 To set the curve for flap 2.

You can only set the curve of flap 3 if the installer has installed the cooling as flap 3.

Temperature curve for heating 1 and 2

The following keys are used to set the curve of the (differential) temperature for heating; otherwise setting this curve is identical to setting the room temperature curve.

If the set value is lower than 10.0°C, the setting is relative in respect to the main control.

Day

Press key **[14]**.

The right display shows the current day number of the curve. You can use the plus and minus keys to set the day number between 0 and 999 (0 = curve off).

Time

Press key **[16]**. The right display shows the time; you can change this value using the plus or minus key. If the time is changed on a CB-3000 and a main station is part of the communication-loop, the time on every controller in the loop is changed to this setting.

Note! : Never change from a relative to an absolute setting within a curve.

ALARMS

Main alarm on / off

Press the **[12]** key. The left display now shows the current alarm code (0.00 = no alarm). On the right display you can set whether the alarm must (1) be passed on to an external device via the "ERROR" delay or must not (0) be passed on. If you have set "do not pass on" (0) the "ALARM" light blinks. The alarm will only be passed on to the "ERROR" relay after an alarm delay time set by the installer has elapsed.

The "ALARM" light blinks when the main alarm is switch off or if the room is closed down.

Closing down the room

You can close down the room by setting the alarm status on the right display to 2. If the room is closed down, the left display shows the measured room temperature and the right display shows "---".

If the room is close down the following actions are taken place:

- The main alarm is switched off.
- All fans are switched off (0% ventilation).
- All flaps will be closed.
- All heatings are switched off.
- The frost protection is switched on (set to 5ºC).

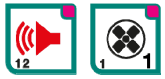
Alarm codes

Alarm code	Description	Keys
0.00	No failure	-
1.0x	Temperature sensor x, ventilation control 1, faulty.	
2.0x	Temperature sensor x, ventilation control 2, faulty.	
3.0x	Temperature sensor x, flap control 1, faulty.	
4.0x	Temperature sensor x, flap control 2, faulty.	
5.0x	Temperature sensor x, heating 1, faulty.	
6.0x	Temperature sensor x, heating 2, faulty.	
7.0x	Temperature sensor x, cooling or flap control 3, faulty.	
8.xx	Humidity sensor xx, RH-control, faulty.	
9.01	Ventilation alarm, measured value lower than 2% or deviation greater or equal than 40%	
10.0x	Sensor outside-temperature faulty (x = sensor number) or jumper IN5/IN6 is NOT set to TEMP.	

The temperature sensor number x is between 1 and 6. The RH sensor input number x is between 5 and 12.

Alarm code	Description	Key
1.99	Temperature ventilation control 1 out of limits.	
2.99	Temperature ventilation control 2 out of limits.	
3.99	Temperature flap control 1 out of limits.	
4.99	Temperature flap control 2 out of limits.	
5.99	Temperature heating 1 out of limits.	
6.99	Temperature heating 2 out of limits.	
7.99	Temperature cooling or flap control 3 out of limits.	
8.99	Measurement RH-control out of limits.	

Switching an alarm on / off



Press the **[12]** key, followed by the key listed in the KEY column (see tables 1 and 2) to switch the relevant alarm on/off. For example: you can switch off the "VENT 1" alarm by pressing the **[12]** key followed by the **[1]** key. You can then switch the alarm on/off using the plus and minus keys.

Alarm codes **93.01 and up are installation errors**; the installer must always resolve them.

Alarm in another room

If the alarm relay in another room is falling off and you press twice on the **[12]** 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).

The ERROR delay is normally on. The relay fall off in the event of an alarm or if the main power is lost.

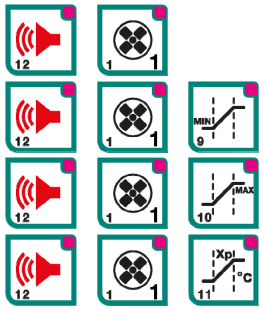
Alarm codes as result of installation errors

Control RR	Key	Description
1		Ventilation control 1
2		Ventilation control 2
3		Flap control 1
4		Flap control 2
5		Heating control 1
6		Heating control 2
7		Cooling or flap control 3
8		RV-control
9	-	AQC-/Diaphragm flap

The alarm code consists of a control number (RR) and a sensor number.

Alarm code	Description	
80.00	Communication error.	
93.0x	Outside temperature: sensor number x is already assigned to another control.	x = 1 - 6
94.xx	RH-sensor: input number xx is already assigned to another control.	xx = 5 - 12
95.0x	Water temperature: sensor number x is already assigned to another control.	x = 1 - 6
96.RR	Control RR: output number already assigned to another control.	RR = 1 - 9
97.RR	Control RR: no or wrong output number (e.g. a flap is assigned to a relay output or the time proportional cooling is assigned to an 0-10V output).	RR = 1 - 8
98.RR	Control RR: no output number assigned to control RR.	RR = 1 - 8
98.10	Assignment of "outside temperature via communication" is not allowed on a main station	
99.00	No main ventilation control system found.	
99.02	SW2-2: 10-0V fan control or Duovent without main ventilation control, is not allowed.	
99.04	SW2-4: Assignment of a 2nd group of fans is not allowed on step control.	

Alarm limits room temperature



The left display shows the code of the error, which caused the alarm (e.g. 1.99 is sensor 1 faulty). You can switch the alarm for "VENT 1" on or off by changing the value on the right display (1 = on, 0 = off).

The left display shows the calculated lower limit for the room temperature. The right display shows the lower limit setting. An alarm is generated as soon as the temperature falls below the calculated lower limit.

The left display shows the calculated upper limit for the room temperature and the right display shows the upper limit setting. An alarm is generated as soon as the temperature rises above the calculated upper limit.

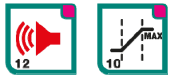
The left display shows the current room temperature and the right display shows the absolute upper limit. An alarm is generated as soon as the room temperature rises above the preset value.

Controls 2 - 4 and flap 3 are set according to the settings for the alarm limits of "VENT 1".

Ventilation alarm on / off

Press key **[12]** and then key **[9]**. The left display now shows the result of the measurement of the measuring fan. You can switch the alarm for ventilation on or off by changing the value on the right display (1 = on, 0 = off).

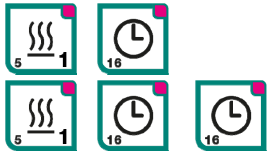
Outside temperature alarm on / off



Press key **[12]** key and then key **[10]**. The left display now shows the outside temperature measured. You can switch the alarm on or off by changing the value on the right display (1 = on, 0 = off).

HOURS RUN

Hours run heating / cooling



The left display shows the number of hours that the heating was "ON" today (the point in the time representation is blinking).

The left display shows the number of hours that the heating was "ON" yesterday (the point in the time representation is NOT blinking).

Use the key **[6]** for the running hours of the 2nd heating and key **[7]** for the running hours of the cooling.