



INSTALLATION INSTRUCTIONS



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1. GENERAL

1.1. Preface

This user manual is intended for the product's user and qualified installation engineer and contains important information about installation, operation, maintenance and technical faults. The installation engineer is responsible for the installation and commissioning of the CERA unit. The following definitions are used in this manual to draw attention to hazards, instructions or directions relating to persons, product, system and/or the environment.



WARNING!

Indicates a hazard that may result in personal injury and/or severe damage to the product, installation or environment.



CAUTION!

Instruction that is important for the installation, operation, control or maintenance of the product. Ignoring this instruction may result in personal injury and/or severe damage to the product, installation or environment.



NOTE

Instruction that is important for the installation, operation, control or maintenance of the product. Ignoring this instruction may result in minor damage to the product, installation or environment. TIP Instruction that may be important for the installation, operation, control or maintenance of the product, not related to personal injury or material damage.



TIP

Instruction that may be important for the installation, function, operation or maintenance on the product, not related to personal injury or material damage.

Great care has been given to the writing of this manual but no rights may be obtained from it. Barcol-Air reserves the right to amend products and manuals without prior notification. Due to our process of continuous improvement in respect of our products, this document may vary from the product with which you have been supplied. You can download the latest version of this manual from our website: www.cera-systeem.nl.

This manual was originally drafted in Dutch.

1.2. Product description

CERA = Central Energy Recovery Air flow. CERA units are pressure-independent air volume control units (ventilation units) suitable for stacked housing. The units have been designed particularly for systems with low noise criteria and for the accurate measurement and control of air volumes courtesy of the patented air flow sensor type Flo-Cross®.

CERA UNIT MODELS:

▪ NXOJOOB	125 L	CERA-1
▪ NXOJOOB	125 R	CERA-1
▪ NXOJOOB	160 L	CERA-1
▪ NXOJOOB	160 R	CERA-1
▪ NXOJOOB	200 L	CERA-1
▪ NXOJOOB	200 R	CERA-1
▪ NXOJOOB	125 L	CERA-2
▪ NXOJOOB	125 R	CERA-2
▪ NXOJOOB	160 L	CERA-2
▪ NXOJOOB	160 R	CERA-2
▪ NXOJOOB	200 L	CERA-2
▪ NXOJOOB	200 R	CERA-2

1.3. Manufacturer information | Barcol-Air B.V.

Barcol-Air B.V. was founded in 1982 as daughter company of the Barber Colman Company. Since 2020 Barcol-Air is part of HC Groep The Netherlands, a leading manufacturer of indoor climate technology.

Both national and international, Barcol-Air is wellknown for its knowledge on air distribution, especially with regards to VAV and CAV systems. The product range of Barcol-Air is completed with diffusers, FCU's, chilled beams, fire & safety products and air flow measuring and control stations.

Contact details Barcol-Air B.V.:

Cantekoogweg 10-12 | 1442 LG Purmerend - the Netherlands

T +31 (0)299 689 300 | E barcol-air@hcgroep.com | www.barcol-air.nl

2. SAFETY | GUIDELINES

2.1. Safety

Any work in the ventilation system may only be carried out by qualified installation engineers (1) in accordance with the instructions specified in the manual. Only accessories and parts prescribed by the manufacturer may be used.

Safety instructions must be followed to avoid physical injury and/or damage to the product.

- Do not use the product for purposes other than the one for which it is intended, as specified in this manual. Product changes by third party are not allowed.
- The CERA ventilation system may not be connected to a kitchen hood.
- Avoid using flammable or volatile substances such as alcohol, insecticides, petrol, etc in the vicinity of the product.
- Cleaning and maintenance may only be carried out after the device has been disconnected from the power source. Secure the system so that it cannot be switched on again unintentionally.
- The product may only be connected to 230 V 50 Hz AC main power supply. Always make sure that the power system to which the product is connected meets the specified conditions; the wiring shall not be damaged.
- Never supply 230 Volt power to the wiring terminals.
- The wiring between the CERA unit, air quality sensors (CO₂) and switches shall not be combined with any other wiring and shall be wired separately. In addition, this wiring shall be connected in an orderly and straight connection, without interruption by terminal blocks. All visible wiring shall be protected as much as possible with cable protection.
- Keep the valves and/or diffusers that are connected to the CERA ventilation system free of obstacles and dirt - valve settings may not be altered.

(1) A qualified installation engineer is someone who is employed by a central heating or mechanical installation company that is registered at the Chamber of Commerce.



WARNING!

The specifications and settings of the equipment only meet the standards and legislation of the country in which it is sold.

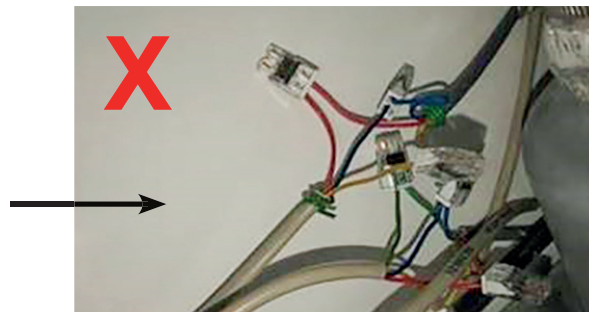
The application of the product outside the country concerned could result in extremely dangerous situations!

2.2. Standards and guidelines

The installation engineer must ensure that the entire system meets the legal requirements, the regulations set out in this document and other applicable documentation supplied by the manufacturer. Any additions, amendments or legal requirements that have subsequently come into force shall apply to all legal requirements and regulations.

In accordance with the applicable EC directives, no health, safety or environmental hazards may remain after installation.

This also applies to other products included in the system.



3. MOUNTING

3.1. Mounting

The CERA unit shall be installed using the factory fitted mounting bracket. Wall plugs and screws are not supplied. Good quality wall plugs and screws must be used.

The weight of the units can be found in the dimensional tables in the technical documentation.

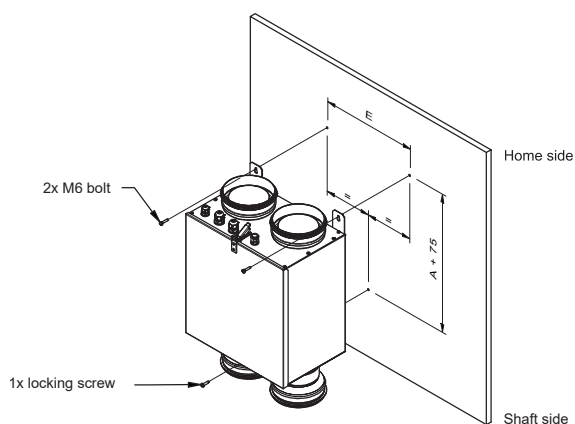
Connecting the units to the power must be carried out by qualified staff.

The required diagrams are available upon request.

Mount the CERA unit in such a way that it can always be easily reached and accessed. Sufficient free space must be left beneath the CERA unit to allow the cover to be fully opened.

Also allow for enough space to connect the primary and secondary (flexible) ducts.

Mount the CERA unit level on the wall at the prescribed height above the floor and the prescribed distance to the other walls. As per the following installation drawing:



Connect the (flexible) duct to the CERA unit in accordance with the standard regulations.

3.2. Connecting flexible ducts

We recommend using acoustically insulated flexible ducts on both the primary and secondary sides of the CERA unit. Pull the flexible duct out fully to prevent unnecessary pressure loss. Never use more duct than absolutely necessary, unless this has been taken into account when making the calculations. You should aim to use at least 0.5 but no more than 1.5 metres of flexible duct. If a greater length of flexible duct is used, it must be properly secured with clips. During installation, always avoid damaging the duct. Damaged inner ducts must be replaced immediately. Minor damage to the outer sleeve shall be repaired with tape.

3.3. Shortening flexible ducts

- Pull the duct out fully.
- Measure the correct length and mark this point.
- Cut through the outer sleeve, the insulation material and the inner duct with a sharp knife.
- Cut around the whole periphery and use a pair of pliers to cut through the spiral winding of the inner duct. Cut away the excess spiral winding.
- Use a pair of scissors to trim off any excess insulation.



NOTE

For additional mounting instructions, please consult our technical file.

3. MOUNTING

3.4. Making a connection

- Shorten the duct correctly (see 3.3. Shortening flexible ducts).
- Slide the duct at least 50 mm over the connector.
- Push the insulation and the outer sleeve back slightly and secure the inner duct to the connector by wrapping tape firmly around the connector.
- We recommend using tape that is at least 50 mm wide.
- Make sure the tape is applied half around the duct and half around the connector.
- Use a robust duct clip to clamp the inner sleeve securely to the connector. Prevent the insulation from being in contact with the clip as this would mean the connection is not air tight.
- Use aluminium tape for pure aluminium and aluminium foil ducts and use plastic tape for plastic ducts. If desired, fully wrap the duct clip and the connector with the appropriate tape.

3.5. Mounting points

The maximum permissible sagging of the ducts between two fixing points may not exceed 50 mm (measured from the centre).

3.6. Sound

In order to reduce sound (noise), an acoustic duct can be used between the CERA unit and the ducts leading to and from the homes. For more information, consult the manufacturer of the acoustic duct. Sound data of the CERA units is mentioned in the technical product documentation.

4. OPERATION | CONTROL

4.1. Operation

In the apartment, the CERA is typically installed in a central room. The unit is connected to a central AHU for all apartments. It uses two push-button switches with a LED indicator and one or more air quality (CO₂) sensor(s) which are typically fitted in the living (and bed/bath) room.

The air will be supplied by one or more supply diffusers/valves. Air distribution will be determined by the manual setting of these valves. These settings must be configured during commissioning. The air quality sensor monitors the CO₂ levels in the room. When the room is being used more intensively, the CO₂ level rises. The CERA unit then automatically ensures a greater supply of fresh air so the CO₂ level decreases again. The volume of air is limited to a predetermined maximum.

The CO₂ sensor looks like this:



CO₂ sensor
Type: CERA-S-TCO2

4.2. Ventilation mode options

Using the switch, the CERA system can be set to the following modes:

- **Increased mode (30 or 60 minutes)**

In this mode, the CERA unit will supply an increased volume of air.

Select this mode when cooking and/or showering. By pushing the switch and holding it for 1 second, the CERA-1 unit will supply an increased volume of air for 60 minutes. If you select this mode in the bathroom, the CERA-1 unit will set the system to increased mode for 30 minutes.

In case of a CERA-2 unit, the increased volume of air will be 60 minutes in both situations.

- **Night mode (13 hours)**

In this mode, the air supply is regulated at a fixed setting of 75% despite the CO₂ monitoring. Select this mode for the night (sleeping) time.

By holding one of the switches down for 2 to 3 seconds the CERA unit will be switched to night mode. The LED indicator on the switch will flash slowly. After 13 hours in this mode, the CERA unit will automatically return to Normal operation. In new-build homes, it makes sense to activate the night mode daily and for a longer period, which will make a positive contribution to reducing excessive construction moisture (in addition to other measures in this regard).

Damage to the device

Please notify the supplier immediately of any damage to the device.

⚠ CAUTION!

Never connect a kitchen hood to the CERA system!

✎ NOTE

The plug of the CERA unit may be plugged into the wall socket. However, only after approval from the project/building manager (In addition to that all wiring to the sensors and pulse switches must be correctly connected).

✎ NOTE

Extra sound may be noticed at higher air speeds. This is caused by the air flow through the ducts and does not affect the CERA unit.

✎ NOTE

The CERA will be supplied with damper blades fully closed. This damper position is applied to prevent the presence of construction dirt in the units or to prevent unnecessary draft in high-rise buildings as much as possible.

5. INSPECTION | MAINTENANCE 6. MALFUNCTIONS

5.1. Inspection

The correct operation of the ventilation system during lifetime can only be guaranteed if the system is inspected and maintained in accordance with the following instructions. These instructions are based on normal operating conditions.



CAUTION!

If the ventilation system works under heavy operating conditions or in a particularly polluted environment, then extra maintenance may be needed.

5.2. CERA unit inspection

The CERA unit must at all times remain accessible. The CERA unit does not require any maintenance. We recommend the following actions:

- Regularly check the unit for abnormal sounds.
- Regularly check that the unit responds to the manual controls.
- Regularly check whether the unit is responding to the CO₂-sensor.
- Regularly check whether the flexible ducts are connected to the unit.

5.3. Inspection and maintenance

The CERA unit must be kept locked and sealed at all times. Never leave the CERA unit behind with the cover open. Remove the plug from the mains socket if you leave the CERA unit open.



CAUTION!

As a user, never touch anything in the CERA unit. If you find it has been left open, please notify the installation engineer.

6.1. CERA unit malfunctions

Malfunctions are indicated by a rapidly flashing LED indicator on the switch. If the LED indicator is rapidly flashing without the CERA unit being set to a particular mode, then you should notify your installation engineer of the malfunction.

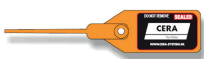
A malfunction will be signalled if one of the following situations lasts for more than 48 hours:

- The CO₂ levels measured are very high or low; the sensor may be defective.
- The damper has been fully open for a long period of time.

7. SEAL CODES

7.1. CERA unit seals

The CERA unit is fitted with a seal (orange / green / blue). Only a qualified installation engineer may break or fit the CERA seal.



Orange seal:
Status: factory setting
CERA ready for installation



Green seal:
Status: after commissioning
CERA ready for operation



Blue seal:
Status: after service/maintenance
Maintenance has been performed on the CERA unit

• Orange seal

The CERA unit is fitted with an orange label after quality inspection in the factory.

• Green seal

After the commissioning has been completed, the installation engineer will apply a green seal. At that moment, the installation has been commissioned and is ready for operation.

8. WARRANTY

• Blue seal

A blue seal is applied after maintenance work was carried out to the CERA unit.

8.1. Warranty

A standard two-year factory warranty applies to all Barcol-Air products. Within this period, the product or component parts will be repaired or replaced without charge according to the Barcol-Air warranty conditions.


Provisions and exceptions are included in our warranty conditions. Visit the download center on our website www.barcol-air.nl for the full warranty conditions and/or supplementary warranty periods or conditions.



NOTE

Warranty claims are always handled through the installation engineer.

9. CE DECLARATION OF CONFORMITY

EC DECLARATION OF CONFORMITY	
This Declaration of Conformity is issued under the sole responsibility of the manufacturer	
MANUFACTURER	
Company name:	Barcol-Air BV
Full address:	Cantekoogweg 10-12
Postal code:	1442 LG
Place:	Purmerend
Country:	The Netherlands
DESCRIPTION AND IDENTIFICATION OF THE MACHINERY	
Generic name:	Fresh air control system for residential applications.
Function:	To control the correct amount of fresh air based on measured CO2 levels and/or manually controlled by one or more switches.
Type:	NXOJOOB
Model:	Cera-1 and Cera-2 125, 160 and 200.
Commercial name:	Quiet, compact, demand based fresh air control system for residential applications.
COMPLIANCE	
<i>The manufacturer declares that the above mentioned machinery fulfills all relevant provisions of</i>	
Machinery Directive 2006/42/EC	
Low Voltage Directive 2014/35/EU	
EMC Directive 2014/30/EU	
RoHS Directive 2011/65/EU	
Construction Products Regulation (EU) No. 305/2011	
<i>In conjunction with the following harmonised standards and where appropriate other technical standards and specifications</i>	
EN-ISO 12100:2010; NEN 8087:2001; NEN 1087:2001; EN 60204-1:2006+C11:2010	
EN 55014-1:2017; EN 61000-6-3:2006+A1:2011	
Place:	Purmerend
	The Netherlands
Name:	Ir. T.L. Wiersma
Function:	Technical Director
Date:	November 6, 2018
Signature:	



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