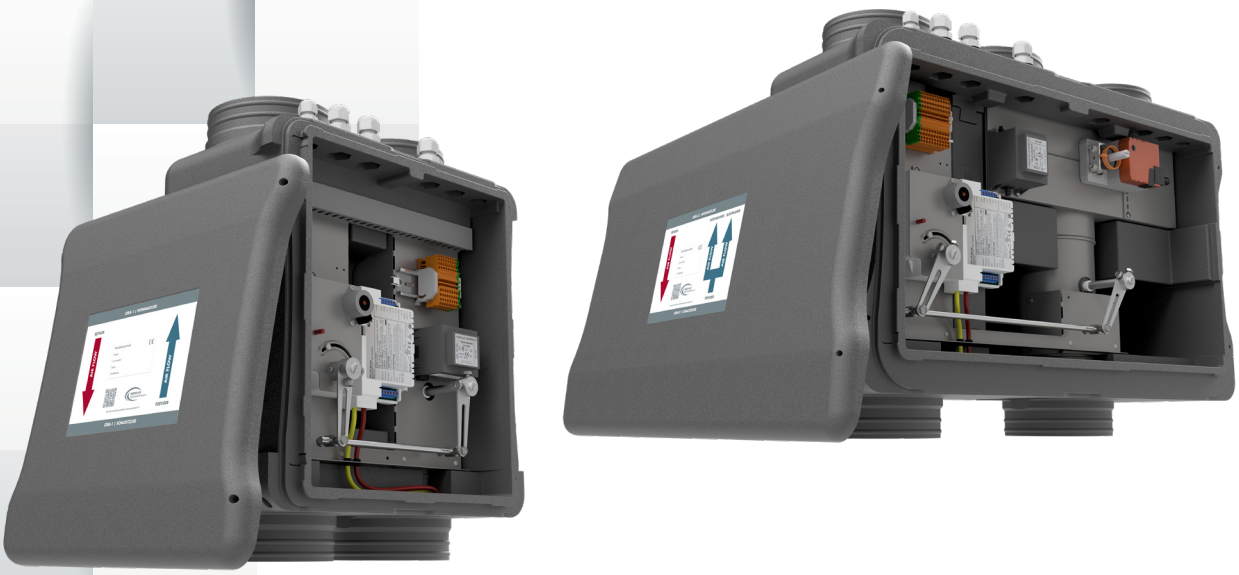
ONLINE SELECTION TOOL
www.airselect.nl



TOTAL VENTILATION CONCEPT FOR STACKED HOUSING
CO_2 CONTROLLED FRESH OUTSIDE AIR VENTILATION SYSTEM

DURABLE EPP CONSTRUCTION | TYPE NXOJOEB

BARCOL-AIR
AIR DISTRIBUTION

CERA | System features

- CERA: **C**entral **E**nergy **R**ecovery **A**ir flow
- Total ventilation concept for stacked housing
- CO_2 controlled fresh outside air ventilation system
- Low energy consumption
- Airtight class C & damper leakage class 2 accoriding to EN 1751
- Pressure independent control
- Individual room control (up to 6 nos. rooms)
- High accurate air flow control (Flo-Cross® air flow sensor)
- Plug & Play including factory calibrated BACnet controller
- Maintenance free for user & building owner (no filters)
- Low noise system (no fan & internally insulated)
- Compact in size | More effective m²
- CE certified
- Suitable for building transformation (e.g. offices to housing)
- The CERA system has been developed by Barcol-Air and Hiensch Engineering
- Low in energy consumption due to the central heat recovery system | Nominal fan power use very low
- Low energy according to BENG, NTA8800 calculation

Benefits EPP CERA:

Sustainable
- Environmentally responsible
- Long lifespan
- Endlessly recyclable

Ease of installation
- Low in weight, CERA-1 only 8.85 kg - CERA-2 only 12.00 kg (weight saving 40%)
- Easy connection with both spiral duct and flexible hose
- Compact design with unique bracket construction
- Available in both left and right version
- Easily accessible due to special locking mechanism

Operation
- Great mechanical stability
- Low radiated noise level
- Robust and shock absorbing design

CERA unit | type NXOJOEB

Type designation

Composition type designation:

N - X - O - J - O - E - B

N Position 1: **Product group**

N = air volume control units

X Position 2: **Function**

X = CERA control unit
1 = non standard, specify separately

O Position 3: **Controls (manufacturer)**

O = without controls, specify separately

J Position 4: **Outlet**

J = circular outlets
1 = non standard, specify separately

O Position 5: **Reheat coil**

O = without reheat coil

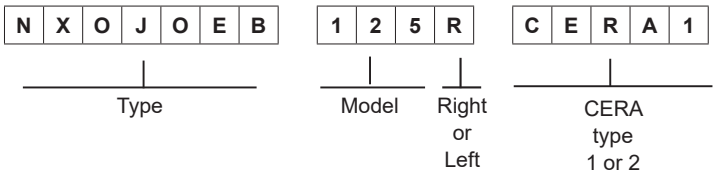
E Position 6: **Controls (type and function)**

O = without controls
E = expanded polypropylene (EPP)

B Position 7: **Sensor**

O = not applicable
B = Flo-Cross® 2 x 12 point averaging and signal amplifying air flow sensor
1 = non standard, specify separately

Ordering example:



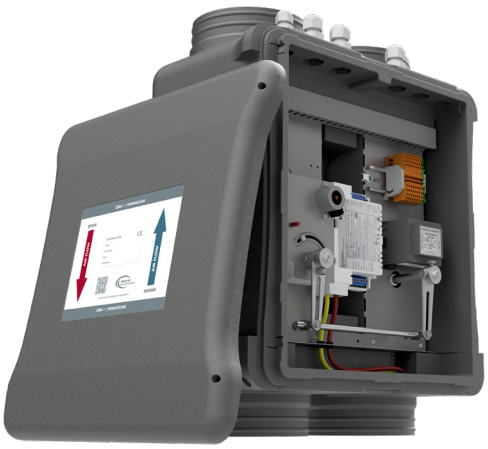
Ordering information:

Standard units:

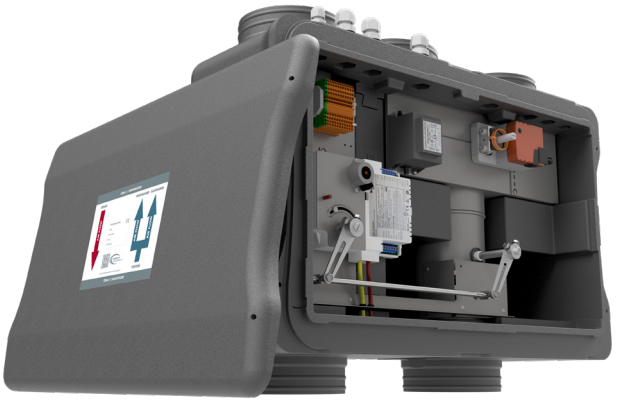
- quantity of units
- complete 7 digit code
- unit size / model
- air flow (V_{min} - V_{min} - $V_{max\ increased}$)
- handing (standard right side)

Non standard units:

- For non standard units a full description and/or drawing are/is requested.



CERA-1 | 1 zone system



CERA-2 | 2 zone system

Application

- CERA units are pressure-independent fresh outside 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®.

The CERA unit controls the amount of fresh air supplied to the room based on the measured CO_2 level and features override options using switches, all of which save energy. The CERA unit controls the amount of fresh air supplied to the room based on the measured CO_2 levels between a factory calibrated minimum and maximum set-point. It will provide increased air volumes when the 'cooking' function or 'bathroom' function is activated. When the 'night' function is active it will provide reduced but sufficient fresh air for the occupants. This way the CERA is a very energy conscious system, which will contribute to your green building certification.

The units take up very little space and are suitable for use in new or refurbishment projects (renovations/transformation). The units are maintenance free and do not contain filters or a fan.

BENG calculation
BENG stands for Nearly Zero Energy Buildings and is applicable since 01-01-2021 and did replace the EPC calculation. The BENG calculation is required for applying for a new building environmental permit and calculate the Energy Performance component.
The energy performance of a building is determined with the new determination method NTA 8800.

Technical information

The compact, low-noise units are internally lined; the air flow does not come into contact with the insulating material and the units do have supply and return spigots. The supply and return air run synchronously with each other and ensure air balance in the apartment. Two versions of the CERA system are available: the one-zone system (CERA-1) and the two-zone system (CERA-2).

The CERA-2 unit has an extra air damper which controls the air flow more accurately between the different rooms. On the air side, it features a specially-designed servo-actuated 3-way valve that directs air to the main zones & the sub zones depending on the need. The CERA PLUS system is available for the CERA-1 (up to 5 sensors) and the CERA-2 (up to 6 sensors).

The CERA PLUS system can be connected to several CO_2 sensors for several bedrooms and/or other rooms. The highest CO_2 value measured will be used in the air volume calculation.

The units and the system are not suitable for direct connection to a motorless or motorised kitchen hood.

CERA unit | type NXOJOEB

Technical information & delivery format

Technical information

Construction:
- Unit casing: single wall, air-thight construction made of expanded polypropylene.
- Cover fitted with a locking mechanism.
- Duct-sleeve connections suitable for DIN 24 145 or DIN 24 146.
- The unit is supplied with an easy-to-mount suspension bracket.

Damper:
- Damper blade made of galvanized sheet steel, sandwich construction of twin blade and neoprene gasket (low leakage).
- Damper shaft: aluminium, ø12 mm with self lubricating Nylon bearings.

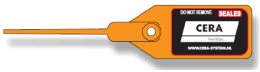
Flo-Cross®:
- Flo-Cross® 2 x 12 point averaging and signal amplifying air flow sensor made of extruded aluminium.

Controls:
- The units feature a DDC BACnet® controller.
- Controller and transformer are factory fitted, wired and calibrated. The wiring to the switches and sensors in the apartment, which has to be connected by a qualified electrician, is internally pre-wired to the controller.
- Internal wiring including power supply cable + plug (halogen free).
- The controller is supplied with project dedicated CERA software.
- Upon request, the system can be set up and remotely controlled. It is recommended to opt for the optional remote setup and monitoring, please contact our Technical Advisors for additional information.

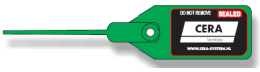
Delivery format

- The CERA unit will be supplied with dust caps over the spigots. Applying these dust caps is done to prevent any construction waste in the units or to prevent unnecessary draft in high-rise buildings as much as possible.
- Plug & play units equipped with CERA software.
- The specified Barcol-Air controls are fully factory fitted, wired and pre-calibrated. The calibration data is mentioned on a product sticker.
- This product sticker also features required housing information (e.g. block, home and house numbers).
- All controls will be mounted, as standard, on the right hand side of the unit when looking in the direction of air flow, unless otherwise requested. The unit cover is provided with a sticker indicating the air flow direction.
- Left-hand versions of the units available upon request.
- CERA-2 unit divides the air supply into 2 zones; the left connection connects to the living zone by default.
- I/O connector for CERA plus variant: optional delivery possible (surcharge) If you have any questions, please contact our technical advisors.

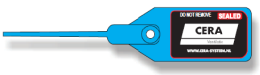
CERA unit seal colour codes:



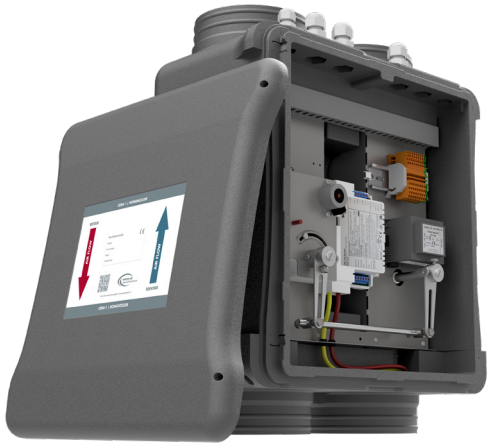
Orange seal:
Status: factory setting
CERA unit ready for installation
(The CERA unit is delivered with an orange seal)



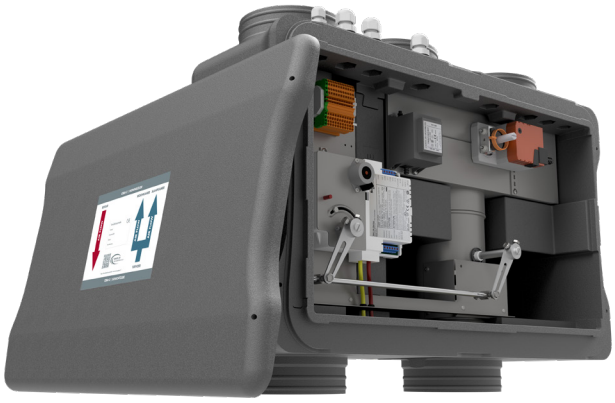
Green seal:
Status: after commissioning
CERA unit ready for operation
(Green seal is in the CERA unit on delivery)



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



CERA-1



CERA-2

Example CERA-1*:*

CERA units for CO_2 controlled ventilation for stacked housing, made of expanded polypropylene (EPP). Casing leakage EN 1751 and duct-sleeve connections suitable for DIN 24 145 or DIN 24 146.

Units provided with oval shaped damper blades with neoprene gaskets and damper shafts made of aluminium with self lubricating Nylon bearings. Completed with Flo-Cross® 2x12 points averaging and signal amplifying air flow sensors, better than 2,5% accuracy even with irregular duct approach.

Units supplied with DDC controllers which correspond to BACnet® MSTP protocol. Controls are factory fitted, wired and calibrated according to dedicated CERA software with the following specifications:

- Increased max. air volume: 253 m^3/h
- Max. volume: 180 m^3/h
- Minimum air volume: 53 m^3/h
- Unit size: 125 mm / connections: 160 mm
- Δp_s: 42 Pa
- Max. discharge sound index: NC 29 at a pressure drop of 100 Pa
- Max. radiated sound index: < NC 20 at a pressure drop of 100 Pa

Manufacturer: Barcol-Air

Ordering example:

type – model – connection = NXOJOEB-125R-CERA1

CERA unit | type NXOJOEB

Assembly and installation intructions

The CERA units shall be installed using the unique bracket according to the following installation drawing.

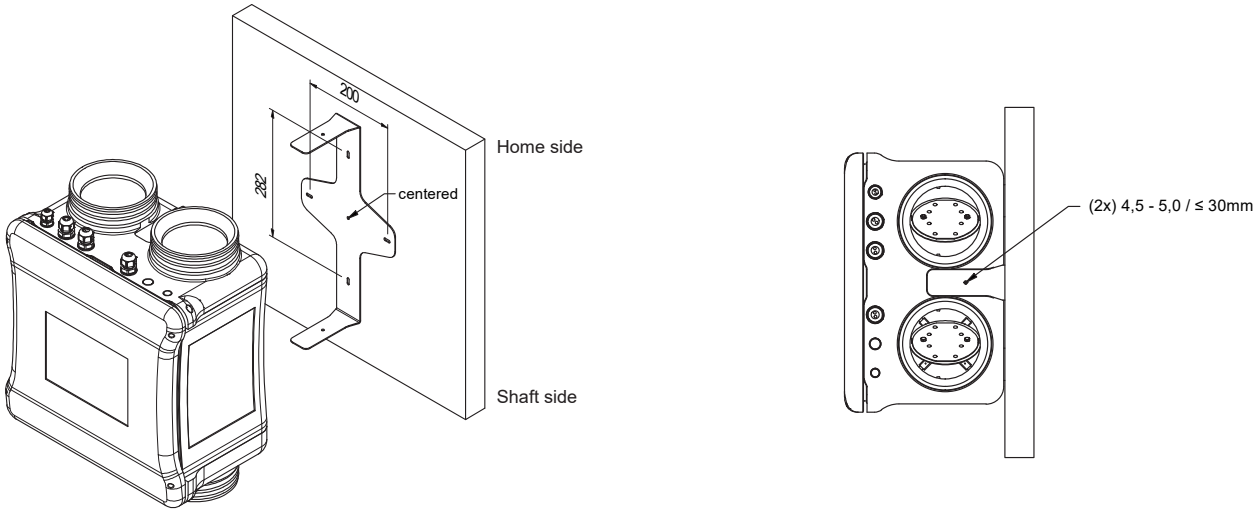
Wall plugs and screws are not supplied. Good quality wall plugs and screws must be used. The weights of the units are mentioned on page 9 (CERA-1) page 13 (CERA-2).

The CERA unit can be secured by means of two screws (Ø 4.5-5.0 mm, length 30 mm) to the brace.

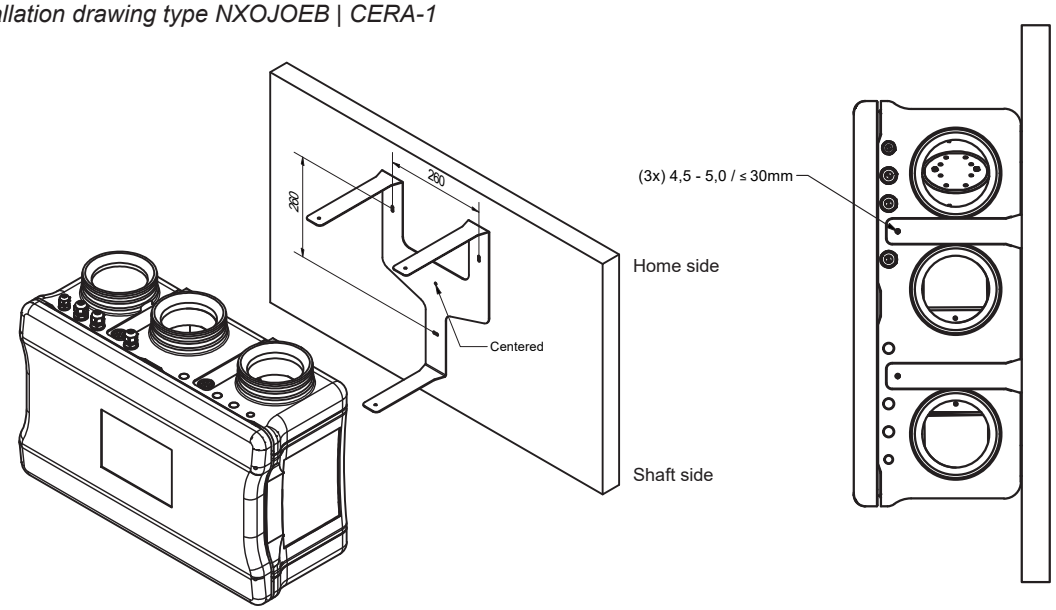
Connecting the units to the power must be carried out by qualified staff. The required diagrams are supplied and discussed before production.

Point of attention:
- High mechanical stresses in the CERA unit casing must be avoided as these may cause damage to the structure.
- The CERA unit must never be twisted as this could have a negative impact on the operation of the damper valves.
- Built-in controller components, electronics and measuring tubes must be accessible at all times; control equipment is mounted on the inner side and can be reached by remoning the cover plate.
- The unit must be clean, dust-free and dry when fitted and connected.
- A power supply point, wall socket, must be present at the CERA unit. The unit is standard equipped with a 1.5 meter power cable with a plug.
- After installation and adjustment, the unit must be fused. (see page 6).

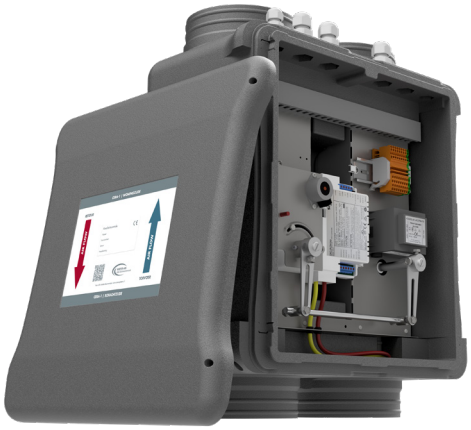
Recommendation:
- For sustainability reasons as well as for sound technical reasons, you should take into account the lowest possible resistance in the total duct system. The system pressure for the operation of the CERA units should be a minimum of 100-150 Pa. The secondary resistance (after the CERA unit) should be as low as possible, preferably <35 Pa.
- Installing an acoustic flexible duct of at least 0.5 meter on the shaft side and at least 1.0 meter downstream.
- For adjustment work and maintenance purposes/aftercare of the CERA units, it is recommended to have communication cable between the CERA units. In this way, the CERA units can be accessed from 1 central point.

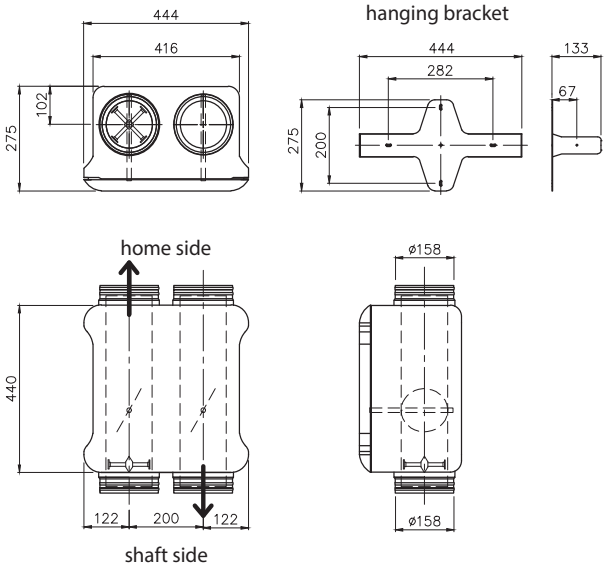


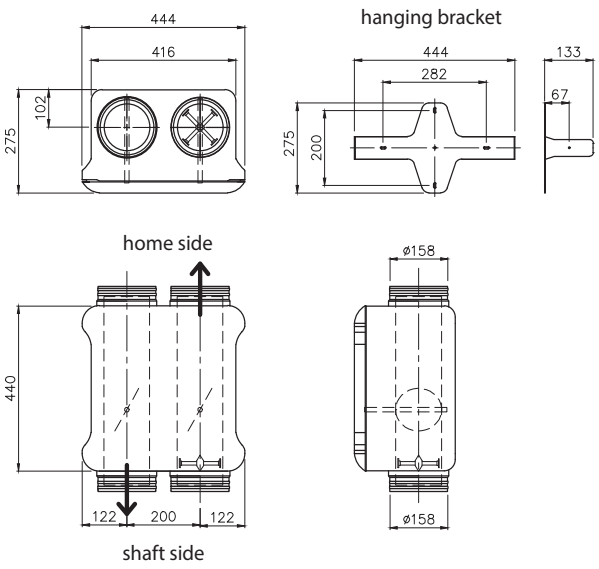
Installation drawing type NXOJOEB | CERA-1



Installation drawing type NXOJOEB | CERA-2







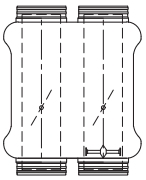
Type NXOJOEB-125 **L** CERA-1

Type NXOJOEB-125 **R** CERA-1

Weight CERA-1 - 8.85 kg

CERA-1 | type NXOJOEB

Performance data



Sound data (pressure drop ∆ 100 Pa)

Model	Data referring to inlet-spigot				min. ΔPs	Discharge sound (supply)									Discharge sound (return)									Radiated sound								
	Velocity	Air volume				Lw in dB/Oct. (re 1pW)						Lp values			Lw in dB/Oct. (re 1pW)						Lp values			Lw in dB/Oct. (re 1pW)						Lp values		
						125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR
	m/s	l/s	CFM	m³/h	Pa	dB									dB									dB								
125	2	23	50	84	4	60	51	48	43	31	25	-	-	-	54	45	41	34	27	20	-	-	-	26	-	-	-	-	-	-	-	-
	4	47	99	168	15	66	56	52	49	39	33	25	-	20	64	53	48	41	34	28	22	-	-	33	26	22	21	-	-	-	-	-
	6	70	149	253	34	70	59	55	52	43	38	29	22	24	70	59	51	45	39	33	28	22	24	37	32	28	25	18	18	20	-	-
	8	94	198	337	59	73	61	57	55	47	42	31	25	27	74	62	54	48	42	37	32	27	29	40	37	32	27	21	20	24	-	-
	10	117	248	421	91	74	63	58	56	49	44	33	28	29	77	65	56	50	44	39	35	31	33	42	40	35	29	23	21	26	-	-

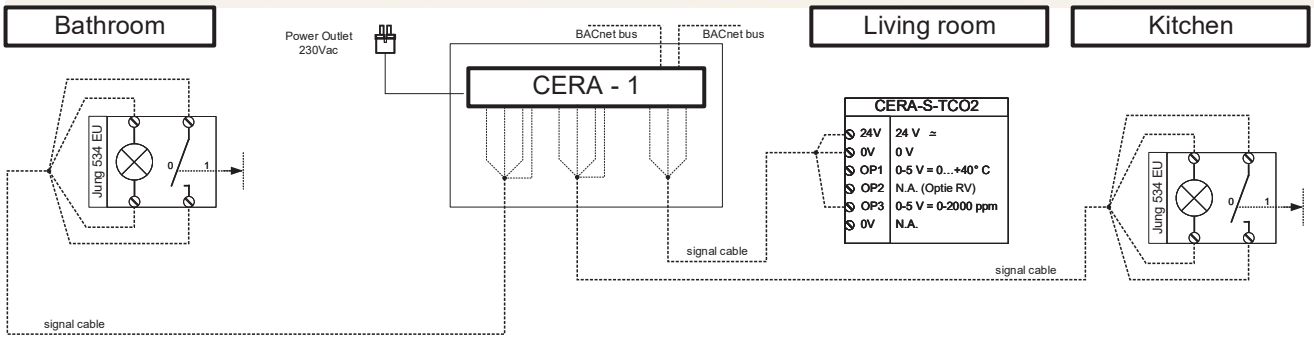
Sound data (pressure drop ∆ 150 Pa)

Model	Data referring to inlet-spigot				min. ΔPs	Discharge sound (supply)									Discharge sound (return)									Radiated sound								
	Velocity	Air volume				Lw in dB/Oct. (re 1pW)						Lp values			Lw in dB/Oct. (re 1pW)						Lp values			Lw in dB/Oct. (re 1pW)						Lp values		
						125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR
	m/s	l/s	CFM	m³/h	Pa	dB									dB									dB								
125	2	23	50	84	4	62	54	50	45	36	29	22	-	-	55	47	43	38	33	27	-	-	-	28	17	-	-	-	-	-	-	-
	4	47	99	168	15	69	60	56	52	43	38	29	22	23	67	57	51	44	39	34	25	-	20	35	27	24	23	17	-	-	-	-
	6	70	149	253	34	74	63	59	56	48	43	33	27	29	73	63	55	48	42	37	31	26	28	39	34	30	27	21	21	23	-	-
	8	94	198	337	59	77	66	61	59	51	46	36	31	32	78	67	58	51	44	40	36	32	33	43	38	34	30	24	23	26	-	-
	10	117	248	421	91	79	68	63	61	53	49	38	34	35	82	71	61	53	46	42	39	37	38	45	42	37	32	27	25	29	-	-

Additional sound absorption of Sonodec acoustic hose (1 meter) ⌀160

Hz	125	250	500	1000	2000	4000
dB	17	22	22	27	19	14

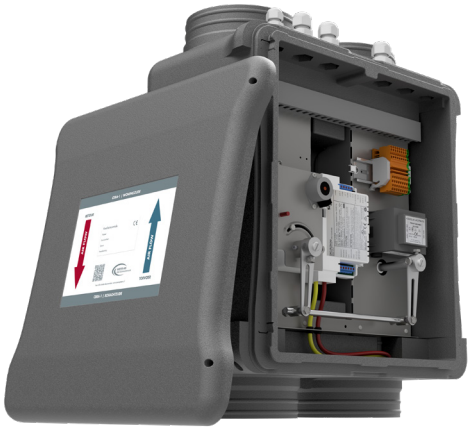
1. *Sound data is determined in a reverberation room at an independent sound laboratory, according to ISO 3741 en ISO 5135 standards.*
2. *Lw/Oct. (re. 1pW) are sound power levels for discharge and radiated sound. Values < 17 dB are indicated by "-".*
3. *The values for insertion loss L_w do not include end reflection.*
4. *dB(A), NC and NR index values are sound pressure levels. Sound pressure levels < 20 are indicated by "--".*
5. *The sound pressure levels for discharge sound include the values for an acoustic hose in accordance with table 1.*
6. *Lp values are including a room absorption of 10 dB/Oct.*
7. *Δp_s is the static pressure loss in the CERA unit with the damper fully open.*
8. *Where an "X" is shown in the table, the unit's own resistance is > 100 Pa, which means sound levels at 100 Pa are not available.*
9. *For non standard applications and/or selections please contact our technical staff.*



Remark:
Wiring between the CERA-1 unit and the sensor(s)/switch(es) by third party.

CERA-1 | type NXOJOEB

Control sequence of operation (standard)

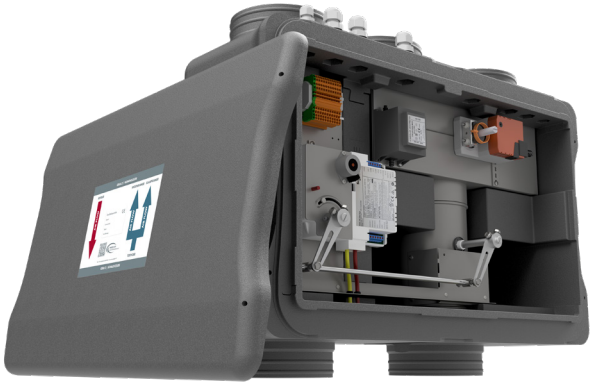


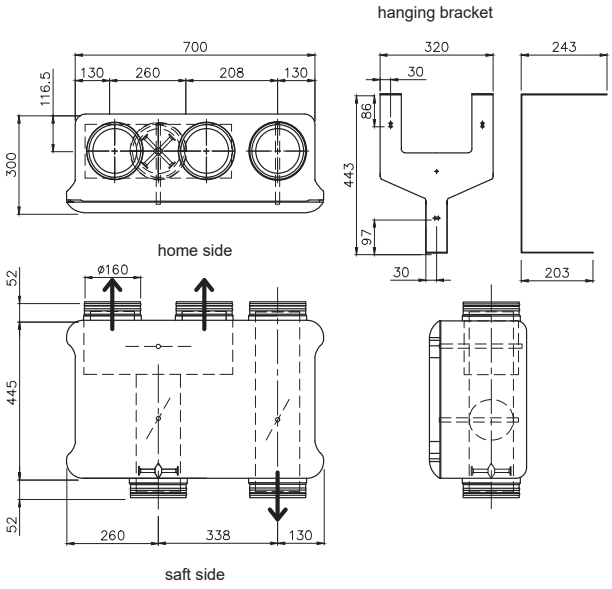
CO_2-sensor
Type: CERA-S-TCO2

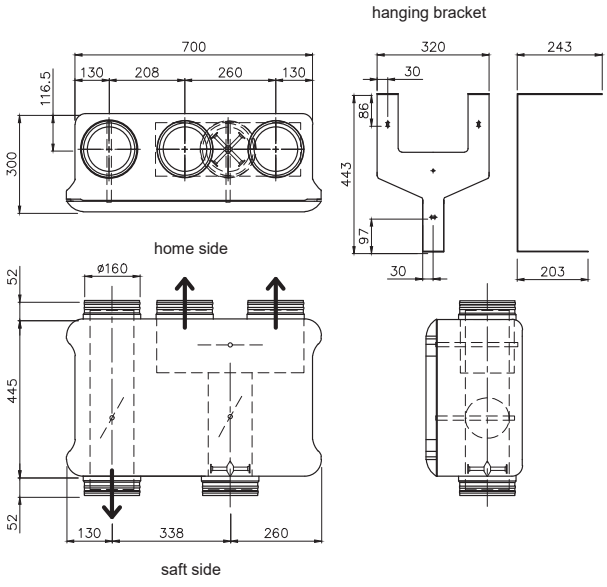
Sequence of operation of the CERA-1 one-zone system (standard model):

- The CERA-1 unit has a supply and return duct with built-in air value that regulate the air volume. The Flo-Cross® air flow measuring sensor is built into the supply duct to measure the air flow.
- A central AHU provides fresh air and ensures static pressure in the system. The distribution of air in the home will be determined by the manual setting of the air diffusers. The central AHU unit must function 24/7.
- In normal operation, the measured CO_2 value (living room) will be used to calculate the required air volume between a minimum air volume (MinFlow) at 800 ppm and a maximum required air volume (MaxFlow) at 950 ppm. If the CO_2 value ≤ 800 ppm, then the air volume will be equal to the MinFlow.
- By actuating the pulse switches (kitchen/bathroom) with LED feedback, the air volume in the home can be temporarily set to an increased or reduced mode (night/sleep mode).
- In increased mode, the required air volume will be maximum regardless of the measured CO2 value; after 60 minutes, the control sequence will automatically return to the demand-driven CO_2 control.
- In reduced mode (night-/sleep mode), the required air volume will be set to a fixed value of 75% MaxFlow, regardless of the CO_2 reading. After 13 hours (night/sleep setting), the control sequence will automatically return to normal operation.
- In the increased mode, the LED indicator on the transmitter will be on continuously and in the reduced mode it will flash slowly.
- CERA is equipped with a freely programmable controller. If there are project-specific wishes, we can look at the possibilities together with our technical specialists.
- CERA-1 PLUS is available for monitoring CO_2 levels in multiple bedrooms. A CERA-S-TCO2 CO_2 sensor can be installed in a total of 4 bedrooms and the living room. The highest CO_2 value measured will be used in the calculation of the desired air volume.
- Optionally a humidity sensor can be used in the bathroom/bedroom, which ensures that the CERA unit automatically switches to elevated increased mode the moment the humidity rises above a preset percentage. As standard for this type CERA-KLH100-HD-R5V sensor a percentage of 70% is used.

Hygrostat
Type: CERA-KLH100-HD-R5V







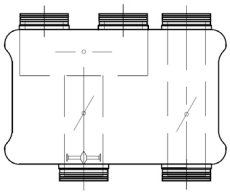
Type NXOJOEB-125 **L** CERA-2

Type NXOJOEB-125 **R** CERA-2

Weight CERA-2 - 18 kg

CERA-2 | type NXOJOEB

Performance data



Sound data (pressure drop Δ 100 Pa)

Model	Data referring to inlet-spigot				min. ΔP_s	Discharge sound (supply)									Discharge sound (return)									Radiated sound								
	Velocity	Air volume				Lw in dB/Oct. (re 1pW)						Lp values			Lw in dB/Oct. (re 1pW)						Lp values			Lw in dB/Oct. (re 1pW)						Lp values		
						125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR
	m/s	l/s	CFM	m³/h	Pa	dB									dB									dB								
125	2	23	50	84	7	66	60	52	40	31	26	25	-	-	54	45	41	34	27	20	-	-	-	31	25	17	-	-	-	-	-	-
	4	47	99	168	27	69	61	53	45	36	31	28	22	23	64	53	48	41	34	28	22	-	-	35	30	23	18	-	-	-	-	-
	6	70	149	253	60	72	61	53	48	40	34	30	24	26	70	59	51	45	39	33	28	22	24	38	33	26	22	-	-	-	-	-
	8	94	198	337	106	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	10	117	248	421	165	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Sound data (pressure drop Δ 150 Pa)

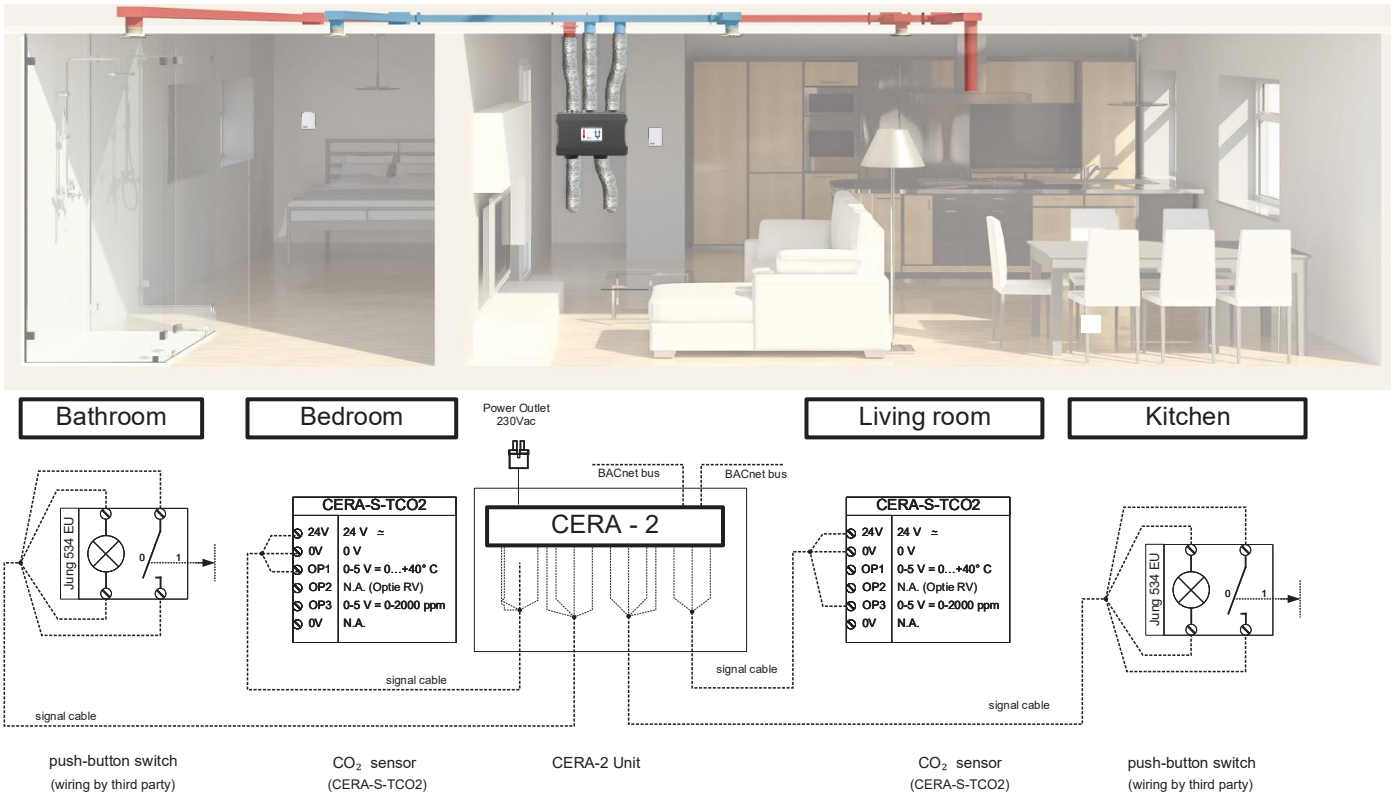
Model	Data referring to inlet-spigot				min. ΔP_s	Discharge sound (supply)									Discharge sound (return)									Radiated sound								
	Velocity	Air volume				Lw in dB/Oct. (re 1pW)						Lp values			Lw in dB/Oct. (re 1pW)						Lp values			Lw in dB/Oct. (re 1pW)						Lp values		
						125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	dB(A)	NC	NR
	m/s	l/s	CFM	m³/h	Pa	dB									dB									dB								
125	2	23	50	84	7	69	64	58	45	35	31	29	21	23	55	47	43	38	33	27	-	-	-	34	26	21	-	-	-	-	-	-
	4	47	99	168	27	74	65	58	49	41	36	32	27	28	67	57	51	44	39	34	25	-	20	38	31	26	21	-	-	-	-	-
	6	70	149	253	60	77	66	58	52	44	39	35	31	32	73	63	55	48	42	37	31	26	28	41	35	29	24	18	18	22	-	-
	8	94	198	337	106	79	67	58	54	46	41	37	33	34	78	67	58	51	44	40	36	32	33	43	39	32	26	21	20	25	-	-
	10	117	248	421	165	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Additional sound absorption of Sonodec acoustic hose (1 meter) ⌀160

Hz	125	250	500	1000	2000	4000
dB	17	22	22	27	19	14

NOTE: These are temporary selection tables of CERA-2 EPP.

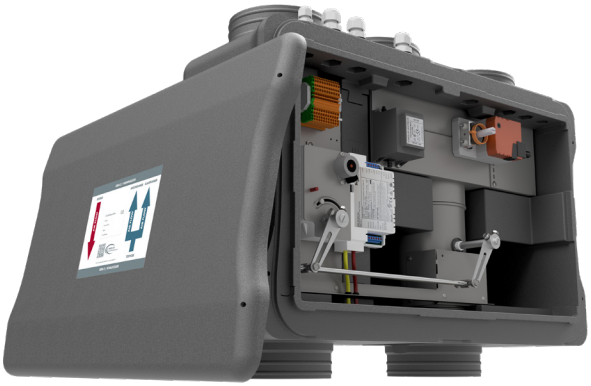
1. *Sound data is determined in a reverberation room at an independent sound laboratory, according to ISO 3741 en ISO 5135 standards.*
2. *Lw/Oct. (re. 1pW) are sound power levels for discharge and radiated sound. Values < 17 dB are indicated by "-".*
3. *The values for insertion loss $L_w$do not include end reflection.*
4. *dB(A), NC and NR index values are sound pressure levels. Sound pressure levels < 20 are indicated by "--".*
5. *The sound pressure levels for discharge sound include the values for an acoustic hose in accordance with table 1.*
6. *Lp values are including a room absorption of 10 dB/Oct.*
7. *Δp_s is the static pressure loss in the CERA unit with the damper fully open.*
8. *Where an "X" is shown in the table, the unit's own resistance is > 100 Pa, which means sound levels at 100 Pa are not available.*
9. *For non standard applications and/or selections please contact our technical staff.*



Remark:
Wiring between the CERA-2 unit and the sensor(s)/switch(es) by third party.

CERA-2 | type NXOJOEB

Control sequence of operation (standard)



CO_2-sensor
Type: CERA-S-TCO2

Sequence of operation of the CERA-2 two-zone system (standard model):

- The CERA-2 unit features two supply connections on the home side and one return duct with built-in air valves to control the air volume. The Flo-Cross® air flow measuring sensor is built into the supply duct to measure the air flow.Type CERA-2 measures the CO_2 content in two zones (living room and bedroom). A specially-designed, motorised-sided 3-way air valve controls the supply air between the two zones.
- A central AHU unit provides fresh air and ensures static pressure in the system. The distribution of air in the home will be determined by the manual setting of the air diffusers. The central AHU unit must function 24/7.
- In normal operation, the measured CO_2 value (living room) will be used to calculate the required air volume between a minimum air volume (MinFlow) at 800 ppm and a maximum required air volume (MaxFlow) at 950 ppm. If the CO_2 value ≤ 800 ppm, then the air volume will be equal to the MinFlow. Depending on the difference between each of the readings, the motorised 3-way air valve divides the supply air between the two zones.
- By actuating the pulse switches (kitchen/bathroom) with LED feedback, the air volume in the home can be temporarily set to an increased or reduced mode (night/sleep mode).
- In increased mode, the required air volume will be maximum regardless of the measured CO_2 value; it will be equally (50/50) divided between the two zones. After 60 minutes, the control sequence will automatically return to the demand-driven CO_2 control.
- In reduced mode (night-/sleep mode), the required air volume will be set to a fixed value of 75% MaxFlow, regardless of the CO_2 reading, whereby the air volume will be (50/50) according to normal operation divided over the zones. After 13 hours (night/sleep setting), the control sequence will automatically return to normal operation.
- In the increased mode, the LED indicator on the transmitter will be on continuously and in the reduced mode it will flash slowly.
- CERA is equipped with a freely programmable controller. If there are project-specific wishes, we can look at the possibilities together with our technical specialists.
- CERA-2 PLUS is available for monitoring CO_2 levels in multiple bedrooms. In total, a maximum of two sensors in the living room zone and four in the bedroom zone can be fitted with a CERA-S-TCO2 CO_2 sensor. For each separate zone, the highest measured CO_2 value will be used in calculating the required air volume and how it is divided.
- Optionally a humidity sensor can be used in the bathroom/bedroom, which ensures that the CERA unit automatically switches to elevated increased mode the moment the humidity rises above a preset percentage. As standard for this type CERA-KLH100-HD-R5V sensor a percentage of 70% is used.

Hygrostat
Type: CERA-KLH100-HD-R5V

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:	NXOJOEB
Model:	Cera-1 and Cera-2 125, 160 and 200.
Commercial name:	Quiet, compact, demand based fresh air control system for residential applications.

COMPLIANCE

The manufacturer declares that the above mentioned machinery fulfills all relevant provisions of

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

In conjunction with the following harmonised standards and where appropriate other technical standards and specifications

EN-ISO 12100:2010; NEN 8087:2001; NEN 1087:2001; EN 60204-1:2018
EN 55014-1:2017; EN 61000-6-3:2006+A1:2011

Place:	Purmerend The Netherlands	Name: Function:	Ir. T.L. Wiersma Technical Director
Date:	August 12, 2021	Signature:	

Barcol-Air Netherlands casing leakage test sheet

According to standard NEN-EN 1751-2014

Test setup			
Date	23-4-2020	Reference nr.	LM-20-0005
Exp. Date	23-4-2023	Tested by	MBs
Place	Barcol-Air	Witness by	TK

Contact information	
Tel	+31 (0)299 689 300
Email	barcol-air@hcgroep.com
Website	www.barcol-air.nl

BARCOL-AIR AIR DISTRIBUTION

Model (Name/Type): EPP CERA-1 model 125

Result: Class C

Product specifications		
Productcode	NXOJEPP125RCERA1	
Model	125	
Case Width	0,416	[m]
Case Height	0,275	[m]
Case Diameter		[m]
Case Length	0,440	[m]
Real Duct surface	0,608	[m²]
Virtual Duct surface	1,382	[m²]
Note:	When Case Length <1m; 1m is used in calculations as specified by LUKA.	

Measurement specifications		
Pressure time		60 seconds
Pressure controller		PR-41X/20mbar/81955.50
Airflow meter(s)	Low Flow	F-111B-20K-RAD-00-V
	High Flow	F-112AC-M20-RAD-55-V
Rated Accuracy	Pressure Ctrl	± 0,05%Rd + 0,093%FS
	Low Flow	± 0.5%Rd + 0,1%FS
	High Flow	± 0,5%Rd + 0,1%FS
Date calibrated	Pressure Ctrl	21-2-2020
	Low Flow	18-2-2020
	High Flow	17-2-2020
Leakage is measured in normal liters (= 1 liter at 0°C and 101325 pa)		

NEN-EN 1751-2014	
Max. Leakagefactor [$l_s/s/m^2$]	
Class A	0,027
Class B	0,009
Class C	0,003
Class D	0,001

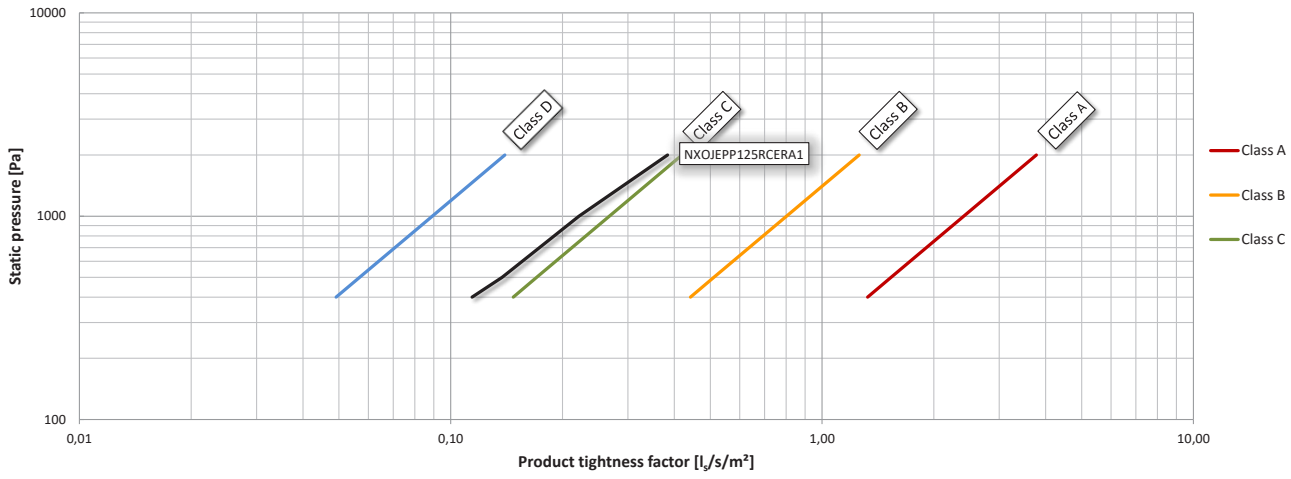
$$\Phi L = f \times Ps^{0,65}$$

ΦL = Leakage [$l_s/s/m^2$]
f = Leakagefactor
Ps = Static Pressure

Measurements and calculations					
Reading	Measure instrument	Static pressure	Measured air leakage rate	Corrected air leakage rate 20°C	Product tightness factor
		[Pa]	[l_n/s]	[l_s/s]	[$l_s/s/m^2$]
1		400	0,147	0,16	0,11
2		500	0,177	0,19	0,14
3		1000	0,285	0,31	0,22
4		2000	0,494	0,53	0,38

LUKA standards				
Class A	Class B	Class C	Class D	Estimated class
[$l_s/s/m^2$]	[$l_s/s/m^2$]	[$l_s/s/m^2$]	[$l_s/s/m^2$]	
0,00	0,00	0,00	0,00	
1,33	0,44	0,15	0,05	Class C
1,53	0,51	0,17	0,06	Class C
2,41	0,80	0,27	0,09	Class C
3,78	1,26	0,42	0,14	Class C

Classification of casing leakage for NXOJEPP125RCERA1



Other results	
Visual deformation	Negative
Pressure [Pa]	2000

Approved and certified by

TÜVRheinland®
Precisely Right.

Certificate nr. P-97/52-45

Calibration certifications nr.

Low Flow	BHTG19/5369552
High Flow	BHTG22/5368561
Pressure ctrl	not specified

BARCOL-AIR
AIR DISTRIBUTION

OUR TECHNOLOGY | YOUR WELLBEING

BARCOL-AIR | AIR DISTRIBUTION
Cantekoogweg 10-12 - 1442 LG Purmerend, The Netherlands
T +31 (0)299 689 300 | **E** export@barcol-air.nl

WWW.BARCOL-AIR.NL