OKNH

Ventilate, cool and heat
High capacity
For use in modular ceilings
Low built-in height, removable faceplate

Available types
O K N H - - - -

O chilled beam
K closed version
N ventilate and cool
H high capacity

- **Type**
  600

- **Model**
  1200/1500/1800/2400/3000

- **Nozzle**
  - **Permanent**
    A1/A2/B1/B2/B3/C1/C2
  - **Adjustable (extravent)**
    AD00 to AD16 (depending on choice of model)

- **Coil**
  K cooling only
  V heating and cooling (double circuit)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The chilled beam type OKNH has a higher capacity and is suitable for ventilation, cooling or heating rooms with a height of up to approximately 3 metres.

The unit has been designed as an insert module for modular ceilings with a few T-bars or Omega profiles, with a module size of 600 mm. Every length available between 1195 and 2995 mm at intervals of 5 mm.

The closed version brings in the supply air on two sides and its highly efficient supply effect means it can be fitted in offices in the middle of the rooms parallel to the facade. The choice of different nozzle types enables an optimum combination of ventilation air and cooling capacity in every situation.

For cleaning purposes of the coil and the nozzles, our patented construction allows the front to be removed easily and without tools; see page 19.

The chilled beam type OKNH ''extravent'' (nozzle type AD00 to AD18), is fitted with additional nozzles that allow a group change from small to large nozzles. It is operated at the front by sliding a magnetic closing strip. This patented system guarantees complete closure and prevents undesirable noise production. The use of extravents allows significant adjustments to the primary air quantity without the unit moving outside its operating range on the air or the water side. Changing an office area into a meeting room, or the other way around, at a later stage is easy with this unit.

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Finish

Housing

Material:	steel
Treatment:	electrogalvanised
Finish:	visible parts; epoxy varnish
Colour:	white (RAL 9010)

Coil

Tubes:	copper
Fins:	aluminium
Post-treatment:	none
Test/operating pressure:	15/10 bar

General

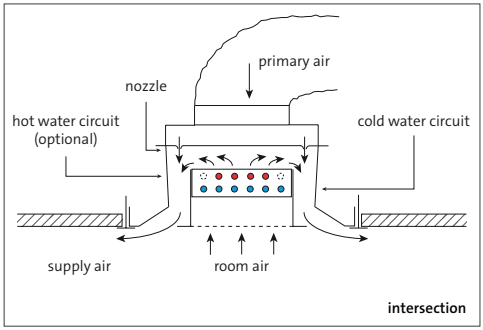
We recommend a straight flow length of 3 x D in the connection size of the chilled beam. We recommend studying our document "Solid Air recommendations for waterquality". For condensation-free operation, we recommend supplying the primary air with a dehumidifying capacity of 1 to 2 g/kg dry air. For specific information, please check the Mollier diagram.

Note

- The listed dimensions are in mm.
- The weight is given in kg.

Operating principle

The primary air is brought to high speeds via the venturi plates. This produces a powerful pump effect and secondary air is drawn in via the coil. The total of room air and primary air is brought into the room through the outflow openings integrated into the unit. When the air passes the coil, it is cooled or heated (optional) in function of the need in the room.



Tangible

Chilled beams only produce 'tangible' capacity, the units do not have a drip tray. In systems with chilled beams, the required 'latent' capacity is supplied by the dehumidifying capacity of the air-handling unit.

Selection process

Many factors play a role when you select a chilled beam. The unit has to be selected properly on the air and the water side. For the air side, we consider pressure and noise. On the water side, we consider the required volume of water, water-side resistance, "temperature difference (delta-T) on the water" and supplied output.

For a detailed selection procedure, we refer to the Appendix "Selection process Solid Air chilled beam".

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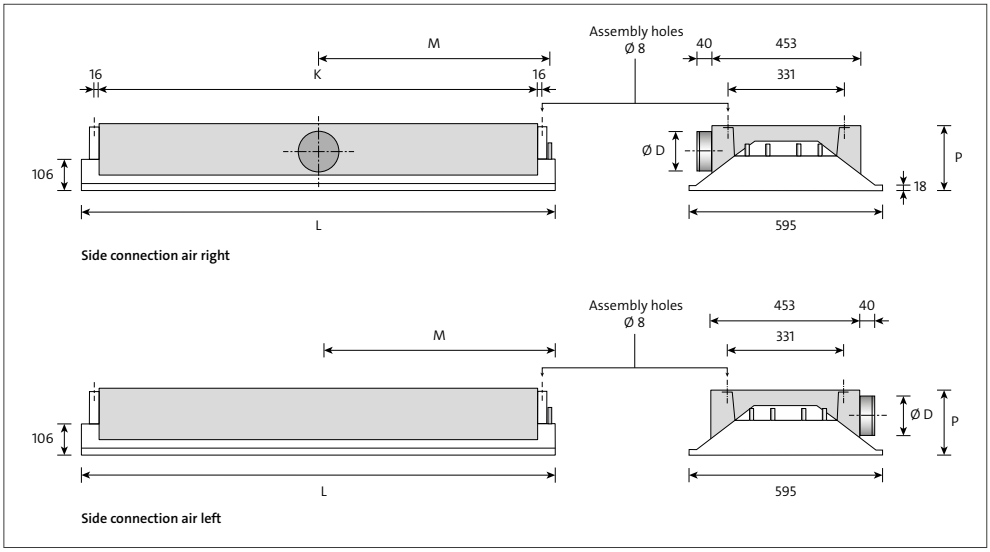
Dimensions



Available dimensions

type	model	L from/to	D	M	P	K	weight
600	**1200**	1195/2995	123	602	205	1100	22
	1500	1495/2995	123	752	205	1400	29
	1800	1795/2995	123	902	205	1700	34
	2400	2395/2995	158	1202	240	2300	46
	3000	2995	158	1502	240	2900	57

Tolerances: width W: + 2/- 2 mm, length L: + 0/- 4 mm.
Different sizes available on request.

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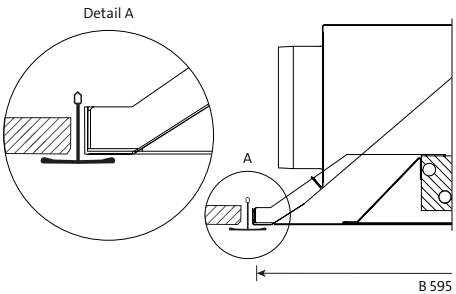
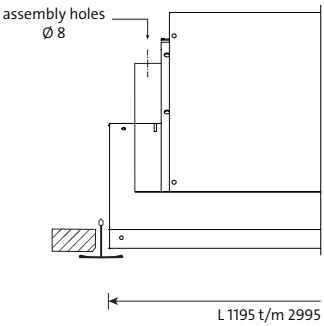
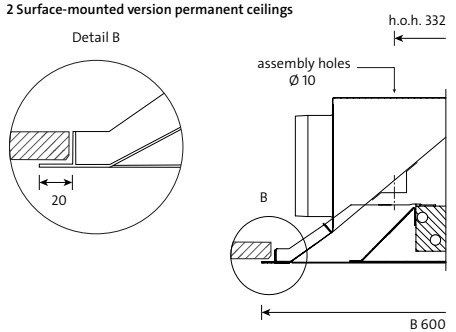
Side-edge configuration

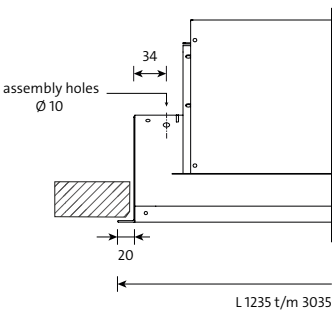
1 T- beam (insert) ceilings



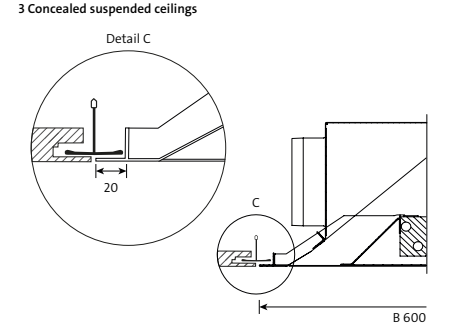


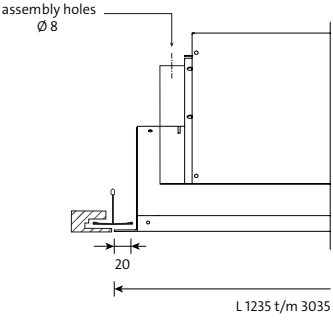
2 Surface-mounted version permanent ceilings





3 Concealed suspended ceilings





Tolerances: width W: + 2/- 2 mm, length L: + 0/- 4 mm.

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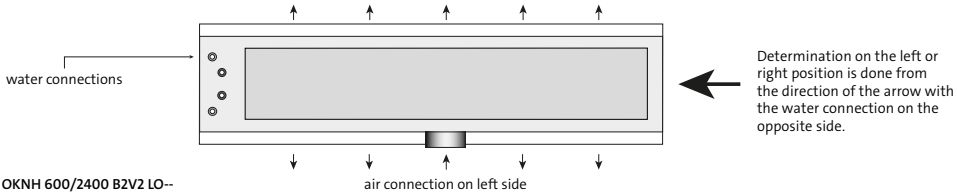
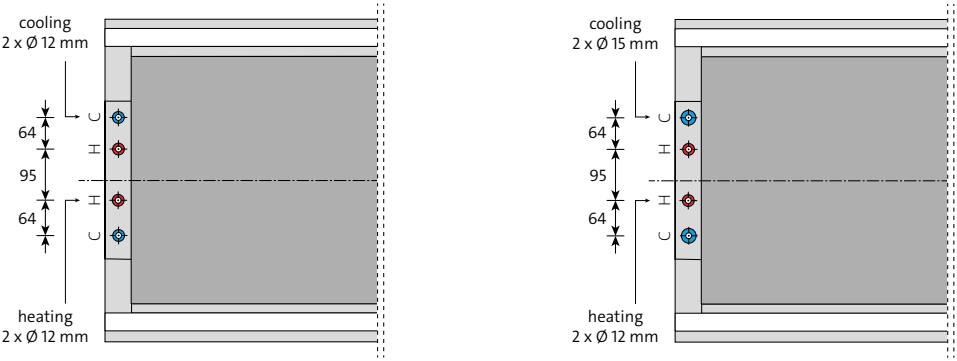
Position of air and water connection



Water connections OKNH



Water quality

To keep your water-fed system in optimum condition, it is essential to flush the system regularly (once every two days) and to check the water quality regularly. For more information, we refer to our document "Solid Air recommendations for water quality".

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Operating principle extravents
With extravents, which can be changed from small to large nozzles in groups, it is possible to increase or reduce the net nozzle surface.

When the inlet pressure stays the same, the primary airflow can be increased or reduced, or the relationship between the primary airflow and the inlet pressure can be changed.

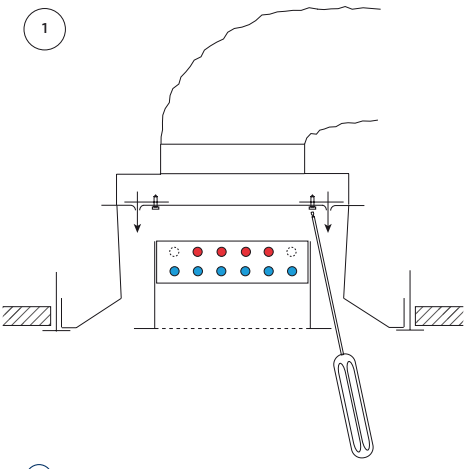
One extravent consists of a magnetic sliding strip on the plenum side of the nozzle plate. At the ends of this strip are2 socket head screws, the heads of which are visible and can be accessed through the outflow gap of the unit. This requires an ''socket-head screwdriver'' of sufficient length. Net length 110 mm, for example type 206 S/4 of PB Tools.

Setting the extravents
- Loosen both socket head screws loose by one turn. (1)
- Move one of the screws, and in doing so the sliding strip, to the 'high' or 'low' position.(2)
  Interim positions are not permitted!
- Turn both screws fingertight.

See the table below for the number of extravents per model.

Extravents per model

model	number of extravents
1200	6 (AD00 t/m AD06)
1500	8 (AD00 t/m AD08)
1800	10 (AD00 t/m AD10)
2400	14 (AD00 t/m AD14)
3000	18 (AD00 t/m AD18)

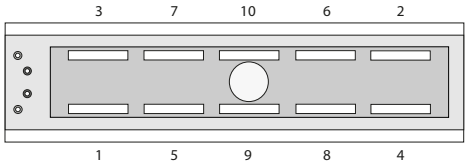


Bottom view extravent "high", large nozzles open

Bottom view extravent "low", small nozzles open

Standard factory setting extravents
The selected extravent versions AD00 to AD18 are set ex-factory on the basis of a set protocol. For example, see the numbers 1 to 10 in the figure on the right for the sequence in which the extravents are put in the 'high' position.

If the units need to have a different ex-factory setting, we recommend you contact our sales department.



OKNH 600/1800
Defauld setting order from outside to inside

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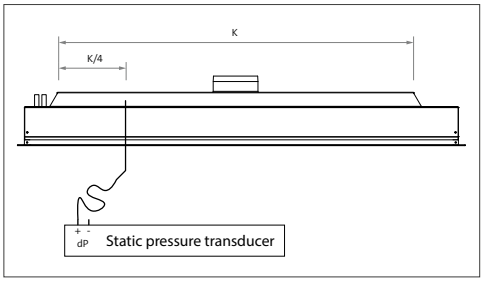
Operating principle
After installation of the chilled beams, they must be adjusted air-sided and water-sided. This work is usually carried out by a specialized balancing company.

For the airside adjustment, the static pressure in the plenum should be measured at a quarter of the length of the plenum.



This requires a thin tube to insert through the nozzle into the plenum. Please note that extravent units use an open nozzle to perform the measurement. Inserting the measuring tube into a closed hole can damage the seal of the extravent strip and cause noise problems.

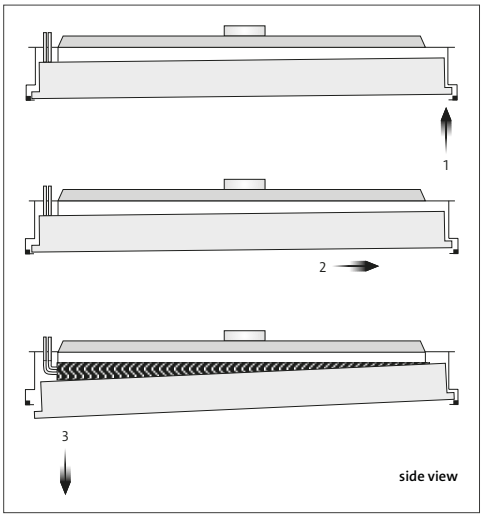
Maintenance
In view of cleaning the coil and the supply nozzles, it is possible to remove the middle segment of the unit in a simple fashion. This works as follows:

1. Push the perforated part of the middle segment, in the middle, next to one of the ends, approximately 5 mm up.

2. At the same time, push the entire middle segment lengthways into the relevant end.

3. **NB:** The other side of the middle segment is now released from the opposite end and can be removed from the unit. It remains connected to the unit with two safety cables.

Fit in reverse order.



Order and options codes

OKNH 600/1200		A1	K	2		L	O	-	-		O	1	O		595 x 1195		9010	55

Type
600

Model
1200 - 1500 - 1800 - 2400 - 3000

Nozzle plate
A1 - A2
B1 - B2 - B3
C1 - C2
AD00 to AD18 (depending on choice of model)

Warmtewisselaar
K cooling
V cooling and heating
O none (dummy)

Uitblaasconfiguratie
2 2-sided outflow
3 1-sided outflow to the left
4 1-sided outflow to the right

Air connection
L left
R right

Water connection
O standard

Air-connection diameter
- standard in accordance with size table on page 21

Plenum version
O standard

Diffuser
O not applicable

Side-edge configuration
1 suitable for T-ligger
2 suitable for surface mounting
3 suitable for covered T-bar

FPC (outflow direction element)
O not applicable
F FPC

Actual width
595 mm (depending on side-edge configuration)

Actual length
depending on the model size and the side-edge configuration

Colour
RAL 9010 (standard), a different colour on request

Gloss level
55 % (standard)

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