



## OKNI 450 & 600

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

### Available types

**OKNI----**

- O** chilled beam
- K** closed version
- N** ventilate and cool
- I** modular ceiling

#### - Type

450  
600

#### - Model

1200/1500/1800/2400/3000

#### - Nozzle

- Permanent  
A1/A2/B1/B2/B3/C1/C2
- Adjustable (extravent)  
AD00 to AD14 (depending on choice of model)

#### - Coil

- K** cooling only (2-tubes)
- V** heating and cooling (4-tubes)

### 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 OKNI has a high 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 450 or 600 mm. The unit can also be used as an intermediate element in cassette ceilings. Every length available between 1090 and 2995 mm at intervals of 5 mm. Due to the greater weight of the types 450 and 600, we recommend fitting by hanging. Assembly holes are available for this purpose.

### Finish

#### Housing

Material:	steel
Treatment:	electrogalvanised
Finish:	visible parts; epoxy varnish
Colour:	white (RAL 9010), 55 % gloss

#### Coil

Tubes:	copper
Fins:	aluminium
Post-treatment:	none
Test pressure:	15 bar (all products are tested)
Operating pressure:	10 bar
Water temperature:	max 90 °C
Water speed:	max 1.5 m/s



## General

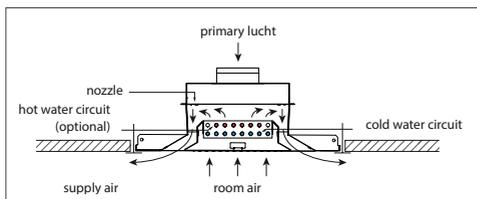
We recommend a straight flow length of  $3 \times D$  in the connection size of the chilled beam. We recommend studying our document "[Solid Air recommendations for water quality](#)". For condensation-free operation, we recommend supplying the primary air with a dehumidifying capacity of 1 to 2 g/kg 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 nozzles. This creates a vacuum above the coil and room air is drawn in. 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

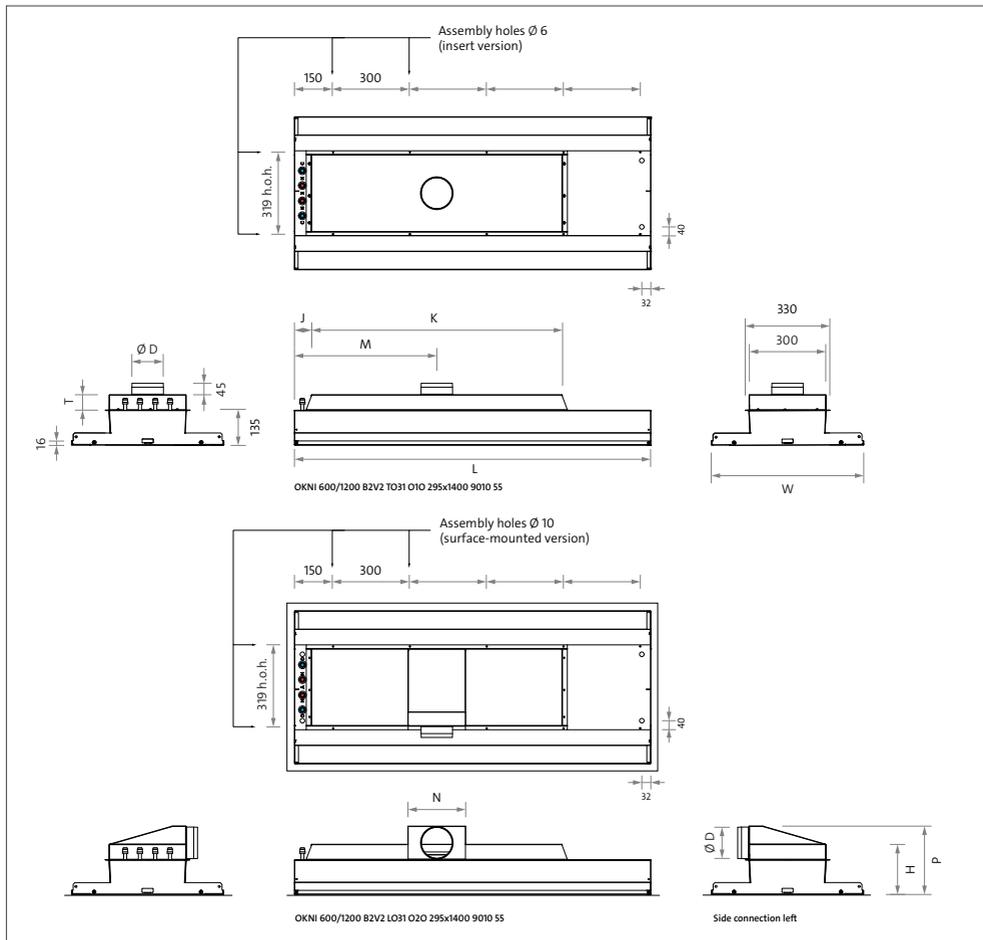
Chilled beams only produce 'tangible' capacity, the units do not have a drip tray. In systems with chilled beams, the required 'latent' capacity is supplied by the dehumidifying capacity of the air-handling unit.

## 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](#)".

## Dimensions



### Available dimensions

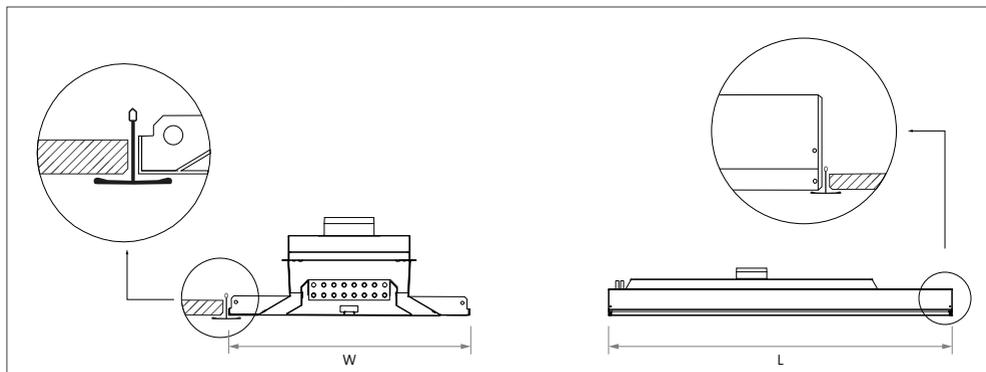
type	model	L van/tot	W*	D	T	J	K	M	N	H	P	weight
450 or 600	1200	1090/2995	445/595	123	60	65	980	555	225	195	265	16
	1500	1390/2995	445/595	123	60	65	1280	705	225	195	265	21
	1800	1640/2995	445/595	123	60	85	1510	840	225	195	265	24
	2400	2240/2995	445/595	158	60	85	2110	1140	300	195	300	33
	3000	2840/2995	445/595	198	60	85	2710	1440	300	195	340	41
450 or 600 extravent	1200	1090/2995	445/595	123	80	65	980	555	225	215	265	17
	1500	1390/2995	445/595	158	80	65	1280	705	300	215	300	22
	1800	1640/2995	445/595	158	80	85	1510	840	300	215	300	25
	2400	2240/2995	445/595	158	80	85	2110	1140	300	215	300	34
	3000	2840/2995	445/595	198	80	85	2710	1440	300	215	340	44

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

\*Different widths available on request.

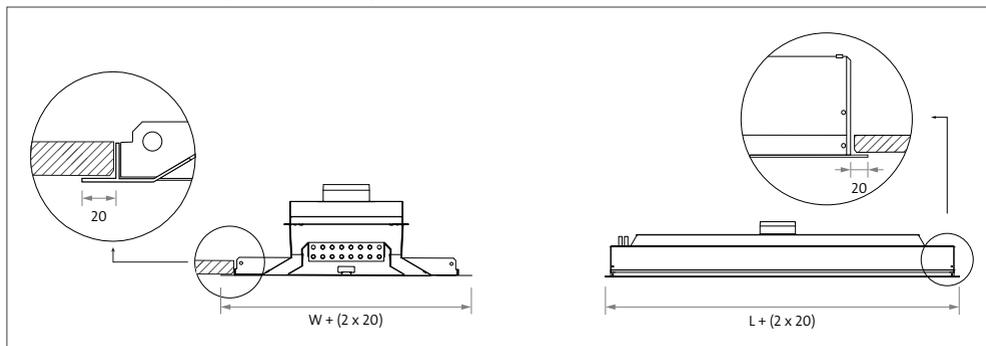
### Side-edge configuration 1:

T-bar insert ceiling/omega-profile ceilings.



### Side-edge configuration 2:

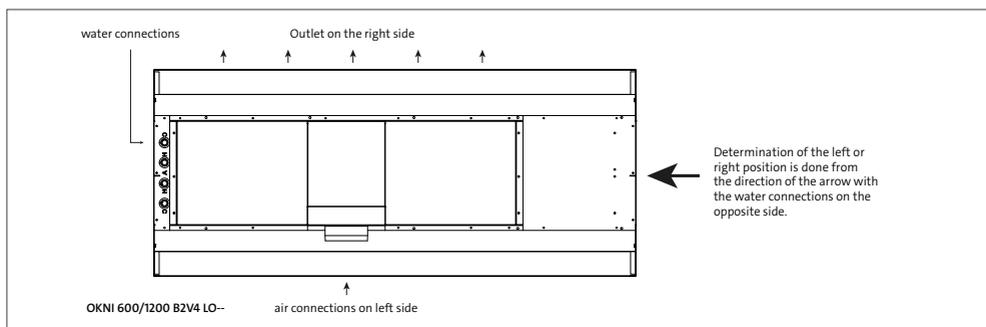
Surface-mounted version permanent ceilings.



### Note: Special version.

For different ceiling systems, please contact our sales advisers for a suitable solution.

### Sample configuration (definition left/right)



## 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 are 2 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

- Let the middle segment of the unit drop so that the nozzles are easier to see/access; see maintenance section for how you do this. Loosen both socket head screws by one turn. ①
- Move one of the screws, and in doing so move the sliding strip, to the 'high' or 'low' position. Interim positions are not permitted! ②
- Turn both screws fingertight.

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

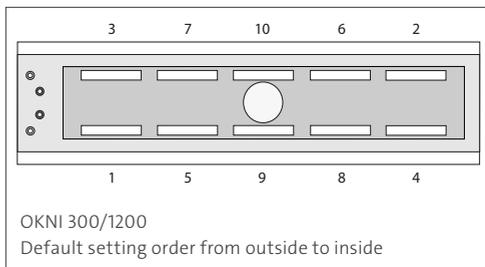
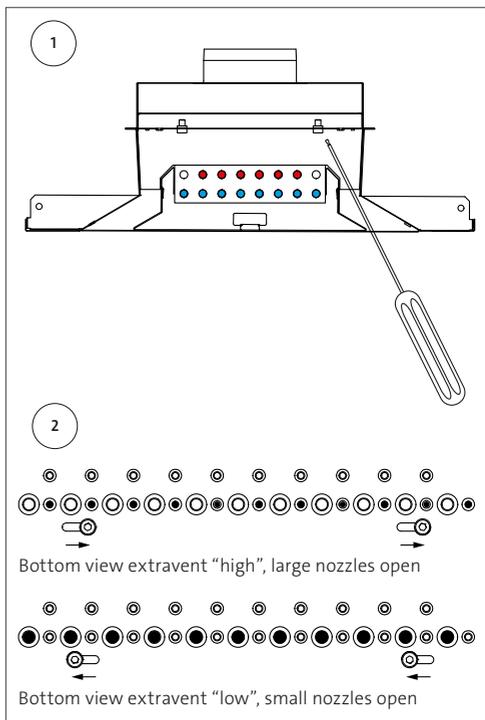
## Extravents per model

model	number of extravents
1200	6 (AD00 t/m AD06)
1500	8 (AD00 t/m AD08)
1800	10 (AD00 t/m AD10)
2400	12 (AD00 t/m AD12)
3000	16 (AD00 t/m AD16)

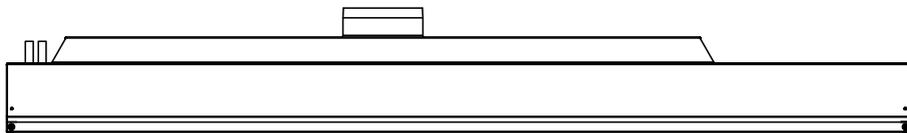
## Standard factory setting extravents

The selected extravent versions AD00 to AD16 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.

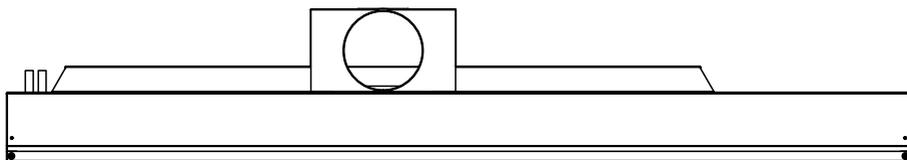
If the units need to have a different ex-factory setting, we recommend you contact our sales department.



## Air connections



OKNI 600/1200 top connection L = 1400



OKNI 600/1200 side connection left L = 1400

## Water connections

In order to prevent damage/leaks of the water-side connection, we recommend using Push-Fit couplings.



cooling and heating: 4 x Ø 12 mm

**Model 1200/1500**

cooling: 2 x Ø 15 mm  
heating: 2 x Ø 12 mm

**Model 1800/2400/3000**

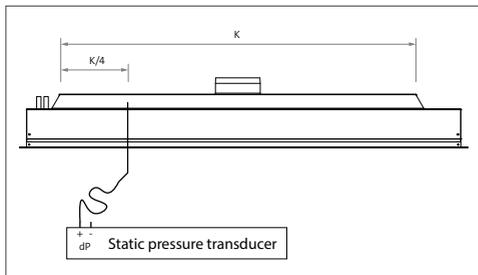
## Water quality

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](#)".

## 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.



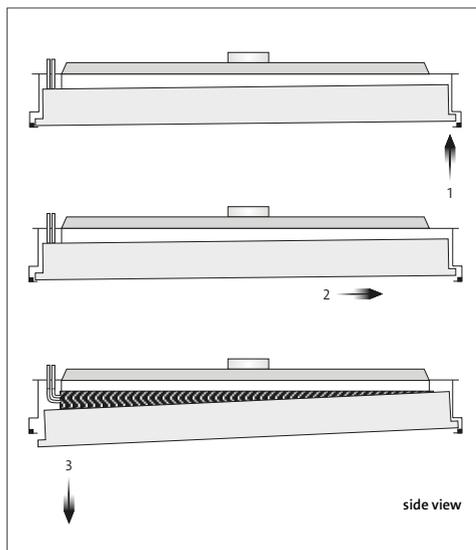
This requires a thin tube to insert through the nozzle into the plenum. Please note that extravent units use an open nozzle to perform the measurement. Inserting the measuring tube into a closed hole can damage the seal of the extravent strip and cause noise problems.

## 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 option codes**

<b>OKNI 600/1200</b>	<b>B2 V 4</b>	<b>L O - -</b>	<b>0 1 0</b>	<b>595 x 1195</b>	<b>9010 55</b>
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<b>Type</b> _____	
450 - 600	
<b>Model</b> _____	
1200 - 1500 - 1800 - 2400 - 3000	
<b>Nozzle plate</b> _____	
A1 - A2 B1 - B2 - B3 C1 - C2 AD00 to AD16 (depending on choice of model)	
<b>Coil</b> _____	
K cooling V cooling and heating O none (dummy)	
<b>Outflow configuration</b> _____	
2 2-sided outflow 3 1-sided outflow to the left 4 1-sided outflow to the right	
<b>air connection</b> _____	
T top L left R right	
<b>Water connection</b> _____	
O standard	
<b>Air-connection diameter</b> _____	
- standard in accordance with size table on <a href="#">page 13</a>	
<b>Plenum version</b> _____	
- standard in accordance with size table on <a href="#">page 13</a>	
<b>Diffuser</b> _____	
O not applicable	
<b>Side-edge configuration</b> _____	
1 suitable for T-bar 2 suitable for surface mounting	
<b>FPC (outflow direction element)</b> _____	
O not applicable F FPC	
<b>Actual width</b> _____	
445 mm (type 450) 595 mm (type 600)	
<b>Actual length</b> _____	
depends on model size (from 1090 to 2995 mm)	
<b>Colour</b> _____	
RAL 9010 (standard), a different colour on request	
<b>Gloss level</b> _____	
55 % (standard)	

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