



# OKNV

Ventilate, cool and heat

For suspended use

Low built-in height, removable faceplate

## Use

The chilled beam type OKNV has a high capacity and is suitable for ventilating, cooling or heating rooms with a height of up to approximately 3 metres.

The chilled beam is designed for suspended use. Every length available between 1140 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 three nozzle types enables an optimum combination of ventilation air and cooling capacity in every situation.

For cleaning purposes of the battery and the nozzles, our patented construction allows the front to be removed easily and without tools; see [page 38](#).

The chilled beam type OKNV "extravent" (Nozzle type BD00 to BD14 for type 300 and nozzle type AD00 to AD14 for type 450), 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.

## Available types

**O K N V - - - -**

- O** chilled beam
- K** closed version
- N** ventilate and cool
- V** suspended

### - Type

300  
450

### - Model

1200/1500/1800/2400/3000

### - Nozzle

#### - Permanent

A1/A2/B1/B2/B3/C1/C2

#### - Adjustable (extravent)

BD00 to BD14

AD00 to AD14

(depending on the type and choice of model)

### - Coil

**K** cooling only

**V** heating and cooling (double circuit)

For detailed order information, see [page 39](#).

[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.

## Finish

### Housing

material:	steel
treatment:	electrogalvanised
finish:	visible parts; epoxy varnish
colour:	white (RAL 9010)

### Battery

tubes:	copper
fins:	aluminium
post-treatment:	none
test/operating pressure:	15/10 bar



## General

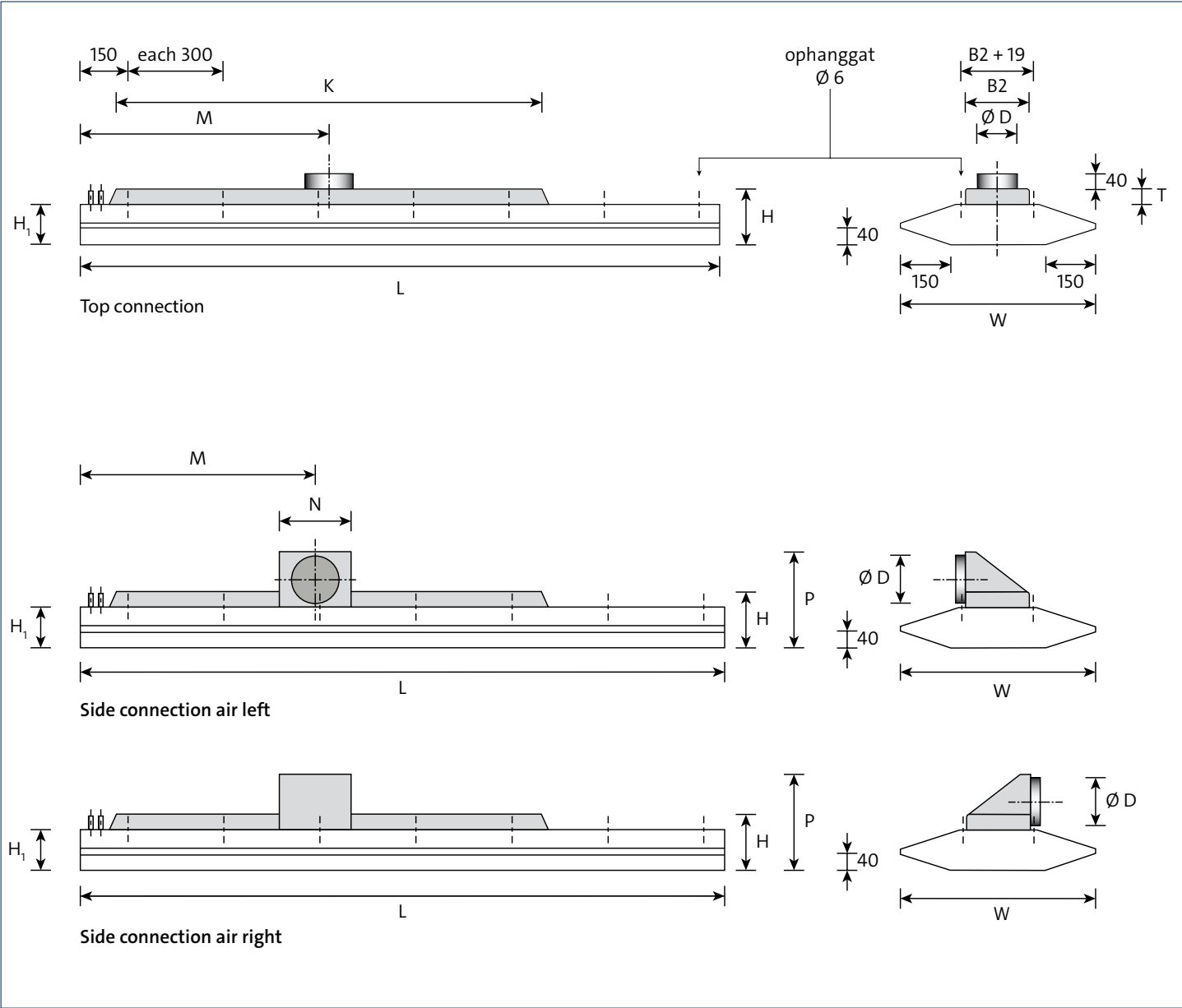
We recommend a straight flow length of 3 x D in the connection size of the chilled beam.

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.

## Comment

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

Dimensions

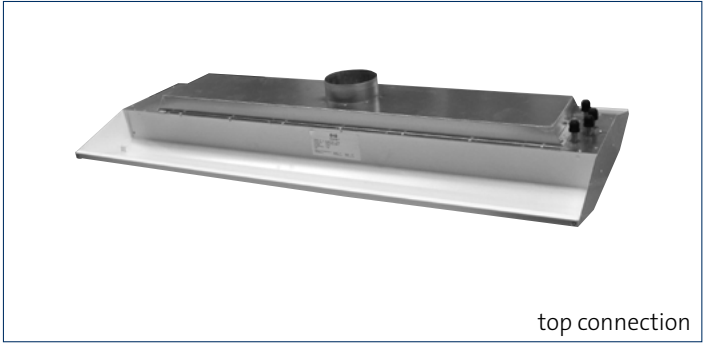
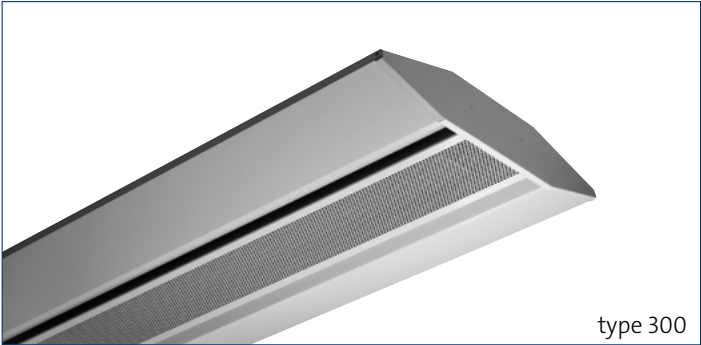
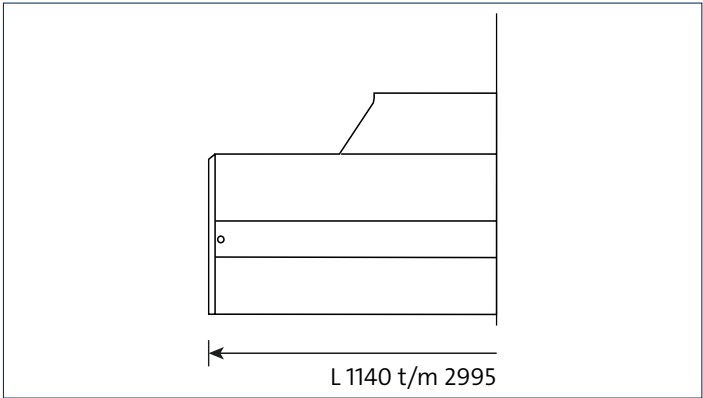
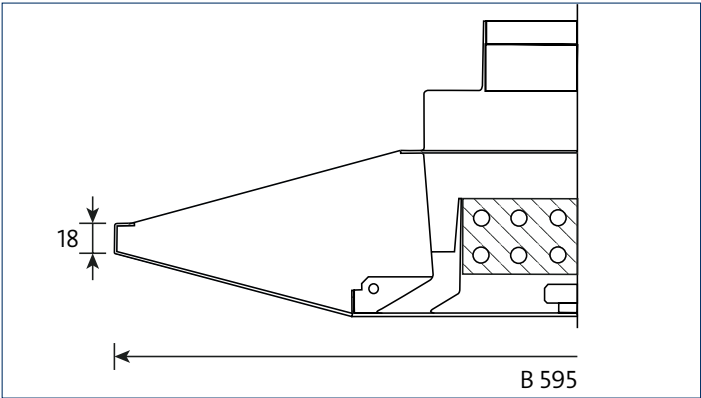


Available dimensions

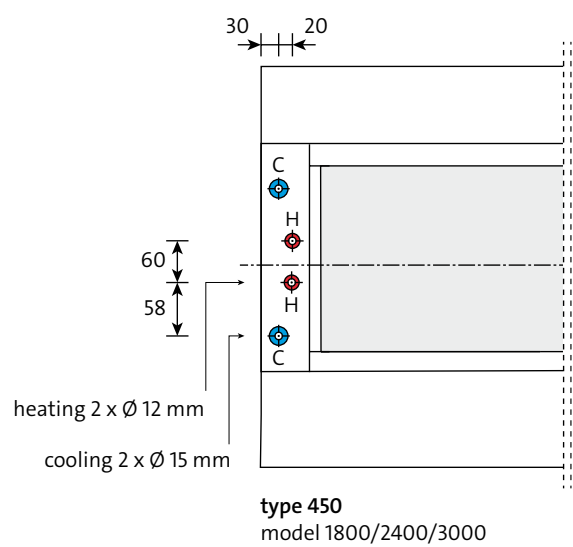
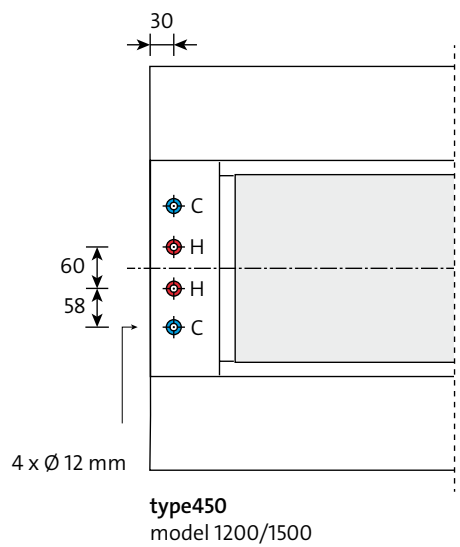
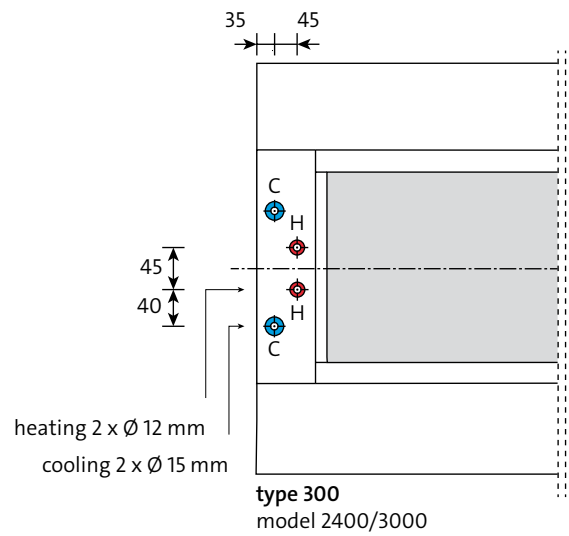
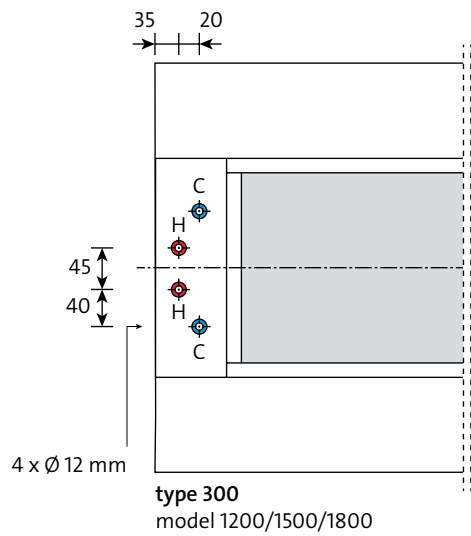
type	type	L from/to	W	W <sub>2</sub>	H	H <sub>1</sub>	D	M	N	P	K	T	weight
300	1200	1140/2995	595	200	145	105	123	580	225	235	980	40	13
	1500	1440/2995	595	200	145	105	123	730	225	235	1280	40	15
	1800	1670/2995	595	200	145	105	123	845	225	235	1510	40	17
	2400	2295/2995	595	200	145	105	158	1170	300	270	2110	40	23
	3000	2895/2995	595	200	165	105	158	1470	300	270	2710	60	29
300 Extravent	1200	1140/2995	595	200	165	105	123	580	225	235	980	60	13
	1500	1440/2995	595	200	165	105	123	730	225	235	1280	60	15
	1800	1670/2995	595	200	165	105	158	845	270	235	1510	60	18
	2400	2295/2995	595	200	165	105	158	1170	300	270	2110	60	24
	3000	2895/2995	595	200	165	105	158	1470	300	270	2710	60	30
450	1200	1090/2995	745	300	195	135	123	555	225	265	980	60	17
	1500	1390/2995	745	300	195	135	123	705	225	265	1280	60	22
	1800	1640/2995	745	300	195	135	123	840	225	265	1510	60	25
	2400	2240/2995	745	300	195	135	158	1140	300	300	2110	60	34
	3000	2840/2995	745	300	195	135	198	1440	300	340	2710	60	42
450 Extravent	1200	1090/2995	745	300	215	135	123	555	225	265	980	80	17
	1500	1390/2995	745	300	215	135	158	705	300	300	1280	80	22
	1800	1640/2995	745	300	215	135	158	840	300	300	1510	80	26
	2400	2240/2995	745	300	215	135	158	1140	300	300	2110	80	35
	3000	2840/2995	745	300	215	135	198	1440	300	340	2710	80	43

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

Side-edge configuration



Water connections



## Standard water parameters

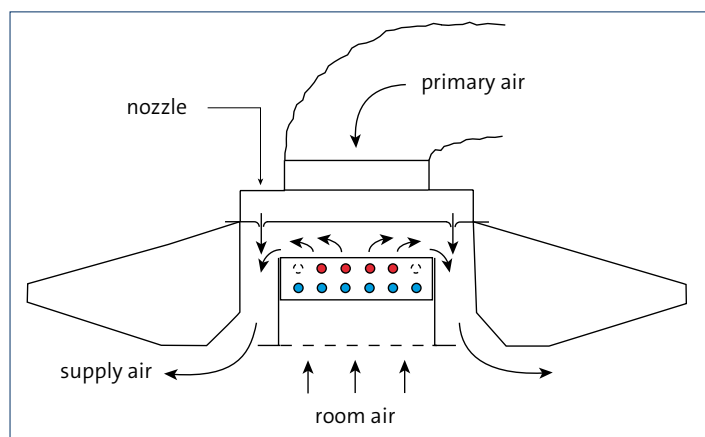
- Water-side pressure loss: 0 - 10 kPa.
- Water speed: 0.2 - 0.8 m/s.  
The local flow speed in the tubes may never exceed 1.5 m/s.
- The water must circulate at least once every 3 days.
- Water inlet temperature (in cooling mode): approx. 15 - 18 °C.  
The temperature of the water must always be above freezing. If this cannot be guaranteed, anti-freeze fluid must be added.
- Water inlet temperature (in heating mode): approx. 35 - 60 °C.  
Maximum water temperature may not exceed 90 °C.
- Test pressure: 15 bar  
All Solid Air water circuits are 100% tested at this testing pressure.
- Operating pressure: 10 bar

## Water quality

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

## 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.

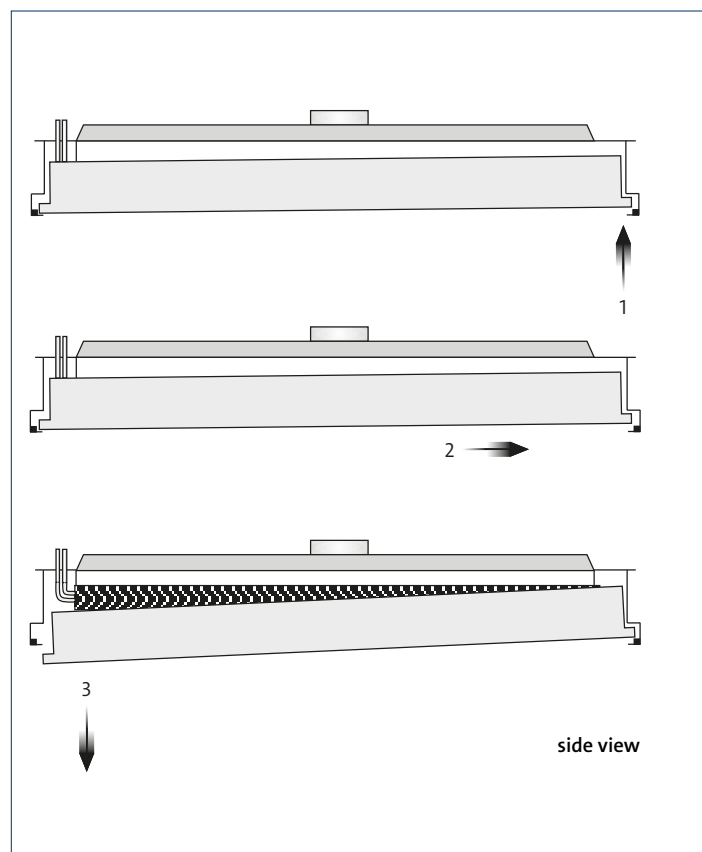


## Removing the middle segment

In view of cleaning the battery and the inlet 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 5mm 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.



## Factory setting extravents

When the nozzle type BD or AD (extravent version) is selected, the chilled beams will be set in the factory in accordance with a set protocol. This means that from the outside to the inside, the extravents will be put in the high position. See the figure on the right for an example for an OKNV 300/1800 nozzle type BD06.

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

## Operating the 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.

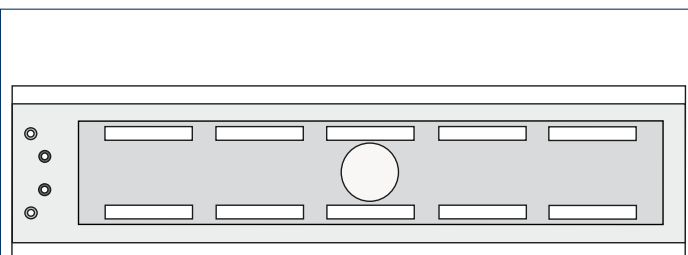
## Setting the extravents

- Loosen both socket head screws loose 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.

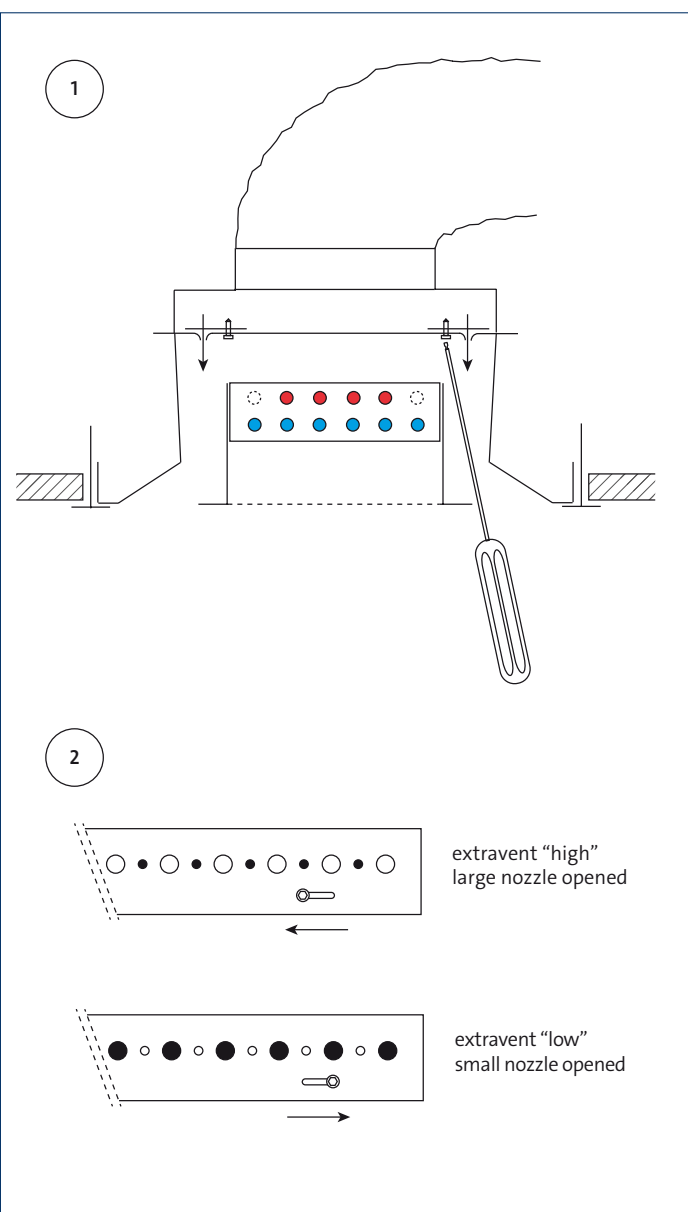
## Extravents per model

type	model	number of extravents
300	1200	6 (BD00 to BD06)
	1500	8 (BD00 to BD08)
	1800	10 (BD00 to BD10)
	2400	12 (BD00 to BD12)
	3000	14 (BD00 to BD14)
450	1200	6 (AD00 to AD06)
	1500	8 (AD00 to AD08)
	1800	10 (AD00 to AD10)
	2400	12 (AD00 to AD12)
	3000	14 (AD00 to AD14)



**OKNI 300/1800 BD06**

(This involves putting 6 benches in the high position)  
Default setting order from outside to inside



Order and options codes

OKNV 300/1500		A1	K	2	T	O	-	-	O	O	O	595 x 1495	9010	55
<div>Type 300-450</div> <div>Model 1200 - 1500 - 1800 - 2400 - 3000</div> <div>Nozzle plate A1 - A2 B1 - B2 - B3 C1 - C2 BD00 to BD14 (type 300) AD00 to AD14 (type 450)</div> <div>Coil K cooling V cooling and heating O none (dummy)</div> <div>Outflow configuration 2 2-sided outflow 3 1-sided outflow to the left 4 1-sided outflow to the right</div> <div>Air connection T top L left R right</div> <div>Water connection O standard</div> <div>Air-connection diameter - standard in accordance with size table on page 35</div> <div>Plenum version - standard in accordance with size table on page 35</div> <div>Diffuser O not applicable</div> <div>Side-edge configuration O not applicable</div> <div>FPC (outflow direction element) O not applicable F FPC (type 450 only)</div> <div>Actual width depending on the type; see table of dimensions page 35</div> <div>Actual length depending on the model size (from 1140 to 2995 mm)</div> <div>Colour RAL 9010 (standard)</div> <div>Gloss level 55 % (standard)</div>														

Position of air and water connection

