Chapter 9
Chilled Beams

OKNI 300 3
Ventilate, cool and heat
2-sided outflow
Width: 295 mm

OKNI 450 & 600 11
Ventilate, cool and heat
2-sided outflow
Width: 445 and 595 mm

OKNH 19
High capacity
Ventilate, cool and heat
2-sided outflow
Width: 595 mm

OKNM 27
Ventilate, cool and heat
4-sided outflow
Dimensions:
595 x 595 mm/
595 x 1195 mm

OKNV 33
Suspended
Ventilate, cool and heat
2-sided outflow
Width: 595 en 745 mm

OKNB 40
Bulkhead model
Ventilate, cool and heat
1-sided outflow
Width: 395 mm

OKNI 300

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

Available types
O K N I - - - -

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

- **Type**
  300

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

- **Nozzle**
  - Permanent
    A1/A2/B1/B2/B3/C1/C2
  - Adjustable (extravent)
    BD00 to BD16 (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 300mm. The unit can also be integrated into cassette ceilings or surface-mounted on a permanent ceiling. Every length available between 1140 and 2995 mm at intervals of 5 mm. Due to its low weight, it is possible to use type 300 as an insert fitting and to lay it directly in the modular ceiling. Thisremoves the need to hang the unit independently and to align it to the ceiling height, as a simple fall protection suffices. 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

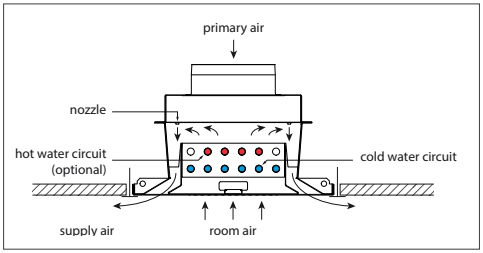
Tubes:	copper
Fins:	aluminium
Post-treatment:	none
Test pressure:	15 bar (all products are tested)
Operating pressure:	10 bar
Water temperature:	max 90 °C
Water speed:	max 1.5 m/s

EUROVENT CERTIFIED PERFORMANCE
No. 09.11.431
Active and passive Chilled Beams
www.eurovent-certification.com

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 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.



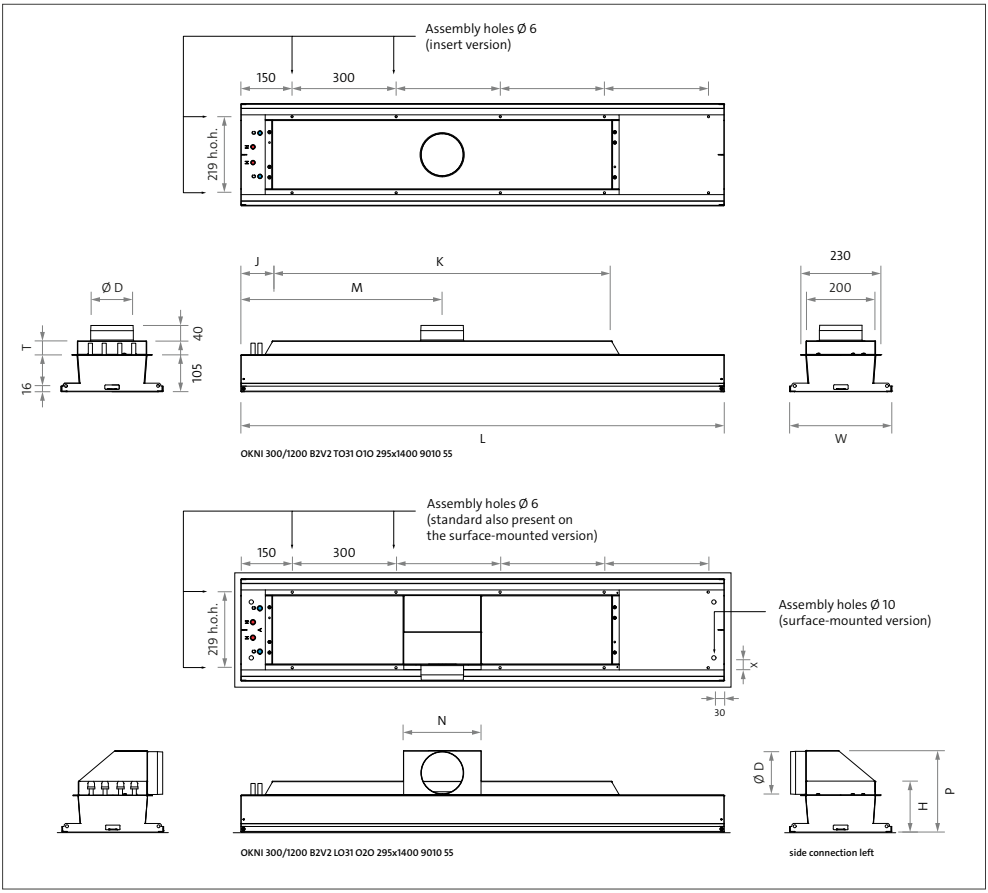
Tangible
Chilled beams only produce 'tangible' capacity, the units do not have a drip tray. In systems with chilled beams, the required 'latent' capacity is supplied by the dehumidifying capacity of the air-handling unit.

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".

2024_09_v3

Dimensions



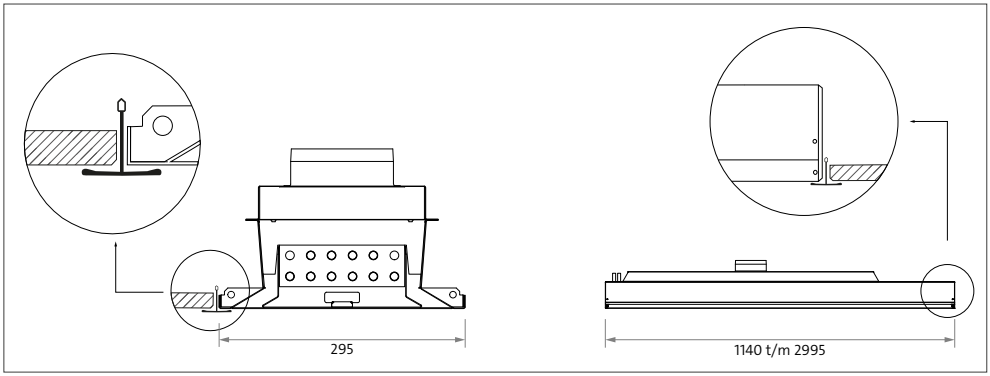
Available dimensions

type	model	L from/to	W*	D	T	J	K	M	N	H	P	X	weight
300	1200	1140/2995	295	123	40	90	980	580	225	145	235	35	12
	1500	1440/2995	295	123	40	90	1280	730	225	145	235	35	14
	1800	1670/2995	295	123	40	90	1510	845	225	145	235	35	16
	2400	2295/2995	295	158	40	115	2110	1170	300	145	270	25	22
	3000	2895/2995	295	158	60	115	2710	1470	300	165	270	25	28
300 extravent	1200	1140/2995	295	123	60	90	980	580	225	165	235	35	12
	1500	1440/2995	295	123	60	90	1280	730	225	165	235	35	14
	1800	1670/2995	295	158	60	90	1510	845	270	165	270	35	17
	2400	2295/2995	295	158	60	115	2110	1170	300	165	270	25	23
	3000	2895/2995	295	158	60	115	2710	1470	300	165	270	25	29

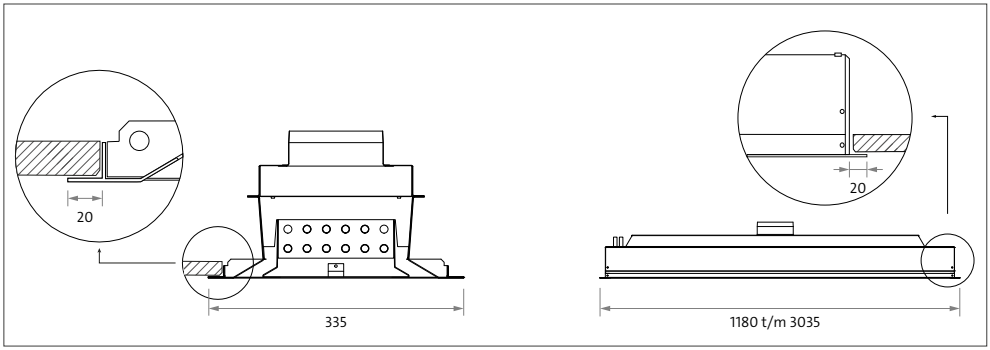
Tolerances: width W: + 2/- 2 mm, length L: + 0/- 4 mm.
*Different widths available on request.

2024_09_v3

Side-edge configuration 1:
T-bar insert ceiling/omega-profile ceilings.

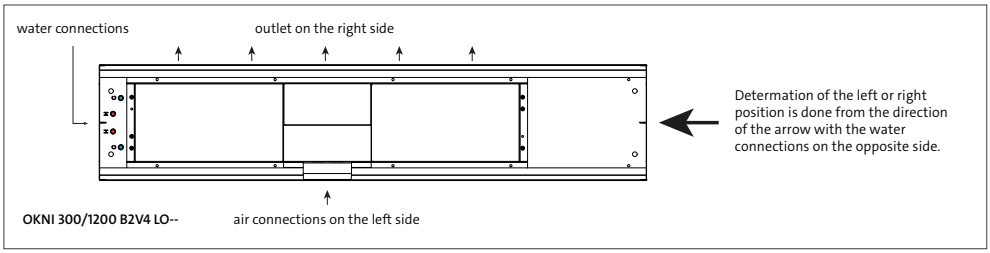


Side-edge configuration 2:
Surface-mounted version permanent ceilings.



Note: Special version
For different ceiling systems, please contact our sales advisers for a suitable solution.

Sample configuration (definition left/right)



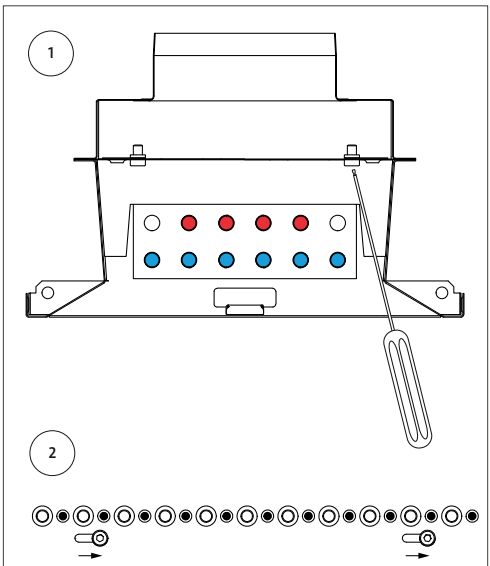
Operating principle extravents
With extravents, which can be changed from small to large nozzles in groups, it is possible to increase or reduce the net nozzle surface.

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 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
- 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.



Bottom view extravent "high", large nozzles open

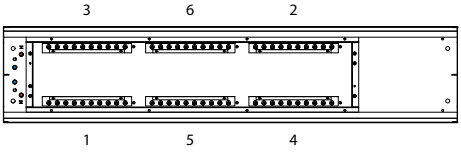
Bottom view extravent "low", small nozzels open

Extravents per model

model	number of extravents
1200	6 (BD00 t/m BD06)
1500	8 (BD00 t/m BD08)
1800	10 (BD00 t/m BD10)
2400	12 (BD00 t/m BD12)
3000	16 (BD00 t/m BD16)

Standard factory setting extravents
The selected extravent versions BD00 to BD16 are set ex-factory on the basis of a set protocol. For example, see the numbers 1 to 6 in the figure on the right for the sequence in which the extravents are put in the 'high' position.

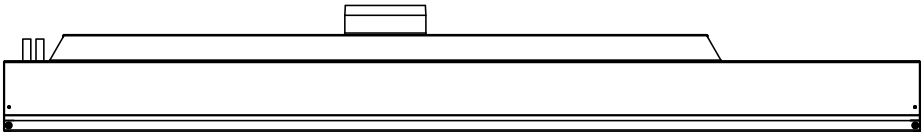
If the units need to have a different ex-factory setting, we recommend you contact our sales department.



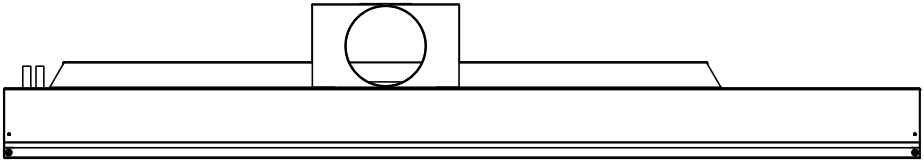
OKNI 300/1200
Default setting order from outside to inside

2024_09_v3

Air connections



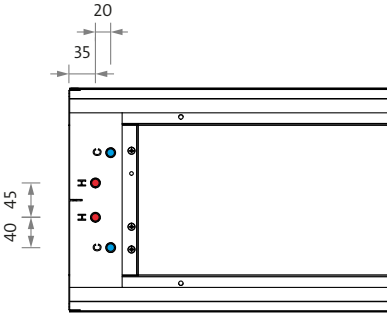
OKNI 300/1200 top connection L = 1400



OKNI 300/1200 zij connection left L = 1400

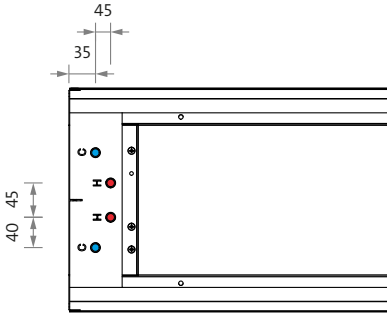
Water connections

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



cooling and heating: 4 x Ø 12 mm

Model 1200/1500/1800



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

Model 2400/3000

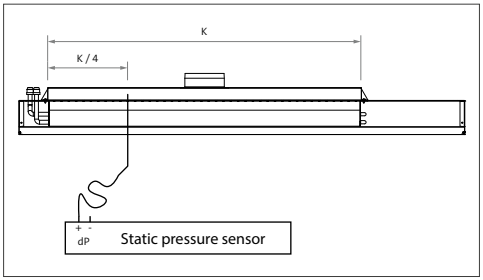
Water quality

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".

Commissioning

After installing the chilled beans, they need to be set on the air side and the water side. Those activities are generally carried out by a specialised company.

For the air-side setting, the static pressure in the plenum must be measured at a quarter of the length of the plenum.



This requires a thin tube that is inserted through the nozzle into the plenum. Remember that for extravent units you use an open nozzle to carry out the measurement. Inserting the measuring tube in a closed vent could damage the seal of the extravent strip and produce noise problems.

Maintenance

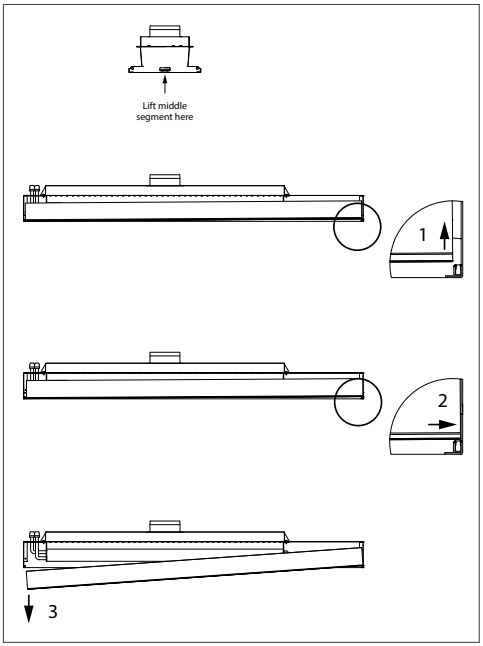
In view of cleaning the coil and the supply nozzles, it is possible to remove the middle segment of the unit in a simple fashion. This works as follows:

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.



2024_09_v3

Order and option codes

OKNI 300/1200		B2 V 4		L O - -		O 1 O		295 x 1195		9010 55

Type
300

Model
1200 - 1500 - 1800 - 2400 - 3000

Nozzle plate
A1 - A2
B1 - B2 - B3
C1 - C2
BD00 t/m BD16 (depending on choice of model)

Coil
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
T top
L left
R right

Water connection
O standard

Air-connection diameter
- standard in accordance with size table on page 5

Plenum version
- standard in accordance with size table on page 5

Diffuser
O not applicable

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

FPC (outflow direction element)
O not applicable

Actual width
295 mm (type 300)

Actual length
depends on model size (from 1140 to 2995 mm)

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

Gloss level
55 % (standard)

2024_09_v3

OKNI 450 & 600

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

Available types
O K N I - - - -

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

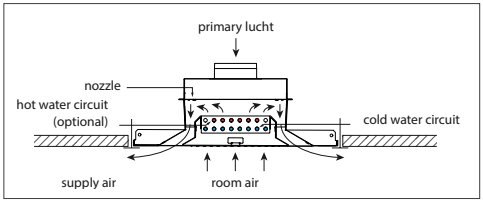
Tubes:	copper
Fins:	aluminium
Post-treatment:	none
Test pressure:	15 bar (all products are tested)
Operating pressure:	10 bar
Water temperature:	max 90 °C
Water speed:	max 1.5 m/s

2024_09_v4

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 nozzles. This creates a vacuum above the coil and room air is drawn in. The total of roomair 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.



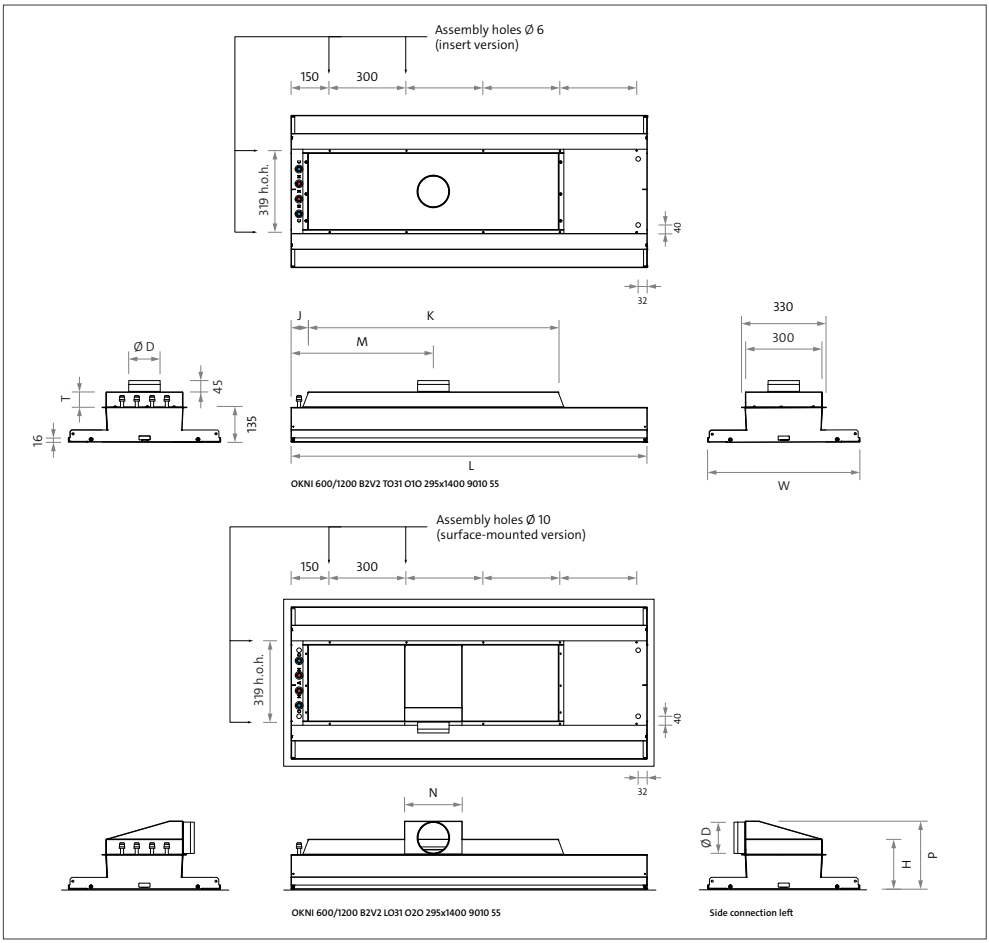
Tangible
Chilled beams only produce 'tangible' capacity, the units do not have a drip tray. In systems with chilled beams, the required 'latent' capacity is supplied by the dehumidifying capacity of the air-handling unit.

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".

2024_09_v4

Dimensions

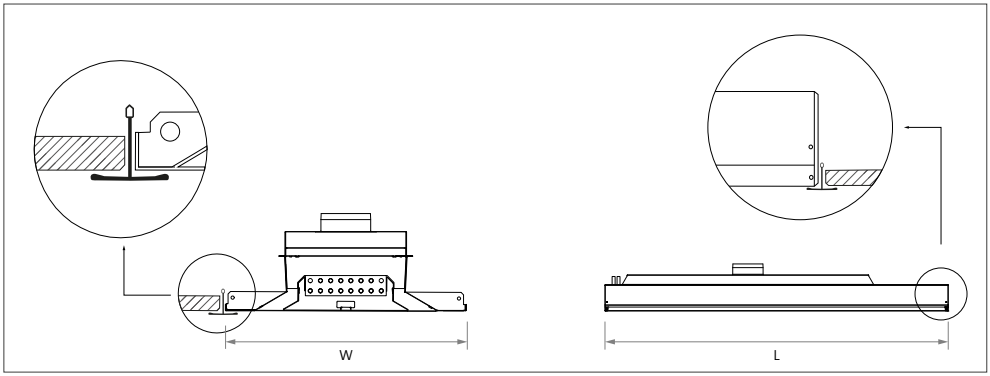


Available dimensions

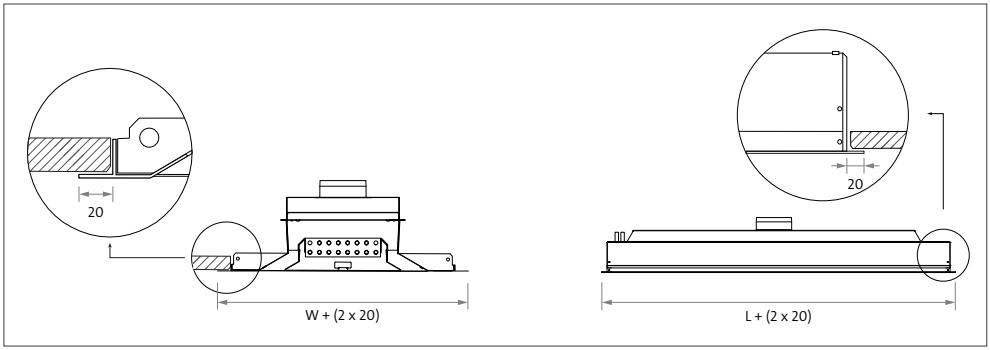
type	model	L van/tot	W*	D	T	J	K	M	N	H	P	weight
450 or 600	1200	1090/2995	445/595	123	60	65	980	555	225	195	265	16
	1500	1390/2995	445/595	123	60	65	1280	705	225	195	265	21
	1800	1640/2995	445/595	123	60	85	1510	840	225	195	265	24
	2400	2240/2995	445/595	158	60	85	2110	1140	300	195	300	33
	3000	2840/2995	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.

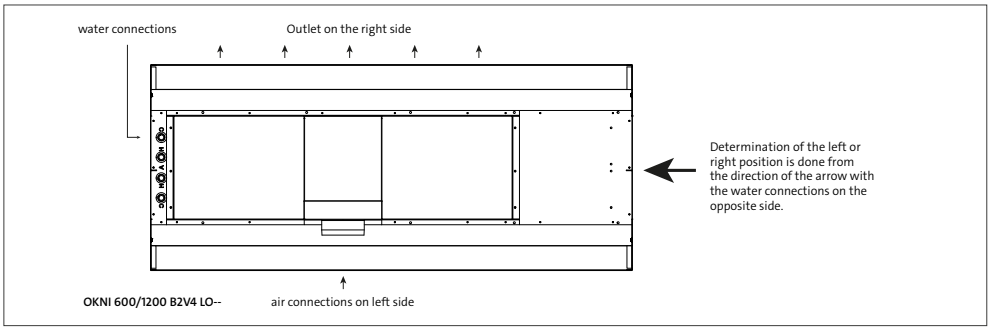


Side-edge configuration 2:
Surface-mounted version permanent ceilings.



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.

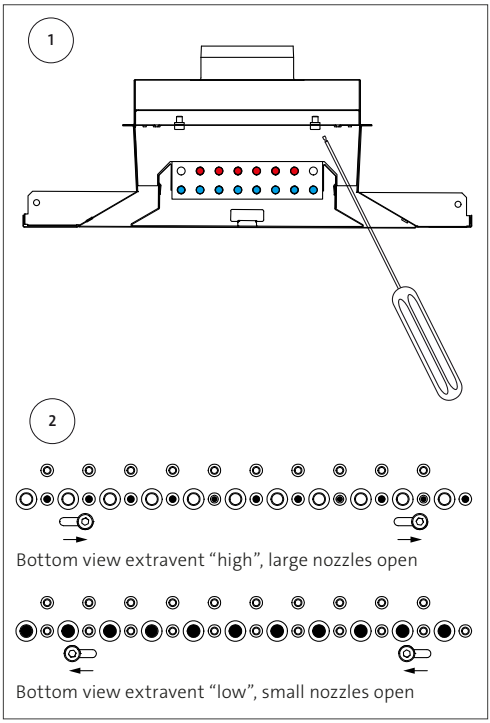
When the inlet pressure stays the same, the primary airflow can be increased or reduced, or the relationship between the primary airflow and the inlet pressure can be changed.

One extravent consists of a magnetic sliding strip on the plenum side of the nozzle plate. At the ends of this strip 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

- 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.



Bottom view extravent "high", large nozzles open

Bottom view extravent "low", small nozzles open

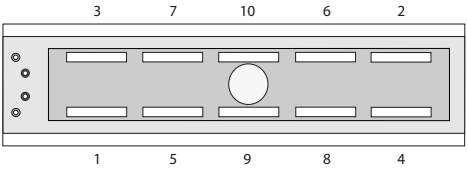
Extravents per model

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.

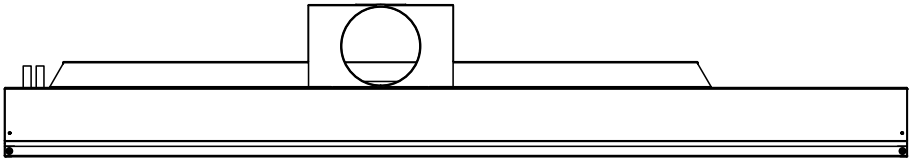
If the units need to have a different ex-factory setting, we recommend you contact our sales department.



OKNI 300/1200
Default setting order from outside to inside

Air connections

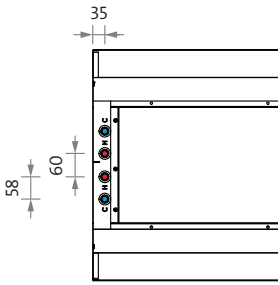
OKNI 600/1200 top connection L = 1400



OKNI 600/1200 side connection left L = 1400

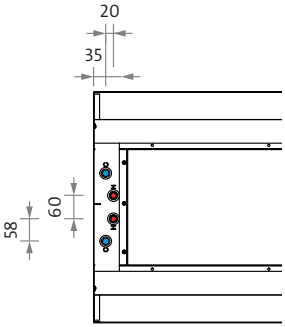
Water connections

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

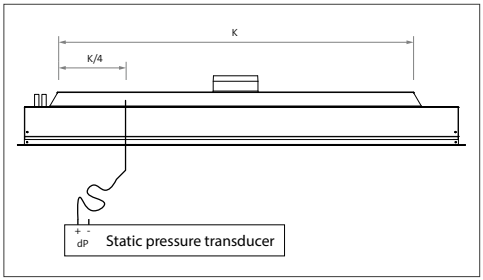
Model 1800/2400/3000

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.

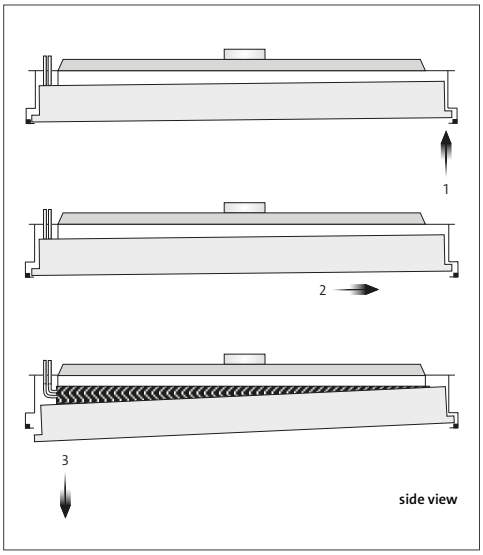
Maintenance
In view of cleaning the coil and the supply nozzles, it is possible to remove the middle segment of the unit in a simple fashion. This works as follows:

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

OKNI 600/1200		B2	V	4		L	O	-	-		0	1	0		595 x 1195		9010	55

Type
450 - 600

Model
1200 - 1500 - 1800 - 2400 - 3000

Nozzle plate
A1 - A2
B1 - B2 - B3
C1 - C2
AD00 to AD16 (depending on choice of model)

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

Outflow configuration
2 2-sided outflow
3 1-sided outflow to the left
4 1-sided outflow to the right

air connection
T top
L left
R right

Water connection
O standard

Air-connection diameter
- standard in accordance with size table on page 13

Plenum version
- standard in accordance with size table on page 13

Diffuser
O not applicable

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

FPC (outflow direction element)
O not applicable
F FPC

Actual width
445 mm (type 450)
595 mm (type 600)

Actual length
depends on model size (from 1090 to 2995 mm)

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

Gloss level
55 % (standard)

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.

2025_03_V1

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

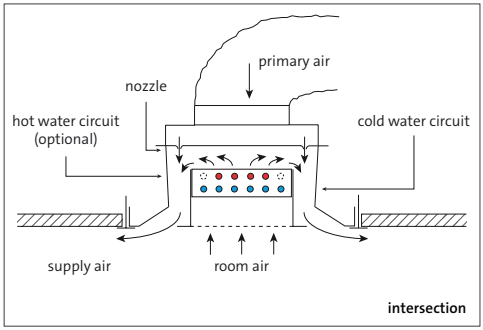
We recommend a straight flow length of 3 x D in the connection size of the chilled beam. We recommend studying our document "Solid Air recommendations for waterquality". For condensation-free operation, we recommend supplying the primary air with a dehumidifying capacity of 1 to 2 g/kg dry air. For specific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



intersection

Tangible

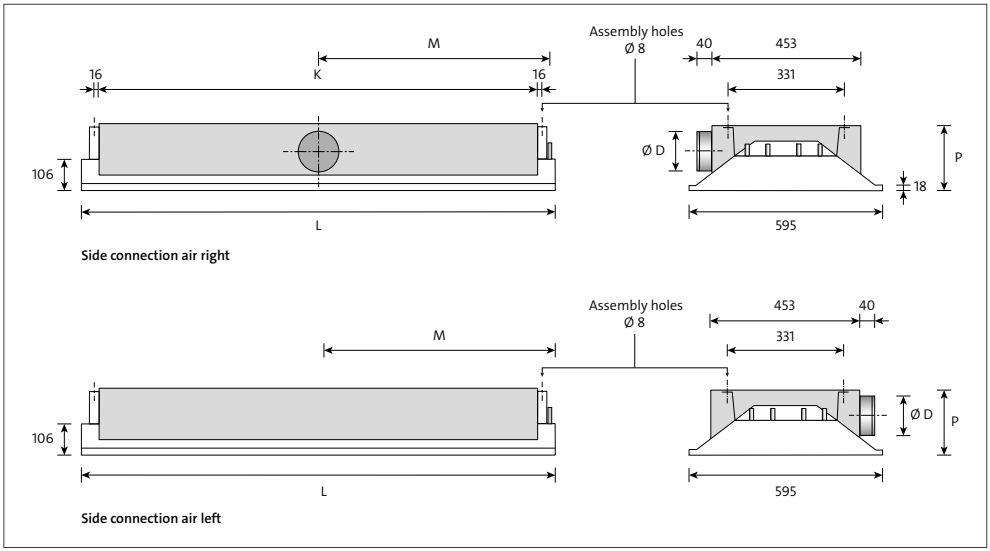
Chilled beams only produce 'tangible' capacity, the units do not have a drip tray. In systems with chilled beams, the required 'latent' capacity is supplied by the dehumidifying capacity of the air-handling unit.

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



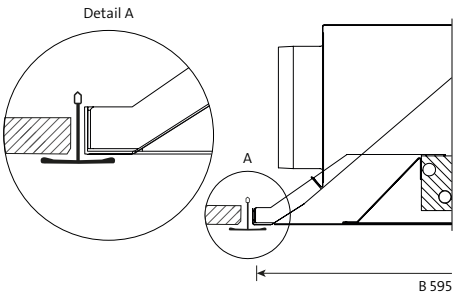
Available dimensions

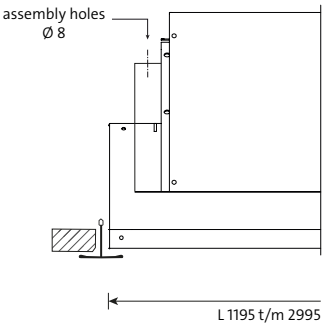
type	model	L from/to	D	M	P	K	weight
600	**1200**	1195/2995	123	602	205	1100	22
	1500	1495/2995	123	752	205	1400	29
	1800	1795/2995	123	902	205	1700	34
	2400	2395/2995	158	1202	240	2300	46
	3000	2995	158	1502	240	2900	57

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

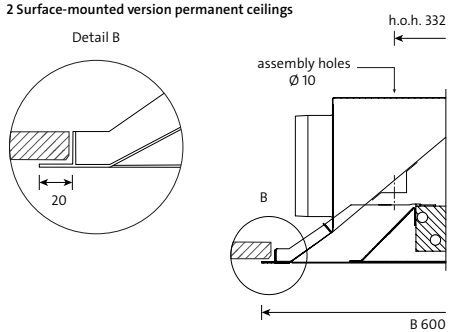
Side-edge configuration

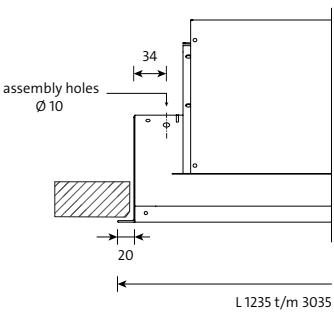
1 T- beam (insert) ceilings



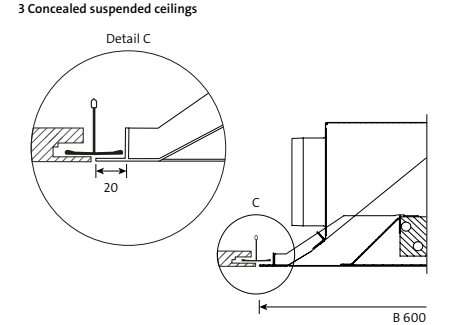


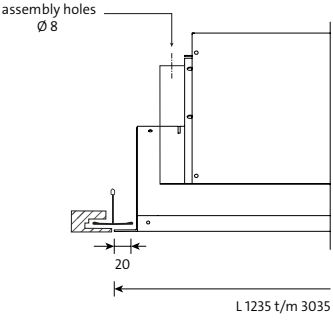
2 Surface-mounted version permanent ceilings





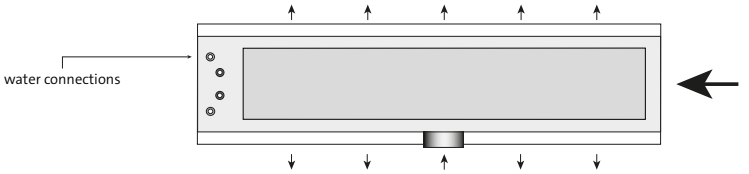
3 Concealed suspended ceilings



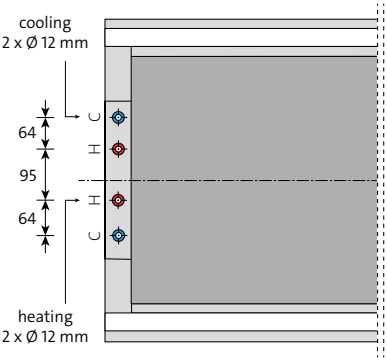


Tolerances: width W: + 2/- 2 mm, length L: + 0/- 4 mm.

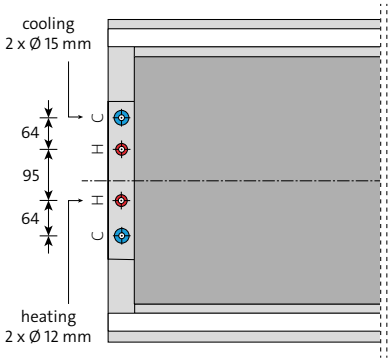
Position of air and water connection



Water connections OKNH



model 1200/1500/1800



model 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 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.

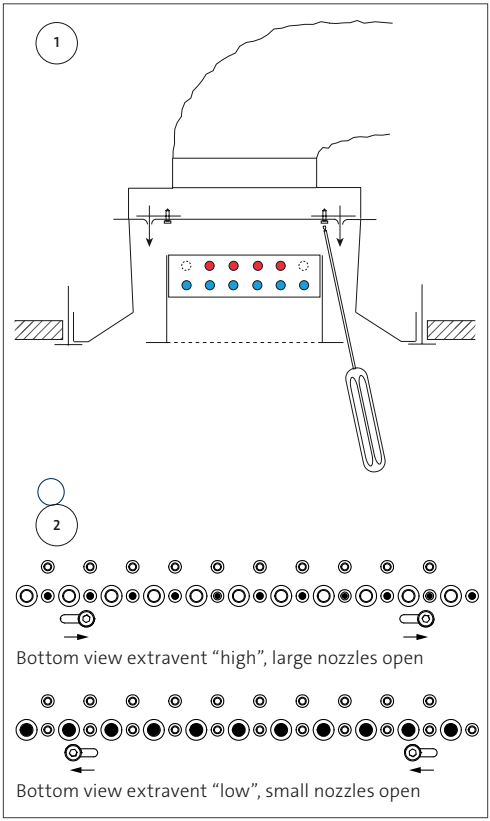
One extravent consists of a magnetic sliding strip on the plenum side of the nozzle plate. At the ends of this strip are2 socket head screws, the heads of which are visible and can be accessed through the outflow gap of the unit. This requires an ''socket-head screwdriver'' of sufficient length. Net 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)

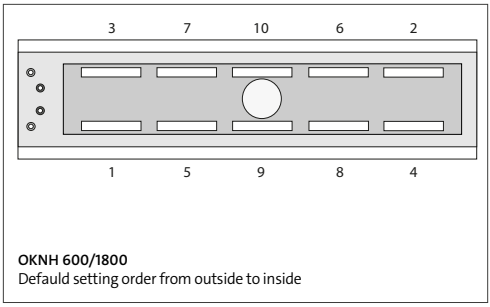


Bottom view extravent "high", large nozzles open

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.

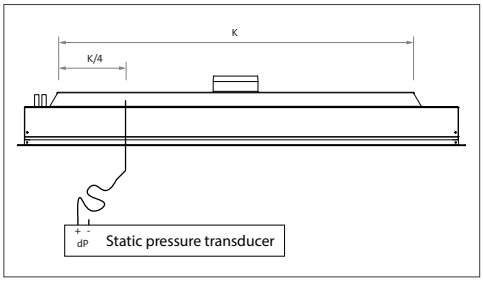


OKNH 600/1800
Defauld setting order from outside to inside

2025_03_V1

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.

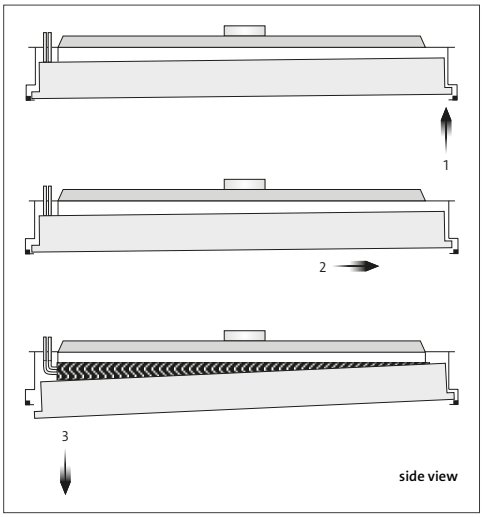
Maintenance
In view of cleaning the coil and the supply nozzles, it is possible to remove the middle segment of the unit in a simple fashion. This works as follows:

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)

OKNM

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

Available types
O K N M - - - -

O chilled beam
K closed version
N ventilate and cool
M modular ceiling

- **Type**
  600

- Model
  600/1200

- **Nozzle**
  model 600
  B2/C2/D2
  model 1200
  A1/A2/B1/B2/B3/C1/C2

- **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.

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

Use
The chilled beam type OKNM 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 T-bar modular ceilings, with a module size of 600 mm. The unit can also be used surface mounted.

The closed version provides 4-sided supply air and can be used universally in offices because of their highly efficient supply effect. The choice of three nozzle types enables an optimum combination of ventilation air and cooling capacity in every situation.

For cleaning purposes of the coil and the nozzles, the front can be removed easily and without tools.

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

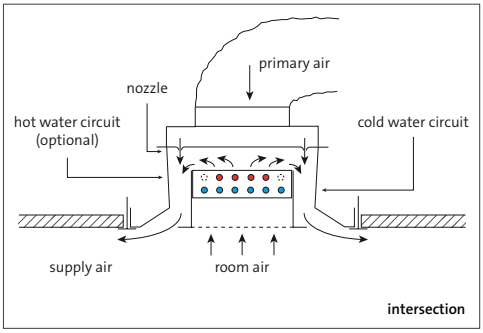
Optional
Blanking panels: 3, 2 or 1-sided
Remember: the side of the water connection cannot be blanked.

2024_09_v3

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.



intersection

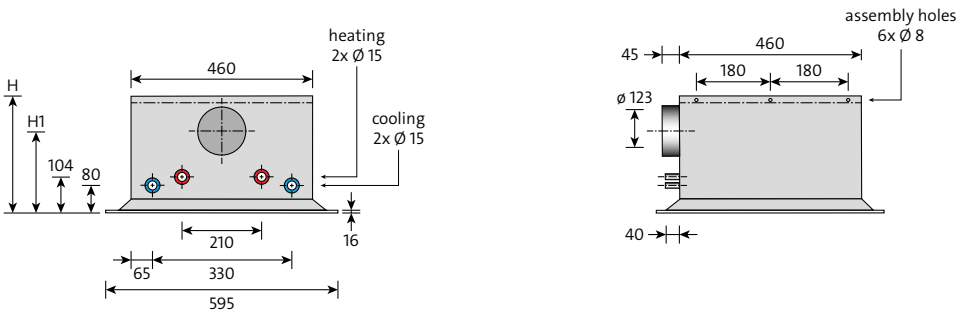
Tangible
Chilled beams only produce 'tangible' capacity, the units do not have a drip tray. In systems with chilled beams, the required 'latent' capacity is supplied by the dehumidifying capacity of the air-handling unit.

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".

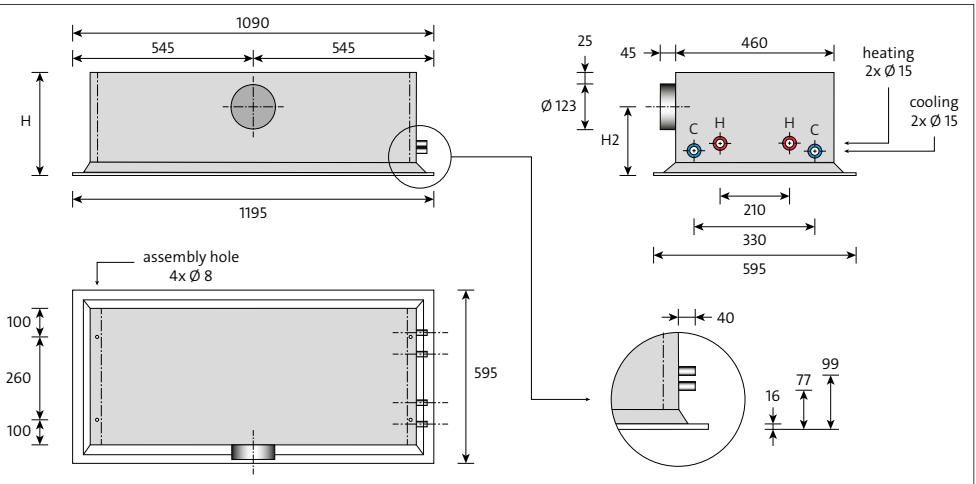
Dimensions

Model 600



OKNM 600 / 600
Cooling and heating

Model 1200



OKNM 600 / 1200
Cooling and heating

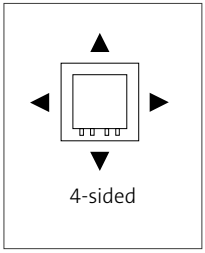
Available dimensions

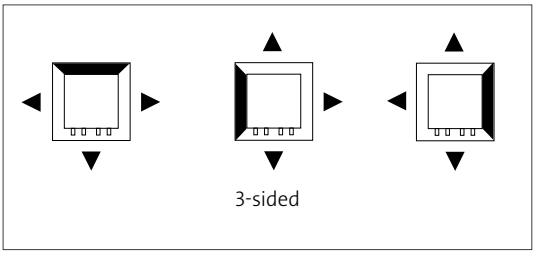
type	model	air connection	H	H1*	H2**	weight
600	600 or 1200	125	308	215	225	12 of 24
		oval 125	274	197	205	12 of 24
		top	196	n/a.	n/a.	12 of 24

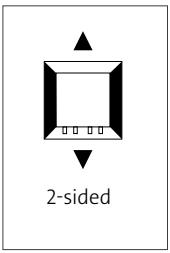
*Only applies to model 600.
**Only applies to model 1200.

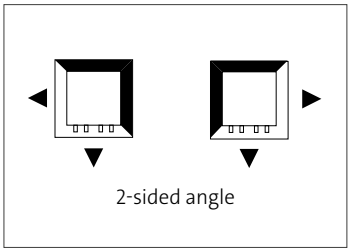
Outflow pattern

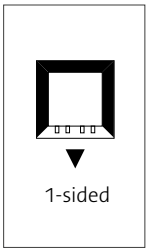
Blanking panels can be fitted and fixed with clips.
The side of the water connections cannot be blanked.
Using blanking panels reduces the water-side capacity.



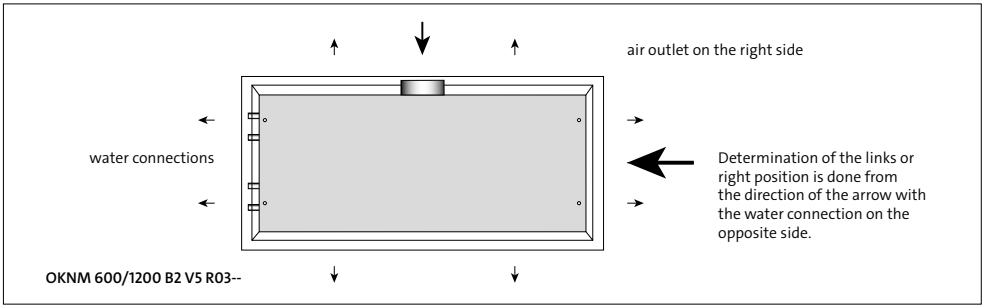








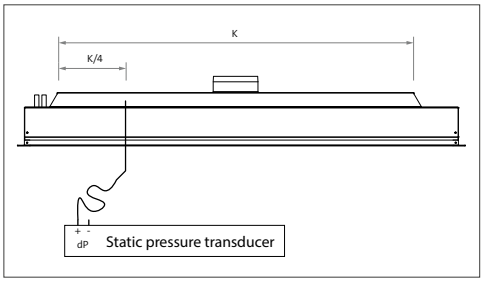
Position of air and water connection



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.



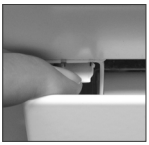
This requires a thin tube to insert through the nozzle into the plenum. Please note that extravent units use an open nozzle to perform the measurement. Inserting the measuring tube into a closed hole can damage the seal of the extravent strip and cause noise problems.

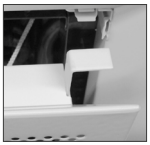
Maintenance
In view of cleaning the coil and the supply nozzles, it is possible to remove the middle segment of the unit in a simple fashion.

This works as follows:
1. Every corner has a clip.
2. Push the clip aside in all four corners.
3. The panel comes away and hangs from the safety cable.

Fit in reverse order.


1


2


3

Order and options codes

OKNM 600/600		B2 V 5		R O 3 U		O 1 O		595 x 595		9010 55

Type
600

Model
600 - 1200

Nozzle plate
B2 - C2 - D2 (model 600)
A1 - A2 - B1 - B2 - B3 - C1 - C2 (model 1200)

Coil
K cooling
V cooling and heating

Outflow configuration
5 4-sided outflow, blanking strips are available on request

Air connection
T top
V front
L left
A back
R right

Water connection
O standard

Air-connection diameter
3 125 mm
V oval on basis of 125 mm

Plenum version
U uninsulated

Diffuser
O not applicable

Side-edge configuration
1 suitable for T-bar

FPC (outflow direction element)
O not applicable

Actual width
595 mm

Actual length
595 mm
1195 mm

Colour
RAL 9010 (standard)

Gloss level
55 % (standard)

2024_09_v3

OKNV

Ventilate, cool and heat
For suspended use
Low built-in height, removable faceplate

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 AD16
    (depending on the type and 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.

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

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 BD16 for type 300 and nozzle type AD00 to AD16 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.

2025_03_V1

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

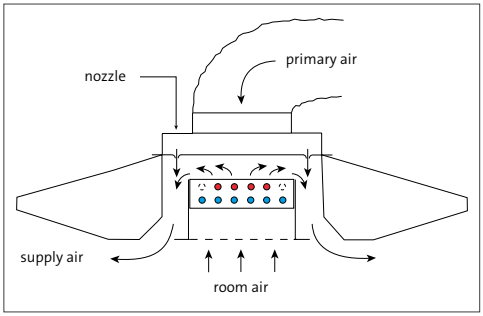
We recommend a straight flow length of 3 x D in the connection size of the chilled beam. We recommend studying our document "Solid Air recommendations for waterquality". For condensation-free operation, we recommend supplying the primary air with a dehumidifying capacity of 1 to 2 g/kg dry air. For specific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

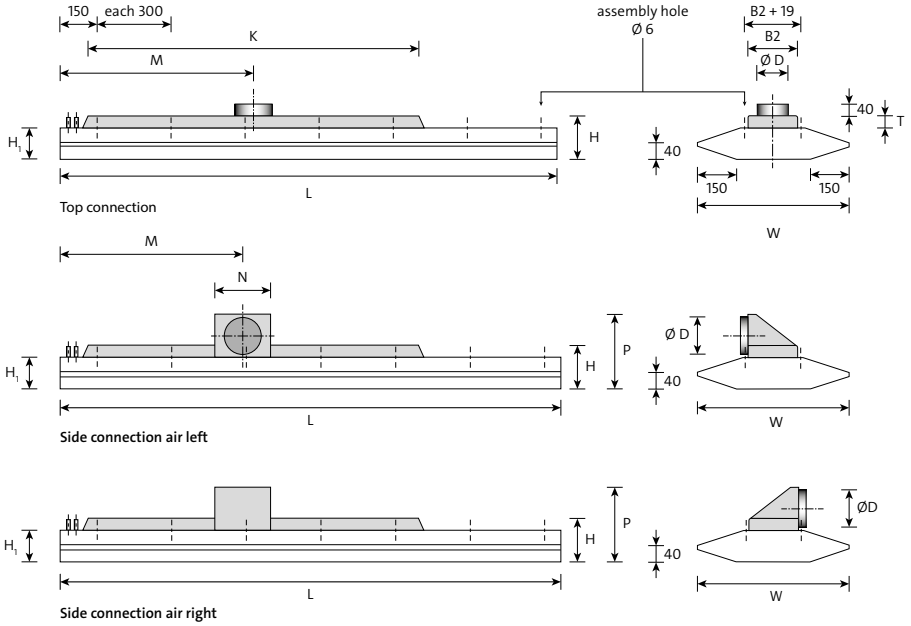
Chilled beams only produce 'tangible' capacity, the units do not have a drip tray. In systems with chilled beams, the required 'latent' capacity is supplied by the dehumidifying capacity of the air-handling unit.

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".

Dimensions

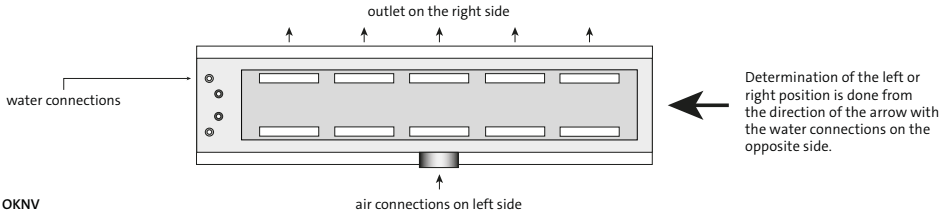


Available dimensions

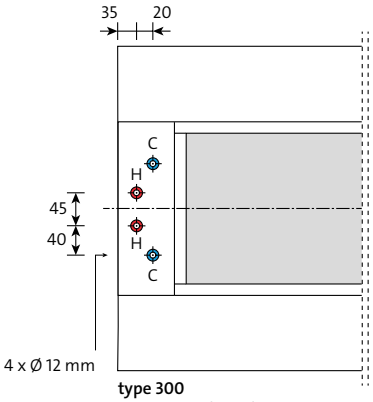
type	model	L from/to	W	B2	H	H1	D	M	N	P	K	T	weight
300	1200	1140/2995	595	200	145	105	123	580	225	235	980	40	13
	1500	1440/2995	595	200	145	105	123	730	225	235	1280	40	15
	1800	1670/2995	595	200	145	105	123	845	225	235	1510	40	17
	2400	2295/2995	595	200	145	105	158	1170	300	270	2110	40	23
	3000	2895/2995	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	270	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.

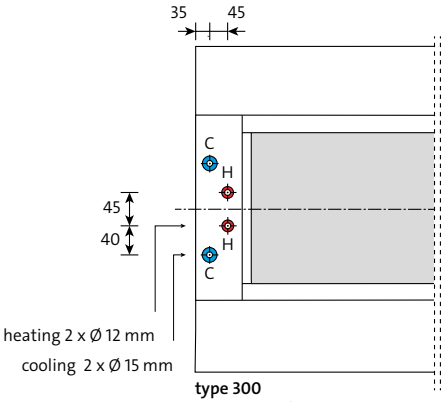
Position of air and water connection



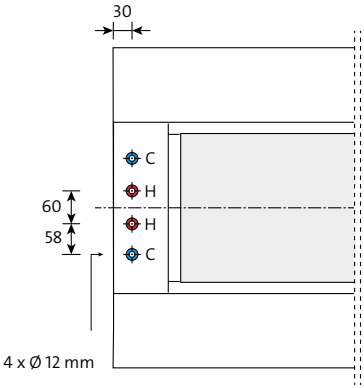
Water connections



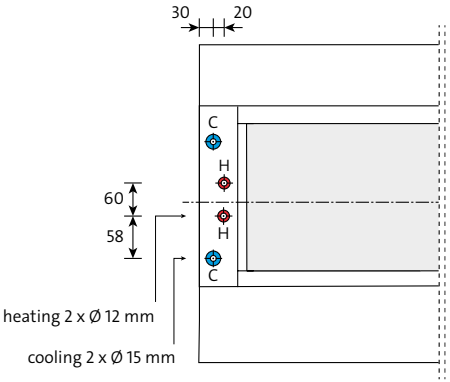
type 300
model 1200/1500/1800



type 300
model 2400/3000



type 450
model 1200/1500



type 450
model 1800/2400/3000

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.

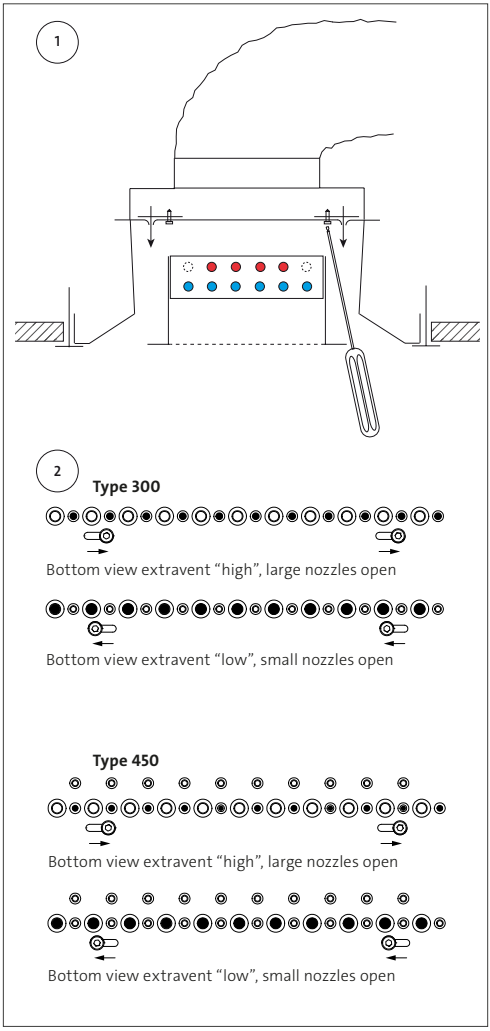
See the table below for the number of extravents per model.

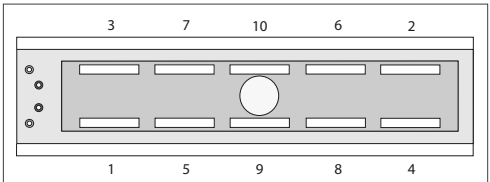
Extravents per model

type	model	aantal extravents
300	1200	6 (BD00 t/m BD06)
	1500	8 (BD00 t/m BD08)
	1800	10 (BD00 t/m BD10)
	2400	12 (BD00 t/m BD12)
	3000	16 (BD00 t/m BD16)
450	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 BD to AD 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.

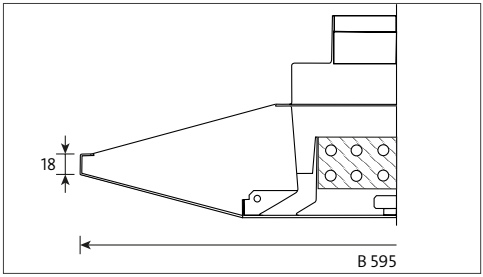
If the units need to have a different ex-factory setting, we recommend you contact our sales department.

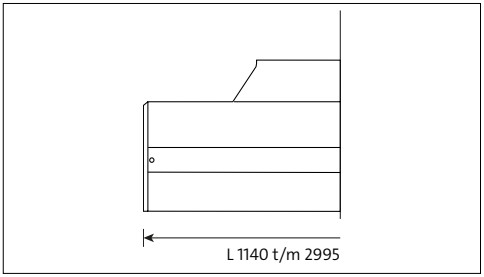




OKNV 300/1800
Defauld setting order from outside to inside

Side-edge configuration





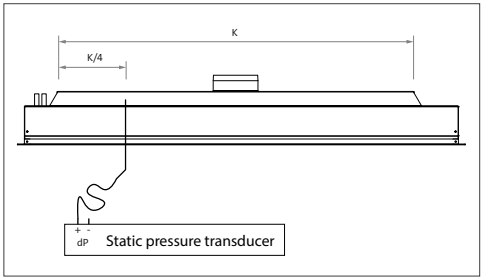
Water quality

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

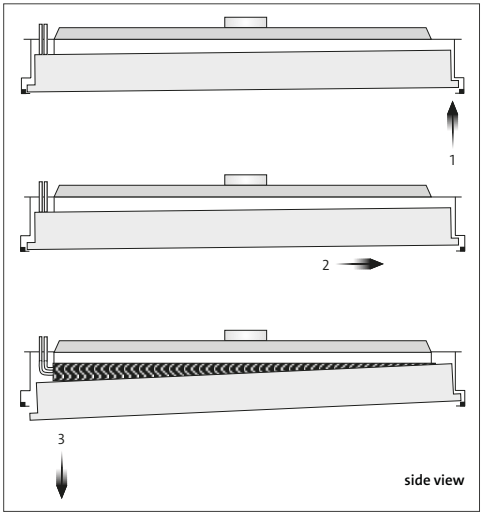
In view of cleaning the coil and the supply nozzles, it is possible to remove the middle segment of the unit in a simple fashion. This works as follows:

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 options codes

OKNV 300/1500		A1	K	2		T	O	-	-		O	O	O		595 x 1495		9010	55

Type
300 - 450

Model
1200 - 1500 - 1800 - 2400 - 3000

Nozzle plate
A1 - A2
B1 - B2 - B3
C1 - C2
BD00 to BD16 (type 300)
AD00 to AD16 (type 450)

Coil
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
T top
L left
R right

Water connection
O standard

Air-connection diameter
- standard in accordance with size table on page 35

Plenum uitvoering
- standard in accordance with size table on page 35

Diffuser
O not applicable

Side-edge configuration
O not applicable

FPC (outflow direction element)
O not applicable
F FPC (type 450 only)

Actual width
depending on the type; see table of dimensions page 35

Actual length
depending on the model size (from 1140 to 2995 mm)

Colour
RAL 9010 (standard)

Gloss level
55 % (standard)

OKNB

Ventilate, cool and heat
Bulkhead use
Low built-in height

Available types
O K N B - - - -

- **O** chilled beam
- **K** closed version
- **N** ventilate and cool
- **B** incorporated into a bulkhead

- **Type**
  400

- **Model**
  1000

- **Nozzle**
  L1 to L8

- **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.

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

Use
The chilled beam type OKNB 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 fitting into a bulkhead. The OKNB is perfect for use in hotel rooms or patient rooms in hospitals.

The choice of different nozzle types enables an optimum combination of ventilation air and cooling capacity in any situation.

The return diffuser can be opened to clean the coil.

Finish
Housing

Material:	steel
Treatment:	electrogalvanised

Return diffuser

Material:	steel/aluminium
Finish:	visible parts; epoxy varnish
Colour:	white (RAL 9010)

Wall diffuser

Material:	aluminium or steel
Finish:	blank anodised or epoxy varnish white (RAL 9010)

Coil

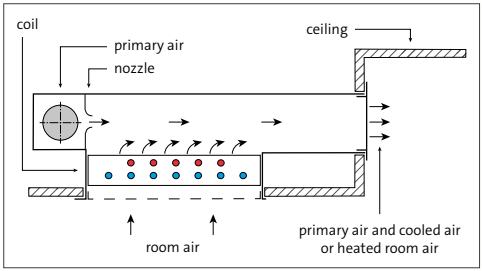
Tubes:	copper
Fins:	aluminium
Post-treatment:	none
Test/operating pressure:	15/10 bar

2024_09_v3

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.

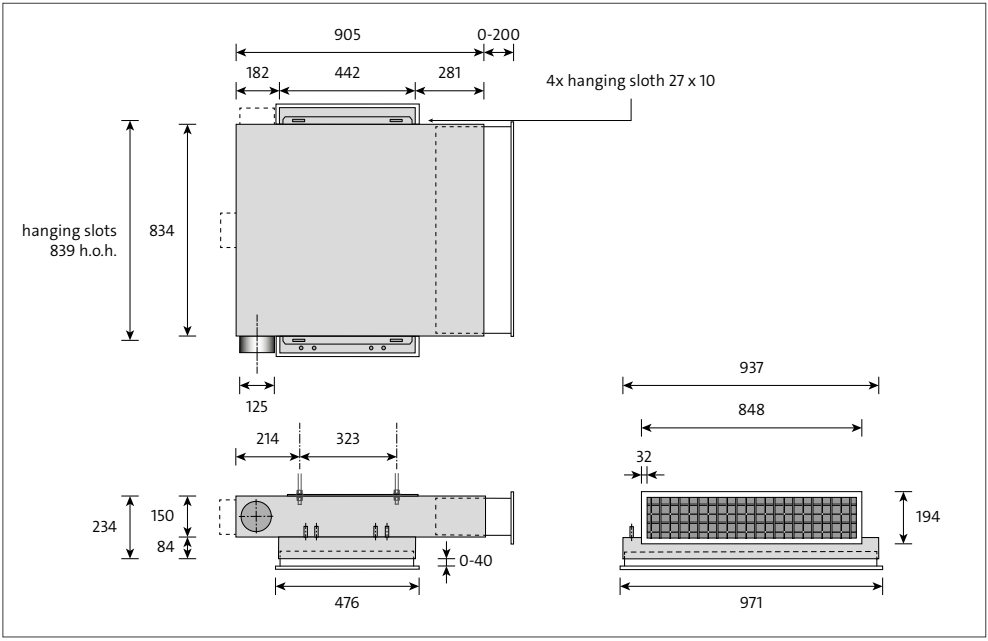


Tangible
Chilled beams only produce 'tangible' capacity, the units do not have a drip tray. In systems with chilled beams, the required 'latent' capacity is supplied by the dehumidifying capacity of the air-handling unit.

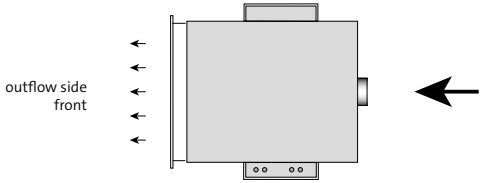
Selection process
Many factors play a role when you select a chilled beam. The unit has to be selected properly on the air and the water side. For the air side, we consider pressure and noise. On the water side, we consider the required volume of water, water-side resistance, "temperature difference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

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

Maatvoering



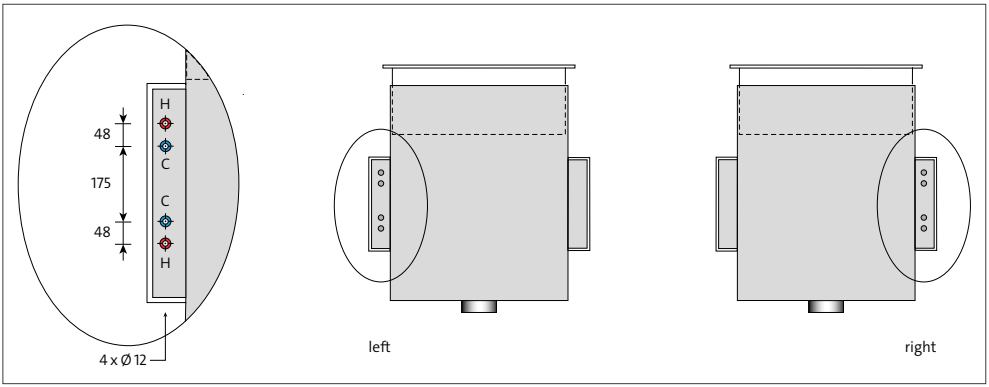
Position of air and water connection



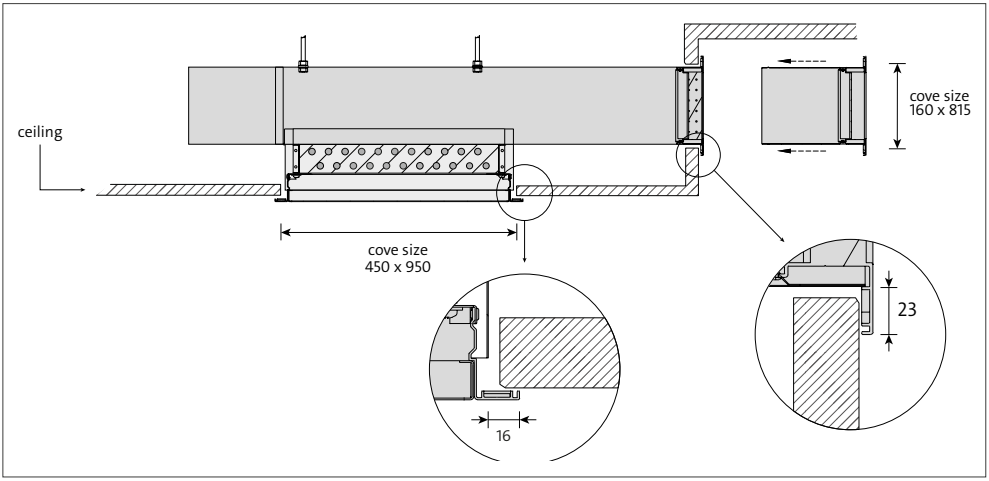
Determination of the left or right position is done from the direction of the arrow with the water connection on the opposite side

OKNB 400/1000 L6V1 AL30

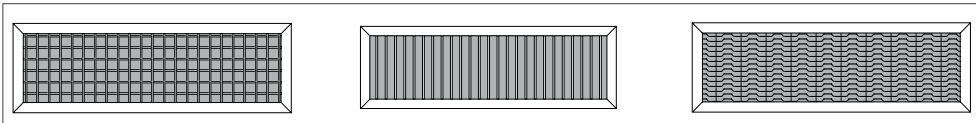
Position of the water connection (top view)



Position of chilled beam in bulkhead



Supply diffusers



Smooth vane (WUCA)
Horizontal and vertical vanes
(option D)

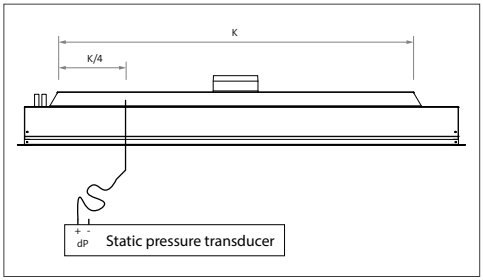
Smooth vane (WUAA)
Vertical vanes
(option U)

High induction (WTHA)
(option W)

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.".

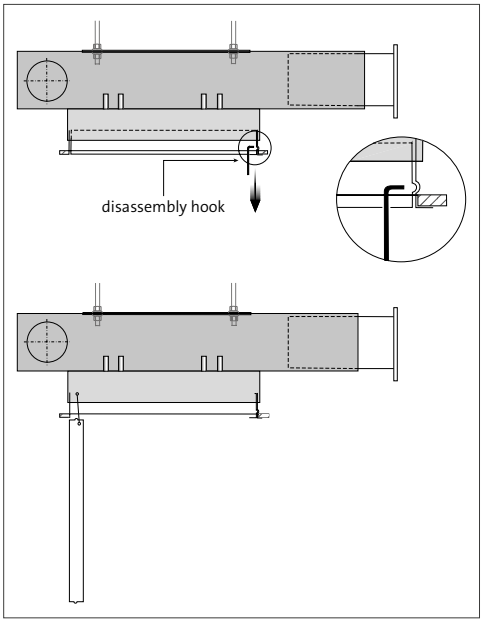
Operating principle
After installation of the chilled beams, they must be adjusted air-sided and water-sided. This work is usually carried out by a specialized balancing company.

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
The perforated return diffuser is fitted with a click system. In order to remove the perforated panel, you can use a small socket head screw that fits through the perforated panel. You can remove the perforated panel from the click system. The perforated panel remains connected to the unit with two safety cables.



Order and options codes

OKNB 400/1000		L6	V	1		A	L	3	O		D	O	O		O	x	O		9010	55

Type
400

Model
1000

Nozzle plate
L1 t/m L8

Coil
K cooling
V cooling and heating

Outflow configuration
1 1-sided outflow

Air connection
A back
L left
R right

Water connection
L left
R right

Air-connection diameter
3 125 mm

Plenum version
O standard

Diffuser
A single deflection (horizontal WUBA)
U single deflection (vertical WUAA)
D double deflection (WUCA)
Whigh induction (WTHA)
O no diffuser

Side-edge configuration
O none applicable

FPC (outflow direction element)
O none applicable

Actual width
O see dimensions sketch on page 42

Actual length
O see dimensions sketch on page 42

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

Gloss level
55 % (standard)