

Side entry primary air spigot



DID300B without induced air grille



DID300B, water connections (2-pipe system shown)



Eurovent certification



Tested to VDI 6022

Induction units for suspended ceilings

Type DID300B



Active chilled beam with two-way air discharge, 300 mm nominal width, with horizontal heat exchanger

Active chilled beam for heating and cooling, with 2-pipe or 4-pipe heat exchanger, for integration with various ceiling systems

- Preferably for room heights up to 4.00 m
- High heating and cooling capacity with a low conditioned primary air volume flow rate and low sound power level
- High comfort levels due to low airflow velocity in the occupied zone
- Three nozzle variants to optimise induction based on demand
- Side entry or top entry primary air spigot
- Removable induced air grille

Optional equipment and accessories

- Control system
- Additional casing for extract air
- Heat exchanger powder-coated black
- Powder coating in many different colours, e.g. RAL CLASSIC

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Application

Application

- Active chilled beams of Type DID300 B for the integration into various ceiling systems, preferably for room heights up to 4.00 m
- Shallow construction of only 210 mm, hence suitable for low ceiling void spaces, e.g. in refurbishment projects
- 2-pipe or 4-pipe heat exchangers enable good comfort levels with a low conditioned primary air volume flow rate
- Energy-efficient solution since water is used for heating and cooling

- Side entry or top entry primary air spigot
- Horizontal heat exchanger as 2-pipe or 4-pipe system
- Internal nozzle plate with punched nozzles (non-combustible)
- Water connections at the narrow side, Ø12 mm Cu pipe, either with plain tails or with external thread or union nut, G½", flat seal

Nominal sizes

- 900, 1200, 1500, 1800, 2100, 2400, 2700, 3000 mm (3000 mm only without additional casing)

Special characteristics

Description

Variants

- Heat exchanger
- 2: 2-pipe systems
 - 4: 4-pipe systems

Nozzle variants

- K: Small
- M: Medium
- G: Large

Construction

- Powder-coated RAL 9010, pure white, gloss level 50 %
- P1: Powder-coated in any other RAL colour, gloss level 70 %
- P1: Powder-coated RAL 9006, white aluminium, gloss level 30 %

Attachments

- Additional casing for extract air, with side or top spigot
- Water connection A1: G½" external thread and flat seal
- Water connection A2: G½" union nut and flat seal

Accessories

- Support angles for installation into linear beam grid ceilings

Useful additions

- Connecting hoses
- Control equipment consisting of a control panel including a controller with integral room

- temperature sensor; valves and valve actuators; and lockshields
- X-AIRCONTROL control system

Construction features

- Spigot is suitable for circular ducts to EN 1506 or EN 13180
- Four suspension points for on-site installation (by others)
- Three nozzle variants to optimise induction based on demand
- Optional additional casing for extract air, with a side spigot, either on the same or on the opposite side, or with a top spigot

Materials and surfaces

- Casing, front frame, nozzle plate, and perforated induced air grille made of galvanised sheet steel
- Heat exchanger with copper tubes and aluminium fins
- Exposed surfaces are powder-coated pure white (RAL 9010) or in any other RAL colour
- Heat exchanger also in black (RAL 9005)
- Nozzle plate powder-coated black (RAL 9005)
- Additional casing for extract air with a spigot made of galvanised sheet steel

Standards and guidelines

- Products are certified by Eurovent (no. 09.12.432) and listed on the Eurovent website
- Declaration of hygiene conformity to VDI 6022

Maintenance

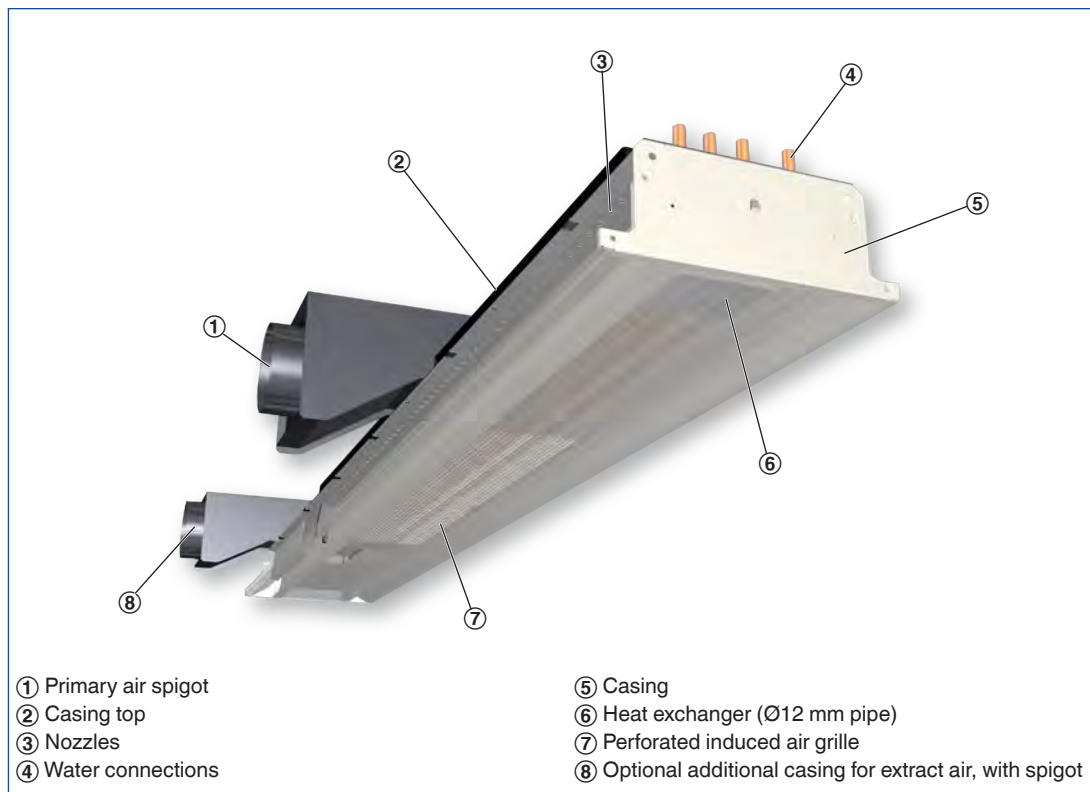
- No moving parts, hence low maintenance
- The heat exchanger can be vacuumed with an industrial vacuum cleaner if necessary
- VDI 6022, Part 1, applies (Hygiene requirements for ventilation and air-conditioning systems and units)

Functional description

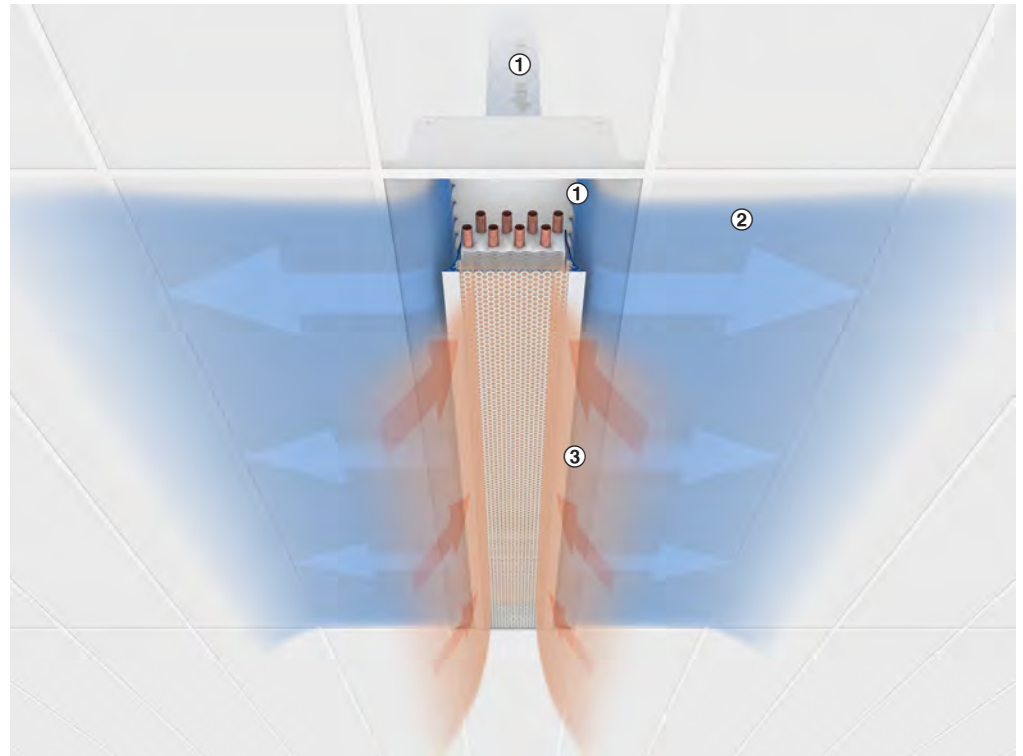
Active chilled beams provide centrally conditioned primary air (fresh air) to the room and use heat exchangers for additional cooling and/or heating. The primary air is discharged through nozzles into the mixing chambers; as a result of this,

secondary air (room air) is induced via the induced air grille and passes through the horizontal heat exchanger. Primary and secondary air mix and are then supplied to the room horizontally through the supply air slots.

Schematic illustration of DID300B



Principle of operation – DID300B



① Conditioned fresh air (primary air)
② Supply air

③ Room air (secondary air)

Nominal length	900, 1200, 1500, 1800, 2100, 2400, 2700, 3000 mm
Length	893 – 3000 mm
Height	210 mm
Width	293 mm
Primary air spigot, diameter	123/158 mm
Primary air volume flow rate	3 – 43 l/s or 11 – 155 m ³ /h
Cooling capacity	Up to 1345 W
Heating capacity	Up to 1480 W
Max. operating pressure, water side	6 bar
Max. operating temperature	75 °C

The quick sizing table contains operating points for defined reference units. For other operating points you may use the Easy Product Finder design software.

Quick sizing

L _N	①	Primary air	Primary air	②	③	Cooling mode				Heating mode		
						2-pipe and 4-pipe systems				4-pipe system		
						\dot{V}_{Pr}	Δp_t	L_{WA}	\dot{Q}_{tot}	Q_{WK}	Δt_W	Δp_W
l/s	m ³ /h	Pa	dB(A)	W	K	kPa	W	K	kPa			
900	K	3	11	55	<15	156	120	0.9	1.3	189	3.2	0.12
		5	16	116	20	237	183	1.4	1.3	287	4.9	0.12
		6	21	200	27	298	227	1.8	1.3	355	6.1	0.12
	M	7	25	46	18	267	183	1.4	1.3	287	4.9	0.12
		11	38	106	29	383	256	2.0	1.3	399	6.9	0.12
		14	51	191	37	476	305	2.4	1.3	473	8.1	0.12
	G	13	46	47	25	382	228	1.8	1.3	356	6.1	0.12
		18	63	79	34	492	281	2.2	1.3	437	7.5	0.12
		22	80	128	40	588	320	2.5	1.3	796	8.5	0.12
1200	K	4	15	55	<15	209	159	1.2	1.7	249	4.3	0.14
		6	22	117	24	319	245	1.9	1.7	383	6.6	0.14
		8	29	204	32	401	304	2.4	1.7	471	8.1	0.14
	M	9	33	43	20	346	235	1.8	1.7	367	6.3	0.14
		13	46	83	30	466	312	2.4	1.7	483	8.3	0.14
		18	65	166	39	605	387	3.0	1.7	595	10.2	0.14
	G	17	62	41	30	507	299	2.3	1.7	464	8.0	0.14
		21	75	60	36	593	341	2.7	1.7	527	9.1	0.14
		25	88	83	40	671	376	2.9	1.7	579	10.0	0.14
1500	K	5	18	49	<15	241	181	1.4	2.0	283	4.9	0.17
		8	27	110	26	385	295	2.3	2.0	457	7.9	0.17
		10	36	196	34	490	369	2.9	2.0	569	9.8	0.17
	M	12	42	43	23	432	292	2.3	2.0	453	7.8	0.17
		16	59	85	33	584	387	3.0	2.0	595	10.2	0.17
		21	76	141	40	707	453	3.5	2.0	692	11.9	0.17
	G	22	79	42	35	634	369	2.9	2.0	569	9.8	0.17
		24	88	52	38	693	399	3.1	2.0	612	10.5	0.17
		27	97	63	41	749	424	3.3	2.0	650	11.2	0.17
1800	K	6	21	46	16	272	201	1.6	2.3	315	5.4	0.20
		9	32	106	27	449	342	2.7	2.3	528	9.1	0.20
		12	43	192	36	574	430	3.4	2.3	659	11.3	0.20
	M	14	50	42	25	506	339	2.6	2.3	523	9.0	0.20
		19	68	78	34	667	439	3.4	2.3	672	11.6	0.20
		24	86	124	40	798	510	4.0	2.3	775	13.3	0.20
	G	26	95	41	38	751	432	3.4	2.3	662	11.4	0.20
		29	105	50	41	815	463	3.6	2.3	707	12.2	0.20
		22	80	30	33	645	377	2.9	2.3	580	10.0	0.20

① Nozzle variant

② Pressure drop

③ Air-regenerated noise

Reference values

Parameter	Cooling	Heating
t _R	26 °C	22 °C
t _{Pr}	16 °C	22 °C (isothermal)
t _{WV}	16 °C	50 °C
\dot{V}_W (up to 1800 mm)	110 l/h	50 l/h
\dot{V}_W (from 2100 mm)	200 l/h	110 l/h

Quick sizing

L _N	①	Primary air	Primary air	②	③	Cooling mode				Heating mode		
						2-pipe and 4-pipe systems				4-pipe system	4-pipe system	
		V _{Pr}		Δp _t	L _{WA}	Q _{tot}	Q _{WK}	Δt _w	Δp _w	Q _{WH} = Q _{tot}	Δt _w	Δp _w
		l/s	m ³ /h	Pa	dB(A)	W	K	kPa	W	K	kPa	
2100	K	7	24	44	17	330	250	1.1	7.6	475	3.7	0.90
		11	38	109	30	588	460	2.0	7.6	865	6.8	0.90
		14	52	205	38	767	593	2.5	7.6	1105	8.6	0.90
	M	16	58	41	27	640	445	1.9	7.6	837	6.5	0.90
		22	79	76	35	853	588	2.5	7.6	1098	8.6	0.90
		28	100	122	42	1026	691	3.0	7.6	1282	10.0	0.90
	G	31	112	42	40	960	585	2.5	7.6	1092	8.5	0.90
		34	123	50	43	1039	627	2.7	7.6	1167	9.1	0.90
		37	134	60	45	1113	664	2.9	7.6	1234	9.6	0.90
2400	K	8	27	42	18	363	273	1.2	8.5	517	4.0	0.95
		12	43	107	31	658	514	2.2	8.5	962	7.5	0.95
		16	59	201	40	860	663	2.9	8.5	1232	9.6	0.95
	M	19	67	42	28	732	507	2.2	8.5	950	7.4	0.95
		24	87	71	36	934	642	2.8	8.5	1195	9.3	0.95
		30	107	107	41	1102	744	3.2	8.5	1376	10.8	0.95
	G	36	128	42	43	1086	657	2.8	8.5	1222	9.6	0.95
		30	108	30	39	933	571	2.5	8.5	1066	8.3	0.95
		2700	K	9	31	44	20	419	315	1.4	9.4	596
13	48			105	32	726	566	2.4	9.4	1056	8.3	1.00
18	65			193	40	941	723	3.1	9.4	1340	10.5	1.00
M	21		75	41	29	811	559	2.4	9.4	1045	8.2	1.00
	26		93	64	35	994	683	2.9	9.4	1267	9.9	1.00
	31		112	93	41	1159	783	3.4	9.4	1447	11.3	1.00
G	40		145	42	45	1217	731	3.1	9.4	1354	10.6	1.00
	34		122	30	41	1044	635	2.7	9.4	1182	9.2	1.00
	3000		K	10	34	43	20	451	337	1.4	10.2	637
14		51		96	32	764	593	2.6	10.2	1107	8.7	1.10
19		68		171	40	985	758	3.3	10.2	1401	11.0	1.10
M		23	83	41	30	888	610	2.6	10.2	1137	8.9	1.10
		29	103	63	36	1090	745	3.2	10.2	1378	10.8	1.10
		34	123	90	41	1260	849	3.6	10.2	1562	12.2	1.10
G		45	162	43	47	1345	802	3.4	10.2	1480	11.6	1.10
		38	136	30	43	1152	697	3.0	10.2	1293	10.1	1.10

① Nozzle variant

② Pressure drop

③ Air-regenerated noise

Reference values

Parameter	Cooling	Heating
t _R	26 °C	22 °C
t _{Pr}	16 °C	22 °C (isothermal)
t _{WV}	16 °C	50 °C
V _W (up to 1800 mm)	110 l/h	50 l/h
V _W (from 2100 mm)	200 l/h	110 l/h

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Description

Active chilled beams of Type DID300B, with two-way air discharge, high thermal output, and of shallow construction.

For installation flush with the ceiling, preferably in rooms with a height up to 4.00 m.

The units consist of a casing with suspension points, a spigot, non-combustible nozzles, and a horizontal heat exchanger.

Three nozzle variants to optimise induction based on demand.

Special characteristics

- Side entry or top entry primary air spigot
- Horizontal heat exchanger as 2-pipe or 4-pipe system
- Internal nozzle plate with punched nozzles (non-combustible)
- Water connections at the narrow side, $\varnothing 12$ mm Cu pipe, either with plain tails or with external thread or union nut, G $\frac{1}{2}$ ", flat seal

Materials and surfaces

- Casing, front frame, nozzle plate, and perforated induced air grille made of galvanised sheet steel
- Heat exchanger with copper tubes and aluminium fins
- Exposed surfaces are powder-coated pure white (RAL 9010) or in any other RAL colour
- Heat exchanger also in black (RAL 9005)
- Nozzle plate powder-coated black (RAL 9005)
- Additional casing for extract air with a spigot made of galvanised sheet steel

Construction

- Powder-coated RAL 9010, pure white, gloss

- level 50 %
- P1: Powder-coated in any other RAL colour, gloss level 70 %
- P1: Powder-coated RAL 9006, white aluminium, gloss level 30 %

Technical data

- Nominal length: 900, 1200, 1500, 1800, 2100, 2400, 2700, 3000 mm
- Length: 893 – 3000 mm
- Height: 210 mm
- Width: 293 mm
- Primary air spigot, diameter: 123/158 mm
- Primary air volume flow rate: 3 – 43 l/s or 11 – 155 m³/h
- Cooling capacity: up to 1345 W
- Heating capacity: up to 1480 W
- Max. operating pressure: 6 bar
- Max. operating temperature: 75 °C

Sizing data

Primary air

- \dot{V} _____
[m³/h]
- Δp_t _____
[Pa]

Air-regenerated noise

- L_{WA} _____
[dB(A)]

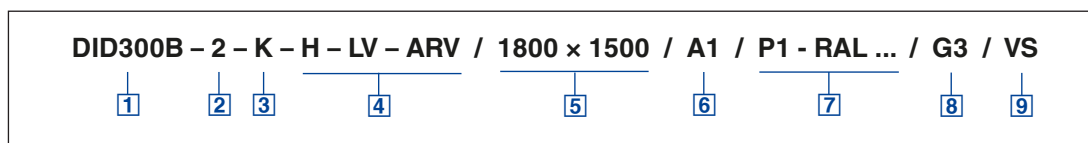
Cooling

- \dot{Q}_{ges} _____
[W]

Heating

- \dot{Q}_{ges} _____
[W]

DID300B



1 Type

DID300B Active chilled beam

2 Heat exchanger

2 2-pipe

4 4-pipe

3 Nozzle variant

K Small

M Medium

G Large

4 Arrangement of casings and connections

Top entry primary air spigot (V)

Supply air

V-S

V-M

V-L

V-R

Supply and extract air combination (A)

V-L-AR

V-R-AL

Side entry primary air spigot (H)

Supply air

H-SV

H-SH

H-LV

H-LH

H-MV

H-MH

H-RV

H-RH

Supply and extract air combination (A)

H-LV-ARV

H-RV-ALV

H-LH-ARH

H-RH-ALH

H-LV-ARH

H-RV-ALH

H-LH-ARV

H-RH-ALV

5 Total length (diffuser face) × nominal size [mm]

L × L_N

Supply air

893 – 1500 × 900

1193 – 1800 × 1200

1493 – 2100 × 1500

1793 – 2400 × 1800

2093 – 2700 × 2100

2393 – 3000 × 2400

2693 – 3000 × 2700

2993 – 3000 × 3000

L is up to 7 mm shorter than L_N

Supply and extract air combination

1150 – 1500 × 900

1450 – 1800 × 1200

1750 – 2100 × 1500

2050 – 2400 × 1800

2350 – 2700 × 2100

2650 – 3000 × 2400

2950 – 3000 × 2700

6 Water connections

No entry: Ø12 mm pipe with plain tails

A1 With G½" external thread and flat seal

A2 With G½" union nut and flat seal

7 Exposed surface

No entry: powder-coated

RAL 9010, pure white

P1 Powder-coated, specify RAL CLASSIC colour

Gloss level

RAL 9010 50 %

RAL 9006 30 %

All other RAL colours 70 %

8 Surface of heat exchanger

No entry: untreated

G3 RAL 9005, black

9 Valves and actuators

No entry: none

VS With

Order examples

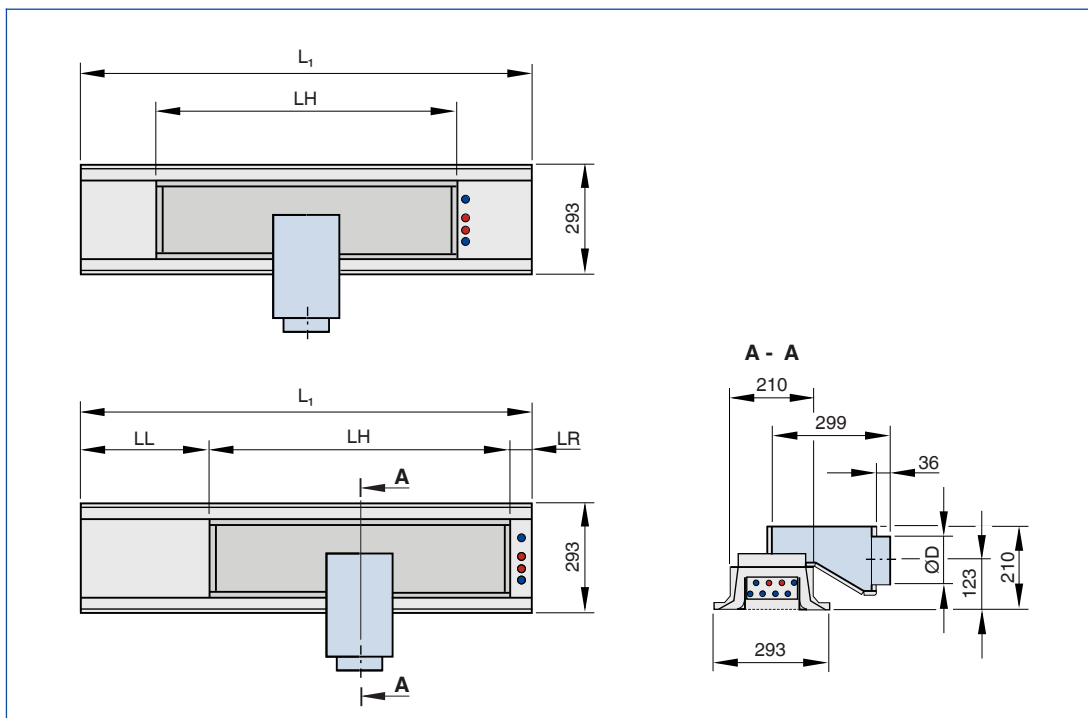
DID300B-2-M-V-M/1000×900

Heat exchanger	2-pipe
Nozzle variant	Medium
Arrangement of casings and connections	Top entry primary air spigot (V)
Total length (diffuser face) × nominal length	1000 × 900 mm

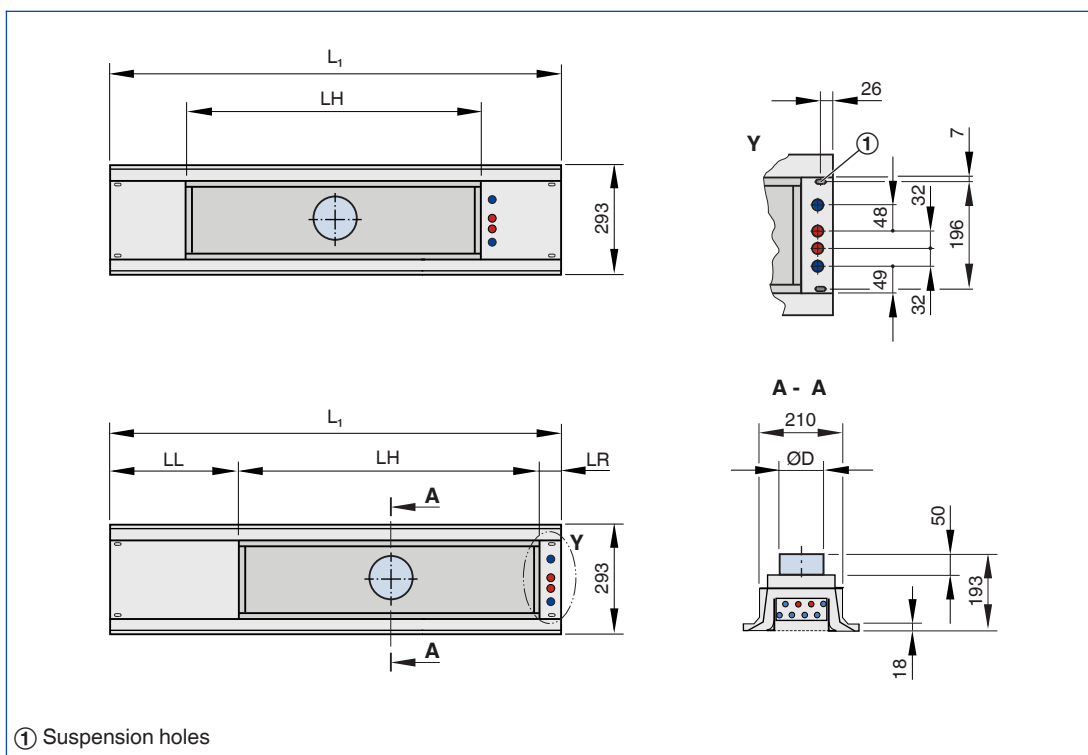
DID300B-4-M-H-LV-ARV/1396×1200/P1-RAL9016/G3/VS

Heat exchanger	4-pipe
Nozzle variant	Medium
Arrangement of casings and connections	Supply and extract air combination (A)
Total length (diffuser face) × nominal length	1396 × 1200 mm
Exposed surface	RAL 9016
Surface of heat exchanger	Black (RAL 9005)
Valves and actuators	With

Construction with side entry primary air spigot



Construction with top entry primary air spigot



Dimensions [mm]

L _N	ØD
900 – 1800	123
2100 – 3000	158

Supply air

Variant	L _N	L ₁		LH	LL		LR	
		min	max		min	max	min	max
V-S, H-SV, H-SH	900	893	900	800	40	43	54	58
	1200	1193	1200	1100	40	43	54	58
	1500	1493	1500	1400	40	43	54	58
	1800	1793	1800	1700	40	43	54	58
	2100	2093	2100	2000	40	43	54	58
	2400	2393	2400	2300	40	43	54	58
	2700	2693	2700	2600	40	43	54	58
	3000	2993	3000	2900	40	43	54	58
V-L, H-LV, H-LH	900	901	1500	800	43	43	58	658
	1200	1201	1800	1100	43	43	58	658
	1500	1501	2100	1400	43	43	58	658
	1800	1801	2400	1700	43	43	58	658
	2100	2101	2700	2000	43	43	58	658
	2400	2401	3000	2300	43	43	58	658
	2700	2701	3000	2600	43	43	58	658
V-M, H-MV, H-MH	900	901	1500	800	–	–	–	–
	1200	1201	1800	1100	–	–	–	–
	1500	1501	2100	1400	–	–	–	–
	1800	1801	2400	1700	–	–	–	–
	2100	2101	2700	2000	–	–	–	–
	2400	2401	3000	2300	–	–	–	–
	2700	2701	3000	2600	–	–	–	–
V-R, H-RV, H-RH	900	901	1500	800	43	643	58	58
	1200	1201	1800	1100	43	643	58	58
	1500	1501	2100	1400	43	643	58	58
	1800	1801	2400	1700	43	643	58	58
	2100	2101	2700	2000	43	643	58	58
	2400	2401	3000	2300	43	643	58	58
	2700	2701	3000	2600	43	643	58	58

Weights

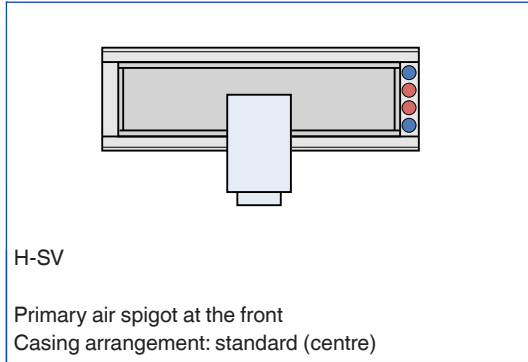
Nominal length (L _N)	mm	900	1200	1500	1800	2100	2400	2700	3000
DID300B	kg/piece	11	14	18	21	25	28	32	35
Contained water (max.)	kg	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0

Non-active section as extension: 8 kg/m
Top entry primary air spigot –1 kg/piece

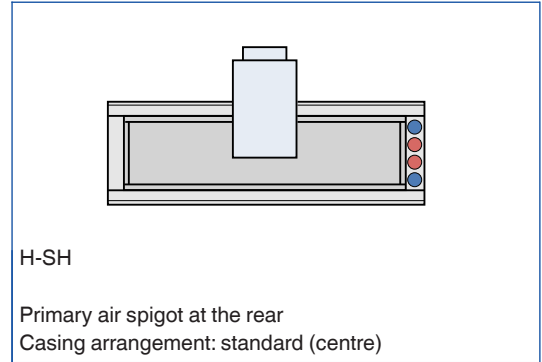
Casing arrangement

Mit horizontalem Primärluftstutzen

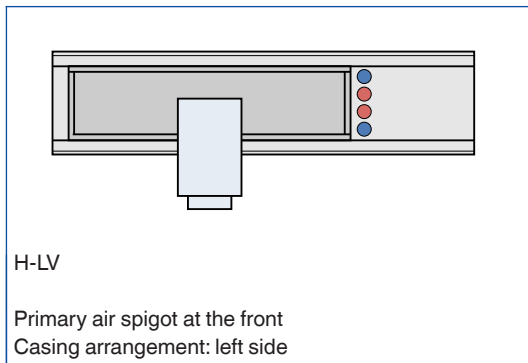
H-SV



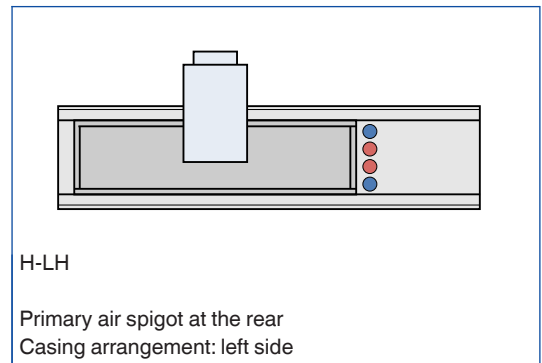
H-SH



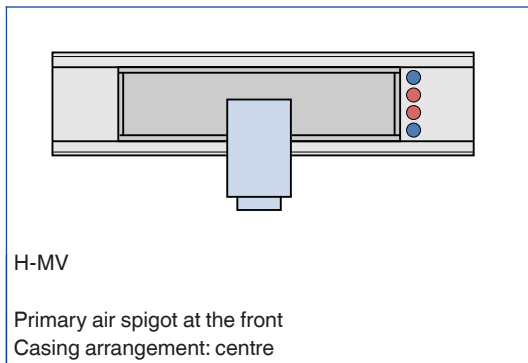
H-LV



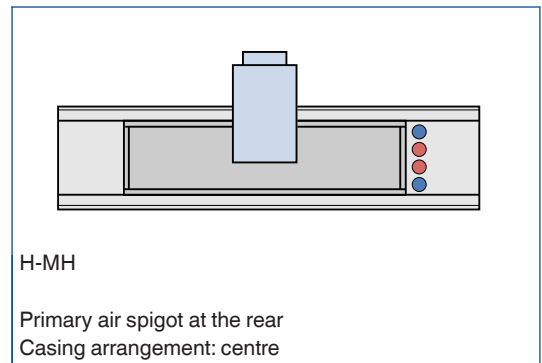
H-LH



H-MV



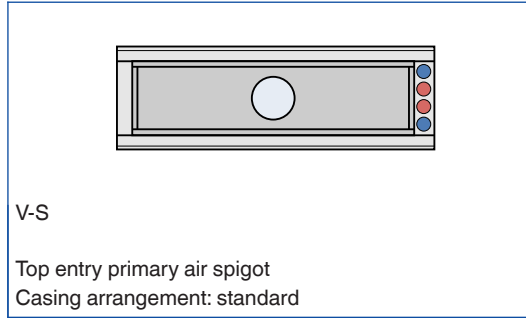
H-MH



Casing arrangement

Mit vertikalem Primär-
luftstutzen

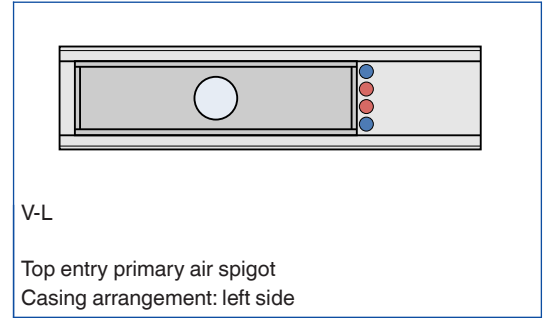
V-S



V-S

Top entry primary air spigot
Casing arrangement: standard

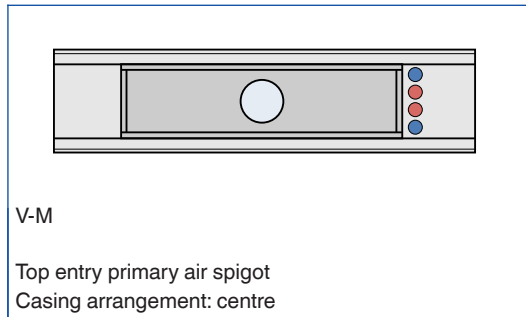
V-L



V-L

Top entry primary air spigot
Casing arrangement: left side

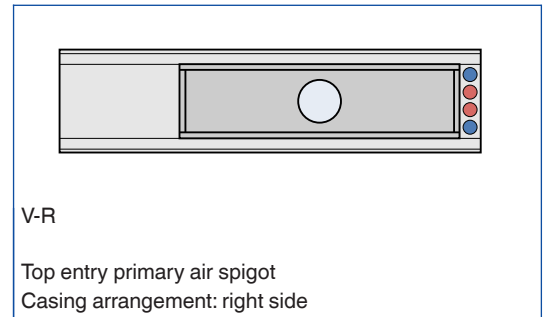
V-M



V-M

Top entry primary air spigot
Casing arrangement: centre

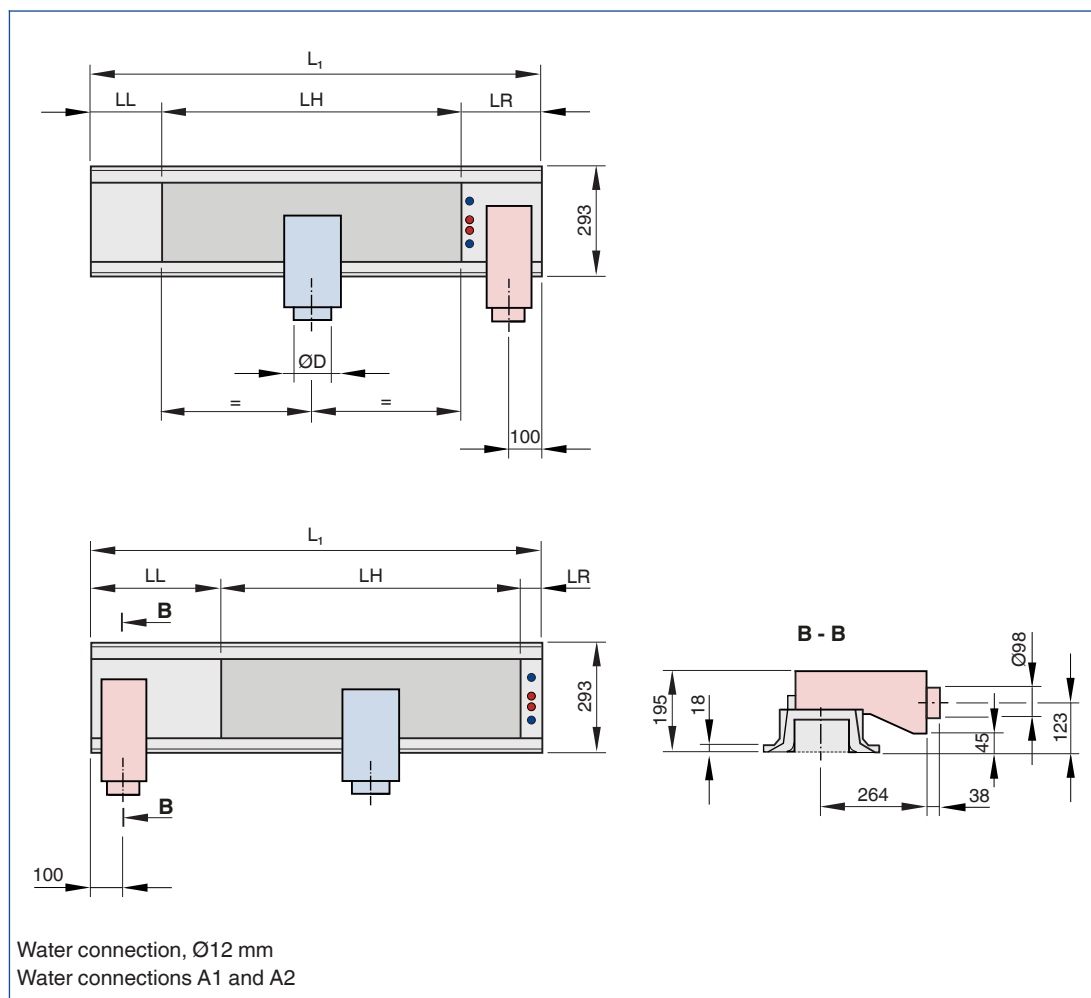
V-R



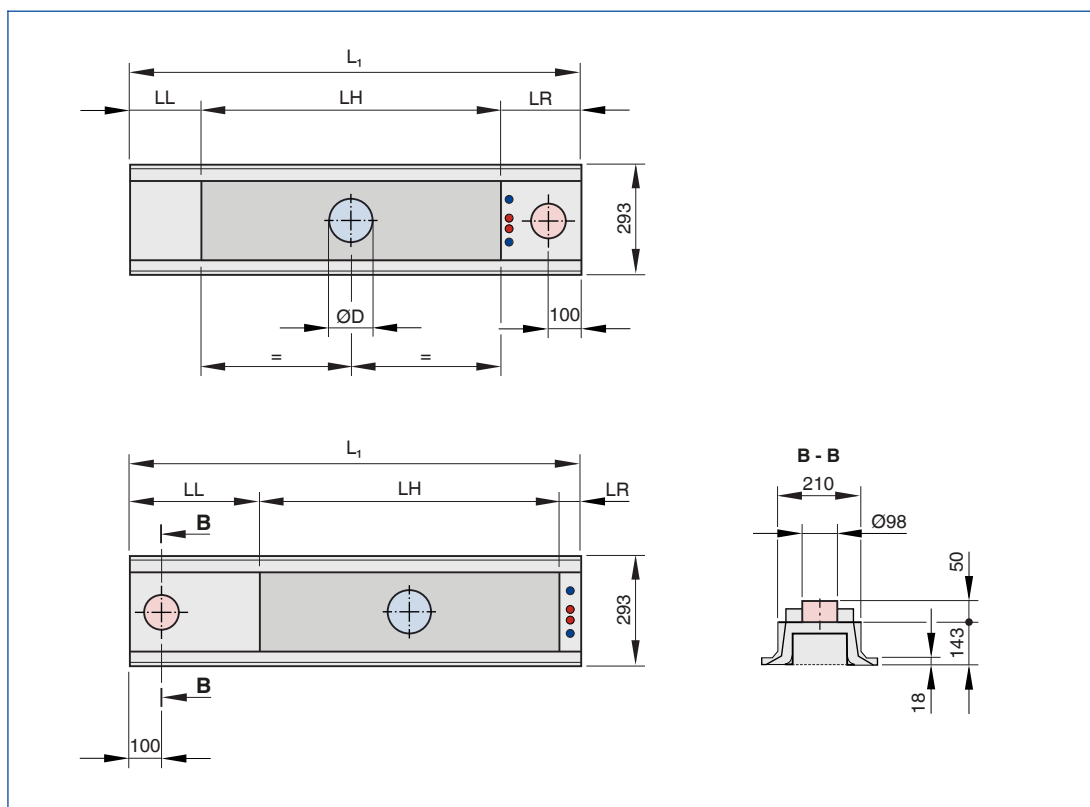
V-R

Top entry primary air spigot
Casing arrangement: right side

Construction with side entry primary air spigot and additional casing with side extract air spigot



Construction with top entry primary air spigot and additional casing with spigot at the top



Dimensions [mm]

L_N	$\varnothing D$
900 – 1800	123
2100 – 3000	158

Supply air and extract air

Variant	L_N	L_1		LH	LL		LR	
		min	max		min	max	min	max
V-L-AR, H-LV-ARV, H-LH-ARV, H-LV-ARH, H-LH-ARH	900	1096	1500	800	43	43	253	658
	1200	1396	1800	1100	43	43	253	658
	1500	1696	2100	1400	43	43	253	658
	1800	1996	2400	1700	43	43	253	658
	2100	2296	2700	2000	43	43	253	658
	2400	2596	3000	2300	43	43	253	658
	2700	2896	3300	2600	43	43	253	358
V-R-AL, H-RV-ALV, H-RH-ALV, H-RV-ALH, H-RH-ALH	900	1095	1500	800	238	643	58	58
	1200	1395	1800	1100	238	643	58	58
	1500	1695	2100	1400	238	643	58	58
	1800	1995	2400	1700	238	643	58	58
	2100	2295	2700	2000	238	643	58	58
	2400	2595	3000	2300	238	643	58	58
	2700	2895	3000	2600	238	343	58	58

Weights

Nominal length (L _N)	mm	900	1200	1500	1800	2100	2400	2700	3000
DID300B	kg/piece	11	14	18	21	25	28	32	35
Contained water (max.)	kg	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0

Non-active section as extension: 8 kg/m

Side extract air spigot – 3 kg/piece

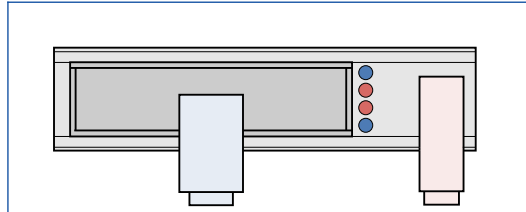
Top entry primary air spigot – 1 kg/piece

Top extract air spigot – 1 kg/piece

Casing arrangement

Mit horizontalem Primär-
luftstutzen und
Abluftstutzen

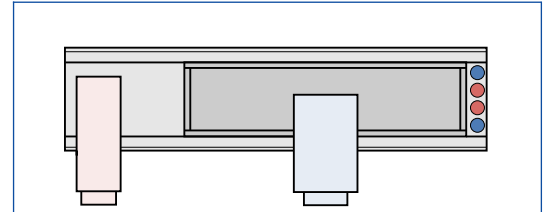
H-LV-ARV



H-LV-ARV

Primary air spigot at the front
Casing arrangement: left side
Extract air spigot at the front, right side

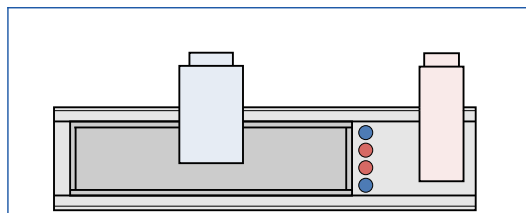
H-RV-ALV



H-RV-ALV

Primary air spigot at the front
Casing arrangement: right side
Extract air spigot at the front, left side

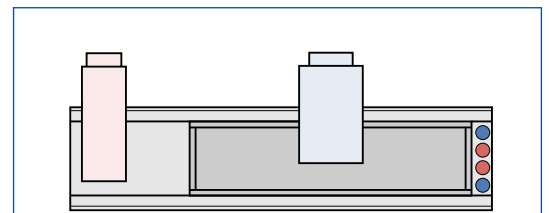
H-LH-ARH



H-LH-ARH

Primary air spigot at the rear
Casing arrangement: left side
Extract air spigot at the rear, right side

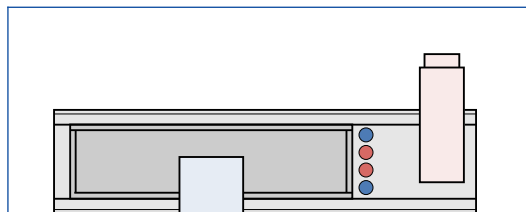
H-RH-ALH



H-RH-ALH

Primary air spigot at the rear
Casing arrangement: right side
Extract air spigot at the rear, left side

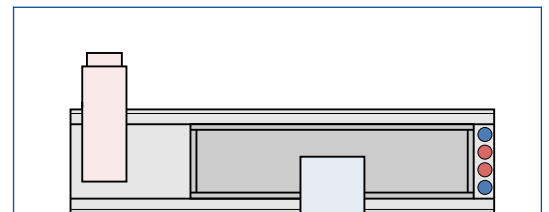
H-LV-ARH



H-LV-ARH

Primary air spigot at the front
Casing arrangement: left side
Extract air spigot at the rear, right side

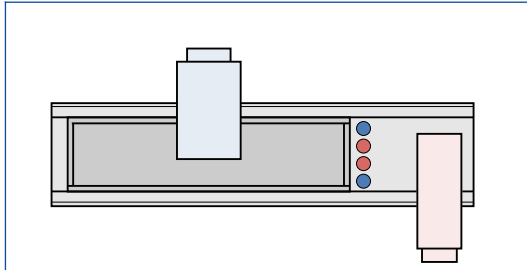
H-RV-ALH



H-RV-ALH

Primary air spigot at the front
Casing arrangement: right side
Extract air spigot at the rear, left side

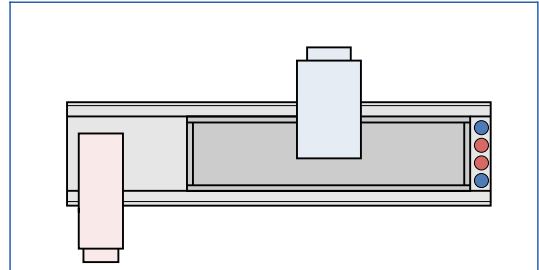
H-LH-ARV



H-LH-ARV

Primary air spigot at the rear
Casing arrangement: left side
Extract air spigot at the front, right side

H-RH-ALV



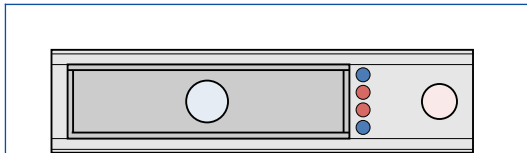
H-RH-ALV

Primary air spigot at the rear
Casing arrangement: right side
Extract air spigot at the front, left side

Casing arrangement

Mit vertikalem Primär-
luftstutzen und Abluft-
stutzen

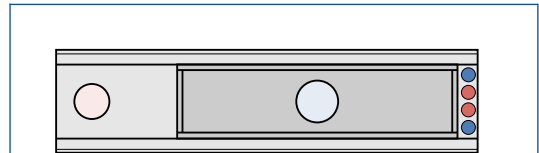
V-L-AR



V-L-AR

Top entry primary air spigot
Casing arrangement: left side
Extract air spigot: right side

V-R-AL



V-R-AL

Top entry primary air spigot
Casing arrangement: right side
Extract air spigot: left side

Installation into grid ceilings



Installation and commissioning

- Preferably for rooms with a clear height up to 4.00 m
- Flush ceiling installation
- Choice of side entry or top entry primary air spigot
- Lengths from 893 to 3000 mm, and width of 293 mm, hence suitable for various ceiling systems
- Installation and connections to be performed by others; fixing, connection and sealing material to be provided by others
- Active chilled beam has 4 suspension points for on-site installation (by others)
- Heat exchangers are fitted with water flow and water return connections at the narrow side

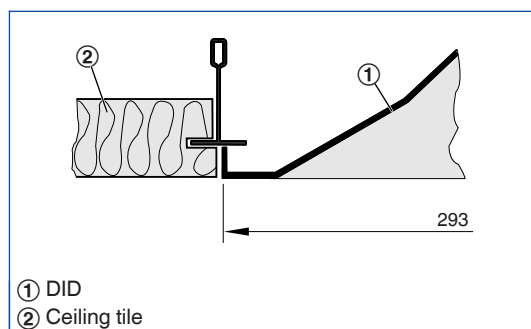
Installation into linear beam grid ceilings

- This is possible with the optional support angles (supplied separately)
- No levelling required
- To avoid too much load on the ceiling, the suspension points should be used

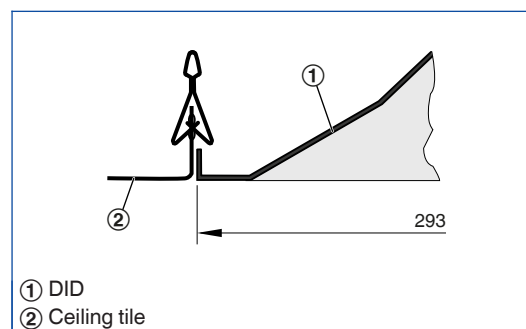
Installation into T-bar ceilings or continuous ceilings

- To avoid too much load on the ceiling, the suspension points should be used

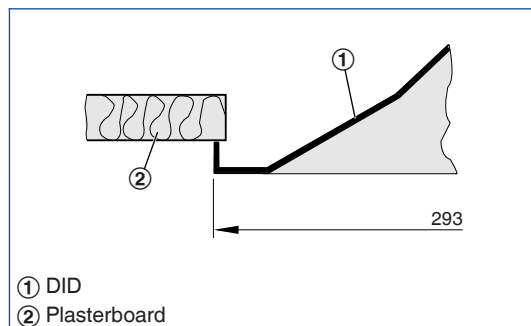
Ceiling installation, concealed T-bars



Ceiling installation with clamping profile



Ceiling installation, plasterboard



L_N [mm]

Nominal length

L_{WA} [dB(A)]

Sound power level

t_{Pr} [°C]

Primary air temperature

t_{WV} [C°]

Water flow temperature – cooling/heating

t_R [C°]

Room temperature

t_R [C°]

Room temperature

t_{AN} [C°]

Secondary air intake temperature

Q_{Pr} [W]

Thermal output – primary air

Q_{tot} [W]

Thermal output – total

Q_W [W]

Thermal output – water side, cooling/heating

\dot{V}_{Pr} [l/s]

Primary air volume flow rate

\dot{V}_{Pr} [m³/h]

Primary air volume flow rate

\dot{V}_W [l/h]

Water flow rate – cooling/heating

\dot{V} [l/h]

Volume flow rate

Δt_w [K]

Temperature difference – water

Δp_w [kPa]

Pressure drop, water side

Δp_t [Pa]

Total pressure drop, air side

$\Delta t_{Pr} = t_{Pr} - t_R$ [K]

Difference between primary air temperature and room temperature

$\Delta t_{RWV} = t_{WV} - t_R$ [K]

Difference between water flow temperature and room temperature

Δt_{Wm-Ref} [K]

Difference between mean water temperature and reference temperature

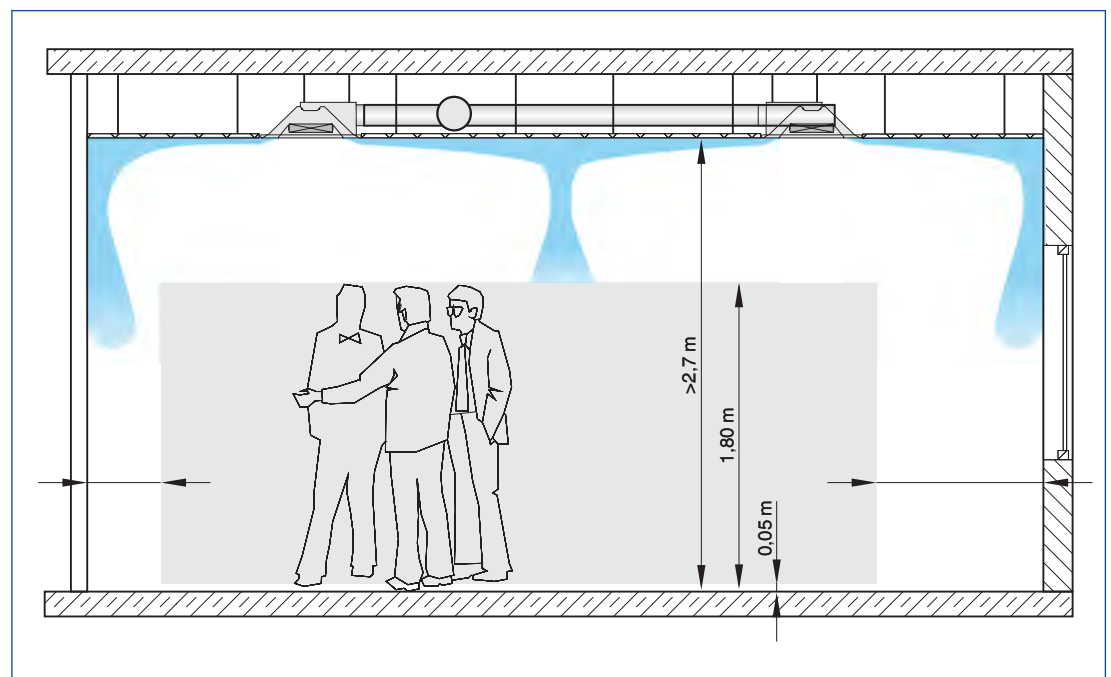
L_N [mm]

Nominal length

Mixed flow

The supply air is discharged from the diffuser into the space with a velocity between 2 and 5 m/s. The resulting air jet mixes with the room air, ventilating the entire space. Mixed flow systems typically provide a uniform temperature distribution and air quality within the space. The originally high velocity of the turbulent air jet decreases rapidly due to the high induction levels of mixed flow systems.

Schematische Darstellung Mischlüftung



Heat exchanger

The maximum water-side operating pressure for all heat exchangers is 6 bar.

The maximum water flow temperature (heating circuit) for all heat exchangers is 75 °C; if flexible hoses are used, the water flow temperature should not exceed 55 °C. Units for other pressures

and temperatures are available on request.

The water flow temperature (cooling circuit) should be at least 16 °C such that it does not permanently fall below the dew point. For units with a condensate drip tray the water flow temperature may be reduced to 15 °C.

Heat exchanger as 2-pipe system

Air-water systems with a 2-pipe heat exchanger may be used for either heating or cooling. In

changeover mode it is possible to use all units within a water circuit exclusively for cooling in summer and exclusively for heating in winter.

Wärmeübertrager 2-Leiter-System



Heat exchanger as 4-pipe system

Air-water systems with a 4-pipe heat exchanger may be used for both heating and cooling. Depending on the season, i.e. especially in spring

and autumn, it may be possible that an office has to be heated in the morning and cooled in the afternoon.

Wärmeübertrager 4-Leiter-System

