

Decreasing apertures
towards the edges



Adjustable twin nozzles



Water connection



Fixing point



Tested to VDI 6022

Units for suspended ceilings

Type DID614



Active chilled beam with four-way air discharge and horizontal heat exchanger, suitable for grid ceilings with grid size 600 or 625

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 4.20 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
- Five nozzle variants, including a variant with adjustable twin nozzles, to optimise induction based on demand
- Removable induced air grille, fixed with magnets, with decreasing apertures towards the edges

Optional equipment and accessories

- Control package
- Adjustable air control blades to control the airflow
- Powder coating in many different colours, e.g. RAL CLASSIC or NCS

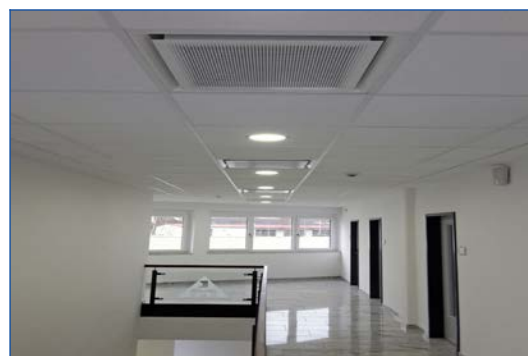
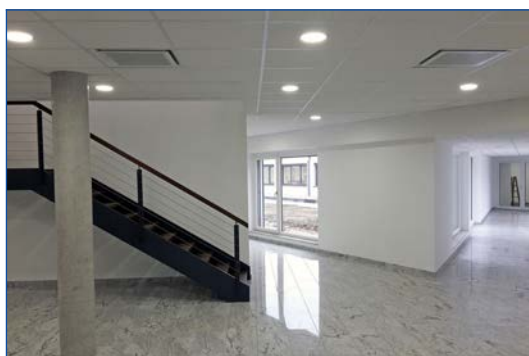
Type

DID614

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Installation examples



Description



DID614/593x593/LE

Application

- Active chilled beams of Type DID614 for the integration into various ceiling systems, preferably for room heights up to 4.20 m
- Particularly suitable for grid ceilings with grid size 600 or 625
- 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 as a medium for heating and cooling
- Adjustable air control blades (optional) allow for the manual adjustment of the four-way air discharge
- Large volume flow rate range due to the adjustable twin nozzles (optional)

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 %

Nominal sizes

- 600, 1200 mm

Attachments

- Adjustable air control blades

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

Special characteristics

- Four-way air discharge
- Horizontal heat exchanger as 2-pipe or 4-pipe system
- Water connection, Ø12 mm Cu pipe or coupling with G1/2" external thread and flat seal or G1/2" union nut and flat seal
- Induced air grille with parallel drilled apertures, decreasing towards the edges
- Optional twin nozzles, adjustable, for a large volume flow rate range

Construction features

- Spigot is suitable for circular ducts to EN 1506 or EN 13180
- Removable induced air grille, fixed with magnets, secured with safety cables
- Internal nozzle plate with punched nozzles (non-combustible)
- Four suspension points for on-site installation (by others)
- Five nozzle variants to optimise induction based on demand

Materials and surfaces

- Casing, spigot, 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
- Air control blades made of polypropylene, UL 94, flame retardant (V0)

Installation and commissioning

- Preferably for rooms with a clear height up to 4.20 m
- Flush ceiling installation
- Side entry primary air spigot
- Lengths of 593, 598, 618, 623 (one tile), or 1193, 1198, 1243, and 1248 mm (two tiles), and widths of 593, 598, 618, and 623 mm, hence suitable for all ceiling systems, particularly for grid ceilings with grid size 600 or 625
- 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 T-bar ceilings or continuous ceilings

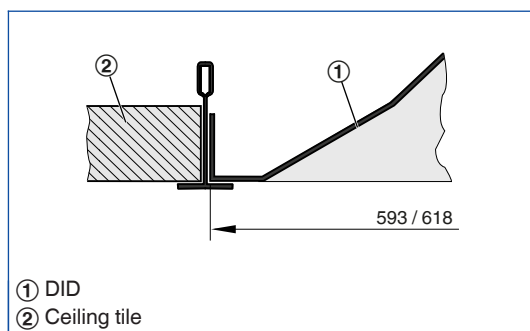
- To avoid too much load on the ceiling, the suspension points should be used

Maintenance

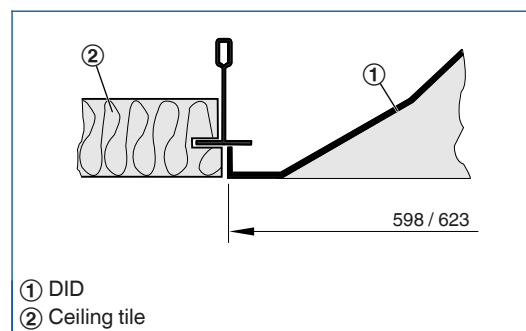
- No moving parts, hence low maintenance
- The heat exchanger can be vacuumed with an industrial vacuum cleaner if necessary
- VDI 6022, Part 1, applies (Hygiene requirements on air handling units and systems)

1

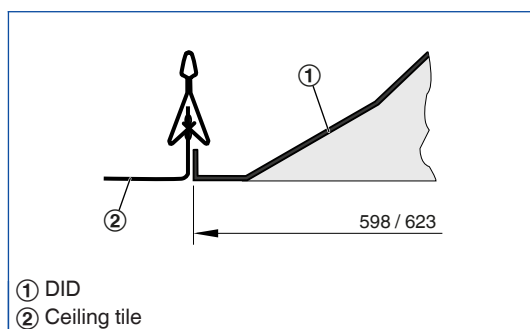
Ceiling installation, visible T-bars



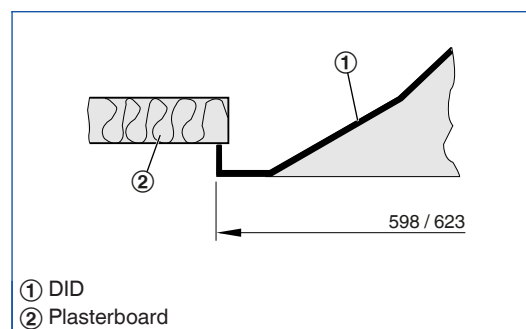
Ceiling installation, concealed T-bars



Ceiling installation with clamping profile



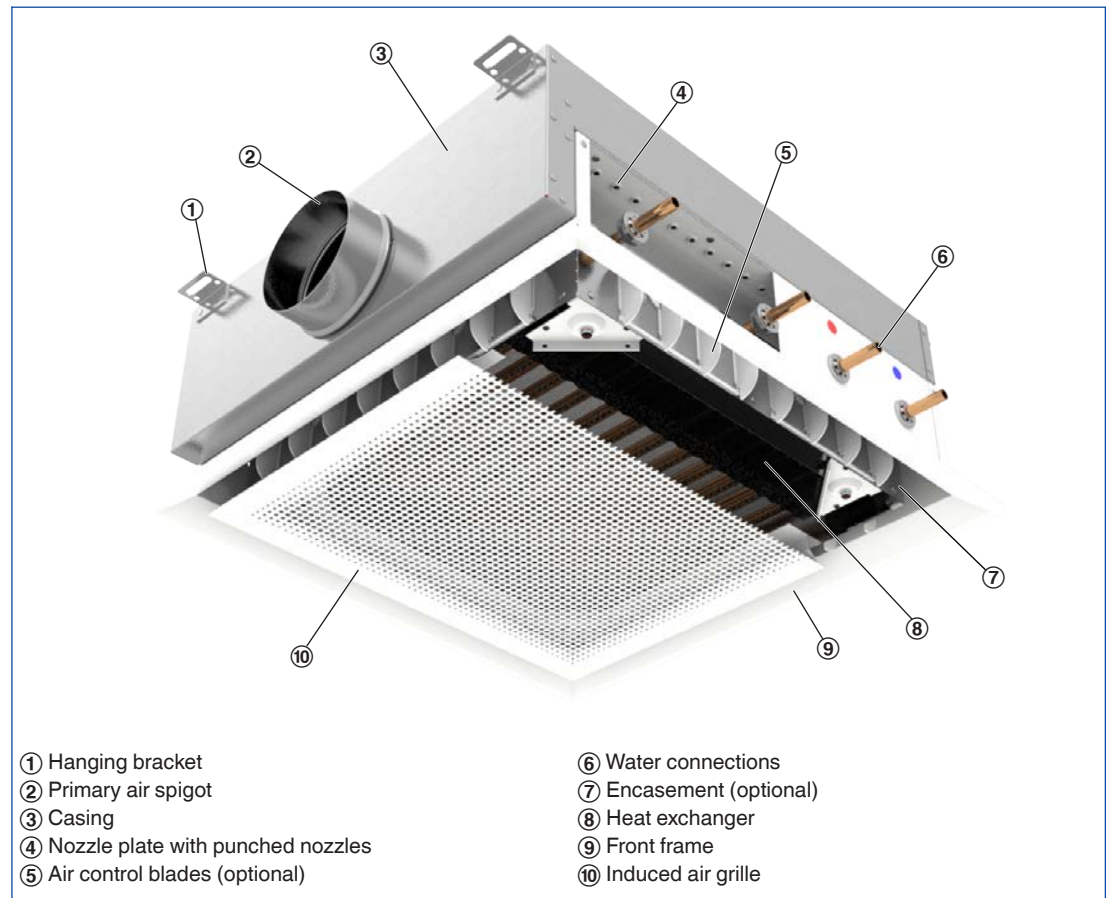
DID ceiling installation, plasterboard



Technical data

Nominal length	600, 1200 mm
Length	593, 598, 618, 623 mm (one tile), or 1193, 1198, 1243, 1248 mm (two tiles)
Height	230/245 mm
Width	593, 598, 618, 623 mm
Primary air spigot, diameter	123/158 mm
Primary air volume flow rate	14 – 87 l/s or 50 – 310 m³/h
Cooling capacity	Up to 2170 W
Heating capacity	Up to 2990 W
Max. operating pressure, water side	6 bar
Max. operating temperature	75 °C

Schematic illustration of DID614



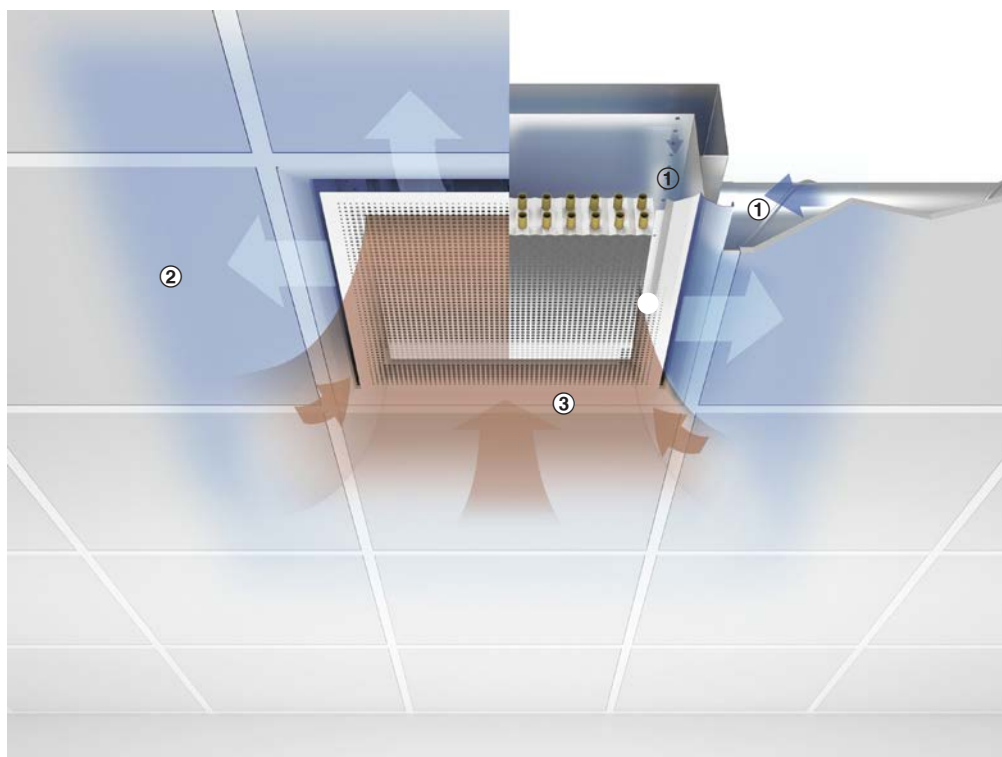
Function

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 chamber.

The resulting negative pressure at the discharge point leads to secondary air (room air) being induced via the induced air grille, from where it continues to pass through the heat exchanger. While passing through the heat exchanger, the secondary air is heated or cooled; primary and secondary air then mix and are supplied to the room horizontally through the supply air slots.

Principle of operation – DID614



① Conditioned fresh air (primary air)
② Supply air

③ Room air (secondary air)

Description

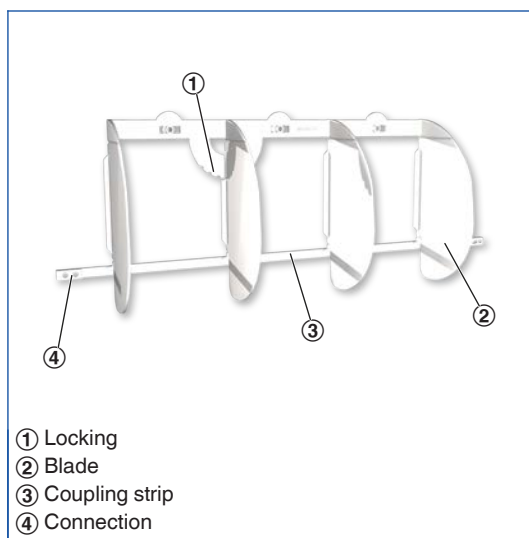
Set of air control blades

If a high cooling capacity is required in a very small space with active chilled beams, optional air control blades allow for adjusting the air discharge pattern such that the acceptable air velocity in the occupied zone is not exceeded. The airflow of each active chilled beam is spread and discharged according to the room geometry. If the use of a room changes, the air discharge pattern can be optimised by adjusting the air control blades accordingly.

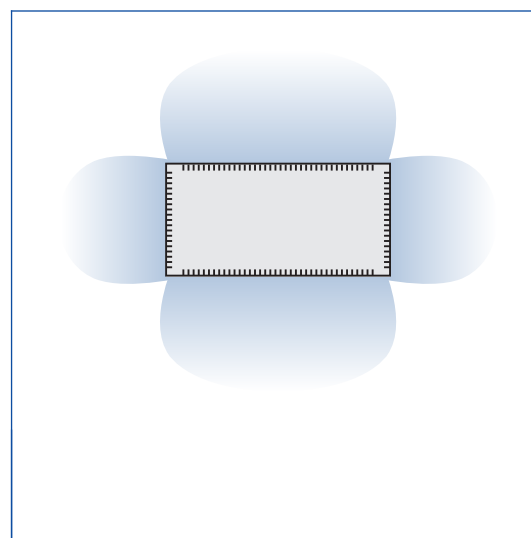
- It is possible to adjust several air control blades (i.e. a set of air control blades) together
- For fine adjustment, the sets of air control blades can be disconnected from each other
- To adjust a set of air control blades, use both hands to move the two outer blades of the set as required
- Maximum possible adjustment is 45° to the right or left in steps of 15°
- The blades are factory set to straight air discharge

The air control blades affect the technical data. The effects can be taken into consideration when the Easy Product Finder is used for sizing.

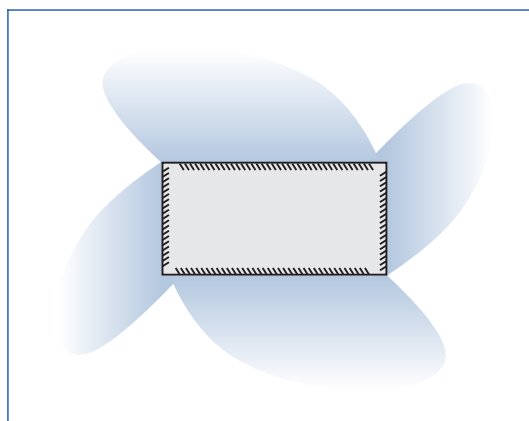
Set of air control blades



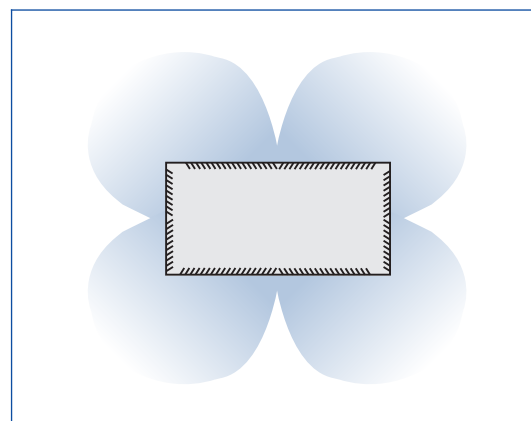
Straight air discharge



Angled air discharge



Divergent air discharge



Order code

DID614

DID614 – D2 – 2 – HE – R – A1 / 593 x 593 – P1 – RAL 9016 / LE / VS / KV – 0,63 / HV – 0,4 / R

1 Type

DID614 Active chilled beam

2 Design variant

No entry: perforated metal facing
with circular holes, encased

D2 Perforated metal facing with circular holes,
not encased

3 Heat exchanger

2 2-pipe

4 4-pipe

4 Nozzle variants

HE High Efficiency

S1 Standard, small

S2 Standard, large

HP High Performance

DA Twin nozzles
(factory setting: all nozzles are open)

5 Position of water connection

R Right side

L Left side

6 Water connections (without control package)

No entry: plain pipe tails, Ø12 mm

A1 With G½" external thread and flat seal

A2 With G½" union nut and flat seal

7 Overall dimensions [mm]

L x B, nominal size 600 x 600

593 x 593

598 x 598

L x B, nominal size 625 x 625

618 x 618

623 x 623

L x B, nominal size 1200 x 600

1193 x 593

1198 x 598

L x B, nominal size 1250 x 625

1243 x 618

1248 x 623

8 Primary air spigot

123 123 mm

158 158 mm

9 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 %

10 Adjustable air control blades

No entry: without air control blades

LE With air control blades

11 Valves and actuators

No entry: without control components

VS With control components

12 Cooling valve

No entry: none

KV Cooling valve including actuator

13 kVS value – cooling valve

0.25

0.40

0.63

1.00

14 Heating valve

No entry: none

HV Heating valve including actuator

15 kVS value – heating valve

0.25

0.40

0.63

1.00

16 Lockshield

No entry: none

R With lockshield(s)

Quick sizing

L _N	①	Primary air			②	Cooling				Heating		
		Ṡ _{Pr}	m ³ /h	Δp _t	L _{WA}	2-pipe and 4-pipe systems				4-pipe system		
						Ḡ _{tot}	Ḡ _{WK}	Δt _W	Δp _W	Ḡ _{WH} = Ḡ _{tot}	Δt _W	Δp _W
600 × 600/ 625 × 625	HE	13	47	90	24	524	368	2.9	1.2	375	6.5	0.1
		16	58	136	30	612	419	3.3	1.2	412	7.1	0.1
		19	68	191	35	688	459	3.6	1.2	443	7.6	0.1
	S1	16	58	50	21	536	343	2.7	1.2	358	6.2	0.1
		24	86	113	33	737	448	3.5	1.2	433	7.5	0.1
		31	112	189	41	883	509	4	1.2	479	8.3	0.1
	S2	20	72	34	21	564	323	2.5	1.2	351	6.1	0.1
		34	122	97	36	881	472	3.7	1.2	451	7.8	0.1
		48	173	194	46	1136	558	4.4	1.2	513	8.9	0.1
	HP	31	112	36	26	728	355	2.8	1.2	378	6.5	0.1
		45	162	77	38	998	456	3.6	1.2	444	7.7	0.1
		60	216	137	47	1251	528	4.1	1.2	493	8.5	0.1
	DA	23	83	33	18	591	314	2.5	1.2	351	6.1	0.1
		40	144	99	35	946	464	3.6	1.2	453	7.8	0.1
		56	202	195	46	1221	546	4.3	1.2	512	8.8	0.1
	DS	13	47	92	27	522	366	2.9	1.2	379	6.5	0.1
		16	58	139	33	611	419	3.3	1.2	419	7.2	0.1
		19	68	197	38	690	461	3.6	1.2	451	7.8	0.1
	DB	16	58	32	17	491	298	2.3	1.2	331	5.7	0.1
		28	101	99	33	792	455	3.6	1.2	445	7.7	0.1
		39	140	192	43	1008	538	4.2	1.2	508	8.8	0.1
1200 × 600/ 1250 × 325	HE	21	76	93	26	822	569	4.5	2.9	579	10	0.1
		25	90	132	31	937	636	5	2.9	636	11	0.1
		30	108	189	37	1062	701	5.5	2.9	692	12	0.1
	S1	26	94	56	24	829	518	4.1	2.9	551	9.5	0.1
		37	133	115	35	1134	689	5.4	2.9	674	11.6	0.1
		48	173	194	43	1373	795	6.2	2.9	756	13.1	0.1
	S2	34	122	41	24	951	542	4.3	2.9	570	9.9	0.1
		54	194	104	38	1407	757	5.9	2.9	728	12.6	0.1
		74	266	196	48	1770	879	6.9	2.9	825	14.3	0.1
	HP	51	184	46	33	1204	589	4.6	2.9	602	10.4	0.1
		65	234	75	41	1475	691	5.4	2.9	678	11.7	0.1
		80	288	114	47	1735	771	6.1	2.9	739	12.8	0.1
	DA	39	140	40	24	940	470	3.7	2.9	536	9.3	0.1
		60	216	95	37	1399	676	5.3	2.9	670	11.6	0.1
		85	306	190	48	1839	815	6.4	2.9	769	13.3	0.1
	DS	21	76	82	27	812	559	4.4	2.9	548	10.1	0.1
		27	97	135	34	991	666	5.2	2.9	658	11.4	0.1
		32	115	190	39	1117	732	5.7	2.9	705	12.2	0.1
	DB	26	94	34	21	739	426	3.3	2.9	501	8.6	0.1
		45	162	101	36	1224	682	5.4	2.9	686	11.8	0.1
		63	227	198	45	1570	811	6.4	2.9	735	12.8	0.1

① Nozzle variant

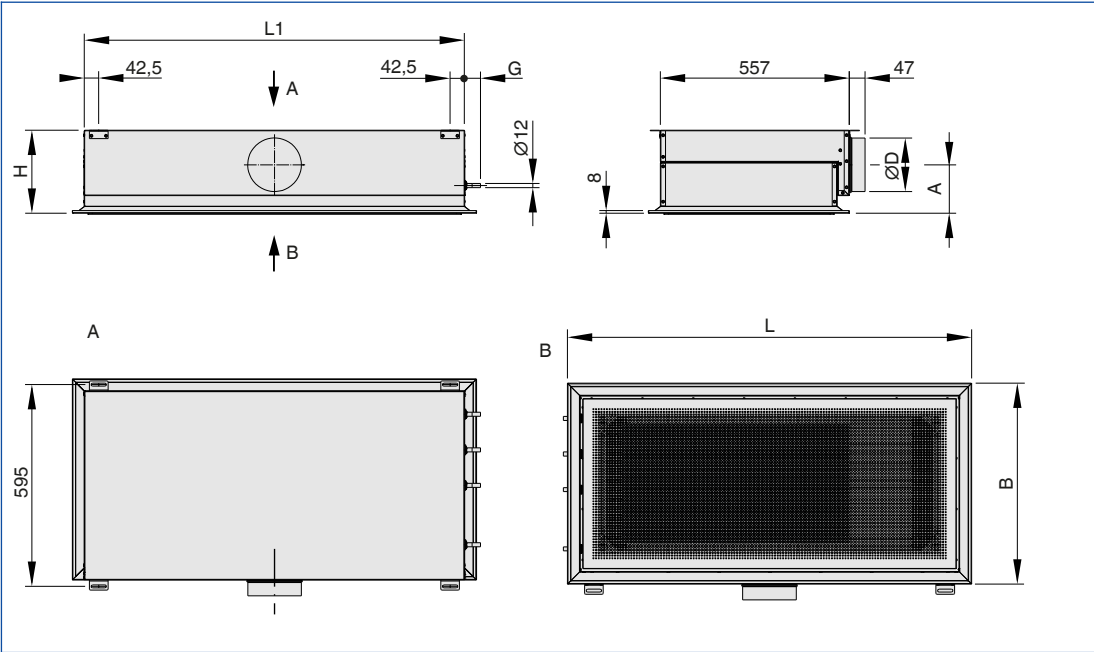
② Air-regenerated noise

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	110 l/h	50 l/h

Dimensions

DID614



Dimensions [mm]

Nominal size	L	B	L1	G
600 × 600	593	593	522	47.5
	598	598	522	47.5
	618	618	522	47.5
	623	623	522	47.5
1200 × 600	1193	593	1122	47.5
	1198	598	1122	47.5
	1243	618	1147	35
	1248	623	1147	35

Dimensions [mm]

D	H	A
123	230	125
158	245	143

Weight [kg]

Nominal size	kg/piece	Contained water (max.)
600 × 600	16	2
1200 × 600	30	3

Differences in width can be neglected

Description

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

Active chilled beams of Type DID614, with four-way air discharge and high thermal output, for air-water systems. For installation flush with the ceiling, preferably in rooms with a height up to 4.20 m. The units consist of a casing with suspension points, a spigot, non-combustible nozzles, and a horizontal heat exchanger. Five nozzle variants to optimise induction based on demand.

Special characteristics

- Four-way air discharge
- Horizontal heat exchanger as 2-pipe or 4-pipe system
- Water connection, Ø12 mm Cu pipe or coupling with G1/2" external thread and flat seal or G1/2" union nut and flat seal
- Induced air grille with parallel drilled apertures, decreasing towards the edges
- Optional twin nozzles, adjustable, for a large volume flow rate range

Materials and surfaces

- Casing, spigot, 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
- Air control blades made of polypropylene, UL 94, flame retardant (V0)

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: 600, 1200 mm
- Length: 593, 598, 618, 623 mm (one tile), or 1193, 1198, 1243, 1248 mm (two tiles)
- Height: 230/245 mm
- Width: 593, 598, 618, 623 mm
- Primary air spigot, diameter: 123/158 mm
- Primary air volume flow rate: 14 – 87 l/s or 50 – 310 m³/h
- Cooling capacity: up to 2170 W
- Heating capacity: up to 2990 W
- Max. operating pressure: 6 bar
- Max. operating temperature: 75 °C

Order options

1 Type

DID614 Active chilled beam

2 Design variant

No entry: perforated metal facing with circular holes, encased

- ☐ **D2** Perforated metal facing with circular holes, not encased

3 Heat exchanger

- ☐ **2** 2-pipe
☐ **4** 4-pipe

4 Nozzle variants

- ☐ **HE** High Efficiency
☐ **S1** Standard, small
☐ **S2** Standard, large
☐ **HP** High Performance
☐ **DA** Twin nozzles
(factory setting: all nozzles are open)

5 Position of water connection

- ☐ **R** Right side
☐ **L** Left side

6 Water connections (without control package)

No entry: plain pipe tails, Ø12 mm

- ☐ **A1** With G½" external thread and flat seal
☐ **A2** With G½" union nut and flat seal

7 Overall dimensions [mm]

L × B, nominal size 600 × 600

- ☐ **593 × 593**
☐ **598 × 598**
L × B, nominal size 625 × 625
☐ **618 × 618**
☐ **623 × 623**
L × B, nominal size 1200 × 600
☐ **1193 × 593**
☐ **1198 × 598**
L × B, nominal size 1250 × 625
☐ **1243 × 618**
☐ **1248 × 623**

8 Primary air spigot

- ☐ **123** 123 mm
☐ **158** 158 mm

9 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 %

10 Adjustable air control blades

No entry: without air control blades

- ☐ **LE** With air control blades

11 Valves and actuators

No entry: without control components

- ☐ **VS** With control components

12 Cooling valve

No entry: none

- ☐ **KV** Cooling valve including actuator

13 kVS value – cooling valve

- ☐ **0.25**
☐ **0.40**
☐ **0.63**
☐ **1.00**

14 Heating valve

No entry: none

- ☐ **HV** Heating valve including actuator

15 kVS value – heating valve

- ☐ **0.25**
☐ **0.40**
☐ **0.63**
☐ **1.00**

16 Lockshield

No entry: none

- ☐ **R** With lockshield(s)

Air-water systems

Basic information and nomenclature



3

- Product selection
- Principal dimensions
- Nomenclature



Eurovent certification

Air-water systems

Basic information and nomenclature

Product selection

	Air-water systems			
	Passive chilled beams	Induction units for ceiling installation	Induction units for under sill installation	Induction units for under floor installation
Type of building				
Office, administration	●	●	●	●
Hotel		●	●	●
School, university		●	●	
Airport, train station	●	●		
Hall	●	●		
Installation location				
Flush with the ceiling		●		
Freely suspended	●	●		
Internal wall			●	
External wall / façade			●	
Floor				●
Air distribution				
Mixed flow		●		
Inducing displacement flow			●	●
Displacement flow			○	○
Basic functions				
Heating		●	●	●
Cooling	●	●	●	●
Ventilation		●	●	●
Extract ventilation		○	●	●
●	Possible			
○	Possible under certain conditions: Robust unit variant and/or specific actuator or a useful additional product			
	Not possible			

Air-water systems

Basic information and nomenclature

Product selection

	Induction units (active chilled beams)							
	DID312	DID300B	DID632	DID600B-L	DID614	DID604	DID-R	DID-E
Installation details								
Grid ceilings	300 mm	300 mm	600 and 625 mm	600 and 625 mm	600 and 625 mm	600 and 625 mm	600 and 625 mm	600 and 625 mm
T-bar ceilings	●	●	●	●	●	●	●	
Continuous ceilings	●	●	●	●	●	●	●	
Ceiling bulkheads								●
Freely suspended	with extended border	with extended border	with extended border	with extended border	with extended border	with extended border	with extended border	
Heat exchanger								
2-pipe	●	●	●	●	●	●	●	●
4-pipe	●	●	●	●	●	●	●	●
Condensate drip tray	●					●	●	
●	Possible							
	Not possible							

	Induction units (active chilled beams)		Passive chilled beams	Induction units (active chilled beams)	Under sill induction units	Induction units for under floor installation
	DID-SB	IDH	PKV	QLI	IDB	BID
Installation details						
Freely suspended	●	●	●			
Wall or floor mounted				●	●	
Under floor						●
Heat exchanger						
2-pipe	●	●	●	●	●	●
4-pipe	●			●	●	●
Condensate drip tray		●		●	●	●
●	Possible					
	Not possible					

Air-water systems

Basic information and nomenclature

Principal dimensions

L_N [mm]
Nominal length

Nomenclature

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

Air-water systems

Basic information and nomenclature

Sizing with the help of this catalogue

This catalogue provides convenient quick sizing tables for air-water systems. The tables give sound power levels, thermal output values, temperature differences and volume flow rates for all nominal sizes. In addition, generally accepted room temperature and water flow temperature

values have been taken into account. Sizing data for other parameters can be determined quickly and precisely using the Easy Product Finder design programme.

Easy Product Finder

The Easy Product Finder allows you to size products using your project-specific data.

You will find the Easy Product Finder on our website.

Neue Position: Bestellschlüssel			
DID632-DE-LR-4-M-LR-0-0 / 1500x1500x593 / 0 / RAL 9010 / 0 / 0			

Produktauswahl	
Betrieb	Kühlen
Strategie	V Wasser=konst

Aerodynamische Daten			
Eingabe			
V _R	100	m³/h	(43...330)
A	3,00	m	(1,0...5,0)
H _L	2,00	m	(0,8...2,0)
L	4,00	m	
X	2,00	m	(0,19...4,0)

Ergebnisse Kühlen			
V _{R1}	= 0,14	m/s	
Δt _{R1}	= 0,6	K	
V _L	= 0,33	m/s	
Δt _L	= 1,3	K	

Kühlen			
Eingabe			
t _R	16,0	°C	(12,0...24,0)
t _L	15,0	°C	(10,0...20,0)
V	150	l/h	(30...300)
t _W	24,0	°C	(19,0...27,0)

Ergebnisse			
Q _{ges}	= -1091	W	
Q _W	= -822	W	
Δp _W	= 6,4	kPa	
Δt _W	= 4,7	K	

Akustische Ergebnisse			
Δp _s	= 210	Pa	
L _{WA}	= 34	dB(A)	
L _{WNC}	= 29		

Function

The induction principle

Induction units provide centrally conditioned primary air (fresh air) to the room in order to maintain the room air quality, and use heat exchangers for cooling and/or heating. The primary air is discharged through nozzles into the mixing chamber. As a result of this, secondary air (room air) is induced via the induced air grille and passes through the heat exchanger into the mixing chamber.

Convection

Passive chilled beams remove the heat from the room air and transfer it via a heat exchanger to the water (transport medium). More than 90 % of the heat are transferred through convection. As the air passes over the surfaces of the heat exchanger, its temperature decreases while its density increases as a consequence, hence accelerating the downward airflow. The air flows straight down from the top to the bottom of the unit. This further increases the downward airflow (stack effect) and hence the cooling output.

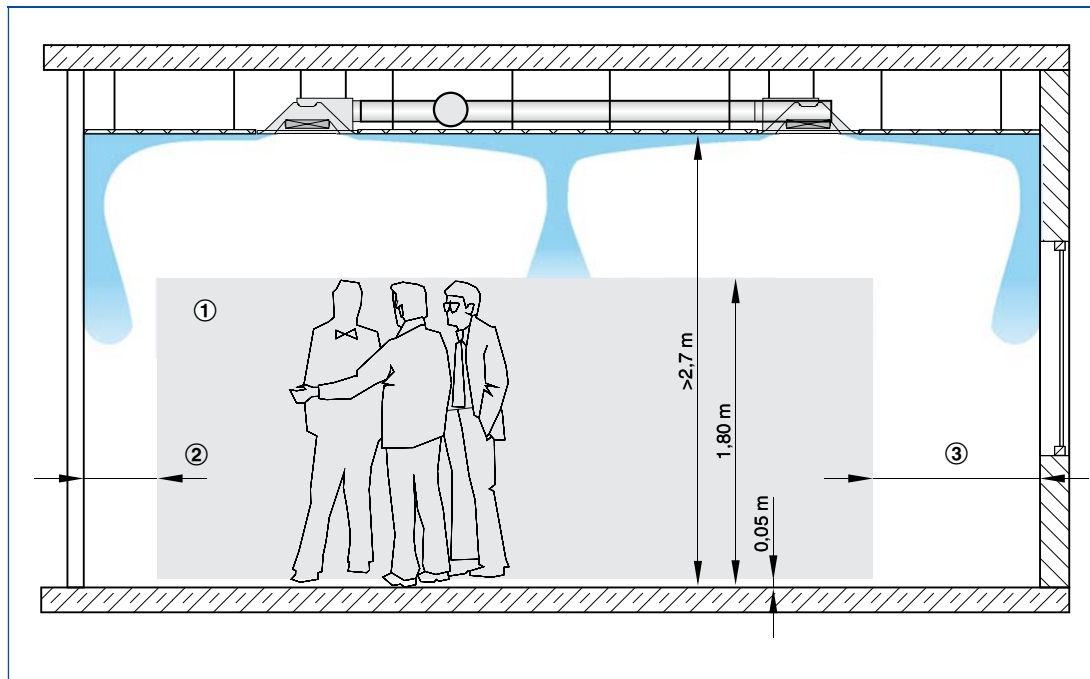
Types of ventilation

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.

Schematic illustration of mixed flow ventilation

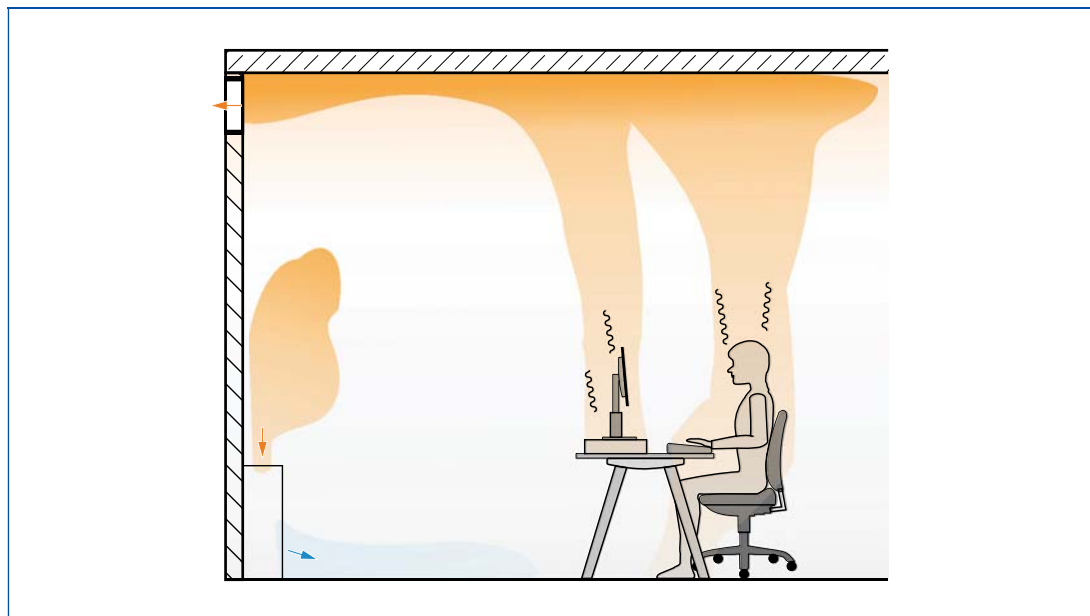


Schematic illustration of displacement flow ventilation

The supply air is discharged into the space with a velocity between 0.15 and 0.20 m/s and as close as possible to the floor; the result is a pool of fresh air over the entire floor area. The convection from people and other heat sources causes the fresh air from the pool to rise and

create comfortable conditions in the occupied zone. Displacement flow ventilation is characterised by low airflow velocities and low turbulence. The air quality in the occupied zone is very high. The extract air should ideally be removed near the ceiling.

Schematische Darstellung Quelllüftung

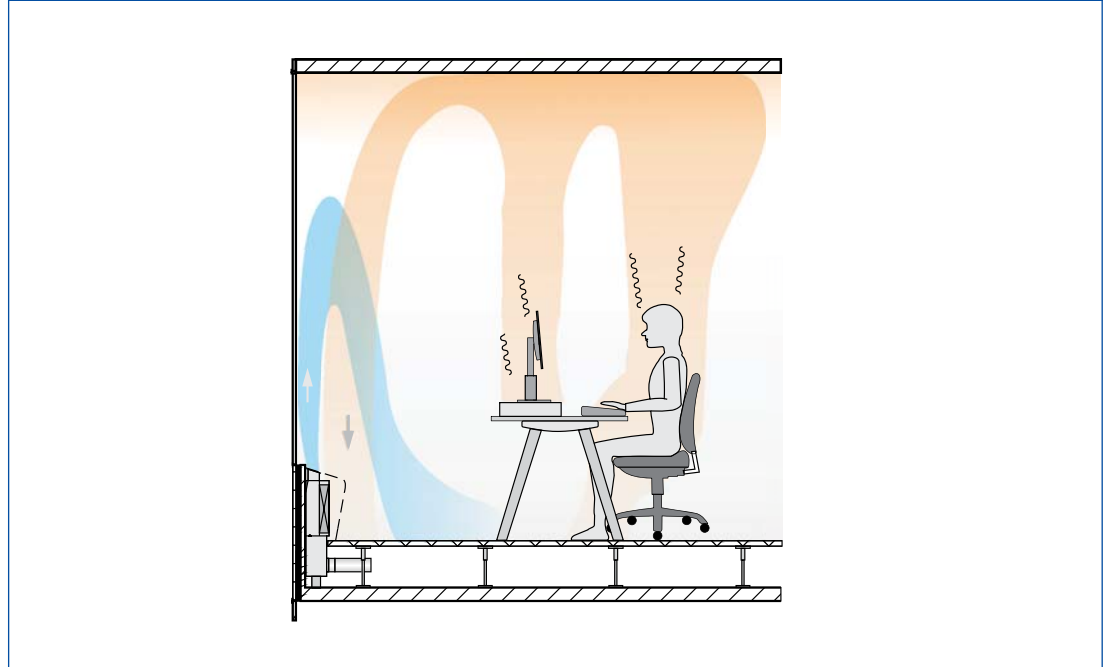


Inducing displacement flow

The supply air is discharged near the external wall and with a medium velocity between 1.0 and 1.5 m/s. Due to the induction effect the supply air velocity is rapidly reduced such that, in cooling mode, the supply air displaces the room

air over the entire floor area. The convection from people and other heat sources causes the fresh air from the pool to rise and create comfortable conditions in the occupied zone.

Schematic illustration of inducing displacement flow ventilation



Heat exchangers

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

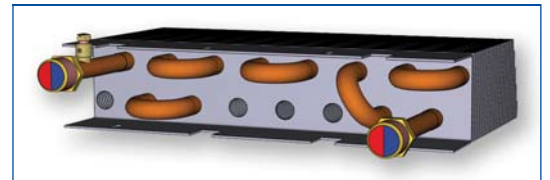
The maximum water flow temperature (heating circuit) for all heat exchangers is 75 °C; if flexible hoses are used, the water flow temperature should not exceed 55 °C. Units for other pressures and temperatures are available on request.

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.

Heat exchanger as 2-pipe 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.

Heat exchanger as 4-pipe system

