

Decreasing apertures towards the edges



Adjustable twin nozzles



Water connection



Fixing point



Tested to VDI 6022

Induction 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 4.00 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
- Five nozzle variants to optimise induction based on demand, including adjustable twin nozzles, i.e. one pair of nozzles with different diameters
- Removable induced air grille, fixed with magnets, with decreasing apertures towards the edges

Optional equipment and accessories

- Control system
- Adjustable air control blades for air direction control
- Powder coating in many different colours, e.g. RAL CLASSIC
- With an extended border also suitable for freely suspended installation

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Application

Application

- Active chilled beams of Type DID614 for the integration into various ceiling systems, preferably for room heights up to 4.00 m
- Particularly suitable for grid ceilings with grid size 600 or 625
- 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)
- 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

- Four-way air discharge
- Horizontal heat exchanger as 2-pipe or 4-pipe system
- Induced air grille with parallel drilled apertures, decreasing towards the edges
- Optional twin nozzles, adjustable, for a large volume flow rate range
- Water connection, Ø12 mm Cu pipe or coupling with G1/2" external thread and flat seal or G1/2" union nut and flat seal
- Internal nozzle plate with punched nozzles (non-combustible)
- Adjustable air control blades for air direction control as an option

Nominal sizes

- 600, 1200 mm

Special characteristics

Description

Variants

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

Nozzle variants

- HE: Small
- S1: Medium
- S2: Large
- HP: Extra large
- DA: Adjustable twin nozzles, all nozzles are open (factory setting)
- DS: Adjustable twin nozzles, smaller nozzles are open
- DB: Adjustable twin nozzles, large nozzles are

open. DS and DB can be set according to local requirements. You should order DA and have DS or DB set by others.

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

- Adjustable air control blades
- Water connection A1: G1/2" external thread and

- flat seal
- Water connection A2: G½" union nut and flat seal

Accessories

- Control components
- KV: Cooling valve with actuator
- HV: Heating valve with actuator
- Each valve with KVS value 0.25, 0.40, 0.63 or 1.0

Water connection

- R: Lockshield (2-pipe system: 1; 4-pipe system: 2), KVS value 1.32

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)
- Five nozzle variants to optimise induction based on demand, including adjustable twin nozzles, i.e. one pair of nozzles with different diameters.
- Internal nozzle plate with punched nozzles

(non-combustible)

- Removable induced air grille, fixed with magnets, secured with safety cables

Materials and surfaces

- Casing, spigot, 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)
- Nozzle plate made of 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)

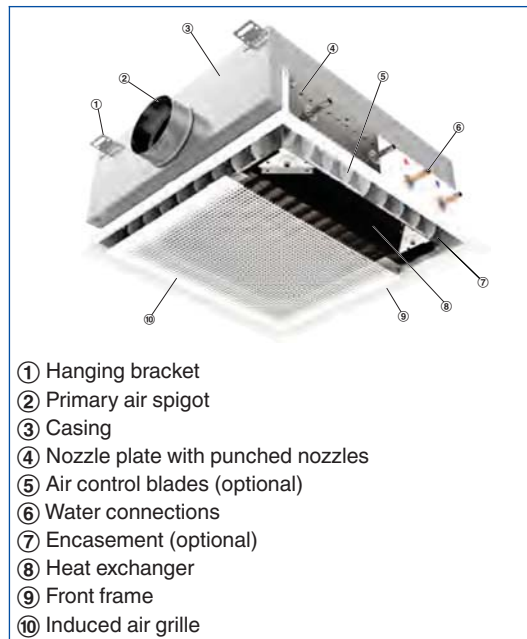
Functional description

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 (in 5 variants) into the mixing chambers; as a result of this, secondary air is induced.

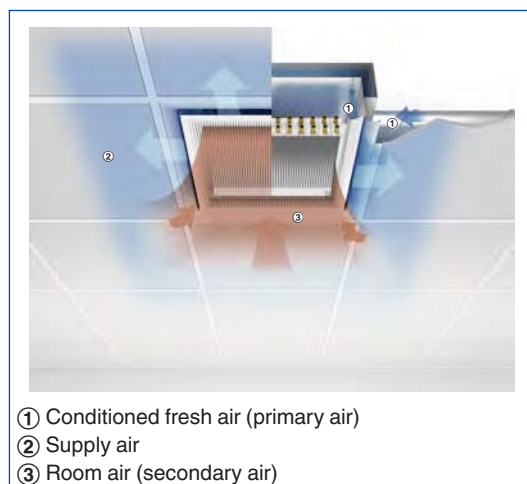
Secondary air (room air) is induced via the induced air grille and passes through the horizontal heat exchanger, where it is heated or cooled.

Primary and secondary air mix and are then supplied to the room horizontally through the supply air slots.

Schematic illustration of DID614



Principle of operation – DID614



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 m ³ /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

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 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 4.00 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, including adjustable twin nozzles, i.e. one pair of nozzles with different diameters.

Special characteristics

- Four-way air discharge
- Horizontal heat exchanger as 2-pipe or 4-pipe system
- Induced air grille with parallel drilled apertures, decreasing towards the edges
- Optional twin nozzles, adjustable, for a large volume flow rate range
- Water connection, Ø12 mm Cu pipe or coupling with G1/2" external thread and flat seal or G1/2" union nut and flat seal
- Internal nozzle plate with punched nozzles (non-combustible)
- Adjustable air control blades for air direction control as an option

Materials and surfaces

- Casing, spigot, 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)
- Nozzle plate made of 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: 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

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]

Product examples

DID614/593x593/LE



DID614/1193x593



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.

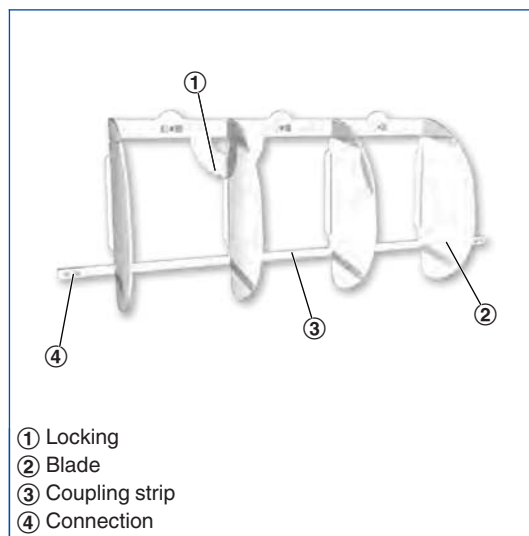
- It is possible to adjust several air control blades (i.e. a set of air control blades) together
- For fine adjustment, the sets of air control blades can be disconnected from

complementary to one another

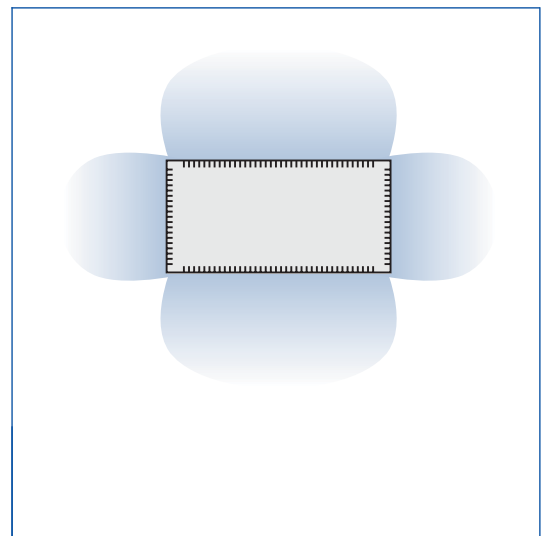
- To adjust a set of air control blades, use both hands to move the two outer blades of the set as required
- Maximum possible adjustment is 45° to the right or left in steps of 15°
- The blades are factory set to straight air discharge

If the air discharge is not straight, the water-side capacity will be slightly affected. Blades set at 45° may cause a loss of up to 5 %. Air control blades have to be factory fitted; it is not possible to retrofit air control blades at a later stage. Design variant D2 cannot be fitted with air control blades.

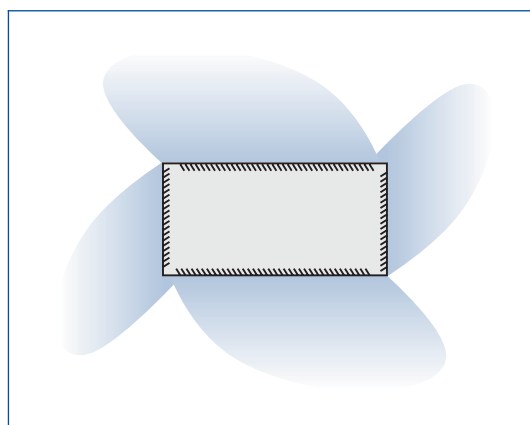
Set of air control blades



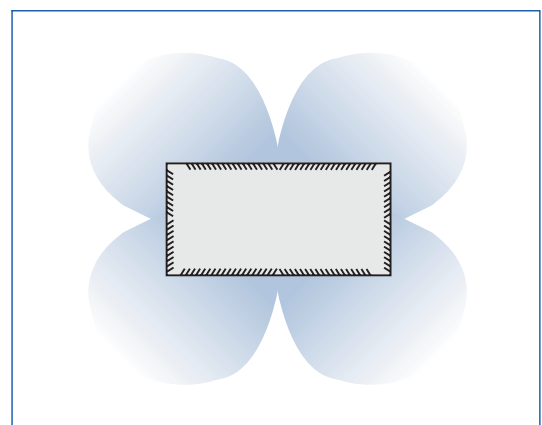
Straight air discharge



Angled air discharge



Divergent air discharge



Dimensions [mm]

D	H	A
123	230	125
158	245	143

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

Weight [kg]

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

Differences in width can be neglected



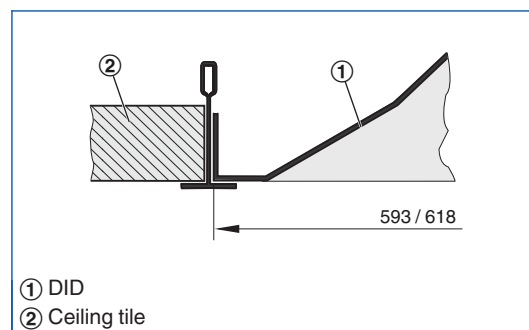
Installation and commissioning

- Preferably for rooms with a clear height up to 4.00 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
- With an extended border also suitable for freely suspended installation

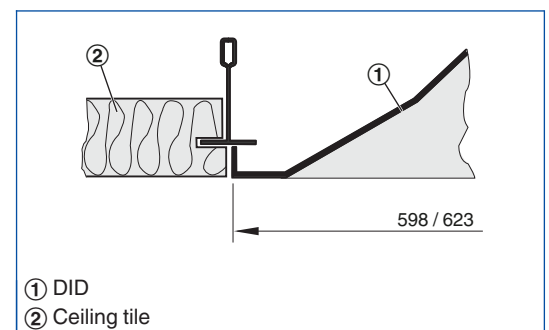
Installation into T-bar ceilings or continuous ceilings

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

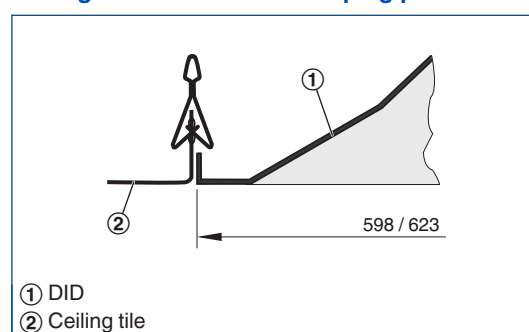
Ceiling installation, visible T-bars



Ceiling installation, concealed T-bars



Ceiling installation with clamping profile



DID ceiling installation, plasterboard

