TROX® TECHNIK
The art of handling air

# DID632

## ACTIVE CHILLED BEAM WITH TWO-WAY AIR DISCHARGE AND HORIZONTAL HEAT EXCHANGER, SUITABLE FOR GRID CEILINGS WITH GRID SIZE 600

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 4.0 m
- High heating and cooling capacity with a low conditioned primary air volume flow rate and low sound power level
- Four nozzle variants to optimise induction based on demand
- Hinged, removable induced air grille

Optional equipment and accessories

- Control equipment
- Additional casing for extract air
- Heat exchanger powder-coated black
- Powder coating in many different colours, e.g. RAL CLASSIC
- Adjustable air control blades for air directional control
- With an extended border also suitable for freely suspended installation
- Top entry spigots
- Exposed mounting
- Multi-service option

## APPLICATION

Application

- Active chilled beams of Type DID632 for the integration into various ceiling systems, preferably for room heights up to 4.0 m
- Particularly suitable for grid ceilings with grid size 600
- Adjustable air control blades (optional) allow for the manual adjustment of the air discharge direction
- 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

Special characteristics

- Adjustable air control blades for air direction control
- Hinged, removable induced air grille
- Horizontal heat exchanger as 2-pipe or 4-pipe system
- Internal nozzle plate with punched nozzles (non-combustible)
- Water connections at the narrow side, Ø15 mm Cu pipe

## DESCRIPTION

**Variants**

- DID632-LR: With induced air grille – perforated sheet metal, circular holes

**Construction**

- P3: RAL9010, gloss level 20%
- P2: RAL9005, gloss level 25%
- P6: Any other colour

**Attachments**

- Extract air spigot (45° connection) for supply and extract air combination
- 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
- 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)
- Four nozzle variants to optimise induction based on demand
- Optional adjustable air control blades for air direction control (retrofit at a later stage is not possible)

**Materials and surfaces**

- Casing, front frame, nozzle plate, and perforated induced air grille (LR) 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)
- Additional casing with extract air spigot made of galvanised sheet steel
- Air control blades made of polypropylene, UL 94, flame retardant (V0)

# TECHNICAL INFORMATION

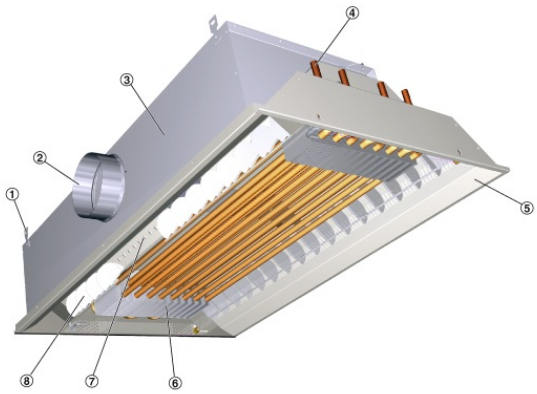
Functional description

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 (available in 4 sizes) 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, 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 DID632**




① Suspension points
② Primary air spigot
③ Casing
④ Water connections
⑤ Front frame
⑥ Heat exchanger
⑦ Nozzles

| | |
|---|---|
| **Nominal length** | 900, 1200, 1500, 1800, 2100, 2400, 2700, 3000 mm |
| **Length** | 893 – 3000 mm |
| **Height** | 210 mm |
| **Width** | 593, 598 mm |
| **Primary air spigot, diameter** | 123/158 mm |
| **Primary air volume flow rate** | 6 – 85 l/s or 22 – 306 $m^3/h$ |
| **Cooling capacity** | Up to 2450 W |
| **Heating capacity** | Up to 2970 W |
| **Max. operating pressure, water side** | 16 bar |
| **Max. operating temperature** | 75 °C |

## Quick sizing

| $L_N$ | ① | Primary air | | ② | ③ | Cooling mode | | | | Heating mode | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $\dot{V}_{Pr}$ | | $\Delta p_t$ | $L_{WA}$ | 2-pipe and 4-pipe systems | | | | 4-pipe system | | |
| | | | | | | $Q_{tot}$ | $Q_{WK}$ | $\Delta t_W$ | $\Delta p_W$ | $Q_{WH} = Q_{tot}$ | $\Delta t_W$ | $\Delta p_W$ |
| | | l/s | m³/h | Pa | dB (A) | W | | K | kPa | W | K | kPa |
| 900 | Z | 6 | 22 | 67 | <20 | 411 | 339 | 2.6 | 2.4 | 495 | 8.5 | 0.2 |
| | | 9 | 32 | 151 | <20 | 573 | 464 | 3.6 | 2.4 | 673 | 11.6 | 0.2 |
| | | 12 | 43 | 268 | 22 | 690 | 545 | 4.3 | 2.4 | 786 | 13.5 | 0.2 |
| | M | 9 | 32 | 65 | <20 | 459 | 350 | 2.7 | 2.4 | 512 | 8.8 | 0.2 |
| | | 13 | 47 | 136 | <20 | 628 | 472 | 3.7 | 2.4 | 683 | 11.7 | 0.2 |
| | | 18 | 65 | 260 | 28 | 785 | 568 | 4.4 | 2.4 | 818 | 14.1 | 0.2 |
| | G | 16 | 58 | 58 | <20 | 590 | 397 | 3.1 | 2.4 | 577 | 9.9 | 0.2 |
| | | 24 | 86 | 129 | 29 | 815 | 526 | 4.1 | 2.4 | 759 | 13.1 | 0.2 |
| | | 34 | 122 | 259 | 38 | 1035 | 625 | 4.9 | 2.4 | 897 | 15.4 | 0.2 |
| | U | 30 | 108 | 65 | 30 | 847 | 485 | 3.8 | 2.4 | 702 | 12.1 | 0.2 |
| | | 36 | 130 | 94 | 35 | 964 | 530 | 4.1 | 2.4 | 764 | 13.1 | 0.2 |
| | | 44 | 158 | 140 | 40 | 1107 | 577 | 4.5 | 2.4 | 829 | 14.3 | 0.2 |
| 1200 | Z | 8 | 29 | 64 | <20 | 529 | 433 | 3.4 | 3.1 | 628 | 10.8 | 0.3 |
| | | 12 | 43 | 145 | <20 | 728 | 584 | 4.6 | 3.1 | 839 | 14.4 | 0.3 |
| | | 16 | 58 | 257 | 26 | 871 | 679 | 5.3 | 3.1 | 970 | 16.7 | 0.3 |
| | M | 12 | 43 | 63 | <20 | 592 | 447 | 3.5 | 3.1 | 648 | 11.2 | 0.3 |
| | | 17 | 61 | 126 | 23 | 790 | 585 | 4.6 | 3.1 | 841 | 14.5 | 0.3 |
| | | 24 | 86 | 250 | 32 | 995 | 705 | 5.5 | 3.1 | 1006 | 17.3 | 0.3 |
| | G | 21 | 76 | 59 | 22 | 750 | 496 | 3.9 | 3.1 | 718 | 12.3 | 0.3 |
| | | 32 | 115 | 126 | 34 | 1042 | 656 | 5.1 | 3.1 | 939 | 16.2 | 0.3 |
| | | 44 | 158 | 238 | 42 | 1292 | 762 | 6.0 | 3.1 | 1083 | 18.6 | 0.3 |
| | U | 36 | 130 | 54 | 33 | 1011 | 577 | 4.5 | 3.1 | 830 | 14.3 | 0.3 |
| | | 42 | 151 | 73 | 37 | 1129 | 623 | 4.9 | 3.1 | 893 | 15.4 | 0.3 |
| | | 48 | 173 | 95 | 41 | 1240 | 661 | 5.2 | 3.1 | 945 | 16.3 | 0.3 |
| 1500 | Z | 10 | 36 | 63 | <20 | 639 | 519 | 4.1 | 3.7 | 749 | 12.9 | 0.3 |
| | | 15 | 54 | 141 | 21 | 871 | 690 | 5.4 | 3.7 | 986 | 17.0 | 0.3 |
| | | 20 | 72 | 251 | 29 | 1037 | 795 | 6.2 | 3.7 | 1128 | 19.4 | 0.3 |
| | M | 15 | 54 | 62 | <20 | 716 | 535 | 4.2 | 3.7 | 772 | 13.3 | 0.3 |
| | | 20 | 72 | 109 | 25 | 908 | 666 | 5.2 | 3.7 | 953 | 16.4 | 0.3 |
| | | 30 | 108 | 243 | 36 | 1187 | 825 | 6.4 | 3.7 | 1168 | 20.1 | 0.3 |
| | G | 30 | 108 | 71 | 30 | 1014 | 652 | 5.1 | 3.7 | 934 | 16.1 | 0.3 |
| | | 38 | 137 | 114 | 36 | 1209 | 751 | 5.9 | 3.7 | 1068 | 18.4 | 0.3 |
| | | 44 | 158 | 153 | 40 | 1338 | 807 | 6.3 | 3.7 | 1144 | 19.7 | 0.3 |
| | U | 42 | 151 | 49 | 37 | 1166 | 659 | 5.2 | 3.7 | 943 | 16.2 | 0.3 |
| | | 46 | 166 | 59 | 40 | 1245 | 691 | 5.4 | 3.7 | 986 | 17.0 | 0.3 |
| | | 50 | 180 | 70 | 42 | 1321 | 718 | 5.6 | 3.7 | 1024 | 17.6 | 0.3 |

**[1] Maximum 5 % reduction of water-side capacity has to be considered if the air control blades have been adjusted by up to 45°.**

① Nozzle variant ② Pressure drop ③ Air-regenerated noise

## Reference values

| Parameter | Cooling | Heating |
|---|---|---|
| $t_{RI}$ | 26 °C | 22 °C |
| $t_{Pr}$ | 16 °C | 22 °C (isothermal) |
| $t_{WV}$ | 16 °C | 50 °C |
| $\dot{V}_W$ **($L_N$ 900 – 1800 mm)** | 110 l/h | 50 l/h |
| $\dot{V}_W$ **($L_N$ from 2100 mm)** | 200 l/h | 110 l/h |

For volume flow rates, pressure drop, and sound power levels for the optional extract air spigot please refer to the Easy Product Finder design programme.

Active chilled beams of Type DID632, with two-way air discharge and high thermal output, providing high thermal comfort levels.

For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m.

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

Nozzles in four sizes to optimise induction based on demand.

Special characteristics

- Adjustable air control blades for air direction control
- Hinged, removable induced air grille
- Horizontal heat exchanger as 2-pipe or 4-pipe system
- Water connections at the narrow side, Ø15 mm Cu pipe

Materials and surfaces

- Casing, front frame, nozzle plate, and perforated induced air grille (LR) made of galvanised sheet steel
- Heat exchanger with copper tubes and aluminium fins
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- Heat exchanger also in black (RAL 9005)
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- P2: RAL9005, gloss level 25%
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Technical data

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- Height: 210 mm
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- Primary air volume flow rate: 6 – 85 l/s, 22 – 306 $m^3/h$
- Cooling capacity: up to 2450 W
- Heating capacity: up to 2970 W
- Max. operating pressure: 16 bar
- Max. operating temperature: 75 °C

**DID632**

**DID632 – LR – 2 – M – LR – __– __ / 1800 × 1500 × 593 / P2 – RAL... / G3 / LE / VS**

1 2 3 4 5 6 7 8 9 10 11 12 13

1 Type
**DID632** Active chilled beam

2 Induced air grille
**LR** Perforated metal, circular holes

3 Heat exchanger
**2** 2-pipe
**4** 4-pipe

4 Nozzle variant
**Z** Small plus
**M** Medium
**G** Large
**U** Extra large

5 Arrangement of casings and connections
**LR**
**RL**
Note
L = left side, R = right side

6 Additional casing with extract air spigot
No entry: none

7 Water connections
No entry: Ø15 mm pipe with plain tails

8 Total length (diffuser face) × nominal size [mm]
$L \times L_N$
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

9 Width of front frame [mm]
B
**593**
**598**

10 Exposed surface
**P3:** RAL9010, gloss level 20%
**P2:** RAL9005, gloss level 25%
**P6:** Any other colour

11 Surface of heat exchanger
No entry: untreated
**G3** RAL 9005, black

12 Air control blades
No entry: none
**LE** With

13 Valves and actuators
No entry: none
**VS** With