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

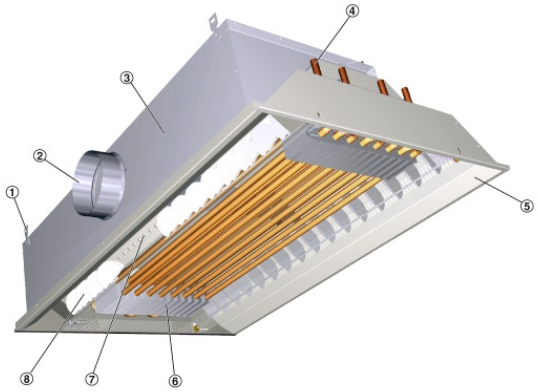
Functional description

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		
		$\dot{V}_{Pr}$		Δp_t	L_{WA}	2-pipe and 4-pipe systems				4-pipe system		
						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
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_R	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
- 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)

Construction

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

Technical data

- 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, 22 – 306 m³/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