



Conforme à VDI 6022

PKV

PASSIVE CHILLED BEAM IN NOMINAL LENGTHS OF UP TO 3000 MM AND WITH A HORIZONTAL HEAT EXCHANGER

Passive chilled beam with 2-pipe heat exchanger for ceiling installation, either freely suspended or above an open cell ceiling

- For room heights from 2.60 m
- Comfortable room cooling
- Water connection from the side or from the top
- 3 standard widths and heights for optimum dissipation of heat loads

Optional equipment and accessories

- Control package
- Aluminium frame with perforated metal facing
- Heat exchanger powder-coated black

- Powder coating in many different colours, e.g. RAL CLASSIC or NCS

Application



Application

- Passive chilled beam of Type PKV for ceiling installation, either freely suspended or above an open cell ceiling, suitable for room heights from 2.60 m
- Dissipation of high heat loads using a 2-pipe heat exchanger
- Energy-efficient solution since water is used as a medium for heating and cooling
- Passive chilled beam (no supply air) for new buildings and refurbishment projects

Special characteristics

- Air-water component for the dissipation of heat loads
- Horizontal heat exchanger as 2-pipe system
- Aesthetic frame and perforated metal facing for freely suspended installation in comfort areas
- Water connections at the narrow side, Ø12 mm Cu pipe, with plain tails, either straight or 90° bent upwards

Description



Variants

- PKV-0: Casing and heat exchanger
- PKV-L: Including perforated metal facing
- PKV-R-L: Including frame and perforated metal facing

Construction

- PKV-0 (without frame): Powder-coated RAL 9005, black, gloss level 70 %
- PKV-L (with perforated metal facing): Powder-coated RAL 9010, pure white, gloss level 50 %
- PKV-R-L (with frame and perforated metal facing): Powder-coated RAL 9010, pure white, gloss level 50 %
- P1: Powder-coated in any other RAL colour, gloss level 70 %
- G3: Heat exchanger, powder-coated RAL 9005, black, gloss level 70 %

Attachments

- Frame
- Perforated metal facing

Useful additions

- Connecting hoses
- Control equipment consisting of control panel including a controller with integral room temperature sensor; valve and valve actuator; and compression coupler

Materials and surfaces

- Casing and perforated metal facing made of galvanised sheet steel
- Frame (PKV-R) made of aluminium
- Heat exchanger with copper tubes and aluminium fins, and with galvanised flanges
- Casing without frame: powder-coated black (RAL 9005) as standard
- Casing with frame and/or perforated metal facing: powder-coated pure white (RAL 9010) as standard

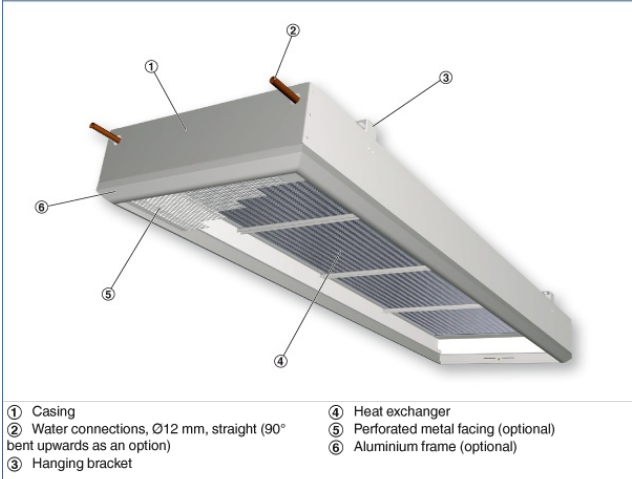
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Functional description

Passive chilled beams are used to dissipate high heat loads.

Warm room air rises due to thermal buoyancy, is cooled by the heat exchanger, then slowly flows downwards again to the occupied zone.

Schematic illustration of the PKV



- ① Casing

② Water connections, Ø12 mm, straight (90° bent upwards as an option)

③ Hanging bracket
- ④ Heat exchanger

⑤ Perforated metal facing (optional)

⑥ Aluminium frame (optional)

Functional description

Passive chilled beams are used to dissipate high heat loads.
Warm room air rises due to thermal buoyancy, is cooled by the heat exchanger, then slowly flows downwards again to the occupied zone.

Length	1000, 1500, 2000, 2500, 3000 mm
Width	295, 455, 575 mm
Height	110, 200, 300 mm
Width of heat exchanger	280, 440, 560 mm
Cooling capacity	Up to 1000 W
Max. operating pressure, water side	6 bar
Max. operating temperature	75 °C

Quick sizing – nominal cooling capacity [W] to EN 14518

Length	Width	Height	$\Delta t_{\text{room-out}} = 8 \text{ K}; \Delta t_w = 2 \text{ K}$		
			Distance to ceiling		
			100 mm	200 mm	300 mm
mm			W		
1000	295	110	72	76	76
		200	92	98	98
		300	110	117	117
1500		110	120	128	128
		200	162	174	175
		300	203	218	219
2000		110	182	197	198
		200	253	271	272
		300	310	330	331
2500		110	256	274	275
		200	342	364	365
		300	409	433	435
3000		110	328	349	350
		200	426	451	453
		300	504	532	534
1000	455	110	95	108	112
		200	123	142	149
		300	150	178	187
1500		110	178	213	224
		200	249	290	302
		300	304	347	361
2000		110	291	334	347
		200	377	426	441
		300	442	497	513
2500		110	392	442	457
		200	493	552	570
		300	572	638	658
3000		110	486	544	562
		200	604	674	696
		300	698	777	801
1000	575	110	111	135	139
		200	149	191	198
		300	190	242	250
1500		110	244	300	307
		200	324	384	392
		300	382	446	455
2000		110	421	443	452
		200	472	546	556
		300	543	625	637
2500		110	498	575	585
		200	610	700	713
		300	697	799	813
3000		110	612	702	797
		200	744	852	867
		300	848	970	987

Passive chilled beams of Type PKV, without frame for installation above open cell ceilings, or with frame for freely suspended installation, suitable for the dissipation of high heat loads.

Special characteristics

- Air-water component for the dissipation of heat loads
- Horizontal heat exchanger as 2-pipe system
- Aesthetic frame and perforated metal facing for freely suspended installation in comfort areas
- Water connections at the narrow side, Ø12 mm Cu pipe, with plain tails, either straight or 90° bent upwards

Materials and surfaces

- Casing and perforated metal facing made of galvanised sheet steel
- Frame (PKV-R) made of aluminium
- Heat exchanger with copper tubes and aluminium fins, and with galvanised flanges
- Casing without frame: powder-coated black (RAL 9005) as standard
- Casing with frame and/or perforated metal facing: powder-coated pure white (RAL 9010) as standard

Construction

- PKV-0 (without frame): Powder-coated RAL 9005, black, gloss level 70 %
- PKV-L (with perforated metal facing): Powder-coated RAL 9010, pure white, gloss level 50 %
- PKV-R-L (with frame and perforated metal facing): Powder-coated RAL 9010, pure white, gloss level 50 %
- P1: Powder-coated in any other RAL colour, gloss level 70 %
- G3: Heat exchanger, powder-coated RAL 9005, black, gloss level 70 %

Technical data

- Nominal length: 1000, 1500, 2000, 2500, 3000 mm
- Nominal width: 295, 455, 575 mm
- Nominal height: 110, 200, 300 mm
- Width of heat exchanger: 280, 440, 560 mm
- Cooling capacity: up to 1000 W
- Max. operating pressure, water side: 6 bar
- Max. operating temperature: 75 °C

PKV

PKV – R – L – G – W / 2500 x 455 x 200 / P1 – RAL ... / G3 / VS										
1	2	3	4	5	6	7	8	9	10	11

1 Type PKV Passive chilled beam	7 Width [mm] B 295 455 575
2 Aluminium frame No entry: none R With	8 Height [mm] H 110 200 300
3 Perforated metal facing No entry: none L With	9 Surface of casing No entry: no frame RAL 9005, black No entry: with frame and/or perforated metal facing, RAL 9010, pure white P1 Powder-coated, specify RAL CLASSIC colour Gloss level: RAL 9010 50 % RAL 9006 30 % All other RAL colours 70 %
4 Water connection G Pipe connection, Ø12 mm, straight B Pipe connection, Ø12 mm, 90° bent upwards	10 Surface of heat exchanger No entry: untreated G3 RAL 9005, black
5 Suspension W Hanging brackets	11 Valves and actuators No entry: none VS With
6 Length [mm] L 1000 1500 2000 2500 3000	