



► **KaCool D AF**  
Chilled water air conditioning systems

# KaCool D AF

Comfortable feeling of well-being, thanks to  
AtmosFeel

► **Technical catalogue**



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KaCool D AF:  
Comfortable feeling  
of well-being,  
thanks to AtmosFeel







Side air outlets ensure draught-free airflows and maximum comfort (AtmosFeel).

# 01 ▶ Product information

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Example: models 1 – 4



## KaCool D AF - Comfortable feeling of well-being, thanks to AtmosFeel

KaCool D AF – AtmosFeel for the highest standards of comfortable air supply and design. The ceiling cassettes provide a wide spectrum of cooling and heating outputs in different output ranges.

The design panel has been developed specifically for maximum comfort and the ultimate in design standards. Cold air passes through four side air outlets along the ceiling and into the room and is perfectly dissipated. The so-called Coanda effect is used for this, which produces a comfortable room climate without draughts. The outlet slats can be manually adjusted. The minimal installation height of the ceiling cassettes and the flat design panel are both ideal for all rooms with a suspended ceiling. The units can be operated using a room thermostat, infra-red remote control or, ultra-conveniently, using the KaControler.

### Fresh air

The supply of primary air enters through a pre-punched opening on the housing, to which a circular hose can be connected. An additional fan is then needed on site for this configuration.

### Supply to adjacent rooms

Depending on the size of the unit, one or two connecting spigots can be connected to the punched opening(s) to provide an air supply discharged into an adjacent room. The air volume can be regulated by closing one or both discharge openings.

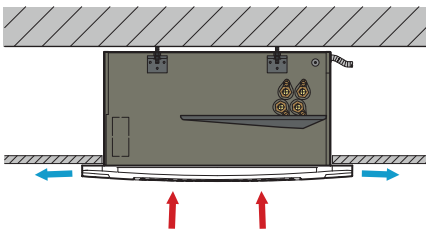
### Valves

3-way or 2-way valves can optionally be provided separately for installation on site. They include an actuator and the required pipework to connect the valve to the cassette. There is an option of factory integrating the valves into the cassette with larger order quantities. They are completely pre-assembled and wired inside the cassette.

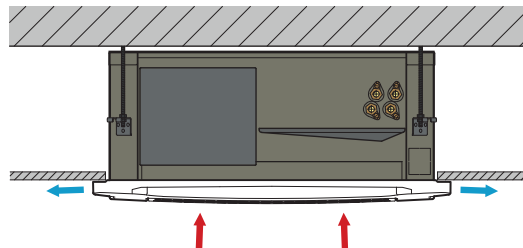
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### Cooling example

Models 1 – 4



Model 5 – 7





# Product data



## Product benefits

- ▶ AtmosFeel for maximum comfort
- ▶ Minimalist cassette design
- ▶ Whisper-quiet with EC fan
- ▶ Draught-free air supply into rooms through side air outlets
- ▶ ABS panel with AF (AtmosFeel) in RAL 9016 (traffic white)
- ▶ Optionally available with "metal grille panel", which can be colour-matched to the customer's requirements
- ▶ Optional primary air connection
- ▶ Fully automatic KaControl or connection to an existing, external building automation system



## Features

- ▶ Available in a wide range of colours
- ▶ Condensate pump (optional)
- ▶ High-output copper-aluminium heat exchanger
- ▶ Various valve kits available
- ▶ Easy installation

### Installation

- ▶ Ceiling-mounted

### Primary air supply

- ▶ Optionally possible by way of accessories

### Heating

- ▶ LPHW

### Cooling

- ▶ CHW

### KaControl

- ▶ Optional

## Performance data

**Cooling output [W]<sup>1)</sup>** > 1841 – 12078

**Heat output [W]<sup>2)</sup>** > 2524 – 28539

**Air flow [m³/h]** > 270 – 1735

**Sound pressure level [dB(A)]<sup>3)</sup>** > 19 – 57

<sup>1)</sup> at CHW 7/12 °C,  $t_{L1}$  = 27 °C, 48% relative humidity

<sup>2)</sup> at LPHW 75/65 °C,  $t_{L1}$  = 20 °C

<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A).

### Operating limits

- ▶ Max. operating pressure: 8 bar
- ▶ Max. entering water temperature: 75 °C
- ▶ Min. entering water temperature: 6 °C
- ▶ Max. air inlet temp.: 30 °C
- ▶ Min. air inlet temp.: 15 °C
- ▶ Rel. air humidity: 15 % – 75 %
- ▶ Max. glycol volume: 50 %

## Applications

Buildings of all kinds, which require whisper-quiet cooling and/or heating from a visually discreet design.

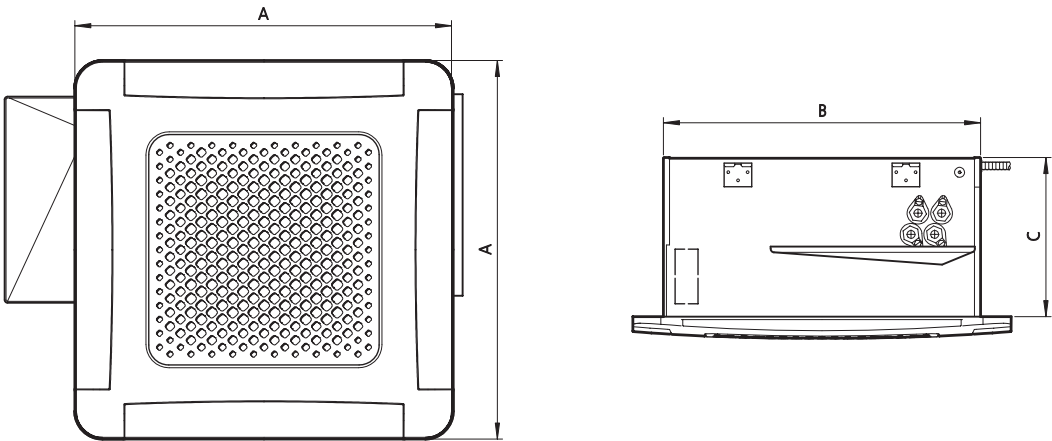


# Selection guide

System							
2-pipe		4-pipe					
Cooling output <sup>1)</sup> [W]	Heat output <sup>2)</sup> [W]	Cooling output <sup>1)</sup> [W]	Heat output <sup>2)</sup> [W]	Model size	Panel (A) [mm]	Body (B) [mm]	Height (C) [mm]
1841 – 2829	4417 – 6614	1843 – 2623	3265 – 4554	1	680	572	286
2324 – 4495	5251 – 9854	2014 – 3366	3606 – 6144	2			
2602 – 4972	5901 – 11307	1998 – 3964	2524 – 4331	3			
3947 – 5377	9549 – 12468	2523 – 4409	3014 – 4731	4			
3627 – 7039	8483 – 16511	3429 – 6186	6029 – 11224	5	930	818	326
4328 – 9393	8966 – 20108	3915 – 7487	7256 – 13563	6			
5514 – 12078	12411 – 28539	4963 – 8454	9071 – 14602	7			

1) at CHW 7/12 °C, t<sub>L1</sub> = 27 °C, 48% relative humidity  
2) at LPHW 75/65 °C, t<sub>L1</sub> = 20 °C

## Technical drawing (Dimensions in mm)

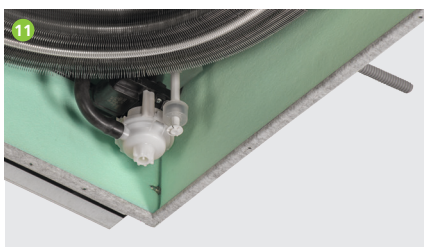
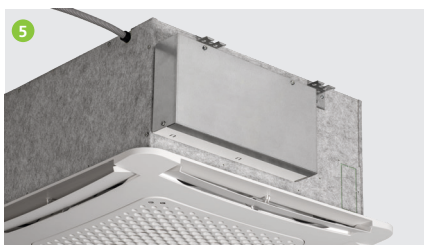


## KaCool D AF at a glance

- 1 Compact basic housing
- 2 Punched opening for external air outlet
- 3 Punched opening for optional fresh air connection
- 4 AtmosFeel air outlet
- 5 Electrical junction box
- 6 Design panel



## Features





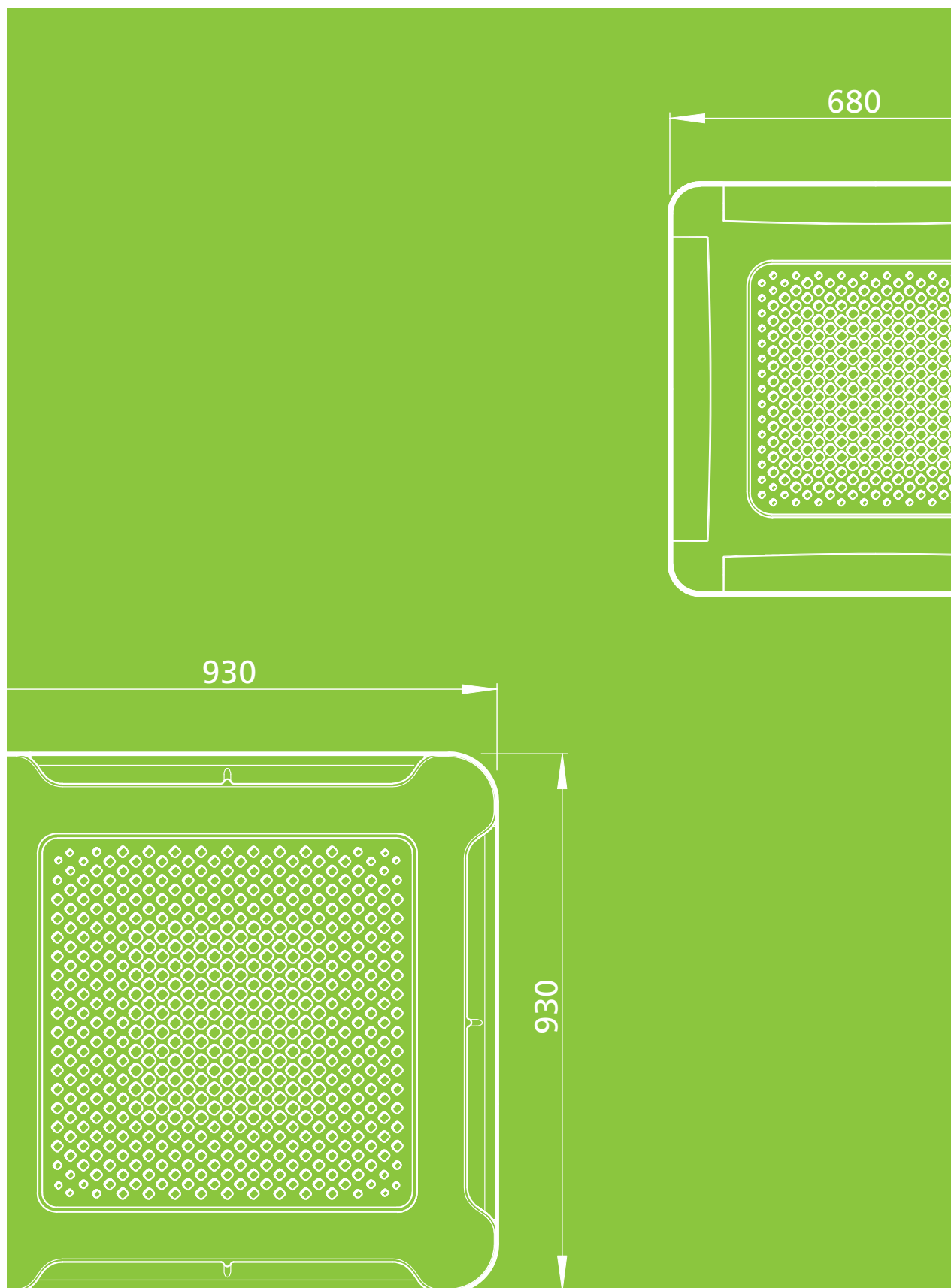


Example: models 1 – 4

- 1 Compact basic housing:**
  - ▶ made of galvanised sheet steel
  - ▶ the outside has a fleece coating for improved insulation from the environment
  - ▶ the inside has high-grade 10 mm vapour diffusion-tight polyethylene foam matting
- 2 Punched opening for external air outlet:**
  - ▶ connection option for air outlets (see p 25)
- 3 Punched opening for optional fresh air connection:**
  - ▶ models 4 – 7 per spigot (max. 2) 80 m³/h
  - ▶ models 5 - 7, max. 120 m³/h
- 4 AtmosFeel air outlet:**
  - ▶ four manually adjustable outlet air slats
  - ▶ smooth plastic
  - ▶ easy to clean
- 5 Electrical junction box for control PCBs:**
  - ▶ KaControl
  - ▶ infra-red electronic receiver
  - ▶ terminals only, for on-site control
- 6 Design panel in traffic white, similar to RAL 9016:**
  - ▶ outlet optimised for maximum comfort through side air outlets and utilisation of the Coanda effect
  - ▶ IR receiver concealed within the design panel
- 7 Condensation connection:**
  - ▶ outside diameter 13.5 mm
- 8 Air filter Coarse:**
  - ▶ simple to remove
  - ▶ easy to clean
- 9 Air inlet grille:**
  - ▶ large free cross-section to minimise pressure losses
- 10 Hydraulic connections:**
  - ▶ for CHW, LPHW and condensation drain
  - ▶ valve drip tray drains any condensation produced into the condensation tray
  - ▶ drip tray is supplied with the unit
  - ▶ available with built-in valves with corresponding order volumes (fig. 14)
- 11 Condensation pump and float switch:**
  - ▶ easily accessible by removal of the polystyrene condensation tray
  - ▶ integrated condensation pump drains the condensation up to a max. head of 600 mm
  - ▶ pump activation by a two-stage float switch
  - ▶ the pump is switched on when the first stage is reached, the second stage activates an evaluable alarm contact
- 12 Fans:**
  - ▶ continuously variable EC fans
  - ▶ efficient and low-noise
  - ▶ protection class IP 44, insulation class B
  - ▶ integrated thermal contact to prevent the motor from overheating
- 13 Heat exchanger:**
  - ▶ made of copper pipe with aluminium fins
  - ▶ 2-/4-pipe version
  - ▶ vent and drain valves on the outside of the unit
- 14 Valves (optional):**
  - ▶ optionally factory-integrated

## 02 ► Technical data

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## Advice on measuring conditions

The cooling and heat outputs have been calculated in line with DIN EN 1397: 2015-11 „Water-air fan convectors, test methods for establishing the performance“.

The specific requirements for cooling and heating mode are taken into account in DIN EN 1397. Eurovent measurements are also based on them, permitting certification following measurements in accredited test laboratories.

### Normative reference

The standard refers to:

- ▶ EN 23741; Determining the sound power levels of noise sources
- ▶ EN 45001; General criteria for the operation of test laboratories
- ▶ ISO 5801; Industrial fans; performance testing using standardised airways
- ▶ ISO 5221; Air distribution and air diffusion; rules to methods of measuring air flow rate in an air handling duct

The entering air temperature of the ceiling cassette is selected as the reference/air temperature, which should not be confused with the ambient temperature.

In practice, most ceiling cassettes are mainly positioned underneath the slab ceiling and within a suspended ceiling. Due to the temperature stratification that occurs, the entering air temperature differs from the air temperature in the room (measured at a height of 1.5 m).

In cooling mode, the room temperature is significantly lower than the entering air temperature, depending on the distance from the air inlet. Therefore, if an entering air temperature of 27 °C is assumed when calculating the output, the room temperature will be much lower.

To avoid the build-up of heat in heating mode, the position of the outlet louvres can be varied. The warm air can therefore be targeted specifically to where it is needed.



Sound measurement laboratory, example: models 1 – 4

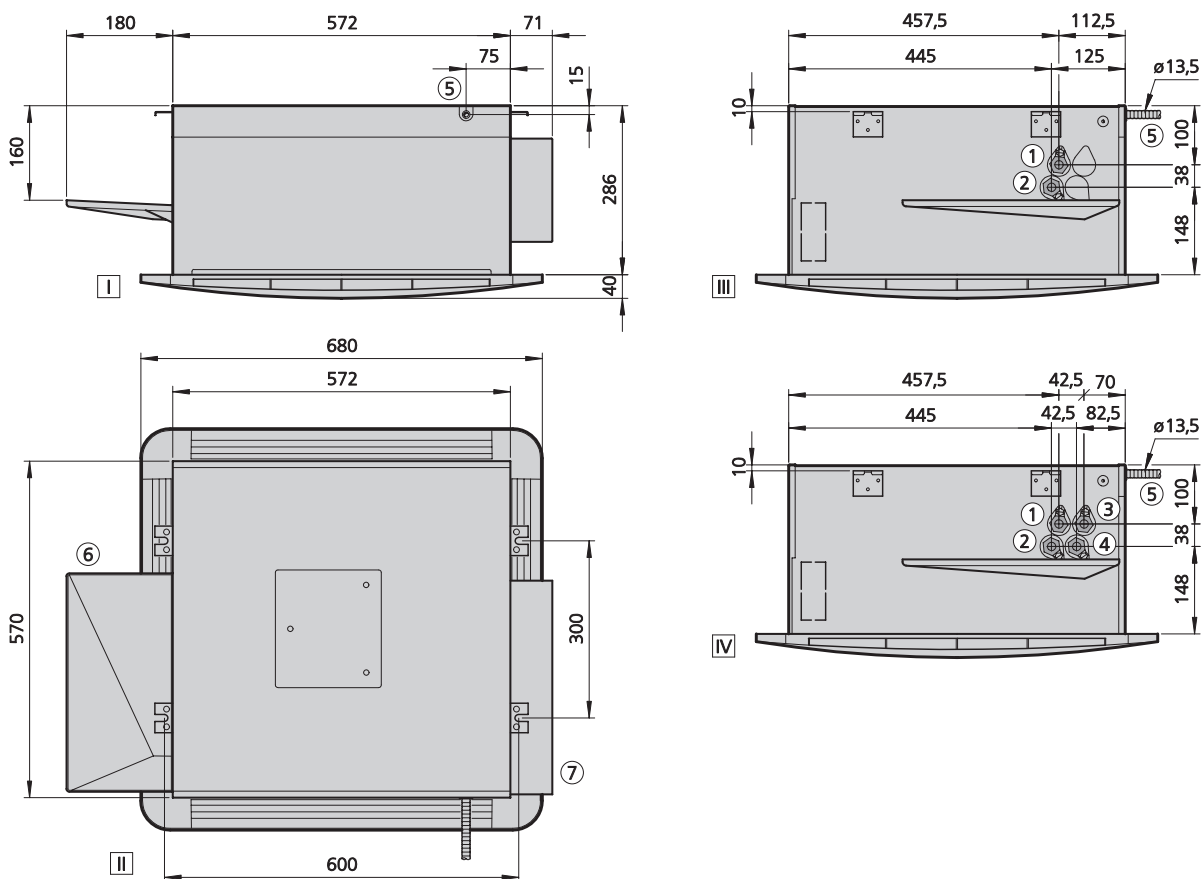


# KaCool D AF

EC fan

Model size 1

## Technical drawing (Dimensions in mm)



### View

- I Front view
- II top view
- III water connection side 2-pipe
- IV water connection side 4-pipe

### Further information

- ① cooling return (also heating with 2-pipe)
- ② cooling supply (also heating with 2-pipe)
- ③ heating return
- ④ heating supply
- ⑤ condensate drain
- ⑥ Condensate tray
- ⑦ Electrical junction box

## Specifications

Art. no. (**Control option)	Model size	System	Water content [l]	heating water content [l]	cooling water content [l]	Weight [kg]	Connection
325008212001**	1	2-pipe	1.6	---	---	25	1/2", female thread
325008214001**	1	4-pipe	---	0.7	1.7	28	1/2", female thread

**Performance data**

System	Control voltage	Air flow	Cooling output, total <sup>1)</sup>	Cooling output, sensible	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Condensation	Heat output <sup>2)</sup>	Outlet air temperature	Mass Flow heating	Pressure loss heating	Power consumption	Current consumption	SFP value	Sound pressure level <sup>3)</sup>	Sound power level
	[V]	[m³/h]	[W]	[W]	[°C]	[l/h]	[kPa]	[l/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
2-pipe	10	450	2829	2186	12.5	488	18.9	1.0	6614	63.9	571	25.1	17	170.0	134	39	47
	8	405	2589	1992	12.3	447	16.1	1.0	6086	64.9	525	21.6	13	139.0	118	36	44
	6	365	2372	1817	12.1	409	13.7	0.9	5606	65.8	484	18.6	10	114.0	103	33	41
	4	320	2123	1618	11.9	366	11.3	0.8	5052	67.1	436	15.4	8	89.0	88	30	38
	2	270	1841	1393	11.6	318	8.7	0.7	4417	68.8	381	12.1	5	64.0	71	26	34
4-pipe	10	410	2623	1955	12.8	453	14.4	1.1	4554	53.2	393	23.8	14	142.0	119	36	44
	8	385	2474	1843	12.7	427	13.1	1.0	4311	53.4	372	21.9	12	126.0	110	34	42
	6	360	2325	1730	12.7	401	11.7	1.0	4066	53.7	351	20.0	10	111.0	102	33	41
	4	320	2085	1548	12.6	360	9.7	0.9	3669	54.2	317	17.1	8	89.0	88	30	38
	2	280	1843	1365	12.5	318	7.8	0.8	3265	54.8	282	14.2	6	69.0	74	27	35

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

► <https://www.kampmanngroup.com/hvac/products/fan-coils/kacool-d-af#Calculate-performance-data>

<sup>1)</sup> at CHW 7/12 °C,  $t_{l1}$  = 27 °C, 48% relative humidity

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C

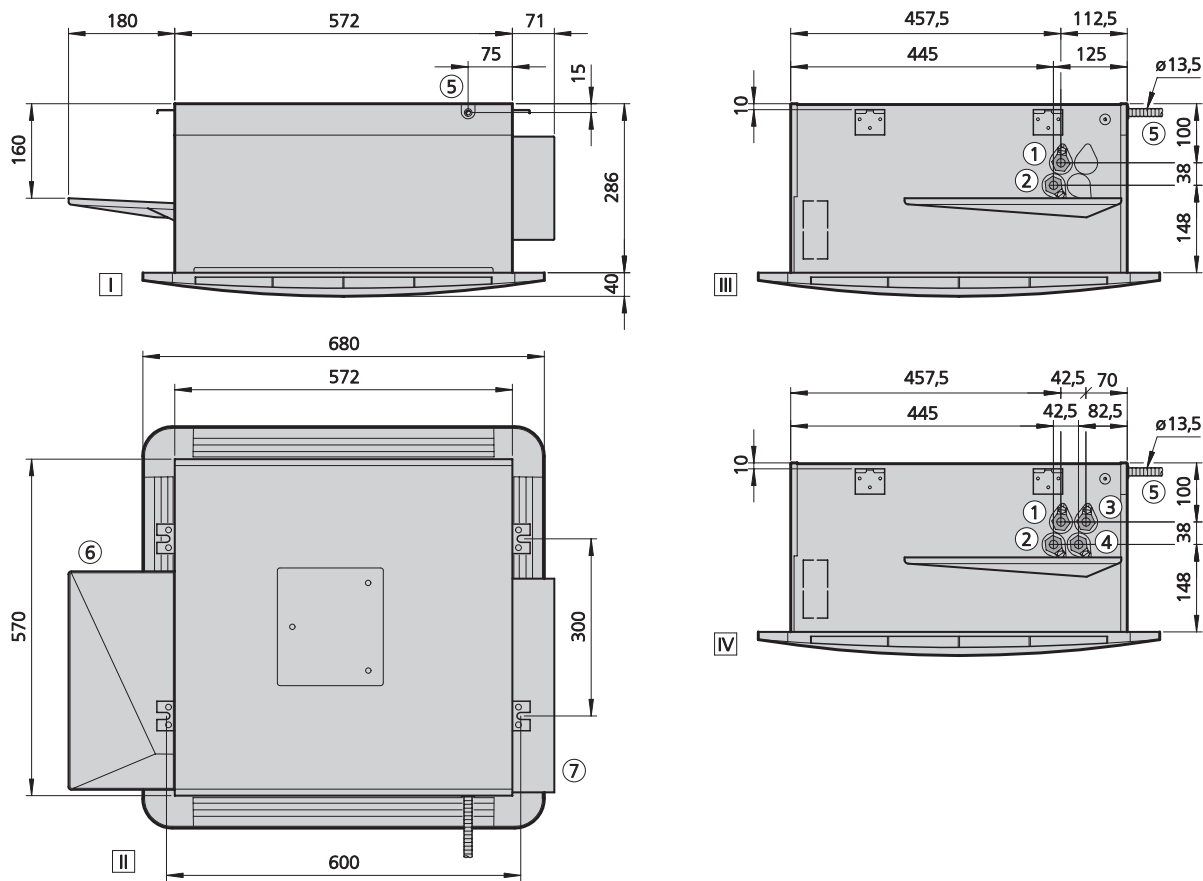
<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081)

KaCool D AF

EC fan

Model size 2

**Technical drawing** (Dimensions in mm)



- View**
- I Front view
  - II top view
  - III water connection side 2-pipe
  - IV water connection side 4-pipe

- Further information**
- 1 cooling return (also heating with 2-pipe)
  - 2 cooling supply (also heating with 2-pipe)
  - 3 heating return
  - 4 heating supply
  - 5 condensate drain
  - 6 Condensate tray
  - 7 Electrical junction box

**Specifications**

Art. no. (**Control option)	Model size	System	Water content [l]	heating water content [l]	cooling water content [l]	Weight [kg]	Connection
325008222001**	2	2-pipe	2.2	---	---	27	3/4", female thread
325008224001**	2	4-pipe	---	0.7	1.7	28	1/2", female thread



**Performance data**

System	Control voltage	Air flow	Cooling output, total <sup>1)</sup>	Cooling output, sensible	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Condensation	Heat output <sup>2)</sup>	Outlet air temperature	Mass Flow heating	Pressure loss heating	Power consumption	Current consumption	SFP value	Sound pressure level <sup>3)</sup>	Sound power level
	[V]	[m³/h]	[W]	[W]	[°C]	[l/h]	[kPa]	[l/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
2-pipe	10	600	4495	3340	10.4	776	27.2	1.8	9854	69.0	850	31.1	32	295.0	192	47	55
	8	530	3983	2943	10.4	687	22.7	1.7	8780	69.5	758	26.2	24	233.0	164	43	51
	6	460	3469	2547	10.5	599	18.5	1.5	7696	69.9	664	21.6	18	177.0	138	39	47
	4	385	2917	2125	10.5	503	14.4	1.3	6522	70.6	563	16.9	12	126.0	110	34	42
	2	305	2324	1676	10.6	401	10.3	1.0	5251	71.4	453	12.3	7	81.0	83	29	37
4-pipe	10	590	3366	2595	13.9	581	20.2	1.2	6144	51.1	530	33.8	31	286.0	188	46	54
	8	540	3136	2410	13.7	541	18.0	1.2	5710	51.6	493	30.2	25	241.0	168	44	52
	6	475	2831	2165	13.4	489	15.1	1.1	5134	52.3	443	25.6	19	189.0	143	40	48
	4	400	2469	1875	13.0	426	12.0	0.9	4453	53.2	384	20.6	13	136.0	116	35	43
	2	310	2014	1516	12.4	348	8.6	0.8	3606	54.7	311	14.9	7	83.0	84	29	37

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► <https://www.kampmanngroup.com/hvac/products/fan-coils/kacool-d-af#Calculate-performance-data>

<sup>1)</sup> at CHW 7/12 °C,  $t_{l1}$  = 27 °C, 48% relative humidity

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C

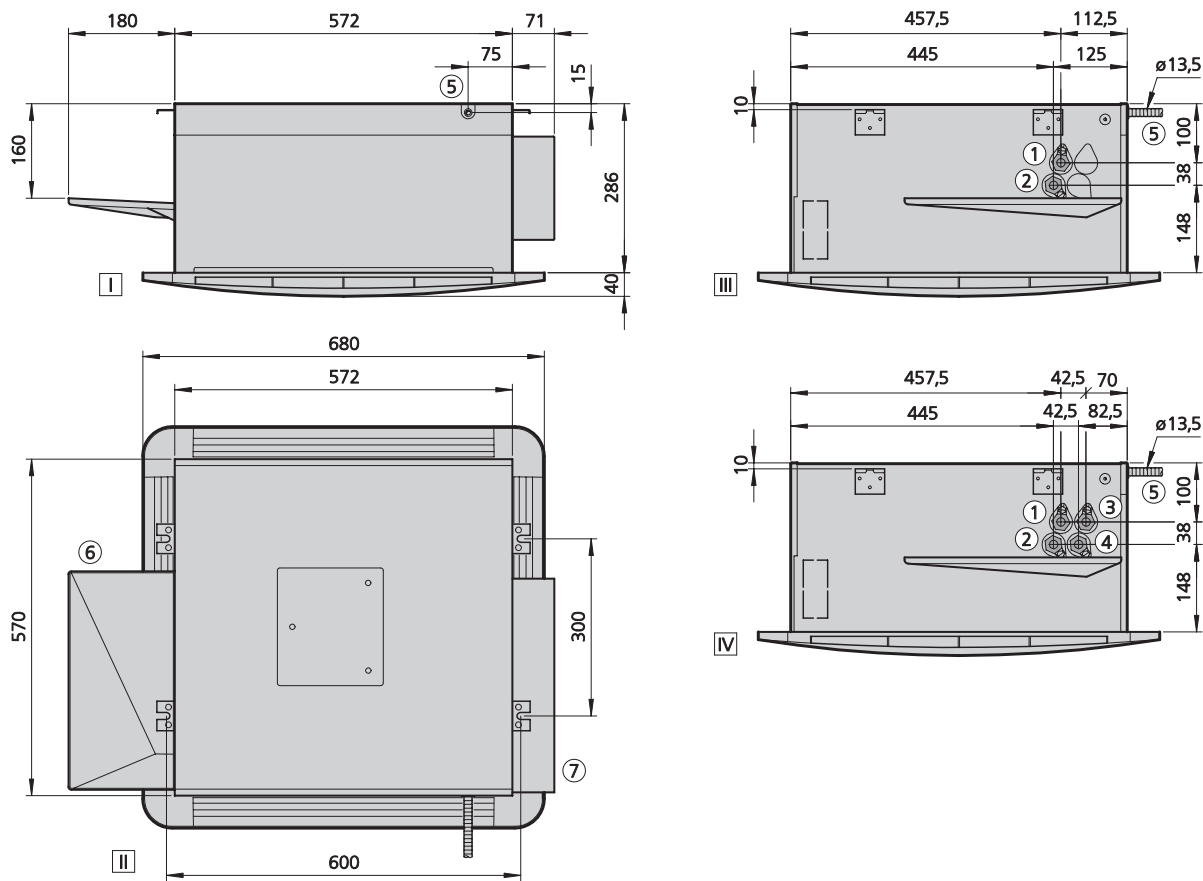
<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081)

KaCool D AF

EC fan

Model size 3

**Technical drawing** (Dimensions in mm)



- View**
- I Front view
  - II top view
  - III water connection side 2-pipe
  - IV water connection side 4-pipe

- Further information**
- ① cooling return (also heating with 2-pipe)
  - ② cooling supply (also heating with 2-pipe)
  - ③ heating return
  - ④ heating supply
  - ⑤ condensate drain
  - ⑥ Condensate tray
  - ⑦ Electrical junction box

**Specifications**

Art. no. (**Control option)	Model size	System	Water content [l]	heating water content [l]	cooling water content [l]	Weight [kg]	Connection
325008232001**	3	2-pipe	2.2	---	---	27	3/4", female thread
325008234001**	3	4-pipe	---	0.4	2.0	28	1/2", female thread

**Performance data**

System	Control voltage	Air flow	Cooling output, total <sup>1)</sup>	Cooling output, sensible	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Condensation	Heat output <sup>2)</sup>	Outlet air temperature	Mass Flow heating	Pressure loss heating	Power consumption	Current consumption	SFP value	Sound pressure level <sup>3)</sup>	Sound power level
	[V]	[m³/h]	[W]	[W]	[°C]	[l/h]	[kPa]	[l/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
2-pipe	10	680	4972	3731	10.6	858	29.3	2.0	11307	69.6	976	35.7	42	376.0	224	50	58
	8	595	4401	3287	10.5	760	24.2	1.8	10002	70.2	863	29.5	31	291.0	190	47	55
	6	505	3787	2813	10.4	654	19.2	1.6	8603	70.9	742	23.4	22	212.0	155	42	50
	4	420	3200	2361	10.2	552	14.8	1.3	7263	71.6	627	18.0	14	149.0	123	37	45
	2	335	2602	1905	10.0	449	10.8	1.1	5901	72.6	509	13.1	9	97.0	93	31	39
4-pipe	10	580	3964	2991	11.6	684	29.7	1.6	4331	42.3	374	42.2	30	277.0	184	46	54
	8	495	3402	2556	11.6	587	23.4	1.4	3840	43.2	331	34.5	21	204.0	151	41	49
	6	420	2904	2171	11.6	501	18.4	1.2	3389	44.1	292	28.1	14	149.0	123	37	45
	4	350	2435	1811	11.6	420	14.0	1.0	2950	45.2	255	22.3	10	105.0	98	32	40
	2	285	1998	1477	11.5	345	10.3	0.8	2524	46.4	218	17.2	6	71.0	76	27	35

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<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C

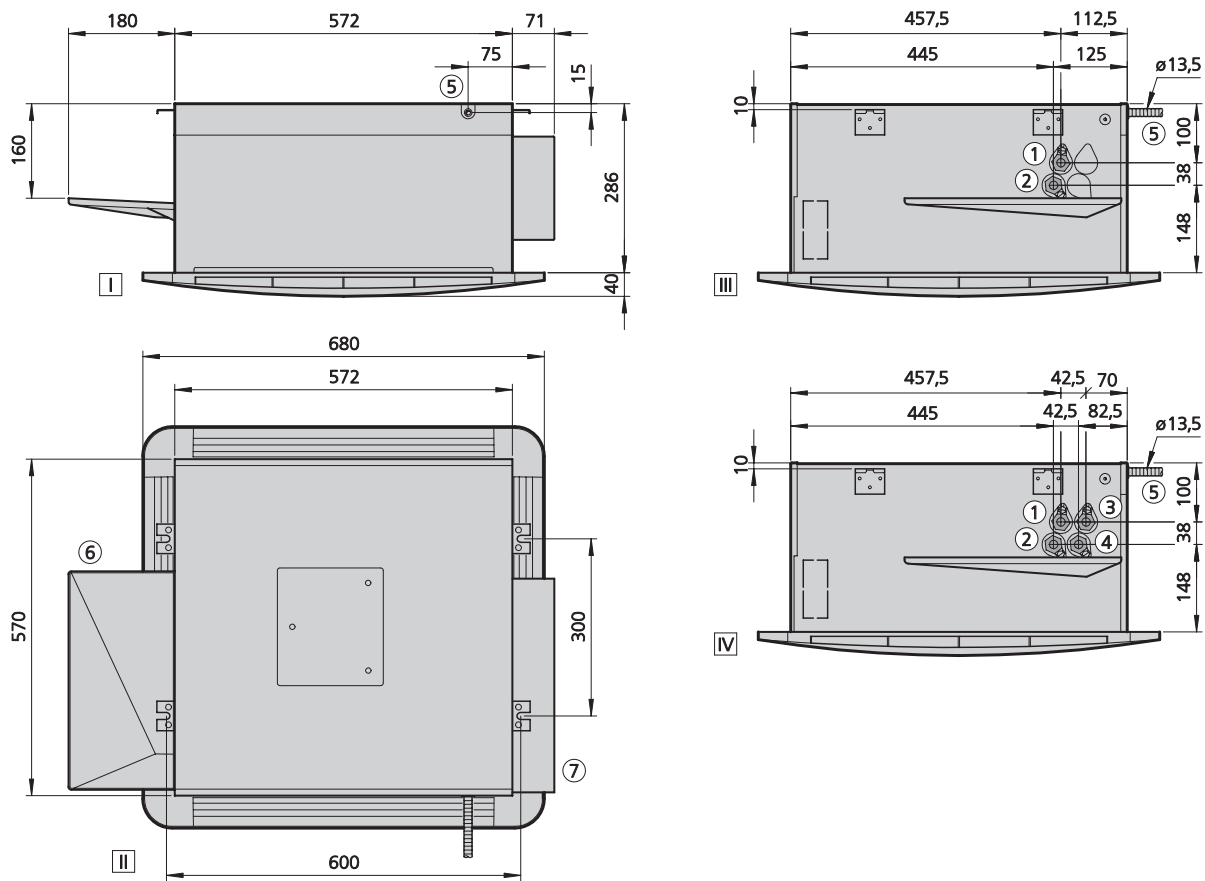
<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081)

KaCool D AF

EC fan

Model size 4

Technical drawing (Dimensions in mm)



- View
- I Front view
  - II top view
  - III water connection side 2-pipe
  - IV water connection side 4-pipe

- Further information
- ① cooling return (also heating with 2-pipe)
  - ② cooling supply (also heating with 2-pipe)
  - ③ heating return
  - ④ heating supply
  - ⑤ condensate drain
  - ⑥ Condensate tray
  - ⑦ Electrical junction box

Specifications

Art. no. (**Control option)	Model size	System	Water content [l]	heating water content [l]	cooling water content [l]	Weight [kg]	Connection
325008242001**	4	2-pipe	2.2	---	---	28	3/4", female thread
325008244001**	4	4-pipe	---	0.4	2.0	28	1/2", female thread

**Performance data**

System	Control voltage	Air flow	Cooling output, total <sup>1)</sup>	Cooling output, sensible	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Condensation	Heat output <sup>2)</sup>	Outlet air temperature	Mass Flow heating	Pressure loss heating	Power consumption	Current consumption	SFP value	Sound pressure level <sup>3)</sup>	Sound power level
	[V]	[m³/h]	[W]	[W]	[°C]	[l/h]	[kPa]	[l/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
2-pipe	10	770	5377	4024	11.4	928	29.1	2.2	12468	68.3	1076	37.8	56	478.0	261	54	62
	8	725	5063	3764	11.5	874	26.2	2.1	11837	68.7	1022	34.5	49	426.0	242	52	60
	6	675	4714	3478	11.6	814	23.1	2.0	11130	69.2	961	31.0	42	371.0	222	50	58
	4	620	4330	3165	11.8	747	19.9	1.9	10344	69.8	893	27.2	34	315.0	199	48	56
	2	565	3947	2855	11.9	681	16.9	1.7	9549	70.4	824	23.7	28	263.0	178	45	53
4-pipe	10	680	4409	3366	12.2	761	32.0	1.7	4731	40.8	408	46.4	42	376.0	224	50	58
	8	585	3926	2983	11.8	678	26.4	1.5	4307	42.0	372	39.9	30	281.0	186	46	54
	6	495	3451	2610	11.3	596	21.4	1.3	3881	43.4	335	33.7	21	204.0	151	41	49
	4	410	2984	2244	10.7	515	16.8	1.2	3451	45.1	298	27.9	14	142.0	119	36	44
	2	330	2523	1886	9.9	436	12.8	1.0	3014	47.3	260	22.4	8	94.0	91	31	39

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

► <https://www.kampmanngroup.com/hvac/products/fan-coils/kacool-d-af#Calculate-performance-data>

<sup>1)</sup> at CHW 7/12 °C,  $t_{l1}$  = 27 °C, 48% relative humidity

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C

<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081)

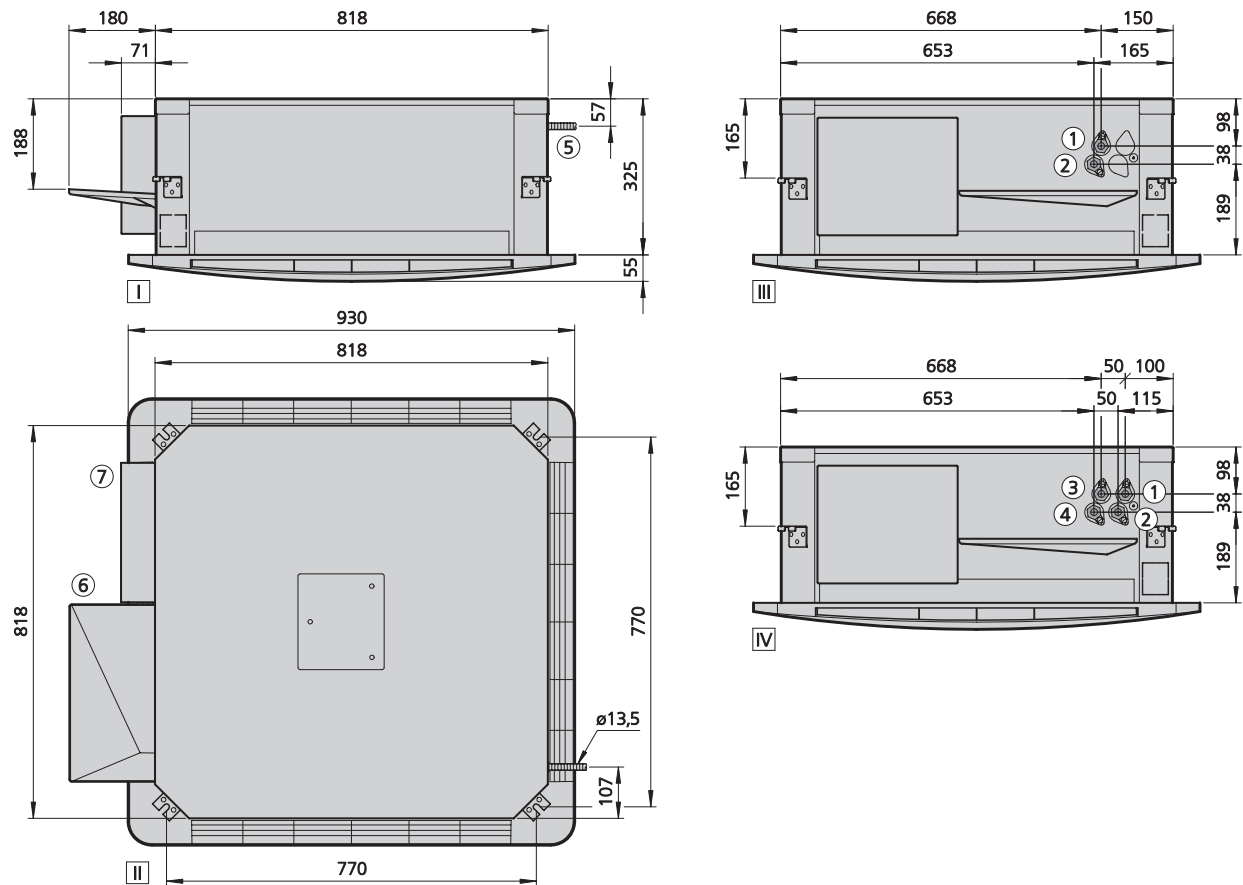


KaCool D AF

EC fan

Model size 5

Technical drawing (Dimensions in mm)



- View**
  - I Front view
  - II top view
  - III water connection side 2-pipe
  - IV water connection side 4-pipe
- Further information**
  - ① cooling return (also heating with 2-pipe)
  - ② cooling supply (also heating with 2-pipe)
  - ③ heating return
  - ④ heating supply
  - ⑤ condensate drain
  - ⑥ Condensate tray
  - ⑦ Electrical junction box

Specifications

Art. no. (**Control option)	Model size	System	Water content [l]	heating water content [l]	cooling water content [l]	Weight [kg]	Connection
325008252001**	5	2-pipe	2.2	---	---	46	3/4", female thread
325008254001**	5	4-pipe	---	0.8	3.2	47	3/4", female thread

**Performance data**

System	Control voltage	Air flow	Cooling output, total <sup>1)</sup>	Cooling output, sensible	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Condensation	Heat output <sup>2)</sup>	Outlet air temperature	Mass Flow heating	Pressure loss heating	Power consumption	Current consumption	SFP value	Sound pressure level <sup>3)</sup>	Sound power level
	[V]	[m³/h]	[W]	[W]	[°C]	[l/h]	[kPa]	[l/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
2-pipe	10	1215	7039	5203	14.2	1215	38.2	2.9	16511	60.6	1425	50.0	80	722.0	236	40	48
	8	1045	6214	4586	13.9	1073	30.9	2.6	14568	61.6	1257	40.4	55	518.0	188	39	47
	6	880	5391	3971	13.5	930	24.3	2.3	12630	62.8	1090	31.7	36	355.0	145	35	43
	4	715	4540	3337	13.1	784	18.2	1.9	10629	64.4	917	23.7	21	225.0	106	28	36
	2	545	3627	2658	12.4	626	12.4	1.5	8483	66.5	732	16.2	11	124.0	71	19	27
4-pipe	10	1105	6186	4656	14.4	1068	20.8	2.4	11224	50.3	969	32.7	63	586.0	205	40	48
	8	955	5468	4089	14.2	944	16.4	2.2	9856	50.8	851	26.4	44	425.0	164	37	45
	6	810	4757	3531	14.0	821	12.5	2.0	8512	51.4	735	20.8	29	296.0	128	32	40
	4	675	4077	3001	13.7	704	9.3	1.7	7236	52.0	624	15.9	18	198.0	98	26	34
	2	550	3429	2500	13.4	592	6.7	1.5	6029	52.7	520	11.8	11	126.0	72	19	27

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

► <https://www.kampmanngroup.com/hvac/products/fan-coils/kacool-d-af#Calculate-performance-data>

<sup>1)</sup> at CHW 7/12 °C,  $t_{l1}$  = 27 °C, 48% relative humidity

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C

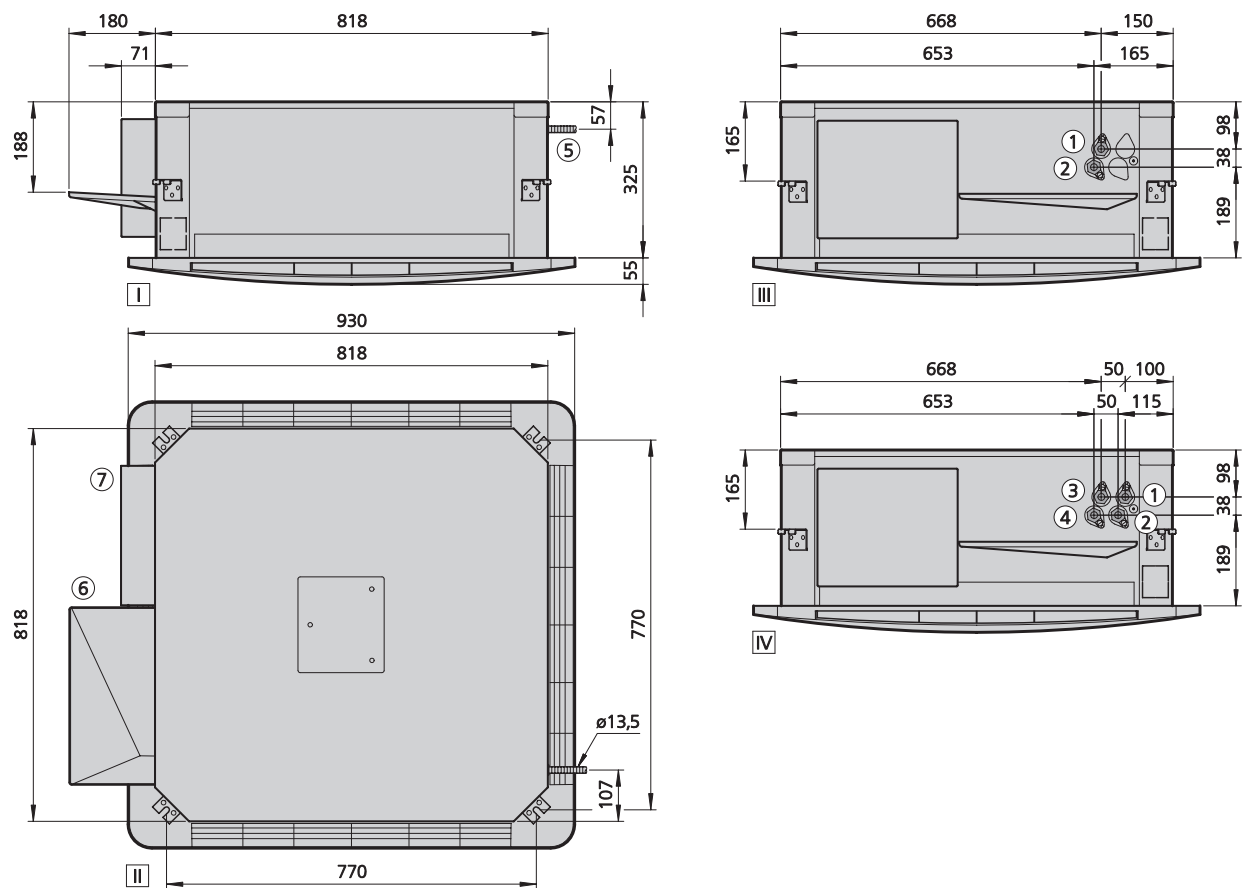
<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081)

KaCool D AF

EC fan

Model size 6

**Technical drawing** (Dimensions in mm)



- View**
  - I Front view
  - II top view
  - III water connection side 2-pipe
  - IV water connection side 4-pipe
- Further information**
  - ① cooling return (also heating with 2-pipe)
  - ② cooling supply (also heating with 2-pipe)
  - ③ heating return
  - ④ heating supply
  - ⑤ condensate drain
  - ⑥ Condensate tray
  - ⑦ Electrical junction box

**Specifications**

Art. no. (**Control option)	Model size	System	Water content [l]	heating water content [l]	cooling water content [l]	Weight [kg]	Connection
325008262001**	6	2-pipe	3.7	---	---	51	3/4", female thread
325008264001**	6	4-pipe	---	0.8	3.2	52	3/4", female thread

**Performance data**

System	Control voltage	Air flow	Cooling output, total <sup>1)</sup>	Cooling output, sensible	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Condensation	Heat output <sup>2)</sup>	Outlet air temperature	Mass Flow heating	Pressure loss heating	Power consumption	Current consumption	SFP value	Sound pressure level <sup>3)</sup>	Sound power level
	[V]	[m³/h]	[W]	[W]	[°C]	[l/h]	[kPa]	[l/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
2-pipe	10	1305	9393	6597	11.9	1621	28.8	4.5	20108	66.0	1735	32.6	95	845.0	263	46	54
	8	1145	8322	5800	11.9	1436	23.2	4.0	17724	66.2	1530	26.0	69	634.0	216	40	48
	6	970	7138	4927	11.8	1232	17.6	3.5	15103	66.5	1303	19.5	45	440.0	168	35	43
	4	775	5798	3951	11.8	1001	12.2	2.9	12163	66.8	1050	13.2	26	269.0	120	29	37
	2	565	4328	2895	11.7	747	7.2	2.3	8966	67.4	774	7.7	12	134.0	75	23	31
4-pipe	10	1440	7487	5697	15.2	1292	33.2	2.9	13563	48.1	1170	48.9	122	1049.0	304	50	58
	8	1270	6765	5127	14.9	1168	27.4	2.6	12299	48.9	1061	41.5	89	796.0	252	45	53
	6	1085	5958	4493	14.6	1028	21.5	2.3	10879	49.9	939	33.7	60	563.0	199	39	47
	4	875	5008	3751	14.2	864	15.4	2.0	9201	51.4	794	25.4	35	351.0	144	32	40
	2	645	3915	2905	13.6	676	9.6	1.6	7256	53.6	626	17.0	16	179.0	91	25	33

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

► <https://www.kampmanngroup.com/hvac/products/fan-coils/kacool-d-af#Calculate-performance-data>

<sup>1)</sup> at CHW 7/12 °C,  $t_{l1}$  = 27 °C, 48% relative humidity

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C

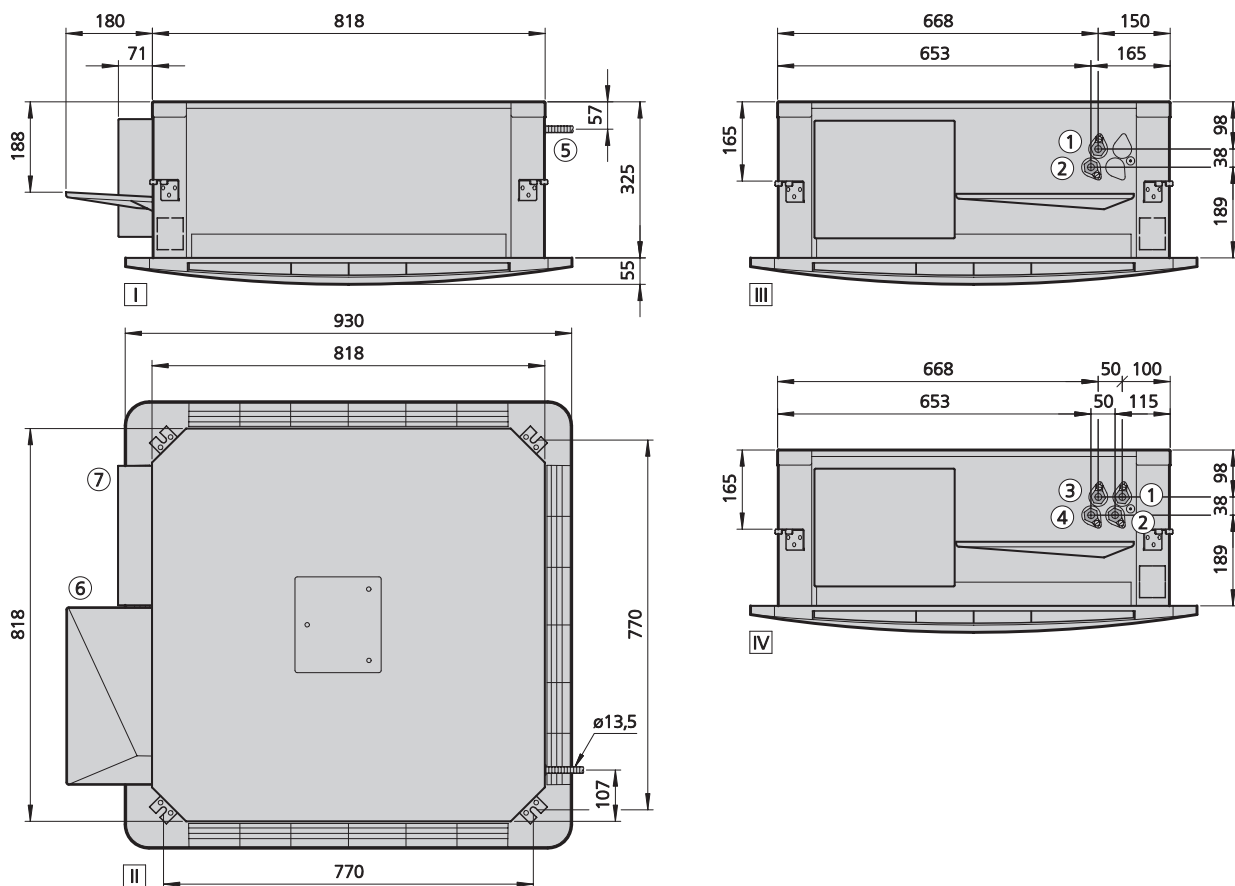
<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081)

# KaCool D AF

EC fan

Model size 7

## Technical drawing (Dimensions in mm)



### View

- I Front view
- II top view
- III water connection side 2-pipe
- IV water connection side 4-pipe

### Further information

- ① cooling return (also heating with 2-pipe)
- ② cooling supply (also heating with 2-pipe)
- ③ heating return
- ④ heating supply
- ⑤ condensate drain
- ⑥ Condensate tray
- ⑦ Electrical junction box

## Specifications

Art. no. (**Control option)	Model size	System	Water content [l]	heating water content [l]	cooling water content [l]	Weight [kg]	Connection
325008272001**	7	2-pipe	3.7	---	---	51	3/4", female thread
325008274001**	7	4-pipe	---	0.8	3.2	52	3/4", female thread



**Performance data**

System	Control voltage	Air flow	Cooling output, total <sup>1)</sup>	Cooling output, sensible	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Condensation	Heat output <sup>2)</sup>	Outlet air temperature	Mass Flow heating	Pressure loss heating	Power consumption	Current consumption	SFP value	Sound pressure level <sup>3)</sup>	Sound power level
	[V]	[m³/h]	[W]	[W]	[°C]	[l/h]	[kPa]	[l/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
2-pipe	10	1735	12078	8887	11.7	2085	61.7	5.1	28539	69.1	2463	84.0	167	1403.0	346	57	65
	8	1480	10447	7652	11.6	1803	47.2	4.5	24463	69.3	2111	63.2	114	994.0	277	50	58
	6	1230	8823	6430	11.4	1523	34.6	3.8	20445	69.6	1764	45.4	73	665.0	214	43	51
	4	980	7171	5192	11.2	1238	23.6	3.2	16403	70.0	1416	30.2	42	406.0	156	36	44
	2	735	5514	3961	10.9	952	14.5	2.5	12411	70.4	1071	18.1	21	218.0	104	29	37
4-pipe	10	1595	8454	6490	14.9	1459	39.2	3.1	14602	47.3	1260	54.5	136	1169.0	308	53	61
	8	1515	8113	6216	14.8	1400	36.3	3.0	14074	47.7	1215	51.1	120	1045.0	286	51	59
	6	1360	7441	5678	14.5	1284	31.0	2.8	13028	48.6	1124	44.8	93	827.0	246	47	55
	4	1125	6393	4842	14.2	1103	23.5	2.5	11374	50.2	982	35.5	59	548.0	189	40	48
	2	820	4963	3713	13.5	857	14.7	2.0	9071	53.0	783	24.1	28	276.0	122	31	39

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

► <https://www.kampmanngroup.com/hvac/products/fan-coils/kacool-d-af#Calculate-performance-data>

<sup>1)</sup> at CHW 7/12 °C,  $t_{l1}$  = 27 °C, 48% relative humidity

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C

<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081)

# 03 ▶ Design information

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## Information on planning and design

The unit size of chilled water air conditioning systems depends on the cooling outputs calculated as well as on the structural conditions.

The cooling load required is calculated in line with VDI 2078 (VDI regulations governing cooling loads).

The usual cold water temperature spread is approximately 5K. Take into account the effective unit outputs in line with the technical conditions of installation and use. Check the suitability of all components (circulation pump etc.) for use with cold water, noting the minimum temperatures.

### Choice of installation site

Take into account the following requirements when choosing your installation location:

- ▶ no obstacles to air distribution and air intake
- ▶ sealed ceiling system to ensure air routing parallel to the ceiling
- ▶ minimum gap of 1.5 m between the unit and the nearest wall and a maximum installation height of the unit of 3.5 m above floor level
- ▶ pre-adjustment of louvres for optimum air discharge
- ▶ ease of access to pipes and electrical connections
- ▶ positioning of the cooling unit to fit in with the architecture and environment (e.g. ceiling lights)

### Avoid:

- ▶ location with direct sunlight
- ▶ installation close to heat sources
- ▶ impaired air circulation due to lamps, furniture or shelves

### Ceiling-mounted

KaCool D AF ceiling cassettes are manufactured to European standard ceiling grid dimensions. Models 5 – 7 can be installed centrally within four grids. The ceiling panels are then simply trimmed to fill in the gaps.

### Caution!

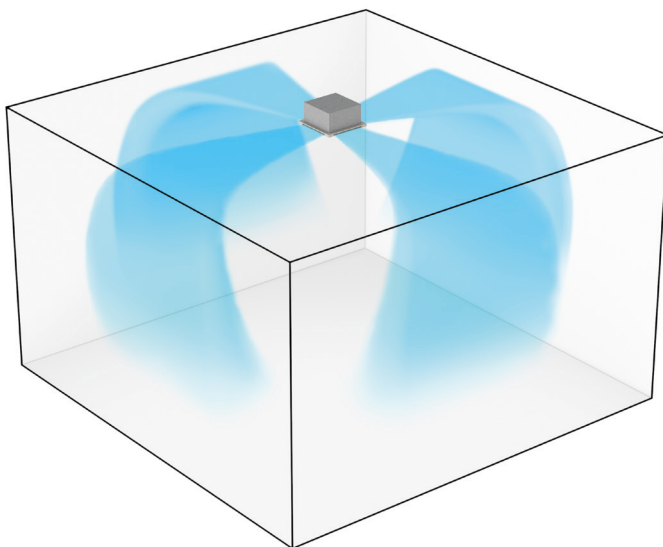
Provide access panels for maintenance work on the unit with closed ceiling systems. Ensure that the unit is precisely horizontal to prevent the condensation tray from overflowing. Ensure that the depth of the suspended ceiling is sufficient to accommodate the unit.

## AF - AtmosFeel

### Coanda effect

The air outlet is located at the side to guarantee maximum comfort (AtmosFeel). This cool air flows along the ceiling, is dispersed and falls to the floor (see figures). This avoids draughts as much as possible.

In heating mode, the position of the slats can be altered, if required, with the ABS design panel, which means that the air stream can be specifically directed downwards.



## Casing panels

### ABS design panel

The ABS design panel is supplied as standard with KaCool D AF units, combining design, maximum comfort (AtmosFeel) and unbeatable value for money.

It is available in two different sizes:

- 1) Model 1 – 4: 680x680 mm
- 2) Model 5 – 7: 930x930 mm



1) Model 1 – 4: 680x680 mm

### Metal grid casing panel

A painted galvanised steel casing panel can also be used as an alternative to the ABS design casing panel, available for 625x625 mm ceiling grids (models 1 - 4) and 900 x 900 mm (models 5 – 7).

It is supplied as standard in traffic white, similar to RAL 9016, but in larger order volumes can also be adapted to customer requirements.

It is available in two different sizes:

- 1) Model 1 – 4: 623x623 mm
- 2) Model 5 – 7: 923x923 mm



1) Model 1 – 4: 623x623 mm



2) Model 5 – 7: 930x930 mm



2) Model 5 – 7: 923x923 mm



## Air connections

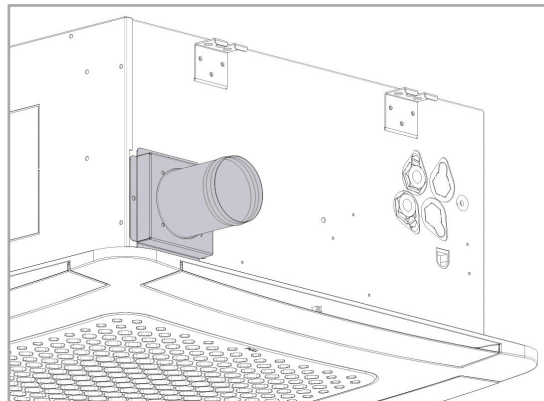
### Primary air spigots for the fresh air supply

KaCool D AF units can be supplied with primary air, which is then supplied to the room through the units. The pre-conditioned air needs to be cleaned and have a minimum temperature of 14°C and a maximum temperature of 25°C.

A primary air spigot, available as an accessory, is needed for the connection. It is fixed to the side of the cassette. The connection diameter is 80 mm.

Models 1 – 4: max. two primary air connections, each 80 m³/h

Models 5 – 7: one primary air connection, max. 120 m³/h

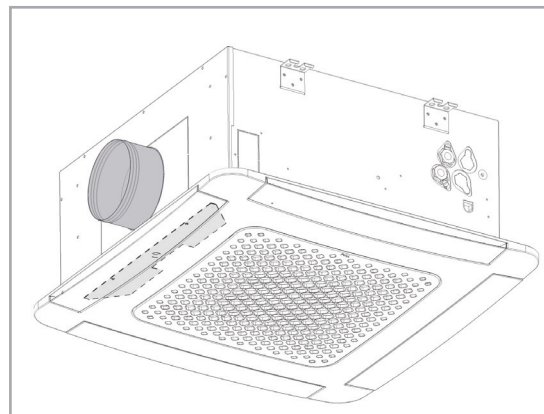


Fresh air connection, models 1 – 4

### External air outlet

An air line can be connected to the ceiling cassette to provide adjacent rooms (e.g. changing rooms) with conditioned air. A pre-punched opening with a diameter of 150 mm needs to be removed on the side of the cassette to which an on-site flange must be fitted. An insulated air line and outlets can be connected to it. Seal the respective air outlets with adhesive tape.

Make sure that you keep the pressure loss at the outlet and air line as low as possible (max. 15 Pa total pressure loss). As a result, up to 15% of the total air volume of the ceiling cassette can be moved.



Models 1 – 4

# Valve kits

The accessories range includes 2-way and 3-way valves. The valve kit contains an Open / Close actuator and connecting pipes as standard. Other valves (e.g. continuous) are available on request. The valves are supplied as separate accessories and need to be fitted on site. Any condensation produced is collected in a valve drip tray, provided with every unit and drained to the condensation pump of the ceiling cassette.

## Actuators

Voltage supply	Current consumption	Power consumption
	[A]	[W]
230 V	0.25	1.8
24 V	0.35	1.8

Valve lift 2.5 mm  
M 30 x 1.5 threaded connection  
Actuator mode: On / Off, NC (normally closed)

## Valves

Model	Connection		KVS value	
	2-pipe	4-pipe	2-pipe	4-pipe
1	1/2 "	2x1/2 "	1.7	1.7
2	3/4 "	2x1/2 "	2.8	1.7
3	3/4 "	2x1/2 "	2.8	1.7
4	3/4 "	2x1/2 "	2.8	1.7
5	3/4 "	2x3/4 "	2.8	2.8
6	3/4 "	2x3/4 "	4.0	2.8
7	3/4 "	2x3/4 "	4.0	2.8

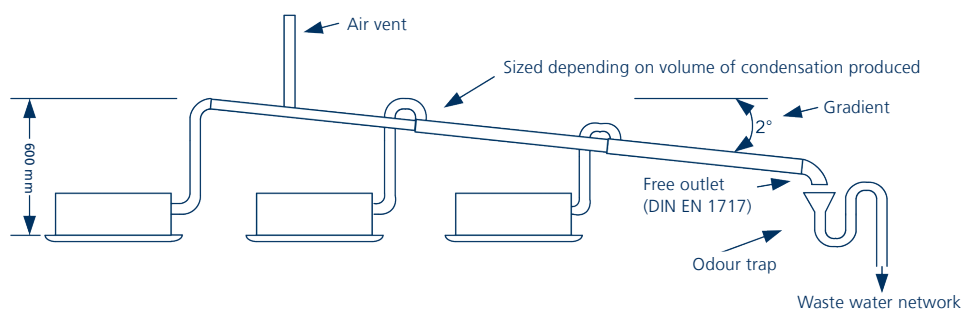
## Built-in pre-fitted valves

There is an option to factory integrate the valves into the ceiling cassette with larger order volumes. The valves can then either be accessed from below after removing the condensation tray or from the side. The side cover of the housing can be removed for this purpose.



## Condensation drain

Condensation will be produced if the ceiling cassettes are operated at a temperature below the dew point. The condensation from the heat exchanger drips into the condensation tray underneath. From here, it is pumped out of the unit by a condensation pump. The condensation produced from the condensation pump hose has to be drained from the unit down a 2% gradient. The condensation has to be collected in a pool pump on site if it has to be drained higher than the integrated pump allows. Accumulating condensate quantities can be taken from the calculation program.

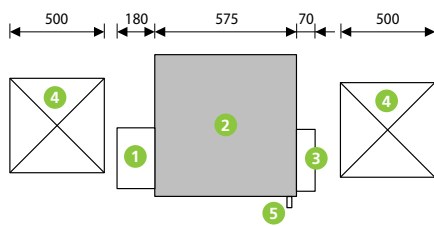


Schematic diagram

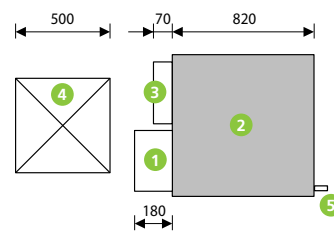
## Service opening connection

Appropriate service openings are needed to service and maintain units installed in permanently sealed ceilings.

### Models 1–4



### Models 5–7



- 1 Condensation tray for valves
- 2 Ceiling cassette
- 3 Electrical junction box
- 4 Service openings (suggested 500x500)
- 5 Condensation connection (depending on the design of the transition between the condensation connection and the on-site condensation line, it may be necessary to provide for an additional service opening)

## 04 ► Controls

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## Control overview of KaCool D AF with EC Fans

KaCool D AF units with EC fans can be selected with various control configurations. All models of the cassettes have a built-in PCB.

A float switch monitors the condensation level in the condensation tray and switches on the condensation pump as required. If the condensation level continues to rise, despite the pump running, the cooling valve is closed and an alarm is emitted which can be evaluated on site.

The Kampmann KaControl is the most convenient and comprehensive control.

A high-performance parameterised microprocessor is designed to carry out all necessary functions. Each KaCool D AF unit therefore has its own “intelligence” and can be operated in groups via Kampmann-T-LAN or CAN bus networks.

### **Connection to building automation systems**

KaCool D AF with KaControl can be equipped with plug-in communication interfaces for controlled operation in individual rooms or for linking into higher-order control systems: BACnet, CAN bus, LON, KNX and Modbus.



**Infra-red remote control**

The infra-red remote control is available for retrofitting into existing buildings.

**Product features**

- ▶ convenient operation of all cassette functions:
  - ▶ temperature
  - ▶ fan speed
  - ▶ mode

**Room thermostat type 30155**

Room thermostat for manual 3-stage or continuously variable speed control in automatic mode for surface-mounted wall installation in an attractive retrained design.

**Product features**

- ▶ colour: pure white (similar to RAL 9010)
- ▶ user-friendly
- ▶ functional and robust design
- ▶ 2- and 4-pipe applications
- ▶ Day/ECO/Off operating mode with room frost protection function
- ▶ built-in room sensor, connection option for external room sensor
- ▶ digital input for switchover between ECO and OFF
- ▶ digital output for heating/cooling changeover with 2-pipe systems
- ▶ only in conjunction with 230 V actuator

**KaController operating unit**

The „face“ of the KaControl building automation system is the KaController unit.

**Product features**

- ▶ room operating units for wall mounting with a high-quality design
- ▶ available with or without function buttons on the side
- ▶ plastic housing, colour similar to RAL 9010
- ▶ communication interface to the Kampmann T-LAN bus system
- ▶ push-turn navigator dial with endless turn/lock function
- ▶ built-in weekly switching program
- ▶ password-protected parameter level

**KaControl SEL control panel**

For the central control and monitoring of up to 24 temperature zones, units groups or rooms.

**Product features**







- ▶ 3 timer programs; for 24 zones
- ▶ summer compensation
- ▶ room temperature setpoints / actual values
- ▶ central heating/cooling switchover in 2-pipe systems by external switching contact
- ▶ centralised temperature target value specification by an external signal 0 – 10 V
- ▶ demand for heating via digital output
- ▶ demand for cooling via digital output
- ▶ collective fault alert in Kampmann system via digital output
- ▶ fault detection in chiller or heat pump
- ▶ heating/cooling changeover
- ▶ heat generator activation
- ▶ chiller or heating/cooling heat pump activation
- ▶ fault monitoring in single units (only if all units have Modbus cards, max. 24)
- ▶ switchover of individual control zones:
  - ▶ ON / OFF or ECO / DAY
  - ▶ ON / OFF or ECO / DAY entire system via external contact
- ▶ optional BACnet gateway

# 05 ▶ Ordering information

## Accessories


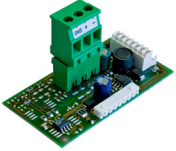
Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		

### Control accessories KaControl

	KaController	with one-button operation, 24 V wall-mounted room control unit, with integral room temperature sensor, Protection class IP 30, Temperature setting range 8 - 35 °C, Colour similar to RAL 9010 pure white, made of resistant PVC, Type 3210001	86 x 52 x 86	all units with control option KaControl -C1	<b>196003210001</b>
	KaController	with one-button operation, 24 V wall-mounted room control unit, with integral room temperature sensor, Protection class IP 30, Temperature setting range 8 - 35 °C, Colour similar to RAL 9017 traffic black, made of resistant PVC, Type 3210006	86 x 52 x 86	all units with control option KaControl -C1	<b>196003210006</b>
	KaController	with side operating keys, 24 V wall-mounted room control unit, with integral room temperature sensor, Protection class IP 30, Temperature setting range 8 - 35 °C, Colour similar to RAL 9010 pure white, made of resistant PVC, Type 3210002	86 x 52 x 86	all units with control option KaControl -C1	<b>196003210002</b>
	Room temperature sensor	Wall-mounted, Surface-mounted, Protection class IP 30, Colour similar to RAL 9010 pure white, made of plastic, Type 3250110 Is the KaController installation site suitable for a temperature measurement? - If it is not suitable, e.g. behind a curtain, then a KaControl room temperature sensor should be chosen for each group!	101 x 110 x 23	all units with KaControl -C1 and climate controller art. no. 19600014894*	<b>196003250110</b>
	Clip-on pipe sensor	to detect the medium temperature, Protection class IP 67, Temperature setting range -20 - 70 °C, Colour black, Type 3250115 Is there a risk of frost, e.g. due to the ingress of cold air - if so, then a KaControl clip-on pipe sensor should be chosen for each unit! heating/cooling changeover function only in conjunction with 3-way valve!	5 x 6 x 3000	all units with KaControl -C1 and climate controller art. no. 19600014894*	<b>196003250115</b>
	Serial KNX card	for integration into a KNX/EIB network, interface PCOS00KXN0, Type 3260702 The communication card slots into the free interface on the PCB.	35 x 20 x 80	all units with control option KaControl -C1	<b>196003260702</b>

CONTINUED ▶





## Accessories

Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
	Serial CANbus card	to increase the number of units in a single-circuit system from 7 to a maximum of 30 units, one required per unit, Extension of the cable length from the first to the last unit from 30 m to 500 m, Can only be used with the KaControl -C1 control version! The room temperature cannot be recorded by a room sensor when using CanBus cards., Type 3260301	35 x 30 x 60	all units with control option KaControl -C1	<b>196003260301</b>
	Serial Modbus card	Type 3260101 Required for each device for connection to KaControl panels or on-site Modbus networks. The communication card slots into the free interface on the PCB.	31 x 12 x 61	all units with control option KaControl -C1	<b>196003260101</b>

## Accessories



Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		

### Control accessories electromechanical 230 V



	Room thermostat	Heating/Cooling, 2- and 4-pipe, 3-stage. Only in conjunction with valves/ valve kits with actuator, with OFF/Manual/Automatic fan switchover, 230 V AC, Open/Closed, Surface-mounted, Protection class II, Protection class IP 30, Temperature setting range 5 - 30 °C, Colour similar to RAL 9010 pure white, Type 30155 optional connectible, remote sensor art. no. 196000148921 can optionally be connected, clip-on sensor art. no. 196000148922	110 x 111 x 26	EC units electromechanical, 5 Katherm HK Trench Technology, 5 TOP, Ultra or Ultra Allround Unit Heaters, 5 Venkon or PowerKon LT Fan Coils, 5 KaCool D AF, KaCool W or KaDeck Fan Coils	<b>196000030155</b>
	Clock thermostat	Heating/Cooling, 2- and 4-pipe, continuously variable, with LCD operating menu and integrated timer program, 230 V AC, 1 W, flush-mounted, Protection class II, Protection class IP 30, Colour similar to RAL 9010 pure white, Type 30256 optional connectible, remote sensor art. no. 196000148921 can optionally be connected, clip-on sensor art. no. 196000148922	85 x 46 x 81	EC units electromechanical, 5 TOP, Ultra or Ultra Allround Unit Heaters, 5 Venkon Fan Coils, 5 KaCool D AF, KaCool W or KaDeck Fan Coils	<b>196000030256</b>
	Climate Controller	Heating/Cooling, 2- and 4-pipe, Without Modbus, only with valves/valve kits, continuously variable, with LCD operating menu and integrated timer program, 230 V AC, Open/Closed, Surface-mounted, Protection class IP 30, Temperature setting range 0 - 50 °C, Colour similar to RAL 9010 pure white, Type 148941	78 x 140 x 15	EC units electromechanical, 4 Katherm HK Trench Technology, 4 KaCool D AF, KaCool W, Venkon or KaDeck Fan Coils, 4 Ultra Allround Unit Heaters	<b>196000148941</b>
	Climate Controller	Heating/Cooling, 2- and 4-pipe, Without Modbus, only with valves/valve kits, continuously variable, with LCD operating menu and integrated timer program, 230 V AC, Open/Closed, Surface-mounted, Protection class IP 30, Temperature setting range 0 - 50 °C, Colour similar to RAL 9004 signal black, Type 148942	78 x 140 x 15	EC units electromechanical, 4 Katherm HK Trench Technology, 4 KaCool D AF, KaCool W, Venkon or KaDeck Fan Coils, 4 Ultra Allround Unit Heaters	<b>196000148942</b>

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## Accessories

Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
	Climate Controller	Heating/Cooling, 2- and 4-pipe, with Modbus, only with valves/valve kits, continuously variable, with LCD operating menu and integrated timer program, 230 V AC, Open/Closed, Surface-mounted, Protection class IP 30, Temperature setting range 0 - 50 °C, Colour similar to RAL 9010 pure white, Type 148943	78 x 140 x 15	EC units electromechanical, 4 Katherm HK Trench Technology, 4 KaCool D AF, KaCool W, Venkon or KaDeck Fan Coils, 4 Ultra Allround Unit Heaters	<b>196000148943</b>
	Climate Controller	Heating/Cooling, 2- and 4-pipe, with Modbus, only with valves/valve kits, continuously variable, with LCD operating menu and integrated timer program, 230 V AC, Open/Closed, Surface-mounted, Protection class IP 30, Temperature setting range 0 - 50 °C, Colour similar to RAL 9004 signal black, Type 148944	78 x 140 x 15	EC units electromechanical, 4 Katherm HK Trench Technology, 4 KaCool D AF, KaCool W, Venkon or KaDeck Fan Coils, 4 Ultra Allround Unit Heaters	<b>196000148944</b>

### Valve kits

	2-way valve kit	2-pipe, 2-way valve, 1 St. 24 V Continuous actuator 24 V AC/0-10 V DC, 50 Hz, Connection 1/2", with external thread, kvs value 1.7 m³/h, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1	<b>325009012212</b>
		2-pipe, 2-way valve, 1 St. 24 V Continuous actuator 24 V AC/0-10 V DC, 50 Hz, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 2 - 4	<b>325009022212</b>
		2-pipe, 2-way valve, 1 St. 24 V Continuous actuator 24 V AC/0-10 V DC, 50 Hz, Connection 3/4", with external thread, kvs value 4 m³/h, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5	<b>325009032212</b>
		2-pipe, 2-way valve, 1 St. 24 V Continuous actuator 24 V AC/0-10 V DC, 50 Hz, Connection 3/4", with external thread, kvs value 4 m³/h, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 6 - 7	<b>325009042212</b>
		4-pipe, 2-way valve, 2 St. 24 V Continuous actuator 24 V AC/0-10 V DC, 50 Hz, Connection 1/2", with external thread, kvs value 1.7, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1 - 4	<b>325009014212</b>
	2-way valve kit	4-pipe, 2-way valve, 2 St. 24 V Continuous actuator 24 V AC/0-10 V DC, 50 Hz, Connection 3/4", with external thread, kvs value 2.8 m³/h, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5 - 7	<b>325009024212</b>
		2-pipe, 2-way valve, 1 St. 230 V 2-point actuator 230 V Open/Close, thermo-electric, 50 Hz, 1.8 W, Connection 1/2", with external thread, kvs value 1.7 m³/h (h*m), water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1	<b>325009012110</b>









## Accessories

Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
	2-way valve kit	2-pipe, 2-way valve, 1 St. 230 V 2-point actuator 230 V Open/Close, thermoelectric, 50 Hz, 1.8 W, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 2 - 4	<b>325009022110</b>
	2-way valve kit	2-pipe, 2-way valve, 1 St. 230 V 2-point actuator 230 V Open/Close, thermoelectric, 50 Hz, 1.8 W, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5	<b>325009032110</b>
	2-way valve kit	2-pipe, 2-way valve, 1 St. 230 V 2-point actuator 230 V Open/Close, thermoelectric, 50 Hz, 1.8 W, Connection 3/4", with external thread, kvs value 4, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 6 - 7	<b>325009042110</b>
	2-way valve kit	2-pipe, 2-way valve, 1 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, 1.6 W, Connection 1/2", with external thread, kvs value 1.7, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1	<b>325009012112</b>
	2-way valve kit	2-pipe, 2-way valve, 1 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, 1.6 W, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 2 - 4	<b>325009022112</b>
	2-way valve kit	2-pipe, 2-way valve, 1 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, 1.6 W, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5	<b>325009032112</b>
	2-way valve kit	2-pipe, 2-way valve, 1 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, 1.6 W, Connection 3/4", with external thread, kvs value 4, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 6 - 7	<b>325009042112</b>
	2-way valve kit	4-pipe, 2-way valve, 2 St. 230 V 2-point actuator 230 V Open/Close, thermoelectric, 50 Hz, 1.8 W, Connection 1/2", with external thread, kvs value 1.7, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1 - 4	<b>325009014110</b>
	2-way valve kit	4-pipe, 2-way valve, 2 St. 230 V 2-point actuator 230 V Open/Close, thermoelectric, 50 Hz, 1.8 W, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5 - 7	<b>325009024110</b>
	2-way valve kit	4-pipe, 2-way valve, 2 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, 1.6 W, Connection 1/2", with external thread, kvs value 1.7, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1 - 4	<b>325009014112</b>







CONTINUED ►



## Accessories

Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
	2-way valve kit	4-pipe, 2-way valve, 2 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, 1.6 W, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5 - 7	<b>325009024112</b>
	3-way valve kit	2-pipe, 3-way valve, 1 St. 230 V 2-point actuator 230 V Open/Close, thermo- electric, 50 Hz, Connection 1/2", with external thread, kvs value 1.7, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1	<b>325009012120</b>
	3-way valve kit	2-pipe, 3-way valve, 1 St. 230 V 2-point actuator 230 V Open/Close, thermo- electric, 50 Hz, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 2 - 4	<b>325009022120</b>
	3-way valve kit	2-pipe, 3-way valve, 1 St. 230 V 2-point actuator 230 V Open/Close, thermo- electric, 50 Hz, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5	<b>325009032120</b>
	3-way valve kit	2-pipe, 3-way valve, 1 St. 230 V 2-point actuator 230 V Open/Close, thermo- electric, 50 Hz, Connection 3/4", with external thread, kvs value 4, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 6 - 7	<b>325009042120</b>
	3-way valve kit	2-pipe, 3-way valve, 1 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, Connection 1/2", with external thread, kvs value 1.7, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1	<b>325009012122</b>
	3-way valve kit	2-pipe, 3-way valve, 1 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 2 - 4	<b>325009022122</b>
	3-way valve kit	2-pipe, 3-way valve, 1 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5	<b>325009032122</b>
	3-way valve kit	2-pipe, 3-way valve, 1 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, Connection 3/4", with external thread, kvs value 4, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 6 - 7	<b>325009042122</b>

## Accessories


Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
	3-way valve kit	4-pipe, 3-way valve, 2 St. 230 V 2-point actuator 230 V Open/Close, thermo-electric, 50 Hz, Connection 1/2", with external thread, kvs value 1.7, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1 - 4	<b>325009014120</b>
	3-way valve kit	4-pipe, 3-way valve, 2 St. 230 V 2-point actuator 230 V Open/Close, thermo-electric, 50 Hz, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5 - 7	<b>325009024120</b>
	3-way valve kit	4-pipe, 3-way valve, 2 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, Connection 1/2", with external thread, kvs value 1.7, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1 - 4	<b>325009014122</b>
	3-way valve kit	4-pipe, 3-way valve, 2 St. 24 V 2-point actuator 24 V Open/Close, thermoelectric, 50 Hz, Connection 3/4", with external thread, kvs value 2.8, water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5 - 7	<b>325009024122</b>
	Differential pressure-independent valve kit	2-pipe, 230 V 2-point actuator 230 V Open/Close, 50 Hz, Connection 1/2", water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1, Flow volume Cooling (min./max.) 150 - 1050 l/h	<b>325009012310</b>
		2-pipe, 230 V 2-point actuator 230 V Open/Close, 50 Hz, Connection 3/4", water with glycol <50%, supplied separately	180 x 100 x 180	Model size 2 - 7, Flow volume Cooling (min./max.) 150 - 1050 l/h	<b>325009022310</b>
		2-pipe, 24 V 2-point actuator, 50 Hz, Connection 1/2", water with glycol <50%, supplied separately Only in conjunction with a KaControl controller!	180 x 100 x 180	Model size 1, Flow volume Cooling (min./max.) 150 - 1050 l/h	<b>325009012312</b>
		2-pipe, 24 V 2-point actuator, 50 Hz, Connection 3/4", water with glycol <50%, supplied separately Only in conjunction with a KaControl controller!	180 x 100 x 180	Model size 2 - 7, Flow volume Cooling (min./max.) 150 - 1050 l/h	<b>325009022312</b>
		2-pipe, 24 V 2-point actuator, 50 Hz, Connection 3/4", water with glycol <50%, supplied separately Only in conjunction with a KaControl controller!	180 x 100 x 180	Model size 2 - 7, Flow volume Cooling (min./max.) 250 - 1800 l/h	<b>325009032312</b>
	Differential pressure-independent valve kit	4-pipe, 230 V 2-point actuator 230 V Open/Close, 50 Hz, Connection 1/2", water with glycol <50%, supplied separately	180 x 100 x 180	Model size 1, Flow volume Cooling (min./max.) 150 - 1050 l/h	<b>325009014310</b>
		4-pipe, 230 V 2-point actuator 230 V Open/Close, 50 Hz, Connection 3/4", water with glycol <50%, supplied separately	180 x 100 x 180	Model size 2 - 4, Flow volume Cooling (min./max.) 150 - 1050 l/h	<b>325009024310</b>
		4-pipe, 230 V 2-point actuator 230 V Open/Close, 50 Hz, Connection 3/4", water with glycol <50%, supplied separately	180 x 100 x 180	Model size 5 - 7, Flow volume Cooling (min./max.) 250 - 1800 l/h	<b>325009034310</b>
		4-pipe, 24 V 2-point actuator, 50 Hz, Connection 1/2", water with glycol <50%, supplied separately Only in conjunction with a KaControl controller!	180 x 100 x 180	Model size 1, Flow volume Cooling (min./max.) 150 - 1050 l/h	<b>325009014312</b>
		4-pipe, 24 V 2-point actuator, 50 Hz, Connection 3/4", water with glycol <50%, supplied separately Only in conjunction with a KaControl controller!	180 x 100 x 180	Model size 2 - 4, Flow volume Cooling (min./max.) 150 - 1050 l/h	<b>325009024312</b>
		4-pipe, 24 V 2-point actuator, 50 Hz, Connection 3/4", water with glycol <50%, supplied separately Only in conjunction with a KaControl controller!	180 x 100 x 180	Model size 5 - 7, Flow volume Cooling (min./max.) 250 - 1800 l/h	<b>325009034312</b>

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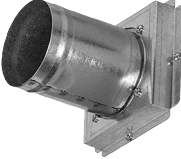
## Accessories

Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		

### Panel/grille

	RAL 9016 metal panel	with IR remote control, Colour RAL 9016 traffic-white The ABS design panel is included with ceiling cassettes with article number 325008XXX001XX. To order these units without design panel, replace the 1 in the article number by a 0 and order the metal panel separately.	623 x 45 x 623	Model size 1 - 4, KaCool D AF	<b>325009010021</b>
			923 x 55 x 923	Model size 5 - 7, KaCool D AF	<b>325009020021</b>
		without IR remote control, Colour RAL 9016 traffic-white The ABS design panel is included with ceiling cassettes with article number 325008XXX001XX. To order these units without design panel, replace the 1 in the article number by a 0 and order the metal panel separately.	623 x 45 x 623	Model size 1 - 4, KaCool D AF	<b>325009010020</b>
			923 x 55 x 923	Model size 5 - 7, KaCool D AF	<b>325009020020</b>

### Attachments

	Under-ceiling frame/ enclosure	Colour RAL 9016 traffic-white	786 x 287 x 786	Model size 1 - 4	<b>325009010110</b>
			1066 x 332 x 1066	Model size 5 - 7	<b>325009020110</b>
	Primary air connection spigot	for the connection of external primary air, Connection diameter 80 mm	180 x 100 x 180	Model size 1 - 4	<b>325009010300</b>
				Model size 5 - 7	<b>325009020300</b>

### Additional colours

	surcharge for RAL colour of your choice	Price per panel.		Model size 1 - 4, RAL 9016 metal panel, KaCool D AF or KaCool D HY Fan Coils	<b>325008000101</b>
				Model size 5 - 7, RAL 9016 metal panel, KaCool D AF Fan Coils	<b>325008000102</b>
				Model size 1 - 4, ABS panel, KaCool D AF Fan Coils	<b>325008000103</b>
				Model size 5 - 7, ABS panel, KaCool D AF Fan Coils	<b>325008000104</b>
		Price per enclosure.		Model size 1 - 4, enclosure, KaCool D AF Fan Coils	<b>325008000105</b>
				Model size 5 - 7, enclosure, KaCool D AF Fan Coils	<b>325008000106</b>

[Kampmanngroup.com/kacool-d-af](https://Kampmanngroup.com/kacool-d-af)

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