



► **Tandem**  
Door Air Curtains

# Tandem

Door air curtains with Tandem technology  
for effective cold air screening

► **Technical Catalogue**

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Tandem door air curtains: Effective cold air screening for a comfortable interior climate.

Schlosscarree, Braunschweig: Fast feeling of comfort for visitors at different entrances to the malls thanks to Tandem 385 door air curtains.





# 01 ▶ Product Information



## Tandem 300/385 – Door air curtains with Tandem technology

Tandem door air curtains ensure a comfortable interior climate, even when the doors are open, thanks to their screening effect.

The perceptible warm air stream creates a rapid feeling of comfort at ground level, especially when the temperature falls below zero.

Unlike conventional door air curtains, an additional fan group generates an ambient unheated air stream for more effective and energy-saving screening of cold outside air.

The cold ambient air stream has a greater penetration depth than the heated air stream and acts as a back-up air stream. Both air streams contract, with the ambient air stream pulling the warm air stream downwards with it.

Wasteful energy-consuming turbulence in the air occurs predominantly between the outside air and the unheated ambient air stream.

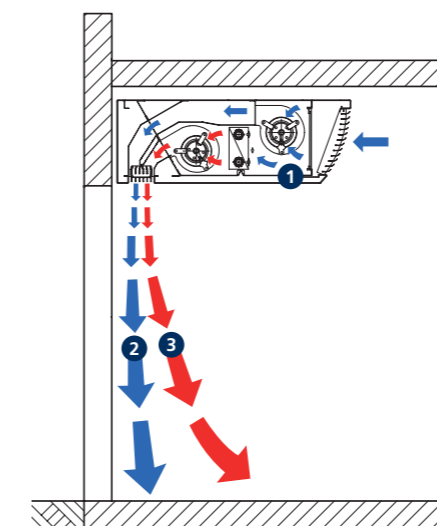
The Coanda effect produces even greater penetration depth: both air streams contract, with the ambient air stream pulling the warm air stream downwards with it. The ambient air stream generates energy savings, not just because it does not have to be heated as part of the entire air curtain. At the same time, it delivers improved screening, enabling the unit to be mounted even higher.

To the product video: [kampmann.co.uk/products/videos/tandem-operation.html](http://kampmann.co.uk/products/videos/tandem-operation.html)



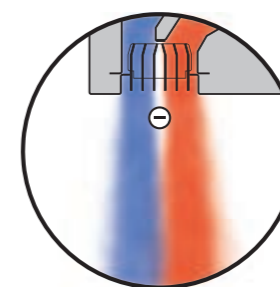
### Effectiveness of the Tandem 300 and 385

Diagram shows the horizontal model



- 1 Door air curtain, basic unit with casing
- 2 Ambient air stream
- 3 Warm air stream

### 38% energy savings



Around 38% energy savings, compared to conventional systems, are obtained by the combination of:

- ▶ Unheated ambient air stream,
- ▶ increased penetration depth due to the Coanda effect
- ▶ Comparatively smaller warm air volume



## Product Data



### Product Features

- ▶ 38 % energy savings using Tandem technology
- ▶ Minimal heating requirement with the same screening effect
- ▶ Valves (optional) can be concealed behind the casing



### Features

- ▶ Basic unit and casing (modular construction is possible)
- ▶ Ambient and warm air stream

#### Heating Installation

- ▶ LPHW or electric
- ▶ Wall-mounted or ceiling-mounted, horizontal, vertical (on request)
- ▶ Installation within a suspended ceiling, mounted flush within the ceiling

#### KaControl

- ▶ Optional

#### Connections

- ▶ 3/4" heat exchanger connection

### Performance data

#### Heat output<sup>1)</sup> [kW]

- ▶ 4.1–33.9

#### Air flow volume<sup>2)</sup> [m³/h]

- ▶ 840–8180

#### Sound pressure level<sup>3)</sup> [dB(A)]

- ▶ 37–64

#### Operating limits

- ▶ Max. operating pressure: 10 bar
- ▶ Max. entering water temperature: 90 °C
- ▶ Min. entering air temperature: 6 °C
- ▶ Max. entering air temperature: 40 °C

### Uses

Tandem door air curtains installed above public entrances efficiently screen cold air.



Retail chains



Exhibition rooms and showrooms



Restaurants and cafés



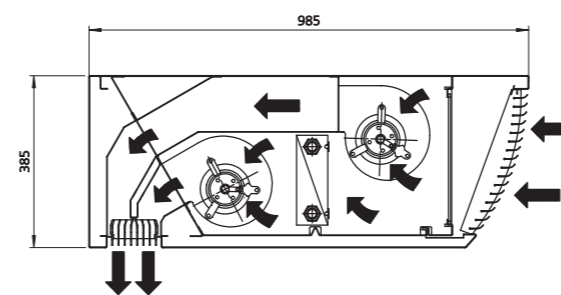
Public buildings

## Selection Guide: Overview of Models

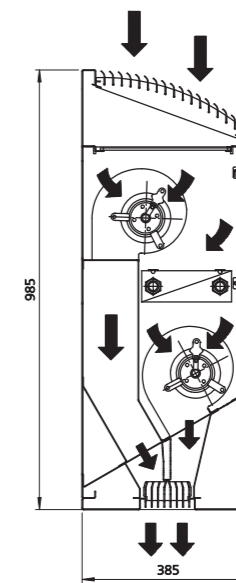
Size	Model	Max. mounting height <sup>1)</sup> [m]	Max. door width	Total air volume <sup>2)</sup> [m³/h]	Heat output <sup>3)</sup> [kW]	Sound pressure level <sup>4)</sup> [dB(A)]	Sound power level [dB(A)]	More information
10	300	2.7–3.4	1.0	840–1980	4.1–7.1	37–59	52–74	▶ Pages 14–17
	385	3.5–4.0	1.5	1260–2970	6.6–11.7	38–60	53–75	▶ Pages 14–17
15	300	2.7–3.4	2.0	1680–3960	9.1–16.3	41–61	56–76	▶ Pages 22–25
	385	3.5–4.0	2.5	2460–5770	13.1–24.2	43–63	58–78	▶ Pages 18–21
20	300	2.7–3.4	3.0	2520–5940	13.5–23.8	42–62	57–77	▶ Pages 26–29
	385	3.5–4.0	3.0	3370–8180	18.0–33.9	44–64	59–79	▶ Pages 18–21
25	300	2.7–3.4	3.0	2590–6120	14.8–26.8	42–62	57–77	▶ Pages 26–29
	385	3.5–4.0	3.0	2590–6120	14.8–26.8	42–62	57–77	▶ Pages 18–21

### Sectional views of basic unit with casing (Tandem 385 shown)

Horizontal



Vertical



<sup>1)</sup> at LPHW 75/65, t<sub>1</sub> = 20 °C

<sup>2)</sup> at low to medium pressure, requirements and conditions, see pages 31, 34 and 35

<sup>3)</sup> The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m³ and a reverberation time of 1.0 s (in accordance with VDI 2081).

<sup>1)</sup> at low to medium pressure, requirements and conditions, see pages 31, 34 and 35

<sup>2)</sup> switchable through 5 stages

<sup>3)</sup> at LPHW 75/65, t<sub>1</sub> = 20 °C

<sup>4)</sup> The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m³ and a reverberation time of 1.0 s (in accordance with VDI 2081).

## Tandem at a glance



## Features



### 1 + 2 Radial fans:

- Two fan groups for ambient and warm air streams arranged on top of each other (Tandem technology) for the more efficient and energy-saving screening of cold air from outside
- Switchable through 5 stages, EnEV 2015-compliant

### 3 Anti-twist mechanism for heating connection:

- Prevents damage to the heat exchanger when connecting the valves
- Optional: valves (accessories)

### 4 High-output heat exchanger:

- The proven combination – copper/aluminium

### 5 Air intake grille with filter:

- Opens with ease
- Simple filter replacement without the need for tools

### 6 Service hatch:

- Simple and quick to open
- Quick access for maintenance

### 7 Outlet air rectifier:

- Consists of streamline-shaped, adjustable slats
- Outlet air rectifier fitted in the outlet for minimal turbulence and uniformly directed air discharge, powder coated RAL 9006
- The discharged flat air stream has minimal divergence with improved penetration effect, significantly reducing air exchange
- When installed within a suspended ceiling an outlet air rectifier with frame is used for installation within the ceiling

### 8 Side panel:

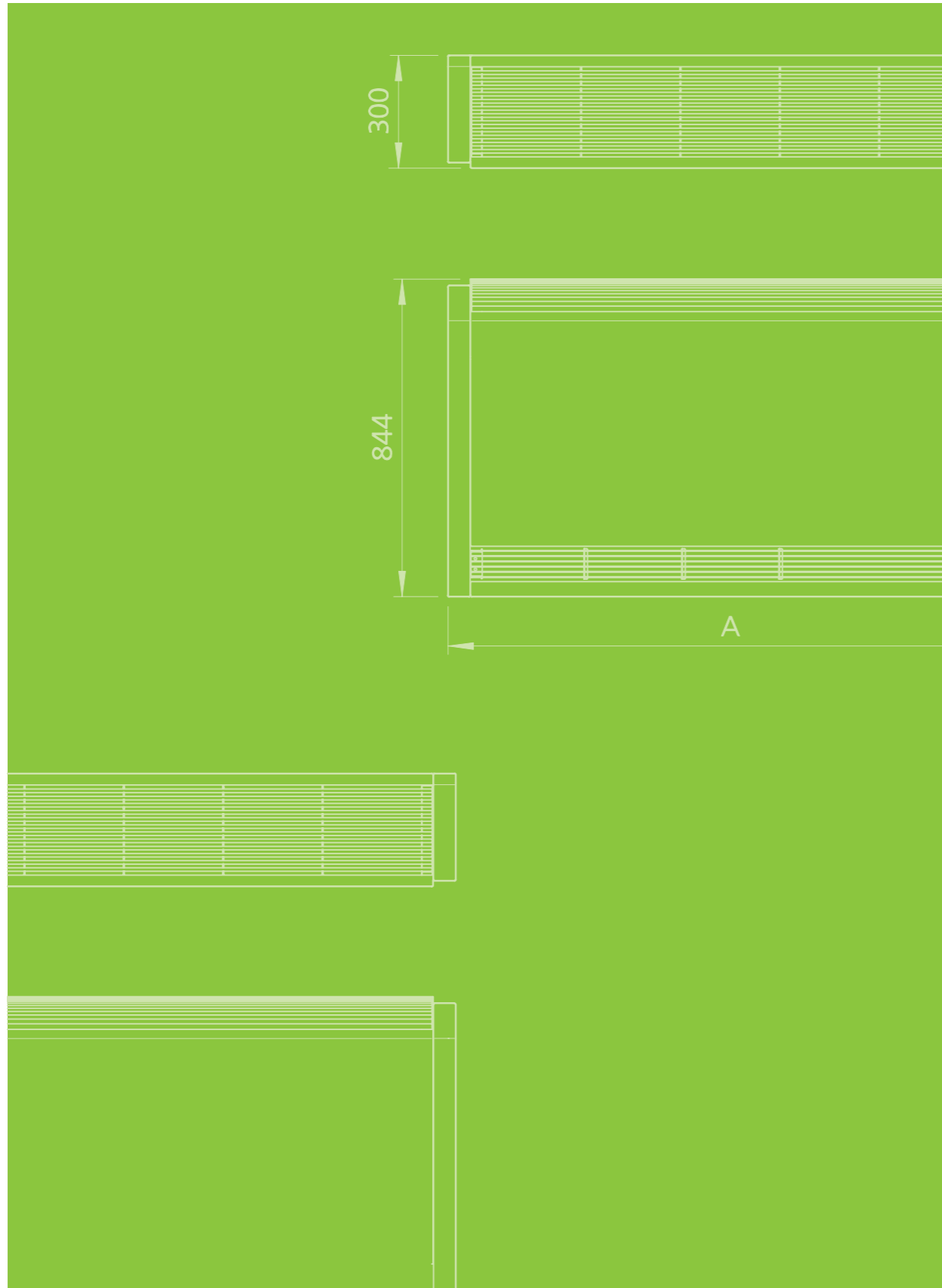
- Open without the need for tools for quick access to valves (accessory) and electrical wiring

### 9 Casing:

- Solid steel construction with an attractive appearance
- Welded corners, finished with lateral recessed head sections, simple to remove for maintenance purposes
- Powder coated in RAL 9016, other non-standard colours available on request
- Lengths > 2.5 m and 3.0 m (horizontal or vertical model) possibly using casing extensions (Modular construction)
- Rounded linear air intake grille made of streamlined profiles, powder coated in RAL 9006, simple to remove for maintenance purposes



## 02 ▶ Technical Data



### Conditions of Use

Install door air curtains across the complete width or height of the doorway, preferably without obstacles to the air outlets.

Ensure that the outlet air temperature is controlled depending on the heating or cooling requirement. In heating mode, preferably design the outlet air temperature to 32 °C, although we recommend 36 °C. This requirement applies to the air stream on the room side with multiple air stream door air curtains.

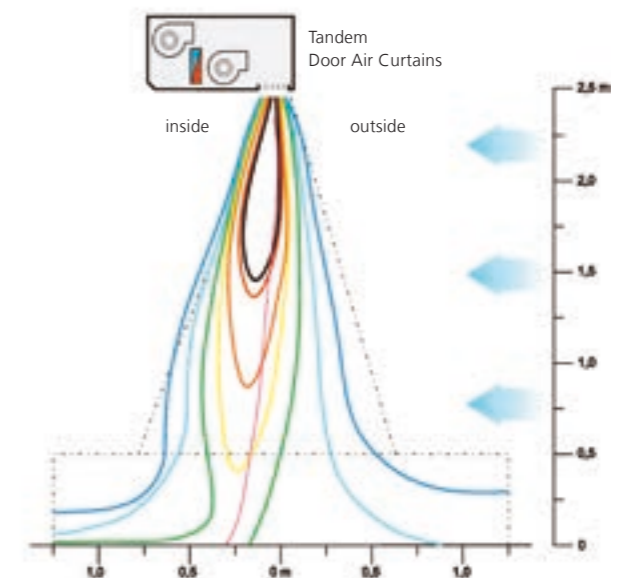
Door air curtains are generally sized in line with VDI 2082 taking into consideration:

- ▶ Door width and door height
- ▶ Building position and height
- ▶ Wind pressure conditions
- ▶ Number and position of entrances
- ▶ Type of entrance doors
- ▶ Size of sales floor
- ▶ Installation height
- ▶ Volume of traffic

#### ERP 2015-conformity

The ERP Directive ("LOT 11") significantly increased the efficiency requirements governing fans with an electrical drive output of 125 watts to 500 watts. It is not just the fan alone that is responsible for calculating the energy consumption, the inlet cone used on the unit also has to be taken into consideration. The Tandem range of door air curtains is exclusively supplied with ERF-compliant fans. The Tandem range of door air curtains and the components used in it are produced and tested in line with the applicable technical norms and standards. The product range conforms to the specifications of the applicable standards, e.g. the Machinery Directive, EN60335 (Safety of Electrical Equipment) and the EMC Directive.

#### Curve of the isotherms of a Tandem door air curtain, switching stage 5



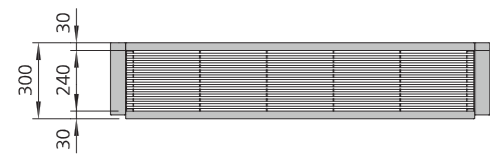
Curve of the isotherms, produced by Gelsenkirchen University of Applied Sciences, Prof. Dr. Ing. R. Rawe

Isotherms:		Air volume:	
Colour:	Δ t	Total:	2970 m <sup>3</sup> /h
■ black	7 K	Ambient air stream:	1545 m <sup>3</sup> /h
■ red	5 K	Warm air stream:	1425 m <sup>3</sup> /h
■ orange	4 K		
■ yellow	3 K	Stage 5 with	
■ green	2,5 K	interference variable:	1 m/s
■ light blue	2 K		
■ blue	1,5 K		
— Middle of the velocity profile			

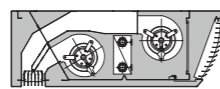
# Tandem 300

## Sizes 10 and 15 horizontal, with casing

### Technical Drawings (Dimensions in mm)

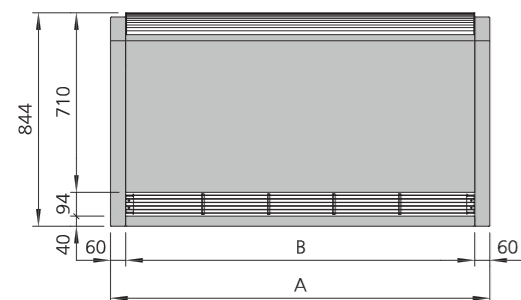


Front view

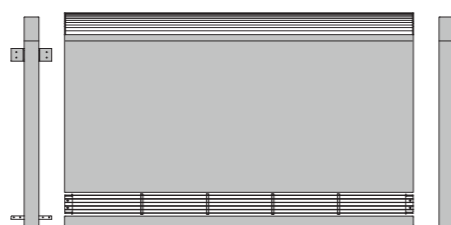


Cross-section

Size	A	B
[mm]	[mm]	[mm]
10	1000	880
15	1500	1380



View from below



Casing extension, view from below

### Specifications

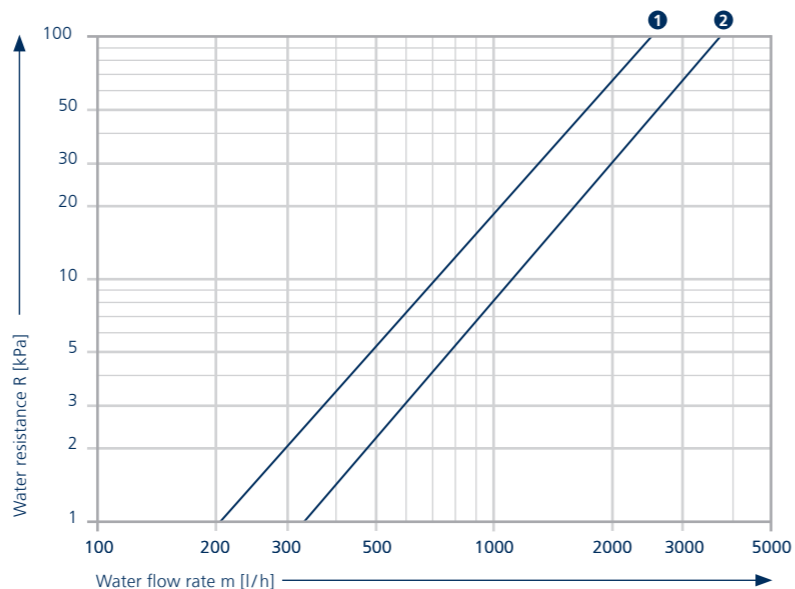
#### Weight of basic unit with casing

Size	Basic unit	Casing	Total
	[kg]	[kg]	[kg]
10	49	25	74
15	74	35	109

#### Weight of ceiling cassette unit

Size	Total
	[kg]
10	83
15	126

### Water resistance chart (horizontal / vertical model)



- 1 Size 10
- 2 Size 15

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

► [kampmann.co.uk/tandem/calculation](http://kampmann.co.uk/tandem/calculation)

### Model outputs: LPHW

Size	Max. discharge height <sup>1)</sup>	Max. door width	Fan stage	Total air volume	Air volume of ambient air stream	Air volume of warm air stream	Heat output <sup>2)</sup>	Outlet air temperature <sup>2)</sup>	Power consumption	Current uptake	Sound pressure level <sup>3)</sup>	Sound power level
	[m]	[m]		V[m <sup>3</sup> /h]	V[m <sup>3</sup> /h]	V[m <sup>3</sup> /h]	Q <sub>e</sub> [W]	t <sub>e</sub> [°C]	P[W]	I[A]	L <sub>pA</sub> [dB(A)]	L <sub>WA</sub> [dB(A)]
10	2.7–3.4	1.0	1	840	430	410	4090	49.3	180	0.90	37	52
			2	1260	640	620	5380	45.5	320	1.44	48	63
			3	1440	740	700	5830	44.5	380	1.67	52	67
			4	1680	860	820	6470	43.2	480	2.11	56	71
			5	1980	1030	950	7120	42.0	590	2.55	59	74
15	2.7–3.4	1.5	1	1260	645	615	6610	51.6	268	1.25	38	53
			2	1890	960	930	8740	47.6	483	2.11	49	64
			3	2160	1110	1050	9500	46.6	561	2.42	53	68
			4	2520	1290	1230	10570	45.3	731	3.11	57	72
			5	2970	1545	1425	11660	44.1	900	3.81	60	75

### Model outputs: Electric

Size	Max. discharge height <sup>1)</sup>	Max. door width	Fan stage	Total air volume	Air volume of ambient air stream	Air volume of warm air stream	Heat outputs Electric heating element <sup>4)</sup>	Outlet air temperature	Max. power consumption of heating element	Power consumption Fan	Current uptake Fan	Sound pressure level <sup>3)</sup>	Sound power level
	[m]	[m]		V[m <sup>3</sup> /h]	V[m <sup>3</sup> /h]	V[m <sup>3</sup> /h]	Q <sub>e</sub> [W]	t <sub>e</sub> [°C]	I[A]	P[W]	I[A]	L <sub>pA</sub> [dB(A)]	L <sub>WA</sub> [dB(A)]
10	2.7–3.4	1.0	1	840	430	410	2230	approx. 36	9,0	180	0.90	37	52
			2	1260	640	620	3370	approx. 36		320	1.44	48	63
			3	1440	740	700	3810	approx. 36		380	1.67	52	67
			4	1680	860	820	4460	approx. 36		480	2.11	56	71
			5	1980	1030	950	5170	approx. 36		590	2.55	59	74
15	2.7–3.4	1.5	1	1260	645	615	3350	approx. 36	13,0	268	1.25	38	53
			2	1890	960	930	5060	approx. 36		483	2.11	49	64
			3	2160	1110	1050	5710	approx. 36		561	2.42	53	68
			4	2520	1290	1230	6690	approx. 36		731	3.11	57	72
			5	2970	1545	1425	7750	approx. 36		900	3.81	60	75

<sup>1)</sup> at low to medium pressure, requirements and conditions, see pages 31, 34 and 35

<sup>2)</sup> at LPHW 75/65, t<sub>L1</sub> = 20 °C

<sup>3)</sup> The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m<sup>3</sup> and a reverberation time of 1.0 s (in accordance with VDI 2081).

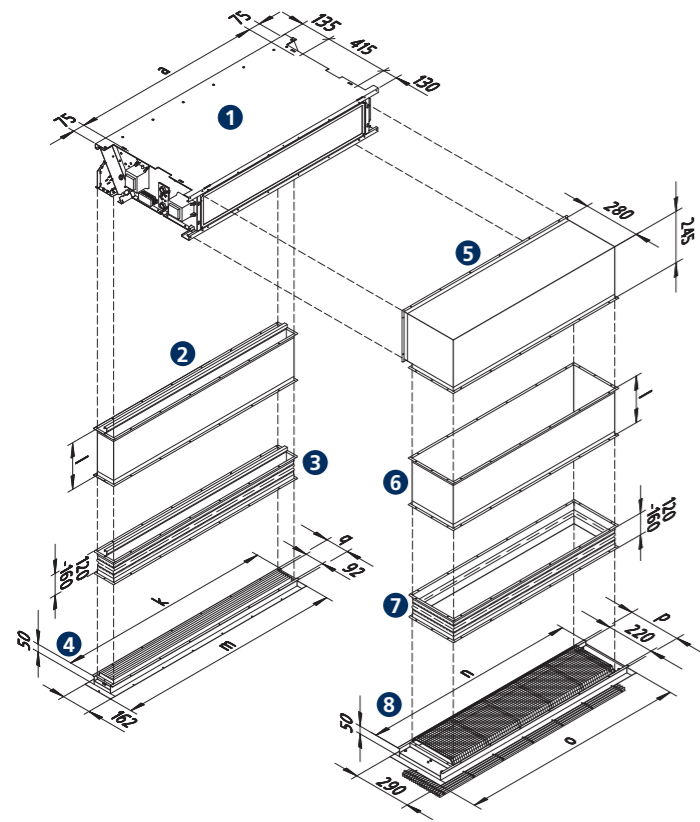
<sup>4)</sup> The heat output is continuously controlled at approx. 36 °C according to the air outputs of the individual stages.



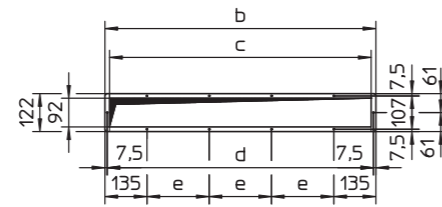
# Tandem 300

Sizes 10 and 15 horizontal, with air-side sheet steel accessories

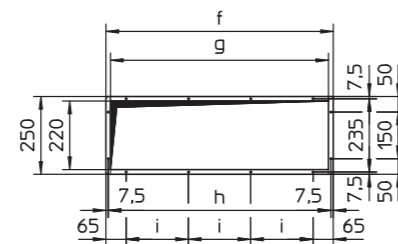
Dimensions of sheet steel accessories (Dimensions in mm)



Frame dimensions (Dimensions in mm)



Air outlet



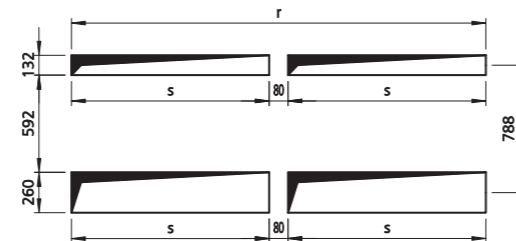
Air intake

Size	a	b	c	d	e	f	g	h	i
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	730	870	840	855	200	730	700	715	200
15	1230	1370	1340	1355	220	1230	1200	1215	220

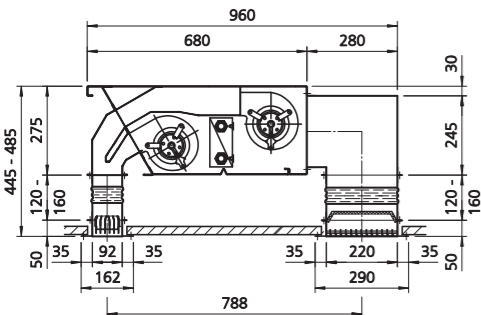
  

Size	k	l	m	n	o	p	q	r	s
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	884	*	954	884	954	250	122	-	920
15	1384	*	1454	1384	1454	250	122	-	1420

Opening dimensions



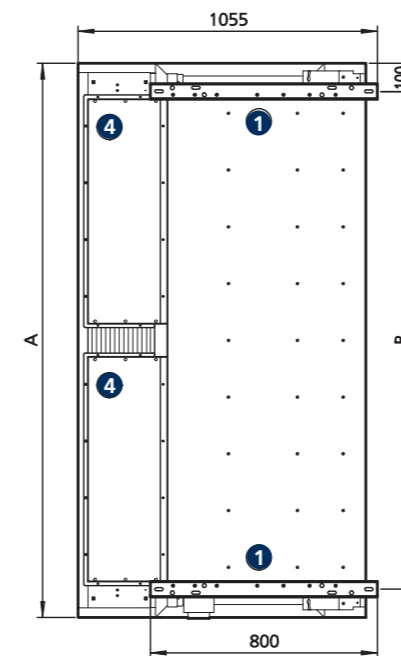
Installation within a suspended ceiling



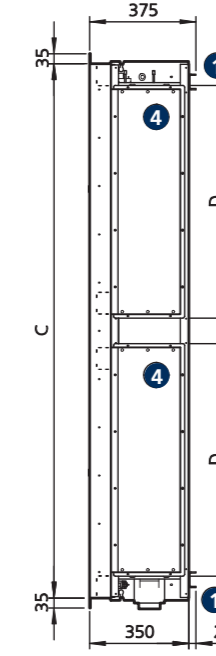
\* Please specify dimensions when ordering

## Sizes 10 and 15 as a ceiling cassette unit\*

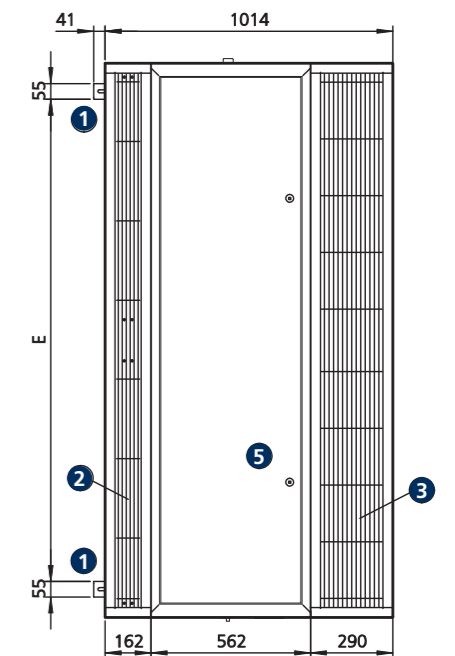
Drawing of ceiling installation (Dimensions in mm)



Top view

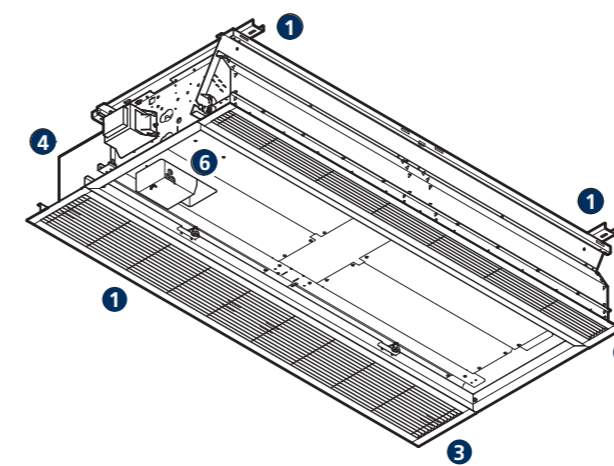


Intake side view

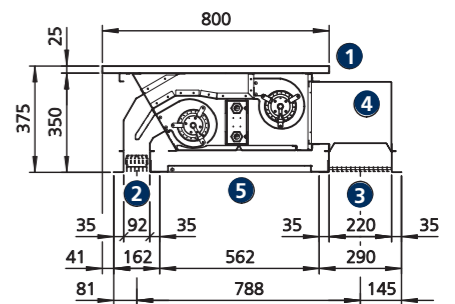


View from below

Size	A	B	C	D	E
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	954	755	884	730	700
15	1454	1255	1384	1230	1200



Isometric view from below (without service hatch)



Cross-section

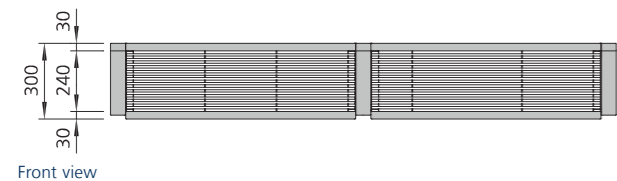
- 1 U-rail for fixing to ceiling
- 2 Outlet air rectifier with frame
- 3 Air intake grille with frame and filter fixing
- 4 Air intake bend
- 5 Service hatch
- 6 Electrical junction box

\* Sizes 10 and 15 deviate from the drawing shown

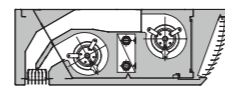
# Tandem 300

Sizes 20, 25 and 30 horizontal, with casing

## Technical Drawings (Dimensions in mm)

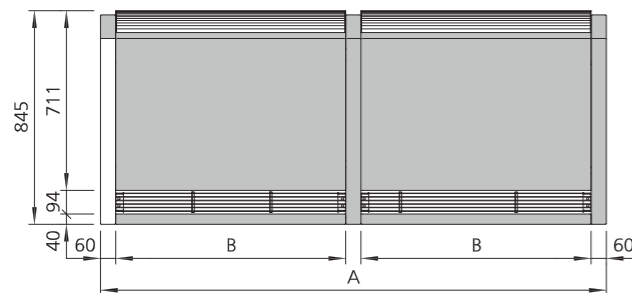


Front view

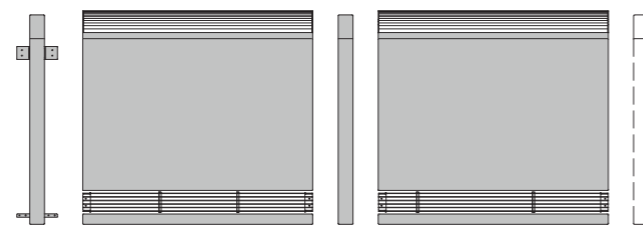


Cross-section

Size	A	B
[mm]	[mm]	[mm]
20	2000	910
25	2500	1160
30	3000	1410



View from below



Casing extension, view from below

## Specifications

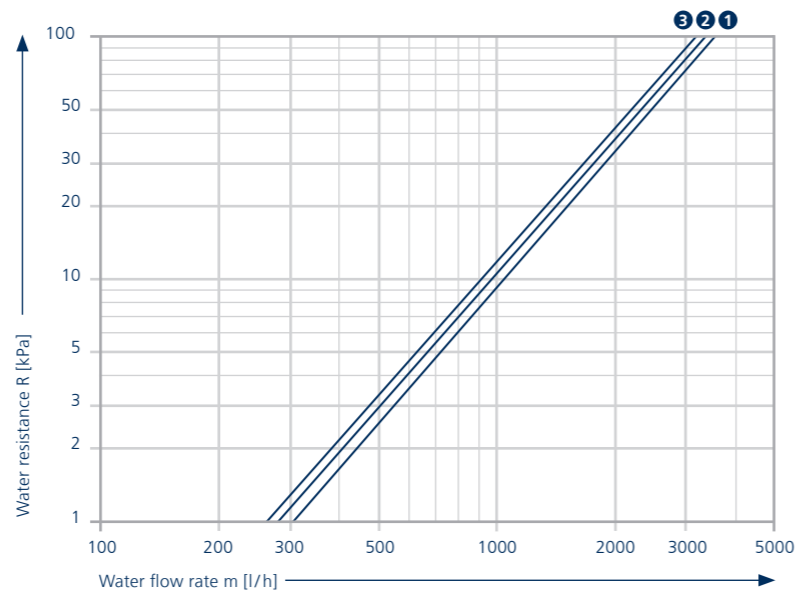
### Weight of basic unit with casing

Size	Basic unit	Casing	Total
	[kg]	[kg]	[kg]
20	99	43	142
25	127	52	179
30	152	63	215

### Weight of ceiling cassette unit

Size	Total
	[kg]
20	170
25	214

## Water resistance chart (horizontal / vertical model)



- 1 Size 20
- 2 Size 25
- 3 Size 30

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

► [kampmann.co.uk/tandem/calculation](http://kampmann.co.uk/tandem/calculation)

## Model outputs: LPHW

Size	Max. discharge height <sup>1)</sup>	Max. door width	Fan stage	Total air volume	Air volume of ambient air stream	Air volume of warm air stream	Heat output <sup>2)</sup>	Outlet air temperature <sup>2)</sup>	Power consumption	Current uptake	Sound pressure level <sup>3)</sup>	Sound power level
	[m]	[m]		V[m <sup>3</sup> /h]	V[m <sup>3</sup> /h]	V[m <sup>3</sup> /h]	Q <sub>e</sub> [W]	t <sub>o</sub> [°C]	P[W]	I[A]	L <sub>pA</sub> [dB(A)]	L <sub>WA</sub> [dB(A)]
20	2.7–3.4	2.0	1	1680	860	820	9130	52.7	338	1.55	41	56
			2	2520	1280	1240	12150	48.8	602	2.62	51	66
			3	2880	1480	1400	13220	47.8	708	3.80	55	70
			4	3360	1720	1640	14740	46.4	923	3.98	58	73
			5	3960	2060	1900	16270	45.2	1120	4.85	61	76
25	2.7–3.4	2.5	1	2520	1290	1230	13460	52.2	497	2.27	42	57
			2	3780	1920	1860	17810	48.2	890	3.89	52	67
			3	4320	2220	2100	19360	47.1	1024	4.49	56	71
			4	5040	2580	2460	21560	45.8	1319	5.78	58	73
			5	5940	3090	2850	23770	44.5	1603	7.10	62	77
30	2.7–3.4	3.0	1	2590	1330	1260	14820	54.6	497	2.27	42	57
			2	3890	1980	1910	19940	50.7	890	3.89	52	67
			3	4450	2290	2160	21730	49.6	1024	4.49	56	71
			4	5190	2660	2530	24910	47.9	1319	5.78	58	73
			5	6120	3180	2940	26840	46.9	1603	7.10	62	77

## Model outputs: Electric

Size	Max. discharge height <sup>1)</sup>	Max. door width	Fan stage	Total air volume	Air volume of ambient air stream	Air volume of warm air stream	Heat outputs Electric heating element <sup>4)</sup>	Outlet air temperature	Max. power consumption of heating element	Power consumption Fan	Current uptake Fan	Sound pressure level <sup>3)</sup>	Sound power level
	[m]	[m]		V[m <sup>3</sup> /h]	V[m <sup>3</sup> /h]	V[m <sup>3</sup> /h]	Q <sub>e</sub> [W]	t <sub>o</sub> [°C]	I[A]	P[W]	I[A]	L <sub>pA</sub> [dB(A)]	L <sub>WA</sub> [dB(A)]
20	2.7–3.4	2.0	1	1680	860	820	4460	approx. 36	16.0	338	1.55	41	56
			2	2520	1280	1240	6750	approx. 36					
			3	2880	1480	1400	7620	approx. 36					
			4	3360	1720	1640	8920	approx. 36					
			5	3960	2060	1900	10340	approx. 36					
25	2.7–3.4	2.5	1	2520	1290	1230	6690	approx. 36	26.0	497	2.27	42	57
			2	3780	1920	1860	10120	approx. 36					
			3	4320	2220	2100	11420	approx. 36					
			4	5040	2580	2460	13380	approx. 36					
			5	5940	3090	2850	15500	approx. 36					

<sup>1)</sup> at low to medium pressure, requirements and conditions, see pages 31, 34 and 35

<sup>2)</sup> at LPHW 75/65, t<sub>L1</sub> = 20 °C

<sup>3)</sup> The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m<sup>3</sup> and a reverberation time of 1.0 s (in accordance with VDI 2081).

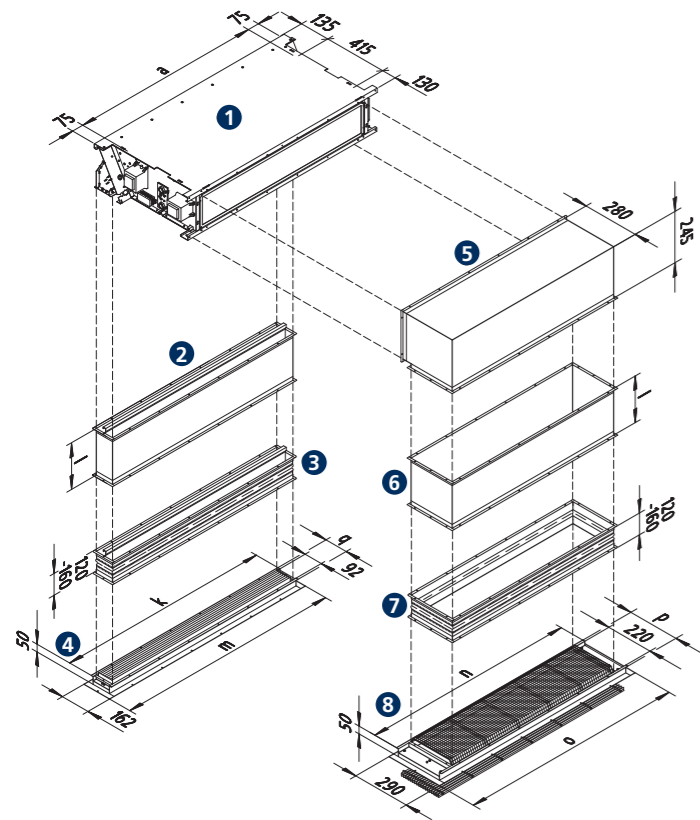
<sup>4)</sup> The heat output is continuously controlled at approx. 36 °C according to the air outputs of the individual stages.



# Tandem 300

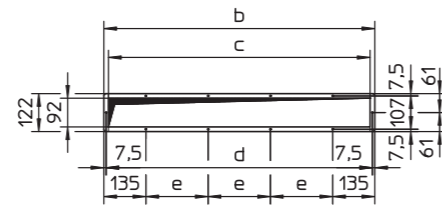
Sizes 20, 25 and 30 horizontal, with air-side sheet steel accessories

Dimensions of sheet steel accessories (Dimensions in mm)

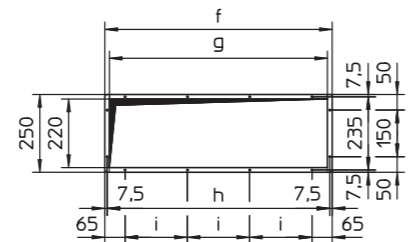


- 1 Door air curtain, basic unit, Tandem 300, horizontal design
- 2 Air duct for air outlet
- 3 Flexible connecting section for air outlet
- 4 Outlet air rectifier
- 5 90° air intake angle section
- 6 Air duct for air inlet
- 7 Flexible connecting section for air inlet
- 8 Air intake grille

Frame dimensions (Dimensions in mm)



Air outlet

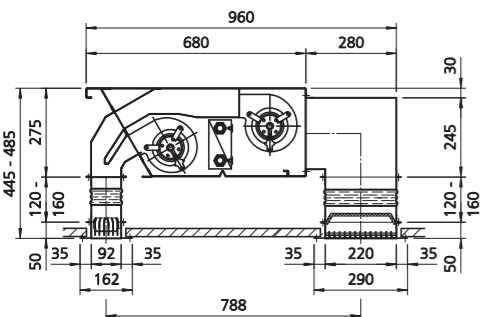


Air intake

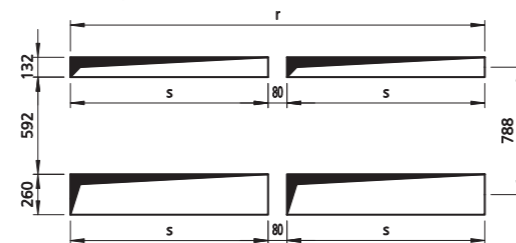
Size	a	b	c	d	e	f	g	h	i
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
20	1730	900*	870*	885*	200	820*	790*	805*	200
25	2230	1150*	1120*	1135*	212,5	1070*	1040*	1055*	212,5
30	2730	1400*	1370*	1385*	220	1320*	1290*	1305*	220

Size	k	l	m	n	o	p	q	r	s
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
20	884*	**	954*	884*	954*	250	122	1920	920*
25	1134*	**	1204*	1134*	1204*	250	122	2420	1170*
30	1384*	**	1454*	1384*	1454*	250	122	2920	1420*

Installation within a suspended ceiling

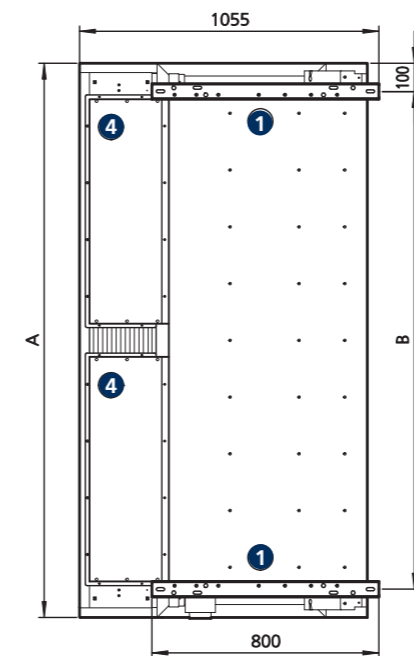


Opening dimensions

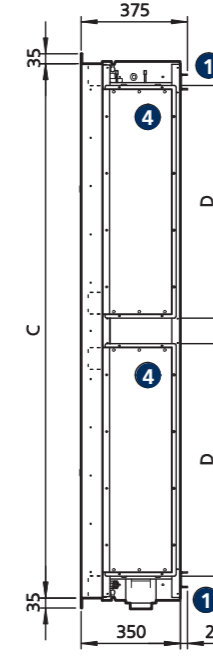


# Sizes 20 and 25 as a ceiling cassette unit

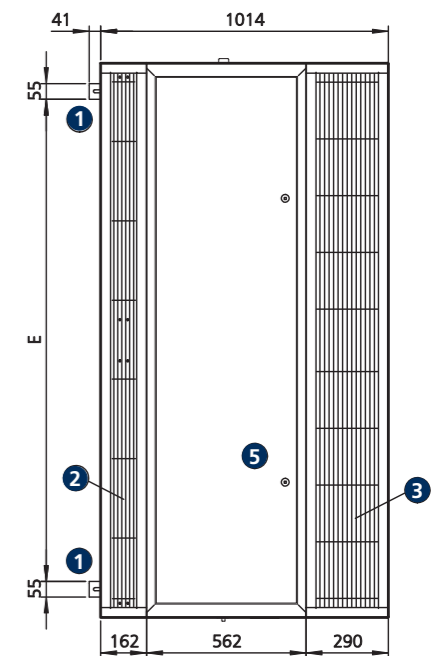
Drawing of ceiling installation (Dimensions in mm)



Top view

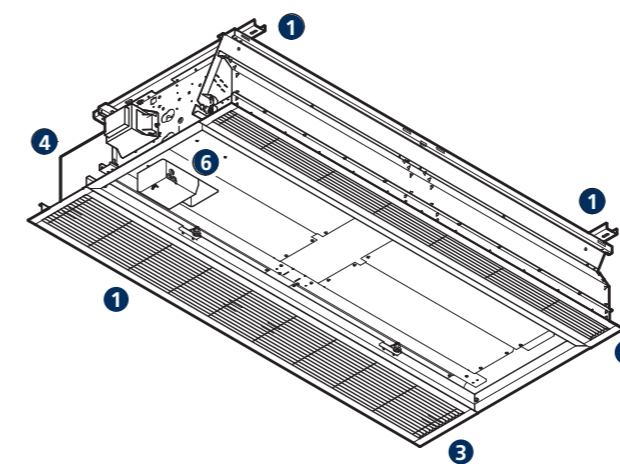


Intake side view

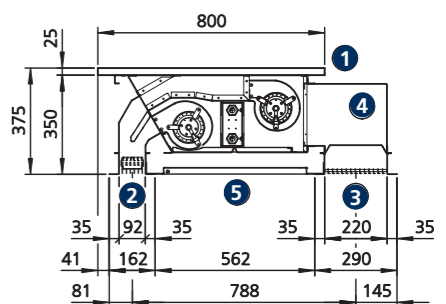


View from below

Size	A	B	C	D	E
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
20	1954	1755	1884	820	1700
25	2454	2255	1384	1070	2200



Isometric view from below (without service hatch)



Cross-section

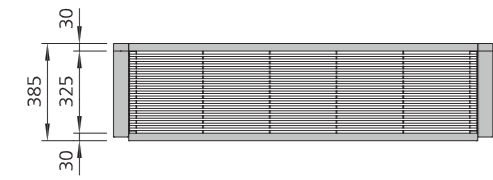
- 1 U-rail for fixing to ceiling
- 2 Outlet air rectifier with frame
- 3 Air intake grille with frame and filter fixing
- 4 Air intake bend
- 5 Service hatch
- 6 Electrical junction box

\* Two sets of sheet steel accessories are supplied for door air curtain sizes 20, 25 and 30.  
 \*\* Please specify dimensions when ordering

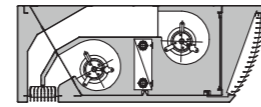
# Tandem 385

## Size 15 horizontal, with casing

### Technical Drawings (Dimensions in mm)

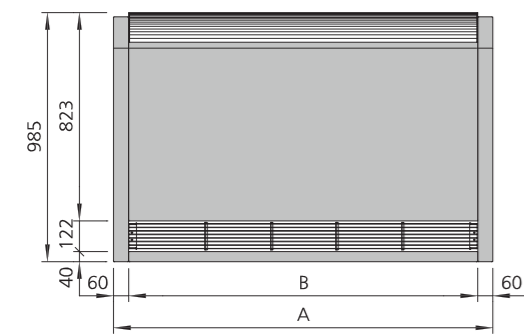


Front view

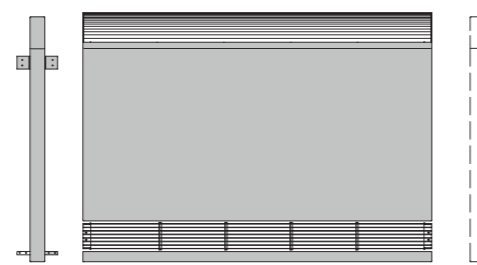


Cross-section

Size	A	B
[mm]	[mm]	[mm]
15	1500	1380



View from below



Casing extension, view from below

### Specifications

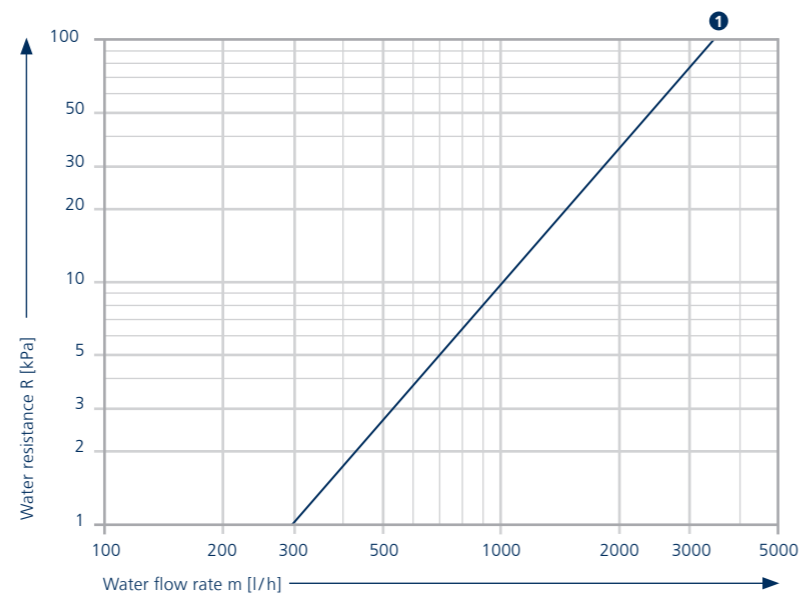
#### Weight of basic unit with casing

Size	Basic unit	Casing	Total
	[kg]	[kg]	[kg]
15	98	43	141

#### Weight of ceiling cassette unit

Size	Total
	[kg]
15	152

### Water resistance chart (horizontal / vertical model)



1 Size 15

### Model output: LPHW



Size	Max. discharge height <sup>1)</sup>	Max. door width	Fan stage	Total air volume	Air volume of ambient air stream	Air volume of warm air stream	Heat output <sup>2)</sup>	Outlet air temperature <sup>2)</sup>	Power consumption	Current uptake	Sound pressure level <sup>3)</sup>	Sound power level
	[m]	[m]		V [m <sup>3</sup> /h]	V [m <sup>3</sup> /h]	V [m <sup>3</sup> /h]	Q <sub>e</sub> [W]	t <sub>o</sub> [°C]	P [W]	I [A]	L <sub>pA</sub> [dB(A)]	L <sub>WA</sub> [dB(A)]
15	3.5–4.0	1.5	1	1890	960	930	9633	50.5	328	1.56	40	55
			2	2850	1450	1400	12966	47.2	596	2.64	51	66
			3	3280	1670	1610	14310	46.1	692	3.02	55	70
			4	3830	1950	1880	15940	44.9	912	3.96	59	74
			5	4360	2230	2130	17360	44.0	1146	4.96	62	77

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

► [kampmann.co.uk/tandem/calculation](http://kampmann.co.uk/tandem/calculation)

<sup>1)</sup> at low to medium pressure, requirements and conditions, see pages 31, 34 and 35

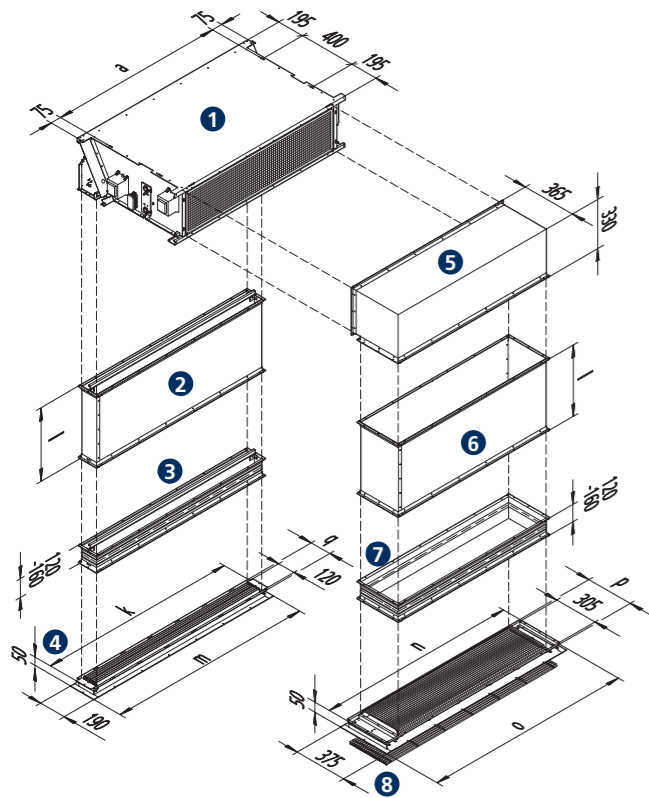
<sup>2)</sup> at LPHW 75/65, t<sub>l1</sub> = 20 °C

<sup>3)</sup> The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m<sup>3</sup> and a reverberation time of 1.0 s (in accordance with VDI 2081).

# Tandem 385

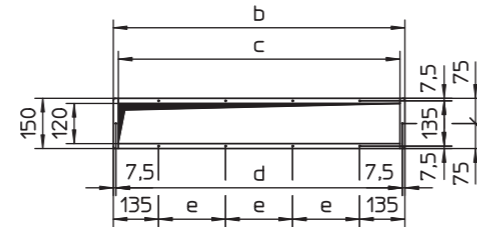
## Size 15 horizontal, with air-side sheet steel accessories

Dimensions of sheet steel accessories (Dimensions in mm)

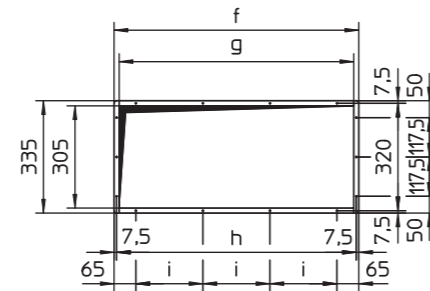


- 1 Door air curtain basic unit Tandem 385, horizontal design
- 2 Air duct for air outlet
- 3 Flexible connecting section for air outlet
- 4 Outlet air rectifier
- 5 90° air intake angle section
- 6 Air duct for air inlet
- 7 Flexible connecting section for air inlet
- 8 Air intake grille

Frame dimensions (Dimensions in mm)



Air outlet



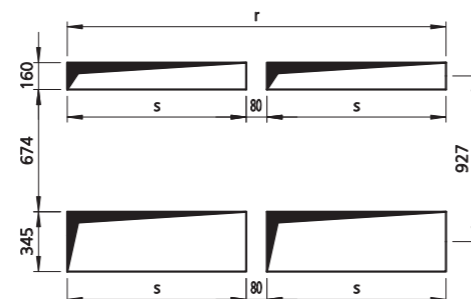
Air intake

Size	a	b	c	d	e	f	g	h	i
15	1230	1370	1340	1355	220	1230	1200	1215	220

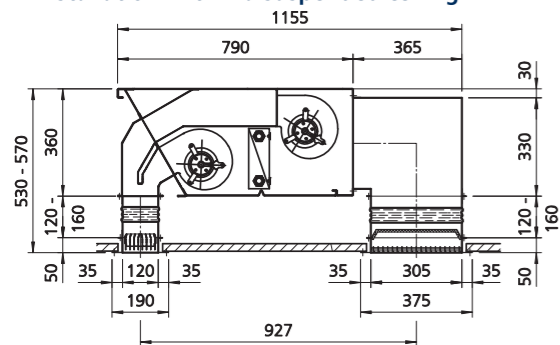
  

Size	k	l	m	n	o	p	q	r	s
15	1384	*	1454	1384	1454	335	150	-	1420

Opening dimensions



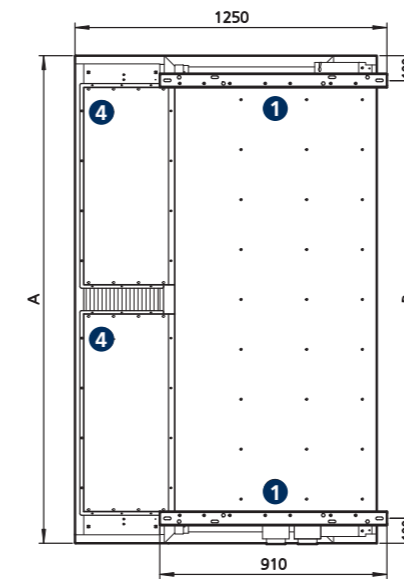
Installation within a suspended ceiling



\* Please specify dimensions when ordering

## Size 15 as a ceiling cassette unit\*

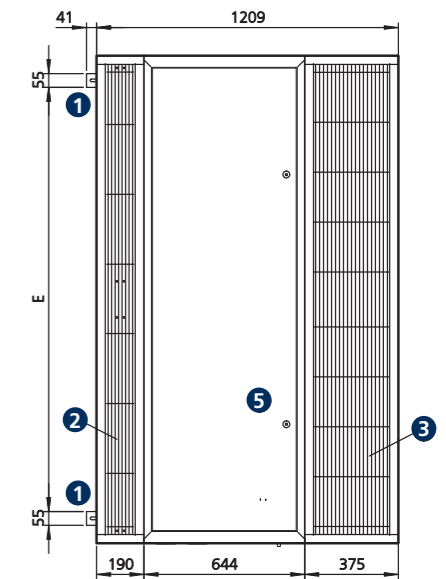
Drawing of ceiling installation (Dimensions in mm)



Top view

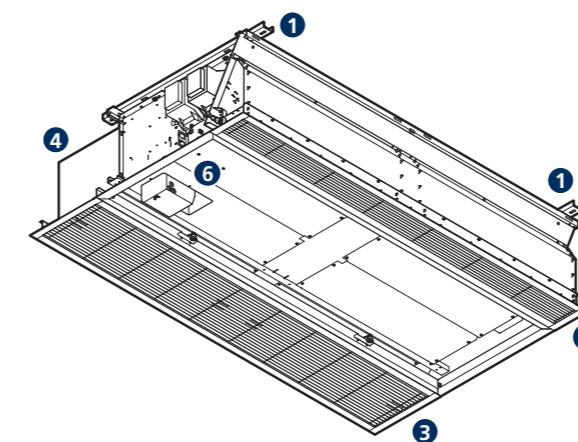


Intake side view

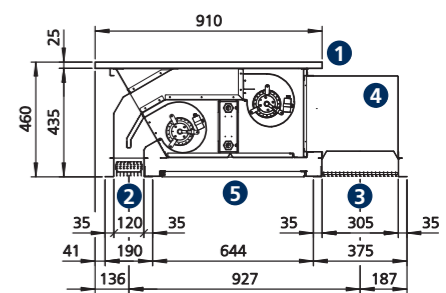


View from below

Size	A	B	C	D	E
15	1454	1255	1384	1230	1200



Isometric view from below (without service hatch)



Cross-section

- 1 U-rail for fixing to ceiling
- 2 Outlet air rectifier with frame
- 3 Air intake grille with frame and filter fixing
- 4 Air intake bend
- 5 Service hatch
- 6 Electrical junction box

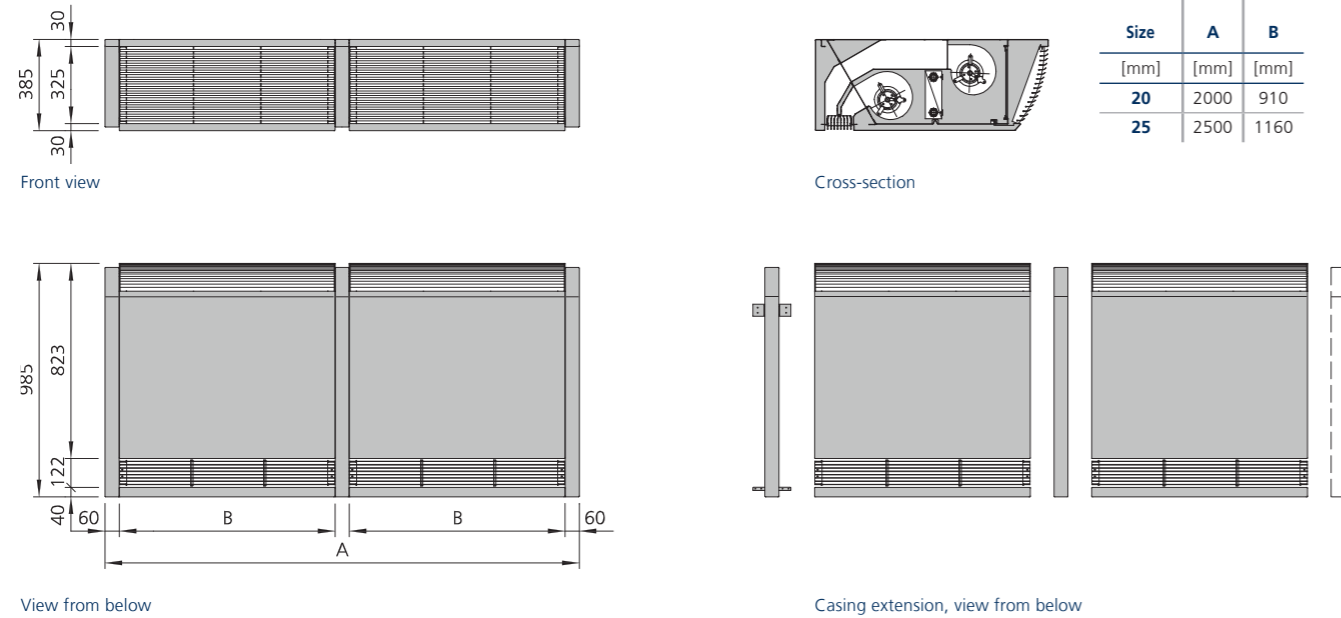
\* Size 15 deviates from the drawing shown



# Tandem 385

## Sizes 20 and 25 horizontal, with casing

### Technical Drawings (Dimensions in mm)



### Model outputs: LPHW

Size	Max. discharge height <sup>1)</sup>	Max. door width	Fan stage	Total air volume	Air volume of ambient air stream	Air volume of warm air stream	Heat output <sup>2)</sup>	Outlet air temperature <sup>2)</sup>	Power consumption	Current uptake	Sound pressure level <sup>3)</sup>	Sound power level
	[m]	[m]		V [m³/h]	V [m³/h]	V [m³/h]	Q <sub>e</sub> [W]	t <sub>2</sub> [°C]	P [W]	I [A]	L <sub>pA</sub> [dB(A)]	L <sub>WA</sub> [dB(A)]
20	3.5–4.0	2.0	1	2460	1250	1210	13132	51.9	430	2.02	43	58
			2	3770	1920	1850	17963	48.6	786	3.46	54	69
			3	4360	2220	2140	19944	47.4	908	3.94	57	72
			4	5050	2570	2480	22127	46.2	1196	5.20	60	75
			5	5770	2950	2820	24199	45.2	1508	6.54	63	78
25	3.5–4.0	2.5	1	3370	1710	1660	17976	51.8	610	2.88	44	59
			2	5340	2720	2620	25142	48.2	1134	5.02	54	69
			3	6070	3090	2980	27561	47.2	1316	5.74	58	73
			4	7020	3570	3450	30555	46.0	1746	7.62	61	76
			5	8180	4180	4000	33853	44.9	2182	9.54	64	79

### Specifications

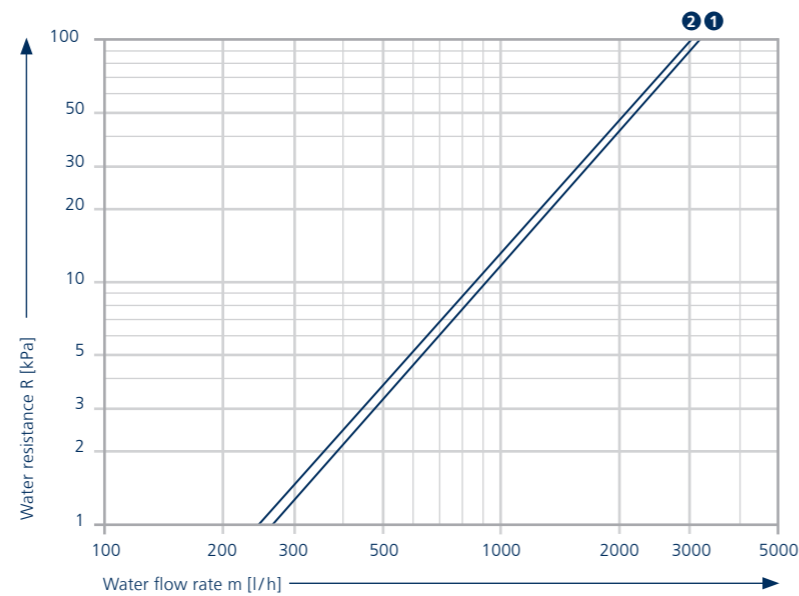
#### Weight of basic unit with casing

Size	Basic unit	Casing	Total
	[kg]	[kg]	[kg]
20	130	53	183
25	166	67	233

#### Weight of ceiling cassette unit

Size	Total
	[kg]
20	197
25	258

### Water resistance chart (horizontal / vertical model)



- 1 Size 20
- 2 Size 25

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

► [kampmann.co.uk/tandem/calculation](http://kampmann.co.uk/tandem/calculation)

<sup>1)</sup> at low to medium pressure, requirements and conditions, see pages 31, 34 and 35

<sup>2)</sup> at LPHW 75/65, t<sub>1</sub> = 20 °C

<sup>3)</sup> The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m³ and a reverberation time of 1.0 s (in accordance with VDI 2081).



## 03 ▶ Design Information



### Layout

Install the units above the door (horizontal and vertical units) so that the outlet air grille is as close as possible to the door opening, preferably directly adjacent to it.

With horizontal and vertical gaps of more than 500 cm between the door opening and the outlet air grille, it may make more sense to select the next unit size up or create side panels similar to a corridor.

### Operating limits

Extremely poor operating conditions, such as

- ▶ Severe negative pressure in a room e.g. caused by mechanical ventilation without the supply of fresh air,
  - ▶ Extremely adverse weather conditions with high wind speeds in exposed conditions,
  - ▶ Several doorways open to the outside, especially if they are arranged opposite each other,
- can impair the effective screening effect of door air curtains. It may be necessary to put in place additional measures, for example to equalise the pressure in the space. Note when planning doorways and passages that it may be necessary to close doors even during business hours.

Should doors need to remain open, for instance in large departments stores, even in poor or extreme weather conditions, then design units with higher air volumes and heat outputs.

They have to be capable of heating up what, at times, can be large volumes of cold air.

### Low temperature operation

Modern low temperature and condensing boilers only achieve optimum efficiency at low flow temperatures. Kampmann Tandem door air curtains have high-output copper / aluminium heat exchangers and are suitable for use with low flow temperatures of approx. 50 °C. Thanks to their extremely low water content and fan operation with high air volumes, they react very quickly to longer cool-down times.

### Sound pressure level

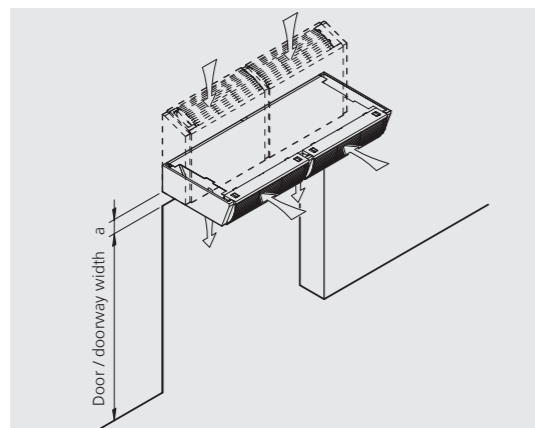
The aerodynamic design of Tandem door air curtains generates very low noise levels in spite of the high air outlet speeds. Nevertheless, note that the noise level can be perceived as troublesome at higher switching speeds. Sound pressure levels are listed in the technical data.

The sound pressure level was determined with an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a spatial volume of 1350 m<sup>3</sup> and a reverberation time of 1.0 sec (in accordance with VDI 2081). As the actual sound pressure level is seriously dependent on the acoustic properties of the space, the listed values can differ in practice. Thus, under adverse acoustic conditions, such as a "reverberant" ceiling, closed doors and poor absorption surfaces, increases in sound power levels of 3 – 6 dB(A) can occur. If two door air curtains of the same size are mounted in tandem, allow for an increased sound pressure level of approx. 2 – 3 dB(A).



## Unit Selection and Combination Options

### Selecting the unit model based on the maximum discharge height



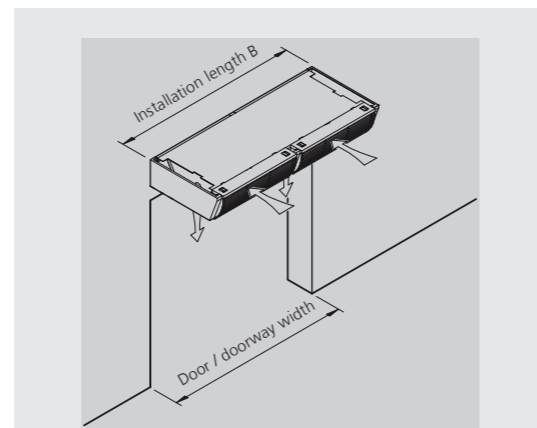
1. Based on discharge height:
- ▶ Max. discharge height
  - $H_{max} = \text{Door / doorway height} + a$

Also consider:

- ▶ Wind pressure conditions
- ▶ Impact by thoroughfare, porch, position of the building
- ▶ Space occupied by people
- ▶ Pressure conditions caused by mechanical ventilation and more

Max. discharge height $H_{max}$ <sup>1)</sup>	Door Air Curtains
[m]	
2.7–3.4	Tandem 300
3.5–4.0	Tandem 385

### Choix du modèle selon la largeur de la porte



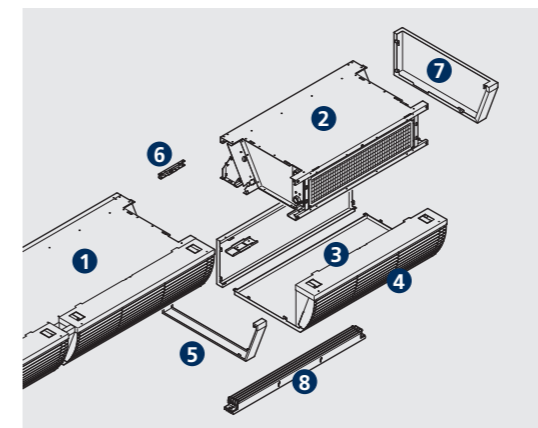
2. Based on door / doorway width:
- The required size of the door air curtain is selected according to the width of the doorway:
- ▶ Door / doorway width = Installation length B

The units are sized on the usual door opening dimensions.

Other lengths can be obtained by combining basic units of the same or different size, or possibly using appropriate casing extensions (see table below).

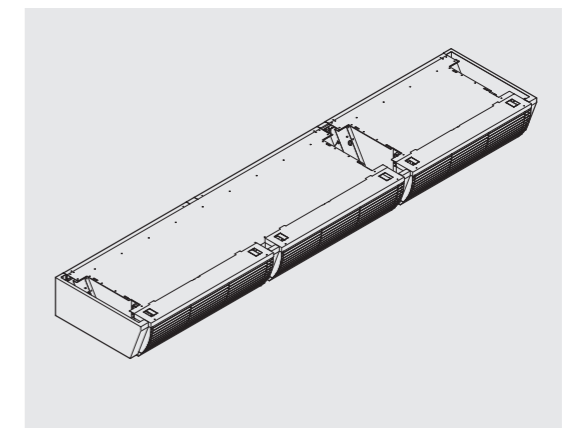
Door / Doorway width	Sizes of door air curtain	
	Tandem 300	Tandem 385
[m]		
1.0	Size 10	–
1.5	Size 15	Size 15
2.0	Size 20	Size 20
2.5	Size 25	Size 25
3.0	Size 30	–

### Modular design with casing extensions



Basic door air curtain (Size 20) with basic unit casing and casing extension

- 1 Door air curtain, basic unit with casing
- 2 Basic door air curtain
- 3 Lower panel of casing extension
- 4 Air intake grille of casing extension
- 5 Connecting angle of casing extension
- 6 Spacers for basic units
- 7 Side panels for basic unit casing
- 8 Outlet air rectifier



Installed door air curtain with casing extension (Example: Tandem 300 door air curtain, horizontal model)

Lengths > 2.5 m (Tandem 385) and > 3 m (Tandem 300) can also be achieved, thanks to the modular design, with casing extensions and extended with ease.

Door / Doorway width	Combination options with casing extensions <sup>1)</sup>	
	Tandem 300	Tandem 385
[m]		
3.0	1 × Size 30	2 × Size 30
3.5	Size 20 + Size 15	Size 20 + Size 15
	Size 25 + Size 10	
4.0	2 × Size 20	2 × Size 20
4.5	Size 20 + Size 25	Size 20 + Size 25

<sup>1)</sup> at low to medium pressure, requirements and conditions

<sup>1)</sup> shown for doorways up to 4.5 m in width; other widths are possible by means of other combinations

## To assist with selection

Assessment Criteria	Pressure / Requirements / Conditions	Points*														
<b>1. Wind pressure conditions</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td> </tr> <tr> <td colspan="2">weak air flow densely populated location</td> <td colspan="3">medium air flow</td> <td colspan="2">strong air flow location close to the sea, on a slope</td> </tr> </table>	0	1	2	3	4	5	6	weak air flow densely populated location		medium air flow			strong air flow location close to the sea, on a slope		<input type="text"/>
0	1	2	3	4	5	6										
weak air flow densely populated location		medium air flow			strong air flow location close to the sea, on a slope											
<b>2. Passage / Porch</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td> </tr> <tr> <td>installed, closed</td> <td colspan="2">open</td> <td colspan="2">not installed</td> </tr> </table>	0	1	2	3	4	installed, closed	open		not installed		<input type="text"/>				
0	1	2	3	4												
installed, closed	open		not installed													
<b>3. Position of building</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td> </tr> <tr> <td colspan="2">normal, protected</td> <td colspan="3">open buildings</td> <td colspan="2">free-standing, unprotected</td> </tr> </table>	0	1	2	3	4	5	6	normal, protected		open buildings			free-standing, unprotected		<input type="text"/>
0	1	2	3	4	5	6										
normal, protected		open buildings			free-standing, unprotected											
<b>4. Permanent occupation by people</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td> </tr> <tr> <td>Zone I</td> <td>Zone II</td> <td>Zone III</td> </tr> </table> <p>B = door width</p>	0	1	2	Zone I	Zone II	Zone III	<input type="text"/>								
0	1	2														
Zone I	Zone II	Zone III														
<b>5. Pressure conditions by mechanical ventilation</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td> </tr> <tr> <td>overpressure</td> <td colspan="2">pressure equalisation</td> <td colspan="2">slight negative pressure</td> </tr> </table>	0	1	2	3	4	overpressure	pressure equalisation		slight negative pressure		<input type="text"/>				
0	1	2	3	4												
overpressure	pressure equalisation		slight negative pressure													
<b>6. Other passages / doors</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td> </tr> <tr> <td>none</td> <td colspan="2">to the side of the door opening</td> <td colspan="2">opposite door opening</td> </tr> </table>	0	1	2	3	4	none	to the side of the door opening		opposite door opening		<input type="text"/>				
0	1	2	3	4												
none	to the side of the door opening		opposite door opening													
<b>7. Ceiling height</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td> </tr> <tr> <td>up to 2.5 m</td> <td colspan="2">up to 3.5 m</td> <td colspan="2">more than 4.5 m and/or with staircase</td> </tr> </table>	0	1	2	3	4	up to 2.5 m	up to 3.5 m		more than 4.5 m and/or with staircase		<input type="text"/>				
0	1	2	3	4												
up to 2.5 m	up to 3.5 m		more than 4.5 m and/or with staircase													
<b>8. Floor area</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td> </tr> <tr> <td>up to 100 m<sup>2</sup></td> <td colspan="2">400 m<sup>2</sup></td> <td colspan="2">above 800 m<sup>2</sup></td> </tr> </table>	0	1	2	3	4	up to 100 m <sup>2</sup>	400 m <sup>2</sup>		above 800 m <sup>2</sup>		<input type="text"/>				
0	1	2	3	4												
up to 100 m <sup>2</sup>	400 m <sup>2</sup>		above 800 m <sup>2</sup>													
<b>9. Gap between door opening – air outlet</b>	<table border="1"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td> </tr> <tr> <td>a=0</td> <td colspan="3">a=300 mm</td> <td colspan="3">a=600 mm</td> </tr> </table> <p>1 = Door air curtain, 2 = Door a = Gap</p>	0	1	2	3	4	5	6	a=0	a=300 mm			a=600 mm			<input type="text"/>
0	1	2	3	4	5	6										
a=0	a=300 mm			a=600 mm												

Total number  
of points

\* Please enter points.

## Selection process

### Selection process

Allocate points for the various factors / assessment criteria as per the scale for the local conditions.

- Intermediate values are also possible.
- Extreme cases of individual factors above the points scale can also be considered separately. The total number of points in the right column of the table indicates the total number of points for the purposes of determining the maximum discharge

heights and/or widths depending on the switching stage from diagram 1.

- Note the limits of use (see page 36) when the door air curtains are used with permanently open doors.

For this purpose,  $H_{max}$  is understood as meaning the maximum discharge height for horizontal and vertical Tandem door air curtains.

### Selection Example

Specification: Door air curtain for showroom,  
Doorway: Height 2.30 m, width 2.00 m

- Weak to moderate air flow (2 points)
- No porch or passage installed (4 points)
- Normal, protected location (0 points)
- Sales personnel directly adjacent to door area (2 points)
- Slight positive pressure in the space (1 point)
- Opposite passage fitted (4 points)
- Room height 3.50 m (2 points)
- Floor area 400 m<sup>2</sup> (2 points)
- Gap between door opening – air outlet 300 mm (3 points)

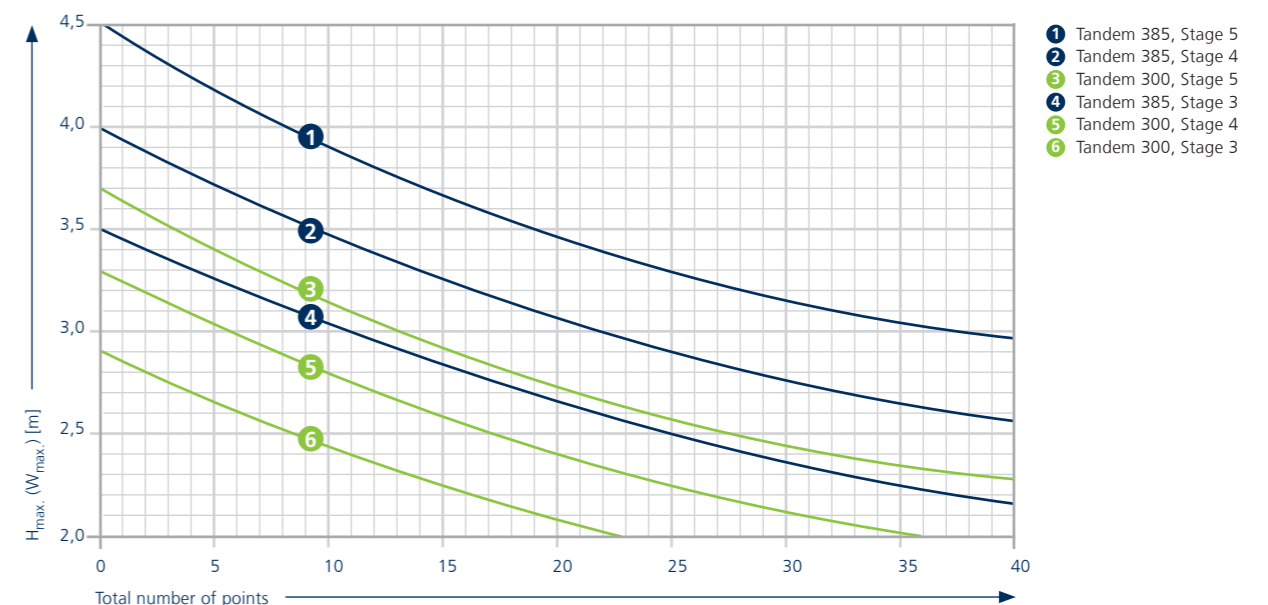
### Selection

- Door air curtain size 20, so that  
Unit length = door width
- Refer to table for assessment: Total points = 20
- Discharge height = Door height + a  
= 2.3 m + 0.3 m = 2.6 m
- from Diagram 1:  
at least 20 points, as a minimum:  
Tandem 385 door air curtain operating at  
stage 3 with  $H_{max}$  = 2.70 m

**Result:** Tandem 385 door air curtain, size 20

**Total points:** 20 points

Diagram 1

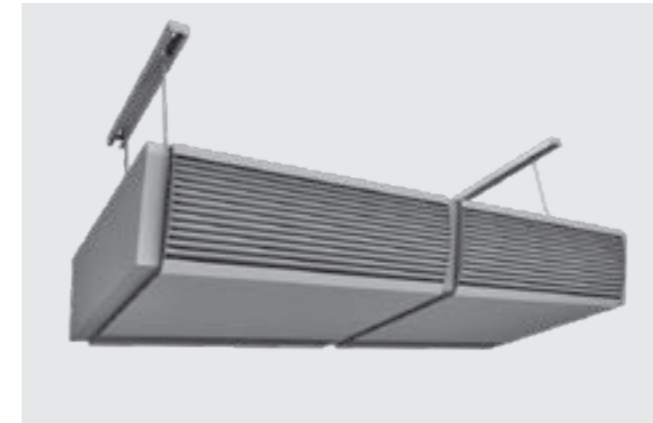


## Wall brackets



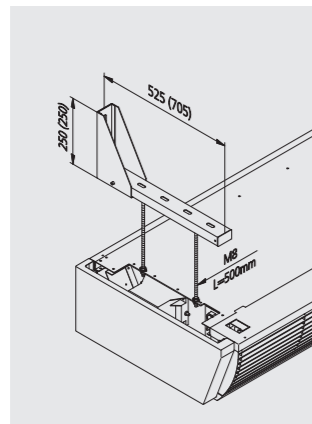
- ▶ Adjustable towards the door
- ▶ Powder coated brackets, traffic white RAL 9016
- ▶ Exact height adjustment is possible by means of threaded rods

## Ceiling brackets

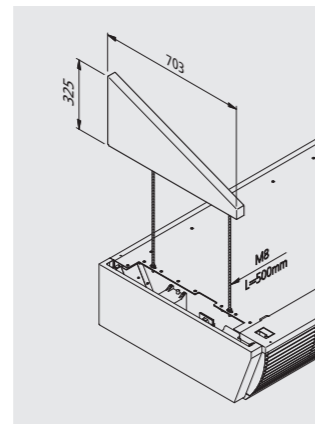


- ▶ Adjustable towards the door
- ▶ Brackets powder coated traffic white RAL 9016
- ▶ Exact height adjustment is possible by means of threaded rods

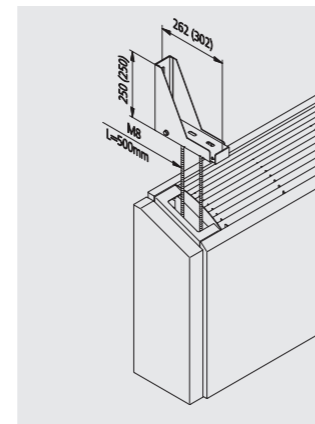
### Overview of types



Horizontal wall bracket

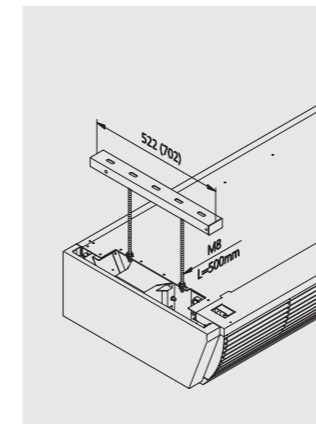


Horizontal wall bracket (size 30)

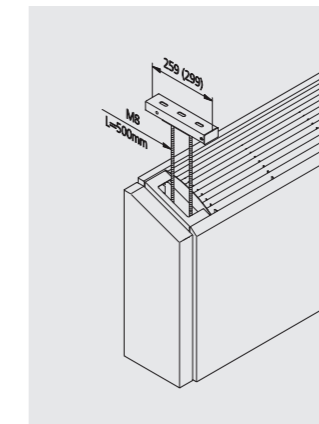


Vertical wall bracket

### Overview of types

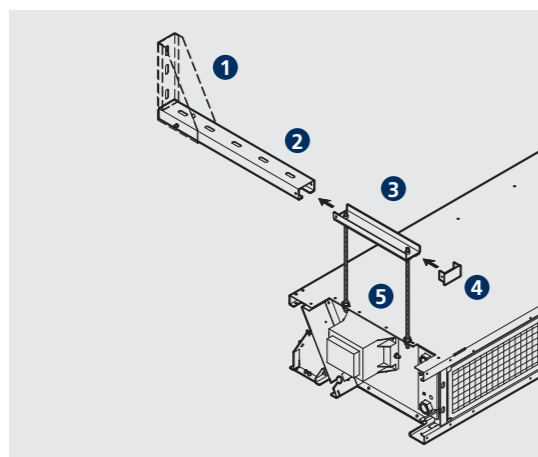


Horizontal ceiling brackets



Vertical ceiling brackets

### Slot-in design for wall and ceiling brackets



- 1 Fixing bracket for wall bracket
- 2 U-rail
- 3 Slide-in rail
- 4 Cover
- 5 Threaded rod

### Overview

Door Air Curtains	Size	Wall bracket		Ceiling bracket	
		horizontal	vertical	horizontal	vertical
Tandem 300	BG 10–25	Type 100990	Type 100991	Type 100995	Type 100996
	BG 30	Type 100992	Type 100993	Type 100997	Type 100998
Tandem 385	BG 15–25	Type 200890	Type 200891	Type 200895	Type 200896



# 04 ▶ Controls

## Electromechanical Control

### Control valves

The outlet air temperature is a key factor for the correct operation of a door air curtain system. Too high an outlet air temperature reduces the penetration depth of the air stream and can feel unpleasant. From an energy-saving points of view, the outlet air temperature during the heating season should not exceed 40 °C; in line with VDI 2082 we recommend a temperature of between 32 °C and 36 °C. By using the outlet air temperature limiting valve, it is possible to regulate it to a constant value. A thermoelectric shut-off valve is recommended for summer operation to prevent the air stream from heating up.

### Switching the fans

The fan motors fitted in Tandem door air curtains can be switched between 5 stages thanks to integral transformers. Summer / winter switches, when used in conjunction with thermoelectric shut-off valves in summer, enable pure ventilation without the supply of heat.

Both fan groups are fundamentally operated in parallel with Tandem door air curtains. The door air curtains can be operated by a stage switch or KaControl.

### Wiring

Please refer to page 39 for wiring. The electrical rating figures are given in the technical data on pages 14 – 29. The values given are maximum values under poor conditions. The actual values can be lower depending on the installation location, accessories and level of dirt of the filter. Wiring should comply with applicable VDE regulations and the guidelines laid down by the electrical utility companies.

### Cascade module

Door air curtains operated by stage switches can be operated in parallel when using cascade modules (up to 10 door air curtains) (see following table).

### Number of cascade modules when operating door air curtains in parallel (maximum 10 units)

	Number									
Tandem door air curtains	1	2	3	4	5	6	7	8	9	10
Cascade modules when using a stage switch	0	1	2	2	3	3	4	4	5	5

### Wireless remote control or door air curtains

All Tandem door air curtains can be operated by a wireless, factory-fitted remote control instead of by a stage switch.

- ▶ Transmitter in plastic housing RAL 9010, 80 x 80 x 15 mm
- ▶ For ease of wall mounting without cabling
- ▶ 3-stage key-operated speed control
- ▶ Summer-winter switch is possible
- ▶ Receiver unit fitted on unit
- ▶ Antenna included



Transmitter

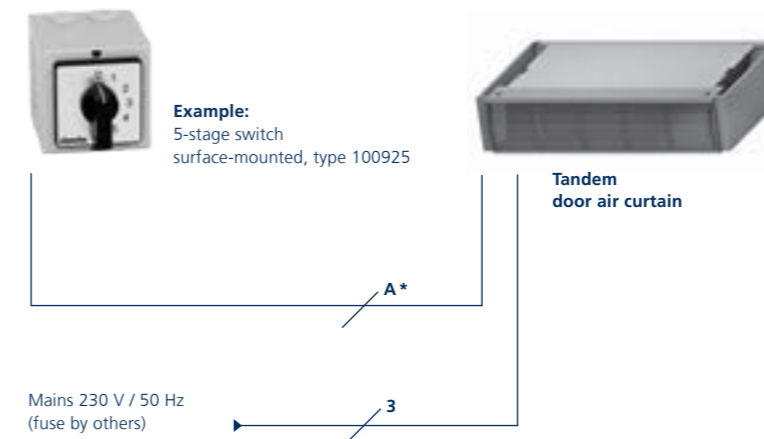
Receiver antenna

### Tandem 300-Electro

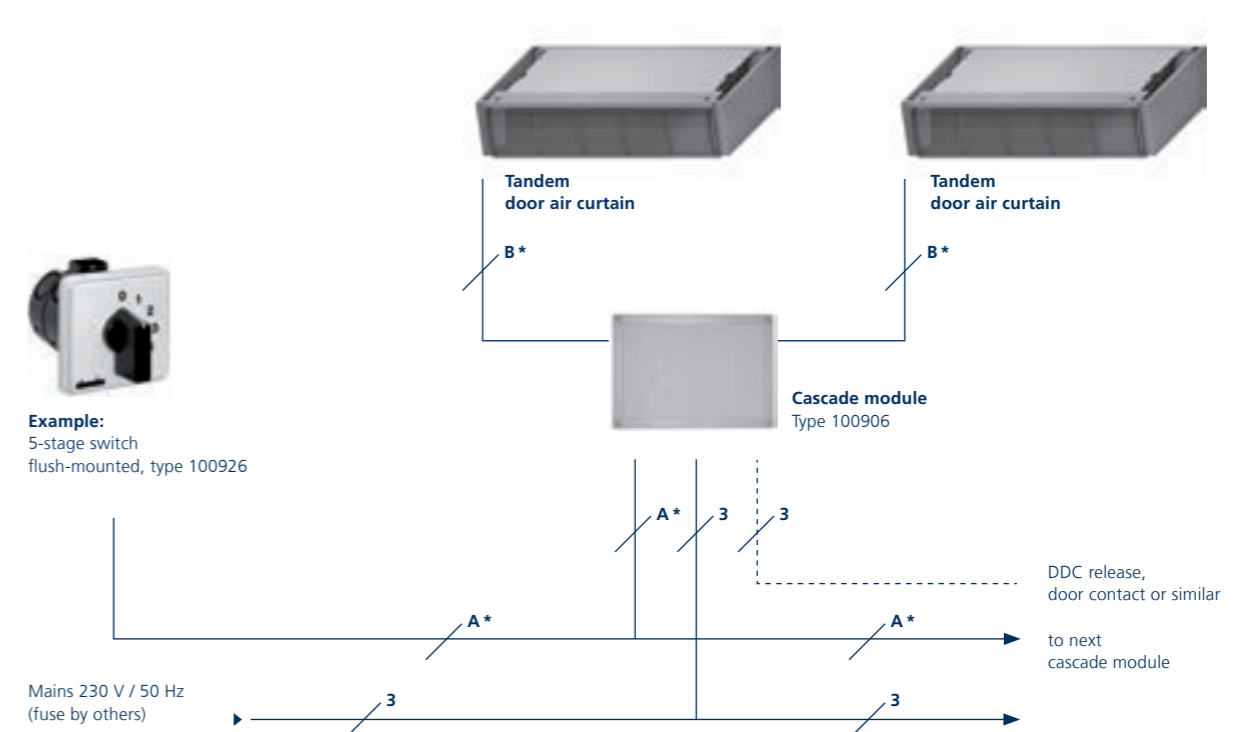
The electric heating model can only be controlled by wireless remote control (even several units by 1 transmitter).

- ▶ 3-speed control (5 basic speeds)
- ▶ Energy-optimised, continuously adjustable heat output by means of outlet air temperature sensor
- ▶ Continuous automatic adjustment of heat output to pre-set speed and ambient temperatures

## Cabling, electromechanical Operation of a single Tandem door air curtain



## Parallel operation of Tandem door air curtains



### Number of lines including fuse

Lines	5-stage switch, Type 100925 / 100926	5-stage summer-winter switch, Type 100928 / 100929
A	7	8
B	8 (11)	9 (12)

\* Refer to the above table („Number of lines including fuse“) for the number of wires in the labelled cables. The number of wires including fuse for all other cables is listed in the wiring diagram. The figure in brackets applies when using a frost protection thermostat (only needed when using in unheated rooms).

## KaControl – The all-inclusive solution

Tandem door air curtains with KaControl are supplied completely wired and with all electrical components ready-to-connect from the factory.

A high-performance parameterisable microprocessor provides all the requisite functions. Thus, every door air curtain has its own “intelligence” and can be operated via Kampmann T-LAN or CANbus networks in groups. Door air curtains with KaControl can be fitted with plug-in communication interfaces for single room control or also linked to higher-level building management systems. Every basic unit is therefore potentially suitable for connection to a technical building network.

### Electrical connection and commissioning

Every door air curtain fitted with a KaControl is factory-fitted and ready for operation with a basic program and default settings for all control parameters. If necessary, parameters can be called up on site on the KaController control unit and altered as needed. When using a communication card, it is also possible to set comfort parameters on the unit via IT networks or even directly via a Notebook. Unit groups with up to six air curtains can be operated with automatic addressing.

### Electrical wiring

All electrical cables are wired into the KaControl module in the door air curtain. Usually all that is needed is a mains supply, as well as the bus/communication cables. As a result, installation costs can be kept to a minimum. An electrical fuse is fitted in every door air curtain.

### Motor protection

Possible malfunction of the motor, for example by overloading, is identified on the KaControl by the thermal contacts integrated in the motor. This immediately switches off the fans and transmits the fault message to the KaControl system.

A fault message is displayed on the operating unit. Faults can also be transmitted to higher-level systems via a 24 V DC output or via a data interface on the KaControl module integrated in the door air curtain.

### KaControl for door air curtains

The parameterisable KaControl offers a variety of different functions:

- ▶ 5-stage fan control
- ▶ Activation of the unit according to the room temperature
- ▶ Shut-off valve control of hot water (heating) for thermoelectric actuators Open / Close 230 V DC
- ▶ Optional: integrated frost protection function via cable sensor
- ▶ Timer program built into the KaController for setting day and week switching functions
- ▶ Operation of several door air curtains via a control unit
- ▶ Motor monitoring with fault signal processing
- ▶ Optional: Interfaces for connection to BMS (Modbus, LON, KNX), plug-in

### Integration of KaControl into different building management systems

KaControl provides interfaces and applications at all levels of modern building automation. The system - or parts of the system - can be integrated into most building management systems.

### Field level

Individual room-based systems with an operating unit can be created with the Kampmann T-LAN bus or a CAN bus system

### Room automation

The individual systems in several rooms can be combined into a network using field bus interfaces. This also makes it possible to operate units with different modes of operation in a small databus system.

### Management/automation level

A CANbus system or a link via RS485 technology enables units at field level to be functionally connected to central ventilation units. KaControl building management system applications can be used to set up a completed control solution for ventilation and air conditioning technology with PCs and industrial PCs.

### Integration into higher-level systems

KaControl also offers the option of providing defined data transfer between the air conditioning system and the higher-level control centre. This means, for example, that defined communication profiles can be used between the KaControl and management system using BACnet or LON control standards.

### KaController operating unit



The “face” of the KaControl building automation system: the KaController operating unit.

With a large display and one-touch operation, the KaController offers the ultimate in operating convenience. Based on the principle “As little as possible, as much as is needed”, even uninitiated users will soon intuitively grasp its operating options.

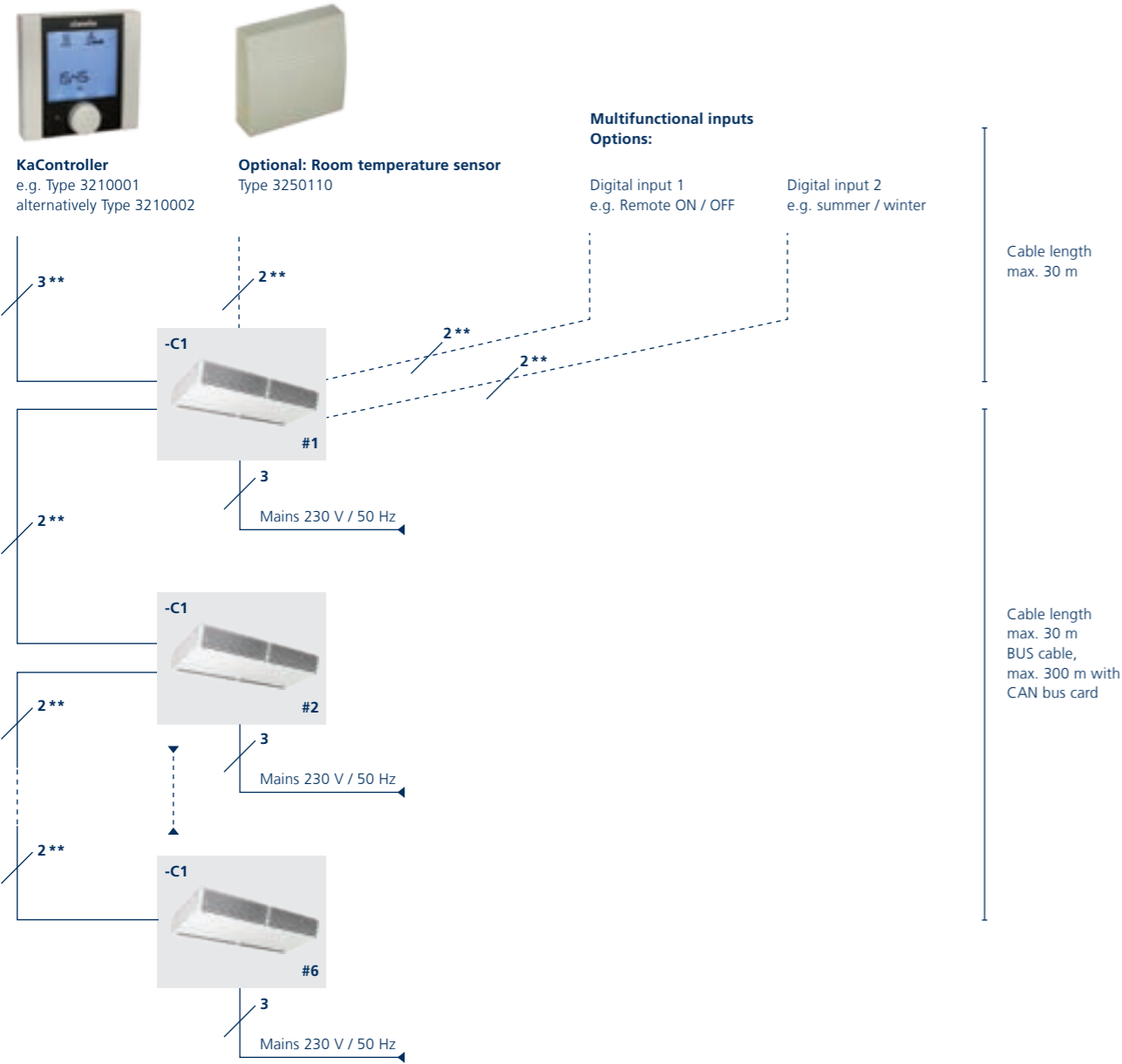
The basic functions for an ideal interior temperature for maximum comfort can be set on the KaController in a user-friendly way.

### Product features

- ▶ Attractively designed wall-mounted operating units
- ▶ 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
- ▶ Large display with automatic background lighting
- ▶ Integral room temperature sensor
- ▶ Press-button dial with continuous dial / lock operation
- ▶ Integral weekly timer program
- ▶ Password-protected parameter level

# Cabling

Single-circuit control – configuration for up to 6 door air curtains

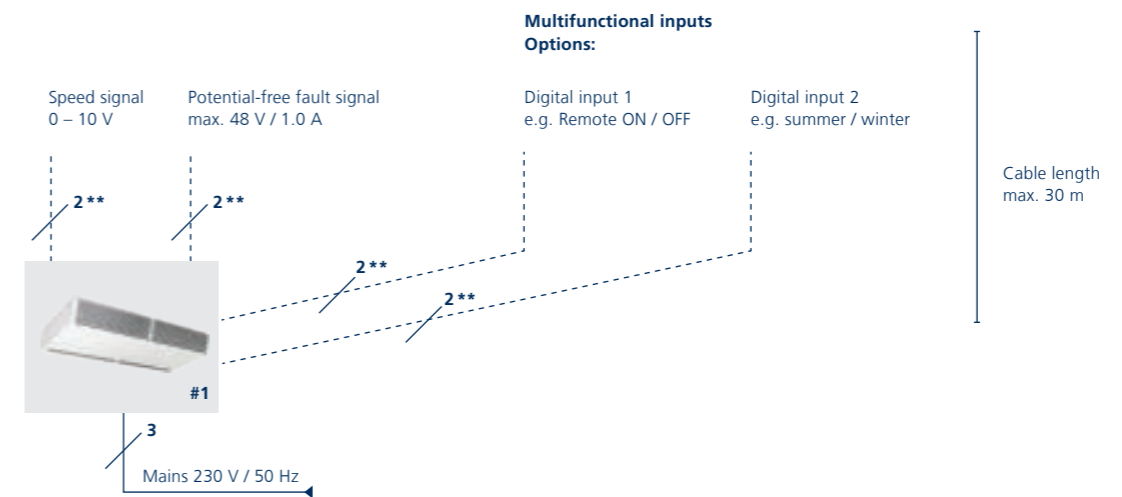


\*\* Use CAT5 (AWG 23 or similar) cable connections.  
Caution: Lay all bus connections in a linear pattern – star-shaped cabling is not permitted!

# P-control

Single-circuit control – control version for on-site control

With \*P-control configuration, the door air curtain is ideally equipped for integration into an on-site automation system.



### At a glance

- ▶ Automatic conversion of an on-site analog 0..10 V signal into 5-stage fan operation.
- ▶ Optional release via external switch contact
- ▶ BMS interfaces via 0 – 10 V signal

### Features

- BMS interface module for controlling a door air curtain via an on-site building management system with the following features:
- ▶ Two parameterisable digital inputs, for instance, for:
    - ▶ Unit On / Off (fan run-on via on-site timer relay)
    - ▶ Summer / winter changeover
  - ▶ Analog input 0 – 10 V for fan stage selection
  - ▶ Thermal contact monitoring with automatic shut-off
  - ▶ Fault signal contact potential-free max. 48 V / 1A
  - ▶ Digital output for heating valve 230 V AC
  - ▶ Frost protection function via optional cable sensor

\*\* Only use CAT5 (AWG 23 or similar) cable connections.  
Caution: Lay all bus connections in a linear pattern – star-shaped cabling is not permitted!



# 05 ▶ Ordering Information

## Tandem 300

Size	Max. discharge height <sup>1)</sup>	Heating medium	Model	Length <sup>2)</sup>	Heat output <sup>3)</sup>	Air volume	Sound pressure level <sup>4)</sup>	Sound power level	Control option <sup>5)</sup>	Art. no.						
	[m]			[mm]	[kW]	[m³/h]	[dB(A)]									
10	3.4	LPHW <sup>6)</sup>	Basic unit, horizontal (vertical on request)	1000	4.1 – 7.1	840 – 1980	37 – 59	52 – 74	Electro-mechanical	251000110430						
									Radio	25100011043000W						
									KaControl	251000110430C1						
									KaControl + repair switch	251000110430C16						
									Power module	251000110430P						
									Power module + repair switch	251000110430PR						
		Ceiling cassette unit	954	4.7 – 7.1	840 – 1980	37 – 59	52 – 74	Electro-mechanical	251000310430							
								Radio	25100031043000W							
								KaControl	251000310430C1							
								Power module	251000310430P							
								Electricity	Basic unit, horizontal	1000	2.2 – 5.2	840 – 1980	37 – 59	52 – 74	Radio	25100011046000W
								Radio							25100031046000W	
15	3.4	LPHW	Basic unit, horizontal (vertical on request)	1500	6.6 – 11.7	1260 – 2970	38 – 60	53 – 75	Electro-mechanical	251000115430						
									Radio	25100011543000W						
									KaControl	251000115430C1						
									KaControl + repair switch	251000115430C16						
									Power module	251000115430P						
									Power module + repair switch	251000115430PR						
		Ceiling cassette unit	1454	6.6 – 11.7	1260 – 2970	38 – 60	53 – 75	Electro-mechanical	251000315430							
								Radio	25100031543000W							
								KaControl	251000315430C1							
								Power module	251000315430P							
								Electricity	Basic unit, horizontal	1500	3.4 – 7.8	1260 – 2970	38 – 60	53 – 75	Radio	25100011546000W
								Radio							25100031546000W	
20	3.4	LPHW	Basic unit, horizontal (vertical on request)	2000	9.1 – 16.3	1680 – 3960	41 – 61	56 – 76	Electro-mechanical	251000120430						
									Radio	25100012043000W						
									KaControl	251000120430C1						
									KaControl + repair switch	251000120430C16						
									Power module	251000120430P						
									Power module + repair switch	251000120430PR						
		Ceiling cassette unit	1954	9.1 – 16.3	1680 – 3960	41 – 61	56 – 76	Electro-mechanical	251000320430							
								Radio	25100032043000W							
								KaControl	251000320430C1							
								Power module	251000320430P							
								Electricity	Basic unit, horizontal	2000	4.5 – 10.3	1680 – 3960	41 – 61	56 – 76	Radio	25100012046000W
								Radio							25100032046000W	
<b>more »</b>																

Size	Max. discharge height <sup>1)</sup>	Heating medium	Model	Length <sup>2)</sup>	Heat output <sup>3)</sup>	Air volume	Sound pressure level <sup>4)</sup>	Sound power level	Control option <sup>5)</sup>	Art. no.						
	[m]			[mm]	[kW]	[m³/h]	[dB(A)]									
25	3.4	LPHW	Basic unit, horizontal (vertical on request)	2500	9.1 – 16.3	1680 – 3960	42 – 62	57 – 77	Electro-mechanical	251000125430						
									Radio	25100012543000W						
									KaControl	251000125430C1						
									KaControl + repair switch	251000125430C16						
									Power module	251000125430P						
									Power module + repair switch	251000125430PR						
		Ceiling cassette unit	2454	9.1 – 16.3	1680 – 3960	42 – 62	57 – 77	Electro-mechanical	251000325430							
								Radio	25100032543000W							
								KaControl	251000325430C1							
								Power module	251000325430P							
								Electricity	Basic unit, horizontal	2500	4.5 – 10.3	1680 – 3960	42 – 62	57 – 77	Radio	25100012546000W
								Radio							25100032546000W	
30	3.4	LPHW	Basic unit, horizontal (vertical on request)	3000	9.1 – 16.3	1680 – 3960	42 – 62	57 – 77	Electro-mechanical	251000130430						
									Radio	25100013043000W						
									KaControl	251000130430C1						
									KaControl + repair switch	251000130430C16						
									Power module	251000130430P						
									Power module + repair switch	251000130430PR						
		Ceiling cassette unit	–	–	–	–	–	Electro-mechanical	–							
								Radio	–							
								KaControl	–							
								KaControl + frost protection	–							
								Electricity	Basic unit, horizontal	–	–	–	–	–	Radio	–
								Radio							–	
<b>more »</b>																

1) at low to medium pressure, requirements and conditions, see pages 31, 34 and 35  
 2) including casing elements  
 3) at LPHW 75 / 65, t<sub>L1</sub> = 20 °C  
 4) The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m³ and a reverberation time of 1.0 s (in accordance with VDI 2081).  
 5) Control combined with frost protection is available on request (when using in unheated rooms)  
 6) Low pressure hot water

1) at low to medium pressure, requirements and conditions, see pages 31, 34 and 35  
 2) including casing elements  
 3) at LPHW 75 / 65, t<sub>L1</sub> = 20 °C  
 4) The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m³ and a reverberation time of 1.0 s (in accordance with VDI 2081).  
 5) Control combined with frost protection is available on request (when using in unheated rooms)  
 6) Low pressure hot water

# Tandem 385







Size	Max. discharge height <sup>1)</sup>	Heating medium	Model	Length <sup>2)</sup>	Heat output <sup>3)</sup>	Air volume	Sound pressure level <sup>4)</sup>	Sound power level	Control option <sup>5)</sup>	Art. no.
	[m]			[mm]	[kW]	[m³/h]	[dB(A)]			
15	4.0	LPHW	Basic unit, horizontal (vertical on request)	1500	9.6–17.4	1890–4360	40–62	55–77	Electro-mechanical	252000215330
									Radio	25200021533000W
									KaControl	252000215330C1
									KaControl + repair switch	252000215330C16
									Power module	252000215330P
			Power module + repair switch	252000215330PR						
			Ceiling cassette unit	1454	9.6–17.4	1890–4360	40–62	55–77	Electro-mechanical	252000415330
									Radio	25200041533000W
									KaControl	252000415330C1
									Power module	252000415330P
Power module + repair switch	252000415330PR									
20	4.0	LPHW	Basic unit, horizontal (vertical on request)	2000	13.1–24.2	2460–5770	44–64	58–78	Electro-mechanical	252000220330
									Radio	25200022033000W
									KaControl	252000220330C1
									KaControl + repair switch	252000220330C16
									Power module	252000220330P
			Power module + repair switch	252000220330PR						
			Ceiling cassette unit	1954	13.1–24.2	2460–5770	44–64	58–78	Electro-mechanical	252000420330
									Radio	25200042033000W
									KaControl	252000420330C1
									Power module	252000420330P
Power module + repair switch	252000420330PR									
25	4.0	LPHW	Basic unit, horizontal (vertical on request)	2500	18.0–33.9	3370–8180	44–64	59–79	Electro-mechanical	252000225330
									Radio	25200022533000W
									KaControl	252000225330C1
									KaControl + repair switch	252000225330C16
									Power module	252000225330P
			Power module + repair switch	252000225330PR						
			Ceiling cassette unit	1454	18.0–33.9	3370–8180	44–64	59–79	Electro-mechanical	252000425330
									Radio	25200042533000W
									KaControl	252000425330C1
									Power module	252000425330P
Power module + repair switch	252000425330PR									

# Accessories





Illustration	Article	Properties	Suitable for	Art. no.	
<b>Galvanised sheet steel accessories</b>					
	Casing Basic unit (sizes 10 – 15)	powder-coated, traffic white, RAL 9016	Tandem 300	size 10 size 15	251000110900 251000115900
			Tandem 385	size 15	252000215800
			Tandem 300	size 20 size 25	251000120900 251000125900
	Casing for basic unit (sizes 20 – 30)	powder coated, traffic white, RAL 9016	Tandem 300	size 20 size 25 size 30	251000130900 251000130900 251000130900
			Tandem 385	size 20 size 25	252000220800 252000225800
			Tandem 300	size 10 size 15 size 20 size 25 size 30	251000110910 251000115910 251000120910 251000125910 251000130910
	Casing extension	powder coated, traffic white, RAL 9016	Tandem 300	size 15 size 20 size 25 size 30	251000115810 251000120810 251000125810 251000130810
			Tandem 385	size 15 size 20 size 25	252000215810 252000220810 252000225810
			<b>Sheet steel accessories/Casings</b>		
	Wall brackets	1 set = 2 brackets 1 set = 3 brackets	Tandem 300	sizes 10 – 25 size 30	251000100990 251000100992
			Tandem 385	all sizes	252000200890
	Ceiling brackets	1 set = 2 brackets 1 set = 3 brackets	Tandem 300	sizes 10 – 25 size 30	251000100995 251000100997
			Tandem 385	all sizes	252000200895
<b>Valves</b>					
	Thermoelectric shut-off valve	230 V, 3/4" for KaControl and stage switch	Tandem 300	all sizes	196000100913
			Tandem 385		196000100910
	Outlet air temperature limiting valve	¾", temperature setting range 20 – 50 °C	Tandem 300	all sizes	196000100968
			Tandem 385		196000100965

more »



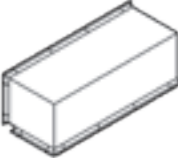
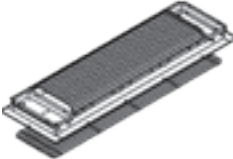



1) at low to medium pressure, requirements and conditions, see pages 31, 34 and 35  
 2) including casing elements  
 3) at LPHW 75 / 65, t<sub>1</sub> = 20 °C  
 4) The sound pressure levels were calculated based on an assumed room insulation of 15 dB(A). This corresponds to a distance of 3 m, a room volume of 1350 m³ and a reverberation time of 1.0 s (in accordance with VDI 2081).  
 5) Control combined with frost protection is available on request (when using in unheated rooms)  
 6) Low pressure hot water

Illustration	Article	Properties	Suitable for		Art. no.
<b>Electromechanical control accessories</b>					
	5-stage switch	0-1-2-3-4-5, surface-mounted	all Tandem units	all sizes	196000100925
	5-stage switch	0-1-2-3-4-5, flush-mounted			196000100926
	5-stage summer-winter switch	0-1-2-3-4-5, surface-mounted (only for use in conjunction with thermoelectric shut-off valve)			196000100928
	5-stage summer-winter switch	0-1-2-3-4-5, flush-mounted (only for use in conjunction with thermoelectric shut-off valve)			196000100929
	Cascade module	for the parallel operation of two units by a stage switch			196000100906
	Frost protection thermostat	Type 30268, loose Protection type IP 40, protection class B W x H x D: 105 x 112 x 55 mm			196000030268

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Illustration	Article	Properties	Suitable for		Art. no.
<b>KaControl Accessories</b>					
	KaController room control unit with single-button operation	Room control unit, wall-mounted, high-quality design, plastic housing, colour similar to RAL 9010, large LCD multifunctional display, integral room temperature sensor, communication interface to the Kampmann T-LAN bus system, automatically switching LED background lighting, push/dial navigator with continuous dial/lock function, individually configurable basic display, integral daily/nightly and weekly switching program, password-protected parameterisation level, for control version C1	all Tandem units	all sizes	196003210001
	KaController room control unit with side operating keys	for quick access to fan setting, operating modes, eco-mode, time and timer program, otherwise as Art. No. 196003210001			196003210002
	KaControl Room temperature sensor	for wall-mounting, IP30 surface-mounted, white RAL 9010, alternative to the temperature sensor in the KaController			196003250110
	Serial CANbus card	to increase the number of units in a single-circuit control system			196003260101
	Cable sensor	Length 600 mm, with plug, for frost protection of the unit			196003250114

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Illustration	Article	Properties	Suitable for	Art. no.	
<b>Galvanised sheet steel accessories, air side</b>					
	Flexible connection	for air intake	Tandem 300	size 10	251000110960
				size 15	251000115960
				size 20	251000120960
				size 25	251000125960
				size 30	251000130960
			Tandem 385	size 15	252000215860
				size 20	252000220860
size 25	252000225860				
	Flexible connection	for air outlet	Tandem 300	size 10	251000110970
				size 15	251000115970
				size 20	251000120970
				size 25	251000125970
			Tandem 385	size 30	251000130970
				size 15	252000215870
				size 20	252000220870
size 25	252000225870				
	90° air intake angle section	with connecting frame on both sides	Tandem 300	size 10	251000110950
				size 15	251000115950
				size 20	251000120950
				size 25	251000125950
			Tandem 385	size 30	251000130950
				size 15	252000215850
				size 20	252000220850
size 25	252000225850				
	Intake air grille	with frame and filter fixing, powder coated, traffic white, RAL 9016	Tandem 300	size 10	251000110930
				size 15	251000115930
				size 20	251000120930
				size 25	251000125930
			Tandem 385	size 30	251000130930
				size 15	252000215830
				size 20	252000220830
size 25	252000225830				
	Outlet air rectifier	with frame, powder coated, traffic white, RAL 9016	Tandem 300	size 10	251000110940
				size 15	251000115940
				size 20	251000120940
				size 25	251000125940
			Tandem 385	size 30	251000130940
				size 15	252000215840
				size 20	252000220840
size 25	252000225840				
	Air duct	for air intake	Tandem 300	size 10	251000110980
				size 15	251000115980
				size 20	251000120980
				size 25	251000125980
			Tandem 385	size 30	251000130980
				size 15	252000215880
				size 20	252000220880
size 25	252000225880				
	Air duct	for air outlet	Tandem 300	size 10	251000110981
				size 15	251000115981
				size 20	251000120981
				size 25	251000125981
			Tandem 385	size 30	251000130981
				size 15	252000215881
				size 20	252000220881
size 25	252000225881				





[Kampmann.co.uk/tandem](http://Kampmann.co.uk/tandem)

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