



## AC Air curtains





#### A A

## **AC Air curtains**

The air curtains from VEAB create an effective, separating air trap between two temperature zones, for the entrances of department stores, public spaces, offices, etc. During the winter time, the air curtain prevents the inside heat from "leaking" out. During the summer time, warm outside air is prevented from entering air-conditioned spaces. Thus, a good level of comfort and an efficient use of energy is ensured.

VEAB air curtains are available with electric or water heating, as well as two types with regard to the regulation of the functions: with integrated control panel or with integrated control board and add-on control unit enabling, among other things, DUC communication.



### Air curtains with integrated control panel and remote control

AC22-A and AC32-A without heating (only fan operation)
AC22-E and AC32-E electric heating
AC22-W and AC32-W water heating

All have an integrated control panel at the short end and a remote control



	Air curtains	without heating,	, with electric hea	ting or water heat	ing	
Туре	AC22-A	AC22-E	AC22-W	AC32-A	AC32-E	AC32-W
Heating	Without heating	Electric	Water	Without heating	Electric	Water
Power range kW	-	3.3-10.0	8.2 -17.0	-	5.0-16.0	18.0-36.8
Max. operating water temp. °C	-	-	110	-	-	110
Max. operating pressure (water), bar	-	-	16	-	-	16
Lengths m		1 / 1.5 / 2			1 / 1.5 / 2	
Max. installation height m*		2.2			3.2	
For more info, see page	4-5	4-5	4-5, 8-9	10-11, 14	10-11, 14	10-11, 14-15

<sup>\*</sup> The recommended installation height may depend on the space in question.

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### AC

## Powerful air curtains with control units with basic functions, or optionally with energy and labour-saving functions



**AC25 and AC35** have an integrated control board with add-on control unit PLS Basic or PLS Competent.

**AC35** air curtain with lengths over 1.5 m may also be mounted upright.





**ACR35** is recess mounted in false ceilings or free hanging from the ceiling with the exhaust directed downward. The air curtain has an integrated control board with add-on control unit PLS Basic or PLS Competent.

### Control unit for AC25, AC35 and ACR35

Installs with a simple operation onto the air curtain integrated control board.



PLS Basic

The control unit has two modes of operation:

**Manual operation:** The fan runs continuously at the set speed and the heat is regulated against the selected set point.

**Automatic operation:** The fan runs as needed when the heating is activated. The heating is regulated against the selected set point.

### PLS Competent

The control unit contains several smart features such as automatic regulation during open door, calendar-driven operation, filter alarms, summer/winter mode, and communication with DUC.

	Air curtai	ins without hea	ating, with electr	ic heating or w	ater heating		
Туре	AC25-E	AC25-W	AC35-A	AC35-E	AC35-W	ACR35-E	ACR35-W
Heating	Electric	Water	Without heating	Electric	Water	Electric	Water
Power range kW	3,0-16,0	10,0-22,9	-	2,7-19,8	23,6-66,4	0,4-18,0	18,7-39,5
Max. operating water temp. °C	-	110	-	-	110	-	110
Max. operating pressure (water), bar	-	16	-	-	16	-	16
Lengths m	1 / 1.	.5 / 2		1 / 1.5 / 2 / 2.5		1/1	.5 / 2
Max. installation height m*	2	.5	3.5		3	.5	
For more info, see page	16-17	16-17, 22-23	24-25, 30	24-25, 30	24-25, 30-31	32-33, 37	32-33, 37-39

st The recommended installation height may depend on the space in question.

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## AC22

# Air curtain with integrated control panel and remote control. For smaller entrances to shops, offices, stairwells ...

AC22 is a compact air curtain, easy to manage and maintain, meeting the requirements of smaller entrances. The air curtain functions are controlled using the integrated control panel or remote control.

- Integrated control panel with remote control
- 3 fan stages
- Horizontal installation (wall brackets included)
- Lengths: 1, 1.5, and 2 m
- Recommended installation height up to 2.2 meters \*
- The front panel is easily removable, which facilitates installation and maintenance work.
- CE marked

#### Type/capacity

AC22-A (without heating), see page 5. AC22-E (electric heating), see page 5. AC22-W (water heating), see pages 5, 8, and 9.

#### Regulation

The air curtain is regulated using the control panel integrated into the side panel, or using the remote control (included). See pages 6 and 7.

#### Design

Corrosion proof housing made from hot galvanized and powder coated steel. AC22-W has a built-in filter for protection of the coil. The filter is accessible for cleaning.

Colour front: white, RAL 9016, NCS S 0500-N. Colour grille, rear panel, side panels, and brackets: grey, RAL 7046.

#### **Electrical installation**

#### Unit without heating

The units are supplied fully connected internally with a 1.5 m long cable and a 230 VAC electric plug for control voltage and fan operation.

#### Units with electric heating

The units are intended for permanent installation. The power supply  $(400~V~3N\sim)$  is connected to the terminal block inside the connection space. The 2 meter unit requires dual power supplies.

#### Units with water heating

The units are supplied fully connected internally with a 1.5 m long cable and a 230 VAC electric plug for control voltage and fan operation. The integrated circuit board has an output for connection of a 230 VAC motorised valve. The warm water heater has  $2 \times \emptyset 15$  mm connections (smooth copper pipes) at the top.

#### Mounting

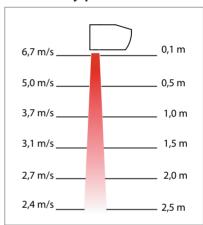
The air curtain is mounted horizontally with the exhaust port pointing down, as close as possible to the door. Wall mounting is done using the included brackets. For mounting on the ceiling, use hangers or threaded rods (accessories).

st The recommended installation height may depend on the space in question.

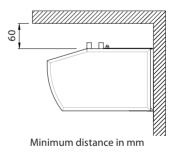
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#### Air velocity profile



Measurements according to ISO 27327-1. Average values for products within the family.





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### **Product range overview**

#### Without heating - AC22-A

Type	Power kW	Air flow <sup>1</sup> m³/h	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Length mm	Weight kg	Protection class
AC22-10-A	0	900/1200	42/51	230V~	0.45	1026	16	IP21
AC22-15-A	0	1150/1800	40/52	230V~	0.5	1536	24	IP21
AC22-20-A	0	1800/2400	43/53	230V~	0.9	2026	32	IP21

#### **Electric heating - AC22-E**

Туре	Power- step kW	Air flow <sup>1</sup> m³/h	Δt³ °C	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Voltage V Current A (heat)	Length mm	Weight kg	Protection class
AC22-10-E05	3.3/5	900/1200	17/12.5	42/51	230V~	0.45	400V3N~/7.2	1026	17	IP20
AC22-15-E08	4/8	1150/1800	21/13	40/52	230V~	0.5	400V3N~/11.5	1536	26	IP20
AC22-20-E10	5/10	1800/2400	17/12.5	43/53	230V~	0.9	400V3N~/14.4	2026	34	IP20

#### Water heating - AC22-W

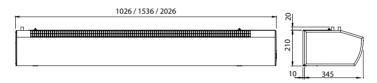
Туре	Power <sup>4</sup> kW	Air flow <sup>1</sup> m³/h	Δt ³,4 °C	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Water volume I	Length mm	Weight kg	Protection class
AC22-10-W	8.2	700/1200	20/17	39/52	230V~	0.4	0.38	1026	17	IP21
AC22-15-W	12.7	1000/1750	22/18	37/53	230V~	0.5	0.81	1536	26	IP21
AC22-20-W	17.0	1400/2400	22/18	40/53	230V~	0.8	0.74	2026	35	IP21

- <sup>1</sup> Lowest/highest air flow of a total of 3 fan stages.
- <sup>2</sup> Conditions: Distance to the unit 5 meters. Directional factor: 2. Equivalent absorption area 200 m<sup>2</sup>. At the lowest/highest air flow.

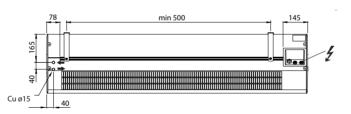
  <sup>3</sup> \( \Delta t \) temperature rise of passing air at maximum heat output and lowest and highest air flow.

  <sup>4</sup> Applicable at water temperature of 80/60 °C, air intake temperature of +18 °C.

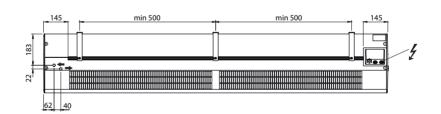
#### **Dimensions**



AC22-10 and AC22-15



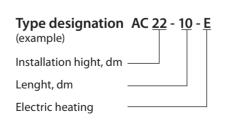
AC22-20



### **Project design/orders**

**Descriptive text - AC22** 

Air curtain, VEAB type AC22 with corrosion proof housing made from hot galvanized and powder coated steel.Integrated control and included remote control.



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### Regulation

#### Control panel with remote control (incl.)

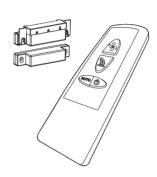
The air curtain has a control panel discretely integrated into the side panel and may be controlled directly using the control panel, or the enclosed remote control. The air speed is set manually. The heat is regulated automatically. It is possible to use an external on/off switch, e.g., a timer. The air curtain for electric heating is supplied fully connected internally. The air curtain for water heating has a 230 V output for an on/off motorised valve.

#### LED indicating the selected stage ~ 20 °C Fan stage 1/2/3 Heating stage Electric: Half/Full power Water: On/off (1 diode) On/Off Control panel - units with electric or water heating.

#### **Door switch (optional)**

With a door switch (optional), the fan runs automatically at a pre-set RPM when the door is open. The set point for heating is automatically increased by 2 °C when the door is opened. With the door closed and on the "Auto" setting, the fan starts at low speed when heat is required. When the set point has been reached, the fan runs for an additional 30 seconds to cool the elements.

The door switch requires a different type of remote control, supplied with the door switch.





### **Optional features**

Product		Description
PL2DR	Door switch with remote control	Door switch control with a special remote control for the Auto mode. With a door switch and operating in Auto mode, the fan starts/ stops with the door open/closed. The automatic system enables selection of maintenance heating when the door is closed.
PAMLK	Motor alarm board	Provides a potential free alarm connection when thermal contact is triggered in the motor. Installed in the air curtain.

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### **Mounting accessories**

Product		Description
PA2PF15	Ceiling mounting bracket for 1 and 1.5 meter unit Units: 4 pcs	Pendulum brackets for unit mounting and ceiling brackets for mounting on the ceiling using hangers or threaded rods (not included).
PA2PF20	Ceiling mounting bracket for 2 meter unit Units: 6 pcs	
PA34TR15	Threaded rods for 1 and 1.5 meter unit Length: 1 m Units: 4 pcs	Threaded rods for ceiling mounting. Used with ceiling mounting brackets PA2PF.
PA34TR20	Threaded rods for 2 meter unit Length: 1 m Units: 6 pcs	
PA2P15	Pendulums for 1 and 1.5 meter unit Length: 1 m Units: 2 pcs	Pendulum brackets for mounting the unit suspended from the ceiling. The pendulum brackets are covered by a white plastic duct to hide the cables. The brackets may be cut to the desired length should shorter suspension heights than 1 m be desired.
PA2P20	Pendulums for 2 meter unit Length: 1 m Units: 3 pcs	Used with ceiling mounting brackets PA2PF.

## Control valves for water systems (optional)

VLSP, valve	kit on/off			Description
		VLSP15LF	Valve kit on/off, low flow, DN15	2-way combination control and adjustmentvalve with on/off actuator, shut-off valve, and bypass.
		VLSP15NF	Valve kit on/off, DN15	
		VLSP20	Valve kit on/off, DN20	
		VLSP25	Valve kit on/off, DN25	
VOT, valve k	kit on/off			Description
		VOT15	Valve kit on/off, DN15	3-way valve and actuator on/off.
7		VOT20	Valve kit on/off, DN20	
		VOT25	Valve kit on/off, DN25	

Choosing a valve kit, see pages 40 and 41.

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AC

## **Capacity AC22-W**

				Room tempe	er temperature: 90 °C Water temperature: 90/70 °C perature: +18 °C Room temperature: +18 °C mperature: +35 °C ¹						
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2</sup>	Output air temp.	Water flow	Pressure drop water	
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa	
AC22-10-W	max	1200	6.9	49.0	0.04	1.7	10.0	42.6	0.12	11.7	
AC22-10-VV	min	700	4.0	48.1	0.02	0.8	6.2	44.1	0.08	5.8	
AC22.15 W	max	1750	10.1	44.5	0.05	1.8	15.5	44.1	0.19	16.5	
AC22-15-W	min	1000	5.8	43.3	0.03	0.7	9.5	45.9	0.12	7.0	
AC22-20-W	max	2400	13.8	47.0	0.08	1.6	20.8	43.6	0.26	13.4	
AC22-20-VV	min	1400	8.1	46.2	0.05	0.7	12.8	45.0	0.16	6.3	

				oly line water t Room tempe utput air temp	rature: +18°0	2	Water temperature: 80/60 °C Room temperature: +18 °C			
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC22-10-W	max	1200	6.9	51.5	0.06	3.3	8.2	38.1	0.10	8.3
AC22-10-VV	min	700	4.0	49.7	0.03	1.4	5.0	39.2	0.06	4.1
AC22 15 W	max	1750	10.0	47.0	0.07	3.2	12.7	39.5	0.16	11.8
AC22-15-W	min	1000	5.8	45.5	0.04	1.2	7.8	40.8	0.10	5.1
AC22-20-W	max	2400	13.9	49.5	0.11	3.1	17.0	38.9	0.21	9.5
AC22-20-VV	min	1400	8.1	47.9	0.06	1.2	10.5	40.0	0.13	4.5

			•	Supply line water temperature: 70°C Water temperature: 70/50 °C Room temperature: +18 °C Room temperature: +18 °C Output air temperature: +35 °C ¹			Room temperature: +18			
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC22 10 W	max	1200	6.9	54.0	0.11	9.3	6.3	33.6	0.08	5.3
AC22-10-W	min	700	4.0	51.7	0.05	3.3	3.9	34.3	0.05	2.7
A 622 15 W	max	1750	10.1	50.5	0.13	8.3	10.0	34.8	0.12	7.8
AC22-15-W	min	1000	5.8	48.0	0.06	2.6	6.0	35.8	0.07	3.3
AC22-20-W	max	2400	13.8	52.0	0.19	8.0	13.2	34.3	0.16	6.1
AC22-20-W	min	1400	8.1	50.0	0.10	2.9	8.1	35.0	0.10	2.9

 $<sup>^1</sup>$  Recommended output air temperature for comfort with optimised power requirement.  $^2$  Rated power at a given supply and return line temperature.

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#### AIR CURTAINS A C 2 2

			Supply line water temperature: 60°C Water temperature: 60/40 °C Room temperature: +18 °C Room temperature: +18 °C Output air temperature: +32 °C							
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC22-10-W	max	1200	5.7	48.0	0.11	11.1	4.4	28.9	0.05	2.9
AC22-10-VV	min	700	3.3	46.3	0.06	4.0	2.7	29.3	0.03	1.4
AC22.15 W	max	1750	8.3	45.5	0.14	10.2	7.1	30.0	0.09	4.4
AC22-15-W	min	1000	4.8	43.3	0.07	3.1	4.3	30.6	0.05	1.9
AC22 20 W	max	2400	11.3	46.5	0.20	9.6	9.3	29.4	0.11	3.4
AC22-20-W	min	1400	6.7	44.9	0.11	3.5	5.6	29.8	0.07	1.6

			Supply line water temperature: 55°C Room temperature: +18°C Output air temperature: +29°C				Water temperature: 55/35 °C Room temperature: +18 °C				
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2</sup>	Output air temp.	Water flow	Pressure drop water	
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa	
AC22-10-W	max	1200	4.4	41.0	0.08	5.5	3.4	26.4	0.04	1.8	
AC22-10-VV	min	700	2.6	40.0	0.04	2.3	2.0	26.5	0.02	0.9	
AC22 15 W	max	1750	6.5	38.5	0.10	5.3	5.7	27.6	0.07	2.9	
AC22-15-W	min	1000	3.7	37.4	0.05	1.9	3.4	27.9	0.04	1.3	
AC22-20-W	max	2400	9.0	40.0	0.15	5.3	7.3	26.9	0.09	2.2	
	min	1400	5.2	38.9	0.08	2.1	4.3	27.1	0.05	1.0	

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<sup>&</sup>lt;sup>2</sup> Rated power at a given supply and return line temperature.

## AC

## **AC32**

# Air curtain with integrated control panel and remote control. For entrances to offices, schools, shops, cinemas...

AC32 is a compact air curtain, easy to use and maintain, which meets the requirements of entrances to offices, commercial and public spaces, etc. The air curtain functions are controlled using the integrated control panel or remote control.

- Integrated control panel with remote control
- 3 fan stages
- Horizontal installation (wall brackets included)
- Lengths: 1, 1.5 and 2 m
- Recommended installation height up to 3.2 meters\*
- The front panel is easily removable, which facilitates installation and maintenance work
- CE marked

#### Type/capacity

AC32-A (without heating), see page 11. AC32-E (electric heating), see page 11. AC32-W (water heating), see pages 11 and 15.

#### Regulation

The air curtain is regulated using the control panel integrated into the side panel, or using the remote control (included). See pages 12 and 13.

#### Design

Corrosion proof housing made from hot galvanized and powder coated steel. AC32-W has a built-in filter for protection of the coil. The filter is accessible for cleaning. Colour front: white, RAL 9016, NCS S 0500-N. Colour grille, rear panel, side panels, and brackets: grey, RAL 7046.

#### **Electrical installation**

#### Unit without heating

The units are supplied fully connected internally with a 1.5 m long cable and a 230V AC electric plug for control voltage and fan operation.

#### Units with electric heating

The units are intended for permanent installation. The power supply  $(400V3N\sim)$  is connected to the terminal block inside the connection space. The 2 meter unit requires dual power supplies.

#### Units with water heating

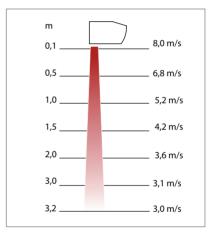
The units are supplied fully connected internally with 1.5 m long cable and a 230V AC electric plug for control voltage and fan operation. The integrated circuit board has an output for connection of a 230V AC motorised valve. The warm water heater has 2 DN20 (3/4") connections (male thread) at the top.

 $<sup>^*</sup>$  The recommended installation height may depend on the space in question.





#### Air velocity profile



Measurements according to ISO 27327-1.

Average values for products within the family.

#### Mounting

The air curtain is mounted horizontally with the outlet facing downward as close to the door as possible. Wall mounting is done using the included brackets. For mounting on the ceiling, use hangers or threaded rods (accessories).



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### **Product range overview**

#### Without heating - AC32-A

Туре	Power kW	Air flow <sup>1</sup> m³/h	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Length mm	Weight kg	Protection class
AC32-10-A	0	1100/1750	46/57	230V~	0.7	1046	22	IP21
AC32-15-A	0	1700/2750	46/59	230V~	1.0	1556	31	IP21
AC32-20-A	0	2300/3500	50/60	230V~	1.3	2046	41	IP21

#### **Electric heating - AC32-E**

Type	Power- step kW	Air flow <sup>1</sup> m³/h	Δt³ °C	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Voltage V Current A (heat)	Length mm	Weight kg	Protection class
AC32-10-E08	5/8	1100/1750	22/13	46/57	230V~	0.65	400V3N~/11.5	1046	26	IP20
AC32-15-E12	8/12	1700/2750	21/13	46/59	230V~	1.0	400V3N~/17.3	1556	37	IP20
AC32-20-E16	10/16	2300/3500	22/13	50/60	230V~	1.3	400V3N~/23.1	2046	51	IP20

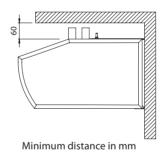
#### Water heating - AC32-W

Type	Power <sup>4</sup> kW	Air flow <sup>1</sup> m³/h	Δt <sup>3,4</sup> °C	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Water volume l	Length mm	Weight kg	Protection class
AC32-10-W	18.0	1050/1700	31/30	45/55	230V~	0.65	1.3	1046	26	IP21
AC32-15-W	29.2	1850/2700	32/31	46/57	230V~	0.7	2.1	1556	36	IP21
AC32-20-W	36.8	2200/3300	33/32	49/58	230V~	1.3	2.7	2046	48	IP21

<sup>&</sup>lt;sup>1</sup> Lowest/highest air flow of a total of 3 fan stages.

#### **Dimensions**

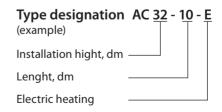
For dimensions, see page 14.



### **Project design/orders**

#### **Descriptive text - AC32**

Air curtain, VEAB type AC32 with corrosion proof housing made from hot galvanized and powder coated steel. Integrated control and included remote control.



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<sup>&</sup>lt;sup>2</sup> Conditions: Distance to the unit 5 meters. Directional factor: 2. Equivalent absorption area 200 m<sup>2</sup>. At the lowest/highest air flow.

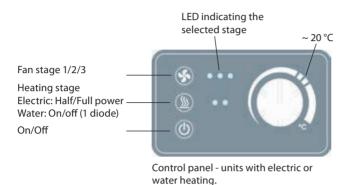
<sup>3</sup> \( \Delta t \) temperature rise of passing air at maximum heat output and lowest and highest air flow.

<sup>4</sup> Applicable at water temperature of 80/60 °C, air intake temperature of +18 °C.

### Regulation

#### Control panel with remote control (incl.)

The air curtain has a control panel discretely integrated into the side panel and may be controlled directly using the control panel, or the enclosed remote control. The air speed is set manually. The heat is regulated automatically. It is possible to use an external on/off switch, e.g., a timer. The air curtain for electric heating is supplied fully connected internally. The air curtain for water heating has a 230 V output for an on/off motorised valve.



#### **Door switch (optional)**

With a door switch (optional), the fan runs automatically at a pre-set RPM when the door is open. The set point for heating is automatically increased by 2 °C when the door is opened. With the door closed and on the "Auto" setting, the fan starts at low speed when heat is required. When the set point has been reached, the fan runs for an additional 30 seconds to cool the elements.

The door switch requires a different type of remote control, supplied with the door switch.





### **Optional features**

Product		Description				
PL2DR	Door switch with remote control	Door switch control with a special remote control for the Auto mode. With a door switch and operating in Auto mode, the fan starts/ stops with the door open/closed. The automatic system enables selection of maintenance heating when the door is closed.				
PAMLK	Motor alarm board	Provides a potential free alarm connection when thermal contact is triggered in the motor. Installed in the air curtain.				

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### **Mounting accessories**

Product		Description
PA2PF15	Ceiling mounting bracket for 1 and 1.5 meter unit. Units: 4 pcs	Pendulum brackets for unit mounting and ceiling bracket for mounting on the ceiling using hangers or threaded rods (not included).
PA2PF20	Ceiling mounting bracket for 2 meter unit. Units: 6 pcs	
PA34TR15	Threaded rods for 1 and 1.5 meter unit Length: 1 m Units: 4 pcs	Threaded rods for ceiling mounting. Used with ceiling mounting brackets PA2PF.
PA34TR20	Threaded rods for 2 meter unit Length: 1 m Units: 6 pcs	
PA2P15	Pendulums for 1 and 1.5 meter unit Length: 1 m Units: 2 pcs	Pendulum brackets for mounting the unit suspended from the ceiling. The pendulum brackets are covered by a white plastic duct to hide the cables. The brackets may be cut to the desired length should shorter suspension heights than 1 m be desired.
PA2P20	Pendulums for 2 meter unit Length: 1 m Units: 3 pcs	Used with ceiling mounting brackets PA2PF.

## Control valves for water systems (optional)

VLSP, valve	kit on/off			Description
		VLSP15LF	Valve kit on/off, low flow, DN15	2-way combination control and adjustmentvalve with on/off actuator, shut-off valve, and bypass.
		VLSP15NF	Valve kit on/off, DN15	, ,,
		VLSP20	Valve kit on/off, DN20	
		VLSP25	Valve kit on/off, DN25	
VOT, valve l	kit on/off			Description
		VOT15	Valve kit on/off, DN15	3-way valve and actuator on/off.
		VOT20	Valve kit on/off, DN20	
		VOT25	Valve kit on/off, DN25	

Choosing a valve kit, see pages 40 and 41.

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### **Dimensional drawing**

All models

DN20 (3/4")

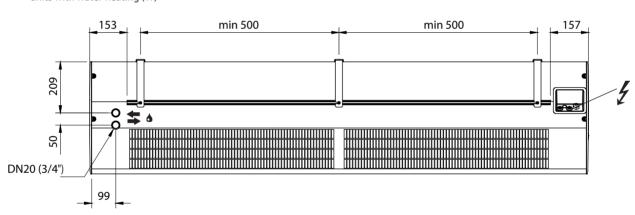
male thread (AC32-W)

PN20 (3/4")

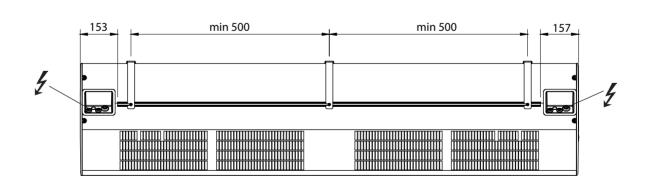
DN20 (3/4")

2 meter unit

units with water heating (W)



Units with electrical heating (E)



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## **Capacity 32-W**

				oly line water Room tempe utput air temp	rature: +18°	C		°C		
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure srop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	I/s	kPa
AC32-10-W	max	1700	9.9	34.5	0.05	1.0	18.0	49.2	0.22	13.2
AC32-10-VV	min	1050	6.2	38.0	0.04	0.5	10.6	48.0	0.13	4.8
AC32-15-W	max	2700	15.6	32.3	0.08	1.5	29.2	49.9	0.36	22.2
AC32-15-W	min	1850	10.5	34.0	0.06	0.7	19.2	49.0	0.23	10.6
AC22 20 W	max	3300	19.1	31.3	0.10	1.6	36.8	50.9	0.45	25.2
AC32-20-W	min	2200	12.6	34.0	0.07	0.9	23.7	50.0	0.29	11.5

				oly line water Room tempe utput air temp	rature: +18°(	2		°C C		
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure srop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC32-10-W	max	1700	9.8	36.0	0.07	1.7	14.1	42.5	0.17	8.7
AC32-10-W	min	1050	6.1	39.0	0.05	0.9	8.3	41.0	0.10	3.2
AC32-15-W	max	2700	15.5	34.0	0.11	2.5	23.1	43.2	0.28	14.8
AC32-13-W	min	1850	11.0	38.0	0.08	1.7	15.0	42.0	0.18	7.0
AC32-20-W	max	3300	19.0	33.0	0.13	2.6	29.1	44.1	0.36	16.7
	min	2200	12.9	36.0	0.09	1.6	18.6	43.0	0.23	7.6

			Supply line water temeprature: 60°C Room temperature: +18 °C Output air temperature: +35 °C"				Water temperature: 60/40 °C Room temperature: +18 °C			
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure srop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC32-10-W	max	1700	9.8	38.5	0.11	4.0	10.2	35.8	0.12	4.9
AC32-10-W	min	1050	6.1	41.0	0.08	2.1	5.8	34.0	0.07	1.8
AC32 15 W	max	2700	15.5	37.0	0.16	5.7	16.9	36.5	0.21	8.5
AC32-15-W	min	1850	10.8	40.0	0.13	4.0	10.8	35.0	0.13	4.0
AC32-20-W	max	3300	19.1	36.0	0.19	5.7	21.4	37.1	0.26	9.7
	min	2200	12.9	39.0	0.15	3.6	13.4	36.0	0.16	4.4

				oly line water Room tempe utput air temp	rature: +18°(	2	Water temperature: 55/35 °C Room temperature: +18 °C				
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure srop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water	
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa	
AC32-10-W	max	1700	9.8	40.5	0.16	8.3	8.2	32.3	0.10	3.3	
AC32-10-W	min	1050	5.9	42.0	0.11	3.6	4.6	31.0	0.06	1.2	
AC32-15-W	max	2700	15.5	39.0	0.24	11.0	13.7	33.0	0.17	5.9	
AC32-15-W	min	1850	10.8	42.0	0.19	8.1	8.7	32.0	0.11	2.8	
AC32-20-W	max	3300	19.1	38.0	0.27	10.7	17.4	33.6	0.21	6.7	
	min	2200	12.5	39.0	0.19	5.9	10.7	32.0	0.13	3.0	

 $<sup>^{\</sup>scriptscriptstyle 1})$  Recommended output air temperature for comfort with optimised power requirement

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<sup>2)</sup> Rated power at a given supply and return line temperature.

## AC25

# Air curtain with practical and energy saving features. For offices, shops, schools, public spaces...

AC25 is an air curtain suitable for shops, offices, escalators, theatres, and other public spaces. With control units Basic with basic features or Competent with smart features, which facilitate operation and saves energy, the air curtain may be adapted to suit every need.

- Integrated PLS control system with preprogrammed settings
- · 3 fan stages
- Horizontal installation (wall brackets included)
- Lengths 1, 1.5, and 2 m
- Recommended installation height up to 2.5 meters\*
- The front panel is easily removable, which facilitates installation and maintenance work.
- CE marked



AC25-E (electric heating), see page 17. AC25-W (water heating), see pages 17, 22, and 23.

#### Regulation

The air curtain has an integrated control board PLS. This is supplemented by the control unit Basic (PLSB) or Competent (PLSACY), which facilitates operation, saves energy and enables optimal adaptation to every application. One PLSB or PLSACY can control several units parallel (max. 9 units). See also pages 18 and 19.

#### Design

Corrosion proof housing made from hot galvanized and powder coated steel. AC25-W has a built-in filter for protection of the coil. The filter is accessible for cleaning. Colour front: white, RAL 9016, NCS S 0500-N. Colour grille, rear panel, side panels, and brackets: grey, RAL 7046.

#### **Electrical connections**

The units have integrated PLS control boards with modular connectors for easy connection of external components. Read more about the PLS control system in the regulation section, pages 18 and 19.

#### Units with electric heating

The units are intended for permanent installation. The power supply (400 V  $3N\sim$ ) is connected to the terminal block inside the connection space. The 2 meter unit requires dual power supplies.

#### Units with water heating

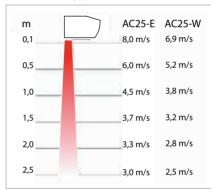
The units are supplied fully connected internally with 1.5 m long cable and a 230 VAC electric plug for control voltage and fan operation. The integrated circuit board has an output for connection of a 230 VAC motorised valve. The warm water heater has  $2 \times \varnothing 15$  mm connections (smooth copper pipes) at the top.

\*) The recommended installation height may depend on the space in question.

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#### Air velocity profile



Measurements according to ISO 27327-1.
Average values for products within the family.

#### Mounting

The air curtain is mounted horizontally with the exhaust port pointing down, as close as possible to the door. Wall mounting is done using the included brackets. Mounting on the ceiling using hangers or threaded rods (accessories).

For wide openings, several units may be mounted directly next to each other.



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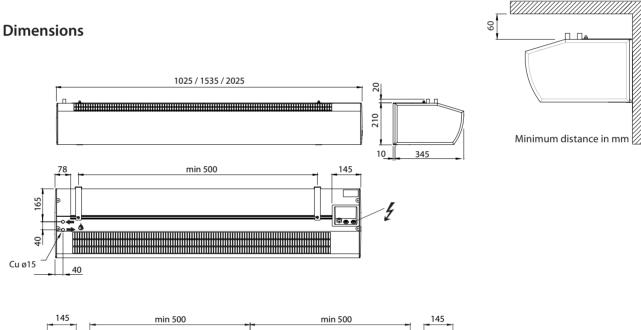
### **Product range overview**

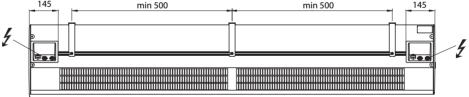
#### Electric heating - AC25-E

Туре	Power- step kW	Air flow <sup>1</sup> m <sup>3</sup> /h	Δt³ °C	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Voltage V Current A (heat)	Length mm	Weight kg	Protection class
AC25-10-E08	3/5/8	900/1450	27/16.5	42/51	230V~	0.5	400V3N~/11.5	1025	20	IP20
AC25-15-E12	3.9/8/12	1400/2200	26/16.5	40/52	230V~	0.7	400V3N~/17.5	1535	32	IP20
AC25-20-E16	6/10/16	1800/2900	27/16.5	43/53	230V~	1.0	400V3N~/23.1	2050	40	IP20

#### Water heating - AC25-W

Type	Power⁴ kW	Air flow <sup>1</sup> m <sup>3</sup> /h	Δt <sup>3.4</sup> °C	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Water volume 	Length mm	Weight kg	Protection class
AC25-10-W	10.0	900/1300	27/28	42/53	230V~	0.45	0.71	1025	17.5	IP21
AC25-15-W	18.6	1250/2100	31/33	41/54	230V~	0.6	1.09	1535	26	IP21
AC25-20-W	22.9	1800/2600	31/31	43/55	230V~	0.9	1.42	2050	35	IP21

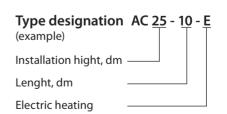




### **Project design/orders**

#### **Descriptive text - AC25**

Air curtain, VEAB type AC25 with corrosion proof housing made from hot galvanized and powder coated steel. Including control system PLS Basic or PLS Competent.



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Lowest/highest air flow of a total of 3 fan stages.
 Conditions: Distance to the unit 5 meters. Directional factor: 2. Equivalent absorption area 200 m². At the lowest/highest air flow.
 Δt = temperature rise of passing air at maximum heat output and lowest and highest air flow.
 Applicable at water temperature of 80/60 °C, air intake temperature of +18 °C.

### **Regulation PLS Basic**



At start-up, Manual or Automatic operation is selected.

#### Mode

#### Manual operation:

The fan runs continuously at the selected fan speed, the heating is regulated against the selected set point.

#### **Automatic operation:**

The fan runs intermittently (starts when heat is required, stops when the heating is switched off). The heating is regulated against the selected set point.

#### The PLSB control kit contains

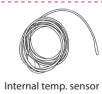
	Product	Description
	PLSUB1	Control unit, integrated room sensor.
[ · ]	Box cover	
	SIRECC	Modular cable, RJ12, 5 m

Optional									
Tunn num	PLSRTX	External room temp. sensor, incl. RJ11 cable, 10 m. See page 21.							
	Mounting hardware	See page 20							
	Valve kit	See page 21							





Control board



Control boards and temperature sensors are installed in the air curtain as delivered and must be supplemented by control kit  $PLSB\ or\ PLSACY\ and\ various\ accessories.$ 

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### **Regulation PLS Competent**



At start-up, choose mode: "Flexible", "Open door" or "Auto".

#### Mode

#### Flexible

This mode is suitable for most installations.

Select one fan speed for "open door" and one fan speed for "closed door". When the door is closed, the fan stops, with some after-running, upon reaching the set point. When the door is closed, the heat is regulated to the selected set point. When the door is open, the set point is increased automatically by 3°C (adjustable). It is also possible to set the system to switch off the air curtain when the door is closed.

#### Open door

When the door is open, the fan speed and heat is regulated automatically depending on the deviation from the set point. When the door is closed, the air curtain runs intermittently at a selectable fan speed. (The heating and fan start when heat is required and turns off when the set point has been reached).

#### Auto

The control automatically switches between "Flexible mode" and "Open door". When the door is closed, "Flexible mode" is used; if the door is open for more than 300 seconds, the automatic system switches to "Open door" mode; when the door is closed, the automatic system switches to "Flexible mode".

### Functions regardless of mode

#### Calendar function:

The control system has a calendar function which allows you to lower the temperature (adjustable lowering) during the times when the space is not in use. Set point range for night-time reduction of  $0-20\,^{\circ}\text{C}$ .

#### Filter alarm:

The control system prompts for a filter change after a certain number of operating hours. This time period is adjustable and should be adjusted to how fast the filter gets soiled in the space in question. Filters are not used for electric heating.

#### Summer/winter:

In the summer mode, heating is blocked.

#### DUC communication:

The air curtain can be started/stopped using an external ON/OFF voltage, 5 to 30 V, AC or DC. The control system uses a potential free alarm contact for main alarm, max. 3 A, 230 V.

#### The PLSACY control kit contains

Product	Description
PLSUA1	Control unit, integrated room sensor.
Box cover	
PLSC1X	Control board HUB Competent.
PLSDC	Door switch
SIRECC	Modular cables, RJ12, 3 m and 5 m

Optional		
(mm mm)	PLSRTX	External room temp. sensor, incl. RJ11 cable, 10 m. See page 21.
	Mounting hardware	See page 20
	Valve kit	See page 21

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### **Accessories PLS**

PLSB control syste	m		Description		
	PLSB	Control unit Basic	Incl. control unit PLSUB1 and 5 meter modular cable with RJ12 quick connect. IP30		
	PLSACY	Control unit Competent	Incl. PLSUA1 control unit, box cover, PLSC1X hub unit, PLSDC door switch, and 2 modular cables with RJ12 quick connects (1 pc 3 m, 1 pc 5 m). IP30		
Connor touri	PLSRTX	External room temperature sensor	Used to create a better measuring point within the space, when the control unit is located such that the internal room temperature sensor does not provide a relevant value.  Cable with RJ11 modular connector included (10 m).  IP30		
	SIRECJ4 SIRECJ6	RJ11 coupler (4/4)  RJ12 coupler (6/6)	Used to join together two RJ11 or RJ12 connectors.		
	SIRECC403		Length 3 m		
	SIRECC405	RJ11 modular cable (4/4)	Length 5 m		
	SIRECC410	For roomsensor PLSRTX	Length 10 m		
	SIRECC415		Length 15 m		
	SIRECC603	_	Length 3 m		
	SIRECC605	RJ12 modular cable (6/6)	Length 5 m		
	SIRECC610	_	Length 10 m		
	SIRECC615		Length 15 m		
	PAMLK	Motor alarm board	Provides a potential free alarm connection when thermal contact is triggered in the motor. Installed in the air curtain.		

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## **Mounting accessories**

Product		Description
PA2PF15	Ceiling mounting bracket for 1 and 1.5 meter unit. Units: 4 pcs	Pendulum brackets for unit mounting and ceiling bracket for mounting on the ceiling using hangers or threaded rods (not included).
PA2PF20	Ceiling mounting bracket for 2 meter unit. Units: 6 pcs	
PA34TR15	Threaded rods for 1 and 1.5 meter unit. Length: 1 m Units: 4 pcs	Threaded rods for ceiling mounting. Used with ceiling mounting brackets PA2PF.
PA34TR20	Threaded rods for 2 meter unit. Length: 1 m Units: 6 pcs	
PA2P15	Pendulums for 1 and 1.5 meter unit Length: 1 m Units: 2 pcs	Pendulum brackets for mounting the unit suspended from the ceiling. The pendulum brackets are covered by a white plastic duct to hide the cables. The brackets may be cut to the desired length should shorter suspension heights than 1 m be desired.
PA2P20	Pendulums for 2 meter unit Length: 1 m Units: 3 pcs	Used with ceiling mounting brackets PA2PF.

## Control valves for water systems (optional)

VLSP, valve	kit on/off			Description
		VLSP15LF	Valve kit on/off, low flow, DN15	2-way combination control and adjustmentvalve with on/off actuator, shut-off valve, and bypass.
		VLSP15NF	Valve kit on/off, DN15	, , , , , , , , , , , , , , , , , , ,
		VLSP20	Valve kit on/off, DN20	
		VLSP25	Valve kit on/off, DN25	
VOT, valve l	kit on/off			Description
		VOT15	Valve kit on/off, DN15	3-way valve and actuator on/off.
		VOT20	Valve kit on/off, DN20	
		VOT25	Valve kit on/off, DN25	

Choosing a valve kit, see pages 40 and 41.

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## **Capacity AC25-W**

	Supply line water temperature: 110 °C Room temperature: +18 °C Output air temperature: +35 °C¹¹				Water temperature: 110/80°C Room temperature: +18°C					
Туре	Fan mode	Fan mode Air flow		Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC25-10-W	max	1300	7.5	44.8	0.03	0.3	15.0	52.1	0.13	3.7
AC25-10-W	min	900	5.3	46.0	0.02	0.2	10.6	52.8	0.09	2.2
AC25 15 W	max	2100	12.1	34.4	0.04	0.7	27.8	57.1	0.23	15.7
AC25-15-W	min	1250	7.4	34.0	0.02	0.3	17.6	59.4	0.15	7.4
AC25-20-W	max	2600	15.1	31.8	0.05	1.3	34.2	56.8	0.28	28.1
	min	1800	10.2	32.0	0.03	0.7	23.9	57.0	0.20	15.6

			Supply line water temperature: 90 °C Room temperature: +18 °C Output air temperature: +35 °C"				Water temperature: 90/70 °C Room temperature: +18 °C			
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC25-10-W	max	1300	7.5	45.5	0.04	0.5	12.2	45.7	0.15	5.4
AC25-10-W	min	900	5.2	46.0	0.03	0.4	8.7	46.3	0.11	3.2
AC25 15 W	max	2100	12.4	36.5	0.07	2.3	22.4	49.5	0.28	22.8
AC25-15-W	min	1250	7.2	36.0	0.03	0.6	14.3	51.5	0.18	10.8
AC25-20-W	max	2600	14.9	34.5	0.07	2.3	27.5	49.3	0.34	40.7
	min	1800	10.6	36.0	0.05	1.5	19.3	49.6	0.24	22.8

	Supply line water temperature: 80 °C Room temperature: +18 °C Output air temperature: +35 °C¹¹				Water temperature: 80/60°C Room temperature: +18°C					
Type Fan mo		Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC25-10-W	max	1300	7,5	46,5	0,05	0,9	10,0	40,6	0,12	3,8
AC23-10-VV	min	900	5,2	47,0	0,04	0,6	7,0	41,0	0,09	2,3
AC25-15-W	max	2100	12,1	38,5	0,07	2,1	18,6	44,1	0,23	16,5
AC25-15-W	min	1250	7,3	38,0	0,04	1,0	11,7	45,6	0,14	7,8
AC25 20 W	max	2600	15,0	37,0	0,09	3,6	22,9	43,9	0,28	29,5
AC25-20-W	min	1800	10,4	38,0	0,06	2,2	16,0	44,1	0,20	16,5

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<sup>&</sup>lt;sup>1</sup>) Recommended output air temperature for comfort with optimised power requirement.
<sup>2</sup>) Rated power at a given supply and return line temperature.

### AIR CURTAINS A C 2 5

				Supply line water temperature: 70 °C Room temperature: +18 °C Output air temperature: +35 °C"				Water temperature: 70/50 °C Room temperature: +18 °C			
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water	
		m³/h	kW	°C	I/s	kPa	kW	°C	I/s	kPa	
AC25-10-W	max	1300	7.5	48.5	0.08	2.0	7.7	35.5	0.096	2.4	
AC25-10-W	min	900	5.3	49.0	0.06	1.3	5.4	35.7	0.07	1.5	
AC25 15 W	max	2100	12.0	41.0	0.10	4.0	14.7	38.6	0.18	11.0	
AC25-15-W	min	1250	7.3	41.0	0.06	1.9	9.2	39.6	0.11	5.2	
AC25 20 W	max	2600	15.0	40.5	0.12	7.2	18.1	38.6	0.22	19.9	
AC25-20-W	min	1800	10.3	41.0	0.09	4.1	12.6	38.5	0.15	11.1	

			Supply line water temperature: 60 °C Room temperature: +18 °C Output air temperature: +32 °C				Vater temper Room tempe			
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC25 10 W	max	1300	6.2	44.0	0.09	2.5	5.4	30.2	0.07	1.3
AC25-10-W	min	900	4.5	45.0	0.07	1.8	3.7	30.0	0.05	0.8
AC25 15 W	max	2100	10.0	38.0	0.11	4.8	10.6	33.0	0.13	6.3
AC25-15-W	min	1250	6.6	40.0	0.08	3.0	6.6	33.5	0.08	3.0
4.505.00 W	max	3600	12.3	37.0	0.13	8.0	13.3	33.1	0.16	11.8
AC25-20-W	min	1800	9.1	40.0	0.11	6.5	9.1	32.9	0.11	6.5

			Supply line water temperature: 55 °C Room temperature: +18 °C Output air temperature: +29 °C			Water temperature: 55/35 °C Room temperature: +18 °C				
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC25-10-W	max	1300	4.8	38.0	0.07	1.4	4.1	27.3	0.05	0.8
AC25-10-VV	min	900	4.2	44.0	0.09	2.7	2.6	26.6	0.03	0.5
AC25-15-W	max	2100	7.9	33.0	0.09	3.2	8.6	30.0	0.10	4.4
AC25-15-W	min	1250	6.1	39.0	0.09	4.1	5.2	30.3	0.06	2.1
1605.00.11/	max	2600	9.7	32.0	0.10	5.3	10.9	30.3	0.13	8.3
AC25-20-W	min	1800	8.5	39.0	0.13	8.8	7.4	30.0	0.09	4.6

<sup>&</sup>lt;sup>1</sup>) Recommended output air temperature for comfort with optimised power requirement.
<sup>2</sup>) Rated power at a given supply and return line temperature.

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**Get In Touch** 

### AC

## **AC35**

# Powerful air curtain with practical and energy saving features. For shops, shopping centres, hospitals, terminal buildings...

AC35 is a powerful air curtain suitable for entrances to larger spaces. With control units Basic with basic features or Competent with smart features, which facilitate operation and saves energy, the air curtain may be adapted to suit every need.

- Integrated PLS control system with preprogrammed settings
- 5 fan stages
- Mounts horizontally or vertically
- Lengths 1, 1.5, 2, and 2.5 m
- Recommended installation height up to 3.5 meters\*
- The front panel is easily removable and locks in the open position, which facilitates installation and maintenance work.
- CE marked



AC35-A (without heating), see page 25. AC35-E (electric heating), see page 25. AC35-W (water heating), see pages 25 and 31.

#### Regulation

The air curtain has an integrated control board PLS. This is supplemented by the control unit Basic (PLSB) or Competent (PLSACY), which facilitates operation, saves energy and enables optimal adaptation to every application. One PLSB or PLSACY can control several units parallel (max. 9 units). See also pages 26-27.

#### Design

Corrosion proof housing made from hot galvanized and powder coated steel. AC35-W has a built-in filter for protection of the coil. The filter is accessible for cleaning. Colour front and inspection cover: white, RAL 9016, NCS S0500-N. Colour grille, rear panel, and side panels: grey, RAL7046.

#### **Electrical connections**

#### Unit without heating

The units are supplied fully connected internally with a  $2\,\mathrm{m}$  long cable and a 230V AC electric plug for control voltage and fan operation.

#### Units with electric heating

The units are intended for permanent installation. The power supply  $(400V3N\sim)$  is connected to the terminal block inside the connection space. The 2 meter unit requires dual power supplies.

#### Units with water heating

The units are supplied fully connected internally with a 2 m long cable and a 230V AC electric plug for control voltage and fan operation. The integrated circuit board has an output for connection of a 230 V motorised valve.

The warm water heater has 2 DN20 (3/4") connections (male thread) at the top.

\* The recommended installation height may depend on the space in question.

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#### Mounting

The air curtain may be mounted horizontally or vertically. Recommended installation height for horizontal installation is 3.5 m\*. In vertical installations, the recommended installation width is 5 m\* (with a unit on each side of the door opening).

#### Vertical installation

Air curtains that are 1.5 meters or longer can be mounted floor standing using the accessory kit, which includes floor edging and other mounting hardware. The floor edging is also used as a connecting bracket when two air curtains are to be installed together vertically.

The air curtain can be placed on either side of the door. For the right mounting position (as seen from the room) connections and electronics are accessed at the top of the air curtain, and for the left mounting position down by the floor.

#### Horizontal installation

The air curtain is mounted horizontally with the outlet facing downward as close to the door as possible. For wide doorways, several units may be joined together using a connecting kit.

#### Horizontal ceiling installation

Threaded rods, wires, and ceiling brackets are available as accessories, see page 29.



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### **Product range overview**

#### Without heating - AC35-A

Type	Power kW	Air flow <sup>2</sup> m <sup>3</sup> /h	Sound pressure level <sup>3</sup> dB(A)	Voltage motor V	Current motor A	Length mm	Weight kg	Protection class
AC35-10-A 1)	0	900/2000	41/61	230V~	2.6	1073	35	IP21
AC35-15-A	0	1400/3100	42/62	230V~	3.9	1583	49	IP21
AC35-20-A	0	1750/4000	43/63	230V~	5.0	2073	63	IP21
AC35-25-A	0	2400/5250	44/64	230V~	6.5	2589	91	IP21

#### Electric heating - AC35-E

Type	Powerstep kW	Air flow <sup>2</sup> m <sup>3</sup> /h	Δt⁵ °C	Sound pressure level <sup>3</sup> dB(A)	Voltage motor V	Current motor A	Voltage V Current A (heat)	Length mm	Weight kg	Protection class
AC35-10-E08 1)	2.7/5.4/8.1	900/2000	35/13	41/61	230V~	2.6	400V3N~/11.7	1073	43	IP20
AC35-15-E12	3.9/7.8/11.7	1400/3100	38/14	42/62	230V~	3.9	400V3N~/16.9	1583	62	IP20
AC35-20-E16	5.4/10.8/16.2	1750/4000	35/13	43/63	230V~	5.0	400V3N~/23.4	2073	78	IP20
AC35-25-E20	6.6/13.2/19.8	2400/5250	37/14	44/64	230V~	6.5	400V3N~/28.6	2589	116	IP20

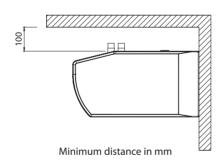
#### Water heating - AC35-W

Type	Power <sup>4</sup> kW	Air flow <sup>2</sup> m <sup>3</sup> /h	Δt <sup>4,5</sup> °C	Sound pressure level <sup>3</sup> dB(A)	Voltage motor V	Current motor A	Water volume l	Length mm	Weight kg	Protection class
AC35-10-W 1)	23.6	950/1900	36/41	43/60	230V~	2.4	1.51	1073	42	IP21
AC35-15-W	37.4	1350/2900	38/43	44/61	230V~	3.4	2.38	1583	59	IP21
AC35-20-W	50.4	1800/3900	38/44	45/62	230V~	4.3	3.33	2073	73	IP21
AC35-25-W	66.4	2300/5100	38/43	46/63	230V~	5.7	4.18	2589	107	IP21

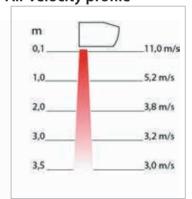
<sup>&</sup>lt;sup>1</sup> Only for horizontal installation.

#### **Dimensions**

For dimensions, see page 30.



#### Air velocity profile

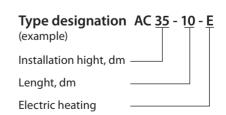


Measurements according to ISO 27327-1. Average values for products within the family.

### Project design/orders

#### **Descriptive text - AC35**

Air curtain, VEAB type AC35 with corrosion proof housing made from hot galvanized and powder coated steel. Including control system PLS Basic or PLS Competent.



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<sup>\*</sup>Convy for norizontal installation.

2 Lowest/highest air flow of a total of 5 fan stages.

3 Conditions: Distance to the unit 5 meters. Directional factor: 2, Equivalent absorption area: 200 m². At the lowest/highest air flow.

4 Applicable at water temperature of 80/60 °C, air intake temperature of +18 °C.

5 Δt = temperature rise of passing air at maximum heat output and lowest and highest air flow.

### **Regulation PLS Basic**



At start-up, Manual or Automatic operation is selected.

#### Mode

#### Manual operation:

The fan runs continuously at the selected fan speed, the heating is regulated against the selected set point.

#### **Automatic operation:**

The fan runs intermittently (starts when heat is required, stops when the heating is switched off). The heating is regulated against the selected set point.

#### The PLSB control kit contains

	Product	Description
	PLSUB1	Control unit, integrated room sensor.
[ · ]	Box cover	
	SIRECC	Modular cable, RJ12, 5 m

Optional								
www mme	PLSRTX	External room temp. sensor, incl. RJ11 cable, 10 m. See page 21.						
	Mounting hardware	See page 20						
	Valve kit	See page 21						







Control boards and temperature sensors are installed in the air curtain as delivered and must be supplemented by control kit  $PLSB\ or\ PLSACY\ and\ various\ accessories.$ 

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### **Regulation PLS Competent**



At start-up, choose mode: "Flexible", "Open door" or "Auto".

#### Mode

#### Flexible mode:

This mode is suitable for most installations.

Select one fan speed for "open door" and one fan speed for "closed door". When the door is closed, the fan stops, with some after-running, upon reaching the set point. When the door is closed, the heat is regulated to the selected set point. When the door is open, the set point is increased automatically by 3°C (adjustable). It is also possible to set the system to switch off the air curtain when the door is closed.

#### Open door mode:

When the door is open, the fan speed and heat is regulated automatically depending on the deviation from the set point. When the door is closed, the air curtain runs intermittently at a selectable fan speed. (The heating and fan start when heat is required and turns off when the set point has been reached).

#### Auto mode:

The control automatically switches between "Flexible mode" and "Open door". When the door is closed, "Flexible mode" is used; if the door is open for more than 300 seconds, the automatic system switches to "Open door" mode; when the door is closed, the automatic system switches to "Flexible mode".

### Functions regardless of mode

#### Calendar function:

The control system has a calendar function which allows you to lower the temperature (adjustable lowering) during the times when the space is not in use. Set point range for night-time reduction of  $0-20\,^{\circ}\text{C}$ .

#### Filter alarm:

The control system prompts for a filter change after a certain number of operating hours. This time period is adjustable and should be adjusted to how fast the filter gets soiled in the space in question. Filters are not used for electric heating.

#### Summer/winter:

In the summer mode, heating is blocked.

#### DUC communication:

The air curtain can be started/stopped using an external ON/OFF voltage, 5 to 30 V, AC or DC. The control system uses a potential free alarm contact for main alarm, max. 3 A, 230 V.

#### The PLSACY control kit contains

Product	Description
PLSUA1	Control unit, integrated room sensor.
Box cover	
PLSC1X	Control board HUB Competent.
PLSDC	Door switch
SIRECC	Modular cables, RJ12, 3 m and 5 m

Optional		
	PLSRTX	External room temp. sensor, incl. RJ11 cable, 10 m. See page 21.
	Mounting hardware	See page 20
	Valve kit	See page 21

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### **Accessories PLS**

PLSB control system	m		Description		
	PLSB	Control unit Basic	Incl. control unit PLSUB1 and 5 meter modular cable with RJ12 quick connect. IP30		
	PLSACY	Control unit Competent	Incl. PLSUA1 control unit, box cover, PLSC1X hub unit, PLSDC door switch, and 2 modular cables with RJ12 quick connects (1 pc 3 m, 1 pc 5 m). IP30		
( ) 111111 111111 ( )	PLSRTX	External room temperature sensor	Used to create a better measuring point within the space, when the control unit is located such that the internal room temperature sensor does not provide a relevant value. Cable with RJ11 modular connector included (10 m). IP30		
	SIRECJ4	RJ11 coupler (4/4)	Used to join together two RJ11 or		
	SIRECJ6	RJ12 coupler (6/6)	RJ12 connectors.		
	SIRECC403		Length 3 m		
	SIRECC405	RJ11 modular cable (4/4)	Length 5 m		
	SIRECC410	For roomsensor PLSRTX	Length 10 m		
	SIRECC415		Length 15 m		
	SIRECC603		Length 3 m		
	SIRECC605		Length 5 m		
	SIRECC610	RJ12 modular cable (6/6)	Length 10 m		
	SIRECC615		Length 15 m		

## Control valves for water systems (optional)

VLSP, valve	kit on/off			Description
		VLSP15LF	Valve kit on/off, low flow, DN15	2-way combination control and adjustmentvalve with on/off actuator, shut-off valve, and bypass.
		VLSP15NF	Valve kit on/off, DN15	
		VLSP20	Valve kit on/off, DN20	
		VLSP25	Valve kit on/off, DN25	
VOT, valve l	kit on/off			Description
		VOT15	Valve kit on/off, DN15	3-way valve and actuator on/off.
		VOT20	Valve kit on/off, DN20	
		VOT25	Valve kit on/off, DN25	

Choosing a valve kit, see pages 40 and 41.

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### **Accessories for horizontal installation**

	Product		Description
	PA34WB15	Wall bracket for 1 and 1.5 meter unit Units: 2 pcs	Brackets for mounting the unit horizontally on the wall. Length: 400 mm
	PA34WB20	Wall bracket for 2 meter unit Units: 3 pcs	- Lengui. 400 mm
0	PA34WB30	Wall bracket for 2.5-meter unit Units: 4 st	
	PA34CB15	Ceiling brackets for 1 and 1.5 meter unit Units: 4 pcs	Ceiling brackets for mounting the unit on the ceiling using wires or threaded rods (not included).
	PA34CB20	Ceiling brackets for 2 meter unit Units: 6 pcs	Tods (not included).
	PA34CB30	Ceiling brackets for 2.5 meter unit Units: 8 pcs	
T .	PA34WS15	Wire suspension kit for 1 and 1.5 meter units Units: 4 pcs	Wire suspension kit with bright- galvanized wires with wire locks for ceiling installation. Used with ceiling
	PA34WS20	Wire suspension kit for 2 meter units Units: 6 pcs	mounts (PA34CB15/20/30). Length: 3 m
Ų.	PA34WS30	Wire suspension kit for 2.5 meter units Units: 8 pcs	
	PA34TR15	Threaded rods for 1 and 1.5 meter unit Units: 4 pcs	Threaded rods for ceiling mounting. Used with ceiling mounting brackets PA34CB.
	PA34TR20	Threaded rods for 2 meter unit Units: 6 pcs	Length: 1 m
	PA34TR30	Threaded rods for 2.5 meter unit Units: 8 pcs	
	PL3JK	Connecting bracket with mounting hardware	For joining together horizontal air curtains. Provides a neat and uniform installation. Also used for vertical mounting.

### **Accessories for vertical installation**

		Description
PL3JK	Vertical kit for AC35	Used to adapt a unit for vertical mounting. Contains floor edging and mounting hardware to brace the top. The vertical kit makes it possible to mount two units on top of each other. One vertical kit is required per unit. Also used as a connecting bracket for horizontal mounting.
AXP300	Collision guard	Floor positioned guard against collisions with, e.g., a shopping trolley.

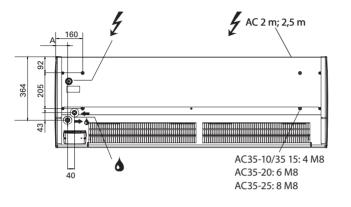
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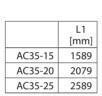
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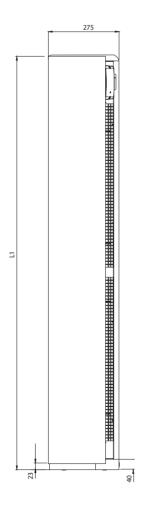
### **Dimensions**

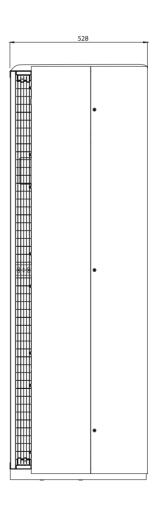




	L [mm]	A [mm]
AC35-10	1073	72
AC35-15	1583	72
AC35-20	2073	74
AC35-25	2583	71







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### **Capacity AC35-W**

				ly line water t Room tempe Itput air temp	rature: +18°0	:	Water temperature: 80/60 °C Room temperature: +18 °C			
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC25 10 W	max	1900	10.9	29.5	0.05	1.1	23.6	54.7	0.29	23.2
AC35-10-W	min	950	5.0	29.2	0.02	0.3	12.1	59.2	0.15	7.4
AC25 15 W	max	2900	16.8	27.4	0.08	1.5	37.4	56.0	0.46	35.1
AC35-15-W	min	1350	7.2	26.6	0.03	0.4	18.1	61.1	0.22	10.8
AC25 20 W	max	3900	22.4	28.0	0.11	1.2	50.4	56.1	0.62	27.6
AC35-20-W	min	1800	9.0	28.2	0.04	0.3	22.9	62.0	0.28	6.9
AC25 25 W	max	5100	29.4	26.1	0.13	2.3	66.4	56.4	0.82	54.8
AC35-25-W	min	2300	12.7	24.9	0.06	0.5	32.4	61.4	0.40	15.4

			Supply line water temperature: 70°C Room temperature: +18°C Output air temperature: +35°C')			Water temperature: 70/50 °C Room temperature: +18 °C				
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC35-10-W	max	1900	10.9	30.8	0.07	1.8	18.7	47.1	0.23	15.4
AC35-10-W	min	950	5.0	29.8	0.03	0.5	9.6	50.7	0.12	5.0
AC25 15 M	max	2900	16.8	28.8	0.10	2.4	29.8	48.3	0.36	23.7
AC35-15-W	min	1350	7.2	27.4	0.04	0.6	14.5	52.4	0.18	7.4
AC35 20 W	max	3900	22.5	29.3	0.13	1.9	40.1	48.3	0.49	18.6
AC35-20-W	min	1800	8.8	28.4	0.05	0.4	18.2	53.1	0.22	4.8
AC25 25 W	max	5100	29.2	27.5	0.17	3.4	53.1	48.7	0.65	37.0
AC35-25-W	min	2300	12.7	26.0	0.07	0.8	26.0	52.7	0.32	10.6

			Supply line water temperature: 60°C Room temperature: +18°C Output air temperature: +35°C' <sup>1)</sup>			Water temperature: 60/40 °C Room temperature: +18 °C				
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC35-10-W	max	1900	11.0	33.0	0.10	3.5	13.7	39.3	0.17	9.0
AC35-10-W	min	950	5.0	31.0	0.04	0.9	7.0	42.0	0.08	3.0
AC25 15 W	max	2900	16.7	31.0	0.14	4.5	22.1	40.4	0.27	14.1
AC35-15-W	min	1350	7.2	28.9	0.06	1.0	10.7	43.5	0.13	4.5
AC35 20 W	max	3900	22.4	31.3	0.19	3.5	29.6	40.4	0.36	11.0
AC35-20-W	min	1800	8.8	29.2	0.07	0.7	13.5	43.9	0.16	2.9
AC25 25 W	max	5100	29.3	30.0	0.24	6.4	39.5	40.9	0.448	22.3
AC35-25-W	min	2300	12.7	27.8	0.09	1.4	19.3	43.9	0.23	6.5

			Supply line water temperature: 55°C Room temperature: +18°C Output air temperature: +35°C <sup>n</sup>			Water temperature: 55/35 °C Room temperature: +18 °C				
Туре	Fan mode	Air flow	Power	Output water temp.	Water flow	Pressure drop water	Power <sup>2)</sup>	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa
AC35-10-W	max	1900	11.0	34.5	0.13	5.8	11.2	35.3	0.174	6.2
AC33-10-W	min	950	5.0	31.9	0.05	1.3	5.7	37.4	0.07	2.1
AC35-15-W	max	2900	16.6	32.5	0.18	7.0	18.1	36.4	0.22	10.0
AC33-13-W	min	1350	7.1	29.9	0.07	1.5	8.7	38.9	0.10	3.1
AC35-20-W	max	3900	22.6	33.0	0.25	5.8	24.2	36.3	0.29	7.7
AC35-20-W	min	1800	8.9	30.1	0.09	1.0	11.1	39.1	0.13	2.1
AC35-25-W	max	5100	29.6	32.0	0.31	10.5	32.5	36.8	0.639	16.0
AC33-23-W	min	2300	12.7	29.0	0.12	2.0	15.9	39.3	0.19	4.7

<sup>&</sup>lt;sup>1</sup>) Recommended output air temperature for comfort with optimised power requirement.
<sup>2</sup>) Rated power at a given supply and return line temperature.

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**Get In Touch** 

## AC

## ACR35

# The air curtain with practical and energy saving features for uniform and uncluttered installation in false ceilings

ACR35 is the air curtain for environments where you want to hide the installation in a false ceiling, for example in hotels, restaurants, cinemas, and other public spaces. The recessed air curtain is also suitable for spaces where the area above the door is limited. With control units Basic with basic features or Competent with smart features, which facilitate operation and saves energy, the air curtain may be adapted to suit every need.

- Integrated PLS control system with preprogrammed default settings
- 5 fan stages
- Recessed, horizontal installation
- Recommended installation height up to 3.5 meters\*
- Lengths 1, 1.5, and 2 m
- Service is made easy by the removable front cover
- CE marked

#### Type/capacity

ACR35-E (electric heating), see page 33. ACR35-W (water heating), see pages 33, 38, and 39.

#### Regulation

The air curtain has an integrated control board PLS. This is supplemented by the control unit Basic (PLSB) or Competent (PLSACY), which facilitates operation, saves energy and enables optimal adaptation to every application. One PLSB or PLSACY can control several units parallel (max. 9 units).

See also pages 34-35.

#### Design

Corrosion proof housing made from hot galvanized and powder coated steel.

Colour front and cover: white, RAL 9016, NCS S 0500-N. Colour grille: grey, RAL 7046.

#### **Electrical connections**

#### Units with electric heating

The units are intended for permanent installation. The power supply (400 V  $3N\sim$ ) is connected to the terminal block inside the connection space.

#### Units with water heating

The units are supplied fully connected internally with a 1.5 m long cable and a 230 VAC electric plug for control voltage and fan operation. The integrated circuit board has an output for connection of a 230 V motorised valve.

The warm water heater has 2 DN20 (3/4") connections (male thread) at the top.



#### Mounting

The air curtain comes with four mounting brackets which place it level with the false ceiling using threaded rods (not included). These are reversible, making it possible to attach the rods on the inside or outside of the unit. The air curtain is placed with the exhaust as close to the doorway as possible. For wide door openings, several units may be mounted directly next to each other.

\*) The recommended installation height may depend on the space in question.

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### **Product range overview**

#### **Electric heating - ACR35-E**

Туре	Powerstep kW	Air flow m³/h	Δt ¹) °C	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Voltage V Current A (heat)	Length mm	Weight kg	Protection class
ACR35-10-E09	4.5/9	1100/2300	27/13	42/62	230V~	2,5	400V3N~/13 A	1057	42	IP20
ACR33-15-E14	7/13.5	1550/3400	29/14	43/63	230V~	3,5	400V3N~/19.5 A	1567	58	IP20
ACR35-20-E18	9/18	2200/4800	27/15	45/64	230V~	5,2	400V3N~/26 A	2073	78	IP20

#### Water heating- ACR35-W

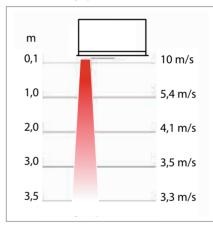
Туре	Power³) kW	Air flow m³/h	Δt <sup>1.3)</sup> °C	Sound pressure level <sup>2</sup> dB(A)	Voltage motor V	Current motor A	Water volume 	Length mm	Weight kg	Protection class
ACR35-10-W	18.7	1100/2300	30/24	42/61	230V~	2,6	1.3	1057	42	IP20
ACR35-15-W	27.8	1550/3400	31/24	42/62	230V~	3,6	2.1	1567	58	IP20
ACR35-20-W	39.5	2200/4800	31/24	44/63	230V~	5,3	2.9	2073	78	IP20

 $<sup>^{1}</sup>$   $\Delta t$  = temperature rise of passing air at maximum heat output and lowest and highest air flow.

#### **Dimensions**

For dimensions, see page 37.

#### Air velocity profile



Measurements according to ISO 27327-1. Average values for products within the family.

### Project design/orders

**Descriptive text - ACR35** 

Air curtain, VEAB type ACR35 with corrosion proof housing made from hot galvanized and powder coated steel. Including control system PLS Basic or PLS Competent.

Type designation ACR 35 - 10 - E (example) Installation hight, dm Lenght, dm Electric heating

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<sup>&</sup>lt;sup>2</sup> Conditions: Distance to the unit 5 meters. Directional factor: 2. Equivalent absorption area 200 m<sup>2</sup>. At the lowest/highest air flow. <sup>3</sup> Applicable at water temperature of 80/60 °C, air intake temperature of +15 °C.

### **Regulation PLS Basic**



At start-up, Manual or Automatic operation is selected.

#### Mode

#### Manual operation:

The fan runs continuously at the selected fan speed, the heating is regulated against the selected set point.

#### **Automatic operation:**

The fan runs intermittently (starts when heat is required, stops when the heating is switched off). The heating is regulated against the selected set point.

#### The PLSB control kit contains

	Product	Description
	PLSUB1	Control unit, integrated room sensor.
[ · ]	Box cover	
	SIRECC	Modular cable, RJ12, 5 m

Optional		
Tunn mm	PLSRTX	External room temp. sensor, incl. RJ11 cable, 10 m. See page 21.
	Mounting hardware	See page 20
	Valve kit	See page 21







Control board

Internal temp. sensor

Control boards and temperature sensors are installed in the air curtain as delivered and must be supplemented by control kit PLSB or PLSACY and various accessories.

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### **Regulation PLS Competent**



At start-up, choose mode: "Flexible", "Open door" or "Auto".

#### Mode

#### Flexible

This mode is suitable for most installations.

Select one fan speed for "open door" and one fan speed for "closed door". When the door is closed, the fan stops, with some after-running, upon reaching the set point. When the door is closed, the heat is regulated to the selected set point. When the door is open, the set point is increased automatically by 3°C (adjustable). It is also possible to set the system to switch off the air curtain when the door is closed.

#### Open door

When the door is open, the fan speed and heat is regulated automatically depending on the deviation from the set point. When the door is closed, the air curtain runs intermittently at a selectable fan speed. (The heating and fan start when heat is required and turns off when the set point has been reached).

#### Auto

The control automatically switches between "Flexible mode" and "Open door". When the door is closed, "Flexible mode" is used; if the door is open for more than 300 seconds, the automatic system switches to "Open door" mode; when the door is closed, the automatic system switches to "Flexible mode".

### Functions regardless of mode

#### Calendar function:

The control system has a calendar function which allows you to lower the temperature (adjustable lowering) during the times when the space is not in use. Set point range for night-time reduction of  $0-20\,^{\circ}\text{C}$ .

#### Filter alarm:

The control system prompts for a filter change after a certain number of operating hours. This time period is adjustable and should be adjusted to how fast the filter gets soiled in the space in question. Filters are not used for electric heating.

#### Summer/winter:

In the summer mode, heating is blocked.

#### DUC communication:

The air curtain can be started/stopped using an external ON/OFF voltage, 5 to 30 V, AC or DC. The control system uses a potential free alarm contact for main alarm, max. 3 A, 230 V.

#### The PLSACY control kit contains

Product	Description
PLSUA1	Control unit, integrated room sensor.
Box cover	
PLSC1X	Control board HUB Competent.
PLSDC	Door switch
SIRECC	Modular cables, RJ12, 3 m and 5 m

Optional		
The mine	PLSRTX	External room temp. sensor, incl. RJ11 cable, 10 m. See page 21.
	Mounting hardware	See page 20
	Valve kit	See page 21

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### **Accessories PLS**

PLSB control syster	n		Description		
	PLSB	Control unit Basic	Incl. control unit PLSUB1 and 5 meter modular cable with RJ12 quick connect. IP30		
	PLSACY	Control unit Competent	Incl. PLSUA1 control unit, box cover, PLSC1X hub unit, PLSDC door switch, and 2 modular cables with RJ12 quick connects (1 pc 3 m, 1 pc 5 m). IP30		
Coorda brour	PLSRTX	External room temperature sensor	Used to create a better measuring point within the space, when the control unit is located such that the internal room temperature sensor does not provide a relevant value.  Cable with RJ11 modular connector included (10 m).  IP30		
	SIRECJ4	RJ11 coupler (4/4)	Used to join together two RJ11 or RJ12 connectors.		
	SIRECJ6	RJ12 coupler (6/6)			
	SIRECC403		Length 3 m		
	SIRECC405	RJ11 modular cable (4/4)	Length 5 m		
	SIRECC410	For roomsensor PLSRTX	Length 10 m		
	SIRECC415		Length 15 m		
	SIRECC603		Length 3 m		
	SIRECC605		Length 5 m		
	SIRECC610	RJ12 modular cable (6/6)	Length 10 m		
	SIRECC615		Length 15 m		

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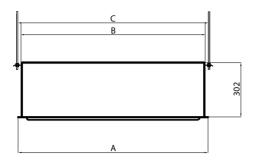


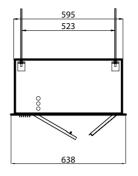
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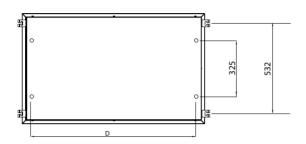


### **Dimensions**





Туре	A [mm]	B [mm]	C [mm]	D [mm]
ACR35-10	1057	1016	1067	956
ACR35-15	1567	1526	1577	1466
ACR35-20	2073	2031	2083	1971



### Control valves for water systems (optional)

VLSP, valve l	kit on/off			Description
		VLSP15LF	Valve kit on/off, low flow, DN15	2-way combination control and adjustmentvalve with on/off actuator, shut-off valve, and bypass.
		VLSP15NF	Valve kit on/off, DN15	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		VLSP20	Valve kit on/off, DN20	
		VLSP25	Valve kit on/off, DN25	
VOT, valve k	it on/off			Description
		VOT15	Valve kit on/off, DN15	3-way valve and actuator on/off.
7		VOT20	Valve kit on/off, DN20	
		VOT25	Valve kit on/off, DN25	

Choosing a valve kit, see pages 40 and 41.

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## AC

## **Capacity ACR35-W**

					Input/ou	tput water t	emperatur	e 90/70 °C		
			In	put air tempe	erature = +15	°C	Input air temperature = +20 °C			
Туре	Fan mode	Air flow	Power	Output air temp.	Water flow	Pressure drop water	Power	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	I/s	kPa	kW	°C	I/s	kPa
ACR35-10-W	max	2300	22.3	43.3	0.28	61.5	20.4	46.4	0.25	52.0
ACK33-10-W	min	1100	12.0	51.0	0.15	9.0	11.0	53.0	0.14	6.0
ACR35-15-W	max	3400	33.4	43.7	0.41	15.2	30.5	46.6	0.38	12.9
ACK55-15-W	min	1550	18.0	52.0	0.22	6.0	16.0	54.0	0.20	5.0
ACR35-20-W	max	4800	47.3	43.8	0.58	36.1	43.2	46.7	0.53	30.5
ACN33-20-W	min	2200	25.0	52.0	0.31	14.0	23.0	54.0	0.28	12.0

					Input/ou	tput water t	emperatur	e 80/60 °C			
			In	Input air temperature = +15 °C				Input air temperature = +20 °C			
Туре	Fan mode	Air flow	Power	Output air temp.	Water flow	Pressure drop water	Power	Output air temp.	Water flow	Pressure drop water	
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa	
ACD25 10 W	max	2300	18.7	38.7	0.23	44.8	16.8	41.7	0.21	36.8	
ACR35-10-W	min	1100	10.0	45.0	0.13	7.0	9.0	47.0	0.11	4.0	
ACD25 15 W	max	3400	27.8	38.9	0.34	11.1	25.0	41.8	0.31	9.1	
ACR35-15-W	min	1550	15.0	46.0	0.18	5.0	13.0	48.0	0.16	4.0	
	max	4800	39.5	39.1	0.49	26.4	35.5	42.0	0.44	21.8	
ACR35-20-W	min	2200	21.0	46.0	0.26	11.0	19.0	48.0	0.23	9.0	

			Input/output water temperature 60/40 °C								
			In	put air tempe	erature = +15	°C	Input air temperature = +20 °C				
Туре	Fan mode	Air flow	Power	Output air temp.	Water flow	Pressure drop water	Power	Output air temp.	Water flow	Pressure drop water	
		m³/h	kW	°C	I/s	kPa	kW	°C	l/s	kPa	
ACR35-10-W	max	2300	11.4	29.5	0.14	18.9	9.5	32.3	0.12	13.6	
ACR33-10-W	min	1100	6.0	33.0	0.08	3.0	5.0	35.0	0.06	1.0	
ACR35-15-W	max	3400	16.6	29.2	0.20	4.6	13.7	32.0	0.17	3.2	
ACK35-15-W	min	1550	9.0	34.0	0.11	2.0	7.0	36.0	0.09	1.0	
ACR35-20-W	max	4800	23.9	29.6	0.29	11.2	20.0	32.4	0.24	8.1	
ACN33-2U-W	min	2200	13.0	34.0	0.16	5.0	11.0	36.0	0.13	4.0	

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#### AIR CURTAINS ACR35

				Input/output water temperature 60/30 ℃						
			In	put air temp	erature = +15	°C	Input air temperature = +20 °C			
Туре	Fan mode	Air flow	Power	Output air temp.	Water flow	Pressure drop water	Power	Output air temp.	Water flow	Pressure drop water
		m³/h	kW	°C	l/s	kPa	kW	°C	I/s	kPa
ACR35-10-W	max	2300	8.6	25.9	0.07	5.5	6.5	28.4	0.05	3.4
ACK35-10-W	min	1100	5.0	29.0	0.04	1.0	3.0	31.0	0.03	1.0
ACR35-15-W	max	3400	11.5	24.9	0.09	1.2	7.8	26.8	0.06	0.6
ACK35-15-W	min	1550	7.0	29.0	0.06	1.0	5.0	31.0	0.04	0.4
ACR35-20-W	max	4800	17.7	25.8	0.14	3.2	13.2	28.2	0.11	1.9
ACN33-2U-W	min	2200	10.0	30.0	0.08	2.0	8.0	32.0	0.06	1.0

				Input/output water temperature 55/35 °C							
		Input air temperature = +15 °C			Input air temperature = +20 °C						
Туре	Fan mode	Air flow	Power	Output air temp.	Water flow	Pressure drop water	Power	Output air temp.	Water flow	Pressure drop water	
		m³/h	kW	°C	l/s	kPa	kW	°C	l/s	kPa	
ACD25 10 W	max	2300	9.5	27.1	0.12	13.9	7.6	29.8	0.09	9.2	
ACR35-10-W	min	1100	5.0	30.0	0.06	2.0	4.0	32.0	0.05	1.0	
ACD25 15 W	max	3400	13.6	26.7	0.17	3.3	10.7	29.8	0.09	9.2	
ACR35-15-W	min	1550	7.0	31.0	0.09	2.0	6.0	33.0	0.07	1.0	
4.CD25.22.W	max	4800	19.9	27.1	0.24	8.2	15.9	29.8	0.19	5.5	
ACR35-20-W	min	2200	11.0	31.0	0.13	4.0	9.0	33.0	0.11	3.0	

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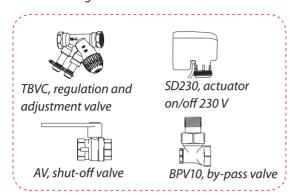
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### Choosing a valve kit

Select VLSP or VOT, then the size that fits the flow range that the unit should operate at.

### VLSP, two-way valve

The valve kit is available in four variants and consists of the following:



Valve kit Order no.	Voltage V	TBVC. AV Connection	TBVC Kv	Rec. max. flow <sup>2)</sup> I/s
VLSP15LF <sup>1)</sup>	230V	DN15 (1/2")	0.90	0.079
VLSP15NF	230V	DN15 (1/2")	1.8	0.158
VLSP20	230V	DN20 (3/4")	3.4	0.299
VLSP25	230V	DN25 (1")	7.2	0.630

<sup>1)</sup> Low flow

#### TBVC, control and adjustment valve

Using the control and adjustment valve, the flow can be finetuned manually or turned off completely. TBVC has self-sealing measuring taps, enabling simple and fast measurements.

#### SD230, actuator

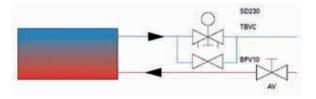
The actuator regulates the heat supply on/off. In the deenergized position, the SD230 valve opens TBVC.

#### AV, shut-off valve

The shut-off valve consists of a ball valve which is either open or closed and is used to turn off the flow, e.g., when servicing.

#### BPV10, by-pass valve

If the valve is closed, a low flow passes through the bypass valve to ensure there is always warm water in the water heater. This is to quickly provide heat, e.g., when a door is opened, and as a measure of frost protection. Connection DN10 (3/8").



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### VOT, three-way valve

The valve kit is available in three variants and consists of the following:



Valve kit Order no.	Voltage V	TBVC. AV Connection	TBVC Kv	Rec. max. flow <sup>2)</sup> I/s
VOT15	230V	DN15 (1/2")	1.7	0.149
VOT20	230V	DN20 (3/4")	2.5	0.220
VOT25	230V	DN25 (1")	4.5	0.395

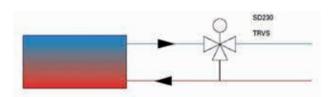
<sup>2)</sup> Max.flow at 10kPa pressure drop.

#### TRVS, three-way valve

The three-way valve regulates the flow of water through the air curtain on/off via actuator SD230. If one of the valve connections is blocked off at installation, it may be used as a two-way valve.

#### SD230, actuator

The actuator regulates the heat supply on/off.







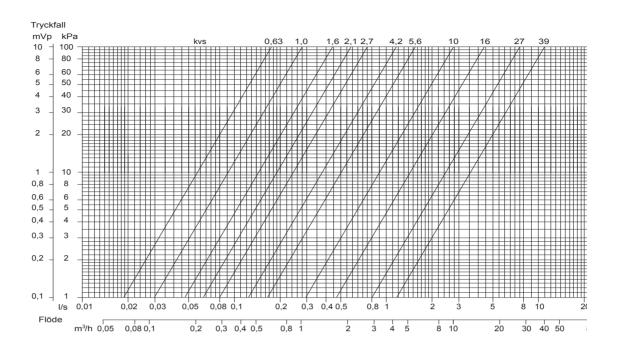
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<sup>2)</sup> Max.flow at 10kPa pressure drop.





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