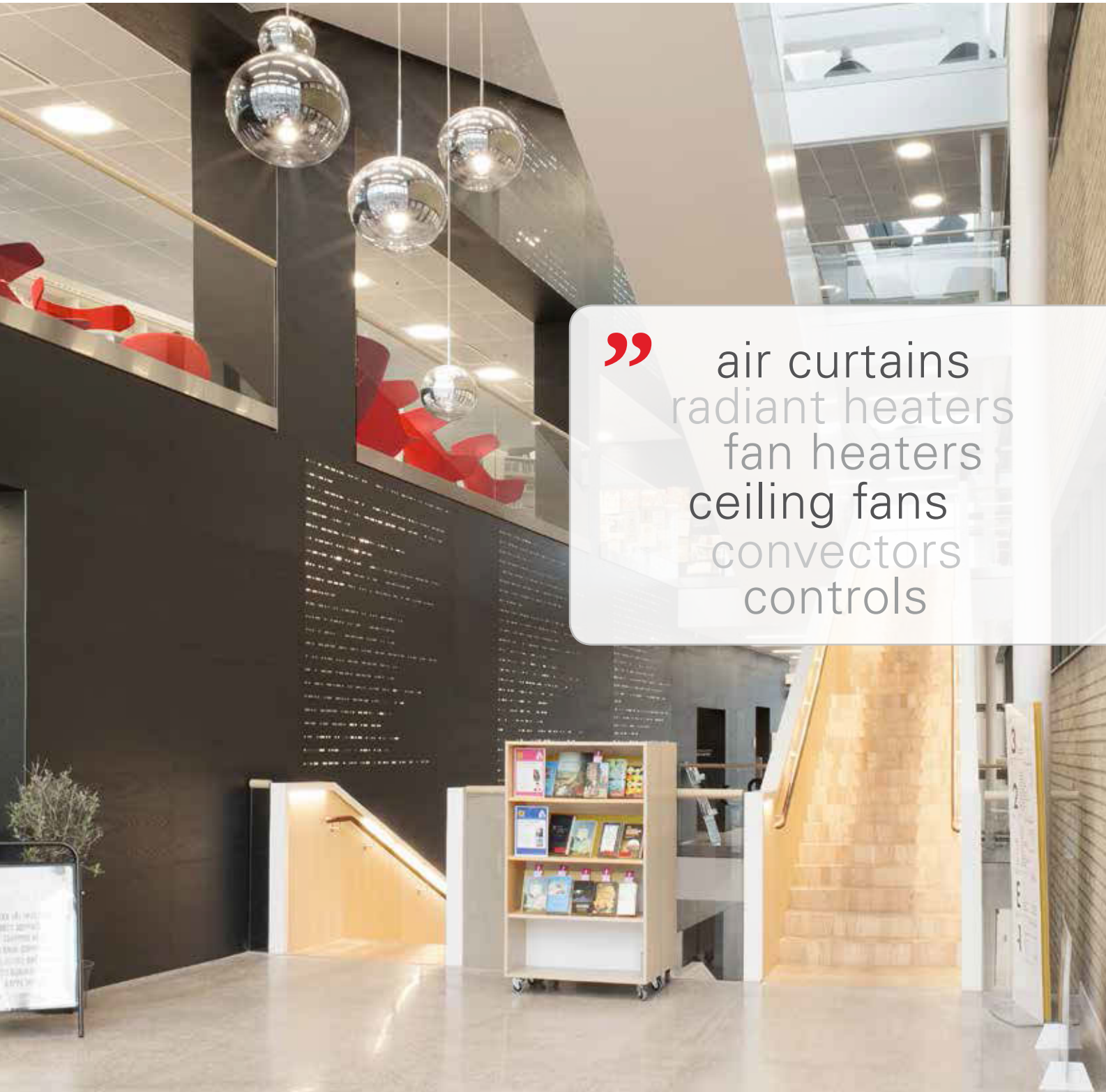
Catalogue


air curtains
radiant heaters
fan heaters
ceiling fans
convectors
controls

Here you will find a lot of information about our products gathered in one single catalogue. We have products for both electrical and water heating, and without heat, providing a comfortable and energy efficient indoor climate. Our radiant heaters for open air restaurants also provide comfort outdoors.

More information about us or our products can be found just a few clicks away - on our website. There we want to both inspire you and help you with useful tools to choose the right product, make heating calculations and obtain all the information you need for your projects!

Comfort and energy saving

The cover shows the library in Gothenburg, Sweden. Photo: Sanna Lundberg.

Frico's PA3500 air curtains are installed in the entrance and provide both comfort and energy savings in the library.

Good reasons to choose Frico

More than 80 years experience in developing products for the varied Nordic climate has provided us with a unique knowledge bank. This is our foundation when creating today's energy efficient solutions for a comfortable indoor climate.

Leading technology and design

Today Frico is the leading supplier of air curtains, radiant heaters and fan heaters in Europe, and the products are designed according to good Scandinavian tradition. As market leaders we run development and offer both electrical and water heated products and also air curtains without heat. For our air curtains the Thermozone Technology guarantee efficient separation with minimum use of energy and a low sound level.

Keeping our promises

Frico has access to one of Europe's most modern and advanced air and sound laboratories. It helps us to ensure that our products deliver what we promise. We regularly carry out tests and measurements during the development of new products, but also to improve existing products. The measurements are carried out according to the AMCA and ISO standards.

Frico Academy

Frico Academy is an important platform for networking and sharing inspiration and knowledge between us and our distributors around the world. Through the Frico Academy we share our knowledge on theory and technology, as well as product knowledge and experience in manufacturing and product development.

Frico saves energy

Thanks to our broad product range and our many years of experience, Frico is able to help you save energy. By offering total solutions, including both complete heating systems and products for additional heating, we can generate a comfortable indoor climate at a low energy cost. Our regulation systems for different levels ensure that you never use more energy than is required. Through our parent company, Systemair, we also possess knowledge about ventilation and can provide appropriate solutions.

Climate-smart

At Frico, we are proud to be able to offer energy-efficient products for a better indoor climate. In our product development work, the focus is on achieving the greatest possible function with the least possible energy consumption – without compromising on our core values of trust, competence and design.

This means that our products not only manage the local climate in business complexes, industrial buildings, offices or summer cottages; with optimum energy efficiency, we ensure that our products are climate-smart.

Frico's headoffice is located outside Gothenburg in Sweden and we are a part of the Systemair Group. Today Frico is represented in 70 countries world wide either by subsidiaries or distributors.

We manufacture at production units in Skinnskatteberg, Sweden and at other ISO-certified production units in Europe. Our warehouses are strategically placed in several places in Europe.








Energy efficient products for a comfortable indoor climate

Air curtains

It makes sound economic sense to create an efficient and invisible door that keeps the heat inside. Air curtains can be even more effective when used in air conditioned or cold storage buildings.

Thermozone technology with its precisely adjusted air velocity gives even protection throughout the opening. Frico air curtains provide the most efficient separation with the lowest possible energy consumption, regardless of whether it is the heat or the cold that you want to keep inside.

Radiant heaters

Frico radiant heaters imitate the sun, the most comfortable and efficient heat source available. The heat is emitted only when the rays hit a surface and the room temperature can thus be lowered while occupants experience a comfortable environment. This makes radiant heaters well suited not only for total heating but also for zone and spot heating, for example to avoid cold draughts from windows.

Radiant heaters are easy to install and require minimum maintenance. They heat directly when switched on and give no air movement.

Fan heaters

We are proud of the worldwide fame Frico fan heaters have gained. They are reliable and are designed for long life. Our range covers all needs. The investment cost is low compared to other heating systems.

A great advantage of fan heaters is the option of combining heating and ventilation. Frico fan heaters are compact, silent and light weight. They are available for electrical heating as well as for water heating.

Convectors

Convection is the term for the rotating air movement where the air is affected by a heat source. The air is heated - rises upwards - cools and comes back to then be reheated. This gives good comfort through good heat distribution and the warm air flow directed upwards can be used to counteract cold drafts from large glass surfaces.

Ceiling fans

Ceiling fans force over-heated air from the ceiling down to the occupation zone in premises with high ceilings so that the heat is maximally exploited. The ceiling fans can also be run in reverse, so that cold air can circulate through the room giving it a cooler feel.

Thermostats and controls

The key to energy efficient heating and good comfort is the combination of heating products and good controls. Frico offers a wide range of thermostats and controls, read more under each product or in the Frico Catalogues.

Frico's Thermozone technology optimizes the air curtain

THERMOZONE® TECHNOLOGY

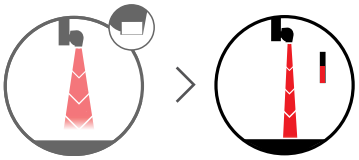
Frico air curtains create an invisible barrier at openings and doors which separates different temperature zones without limiting access for people and vehicles. With Thermozone Technology an efficient air separation is created in combination with a low sound level, giving comfortable climate and large energy savings. Frico air curtains are appreciated worldwide for their quality and operating efficiency, and are currently used in over 70 countries.

Energy savings and good indoor climate

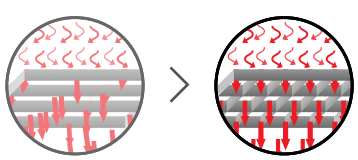
In many premises, for example shops, department stores, industrial premises and goods terminals, doors remain open for a large part of the day. This means discomfort for customers and staff at the same time as there are significant losses of expensively heated or cooled air, especially when the temperature difference between outdoor and indoor air is great. Frico air curtains give a comfortable indoor climate, free from drafts, and the losses of heated or cooled air are significantly reduced with correctly installed air curtains. The air curtain also keeps out insects and emissions.

Optimized air curtains

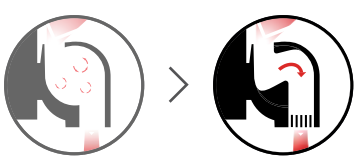
Air curtains with Thermozone technology have optimized performance and minimized sound levels. Thermozone technology creates a highly uniform air barrier with a perfect balance between air volume and air velocity. This gives optimal curtain effect for doors and entrances. This balance does not just make the air curtain more effective but also has other advantages. The indoor climate is more comfortable if the sound level and the turbulence are reduced and the energy costs are lower.



Thermozone technology creates the most efficient air barrier.



Frico's outlet grilles generate an even airflow that creates an efficient air barrier.



By reducing the turbulence inside the air curtain, the sound level is reduced.

Intelligent regulation

Most of our air curtains are prepared for the SIRe control system, which automatically manages the air curtain operations. The air curtain adapts itself to the present conditions in the entry. By sensing how often the door is opened and closed and measuring the outdoor temperature, the indoor temperature or even the return water temperature, the air curtain can give efficient protection with minimal energy consumption. With SIRe control the air curtain always has optimal operation. You do not even need to remember to turn it on or off. It even adapts itself to the seasons, and with its weekly calendar, the air curtain operates automatically when it is needed.

Low sound level and high performance

Air curtains with Thermozone technology are developed and manufactured in Frico's facility in Skinnskatteberg. They are tested at one of the most modern and advanced air and sound laboratories in Europe which means that we can guarantee the data stated in our product information. Thanks to the sophisticated equipment and our long experience we can build air curtains with extremely low sound levels and very high air flow performance.

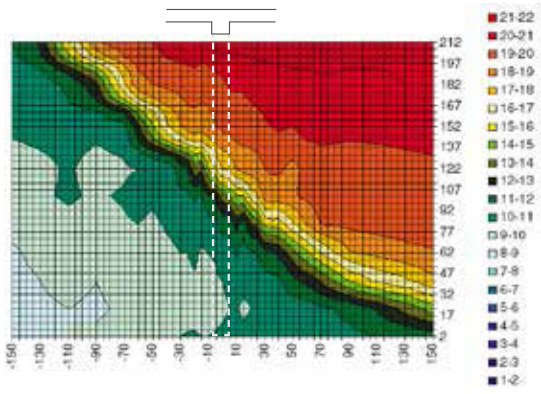
Design

Frico collaborates with leading architects and product designs in the product development. The air curtains blends in well in the environment and the designed for fit into both exclusive shop interiors as industrial environments. With recessed installation the air curtains become nearly invisible, only the outlet grille is visible.

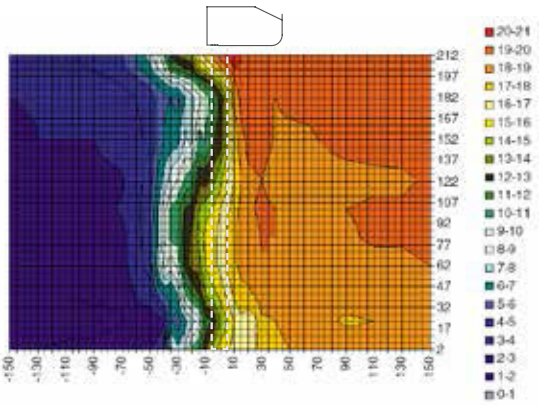
Air curtain experts

Frico knows air curtains. The company was founded in 1932 and we developed our first air curtains 40 years ago. We are happy to share our knowledge and experience and we are always available to help you choose the right product.

The invisible door



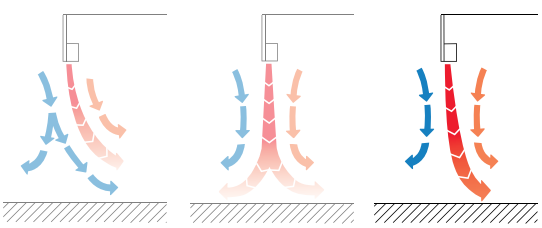
Air flows out of an unprotected opening.



With a correctly set air curtain there is a sharp separation between the different temperature zones.

If you choose an air curtain based purely on air volume you may get an air curtain that only gives good protection close to the outlet, where the impact on the door opening is less.

By setting requirements for the air velocity and uniformity of the air beam at floor level, you have an air curtain that covers the whole door opening.



Air velocity is too low

Air velocity is too high

Correct air velocity

Choose air curtain

For optimal air curtain effect, it is important to choose the right air curtain. We have air curtains for all openings from small kiosk hatches to large industrial doors. They blow from above, from the side or from below. Choose between electrical, water heated or unheated versions.

To get the most out of the product, the following hints are important to bear in mind.

- To ensure that the air flow reaches the floor at the optimal air speed, the installation height (not the height of the opening) determines the choice of air curtain.
- The air curtain units should cover the whole width (or height) of the opening. The air curtains can be obtained in different lengths. For wide (high) openings, several units are mounted beside (on top) of each other.
- The units should be positioned as close to the opening as possible.
- For optimal performance it is important that the pressure difference between outside and inside is not too big.

Our air curtains

Type	Recommended installation height	Heat			Mouting	Extra	Page
Entrances							
PA2200C	2,2 m	⚡	💧	✣	Horizontal	Remote control.	8
PA2500	2,5 m	⚡	💧	✣	Horizontal	SIRe control system.	13
Portier	2,5 m	⚡		✣	Horizontal	Brushed stainless steel.	16
AR200	2,5 m	⚡	💧	✣	Horizontal	Recessed mounting.	18
ADA	2,5 m			✣	Horizontal	Cable and plug.	33
Commercial							
Corinte	3 m	⚡	💧	✣	Horizontal/Vertical	SIRe control system. Polished, mirror polished or brushed stainless steel.	22
PA3200C	3,2 m	⚡	💧	✣	Horizontal	Remote control.	10
AR3500	3,5 m	⚡	💧	✣	Horizontal	Recessed mounting. SIRe control system.	20
PA3500	3,5 m	⚡	💧	✣	Horizontal/Vertical	SIRe control system.	26
PA4200	4,2 m	⚡	💧	✣	Horizontal/Vertical	SIRe control system.	28
Industry							
AGS5500	5,5 m		💧	✣	Horizontal	SIRe control system. Vertical unit is available as special order.	40
AGI	Large doorways		💧	✣	Horizontal/Vertical		42
UF600	Large doorways			✣	Vertical	Air barrier blown from below.	44
Specific use							
ADA Cool	Cold storage			✣	Horizontal	Special terminales for easy connection of several units. Cable and plug.	34
RDS	Revolving doors	⚡	💧		Horizontal	For revolving doors. SIRe control system.	36
SFS	Revolving doors	⚡	💧		Vertical	For revolving doors. SIRe control system.	38
PA1508	Small openings	⚡			Horizontal	Cable and plug.	46
PA1006	Door heater	⚡			Horizontal	Cable and plug.	47

✣ Ambient, no heat
⚡ Electrical heat
💧 Water heat

Quick selection guide Frico air curtains

Horizontal mounting

The air curtains are mounted horizontally above the opening, creating a vertical air barrier.

Surface mounting

These air curtains can be mounted on a wall or in the ceiling using threaded bars or cables.

Classic

Many of our models are classic designs that blend in well in most interiors.

Installation height	Air curtain	Page
2,2 m	PA2200C	8
2,5 m	PA2500	13
2,5 m	ADA	33
3,2 m	PA3200C	10
3,5 m	PA3500	20
4,2 m	PA4200	28

Design

Our stainless steel air curtains are design elements well suitable for prestigious environments.

2,5 m	Portier	16
3 m	Corinte	22

Industry

These robust and powerful units are specifically designed for large doorways.

4,2 m	PA4200	28
5,5 m	AGS5500	40
Large doorways	AGI	42

Recessed mounting

These air curtains are installed recessed into suspended ceilings.

2,5 m	AR200	18
3,5 m	AR3500	20

Vertical mounting

The air curtains are mounted vertically next to the opening, creating a horizontal air barrier. Two air curtains are installed, one on each side of the opening.

Classic

Installation width*	Air curtain	Page
5 m	PA3500	26
6 m	PA4200	28

Design

5 m	Corinte	22

Industry

6 m	PA4200	28
Large doorways	AGI	42
12 m	UF600	44

*) Two units, one on each side of the opening.

Air curtains for speicific use

These air curtains are designed for a specific application area such as revolving doors, service hatches or cold storage.

Application	Air curtain	Page
Cold storage	ADA Cool	34
Revolving doors	RDS	36
	SFS	38
Service hatches	PA1508	46
Door heater	PA1006	47

PA2200C

Stylish air curtain for entrances, with remote and integrated control

Recommended installation height 2,2 m

PA2200C is a compact air curtain, suitable for most small entrances. The air curtain has an integrated control system and can also be remote controlled which makes it very easy to install and use.

- Remote control and integrated regulation.
- 3 fan steps and 2 electrical heating steps.
- Units with 3 kW are equipped with 1,5 m cable and plug.
- Wall brackets included.
- The front is easy to remove, which facilitates installation and allows easy maintenance.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Plastic ends. Colour front: white, RAL 9016, NCS S 0500-N. Colour grille, rear section, ends and brackets: grey, RAL 7046.

Optimized airflow with Thermozone technology.

Ambient, no heat - PA2200C A

IP21

Type	Output [kW]	Airflow*1 [m³/h]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA2210CA	0	900/1200	42/51	230V~	0,45	1050	16
PA2215CA	0	1150/1800	40/52	230V~	0,5	1560	24
PA2220CA	0	1800/2400	43/53	230V~	0,9	2050	32

Electrical heat - PA2200C E

IP20

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
PA2210CE03	2/3	900/1200	10/7,5	42/51	230V~	0,45	230V~/13	1050	17
PA2210CE05	3,3/5	900/1200	17/12,5	42/51	230V~	0,45	400V3~/7,2	1050	17
PA2210CE08	5/8	900/1200	27/20	42/51	230V~	0,45	400V3~/11,5	1050	18
PA2215CE08	4/8	1150/1800	21/13	40/52	230V~	0,5	400V3~/11,5	1560	26
PA2215CE12	8/12	1150/1800	31/20	40/52	230V~	0,5	400V3~/17,3	1560	28
PA2220CE10	5/10	1800/2400	17/12,5	43/53	230V~	0,9	400V3~/14,4	2050	34
PA2220CE16	8/16	1800/2400	27/20	43/53	230V~	0,9	400V3~/23,1	2050	36

Water heat - PA2200C W

IP21

Type	Output*4 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA2210CW	7	700/1200	21/17	0,38	39/52	230V~	0,4	1050	17
PA2215CW	11	1000/1750	23/18	0,81	37/53	230V~	0,5	1560	26
PA2220CW	14	1400/2400	22/18	0,74	40/53	230V~	0,8	2050	35

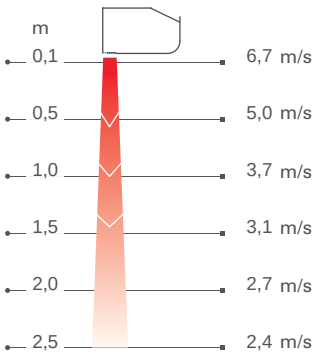
*1) Lowest/highest airflow of totally 3 fan steps.

*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

*4) Applicable at water temperature 80/60 °C, air temperature, in +18 °C.

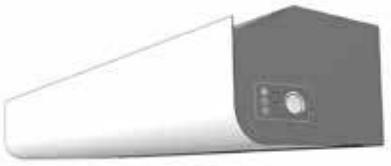
Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

Control

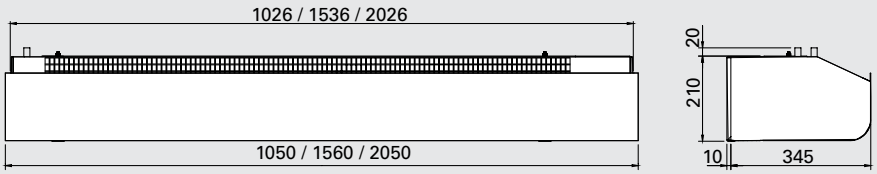
The control system is integrated in the air curtain. The air curtain has a control panel discretely integrated in the gable end and can be controlled by a separate remote control. The air speed is set manually. The heat is controlled automatically.

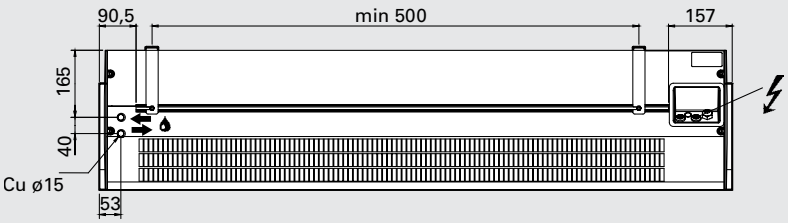


Door switch control PA2DR is available as an accessory for a door switch function. Possibility of using external on/off.

Dimensions

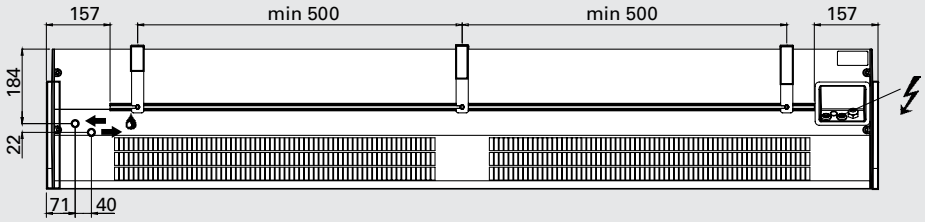
All models



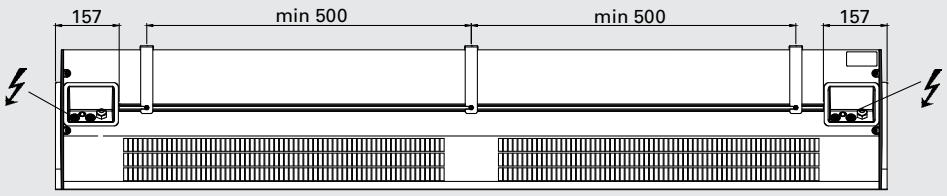


2 metre units

Unit without heating or with water heating



Unit with electrical heating



CE

Accessories PA2200C - see PA3200C.

PA3200C

Stylish air curtain for commercial premises, with remote and integrated control

Recommended installation height 3,2 m

PA3200C is a compact air curtain for commercial buildings and small industrial entrances. The air curtain has an integrated control system and can also be remote controlled which makes it very easy to install and use.

- Remote control and integrated regulation.
- 3 fan steps and 2 electrical heating steps.
- Wall brackets included.
- The front is easy to remove, which facilitates installation and allows easy maintenance.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Plastic ends. Colour front: white, RAL 9016, NCS S 0500-N. Colour grille, rear section, ends and brackets: grey, RAL 7046.

Optimized airflow with Thermozone technology.

Ambient, no heat - PA3200C A

IP21

Type	Output [kW]	Airflow*1 [m³/h]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA3210CA	0	1100/1750	46/57	230V~	0,7	1068	22
PA3215CA	0	1700/2750	46/59	230V~	1,0	1578	32
PA3220CA	0	2300/3500	50/60	230V~	1,3	2068	42

Electrical heat - PA3200C E

IP20

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
PA3210CE08	5/8	1100/1750	22/13	46/57	230V~	0,65	400V3~/11,5	1068	26
PA3215CE12	8/12	1700/2750	21/13	46/59	230V~	1,0	400V3~/17,3	1578	37
PA3220CE16	10/16	2300/3500	22/13	50/60	230V~	1,3	400V3~/23,1	2068	51

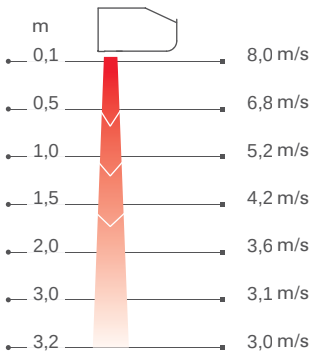
Water heat - PA3200C W

IP21

Type	Output*4 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA3210CW	8	1050/1700	16/14	1,3	45/55	230V~	0,65	1068	26
PA3215CW	14	1850/2700	17/15	2,1	46/57	230V~	0,7	1578	36
PA3220CW	18	2200/3300	18/16	2,7	49/58	230V~	1,3	2068	48

*1) Lowest/highest airflow of totally 3 fan steps.
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*4) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

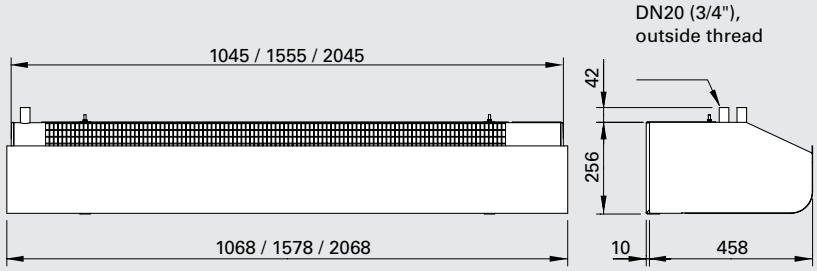
Control

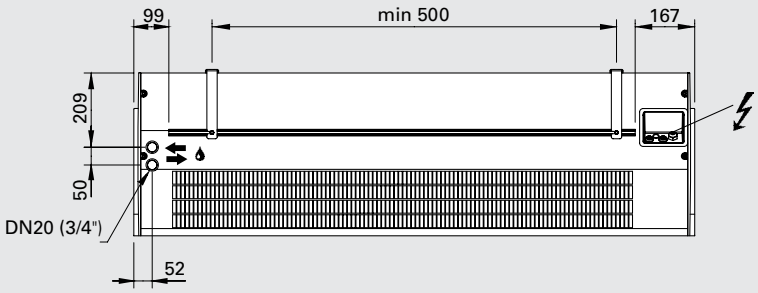
The control system is integrated in the air curtain. The air curtain has a control panel discretely integrated in the gable end and can be controlled by a separate remote control. The air speed is set manually. The heat is controlled automatically.

Door switch control PA2DR is available as an accessory for a door switch function. Possibility of using external on/off.

Dimensions

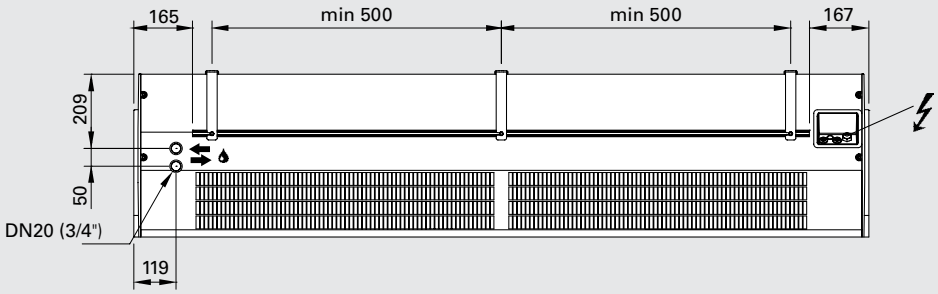
All models



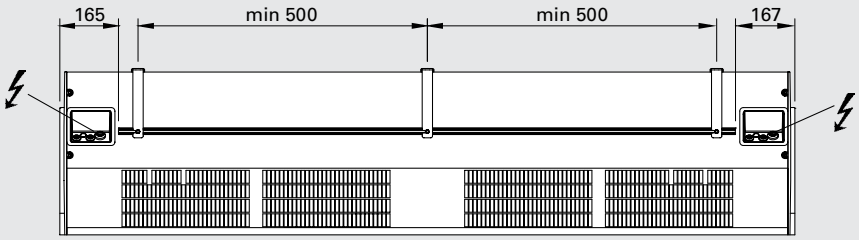


2 metre units

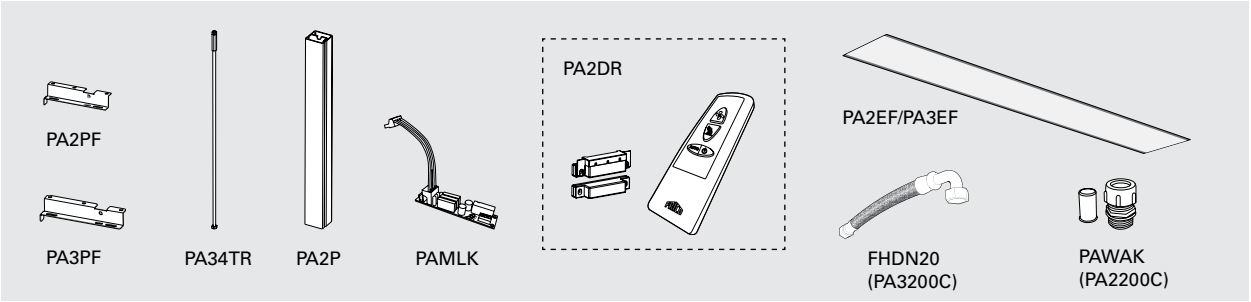
Unit without heating or with water heating



Unit with electrical heating



Controls and accessories PA2200C - PA3200C



PA2PF/PA3PF, ceiling mounting brackets
Mountings for installing the unit in the ceiling using hanging brackets or threaded bars (not included).

PA34TR, threaded bars
Threaded bars for installing unit on to a ceiling. Length 1 m. Used together with ceiling mounting brackets PA2PF/PA3PF.

PA2P, hanging brackets
Hanging brackets for installing the unit suspended from the ceiling. Length 1 m. The hanging brackets are covered by a white plastic trim to cover the cables. The brackets may be cut to shorter length, if required. Used together with ceiling mounting brackets PA2PF/PA3PF.

PAMLK, motor alarm board
Accessory allows connection for a motor alarm signal in units where this facility is not already available. PAMLK plugs between motor wiring harness and main PC board. For units with SIRe control (PA2500 series) connection enables use of the provided motor protection terminals. For units without SIRe (PA2200/3200C), use potential free contact on PAMLK board.

PA2DR, door switch control
Contains a door switch for door indication and a special remote control intended to activate auto mode in the unit.

Unit with water heating

PA2EF/PA3EF, external intake filter
Fine mesh filter that prevents ingress of dirt and deposits to water heated units. The filter is easy to attach and remove thanks to the integrated magnetic strips. Makes maintenance easier since the unit does not need to be opened.

PAWAK, water connection kit
Kit with pipe connections with compression fitting on one end and outside thread (1/2” DN15) on the other to facilitate the connection of the plain copper pipes at the water coil. (PA2200C).

FHDN20, flexible hoses
Flexible hoses for easy and practical installation of water heated unit. (PA3200C).

Valve kit VOT or VOS is used to control the water flow. For more information see the "Controls" section.

Type	Description	Quantity included	Length
PA2PF15	Ceiling mounting brackets for 1 and 1,5 metre units PA2200C	4	
PA2PF20	Ceiling mounting brackets for 2 metre units PA2200C	6	
PA3PF15	Ceiling mounting brackets for 1 and 1,5 metre units PA3200C	4	
PA3PF20	Ceiling mounting brackets for 2 metre units PA3200C	6	
PA34TR15	Threaded bars for 1 and 1,5 metre units	4	1 m
PA34TR20	Threaded bars for 2 metre units	6	1 m
PA2P15	Hanging brackets for 1 and 1,5 metre units	2	1 m
PA2P20	Hanging brackets for 2 metre units	3	1 m
PAMLK	Motor alarm board	1	
PA2DR	Door switch control		
PA2EF10	External intake filter for 1 metre water heated units PA2200C	1	
PA2EF15	External intake filter for 1,5 metre water heated units PA2200C	1	
PA2EF20	External intake filter for 2 metre water heated units PA2200C	1	
PA3EF10	External intake filter for 1 metre water heated units PA3200C	1	
PA3EF15	External intake filter for 1,5 metre water heated units PA3200C	1	
PA3EF20	External intake filter for 2 metre water heated units PA3200C	1	
PAWAK	Water connection kit PA2200C		
FHDN20	Flexible hoses DN20, inside thread, 90° bend PA3200C	2	

PA2500

Stylish air curtain for entrances, with intelligent control

Recommended installation height 2,5 m

The PA2500 creates a temperature dividing air barrier that effectively prevents cold drafts and gives excellent heating comfort in door ways, such as shops, offices and public offices.

- 3 fan steps and 3 electrical heating steps, which give more even comfort and extra energy savings.
- Wall brackets included.
- The front is easy to remove, which facilitates installation and allows easy maintenance.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Plastic ends. Colour front: white, RAL 9016, NCS S 0500-N. Colour grille, rear section, ends and brackets: grey, RAL 7046.

Optimized airflow with Thermozone technology.

Ambient, no heat - PA2500 A

IP21

Type	Output [kW]	Airflow*1 [m³/h]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA2510A	0	900/1300	43/53	230V~	0,5	1050	16
PA2515A	0	1250/2100	44/54	230V~	0,7	1560	23,5
PA2520A	0	1800/2600	44/55	230V~	1,0	2050	32

Electrical heat - PA2500 E

IP20

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
PA2510E05	1,7/3,3/5	900/1450	17/10,5	42/51	230V~	0,5	400V3~/7,2	1050	19
PA2510E08	3/5/8	900/1450	27/16,5	42/51	230V~	0,5	400V3~/11,5	1050	20
PA2515E08	2,7/5,4/8	1400/2200	17,5/11	40/52	230V~	0,7	400V3~/11,5	1560	30
PA2515E12	3,9/8/12	1400/2200	26/16,5	40/52	230V~	0,7	400V3~/17,3	1560	32
PA2520E10	3,4/6,7/10	1800/2900	17/10,5	43/53	230V~	1,0	400V3~/14,4	2050	36
PA2520E16	6/10/16	1800/2900	27/16,5	43/53	230V~	1,0	400V3~/23,1	2050	40

Water heat - PA2500 W

IP21

Type	Output*4 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA2510W	4,7	900/1300	12/11	0,71	42/53	230V~	0,45	1050	17,5
PA2515W	9,2	1250/2100	16/13	1,09	41/54	230V~	0,6	1560	26
PA2520W	11	1800/2600	15/13	1,42	43/55	230V~	0,9	2050	35

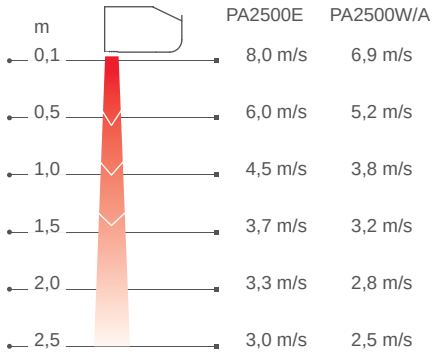
*1) Lowest/highest airflow of totally 3 fan steps.

*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

*4) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.

Air velocity profile



Measurements according to ISO 27327-1. Average values for products in the series.

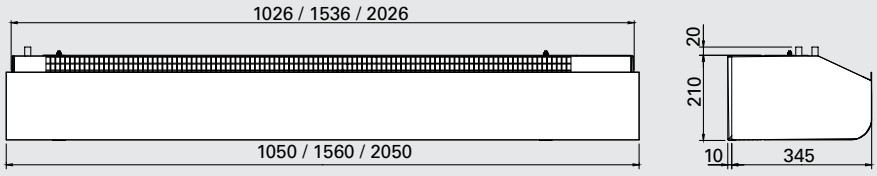
Control

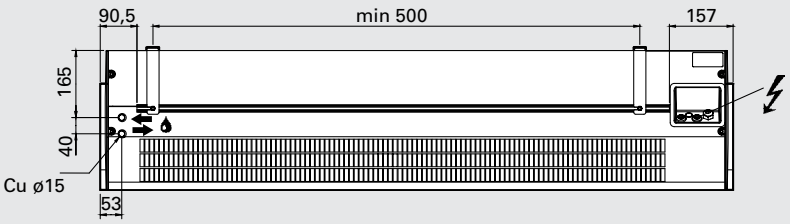
SIRe Basic SIRe Competent SIRe Advanced

This air curtain is supplied prepared for the SIRe control system that has many smart and energy saving functions. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For further information and options, see the "Controls" section.

Dimensions

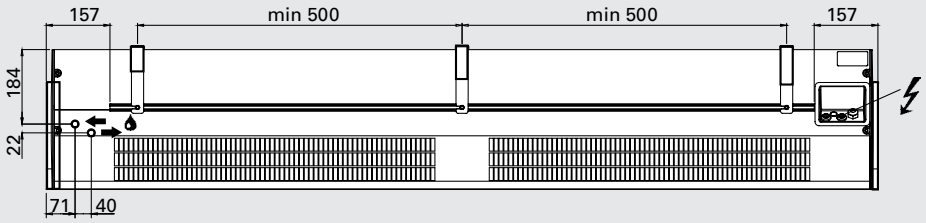
All models



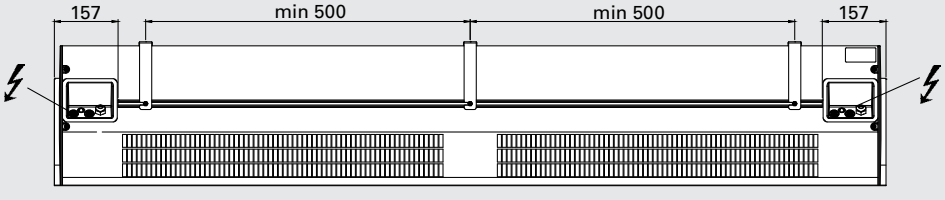


2 metre units

Unit without heating or with water heating



Unit with electrical heating



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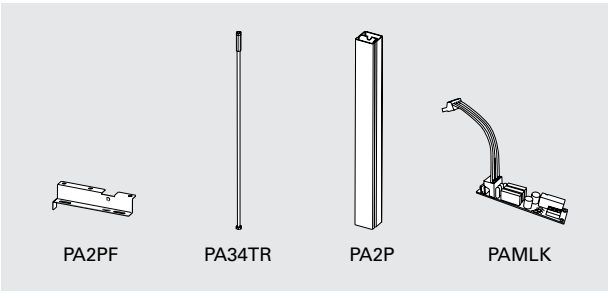
Accessories



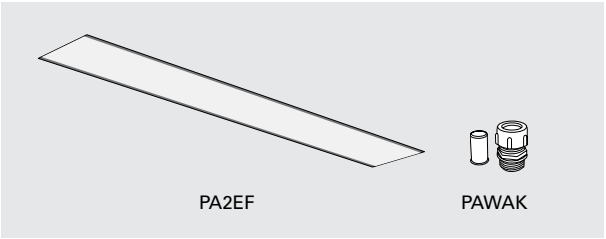
PA2PF, ceiling mounting brackets
Mountings for installing the unit in the ceiling using hanging brackets or threaded bars (not included).

PA34TR, threaded bars
Threaded bars for installing unit on to a ceiling. Length 1 m. Used together with ceiling mounting brackets PA2PF/PA3PF.

PA2P, hanging brackets
Hanging brackets for installing the unit suspended from the ceiling. Length 1 m. The hanging brackets are covered by a white plastic trim to cover the cables. The brackets may be cut to shorter length, if required. Used together with ceiling mounting brackets PA2PF/PA3PF.

PAMLK, motor alarm board
Accessory allows connection for a motor alarm signal in units where this facility is not already available. PAMLK plugs between motor wiring harness and main PC board. For units with SIRe control (PA2500 series) connection enables use of the provided motor protection terminals. For units without SIRe (PA2200/3200C), use potential free contact on PAMLK board.

Unit with water heating



PA2EF, external intake filter
Fine mesh filter that prevents ingress of dirt and deposits to water heated units. The filter is easy to attach and remove thanks to the integrated magnetic strips. Makes maintenance easier since the unit does not need to be opened.

PAWAK, water connection kit
Kit with pipe connections with compression fitting on one end and outside thread (1/2" DN15) on the other to facilitate the connection of the plain copper pipes at the water coil.

Type	Description	Quantity included	Length
PA2PF15	Ceiling mounting brackets for 1 and 1,5 metre units	4	
PA2PF20	Ceiling mounting brackets for 2 metre units	6	
PA34TR15	Threaded bars for 1 and 1,5 metre units	4	1 m
PA34TR20	Threaded bars for 2 metre units	6	1 m
PA2P15	Hanging brackets for 1 and 1,5 metre units	2	1 m
PA2P20	Hanging brackets for 2 metre units	3	1 m
PAMLK	Motor alarm board	1	
PA2EF10	External intake filter for 1 metre water heated units	1	
PA2EF15	External intake filter for 1,5 metre water heated units	1	
PA2EF20	External intake filter for 2 metre water heated units	1	
PAWAK	Water connection kit		

Portier

Design air curtain for entrances

Recommended installation height 2,5 m

Portier is an exclusive air curtain in brushed stainless steel intended for entrance doors in e.g. shops, banks, hotels and restaurants. The elegant design of the air curtain makes it particularly suitable for environments where demands are made on a high standard of design.

- Low sound level.
- Adjustable outlet grille makes it possible to direct the air for optimum air curtain effect.
- Simple suspension using fixing nuts on the upper side for installation with wall brackets, suspension kit or wire/ threaded rod.
- Housing in brushed stainless steel. Colour outlet grille and ends: black, RAL 9005.

Optimized airflow with Thermozone technology.

Ambient, no heat - Portier A

IP21

Type	Output [kW]	Airflow [m³/h]	Sound level [dB(A)]*¹	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
PS210A	0	1300	54	230V~	0,45	1020	14
PS215A	0	2000	56	230V~	0,55	1530	20

Electrical heat - Portier E

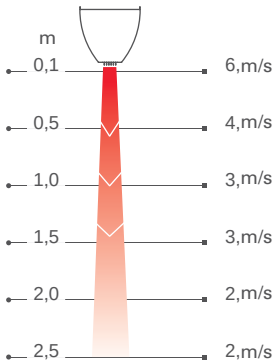
IP21

Type	Output steps [kW]	Airflow [m³/h]	Δt*² [°C]	Sound level [dB(A)]*¹	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
PS210E03	1,5/3	1200	8	50	230V~/400V3N~*³	13,4/4,8	1020	17
PS210E06	3/6	1200	15	50	400V3N~*³	9,2	1020	17
PS210E09	4,5/9	1200	23	50	400V3N~*³	13,5	1020	17
PS215E09	4,5/9	1900	14	50	400V3N~*³	13,5	1530	24
PS215E14	6,7/13,5	1900	21	50	400V3~ + 230V~	20,0	1530	24

*¹) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².
*²) Δt = temperature rise of passing air at maximum heat output and highest airflow.
*³) Alternative 400 V3~ + 230 V~ (operating supply) if the current is greater than 16 A. Applies when connecting several units.

Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

Control

Unit without heating

Level 1
- CB20, control box, 2 fan steps.

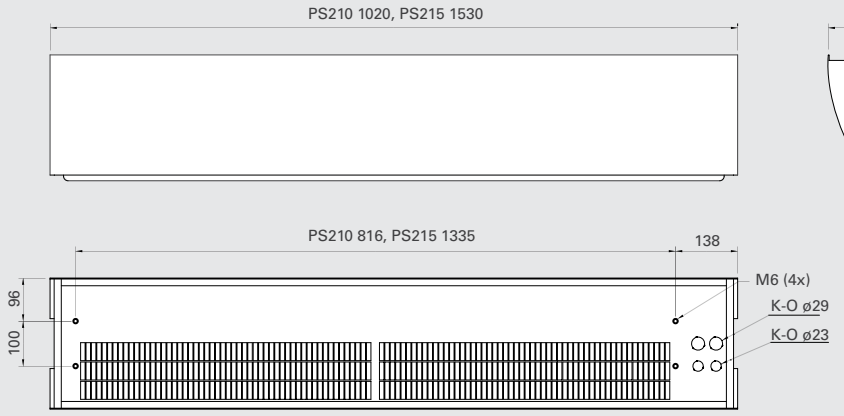
Level 2
- CB20, control box, 2 fan steps.
- MDC, magnetic door contact with a time relay.

Unit with electrical heating

Level 1
- CB22, control box, 2 fan steps and 2 heating steps.
- RTI2, electronic 2-step thermostat.

Level 2
- CB22, control box, 2 fan steps and 2 heating steps.
- RTI2, electronic 2-step thermostat.
- MDC, magnetic door contact with a time relay.

Dimensions



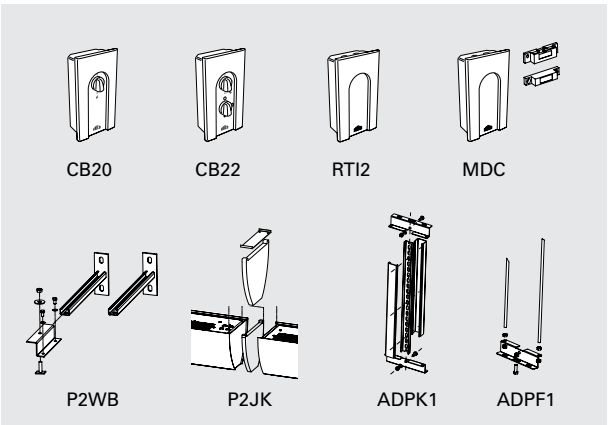
Accessories

P2WB, wall mounting kit
Used for installing unit horizontally on a wall. Consists of wall brackets and mounting parts.

P2JK, joining kit
Used to join horizontal units together for a sleek and unified installation. Consists of joint bracket and mounting parts.

ADPK1, suspension kit
The hanging brackets are covered by a white plastic trim to cover the cables. The brackets may be cut to shorter length, if required.

ADPF1, suspension brackets
Ceiling brackets for installing the unit from the ceiling using wires or threaded bars (not included). Consists of 4 brackets, 2 for the unit and 2 for the ceiling.



Type	Description
CB20	Control box Portier A, IP44
CB22	Control box Portier E, IP44
RTI2	Electronic 2-step thermostat, IP44
MDC	MDC, magnetic door contact with time relay, IP44
P2WB	Wall mounting kit (2 pcs)
P2JK	Joining kit (1 pc)
ADPK1	Suspension kit (2 pcs)
ADPF1	Suspension brackets (4 pcs)

AR200

Recessed air curtain for smaller entrances

Recommended installation height 2,5 m

AR200 is a compact air curtain, suitable for most small entrances. A low height makes it possible to install AR200 where ceiling space is limited. The recessed installation and low sound level makes AR200 very discreet.

- Just one model per length, but electrical units are convertible between several outputs and 230V~/400V3N~ making it simple and flexible to adapt the output to current need.
- Low unit height (200 mm).
- Bottom plate in white lacquered aluminium. Colour: RAL 9016, NCS S 0500-N. The bottom plate can easily be removed and painted in an optional colour. Non visible parts made of hot zinc plated steel panels.

Ambient, no heat - AR200 A

IP20

Type	Output [kW]	Airflow*1 [m³/h]	Sound level*2 [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
AR210A	0	650/1200	34/50	230V~	0,5	1042	18
AR215A	0	950/1750	34/50	230V~	0,6	1552	25
AR220A	0	1300/2400	40/54	230V~	1,0	2042	36

Electrical heat - AR200 E

IP20

Type	Output steps 400V3N~ [kW]	Output steps 230V~ [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Voltage [V]	Amperage 400V3N~ [A]	Amperage 230V~ [A]	Length [mm]	Weight [kg]
AR210E09	3	-	650/1200	13/7	34/50	400V3N~	4,3	-	1042	23
	6/9	-	650/1200	41/22	34/50	400V3N~	13	-	1042	23
	-	3	650/1200	13/7	34/50	230V~	-	13	1042	23
	-	3/5	650/1200	23/12	34/50	230V~	-	22	1042	23
AR215E11	4,5	-	950/1750	14/8	34/50	400V3N~	6,5	-	1552	32
	6,8/11,3	-	950/1750	35/20	34/50	400V3N~	16	-	1552	32
	-	4,5	950/1750	14/8	34/50	230V~	-	20	1552	32
	-	4,5/6,8	950/1750	21/12	34/50	230V~	-	30	1552	32
AR220E18	6	-	1300/2400	13/7	40/54	400V3N~	8,7	-	2042	44
	12/18	-	1300/2400	41/22	40/54	400V3N~	26	-	2042	44
	-	6	1300/2400	13/7	40/54	230V~	-	26	2042	44
	-	6/10	1300/2400	23/12	40/54	230V~	-	43	2042	44

Water heat - AR200 W

IP20

Type	Output*4 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
AR210W	6,6	700/1000	24/21	0,5	41/49	230V~	0,4	1042	21
AR215W	10	1000/1600	24/20	0,9	37/50	230V~	0,6	1552	39
AR220W	13	1400/2000	23/20	1,1	44/53	230V~	1,0	2042	42

*1) Lowest/highest airflow of totally 3 fan steps.

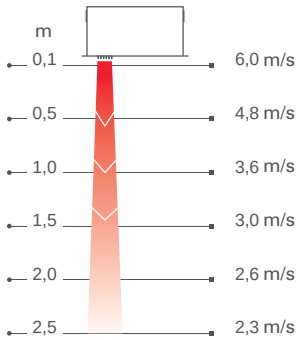
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

*4) Applicable at water temperature 80/60 °C, air temperature, in +18 °C.

Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

Control

Unit without heating
Level 1
- CB30N, control box, 3 fan steps.

Unit with water heating
Level 1
- CB30N, control box, 3 fan steps.
- T10S, room thermostat IP30.

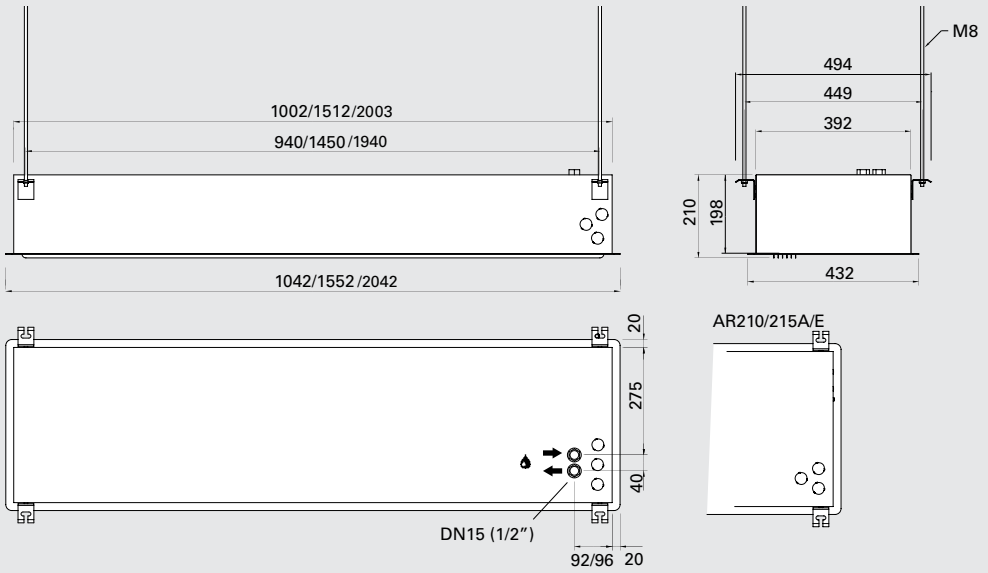
Level 2
- CB30N, control box, 3 fan steps.
- RTI2, electronic 2-step thermostat.
- MDC, magnetic door contact with a time relay.

Unit with electrical heating
Level 1
- CB32N, control box, 3 fan steps and 2 heating steps.
- RTI2, electronic 2-step thermostat.

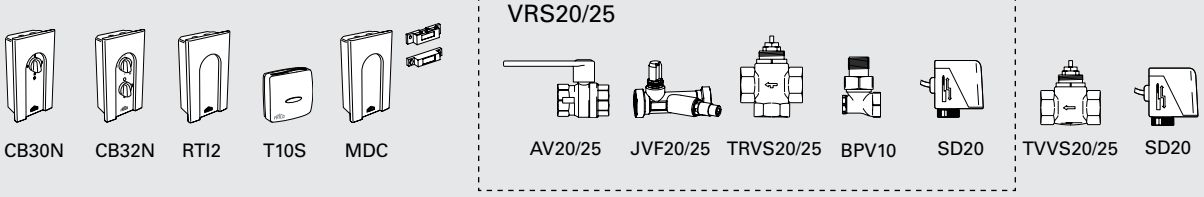
Level 2
- CB32N, control box, 3 fan steps and 2 heating steps.
- RTI2, electronic 2-step thermostat.
- MDC, magnetic door contact with a time relay.

Valve kit VRS20/25 (option: valve TVVS20/25 with actuator SD20) is used to control the water flow.

Dimensions



Controls



Type	Description	HxWxD [mm]
CK01E	Control kit Electric level 1 (CB32N, RTI2)	
CK02E	Control kit Electric level 2 (CB32N, RTI2, MDC)	
CK01W	Control kit Water level 1 (CB30N, T10)	
CK02W	Control kit Water level 2 (CB30N, RTI2, MDC)	
CB30N	Control box AR200A/W, IP44	155x87x43
CB32N	Control box AR200E, IP44	155x87x43
T10S	Electronic thermostat, IP30	80x80x31
RTI2	Electronic 2-step room thermostat, IP44	155x87x43
MDC	Magnetic door contact with time relay, IP44	155x87x43
MDCDC	Magnetic door contact	

Type	Description
VRS20	Valve set DN20
VRS25	Valve set DN25
TVVS20	2-way control valve, DN20
TVVS25	2-way control valve, DN25
SD20	Actuator 230V~

AR3500

Recessed air curtain for commercial premises, with intelligent control

Recommended installation height 3,5 m

With its concealed placement, AR3500 is very unobtrusive and with that particularly suitable for environments where the design is important.

- Possibility to integrate the air curtain with a BMS system.
- Protection class, recessed mounting above suspended ceilings: IP44, hanging on rods without suspended ceiling: IP20.
- Approved by SEMKO.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour frame and hatch: white, RAL 9016, NCS S 0500-N. Colour grille: grey, RAL 7046. The frame and hatch can be painted in an optional colour.

Optimized airflow with Thermozone technology.

Ambient, no heat - AR3500 A

IP44/IP20

Type	Output [kW]	Airflow*1 [m³/h]	Sound level*2 [dB(A)]	Voltage Amperage (control)	Length [mm]	Weight [kg]
AR3510A	0	1000/2100	39/58	230 V~/2,1 A	1057	38
AR3515A	0	1400/2900	40/59	230 V~/2,9 A	1567	51
AR3520A	0	2000/4200	41/61	230 V~/4,3 A	2073	70

Electrical heat - AR3500 E

IP44/IP20

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Voltage Amperage (control)	Voltage Amperage (heat)	Length [mm]	Weight [kg]
AR3510E09	4,5/9	1000/2100	27/13	39/58	230 V~/2,1 A	400 V3~/13 A	1057	42
AR3515E14	7/13,5	1400/2900	29/14	40/59	230 V~/2,9 A	400 V3~/19,5 A	1567	58
AR3520E18	9/18	2000/4200	27/15	41/61	230 V~/4,3 A	400 V3~/26 A	2073	78

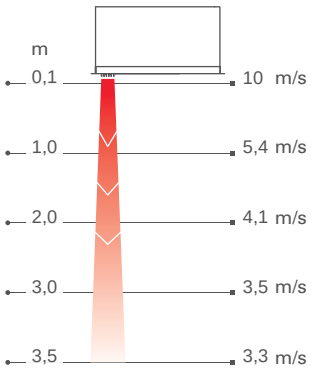
Water heat - AR3500 W

IP44/IP20

Type	Output*4 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
AR3510W	8,6	1000/2000	17/13	1,3	39/58	230V~	2,1	1057	42
AR3515W	12	1400/2800	17/13	2,1	40/58	230V~	2,9	1567	58
AR3520W	18	2000/4000	18/14	2,9	41/60	230V~	4,3	2073	78

*1) Lowest/highest airflow of totally 5 fan steps.
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*4) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

Control

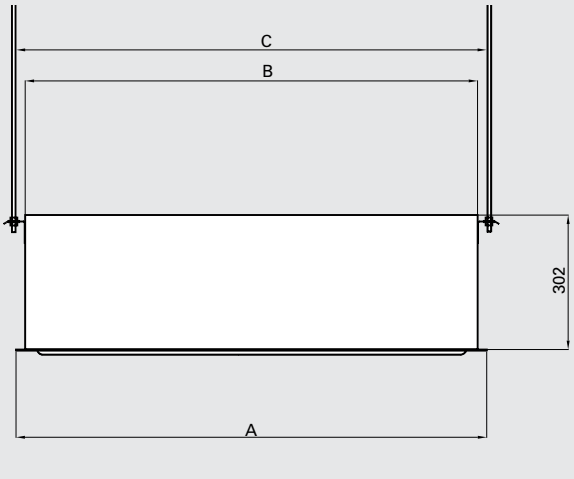
SIRe Basic

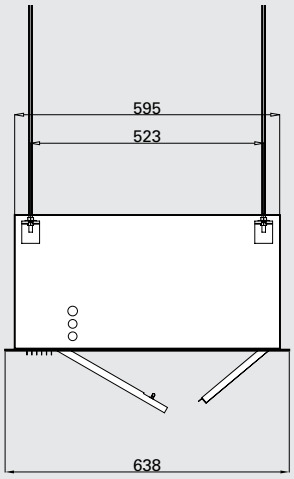
SIRe Competent

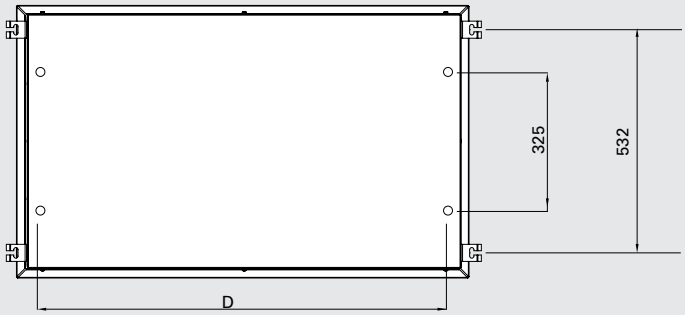
SIRe Advanced

This air curtain is supplied prepared for the SIRe control system that has many smart and energy saving functions. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For further information and options, see the "Controls" section.

Dimensions







	A [mm]	B [mm]	C [mm]	D [mm]
AR3510	1057	1016	1067	956
AR3515	1567	1526	1577	1466
AR3520	2073	2031	2083	1971

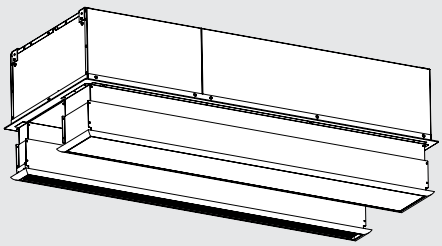
CE

Accessories

AR35XTT, extension

Outlet/inlet extension for a discreet installation with only the outlet and inlet visible in the ceiling.

Type	Description	L [mm]
AR35XTT10	Outlet/inlet extension AR3510	130-210
AR35XTT15	Outlet/inlet extension AR3515	130-210
AR35XTT20	Outlet/inlet extension AR3520	130-210



Corinte

Design air curtain for exclusive entrances, with intelligent control

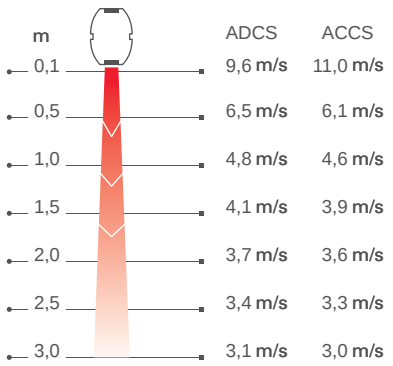
Recommended installation height 3 m

Corinte is intended for exclusive shop entrances and other environments with high demands in respect of design and sound level.

- Corinte is available in two models; ADCS and ACCS that have varying dimensions and performance.
- Recommended installation width 5 m (2 units, one on each side).
- Floor frame included for vertical installation. Customised production based on the product key.
- Available in polished, mirror-polished or brushed stainless steel. Colour intake and outlet grille: black, RAL 9005.

Optimized airflow with Thermozone technology.

Air velocity profile



Measurements according to ISO 27327-1. Average values for products in the series.

Control

SIRe Basic | SIRe Competent | SIRe Advanced

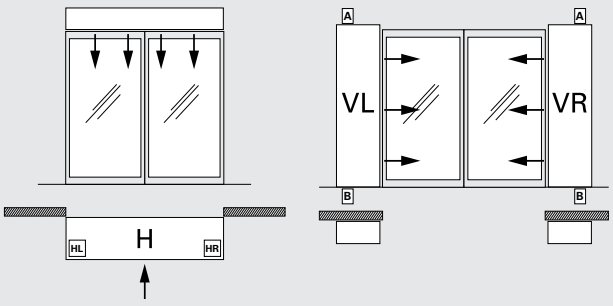
This air curtain is supplied prepared for the SIRe control system that has many smart and energy saving functions. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For further information and options, see the "Controls" section.

Product key

Type - Unit shape - Connections position - Finish / Material
Example: ADCS22WL - VL - A - P

Type	See technical specifications
Unit shape	HL (Horizontal, connections to the left), HR (Horizontal, connections to the right), VL (Vertical Left) or VR (Vertical Right)
Connections position	A or B, see figure
Finish / material	P = Polished bright annealed B = Brushed stainless steel MP = Mirror polished stainless steel

Connections position



Ambient, no heat - ADCS A

IP20

Type	Output [kW]	Airflow*3 [m³/h]	Sound level*3 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
ADCS17A*1	0	1400/3000	40/60	670	230V~	2,9	1700	73
ADCS22A	0	1800/4000	42/61	990	230V~	4,3	2200	95
ADCS25A*2	0	2050/4500	43/63	1150	230V~	5,0	2450	108

Electrical heat - ADCS E

IP20

Type	Output steps [kW]	Airflow*3 [m³/h]	Δt*4 [°C]	Sound level*4 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
ADCS17E*1	7,5/15	1400/3000	32/15	40/60	670	230V~	2,9	400V3~/21,7	1700	73
ADCS22E	10/20	1800/3600	33/15	42/61	830	230V~	3,6	400V3~/28,9	2200	95
ADCS25E*2	11,2/22,5	2050/4100	33/15	43/63	990	230V~	4,3	400V3~/32,5	2450	108

Water heat - ADCS WL, coil for low water temperature (≤80 °C)

IP20

Type	Output*6 [kW]	Airflow*3 [m³/h]	Δt*5,6 [°C]	Water volume [l]	Sound level*4 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
ADCS17WL*1	17	1400/3000	22/17	2,8	39/59	670	230V~	2,9	1700	85
ADCS22WL	24	1800/4000	23/18	3,6	42/60	990	230V~	4,3	2200	110
ADCS25WL*2	28	2050/4500	24/18	4,0	42/61	1150	230V~	5,0	2450	125

*1) Available only for horizontal mounting.
*2) Available only for vertical mounting.
*3) Lowest/highest airflow of totally 5 fan steps.
*4) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*5) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*6) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.

Electrical heat - ACCS E

IP20

Type	Outout steps [kW]	Airflow*2 [m³/h]	Δt*4 [°C]	Sound level*3 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
ACCS10E08*1	2,7/5,4/8,1	950/1900	25/13	44/61	230V~	2,2	400V3~/11,7	1000	50
ACCS15E12*1	3,9/7,8/12	1350/2600	26/13	45/62	230V~	2,9	400V3~/16,9	1500	65
ACCS20E16	5,4/11/16	1980/3800	24/13	47/64	230V~	4,3	400V3~/23,4	2000	95
ACCS25E20	6,6/13/20	2340/4500	25/13	48/65	230V~	5,1	400V3~/28,6	2500	110
ACCS30E23	7,8/15/23	2660/5100	26/14	48/65	230V~	5,8	400V3~/33,8	3000	130

Water heat - ACCS WL, coil for low water temperature (≤80 °C)

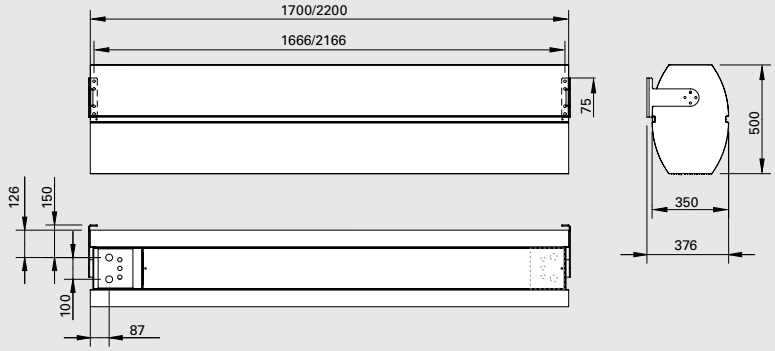
IP20

Type	Output*5		Airflow*2	Δt*4,5		Water volume		Sound level*3	Voltage motor	Amperage motor	Length	Weight
	H*6 [kW]	V*7 [kW]	[m³/h]	H*6 [°C]	V*7 [°C]	H*6 [l]	V*7 [l]	[dB(A)]	[V]	[A]	[mm]	[kg]
ACCS10WL*1	9	-	950/1900	18/14	-	1,1	-	44/61	230V~	2,1	1000	50
ACCS15WL*1	17	-	1350/2600	24/19	-	1,9	-	45/62	230V~	2,9	1500	65
ACCS20WL	23	23	1980/3800	23/18	22/18	2,5	4,4	47/64	230V~	4,3	2000	95
ACCS25WL	29	26	2340/4500	24/19	21/17	3,3	4,4	48/65	230V~	5,0	2500	110
ACCS30WL	34	31	2660/5100	25/20	22/18	3,9	5,6	48/65	230V~	5,7	3000	130

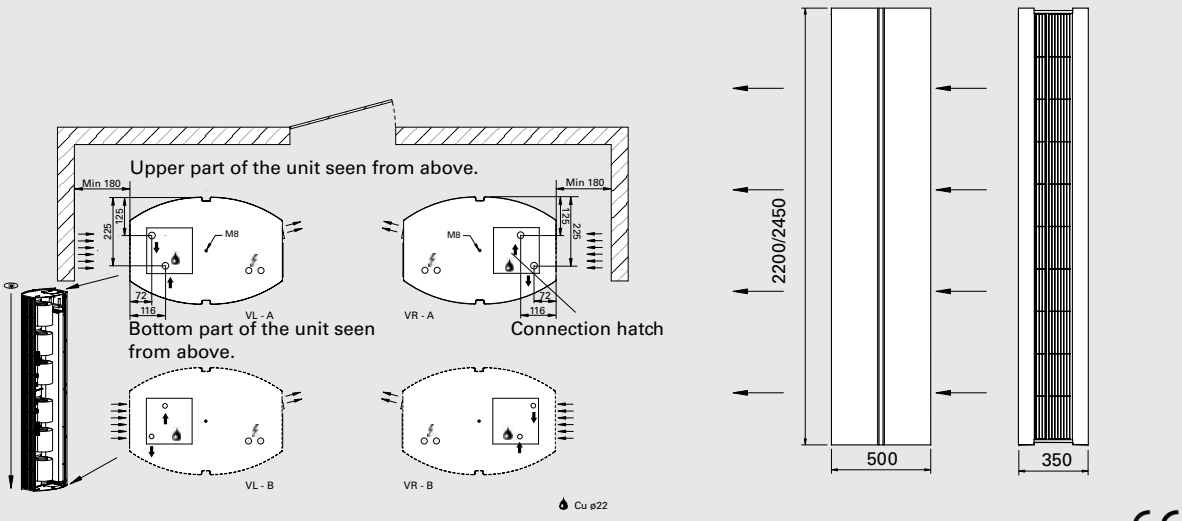
*1) Available only for horizontal mounting.
*2) Lowest/highest airflow of totally 5 fan steps.
*3) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*4) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*5) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
*6) Horizontal mounting
*7) Vertical mounting

Dimensions ADCS

Horizontal mounting



Vertical mounting



Accessories ADCS

ADCSEH, extension hood

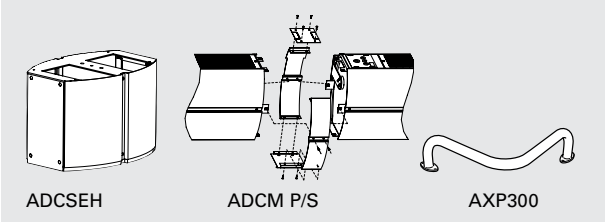
Fills the space between the unit and the ceiling for vertical mounting and provides a neater installation. Height 100-1000 mm.

ADCM P/S, joining kit

Used to join horizontal units together for a sleek and unified installation. ADCMP for suspended installation and ADCMS for wall installation.

AXP300, collision protection

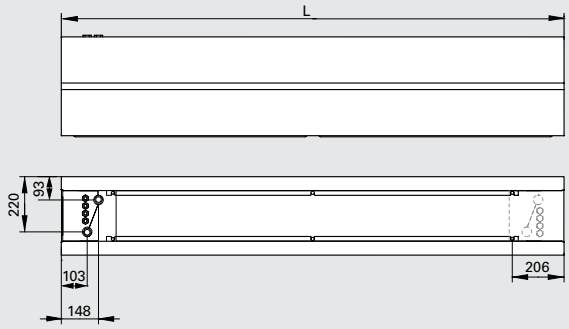
Floor placed protection against impact from e.g. shopping trolleys.

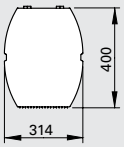


Type	Description
ADCSEH	Extension hood
ADCMP	Joining kit for suspended installation
ADCMS	Joining kit for wall installation
AXP300	Collision protection

Dimensions ACCS

Horizontal mounting



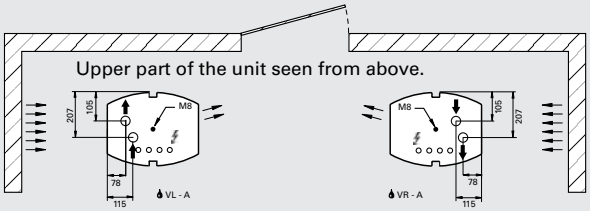


	L [mm]
ACCS10*	1000
ACCS15*	1500
ACCS20	2000
ACCS25	2500
ACCS30	3000

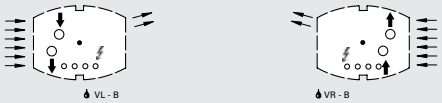
*[1]) Available only for horizontal mounting.

Connection dimensions, inside thread: 3/4", DN20

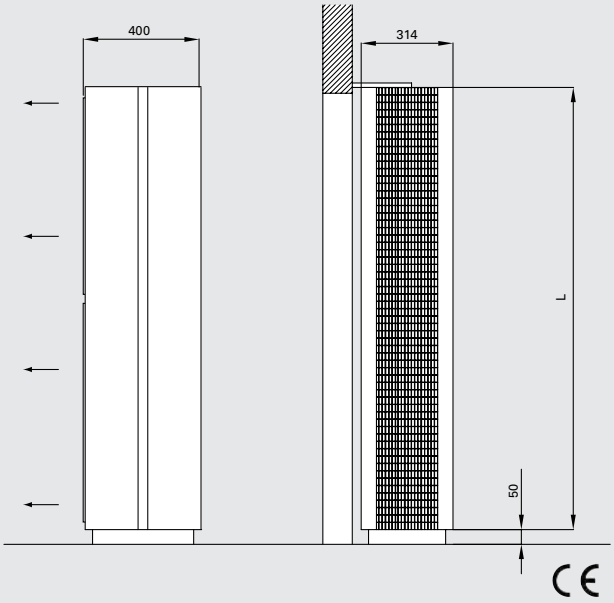
Vertical mounting



Bottom part of the unit seen from above.



Connection dimensions, inside thread: 1", DN25



Accessories ACCS

ACCW, wall bracket

Brackets for installing unit horizontally on a wall. Two are required for 1 and 1.5 metre units, while 2 and 2.5 metre units need three and 3 metre units need four. Available in three designs:
- ACCWBB, brushed stainless steel
- ACCWBP, polished stainless steel
- ACCWBMP, mirror polished stainless steel

ACCSEH, extension hood

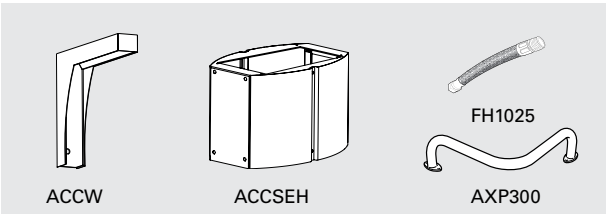
Fills the space between the unit and the ceiling for vertical mounting and provides a neater installation. Height 100-1000 mm.

AXP300, collision protection

Floor placed protection against impact from e.g. shopping trolleys.

FH1025, flexible hose

Flexible hose (DN25, 1" inside/outside thread) for easy connection to the pipe system.



Type	Description
ACCWBB	Wall bracket, brushed stainless steel
ACCWBP	Wall bracket, polished stainless steel
ACCWBMP	Wall bracket, mirror polished stainless steel
ACCSEH	Extension hood 100-1000 mm
AXP300	Collision protection
FH1025	Flexible hose DN25, inside/outside thread, length 1 m

PA3500

Stylish air curtain for commercial premises, with intelligent control

Recommended installation height 3,5 m

PA3500 is particularly suitable in entrances to stores, shopping centres and smaller industrial premises for example. The air curtain is available for horizontal, vertical and recessed installation.

- The air curtain is complemented with a vertical kit for vertical installation.
- Recommended installation width 5 m (2 units, one on each side).
- The accessory Design kit enables a neat installation with concealed mountings, pipes and cables.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour front and service hatch: white, RAL 9016, NCS S 0500-N. Colour grille, rear section and ends: grey, RAL 7046.

Optimized airflow with Thermozone technology.

Ambient, no heat - PA3500 A

IP21

Type	Output [kW]	Airflow*1 [m³/h]	Sound level*2 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA3510A	0	860/1800	40/57	470	230V~	2,0	1039	36
PA3515A	0	1240/2600	40,5/58,5	650	230V~	2,8	1549	50
PA3520A	0	1530/3200	42/59,5	810	230V~	3,5	2039	65
PA3525A	0	2200/4600	42/60,5	1140	230V~	4,9	2549	79

Electrical heat - PA3500 E

IP20

Type	Output step [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
PA3510E08	2,7/5,4/8,1	860/1800	35/13	40/57	470	230V~	2,0	400V3~/11,7	1039	44
PA3515E12	3,9/7,8/12	1240/2600	38/14	40,5/58,5	650	230V~	2,8	400V3~/16,9	1549	63
PA3520E16	5,4/11/16	1530/3200	35/13	42/59,5	810	230V~	3,5	400V3~/23,4	2039	80
PA3525E20	6,6/13/20	2200/4600	37/14	42/60,5	1140	230V~	4,9	400V3~/28,6	2549	104

Water heat - PA3500 WL, coil for low water temperature (≤80 °C)

IP21

Type	Output*4 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA3510WL	12	860/1800	24/19	1,5	40/57	470	230V~	2,0	1039	43
PA3515WL	18	1240/2600	26/21	2,4	40,5/58,5	650	230V~	2,8	1549	60
PA3520WL	23	1530/3200	26/21	3,3	42/59,5	810	230V~	3,5	2039	75
PA3525WL	32	2200/4600	26/21	4,2	42/60,5	1140	230V~	4,9	2549	95

*1) Lowest/highest airflow of totally 5 fan steps.

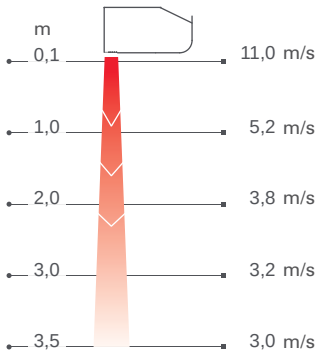
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

*4) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.

Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

Control

SIRe Basic SIRe Competent SIRe Advanced

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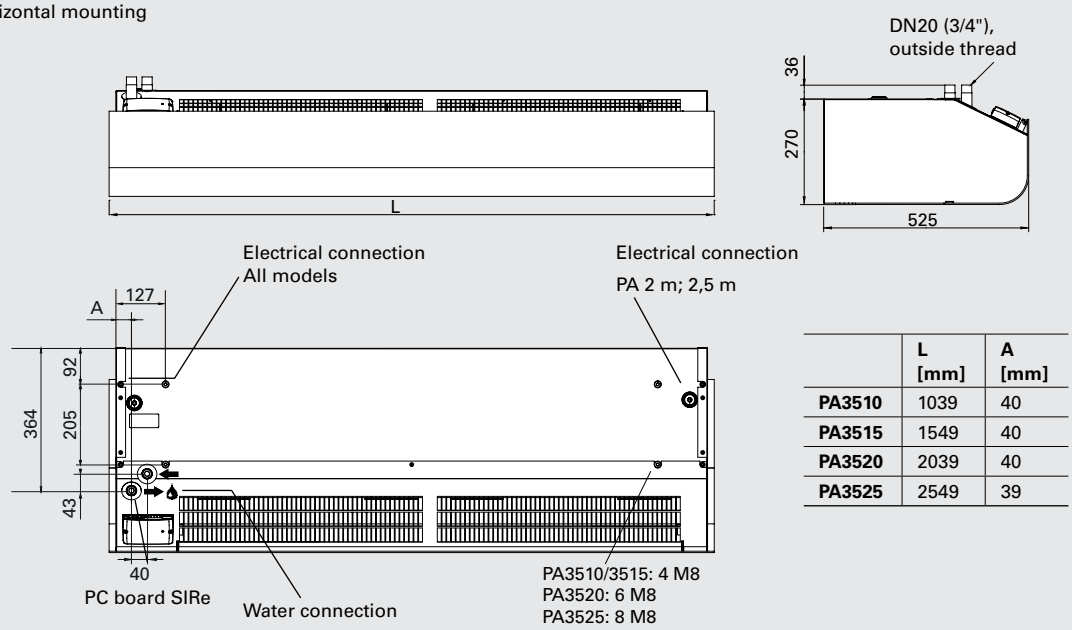
Dimensions

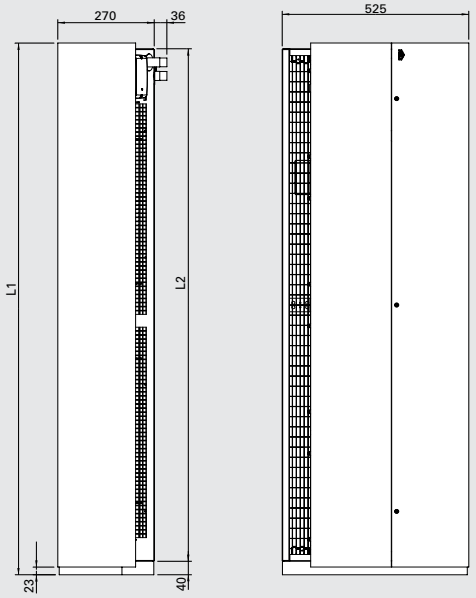
Horizontal mounting



	L [mm]	A [mm]
PA3510	1039	40
PA3515	1549	40
PA3520	2039	40
PA3525	2549	39

Vertical mounting

The unit can be reversed and placed on either side of the door. Connections and PC Board SIRe are positioned near floor level when the air curtain is placed to the left of the door and at the top when it is placed to the right (seen from the inside).



	L1 [mm]	L2 [mm]
PA3515	1572	1515
PA3520	2062	2004
PA3525	2572	2515

CE

PA4200

Stylish air curtain for commercial and industrial premises, with intelligent control

Recommended installation height 4,2 m

PA4200 is specifically designed for doorways in for example, large commercial installations or industrial and warehouse buildings. The air curtain is available for horizontal, vertical and recessed installation.

- The air curtain is complemented with a vertical kit for vertical installation.
- Recommended installation width 6 m (2 units, one on each side).
- The accessory Design kit enables a neat installation with concealed mountings, pipes and cables.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour front and service hatch: white, RAL 9016, NCS S 0500-N. Colour grille, rear section and ends: grey, RAL 7046.

Optimized airflow with Thermozone technology.

Ambient, no heat - PA4200 A

IP21

Type	Output [kW]	Airflow*1 [m³/h]	Sound level*2 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA4210A	0	1280/2700	46/63,5	830	230V~	3,6	1039	43
PA4215A	0	1760/3700	46/64	1150	230V~	5,0	1549	56
PA4220A	0	2520/5300	47/64,5	1610	230V~	7,0	2039	75
PA4225A	0	3020/6350	48,5/67	1990	230V~	8,6	2549	91

Electrical heat - PA4200 E

IP20

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight [kg]
PA4210E12	3,9/7,8/12	1280/2700	37/14	46/63,5	830	230V~	3,6	400V3~/16,9	1039	50
PA4215E18	6,0/12/18	1760/3700	40/15	46/64	1150	230V~	5,0	400V3~/26,0	1549	71
PA4220E24	7,8/15/23	2520/5300	37/14	47/64,5	1610	230V~	7,0	400V3~/33,8	2039	94
PA4225E30	9,9/20/30	3020/6350	38/15	48,5/67	1990	230V~	8,6	400V3~/42,9	2549	113

Water heat - PA4200 WL, coil for low water temperature (≤80 °C)

IP21

Type	Output*4 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Output-motor [W]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
PA4210WL	17	1280/2700	23/18	1,9	46/63,5	830	230V~	3,6	1039	50
PA4215WL	25	1760/3700	25/20	3,0	46/64	1150	230V~	5,0	1549	67
PA4220WL	35	2520/5300	24/19	4,1	47/64,5	1610	230V~	7,0	2039	90
PA4225WL	44	3020/6350	25/20	5,2	48,5/67	1990	230V~	8,6	2549	109

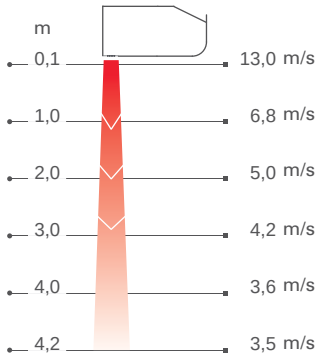
*1) Lowest/highest airflow of totally 5 fan steps.

*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

*4) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

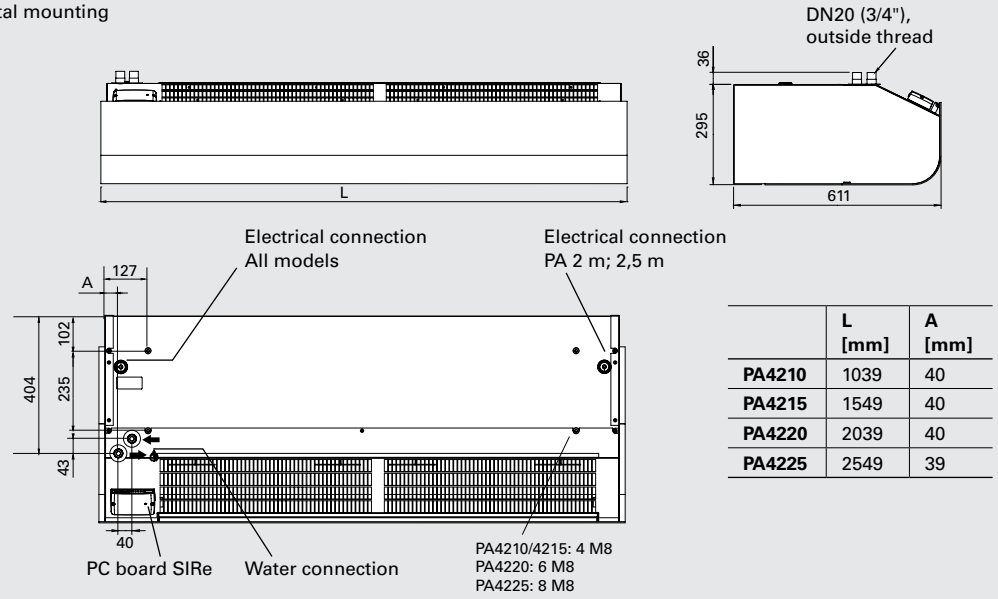
Control

SIRe Basic SIRe Competent SIRe Advanced

This air curtain is supplied prepared for the SIRe control system that has many smart and energy saving functions. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For further information and options, see the "Controls" section.

Dimensions

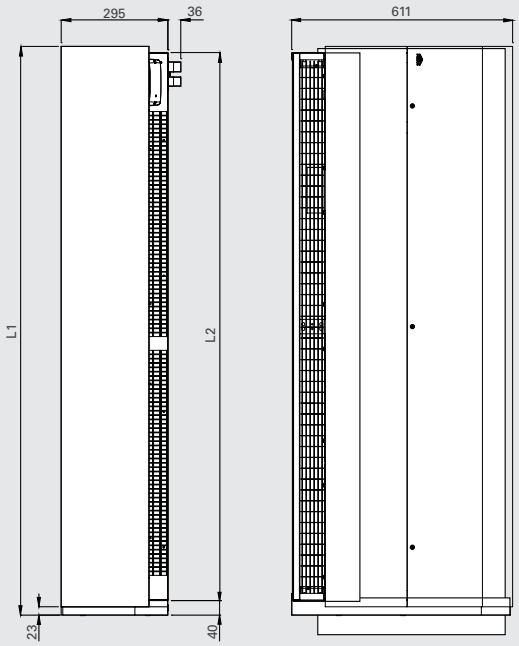
Horizontal mounting



	L [mm]	A [mm]
PA4210	1039	40
PA4215	1549	40
PA4220	2039	40
PA4225	2549	39

Vertical mounting

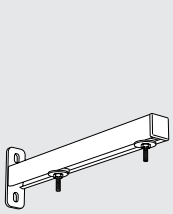
The unit can be reversed and placed on either side of the door. Connections and PC Board SIRe are positioned near floor level when the air curtain is placed to the left of the door and at the top when it is placed to the right (seen from the inside).



	L1 [mm]	L2 [mm]
PA4215	1572	1515
PA4220	2062	2004
PA4225	2572	2515

CE

Accessories PA3500/4200 - Horizontal mounting

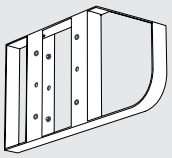

PA34WB


PA34CB


PA34WS

PA34TR


PA34VD


Joint bracket, included in the joining kit

PA34WB, wall brackets
Brackets for installing unit horizontally on a wall.

PA34CB, ceiling brackets
Ceiling brackets for installing the unit from the ceiling using wires or threaded bars (not included). Best combined with vibration dampers (PA34VD) when using threaded bars.

PA34WS, wire suspension kit
Galvanized wires with wire locks to secure the unit from the ceiling. Length 3 m. Used together with ceiling brackets (PA34CB).

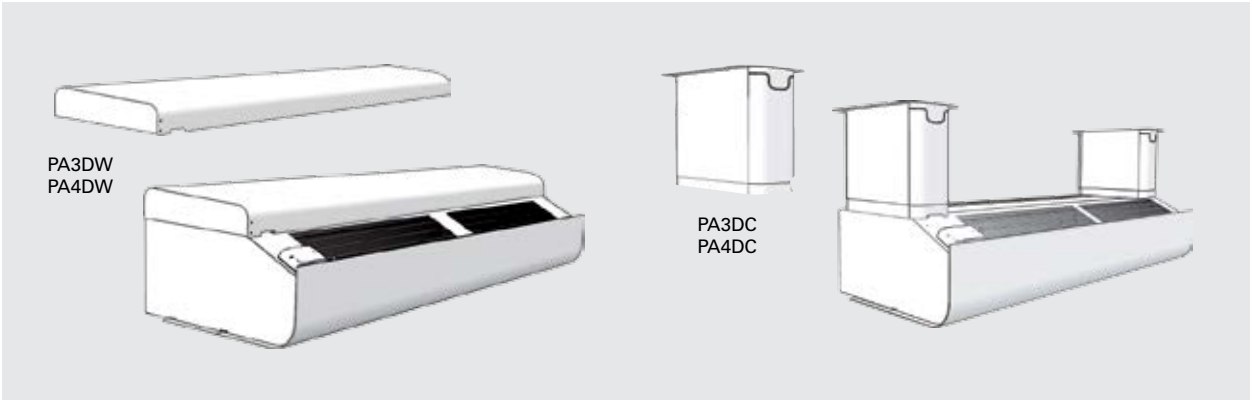
PA34TR, threaded bars
Threaded bars for installing unit on to a ceiling. Length 1 m. Used together with ceiling brackets (PA34CB). Supplemented with vibration dampers (PA34VD) for reduced vibration.

PA34VD, vibration dampers
Reduces vibrations for ceiling installations with threaded bars.

PA3JK/PA4JK, joining kit
Used to join horizontal units together for a sleek and unified installation. Consists of joint bracket and mounting parts.

Type	Description	Quantity included	Length
PA34WB15	Wall brackets for 1 and 1,5 metre units	2	400 mm
PA34WB20	Wall brackets for 2 metre units	3	400 mm
PA34WB30	Wall brackets for 2,5 metre units	4	400 mm
PA34CB15	Ceiling brackets for 1 and 1,5 metre units	4	
PA34CB20	Ceiling brackets for 2 metre units	6	
PA34CB30	Ceiling brackets for 2,5 metre units	8	
PA34WS15	Wire suspension kit for 1 and 1,5 metre units	4	3 m
PA34WS20	Wire suspension kit for 2 metre units	6	3 m
PA34WS30	Wire suspension kit for 2,5 metre units	8	3 m
PA34TR15	Threaded bars for 1 and 1,5 metre units	4	1 m
PA34TR20	Threaded bars for 2 metre units	6	1 m
PA34TR30	Threaded bars for 2,5 metre units	8	1 m
PA34VD15	Vibration dampers for 1 and 1,5 metre units	4	
PA34VD20	Vibration dampers for 2 metre units	6	
PA34VD30	Vibration dampers for 2,5 metre units	8	
PA3JK	Joining kit for PA3500		
PA4JK	Joining kit for PA4200		

Accessories PA3500/4200 - Horizontal mounting



PA3DW/PA4DW, design kit for wall mounting

Used to conceal mountings, cables and pipes. Used together with ceiling brackets PA34WB.

Type	Description	LxHxW [mm]
PA3DW10	Design kit for wall mounting PA3510	87x382x1006
PA3DW15	Design kit for wall mounting PA3515	87x382x1516
PA3DW20	Design kit for wall mounting PA3520	87x382x2006
PA3DW25	Design kit for wall mounting PA3525	87x382x2516
PA4DW10	Design kit for wall mounting PA4210	87x424x1006
PA4DW15	Design kit for wall mounting PA4215	87x424x1516
PA4DW20	Design kit for wall mounting PA4220	87x424x2006
PA4DW25	Design kit for wall mounting PA4225	87x424x2516

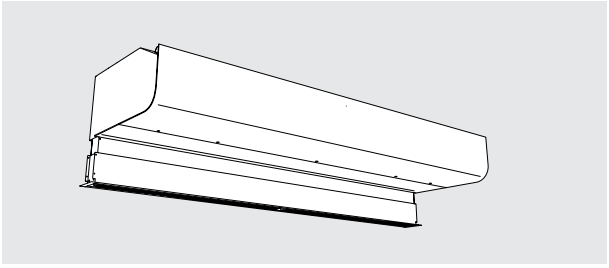
PA3DC/PA4DC, design kit for ceiling mounting

Used to conceal mountings, cables and pipes. The design kit has a telescope function that can be adapted for the installation. It can also be extended with one or more extension parts.

Two design kits are required for 1 and 1.5 metre units, while 2 metre units need three kits and 2.5 metre units need four kits.

Type	Description
PA3DCS	Design kit for ceiling mounting PA3500, small, 200-300 mm (1 piece)
PA3DCM	Design kit for ceiling mounting PA3500, medium, 300-500 mm (1 piece)
PA3DCL	Design kit for ceiling mounting PA3500, large, 500-900 mm (1 piece)
PA3DXT	Design kit for ceiling mounting PA3500, extension, 420 mm (1 piece)
PA4DCS	Design kit for ceiling mounting PA4200, small, 200-300 mm (1 piece)
PA4DCM	Design kit for ceiling mounting PA4200, medium, 300-500 mm (1 piece)
PA4DCL	Design kit for ceiling mounting PA4200, large, 500-900 mm (1 piece)
PA4DXT	Design kit for ceiling mounting PA4200, extension, 420 mm (1 piece)

Recessed mounting in suspended ceilings



PA3XT/PA4XT, outlet extension

Outlet extension with telescopic function. Used for recessed installation of units in suspended ceilings.

Type	Description
PA3XT10	Outlet extension for PA3510, 130-200 mm
PA3XT15	Outlet extension for PA3515, 130-200 mm
PA3XT20	Outlet extension for PA3520, 130-200 mm
PA3XT25	Outlet extension for PA3525, 130-200 mm
PA4XT10	Outlet extension for PA4210, 130-200 mm
PA4XT15	Outlet extension for PA4215, 130-200 mm
PA4XT20	Outlet extension for PA4220, 130-200 mm
PA4XT25	Outlet extension for PA4225, 130-200 mm

Accessories PA3500/4200 - Vertical mounting

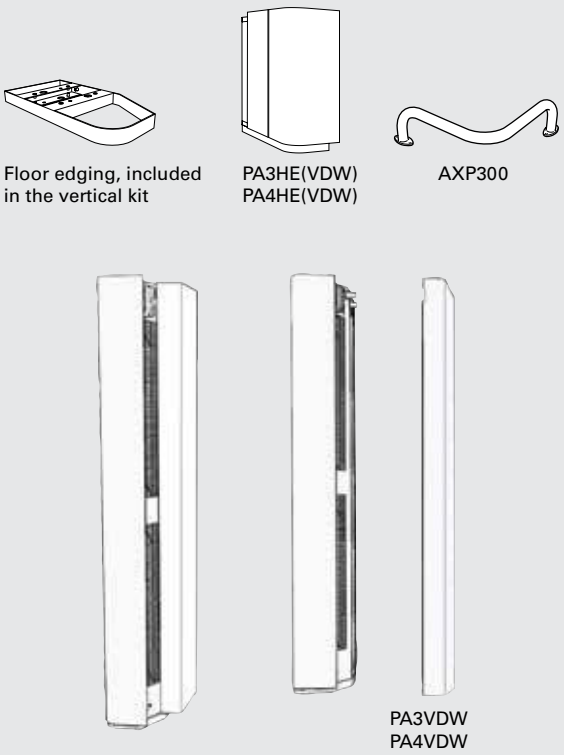
PA3JK/PA4JK, vertical kit
Used to adapt a horizontal unit for vertical installation. Includes floor frame and mounting parts to support the top. Vertical kit allows two units to be installed on top of each other. One vertical kit is needed per unit.

PA3VDW/PA4VDW, design kit for vertical mounting
Used to conceal cables and pipes.

PA3HE/PA4HE, extension hood
Fills the space between the unit and the ceiling for vertical mounting and provides a neater installation.

PA3HEVDW/PA4EVDW, extension hood for units with design kit
Extension hood corresponding to PA3HE/PA4HE intended for units with design kit.

AXP300, collision protection
Floor placed protection against impact from e.g. shopping trolleys.



Type	Description
PA3JK	Vertical kit PA3500
PA3VDW15	Design kit for vertical mounting PA3515
PA3VDW20	Design kit for vertical mounting PA3520
PA3VDW25	Design kit for vertical mounting PA3525
PA4JK	Vertical kit PA4200
PA4VDW15	Design kit for vertical mounting PA4215
PA4VDW20	Design kit for vertical mounting PA4220
PA4VDW25	Design kit for vertical mounting PA4225

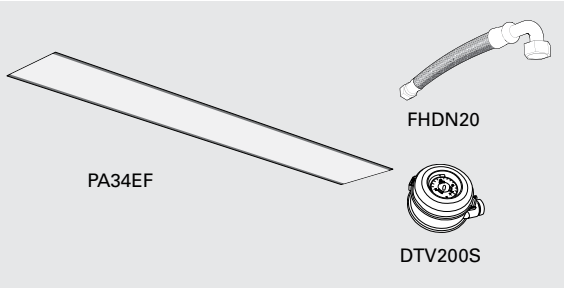
Type	Description
PA3HE	Extension hood for PA3500
PA3HEVDW	Extension hood for PA3500 units with design kit
PA4HE	Extension hood for PA4200
PA4HEVDW	Extension hood for PA4200 units with design kit
AXP300	Collision protection

Accessories PA3500/4200 - Unit with water heating

PA34EF, external intake filter
Fine mesh filter that prevents ingress of dirt and deposits to water heated units. The filter is easy to attach and remove thanks to the integrated magnetic strips. Makes maintenance easier since the unit does not need to be opened.

DTV200S, filter pressure guard
Measures the differential pressure, which indicates how dirty the filter is in water heated units. The metering hose is connected to the suction side of the unit (after the filter). Adjustment is performed on site depending on the unit and the environment. Adjustable range 20-300 Pa. Potential free, changeover alarm contact.

FHDN20, flexible hoses
Flexible hoses for easy and practical installation of water heated unit.



Type	Description
PA34EF10	External intake filter for 1 metre units
PA34EF15	External intake filter for 1,5 metre units
PA34EF20	External intake filter for 2 metre units
PA34EF25	External intake filter for 2,5 metre units
DTV200S	Filter pressure guard
FHDN20	Flexible hoses DN20, inside thread, 90° bend, 1 pair

ADA

Air curtain for air conditioned premises

Recommended installation height 2,5 m

ADA is suitable to use, for example, to keep the cold air inside air conditioned premises. The air curtain creates an air barrier that prevents the intrusion of warm air and also insects, exhaust fumes, smoke, dust, etc.

- Built-in switch; high/low speed.
- Compact and easily positioned.
- Easy installation with 1,8 m cable and plug.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour: white, RAL 9016, NCS S 0500-N.

Optimized airflow with Thermozone technology.

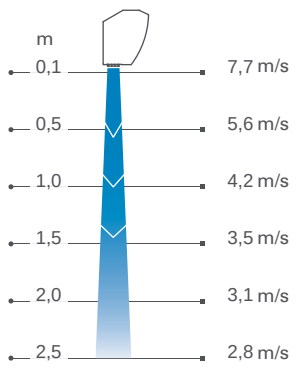
Ambient, no heat - ADA

IP21

Type	Output [kW]	Airflow [m³/h]	Sound level* [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
ADA090H	0	800/1150	43/54	230V~	0,50	900	9,5
ADA120H	0	1100/1400	44/51	230V~	0,55	1200	11,7

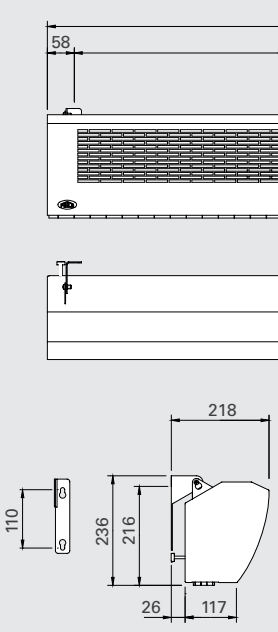
*) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

Dimensions



	L [mm]	L2 [mm]
ADA090H	900	747
ADA120H	1200	1047

CE

ADA Cool

Air curtain for cold stores

Recommended installation height 2,5 m

ADA Cool keeps the cold air in cold stores and also makes it possible to have an open cold store area without doors. The cost of cooling is significantly reduced and the cold air stays where it is needed. ADA Cool reduces ice formation and condensation by the doorway and improves visibility when compared to plastic strips and fast folding doors.

- Specially designed outlet grilles for optimized performance.
- Compact and easily positioned.
- Easy installation with 1,8 m cable and plug.
- Several units can easily be linked together.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour: white, RAL 9016, NCS S 0500-N.

Optimized airflow with Thermozone technology.

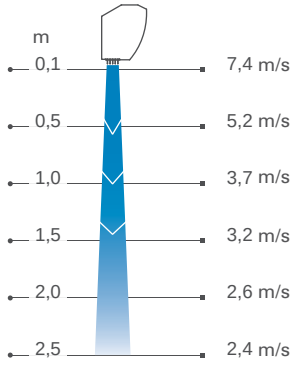
Ambient, no heat - ADA Cool

IP21

Type	Output [kW]	Airflow [m³/h]	Sound level* [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
ADAC090	0	1150	54	230V~	0,50	900	9,6
ADAC120	0	1400	51	230V~	0,55	1200	11,8

*) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².

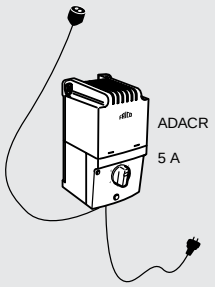
Air velocity profile



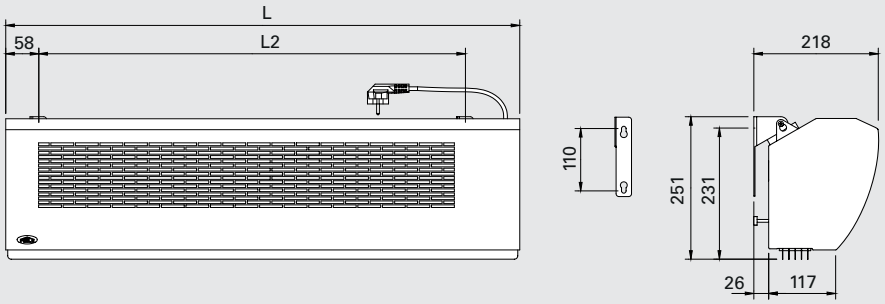
Measurements according to ISO 27327-1. Average values for products in the series.

Control

ADACR, 5-step fan speed control
ADACR is a control and connection set consisting of a 5-step fan speed control, flexible cable and earthed plug. Can control a maximum of 7-9 units (max. 7 units at 60 Hz). Max input: 5 A. Dimensions: 200x105x105 mm. IP30.



Dimensions



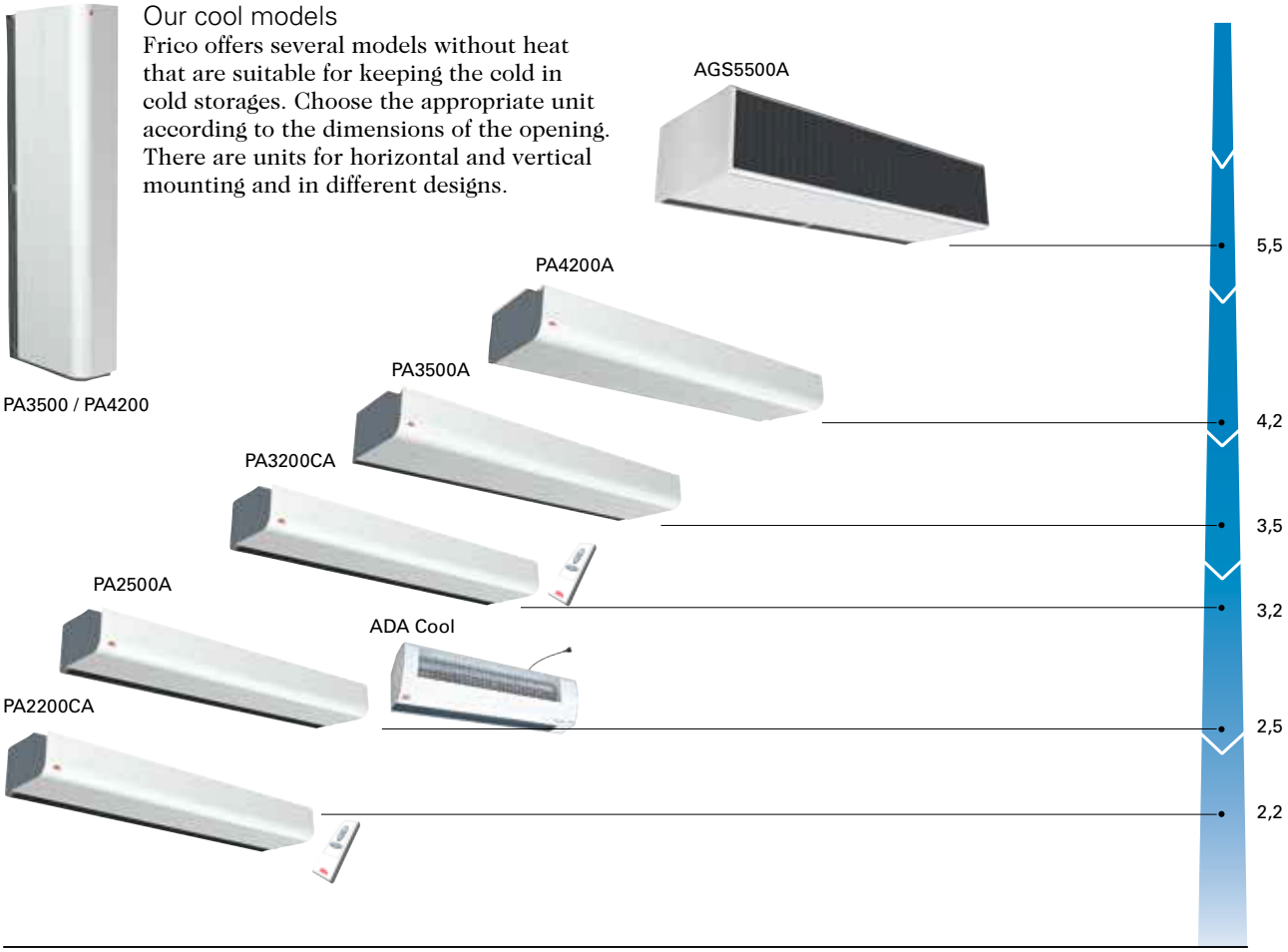
	L [mm]	L2 [mm]
ADAC090	900	747
ADAC120	1200	1047

CE

PA3500 / PA4200

Our cool models

Frico offers several models without heat that are suitable for keeping the cold in cold storages. Choose the appropriate unit according to the dimensions of the opening. There are units for horizontal and vertical mounting and in different designs.



RDS

Discreet air curtain for revolving doors, with intelligent control

RDS is an ideal air curtain solution for revolving doors. The air curtain is installed above the door and the exhaust duct is adapted to the diameter of the door, which gives a neat and discrete solution.

- Customised production based on the product key.
- The SIRe control system offers the possibility of frost protection for water heated units.
- The front of the duct is covered by a duct panel that is available in polished high gloss, polished or brushed stainless steel. It is also available in powder coated steel, in any RAL/NCS colour. Exhaust duct and air curtain in powder coated steel, white, RAL 9016. Aluminium louvres.

Electrical heat - RDS E

IP23

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Voltage [V] Amperage [A] (control)	Voltage [V] Amperage [A] (heat)	Length [mm]	Weight*6 [kg]
RDS23E08	2,7/5,4/8,1	1050/2300	23/11	60	230V~/2,3	400V3~/11,7	1000	80
RDS29E12	3,9/7,8/12	1300/2900	27/12	61	230V~/3,6	400V3~/16,9	1000	100
RDS38E18	6,0/12/18	1800/3800	30/14	62	230V~/4,8	400V3~/26,0	1500	150
RDS56E23	7,8/15/23	2700/5600	26/12	63	230V~/7,0	400V3~/33,8	2000	200
RDS65E30	9,9/19/30	3100/6500	29/14	64	230V~/8,2	400V3~/42,9	2500	220

Water heat - RDS WL, coil for low water temperature (≤80 °C)

IP23

Typ	Output*4 [kW]	Output*5 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Δt*3,5 [°C]	Water volume [l]	Sound level*1 [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight*6 [kg]
RDS23WL	10	18	1050/2300	18/13	31/23	2,2	60	230V~	2,3	1000	80
RDS29WL	12	20	1300/2900	17/12	29/21	2,2	61	230V~	3,6	1000	100
RDS38WL	17	30	1800/3800	18/13	31/23	3,4	62	230V~	4,8	1500	150
RDS56WL	25	43	2700/5600	18/13	30/23	4,5	63	230V~	7,0	2000	200
RDS65WL	32	54	3100/6500	19/15	32/25	5,7	64	230V~	8,2	2500	220

*1) Lowest/highest airflow of totally 5 fan steps.
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².
*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*4) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
*5) Applicable at water temperature 80/60 °C, air temperature, in +18 °C.
*6) Approximate weight for air curtain and duct.

Select air curtain

To select which air curtain to order, multiply the width with the height of the opening of the revolving door, to get the surface of the opening. To create comfort in the entrance area between 3,5 and 5 kW heating per square metre of opening, depending on the lowest outdoor temperature, is needed.

Control

SIRe Basic

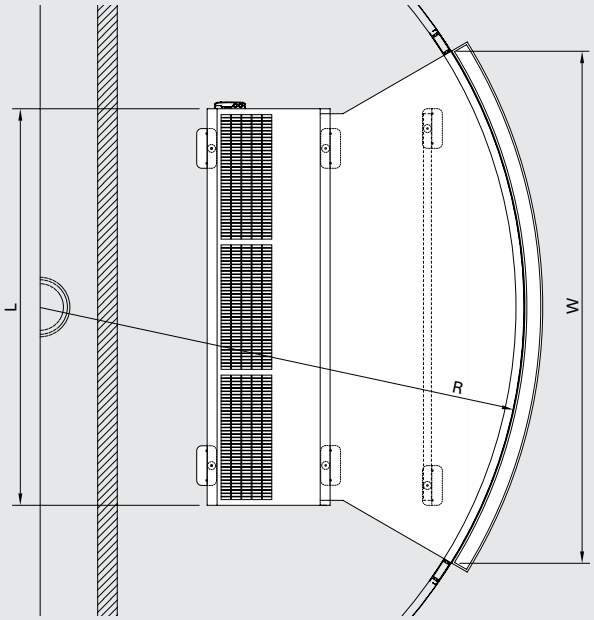
SIRe Competent

SIRe Advanced

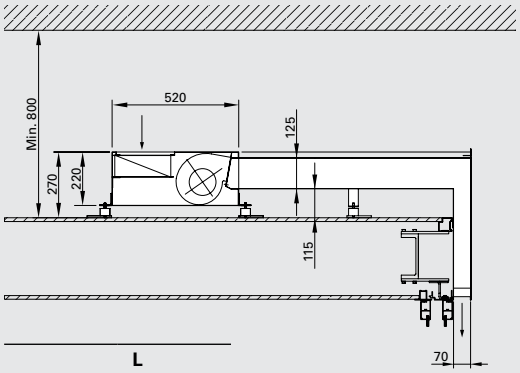
This air curtain is supplied prepared for the SIRe control system that has many smart and energy saving functions. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For further information and options, see the "Controls" section.

Dimensions

Top view



Side view



	L [mm]
RDS23	1000
RDS29	1000
RDS38	1500
RDS56	2000
RDS65	2500

W: The opening width of the revolving door

R: The outer radius of the revolving door above the entrance height

CE

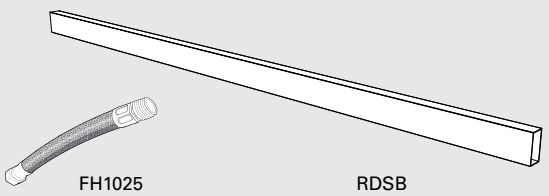
Accessories

RDSB, beam

If the revolving door roof cannot take the weight, RDS can be carried on a beam construction. Measurements 40x80 mm, state length when ordering.

FH1025, flexible hose

Flexible hose (DN25, 1" inside/outside thread) for easy connection to the pipe system.



FH1025 RDSB

Type	Description
RDSB	Beam 40x80 mm
FH1025	Flexible hose DN25, inside/outside thread, length 1 m

SFS

Design air curtain for revolving doors, with intelligent control

The SFS is an air curtain with many clever functions, specially designed for revolving doors. The air curtain is mounted vertically and its curved design integrates neatly with the door. SFS efficiently protects the exposed area just above the floor.

- Customised production based on the product key.
- Standard length is 2200 mm. Lengths up to 3 m can be ordered according to the product key (extension without fans). Extension hoods, for heights up to 4 m, are available as an accessory.
- Available in polished high gloss, polished or brushed stainless steel. Also available in powder coated steel, any RAL/NCS colour. Aluminium louvres. Colour intake grille: grey, RAL 7046.

Electrical heat - SFS E

IP23

Type	Output steps [kW]	Airflow*1 [m³/h]	Δt*3 [°C]	Sound level*2 [dB(A)]	Voltage [V] Amperage [A] (control)	Voltage [V] Amperage [A] (heat)	Height*6 [mm]	Weight [kg]
SFS23E08	2,7/5,4/8,1	1050/2300	23/11	60	230V~/2,3	400V3~/11,7	2200	75
SFS30E12	3,9/7,8/12	1400/3000	25/12	61	230V~/3,1	400V3~/16,9	2200	80
SFS38E16	5,4/11/16	1800/3800	27/13	62	230V~/4,8	400V3~/23,4	2200	80
SFS56E23	7,8/15/23	2700/5600	26/12	63	230V~/7,0	400V3~/33,8	2200	90

Water heat - SFS WL, coil for low water temperature (≤80 °C)

IP23

Type	Output*4 [kW]	Output*5 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Δt*3,5 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Voltage [V]	Amperage [A]	Height*6 [mm]	Weight [kg]
SFS23WL	13	22	1050/2300	22/17	37/29	3,0	60	230V~	2,3	2200	75
SFS30WL	20	33	1400/3000	25/20	41/33	4,4	61	230V~	3,1	2200	80
SFS38WL	23	39	1800/3800	23/18	38/31	4,4	62	230V~	4,8	2200	80
SFS56WL	29	50	2700/5600	20/16	34/26	4,4	63	230V~	7,0	2200	90

*1) Lowest/highest airflow of totally 5 fan steps.
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².
*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*4) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
*5) Applicable at water temperature 80/60 °C, air temperature, in +18 °C.
*6) Standard height. Max. height 3000 mm (extension without fans).

Product key

Type - Connection position - Total height - Material / colour
Example: SFS30E12 - A - 2800 mm - P

Type	See Technical specifications.
Connection position	A = from above B = from below
Total height	Min. height 2200 mm. Max height 3000 mm. Extension without fans.
Material/colour	P = Polished stainless steel B = Brushed stainless steel MP = Mirror polished stainless steel State RAL-kod = Powder coating RAL State NCS-kod = Powder coating NCS

Control

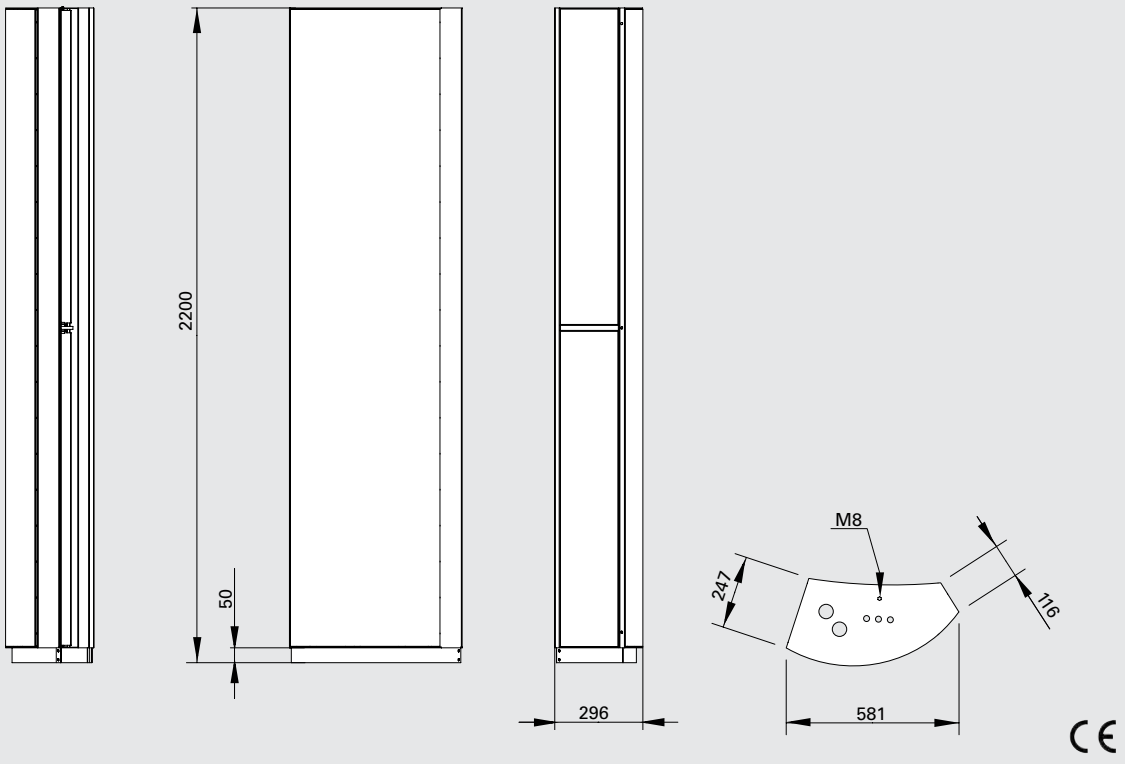
SIRe Basic

SIRe Competent

SIRe Advanced

This air curtain is supplied prepared for the SIRe control system that has many smart and energy saving functions. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For further information and options, see the "Controls" section.

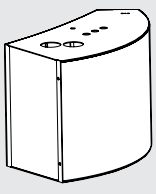
Dimensions



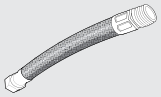
Accessories

SFSEH, extension hood
Extends the unit, adapting it to the installation. Height 100-1000 mm. Special order to required dimension.

FH1025, flexible hose
Flexible hose (DN25, 1" inside/outside thread) for easy connection to the pipe system.



SFSEH



FH1025

Type	Description
SFSEH	Extension hood
FH1025	Flexible hose DN25, inside/outside thread, length 1 m

AGS5500

Air curtain for doors in industrial and large premises, with intelligent control

Recommended installation height 5,5 m

AGS5500 is a powerful air curtain intended for industrial doors but it can also be used for entryways in other large premises such as shopping malls.

Optimized airflow with Thermozone technology.

- The following models are available for special order:
  - with electrical heating
  - with alternative water connections
  - for vertical installation
  - for recessed installation in suspended ceilings
- Intake grilles that can be opened make it easy to access the water coil. The grille is easy to clean from the outside.
- Adjustable outlet grille makes it possible to direct the air for optimum air curtain effect.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour: white, RAL 9016, NCS S 0500-N. Colour grille: grey, RAL 7046.

Ambient, no heat - AGS5500 A

IP23

Type	Output [kW]	Airflow*1 [m³/h]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
AGS5515A	0	2500/5800	51/70	230V~	8,1	1515	109
AGS5520A	0	3750/8700	52/72	230V~	12,1	2010	144
AGS5525A	0	5000/11600	53/73	230V~	16,2	2520	183
AGS5530A	0	6250/14500	55/74	230V~	20,3	3030	218

Water heat - AGS5500 WL, coil for low water temperature (≤80 °C)

IP23

Type	Output*4 [kW]	Airflow*1 [m³/h]	Δt*3,4 [°C]	Water volume [l]	Sound level*2 [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
AGS5515WL	26	2500/5500	19/14	4,0	50/70	230V~	7,7	1515	129
AGS5520WL	45	3750/8250	22/16	8,1	51/71	230V~	11,6	2010	169
AGS5525WL	59	5000/11000	21/16	9,2	52/72	230V~	15,4	2520	213
AGS5530WL	71	6250/13750	20/15	11,0	54/74	230V~	19,3	3030	258

*1) Lowest/highest airflow of totally 5 fan steps.

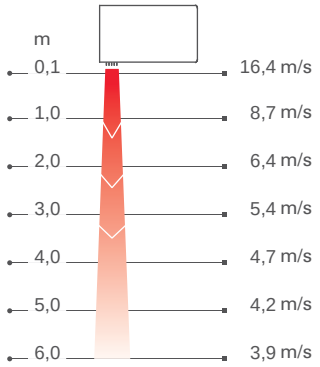
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

*4) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.

Models 1,5m – 2,5m approved for 220V/1ph/60Hz are available on request. Product performance for 220V/1ph/60Hz will differ from stated data.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

Control

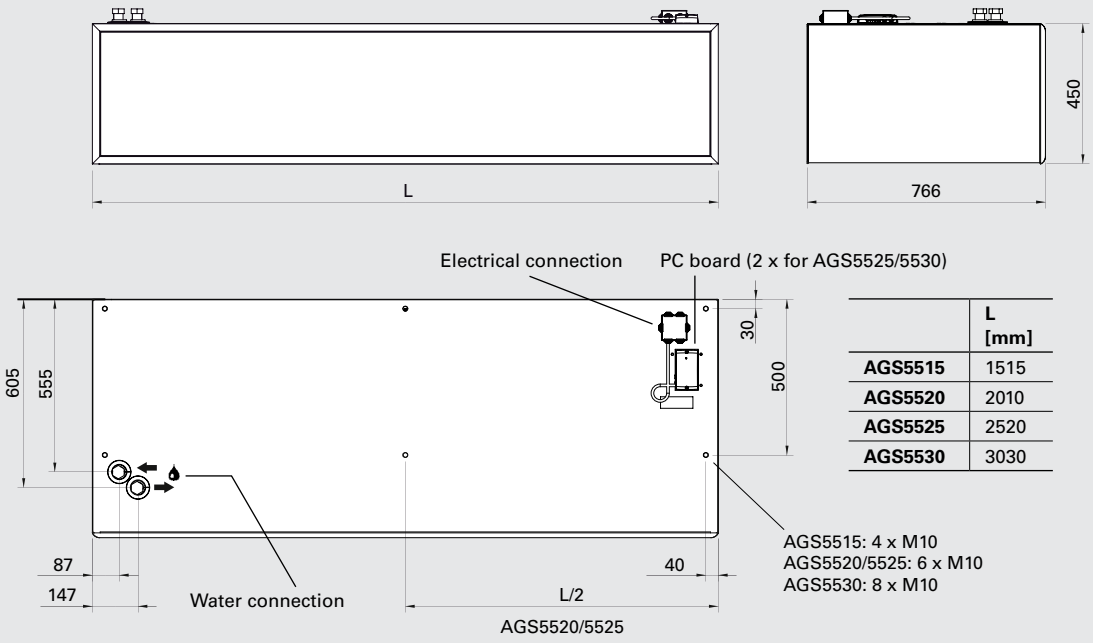

SIRe Basic


SIRe Competent


SIRe Advanced

This air curtain is supplied prepared for the SIRe control system that has many smart and energy saving functions. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For further information and options, see the "Controls" section.

Dimensions



	L [mm]
AGS5515	1515
AGS5520	2010
AGS5525	2520
AGS5530	3030

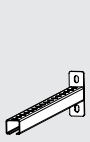
Accessories

GWB640, wall bracket

Brackets for installing unit horizontally on a wall. Two are required for 1 and 1.5 metre units, while 2 and 2.5 metre units need three and 3 metre units need four.

GP1010, threaded bar

Threaded bar for mounting in ceilings. Length 1 m. M10. Four are required for 1 and 1.5 metre units, while 2 and 2.5 metre units need six and 3 metre units need eight.


GWB640


GP1010

Type	Description
GWB640	Wall bracket, 1 pc
GP1010	Threaded bar, 1 m, 1 pc

AGI

Robust air curtain for large industrial doors

AGI is a robust air curtain intended for vertical or horizontal installation in large doorways. With its powerful fans and high enclosure classification it is specially suitable for industrial environments.

- Simple suspension using fixing nuts on the upper side for installation with threaded rod.
- Adjustable outlet grille makes it possible to direct the air for optimum air curtain effect.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour: grey, RAL9006.

Ambient, no heat - AGI A Horizontal mounting (IP54)

Type	Output [kW]	Airflow [m³/h]	Sound level*¹ [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
AGIH2A	0	7000	69	400V3~	2,4	1200	51
AGIH3A	0	10500	71	400V3~	3,5	1800	75
AGIH4A	0	14000	72	400V3~	4,7	2400	97
AGIH5A	0	17500	73	400V3~	5,9	3000	120

Water heat - AGI WL, coil for low water temperature (≤80 °C) Horizontal mounting (IP54)

Type	Output*³ [kW]	Airflow [m³/h]	Δt*²,³ [°C]	Water volume [l]	Sound level*¹ [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
AGIH2WL	33	7000	14	6,6	69	400V3~	2,4	1200	82
AGIH3WL	48	10500	13	10,1	71	400V3~	3,5	1800	125
AGIH4WL	64	14000	14	14,0	72	400V3~	4,7	2400	165
AGIH5WL	81	17500	14	17,6	73	400V3~	5,9	3000	205

Ambient, no heat - AGI A Vertical mounting (IP54)

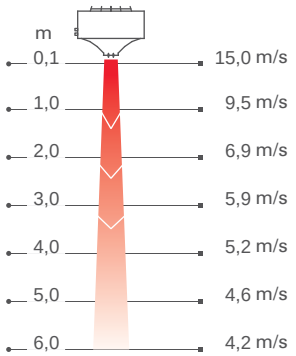
Type	Output [kW]	Airflow [m³/h]	Sound level*¹ [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
AGIV2A	0	7000	69	400V3~	2,4	1200	51
AGIV3A	0	10500	71	400V3~	3,5	1800	75
AGIV4A	0	14000	72	400V3~	4,7	2400	97
AGIV5A	0	17500	73	400V3~	5,9	3000	120

Water heat - AGI WL, coil for low water temperature (≤80 °C) Vertical mounting (IP54)

Type	Output*³ [kW]	Airflow [m³/h]	Δt*²,³ [°C]	Water volume [l]	Sound level*¹ [dB(A)]	Voltage motor [V]	Amperage motor [A]	Length [mm]	Weight [kg]
AGIV2WL	33	7000	14	6,6	69	400V3~	2,4	1200	82
AGIV3WL	48	10500	13	10,1	71	400V3~	3,5	1800	125
AGIV4WL	64	14000	14	14,0	72	400V3~	4,7	2400	165
AGIV5WL	81	17500	14	17,6	73	400V3~	5,9	3000	205

*¹) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².
*²) Δt = temperature rise of passing air at maximum heat output and highest airflow.
*³) Applicable at water temperature 60/40 °C, air temperature, in +18 °C.
Approved for 380V/3ph/60Hz. Product performance for 380V/3ph/60Hz will differ from stated data.

Air velocity profile



Measurements according to ISO 27327-1.
Average values for products in the series.

Control

Unit without heating

Level 1

- RTRD7, RTRD14, 5-step fan speed control.
- AGB304, position limit switch.

Unit with water heating

Level 1

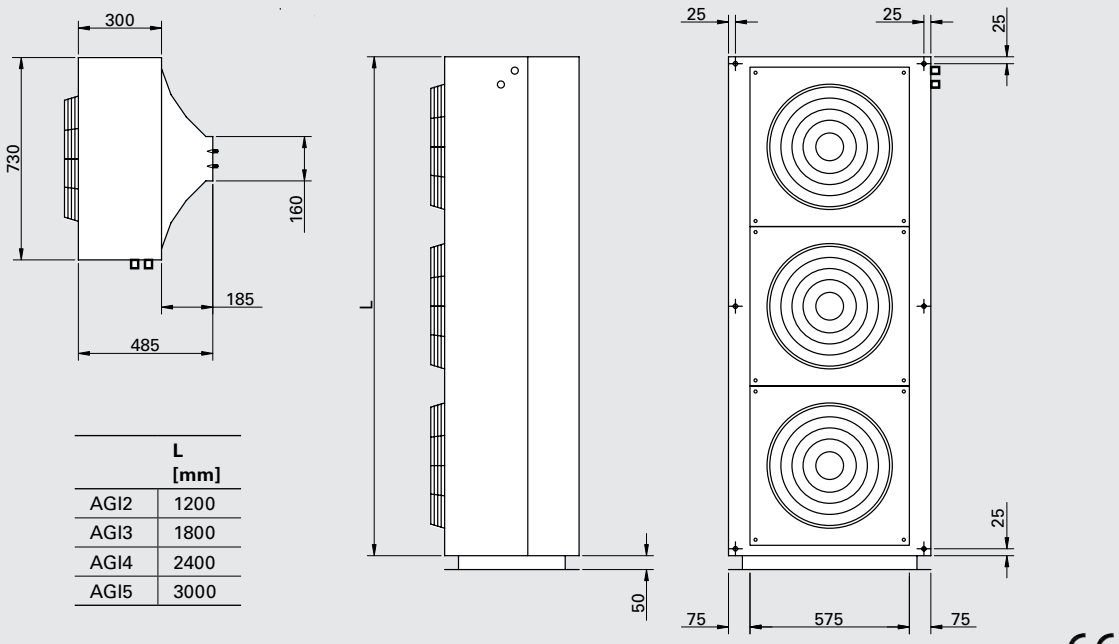
- RTRD7, RTRD14, 5-step fan speed control.
- AGB304, position limit switch.
- T10S, room thermostat IP30.

Level 2

- RTRDU, 5-step fan speed control, high/low speed.
- MDC, magnetic door contact with a time relay.
- RTI2, electronic 2-step thermostat.

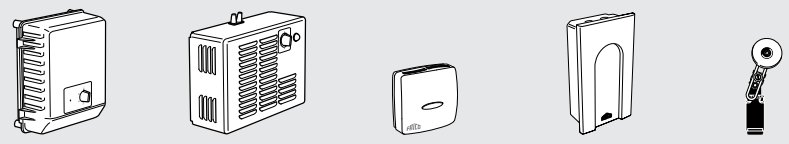
Valve kit VRS20/25 (option: valve TVVS20/25 with actuator SD20) is used to control the water flow.

Dimensions



	L [mm]
AGI2	1200
AGI3	1800
AGI4	2400
AGI5	3000

Accessories



RTRD7 RTRD14 T10S RTI2 AGB304

Type	Description	HxWxD [mm]
RTRD7	5-step fan speed control, 7 A	309x262x160
RTRD14	5-step fan speed control, 14 A	290x400x166
T10S	Electronic thermostat, IP30	80x80x31
RTI2	Electronic 2-step room thermostat, IP44	155x87x43
AGB304	Position limit switch, IP44	

UF600

Air curtain with floor outlet for large industrial doorways

UF600 creates a very effective air barrier when air at high speed is pushed out through a narrow channel situated in the floor inside the door opening. An air barrier directed upwards from the floor gives the best possible protection against cold air flowing into the premises.

UF600 consists of a pillar with inlet hood, silencers and fans, as well as a floor channel with its slot at floor level. The pillar is placed outside (or inside) the door on either side of the opening. The floor channel is cast in the floor.

- Can be used for doors with rail traffic.
- Short payoff period.
- Very large doors (e.g. 8 x 10 m) require several pillars and separated floor ducts. The pillars can be positioned on each or the same side of the opening.
- Available in galvanised, hot zinc-plated steel panels for outdoor installation.

Ambient, no heat - UF600

IP54

Type	Output [kW]	Air velocity [m/s]	Voltage [V]	Amperage [A]	Dimensions floor duct [mm]	Diameter fans [mm]	Diameter silencer [mm]
UF601	2x4	30	400V3~	2x8,4	600x600	500	750
UF602	2x7,5	35	400V3~	2x14,6	750x750	630	900
UF603	2x11	38	400V3~	2x20	750x750	630	900
UF604	2x15	38	400V3~	2x31	750x750	630	900
UF605	2x18,5	40	400V3~	2x37	750x750	630	900

Principle

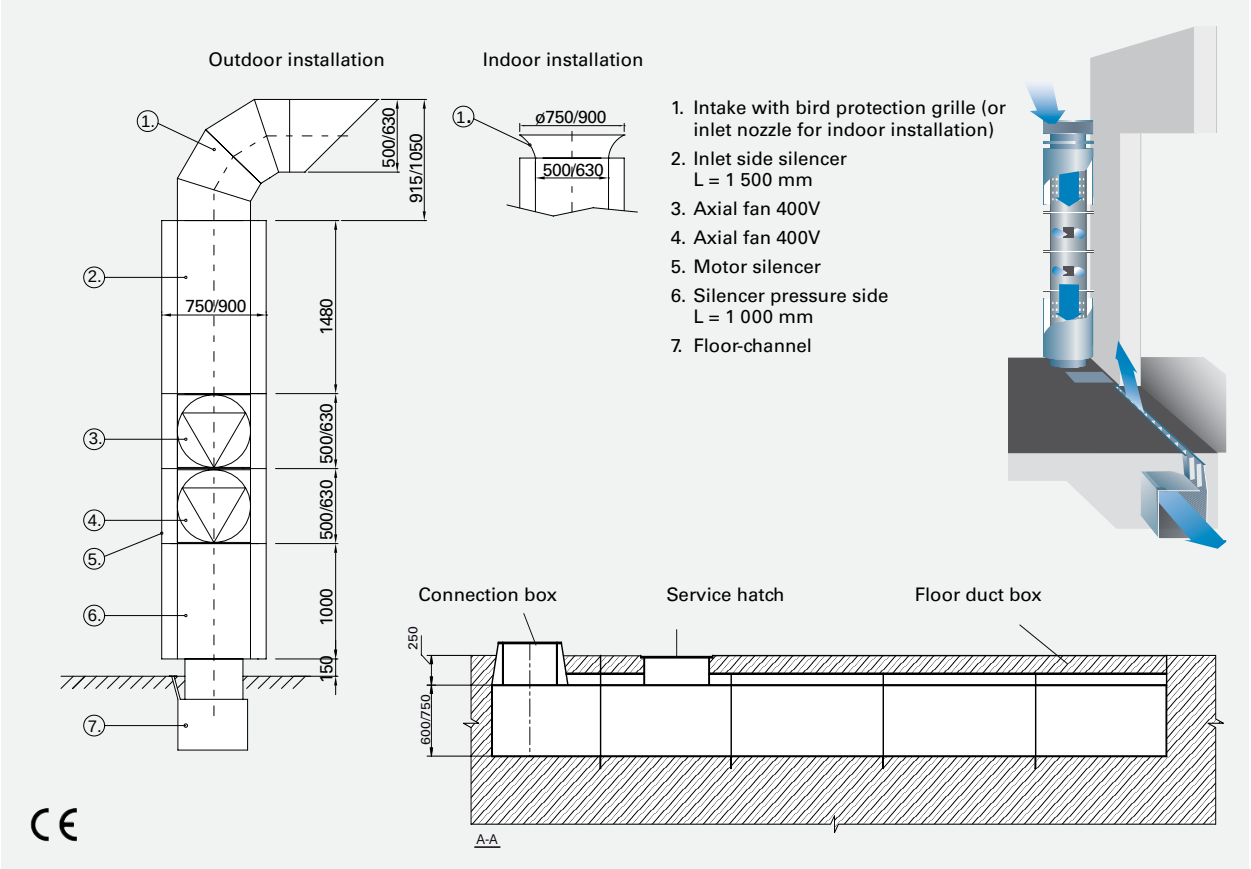
Dimensioning

Door width [m]

Door height [m]	3 m	4 m	5 m	6 m	7 m	8 m	10 m
3 m	UF601	UF601	UF601	UF601			
4 m		UF602	UF602	UF602			
5 m			UF603	UF603	UF604	UF605	
6 m				UF604		UF605	UF605

Other door sizes on request. For larger openings, two pillars are required. Please contact Frico.

Dimensions



Controls and accessories

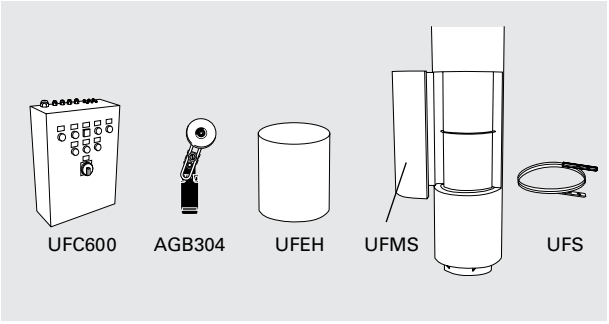
UFC, starter kit
Y/D-start with time delay between the motors. Possibility of starting via door switch or position limit switch. Integrated motor protection for each fan.

AGB304, position limit switch
Starts the air curtain when the door is opened and stops it when the door is closed. Alternating contact 4 A, 230 V~. IP44.

UFEH, pillar extension
For indoor mounting the air intake should be above the door opening, therefore an extension of the column is sometimes necessary. This is placed between the inlet hood and the upper silencer.

UFMS, motor silencer
Additional motor silencer which gives a lower sound level and a uniform tower.

UFS, securing bracket
The securing bracket is mounted round the upper silencer and fixed to the outside wall to avoid the risk of tipping.



Type	Description
UFC601	Starter kit UF601, 600x600x200mm
UFC602	Starter kit UF602, 600x600x200mm
UFC603	Starter kit UF603, 600x600x200mm
UFC604	Starter kit UF604, 600x600x200mm
UFC605	Starter kit UF605, 800x600x250mm
AGB304	Position limit switch, IP44
UFEH05	Pillar extension, 500 mm, Ø500 mm
UFEH10	Pillar extension, 1000 mm, Ø630 mm
UFEH15	Pillar extension, 1500 mm, Ø630 mm
UFEH20	Pillar extension, 2000 mm, Ø630 mm
UFMS750	Motor silencer, Ø750 mm
UFMS900	Motor silencer, Ø900 mm
UFS750	Securing bracket, Ø750 mm
UFS900	Securing bracket, Ø900 mm

PA1508

Air curtain for small openings

PA1508 is primarily intended for small openings such as kiosk and service hatches and cashier benches where a long, narrow air flow is required. This creates a temperature separating air barrier that prevents cold air from pushing in and hot air from flowing out. PA1508 also gives additional heat and in this way also improves the working environment.

- Built-in control.
- Compact and easily positioned.
- Low sound level.
- Units with 2-3 kW are supplied with a 1,8 m cable and plug. Units with 4,5 kW are supplied with a 1,3 m cable without plug.
- The unit is easily angled on the bracket, which is used for both wall and ceiling mounting.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour front: white, RAL 9016, NCS S 0500-N. Colour grille, rear section, ends and brackets: grey, RAL 7046.

Electrical heat - PA1508

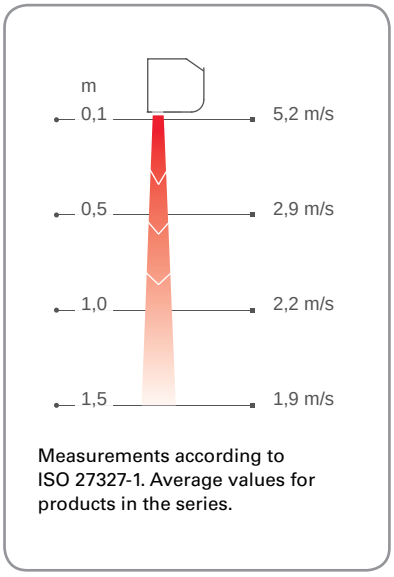
IP20

Type	Output [kW]	Airflow [m³/h]	Δt*² [°C]	Sound level*¹ [dB(A)]	Voltage [V]	Amperage (heat) [A]	Length [mm]	Weight [kg]
PA1508E02	1/2	270/400	22/15	39/50	230V~	9,3	790	7,5
PA1508E03	2/3	270/400	34/23	39/50	230V~	13,6	790	7,5
PA1508E05	3/4,5	270/400	51/34	39/50	230V~	20,2	790	7,5

*¹) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.

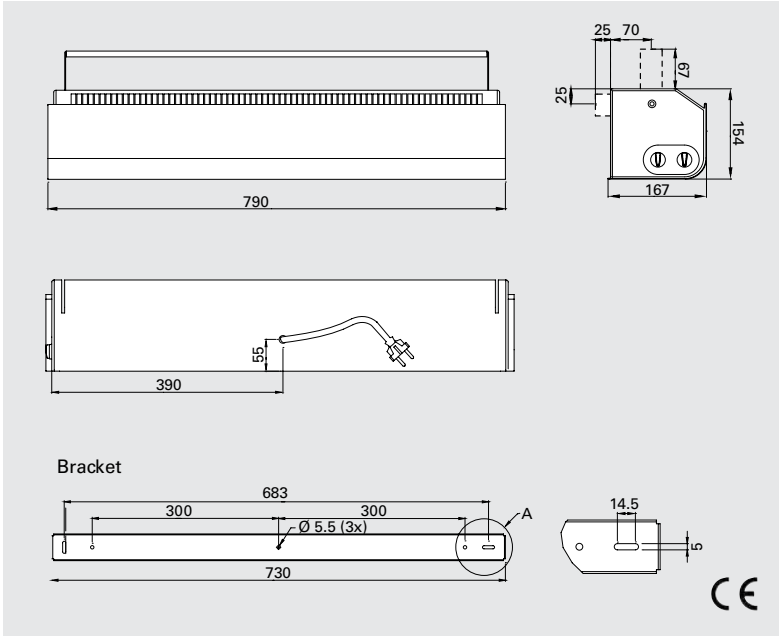
*²) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

Air velocity profile



Measurements according to ISO 27327-1. Average values for products in the series.

Dimensions



Door heater PA1006

For increased comfort inside the door

PA1006 is a compact door heater which heats the incoming air and gives increased comfort on the inside. When wall mounted, the unit can act as a high level fan heater.

- Integrated selector for the fan and heating.
- Compact and easily positioned.
- Easy installation with 1,8 m cable and plug.
- Low sound level.
- The unit is easily angled on the bracket, which is used for both wall and ceiling mounting.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour front: white, RAL 9016, NCS S 0500-N. Colour grille, rear section, ends and brackets: grey, RAL 7046.

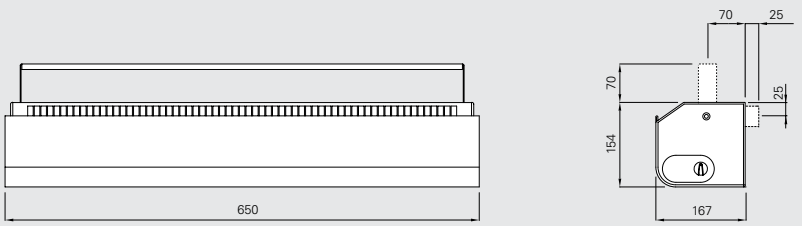
Electrical heat - PA1006

IP20

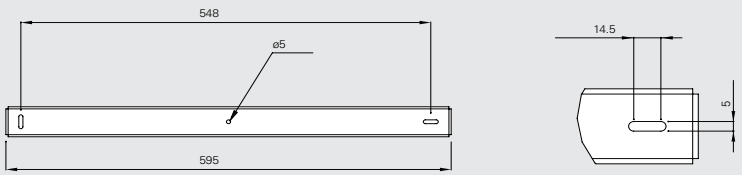
Type	Output [kW]	Airflow [m³/h]	Δt*1 [°C]	Sound level*2 [dB(A)]	Voltage [V]	Amperage [A]	Length [mm]	Weight [kg]
PA1006E03	0/1,5/3	230	39	44	230V~	13,5	650	5,3

*1) Δt = temperature rise of passing air at maximum heat output and highest airflow.
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².

Dimensions



Bracket



Frico’s radiant heaters heat like the sun

Frico’s radiant heaters heat like the sun. The most magnificent radiant heater is the sun. The heat emitted from this hot source is essential for all life on earth. The infrared rays of the sun can travel a long distance, with a minimal loss of energy. When the infrared rays hit a surface, the energy is converted to heat. Warm objects then heat the surrounding air. Even though the sun is so far away it heats the surface of the earth, while the space in between remains cold. Nature's own way of heating is fantastic! Frico radiant heaters imitate the sun, the most comfortable and economical heat source available.

There are many advantages with radiant heaters:

Economy

- Heat people and objects first and then the surrounding air. This allows the temperature to be reduced while maintaining comfort.
- Produces instant heat, thus much quicker than traditional heating systems. This is especially useful outdoor and in buildings that are used occasionally such as sport centres and country houses.
- Heat at floor level, not at the ceiling.
- Reduced night temperture possible with right controls thanks to quick heat-up time.

Safety

- By positioning the heaters at high level, the risk of getting in contact with the heater is greatly reduced. The heater is also protected against damage.
- Some radiant heaters are ideal for premises with fire risk or highly explosive environments (see radiant heater Aquaztrip).

Simplicity

- Easy and flexible installation.
- Requires a minimum of maintenance.

Space

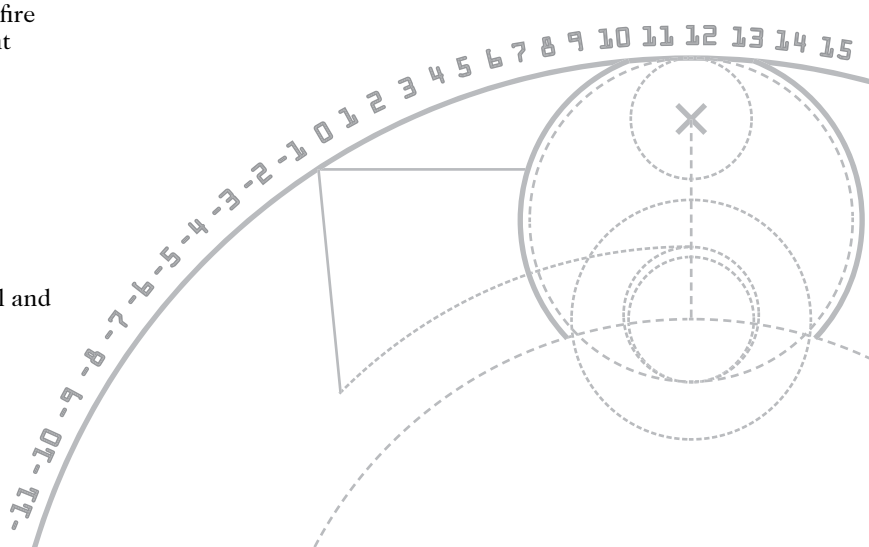
- By putting the heater on the ceiling, valuable wall and floor space is saved.

Comfort

- Using the radiation principle, air is not heated directly. This results in a soft, draught-free, comfortable indoor climate and an even temperature.
- Does not cause any air movement, as traditional heating systems often do. Reducing the spread of dust, bacteria or odours improves the quality of the indoor environment.

Discreet

- The system is completely silent.
- Mounting on the ceiling or recessed in a false ceiling gives a discreet heating.



Total heating

Radiant heaters heat people first, then the air. The operative temperature, being the temperature a person senses, is therefore a little higher than the actual air temperature.

For a specific comfort level, use of a radiant heating system will allow a reduction in air temperature of a couple of degrees when compared to a conventional system, and every degree reduction will reduce energy consumption by approx. 5 %.

Cold draught protection

A cool surface such as a window has a chilling effect on the neighbouring air. Radiant heaters provide efficient and economical protection against cold draughts caused by windows by heating the window's surface. The colder the window, the more radiant heat it will draw. The radiated heat "automatically" migrates to where it is most needed, which facilitates the creation of a comfortable indoor climate.

Complementary heating

As addition to other heating systems and when expanding an existing system, radiant heaters are often a simple, inexpensive solution. For a water heated building, putting up a single or a few electrical heaters is often a smoother and more flexible solution than extending the water pipe system.

Zone and spot heating

With a radiant heating system, different zones within the same room can have different temperatures. It is therefore possible to divide any area into smaller zones and maintain a different comfort level in each zone.

It is also possible to focus the heat on a certain spot, such as a single workstation. A spot heating application can be controlled much as spot lighting, with the level of heating being increased when needed.

Choose the right radiant heater

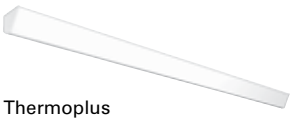
Radiant heaters are available in various designs – it is primarily the installation height, the surrounding environment and the type of heating wanted (see previous page) that determine the choice of product.

Type	Heating	Installation height [m]	Output [W]	Surface temp. [°C]	Application area*1 Offices	Industry	Outdoors	Heating element	Page
Thermoplus	⚡	2–3	300-900	180	++	+		Radiant aluminium panel	53
Thermocassette	⚡	< 3	300-600	100	++	+		Heating film	56
Elztrip EZ100	⚡	2,5–4	600-1500	280	++	+		Radiant aluminium panel	58
Elztrip EZ200	⚡	3–10	800-2200	340		++		Radiant aluminium panel	60
Elztrip EZ300	⚡	4–15	3600-4500	350		++		Radiant aluminium panel	62
Infrared IR	⚡	4,5–20	3000-6000	700		++	+	Infrared heating rod	64
Infrared IRCF	⚡	3–5	1500-4500	2200*3		++	+	Halogen lamp	66
Infrared CIR	⚡	2–2,5	500-2000	750		+	++	Infrared heating rod	68
Infrared ELIR	⚡	2–3	1200	2200*3		+	++	Halogen lamp	70
Infrared IH	⚡	1,8–3,5	1000-2000	2200*3		+	++	Halogen lamp	72
Infrared IHC	⚡	1,8–3	1150-1750	1200*3		+	++	Carbon lamp	74
Aquaztrip Basic	💧	3–15	199*2	80–120*2	+	++		Radiant aluminium panel	76

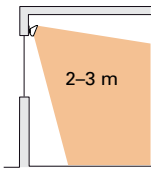
*1) Our products are divided into three main application areas: "Offices, shops and public premises", "Industry and large premises" and "Outdoors" but most products can be used in several application areas.
*2) Output per meter. Depending on water temperature.
*3) Filament temperature

Offices, shops and public premises

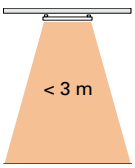
Radiant heaters offer many advantages for applications where silent, discreet and efficient heating is required. They give a safe, hygienic and pleasant heat. Mounting on the ceiling or recessed in a false ceiling leaves the walls free and gives a discreet heating. Ceiling mounting also protects the heaters from damage, which ensures longer life. With zone and spot heating as well as protection against cold draughts it is possible to create a comfortable indoor climate with the best economy.



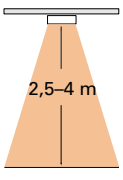
Thermoplus



Thermocassette



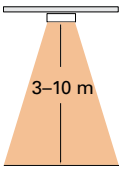
EZ100



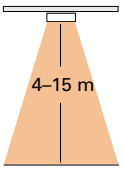
Industry and large premises

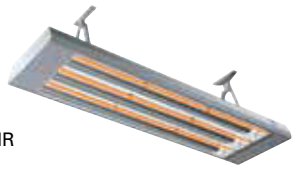
The principle of radiant heaters is well used in buildings with high ceilings such as industrial premises. There are no heat losses between heater and floor since radiant heaters only create the heat when they hit a surface. An industrial building often consists of zones that require different temperatures. With radiant heaters it is possible to direct the heat where it is needed and create different temperature zones.

EZ200

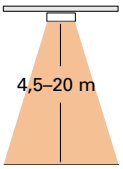


EZ300

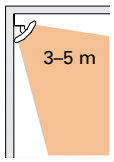




IR



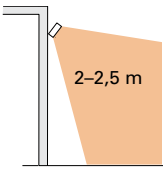
IRCF



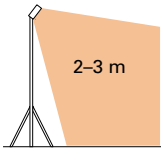
Outdoors

The summer season can be prolonged with the use of radiant heaters for outdoor use. There are different solutions depending on the environment. For open-air restaurants without protective walls a heater with a high surface temperature is required. The better the area is protected against the wind, the less output you need, which means you are not as dependent on heaters with a high surface temperature.

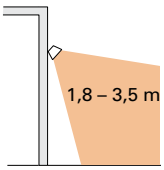
CIR



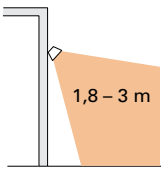
ELIR



IH



IHC



Installation examples for radiant heaters

Frico radiant heaters are available for different kinds of heating and for different application areas. To facilitate your choice of product, you will find some typical cases on the following pages. More detailed information on important factors to consider when choosing a radiant heater is found on the previous pages.

Basic criterias:

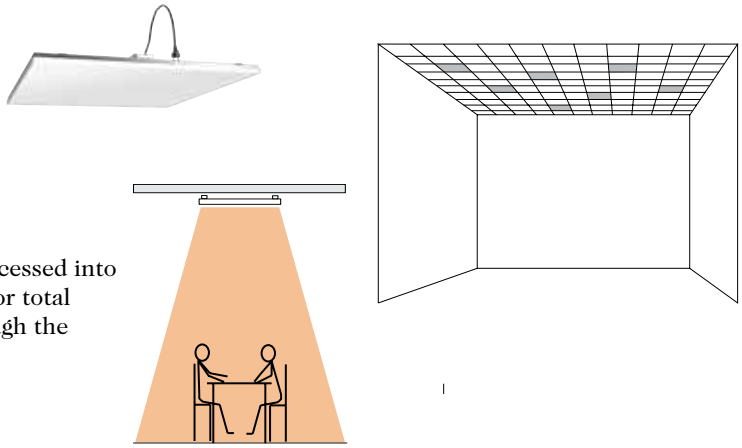
1. Type of premises – store, warehouse etc.
2. Type of heating - total heating, zone heating, cold draught protection
3. Height: installation height
4. Mounting: wall or ceiling
5. Connection: with electrical heat or water heat

Offices, shops and public premises

Total heating, cafeteria

1. Type of premises: cafeteria
2. Type of heating: total heating
3. Height: 2,80 metres
4. Mounting: ceiling
5. Connection: electrical

Recommendation: Thermocassette can be recessed into a false ceiling. When using Thermocassette for total heating, the units should be spread out through the ceiling for example as shown.

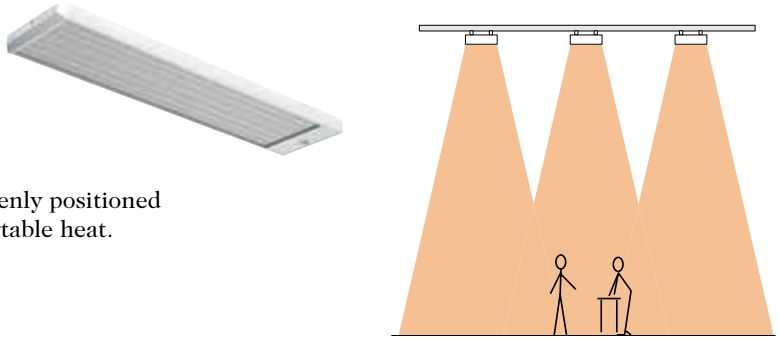


Industry and large premises

Total heating, workshop

1. Type of premises: workshop
2. Type of heating: total heating
3. Height: 5 metres
4. Mounting: ceiling
5. Connection: with electrical heat

Recommendation: A number of EZ300 evenly positioned over the area to be heated creates comfortable heat.

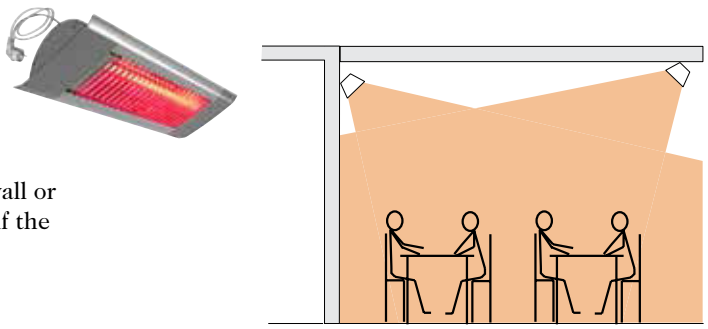


Outdoors

Zone heating, café

1. Type of premises: café
2. Type of heating: zone heating
3. Height: 3 metres
4. Mounting: wall and ceiling
5. Connection: with electrical heat

Recommendation: IH can be mounted on the wall or ceiling of the restaurant. Best comfort is given if the heaters heat from two directions.



Thermoplus EC

Slim radiant heater for protection against cold draughts

Thermoplus is mounted above windows and gives an effecient protection against cold draught. The slim shape also makes it suitable for heating areas with limited space, like for example bathrooms. Thermoplus can furthermore be a cost-effective and flexible alternative to floor heating.

Thermoplus is covered with white enamel which makes it discreet and scratch-resistant. The slim shape makes it practically invisible when mounted in the ceiling angle.

- Thermoplus is available in three versions:
  - **Type EC**, for dry rooms. Controlled by a separate thermostat or output control. IP20.
  - **Type ECVT**, for wet rooms. With a built-in cord switch, indicator lamp and thermostat (+5 – +40 °C). IP44.
  - **Type ECV**, for wet rooms. Primarily designed for connection as slave device to ECVT, but can also be controlled separately using the same methods as for EC. IP44.
- Installed above windows and therefore also suitable for rooms where children are present.
- Wall brackets included. Ceiling mounting kit is available as an accessory.
- Front panel of white scratch-resistant enamelled aluminium. Colour: RAL 9010. Rear panel of hot zinc-plated steel panels.

Thermoplus EC for dry rooms (IP20)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. surface temp. [°C]	LxHxD [mm]	Weight [kg]
EC45021	450	230V~	2,0	180	1076x100x90	2,6
EC45031	450	400V~	1,1	180	1076x100x90	2,6
EC60021	600	230V~	2,6	180	1505x100x90	3,7
EC60031	600	400V~	1,5	180	1505x100x90	3,7
EC75021	750	230V~	3,3	180	1810x100x90	4,4
EC75031	750	400V~	1,9	180	1810x100x90	4,4
EC90021	900	230V~	3,9	180	2140x100x90	4,8
EC90031	900	400V~	2,3	180	2140x100x90	4,8

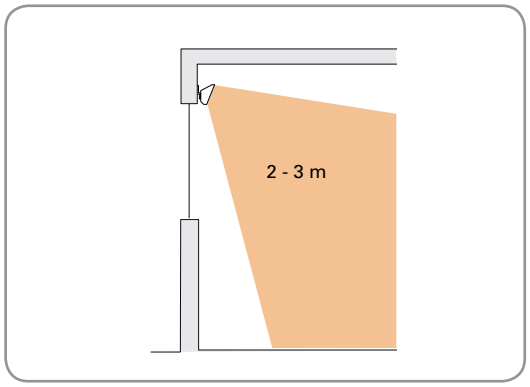
Thermoplus ECVT for wet rooms, with built-in switch and thermostat (IP44)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. surface temp. [°C]	LxHxD [mm]	Weight [kg]
ECVT30021	300	230V~	1,3	180	870x100x90	2,6
ECVT55021	550	230V~	2,4	180	1505x100x90	4,3
ECVT55031	550	400V~	1,4	180	1505x100x90	4,3
ECVT70021	700	230V~	3,0	180	1810x100x90	5,0
ECVT70031	700	400V~	1,8	180	1810x100x90	5,0

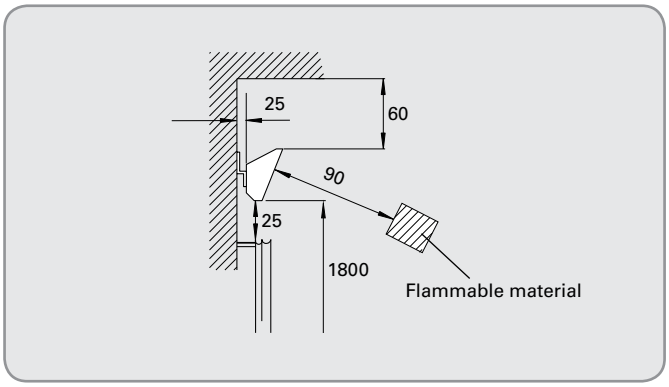
Thermoplus ECV slave unit to ECVT for wet rooms (IP44)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. surface temp. [°C]	LxHxD [mm]	Weight [kg]
ECV30021	300	230V~	1,3	180	870x100x90	2,3
ECV55021	550	230V~	2,4	180	1505x100x90	4,0
ECV55031	550	400V~	1,4	180	1505x100x90	4,0
ECV70021	700	230V~	3,0	180	1810x100x90	4,7
ECV70031	700	400V~	1,8	180	1810x100x90	4,7

Installation height

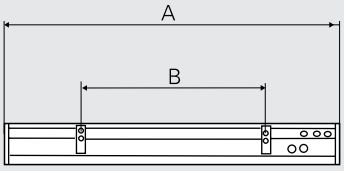


Minimum distances



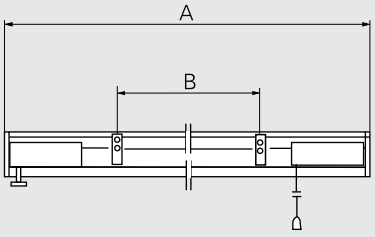
Dimensions

Type EC



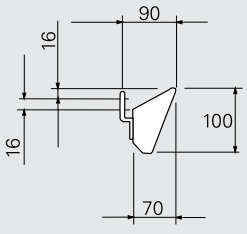
	A [mm]	B [mm]
EC450	1076	600
EC600	1505	900
EC750	1810	1200
EC900	2140	1800

Type ECV, ECVT

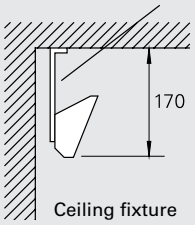


	A [mm]	B [mm]
ECV(T)300	870	400
ECV(T)550	1505	900
ECV(T)700	1810	1200

Mounting on the wall



Mounting on the ceiling



CE

Mounting

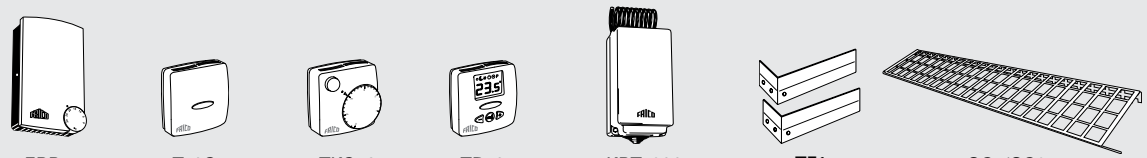
Thermoplus is installed horizontally e.g. at the ceiling angle above the window. Wall brackets included. Ceiling mounting kit is available as an accessory.

Connection

Thermoplus is intended for permanent installation. There is a 5-poled plinth in the terminal box which allows bridge connection. Several Thermoplus can be connected to one thermostat or electric heating control.

Type EC is controlled by a separate thermostat or output control. ECVT has a built-in cord switch and thermostat. ECV is primarily designed to be a slave connected to ECVT, maximum 3600 W at 230 V~ or 4000 W at 400 V~, but can also be regulated separately using the same methods as for EC.

Accessories



Type	Description	HxWxD [mm]
ERP	Electric heating control, IP20	153x94x43
ERPS	Electric heating control (slave), IP20	153x94x43
T10S	Electronic thermostat, IP30	80x80x31
TKS16	Electronic thermostat, knob, 1-pole switch, IP30	80x80x39
TD10	Electronic thermostat, display, IP30	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
TF1	Fixture for ceiling mounting	
OS1	Protection net 1070 mm	L:1070
OS2	Protection net 1500 mm	L:1500

Thermocassette HP

Discreet radiant heat cassette for recessed or surface mounting

Thermocassette is intended for discreet heating in offices, bathrooms, schools etc. Designed for either surface or recessed mounting it is well suited for total heating as well as for spot heating of for example a reception desk. Mounted in a false ceiling it is well protected against damage.

Recessed mounting make the heater an integral part of the ceiling.

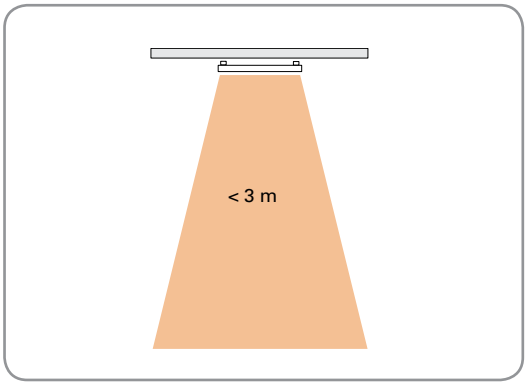
- The low surface temperature (max. 100 °C) makes Thermocassette well suited for low ceiling heights. There is no risk of burns to the person(s) in this vicinity.
- Easy installation with 1,8 m cable and plug.
- High protection class, IP55.
- Complies with requirements of flammable areas according to SEMKO 111FF.
- Corrosion proof casing of hot zinc-plated and powder lacquered steel panels. Colour: white, RAL 9016, NCS S 0500-N.

Thermocassette HP (IP55)

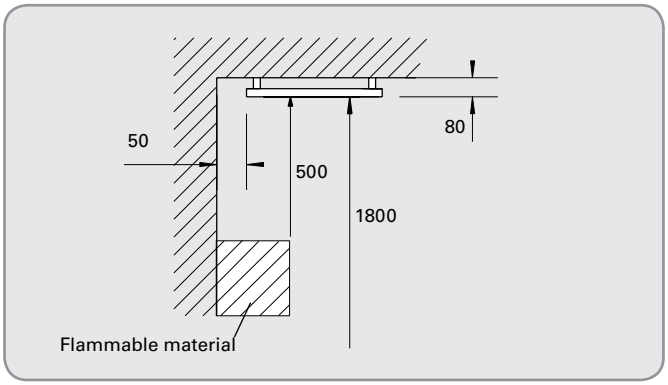
Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. surface temp. [°C]	LxBxH [mm]	Weight [kg]
HP3	300	230V~	1,3	100	593x593x80*	5,8
HP6	600	230V~	2,6	100	593x1193x80*	10,7

*) Height with brackets.

Installation height

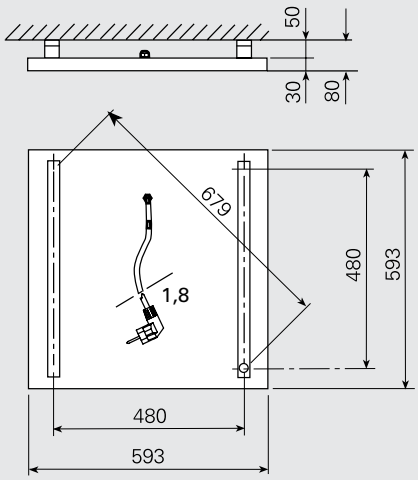


Minimum distances

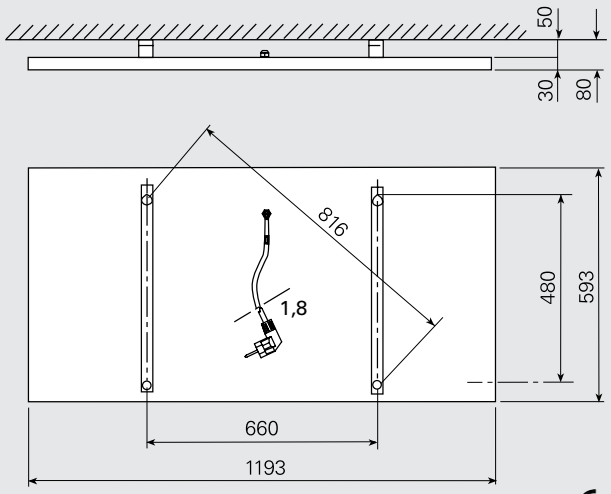


Dimensions

HP3



HP6

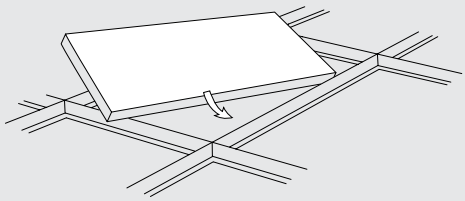


Mounting

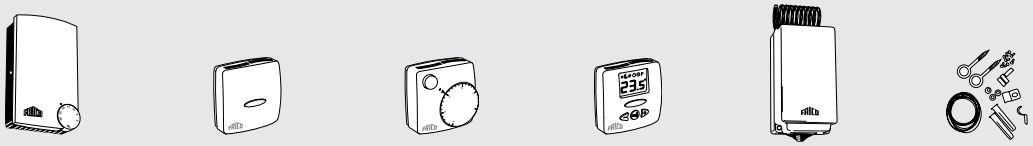
HP can be recessed in false ceilings, mounted externally with brackets on the ceiling or suspended by wire. Mounting brackets are included. Wire mounting kit is available as an accessory.

Connection

HP is equipped with a 1,8 meter cable and plug.



Accessories



ERP T10S TKS16 TD10 KRT1900 74701

Type	Description	HxWxD [mm]
ERP	Electric heating control, IP20	153x94x43
ERPS	Electric heating control (slave), IP20	153x94x43
T10S	Electronic thermostat, IP30	80x80x31
TKS16	Electronic thermostat, knob, 1-pole switch, IP30	80x80x39
TD10	Electronic thermostat, display, IP30	80x80x31
KRT1900	Capillary-room thermostat, IP55	165x57x60
74701	Wire mounting kit	

For further information and options, see the "Controls" section.

Elztrip EZ100

Single panel radiant heater for offices, shops etc.

EZ100 is intended for total and supplementary heating as well as protection against cold draughts from windows in environments such as offices, shops, restaurants etc.

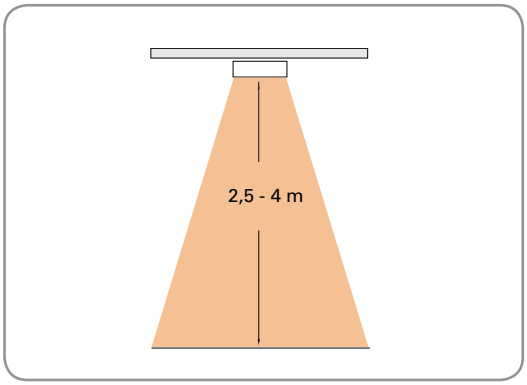
EZ100 is a single panel radiant heater with clean and simple design that blends well with electrical fittings.

- Integrated elements and a surface structure for improved efficiency.
- The heaters are approved for serial connection.
- Fixtures for easy mounting on the ceiling are included.
- Bracket for wall mounting is available as an accessory.
- Corrosion proof casing of hot zinc-plated and powder lacquered steel panels. Colour: white, RAL 9016, NCS S 0500-N. Heating panel of naturally anodised aluminium.

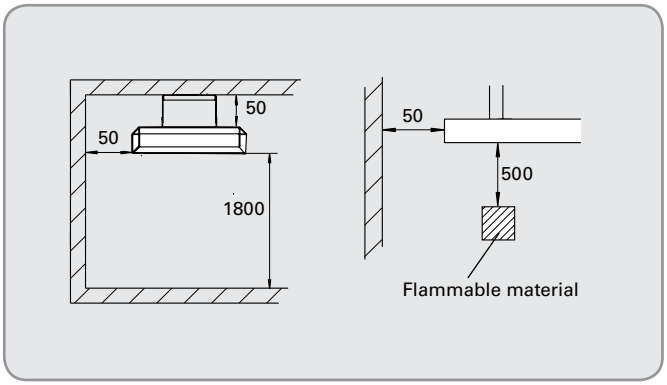
Elztrip EZ100 (IP44)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. surface temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
EZ106N	600	230V~	2,6	280	870x50x150	3,2
EZ111N	1050	230V~	4,6	280	1470x50x150	5,4
EZ115N	1500	230V~	6,5	280	1950x50x150	7,0

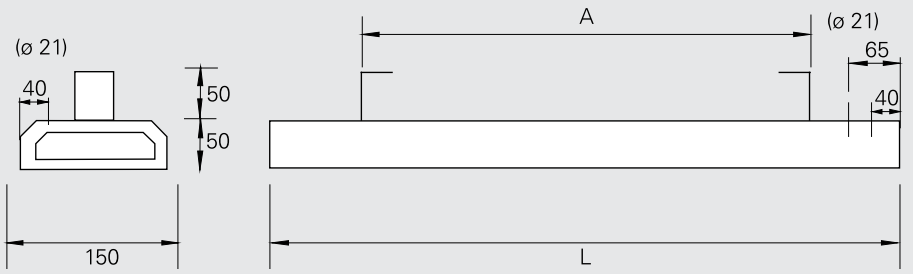
Installation height



Minimum distances



Dimensions



	L [mm]	A [mm]
EZ106N	870	655
EZ111N	1470	1252
EZ115N	1950	1731

CE

Mounting

Elztrip is installed horizontally on ceilings, in armature rails, on cables, suspended, etc. Fixtures for easy mounting on the ceiling are included. If the heater is suspended by wires, use the four mounting points on the heater. Bracket for wall mounting is available as an accessory.

Connection

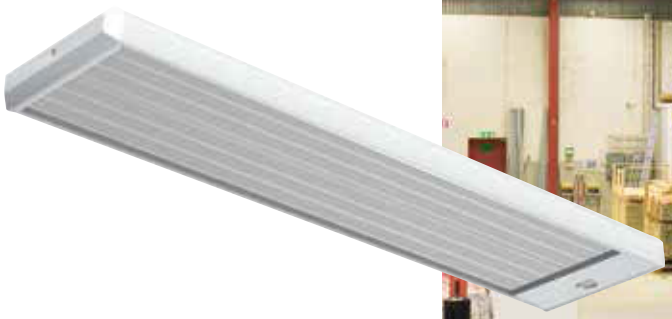
Elztrip is intended for permanent installation. The heaters are approved for serial connection.

Accessories

ERP T10S TKS16 TD10 KRT1900 CIRT EZMVK

Type	Description	HxWxD [mm]
ERP	Electric heating control, IP20	153x94x43
ERPS	Electric heating control (slave), IP20	153x94x43
T10S	Electronic thermostat, IP30	80x80x31
TKS16	Electronic thermostat, knob, 1-pole switch, IP30	80x80x39
TD10	Electronic thermostat, display, IP30	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
CIRT	Stepless output control with timer	155x87x43
EZMVK	Mounting bracket	

For further information and options, see the "Controls" section.



Elztrip EZ200

Double panel radiant heater for department stores, industrial premises etc.

EZ200 is intended for total and supplementary heating as well as protection against cold draughts from windows in environments such as, department stores, assembly halls, industrial premises etc.

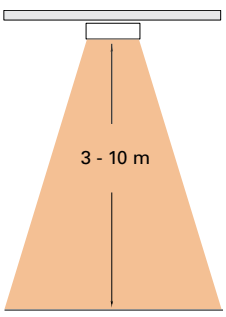
EZ200 is a double panel radiant heater with clean and simple design that blends well with electrical fittings.

- Integrated elements and a surface structure for improved efficiency.
- The heaters are approved for serial connection.
- Standard mountings for installation included.
- Corrosion proof casing of hot zinc-plated and powder lacquered steel panels. Colour: RAL 9016, NCS S 0500-N. Heating panel of naturally anodised aluminium.

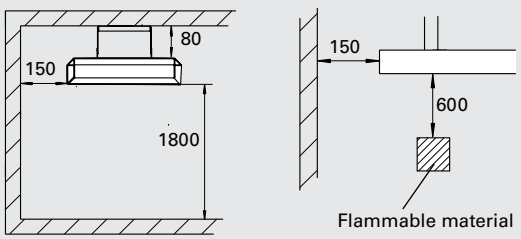
Elztrip EZ200 (IP44)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. element temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
EZ208	800	230V~	3,5	340	683x64x282	4,9
EZ212	1200	230V~	5,2	340	923x64x282	6,8
EZ217	1700	230V~	7,4	340	1221x64x282	8,8
EZ222	2200	230V~	9,6	340	1520x64x282	10,7
EZ20831	800	400V2~	2,0	340	683x64x282	4,9
EZ21231	1200	400V2~	3,0	340	923x64x282	6,8
EZ21731	1700	400V2~	4,3	340	1221x64x282	8,8
EZ22231	2200	400V2~	5,5	340	1520x64x282	10,7

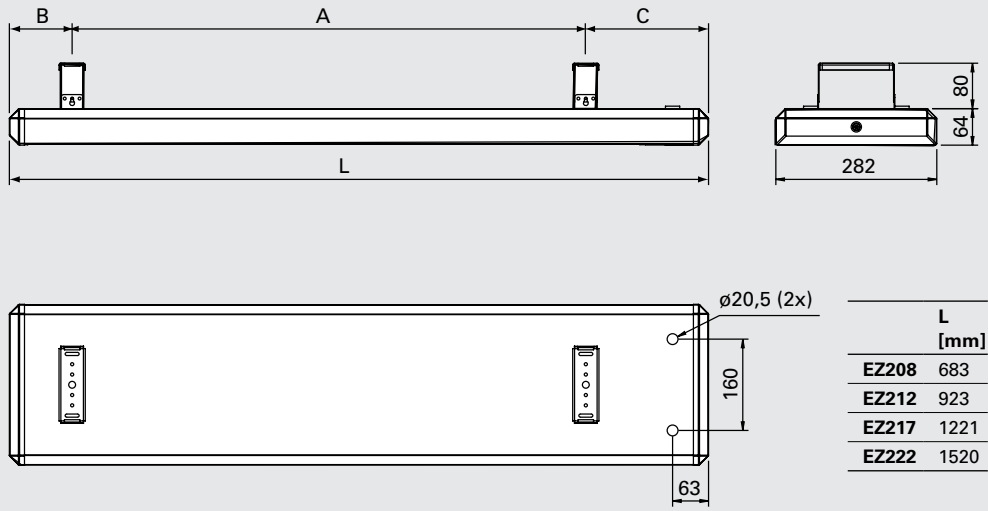
Installation height



Minimum distances



Dimensions



	L [mm]	A [mm]	B [mm]	C [mm]
EZ208	683	400	90	193
EZ212	923	600	110	213
EZ217	1221	900	109	212
EZ222	1520	1200	108	212

CE

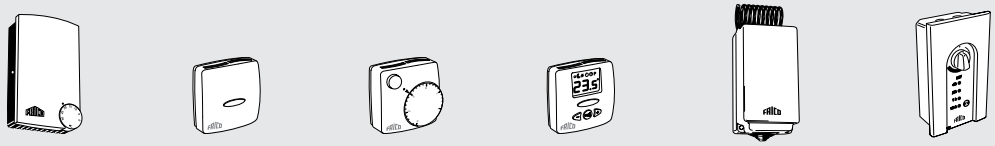
Mounting

Elztrip is installed horizontally on ceilings, in armature rails, on cables, suspended, etc. Standard mountings for installation included. If the heater is suspended by wires, use the four mounting points on the heater. Standard fittings for mounting are included. When mounting on wire, suitable clips that prevent the panel from sliding should be acquired.

Connection

Elztrip is intended for permanent installation. The heaters are approved for serial connection.

Accessories



ERP T10S TKS16 TD10 KRT1900 CIRT

Type	Description	HxWxD [mm]
ERP	Electric heating control, IP20	153x94x43
ERPS	Electric heating control (slave), IP20	153x94x43
T10S	Electronic thermostat, IP30	80x80x31
TKS16	Electronic thermostat, knob, 1-pole switch, IP30	80x80x39
TD10	Electronic thermostat, display, IP30	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
CIRT	Stepless output control with timer	155x87x43

For further information and options, see the "Controls" section.

Elztrip EZ300

Triple panel radiant heater for warehouses, workshops etc.

EZ300 is intended for total and supplementary heating in industrial environments such as warehouses, workshops etc.

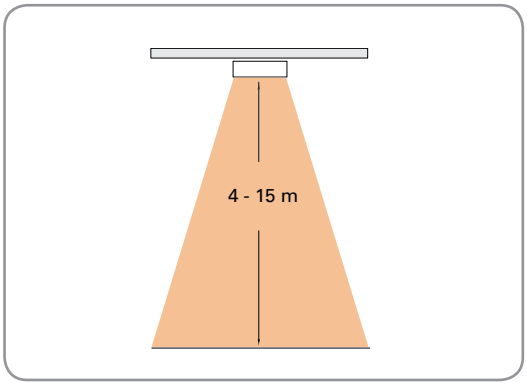
EZ300 is a triple panel radiant heater with discreet and robust design that blends well with electrical fittings.

- Integrated elements and a surface structure for improved efficiency.
- The heaters are approved for serial connection.
- Standard mountings for installation included.
- Casing of grey alu-zinc coated steel panels, very resistant against corrosion. Heating panel of naturally anodised aluminium.

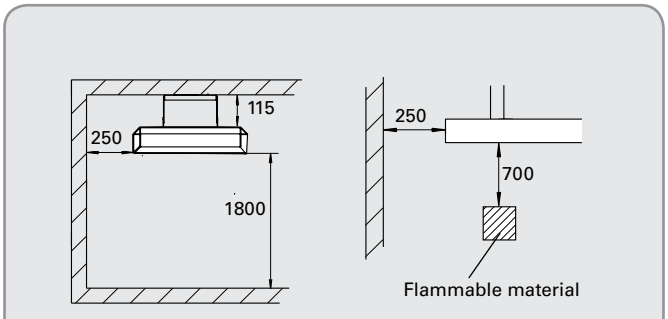
Elztrip EZ300 (IP44)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. element temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
EZ336	3600	230V3~/400V3N~	9,0/5,2	350	1670x63x420	19,8
EZ345	4500	230V3~/400V3N~	11,3/6,5	350	2030x63x420	24,2

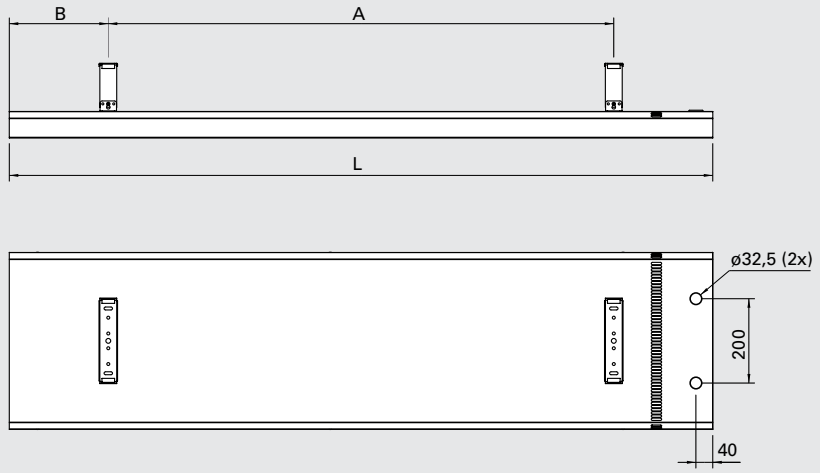
Installation height



Minimum distances



Dimensions



	L [mm]	A [mm]	B [mm]
EZ336	1670	1200	235
EZ345	2030	1500	265

CE

Mounting

Elztrip is installed horizontally on ceilings, in armature rails, on cables, suspended, etc. Standard mountings for installation included. If the heater is suspended by wires, use the four mounting points on the heater. Standard fittings for mounting are included. When mounting on wire, suitable clips that prevent the panel from sliding should be acquired.

Connection

Elztrip is intended for permanent installation. The heaters are approved for serial connection.

Accessories


T10S


TK10S


KRT1900


S123

Type	Description	HxWxD [mm]
T10S	Electronic thermostat, IP30	80x80x31
TK10S	Electronic thermostat, knob, IP30	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
S123	Manual switch for 1-2-3 output steps, IP44	72x64x46

For further information and options, see the "Controls" section.

Industrial infrared heater IR

For premises with large volumes and high ceilings

IR is suitabe for total or supplementary heating of premises with large volume and high ceilings. It can also be used outdoors for example on sport arena stands or to keep loading bays dry and frostless.

IR has a robust industrial design.

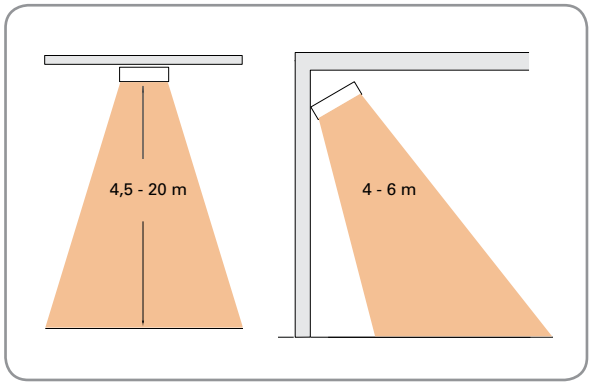
- Reflectors of shiny anodised aluminium for optimal heat distribution.
- The mounting brackets allow the heater to be angled in five different positions.
- Connection plinth which allows for connection of a regulator or for serial connection of several heaters.
- Protection grille is available as an accessory.
- Casing of grey alu-zinc coated steel panels, very resistant against corrosion.

Industrial infrared heater IR (IP44)

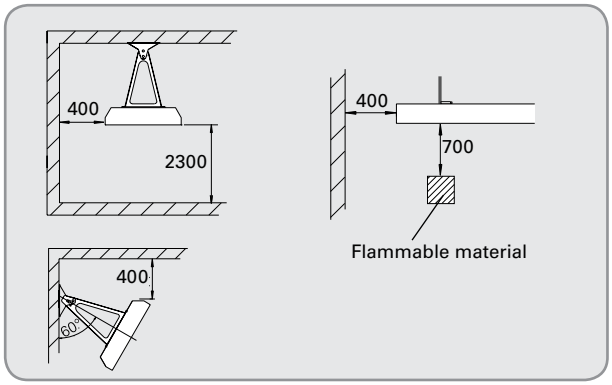
Type	Output steps [kW]	Voltage [V]	Amperage [A]	Max. element temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
IR3000	1/2/3	400V3N~*	4,3	700	1125x83x358	9,0
IR4500	1.5/3/4.5	400V3N~*	6,5	700	1500x83x358	11,1
IR6000	2/4/6	400V3N~*	8,7	700	1875x83x358	13,2

*) Can also be connected 400V3~, but then without output steps. With neutral, one element tube at a time can be connected.

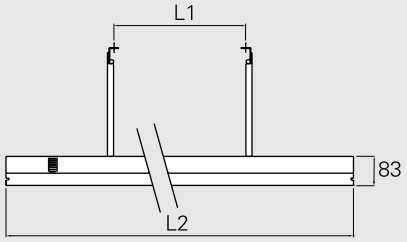
Installation height

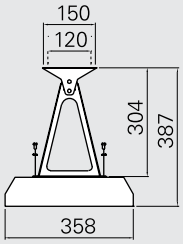


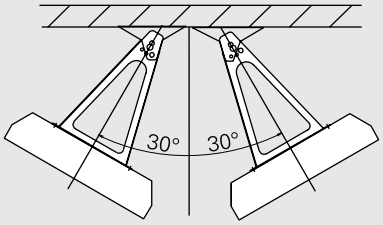
Minimum distances



Dimensions







	L1 [mm]	L2 [mm]
IR3000	600	1125
IR4500	900	1500
IR6000	1200	1875

CE

Mounting

Industrial infrared heater IR is installed horizontally with mounting brackets that can be installed directly against the ceiling or wall. The mounting allows the radiation angle to be adjusted 30° in each direction. The heaters can also be suspended from wire (minimum Ø 3 mm). Protection grille is available as an accessory.

Connection

Industrial infrared heater IR is intended for permanent installation. There are double connection plinths in the connection box that make it possible to further connect from one heater to another.

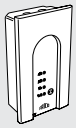
Accessories

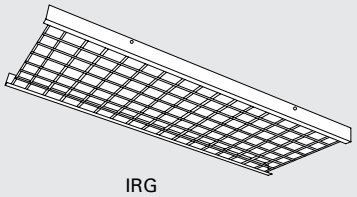

T10S


TK10S


KRT1900


S123


CBT


IRG

Type	Description	HxWxD [mm]
T10S	Electronic thermostat with concealed knob, IP30	80x80x31
TK10S	Electronic thermostat with visible knob, IP30	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
S123	Manual switch for 1-2-3 output steps, IP44	72x64x46
CBT	Timer, IP44	155x87x43
IRG3000	Protection grille IR3000	869x362x40
IRG4500	Protection grille IR4500	1235x362x40
IRG6000	Protection grille IR6000	1615x362x40

For further information and options, see the "Controls" section.

Halogen infrared heater IRCF

For spot heating of large premises

IRCF is especially designed for spot heating of premises with large air volumes, such as churches, aircraft hangars and marquees. With its high efficiency and compact size it is perfect for many difficult applications.

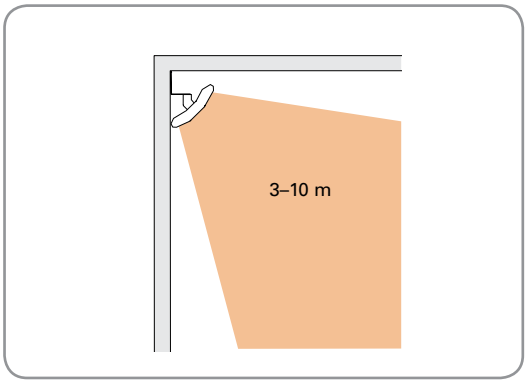
IRCF has a discreet and compact design. Equipped with one to three halogen lamps and with glossy finished reflectors.

- Equipped with one to three halogen lamps and with glossy finished reflectors.
- Easy mounting with mounting bracket on the wall or ceiling. The heater can be angled.
- Protection grille available as an accessory.
- Corrosion proof casing of aluminum.
- Colour: RAL 9006.

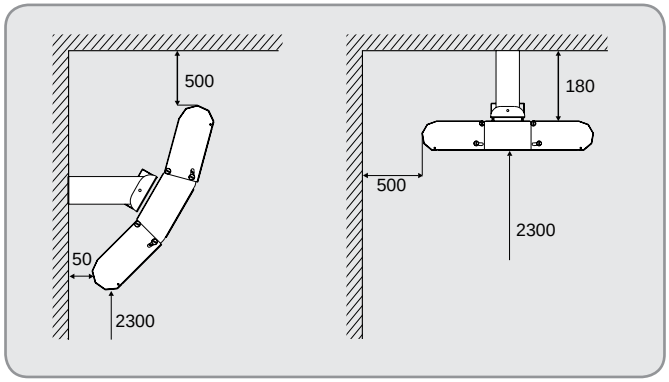
Halogen infrared heater IRCF (IP20)

Type	Heat output [W]	Voltage [V]	Dimensions LxHxW [mm]	Number of lamps	Weight [kg]
IRCF1500	1500	230V~	490x230x140	1	1,7
IRCF3000	3000	230V~	490x375x140	2	2,4
IRCF4500	4500	230V~/400V3~	490x515x140	3	3,0

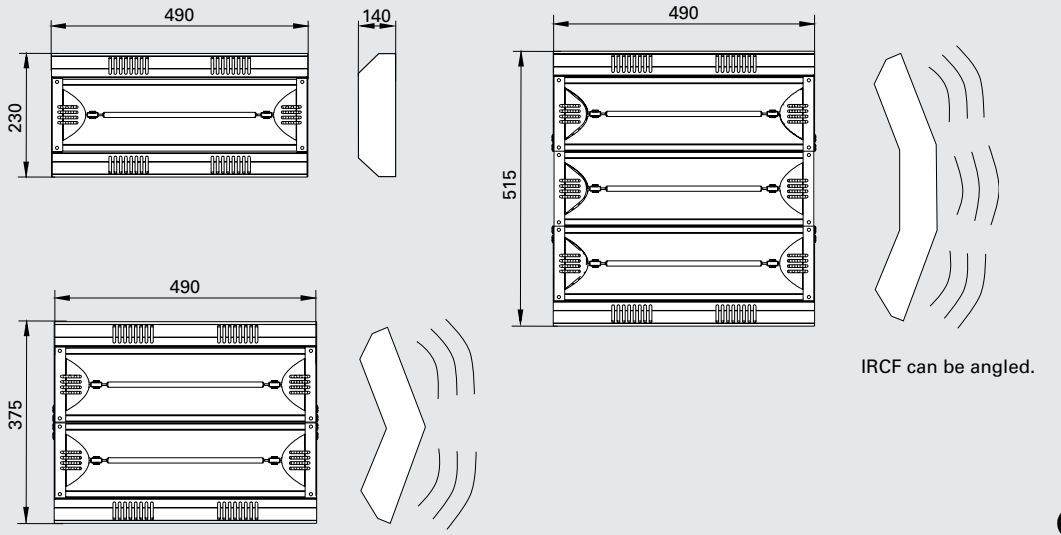
Installation height



Minimum distances



Dimensions



Mounting

IRCF is installed horizontally on the ceiling or on the wall with the supplied bracket. IRCF can be suspended from chains for example. The angle of the heater can be adjusted for optimum comfort. Protection grille is available as an accessory.

Connection

IRCF is intended for permanent installation.

Accessories

Type	Description	HxWxD [mm]
T10S	Electronic thermostat with concealed knob, IP30	80x80x31
TK10S	Electronic thermostat with visible knob, IP30	80x80x31
KRT1900	Capillary room thermostat, IP55	165x57x60
S123	Manual switch for 1-2-3 output steps, IP44	72x64x46
CBT	Timer, IP44	155x87x43
LIRCF	Extra lamp	
IRCG1	Protection grille for IRCF1500. IRCF3000 requires 2 pcs, IRCF4500 requires 3 pcs.	

For further information and options, see the "Controls" section.

Infrared heater CIR

For applications where discreet design and operation is desired

CIR provide comfort all year around on terraces, balconies and open-air restaurants. CIR can also be used for spot heating in workshops and warehouses. Requires no protection against bad weather and has five-year corrosion warranty.

CIR is discreet with its slim design and silent, invisible operation and needs little space to fit in.

- Infrared heater CIR is available in three versions:
  - **CIR100** with outputs between 500 and 2000 W.
  - **CIR200** with the same outputs and built-in switch.
  - **CIRC** with output 1000 W. 1,8 m cord and plug.
- Reflectors of high-gloss polished aluminium with maximum resistance against corrosion. Grey terminal boxes of heat and weather resistant polycarbonate.
- Adjustable mounting brackets for easy mounting on the wall or ceiling.
- No risk for current leaks and thus no problem with a safety cut-out triggering off.
- IP24. Approved for installation in baths and showers.
- Casing of white lacquered aluminium zinc panels. Colour: RAL 9002, NCS 1502-Y. Protection grille of stainless steel.

Infrared heater CIR without built-in switch (IP24)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. element temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
CIR10521	500	230V~	2,2	750	710x44x94	1,5
CIR11021	1000	230V~	4,3	750	1250x44x94	2,2
CIR11031	1000	400V2~	2,5	750	1250x44x94	2,2
CIR11521	1500	230V~	6,5	750	1755x44x94	3,0
CIR11531	1500	400V2~	3,8	750	1755x44x94	3,0
CIR12021	2000	230V~	8,7	750	2180x44x94	3,7
CIR12031	2000	400V2~	5,0	750	2180x44x94	3,7

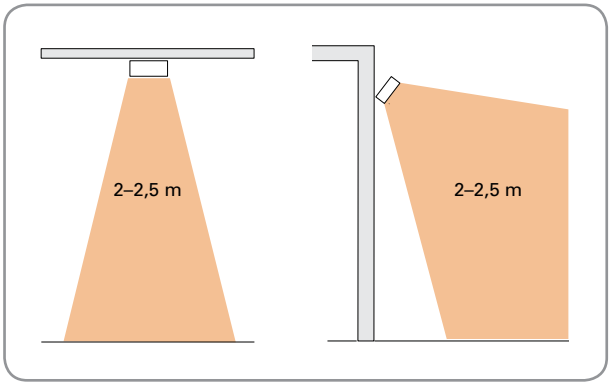
Infrared heater CIR with built-in switch (IP24)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. element temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
CIR20521	500	230V~	2,2	750	710x44x94	1,5
CIR21021	1000	230V~	4,3	750	1250x44x94	2,2
CIR21031	1000	400V2~	2,5	750	1250x44x94	2,2
CIR21531	1500	400V2~	3,8	750	1755x44x94	3,0
CIR22031	2000	400V2~	5,0	750	2180x44x94	3,7

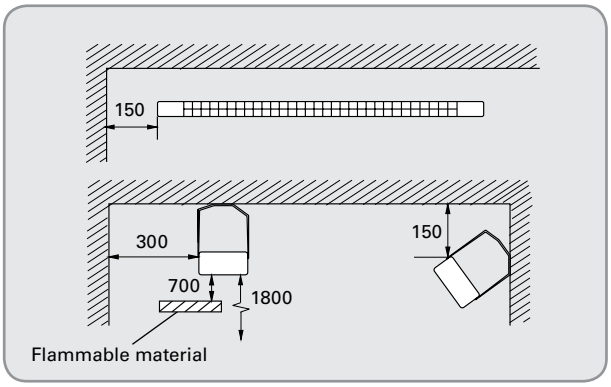
Infrared heater CIRC with 1.8 m cord and plug (IP24)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. element temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
CIR11021C	1000	230V~	4,3	750	1250x44x94	2,2

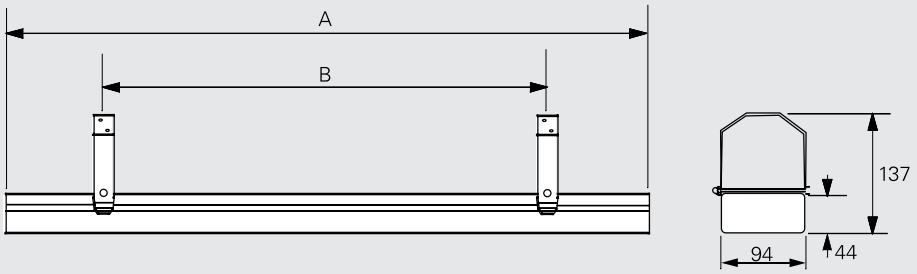
Installation height



Minimum distances



Dimensions



	A [mm]	B*1 [mm]	B_{MIN}*2 [mm]
CIR105/205	710	500	300
CIR110/210	1250	900	600
CIR115/215	1755	1200	800
CIR120/220	2180	1500	1000

*1) Recommendation

*2) Minimum distances between brackets

CE

Mounting

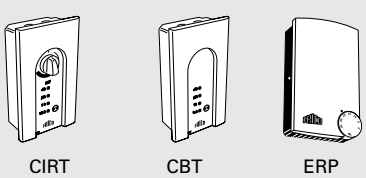
CIR is installed horizontally on the ceiling or on the wall with the supplied adjustable mounting brackets. The angle of the heater can be adjusted for optimum comfort. The standard brackets cannot be used for angled installation on the ceiling, because the distance then becomes less than the minimum distance. CIR can also be suspended by wire.

Connection

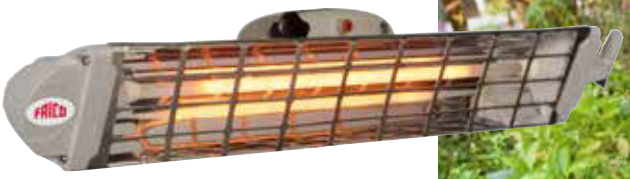
CIR11021C is equipped with 1.8 m cord and plug for connection to an earthed outlet socket. Other models are intended for fixed installation. The heaters are approved for serial connection.

Accessories

Type	Description	HxWxD [mm]
CIRT	Stepless output control with timer	155x87x43
CBT	Timer	155x87x43
ERP	Electric heating control	157x93x40



For further information and options, see the "Controls" section.



Halogen infrared heater ELIR

For outdoor applications where a high flexibility is desired

ELIR gives an intense heat suitable for all outdoor applications and rough industrial premises. While ELIR is light, stable and portable it is well suited for temporary heating on building sites and at customer events. With its concentrated heat it is a good complement to dehumidifiers for drying in areas damaged by water. High protection class (IP65) makes it possible to use the heater in almost any environment.

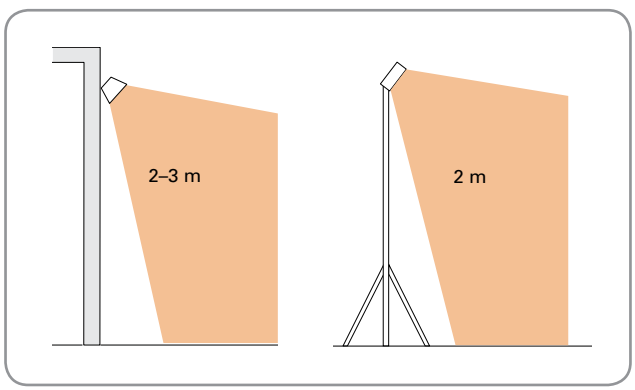
ELIR has a thorough design in a compact format. Simple, robust and light (1 kg). ELIR has no protective glass which means 10–15 % higher efficiency compared to a heater with glass with the same protection class.

- All parts are anti-corrosive.
- Wall bracket included. Stand and chains for ceiling installation are available as accessories.
- Casing/reflectors of high-gloss polished aluminium with maximum resistance against corrosion.
- Grey terminal boxes of heat and weather resistant plastic. Colour: RAL 7035.

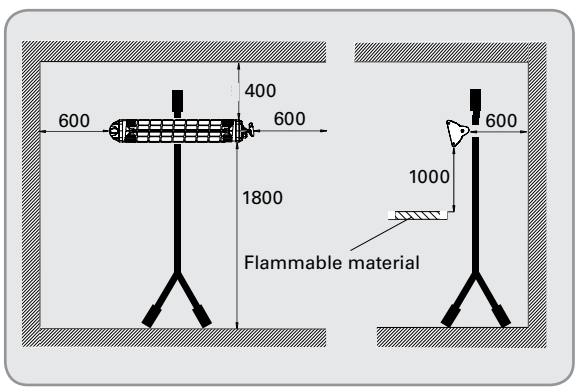
Halogen infrared heater ELIR (IP65)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. lamp temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
ELIR12	1200	230V~	5,2	2000	712x112x83	1,0

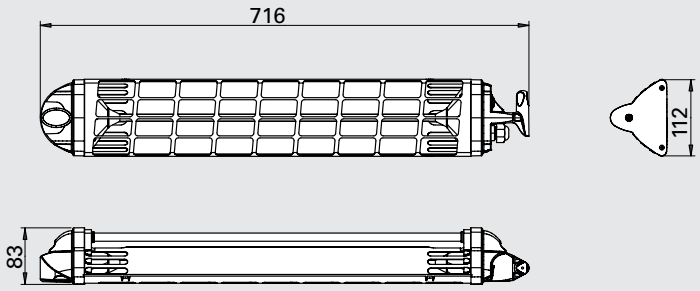
Installation height



Minimum distances



Dimensions



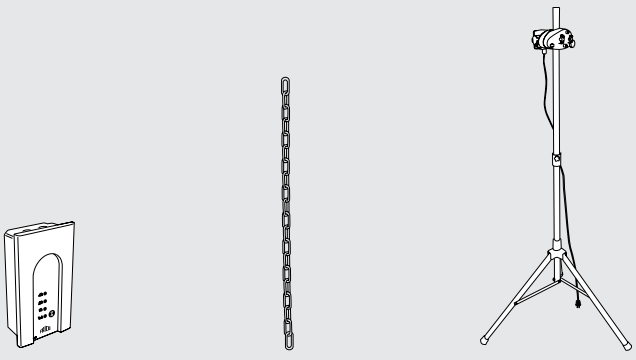
Mounting

ELIR is installed horizontally on a stand, on a wall or suspended by chains. The angle of the heater can be adjusted for optimum comfort. Wall bracket included. Stand and chains for ceiling installation are available as accessories.

Connection

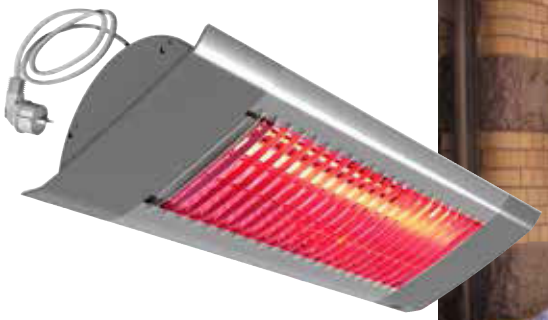
ELIR is intended for both portable use and permanent installation. Cable and plug are included in delivery.

Accessories



Type	Description	HxWxD [mm]
CBT	Electronic timer	155x87x43
ELIRC	Chain for ceiling mounting	L: 2500
ELIRSTP	Floor stand for portable use	H: 2000
IREL12	Extra lamp	

For further information and options, see the "Controls" section.



Halogen infrared heater IH

Suitable for exposed outdoor environments with design demands

Halogeninfra IH is powerful with a high filament temperature of 2200 °C and is the perfect choice for exposed outdoor environments where design is important. IH can also be used as local heating in large premises. IH is available in two different designs. IHW gives a comfortable heat in the occupied zone from close range and also wider heat distribution. IHF has more direct heat distribution and is designed to be installed higher up.

IH is easy to position thanks to its compact design. The discreet and appealing look makes it suitable for outdoor environments with design demands.

- IH is available in two versions:
  - **IHW** provides wide heat distribution (60°), recommended installation height 1.8 – 2.5 m.
  - **IHF** provides directed heat distribution (40°), recommended installation height 2.3 – 3.5 m.
- IH consists of a halogen lamp with a faint red glow and a very high intensity and a highly-polished reflector for optimum heat distribution.
- Bracket for wall mounting. Can also be suspended from the ceiling or mounted on a post. Other mounting alternatives are available as accessories.
- Equipped with a 0.9 metre cord with plug for connection to an earthed outlet socket.
- Casing in anodised aluminium, grille in Nickel/Chrome plating, end caps in powder-coated light-alloy metal. Colour: RAL 9006.

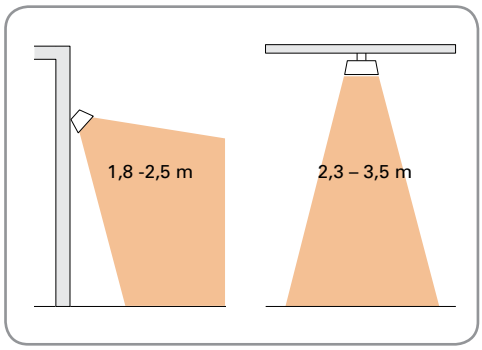
Infrared heater IHW with wide heat distribution (IP44)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. filament temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
IHW10	1000	230V~	4,3	2200	500x77x169	1,9
IHW15	1500	230V~	6,5	2200	500x77x169	1,9
IHW20	2000	230V~	8,7	2200	676x77x169	2,5

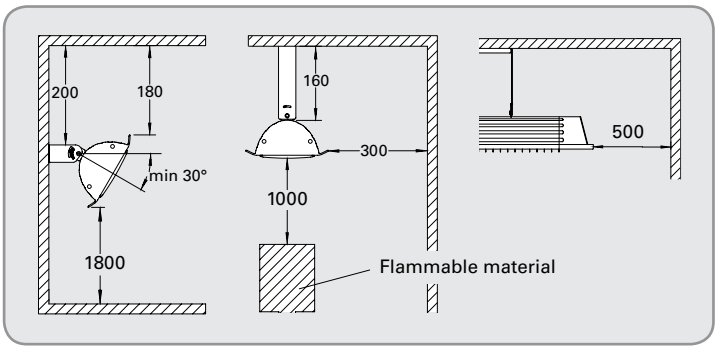
Infrared heater IHF with directed heat distribution (IP44)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. filament temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
IHF10	1000	230V~	4,3	2200	500x77x169	1,9
IHF15	1500	230V~	6,5	2200	500x77x169	1,9
IHF20	2000	230V~	8,7	2200	676x77x169	2,5

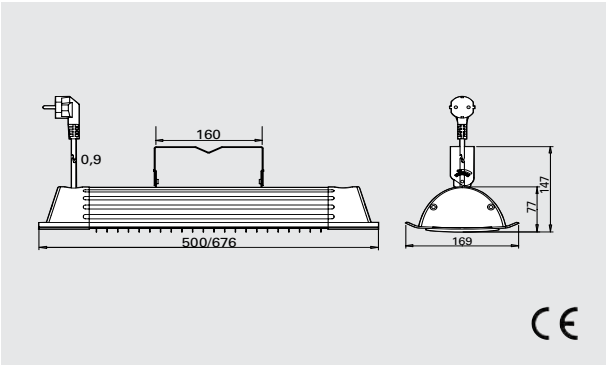
Installation height



Minimum distances



Dimensions



Mounting

IH installed horizontally on walls with supplied bracket. The heater can be angled up to 45°. The heater can also be mounted on e.g. a parasol or a post, a suitable U-bolt (not included) is used for this together with the supplied console. For ceiling installation use ceiling bracket IHE (accessory). For other mounting alternatives, see accessories.

Connection

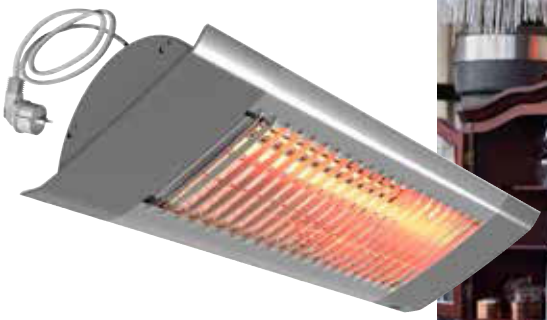
IH is equipped with a 0.9 metre cord with plug for connection to an earthed outlet socket.

Accessories

CBT IHUB IHE IHXH IHXL IHT IHP

Type	Description	HxWxD [mm]
CBT	Electronic timer, IP44	155x87x43
IHUB	Universal bracket for IH	
IHE	Ceiling bracket	
IHXH	Extension bracket for high level mounting	
IHXL	Extension bracket for low level mounting	
IHT	Triple bracket	
IHTW	Wire kit (3 wires) for IHT	
IHP	Post for freestanding installation	H: 2,3 m

For further information about the accessories, see carbon infrared heater IHC.



Carbon infrared heater IHC

For soft and effective heat

Carbon infrared heater IHC produces a gentle and direct heat which together with the soft glow, is ideal for indoors and conservatories as well as for outdoor restaurants where design is important. IHC can also be used as local heating. IHC has a heat distribution best suited for close and slightly higher installations.

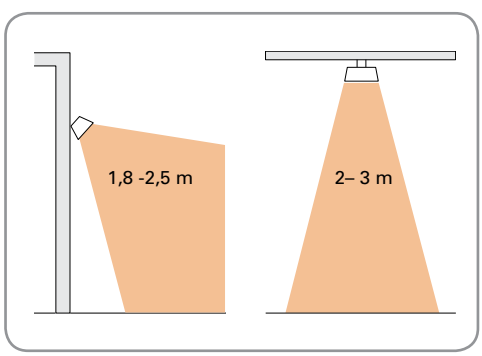
IHC is easy to position thanks to its compact design. The discreet and appealing look makes it suitable for outdoor environments with design demands.

- IHC consists of a carbon lamp, yellow-orange glow, with high intensity and a highly-polished reflector for optimum heat distribution.
- Bracket for wall mounting. Can also be suspended from the ceiling or mounted on a post. Other mounting alternatives are available as accessories.
- Equipped with a 0.9 metre cord with plug for connection to an earthed outlet socket.
- Casing in anodised aluminium, grille in Nickel/Chrome plating, end caps in powder-coated light-alloy metal. Colour: RAL 9006.

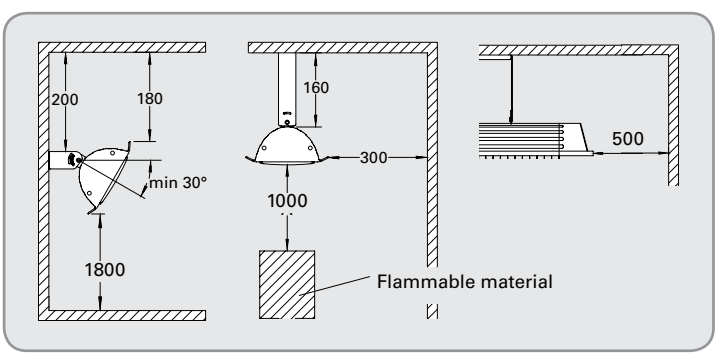
Carbon infrared heater IHC (IP44)

Type	Heat output [W]	Voltage [V]	Amperage [A]	Max. filament temperature [°C]	Dimensions LxHxW [mm]	Weight [kg]
IHC12	1150	230V~	5,0	1200	500x77x169	1,9
IHC18	1750	230V~	7,6	1200	676x77x169	2,5

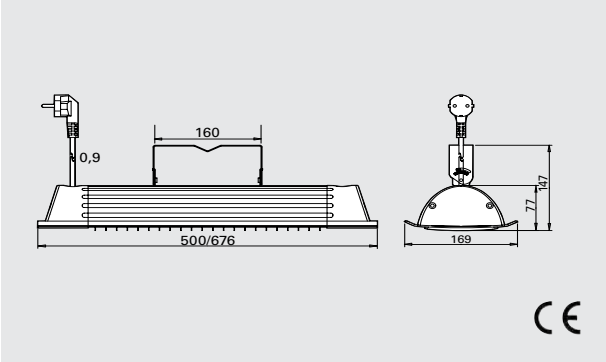
Installation height



Minimum distances



Dimensions



Mounting

IHC installed horizontally on walls with supplied bracket. The heater can be angled up to 45°. The heater can also be mounted on e.g. a parasol or a post, a suitable U-bolt (not included) is used for this together with the supplied console. For ceiling installation use ceiling bracket IHE (accessory). For other mounting alternatives, see accessories.

Connection

IHC is equipped with a 0.9 metre cord with plug for connection to an earthed outlet socket.

Accessories

IHUB, universal bracket

A bracket that makes it easy to even angle IH/IHC sideways. The bracket also allows mounting on, for example, a windbreak when the clamping screw is used.

IHE, ceiling bracket

Used to secure the IH/IHC in the ceiling.

IHXH, drooping extension bracket for high level mounting

Used to install IH/IHC at high level, such as above a window. Wall bracket included.

IHXL, arching extension bracket for low level mounting

Used to install IH/IHC at low level, such as on a windbreak. Wall bracket included.

IHT, triple bracket

Three IH/IHC units can be mounted on the IHT bracket to provide heat in all directions. Can be suspended from the ceiling by three wires or mounted on an IHP post. Used for IH10, IH15 and IHC12.

IHTW, wire kit

Set of three bright galvanized wires for easy hanging of IHT.

IHP, post for freestanding installation

Post to stand IH/IHC on the floor. IHP has a fixed length of 2.3 m and can be cut to desired length. The IHT triple bracket can be attached to provide heat in all directions. IH/IHC can also be mounted directly on the post using a standard bracket and a U-bolt.

CBT IHUB IHE IHXH IHXL IHT IHP

Type	Description	HxWxD [mm]
CBT	Electronic timer, IP44	155x87x43
IHUB	Universal bracket for IH	
IHE	Ceiling bracket	
IHXH	Extension bracket for high level mounting	
IHXL	Extension bracket for low level mounting	
IHT	Triple bracket	
IHTW	Wire kit (3 wires) for IHT	
IHP	Post for freestanding installation	H: 2,3 m

For further information and options, see the "Controls" section.

Aquaztrip Basic

Lightweight heating panel for economic heating

Aquaztrip is a water heated radiant panel with a very wide area of application in both commercial and industrial buildings.

This appliance offers the option of heating without displacing air. In addition, heat reaches only the location where it is required. The short warming-up period and the lower room temperature can yield good energy savings.

The panels are fitted with a glass wool insulation blanket preventing the heat from being radiated upwards.

Aquaztrip AZB is easy to install thanks to its unique suspension using mounting strips and snap hooks. This system facilitates alignment of the panels and enables expansion to be accommodated.

- Unique system of suspension using mounting strips and snap hooks.
- Low weight per metre and high heat emission.
- Each panel comprises 4 DN15 pipes spaced 75 mm apart and placed on an aluminium sheet reflector.
- Galvanized headers and connections.
- Linking of panels by means of press couplings.
- Standard lengths: 4 and 6 metres. The panels may also be suspended in parallel with standard widths varying between 302 - 1.298 mm.
- Insulation of 30 mm mineral wool, delivered separately in rolls, width 300 mm.
- Complies to EN14037 1-3.
- The panel is supplied in white RAL 9010 as standard. Other RAL colours are available on request.

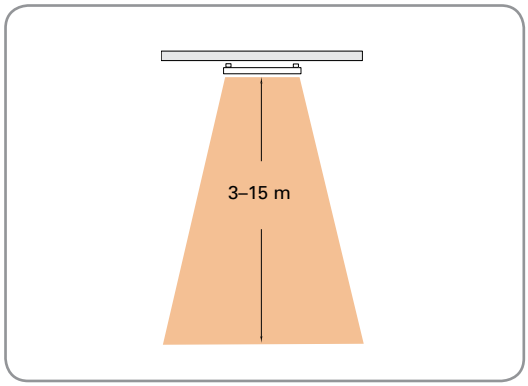
Aquaztrip AZB

Type	Output*[1] [W/panel]	Length [mm]	Width [mm]	Water volume [l/m]	Max operating pression [bar]	Max operating temperature [°C]	Operating weight*[2] [kg/m]
AZB440S	796	4000	302	0,70	8	120	12,4
AZB460S	1194	6000	302	0,70	8	120	18,5

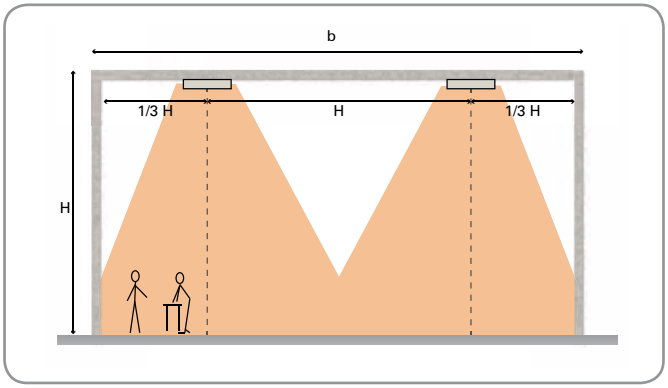
*[1]) Applicable at water temperature 80/60 °C, room temperature +15 °C.

*[2]) With water and insulation.

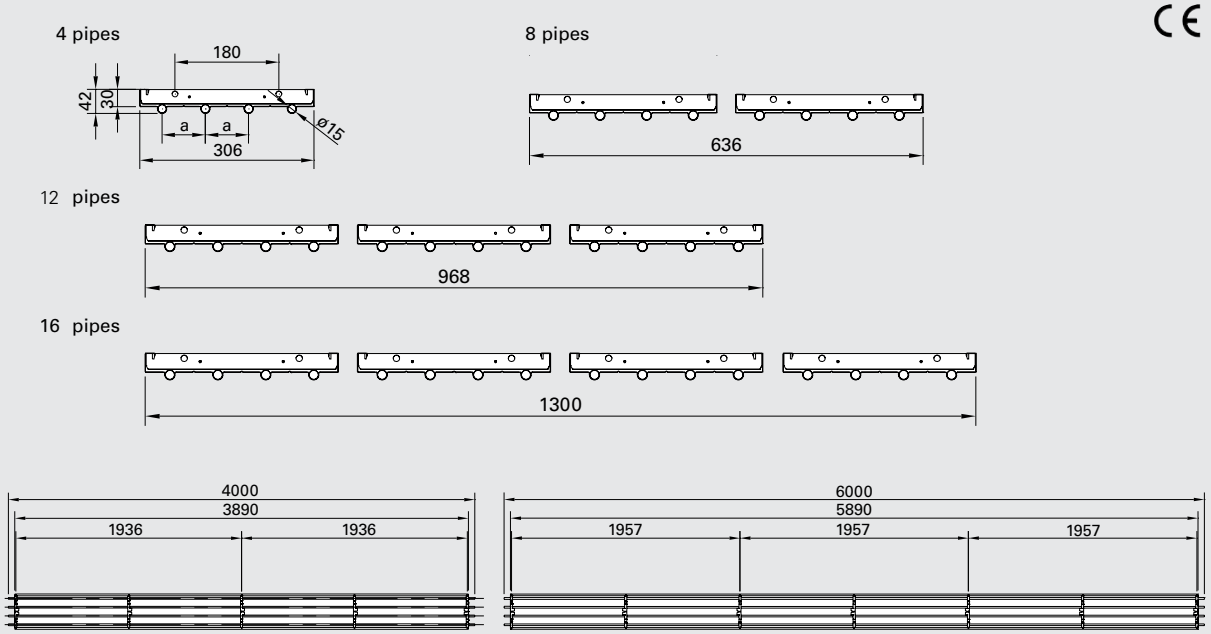
Installation height



Distance between panels

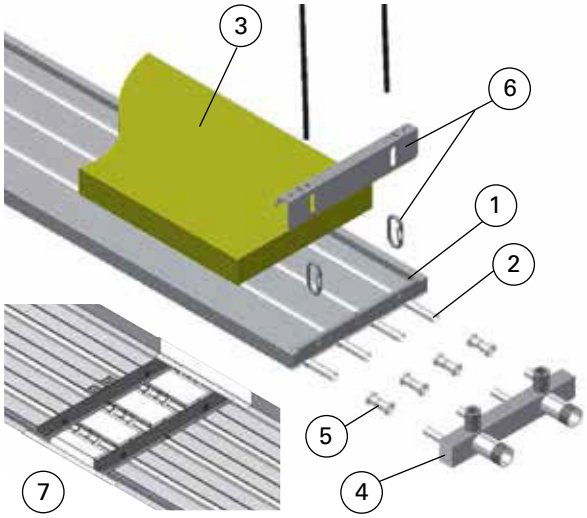


Dimensions

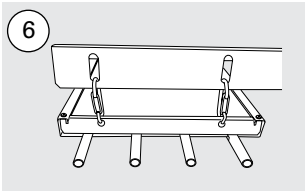


Maximum length of a panel assembly 50 meters, delivered in several pieces of 4m and 6m, with press couplings.

Components and accessories



1. Aluminium reflector
2. Water pipe ∅15 mm
3. Insulation 30 mm
4. Header
5. Press couplings
6. Suspension kit
7. Cover between panels



Geberit carbon steel couplings are used to connect the headers to the panels, or to connect several panels together, using a crimping tool, guaranteeing the watertightness of the pipe/sleeve couple.

Accessories

Type	Description
AZBC040	Header 4 pipes
AZBC041	Header 4 pipes + 1 outlet
AZBC042	Header 4 pipes + 2 outlets
AZBC080	Header 8 pipes
AZBC081	Header 8 pipes + 1 outlet
AZBC120	Header 12 pipes
AZBC121	Header 12 pipes + 1 outlet
AZBC122	Header 12 pipes + 2 outlets

Accessories

Type	Description
AZMAP80	Press coupling Ø15 L80mm
AZBSK04	Suspension kit for panels 4 pipes
AZBSK08	Suspension kit for panels 8 pipes
AZBSK12	Suspension kit for panels 12 pipes
AZBSK16	Suspension kit for panels 16 pipes
AZBJ00	Cover between panels
AZBJ04	Cover header 4 pipes
AZBJ08	Cover header 8 pipes
AZBJ12	Cover header 12 pipes
AZBFC25	Control kit DN25

Frico's fan heaters – high quality and low sound level

For decades Frico has been the world leader in fan heater design. Today we have a complete range of high quality equipment modelled on the demanding climate of Scandinavia. Frico's worldwide distribution network encounters many different environmental conditions, such as storage rooms, pump rooms, building sites, mines, sports centres, shops, drying rooms, stables, boats, etc.

We are proud of the worldwide acclaim we have gained through our line of fan heaters. They are known as reliable and long-lasting products. The heaters are also robust and will withstand rough treatment in aggressive environments, at the same time having the lowest sound level on the market.

Exceptionally quiet

One of the most important tasks in our product development, is the construction of low noise fan heaters. At our plant in Skinnskatteberg, Sweden, you will find one of the most sophisticated air and sound laboratories in Europe, staffed by highly skilled technicians making it possible to manufacture products of the finest quality.

Lots of power, small investment

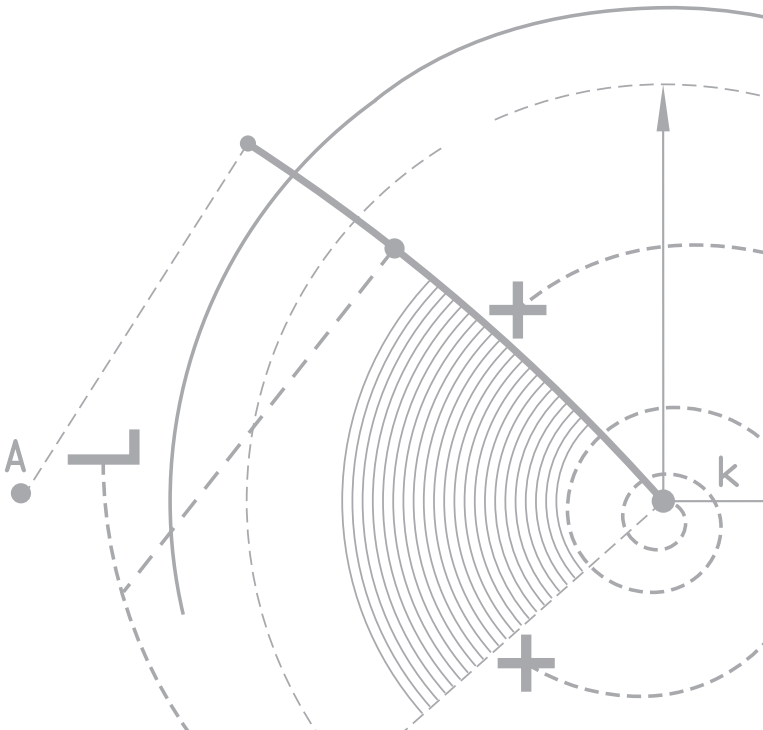
Compared to other heating systems, the investment cost for fan heaters is low. Frico fan heaters give you lots of power for the money.

Heating and ventilation

A great advantage of fan heaters is the option of combining heating and ventilation. Mixing cabinets for stationary fan heaters create economic heating and ventilation, by mixing the return air with fresh air.

Compact and robust

Frico fan heaters are compact and light. Therefore they are easy to carry or can easily be mounted on the wall. The heaters are also very robust and withstand heavy handling in aggressive environments.








Our fan heaters

Type	Heat	Output [kW]	Airflow [m³/h]	Use	Extra	Page
Electrical heat						
K21	⚡	2	90	Portable		80
Elektra C	⚡	3-15	400-1300	Stationary / portable	For corrosive and damp environments.	81
Elektra F	⚡	3-9	400-1000	Stationary / portable	For rooms where there is a risk of fire.	81
Elektra V	⚡	3-6	400-700	Stationary / portable	For ships and offshore industry.	81
Elektra H	⚡	6-9	1000	Stationary / portable	For rooms with high temperatures.	81
Tiger 2-9	⚡	2-9	280-720	Portable		84
Tiger 15	⚡	15	1120	Portable		84
Tiger 20, 30	⚡	20,30	1900-2600	Portable		84
Cat	⚡	3-9	280-720	Stationary		86
Panther 6-15	⚡	6-15	900-1300	Stationary		88
Panther 20, 30	⚡	20,30	1900-2600	Stationary		90
Water heat						
SWH	💧	12-64*[1]	1260-5900	Stationary	Control system SIRe.	92
SWS	💧	12-65*[1]	1260-6300	Stationary		96
SWT	💧	11-40*[1]	1100-3900	Stationary	Ceiling mounted.	98
SWX C	💧	20-37*[1]	2160-4300	Stationary	For corrosive and damp environments.	100
SWX D	💧	15-29*[1]	2200-4430	Stationary	For dusty environments.	100
SWX EX	💧	21-39*[1]	2250-4150	Stationary	For environments with a temporary explosion risk.	100
SWX H	💧	12-23*[2]	1830-3870	Stationary	For rooms with high temperatures.	100

*[1]) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.
*[2]) Applicable at water temperature 80/60 °C, air temperature, in +40 °C.

Fan heater K21

Small and portable fan heater with high output temperature

K21 is a compact and safe fan heater designed for portable use. Ideal for heating small areas, for example, garages, caravans, awnings, weekend cottages, offices, patios, etc.

K21 fan heater is small and compact in white metal finish and is equipped with a solid handle.

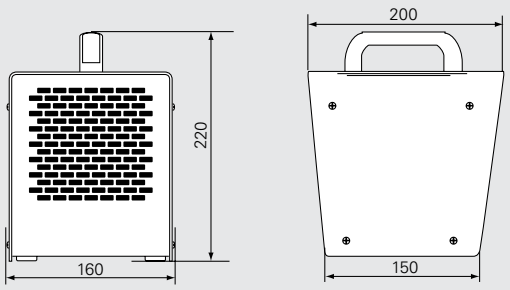
- Self-regulating ceramic PTC element that can not be overheated.
- Intensive and concentrated heat emission. The air is heated to approx. 65 °C when it passes through K21.
- Equipped with 2 metre long cord with plug for connection to an earthed outlet socket.
- Thermostat (+5 – +35 °C) and output selector (0/1/2 kW).
- Approved by SEMKO.
- Outer casing in white enamelled sheet steel. Colour: RAL 9016, NCS S 0500-N (white).

Fan heater K21 (IP21)

Type	Output steps [kW]	Airflow [m³/h]	Sound level*¹ [dB(A)]	Δt*² [°C]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
K21	0/1/2	90	43	62	230V~	8,9	220x160x200	2,5

*¹) Conditions: Distance to the unit 5 metres.
*²) Δt = temperature rise of passing air at maximum heat output.

Dimensions



CE

Fan heater Elektra

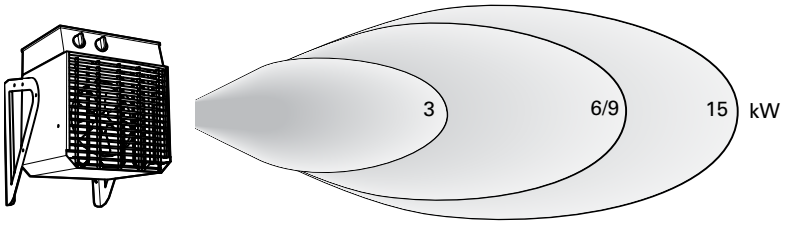
Hard wearing fan heaters for very demanding environments

Elektra is a range of fan heaters designed for use in demanding environments. The different models can be used anywhere from corrosive environments and combustible areas to rooms with high temperatures as well as onboard ships and offshore platforms.

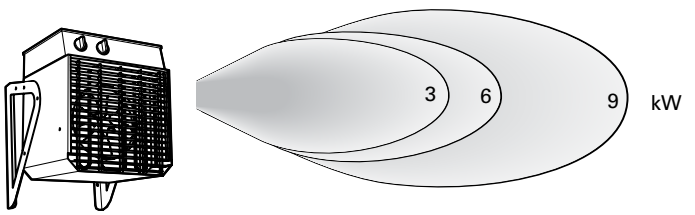
The Elektra fan heater has a modern design with a stainless steel outer casing, red grille and red brackets. The brackets can be rotated, which means Elektra can also be used as a portable fan heater.

- The Elektra fan heater is available in four designs:
  - **Elektra C** is intended for corrosive and damp environments, for example, car-wash halls and sewage works. Outer casing of acid-proof sheet steel. IP65.
  - **Elektra F** has a low element temperature and is approved for use in combustible areas, for example, joinery workshops and agricultural buildings. IP65.
  - **Elektra V** is designed to withstand vibrations on ships and offshore platforms and is approved by Det Norske Veritas. Also available for 440V/60Hz. IP44.
  - **Elektra H** is designed for rooms with high temperatures, up to 70 °C. IP44.
- For wall installation, Elektra has a fixed tilt angle of 10° downward which gives maximum comfort.
- Equipped with a 1.8 metre long connection cable. Elektra F has a CEE plug fitted to the connection cable.
- Approved by SEMKO.
- Stainless steel outer casing (Elektra C has an acid-proof outer casing). Grille and bracket: RAL 3020 (red).

Air throw



Elektra C/H



Elektra F/V

Elektra C, for corrosive environments (IP65)

Type	Output steps [kW]	Airflow [m³/h]	Sound level*1 [dB(A)]	Δt*2 [°C]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
ELC331	0/2/3	400	48	21	230V~	13,5	375x300x340	13
ELC633	0/3/6	1000	55	17	400V3~	8,9	445x375x430	20
ELC933	0/4,5/9	1000	55	25	400V3~	13,2	445x375x430	20
ELC1533	0/7,5/15	1300	62	32	400V3~	22,0	445x375x430	20

Elektra F, for rooms where there is a risk of fire (IP65)

Type	Output steps [kW]	Airflow [m³/h]	Sound level*1 [dB(A)]	Δt*2 [°C]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
ELF331	0/2/3	400	48	21	230V~	13,5	375x300x340	13
ELF633	0/3/6	700	53	24	400V3~	9,1	375x300x340	13
ELF933	0/4,5/9	1000	55	25	400V3~	13,2	445x375x430	20

Elektra V, for ships and offshore industry (IP44)

Type	Output steps [kW]	Airflow [m³/h]	Sound level*1 [dB(A)]	Δt*2 [°C]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
ELV331	0/2/3	400	48	21	230V~	13,3	375x300x340	13
ELV3333	0/1,5/3	400	48	21	400V3~	4,6	375x300x340	13
ELV3344	0/1,8/3,6	400	48	25	400/440V3~	5,1	375x300x340	13
ELV5333	0/2,5/5	700	53	20	400V3~	7,5	375x300x340	13
ELV6344	0/3/6	700	53	24	440/440V3~	8,2	375x300x340	13

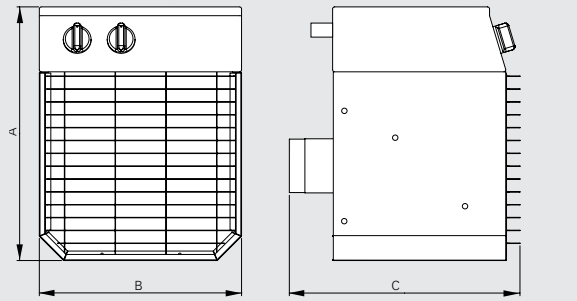
Elektra H, for rooms with high temperatures (IP44)

Type	Output steps [kW]	Airflow [m³/h]	Sound level*1 [dB(A)]	Δt*2 [°C]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
ELH633	0/3/6	1000	55	24	400V3N~	8,9	445x375x430	20
ELH933	0/4,5/9	1000	55	25	400V3N~	13,2	445x375x430	20

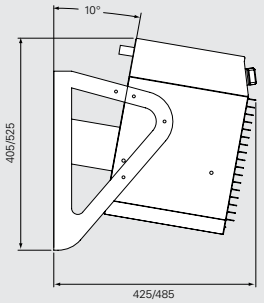
*1) Conditions: Distance to the unit 5 metres.
*2) Δt = temperature rise of passing air at maximum heat output.

Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

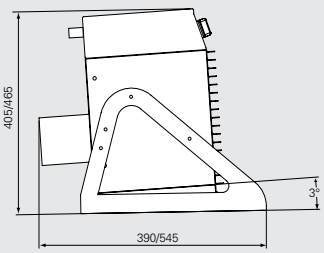
Dimensions



Fixed installation



Portabel use



	A [mm]	B [mm]	C [mm]
ELC331, ELV, ELF331/633	375	300	340
ELC633/933/1533, ELF933, ELH	445	375	430

CE

Control options

Fan heater Elektra H features an integrated thermostat with the working range 0 – +70 °C, other models feature an integrated thermostat with the working range 0 – +35 °C. The output can be selected using the output selector on the unit or on the external control panel.

Elektra F

Can be controlled using an external control panel for remote control, for example, when installed high on a wall.

- ELS, control panel
- ELFSRT, control panel with integrated thermostat (0 – +35 °C), controls one unit

Elektra C / Elektra V

Can be regulated using an external control panel with integrated thermostat (0 - +35 °C) for remote control, for example, when installed high on a wall.

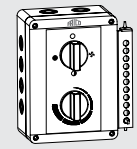
- ELSRT, control panel, controls one unit
- ELSRT4, control panel, controls up to four units

Elektra H

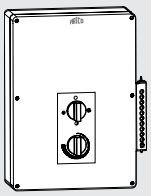
Can be regulated using an external thermostat.

- ELRT, room thermostat

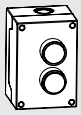
Accessories



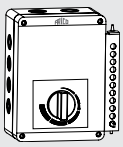
ELSRT / ELFSRT



ELSRT4



ELS



ELRT

Type	Description	HxWxD [mm]
ELSRT	Control panel and thermostat, for ELC/ELV, controls one fan heater, IP65	175x150x100
ELSRT4	Control panel and thermostat, for ELC/ELV, controls 4 fan heaters, IP65	255x360x110
ELS	Control panel, for ELF, start/stop, IP65	105x70x80
ELFSRT	Control panel and thermostat, for ELF, controls one fan heater, IP65	175x150x100
ELRT	Thermostat, for ELH, IP44	175x150x100

Fan heater Tiger

Robust fan heater for portable use in demanding environments

Tiger is a range of robust and compact fan heaters for professionals with high demands. The Tiger fan heater is portable, models up to 15 kW can also be hung on the wall.

Tiger 2-9 kW are intended for heating and drying areas such as garages, workshops and shops.

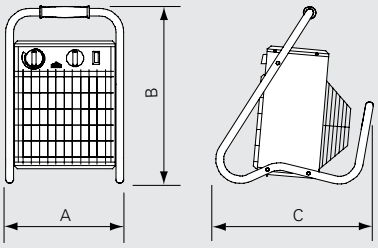
Tiger 15, 20 and 30 kW are ideal for heating and drying larger premises such as industrial premises and workshops, where higher outputs are required.

The Tiger fan heater has a compact and robust sheet steel design with a red finish. The heavy-duty tubular frame acts as a well-balanced and ergonomic carrying handle. The design protects against impact and vibrations and permits use in exacting environments.

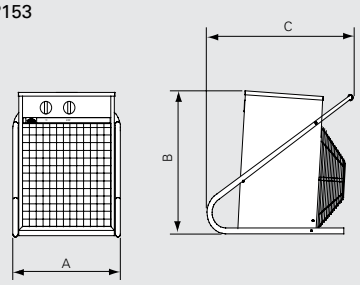
- The Tiger fan heater is available in the following designs:
  - **P21 and P31** have a 1.8 m cord with plug for connection to earthed outlet sockets. Can be hung on the wall.
  - **P33, P53 and P93** have a 1.8 m cable with CEE-plug. 230V-outlet socket (type F) at the rear. Products with 230V-outlet socket of type E are also available for ordering. Can be hung on the wall.
  - **P153** has a 1.8 m cable with CEE-plug. Can be hung on the wall.
  - **P203, P303 and P305** are supplied with a 1.8 m cable without a plug. P305 can be connected to 440V3~ and 500V3~.
- Low sound level.
- Integrated thermostat with setting range +5 – +35 °C and output selector.
- Very reliable and well protected against impact and vibrations.
- Corrosion proof housing made of hot zinc-plate and powder enameled steel panels.
  Colour: RAL 3020, NCS 1090-Y80R (red).

Dimensions

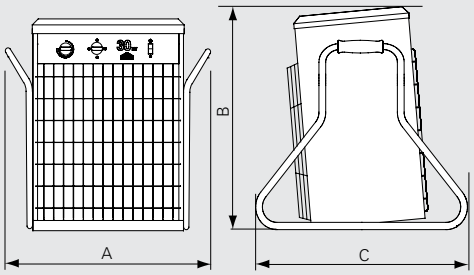
P21, P31, P33, P53, P93



P153



P203, P303, P305



	A [mm]	B [mm]	C [mm]
P21, P31, P33, P53	290	450	390
P93	350	530	480
P153	410	510	530
P203, P303, P305	630	590	600

CE

Fan heater Tiger 2–9 (IP44)

Type	Output steps [kW]	Airflow [m³/h]	Sound level*¹ [dB(A)]	Δt*² [°C]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
P21	0/2	280	41	22	230V~	8,8	450x290x390	5,7
P31	0/2/3	280	41	32	230V~	13	450x290x390	6,0
P33	0/1,5/3	280	41	32	400V3N~*³	4,4	450x290x390	6,3
P53	0/2,5/5	480	40	31	400V3N~*³	7,3	450x290x390	6,7
P93	0/4,5/9	720	44	37	400V3N~*³	13	530x350x480	10

*¹) Conditions: Distance to the unit 3 metres. Directional factor: 2. Equivalent absorption area: 200 m².
*²) Δt = temperature rise of passing air at maximum heat output.
*³) Also available without neutral and are then called P33-0, P53-0 and P93-0. These models do not have the 230V socket on the reverse and are equipped with P416-6 connectors.
Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

Fan heater Tiger 15 (IP44)

Type	Output steps [kW]	Airflow [m³/h]	Sound level*¹ [dB(A)]	Δt*² [°C]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
P153	0/7,5/15	1120	47	40	400V3~	22	510x410x530	16

*¹) Conditions: Distance to the unit 3 metres. Directional factor: 2. Equivalent absorption area: 200 m².
*²) Δt = temperature rise of passing air at maximum heat output.

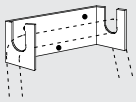
Fan heater Tiger 20–30 (IP44)

Type	Output steps [kW]	Airflow [m³/h]	Sound level*¹ [dB(A)]	Δt*² [°C]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
P203	0/10/20	1900/2600	42/60	31/23	400V3~	29	590x630x600	26
P303	0/10/20/30	1900/2600	42/60	47/34	400V3~	44	590x630x600	30
P305	0/7,5/15/23 0/10/20/30	1900/2600	42/60	36/26 47/34	440V3~*³ 500V3~	31 35	590x630x600	30

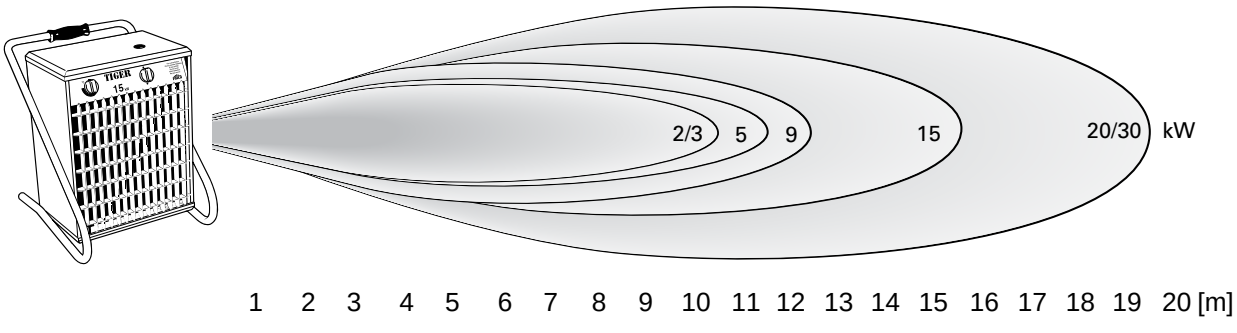
*¹) Conditions: Distance to the unit 3 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*²) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*³) Can be connected to 440V3~ and 500V3~.
Approved for 380V/3ph/60Hz. Product performance for 380V/3ph/60Hz will differ from stated data.

Accessories

Type	Description	HxWxD [mm]
LT22406	Wall bracket for Tiger 2-15 kW	45x128x40



Air throw



Fan heater Cat

Compact fan heater for smaller premises

Cat is a range of compact and quiet fan heaters for stationary use. It is ideally suited for small stockrooms, in a garage, workshop or shop. The mixing cabinet (accessory) allows heating and ventilation to be combined, through mixing the return air and outdoor air.

The Cat fan heater has a classic clean design in white enamelled sheet steel. It is small and unobtrusive and with that easy to position.

- Low sound level.
- Wall bracket with 10° tilt angle for good heat distribution.
- Cat 3 kW can also be connected to single phase (230V~).
- Integrated thermostat with setting range +5 – +35 °C and output selector. External control, for example, thermostat and timer is possible.
- Mixing cabinet, that combines heating and ventilation, available as an accessory for Cat 3 and 5 kW.
- Corrosion proof housing made of hot zinc-plate and powder enameled steel panels. Colour: RAL 9016, NCS S 0500-N (white).

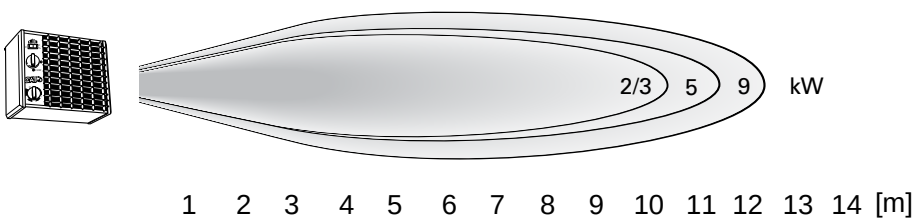
Fan heater Cat (IP44)

Type	Output steps	Airflow	Sound level*1	Δt*2	Voltage	Amperage	HxWxD	Weight
	[kW]	[m³/h]	[dB(A)]	[°C]	[V]	[A]	[mm]	[kg]
C3	0/1.5/3	280	41	32	230V~/400V3N~*3	13.2/4.4	255x335x276	6.3
C5	0/2.5/5	480	40	31	400V3N~	7.3	255x335x276	6.7
C9	0/4.5/9	720	44	37	400V3N~	13.1	315x405x335	10.2

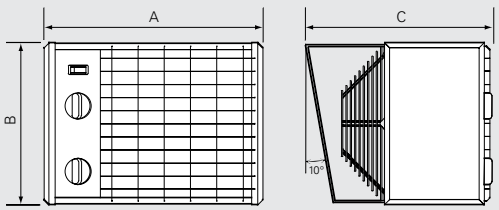
*1) Conditions: Distance to the unit 3 metres. Directional factor: 2. Equivalent absorption area: 200 m².
*2) Δt = temperature rise of passing air at maximum heat output.
*3) Supplied connected for 400V3N~. C3 can be connected for 230V~ and 400V3N~. Other models should not be connected for single phase, 230V~.

Approved for 220V/1ph/60Hz and 380V/3ph/60Hz. Product performance for 220V/1ph/60Hz and 380V/3ph/60Hz will differ from stated data.

Air throw



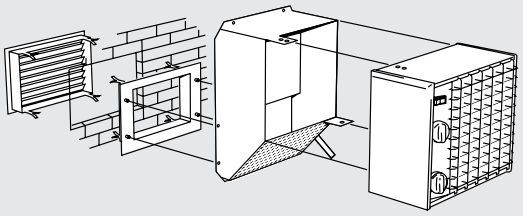
Dimensions



	A [mm]	B [mm]	C [mm]
C3	335	255	276
C5	335	255	276
C9	405	315	335

CE

Mixing cabinet



Mixing cabinet PCMB35 with Cat.

Control options

Integrated regulation

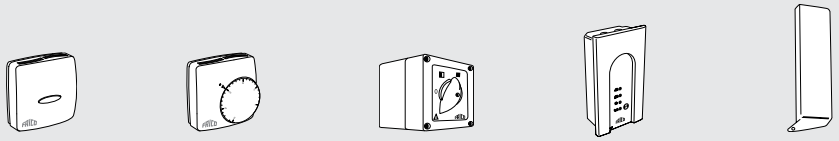
The integrated thermostat controls both the fan and heating, alternatively only the heating. The selection is made using the function selector. In operations with only heating the fan blows continuously and the thermostat only controls the heating output. The thermostat's working range is +5 – +35 °C. The output can be selected using the output selector.

External control

Cat can also be controlled via external output selector, thermostat and timer.

- T10S/TK10S, electronic thermostat with concealed/ visible knob
- EV300, output selector
- CBT, electronic timer

Accessories



T10S TK10S EV300 CBT TP

Type	Description	HxWxD [mm]
T10S	Electronic thermostat with concealed knob	80x80x31
TK10S	Electronic thermostat with visible knob	80x80x31
EV300	Output selector	100x80x90
CBT	Electronic timer	155x87x43
CMB35	Mixing cabinet for C3 and C5	400x295x170
TP3/5	Cover panel for switches - for C3 and C5	
TP9	Cover panel for switches - for C9	

Fan heater Panther 6-15

Efficient fan heater for medium size premises

Panther 6-15 is a range of very quiet and efficient fan heaters for stationary use. They are intended for heating, drying and ventilation in e.g. workshops, sport halls, shops, assembly rooms and drying rooms. The mixing cabinet (accessory) allows heating and ventilation to be combined, through mixing the return air and outdoor air.

The Panther fan heater has a classic clean design in white enamelled sheet steel.

- Low sound level.
- Supplied with wall bracket that makes it possible to direct the airflow down and to the side.
- Integrated thermostat with setting range +5 – +35 °C, possibility to connect an external thermostat.
- Panther 6–15 must be supplemented with control panel PP15. PP15 is an external control panel (ordered separately) with master-/slave function for up to six units that gives good and simple control. SE135 requires one PP15 per unit.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour: white, RAL 9016, NCS S 0500-N.

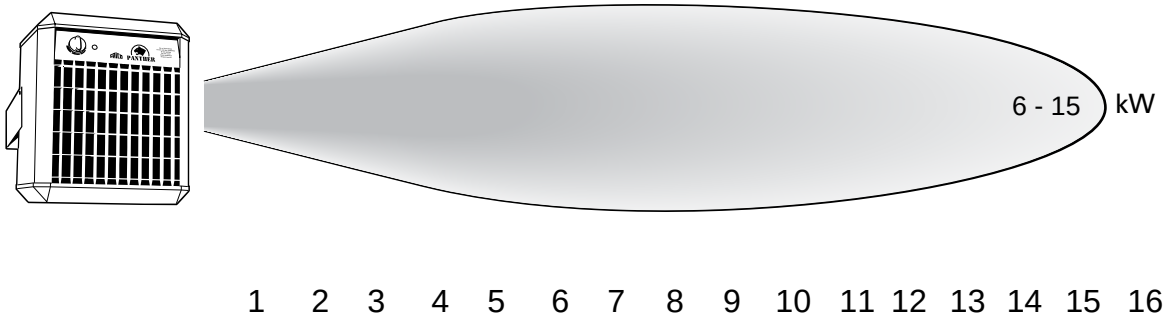
Fan heater Panther 6–15 (IP44)

Type	Output steps	Airflow	Sound level*1	Δt*2	Voltage	Amperage	HxWxD	Weight
	[kW]	[m³/h]	[dB(A)]	[°C]	[V]	[A]	[mm]	[kg]
SE06	0/3/6	900/1300	39/47	20/14	400V3N~	8.7	520x450x510	21
SE09	0/4.5/9	900/1300	39/47	30/21	400V3N~	13	520x450x510	22
SE12	0/6/12	900/1300	39/47	40/28	400V3N~	17.3	520x450x510	22
SE15	0/7.5/15	900/1300	39/47	50/35	400V3N~	21.7	520x450x510	22
SE135	0/5/10	900/1300	39/47	34/23	440V3~*3	13.4	520x450x510	23
	0/7/13.5			45/31	500V3~	15.6		

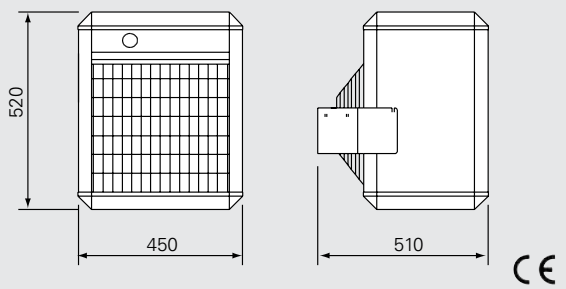
*1) Conditions: Distance to the unit 3 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*2) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*3) Can be connected to 440V3~ and 500V3~.

Approved for 380V/3ph/60Hz. Product performance for 380V/3ph/60Hz will differ from stated data.

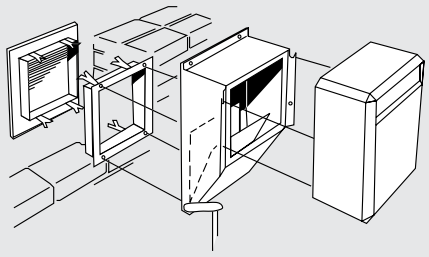
Air throw



Dimensions



Mixing cabinet



Mixing cabinet PBS with Panther.

Control options

Fan speed and thermostat control

Panther 6–15 kW is supplied with integrated thermostat (+5 – +35 °C), but can also be controlled using an external two-step thermostat. Selection of the operating mode is done using the external control panel. Delay relays between the output groups prevent simultaneous connection.

- RTI2, electronic 2-step thermostat, IP44
- KRT2800, 2-step capillary tube thermostat, IP55
- PP15, control panel, controls up to six units. SE135 requires one PP15 per unit.

Automatic temperature control

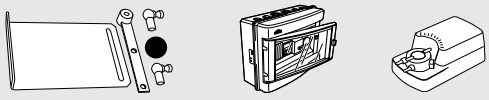
The heat can be decreased according to demand, for example at night or weekends. Switches between day and night mode.

- PTA01, automatic temperature control

Control of mixing cabinet

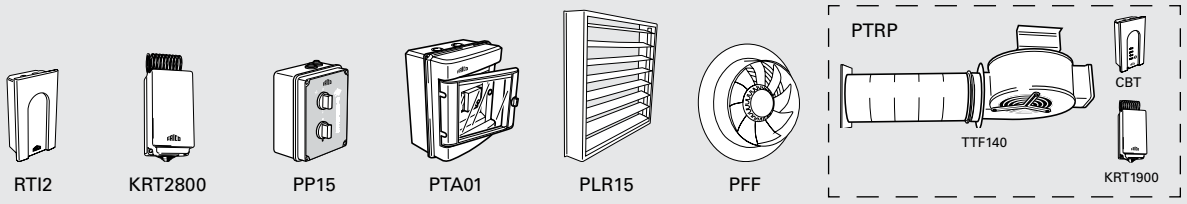
The mixing cabinet combines heating and ventilation by mixing return air with fresh air in appropriate proportions. Damper control is ordered separately.

- PHR01, control lever, manual damper control
- PSA01, automatic damper- and temperature control
- PSM01, damper motor, is used in combination with PSA01 when several mixing cabinets should be controlled.



PHR01 PSA01 PSM01

Accessories



RTI2 KRT2800 PP15 PTA01 PLR15 PFF

Type	Description	HxWxD [mm]
RTI2	Electronic 2-step thermostat	155x87x43
KRT2800	2-step capillary tube thermostat	165x60x57
PP15	Control box for SE06 – SE15	160x120x96
PTA01	Automatic temperature control	215x185x115
PBS01	Mixing cabinet for SE06 – SE15	660x430x365
PHR01	Control lever	
PSA01	Automatic damper and temperature control	215x305x115
PSM01	Damper motor	180x100x70
PLR15	Air director for SE06 – SE15	355x355x60
PFF15	Exhaust air fan for SE06 – SE15	
PTRP	Drying room kit without fan heater	

Fan heater Panther 20-30

Powerful fan heater for large premises

Panther 20–30 is a range of powerful and quiet fan heaters for stationary use. They are intended for heating, drying and ventilation of large premises, for example, industries. The mixing cabinet (accessory) allows heating and ventilation to be combined, through mixing the return air and outdoor air.

The Panther fan heater has a classic clean design in white enamelled sheet steel.

- Supplied with wall bracket that makes it possible to direct the airflow down and to the side.
- Post-running thermostat for efficient cooling.
- Panther 20–30 must be supplemented with PP20/30 and external thermostat, e.g. RTI2. PP20/30 is an external control panel (ordered separately) with master-/slave function, for up to six units. Good and simple control can be achieved together with an external thermostat, e.g. RTI2.
- Corrosion proof housing made of hot zinc-plate and powder enamelled steel panels. Colour: white, RAL 9016, NCS S 0500-N.

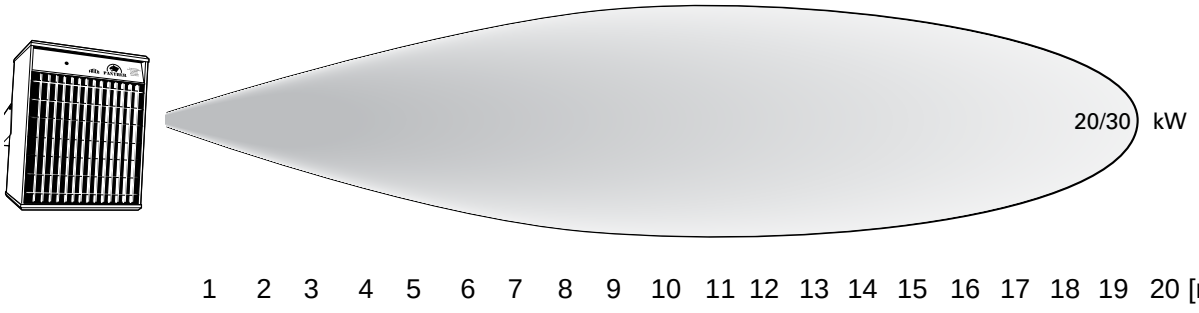
Fan heater Panther 20–30 (IP44)

Type	Output steps	Airflow	Sound level*1	Δt*2	Voltage	Amperage	HxWxD	Weight
	[kW]	[m³/h]	[dB(A)]	[°C]	[V]	[A]	[mm]	[kg]
SE20	0/10/20	1900/2600	42/60	31/23	400V3N~	29.5	576x478x545	27
SE30	0/10/20/30	1900/2600	42/60	47/34	400V3N~	43.9	576x478x545	31
SE305	0/7.5/15/23	1900/2600	42/60	36/26	440V3~*3	30.8	576x478x545	32
	0/10/20/30			47/34	500V3~	35.1		

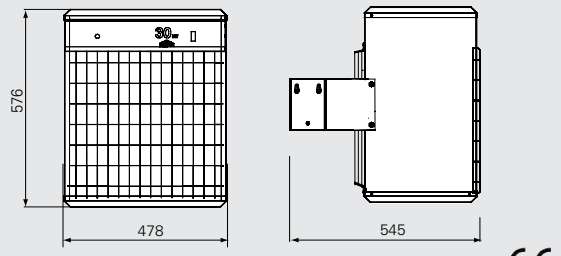
*1) Conditions: Distance to the unit 3 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*2) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*3) Can be connected to 440V3~ and 500V3~.

Approved for 380V/3ph/60Hz. Product performance for 380V/3ph/60Hz will differ from stated data.

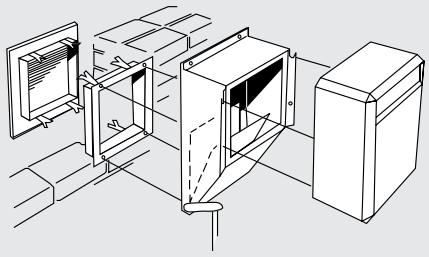
Air throw



Dimensions



Mixing cabinet



Mixing cabinet PBS with Panther.

Control options

Fan speed and thermostat control

Panther 20–30 kW is controlled using an external thermostat. Selection of the operating mode is done using the external control panel. Delay relays between the output groups prevent simultaneous connection.

- RTI2, electronic 2-step thermostat, IP44
- KRT2800, 2-step capillary tube thermostat, IP55
- PP20/30, control panel, controls up to six units

Automatic temperature control

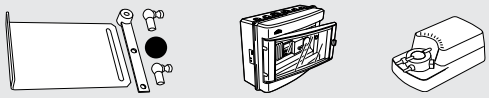
The heat can be decreased according to demand, for example at night or weekends. Switches between day and night mode.

- PTA01, automatic temperature control

Control of mixing cabinet

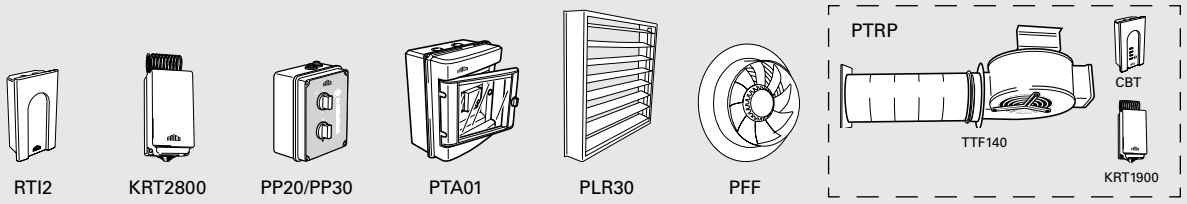
The mixing cabinet combines heating and ventilation by mixing return air with fresh air in appropriate proportions. Damper control is ordered separately.

- PHR01, control lever, manual damper control
- PSA01, automatic damper- and temperature control
- PSM01, damper motor, is used in combination with PSA01 when several mixing cabinets should be controlled.



PHR01 PSA01 PSM01

Accessories



RTI2 KRT2800 PP20/PP30 PTA01 PLR30 PFF

Type	Description	HxWxD [mm]
RTI2	Electronic 2-step thermostat	155x87x43
KRT2800	2-step capillary tube thermostat	165x60x57
PP20	Control box for SE20	160x120x96
PP30	Control box for SE30 and SE305	160x120x96
PTA01	Automatic temperature control	215x185x115
PBS02	Mixing cabinet for SE20, SE30 and SE305	890x520x420
PSA01	Automatic damper and temperature control	215x305x115
PHR01	Control lever	
PSM01	Damper motor	180x100x70
PLR30	Air director for SE20, SE30 and SE305	415x445x60
PFF30	Exhaust air fan for SE20, SE30 and SE305	

Fan heater SWH

Intelligent fan heater with extremely low sound level, for water connection

SWH is a silent running fan heater with many smart and energy saving functions. The fan heater is supplemented with the SIRe control system and can provide fully automatic room heating adaptable according to each unique area of use.

SWH is suitable for use in premises where fan heaters are traditionally used, such as industrial buildings, as well as environments with low sound requirements.

- Very low sound level.
- Five fan speeds.
- Mounted on the wall or ceiling. Mounting brackets are extra.
- Intended for water temperatures up to +150 °C and 10 bar in standard design.
- Corrosion proof housing made of hot zinc-plate and powder enameled steel panels. Colour: RAL 9016, NCS S 0500-N (white). Housing without lacquer or in other colours available on request. Aluminium louvres.

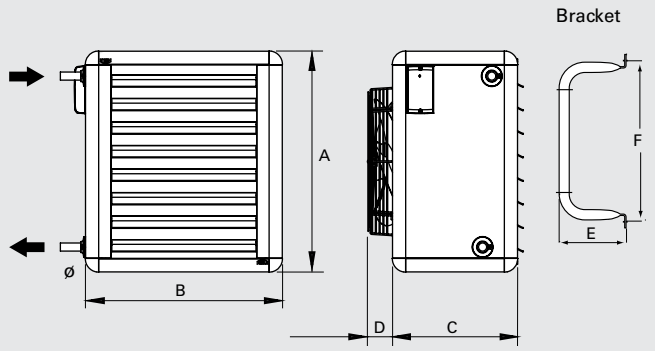
Fan heater SWH (IP44)

Type	Heat output*1 [kW]	Air flow*2 [m³/h]	Air flow*2 [m³/s]	Sound level*3 [dB(A)]	Δt*1,4 [°C]	Air throw*5 [m]	Water volume*6 [l]	Voltage [V]	Amperage [A]	Weight [kg]
SWH02	7/12	530/1120	0,15/0,31	20/39	38/30	5,5	1,3	230V~	0,34	20
SWH12	9/19	760/2020	0,21/0,56	26/48	34/24	8	1,5	230V~	0,7	24
SWH22	19/32	1770/3370	0,49/0,94	40/55	31/25	10	2,7	230V~	1,2	34
SWH32	28/50	2670/5200	0,74/1,44	39/51	31/25	15	3,8	230V~	1,7	55
SWH33	36/64	2250/4500	0,63/1,25	38/50	41/35	12	5,2	230V~	1,7	59

*1) Applicable at water temperature 80/60 °C, air temperature, in +15 °C. At lowest/highest airflow.
*2) Applies to fan position 1 – 4.
*3) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*4) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*5) The air throw data above is valid when the horizontally adjustable air director is used and the outlet temperature is +40 °C and the room temperature is +18 °C. The air throw is defined as the distance in a straight angle from the fan heater to the the point where the air speed has dropped to 0,2 m/s.
*6) Water volume inside water coil.

Approved for 220V/1ph/60Hz. Product performance for 220V/1ph/60Hz will differ from stated data.

Dimensions

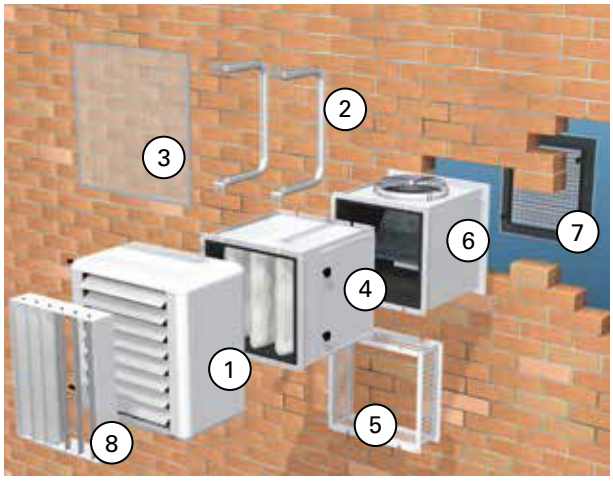


	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
SWH02	525	515	320	40	195	395
SWH12	600	535	340	70	195	460
SWH22	725	680	370	50	250	570
SWH32	850	820	450	75	335	700
SWH33	850	820	450	75	335	700

CE

Accessories

Type	Description
SWB0	Mounting brackets SWH02
SWB1	Mounting brackets SWH12
SWB2	Mounting brackets SWH22
SWB3	Mounting brackets SWH32/SWH33
SWFTN02	Basic filter SWH02
SWFTN1	Basic filter SWH12
SWFTN2	Basic filter SWH22
SWFTN3	Basic filter SWH32/SWH33
SWF1	Filter section SWH12
SWF2	Filter section SWH22
SWF3	Filter section SWH32/SWH33
SWEF1	Extra filter cassette EU3 SWH12
SWEF2	Extra filter cassette EU3 SWH22
SWEF3	Extra filter cassette EU3 SWH32/SWH33
SWD1	Return air intake SWH12
SWD2	Return air intake SWH22
SWD3	Return air intake SWH32/SWH33
SWBS1	Mixing cabinet SWH12
SWBS2	Mixing cabinet SWH22
SWBS3	Mixing cabinet SWH32/SWH33
SWY1	Outer wall grille SWH12
SWY2	Outer wall grille SWH22
SWY3	Outer wall grille SWH32/SWH33
SWLR1	Extra air director SWH12
SWLR2	Extra air director SWH22
SWLR3	Extra air director SWH32/SWH33



1) Fan heater SWH
2) Mounting brackets SWB
3) Basic filter SWFTN
4) Filter section SWF
5) Return air intake SWD
6) Mixing cabinet SWBS
7) Outer wall grille SWY
8) Extra air director SWLR

Controls

SWH is prepared for the SIRe control system whose pre-programmed default settings and many features make it easy to install and use the fan heater. Read more about SIRe on the next page.

Valve kit VOS(P), VOT, VMO(P) or VMT is used to control the water flow. For more information see the "Controls" section.

SIReBN Basic

SIReFCY Competent

SIReFAY Advanced

SIReFAWMY Advanced with mixing cabinet

Control SWH - SIRe control system

SWH is prepared for the SIRe control system whose pre-programmed default settings and many features make it easy to install and use the fan heater. The control system is pre-installed in SWH with an integrated PC board. If more than one SWH should be controlled by a single SIRe, an additional modular cable SIReCC per unit is needed. Cables between units can easily be joined together by using joint piece SIReCJ. SIRe is supplied pre-programmed with quick fit plug connections and is very easy to use and install.

SIRe learns the requirements and can provide fully automated room heating with calendar function and selectable switch off at set temperatures for up to nine units. Using SIRe no more energy is consumed than necessary. Because the fan speed is adapted , the sound level is optimized and is never higher than is necessary for comfort. With SIRe Advanced it is possible to choose between Eco and Comfort mode dependent on whether energy savings or optimal comfort has been prioritised. SIRe Advanced can also be used for simple and safe ventilation solutions using mixing cabinets, control is fully automatic and also has built-in frost protection. There are three different levels with different functionality to choose from, Basic, Competent or Advanced. The SIRe control system can be supplemented with a valve kit for a complete solution.

Functions SIReBN Basic

- Manual regulation of the fan and temperature
- Automatic control of fan speed and temperature with integrated thermostat.

Functions SIReFCY Competent

- All functions for Basic
- Calendar function
- Filter alarm
- Simple BMS control - on/off, fan speed and alarm functions

Functions SIReFAY Advanced

- All functions for Competent
- Eco mode - extra energy-efficient mode
- Comfort mode - when comfort is important
- Advanced BMS control
- Max limit of return water temperature.
- Stepless heat control.
- Possibility to use an external filter guard.
- Model (SIReFAWMY) For fully automatic control of ventilation and heating with mixing cabinet. One SIReFAWMY per unit is needed. Integrated frost protection.

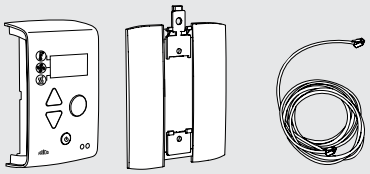
Integrated in fan heater

Integrated PC Board Base

SIReIT, internal temperature sensor

Type	Description
SIReBN	Control system SIRe Basic
SIReFCY	Control system SIRe Competent for fan heaters
SIReFAY	Control system SIRe Advanced for fan heaters
SIReFAWMY	Control systemSIRe Advanced for fan heaters with mixing cabinet
SIReRTX	External room temperature sensor
SIReUR	Kit for recessed installation
SIReWTA	Clamp-on sensor
SIReCC603	Modular cable RJ12 (6/6) 3 m
SIReCC605	Modular cable RJ12 (6/6) 5 m
SIReCC610	Modular cable RJ12 (6/6) 10 m
SIReCC615	Modular cable RJ12 (6/6) 15 m
SIReCC640	Modular cable RJ12 (6/6) 40 m

Basic - SIReBN - Simple and low cost



SIReUB1 SIReCC

Manual or automatic control of fan speed and temperature with an integrated thermostat. Possibility of selecting whether the fan should be switched off or not at set room temperature, depending whether sound comfort or circulation of room air is prioritised. Alarm via control unit.

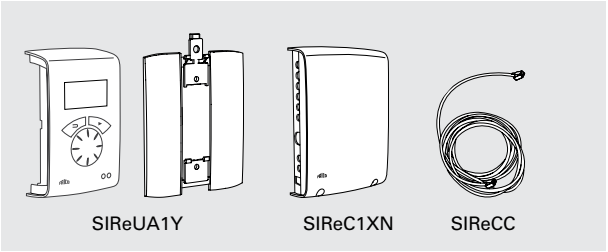
Included in SIReBN Basic:

- SIReUB1, control unit with built in room temperature sensor. Wall unit cover included.
- SIReCC, modular cable, RJ12 (6p/6c), 5 m

Accessories

- SIReRTX, external room temperature sensor, RJ11 (4p/4c), 10 m
- SIReCC, modular cable, RJ12 (6p/6c), 5, 10, 15, 40 m
- VOS(P), (pressure independent) valve kit on/off or VOT, three way valve and actuator on/off

Competent - SIReFCY - Extended functionality



Manual or automatic control of fan speed and temperature with an integrated thermostat. Possibility of selecting whether the fan should be switched off or not at set room temperature, depending whether sound comfort or circulation of room air is prioritised. Calendar function with weekly program and night mode. Filter alarm that indicates when it is time to change or clean the filter. With SIReUR the control unit can be recessed in a wall, protruding only 11 mm. Alarm via control unit or BMS.

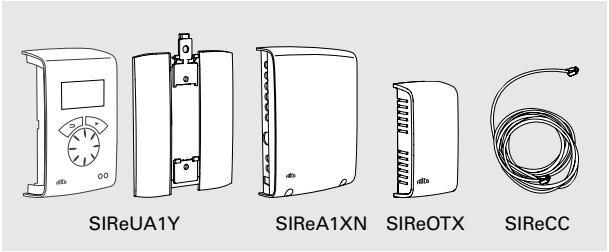
Included in SIReFCY Competent:

- SIReUA1Y, control unit with built in room temperature sensor. Wall unit cover included.
- SIReC1XN, PC board HUB Competent
- SIReCC, modular cables, RJ12 (6p/6c), 3 m resp. 5 m

Accessories

- SIReRTX, external room temperature sensor, RJ11 (4p/4c), 10 m
- SIReUR, kit for recessed installation
- SIReCC, modular cable, RJ12 (6p/6c), 5, 10, 15, 40 m
- VOS(P), (pressure independent) valve kit on/off or VOT, three way valve and actuator on/off

Advanced - SIReFAY - fully automatic with extended functionality



Manual or automatic control of fan speed and temperature with an integrated thermostat. Possibility of selecting whether the fan should be switched off or not at set room temperature, depending whether sound comfort or circulation of room air is prioritised. Calendar function with weekly program and night mode. Filter alarm that indicates when it is time to change or clean the filter. With SIReUR the control unit can be recessed in a wall, protruding only 11 mm. Alarm via control unit or BMS.
Possible to control and monitor using BMS system. Choose between Eco and Comfort mode dependent on whether energy savings or optimal comfort has been prioritised. Valve kit VMO or VMOP is required to use SIRe Advanced.

Included in SIReFAY Advanced:

- SIReUA1Y, control unit with built in room temperature sensor. Wall unit cover included.
- SIReA1XN, PC board HUB Advanced
- SIReOTX, outdoor temperature sensor
- SIReCC, modular cables, RJ12 (6p/6c), 3 m resp. 5 m

Accessories

- SIReRTX, external room temperature sensor, RJ11 (4p/4c), 10 m
- SIReUR, kit for recessed installation
- SIReWTA, return water sensor, RJ11 (4p/4c), 3 m
- SIReCC, modular cable, RJ12 (6p/6c), 5, 10, 15, 40 m
- VMO(P), (pressure independent) modulating valve kit or VMT, three way valve and modulating actuator

Information about accessories for SIRe and valve kits can be found in the “Controls” section.

Fan heater SWS

Basic fan heater for water connection

Fan heater SWS is intended for water-heating or cooling. SWS is suitable for places where fan heaters are traditionally used, such as industrial premises, workshops and storage rooms. The fan heater is mounted on the wall. By turning the unit the water connections will be positioned on the left or right side.

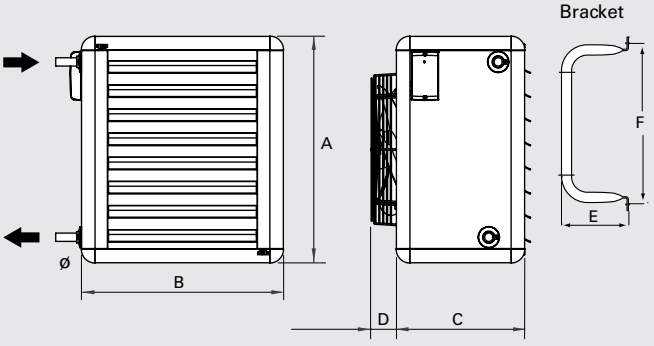
- Mounted on the wall. Mounting brackets are extra.
- Intended for water temperatures up to +150 °C and 10 bar in standard design.
- Casing of grey alu-zinc coated steel panels, very resistant against corrosion. Louvres in anodised aluminium.

Fan heater SWS (IP44)

Type	Heat output*1 [kW]	Airflow [m³/h]	Air flow [m³/s]	Sound level*2 [dB(A)]	Δt*1,3 [°C]	Air throw*4 [m]	Water volume*5 [l]	Voltage [V]	Amperage [A]	Weight [kg]
SWS02*6	7/12	520/1260	0,14/0,35	27/50	37/28	5.5	1.3	230V~	0.32	14
SWS12*6	8/19	620/2340	0,17/0,65	25/57	35/23	8	1.5	230V~	0.67	18
SWS22	11/30	860/3560	0,24/0,99	33/58	38/25	10	2.7	230V~	0.90	26
SWS32	19/50	1540/6300	0,43/1,75	39/64	36/23	15	3.8	230V~	2.42	45
SWS33	24/65	1550/6090	0,43/1,69	39/64	44/31	13	5.2	230V~	2.48	45
SWS323	40/48	4400/5890	1,22/1,64	56/62	26/24	12.5	3.8	400V3~	0.82	45
SWS333	52/62	4300/5660	1,19/1,57	56/62	35/32	11	5.2	400V3~	0.83	45

*1) Applicable at water temperature 80/60 °C, air temperature, in +15 °C. At lowest/highest airflow.
*2) Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*4) The air throw data above is valid when the horizontally adjustable air director is used and the outlet temperature is +40 °C and the room temperature is +18 °C. The air throw is defined as the distance in a straight angle from the fan heater to the the point where the air speed has dropped to 0,2 m/s.
*5) Water volume inside water coil.
*6) Approved for 220V/1ph/60Hz. Product performance for 220V/1ph/60Hz will differ from stated data.

Dimensions



	A [mm]	B [mm]	C [mm]	D [mm]	Ø [mm]	E [mm]	F [mm]
SWS02	470	520	210	50	22	195	395
SWS12	545	540	215	60	22	195	460
SWS22	675	690	215	60	28	250	570
SWS32(3) SWS33(3)	800	830	315	35	28	335	700

CE

Control options

SWS 230V~

Control by thermostat only

- KRT1900 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

5-step control of airflow only

- RE1,5, 5-step regulator max 1,5A, or RE3, 5-step regulator max 3A, or RE7, 5-step regulator max 7A

Thermostat and 5-step control

- RE1,5, 5-step regulator max 1,5A, or RE3, 5-step regulator max 3A, or RE7, 5-step regulator max 7A
- KRT1900 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

SWS 400V3~

2-step control of airflow only

- SWYD1, 2-step change-over switch for air flow (Y/D)
- STDT16, thermal contact motor protection

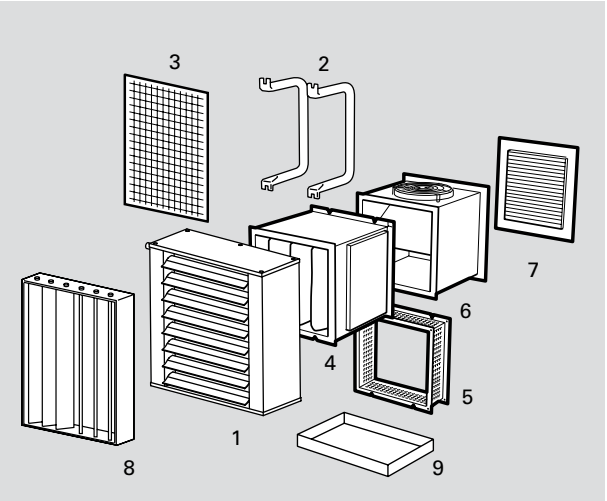
Thermostat and 2-step control

- KRT1900 or TKS16, room thermostat
- SWYD1, 2-step change-over switch for air flow (Y/D)
- STDT16, thermal contact motor protection
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

Type	Description
TKS16	Electronic thermostat, knob, 1-pole switch
KRT1900	Capillary tube thermostat
RE1,5	5-step change-over switch for air flow, max. 1,5A
RE3	5-step change-over switch for air flow, max. 3A
RE7	5-step change-over switch for air flow, max. 7A
SWYD1	2-step change-over switch for air flow (Y/D)
STDT16	Thermal contact motor protection (400V3~)
TVVS20	2-way control valve DN20
TVVS25	2-way control valve DN25
TRVS20	3-way control valve DN20
TRVS25	3-way control valve DN25
SD20	Actuator on/off

Accessories

Type	Description
SWB0	Mounting brackets SWS02
SWB1	Mounting brackets SWS12
SWB2	Mounting brackets SWS22
SWB3	Mounting brackets SWS32/SWS33
SWF1	Filter section SWS12
SWF2	Filter section SWS22
SWF3	Filter section SWS32/SWS33
SWD1	Return air intake SWS12
SWD2	Return air intake SWS22
SWD3	Return air intake SWS32/SWS33
SWEF1	Extra filter cassette EU3 SWS12
SWEF2	Extra filter cassette EU3 SWS22
SWEF3	Extra filter cassette EU3 SWS32/SWS33
SWSFT02	Basic filter SWS02
SWSFT1	Basic filter SWS12
SWSFT2	Basic filter SWS22
SWSFT3	Basic filter SWS32/SWS33
SWBS1	Mixing cabinet SWS12
SWBS2	Mixing cabinet SWS22
SWBS3	Mixing cabinet SWS32/SWS33
SWY1	Outer wall grille SWS12
SWY2	Outer wall grille SWS22
SWY3	Outer wall grille SWS32/SWS33
SWLR1	Extra air director SWS12
SWLR2	Extra air director SWS22
SWLR3	Extra air director SWS32/SWS33
SWST02	Drip tray SWS02
SWST1	Drip tray SWS12
SWST2	Drip tray SWS22
SWST3	Drip tray SWS32/SWS33



1) Fan heater SWS
2) Mounting brackets SWB
3) Basic filter SWSFT
4) Filter section SWF
5) Return air intake SWD
6) Mixing cabinet SWBS
7) Outer wall grille SWY
8) Extra air director SWLR
9) Drip tray SWST

Fan heater SWT

Ceiling mounted fan heater with water heat

The SWT fan heater is used for heating entrances, stores, industrial premises, workshops, sports halls, garages and shops. The low height means that SWT can also be recessed into a suspended ceiling.

- Installed directly to the ceiling or suspended from brackets.
- Intended for water temperatures up to +80 °C and 10 bar.
- Two fan speeds.
- Approved by SEMKO.
- Outer casing in galvanised white enamelled steel panels.

Fan heater SWT (IP44)

Type	Heat output*1 [kW]	Air flow [m³/h]	Air flow [m³/s]	Sound level*2 [dB(A)]	Δt*1,3 [°C]	Air throw*4 [m]	Air throw*4 with extension collar [m]	Water volume*5 [l]	Voltage [V]	Amperage [A]	Weight [kg]
SWT02	7,8/11	700/1100	0,19/0,31	37/53	33/29	2,2/4	4/7	1,2	230V~	0,4	19
SWT12	14/18	1300/2000	0,36/0,56	44/57	25/22	2,7/4,5	5/8	1,7	230V~	0,6	26
SWT22	29/40	2500/3900	0,69/1,08	48/60	34/30	4,5/7,5	7/12	3,9	230V~	1,0	41

*1) Applicable at water temperature 80/60 °C, air temperature, in +15 °C. At lowest/highest airflow.

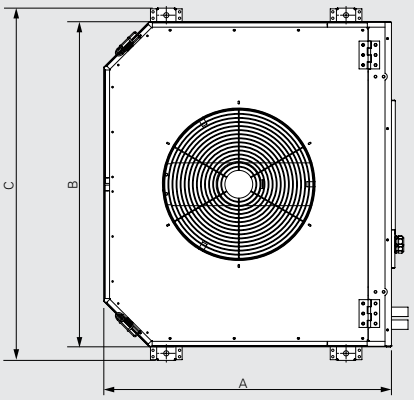
*2) Conditions: Distance to the unit 5 metres. At lowest/highest airflow.

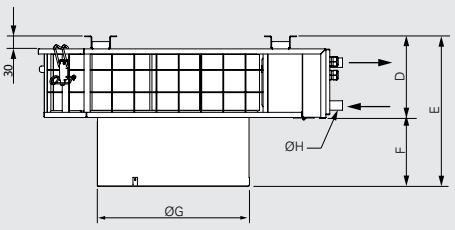
*3) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.

*4) The air throw data above is valid when the horizontally adjustable air director is used and the outlet temperature is +40 °C and the room temperature is +18 °C. The air throw is defined as the distance in a straight angle from the fan heater to the the point where the air speed has dropped to 0,2 m/s.

*5) Water volume inside water coil.

Dimensions





	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	ØG [mm]	ØH [mm]
SWT02	535	640	705	195	330	135	305	22
SWT12	675	760	825	195	355	160	355	22
SWT22	735	1070	1135	300	415	115	430	28

CE

Control options

Control by thermostat only

- KRT1900 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

2-step control of airflow only

- CB20, control panel

Thermostat and 2-step control

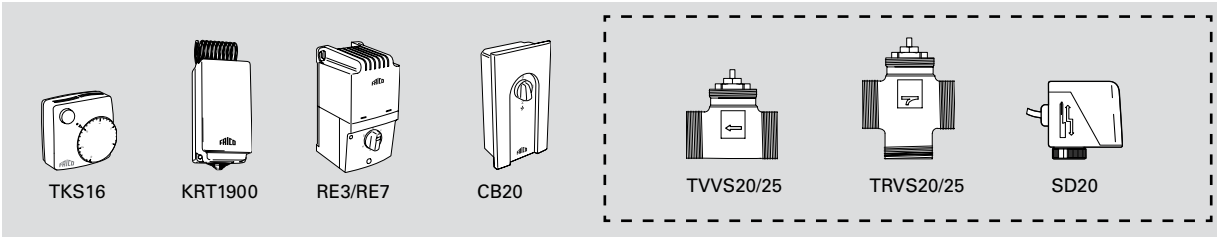
- CB20, control panel
- KRT1900 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

5-step control of airflow only

- RE1,5, 5-step regulator max 1,5A, or RE3, 5-step regulator max 3A, or RE7, 5-step regulator max 7A

Thermostat and 5-step control

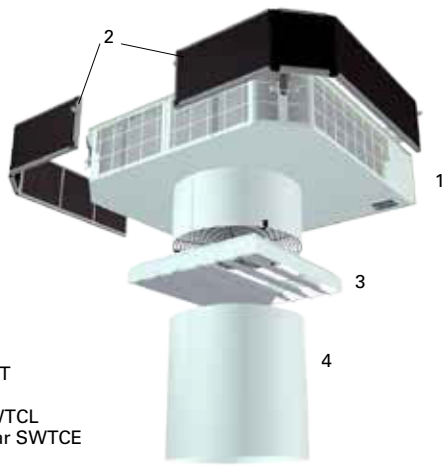
- RE1,5, 5-step regulator max 1,5A, or RE3, 5-step regulator max 3A, or RE7, 5-step regulator max 7A
- KRT1900 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator



Type	Description	HxWxD [mm]
TKS16	Electronic thermostat, knob, 1-pole switch	80x80x39
KRT1900	Capillary tube thermostat	165x57x60
CB20	Control box	155x87x43
RE1,5	5-step change-over switch for air flow 1,5 A	200x105x105
RE3	5-step change-over switch for air flow 3 A	200x105x105
RE7	5-step change-over switch for air flow 7 A	257x147x145
TVVS20	2-way valve DN20	
TVVS25	2-way valve DN25	
TRVS20	3-way valve DN20	
TRVS25	3-way valve DN25	
SD20	Actuator on/off 230V	

Accessories

Type	Description
SWTCE02	Extension collar 350 mm to SWT02, increases the throw pattern to 4-7 m
SWTCE12	Extension collar 350 mm to SWT12, increases the throw pattern to 5-8 m
SWTCE22	Extension collar 350 mm to SWT22, increases the throw pattern to 7-12 m
SWTCF02	Filter for SWT02
SWTCF12	Filter for SWT12
SWTCF22	Filter for SWT22
SWTCL02	Air director for SWT02
SWTCL12	Air director for SWT12
SWTCL22	Air director for SWT22



1) Fan heater SWT
2) Filter SWTCF
3) Air director SWTCL
4) Extension collar SWTCE

SWX C/D

SWX EX/H

Fan heater SWX

Fan heater for harsh environments, water connection

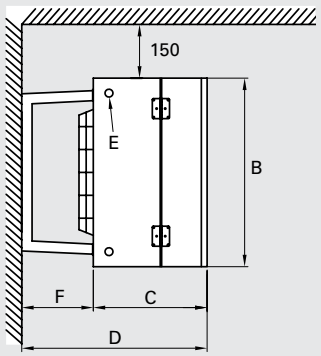
SWX is a range of fan heaters suitable for environments with strict demands on materials and safety. Models are available for use in dusty or corrosive environments, in rooms with high temperatures as well as in environments where there is risk of explosion.

Fan heater SWX has a robust design, adapted to the requirements of harsh environments. Supplied with air director with individually adjustable louvres that direct the air flow on one plane. The front of SWX C and SWX D can be opened for easy cleaning. SWX EX and SWX H have an inspection hatch with quick release.

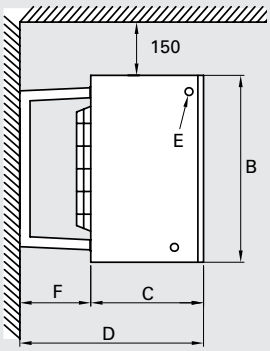
- Fan heater SWX is available in four versions:
  - **SWX C** is intended for corrosive and damp environments, e.g. offshore and chemical industries. Casing, air deflector grille and bracket made of acid-proof stainless steel (EN 1.4404). Water coil with acid proof stainless steel pipe. Aluminium fins with nano-coating. IP65.
  - **SWX D** has been specially introduced for dusty environments, such as industrial and joinery premises. Casing air deflector grille and bracket made of acid proof stainless steel (EN 1.4404). Water coil with copper pipe. Aluminium fins with a fin gaps of 4.2 mm, to minimize the risk of dust and particles blocking the coil. IP65.
  - **SWX EX** is designed for environments with a temporary explosion risk (Zone 1/2). Casing in stainless steel (EN 1.4016). Water coil with copper pipe. Aluminium fins. IP44.
  - **SWX H** is intended for rooms with high temperatures, up to 70 °C, such as in the drying and curing industry as well for decontamination. Casing in stainless steel (EN 1.4016). Water coil with copper pipe. Fins made of hydrophilic coated aluminium for easier cleaning and improved durability. IP65.
- Delivered with brackets for wall or ceiling mounting.
- Approved by SEMKO.

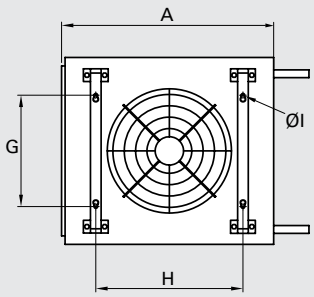
Dimensions

SWX C / D



SWX H / EX





[mm]	A	B	C	D	E	F	G	H	ØI
SWX C12/D13	585	535	455	705	R3/4"	250	330	410	10
SWX C22/D23	740	660	455	725	R3/4"	270	420	505	10
SWX EX12/H13	550	530	380	630	22	250	330	410	10
SWX EX13/H23	705	655	430	700	22	270	420	505	10

CE

Fan heater SWX C, for corrosive and damp environments. (IP65)

Type	Heat output*1 [kW]	Air flow [m³/h]	Air flow [m³/s]	Sound level*2 [dB(A)]	Δt*1,3 [°C]	Air throw [m]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXC12	20	2160	0,6	59	27	7	230V~	0,5	535x585x455	32
SWXC22	37	4300	1,2	69	25	10	230V~	1,35	660x740x455	54

Fan heater SWX D, for dusty environments. (IP65)

Type	Heat output*1 [kW]	Air flow [m³/h]	Air flow [m³/s]	Sound level*2 [dB(A)]	Δt*1,3 [°C]	Air throw [m]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXD13	15	2200	0,6	59	20	7	230V~	0,5	535x585x455	32
SWXD23	29	4430	1,2	69	19	10	230V~	1,35	660x740x455	54

Fan heater SWX EX, for environments with a temporary explosion risk. (IP44)

Type	Heat output*1 [kW]	Air flow [m³/h]	Air flow [m³/s]	Sound level*2 [dB(A)]	Δt*1,3 [°C]	Air throw [m]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXEX12	21	2250	0,6	61	28	8	400V3~	0,27	530x550x380	25
SWXEX22	39	4150	1,2	67	27	10	400V3~	0,6	655x705x430	42

*1) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.
*2) Conditions: Distance to the unit 5 metres.
*3) Δt = temperature rise of passing air at maximum heat output.

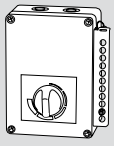
Fan heater SWX H, for rooms with high temperatures. (IP65)

Type	Heat output*1 [kW]	Air flow [m³/h]	Air flow [m³/s]	Sound level*2 [dB(A)]	Δt*1,3 [°C]	Air throw [m]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXH13	12	1830	0,5	57	21	6	230V~	0,5	530x550x380	28
SWXH23	23	3870	1,1	68	20	9	230V~	1,35	655x705x430	46

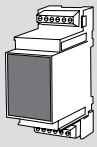
*1) Applicable at water temperature 80/60 °C, air temperature, in +40 °C.
*2) Conditions: Distance to the unit 5 metres.
*3) Δt = temperature rise of passing air at maximum heat output.

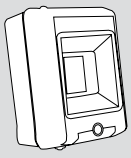
Intended for water temperatures up to +150 °C (SWX EX 130 °C) and 10 bar.
Max. surrounding temperature +70 °C. (Surrounding temp. SWX EX -20 - +40 °C).

Accessories


SWXRT


SWXCDFT/SWXHFT


U-EK230E


U-EK

Type	Description	HxWxD [mm]
SWXRT35	Room thermostat 0-35 °C for SWX C/D. IP65	
SWXRT70	Room thermostat 0-70 °C for SWX H. IP65	
SWXCDFT1	Wire mesh filter for SWX C12/D13	
SWXCDFT2	Wire mesh filter for SWX C22/D23	
SWXHFT1	Wire mesh filter for SWX H13	
SWXHFT2	Wire mesh filter for SWX H23	
U-EK230E	Thermistor motor protection for SWX EX	
U-EK	Plastic housing for U-EK230E, IP54	135x74x100

Industrial ceiling fan ICF

Equalizes the temperature in buildings with high ceilings

Ceiling fans are used primarily to equalize the temperature in rooms with high ceilings, such as industrial and warehouse buildings, gymnasiums, and shops. Several controls as well as downrods and blades of different sizes are available, making it possible to adapt ceiling fan ICF to almost all applications.

Ceiling fan ICF pushes the warm air from the ceiling and thus lowers the temperature there, the heat losses through the roof and walls are reduced and in many cases, heating costs can be reduced by up to 30%.

Industrial ceiling fan ICF is of high quality and maintenance free with a long service life. Easy installation and low energy consumption gives a very short pay-off period, in many instances in less than a year.

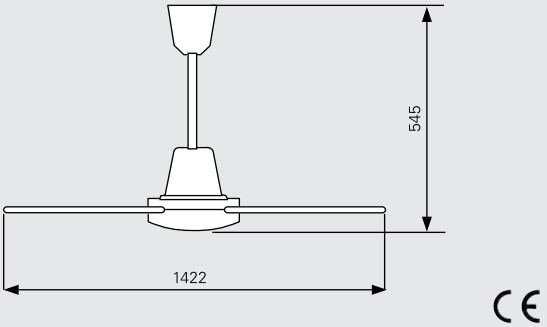
- The blades push down large volumes of air without causing excessive air speed.
- Can operate clockwise and anti-clockwise.
- Canopy with vibration absorption.
- Fan blades and downrod coated with zinc.
- The enclosed motor is equipped with permanently lubricated ball bearings for long life.
- Other fan blade diameters are available as an accessory (914, 1218 mm).
- Other downrods are available as an accessory (gives a total height of 395, 945 mm).
- High protection class, IP55 (ICF55).
- Colour: NCS S 0505-R90B

Industrial ceiling fan ICF (IP20 / IP55)

Type	Output [W]	Airflow [m³/h]	Voltage [V]	Amperage [A]	Height x Ø [mm]	Weight [kg]
ICF20	70	13500	230V~	0.33	545x1422	6.2
ICF55	70	13500	230V~	0.33	545x1422	6.2

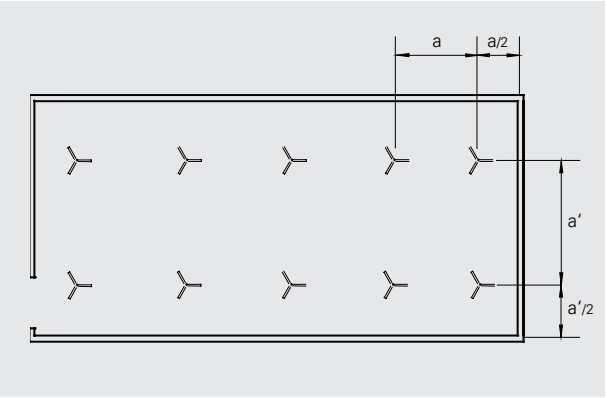
Protection class ICF20: IP20.
Protection class ICF55: IP55.
Approved by IMQ.

Dimensions



Mounting and connection

The fans are positioned systematically in the room at equal distances between themselves as detailed in the table below. This is to give the best temperature distribution. To adapt the fan to suit each specific room it should be controlled with a fan speed regualtor.



Recommended distance between fans					
Ceiling height [m]	4	6	8	10	12
Distance a [m]	5	7	8	9	10

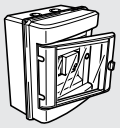
Control options

The fan speed on ceiling fans should be controlled to obtain optimal heat equalization and prevent draughts.

The fan can be reversed for summer operation. CAR15 and CFR1R have this function, with other control options a change-over switch is needed. This switch is connected in a series after the control and a 4x1.5 mm² cable must be used.

- CAR15, automatic fan speed control, for maximum15 fans, reversible
- CFR1R, 5-step control for 1 fan, reversible
- RE1,5 / RE3 / RE5, 5-step control for a maximum of 4, 8 or 12 fans
- PE1 / PE2,5 , variable fan speed control for a maximum of 2 or 6 fans

Accessories


CAR15


CFR1R


RE1,5/RE3/RE5


PE1/PE2,5


CFAP


CFB

Type	Description	HxWxD [mm]
CAR15	Automatic fan speed control for 15 fans	210x210x100
CFR1R	5-step control for 1 fan	120x120x60
PE1	Variable fan speed control for 2 fans, external mounting (IP54) or recessed mounting (IP44)	82x82x65
PE2,5	Variable fan speed control for 6 fans, external mounting (IP54) or recessed mounting (IP44)	82x82x65
RE1,5	5-step control for 4 fans	200x105x105
RE3	5-step control for 8 fans	200x105x105
RE5	5-step control for 12 fans	200x105x105
CFAP200	Short downrod, total height 395 mm	
CFAP750	Long downrod, total height 945 mm	
CFB900	Fan blades, fan diameter 914 mm	
CFB1200	Fan blades, fan diameter 1218 mm	

Frico's convectors offer comfort and balanced heat distribution

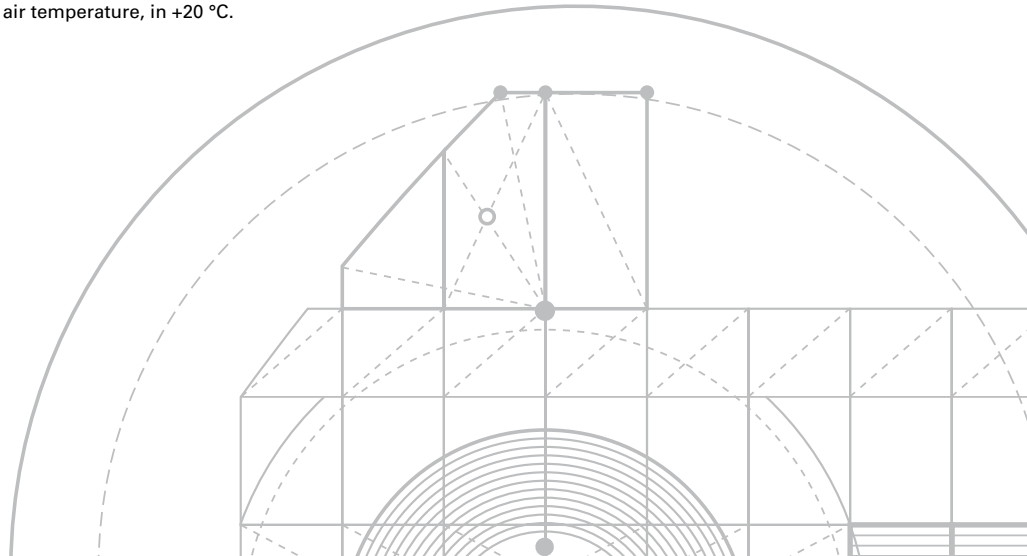
Convection is the term for the rotating air movement where the air is affected by a heat source. The air is heated - rises upwards - cools and comes back to then be reheated. This gives good comfort through good heat distribution and the warm air flow directed upwards can be used to counteract cold drafts from large glass surfaces.

Convectors and radiators are simple to install. Our range contains a convector to suit all needs: small, discreet, robust and hard-wearing or quick and economical, all with the same high level of quality.

Our convectors

Type	Heat	Output [W]	Voltage [V]	Weight [kg]	Page
Electrical heat					
Mini radiator/frost guard FML	ϟ	200-450	230V~	0,7 - 1,1	105
Ribbed pipe radiator	ϟ	200-1150	230V~	2,4 - 33,3	106
Thermowarm TWT	ϟ	300-1000	230V~, 400V~	1,5 - 3,0	108
Fan convector PFE/PFD	ϟ	500-1200	230V~, 400V~	6,0	110
Bench heater SH	ϟ	175-375	230V~, 400V~	1,4 - 2,9	112
Water heat					
Fan convector PFW	💧	1100-3000*	230V~	7,3 - 13	110

*) Applicable at water temperature 80/60 °C, air temperature, in +20 °C.



Mini radiator/frost guard

Compact mini radiator for frost protection and heating

The mini radiator/frost guard gives off a lot of heat despite the small size. The compact radiators are suitable for providing frost protection, but can also be used to heat many different areas, for example, homes, close to water pipes, small warehouses, greenhouses and electrical cabinets.

The possibility of choosing products with different outputs results in energy efficient heating irrespective of whether the whole building is to be heated or only frost protection is required. A long life and minimum maintenance also reduce costs.

- Stainless steel tubular element.
- Equipped with 1 metre long cord with plug for connection to an earthed outlet socket.
- Integrated overheating protection.
- Mounted horizontally (FML/FMLR) or vertically (FMS) on the wall.
- Integrated thermostat with setting range +5 – +35 °C.
- Colour front: NCS 1103-Y06R (white). FMLR200 has a stainless steel design.

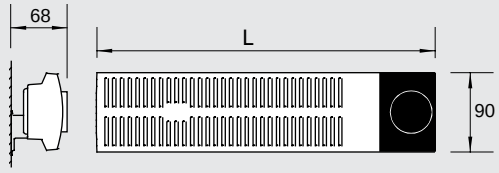
Mini radiator FML/FMS. White front. (IP31)

Type	Output [W]	Voltage [V]	LxHxD [mm]	Weight [kg]
FML200	200	230V~	298x90x68	0,7
FML300	300	230V~	398x90x68	0,9
FML450	450	230V~	498x90x68	1,1
FMS200	200	230V~	90x298x68	0,7

Mini radiator FMLR. Stainless steel design. (IP31)

Type	Output [W]	Voltage [V]	LxHxD [mm]	Weight [kg]
FMLR200	200	230V~	298x90x68	0,7

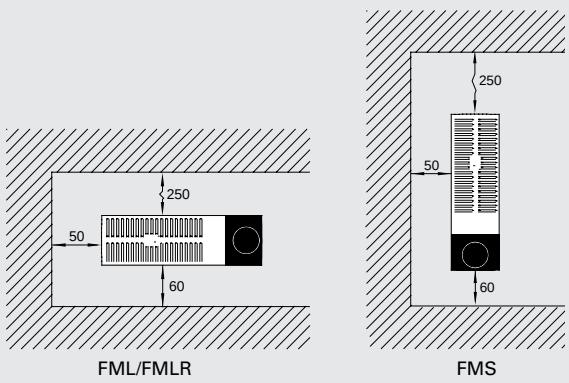
Dimensions

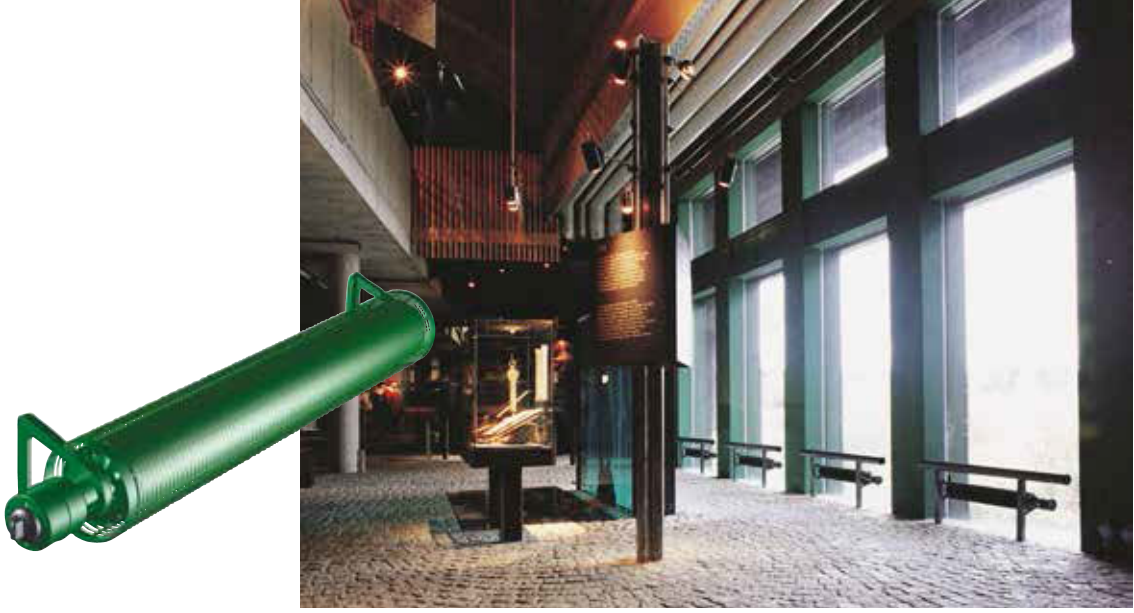


	L [mm]
FML/FMS/FMLR200	298
FML300	398
FML450	498

CE

Minimum distances





Robust and hard wearing ribbed pipe radiator in a retro design

Frico's ribbed pipe radiators are designed for harsh environments and are approved for wet rooms, but are also available in designs for rooms at risk of fire. The retro design has also created a new application area in modern housing.

Convectors and radiators from Frico efficiently produce pleasant heat. Heat distribution in the room is good at the same time as the warm air flow directed upwards can be used to counteract cold draughts from the windows.

Frico's ribbed pipe radiators have a hard wearing and robust design in dark green sheet steel. The compact format means the radiator has a small footprint, but gives a lot of heat.

- The ribbed pipe radiator is available in the following designs:
  - **Model 125**, without output selector.
  - **Model 126**, with output selector that regulates the heat in three steps.
  - **Model 127**, without output selector, sand-filled and suitable for rooms at risk to fire.
- The ribbed flanges increase the heating surface and provide good heat transfer combined with a compact design.
- Resettable overheating protection along the full length of the ribbed pipe radiator.
- A protective steel case give a lower surface temperature and extra protection against impact (model 125 and 126).
- Approved for wet rooms (IP44).
- Can be regulated using an external thermostat.
- Colour: RAL 6005, NCS 7020-B90G (dark green).

Ribbed pipe radiator 125. Without output selector. (IP44)

Type	Output [W]	Voltage [V]	LxHxD [mm]	Weight [kg]
125-12B	200	230V~	370x180x185	2,4
125-22B	375	230V~	530x180x185	3,3
125-32B	575	230V~	730x180x185	4,5
125-42B	775	230V~	880x180x185	5,5

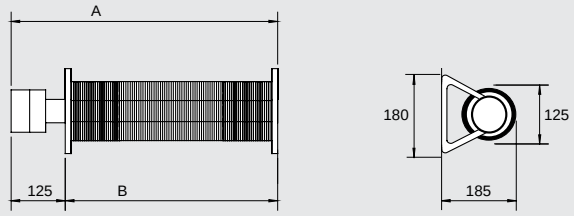
Ribbed pipe radiator 126, with output selector. (IP44)

Type	Output [W]	Voltage [V]	LxHxD [mm]	Weight [kg]
126-32B	575	230V~	730x180x185	4,7
126-42B	775	230V~	880x180x185	5,7
126-52B	1150	230V~	1185x180x185	7,5

Ribbed pipe radiator 127, without output selector, for use in combustible areas (sand filled). (IP44)

Type	Output [W]	Voltage [V]	LxHxD [mm]	Weight [kg]
127-22B	500	230V~	980x180x185	10,9
127-42B	800	230V~	1925x180x185	33,3

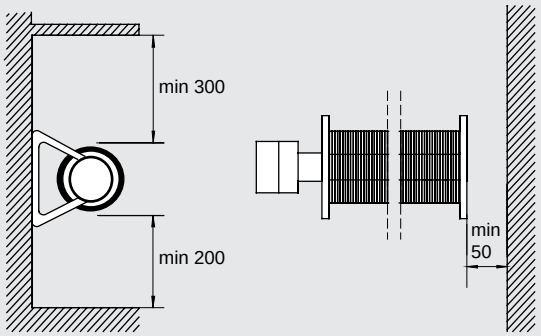
Dimensions



	A [mm]	B [mm]
125-12B	370	245
125-22B	530	405
125-32B	730	605
125-42B	880	755
126-32B	730	605
126-42B	880	755
126-52B	1185	1060
127-22B	980	855
127-42B	1925	1800

CE

Minimum distances



The origins of Frico's ribbed pipe radiators can be traced back to the 1930s, but they are just as suitable, hard wearing and functional today.

Thermowarm TWT/TWTC

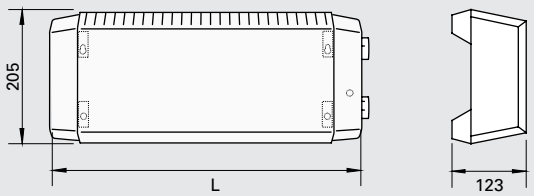
Easily positioned convector in several different designs

Thermowarm is a series of easily installed convectors designed for public buildings such as changing rooms, stores and toilets. TWTC can also be used in corrosive and aggressive environments. TWT200 has a surface temperature as low as 60 °C, which makes it ideal for daycare centres and bathrooms.

Thermowarm is easy to position and has, despite its small size, a large heat output. The three different surface finishes: white, grey covered panel covered and stainless steel, make Thermowarm suitable for most environments. The front cover can be opened making it straightforward to keep the convectors clean and tidy.

- Thermowarm is available in four designs:
  - **TWT100:** white front, RAL 9016, NCS S 0500-N, and grey sides. Equipped with power switch. IP44.
  - **TWT200:** grey covered front panel and grey sides. Equipped with power switch, surface temperature 60 °C. IP44.
  - **TWT300:** white front, RAL 9016, NCS S 0500-N and grey sides, with mains cord and plug. IP21.
  - **TWTC:** stainless steel design and black sides. Equipped with mains cord and plug. Concealed temperature setting. IP54.
- With ribbed flanges and tubular elements.
- Resettable overheating protection along the full length of the convector.
- Integrated thermostat with setting range 0 – +35 °C.
- TWT100 is approved by Det Norske Veritas.
- Ends of impact resistant thermoplastic.

Dimensions



	L [mm]
TWT103/203/303, TWTC303	345
TWT105/205/305, TWTC305	465
TWT110/210/310, TWTC310	765

CE

Thermowarm TWT100. White front, with switch. (IP44)

Type	Output [W]	Voltage [V]	HxWxD [mm]	Weight [kg]
TWT10321	300	230V~	345x205x123	1,5
TWT10331	300	400V~	345x205x123	1,5
TWT10521	500	230V~	465x205x123	2,0
TWT10531	500	400V~	465x205x123	2,0
TWT11021	1000	230V~	765x205x123	3,0
TWT11031	1000	400V~	765x205x123	3,0

Thermowarm TWT200. Grey covered front, with switch. Max surface temperature of 60 °C. (IP44)

Type	Output [W]	Voltage [V]	HxWxD [mm]	Weight [kg]
TWT20321	300	230V~	345x205x123	1,5
TWT20331	300	400V~	345x205x123	1,5
TWT20521	500	230V~	465x205x123	2,0
TWT20531	500	400V~	465x205x123	2,0
TWT21021	1000	230V~	765x205x123	3,0
TWT21031	1000	400V~	765x205x123	3,0

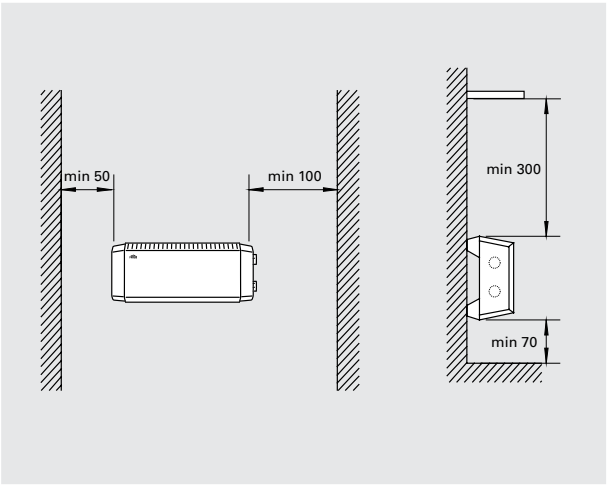
Thermowarm TWT300. White front, with cable and plug. (IP21)

Type	Output [W]	Voltage [V]	HxWxD [mm]	Weight [kg]
TWT30321	300	230V~	345x205x123	1,5
TWT30521	500	230V~	465x205x123	2,0
TWT31021	1000	230V~	765x205x123	3,0

Thermowarm TWTC. Front in stainless steel, with cable and plug. (IP54)

Type	Output [W]	Voltage [V]	HxWxD [mm]	Weight [kg]
TWTC30321	300	230V~	345x205x123	1,5
TWTC30521	500	230V~	465x205x123	2,0
TWTC31021	1000	230V~	765x205x123	3,0

Minimum distances



In the stainless steel design Thermowarm withstands corrosive environments.

Fan convector PF

Efficient fan convector for quick heating

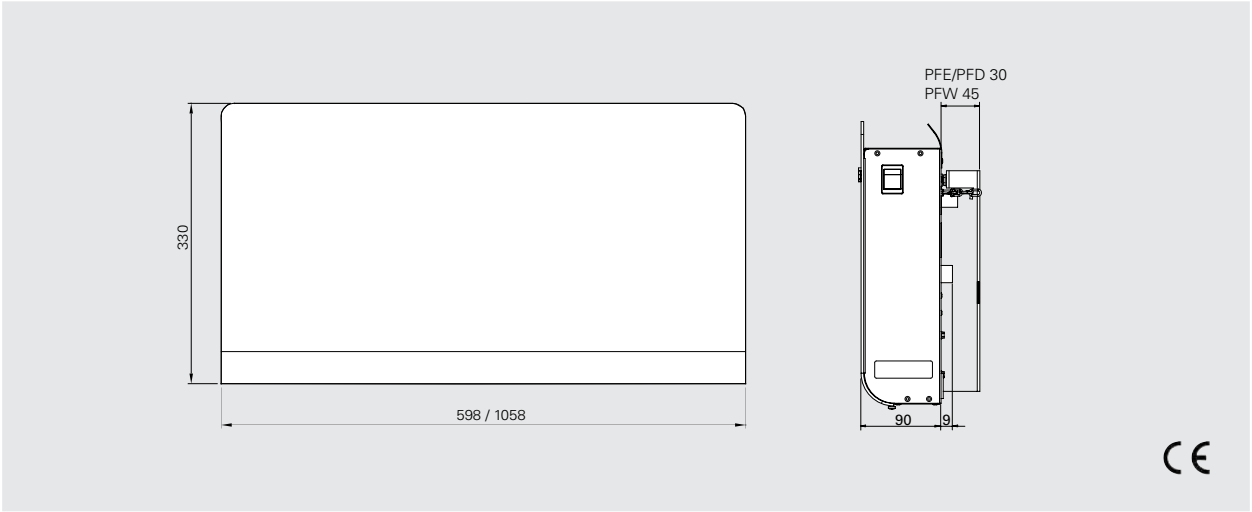
Fan convector PF is suitable for most environments, for example, homes and offices. It is also ideal for use in buildings that are rarely used, for example, weekend cottages, where quick heating is required. The fan convector also has very good drying properties. Models up to 800 W have a surface temperature of less than 60 °C which makes them extremely suitable for daycare centres and bathrooms.

The fan convector consumes less energy than standard convectors. The air flow from the convector, which balances the temperature difference between the floor and ceiling, gives higher efficiency and lower energy consumption compared to convectors without a fan.

Fan convector PF has an attractive and clean design in a white finish. A brushed aluminium front is available as an accessory. The low surface temperature makes it possible to finish the front panel in any colour or a film finish can be applied.

- Fan convector PF is available in the following designs:
  - **PFE** is equipped with a 1.2 metre long cord with plug for connection to an earthed outlet socket (230V~). Can be used as a portable unit, a floor stand is available as an accessory.
  - **PFD** is designed for permanent installation (400V2~).
  - **PFW** is for water based heating. Equipped with a 1.2 metre long cord with plug for connection to an earthed outlet socket. Supplied with two, 0.9 m PEX hoses for easy installation. Works with a heat pump.
- Low sound level.
- PFE/PFD has a master-/slave function and integrated thermostat with setting range 5 – +35 °C and is preset for night reduction via external signal.
- The fan speed (low/high) can be set on PFW.
- The air intake is protected by a metal filter which prevents e.g. dust from entering the radiator.
- Corrosion proof housing made of hot zinc-plate and powder enameled steel panels. Colour: RAL 9016, NCS S 0500-N (standard). A brushed aluminium front is available as an accessory.

Dimensions



Fan convector PFE electrically heated, with able and plug. (IP23)

Type	Output [W]	Voltage [V]	Amperage [A]	LxWxD [mm]	Weight [kg]
PFE5	500	230V~	2,3	598x330x90	6,0
PFE8	800	230V~	3,6	598x330x90	6,0
PFE10	1000	230V~	4,4	598x330x90	6,0
PFE12	1200	230V~	5,3	598x330x90	6,0

Fan convector PFD electrically heated, for fixed installation. (IP23)

Type	Output [W]	Voltage [V]	Amperage [A]	LxWxD [mm]	Weight [kg]
PFD5	500	400V2~	2,3	598x330x90	6,0
PFD8	800	400V2~	3,6	598x330x90	6,0
PFD10	1000	400V2~	4,4	598x330x90	6,0
PFD12	1200	400V2~	5,3	598x330x90	6,0

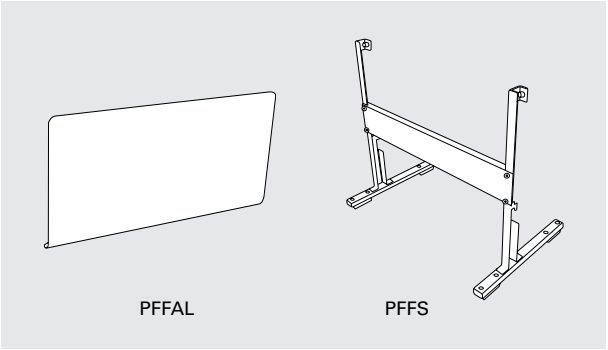
Fan convector PFW water heated. (IP23)

Type	Output*[1] [W]	Air flow [m³/h]	Sound level*[2] [dB(A)]	Voltage [V]	Amperage [A]	LxWxD [mm]	Weight [kg]
PFW10	1,1	59/48	42/32	230V~	0,15/0,07	598x330x90	7,3
PFW20	3,0	165/78	44/33	230V~	0,31/0,13	1058x330x90	12,8

*[1]) Applicable at water temperature 80/60 °C, air temperature, in +20 °C.

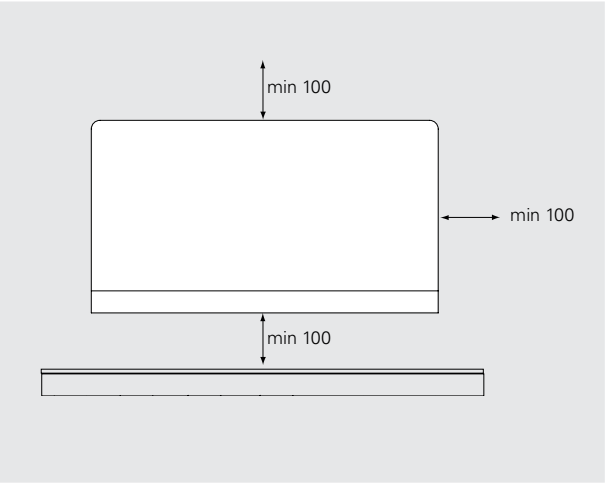
*[2]) Conditions: Distance to the unit 3 metres. Directional factor: 2. Equivalent absorption area: 200 m².

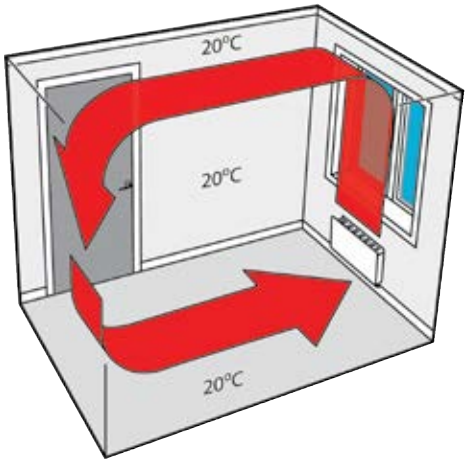
Accessories



Type	Description
PFFAL	Front, brushed aluminium (not PFW20)
PFFS	Floor stand for PFE

Minimum distances





The rotating air flow created by the fan convector makes it particularly suitable in areas that require quick heating.

Bench heater SH

Bench heater for good heating comfort in churches etc.

Bench heater SH is designed for use with church pews, waiting room benches and the like. The bench heater is installed under the seat and distributes heat in the occupied zone through convection and radiant heat.

The heaters are dimensioned to produce a pleasant heat on the actual seat surface and to the surroundings. In churches visitors experience good heating comfort, at the same time as power consumption and drying of inventories is kept to a minimum.

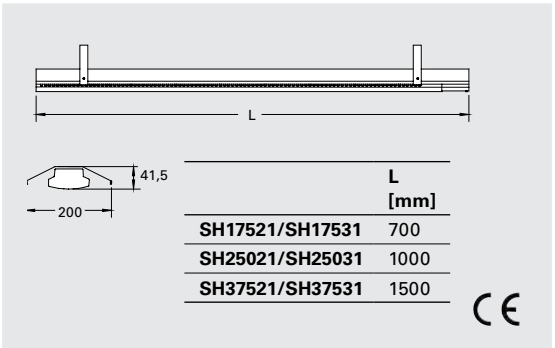
- Dual reflectors (external and internal) give downward heat dispersion.
- Equipped with protecion grille and tube element of stainless steel.
- Approved for serial connection.
- Outer reflector is of zinc-plated steel panels and the heater is grey lacquered. Colour: NCS 4000, RAL 7036 (grey).

Bench heater SH (IP21)

Type	Output [W]	Voltage [V]	Amperage [A]	LxH*xW [mm]	Weight [kg]
SH17521	175	230V~	0,8	700x110x200	1,4
SH17531	175	400V~	0,4	700x110x200	1,4
SH25021	250	230V~	1,1	1000x110x200	1,9
SH25031	250	400V~	0,6	1000x110x200	1,9
SH37521	375	230V~	1,6	1500x110x200	2,9
SH37531	375	400V~	0,9	1500x110x200	2,9

*) With brackets

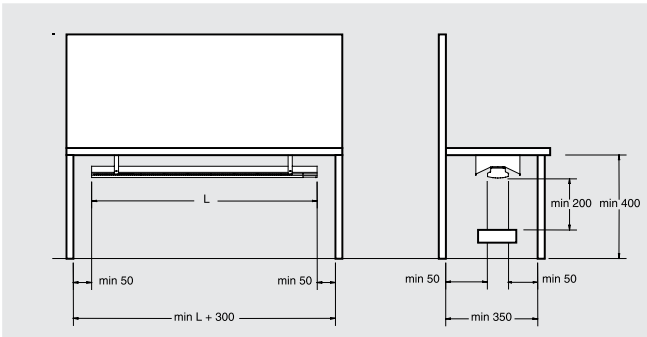
Dimensions



	L [mm]
SH17521/SH17531	700
SH25021/SH25031	1000
SH37521/SH37531	1500

CE

Minimum distances



Control

A programmable electric heating regulator should be used to control heating in churches and similar premises. The premises can be divided up into temperature zones, which are individually regulated and adapted to the characteristics of the building and the comfort of the visitors. For further information and options, see the "Controls" section.

SIRe Control system

114

How efficient an air curtain is and how much energy can be saved depends to a large part on the control system. Many factors that affect the air curtain vary over time. The variations can be long term, for example seasonal, or more temporary, for example when the sun goes behind clouds, the premises fills with people or when a door is opened.

Other controls

119

The control system is the intelligent centre and the ”brain” of a heating system and essential for good comfort level and low energy consumption. The temperature of an electric heating system can be quickly, easily and precisely regulated and is more responsive than any other heating system.

Thermostats

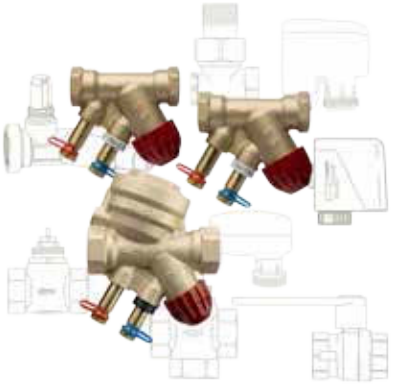
120

Frico’s thermostats create great comfort and save energy in public and commercial premises as well as in home environments. They control electrical and water borne floor heating, heat pumps, direct effect electric radiators/convectors and air conditioning. They are also extremely suitable for use with electrically or water heated radiant heaters, fan heaters and air curtains. We offer everything from processor controlled wireless thermostats with advanced functions to the simplest bimetal thermostats.

Water control

122

Water heated units must always be supplemented with a valve kit. When heating is not required, the valve restricts the water flow and only a small amount is allowed through so that there is always hot water in the heating coil. This is to be able to provide quick heat supply when a door is opened but also to provide a degree of frost protection. Without valves the unit gives off maximum heat energy as long as the fan is running, which means energy loss.



SIRe Control system

Most of our air curtains are prepared for the intelligent SIRe control system, which automatically manages the air curtain operations. The air curtain adapts itself to the present conditions in the entry. By sensing how often the door opens/closes, outdoor temperature, indoor temperature or even the return water temperature, the air curtain will give you the most effective protection with the highest energy efficiency.

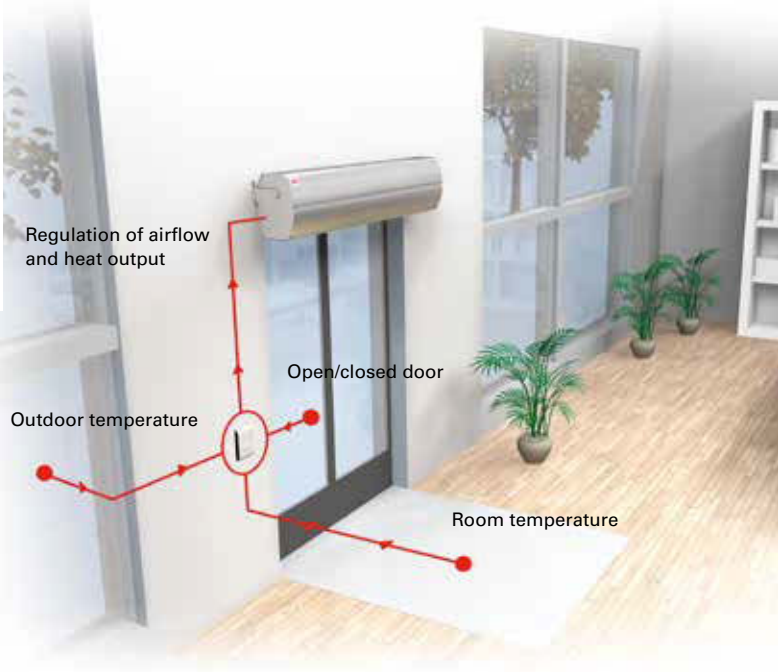
Install and forget

With SIRe control system, the air curtain will always perform at its best. You'll never have to think about switching it on or off. It even adapts to the season outside, and with calendar function the air curtain automatically runs during the hours it is needed.

Intelligent

Automatically adapts to your entrance

The air curtain automatically adapts to your entrance conditions. Depending on how often the door is opened/closed, or if it is left open continually, the integrated SIRe controls the air curtain operation so that optimal comfort and energy efficiency is achieved.



Proactive

Anticipates for quicker reactions

By measuring the outdoor temperature, the air curtain is always a step ahead. The integrated regulation ensures that the air curtain is prepared for changes in the outdoor temperature. For example, when a warm spring day turns into a chilly evening. The air speed is adjusted depending on the outdoor temperature change and stops the chill before it penetrates the premises.

Adaptive

Expert on your entrance

SIRe has the capacity to learn precisely what happens at your entrance. The air curtain adapts so that it is always ready to operate fully as soon as the door is opened. It also considers the acoustic comfort by ensuring that the air curtain does not switch between high and low speeds too often.

Eco mode

Save money and the environment at the same time

With SIRe intelligent regulation integrated in your air curtain, you get comfort in your entrance without wasting energy. If you want to increase the energy efficiency further, set SIRe in Eco mode. The air curtain then uses as little energy as possible without compromising too much on comfort. Energy savings of up to 35 percent are possible.

BMS solutions
Endless possibilities

With our intelligent SIRe control system, the possibilities to control your air curtains via BMS are endless. You can either choose to control your air curtain by 0-10 V signals (controlling on/off, fan speed, heating and alarm) or completely control all functions and receive indications from your air curtain via gateway (two threaded) BUS communication.

Calendar function
Presets as required

SIRe has a calendar function for all the days of the week. The air curtain starts in the morning to ensure that it's always working to create a comfortable climate and save energy. Preset default setting may easily be adjusted by the user.

Simple installation
"Plug and play"

An air curtain with integrated SIRe control system is easy to install. The different components are supplied together and are easy to assemble. The system self-checks that everything is correct and that it functions. Thanks to the preset default settings it is easy to start air curtain operation as soon as the system is in place.

SIRe Basic

SIRe Competent

SIRe Advanced

SIRe is an intelligent and well designed low voltage control system which can be customised for each unique application and environment. The PC board SIRe is built into the air curtain on delivery and is equipped with modular connectors for easy connection of external components. SIRe is supplied pre-programmed and is very easy to install and use.

SIRe can control up to nine units. If more than one air curtain should be controlled by a single SIRe, an additional modular cable SIReCC RJ12 (6p/6c) per unit is needed. Cables between units can easily be joined together by using joint piece SIReCJ6.

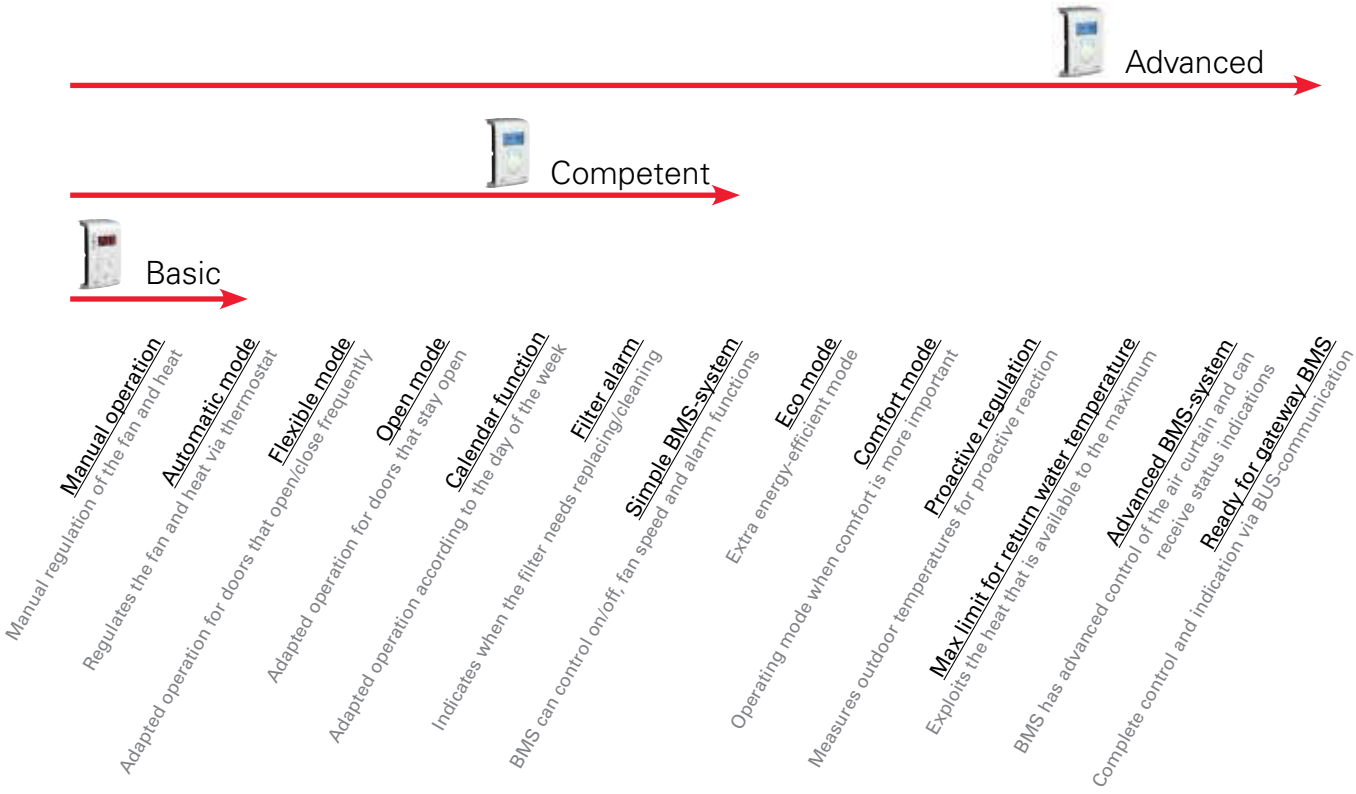
There are three different levels with different functionality to choose from, Basic, Competent or Advanced.

Type	Description
SIReBN	Control system SIRe Basic
SIReACY	Control system SIRe Competent
SIReAAY	Control system SIRe Advanced

The SIRe control system is also available for fan heaters, see product chapter SWH.

SIRe can be set to 18 languages, divided into two product versions.

- SIRexxxY communicates in Swedish, Norwegian, English, German, French, Spanish, Dutch, Italian, Danish and Finnish.
- SIRexxxZ communicates in Russian, Ukrainian, Polish, Czech, Slovak, Romanian, Hungarian, Turkish, English and German.



The SIRe control system is available in three different versions with different functionalities; Basic, Competent and Advanced.

SIRe Basic gives simple control at a low cost. SIRe Competent and SIRe Advanced anticipate and learn the needs of the entrance they are installed in (e.g. opening frequency and outdoor temperatures). It has calendar function and selectable switch off at set temperatures for up to nine units. Because the fan speed is adapted, the sound level is optimized and is never higher than is necessary for comfort. With SIRe Advanced it is possible to choose between Eco and Comfort mode dependent on whether energy savings or optimal comfort has been prioritised. The return water temperature can be limited, thus ensuring that the available heat is exploited to the maximum.

Functions SIReBN Basic

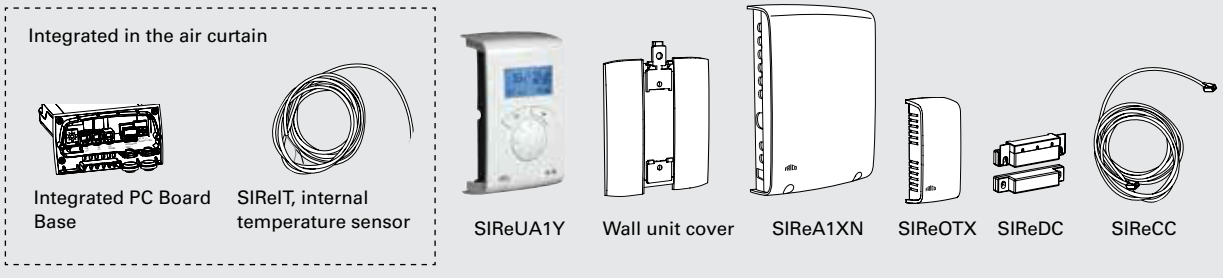
- Manual regulation of the fan and temperature
- Automatic control of fan speed and temperature with integrated thermostat.

Functions SIReACY Competent

- All functions for Basic
- Calendar function
- Filter alarm
- Simple BMS control - on/off, fan speed and alarm functions
- Flexible mode - for doors that open and close frequently
- Open mode - for doors that stay open

Functions SIReAAY Advanced

- All functions for Competent
- Eco mode - extra energy-efficient mode
- Comfort mode - when comfort is important
- Advanced BMS control
- Max limit of return water temperature.
- Proactive regulation – measures outdoor temperatures for proactive reaction.



Included in SIReAAY Advanced:

- SIReUA1Y, control unit with built in room temperature sensor. Wall unit cover included.
- SIReA1XN, PC board HUB Advanced
- SIReOTX, outdoor temperature sensor
- SIReDC, door contact
- SIReCC, modular cables, RJ12 (6p/6c), 3 m resp. 5 m

Accessories

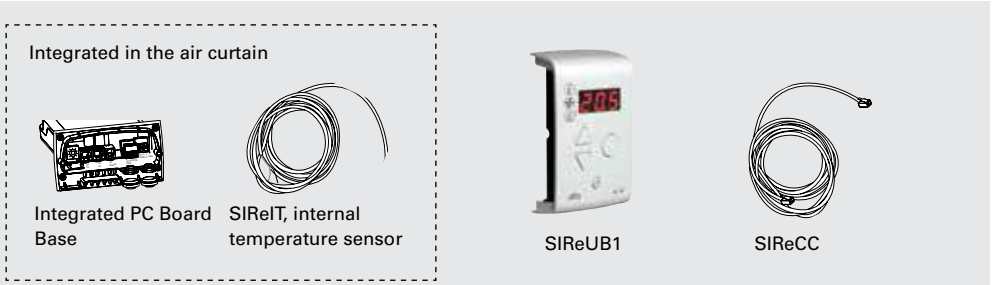
- SIReRTX, external room temperature sensor, RJ11 (4p/4c), 10 m
- SIReUR, kit for recessed installation
- SIReWTA, return water sensor, RJ11 (4p/4c), 3 m
- SIReCC, modular cable, RJ12 (6p/6c), 5, 10, 15, 40 m
- VMO(P), (pressure independent) modulating valve kit or VMT, three way valve and modulating actuator

Included in SIReACY Competent:

- SIReUA1Y, control unit with built in room temperature sensor. Wall unit cover included.
- SIReC1XN, PC board HUB Competent
- SIReDC, door contact
- SIReCC, modular cables, RJ12 (6p/6c), 3 m resp. 5 m

Accessories

- SIReRTX, external room temperature sensor, RJ11 (4p/4c), 10 m
- SIReUR, kit for recessed installation
- SIReCC, modular cable, RJ12 (6p/6c), 5, 10, 15, 40 m
- VOS(P), (pressure independent) valve kit on/off or VOT, three way valve and actuator on/off



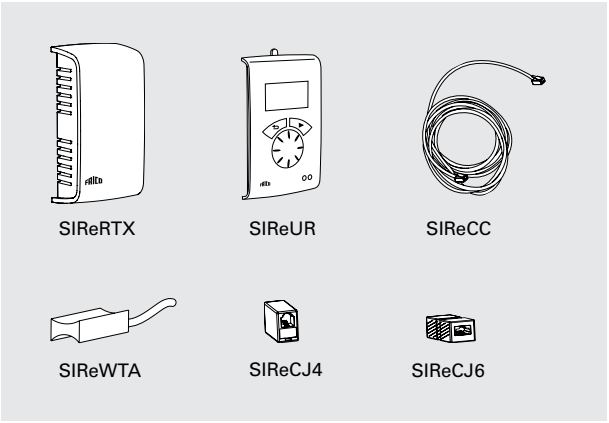
SIReUA1Y	IP30
SIReUB1	IP30
SIReA1XN	IP10
SIReC1XN	IP10
SIReOTX	IP65
SIReIT	IP65
SIReRTX	IP30
SIReUR	IP30
SIReWTA	IP65

Included in SIReBN Basic:

- SIReUB1, control unit with built in room temperature sensor. Wall unit cover included.
- SIReCC, modular cable, RJ12 (6p/6c), 5 m

Accessories

- SIReRTX, external room temperature sensor, RJ11 (4p/4c), 10 m
- SIReCC, modular cable, RJ12 (6p/6c), 5, 10, 15, 40 m
- VOS(P), (pressure independent) valve kit on/off or VOT, three way valve and actuator on/off



SIRe control system - options

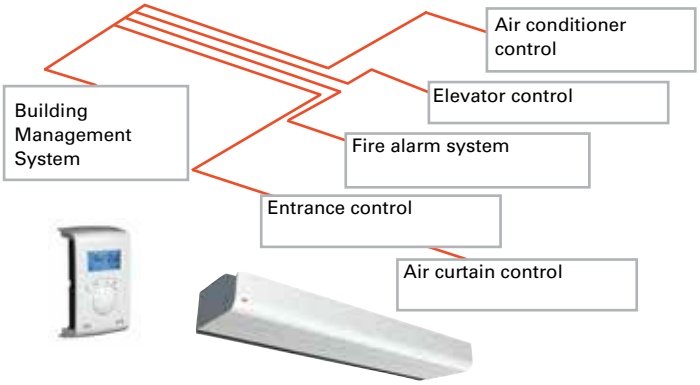
SIReRTX, external room temperature sensor
Used to obtain a better measuring point in the premises when the control unit is located so that the internal room temperature sensor does not show a relevant value. 10 m. cable with modular connector RJ11 (4p/4c).

SIReUR, kit for recessed installation
Kit for installing SIReUA1 recessed in a wall. Only protrudes 11 mm from the wall.

SIReWTA, return water sensor
Clamp-on sensor for return water temperature control. 3 m. cable with modular connector RJ11 (4p/4c). Should be mounted on the return pipe on the heating coil.

SIReCJ4/SIReCJ6, joint piece
Used to join two RJ11 (4p/4c) respectively RJ12 (6p/6c).

SIReCC, modular cables
Modular cables RJ11 (4p/4c) and RJ12 (6p/6c). Available in lengths of 3, 5, 10 and 15 m (RJ12 also in 40 m).



Integration of Frico air curtains in an overall control system (BMS)

BMS-control - level 1
With SIRe Competent the air curtains can be integrated in an overall control system (BMS). The air curtain can be started/stopped and the fan speed regulated via the BMS system. A 5-30V control signal is required for starting/stopping. A 0-10V control signal is required to control the fan speed. Potential free contact for buzzer.

BMS-control - level 2
With SIRe Advanced the air curtains can be integrated in an overall control system (BMS). The air curtain can be started/stopped, the fan speed and heating regulated smoothly via the BMS system. A 5-30V control signal is required for starting/stopping. A 0-10V control signal is required to control the fan speed and heating. Input for alarm and night reduction via external potential free contact. Potential free contact for buzzer and operation indication.

BMS-control - level 3
With SIRe Advanced it is also possible to communicate via Modbus RTU (RS485). Contact Frico for more information.

Type	Description
SIReRTX	External room temperature sensor, IP30
SIReUR	Kit for recessed installation, IP30
SIReWTA	Return water sensor, IP65
SIReCJ4	Used to join two RJ11(4/4)
SIReCJ6	Used to join two RJ12(6/6)
SIReCC603	Modular cable RJ12(6/6) 3 m
SIReCC605	Modular cable RJ12(6/6) 5 m
SIReCC610	Modular cable RJ12(6/6) 10 m
SIReCC615	Modular cable RJ12(6/6) 15 m
SIReCC640	Modular cable RJ12(6/6) 40 m
SIReCC403	Modular cable RJ11(4/4) 3 m
SIReCC405	Modular cable RJ11(4/4) 5 m
SIReCC410	Modular cable RJ11(4/4) 10 m
SIReCC415	Modular cable RJ11(4/4) 15 m

Other controls

CBT, electronic timer

Electronic timer with alternating contact. Setting range 1/2-1-2-4 or 4-8-16-24 hours respectively. The setting range can be limited down to a maximum time of 1/2 hours. IP44.

Type	Voltage [V]	Max input [A]	HxWxD [mm]
CBT	230V~	16	155x87x43

KUR, digital time switch

Digital weekly timer with 8 different program steps (36 memory places) equipped with a changeover contact. Max. breaking current: 10 A. IP55.

Type	Voltage [V]	Max input [A]	HxWxD [mm]
KUR	230V~	10	175x85x105

ERP, electric heating control

Stepless pulse control intended for single phase (3600W/230V) or two phase (6000W/400V2~) electric heaters. Cannot control 3 phase loads. Pulse time 60 secs. Triac control (quiet control). Integrated temperature sensor. External sensors available as an accessory. Save reduction function via external connection timer (1–10 degrees). For larger power outputs a slave unit (ERPS) can be connected. Each ERPS can handle the same power as ERP. IP20.

Type	Voltage [V]	Max input [A]	HxWxD [mm]
ERP	230/400V~	16	153x93x40
ERPS	230/400V~	16	153x93x40

Accessories ERP

Type	Description
ERPRG	Room sensor ERP
ERPGG	Floor/duct sensor ERP

CIRT, stepless output control with timer

Stepless output control with timer, primarily intended for infrared heaters and other radiant heaters. Intended for single phase (3600W/230V~) or two phase (6000W/400V2~) electric heaters. Especially suited for spot amd zone heating. The heat contribution is regulated for best comfort (25-100 %). The built-in timer can be set for 0.5 to 4 or 4 to 24 hours. High protection class. IP44.

Type	Voltage [V]	Max input [A]	HxWxD [mm]
CIRT	230/400V2~	16	155x87x43

S123, manual switch for 1-2-3 steps

Controls the output in three steps 0-1/3-2/3-3/3. IP44.

Type	Voltage [V]	Max input [A]	HxWxD [mm]
S123	230/400V3~	20	72x64x46

Thermostats

T10S TK10S TKS16(400) TD10

T, TK, TD, basic offer thermostats

Processor controlled thermostats for room/floor heating. Available with concealed/visible knob or digital display. Model with visible knob also available with switch and in 400 V.

On/off control (for slow systems) or proportional control (for faster systems) in the same thermostat. TD10 has adjustable P-band and time of cycle.

Internal and/or external sensors (external sensor RTS01 available as an accessory) give the possibility of selecting the sensor function e.g limiting external sensors (min/max). Save reduction either by built-in manual switch or via external timer. CE compliant.

RTI2 RTI2V

RTI2, electronic 2-step thermostats

Processor controlled 2-step thermostats for room heating /cooling. Available with concealed or visible knob. Adjustable temperature difference between the steps (1–10 degrees). Save reduction via external connection timer (1–10 degrees). External sensor (RTS01) available as an accessory.
High protection class (IP44). CE compliant.

KRT1900/1 KRTV19 KRT2800

KRT, capillary tube thermostats

Capillary tube thermostats for room heating/cooling. Available with concealed and visible knob, and control in 1 or 2 steps. KRT2800 controls in 2 steps and has adjustable temperature difference between the steps (1–4 degrees). KRT1901 has a temperature range of -35–+10 °C. High protection class (IP44 resp. IP55). CE compliant.

TBK10 TBKS10

TBK, bimetal thermostats

Mechanical bimetal thermostats with acceleration resistance for room heating/cooling. TBKS10 also has a 1-pole switch. CE compliant.

RTS01, external sensor (accessory)

External sensor of NTC-type 10 kOhm. 3 m cable included.

Type	Description
RTS01	External sensor

Technical specifications

Type	Voltage (supply)	Max input	Setting range	Limit floor heating	Save reduction	Proportional control*	Static differential	Protection class	Dimensions HxWxD
	[V]	[A]	[°C]	[°C]	[K]	[K/min]	[K]		[mm]
T10S	230V~	10	5–30	10–40	-4	2K/10min	0,5	IP30	80x80x31
TK10S	230V~	10	5–30	10–40	-4	2K/10min	0,5	IP30	80x80x31
TKS16	230V~	16	5–30	10–40	-4	2K/10min	0,5	IP30	80x80x39
TKS16400	400V2~	16	5–30	10–40	-4	2K/10min	0,5	IP30	80x80x39
TD10	230V~	10	5–37	5–37	Adjustable	Adjustable	0,3	IP30	80x80x31
RTI2	230V~	16/10, 230/400V~	5–35	-	Adjustable	-	0,5	IP44	155x87x43
RTI2V	230V~	16/10, 230/400V~	5–35	-	Adjustable	-	0,5	IP44	155x87x43
KRT1900	-	16/10, 230/400V~	0–40	-	-	-	1,0	IP55	165x57x60
KRT1901	-	16/10, 230/400V~	-35–+10	-	-	-	1,0	IP55	165x57x60
KRTV19	-	16/10, 230/400V~	0–40	-	-	-	1,0	IP44	165x57x60
KRT2800	-	16/10, 230/400V~	0–40	-	-	-	1,0	IP55	165x57x60
TBK10	230V~	10	5–30	-	-	-	0,5	IP30	85x82x39
TBKS10	230V~	10	5–30	-	-	-	0,5	IP30	80x80x43

*) P-band [K]/time of cycle [min]
Products beginning with T can be read as follows: K=knob, S=switch, D= digital display, B=bimetal.

Functions

	Basic offer				Electronic 2-step		Capillary tube			Bimetallic	
	T10S	**TK10S**	**TKS16(400)**	**TD10**	**RTI2**	**RTI2V**	**KRT1900/1901**	**KRTV19**	**KRT2800**	**TBK10**	**TBKS10**
Internal sensor	X	X	X	X	X	X	X	X	X	X	X
External sensor	X*1	X*1	X*1	X*1	X*1	X*1					
Save reduction	X*2	X*2	X*2	X*2	X*2	X*2					
1-pole switch			X								X
Volt free contact	X	X	X	X	X	X	X	X	X		
Contact, 1-pole closing	X	X		X							
Contact, 1-pole alternating			X		X		X	X	X	X	X
Digital display				X							
Advanced extra functions				X							
Internal setting	X				X		X		X		
Processor controlled	X	X	X	X	X	X					
Bimetallic										X	X
Capillary tube							X	X	X		
Fits wall box system	X	X	X	X						X	X
Heating or cooling function	X	X	X	X	X	X	X	X	X	X	X
2-step					X	X			X		
Adjustable temp.diff. between the steps					X	X			X		

*1) External sensor (RTS01) as accessory.
*2) Can be used with an external timer.

Water control - Choose valve kit

Water heated units that are controlled by SIRe are supplemented with valve kits. It's easy to choose the right valve kit. Look at the guide for the level of SIRe chosen - Basic, Competent or Advanced and select the valve kit which suits the system requirements and characteristics.

SIRe Basic, SIRe Competent

VOS, valve kit on/off

- Complete kit with two way control and adjustment valve, on/off-actuator, shut-off valve and bypass.

VOS15LF
- Kvs 0,90
- Max flow at 10 kPa: 0,079 l/s
- DN15

VOS15NF
- Kvs 1,8
- Max flow at 10 kPa: 0,158 l/s
- DN15

VOS20
- Kvs 3,4
- Max flow at 10 kPa: 0,299 l/s
- DN20

VOS25
- Kvs 7,2
- Max flow at 10 kPa: 0,630 l/s
- DN25

VOSP, pressure independent valve kit on/off

- Complete kit with two way pressure independent control and adjustment valve, on/off-actuator, shut-off valve and bypass.
- Two way pressure independent control and adjustment valve ensures that the flow always is constant.

VOSP15LF
- Flow range 0,004 - 0,035 l/s
- DN15

VOSP15NF
- Flow range 0,021 - 0,088 l/s
- DN15

VOSP20
- Flow range 0,035 - 0,175 l/s
- DN20

VOSP25
- Flow range 0,071 - 0,353 l/s
- DN25

VOT, three way control valve and actuator on/off

- Three way control valve and actuator on/off.

VOT15
- Kvs 1,7
- Max flow at 10 kPa: 0,149 l/s
- DN15

VOT20
- Kvs 2,5
- Max flow at 10 kPa: 0,220 l/s
- DN20

VOT25
- Kvs 4,5
- Max flow at 10 kPa: 0,395 l/s
- DN25

SIRe Advanced

VMO, modulating valve kit

- Complete kit with two way control and adjustment valve, modulating (stepless) actuator and shut-off valve.

VMO15LF
- Kvs 0,40
- Max flow at 10 kPa: 0,035 l/s
- DN15

VMO15NF
- Kvs 1,0
- Max flow at 10 kPa: 0,088 l/s
- DN15

VMO20
- Kvs 2,1
- Max flow at 10 kPa: 0,185 l/s
- DN20

VMO25
- Kvs 4,0
- Max flow at 10 kPa: 0,352 l/s
- DN25

VMOP, pressure independent and modulating valve kit

- Complete kit with two way pressure independent control and adjustment valve, modulating (stepless) actuator and shut-off valve.
- Two way pressure independent control and adjustment valve ensures that the flow always is constant.

VMOP15LF
- Flow range 0,004 - 0,035 l/s
- DN15

VMOP15NF
- Flow range 0,021 - 0,088 l/s
- DN15

VMOP20
- Flow range 0,035 - 0,175 l/s
- DN20

VMOP25
- Flow range 0,071 - 0,353 l/s
- DN25

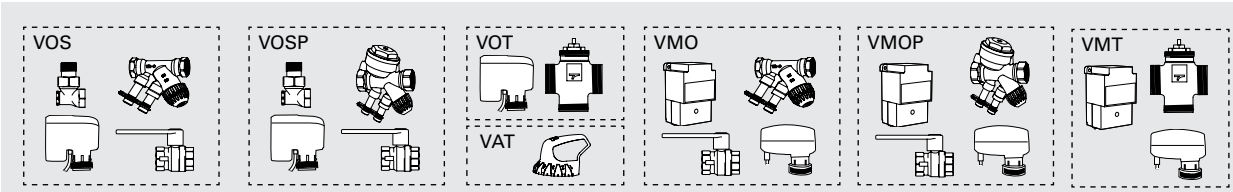
VMT, three way control valve and modulating actuator

- Three way control valve and modulating actuator.

VMT15
- Kvs 1,7
- Max flow at 10 kPa: 0,149 l/s
- DN15

VMT20
- Kvs 2,5
- Max flow at 10 kPa: 0,220 l/s
- DN20

VMT25
- Kvs 4,5
- Max flow at 10 kPa: 0,395 l/s
- DN25



Complete valve kits with multifunctional terminal valves makes new functions possible and ensures stable flows and exact control using the modulating actuator. They are supplied at different levels and have a low installation cost with few components. The valve kit gives exact adjustment and means extra energy savings. Used to control the water supply to water heated units with SIRe control system.

VOS, valve kit on/off

Two way combined control and adjustment valve with on/off actuator, shut-off valve and bypass. DN15/20/25. 230V. Used with SIRe Basic and Competent.
The valve kit consists of the following:

- TBVC, regulation and adjustment valve
- SD230, actuator on/off 230V
- AV, shut off valve
- BPV10, bypass valve

VOSP, pressure independent valve kit on/off

Two way pressure independent control and adjustment valve with on/off actuator, shut-off valve and bypass. DN15/20/25. 230V. Used with SIRe Basic and Competent.
The valve kit consists of the following:

- TBVCMP, pressure independent regulation and adjustment valve
- SD230, actuator on/off 230V
- AV, shut off valve
- BPV10, bypass valve

VOT, three way control valve and actuator on/off

3-way control valve with on/off actuator, DN15/20/25. 230V.
The valve kit consists of the following:

- TRVS, 3-way control valve
- SD230, actuator on/off 230V

VMO, modulating valve kit

Two way combined control and adjustment valve with modulating actuator and shut-off valve. DN15/20/25. 24V. Used with SIRe Advanced.
The valve kit consists of the following:

- SDM24, modulating actuator 24V
- TBVCM, regulation and adjustment valve
- AV, shut off valve
- ST23024, 24V transformer for valve actuator (in valve kit with 24V)

VMOP, pressure independent and modulating valve kit

Two way pressure independent control and adjustment valve with modulating actuator and shut-off valve. DN15/20/25. 24V. Used with SIRe Advanced.
The valve kit consists of the following:

- TBVCMP, pressure independent regulation and adjustment valve
- SDM24, modulating actuator 24V
- AV, shut off valve
- ST23024, 24V transformer for valve actuator (in valve kit with 24V)

VMT, three way control valve and modulating actuator

3-way control valve with modulating actuator. DN15/20/25. 24V.
The valve kit consists of the following:

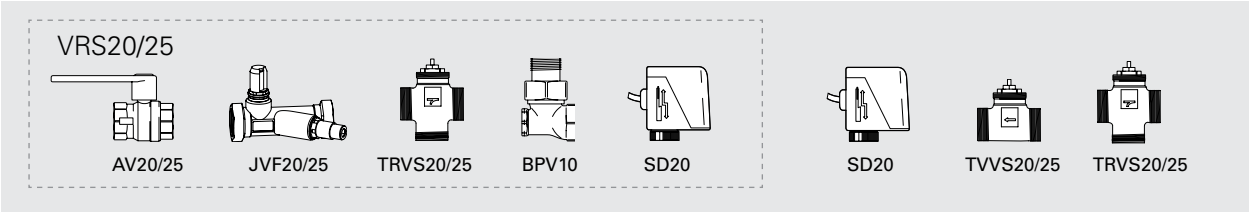
- TRVS, 3-way control valve
- SDM24, modulating actuator 24V
- ST23024, 24V transformer for valve actuator (in valve kit with 24V)

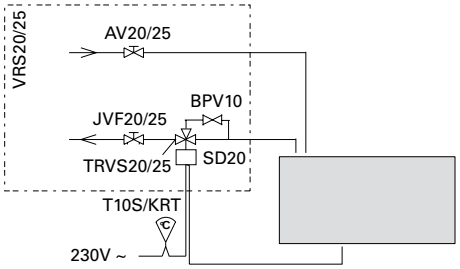
Used with SIRe Basic and Competent.

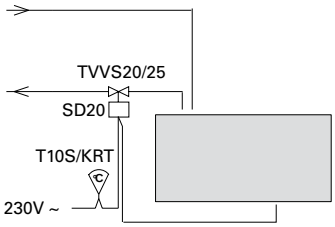
Type	Flow	Connection	Kvs
VOS15LF	Low flow	DN15	0,90
VOS15NF	Normal flow	DN15	1,8
VOS20	Normal flow	DN20	3,4
VOS25	Normal flow	DN25	7,2
VOSP15LF	Low flow	DN15	-
VOSP15NF	Normal flow	DN15	-
VOSP20	Normal flow	DN20	-
VOSP25	Normal flow	DN25	-
VOT15	Normal flow	DN15	1,7
VOT20	Normal flow	DN20	2,5
VOT25	Normal flow	DN25	4,5

Used with SIRe Advanced.

Type	Flow	Connection	Kvs
VMO15LF	Low flow	DN15	0,40
VMO15NF	Normal flow	DN15	1,0
VMO20	Normal flow	DN20	2,0
VMO25	Normal flow	DN25	4,0
VMOP15LF	Low flow	DN15	-
VMOP15NF	Normal flow	DN15	-
VMOP20	Normal flow	DN20	-
VMOP25	Normal flow	DN25	-
VMT15	Normal flow	DN15	1,7
VMT20	Normal flow	DN20	2,5
VMT25	Normal flow	DN25	4,5







VRS20/25, valve kit*
For control of water flow to water heated air curtains.

The valve kit consists of the following:
- AV20/25, stop valve
- JVF20/25, adjustment valve
- TRVS20/25, on/off 3-way control valve
- BPV10, by-pass valve
- SD20, actuator on/off 230V~

The stop valve (AV20/25) consists of a ball valve which is either open or closed. It is used to turn the water flow off and on. The water flow can be fine-tuned manually with the adjustment valve and can also be completely turned off. The water flow may be read off the valve. The kv value for JVF20 is 3,5 and for JVF25 it is 5,5.

If the 3-way valve (TRVS20/25) is closed, the flow through the by-pass valve (BPV10) is low to ensure presence of warm water in the heating coil. This leads to instant heat supply when needed and some degree of frost protection. The actuator (SD20) works on/off.

The valve kit is available with two different valve dimensions: VRS20 - DN20 (3/4") and VRS25 - DN25 (1"). The by-pass valve dimension is DN10 (3/8"). To regulate VRS20/25, a suitable thermostat has to be added.

TVVS20/25, valves + SD20, actuator*
TVVS20/25, 2-way regulation valve and SD20, actuator on/off provides a basic form of water regulation, without the possibility of adjusting or shutting the water flow off, e.g. when making maintenance. A suitable thermostat is chosen to regulate TVVS20/25 and SD20. DN20/25.

TVVS20/25, 2-way control valve*
TVVS20: maximum close-off pressure 150 kPa (1,5 bar), kvs 2,6, DN20 (3/4").
TVVS25: maximum close-off pressure 70 kPa (0,7 bar), kvs 4,5, DN25 (1").
Pressure class PN16.

TRVS20/25, 3-way control valve
If a 3-way valve is preferred, TRVS20/25 can be used instead of TVVS20/25.
TRVS20: maximum close-off pressure 100 kPa (1,0 bar), kvs 2,5, DN20 (3/4").
TRVS25: maximum close-off pressure 70 kPa (0,7 bar), kvs 4,5, DN25 (1").
Pressure class PN16.

SD20, actuator on/off 230V~*
SD20 regulates the heat supply. Works on/off. A 5 second closing of the valve prevents sudden pressure changes in the pipe system. In unpowered mode, the SD20 valve is opened via spring return.

TE3434
Flexible hose, length 0,8 metres, for water heated units (2 is needed for a unit) with external thread 3/4" (DN20) at one end and coupling nut internal thread 3/4" (DN20), on the other.

*) These products can not be used together with SIRe control system.

Symbols for model types

= normal design (no symbols), IPX0
= drip-proof design, IPX1
= splash-proof design, IPX4
= jet-proof design, IPX5

Protection classes for electrical material

IP, first figure	Protection against solid objects
0	No protection
1	Protection against solid objects ≥50 mm
2	Protection against solid objects ≥12,5 mm
3	Protection against solid objects ≥2,5 mm
4	Protection against solid objects ≥1,0 mm
5	Protection against dust
6	Dust-tight

IP, second figure	Protection against water
0	No protection
1	Protection against vertically dripping water
2	Protection against dripping water angled at max 15°
3	Protection against sprinkled water
4	Protection against spraying with water
5	Protection against water jets
6	Protection against heavy seas
7	Protection against short-term immersion in water
8	Protection against the effects of long-term immersion in water

How is sound measured?

Sound level is measured in decibels (dB). The dB is a logarithmic unit used to describe a ratio. If the sound level is increased by 10 dB, the result is twice as loud (as perceived by human ear).

It is also useful to know that two equally strong sound sources give an added sound level of 3 dB. Assume you have two entrances with two air curtains in each entrance, all four units with a sound level of 50 dB. The total sound level will then be 56 dB. The first opening will have a total sound level of 53 dB plus an extra 3 dB from the other opening.

Points of reference – dB

0	The softest sound a person can hear
10	Normal breathing
30	Recommended max. level for bedrooms
40	Quiet office, library
50	Large office
60	Normal conversation
80	Ringing telephone
85	Noisy restaurant
110	Shouting in ear
120	The threshold of pain

Heat insulation, U-value

U = thermal transmittance value [W/m²°C]
U-values indicate the heat insulating capacity of a building section.

Material	U-value [W/m² °C]
Walls	
New building	
Wooden fascia with 15 cm insulation and plaster	0,27
Wooden fascia with 20 cm insulation and plaster	0,25
Wooden fascia with 25 cm insulation and plaster	0,22
Brick fascia with 15 cm insulation and plaster	0,27
Brick fascia with 20 cm insulation and plaster	0,24
Light concrete with 15 cm insulation	0,25
Light concrete with 20 cm insulation	0,2
Sheet metal fascia with 5 cm insulation	0,8
Sheet metal fascia with 10 cm insulation	0,4
Sheet metal fascia with 15 cm insulation	0,3
New construction for low energy house	0,18
Warehouse	0,3
One layer PVC (900 g)	5,0
Insulated hall (Thermohall)	0,6
Older building	
Single brick 12 cm	1,8
1 1/2 brick 18 cm	1,1
Light concrete block 20 cm	0,8
Light concrete block 30 cm	0,6
Concrete 15 cm	2,8
Concrete with 5 cm insulation	0,8
Concrete with 10 cm insulation	0,4
Frame wall with 5 cm insulation	0,8
Frame wall with 10 cm insulation	0,4
Frame wall with 15 cm insulation	0,3
New construction	0,3
Roof	
New building	
Sheet metal pitched roof, with 20 cm insulation	0,24
Brick pitched roof, with 20 cm insulation	0,23
Older building	
Concrete beam frame 15 cm	2,8
Concrete beam frame with 5 cm insulation	0,8
Concrete beam frame with 10 cm insulation	0,4
Light concrete 20 cm	0,8
Light concrete 30 cm	0,6
Sheet metal roof, uninsulated	4,0
Sheet metal roof with 5 cm insulation	0,8
Sheet metal roof with 10 cm insulation	0,6
Sheet metal roof with 25 cm insulation	0,2
Windows	
New building	
1+1 pane window (1 outer pane and 1 insulated pane)	2,5
2 pane window (2 insulated panes)	2,7
2+1 pane window (1 outer pane and 2 insulated panes)	1,0
3 pane window (3 insulated panes)	1,2
Energy class A	0,9
Energy class B	1,0
Energy class C	1,1
Energy class D	1,2
Energy class E	1,3
Energy class F	1,4
Energy class G	1,5
Older building	
1 pane window	5,0
2 pane window	3,0
3 pane window	2,0
3 pane window insulation pane	1,8

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Kompetanse
Tillit
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Design
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