FRICO

Fan heaters

FAN HEATERS

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Industrial ceiling fan

More than 85 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.

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. In our test facility we carry out tests within the following areas:
Airflow
Sound
Winding temperature
Air velocity
Heating capacity

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. Updated information is always available on our website www.frico.net.

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.

Trust, Competence and Design

You can feel assured with Frico as a partner. We work according to our core values - trust, competence and design - in all aspects, from product development to contact with you the customer. Most of our products are kept in stock, which gives you short delivery times, and our well developed distribution network gives you access to maintenance, service and support. Our experience and knowledge guarantee the best solution for a comfortable indoor climate. And we offer products that can blend in with your environment or can be a design element that stands out.

Qualified local support

Frico is present locally in some 70 countries worldwide with a network of wholly-owned subsidiaries and independent distributors. Our highly qualified representatives are carefully chosen and together we are able to provide you with the best possible support. To find your nearest Frico subsidiary or distributor, please visit www.frico.net.

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.

It is easy to choose Frico

We simplify everyday life by giving you relevant product information together with our knowledge within heating. At www.frico.net you will always find updated information, you can receive help to select the correct product and get inspiration from among our references, see our news, manuals, wiring diagram etc.

Ecodesign Regulation (EU) 2015/1188 concerning local space heaters does not apply to all application areas.
The Regulation applies when an installation is intended to provide thermal comfort for people in the premises. The Regulation does not apply to heating installations of a more technical nature e.g. in engineering/utility rooms, in production processes, frost protection, etc. The Regulation also does not apply to installations in vehicles, offshore or outdoors.

Many of Frico's products can be used as both local space heaters (as defined in (EU) 2015/1188) and for technical heating purposes. It is up to the installer responsible for the installation to assess whether the Ecodesign Regulation is applicable or not.
Control solutions for installations not covered by the Ecodesign Regulation are listed in a separate table.

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.

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.
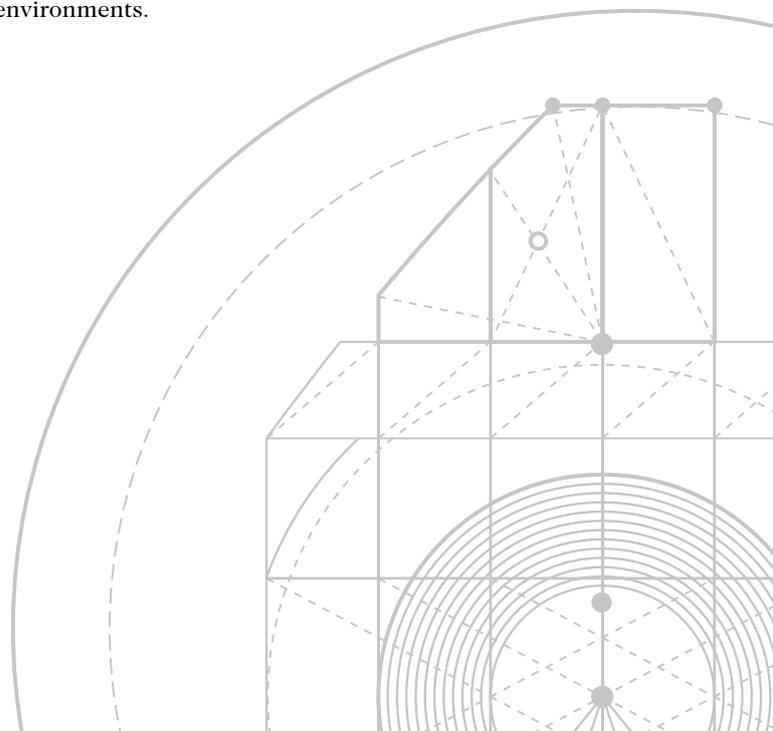
Fan heaters

Type	Heat	Output [kW]	Airflow [m³/h]	Use	Extra	Page
Electrical heat						
K21	$\lightning$	2	90	Portable		6
Elektra C	$\lightning$	3-15	400-1300	Wall mounted / portable	For corrosive and damp environments.	7
Elektra F	$\lightning$	3-9	400-1000	Portable	For rooms where there is a risk of fire.	7
Elektra V	$\lightning$	3-6	400-700	Wall mounted / portable	For ships and offshore industry.	7
Elektra H	$\lightning$	6-9	1000	Wall mounted / portable	For rooms with high temperatures.	7
Tiger 2-9	$\lightning$	2-9	280-720	Portable		10
Tiger 15	$\lightning$	15	1120	Portable		10
Tiger 20, 30	$\lightning$	20,30	1900-2600	Portable		10
Cat	$\lightning$	3-9	280-720	Wall mounted		12
Panther 6-15	$\lightning$	6-15	900-1300	Wall mounted		14
Panther 20, 30	$\lightning$	20,30	1900-2600	Wall mounted		16
Water heat						
SWH	⬤	13-64*[1]	1000-5200	Wall mounted	Control system SIRe.	18
SWH EC	⬤	15-66*[1]	1000-5200	Wall mounted	Control system SIRe. EC motor.	18
SWL	⬤	12-64*[1]	1120-5850	Wall mounted		22
SWS	⬤	12-62*[1]	1260-6300	Wall mounted		24
SWT	⬤	11-40*[1]	1100-3900	Ceiling mounted		26
SWX C	⬤	20-37*[1]	2160-4300	Wall mounted	For corrosive and damp environments.	28
SWX D	⬤	15-29*[1]	2200-4430	Wall mounted	For dusty environments.	28
SWX H	⬤	12-23*[2]	1830-3870	Wall mounted	For rooms with high temperatures.	28
SWX EX	⬤	21-39*[1]	2250-4150	Wall mounted	For environments with a temporary explosion risk.	30

*[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 cooler

Type	Cooling	Output [kW]	Airflow [m³/h]	Use	Extra	Page
SWK	⬤	6-10*	1260-5900	Wall mounted		32

*) Applies at water temperature +6/12 °C, air temperature in +25 °C, relative humidity 50 %.

$\lightning$ Electrical heat
⬤ Water heat

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).
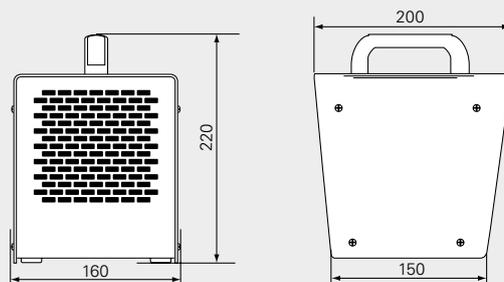
Fan heater K21 (IP21)

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
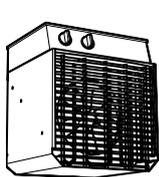
Elektra F

Elektra C/V/H

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. Elektra C, V and H are wall mounted whereas Elektra F is intended for portable use. The brackets can be rotated for each model, which means Elektra C/V/H 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. Portable use. IP65.
  - **Elektra V** is designed to withstand vibrations on ships and offshore platforms and is approved by Det Norske Veritas. Some models are also available for 440V/60Hz. IP44.
  - **Elektra H** is designed for rooms with high temperatures, up to 70 °C. IP44.
- For wall installation, Elektra C/V/H 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).
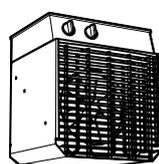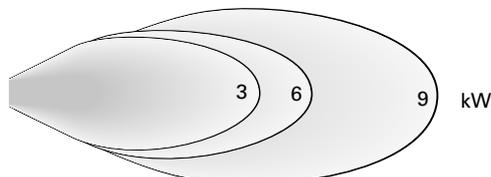
Air throw
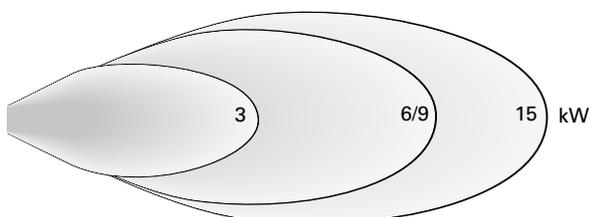
Elektra C/H   1   2   3   4   5   6   7   8   9   10 11 12 [m]

Elektra F/V   1   2   3   4   5   6   7   8   9   10 11 12 [m]

Fan heaters

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 Portabel use (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	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	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

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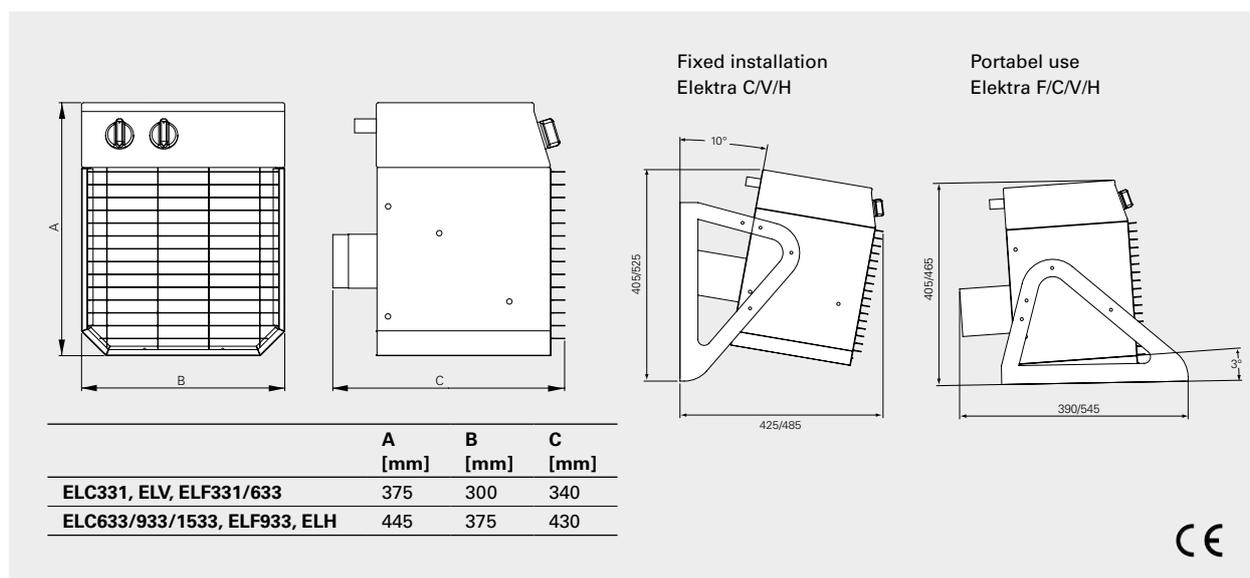
Control options

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 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.
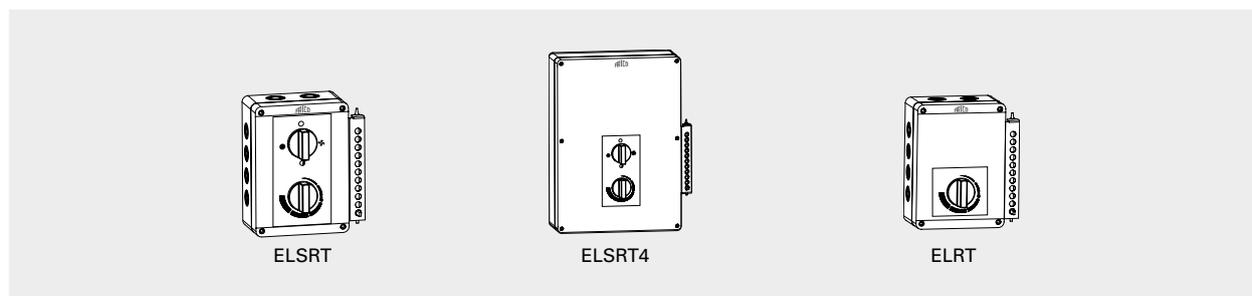
• ELSRT, control panel, controls one unit

• ELSRT4, control panel, controls up to four units

Elektra H

Can be regulated using an external thermostat.

• ELRT, room thermostat

Accessories

ELSRT   ELSRT4   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 (not ELC1533), controls 4 fan heaters, IP65	255x360x110
ELRT	Thermostat, for ELH, IP44	175x150x100

For mounting, connection, wiring diagrams and other technical information, please see the manual.

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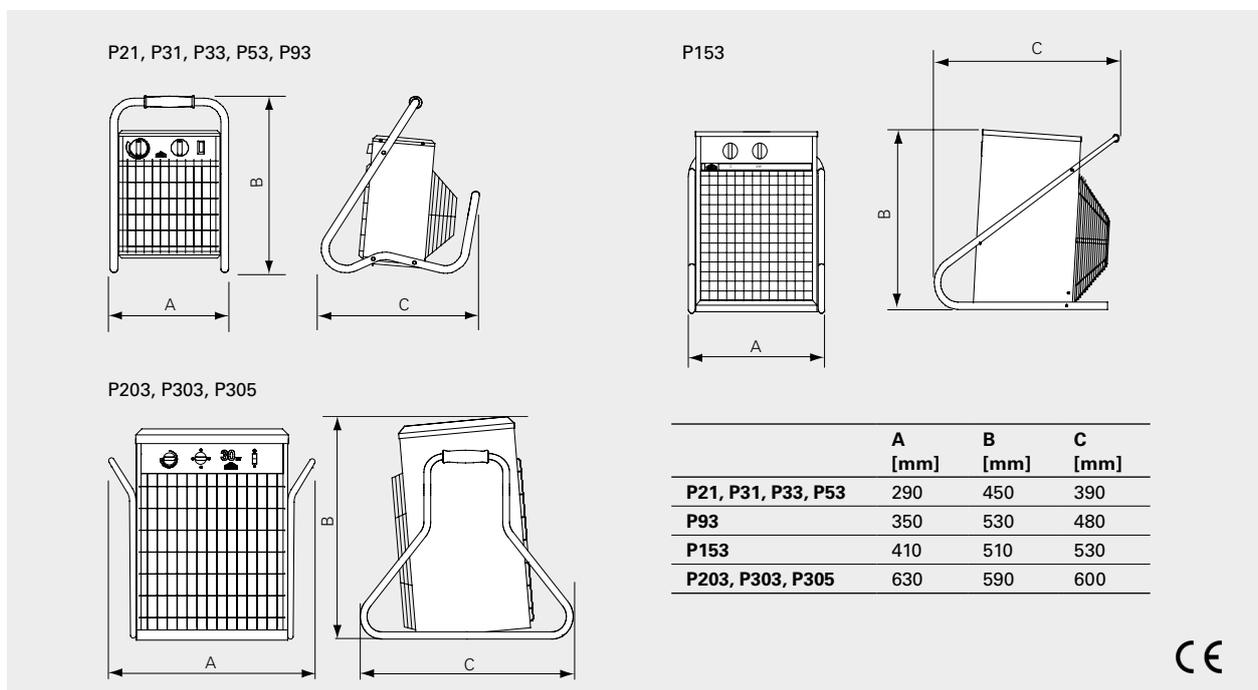
Tiger 2-9 kW are intended for heating and drying areas such as garages, workshops and shops.

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.
  - **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.
  - **P153 and P203** have a 1.8 m cable with CEE-plug.
  - **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	1900/2600	42/60	36/26	440V3~*[3]	31	590x630x600	30
	0/10/20/30			47/34	500V3~	35		

*[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.
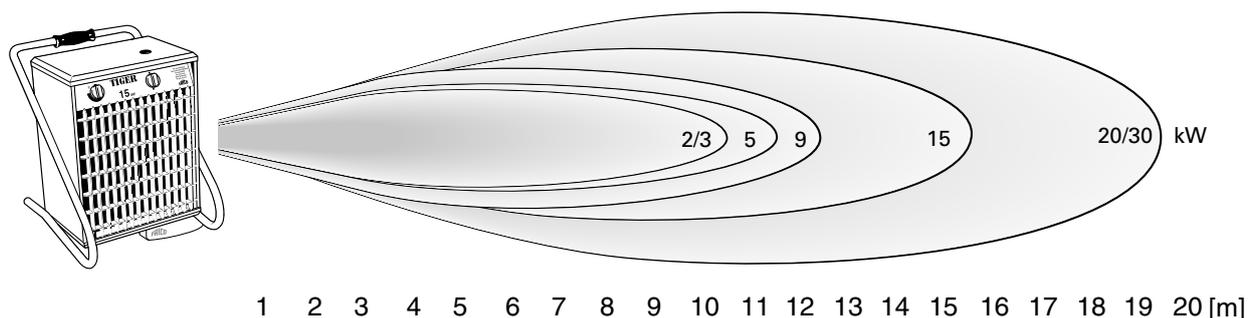*[3]) Can be connected to 440V3~ and 500V3~. Approved for 380V/3ph/60Hz. Product performance for 380V/3ph/60Hz will differ from stated data.

Accessories

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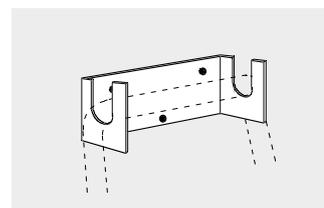
Air throw

For mounting, connection, wiring diagrams and other technical information, please see the manual.

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 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.
- Integrated output selector.
- To comply with Ecodesign Regulation (EU) 2015/1188 the unit must be installed with thermostat TAP16R (accessory). TAP16R has adaptive start, week program and open window detection.
- Cat 3 kW can also be connected to single phase (230V~).
- 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)

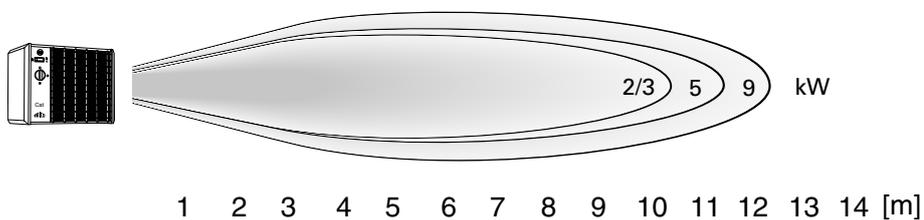| Type	Output steps	Airflow	Sound level*[1]	Δt*[2]	Motor	Voltage	Amperage	HxWxD	Weight
	[kW]	[m³/h]	[dB(A)]	[°C]	[W]	[V]	[A]	[mm]	[kg]
C3N	0/1,5/3	280	41	32	28	230V~/400V3N~*[3]	13,2/4,4	255x335x276	6,3
C5N	0/2,5/5	480	40	31	34	400V3N~	7,3	255x335x276	6,7
C9N	0/4,5/9	720	44	37	52	400V3N~	13,1	315x405x335	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.
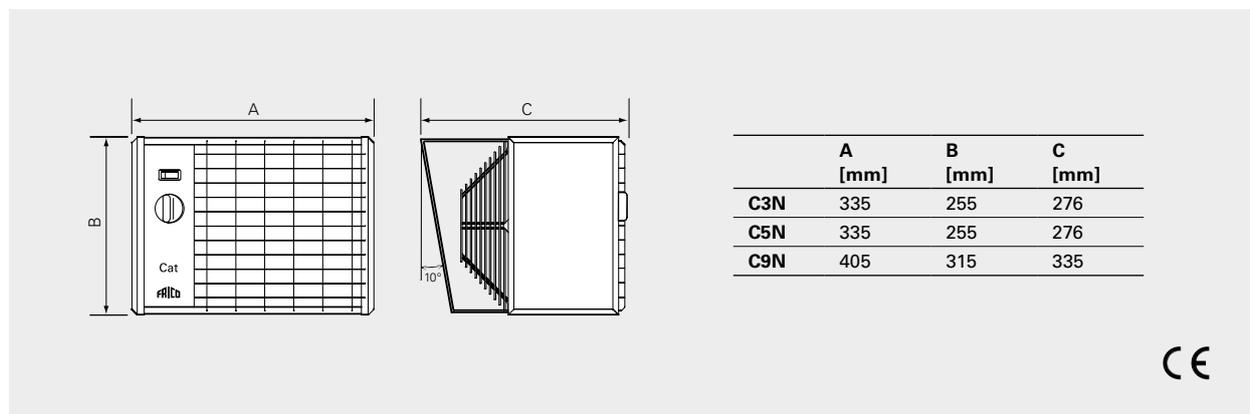
*[3]) Supplied connected for 400V3N~. C3N can be connected for 230V~ and 400V3N~. Other models should not be connected for single phase, 230V~.

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

2/3   5   9   kW

1   2   3   4   5   6   7   8   9   10   11   12   13   14 [m]

Dimensions

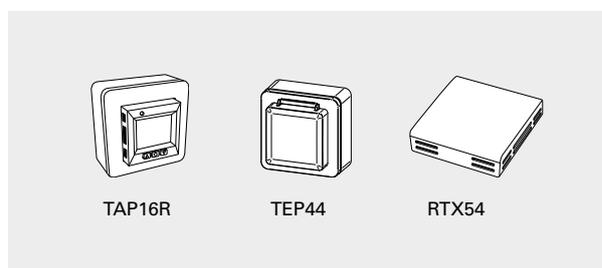|	A [mm]	B [mm]	C [mm]
C3N	335	255	276
C5N	335	255	276
C9N	405	315	335

CE

Control options

Fan heater Cat is equipped with integrated function switch and output selector. The function switch makes it possible to select if the external thermostat controls both the fan and the heating, or only the heating.

The output is set on the integrated output selector. An external output selector can also be used.

The fan heater must be installed with thermostat TAP16R which offers adaptive start, week program and open window detection.

• TAP16R, electronic thermostat

The product can be controlled in a different way, e.g. by an overall control system (BMS) as long as the requirements of Ecodesign Regulation are met.

TAP16R   TEP44   RTX54

Type	Description	HxWxD [mm]
TAP16R	Electronic thermostat, IP21	87x87x53
TEP44	Protective enclosure for TAP16R, IP44	87x87x55
RTX54	External room temperature sensor, NTC10KΩ, IP54	82x88x25

Control options for installations not covered by the Ecodesign Regulation (EU) 2015/1188

Fan heater Cat is equipped with integrated function switch and output selector. The function switch makes it possible to select if the external thermostat controls both the fan and the heating, or only the heating.

The output is set on the integrated output selector. An external output selector can also be used.

The fan heater should be installed with an external thermostat.

• KRT1900/KRTV19, capillary tube thermostat

• EV300, output selector

• CBT, electronic timer

KRT1900   KRTV19   EV300   CBT

Type	Description	HxWxD [mm]
KRT1900	Capillary tube thermostat, IP55	165x57x60
KRTV19	Capillary tube thermostat with knob, IP44	165x57x60
EV300	Output selector	100x80x90
CBT	Electronic timer	155x87x43

For mounting, connection, wiring diagrams and other technical information, please see the manual.

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 and drying in e.g. workshops, sport halls, shops, assembly rooms and drying rooms.

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.
- To comply with Ecodesign Regulation (EU) 2015/1188 the unit must be installed with thermostat TAP16R (accessory). TAP16R has adaptive start, week program and open window detection.
- Panther 6–15 must be supplemented with control panel PP15N. PP15N is an external control panel (ordered separately) with master-/slave function for up to six units that gives good and simple control. SE135N requires one PP15N 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]	Motor	Voltage	Amperage	HxWxD	Weight
	[kW]	[m³/h]	[dB(A)]	[°C]	[W]	[V]	[A]	[mm]	[kg]
SE06N	0/3/6	900/1300	39/47	20/14	70	400V3N~	8,7	520x450x510	21
SE09N	0/4,5/9	900/1300	39/47	30/21	70	400V3N~	13	520x450x510	22
SE12N	0/6/12	900/1300	39/47	40/28	70	400V3N~	17,3	520x450x510	22
SE15N	0/7,5/15	900/1300	39/47	50/35	70	400V3N~	21,7	520x450x510	22
SE135N*[3]	0/5/10	900/1300	39/47	34/23	70	440V3~	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.
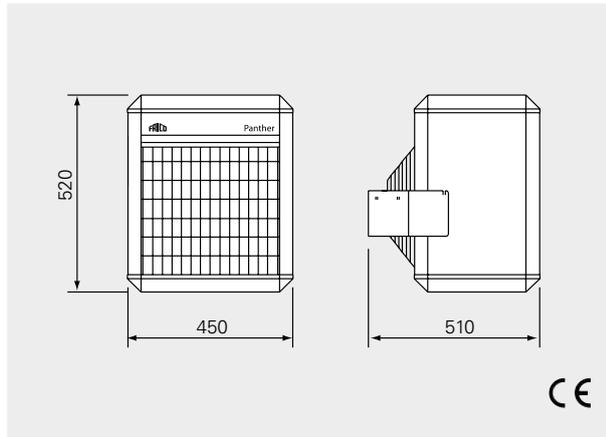*[3]) Can be connected to 440V3~ and 500V3~.
Approved for 380V/3ph/60Hz. Product performance for 380V/3ph/60Hz will differ from stated data.
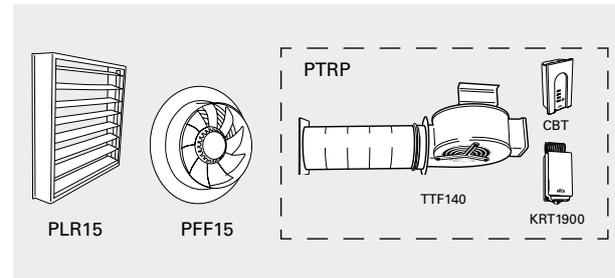
Air throw

6 - 15 kW
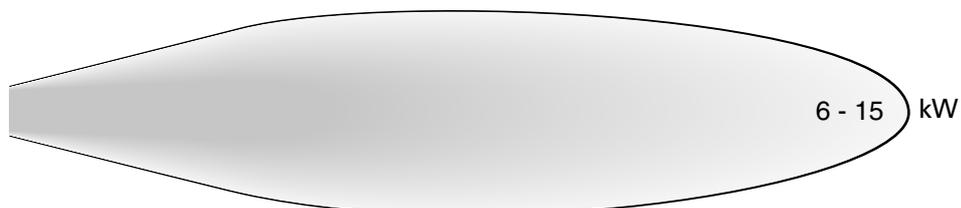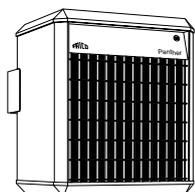
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 [m]

Dimensions

520

450   510

CE

Accessories

PLR15   PFF15   PTRP   CBT   TTF140   KRT1900

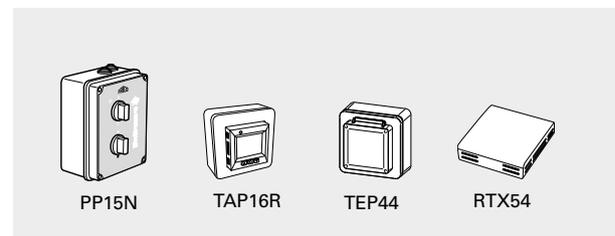| Type	Description
PLR15	Air director for SE06 – SE15
PFF15	Exhaust air fan for SE06 – SE15
PTRP	Drying room kit without fan heater

Control options

Fan speed and thermostat control
Selection of the operating mode is done using the external control panel. Delay relays between the output groups prevent simultaneous connection.

The fan heater must be installed with thermostat TAP16R which offers adaptive start, week program and open window detection.

- TAP16R, electronic thermostat
- PP15N, control panel, controls up to six units. SE135N requires one PP15N per unit.

The product can be controlled in a different way, e.g. by an overall control system (BMS) as long as the requirements of Ecodesign Regulation are met.

PP15N   TAP16R   TEP44   RTX54

Type	Description	HxWxD [mm]
PP15N	Control box for SE06N – SE15N, IP44	160x120x96
TAP16R	Electronic thermostat, IP21	87x87x53
TEP44	Protective enclosure for TAP16R, IP44	87x87x55
RTX54	External room temperature sensor, NTC10KΩ, IP54	82x88x25

Control options for installations not covered by the Ecodesign Regulation (EU) 2015/1188

Fan speed and thermostat control
Selection of the operating mode is done using the external control panel. Delay relays between the output groups prevent simultaneous connection.
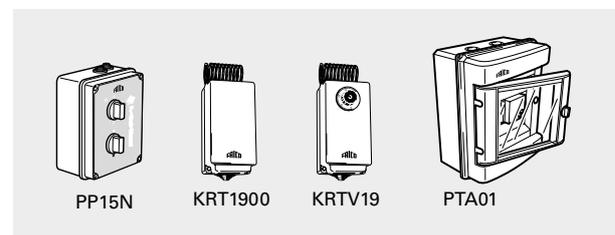
The fan heater should be installed with an external thermostat.

- KRT1900/KRTV19, capillary tube thermostat
- PP15N, control panel, controls up to six units. SE135N requires one PP15N 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

PP15N   KRT1900   KRTV19   PTA01

Type	Description	HxWxD [mm]
PP15N	Control box for SE06N – SE15N, IP44	160x120x96
KRT1900	Capillary tube thermostat, IP55	165x57x60
KRTV19	Capillary tube thermostat with knob, IP44	165x57x60
PTA01	Automatic temperature control, IP55	215x185x115

For mounting, connection, wiring diagrams and other technical information, please see the manual.

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 and drying of large premises, for example, industries.

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.
- To comply with Ecodesign Regulation (EU) 2015/1188 the unit must be installed with thermostat TAP16R (accessory). TAP16R has adaptive start, week program and open window detection.
- Panther 20–30 must be supplemented with PP20/30N. PP20/30N is an external control panel (ordered separately) with master-/slave function, for up to six units.
- 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	Motor	Voltage	Amperage	HxWxD	Weight
	[kW]	[m³/h]	[dB(A)]	[°C]	[W]	[V]	[A]	[mm]	[kg]
SE20N	0/10/20	1900/2600	42/60	31/23	150	400V3N~	29.5	576x478x545	27
SE30N	0/10/20/30	1900/2600	42/60	47/34	150	400V3N~	43.9	576x478x545	31
SE305N*³	0/7.5/15/23	1900/2600	42/60	36/26	150	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.
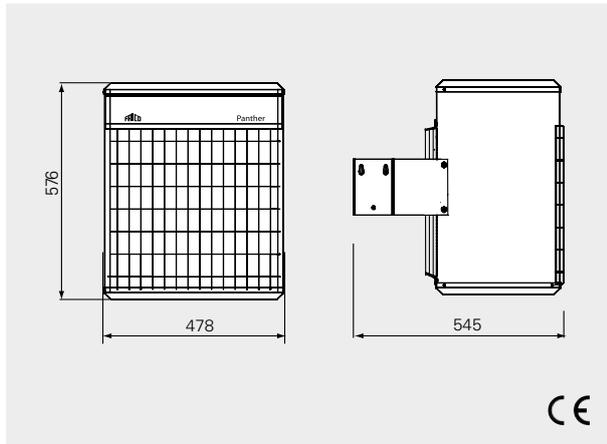
*³) Can be connected to 440V3~ and 500V3~.

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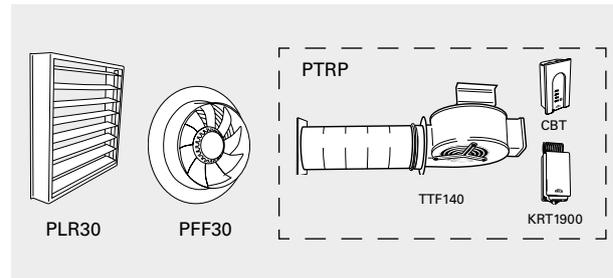
Air throw

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 [m]
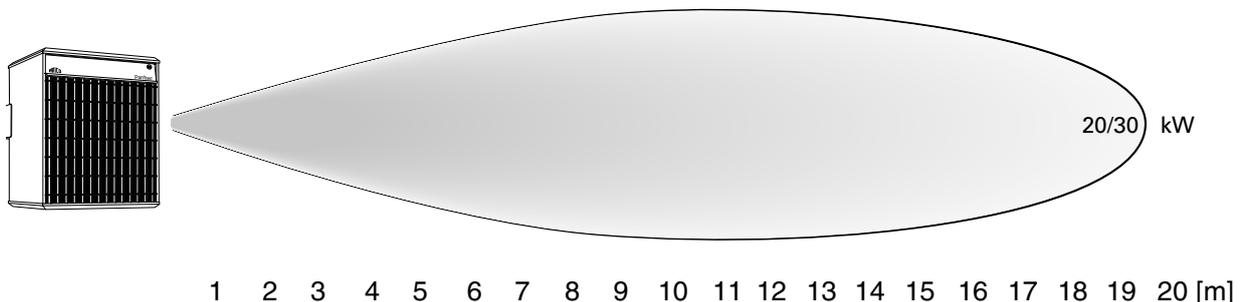
Dimensions

Accessories

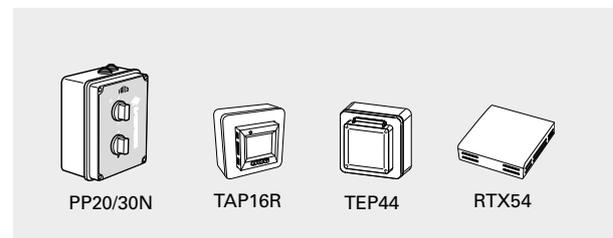| Type	Description
PLR30	Air director for for SE20, SE30 and SE305
PFF30	Exhaust air fan for SE20, SE30 and SE305
PTRP	Drying room kit without fan heater

Control options

Fan speed and thermostat control
Selection of the operating mode is done using the external control panel. Delay relays between the output groups prevent simultaneous connection.

The fan heater must be installed with thermostat TAP16R which offers adaptive start, week program and open window detection.

- TAP16R, electronic thermostat
- PP20/30N, control panel, controls up to six units.

The product can be controlled in a different way, e.g. by an overall control system (BMS) as long as the requirements of Ecodesign Regulation are met.

Type	Description	HxWxD [mm]
PP20N	Control box for SE20N, IP44	160x120x96
PP30N	Control box for SE30N and SE305N, IP44	160x120x96
TAP16R	Electronic thermostat, IP21	87x87x53
TEP44	Protective enclosure for TAP16R, IP44	87x87x55
RTX54	External room temperature sensor, NTC10KΩ, IP54	82x88x25

Control options for installations not covered by the Ecodesign Regulation (EU) 2015/1188

Fan speed and thermostat control
Selection of the operating mode is done using the external control panel. Delay relays between the output groups prevent simultaneous connection.
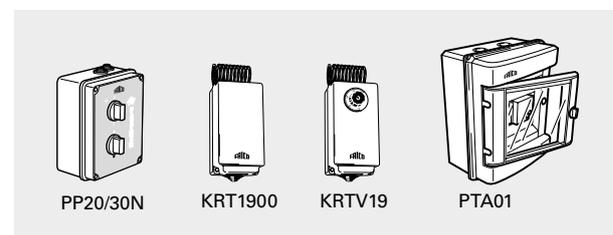
The fan heater should be installed with an external thermostat.

- KRT1900/KRTV19, capillary tube thermostat
- PP20/30N, 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

Type	Description	HxWxD [mm]
PP20N	Control box for SE20N, IP44	160x120x96
PP30N	Control box for SE30N and SE305N, IP44	160x120x96
KRT1900	Capillary tube thermostat, IP55	165x57x60
KRTV19	Capillary tube thermostat with knob, IP44	165x57x60
PTA01	Automatic temperature control, IP55	215x185x115

For mounting, connection, wiring diagrams and other technical information, please see the manual.

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.

- Fan heater SWH is available in the following designs:
  - **SWH**, standard unit.
  - **SWH EC** is equipped with an EC motor and has thus a low energy consumption and adjustable fan steps.
- 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[*1,2] [kW]	Air flow[*2] [m³/h]	Air flow[*2] [m³/s]	Sound power[*3] [dB(A)]	Sound pressure[*2,4] [dB(A)]	Δt[*1,2,5] [°C]	Water volume[*6] [l]	Voltage [V]	Amperage [A]	Weight [kg]
SWH02	6,8/11	450/1000	0,15/0,31	56	19/40	38/30	1,3	230V~	0,34	20
SWH12	8,7/17	760/2020	0,21/0,56	64	26/48	34/24	1,5	230V~	0,7	24
SWH22	19/29	1770/3370	0,49/0,94	70	40/55	31/25	2,7	230V~	1,2	34
SWH32	29/44	2670/5200	0,74/1,44	67	39/51	31/25	3,8	230V~	1,7	55
SWH33	32/53	2250/4450	0,62/1,23	66	38/50	41/35	5,2	230V~	1,7	59

Fan heater with EC motor SWH EC (IP44)

Type	Heat output[*1,2] [kW]	Air flow[*2] [m³/h]	Air flow[*2] [m³/s]	Sound power[*3] [dB(A)]	Sound pressure[*2,4] [dB(A)]	Δt[*1,2,5] [°C]	Water volume[*6] [l]	Voltage [V]	Amperage[*7] [A]	Weight [kg]
SWHEC02	6,8/11	530/1000	0,15/0,28	56	25/40	38/31	1,3	230V~	0,2/0,7	20
SWHEC12	8,7/17	760/2020	0,21/0,56	63	22/48	33/24	1,5	230V~	0,4/1,1	24
SWHEC22	19/29	1770/3370	0,49/0,94	72	43/56	31/25	2,7	230V~	1,1/1,2	34
SWHEC32	28/44	2670/5200	0,74/1,44	67	35/51	31/24	3,8	230V~	1,1/1,7	55
SWHEC33	32/53	2250/4500	0,63/1,25	65	33/50	41/35	5,2	230V~	1,2/1,8	59

*1) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.
*2) Applies to fan position 1 / 4.
*3) Sound power (L_{WA}) measurements according to ISO 27327-2: 2014, Installation type E.
*4) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².
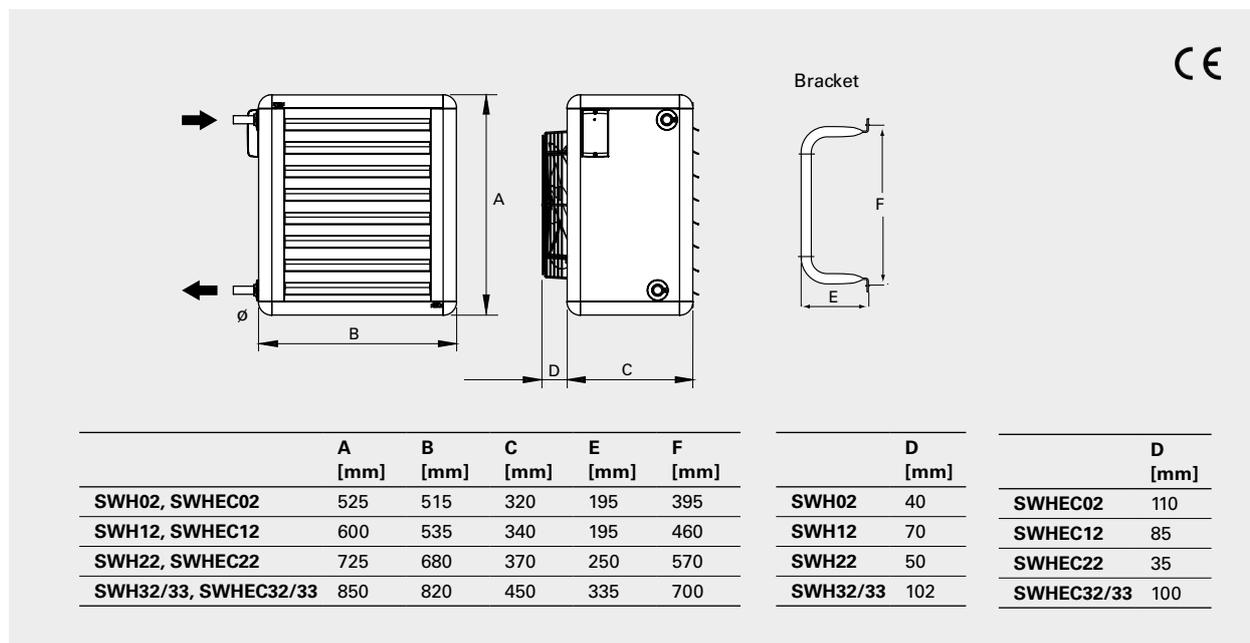*5) Δt = temperature rise of passing air.
*6) Water volume inside water coil.
*7) Applies to fan position 4 / 5.

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

Dimensions

Bracket

CE

	A [mm]	B [mm]	C [mm]	E [mm]	F [mm]
SWH02, SWHEC02	525	515	320	195	395
SWH12, SWHEC12	600	535	340	195	460
SWH22, SWHEC22	725	680	370	250	570
SWH32/33, SWHEC32/33	850	820	450	335	700

	D [mm]
SWH02	40
SWH12	70
SWH22	50
SWH32/33	102

	D [mm]
SWHEC02	110
SWHEC12	85
SWHEC22	35
SWHEC32/33	100

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
SWLR1	Extra air director SWH12
SWLR2	Extra air director SWH22
SWLR3	Extra air director SWH32/SWH33
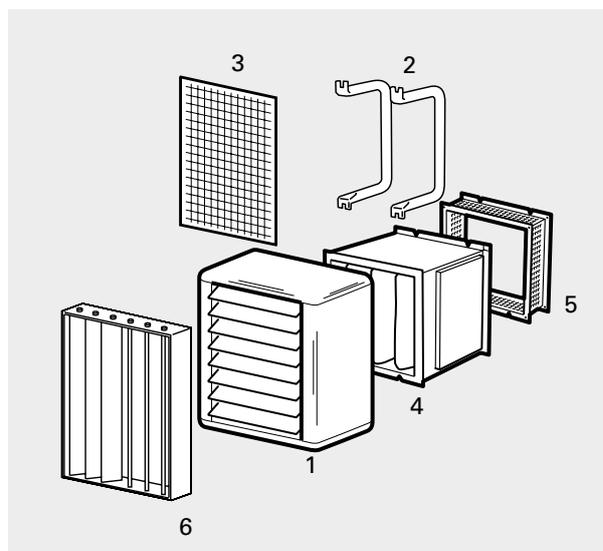
1) Fan heater SWH
2) Mounting brackets SWB
3) Basic filter SWFTN
4) Filter section SWF
5) Return air intake SWD
6) Extra air director SWLR

Control

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.

Valve system VLSP, VOT, VLP or VMT is used to control the water flow.

SIReBN
Basic

SIReFCY
Competent

SIReFAY
Advanced

For mounting, output charts, wiring diagrams and other technical information, please see the manual and www.frico.net.

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.

SWH is delivered pre-programmed in Automatic control, fan position 4. For optimum performance of heat output and sound level, fan speeds up to step 4 are recommended. Fan position 5 is available in Manual control.

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

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
- Possibility to change preset values for each fan step (SWH EC).

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.

Integrated in fan heater

Integrated PC Board

SIReIT, internal temperature sensor
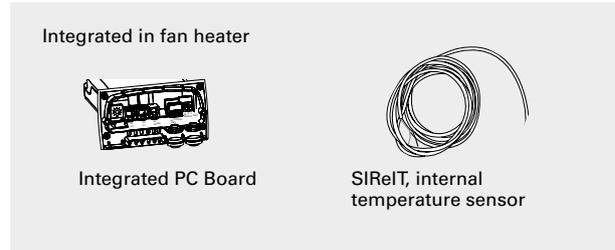
Type	Description
SIReBN	Control system SIRe Basic
SIReFCY	Control system SIRe Competent for fan heaters
SIReFAY	Control system SIRe Advanced for fan heaters
SIReRTX	External room temperature sensor
SIReUR	Kit for recessed installation
SIReWTA	Clamp-on sensor
SIReCC603	Modular cable RJ12 (6/6) 3 m
SIReCC605	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
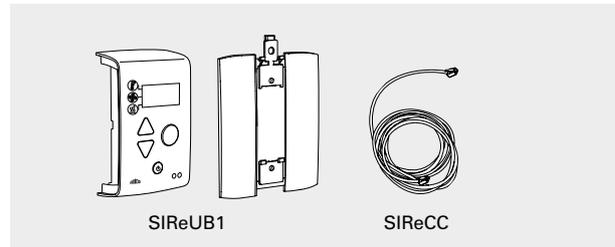
SIReUB1

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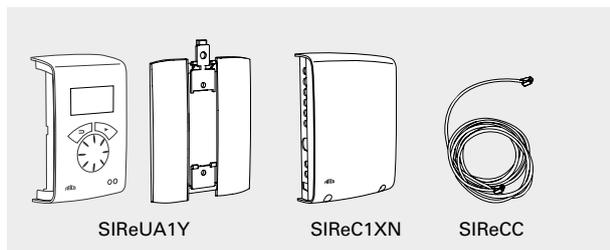
Included in SIReBN Basic:
- SIReUB1, control unit with built in room temperature sensor. Wall unit cover included.
- SIReCC, modular cable, RJ12 (6p/6c), 5 m

Accessories
- SIReRTX, external room temperature sensor, RJ11 (4p/4c), 10 m
- SIReCC, modular cable, RJ12 (6p/6c), 5, 10, 15, 40 m
- VLSP, pressure independent valve system on/off

Competent - SIReFCY - Extended functionality

SIReUA1Y   SIReC1XN   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. Possibility to change preset values for each fan step (SWH EC).
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
- VLSP, pressure independent valve system on/off

Advanced - SIReFAY - fully automatic with extended functionality
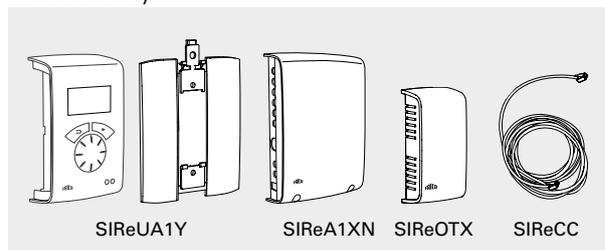
SIReUA1Y   SIReA1XN   SIReOTX   SIReCC

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. Possibility to change preset values for each fan step (SWH EC).
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 system VLP 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
- VLP, pressure independent and modulating valve system

Fan heaters

Fan heater SWL

Fan heater with low sound level, for water connection

SWL is a fan heater with low sound level intended for water heating. SWL is suitable for industrial premises where fan heaters are traditionally used, but also in environments such as shops and assembly halls. The fan heater can be mounted on the wall or the ceiling.

- Two or five fan speeds depending on the chosen control option.
- 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 SWL (IP44)

Type	Heat output*[1] [kW]	Airflow [m³/h]	Airflow [m³/s]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]	Δt*[1,4] [°C]	Water volume*[5] [l]	Voltage [V]	Amperage [A]	Weight [kg]
SWL02	12	650/1120	0,18/0,31	59	30/43	36/30	1,3	230V~	0,4	16
SWL12	19	1450/2450	0,40/0,68	70	41/54	27/22	1,5	230V~	0,8	20
SWL22	31	2200/3950	0,61/1,10	75	46/59	29/23	2,7	230V~	1,2	30
SWL32	50	4230/6450	1,18/1,79	72	46/56	27/23	3,8	230V~	2,3	50
SWL33	64	3700/5850	1,02/1,63	68	47/53	37/32	5,2	230V~	2,3	53

*[1]) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.
*[2]) Sound power (L_{WA}) measurements according to ISO 27327-2: 2014, Installation type E.
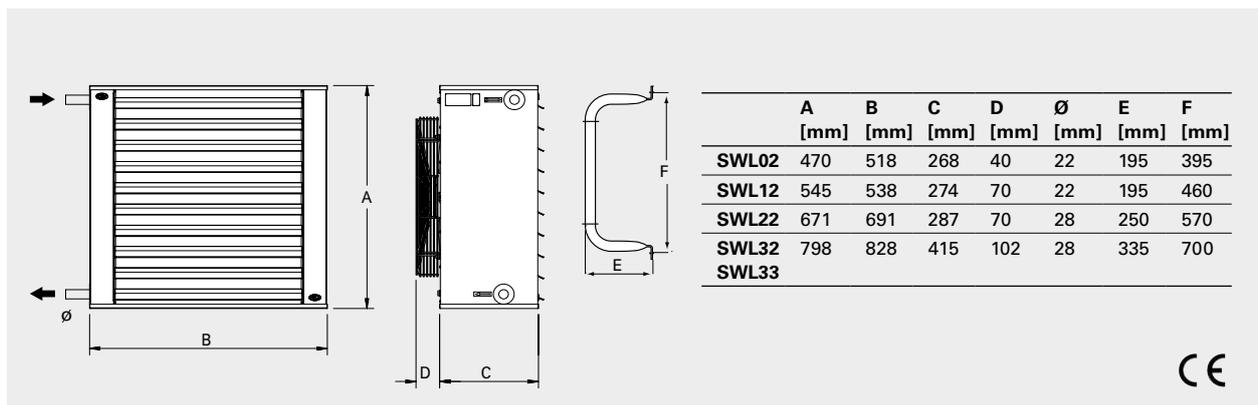*[3]) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*[4]) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*[5]) Water volume inside water coil.

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]	Ø [mm]	E [mm]	F [mm]
SWL02	470	518	268	40	22	195	395
SWL12	545	538	274	70	22	195	460
SWL22	671	691	287	70	28	250	570
SWL32	798	828	415	102	28	335	700
SWL33							

CE

Control options

Control by thermostat only
- KRT1900, KRTV19 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator
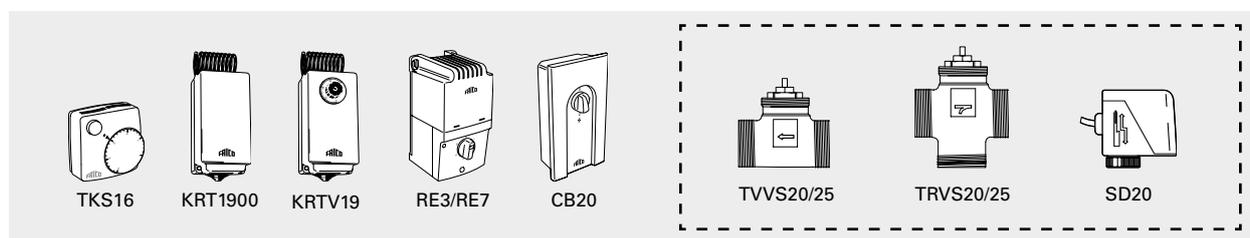
2-step control of airflow only
- CB20, control panel

Thermostat and 2-step control
- CB20, control panel
- KRT1900, KRTV19 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

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, KRTV19 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

TKS16   KRT1900   KRTV19   RE3/RE7   CB20   TVVS20/25   TRVS20/25   SD20

Type	Description	HxWxD [mm]
TKS16	Electronic thermostat, knob, 1-pole switch, IP30	80x80x39
KRT1900	Capillary tube thermostat, IP55	165x57x60
KRTV19	Capillary tube thermostat with knob, IP44	165x57x60
CB20	Control box, 2 fan steps, IP44	155x87x43
RE1,5	5-step control 1,5 A IP54	200x105x105
RE3	5-step control 3 A IP54	200x105x105
RE7	5-step control 7 A IP54	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
SWB0	Mounting brackets SWL02
SWB1	Mounting brackets SWL12
SWB2	Mounting brackets SWL22
SWB3	Mounting brackets SWL32/SWL33
SWF1	Filter section SWL12
SWF2	Filter section SWL22
SWF3	Filter section SWL32/SWL33
SWD1	Return air intake SWL12
SWD2	Return air intake SWL22
SWD3	Return air intake SWL32/SWL33
SWEF1	Extra filter cassette EU3 SWL12
SWEF2	Extra filter cassette EU3 SWL22
SWEF3	Extra filter cassette EU3 SWL32/SWL33
SWSFT02	Basic filter SWL02
SWSFT1	Basic filter SWL12
SWSFT2	Basic filter SWL22
SWSFT3	Basic filter SWL32/SWL33
SWLR1	Extra air director SWL12
SWLR2	Extra air director SWL22
SWLR3	Extra air director SWL32/SWL33
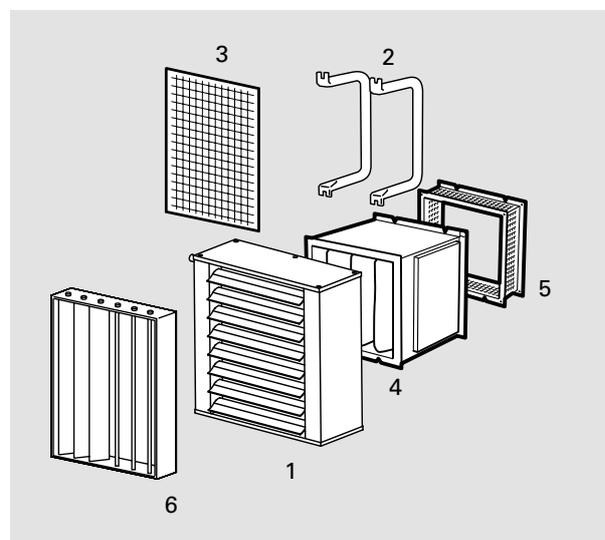
1) Fan heater SWL
2) Mounting brackets SWB
3) Basic filter SWSFT
4) Filter section SWF
5) Return air intake SWD
6) Extra air director SWLR

For mounting, output charts, wiring diagrams and other technical information, please see the manual and www.frico.net.

Fan heaters

Fan heater SWS

Basic fan heater for water connection

Fan heater SWS is intended for water-heating and 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]	Airflow [m³/s]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]	Δt*[1,4] [°C]	Air throw*[5] [m]	Water volume*[6] [l]	Voltage [V]	Amperage [A]	Weight [kg]
SWS02*[7]	12	1260	0,35	65	50	16	7	1,3	230V~	0,36	14
SWS12*[7]	19	2340	0,65	73	57	13	10	1,5	230V~	0,63	18
SWS22	30	3560	0,99	74	58	14	14	2,7	230V~	0,94	26
SWS32	50	6300	1,75	80	64	13	19	3,8	230V~	2,16	45
SWS33	65	6090	1,69	80	64	18	17	5,2	230V~	2,16	45
SWS323	48	5890	1,64	77	62	13	16	3,8	400V3~	0,82	45
SWS333	62	5660	1,57	77	62	19	14	5,2	400V3~	0,83	45

*[1]) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.
*[2]) Sound power (L_{WA}) measurements according to ISO 27327-2: 2014, Installation type E.
*[3]) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m².
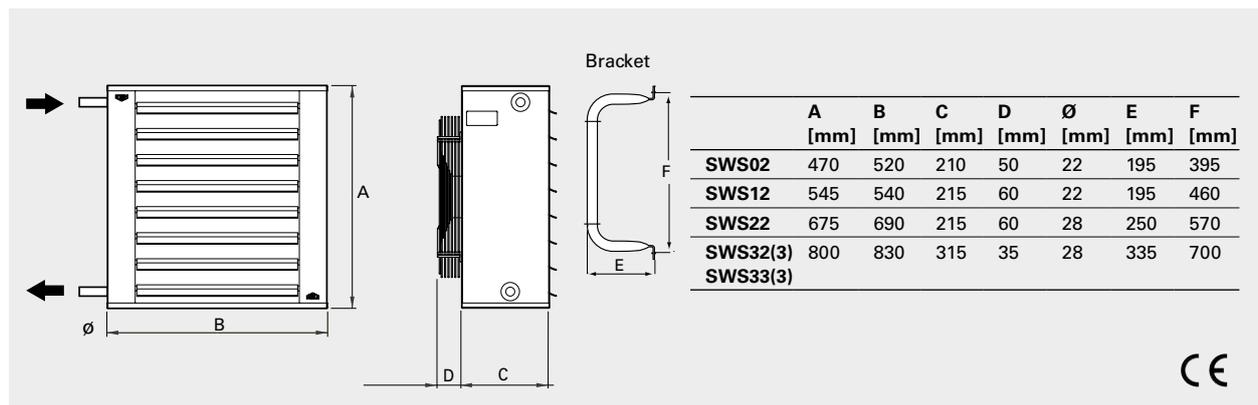*[4]) Δt = temperature rise of passing air.
*[5]) The air throw data is valid at room temperature +18 °C. The air throw is defined as the distance in a straight angle from the fan heater to the point where the average air speed has dropped to 0,5 m/s.
*[6]) Water volume inside water coil.
*[6]) Approved for 220V/1ph/60Hz. Product performance for 220V/1ph/60Hz will differ from stated data.

Dimensions

Bracket

	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

• KRT1900, KRTV19 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, KRTV19 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
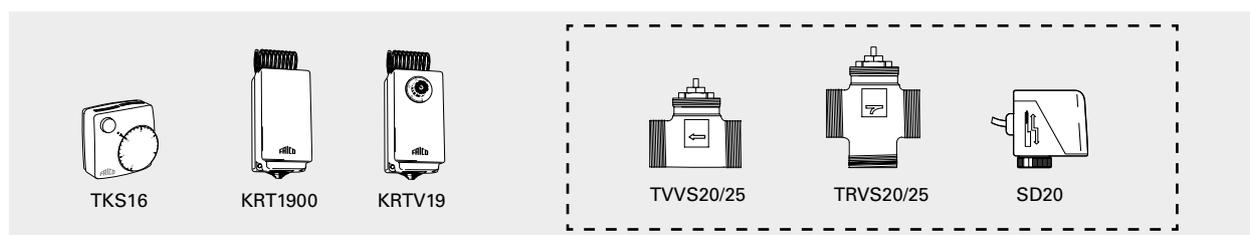
TKS16   KRT1900   KRTV19   TVVS20/25   TRVS20/25   SD20

Type	Description	HxWxD [mm]
TKS16	Electronic thermostat, knob, 1-pole switch, IP30	80x80x39
KRT1900	Capillary tube thermostat, IP55	165x57x60
KRTV19	Capillary tube thermostat with knob, IP44	165x57x60
SWYD1	2-step change-over switch for air flow (Y/D)	120x85x135
STDT16	Thermal contact motor protection (400V3~)	150x80x98
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
SWB0	Mounting brackets SWS02
SWB1	Mounting brackets SWS12
SWB2	Mounting brackets SWS22
SWB3	Mounting brackets SWS32/SWS33
SWSFT02	Basic filter SWS02
SWSFT1	Basic filter SWS12
SWSFT2	Basic filter SWS22
SWSFT3	Basic filter SWS32/SWS33
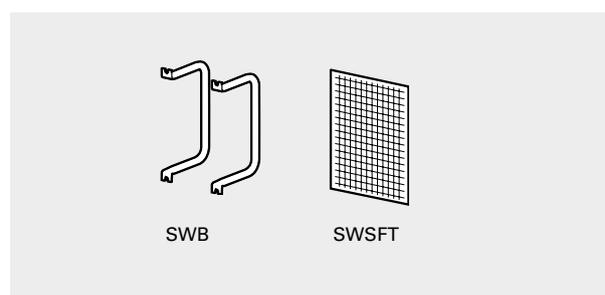
SWB   SWSFT

For mounting, output charts, wiring diagrams and other technical information, please see the manual and www.frico.net.

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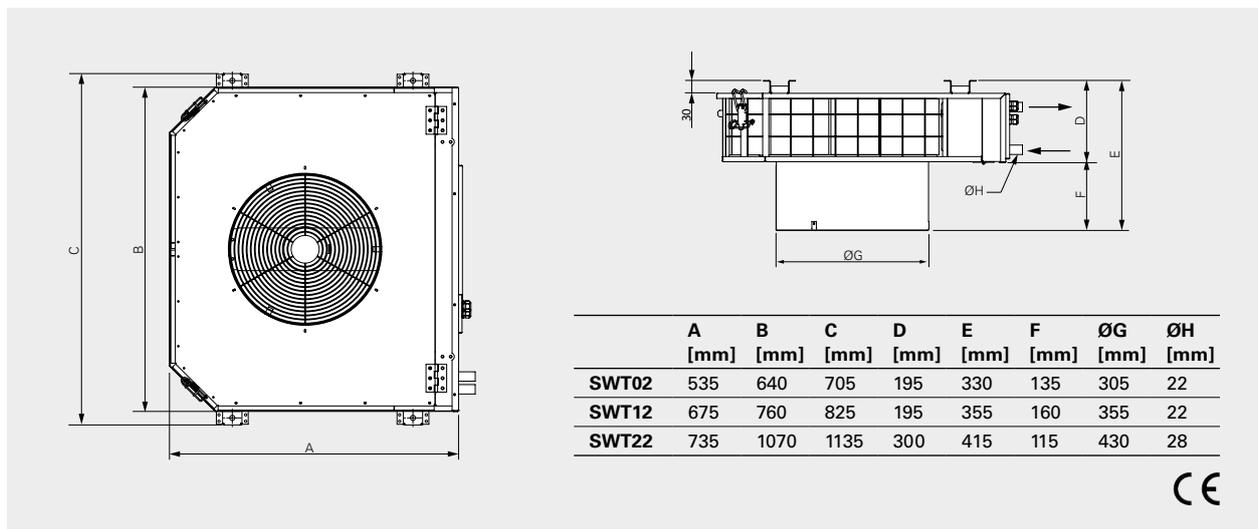
*[2]) Conditions: Distance to the unit 5 metres. At lowest/highest airflow.

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

*[4]) The air throw data above is valid at highest air flow and room temperature +18 °C.

*[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, KRTV19 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

2-step control of airflow only
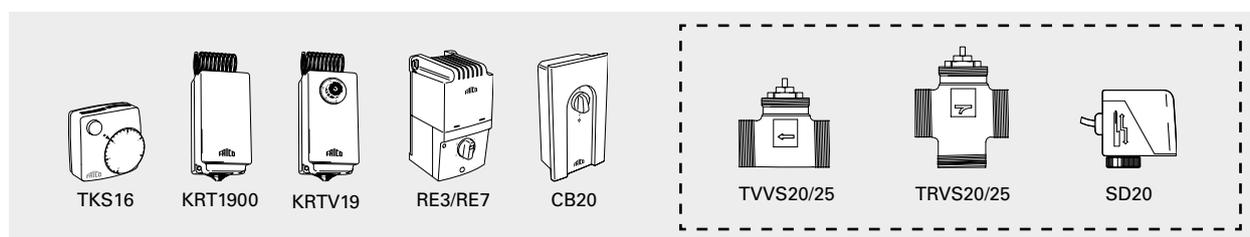- CB20, control panel

Thermostat and 2-step control
- CB20, control panel
- KRT1900, KRTV19 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, KRTV19 or TKS16, room thermostat
- TVVS20/25, 2-way valve or TRVS20/25 3-way valve + SD20, actuator

TKS16　　KRT1900　　KRTV19　　RE3/RE7　　CB20　　TVVS20/25　　TRVS20/25　　SD20

Type	Description	HxWxD [mm]
TKS16	Electronic thermostat, knob, 1-pole switch, IP30	80x80x39
KRT1900	Capillary tube thermostat, IP55	165x57x60
KRTV19	Capillary tube thermostat with knob, IP44	165x57x60
CB20	Control box, 2 fan steps, IP44	155x87x43
RE1,5	5-step control 1,5 A IP54	200x105x105
RE3	5-step control 3 A IP54	200x105x105
RE7	5-step control 7 A IP54	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
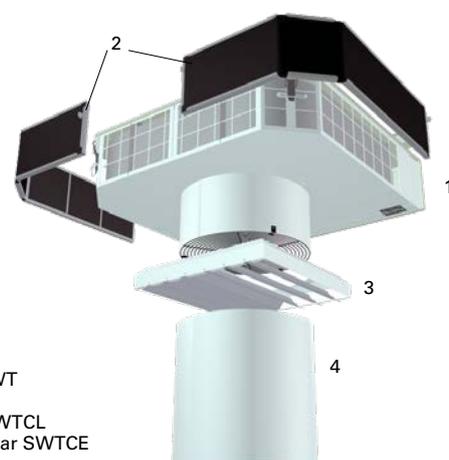
1) Fan heater SWT
2) Filter SWTCF
3) Air director SWTCL
4) Extension collar SWTCE

For mounting, output charts, wiring diagrams and other technical information, please see the manual and www.frico.net.

SWX CS/D

SWX CE/H

Fan heater SWX CS / CE / D / H

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 and in rooms with high temperatures.

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 CS and SWX D can be opened for easy cleaning. SWX CE and SWX H have an inspection hatch with quick release.

SWX is also available in a version for environments with a temporary explosion risk, see separate chapter for SWX EX.

- Fan heater SWX is available in following versions:
  - **SWX CS/CE** is intended for corrosive and damp environments, e.g. offshore and chemical industries. SWX CS has a water coil made of stainless steel and SWX CE has an epoxy coated water coil. Corrosion class C5-M.
  - **SWX D** has been specially introduced for dusty environments, such as industrial and joinery premises.
  - **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.
- Intended for water temperatures up to +150 °C and 16 bar.
- Max. surrounding temperature +70 °C.
- SWX CS/CE/D is supplied with brackets for wall or ceiling mounting. Wall brackets are included for SWX H.

Dimensions

SWX CS / D
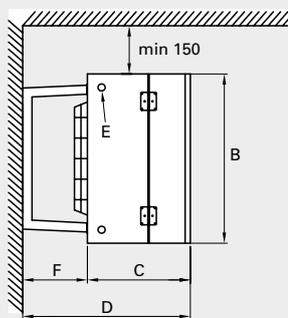
SWX CE / H
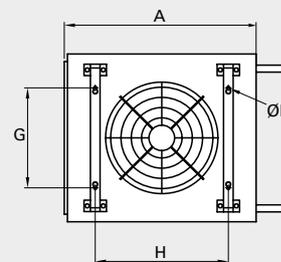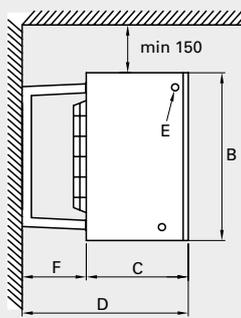
[mm]	A	B	C	D	E	F	G	H	ØI
SWX CS12/D13	585	535	455	705	R3/4"	250	330	410	10
SWX CS22/D23	740	660	455	725	R3/4"	270	420	505	10
SWX CE12	550	530	380	630	R3/4"	250	330	410	10
SWX CE22	705	655	430	700	R1"	270	420	505	10
SWX H13	550	530	380	630	22	250	330	410	10
SWX H23	705	655	430	700	22	270	420	505	10

CE

SWX CS, for corrosive and damp environments. With water coil of stainless steel. (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]	Water volume*4 [l]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXCS12	20	2160	0,6	59	27	7	1,5	230V~	0,5	535x585x455	32
SWXCS22	37	4300	1,2	69	25	10	2,4	230V~	1,35	660x740x455	54

SWX CE, for corrosive and damp environments. With epoxy coated water coil. (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]	Water volume*4 [l]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXCE12	21	2100	0,7	59	29	7	1,5	230V~	0,5	535x585x455	32
SWXCE22	40	4200	1,2	69	28	10	2,4	230V~	1,35	660x740x455	54

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]	Water volume*4 [l]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXD13	15	2200	0,6	59	20	7	2,2	230V~	0,5	535x585x455	32
SWXD23	29	4430	1,2	69	19	10	3,8	230V~	1,35	660x740x455	54

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

Type	Heat output*5 [kW]	Air flow [m³/h]	Air flow [m³/s]	Sound level*2 [dB(A)]	Δt*3,5 [°C]	Air throw [m]	Water volume*4 [l]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXH13	12	1830	0,5	57	21	6	2,2	230V~	0,5	530x550x380	28
SWXH23	23	3870	1,1	68	20	9	3,8	230V~	1,35	655x705x430	46

*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.
*4) Water volume inside water coil.
*5) Applicable at water temperature 80/60 °C, air temperature, in +40 °C.
Approved for 220V/1ph/60Hz (SWX22/23: max. surrounding temperature 40° C). Product performance for 220V/1ph/60Hz will differ from stated data.
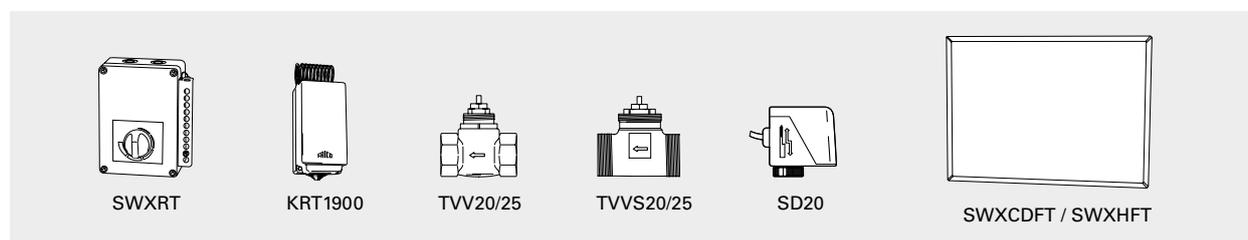
Control options

SWX CS/CE/H

- SWXRT35, room thermostat (SWX CS/CE)
  SWXRT70, room thermostat (SWX H)
- TVV20/25, 2-way valve + SD20, actuator

SWX D

- KRT1900, room thermostat
- TVVS20/25, 2-way valve + SD20, actuator

SWXRT   KRT1900   TVV20/25   TVVS20/25   SD20   SWXCDFT / SWXHFT

Type	Description	HxWxD [mm]
SWXRT35	Room thermostat 0-35 °C, max. 2,7 A, IP65, SWX CS/CE	175x150x100
SWXRT70	Room thermostat 0-70 °C, max. 2,7 A, IP65, SWX H	175x150x100
KRT1900*	Capillary tube thermostat, IP55, SWC D	165x57x60
TVV20/25*	2-way valve DN20/25, SWX CS/CE/H	
TVVS20/25*	2-way valve DN20/25, SWX D	
SD20*	Actuator on/off 230V	
SWXCDFT1	Wire mesh filter for SWX CS12/D13	515x425x5
SWXCDFT2	Wire mesh filter for SWX CS22/D23	620x565x5
SWXHFT1	Wire mesh filter for SWX CE12/H13	455x525x15
SWXHFT2	Wire mesh filter for SWX CE22/H23	595x650x15

*) Only for mounting outside corrosive and hot (above 50°C) zones.

For mounting, output charts, wiring diagrams and other technical information, please see the manual and www.frico.net.

Fan heater SWX EX

Fan heater for environments with a temporary explosion risk

SWX EX is a fan heater specially designed for environments with a temporary explosion risk (Zone 1 and Zone 2).

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. SWX EX has an inspection hatch with quick release.

SWX is also available in versions for corrosive environments, dusty environments and rooms with high temperatures – see separate chapter for SWX CS/CE/D/H.

- Approved for use in zones where the explosion risk is due to gas or fumes (Equipment category 2G).
- Meets the requirements of the ATEX Directive 94/9/EC in the EU/EFTA.
- Thermistor motor protection U-EK230E included. To comply with the approval, this must be installed. Only for mounting outside ATEX-classed zones.
- Water coil with copper pipe. Aluminium fins.
- Intended for water temperatures up to +125 °C and 16 bar.
- Max. surrounding temperature -20 - +40 °C.
- Wall brackets included.
- Casing in stainless steel (EN 1.4016).

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

Type	Heat output*[1] [kW]	Airflow [m³/h]	Airflow [m³/s]	Sound level*[2] [dB(A)]	Δt*[1,3] [°C]	Air throw [m]	Water volume*[4] [m]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXEX12	21	2250	0,6	61	28	8	8	400V3~	0,27	530x550x380	25
SWXEX22	39	4150	1,2	67	27	10	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.
*[4]) Water volume inside water coil.

SWX EX: ⟨Ex⟩ II 2 G c Ex e IIB T4 Gb.
SWX EX is approved for use in zones where the explosion risk is due to gas or fumes (Equipment category 2G).
SWX EX has temperature class T4 (max 135 °C).
SWX EX meets the requirements of the ATEX Directive 94/9/EC for the EU/EFTA

SWX EX is manufactured in accordance with:
- LVD Directives: EN 60355-1 and EN 60335-2-30
- EMC Directives: EN 61000-6-1, EN 61000-6-2, EN 61000-6-3 and EN 61000-6-4
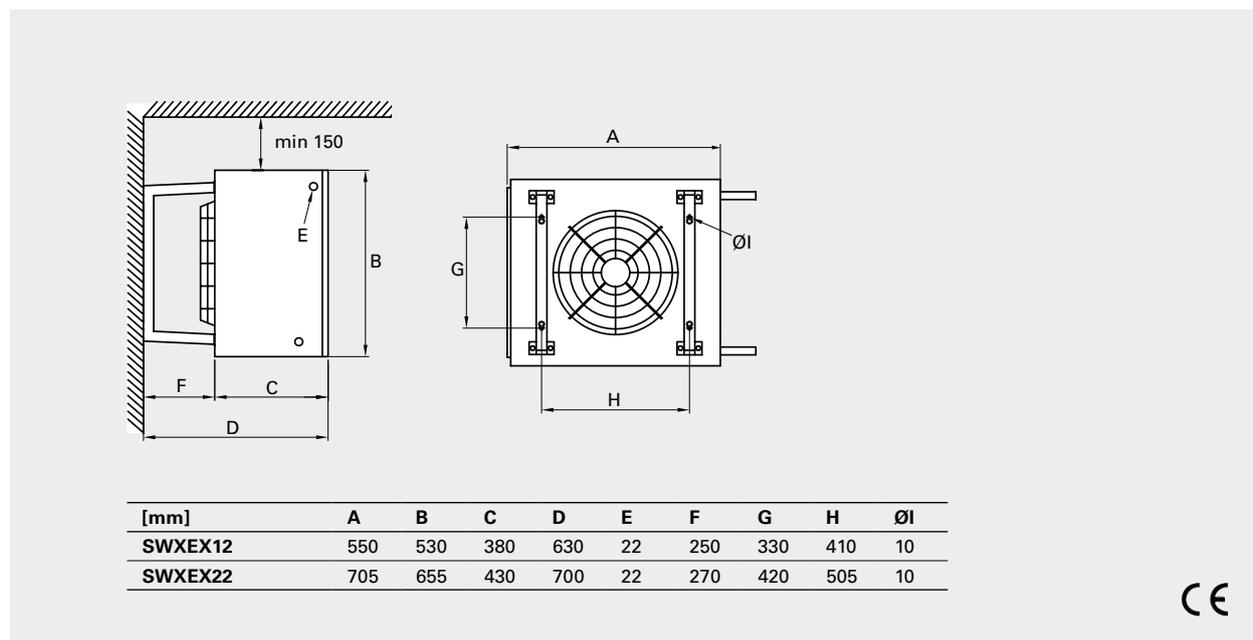- EMF Directive: EN 62233

Frico's quality management system is certified by DNV Nemko Presafe AS (notified body number: 2460) in accordance with Presafe 15ATEX 7676X certificate.

Testing and certification of SWX EX have been carried out by NEMKO.
Applied testing standards:
- Protection class IP44, IEC/EN 60529
- General ATEX requirements IEC/EN 60079-0
- Ex "e" (increased safety) IEC/EN 60079-7

Dimensions

[mm]	A	B	C	D	E	F	G	H	ØI
SWXEX12	550	530	380	630	22	250	330	410	10
SWXEX22	705	655	430	700	22	270	420	505	10

CE

Control options

Control by thermostat only
The thermostat starts/stops the fan and also controls the heat supply on/off. The fan is set to run on high speed. Complete regulation kit:
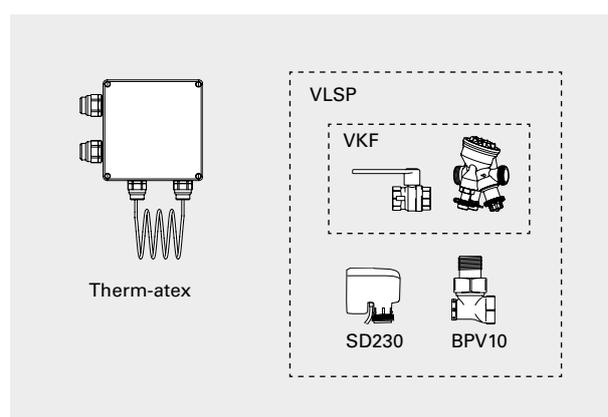
• Therm-atex, ATEX capillary tube thermostat

• VLSP, pressure independent valve system on/off

Control

Therm-atex, ATEX capillary tube thermostat
Capillary tube thermostat with concealed knob for ATEX zones 1 and 2. Setting range -20 - +40 °C. Max. breaking current (inductive load): 16 (2.5)A, cos φ = 1(0.6), AC 230V. IP66.

VLSP, pressure independent valve system on/off
The valve system VLSP consists of the following:

• VKF, valve kit
  - TAC, pressure independent regulation and adjustment valve
  - AV, shut off valve

• SD230, actuator on/off 230V

• BPV10, bypass valve

Type	Description	HxWxD [mm]
Therm-atex	ATEX capillary tube thermostat for zones 1 and 2, IP66	215x154x90
VLSP20*	Pressure independent valve system on/off DN20	
VLSP25*	Pressure independent valve system on/off DN25	

*) Only for mounting outside ATEX-classed zones.

For mounting, output charts, wiring diagrams and other technical information, please see the manual and www.frico.net.

Fan cooler

Fan cooler SWK

Fan cooler for effective temperature reduction, for water connection

SWK is a fan cooler for environments where cool indoor air is required. SWK is suitable for use in shops, warehouses and other environments where cooling is needed. The SWK fan cooler provides rapid and efficient cooling at low cost. SWK is an excellent choice when considering making use of free cooling.

- Hydrophilic-coated aluminium fins for better drainage.
- Insulated drip tray in stainless steel.
- 4 mm fin spacing minimises the risk of dust and dirt clogging up water coil.
- Wall brackets included.
- 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.

Fan cooler SWK (IP44)

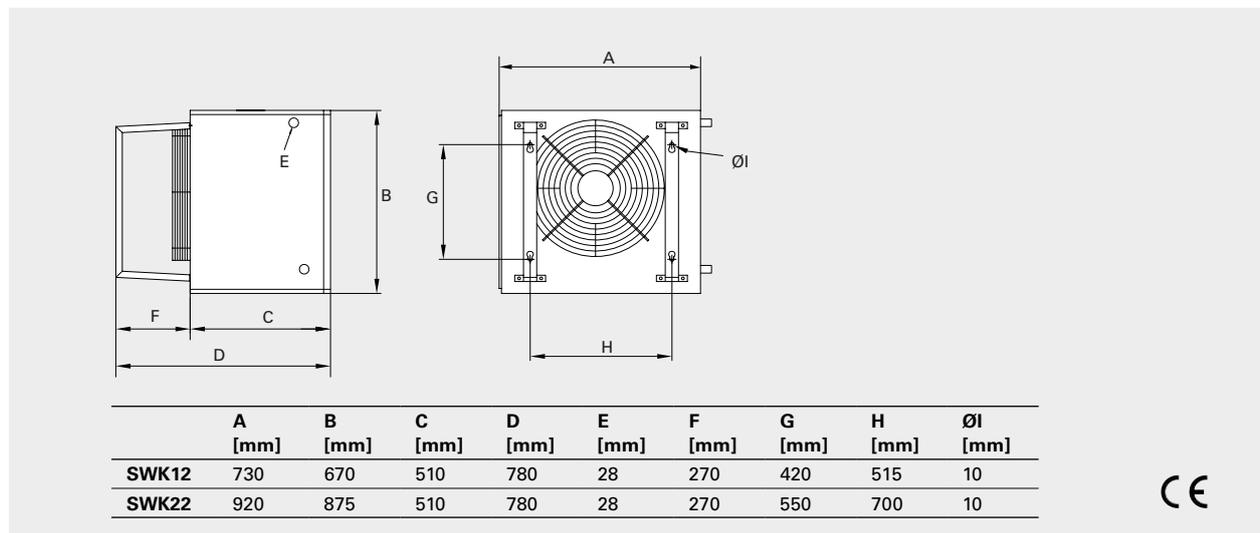| Type	Cooling output (total)*[1] [kW]	Cooling output (sensible)*[1] [kW]	Airflow [m³/h]	Airflow [m³/s]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]	Air throw [m]	Water volume*[4] [l]	Voltage [V]	Amperage [A]	Weight [kg]
SWK12	5,9	5,1	2000	0,55	68	52	8	3,0	230V~	0,6	51
SWK22	10,3	8,9	3500	0,97	78	62	8	5,1	230V~	0,95	66

*[1]) Applies at water temperature +6/12 °C, air temperature in +25 °C, relative humidity 50 %.
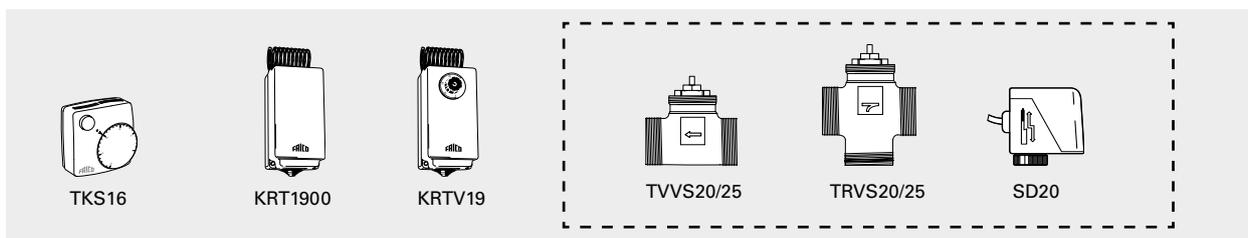*[2]) Sound power (L_{WA}).
*[3]) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres.
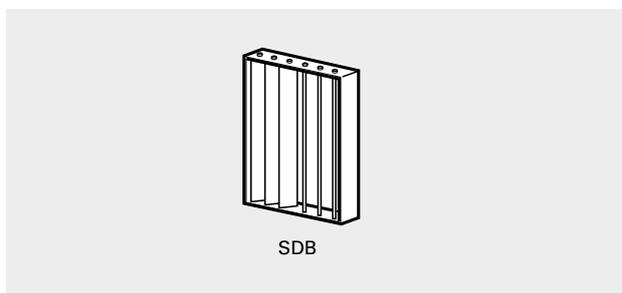*[4]) Water volume inside water coil.

Dimensions

	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	Øl [mm]
SWK12	730	670	510	780	28	270	420	515	10
SWK22	920	875	510	780	28	270	550	700	10

CE

Control

TKS16   KRT1900   KRTV19   TVVS20/25   TRVS20/25   SD20

Type	Description	HxWxD [mm]
TKS16	Electronic thermostat, knob, 1-pole switch, IP30	80x80x39
KRT1900	Capillary tube thermostat, IP55	165x57x60
KRTV19	Capillary tube thermostat with knob, IP44	165x57x60
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
SDB12	Extra air director SWK12
SDB22	Extra air director SWK22

SDB

For mounting, output charts, wiring diagrams and other technical information, please see the manual and www.frico.net.

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
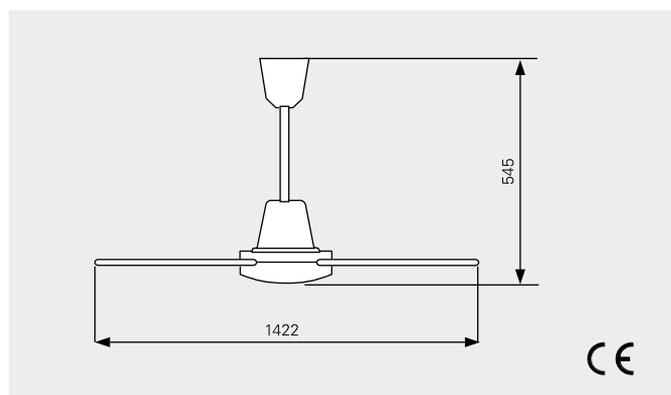
Industrial ceiling fan ICF (IP20 / IP55)

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.
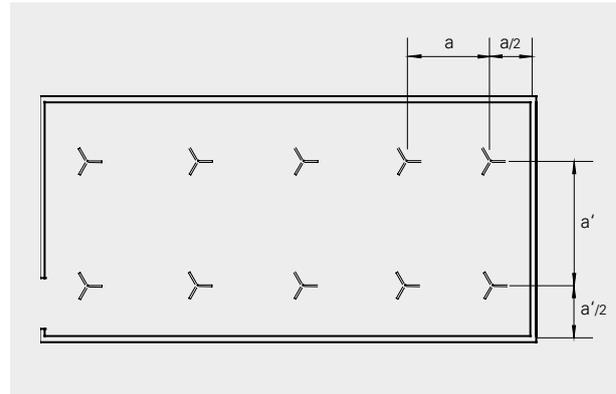Protection class ICF55: IP55.
Approved by IMQ.

Dimensions

545

1422

CE

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 regulator.

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, reversible
- CFR1R, 5-step control, reversible
- RE1,5 / RE3 / RE5, 5-step control
- PE1 / PE2,5 , variable fan speed control

Accessories

CAR15   CFR1R   RE1,5/RE3/RE5   PE1/PE2,5   CFAP   CFB
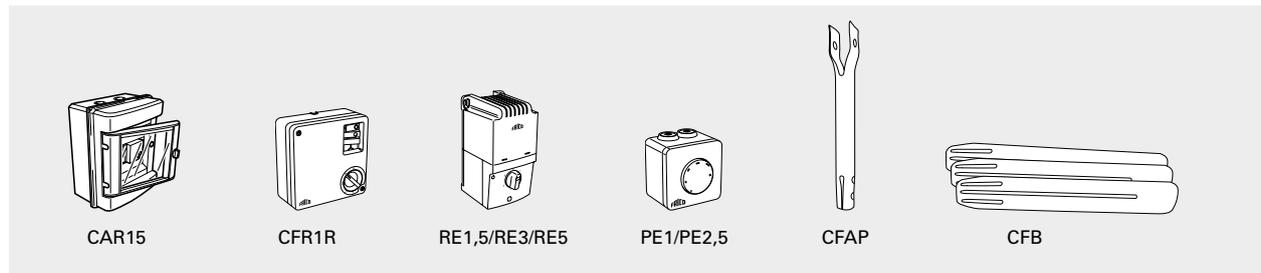
Type	Description	HxWxD [mm]
CAR15	Automatic fan speed control, max. breaking current: 6,3 A	210x210x100
CFR1R	5-step control, max. breaking current: 0,4 A	120x120x60
PE1	Variable fan speed control, external mounting (IP54) or recessed mounting (IP44), max. breaking current: 1 A	82x82x65
PE2,5	Variable fan speed control, external mounting (IP54) or recessed mounting (IP44), max. breaking current: 2,5 A	82x82x65
RE1,5	5-step control, max. breaking current: 1,5 A	200x105x105
RE3	5-step control, max. breaking current: 3 A	200x105x105
RE5	5-step control, max. breaking current: 5 A	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	
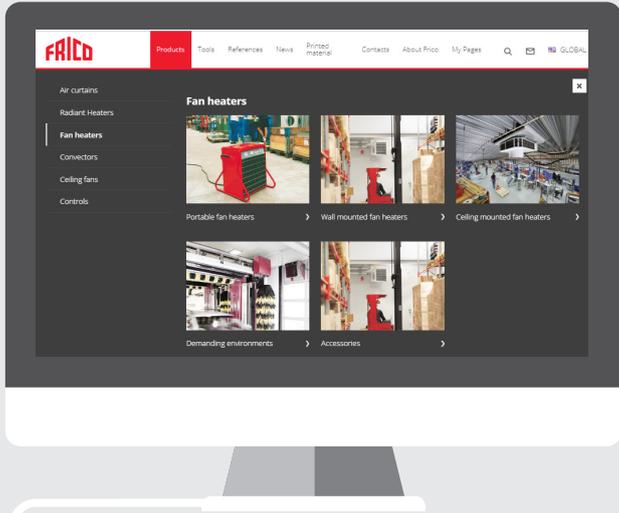
Just a click away

We simplify everyday life by giving you relevant product information together with our knowledge within heating. At www.frico.net you will always find updated information, you can receive help to select the correct product and get inspiration from among our references, see our news, manuals, wiring diagram etc.
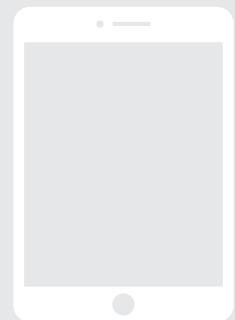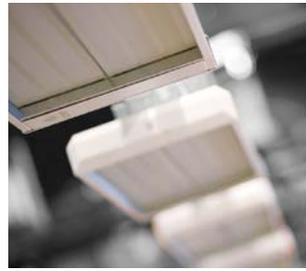
Energy efficient products for a comfortable indoor climate

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.

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.

The product selection guide at www.frico.net helps you to find the right product and to easily collate all technical data, accessories and heating calculations to your documents.