Fan heaters - wall mounted

Fan heater Panther 6 – 15 kW

Panther models are very quiet and efficient fan heaters for wall mounting. They are suitable for the heating, drying and ventilation of for example workshops, sport centres, shops, gymnasiums and drying rooms. The flexible mounting bracket makes it possible to direct the air stream. Panther is delivered with a built-in thermostat range 5 – 35 °C.

Output and fan speed can be set on the control panel, which is extra. Master/slave function.
Colour: white, RAL 9016.
Approved by SEMKO and CE compliant.

Fan heater Panther 6-15 kW (IP44)

Type	Voltage [V]	Output steps [kW]	Airflow [m³/h]	Sound level [db(A)]	HxWxD [mm]	Weight [kg]
SE06	400V3N~	0/3/6	900/1300	39/47	520x450x510	21
SE09	400V3N~	0/4,5/9	900/1300	39/47	520x450x510	22
SE12	400V3N~	0/6/12	900/1300	39/47	520x450x510	22
SE15	400V3N~	0/7,5/15	900/1300	39/47	520x450x510	22
SE135	440V3~	0/5/10	900/1300	39/47	520x450x510	23
	500V3~*	0/7/13,5	900/1300		520x450x510	

*) Convertible 440/500 V3~

Control kits Panther 6-15 kW
Fan speed and thermostat control:

PP15, control box, controls the output in two steps and the airflow in three steps.

Automatic temperature control:

PTA, automatic temperature control

Control of mixing cabinet:

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

Fan heater Panther 20 and 30 kW

Panther models are very quiet and efficient fan heaters for wall mounting. They are suitable for the heating, drying and ventilation of industrial areas. Flexible mounting bracket makes it possible to direct the air stream.

Output and fan speed can be set on the control box, which is extra. The temperature is controlled with a Frico thermostat. Over run thermostat to protect elements.
Colour: white, RAL 9016.
Approved by SEMKO and CE compliant.

Fan heater Panther 20 and 30 kW (IP44)

Type	Voltage [V]	Output steps [kW]	Airflow [m³/h]	Sound level [db(A)]	HxWxD [mm]	Weight [kg]
SE20	400V3N~	0/10/20	1900/2600	52/60	576x478x545	27
SE30	400V3N~	0/10/20/30	1900/2600	52/60	576x478x545	31
SE305	440V3~	0/7,5/15/23	1900/2600	52/60	576x478x545	32
	500V3~*	0/10/20/30	1900/2600		576x478x545	

*) Convertible 440/500 V3~

Control kits Panther 20 -30 kW
Fan speed and thermostat control:

KRT2800 or RTI2, 2-step room thermostats
PP20, control box, controls the output in two steps and the airflow in two steps (SE20)
PP30, control box, controls the output in three steps and the airflow in three steps (SE30, SE305).

Automatic temperature control:

PTA, automatic temperature control
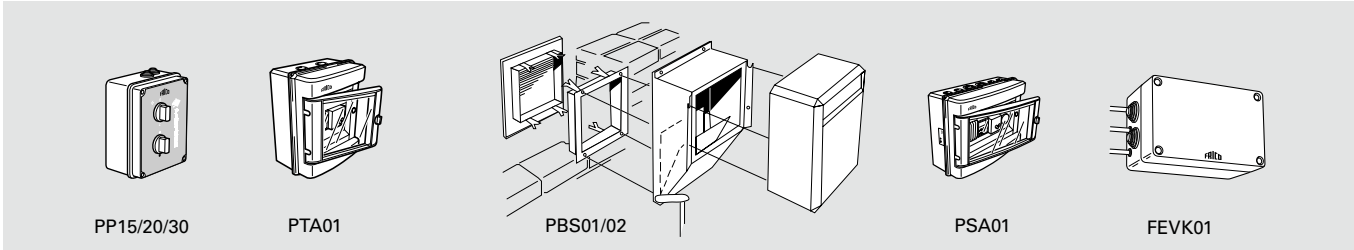
Control of mixing cabinet:

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

PP15/20/30   PTA01   PBS01/02   PSA01   FEVK01

Product specific accessories - Panther 6 – 15 kW and Panther 20 and 30 kW

PP15/20/30, control box
Desired output and fan speed can be set on the control box. Up to six units can be regulated from one control box. IP44.

PTA01, automatic temperature control
The PTA01 can be used to lower the heat when necessary, for example over nights and weekends. The control consists of an electronic time switch (24-hour/week setting) and an electronic thermostat with an external sensor. The time switch alternates between day and night mode. IP55.

PBS01/02, mixing cabinet
Saves energy by mixing return air and fresh air in choosen proportions. Supplied with outer wall grille and masonry frame. Damper controls are extra.

PHR01, control lever for mixing cabinet
A control lever is used to control the mixing cabinet manually. The rod (not included) for the lever should have a diameter of 8 mm.

PSM01, damper motor
The damper motor is used in combination with PSA01 when several mixing cabinets should be controlled (one damper motor is included in PSA01). IP54.

PLR15/30, air director
Directs the air stream vertically or horizontally. PLR is snapped on the front of the heater. Torsional (turning) angle 0 – 35°.

PSA01, automatic damper and temp. regulator
Lowers the temperature and reduces the air intake when the demand is lower. Consists of timer and thermostat with sensor, potentiometer and damper motor. If an exhaust fan is used, it can also be controlled with PSA01. IP55.

PTRP, drying room kit
Consists of exhaust air fan, thermostat and timer. The exhaust air fan works alternately with for example a fan heater for shortest possible drying time and minimal energy consumption. A complete kit includes Panther fan heater with output 6-12 kW.

PFF15/30, exhaust air fan
Can be used for example in combination with the fan heater/mixing cabinet to obtain good ventilation. Air flow approximately 1400 m³/h or 2600 m³/h.

FEVK01, load guard
The load guard limits the addition of output so that the current does not exceed the rated value of the main fuse, in that case it disconnects a chosen section. With built-in contactor. Three current transformers 16–35 A are included. Maximum load that can be disconnected is 11 kW (16A). FEV01 and an external contactor which can take larger loads is used when the load is larger than 11 kW. Protection class: IP44.

FEVS02, current transformer
33–145 A, complementary to load guard FEVK01. 3 pieces.

Accessories Panther 6-12, 20 and 30 kW

Type	Description
PP15	Control box SE06 - SE15, IP44
PP20	Control box SE20, IP44
PP30	Control box SE30 and SE305, IP44
PTA01	Automatic temperature control, IP55
PBS01	Mixing cabinet SE06 – SE15
PBS02	Mixing cabinet SE20, SE30 and SE305
PHR01	Control lever for mixing cabinet
PSM01	Damper motor, IP54
PLR15	Air director SE06 – SE15
PLR30	Air director SE20, SE30 and SE305
PSA01	Automatic damper and temp. control, IP55
PTRP	Drying room kit without fan heater
PFF15	Exhaust air fan SE06 – SE15, IP54
PFF30	Exhaust air fan SE20, SE30 and SE305, IP54
FEV 01	Load guard, IP44
FEVK01	Load guard contactor
FEVS02	Current transformer 33-145 A
KRT2800	2-step room thermostat, IP55
RTI2	2-step room thermostat, IP44
RTI2V	2-step room thermostat with knob, IP44
CBT	Electronic timer, IP44
KUR	Digital time switch, IP44

For controls, see pages 50-52.

Fan heaters

45

Get In Touch

Call: 0845 6880112

Email: info@adremit.co.uk

Our Address

Puravent, Adremit Limited, Unit 5a, Commercial Yard, Settle, North Yorkshire, BD24 9RH

Fan heaters - wall mounted, water heated

Fan heater SW

Fan heater SW is suitable for heating of buildings such as industrial premises, work shops and warehouses.

Thanks to new technology which optimises the air flow through the battery, extremely low sound levels are obtained. The sound level can be as low as 35 dB(A).

The basic unit consists of an integrated motor with an axial fan and a water-supplied heating coil and a corrosion proof casing of hot zinc-plated powder lacquered steel panels. Delivered with air director. The heater can be mounted on the wall or on the ceiling, and water connection can be done either on the right or left side. The airflow can be controlled in three steps. A thermostat is needed to regulate the water valve, see section on Thermostats. Mounting brackets are extra.
Colour: white, RAL9016.
Approved by SEMKO and CE compliant.

Fan heater SW 02 (IP44) ◊

Type	Voltage	Output steps*	Airflow	Sound level	HxWxD	Weight
	[V]	[kW]	[m³/h]	[dB(A)]	[mm]	[kg]
SW02	230V~	8-10	0,20/0,31	34-45	520x450x510	15

*) Applicable at water temperature 80/60 °C, air temperature, in +10 °C

Accessories - Fan heater SW 02

Type	Description
RTE102	Room thermostat, IP30
RTEV102	Room thermostat with knob, IP30
KRT1900	Room thermostat, IP55
KRT2800	2-step room thermostat, IP55
KUR	Digital time switch, IP44
CB30N	Control box
RTI2	2-step room thermostat, IP44
RTI2V	2-step room thermostat with knob, IP44
SWFT02	Basic filter SW22
SWR20	Valve set connection DN20
SWR25	Valve set connection DN25
TVV20	2-way control valve DN20
TVV25	2-way control valve DN25
SD20	Actuator

For controls, see pages 52-54.

CB30N, control box
Controls the airflow in 3 steps. Max input 10 A. IP44.

Fan heater SW 12–33 (IP44) ◊

Type	Voltage	Output steps*	Airflow	Sound level	HxWxD	Weight
	[V]	[kW]	[m³/h]	[dB(A)]	[mm]	[kg]
SW12	230V~	12-17	0,30/0,51	35/49	580x525x405	25
SW22	230V~	23-30	0,50/0,90	41/52	725x680x410	30
SW32	230V~	28-50	0,67/1,72	39/60	855x820x530	40
SW33	230V~	35-65	0,63/1,59	38/60	855x820x530	45

*) Applicable at water temperature 80/60 °C, air temperature, in +10 °C

Control kits SW12 and SW22

Control by thermostat only:

KRT(V), RTE(V) or RTI2, room thermostat
SWR20/25, valve set, or TVV20/25, valve + SD20, actuator

3-step control of airflow only:

SWR2, 3-step fan speed control

Thermostat and 3-step control:

SWR2, 3-step fan speed control
KRT(V) or RTE(V), or RTI2, room thermostat
SWR20/25, valve set, or TVV20/25, valve + SD20, actuator

Automatic temperature and airflow control:

SWR1, airflow/temperature control (thermostat included)
SWR20/25, valve set, or TVV20/25, valve + SD20, actuator

Control kits SW32 and SW33

Control by thermostat only:

KRT(V), RTE(V) or RTI2, room thermostat
SWR20/25, valve set, or TVV20/25, valve + SD20, actuator

5-step control of airflow only:

RE3, 5-step fan speed control 3A, or RE7, 5-step fan speed control 7A

Thermostat and 5-step control:

RE3, 5-step fan speed control 3A, or RE7, 5-step fan speed control 7A
KRT(V), RTE(V) or RTI2, room thermostat
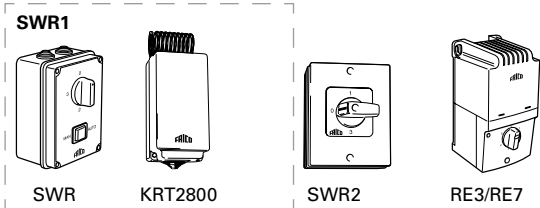SWR20/25, valve set, or TVV20/25, valve + SD20, actuator

SWR1

SWR   KRT2800   SWR2   RE3/RE7

SWR1, automatic temperature control
Only for SW12 and SW22. Controls the room temperature through automatic adaptation of the fan speed. When the heat demand is low the fan speed is low and when the heat demand increases the fan speed is increased accordingly. Manual control is possible. Consists of a thermostat KRT2800 and a control box SWR Controls up to six SW in parallel.

SWR2, 3-step fan speed control
Only for SW12 and SW22. Controls up to six SW in parallel. IP44.

RE3, 5-step fan speed control
Only for SW32 and SW33. Controls the fan speed in 5 steps, max. 3 A. Controls up to one SW. IP54.

RE7, 5-step fan speed control
Only for SW32 and SW33. Controls the fan speed in 5 steps, max. 7 A. Controls up to two SW. IP54.

SWK, mounting brackets
Fig. 2. When not using the filter section or mixing cabinet the main unit is suspended from the wall or ceiling using brackets SWK. Brackets are extra and supplied as a pair.

SWFT, basic filter
Fig. 3. Used as an alternative to the filter section. Provides the heating coil with basic protection. The filter is easily fitted into the SW unit and can be cleaned from either the top or bottom of the SW unit. The SW unit has a re-usable filter.

SWF, filter section
Fig. 4. Filters the outdoor air or/and return air from particles that might reduce the performance and reliability of SW. The disposable deep-pleated bagfilter is a cassette of synthetic material. Filterclass G85 (EU3). The filter section is equipped with filter on delivery. Note! If the filter section is not used in combination with the mixing cabinet, a return air inlet (SWD) is required.

SWEF, extra filter cassette
Replacement filter for SWF.

SWD, return air inlet
Fig. 5. Allows air inlet when filter section is used without mixing cabinet SWBS. Return air inlet is not required when the mixing cabinet is used.

SWBS, mixing cabinet
Fig. 6. The mixing cabinet is used to combine ventilation with heating by mixing outdoor air with return air. The mixture ratio is controlled and infinitely variable with a damper, either manually or with a damper motor.
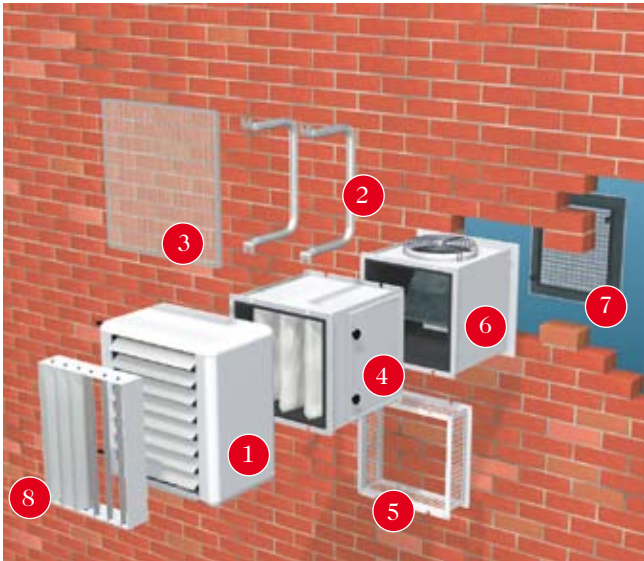
SWY, outer wall grille
Fig. 7. For intake of fresh air into the mixing cabinet. Grille of hot zinc-plated steel panels.

SWLR, extra air director
Fig. 8. To direct the air stream sideways. On delivery, SW is equipped with an air director for vertical direction of the air stream. Individually adjustable louvres in anodized aluminium. The extra air director is mounted to SW by hooking it onto the existing air director.

Fan heaters - wall mounted, water heated

1) Fan heater SW 2) Mounting brackets SWK 3) Basic filter SWFT
4) Filter section SWF 5) Return air inlet SWD 6) Mixing cabinet SWBS 7) Outer wall grille SWY 8) Extra air director SWLR

Figs. 4, 5, 6 and 8 are corrosion proof, hot zinc-plated. All steel panels are white powder coated.

Accessories - Fan heater SW 12 - 33

Type	Description
SWK1	Mounting brackets SW12
SWK2	Mounting brackets SW22
SWK3	Mounting brackets SW32/33
SWLR1	Extra air director SW12
SWLR2	Extra air director SW22
SWLR3	Extra air director SW32/33
SWF1	Filter section SW12
SWF2	Filter section SW22
SWF3	Filter section SW32/33
SWD1	Return air inlet (SWF1) SW12
SWD2	Return air inlet (SWF1) SW22
SWD3	Return air inlet (SWF1) SW32/33
SWEF1	Extra filter cassette SW12
SWEF2	Extra filter cassette SW22
SWEF3	Extra filter cassette SW32/33
SWFT1	Basic filter SW12
SWFT2	Basic filter SW22
SWFT3	Basic filter SW32/33
SWBS1	Mixing cabinet SW12
SWBS2	Mixing cabinet SW22
SWBS3	Mixing cabinet SW32/33
SWSM01	Damper motor
SWY1	Outer wall grille SW12
SWY2	Outer wall grille SW22
SWY3	Outer wall grille SW32/33
SWMSK	Motor protection 0.4 – 10 A
SWR1	Automatic temperature control SW12/22, IP44
SWR2	3-step fan speed control SW12/22, IP44
RE3	5-step fan speed control SW32/33, IP54
RE7	5-step fan speed control SW32/33, IP54
RTE102	Room thermostat, IP30
RTEV102	Room thermostat with knob, IP30
KRT1900	Room thermostat, IP55
KRT2800	2-step room thermostat, IP55
RTI2	2-step room thermostat, IP44
RTI2V	2-step room thermostat with knob, IP44
KUR	Digital time switch, IP44
SWR20	Valve set connection DN20
SWR25	Valve set connection DN25
TVV20	2-way control valve DN20
TVV25	2-way control valve DN25
SD20	Actuator

For controls, see pages 52-54.

Ceiling fans

Ceiling fan ICF

Ceiling fans are primarily used to equalize the temperature in rooms with high ceilings, such as industrial and warehouse buildings, sport centres and shops. The ceiling fan pushes down the cushion of hot air from the ceiling. The heat is better utilised in the dwelling zone and heat loss through the ceiling and walls is reduced.

ICF can rotate in both directions. The totally enclosed motor is equipped with permanently lubricated ball bearings and thermo contact. The standard fan blades are 1400 mm in diameter and the total drop is 465 mm. There are other downrod lengths and fan blades with smaller diameter available as accessories.

The fan speed of ceiling fans should be regulated to obtain optimal heat equalization and prevent draught, see accessories.

ICF is available in two versions: ICF440 has a splash-proof design (IP44) and ICF550 has a jet-proof design (IP55).
Colour: white, RAL 9010.
CE compliant.

Ceiling fan ICF (ICF440:IP44 / ICF550: IP55)

Type	Voltage [V]	Output steps [kW]	Airflow [m³/h]	HxWxD [mm]	Weight [kg]
ICF440	230V~	70	12500	465x1400	7,5
ICF550	230V~	70	12500	465x1400	7,5

Accessories - ICF

Type	Description
RPE02	Stepless fan speed control for 2 fans (recessed mounting)
RPE02G	Stepless fan speed control for 2 fans (external mounting)
RPE06	Stepless fan speed control for 5 fans (recessed mounting)
RPE06G	Stepless fan speed control for 5 fans (external mounting)
CAR15	Automatic fan speed control
RE5	5-step fan speed control for 12 fans
CFAP12	Short downrod, total height 310 mm
CFAP24	Long downrod, total height 610 mm
CFAP30	Extra long downrod, total height 762 mm
CFAB900	Fan blades Ø 900 mm (3 pcs)
CFAB1200	Fan blades Ø 1200 mm (3 pcs)

Product specific accessories, ICF
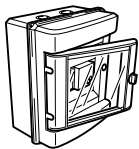
RPE02/RPE02G, stepless fan speed control
Controls a maximum of 2 fans. G = for external mounting. IP44.
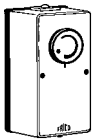
RPE06/RPE06G, stepless fan speed control
Controls a maximum of 5 fans. Single-phase manual thyristor for stepless speed adjustment of the fan and on/off control. G = for external mounting. IP44.

RPE02/06G

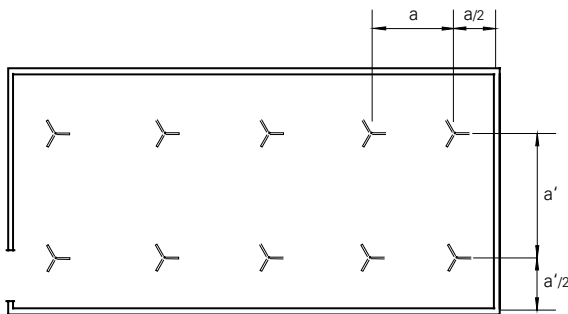**CAR15, automatic fan speed control**
Control a maximum of 15 fans. Automatic fan speed control, through external sensor, in accordance with variations in the temperature between the ceiling and the floor. Built-in switch for reversed rotation. IP33.

CAR15

RE5, 5-step fan speed control
Controls a maximum of 12 fans. IP54.

RE5

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

The rotary movement of air that forms in a room where the air is affected by a heat source is called convection. The air gets warm and rises then cools and returns to be heated again. Heat disperses in the room while the upward directed warm air stream is utilised to counteract cold draughts from windows for example.

The ribbed pipe radiator is our oldest product that is still produced. The design is essentially the same as when it was first developed in the 1930's.

The robust and durable construction is still very popular and has even found a new market in modern houses with large windows where ribbed pipe radiators are used for discrete heating and protection against cold draught.

Our aim is for all our products to become classic. They should have a design that lasts, high quality and the best performance.

Ribbed pipe radiator

Frico ribbed pipe radiators are very robust and durable. The ribbed-pipe flanges give a large heat-emitting surface and make the radiator compact. Equipped with protection grille for higher safety. Areas of use are for example wardrobes, dressing-rooms and small store rooms.

Type 126 is equipped with an output selector 0–1/3–2/3–1. Resetable overheat protection covers the whole length of the unit. The radiators are to be mounted horizontally on the wall with the overheat protection on the upper side of the unit.

Colour: dark green, RAL 6005.

Approved by SEMKO and CE compliant. 125-32B, 125-42B and type 126 are approved by Det norske Veritas. Type 127 is sand filled and approved by SEMKO for use in rooms where there is risk of fire and recommended for use in agricultural buildings.

Ribbed pipe radiator (IP44) ⚡

Type	Voltage [V]	Heat output [W]	LxWxD [mm]	Weight [kg]
125-12B	230V~	200	370x180x185	2,4
125-22B	230V~	375	530x180x185	3,3
125-32B	230V~	575	730x180x185	4,5
125-42B	230V~	775	880x180x185	5,5
126-32B	230V~	575	730x180x185	4,7
126-42B	230V~	775	880x180x185	5,7
126-52B	230V~	1150	1185x180x185	7,5
127-22B	230V~	500	980x180x185	10,9
127-42B	230V~	800	1925x180x185	33,3
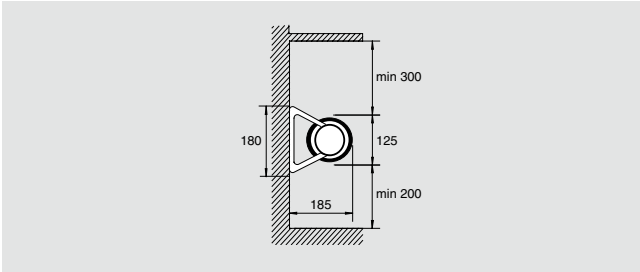
Frost guard

Frost guards are small, compact and give off a lot of heat despite their small size. They are appropriate for heating or frost protection in many different locations such as food cellars, pump houses, junction boxes, storage areas etc. Wall fixtures are included. FML must be mounted in a horizontal position with the knob on the right hand side. FMS is mounted in a vertical position.

Equipped with 1 metre cable, earthed plug and thermostat. The thermostat can be variably controlled from the frost guard position of +5 °C up to +35 °C. Stainless steel heating element. Built-in overheat protection.
Colour: white front. FMLR200 is in stainless steel.
Approved by SEMKO and CE compliant.

Frostguard FMS, FML, FMLR (IP31) ⚡

| Type	Voltage [V]	Heat output [W]	LxWxD [mm]	Weight [kg]
FMS200	230V~	200	90x298x68	0,7
FMLR200	230V~	200	298x90x68	0,7
FML200	230V~	200	298x90x68	0,7
FML300	230V~	300	398x90x68	0,9
FML450	230V~	450	498x90x68	1,1
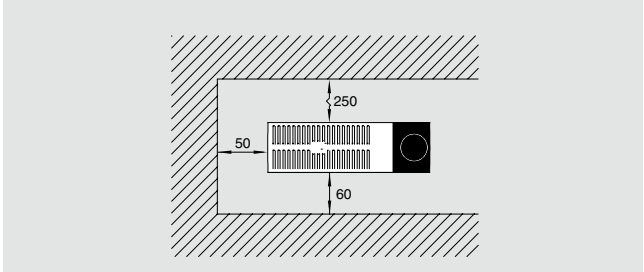
Convectors

Fan convector PF

The fan convector is designed to operate using less energy than ordinary radiators. The airflow equalises the temperature difference between floor and ceiling, which gives a higher efficiency and lower energy comsumption compared to radiators without fan.

The lower surface temperature allows painting of the front plate by the user if required. The standard version of PF is painted white.

The circulating airflow created by the fan convector makes it suitable for installations where rapid heating is desired. The fan is very quiet with a sound level below 30 dB(A).
Approved by SEMKO and CE compliant.
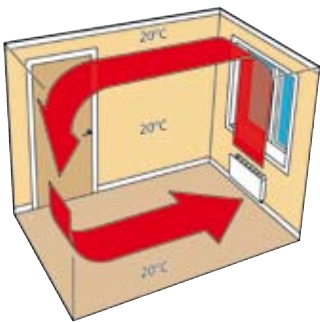
Fan convector PFE/PFD, electrically heated

The PFE/PFD convectors have an electronic thermostat with night set-back facility. When installing several radiators, it is possible to use one as a master.

All electrical radiators are equipped with overheat protection. Models up to 800 W have a lower surface temperature than most heating appliances (60 °C nominal).

Fan convector PFE/PFD, electrically heated (IP23) ⚡

Type	Voltage [V]	Heat output [W]	LxWxD [mm]	Weight [kg]
PFE5	230V~	500	598x330x90	6
PFE8	230V~	800	598x330x90	6
PFE10	230V~	1000	598x330x90	6
PFE12	230V~	1200	598x330x90	6
PFD5	400V2~	500	598x330x90	6
PFD8	400V2~	800	598x330x90	6
PFD10	400V2~	1000	598x330x90	6
PFD12	400V2~	1200	598x330x90	6

Accessories - PFE/PFD

Type	Description
PFFAL	Front, brushed aluminium
PFFS	Floor stand

Fan convector PFW, water heated

Effective heating can be maintained with considerably lower water temperature as the fan distributes the heat from the radiator quickly and efficiently. The product is adapted to today's low temperature heating systems and replaces conventional radiators. The unit is equipped with a filter.

Fan convector PFW, water heated (IP23) 💧

Type	Voltage [V]	Heat output* [W]	LxWxD [mm]	Weight [kg]
PFW10	230V~	0-1000	598x330x100	7,3
PFW20	230V~	0-2000	1058x330x100	12,8

*) Depending on the water temperature

Accessories - PFW

Type	Description
PFFAL	Front, brushed aluminium

Get In Touch

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✉ **Email:** info@adremit.co.uk

Our Address

Puravent, Adremit Limited, Unit 5a, Commercial Yard, Settle, North Yorkshire, BD24 9RH

Puravent

TWT

TWTC

ThermoWarm

ThermoWarm is a range of very compact and easily positioned radiators with ribbed flanges and encased tube elements. The ribbed flanges provide the radiators with a large heat-emitting surface, and thus, a low surface temperature. TWT is easily mounted on the wall.

TWT100 and 300 have a white lacquered front with max surface temperature of 90 °C. TWT200 has a covered front with max. surface temperature of 60 °C. TWTC has a stainless steel finish with max surface temperature of 90 °C. All models have a thermostat with a setting range of 0–35 °C. TWT100 and TWT200 also have a switch. TWT300 and TWTC are equipped with cable and plug.

The front plate is easy to remove for cleaning. Resetable overheat protection that covers the whole length of the unit. Colour: white, RAL 9016. TWTC is in stainless steel. Approved by SEMKO and CE compliant.

TWT100 (IP44) white, with switch, 90 °C

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

TWT200 (IP44) covered front, with switch, 60 °C

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

TWT300 (IP21) white, cable and plug, 90 °C

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

TWTC (IP54) stainless steel, cable and plug, 90 °C

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

Bench heater

Bench heaters are designed for permanent mounting under church pews, waiting room benches etc. Outer and inner reflectors give downward heat dispersion.

Equipped with stainless steel tube elements and protection grille. Approved for serial connection. The unit is to be mounted with brackets (included).
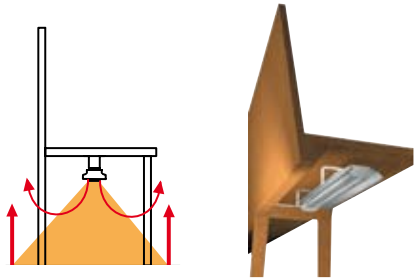Colour: grey
Approved by SEMKO and CE compliant.

Bench heater (IP21)

Type	Voltage [V]	Heat output [W]	LxH*xD [mm]	Weight [kg]
SH17521	230V~	175	700x110x200	1,4
SH17531	400V2~	175	700x110x200	1,4
SH25021	230V~	250	1000x110x200	1,9
SH25031	400V2~	250	1000x110x200	1,9
SH37521	230V~	375	1500x110x200	2,9
SH37531	400V2~	375	1500x110x200	2,9

*) With brackets

Thermostats and controls

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.

Frico offers a wide range of thermostats and controls, read more under each product or in the Frico catalogues.

RTI2   RTI2V

CBT   KUR

RTI, electronic thermostats

RTI2 is an electronic 2-step thermostat with alternating volt-free contacts. Controls the heat output. Adjustable temperature difference between the steps (1–10 °C), night time reduction (1–10 °C) can be activated by an externally connected contact, such as a weekly timer. External sensor (RTS01, see below) can also be connected. RTI2V is similar to RTI2, but with external dial (knob). IP44.

Type	Voltage [V]	Setting range [°C]	HxWxD [mm]
RTI2	230V~	5 - +35	155x87x43
RTI2V	230V~	5 - +35	155x87x43

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 hour.
Max breaking current 16 A. IP44.
CE compliant.

Type	Voltage [V]	HxWxD [mm]
CBT	230V~	155x87x43

KUR, digital time switch

Digital weekly time switch with 8 program steps (36 storage positions). Alternating contact.
Max breaking current 10 A. IP44.
CE compliant.

Type	Voltage [V]	HxWxD [mm]
KUR	230V~	155x87x43

RTE 102/104   RTEV 102/104   RTEV 202/204   RTEV 302

KRT1900   KRTV19   KRT2800   40001

RTE, electronic thermostats

RTE 102/104. Setting of temperature on the RTE 102/104 is done on the circuit board under the housing to prevent unauthorised persons from changing the selected temperature. To control heat, valves and fans.

RTEV 102/104 is equipped with a dial for setting the temperature. The setting range can be limited on the back of the dial and the thermostat can be calibrated there as well, if necessary.

RTEV 102V is also equipped with an alternating relay and can therefore be used for the regulation of heating and/or cooling. External sensor (RTS01) can also be connected.

RTEV 202/204 has a function switch for on/off connection as well as the optional connection of external sensors (RTS01). The setting range can be limited and calibrated on the setting dial.

RTEV 302. External sensor can be connected (RTS02). Built-in clock function. The period for temperature reduction by 4°C is 5, 7, 12, or 16 hours.

All RTE thermostats have a fixed temperature reduction of 4 °C which can be activated by an externally connected contact, such as a weekly timer. IP30.

Type	Voltage [V]	Max. input [A]	Setting range [°C]	HxWxD [mm]
RTE102	230	15	+7 - +35	71x71x28
RTE104	400	8	+7 - +35	71x71x28
RTEV102	230	15	+7 - +35	71x71x28
RTEV104	400	8	+7 - +35	71x71x28
RTEV102V	230	15	+7 - +35	71x71x28
RTEV202	230	15	+7 - +35	71x71x28
RTEV204	400	8	+7 - +35	71x71x28
RTEV302	230	15	+7 - +35	71x71x28

Accessories - RTE

Type	Description
RTS01	External floor/duct sensor
RTS02	External floor/duct sensor (RTEV302)

Capillary tube thermostats with alternating contacts

For the control of heat/cold, valves and fans. The housing is of thermal plastic. For 230/400 V and approved for 16 A at 230 V and 10 A at 400 V.

KRT1900 and KRT1901 have internal dial. IP55.

KRTV19 has an external dial with an adjustable stop for the maximum setting. IP44.

Type	Voltage [V]	Setting range [°C]	HxWxD [mm]
KRT1900	230/400V~	0 - +40	165x57x60
KRT1901	230/400V~	-35 - +10	165x57x60
KRTV19	230/400V~	0 - +40	165x57x60

2-step thermostat capillary tube with alternating contacts

Two-step control is appropriate for the soft and economical control of heat output in fan heaters and air curtains. There are two types to choose from:

KRT 2800 with an adjustable temperature difference between the steps (1–4 °C).

40001 with a fixed temperature difference (2 °C) between the steps.

Both are for 230/400 V and approved for 16 A at 230 V and 10 A at 400 V. IP55.

Type	Voltage [V]	Setting range [°C]	HxWxD [mm]
KRT2800	230/400V~	0 - +40	165x57x60
40001	230/400V~	0 - +40	165x57x60

Water controls

VR20/25

AV20/25 JVF20/25 TRV20/25 BPV10 SD20

SD20 TVV20/25

VR20/25

AV20/25

BPV10

JVF20/25

TRV20/25 SD20

RTE/KRT

230V ~

TVV20/25

SD20

RTE/KRT
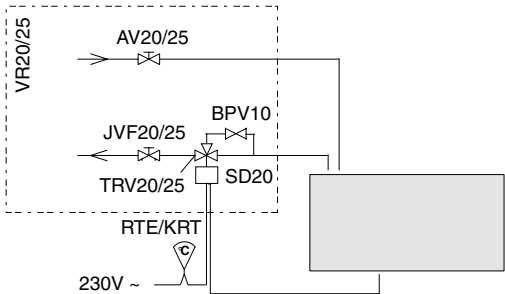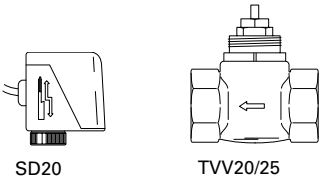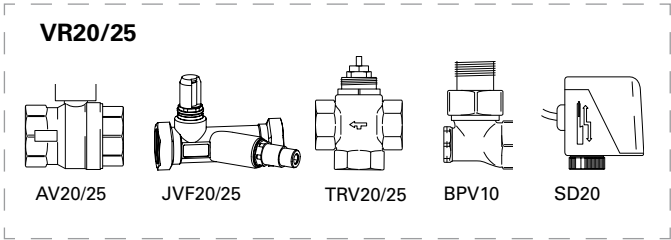
230V ~

VR 20/25, valve set

For control of water flow to water heated air curtains.

The valve set consists of the following:
- AV20/25, stop valve
- JVF20/25, adjustment valve
- TRV20/25, 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 (TRV20/25) is closed, the flow through the by-pass valve 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 set is available with two different valve dimensions: VR 20 - DN20 (3/4") and VR 25 - DN25 (1"). The by-pass valve dimension is DN10 (3/8"). To regulate VR20/25, a suitable thermostat has to be added.
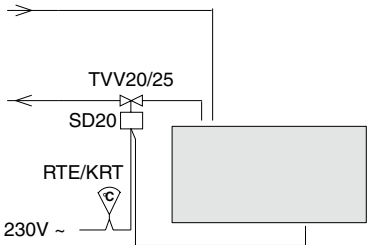
TVV20/25, 2-way control valve

TVV20 has a pipe dimension of DN20 (3/4") and TVV25 of DN25 (1"). Pressure class PN16. Maximum pressure 2 MPa (20 bar).
Maximum pressure drop TVV20: 100 kPa (1 bar)
Maximum pressure drop TVV25: 62 kPa (0,62 bar)

The kv-value is adjustable in 3 steps:

	Pos 1	Pos 2	Pos 3
TVV20	kv 1,6	kv 2,5	kv 3,5
TVV25	kv 2,5	kv 4,0	kv 5,5

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. IP40.

TVV20/25, 2-way regulation valve and SD20, actuator provides a basic form of water regulation, without the possibility of adjusting or shutting the water flow off. A suitable thermostat is chosen to regulate TVV20/25 and SD20.

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

The sound level is stated for each product in the mini catalogue. Our sound measurements are done according to international standards BS 848, AMCA standard 210-85 and DIN 24 163, (the distance to the product 5 metres, directional factor 2, equivalent absorption area 200 m²).

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	
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	
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	0,2
Sheet metal roof with 25 cm insulation	0,2
New construction	
Windows	
1 pane window	5,0
2 pane window	3,0
3 pane window	2,0
3 pane window insulation pane	1,8

55