

SAN[®]

Electro Heat



Industrial Radiators

Tubular Radiators:

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Finned Tubular Elements



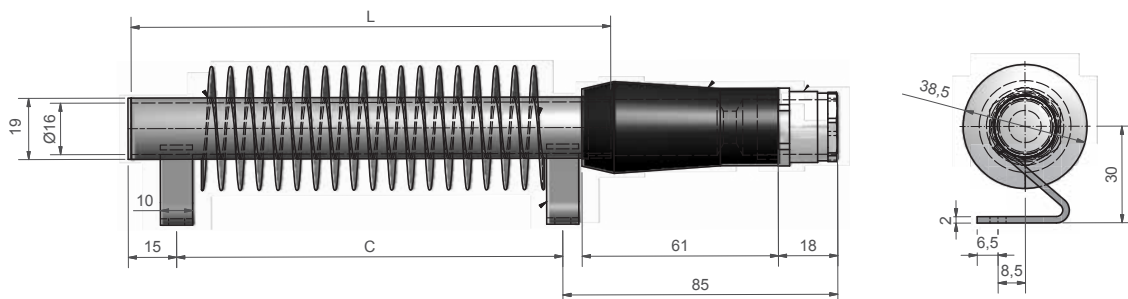
The SAN finned tubular elements type AL are especially developed to avoid condensation in automatic cabinets - terminal boxes, cold falling down from large window areas etc.

Material : Finned tube : stainless steel SIS 2350, \varnothing 42 mm
 Connection : plastic with PG 11 gland, IP 54
 Surface temp. : 150°C at 22°C ambient temperature
 Dimensions : A: total length B: heating zone

FINNED TUBULAR ELEMENT, AL 230V

| Type | Power W | Voltage V | L mm | C mm | Part no. |
|--------|---------|-----------|------|------|----------|
| AL 0,5 | 60 | 230 | 230 | 120 | 83117 |
| AL 1 | 115 | 230 | 350 | 245 | 83103 |
| AL 1,5 | 165 | 230 | 470 | 375 | 83104 |
| AL 2 | 200 | 230 | 575 | 495 | 83105 |
| AL 4 | 400 | 230 | 1000 | 905 | 83126 |
| AL 6 | 600 | 230 | 1500 | 1405 | 83127 |

Suggestions for thermostat: type KTO miniature.



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Finned Tubular Radiator Type A



The **SAN** finned tubular radiator type A is an industrial radiator for heating of rooms - garages - cabinets etc., with great demands for a robust construction. Delivered in grey painted steel.

Finned tubular radiator type A is delivered as standard, see below scheme. Upon request the A can also be delivered with other voltage, power and length.

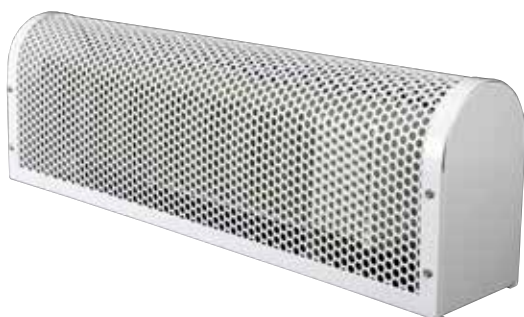
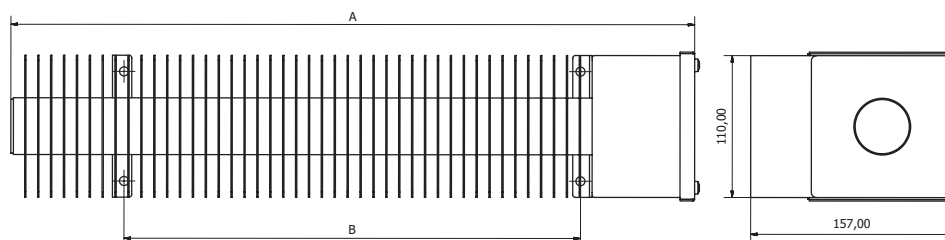
SPECIAL VERSION: vibration- and shock safe, e.g. for use on ships.

Surface temperature: 120°C at 22°C ambient temperature.

FINNED TUBULAR RADIATOR, A 230V

| Type | Power W | Voltage V | A mm | B mm | Part no. |
|------|---------|-----------|------|------|----------|
| A5 | 500 | 230 | 530 | 350 | 832001 |
| A10 | 1000 | 230 | 930 | 750 | 832011 |
| A15 | 1500 | 230 | 1330 | 1150 | 832021 |
| A20 | 2000 | 230 | 1730 | 1550 | 832031 |
| A5 | 500 | 400 | 530 | 350 | 832051 |
| A10 | 1000 | 400 | 930 | 750 | 832061 |
| A15 | 1500 | 400 | 1330 | 1150 | 832071 |
| A20 | 2000 | 400 | 1730 | 1550 | 832081 |
| A30* | 3000 | 400 | 1730 | 1550 | 83225 |
| A40* | 4000 | 3x400 | 1730 | 1550 | 83226 |

*Higher surface temperature.



GRATING

| | |
|--------------------------------------|-------|
| Protection grate for A5, L = 650mm | 83245 |
| Protection grate for A10, L = 1050mm | 83246 |
| Protection grate for A15, L = 1450mm | 83247 |
| Protection grate for A20, L = 1850mm | 83248 |

Height: 200mm. Width: 135



Finned Tubular Radiator



The **SAN** finned tubular radiator type SAN EEx is used for heating of room air, by convection in areas of zone 1-2.

Environment temperature: -20°C to +40°C
 Installation: Horizontal
 Ignition protection mode: EEx de IIC
 "flameproof"
 "increased safety"
 Protection mode: IP 54 (IP 67 possible)
 Temperature class: T1 - T5 (T6 upon request)
 EG-Type Approval Certificate: PTB 02 ATEX 1040
 Available surface finishes:
 L = Black enamel finish
 V = Galvanized/black enamel finish
 E = Stainless steel / aluminium lacquered.

Nominal power / W: From 50 to 2200W, please ask for detailed specification sheet.

Length: From 650 to 2270 mm, please ask for detailed specification sheet.

OPTIONAL:

Where there are no special requirements on the accuracy of temperature, SAN EEx radiator can be delivered with built-in thermostat, 0-40°C.

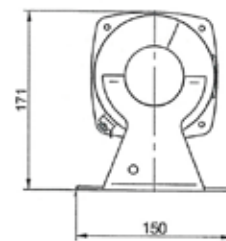
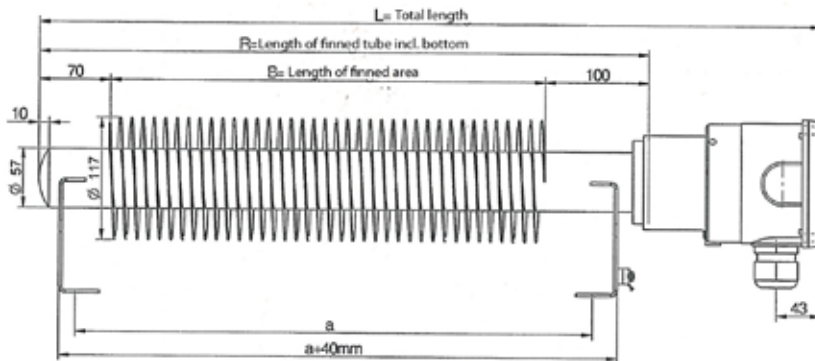
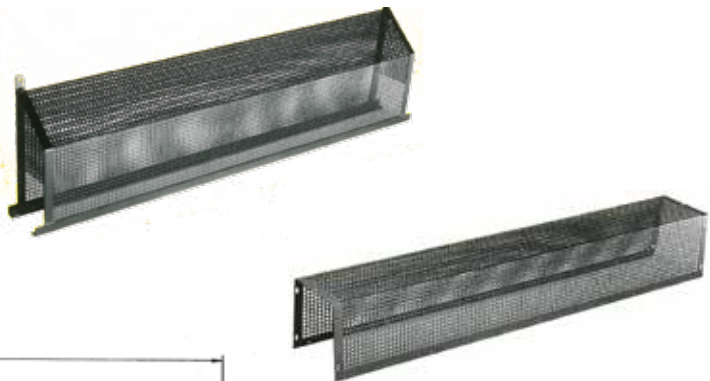
For precise controlling please use separate temperature controller.

SAN EEx radiator can also be delivered with a protection grate. We offer the following types:

- Type "M": Protection grate with skewed front, objects hardly hold on the radiator, the risk of heat build-up is reduced.
- Type "S": Protection grate, bent at a right angle, thermal contact protection.

Applications:

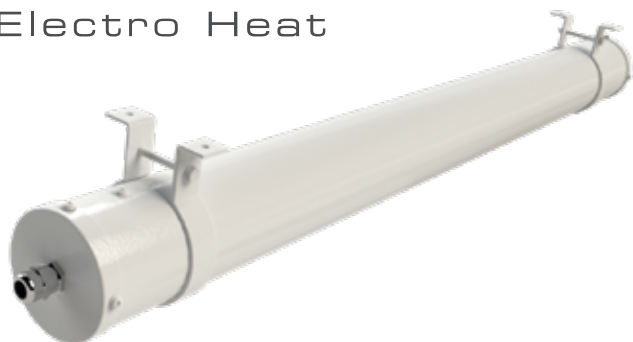
- Screening plants of sewage treatment plants
- Gas regulator stations
- Filling stations for gaseous fuels
- Colour storage rooms
- Chemical tankers
- Offshore drilling platforms



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Tubular Radiation Furnace Type RO



Application:

The SAN tubular radiation furnaces are designed for heating of churches, to be mounted below benches or wall-/floor mounting. The construction fulfils the government circular from the Church Ministry concerning implementing and use of church heating systems.

The furnace is designed from powder painted steel tube and equipped with temperature limiter. Silent operation.

Please note when mounting the furnace:

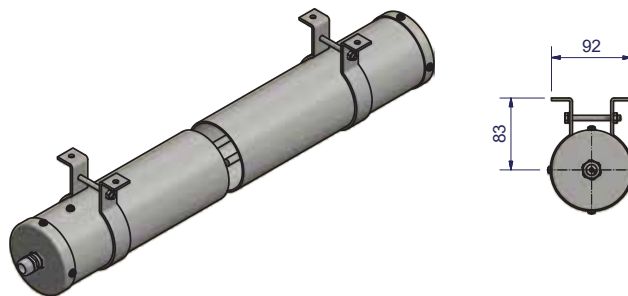
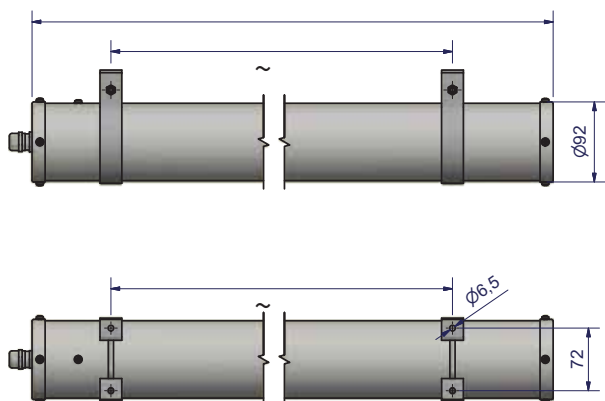
Must be mounted horizontally with the temperature limiter downwards (marking on radiator).

Power: 200W/m
 Colour: light grey RAL 7032
 Protection class: IP3X
 Approval: EN-60335-2

Other length and power available upon request.
 Other colours available against a surcharge.

Tubular Radiator Furnace Type RO

| Part no. | Length, mm | Power, W | Voltage | Surface load |
|----------|------------|----------|---------|-----------------------|
| 82700500 | 500 | 100 | 230 | 0,07W/cm ² |
| 82700750 | 750 | 150 | 230 | 0,07W/cm ² |
| 82701000 | 1000 | 200 | 230 | 0,07W/cm ² |
| 82701250 | 1250 | 250 | 230 | 0,07W/cm ² |
| 82701500 | 1500 | 300 | 230 | 0,07W/cm ² |
| 82701750 | 1750 | 350 | 230 | 0,07W/cm ² |
| 82702000 | 2000 | 400 | 230 | 0,07W/cm ² |
| 82702250 | 2250 | 450 | 230 | 0,07W/cm ² |
| 82702500 | 2500 | 500 | 230 | 0,07W/cm ² |
| 82702750 | 2750 | 550 | 230 | 0,07W/cm ² |
| 82703000 | 3000 | 600 | 230 | 0,07W/cm ² |



Panel Radiators

Type PO

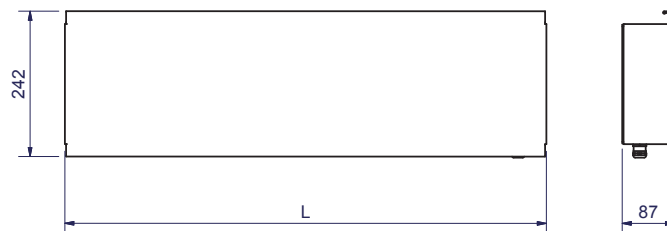


The **SAN** panel radiator PO is designed for mounting on wall or rack and is especially applicable for heating of church interior. The inside has been made from galvanized iron plate mounted with stainless tubular heating elements type BV and the outside from powder painted iron plate. It has a very low surface temperature and has a very low-volume operation.

Voltage : 230 V, 400 V or 3 x 400 V
 Colour : white RAL 9016
 Protection class : IP 22

PANEL RADIATOR type PO

| Type | Power W | Length mm | Part no. |
|-------|---------|-----------|----------|
| PO 10 | 1000 | 800 | 82700 |
| PO 15 | 1500 | 1300 | 82705 |



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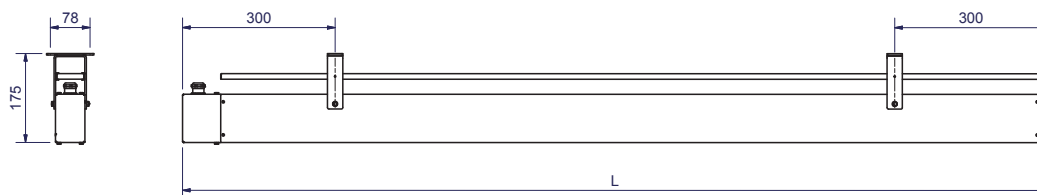


The **SAN** convector radiators KO are especially designed for heating of church interior and are mounted below the benches or in convector pits. The construction fulfils the government circular from the Church Ministry of Aug. 10th 1993 concerning implementing and use of church heating systems. The convector radiator type KO is manufactured from powder painted steel plate, stainless tubular heating element and with fittings or legs for mounting under bench or on floor in convector pit respectively. Silent operation. Can be delivered with tubular heating element for 3 power steps (1/4 - 1/2 - 1/1).

Power : approx. 400 W/m
 Voltage : 230 V, 400 V or 3x400 V
 Max. length : 2400 mm
 Colour : grey RAL 7032
 Protection class : IP 22
 Surface temperature : 65°C

CONVECTOR RADIATOR type KO 230V

| Type | Power W | Length mm | Part no. |
|--------|---------|-----------|----------|
| KO 65 | 260 | 650 | 82600 |
| KO 80 | 325 | 800 | 82605 |
| KO 90 | 405 | 900 | 82606 |
| KO 95 | 380 | 950 | 82610 |
| KO 100 | 450 | 1000 | 82611 |
| KO 110 | 450 | 1100 | 82615 |
| KO 125 | 500 | 1250 | 82620 |
| KO 140 | 560 | 1400 | 82625 |
| KO 150 | 600 | 1500 | 82630 |
| KO 170 | 680 | 1700 | 82635 |
| KO 190 | 760 | 1900 | 82640 |
| KO 210 | 840 | 2100 | 82650 |
| KO 230 | 920 | 2300 | 82655 |



Radiation Heater Type IR

Infrared radiation heating (IR) is often the optimum heating solution. Infrared radiation is a part of the electromagnetic specter, which also includes e.g. visual light and radio waves. The IR rays do not - as e.g. convection heating - use a media for conveying the heat from the heating element to the product to be heated.

Therefore the following 3 points describe radiation heating:

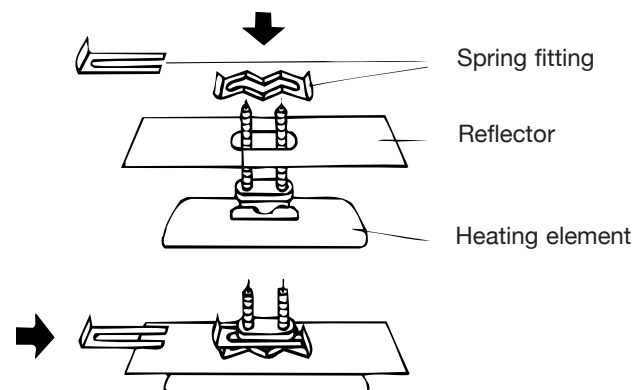
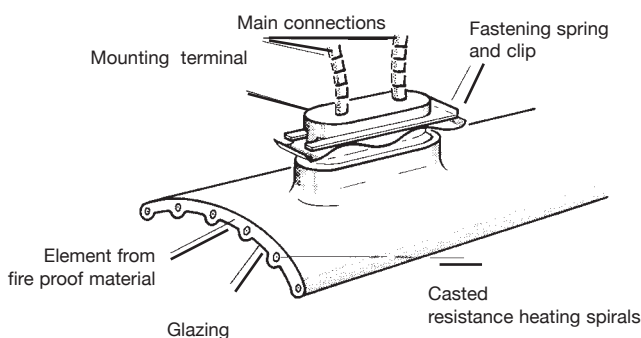
- Effective** : Obtains very high degrees of heat transmission.
Exactly applied and possibility of control by minimum peripheral heat loss.
- Fast** : The energy is conducted at the velocity of light from the heating source to the product.
- Clean** : No combustion products. No forced air streams lead contamination to the product.

The SAN IR programme contains several various products, which have all been developed for different tasks. E.g. drying of car paint, heating of large halls.

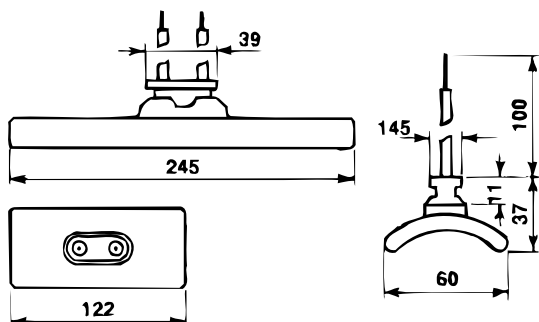
Construction

The **SAN** ceramic radiation heating elements **type IR** are manufactured by casting a resistance spiral into a glazed screen made from a fireproof material and have thus been protected against moisture, oxidation and contamination. The glazing, the screen and the resistance spiral have been thoroughly chosen and composed, so that the required spectral, electrical, mechanical and thermal characteristics are obtained.

When an electrical voltage runs through the resistance spiral, heat is generated. It is distributed evenly to the screen and submitted from the surface as infrared radiation. The glazing and the screen have been chosen to obtain a high radiation value.



Radiation Heater Type SAN Infra-Red



The **SAN INFRA-RED** ceramic radiation heating element is for mounting in stainless radiation panels. Max. temperature: 755°C.
Can also be delivered with built-in thermo couple.

| | |
|-------------------------------------|-------|
| Reflector f/1 pc. IR 245 L = 295mm | 96100 |
| Reflector f/2 pcs IR 245 L = 545mm | 96101 |
| Reflector f/3 pcs IR 245 L = 795mm | 96102 |
| Reflector f/4 pcs IR 245 L = 1045mm | 96103 |

The **SAN type Electro-sol** is an IR-armature in mirror finished alu-profile and with built-in stainless heating element.
Changing over possible



SAN INFRA-RED TYPE IR 230V

| Type | Power W | Power kW/m ² | Surface temp. °C | Part no. |
|--------|---------|-------------------------|------------------|----------|
| IR 122 | 125 | 10 | 418 | 96020 |
| | 150 | 12 | 452 | 96021 |
| | 200 | 16 | 515 | 96022 |
| | 250 | 20 | 560 | 96023 |
| | 325 | 26 | 615 | 96025 |
| | 375 | 32 | 660 | 96025 |
| | 500 | 40 | 755 | 96026 |
| IR 245 | 150 | 6 | 320 | 96001 |
| | 250 | 10 | 418 | 96002 |
| | 300 | 12 | 452 | 96003 |
| | 400 | 16 | 515 | 96004 |
| | 500 | 20 | 560 | 96005 |
| | 650 | 26 | 615 | 96006 |
| | 750 | 32 | 660 | 96007 |
| | 1000 | 40 | 755 | 96008 |

ELECTRO-SOL 230V

| Type | Power W | l* mm | Length mm | Part no. |
|---------|--------------|-------|-----------|----------|
| SAN I | 160/325/650 | 630 | 890 | 83517 |
| SAN II | 250/500/1000 | 980 | 1240 | 83518 |
| SAN III | 325/650/1300 | 1280 | 1540 | 83519 |

If your heating requirement demands other power or lengths than the mentioned standard types, these are available upon request.

RADIATION PANELS are manufacture according to specification.

* Heating zone

Radiation Heating Panel Type TTP and TTS



Type TTP



Type TTS

For room heating of e.g. stocks, sports halls, workshops, radiation heating panels TTP and TTS can be used, as the radiation passes freely through the air and is not converted into heat until it reaches the floor or people. The surroundings thus reach a higher temperature than the ambient air, which then is heated by "contact". You feel that the temperature is higher than it actually is. The temperature of the air can therefore be kept lower than by hot-air plants.

Type TTP is for rooms with floor-to-ceiling height from approx. 2.4 m to max. 10 m. The largest unit is 1200 W.

Type TTS is for rooms with floor-to-ceiling height from approx. 2.5 m - 15-20 m. The biggest unit is 2100 W.

Technical data.

Protection class: IP 44.

Manufactured from painted steel plate (RAL 9010, white) and heating strips of anodized Alu-plate.

| Type | Power W | Voltage | Dim. mm LxWxH | Part no. |
|----------|---------|---------|---------------|----------|
| TTP 400 | 400 | 230 | 600x170x70 | 83376 |
| TTP 600 | 600 | 230 | 900x170x70 | 83377 |
| TTP 900 | 900 | 230 | 1050x170x70 | 83378 |
| TTP 1200 | 1200 | 230 | 1350x170x70 | 83379 |
| TTP 600 | 600 | 400 | 900x170x70 | 83380 |
| TTP 900 | 900 | 400 | 1050x170x70 | 83381 |
| TTP 1200 | 1200 | 400 | 1350x170x70 | 83382 |
| TTS 1200 | 1200 | 230 | 800x280x70 | 83351 |
| TTS 1700 | 1700 | 230 | 1050x280x70 | 83352 |
| TTS 2100 | 2100 | 230 | 1350x280x70 | 83353 |
| TTS 1200 | 1200 | 400 | 800x280x70 | |
| TTS 1700 | 1700 | 400 | 1050x280x70 | |
| TTS 2100 | 2100 | 400 | 1350x280x70 | |

Adjustment

For controlling the temperature we recommend Triac control type TTC. With this you obtain a fast connection/disconnection at even heat distribution.

Radiation Heating Panel Type TVH



Type TVH

The radiant panel heater type TVH is a roof oven suitable for heating of rooms with roof heights between approx. 4 and 20 metres. Typical application areas are airports, stores, sports halls, industrial- and storerooms, workshops, green houses etc. Also used for additional heating of cold work places and for drying of floors in entrance areas. The ovens can also be mounted tilted on the wall with a wall bracket (to be ordered separately).

The biggest unit is 6000 W.

| Type | Power kW | Voltage | Dim. mm LxWxH |
|------------|----------|---------|---------------|
| TVH-2000-2 | 2 | 230/1 | 160x1280x70 |
| TVH-3000-2 | 3 | 230/3 | 220x1280x70 |
| TVH-4500-2 | 4,5 | 230/3 | 440x980x70 |
| TVH-6000-2 | 6 | 230/3 | 440x1280x70 |
| TVH-3000-4 | 3 | 400/3 | 220x1280x70 |
| TVH-4500-4 | 4,5 | 400/3 | 440x980x70 |
| TVH-6000-4 | 6 | 400/3 | 440x1280x70 |

Technical data.

Protection class: IP 54.

Manufactured with raw sintek back and side walls. The radiant surface is black painted steel. The surface temperature is approx. 400°C, which gives a very high power.

Panel Radiators Type AP



The SAN alu-panel radiators type AP are applicable for heating of cold falling down from large window areas. The small construction dimensions provide possibility of mounting almost everywhere.

The alu-panels are delivered in 3 heights and either white- or bronze painted.

Technical data

| | | | |
|------------------|---|------------------|-----------------|
| Voltage | : | 230 V | |
| Protection class | : | IP 44 | |
| Dim. | : | Relief from wall | : 35 mm |
| | | Height: | AP 400 : 150 mm |
| | | | AP 175 : 75 mm |
| | | | AP 125 : 45 mm |

Thermostat: Type AP 400 can be delivered with thermostat:

| | | |
|----------|---|--|
| Fx 400t | : | bimetal |
| Fx 400e | : | electronic |
| Fx 400cm | : | electronic with reduction of night temp. |

Type AP 175

175W/m

| Power W | Length mm | Part no. |
|---------|-----------|----------|
| 175 | 1150 | 83616 |
| 260 | 1650 | 83618 |
| 350 | 2150 | 83620 |
| 435 | 2650 | 83622 |
| 525 | 3150 | 83624 |
| 610 | 3650 | 83626 |
| 700 | 4150 | 83628 |

Type AP 125

125W/m

| Power W | Length mm | Part no. |
|---------|-----------|----------|
| 125 | 1150 | 83630 |
| 185 | 1650 | 83632 |
| 250 | 2150 | 83634 |
| 310 | 2650 | 83636 |
| 375 | 3150 | 83638 |
| 435 | 3650 | 83640 |
| 500 | 4150 | 83642 |

Type AP 400

350W/m

| Power W | Length mm | Part no. |
|----------|-----------|----------|
| 250 | 900 | 83600 |
| 350 | 1150 | 83602 |
| 525 | 1650 | 83604 |
| 700 | 2150 | 83606 |
| 875 | 2650 | 83608 |
| 1050 | 3150 | 83610 |
| 1225 | 3650 | 83612 |
| 1400 | 4150 | 83614 |
| AP 400T | - °C | 83644 |
| AP 400E | | 83646 |
| AP 400EM | | 83642 |

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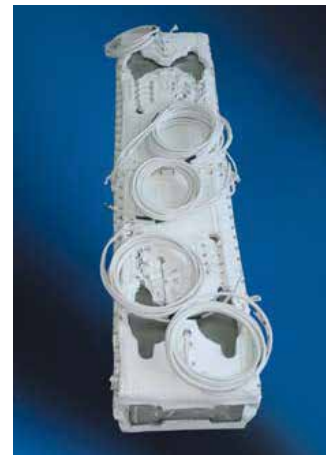
Vacuum chamber.



Vacuum pump.



Vessel for polyol and isocyanat for the production of PUR foam.



Collimator for high density radiation.

Flexible heating mats and jackets are the optimum way of heating with high effect and good heat distribution.

The benefits are:

- easy to remove and to exchange
- easy to install
- applicable in sophisticated applications
- high life time
- tailor-made to the shape of vessels, pipes, valves or pumps
- operating temperatures from 0° up to 900°C
- efficient heating system
- optimum heat distribution
- for hazardous areas too
- including insulation

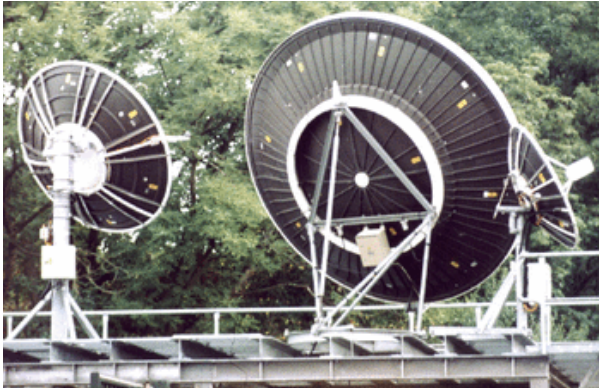


Experimental system for catalyst development.

Design of heating mats and jackets

| | | | | |
|-------------------------------------|---|--|---|------------------------------------|
| Nominal temperature | 80° - 900°C | | | |
| Nominal voltage | <= 500V | | | |
| Maximum heat density | 500W/m ² - 20.000W/m ² | | | |
| Possible combinations | | | | |
| Material of heating surfaces | Plastic fabric with and without PU/PVC coating | Fibreglass with silicone or PTFE coating | Fibreglass without coating | Quartz fabric without coating |
| Fasteners | Glass cloth tape | Eyelets, hooks, velcro fasteners | Glass cloth tape with silicone adhesive | Quartz lacing Fibreglass lacing |
| Primary insulation of heating wires | PTFE | Fibre glass | Quartz fabric | Quartz fabric |
| Thermal insulation | Plastic foam | Glass felt | Silicone foam | Quartz felt Ceramic wool |
| Outer surface of thermal insulation | The low surface temperatures on the outside of the insulation allow the use of following materials: Plastic fabric with or without coating up to 80°C, Aluminium coated fibreglass up to 160°C, Fibreglass coated with silicone or PTFE up to 220°C, Fibre glass or quartz without coating will be used for higher surface temperature. | | | |

Antenna Heating



Satellite receiver
with heating.

Icing and snow fall on antennas disturb the optimum receipt and operation. This especially happens on parabolic reflector systems. In commercial operation of antenna systems these drop outs can cause high expenses. **SAN** heating effectively prevents snow and icing and keeps the antenna operation noiseless. During the last couple of years our customers have used more than 1000 **SAN** heating systems. The antenna heating systems in larger quantities as complete cup systems. At minor quantities or for single cases we project, deliver and mount individually.

Technical data:

Heating types:

- constructively fitted heating cups in styrosun for antennas of between approx. 0,8 to approx. 5 m diameter. The cups are usually fastened by special clamping units.
- PTFE-cable
- parallel heating elements
- heating sticks
- heating mats
- air heaters

All heating methods can according to technical demands be projected for full diameter or only for the lower half.

Regulation:

Capillary pipe regulator/electronic regulator, air thermostat or electronic control type ELSAT-1 or ELSAT-2 comprising all important temperature data and monitoring- and heating systems.

Power:

Approx. 500-600 W/m² / 230 or 400 Volt.

Temperatures:

-30 to +70°C.

Mounting:

By **SAN**-employees in our own factory or by the customer according to detailed supervision.

At bigger plants with more than 5 m Ø we offer individual solutions for each assignment, incl. **SAN**-mounting or mounting monitoring on site.

Reference list:

- | | | |
|--------------|---------------|--------------------------|
| 1. Kathrein | 5. Andrew | 9. Technisat |
| 2. Precision | 6. Bosch | 10. Hatsushita/Panasonic |
| 3. Vertex | 7. Hirschmann | 11. Hômann |
| 4. Prolin | 8. Alcatel | |

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**30 feet
container**



**1000 l transport
container
before
mounting of
insulation**

SAN has for many years heated a large number of standard- and special containers. These containers are transported by road, by railway or by ship. The operating temperature goes to 200°C. On many occasions the SAN engineers have found solutions for heating material as well as for temperature registration and -adjustment of container heating, which have been approved of all over the world.

Container heating operates in Europe, Canada, USA and in the Far East at the highest satisfaction for the user. Container heating is projected, manufactured and mounted individually according to our customers' requirements and considering the demanding technical specifications.

Technical data:

- PTFE cable
- mineral insulated cables with outer metal jacket
- heating mats
- selfregulating heating cables
- parallel heating cables
- flat tubular heating elements, also in Ex-protected version, if required.

Adjustment:

Capillary tubular thermostats, electronic regulators, built-in terminal boxes, which are fitted to the inner dimensions of the container.

Control:

Heating circuit control, under or over temperature control, data-logger with various temperature measuring points. All systems are fitted to the actual demands.

Mounting:

By skilled SAN project electricians.

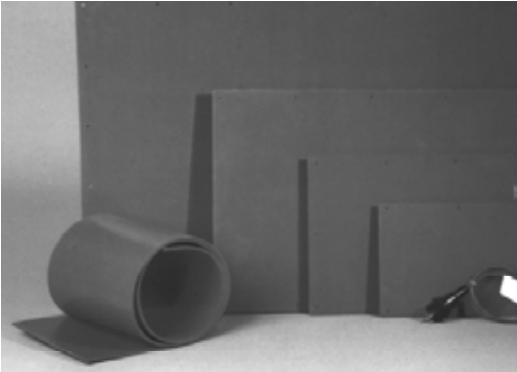
Temperatures:

From frost protection to approx. 200°C, for individual use, even higher.

Power:

Variable, e.g. at 20 feet container according to temperatures and required heating times up to 12 kW for 230 or 400 V .

Silicone Heating Mats



IP-DASi and **IP-SIMA** heating mats are water proof and consist of glass tissue insulated heating cable casted into silicone rubber, thickness 3.5 mm. For non-hazardous areas.

Especially suitable for surface heating because of high flexibility.

IP-DASi is delivered in sizes A1-A4.

IP-SIMA is delivered on request in sizes according to customer's requirements.

Thermostat control is recommended.

Delivered with 1 m rubber cable.

IP-DASi and IP-SIMA can be delivered as heating panels for hazardous areas on request!



IP-Q quartz cloth heating panel is a flexible customized panel for non-hazardous areas about 20KW/m². Max. temperature: 900°C.

Available on request in sizes according to customer's requirements.

This product can be delivered as heating panels for hazardous areas on request!



IP-GL / FIP-GL glass cloth heating panel is a flexible customized panel for non-hazardous areas about 7KW/m². Max. temperature: 450°C.

Available on request in sizes according to customer's requirements.

This product can be delivered as heating panels for hazardous areas on request!



IP-M metal heating panel is a flexible customized panel for non-hazardous areas. Different heaters possible. Different surface materials. Max. 36kW/m². Max. surface temperature: <1000°C.

FIP-M-SRB - Foot Warming Plate

Delivered in size 500x600mm.

240W - 230V.

This product can be delivered as heating panels for hazardous areas on request!



HEATING MAT IP-DASi

230 V

| Type | Size mm | Power W | Max. media temperature | Part no. |
|---------|-----------|---------|------------------------|----------|
| IP-DASi | 297 x 210 | 220 | <200°C | 2770630 |
| IP-DASi | 420 x 297 | 440 | <200°C | 2771130 |
| IP-DASi | 594 x 420 | 980 | <200°C | 2771270 |
| IP-DASi | 841 x 594 | 1960 | <200°C | 2771500 |

Quartz Cloth Heating Mats

Glass Cloth Heating Mats

Metal Heating Mats

SAN Electro Heat a/s

Gillelejevej 30b - DK-3230 Graested - Denmark

Tel.: +45 48 39 88 88 - Fax: +45 48 39 88 98 - info@san-as.com - www.san-as.com

CVR No.: 42 16 59 13



SDR/.../TS is a flexible band heating element designed for metal drums. The heating element has been casted into glass fibre strengthened silicone rubber and equipped with metal screen and 1,5 m connection cable with earth connection. The built-in thermostat is fully adjustable, 0-120°C.

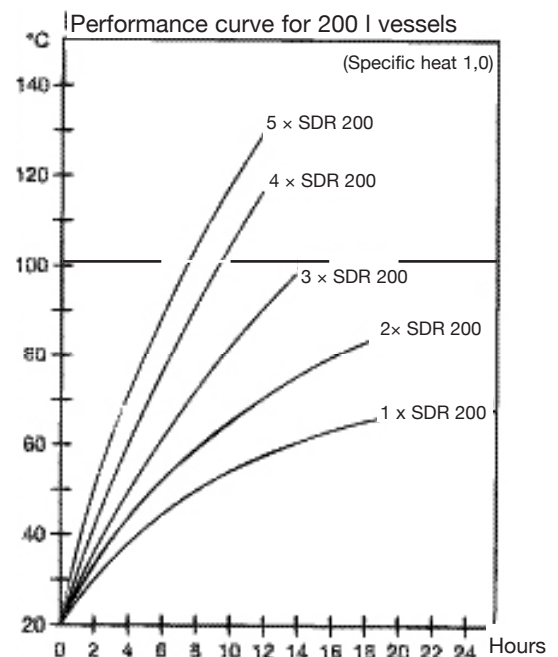
BAND HEATER w/thermostat

230V

| Type | Size mm | Power W | Part no. |
|------------|-------------------|---------|----------|
| SDR/20/TS | 850 x 96 (20 l) | 300 | 81917 |
| SDR/55/TS | (55 l) | 500 | 81918 |
| SDR/110/TS | 1100 x 96 (110 l) | 750 | 81919 |
| SDR/200/TS | 1700 x 96 (200 l) | 1000 | 81920 |

The graph shows the approximate temperature and heating time for a 200 l metal drum filled with water and mounted with 1 and up to 5 band heaters of 1000 W (type SDR/200/TS) respectively. Ambient temperature: 20°C.

| | |
|--------------|---------------------|
| 20 l drum : | 290 mm ² |
| 55 l drum : | 345 mm ² |
| 110 l drum : | 460 mm ² |
| 200 l drum : | 570 mm ² |



Drum Heater Base Heater



SAN 200 is a robust drum heater equipped with 50 mm insulation and galvanized jacket. The two halves are hinged together and equipped with thermostat and terminal box.

SAN-1200 B is a base heater, on which the drum is placed. It is recommended to use the base heater together with the drum heater. The base heater has built-in operation thermostat as well as limiter.

DRUM HEATER SAN 200 BASE HEATER 1200 B

**3x400V
230V**

| Type | Drum heater size | Power W | Thermostat | Part no. |
|------------|------------------|---------|------------|----------|
| SAN 200/40 | 200 l | 4000 | 50°-300°C | 81913 |
| SAN 200/54 | 200 l | 5400 | 50°-300°C | 81908 |
| SAN 200/75 | 200 l | 7500 | 50°-300°C | 81910 |
| SAN 1200 B | 200 l | 1200 | 0°-40°C | 81633 |
| SAN 1200 B | 200 l | 1200 | 30°-110°C | 81932 |

Other sizes of drum heaters (from 22 l to 250 l) can be delivered as either vertically or horizontally mounted version.

SAN 100 is a very robust drum heater especially designed for heating of horizontal 200 l metal drums. It is equipped with thermostat and terminal box. Protection class: IP 22.

DRUM HEATER SAN 100

3x400V

| Type | Drum heater size | Power W | Thermostat | Part no. |
|------------|------------------|---------|------------|----------|
| SAN 100/22 | 200 l | 2200 | 50°-300°C | 81915 |
| SAN 100/40 | 200 l | 4000 | 50°-300°C | 81916 |



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CVR No.: 42 16 59 13



EX-Drum Heater EX-Base Heater



Our **EX-Drum Heaters** and **EX-Base heaters** are used to provide medium flow and process temperature in hazardous environments. The special design including a self-regulating heating cable embedded in a solid metal housing ensures the maximum in safety at operating conditions. Using this design and additional temperature limiter is not necessary.

| | |
|----------------------------|------------------------|
| Protection class: | 1 |
| System of protection: | IP 65 |
| Permissible ambient temp.: | -40 - +50°C |
| Rated voltage: | max. 254 Vac |
| Zone: | Gas: 1,2, Dust: 21, 22 |
| Temperature class: | T2, T4, T6 |
| Ingress protection: | IP6X (IP65) |

EX-DRUM HEATER EX-BASE HEATER

230V
230V

| Part no. | Std. sizes (ltr) | Height (mm) | Inner dia. (ID) (mm) | Outer dia. (OD) (mm) | Temp. class | Nominal power (W) | Nominal Voltage (Vac) | Weight (kg) |
|----------------------|------------------|-------------|----------------------|----------------------|-------------|-------------------|-----------------------|-------------|
| Drum Heaters | | | | | | | | |
| SAN-SRX | 200 | 990 | 650 | 770 | T1/T2 | 3930 | 230 | 60 |
| SAN-SRQ | 200 | 990 | 650 | 770 | T3/T4 | 3990 | 230 | 60 |
| SAN-SRB | 200 | 990 | 650 | 770 | T5/T6 | 1810 | 230 | 60 |
| Base Heaters | | | | | | | | |
| SAN-SRX | 200 | 78 | - | 546 | T1/T2 | 1150 | 230 | 20 |
| SAN-SRQ | 200 | 78 | - | 546 | T3/T4 | 1170 | 230 | 20 |
| SAN-SRB | 200 | 78 | - | 546 | T5/T6 | 530 | 230 | 20 |
| Insulated lid | | | | | | | | |
| SAN-lid | 200 | 85 | 790 | 798 | | - | - | 20 |



EX-Gas Bottle Heater



Our gas bottle heaters are electrical heaters for gas bottles. They are used where the temperature around is under the optimum temperature of the media in the gas bottle. The gas bottle heater is designed to maintain the temperature of gas bottles heated up in hazardous areas according to identification card IIC.

The heaters are manufactured from a two-part metal sheath which folds up over a hinge strip. The heating cables built into the unit, as well as the junction box and the thermostat are approved for hazardous areas.

Protection class: 1
 System of protection: IP 65
 Permissible ambient temp.: -40 - +50°C
 Rated voltage: max. 254 Vac

EX-GAS BOTTLE HEATER

230V

| Part no. | Capacity at +10°C ±10% | T-Class | Maintain temp.* |
|-------------|------------------------|-----------|--------------------|
| SAN-SRX/10L | 630W | (T1) / T2 | max. approx. 120°C |
| SAN-SRQ/10L | 640W | (T3) / T4 | max. approx. 80°C |
| SAN-SRB/10L | 290W | (T5) / T6 | max. approx. 40°C |
| SAN-SRX/20L | 820W | (T1) / T2 | max. approx. 120°C |
| SAN-SRQ/20L | 830W | (T3) / T4 | max. approx. 80°C |
| SAN-SRB/20L | 380W | (T5) / T6 | max. approx. 40°C |
| SAN-SRX/40L | 1550W | (T1) / T2 | max. approx. 120°C |
| SAN-SRQ/40L | 1570W | (T3) / T4 | max. approx. 80°C |
| SAN-SRB/40L | 710W | (T5) / T6 | max. approx. 40°C |
| SAN-SRX/50L | 1490W | (T1) / T2 | max. approx. 120°C |
| SAN-SRQ/50L | 1510W | (T3) / T4 | max. approx. 80°C |
| SAN-SRB/50L | 680W | (T5) / T6 | max. approx. 40°C |
| SAN-SRX/79L | 1510W | (T1) / T2 | max. approx. 120°C |
| SAN-SRQ/79L | 1540W | (T3) / T4 | max. approx. 80°C |
| SAN-SRB/79L | 700W | (T5) / T6 | max. approx. 40°C |

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CVR No.: 42 16 59 13

SAN[®]

Member of the NIBE Group

Electro Heat

- Process Heating
- Heating Elements
- Heating Cables
- Finned Tubular Radiators
- Immersion Heaters
- Church Heating
- Frost Protection
- Ex-Material
- Oilfilled Radiators
- Drum Heaters
- Heating Pads
- Flow Heaters
- Air Duct Heaters
- High-voltage
- Resistors
- Controllers



With more than 50 years of experience SAN Electro Heat's most valuable asset is special knowhow about design, product development and manufacturing of professional electrical heating equipment for industrial use.

The company is geared to deliver 100% customized products, and thus functions both as a catalyst for a development project and as supplier of the final product. At the same time we insure and maintain the required quality level, mechanical and electrical dimensioning, approvals and documentation.



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