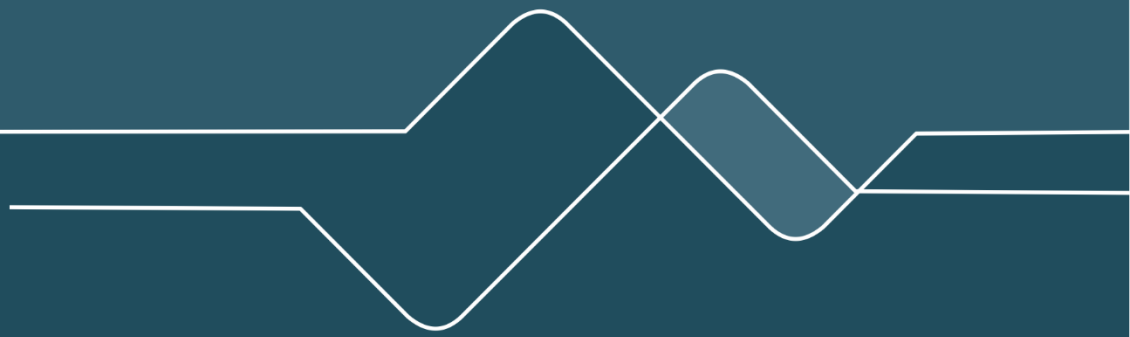
SILART

Systems and components of the technological climate in housing devices

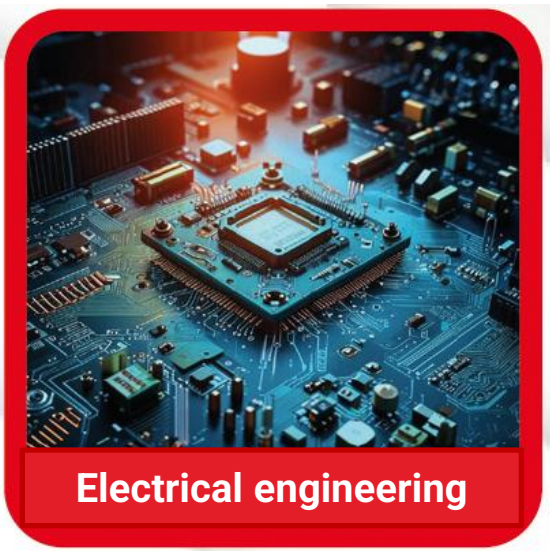


2026

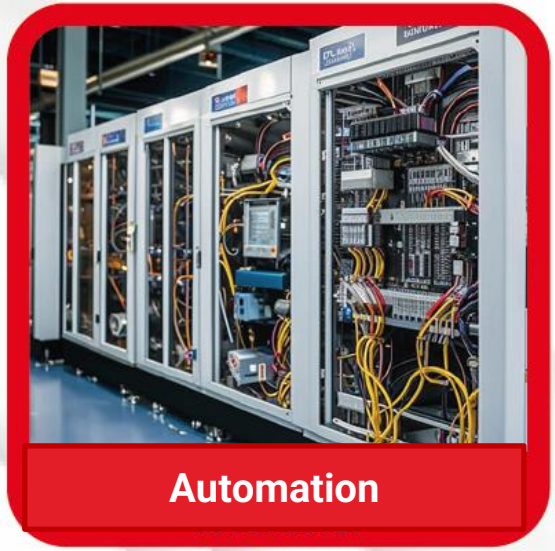
SILART LLC - a Russian developer and manufacturer of climate-control components and systems for creating an optimal technological climate for electrical, electronic, and industrial equipment.

Our mission:
We contribute to the revival of Russian industry.

SILART – APPLICATION ARIAS



Electrical engineering



Automation



Telecommuniocation



Industriasl



Data processing centers



Transport



Energy sector

SUSTAINABILITY DIAGRAM

2009

The beginning of the journey in the electrical market of Russia



2015

The start of work on the first Russian thermostat product, TBS.



2017

Formation of the SILART heaters line

2019

Start of distribution network development.



2021

Obtaining Skolkovo residency.

2022

Raising the localization level to 90%.



2023

Production expansion, new machines and facilities.



2024

The completion of development and the start of serial production of roof fans

2025

Start of production of industrial air conditioners. Obtaining patents. Registration in the STC register.



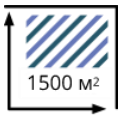
2026

Start of precision air-conditioners R&D

Sustainability strategy

SILART TODAY





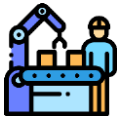
3800 m² FOR OFFICE, PRODUCTION, ASSEMPLING AND TESTING OF EQUIPMENT AND COMPONENTS



INTERNALLY LOCATED R&D



4 PATENS FOR R&D



6 PRODUCTION SITES



ASSEMBLING SITE WITH **3**-LEVEL QUALITY COMTROL SYSTEM



SALE DISTRIBUTORS NETWORK IN RUSSIAN FEDERATION

Московский инновационный кластер

Минэкономразвития России
малая компания
МТК

MADE IN MOSCOW

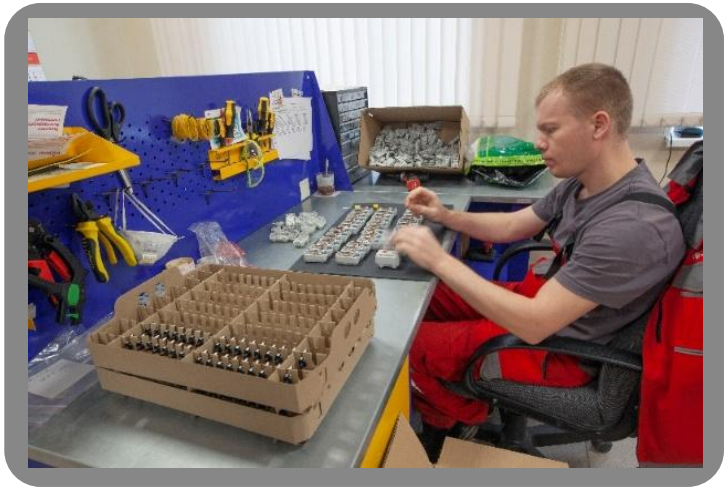
SILART It is part of the Moscow Innovation Cluster and participates in the **“MADE IN MOSCOW”** program.

СИЛАРТ СЕГОДНЯ

Head-quarter and production located in Moscow



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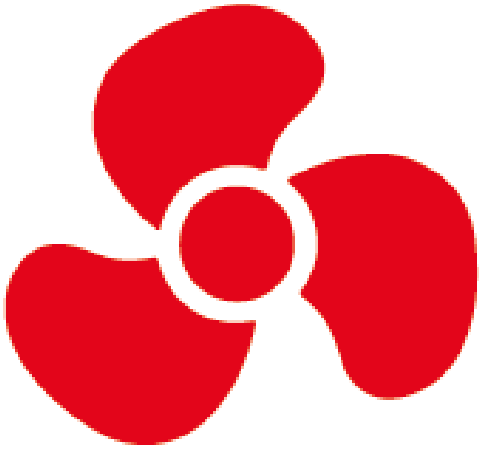




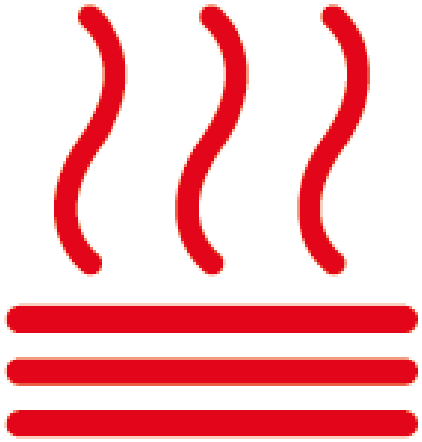




COOLING



VENTILATION



HEATING



ACCESSORIES

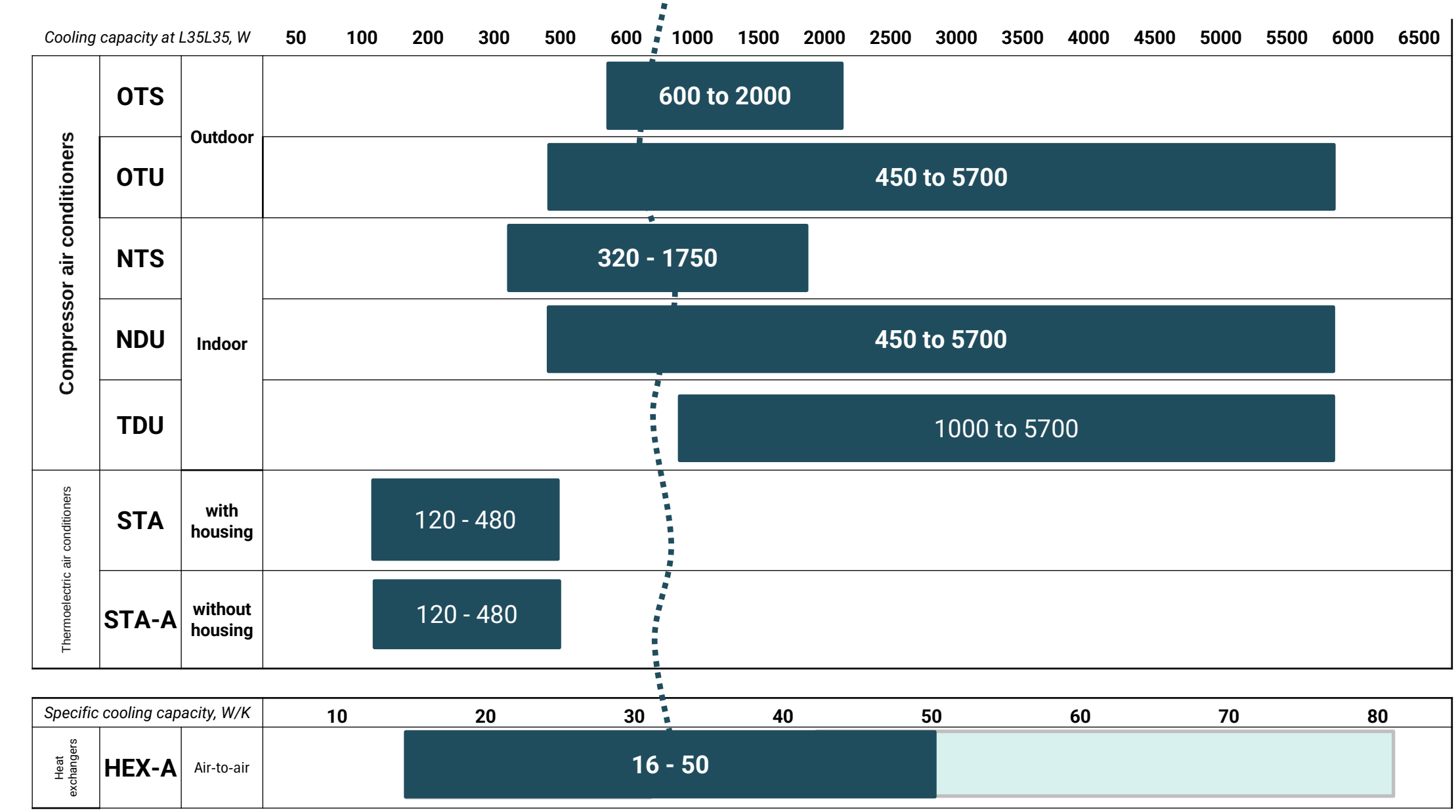
AIR CONDITIONING EQUIPMENT





SILART industrial air conditioning units and systems remove excess heat and maintain stable conditions in control and automation cabinets, telecommunications and computing systems, and production equipment.

AIR CONDITIONING EQUIPMENT



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AIR CONDITIONING EQUIPMENT



OTS – Outdoor air conditioners



NTS – Indoor air conditioners





STA – Thermoelectric air conditioners



HEX – Heat exchangers

SILART

COMPRESSOR AIR CONDITIONING



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NTS – industrial air conditioners for indoor installation

- Cooling capacity (L35/L35): **320** / **450–500** / **1000** / **2000** W
- Rated power consumption: 300–330 W
- Power supply: 230 VAC, 1~, 50/60 Hz
- Maximum current: 2.2 A
- Operating current: 1.6 A
- Dimensions (W×H×D): 300×500×210 mm … 400×850×296 mm
- Weight: 16.2–40 kg
- Ambient temperature range: 0…+55 °C
- Refrigerant: R134a
- **IP54**
- Housing: powder-coated structural steel
- Housing in any stainless steel grade AVAILABLE ON REQUEST

Advantages of SILART compressor air conditioners



OTS • Outdoor enclosures

–40...+55 °C

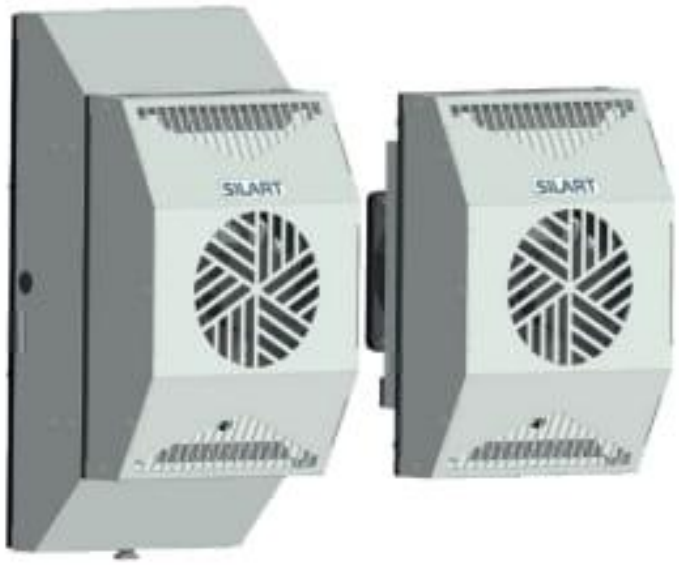
- Year-round operation: cooling and heating.
- Weather protection: sloped roof and neoprene seal.
- Compressor liquid slugging protection and controlled crankcase heating.

NTS • Industrial premises

0...+55 °C

- Flexible installation: surface, semi-recessed or fully recessed.
- IP54 protection and standard G2 filtration.
- Higher filtration class available on request.

THERMOELECTRIC COOLING



STA – thermoelectric air conditioners for installation in any orientation with provision for condensate drainage

- Cooling capacity: **120** / **240** / **320** / **400** / **480** W
- Power supply: 24, 48 VDC
- Maximum current: 5.4…40 A
- Operating current: 2.75…23 A
- Dimensions (W×H×D): 192×285×170 mm … 200×530×268 mm
- Weight: 5…16.8 kg
- Ambient temperature range: –10…+70 °C
- **IP67**
- Housing: AISI 430 or powder-coated structural steel
- Mounting options: surface or semi-recessed
- Housing in any stainless steel grade AVAILABLE ON REQUEST

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Advantages of SILART thermoelectric air conditioners



STA and STA-A – compact thermoelectric cooling

Peltier elements

No compressor or refrigerant.
No refrigeration circuit maintenance required.

120–480 W

Cooling capacity

Multiple output ratings to match the heat load.

24 / 48 VDC

DC power supply

Versions for equipment with a DC power supply.

STA • IP67

With protective housing

STA-A • IP55

Without external housing for integration into equipment

AIR-TO-AIR HEAT EXCHANGERS



HEX – industrial heat exchangers

- Specific cooling capacity: **15** / **32** / **42** / **50** W/K
- Power supply: 230 VAC, 1~, 50 Hz
- Operating current: 1 A
- Dimensions (W×H×D): 258×820×97 mm … 315×820×97 mm
- Weight: 11…13.9 kg
- Ambient temperature range: –40…+65 °C
- Refrigerant: R134a
- **IP65**
- Housing: powder-coated structural steel
- Housing in any stainless steel grade AVAILABLE ON REQUEST

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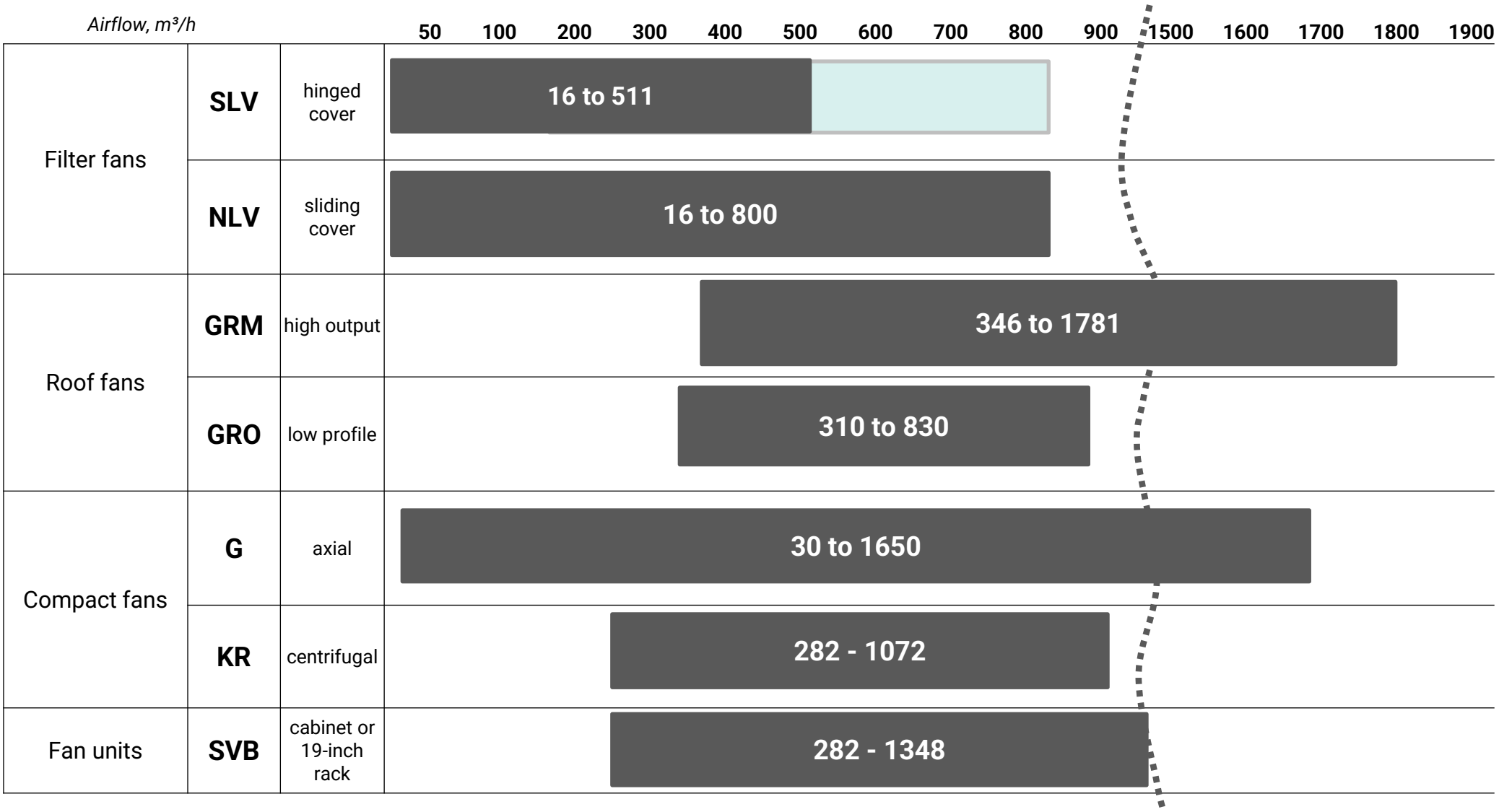
VENTILATION





SILART ventilation units and equipment provide air exchange for cooling and help prevent condensation in electrical cabinets, automation panels, and industrial and process equipment enclosures.

VENTILATION



SILART

FANS



SLV/NLV filter fans



GRM/GRO roof fans



SVB fan units

FILTER FANS



SLV – filter fans with a hinged cover

- **3 sizes + 2 more in September and November 2026**
- 11 airflow ratings: **16** to **155** m³/h
- Power supply: 12, 24, 48 VDC; 230 VAC, 1-phase, 50 Hz
- IP54 (G3 filter class) / IP55 (G4 filter class)
- High housing strength through structural design and robust PC + ABS material
- Available for intake or exhaust
- Matching **SLF** exhaust filters



NLV – filter fans with a sliding cover

- 5 grille sizes
- 13 airflow ratings: **16** to **800** m³/h
- Power supply: 12, 24, 48 VDC; 230, 380 VAC
- Operating current: 1 A
- IP54 (G3 filter class) / IP55 (G4 filter class)
- Available for intake or exhaust
- Matching **NLF** exhaust filters

Advantages of SILART filter fans







Two airflow ratings

Free airflow

Airflow with installed filter

Both ratings support accurate selection and comparison with alternatives.

Quick filter replacement

Hinged grille provides convenient access for maintenance.

Robust filter grille

UV-resistant PC/ABS and a seal for a close fit to the cabinet panel.

Easy installation and replacement

Snap-in mounting. Matching cut-outs on compatible models simplify replacement of alternatives.*

Options for operating conditions

IP54/IP55, ball bearings and matching SLF exhaust filters.

ROOF FANS







GRM – high-output roof fans with centrifugal fans, with a filter (IP54) or without (IP22)

- 9 airflow ratings: **346** to **1781** m³/h
- Power supply: 24 VDC; 230 VAC
- **FRM** series passive roof vents without a fan

GRO – low-profile roof fans with axial fans, with a filter (IP54) or without (IP22)

- 15 airflow ratings: **310** to 830 m³/h
- Power supply: 24, 48 VDC; 230 VAC
- **FRO** series passive roof vents without a fan

Advantages of SILART roof fans







Managed air exchange

Hot air exits at the top, with intake at the bottom, removing equipment heat.

Space-saving installation

Roof mounting leaves doors and side panels free. GRO housing height: 78 mm.

Robust metal housing

Powder-coated steel provides mechanical strength and surface protection.

Filtered versions

GRM versions offer IP54 protection with a G3 filter for applications requiring enhanced protection.

Clear specifications

The catalogue states airflow with and without a filter for accurate selection and comparison with alternatives.

For low temperatures

GRM-200: –25…+70 °C
GRM-222: –40…+80 °C

VENTILATION UNITS FOR FORCED COOLING



SVB – fan units for installation in electrical cabinets or 19-inch racks

- 2, 3, 4 or 6 fans per unit
- 16 airflow ratings: **282** to **1348** m³/h
- Power supply: 12, 24, 48 VDC; 230 VAC
- Built-in thermostat
- Mounting on the cabinet roof, wall or door, or in a 19-inch rack
- Electrical connection: leads or AC-016 connector
- Black or grey housing

A three-position switch selects the operating mode:

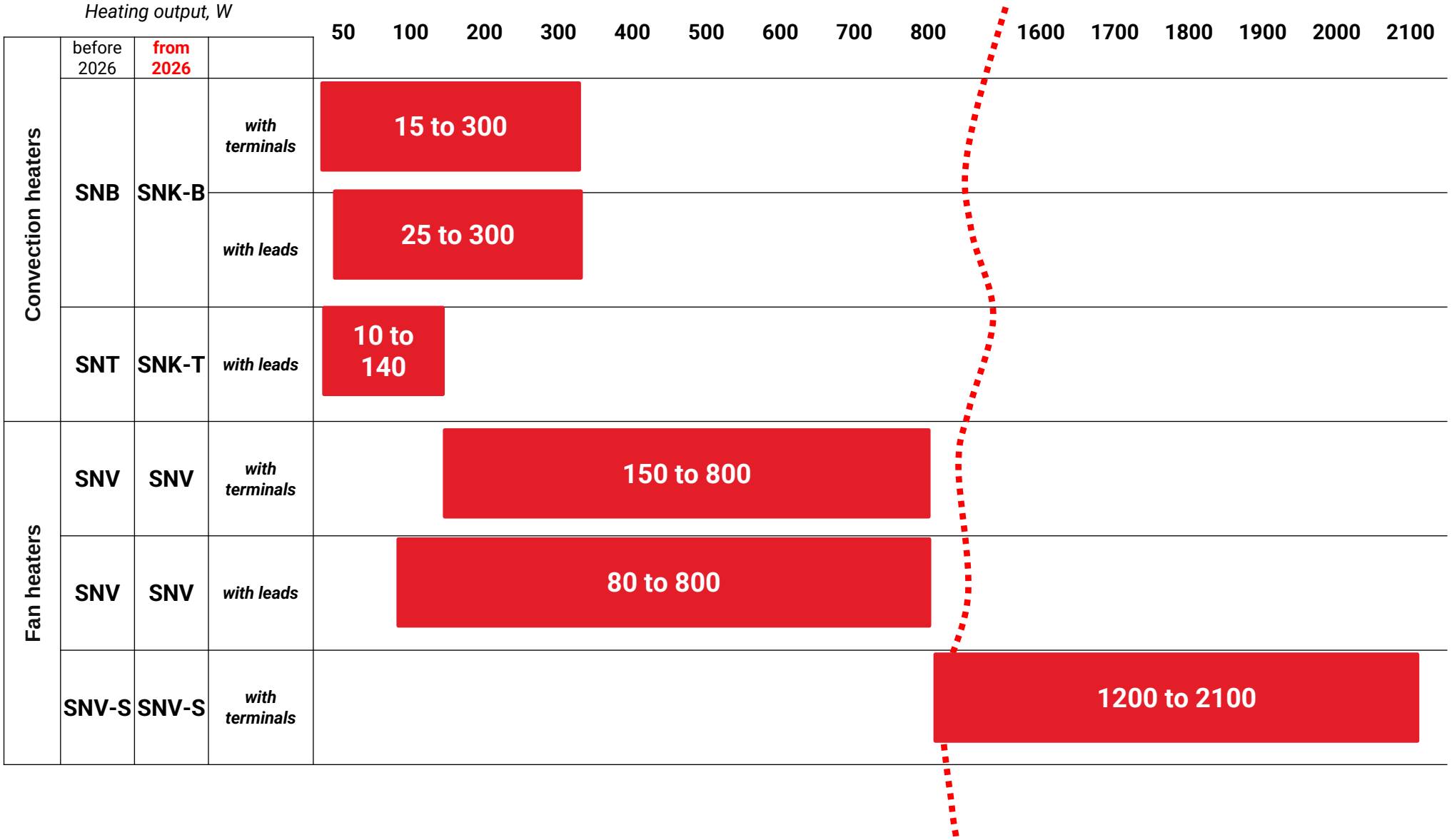
- continuously on
- off
- controlled by the built-in thermostat: ON at 35 °C and OFF at 28 °C (fixed settings).

HEATERS



SILART heaters warm electrical and telecommunications cabinets and enclosures containing electronic components to prevent condensation and maintain a stable internal temperature. They ensure reliable equipment operation in low temperatures, humid conditions and changing climates.

HEATERS


Heating output, W
50
100
200
300
400
500
600
700
800
1600
1700
1800
1900
2000
2100
Convection heaters
Fan heaters
before 2026
from 2026
SNB
SNK-B
with terminals
15 to 300
with leads
25 to 300
SNT
SNK-T
with leads
10 to 140
SNV
SNV
with terminals
150 to 800
SNV
SNV
with leads
80 to 800
SNV-S
SNV-S
with terminals
1200 to 2100

PTC heaters: advanced design, fire safety and efficiency

P = f(T,α)

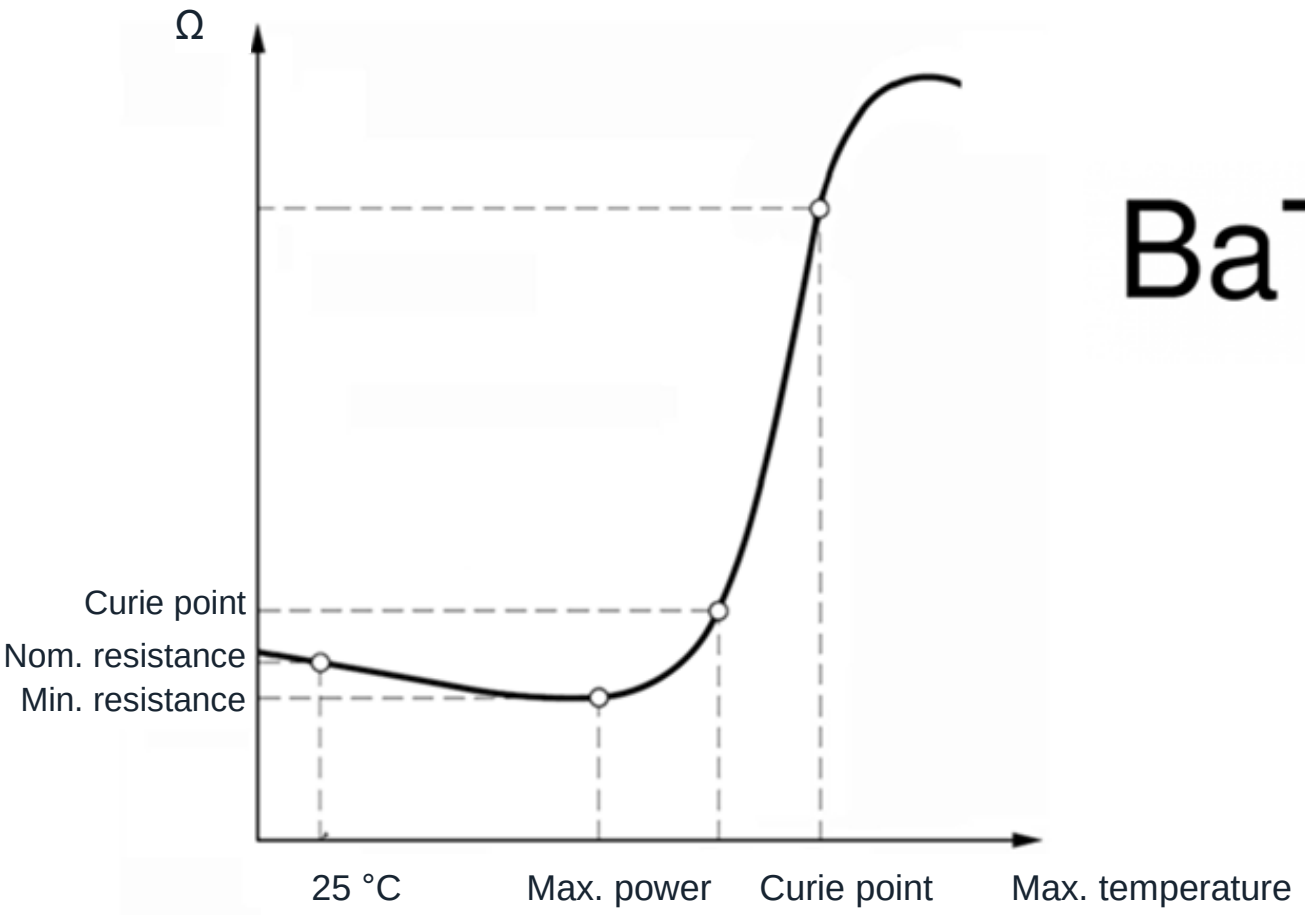


P = f(τ)



P = f(v)

PTC heating



$BaTiO_3$

PTC heaters: advanced design, fire safety and efficiency

What is a PTC heater?

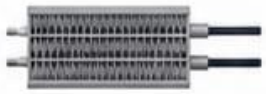
PTC — Positive Temperature Coefficient,
a positive temperature coefficient of resistance

PTC — Positive Temperature Coefficient = **Positive temperature coefficient of resistance**

As temperature rises, resistance increases

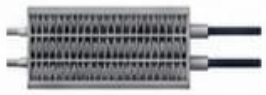


1 Cold element
Low resistance



High current
Maximum power

2 Heating begins
Resistance increases



Current falls
Power decreases

3 Operating temperature
High resistance



Low current
Low power

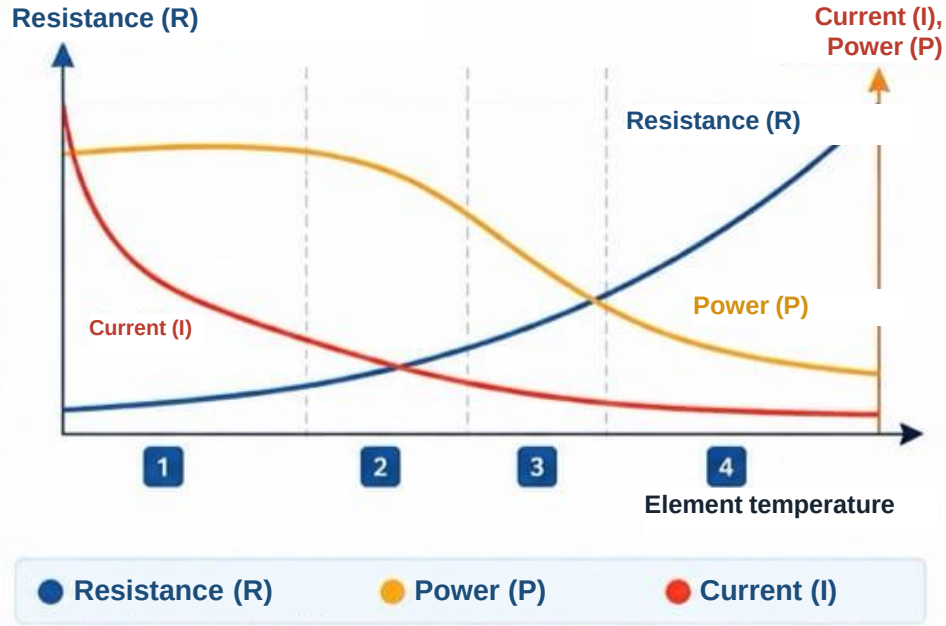
4 Further heating
Very high resistance



Minimum current
Minimum power

The element limits further temperature rise by reducing current and power as it warms up.

PTC element behaviour during heating



PTC vs. conventional resistance heater

PTC heater

- Output depends on temperature
- Maximum output when cold
- Output decreases as it heats up
- Limits its own temperature



Conventional resistance heater

- Nearly constant power at constant voltage
- No self-regulation
- Requires external temperature control



Important: a PTC heater does not switch itself off. It limits current and reduces power as it heats up.

HEATERS



SNK convection heaters



SNV fan heaters



SNV-S fan heaters

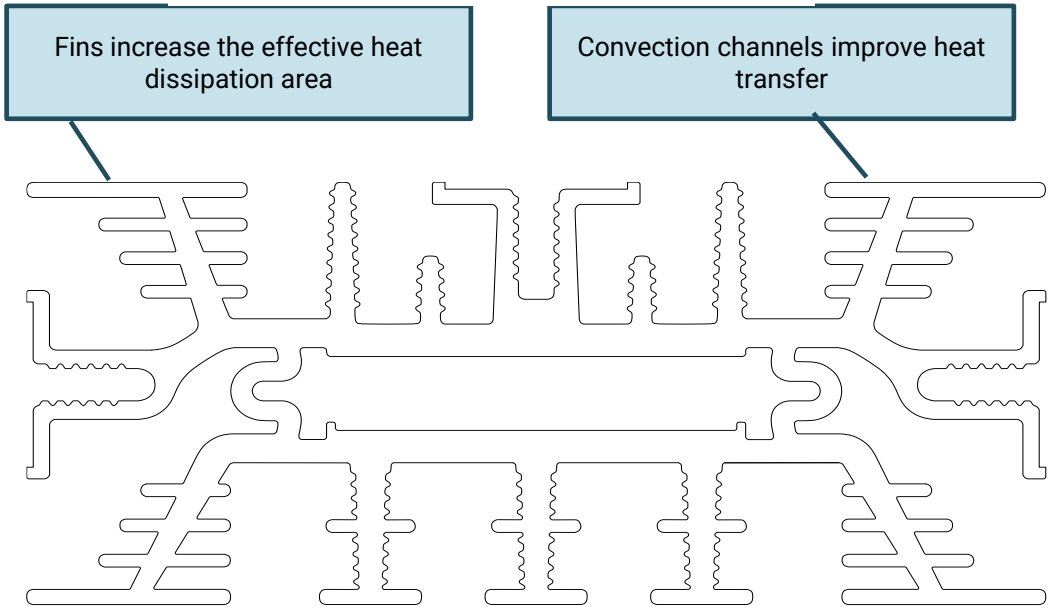


CONVECTION HEATERS – A WIDE CHOICE OF MODELS

SNB (SNK-B)

– heaters with high power density

- 12 power ratings: **15** to **300** W
- Heat sink profile length: 60 to 250 mm
- Power supply: 12–24 VAC/VDC; 110–230 VAC/VDC
- Connection: 2×20 AWG leads or spring terminal
- Material: anodized aluminium
- Low-temperature versions available



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CONVECTION HEATERS – A WIDE CHOICE OF MODELS

SNT (**SNK-T**) – heaters with an ultra-slim housing

- 9 power ratings: **10** to **140** W
- Heat sink profile length: 60 to 175 mm
- Power supply: 12–24 VAC/VDC; 24–48 VAC/VDC; 110–230 VAC/VDC
- Connection: 2×20 AWG leads
- Material: anodized aluminium
- Low-temperature versions available
- Operating temperature range: –40…+80 °C

NEW! An M6 terminal provides a visible bolted earthing connection

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Advantages of SILART convection heaters







Natural convection

Heat spreads through moving warm air, without fan noise or fan energy use.

Self-regulating PTC element

Resistance rises as the element warms up. Heating output falls, limiting excess heat.

Condensation protection

Maintaining temperature reduces condensation risk and prepares equipment for operation in the cold.

Simple design

No fan or moving parts means fewer components subject to wear.

Selection for the heat load

10–300 W
SNK-B and SNK-T series match cabinet dimensions and heat loss.

Easy installation

Mounting on a 35 mm DIN rail.
Lead or terminal versions suit different cabinet layouts.



FAN HEATERS – DESIGNED FOR MAXIMUM EFFICIENCY

SNV – a wide choice of heating outputs and airflow ratings

- 3 sizes: 46×66×53 mm; 75×99×70 mm; 99×126×93 mm
- Airflow: 16–104 m³/h
- Heating output range: **80** to **800** W
- Power supply: 12, 24, 48 VDC; 230 VAC
- Glass-reinforced PPS plastic, UL94 V-0, provides high resistance to temperature and environmental conditions



SNV-T – terminal connection

- 2 sizes: 71×100×86 mm; 96×126×111 mm
- Heating output range: **150** to **800** W
- SNV-6 models offer two-stage heating:

150/200 W
200/350 W
250/400 W,
plus fan-only operation
with the heater switched off

- Power supply: 230 VAC

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FAN HEATERS – DESIGNED FOR MAXIMUM EFFICIENCY

SNV-S – maximum heating output for automation cabinets

- 1 size: 143×134×178 mm
- 2 models with one or two power stages: **1200**/**1650** W and **2100** W
- Power supply: 230 VAC
- Airflow: 158 m³/h; 231.4 m³/h
- Stainless steel housing available
- Built-in terminal for easy connection
- Standard operating temperature range: –25…+70 °C
- Low-temperature versions available from 2026
- Power supply: 230 VAC

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Advantages of SILART fan heaters



Forced air circulation

The fan distributes heat around the cabinet and reduces temperature differences.

Self-regulating PTC element

As the element warms up, resistance rises and heating output decreases.

Preparation for cold starts

The heater warms the cabinet before temperature-sensitive equipment switches on.

Easy installation

Mounting on a 35 mm DIN rail.
Versions with leads or terminals.

For severe cold

−60...+70 °C

SNV-8500-02T and SNV-8500-02L

Operating temperature range of these versions.

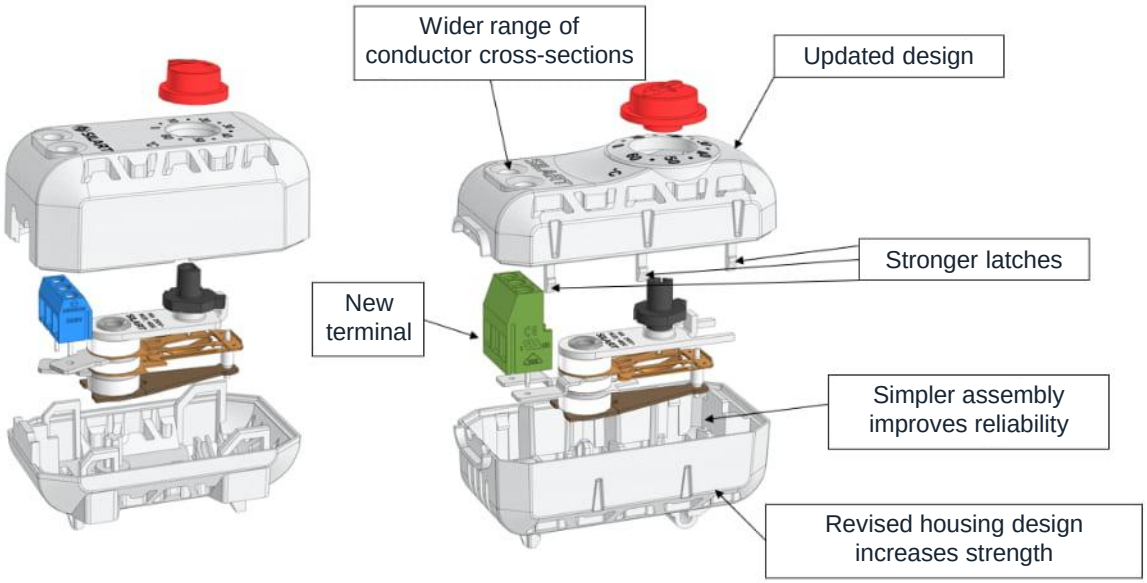


CONTROL

ADDITIONAL PROTECTION

Reliable heating, cooling and ventilation equipment requires control devices that monitor the temperature or humidity of its operating environment.

Advantages of SILART bimetal thermostats





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No separate power supply

A bimetal mechanism switches contacts according to temperature. Rotary dial setting requires no programming.

Heating and cooling

TBS-R140/R160 • NC – heating
TBS-R240/R260 • NO – ventilation and cooling

Choice of setpoint ranges

–20…+40 °C / 0…+60 °C
Choose the range to suit the equipment temperature requirements.

Load switching

Up to 16 A at 250 VAC
DC: up to 30 W at up to 72 V.
Direct control of compatible loads.

Wide operating range

–40…+80 °C
PC/ABS housing, UL94 V-0.

Compact mounting

Mounting on a 35 mm DIN rail.
Housing width: 35 mm.

SLR – NEW FOR 2026

Applications:

- automation and control cabinets;
- electrical cabinets;
- cabinets with heaters, fans or air conditioners;
- systems requiring temperature control and alarm signalling.

Functions:

- controls cooling;
- controls heating;
- monitors temperature using NTC 10K sensors;
- signals high or low temperature;
- communicates via RS-485 Modbus RTU;
- supports a door sensor input and a volt-free alarm contact.





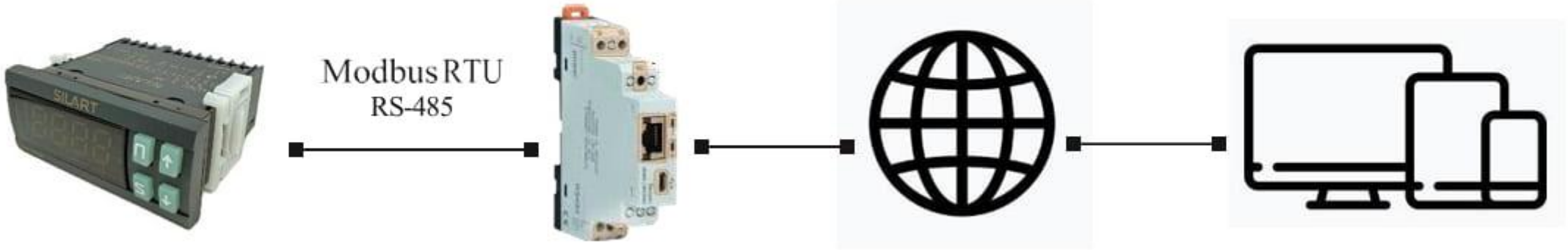


SLR – NEW FOR 2026





RTU–TCP gateway
Ethernet



Visit our website



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Thank you for your attention!

