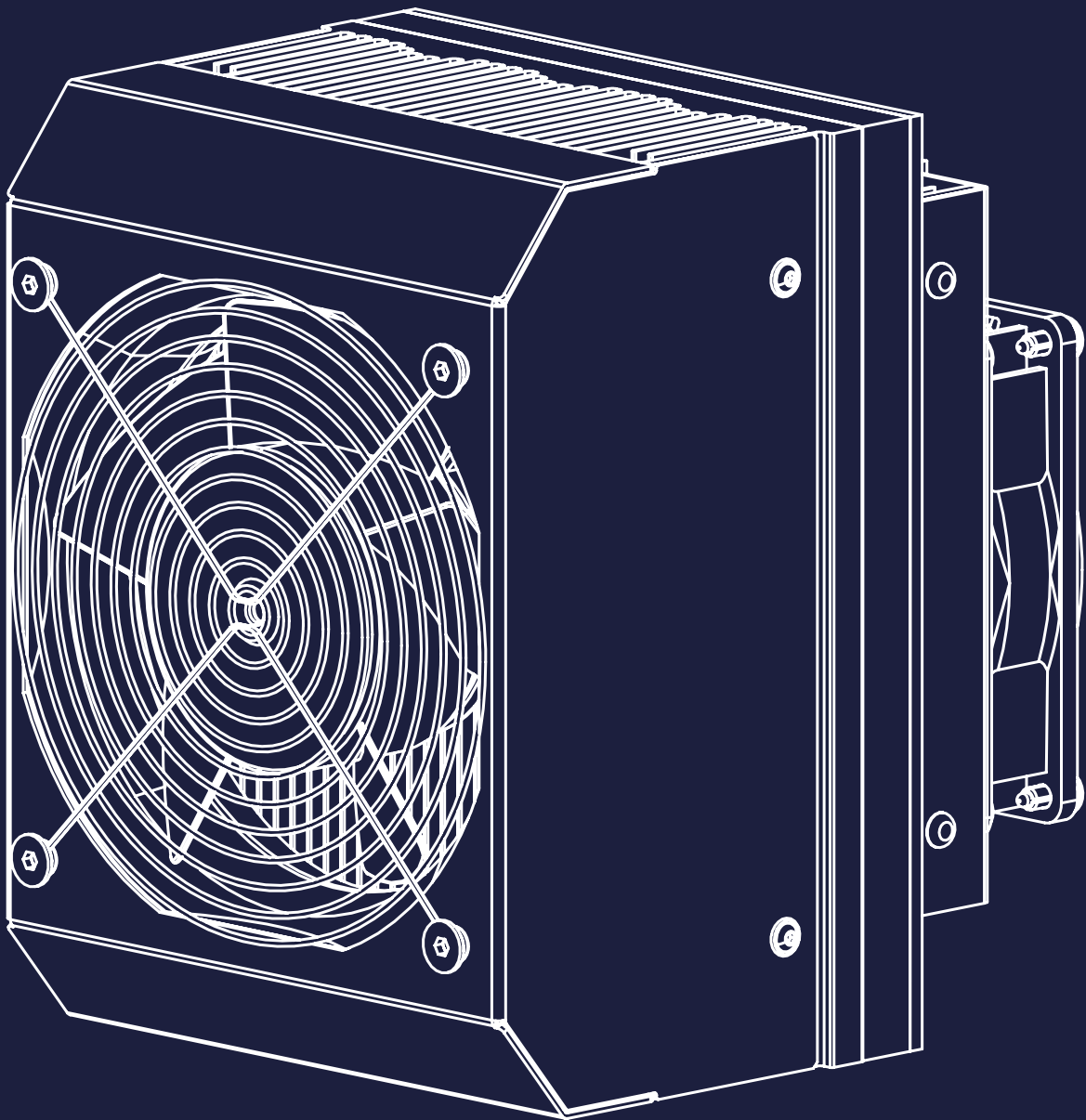


DR. NEUMANN

TECHNIK **Peltier**



YOUR PARTNER FOR THERMOELECTRIC SYSTEMS

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Our Company

Dr. NEUMANN Peltier-Technik Your reliable partner for thermoelectric solutions for more than 65 years

In our wide product range you will find innovative refrigerant-free cooling solutions for enclosures and laboratory applications that can be exactly tailored to your requirements. No matter what area of application you are active in, we manufacture customized cooling units according to your wishes. Our enclosure coolers, thermostats and thermoelectric products have earned an excellent reputation for their outstanding quality within the industry.

Customers from all over the world appreciate the effectiveness and innovative power of our cooling and temperature control units. With many years of experience and expertise, our engineers are at your side to offer you the ideal solution for your specific application. Do not hesitate to contact us and let our team of experts advise you - We look forward to understanding your individual requirements and offer you a solution which fits your needs. DR. NEUMANN Peltier-Technik - your trusted partner for first-class thermoelectric thermoelectric cooling solutions.

Quality comes first at Dr. NEUMANN Peltier-Technik

For this reason, we have undergone various quality certifications, which confirm that our work processes meet strict quality standards and are continuously monitored and improved.

We are proud that our products are „Made in Germany“. This means that we rely on German engineering, precision and reliability in the manufacturing and design process of our products. Our production facility in Germany enables us to maintain close control over the entire manufacturing process and ensures that our customers receive first-class products.

With our high-quality and certified products manufactured in Germany, we offer you the certainty that you will receive first-class thermoelectric solutions.

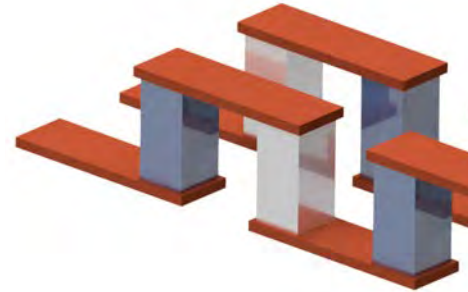
Put your trust in DR. NEUMANN Peltier technology, to meet your requirements for quality, reliability and efficiency.



<https://dr.neumann-peltier.de/en>



What are the advantages of Peltier technology and what are the differences to conventional compressor coolers?



Compared to conventional compressor chillers, Peltier chillers offer high energy efficiency, precise temperature control, silent operation and require little maintenance. Their compact design also allows flexible installation in various environments.

Energy efficiency



Peltier cooling units are extremely efficient in terms of energy consumption. They use the Peltier effect, in which a temperature difference is created by applying an electrical voltage to a Peltier cooler. This converts the energy directly into cold without the need for additional transport media such as refrigerants.

Precise temperature control



By adapting the electrical voltage, the cooling capacity can be precisely adapted to the requirements of the application. This creates optimal conditions for sensitive electronic components or other sensitive materials, especially in areas such as medical, laboratory and high-performance electronics.

Noise generation



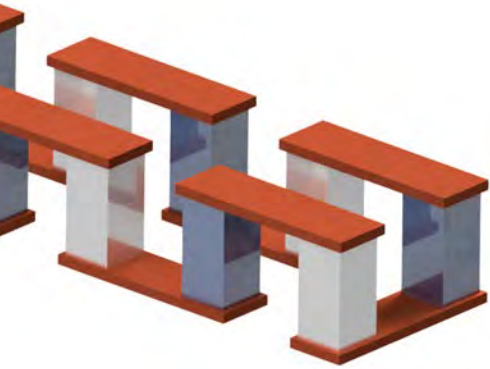
While conventional compressor coolers are often noisy and disturbing, Peltier cooling units operate almost silently. This is particularly important in environments where quietness and concentration are required, such as in laboratories or offices.

Sustainability and cost reduction



Dispensing with environmentally harmful refrigerants significantly reduces the environmental impact. In addition, maintenance costs are reduced and operational reliability is increased. Thanks to this unique principle, our Peltier cooling units are particularly efficient and reliable.

The Peltier-Technology



Are there any applications where only Peltier technology can be used?

Peltier elements are essential in industries and sectors where precise temperature control, compactness and energy efficiency are required. These include medical, aerospace, optoelectronics, and automotive industries, among others. Some of these applications are described below:

Miniature cooling

With peltier cooling elements it is possible to realize small and precisely defined cooling capacities. A feature which cannot be achieved with the use of compressor-based systems.



Precision

Peltier-cooling units are electronically controlled and operate with an accuracy of up to 0.01 Kelvin.



Robustness

Peltier coolers effortlessly cope with even extremely demanding ambient conditions. They are ideally suited for use at high ambient temperatures or in heavily polluted ambient air. In addition, they can easily handle vibrations and strong accelerations without compromising their performance.



Reversibility

The operation of Peltier elements can be easily reversed by simply reversing the DC voltage direction. This allows operation to be switched from cooling to heating or from heating to cooling.



Enclosure Climate Solutions

Cabinet Cooling

Peltier cooling units from Dr. Neumann Peltier-Technik GmbH offer reliable and precise air conditioning for enclosures. Our innovative cooling units effectively protect electronic components from overheating, humidity and contamination and thus ensure optimum temperature control in the enclosure to ensure the long-term functionality and performance of your products.



Surface Cooling

Peltier surface coolers enable reliable and precise cooling and heating of surfaces, liquids and containers as well as various other materials and compact set-ups. With its innovative technology the surface cooler guarantees effective and precise temperature control which can be utilized in a wide range of applications.



Enclosure Dehumidification

Ensure optimal protection for your electronic components with an enclosure dehumidifier. Whether in complex data centers, industrial manufacturing processes or robotic systems - humidity can jeopardize smooth operation. Our enclosure dehumidifiers effectively reduce humidity. This minimizes the risk of corrosion, short circuits and other damages to ensure the reliability of your electrical equipment and reduces downtime.



Our Products

With our innovative solutions based on the flexible peltier technology we're offering first-class temperature management solutions for your application.

The unique ability of the Peltier elements to quickly reverse the effects of heating and cooling enables precise and effective temperature control. In addition, the Peltier elements can be easily adapted to your specific requirements and offer robustness for a reliable operation.

Laboratory- and Process Solutions

Recirculating and calibration thermostats



At Dr. Neumann Peltier-Technik GmbH we offer you high-precision thermoelectric products for laboratory applications, including cooling/heating thermostats, circulation coolers, calibration thermostats and temperature control plates.



The Peltier technology enables precise temperature control and offers advantages such as virtually noiseless and vibration-free cooling and quick changes between cooling and heating operation. Whether temperature-controlled water baths, thermocyclers, centrifuges or incubators - our products guarantee precise results. We offer you not only customized solutions as an OEM manufacturer, but also fully developed and established products for your laboratory set-up application.

Trust in Dr. Neumann Peltier technology for customized solutions that exceed your expectations. Contact us today!

Sometimes a glance at the catalog is not enough to solve a problem. But at Dr. Neumann Peltier-Technik we have the solution: Our almost unlimited flexibility.

If you can't find the right device in our range, we'll simply design it for you. **Our experienced team combines expertise with many years of experience to meet your individual requirements.**

Our developers do not shy away from any challenge and will quickly and precisely develop application-oriented and economically sensible solutions for your special application - always in close coordination with you.

All our processes for developing and manufacturing customized products are certified in accordance with ISO 9001 quality guidelines. This is how we ensure that even customized solutions meet the high quality standards you are used to from us.

Do you need approvals for specific markets? We have extensive experience in **UL certification** as well as development and manufacturing according to military standards. Rely on our expertise and experience.

We also offer comprehensive project documentation in accordance with all relevant norms and standards. Our efficient, modular document structure enables us to offer you this service cost-effectively - even for multilingual requirements.

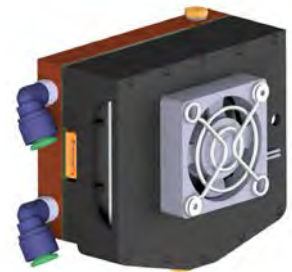
Discover our limitless flexibility for tailor-made solutions! Immerse yourself in the world of tailor-made solutions from Dr. Neumann Peltier technology!

In the following case studies you will learn how we have overcome our customers' individual challenges and developed innovative products and solutions. Be inspired by real application examples and discover the diverse possibilities of our flexible and precise technology.

Customized Solutions

Mini-Dehumidification for Laser-Heads

For the reduction of humidity in laser heads, we developed a customized solution for our customer: a water-recooled mini dehumidifier. This innovative dehumidifier consists of a special copper heat exchanger and an integrated condensate drain. The active ventilation of the condensate plate not only increases the dehumidification performance, but also creates a gentle air movement inside the laser head. The module is kept at its ideal operating point via an external control system also developed by us, thus ensuring efficient dehumidification of the laser head.



Active Camera-Cooling for Food-Industry application



Compliance with strict legal requirements places high demands on cooling systems in the food industry. We have developed a tailor-made solution for the camera cooling system shown opposite. Our closed system, consisting of food-friendly stainless steel, uses free convection to specifically dissipate waste heat. In the process, three cameras are tempered with our Peltier system to ensure their optimal operating point. The resulting waste heat is effectively transferred to a stainless steel cooling star, which ensures sufficient cooling in the environment.

Highly Precise Test Tube Tempering

To enable automated and extremely precise temperature control of test tubes and their contents, we have developed an innovative system. With a control accuracy in the range of 0.01 K, it ensures exact temperature settings. The system has also been economically optimized and, for this purpose, consists of two identical water recirculating chillers that provide efficient cooling. Thanks to its special geometry and design, the system is also designed for autonomous robot operation. An external control unit specially developed by us regulates the system precisely and according to requirements in order to achieve optimum results.



Of course, we will be happy to advise you personally on the implementation of your individual application.







Enclosure Climate Solutions

Sustainable & reliable protection of your components from environmental influences

Dr. Neumann Peltier-Technik GmbH is your partner for thermoelectric systems. As experts in the field of thermoelectrics we are dedicated to the protection of our customer's electronic components from heat, cold, condensation, contamination and even salt-spray and sandstorms.

Our product range includes efficient enclosure coolers as well as surface coolers, dehumidifiers and a comprehensive range of accessories.

Our enclosure coolers and enclosure dehumidifiers operate refrigerant-free and offer high power densities in a compact design. Thanks to the reduction of moving components, our Peltier enclosure coolers are also vibration & shock resistant and work independently of their position. Our Peltier devices have been developed over decades, which is why we are proud to say that they are probably the most efficient and powerful systems on the market.

The modular design of our products allows us to respond quickly and easily to every customer requirements. From the simple addition of accessories to devices fully made to the customer's specification, we offer any customization from small quantities and can also implement OEM applications professionally and cost-effectively.

Our range is supplemented by water-cooled devices that can be connected to the existing process cooling system of the facility. Surface coolers, such as those used for lasers or wherever direct contact cooling is required can also be found in our range.

Let our products inspire you and contact us. We will be happy to show you how you can integrate efficient temperature & humidity management into your enclosure to protect your components and ensure the safe operation of your system.

Product Overview

Cabinet Cooling

Series PROTEMP

- PROTEMP 55 / 70
- PROTEMP 120



Cabinet Dehumidification

PSE-001-B



Series Standard

- Size 1
- Size 2
- Size 3



Surface Cooling

Series AC

- Size 2
- Size 4
- Size 5



Series Standard

- Size 1
- Size 2
- Size 3



Series HL

- Size 1
- Size 2
- Size 3



Series LRC

- LR-208-C





Cabinet Cooling

Efficient & resource-saving enclosure cooling using Peltier technology

Dr. Neumann Peltier-Technik GmbH - your expert for thermoelectric systems.

We stand for modern thermoelectric cooling & temperature control solutions for enclosures and OEM systems. Experience our Peltier cooling units and use their efficiency, sustainability and reliability for your application.

In addition to enclosure coolers, we supply high-quality surface coolers, enclosure dehumidifiers, OEM assemblies and, of course, the corresponding accessories.

Cooling using Peltier technology: no refrigerants, no maintenance

Sustainability and environmental protection are becoming increasingly important. Our Peltier cooling units do not use any climate-damaging refrigerants. Instead, they are based on the thermoelectric effect and work with semiconductor modules - so-called Peltier modules. This makes our devices maintenance-free.

Cooling and heating - in one device

Our Peltier cooling units combine cooling and heating in one device. This versatility enables precise temperature control in any situation. Whether you need to protect your electronics from overheating or from the cold: Our devices offer the solution.

Outdoor and harsh environmental conditions? No problem!

Designed to be used in extreme environments, our Peltier cooling units are perfect for outdoor & harsh conditions. With an IP-67 protection on the outer side they offer absolute robustness and constant protection against the elements. Even salty or sandstorm environments do not set any boundaries with our cooling units.

Compact performance - maximum efficiency

The compact design of our simultaneously powerful devices is ideal for limited space in control cabinets or enclosures. Your electronic components always work in an optimized environment and the service life and operational reliability of your system are guaranteed.

Precision in every detail

In addition to classic applications in the field of enclosure cooling, no application is too complex for us. Of course, we know how to utilize the advantages of Peltier technology for your application and can also offer the design, control and production of complex test enclosures with the highest requirements.

Discover the benchmark of sustainable enclosure cooling with our innovative Peltier cooling units & put your trust in **Dr. Neumann Peltier-Technik GmbH.**





Cabinet Cooler **NEW!**
Series PROTEMP

Cabinet coolers of the series „PROTEMP“ set standards in terms of efficiency and compactness and utilize the well-known advantages of Peltier technology.

Currently available in **two sizes and various performance levels** each **PROTEMP series** enclosure coolers have been designed in such a way that they require ca. **20% less installation space** with for the same amount of cooling capacity: This not only facilitates the integration of the devices, but also **saves resources**.

Thanks to a **fundamental redesign** of the Peltier unit itself, **far greater temperature differences** can be realized with the devices. This means that a **more diverse range of applications** can be covered and the application can be decoupled from the prevailing ambient temperature in an even better way.

The devices are initially available in **two different sizes with outputs from 50 - 90 watts** at an input voltage of 24 volts. A variable design concept also enables individual customer requirements quickly and cost-effectively.

It goes without saying that our latest and most innovative product series will be supplemented by a range of accessories and a variety of equipment such as stainless steel hoods or condensate drains.



The product advantages ...



Powerful Peltier-Unit

- 24-Volt power input
- High power density
- Cooling- & heating operation possible

Configurable external hood

- Variants in grinded stainless steel or RAL 7035
- Robust vs. corrosion and environmental impacts

Protection from harsh ambient conditions

- IP 68 on the outer side as standard
- Salt-fog resistant variants
- Sandstorm resistant variants



... of the PROTEMP Series

Integrated condensate drainage

- Reliably collects accumulating water
- Easily integratable with the existing mounting points

Silent operation

- Reduced noise by a reduced number of moving components
- Prevents distracting impact at the place of installation

Extensive Accessories

- Specifically developed and tested in combination with our devices
- Power supplies, condensate drainage, vent- & drainage elements as well as other accessories

Properties of PROTEMP cabinet cooler 55 / 70

PROTEMP 55
PROTEMP 70



I General Data

General Data

Dimensiones (H x W x D)	170 x 130 x 167 mm
Supply voltage	24 V
Rated input	PROTEMP 55: 61 W / PROTEMP 70: 108 W
Noise level	53 dB
Rated current	PROTEMP 55: 2,53 A / PROTEMP 70: 4,4 A
Operating temperature	- 40 °C bis + 70 °C

Cooling & Temperature Control

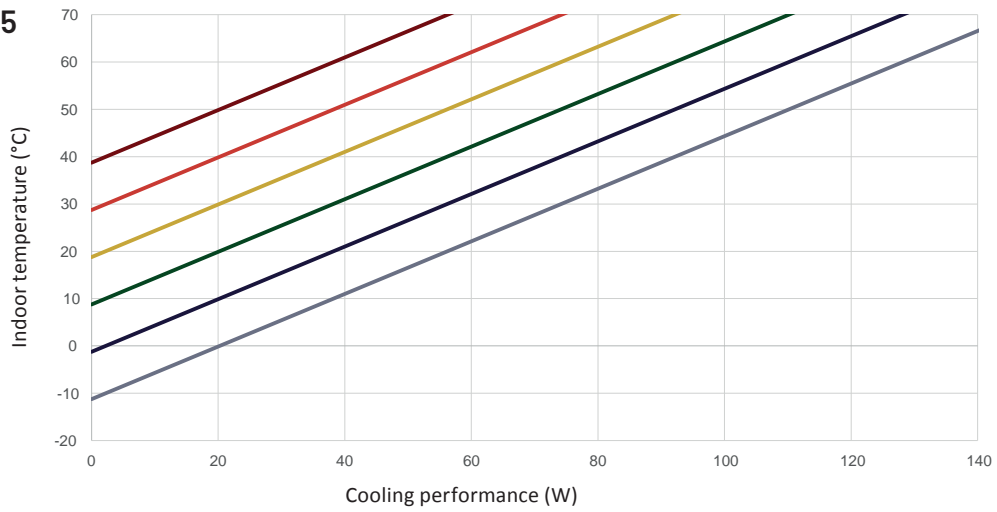
Cooling capacity (L35 / L35)	PROTEMP 55: ca. 56 W / PROTEMP 70: 74 W
Heating mode	possible

IP-Schutz und Sicherheitsfeatures

Protection classification outer side (warm)	IP 67
Protection classification inside (cold)	IP20 (innenseitige Lüfter ausgeführt in Schutzart IP55)
Switch point fault message	Bimetall Schalter NC, 250 V-AC 5A, 24V-DC 10A Der Alarm ist konfigurierbar als Sicherheits- abschaltung oder als Störmeldung
Switch point safety shutdown	+ 90°C

Performance charts

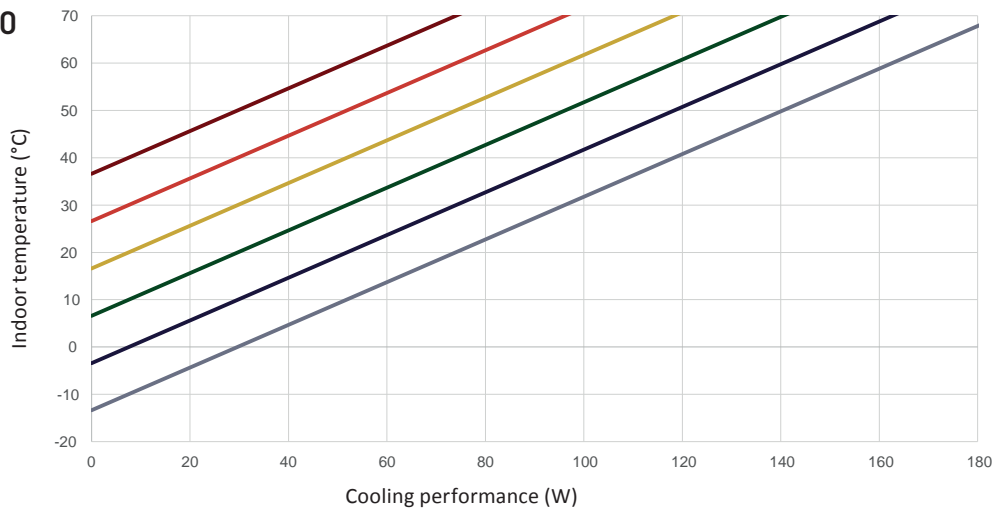
PROTEMP 55



Ambient temperature:

- T umg = 70°C
- T umg = 60°C
- T umg = 50°C
- T umg = 40°C
- T umg = 30°C
- T umg = 20°C

PROTEMP 70



Ambient temperature:

- T umg = 70°C
- T umg = 60°C
- T umg = 50°C
- T umg = 40°C
- T umg = 30°C
- T umg = 20°C

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.

**!!! UL-VERSION
COMING SOON !**



Properties of PROTEMP cabinet cooler 120



PROTEMP 120

I General Data

General Data

Dimensiones (H x W x D)	320 x 130 x 167 mm
Supply voltage	24 V
Rated input	128 W
Noise level	53 dB
Rated current	5,3 A
Operating temperature	- 40 °C bis + 70 °C

Cooling & Temperature Control

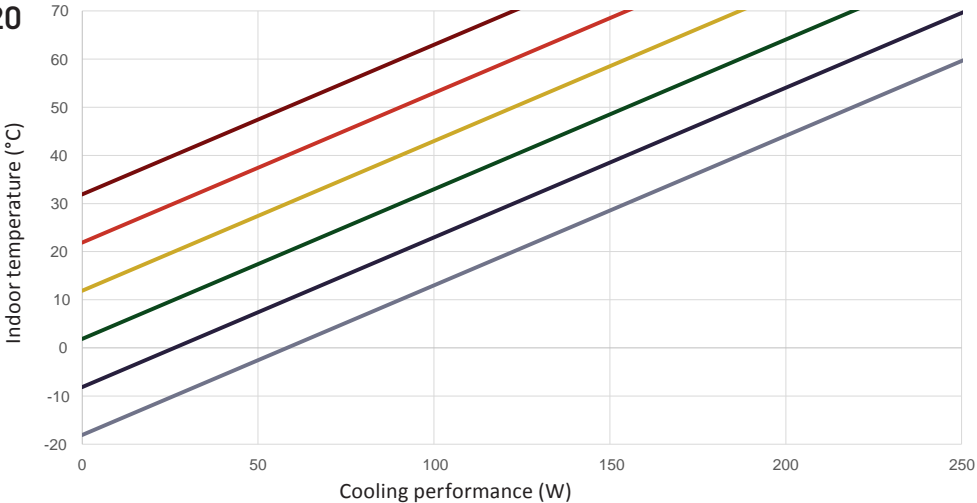
Cooling capacity (L35 / L35)	121 W
Heating mode	possible

IP Protection and safety features

Protection classification outer side (warm)	IP 67
Protection classification inside (cold)	IP20 (innenseitige Lüfter ausgeführt in Schutzart IP55)
Switch point fault message	Bimetall Schalter NC, 250 V-AC 5A, 24V-DC 10A Der Alarm ist konfigurierbar als Sicherheits- abschaltung oder als Störmeldung
Switch point safety shutdown	+ 90°C

Performance charts

PROTEMP 120



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C



Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.

!!! UL-VERSION COMING SOON !





The PROTEMP series at a glance

NEW!



- ✓ Reduced size
- ✓ IP-67 protection
- ✓ Can be optimally integrated
- ✓ Without refrigerant

SOON
ALSO IN
FURTHER
SIZES!

Optimized cooling performance with a small footprint

Our new product series PROTEMP offers the usual high efficiency and performance with a significantly smaller footprint compared to previous devices. You benefit from cooling & heating operation, IP-68 standard, a wide range of hood variants & accessory products for every application: from fully integrated assemblies to demanding outdoor applications, our appliances from the PROTEMP series offer the solution for every application.

The appliances in the PROTEMP series can be equipped with different hood variants: Depending on the application, versions are available for salty mist environments, heavily contaminated environments or with a minimized design for optimal integration.

Thanks to increased power density, our PROTEMP devices are the most compact devices on the market:  Without any refrigerant or maintenance.



Cabinet Cooler STANDARD Series

Our „Standard“ series enclosure coolers are available in **three different sizes, each with three different power levels**. Our „Standard“ coolers are characterized by their compact design and high efficiency despite their small size.

All our „Standard“ appliances are equipped with **overheating protection and alarm relays** as standard. The outside of the cooler is factory-fitted with IP-67 protection as standard.



The product advantages ...



Powerful Peltier-Unit

- 24-Volt power input
- High power density with little installation space
- Cooling- & heating operation possible

Configurable external hood

- Variants in grinded stainless steel or RAL 7035
- Robust vs. corrosion and environmental impacts

Protection from harsh ambient conditions

- IP 67 on the outer side as standard
- Salt-fog resistant variants
- Tested according to MIL standard, Sandstorm resistant variants



... of the STANDARD Series

Integrated condensate drainage

- Reliably collects accumulating water
- Easily integratable with the existing mounting points

Silent operation

- Reduced noise by a reduced number of moving components
- Prevents distracting impact at the place of installation

Extensive Accessories

- Specifically developed and tested in combination with our devices
- Power supplies, condensate drainage, vent- & drainage elements as well as other accessories

Properties of cabinet cooler STANDARD series size 1



FL-104-C / 50 W
FN-104-C / 70 W
FR-104-C / 100 W

I General Data

General Data

Dimensions (H x W x D)	195 x 132 x 155 mm
Supply voltage	24 V-DC
Rated input	FL-104-C: 50 W / FN-104-C: 70 W / FR-104-C: 100 W
Noise level	max. 53 dB
Rated current	FL-104-C: 2,1 A / FN-104-C: 3 A / FR-104-C: 4,2 A
Operating temperature	- 40 °C to + 70 °C

Cooling & Temperature Control

Cooling capacity (L35 / L35)	FL-104-C: 54 W / FN-104-C: 58 W / FR-104-C: 61 W
Heating mode	possible

IP Protection and safety features

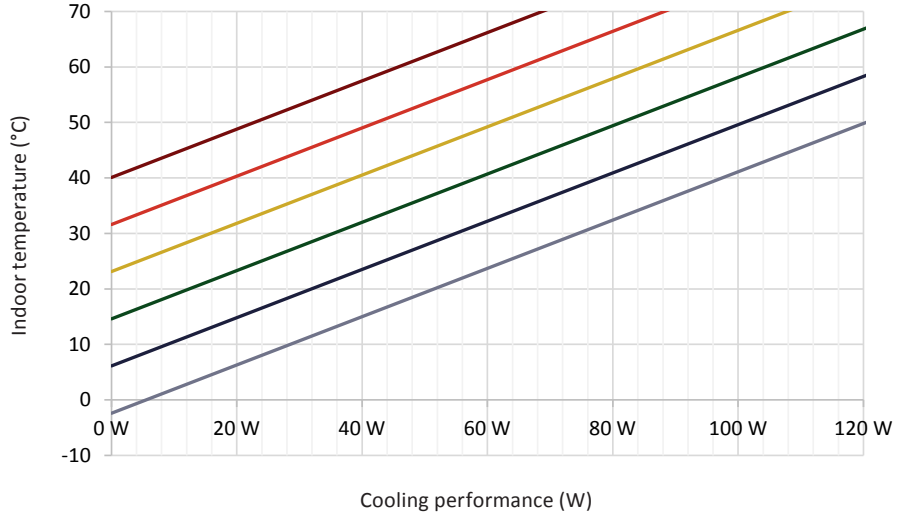
Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

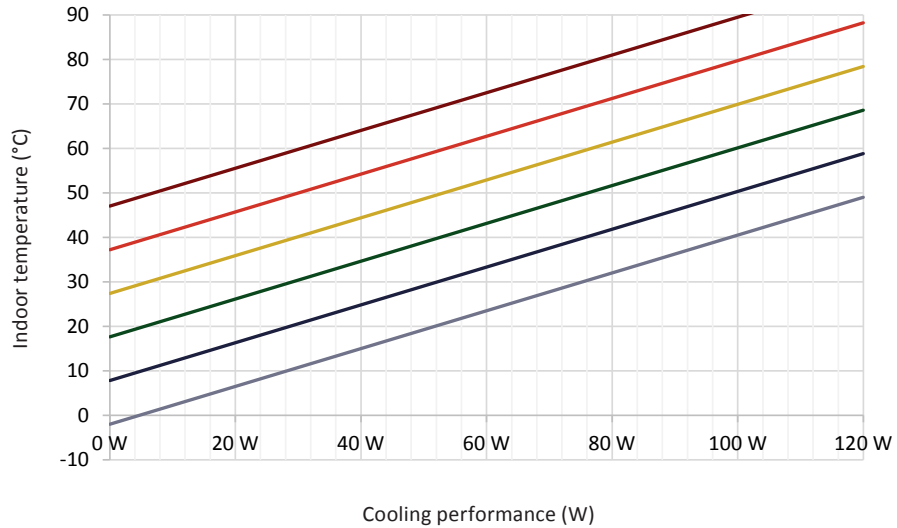
FL-104-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

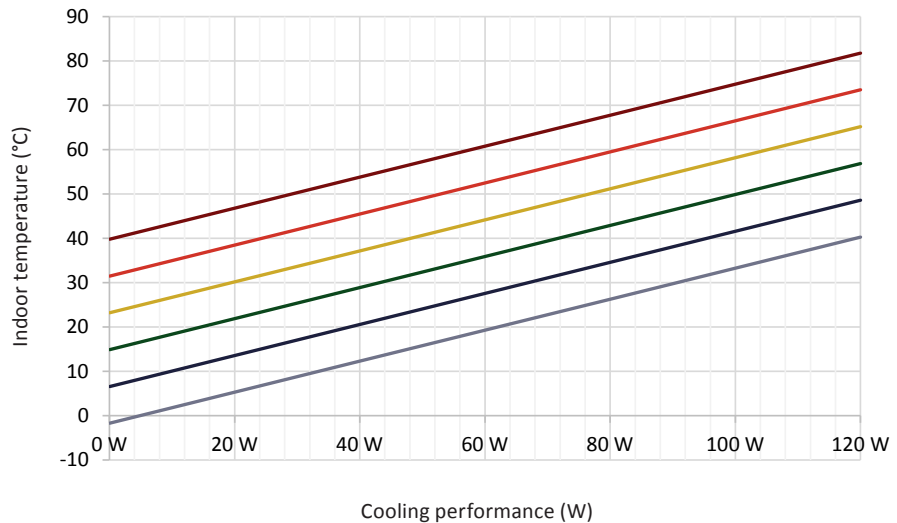
FN-104-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

FR-104-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

Properties of cabinet cooler STANDARD series size 2

FL-208-C / 100 W
FN-208-C / 140 W
FR-208-C / 200 W



I General Data

General Data

Dimensiones (H x W x D)	263 x 195 x 154,5 mm
Supply voltage	24 V-DC
Rated input	FL-208-C: 100 W / FN-208-C: 140 W / FR-208-C: 200 W
Noise level	max. 53 dB
Rated current	FL-208-C: 4,2 A / FN-208-C: 5,8 A / FR-208-C: 8,3 A
Operating temperature	- 40 °C to + 70 °C

Cooling & Temperature Control

Cooling capacity (L35 / L35)	FL-208-C: 106 W / FN-208-C: 118 W / FR-208-C: 124 W
Heating mode	possible

IP Protection and safety features

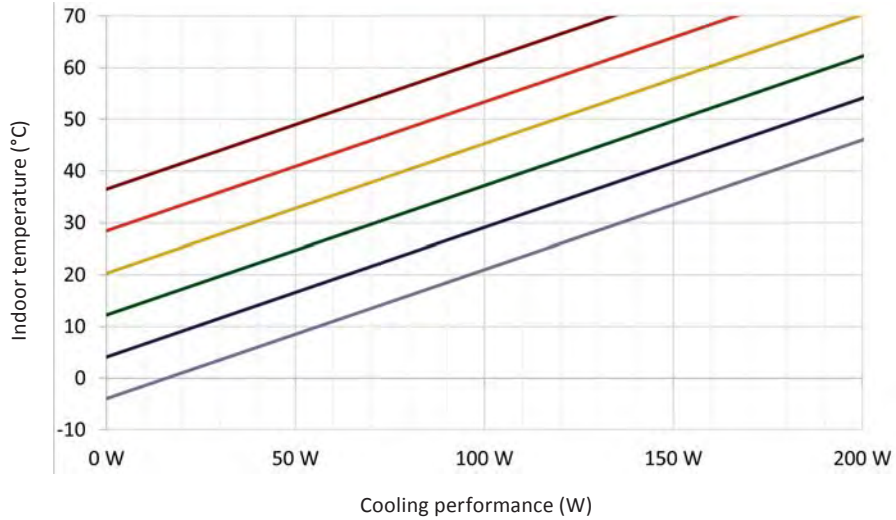
Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

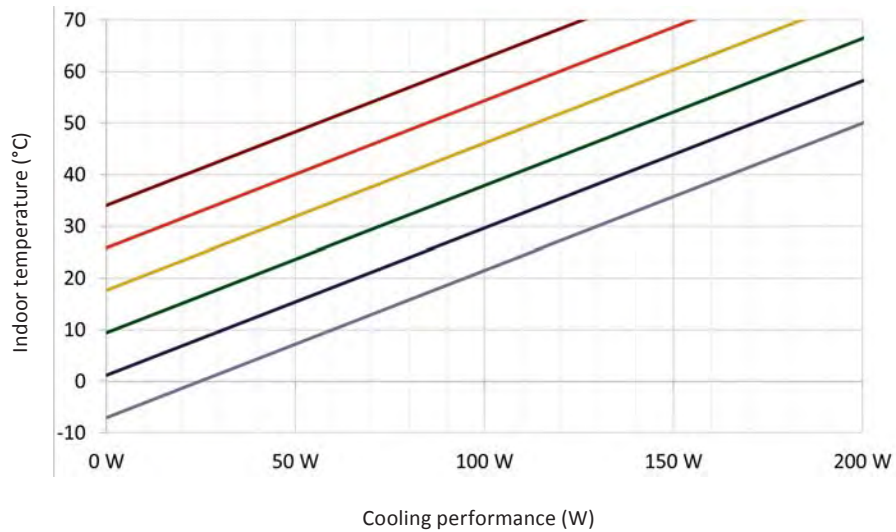
FL-208-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

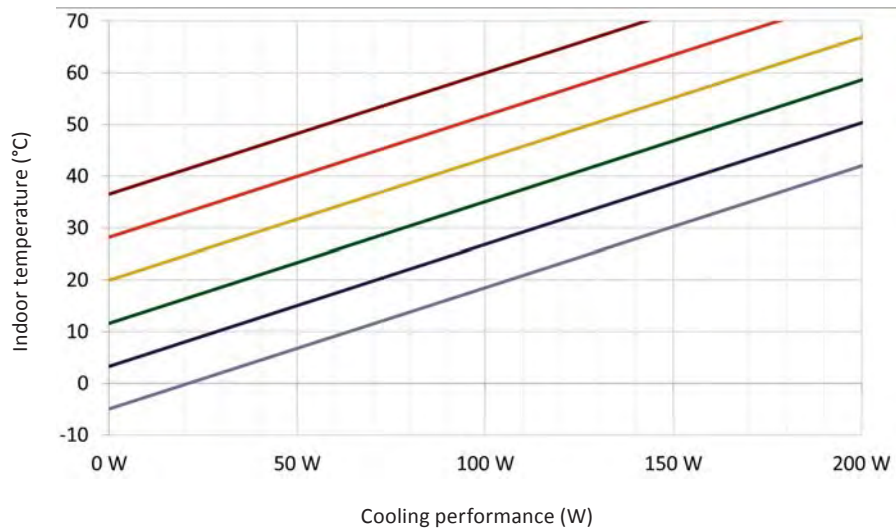
FN-208-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

FR-208-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

Properties of cabinet cooler STANDARD series size 3

FL-316-C / 200 W

FN-316-C / 280 W

FR-316-C / 400 W



I General Data

General Data

Dimensions (H x W x D)	269 x 390 x 155 mm
Supply voltage	24 V-DC
Rated input	FL-316-C: 200 W / FN-316-C: 280 W / FR-316-C: 400 W
Noise level	max. 53 dB
Rated current	FL-316-C: 8,3 A / FN-316-C: 11,7 A / FR-316-C: 16,7 A
Operating temperature	- 40 °C to + 70 °C

Cooling & Temperature Control

Cooling capacity (L35 / L35)	FL-316-C: 229 W / FN-316-C: 252 W / FR-316-C: 272 W
Heating mode	possible

IP Protection and safety features

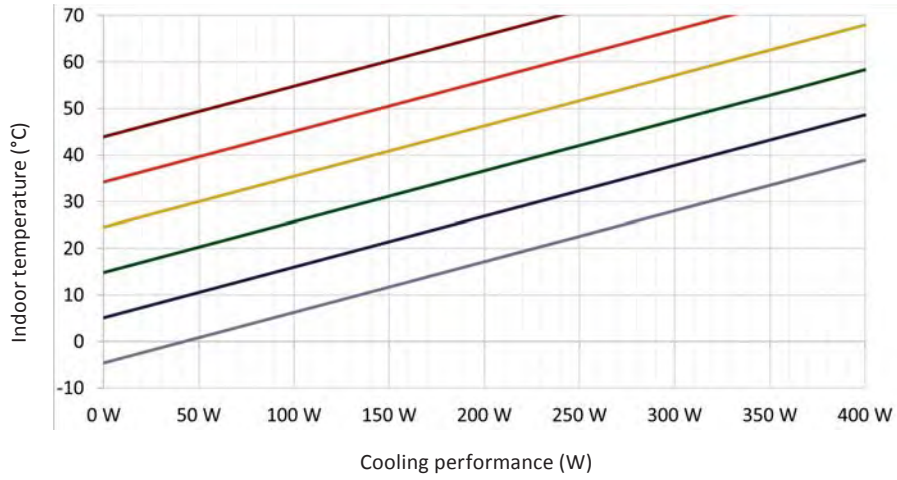
Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

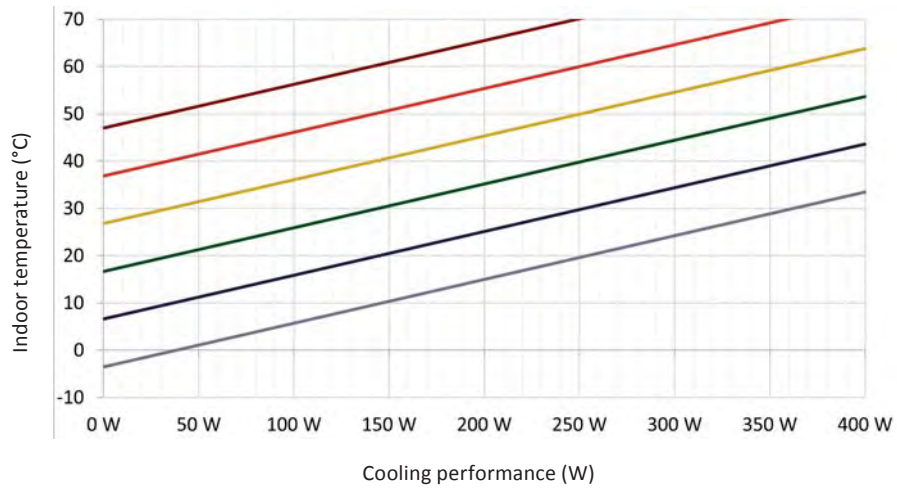
FL-316-C



Ambient temperature:

- T amb = 70°C
- T amb = 60°C
- T amb = 50°C
- T amb = 40°C
- T amb = 30°C
- T amb = 20°C

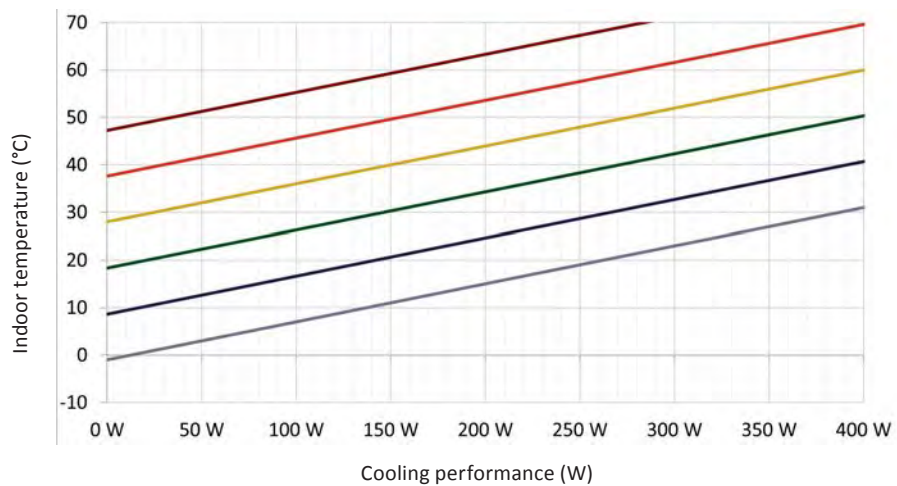
FN-316-C



Ambient temperature:

- T amb = 70°C
- T amb = 60°C
- T amb = 50°C
- T amb = 40°C
- T amb = 30°C
- T amb = 20°C

FR-316-C



Ambient temperature:

- T amb = 70°C
- T amb = 60°C
- T amb = 50°C
- T amb = 40°C
- T amb = 30°C
- T amb = 20°C



The STANDARD series at a glance



- ✓ For temperatures from -40°C to 70°C
- ✓ Protection class IP 67
- ✓ Supply voltage configurable
- ✓ Shock & vibration resistant

Compact cooling for applications with high demands

Cabinet cooling and temperature control units from Dr. Neumann Peltier-Technik GmbH are ideal for cooling and tempering small and medium-sized enclosures in outdoor applications, but also for demanding indoor applications.

The reversibility of the Peltier technology not only ensures reliable cooling, but also efficient heating of the enclosures within the winter months: All without the need for exchanging the ambient air with the inside of the enclosure. Additionally, all our Peltier devices are IP 67 protected and can therefore withstand all environmental conditions with ease.

Let our experts advise you and find the right solution, to protect your application from excessive temperatures and environmental influences.



Cabinet Cooler AC Series

The „AC“ series of our Peltier enclosure coolers is available in **three different sizes, each with two power levels**. The devices also have an integrated **wide-range power supply** on the outside of the device. Our „AC“ enclosure coolers can therefore be operated **with mains voltage and there is no additional power loss** within the enclosure due to Peltier cooler's power supply itself. All „AC“ enclosure coolers are equipped with **overheating protection** and an **alarm relay as standard**. The outside of our coolers is designed according to **protection class IP 67**. Our „AC“ devices are suitable for cooling as standard but can also be supplied with an **integrated heating function** on request.



The product advantages ...



Integrated wide-range power supply

- 90 - 305 V-AC power input
- High power density with little installation space
- Cooling & heating operation possible

Configurable external hood

- Variants in grinded stainless steel or RAL 7035
- Robust vs. corrosion and environmental impacts

Protection from harsh ambient conditions

- IP 67 on the outer side as standard
- Salt-fog resistant variants
- Sandstorm resistant variants

... of the AC Series



Integrated condensate drainage

- Reliably collects accumulating water
- Easily integratable with the existing mounting points

Silent operation

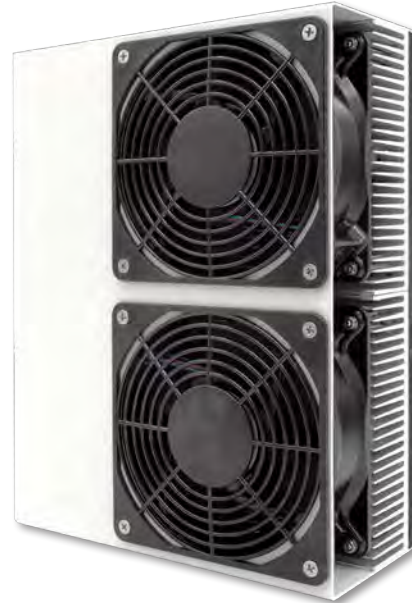
- Reduced noise by a reduced number of moving components
- Prevents distracting impact at the place of installation

Extensive Accessories

- Specifically developed and tested in combination with our devices
- Control units, condensate drainage, vent- & drainage elements as well as other accessories

Properties of cabinet cooler AC series size 2

FL-208-AC / 100 W
FR-208-AC / 200 W



I General Data

General Data

Dimensiones (H x W x D)	263 x 195 x 159 mm
Supply voltage	90 - 305 V-AC, 47-63 Hz, 127 - 431 V-DC
Rated input	FL-208-AC: 100 W / FR-208-AC: 200 W
Noise level	max. 53 dB
Operating temperature	- 40 °C to + 70 °C

Cooling capacity

Cooling capacity (L35 / L35)	FL-208-AC: 105 W / FR-208-AC: 124 W W
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IP Protection and safety features

Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

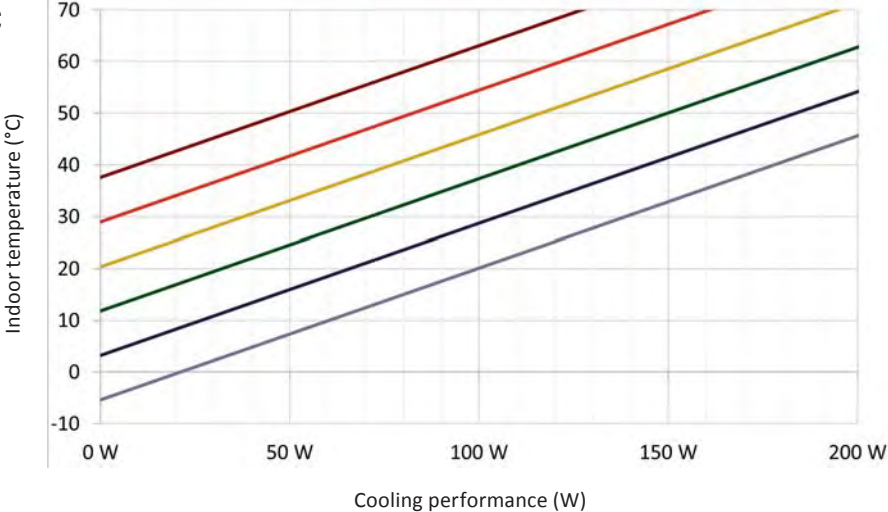
With additional heating mode in the following variants:
XFL-208-C: 100 W / XFR-208-AC: 200 W

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

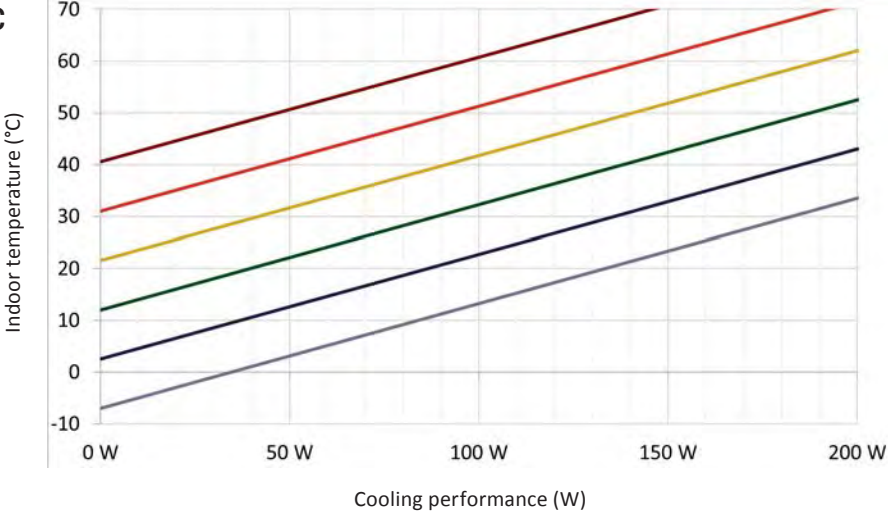
FL-208-AC



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

FR-208-AC



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

Properties of cabinet cooler AC series size 4

FL-416-AC / 200 W
FR-416-AC / 400 W



I General Data

General Data

Dimensiones (H x W x D)	264 x 480 x 159 mm
Supply voltage	90 - 305 V-AC, 47-63 Hz, 127 - 431 V-DC
Rated input	FL-416-AC: 200 W / FR-416-AC: 400 W
Noise level	max. 53 dB
Operating temperature	- 40 °C to + 70 °C

Cooling capacity

Cooling capacity (L35 / L35)	FL-416-AC: 240 W / FR-416-AC: 300 W
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IP Protection and safety features

Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

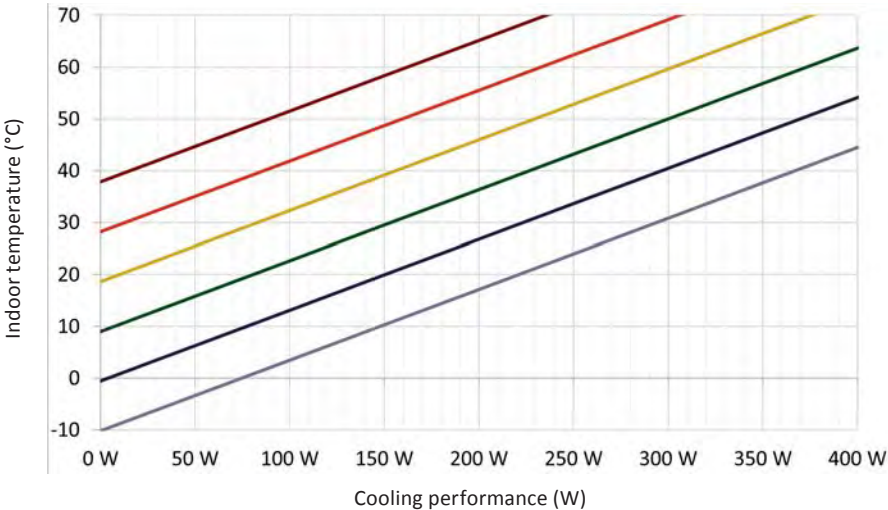
With additional heating mode in the following variants:
XFL-416-AC: 200 W / XFR-416-AC: 400 W

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



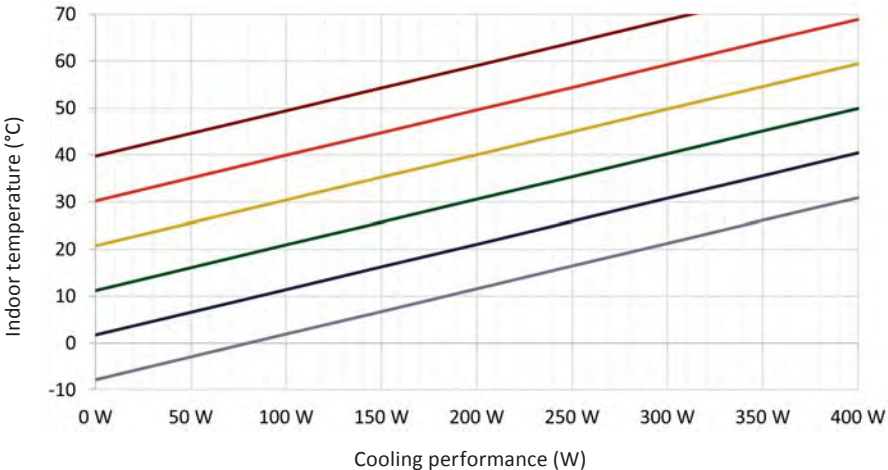
Performance charts

FL-416-AC



Ambient temperature:
 T_{umg} = 70°C
 T_{umg} = 60°C
 T_{umg} = 50°C
 T_{umg} = 40°C
 T_{umg} = 30°C
 T_{umg} = 20°C

FR-416-AC



Ambient temperature:
 T_{umg} = 70°C
 T_{umg} = 60°C
 T_{umg} = 50°C
 T_{umg} = 40°C
 T_{umg} = 30°C
 T_{umg} = 20°C

Properties of cabinet cooler AC series size 5

FL-536-AC / 450 W
FR-536-AC / 900 W



I General Data

General Data

Dimensiones (H x W x D)	394 x 550 x 159 mm
Supply voltage	90- V-AC305 , 47-63 Hz oder 127-431 V-DC
Rated input	FL-536-AC: 450 W / FR-536-AC: 900 W
Noise level	max. 53 dB
Operating temperatur	- 40 °C to + 70 °C

Cooling capacity

Cooling capacity (L35 / L35)	FL-536-AC: 425 W / FR-536-AC: 490 W
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IP Protection and safety features

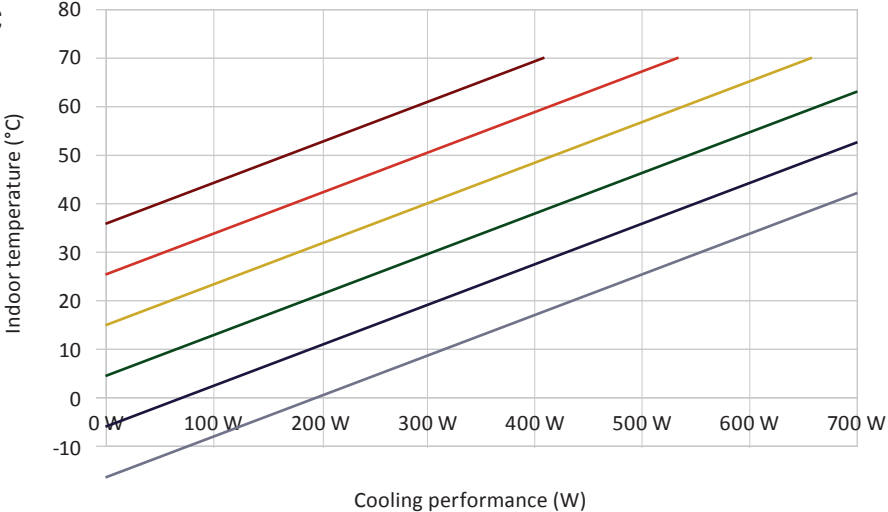
Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

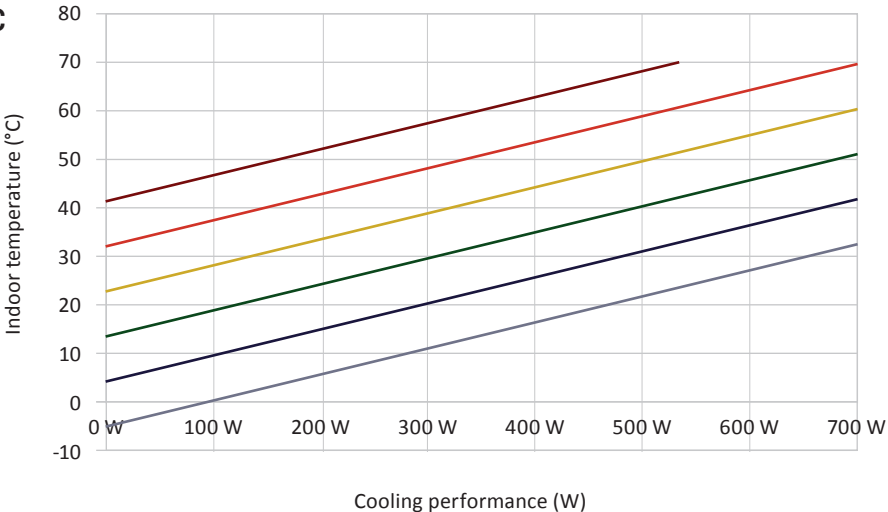
FL-536-AC



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

FR-536-AC

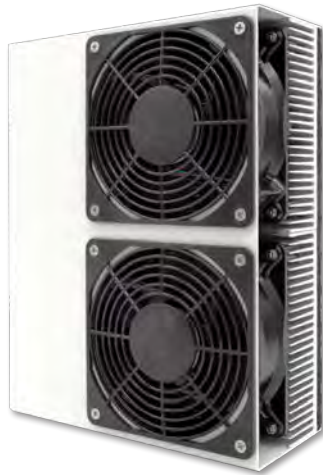


Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C



The AC series at a glance



- ✓ For temperatures from -40 °C to +70 °C
- ✓ Protection class IP 67
- ✓ With integrated wide-range power supply
- ✓ Different hood variants possible

Compact cooling with integrated wide range input

AC series enclosure coolers not only offer the compactness you expect from our Peltier coolers, but also have an integrated wide-range power supply unit. This not only facilitates integration into existing systems, where a 24-volt connection is not possible, but also prevents additional power loss through the power supply unit into the housing. This means that you're able to use the full cooling capacity of the devices to protect the components in your application. Our „AC“ series enclosure coolers can also be configured in a way that cooling and heating operation are possible in one device on request. Naturally our „AC“ devices also offer, in addition to the standard IP 67 protection, protection against salty or sandstorm environments among others.

Let our experts advise you and find the right solution to protect your application from excessive temperatures and environmental influences.



Cabinet Cooling High-Temperature HL Series



The „HL“ high-temperature series of our enclosure coolers cools efficiently - even at very high ambient temperatures of up to 90°C. There are three models available in different sizes, which have input powers of 50 W, 100 W and 200 W respectively. Enclosure coolers of the „HL“ series can operate at ambient temperatures between -40° and 90°C. Production in accordance with IP-67 conformity ensures optimum protection against environmental influences, regardless of high ambient temperatures. Our „HL“ enclosure coolers are identical in size and pin connections to the devices in our „Standard“ series.



The product advantages ...



Increased operating temperature range

- Safe operation up to ambient conditions of 90 °C
- Ideal for integration into crane systems, for example

Configurable external hood

- Variants in grinded stainless steel or RAL 7035
- Robust vs. corrosion and environmental impacts

Protection from harsh ambient conditions

- IP 67 on the outer side as standard
- Salt-fog resistant variants
- Tested according to MIL standard, Sandstorm resistant variants



... of the high-temperature HL series

Long service life

- Carefully selected components with a long service life
- Reduced number of components due to principle
- No maintenance due to the waiver on refrigerant

Silent operation

- Reduced noise by a reduced number of moving components
- Prevents distraction at the place of installation

Extensive Accessories

- Specifically developed and tested in combination with our devices
- Power supplies, condensate drainage, vent- & drainage elements as well as other accessories

Properties of high temperature cooler HL series size 1

HL-104-C / 50 W



I General Data

General Data

Dimensions (H x W x D)	137 x 195 x 154 mm
Supply voltage	24 V-DC
Rated input	HL-104-C: 50 W
Noise level	53 dB
Rated current	2,1 A
Operating temperature	- 40 °C to + 90 °C

Cooling capacity

Cooling capacity (L35 / L35)	51,3 W
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IP Protection and safety features

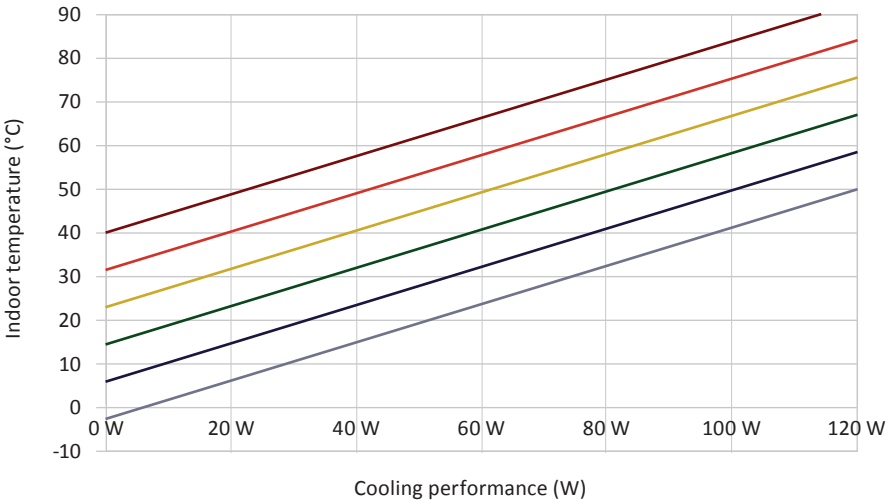
Protection classification outer side (warm)	IP 67
Switch point fault message	+110°C (+/- 5°C) heat exchanger temperature
Switch point safety shutdown	+120°C (+/- 5°C) heat exchanger temperature

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

HL-104-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C



Properties of high temperature cooler HL series size 2

HL-208-C / 100 W



I General Data

General Data

Dimensiones (H x W x D)	195 x 268 x 154,5 mm
Supply voltage	24 V-DC
Rated input	HL-208-C: 100 W
Noise level	53 dB
Rated current	4,2 A
Operating temperature	- 40 °C to + 90 °C

Cooling capacity

Cooling capacity (L35 / L35)	108,8 W
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IP Protection and safety features

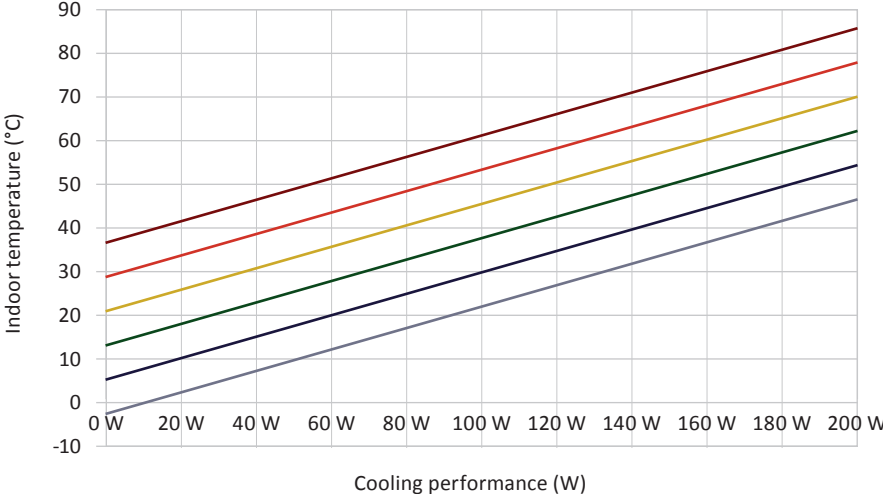
Protection classification outer side (warm)	IP 67
Switch point fault message	+110°C (+/- 5°C) heat exchanger temperature
Switch point safety shutdown	+120°C (+/- 5°C) heat exchanger temperature

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

HL-208-C



Ambient temperature:
 T_{umg} = 70°C
 T_{umg} = 60°C
 T_{umg} = 50°C
 T_{umg} = 40°C
 T_{umg} = 30°C
 T_{umg} = 20°C



Properties of high temperature cooler HL series size 3

HL-316-C / 200 W



I General Data

General Data

Dimensions (H x W x D)	269 x 390 x 155 mm
Supply voltage	24 V-DC
Rated input	HL-316-C: 200 W
Noise level	53 dB
Rated current	8,3 A
Operating temperature	- 40 °C to + 90 °C

Cooling capacity

Cooling capacity (L35 / L35)	237,8 W
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IP Protection and safety features

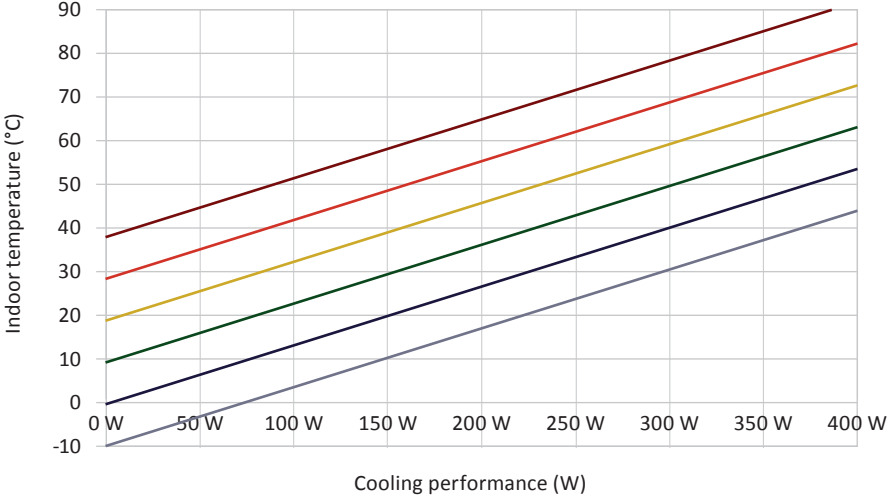
Protection classification outer side (warm)	IP 67
Switch point fault message	+110°C (+/- 5°C) heat exchanger temperature
Switch point safety shutdown	+120°C (+/- 5°C) heat exchanger temperature

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

HL-316-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C






The high temperature series HL at a glance



- ✓ For temperatures up to 90 °C
- ✓ Protection class IP 67
- ✓ Also suitable for dusty or dirty environments
- ✓ Different hood variants possible

Compact cooling even at the most demanding environmental conditions

Enclosure coolers from the „HL“ series are specially designed for use at the highest ambient temperatures of up to 90 °C, as they can occur in foundries or the metal fabrication industry, for example.

The Peltier technology allows the cooling units to be used in any position, even on cranes. As  **no refrigerants are used**, the units are also maintenance-free. Thanks to the high IP protection even very dirty ambient conditions are no problem. The cooling fins are designed so that dirt and grime cannot get stuck in them. For use in corrosive environments, the coolers can also be equipped with a stainless steel hood and anodized heat exchangers.

Let our experts advise you and find the right solution to protect your application from excessive temperatures and environmental influences.



Cabinet Cooler LRC Series

Our Peltier coolers of the „LRC“ series are specially designed for use in mechanical systems. The cooling water, which is normally available in such systems can simply be used to recool the Peltier device. Our „LRC“ Peltier coolers combine a **high cooling capacity and compact design** to cool large power losses, regardless of the prevailing ambient temperature. The water recooling and corresponding connections can be customized according to the customers liking. In addition, the Peltier coolers in the LRC series offer all the advantages of the Peltier technology, such as **position-independent installation and switching between cooling and heating mode**.



The product advantages ...



Water-recooled hot side

- Efficient dissipation of lost heat through machine-side cooling water
- Operation independent of ambient temperature
- Connections configurable according to customer requirements

Protection from harsh environmental conditions

- No moving components on the outside of the device
- Anodized heat exchangers possible

Long service life

- Carefully selected components with a long service life
- Reduced number of components due to principle
- No maintenance due to the waiver on refrigerant



... of the LRC Series

Silent operation

- No external fan noise
- The fundamentally reduced number of components reduces the background noise
- Prevents disruptive influences at the installation site
- for example in production halls

Integrated condensate drainage

- Reliably collects accumulating water
- Easily integratable with the existing mounting points

Extensive Accessories

- Specifically developed and tested in combination with our devices
- Power supplies, condensate drains, pressure compensation elements, drainage elements and other accessories available

Properties of cabinet cooler LRC series

LR-208-C (water re-cooled)



I General Data

General Data

Dimensions (H x W x D)	195 x 260 x 101 mm
Supply voltage	24 V - DC
Rated input	LR-208-C: 200 W
Rated current	8,3 A
Operating temperature	+5 °C bis +70 °C

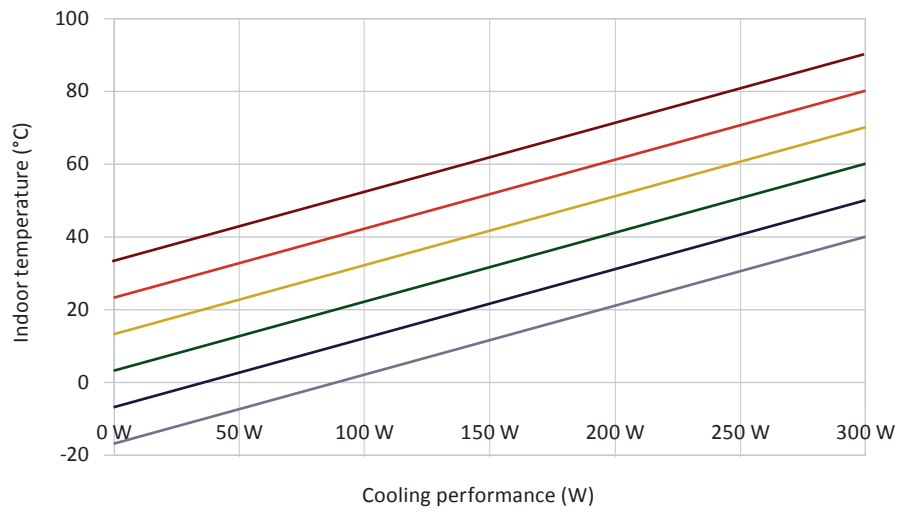
IP Protection and safety features

Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)



Performance charts |

LR-208-C





The LRC series at a glance



- ✓ For temperatures up to 70 °C
- ✓ No moving components on the outside
- ✓ Suitable for dusty or polluted environments

Compact cooling by leveraging process cooling water

Enclosure coolers from the „LRC“ series use existing cooling water circuits in order to be more compact and show a higher power density. The power dissipated during operation is transferred to the process water. The result: The operation of the cabinet cooler is decoupled from the prevailing ambient conditions. In addition, there is no moving component on the outside, which further increases the robustness of the devices. This means that the devices can withstand extremely dirty environments without the need for regular maintenance. Naturally of course, the appliances in the LRC series also have the advantages of the Peltier technology, such as easy reversal from cooling to heating mode and optimum controllability. These and other features such as an easily integrated condensate management system can be supplemented by an extensive range of accessories.

Let our experts advise you and find the right solution to protect your application from excessive temperatures and environmental influences.



Power supplies

We offer a range of selected power supply manufacturers for both DIN rail and screw-type power supply units. The range extends from simple and cost-efficient components to high-performance power supply units which, in addition to maximum efficiency offer versatile alarm & monitoring features. Our range of power supply units is tested by us and matched to our product range which means that we not only guarantee for the safe operation, but also the longevity and quality of the products.



Pressure equalization & drainage elements

A holistic view on the influences of temperature and humidity in enclosures is only possible if the efficient removal of condensate drainage and the effects of temperature on the enclosure pressure are also taken into account. For this purpose, we have developed a own product series of pressure equalization & drainage modules. This prevents condensation in advance without compromising the protection class of the enclosure. Having to make compromises. Condensation that cannot be prevented, e.g. because it occurs in the cooling unit, is efficiently removed from the enclosure.



Enclosure climate solutions Accessories



Condensate drainage

As a matter of principle, cooling units can cause condensation: The cooling fins in the enclosure which provide the necessary cooling are cooled below the temperature of the enclosure. This can result in temperatures below the dew point. To avoid damage to the housing, this condensate must be collected and drained off. Our accessories include a range of condensate drainage channels that use existing mounting points and are therefore easy to integrate into your solution.



Regulators & control units

Our range of regulators and controllers includes everything from simple bimetal thermostats to complex PID & PWM controllers for applications with the highest precision requirements. However, our range not only allows you to use resources efficiently during operation, but also allows you to switch between cooling & heating operation of our devices.



Hood variants

The applications of our customers are as versatile as the situations in which our enclosure coolers can be found. We offer various hood variants for this purpose: Our devices are available in powder-coated aluminum as well as with stainless steel hoods. Various color and surface variants are available on request. So your cooling unit not only fits into your application visually, but can also be adapted to the environmental influences. Variants for environments with salt spray or sandstorms are also available.



Stacking frames

Peltier cooling units are characterized by their compactness and often find their way into smaller enclosures with limited space. In order to function optimally in such an environment our devices can be equipped with additional frames: These prevent components of the cooling unit from protruding into the inside of the enclosure and colliding with existing components.

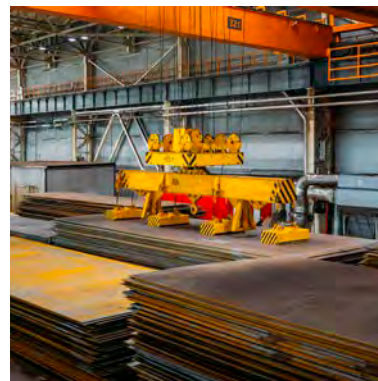


Telecom enclosures

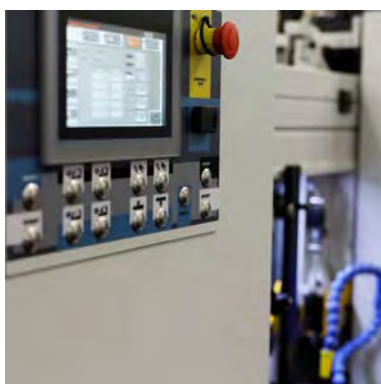
Telecom enclosures can be found all over the world in a wide variety of locations and are therefore exposed to a wide variety of ambient conditions. However, most enclosures have one thing in common: they are the home of sensitive electronics in compact space. Due to the limited space available and the need to cool the enclosures in the summer months as well as heating in winter, Peltier temperature control units offer ideal conditions. The high requirements regarding temperature ranges and ambient conditions also make the use of Peltier technology indispensable in most cases.

Crane technology

It's hard to imagine production halls without cranes. Components in a wide variety of weight classes and of the most varied materials have to be transported efficiently to ensure an efficient production process. What most cranes have in common is that they are not only mobile, but also usually mounted at the top of the production hall. As a result, they are exposed to high ambient conditions due to air accumulating under the hall ceiling. This problem is made more difficult especially in foundries or paper mills where, in addition to extremely high temperatures an extreme degree of soiling exists. However, such requirements can be safely met with the „HL“ cabinet cooler series, which is not only designed for ambient temperatures of up to 90°C, but also is also extremely robust against dirty air.



Examples of possible applications for enclosure climate solutions



Machine control enclosures

Machine control systems are often the heart of entire plants and production lines: If errors occur here, this can have serious consequences. In addition to the need for active cooling to protect the components, the conditions in production halls are often difficult: Air containing dust, dirt, oil or water, as well as deposits which arise during production processes can penetrate the the housing and endanger installed components. Peltier enclosure coolers work in principle without an active exchange of air between the inside of the enclosure and the environment while cooling the components reliably at the same time.

Offshore applications

Due to the increasing importance of for example offshore wind farms applications with salty ambient air are becoming increasingly relevant. However, well-known areas of application on ships or for electrical enclosures for systems near the coast also come with challenging conditions: The salty ambient air damages materials through rapid corrosion in a short time until the systems fail. Active cooling by means of compressors is not always possible due to frequent changes of position and acceleration e.g. on ships. Peltier coolers provide the solution in such cases. They not only work independently of position and acceleration, but can also also be manufactured in a salt spray-resistant design.





Test & measuring enclosures

Test and measurement enclosures require precise control of the prevailing conditions. Whether calibration, process monitoring or applications with high-precision measuring instruments: Such applications are usually sensitive to fluctuations in humidity and in particular temperature. Measurement results can be falsified and thus deliver inaccurate or incorrect results. Peltier housing temperature control units work with current as a direct control variable of their power. This, as well as the possibility of cooling & heating operation in one device makes peltier devices ideal for precisely controlled enclosures with a temperature constancy of less than 0.1 K.

Railroad technology

Applications in railroad technology require the highest quality standards in order to meet the requirements in terms of service life and robustness. Large spreads in the ambient temperature, in addition to the harsh environmental conditions incorporating dust, dirt and even requirements regarding vandalism are just some examples for the industries typical requirements. Peltier devices offer the advantage that they work reliably even with acceleration and changes in orientation. In addition the principle-based reduction in the number of components offers considerable advantages in terms of the lifetime of the cooling unit.





Digital Signage

In the field of advertising & signaling technology, displays are an integral part of our world: Information is transmitted in the shortest possible time and must not only attract attention, but also convey a memorable image resp. message. Screens used for this purpose generate more and more heat which must be dissipated, especially when used outdoors. Outdoor panels, as seen not only in advertising but also, for example, as guidance system for traffic or people are exposed to wind and weather all year round: Efficient temperature management will improve the service life of the components significantly.

Sensor cooling

The cooling of temperature-sensitive components and Sensors, our surface coolers are used exactly where cooling is required. For example for Temperature control of laser-optical lidar sensors.





Enclosure

Dehumidification

Efficient removal of humidity from enclosures

Peltier cabinet dehumidifiers offer the solution for all applications where excessive humidity is a problem. Whether it is sensitive measuring instruments or areas at risk of corrosion in installation situations with high humidity: **Our Peltier cabinet dehumidifiers work efficiently and precisely, regardless of the application.**

Our housing dehumidifiers work according to a simple principle: A cold trap is cooled below the dew point. This condenses moisture trapped in the air which is then removed from the enclosure. The advantage of the Peltier technology for such applications lies in the **compactness and efficiency** of the devices.

Like our enclosure coolers, our Peltier enclosure dehumidifiers are also extremely robust and thanks to their **IP 67 protection even work within harshest environments.**

We supply Peltier dehumidification solutions in different variants: **From IP-protected industrial solutions to miniaturized OEM products:** Talk to us about your application and let us help you find the best solution for your application.



Enclosure Dehumidifier PSE Series

Powerful enclosure dehumidification

The „PSE“ series of enclosure dehumidifiers consists of compact, powerful Plug & Play installable enclosure dehumidification systems for **every application**. With dehumidification capacities of up to 750 ml/day and optional position-independent design, our Peltier dehumidifiers are fit for any application: **from the precise control of humidity in measurement enclosures to offshore applications**.

All our „PSE“ Peltier dehumidifiers have an **integrated control system**, which can optionally be supplemented by a humidistat. This ensures effective dehumidification and prevents the internal cold trap from freezing up. The control via a hygostat also saves energy, as the dehumidifier only works when required.

On request, our Peltier dehumidification systems are available in **different variants**. **Hoods** can be configured according to the **applications needs** and the **devices can be supplemented with suitable accessories and thus optimally tailored to the specific area of operation**.

Active drainage of the condensate by means of a pump, the appropriate suitable tubing and suitable drainage elements to remove condensate from the enclosure are also available.

Like all our Peltier appliances, our „PSE“ housing dehumidifiers are also used in the most demanding industrial environments.

The **IP 67-protected exterior of the devices** enables problem-free operation even in **outdoor areas**. On request versions for offshore applications are also available.



The „PSE“ series ensures efficient dehumidification

...



Efficient dehumidification by powerful cold-trap

- Power ratings up to 200 Watts
- Optimized design of the cold-trap

Designed for outdoor applications

- IP protected outer side
- Various hood versions available

Plug- & Play Installation

- Integrated control unit
- Option to be equipped with a humidistat



... of enclosures in every application

Orientation independant operation

- Tolerance for tilts and acceleration
- Options for rotating applications

Easy condensate drainage

- Active condensate drainage by an integrated pump
- Patented drainage design which directly drains condensate to the environment

Ensured air circulation within the enclosure

- Fan mounted on cold trap for constant circulation
- Optimized dehumidification by ideal flow on the cold-trap

Properties of enclosure dehumidifier PSE-001-B

PSE-001-B / 200 W



I General Data

General Data

Dimensions (H x W x D)	138 x 290 x 143 mm
Supply voltage	24 V-DC
Rated input	PSE-001-B: 200 W
Noise level	max. 53 dB
Operating temperature	+10 °C bis 70 °C

Dehumidify

Dehumidification performance*	up to 30 ml/h*
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* The dehumidification performance depends on the prevailing conditions. For more detailed information please contact our sales team.

IP Protection and safety features

Protection classification outer side	IP 67
Switch point fault message	+ 80 °C (± 5 °C Heat exchanger temperature)
Switch point safety shutdown	+ 90 °C (± 5 °C Heat exchanger temperature)

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Description |

The PSE-001-C switch cabinet dehumidifier is a special design of a Peltier cooler. Inside the enclosure there is a fan-free cold plate on which the moisture condenses. The resulting water droplets run down the cold plate and are collected by a condensate channel. The condensate is then drained to the outside by a drainage pipe. To prevent ice from forming, the cold plate is equipped with a temperature sensor, which keeps the temperature of the cold plate in the optimum range. In addition, the switch cabinet dehumidifier has an integrated control signal for a direct connection to a hygrostat. All our appliances are equipped as standard with overheating protection and alarm relay as standard. The outside of our devices is designed in accordance with protection class IP 67, which means that they can also be used in demanding environments.





The PSE series at a glance



- ✓ IP 67 protection
- ✓ Up to 750 ml/day dehumidification capacity
- ✓ Different sizes available
- ✓ Integrated control unit
- ✓ Active condensate drainage
- ✓ Orientation independent operation

Reliable protection from condensate in every environment

From plug & play products with IP67 protection for industrial applications to miniature solutions designed for OEM applications, our devices work efficiently and reliably to protect your equipment from condensate-related corrosion and failure.

With a dehumidification capacity of up to 750 ml/day and an integrated control and pump, our dehumidifiers are the solution for your application to efficiently remove condensate. Our dehumidifiers are available from miniature applications to industrial plug & play solutions. The connection of an external humidistat is possible and IP 67 protection or salt spray resistance can be provided. The use of Peltier technology also enables safe operation in contaminated areas as well as precise control of humidity to approach defined humidity points.

Are you interested? Contact us and test our performance. We will be happy to advise you and deliver the perfect solution for your application.



Laser systems

Laser systems often include sensitive optics which guide the laser light. Excessive humidity can impair the operational safety, especially in tropical installation situations or, for example, in the vicinity of nearby water jet systems. The high humidity can cause condensation to form on the laser optics and thus cause the system to fail. By using suitable dehumidification systems in the housings, condensation can be reliably prevented and a safe operation of the machine is ensured.

Measurement enclosures

Measuring devices usually react sensitively to changes of the ambient conditions. Particularly in environmental measurements but also under laboratory conditions, this interaction cannot be completely ruled out. Here it is often not only the absolute value of the relative humidity but in particular the changes in humidity that are problematic. The result: uncontrollably influenced and therefore no longer comparable measurement results. Peltier dehumidification solutions prevent this and keep the air humidity within the desired range.



Examples of possible applications for „PSE“-series peltier dehumidifiers



Offshore enclosures

Offshore applications place very different demands on enclosures: High temperature fluctuations in salty ambient air with extremely high humidity and the resulting formation of condensation make housing materials as well as components corrode rapidly. Peltier dehumidifiers offer several advantages for this application: The absence of compressors and refrigerants allows position-independent and acceleration-insensitive operation without maintenance. In addition, the insight of the cabinet is completely separated from the environment. This ensures that the components function perfectly and that premature corrosion is avoided.

3D printing

Filament drying is important for achieving very good 3D printing results. Filaments often tend to absorb moisture from the environment. This can lead to problems such as bubbling, uneven surface and poor adhesion between layers. Filaments such as nylon or TPU should therefore have active filament drying. Our virtually maintenance-free dehumidification solutions are ideal for this application. Due to their compactness, they can be integrated into even the smallest installation spaces and therefore dehumidify efficiently even in the smallest installation spaces.





Dehumidification Accessories



Power supplies

Our range of enclosure dehumidifiers is supplemented by various power supply units which have been selected for and tested with our devices. This not only ensures the safe and efficient operation of the appliances: Various safety functions also ensure optimum durability & longevity.



Drainage elements

Our housing dehumidifiers reliably collect condensate and thus prevent condensation on the components in the enclosure. The resulting condensate must be removed from the enclosure and drained away safely: For this purpose, we offer a range of drainage elements which, despite maintaining the IP protection, offer a high water flow rate.



Humidistats

Our housing dehumidifiers can optionally be controlled via a humidistat. This not only saves energy, but also reduces the noise levels to the necessary minimum. It goes without saying that our humidistat work without their own power supply and can simply be mounted on a DIN mounting rail.



Ventilation accessories

Uniform and efficient dehumidification can only be ensured if there is sufficient air circulation in the housing. In addition, efficient dehumidification requires an optimized flow of air over the cold trap. Both these aspects are achieved with our Plug & Play ventilation attachments.




Surface Cooling

Efficient & resource-saving enclosure cooling with Peltier technology

In addition to our air-to-air enclosure cooling systems for optimal temperature management Dr. Neumann Peltier-Technik GmbH also offers efficient surface cooling systems.

Cooling leveraging the Peltier technology: no refrigerants, no maintenance required

Sustainability and environmental protection are becoming increasingly important. Our Peltier cooling units  **do not require any harmful refrigerants** as they are based on the thermoelectric effect. This benefits not only the environment, but also you: our appliances are virtually maintenance-free thanks to a reduction in moving parts and carefully selected components.

Cooling & heating operation - in one device

Our Peltier cooling units not only offer cooling, but also a heating option in one device. This enables precise control of the temperature as independently as possible of the external conditions.

Ideal for compact cooling applications

Our enclosure coolers are particularly suitable for applications where local cooling is required, e.g. for laser applications. This is due to their compact design and the principle of direct cooling by conduction. The elimination of internal fans and cooling fins also enables the use in applications with limited space.

Configurability

The cooling plates of our surface coolers are optimized as standard for the use on electrical cabinets. However, they can be customized. This ensures optimum and uncomplicated integration into your application. We would also be happy to advise you on the thermal engineering for your application.

Precision in every detail

We at Dr. Neumann Peltier-Technik GmbH have been your experts in Peltier technology since 1956. We know how to utilize the advantages of Peltier technology for you and can also handle the design, control and manufacturing of complex test set-ups and the most precise temperature control plates. Discover the benchmark of sustainable surface cooling with our innovative Peltier cooling units & put your trust in Dr. Neumann Peltier-Technik GmbH, your partner for sustainable, reliable and efficient cooling.

Compact conductive cooling ...



Powerful Peltier unit

- 24 volt connection
- High power density with little installation space
- Cooling & heating operation possible

Configurability

- Contact plates available as standard for housing technology
- Individually configurable dimensions
- Custom-made hole patterns possible

Orientation-independent operation

- Independent of mounting position
- Also works under shocks or vibration
- Resistant to acceleration and tilts



... for demanding temperature control tasks

Long service life

- Reduced number of components due to principle reduces the background noise
- Prevents disruptive influences at the installation site for example in production halls

Highest precision

- Integration of the most precise controls possible
- Agile temperature control through direct thermal contact

Extensive range of accessories

- Specially tuned and tested in conjunction with our case coolers
- Suitable controllers, thermal foils and power supplies for simple and uncomplicated commissioning

Properties of surface cooler STANDARD series size 1

GL-104-C / 50 W
GN-104-C / 70 W
GR-104-C / 100 W



I General Data

General Data

Dimensions (H x W x D)	225 x 160 x 91 mm
Supply voltage	24 V-DC
Recording power	GL-104-C: 50 W / GN-104-C: 70 W / GR-104-C: 100 W
Noise level	max. 53 dB
Rated current	GL-104-C: 2,1 A / GN-104-C: 3,0 A / GR-104-C: 4,2 A
Operating temperatur	- 40 °C to + 70 °C

Cooling & Temperature Control

Cooling capacity (L35 / L35)	GL-104-C: 68 W / GN-104-C: 72 W / GR-104-C: 93 W
Heating mode	possible

IP Protection and safety features

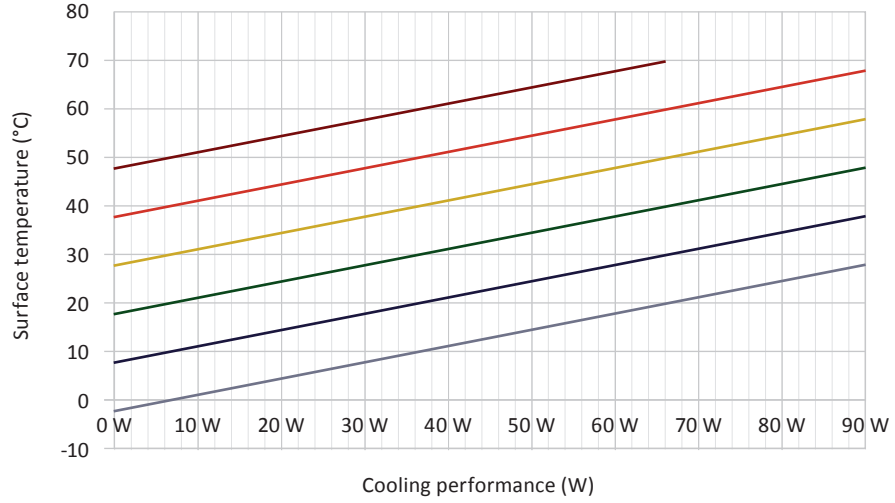
Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

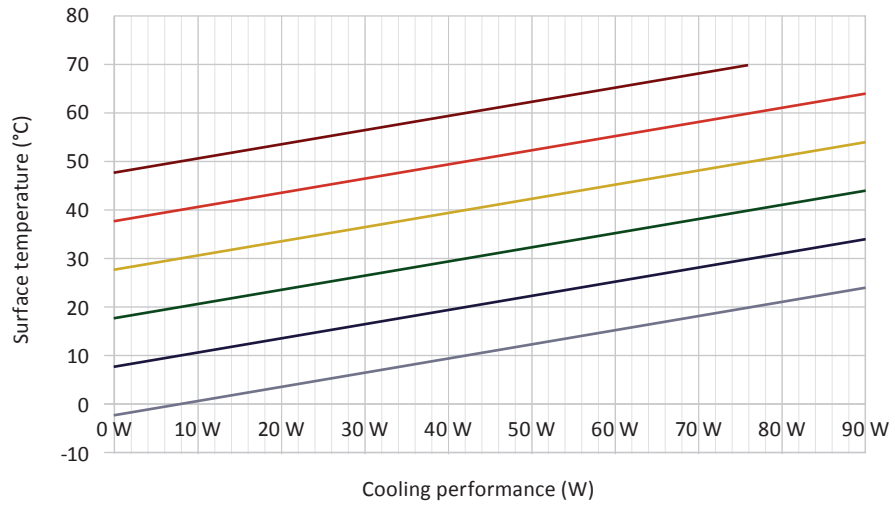
GL-104-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

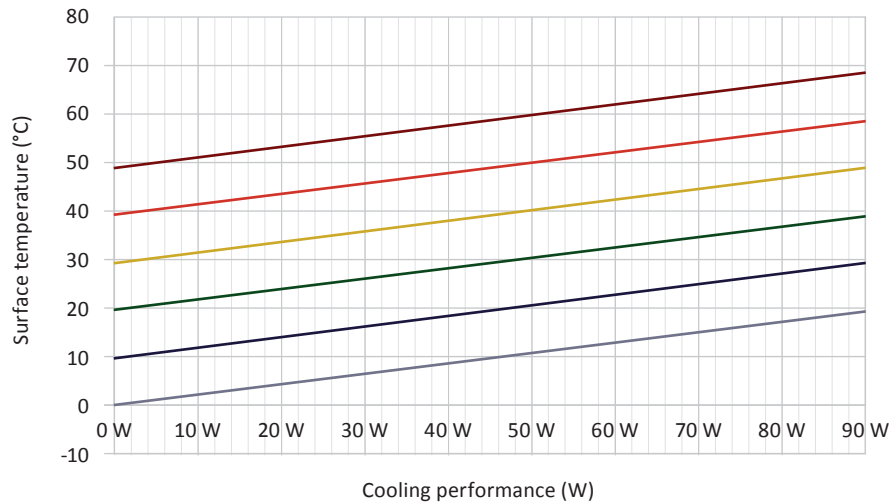
GN-104-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

GR-104-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

Properties of surface cooler STANDARD series size 2

GL-208-C / 100 W
GN-208-C / 140 W
GR-208-C / 200 W



I General Data

General Data

Dimensions (H x W x D)	290 x 285 x 90 mm
Supply voltage	24 V-DC
Recording power	GL-208-C: 100 W / GN-208-C: 140W / GR-208-C: 200W
Noise level	max. 53 dB
Rated current	GL-208-C: 4,2 A / GN-208-C: 5,8 A / GR-208-C: 5,3 A
Operating temperatur	- 40 °C to + 70 °C

Cooling & Temperature Control

Cooling capacity (L35 / L35)	GL-208-C: 157 W / GN-208-C: 159 W / GR-208-C: 205 W
Heating mode	possible

IP Protection and safety features

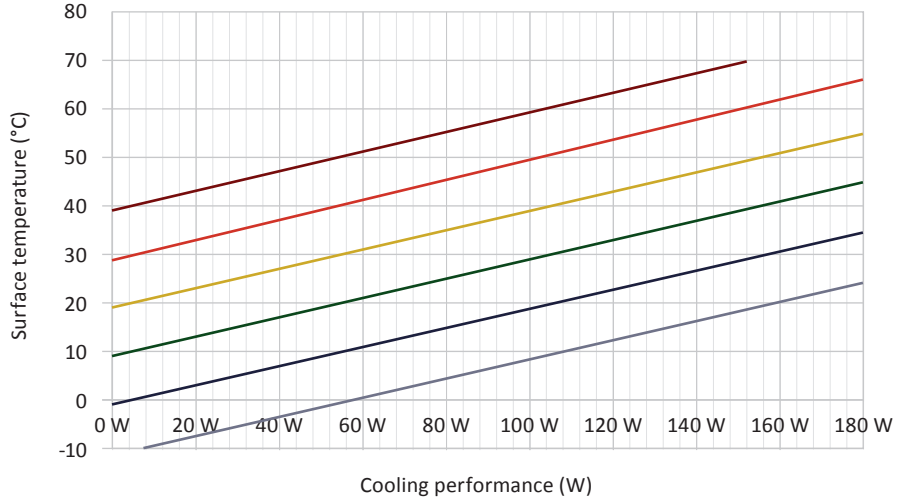
Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

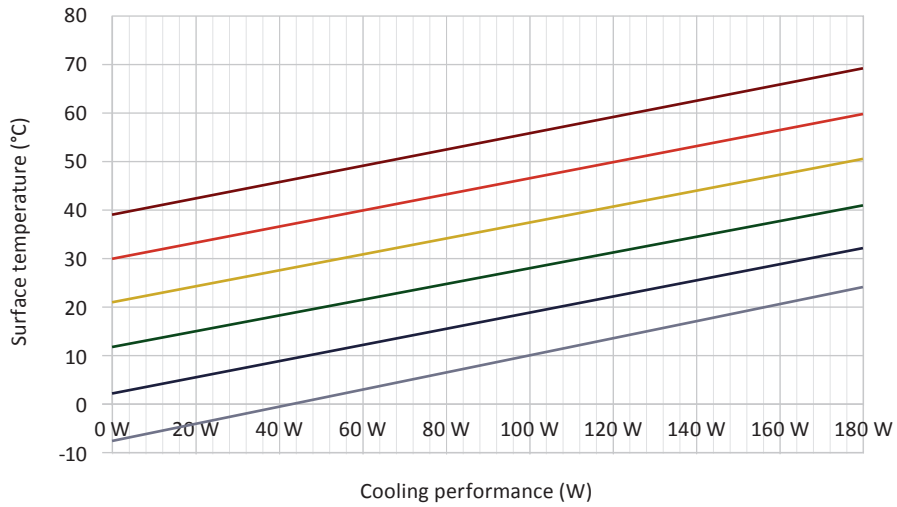
GL-208-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

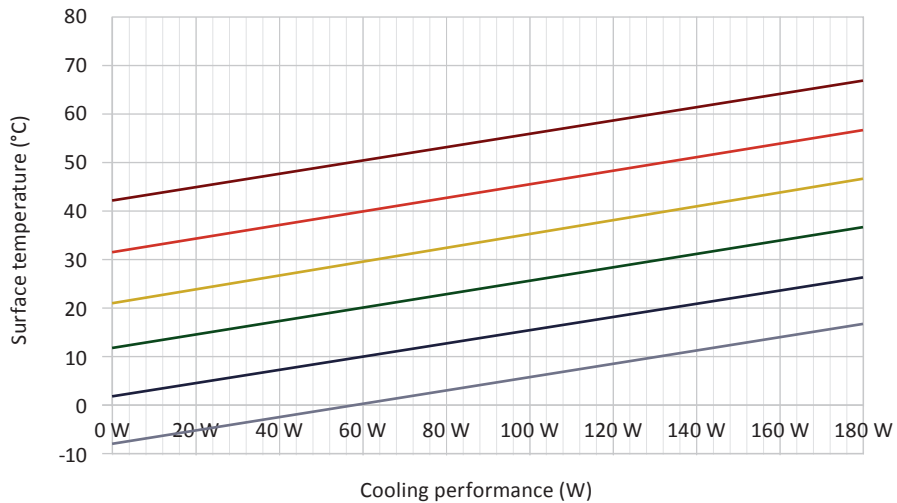
GN-208-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

GR-208-C



Ambient temperature:

- T_{umg} = 70°C
- T_{umg} = 60°C
- T_{umg} = 50°C
- T_{umg} = 40°C
- T_{umg} = 30°C
- T_{umg} = 20°C

Properties of surface cooler STANDARD series size 3

GL-316-C / 200 W
GN-316-C / 280 W
GR-316-C / 400 W



I General Data

General Data

Dimensiones (H x W x D)	420 x 290 x 90 mm
Supply voltage	24 V-DC
Recording power	GL-316-C: 200 W / GN-316-C: 280W / GR-316-C: 400W
Noise level	max. 53 dB
Rated current	GL-316-C: 8,3 A / GN-316-C: 11,7 A / GR-316-C: 16,7 A
Operating temperatur	- 40 °C to + 70 °C

Cooling & Temperature Control

Cooling capacity (L35 / L35)	GL-316-C: 253 W / GN-316-C: 284 W / GR-316-C: 342 W
Heating mode	possible

IP Protection and safety features

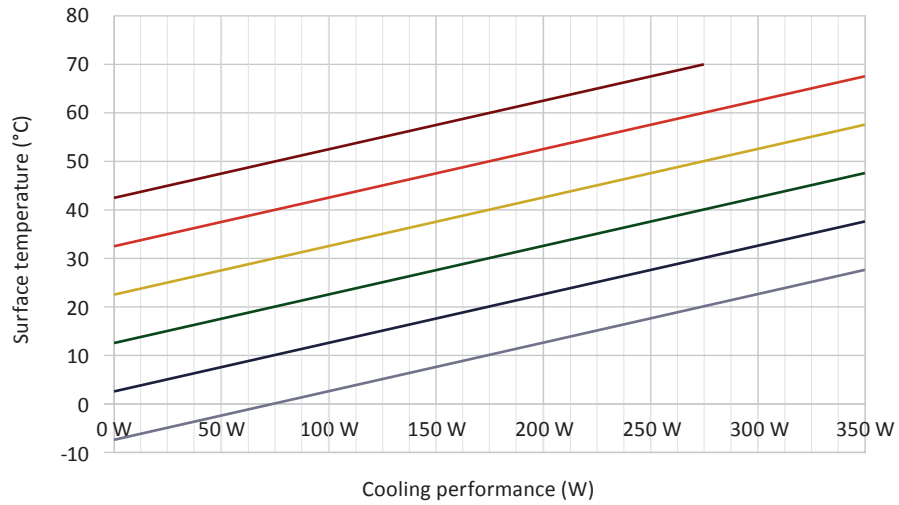
Protection classification outer side (warm)	IP 67
Switch point fault message	+ 80 °C (+/- 5 °C Heat exchanger temperature)
Switch point safety shutdown	+90 °C (+/- 5 °C Heat exchanger temperature)

Our Hoods are next to powder-coated aluminium also available in highly corrosion resistant stainless steel.



Performance charts

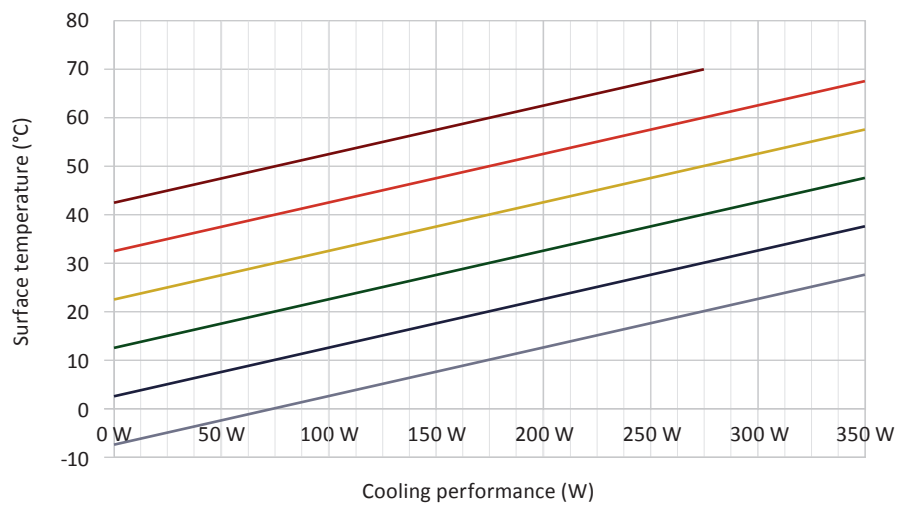
GL-316-C



Ambient temperature:

- T umg = 70°C
- T umg = 60°C
- T umg = 50°C
- T umg = 40°C
- T umg = 30°C
- T umg = 20°C

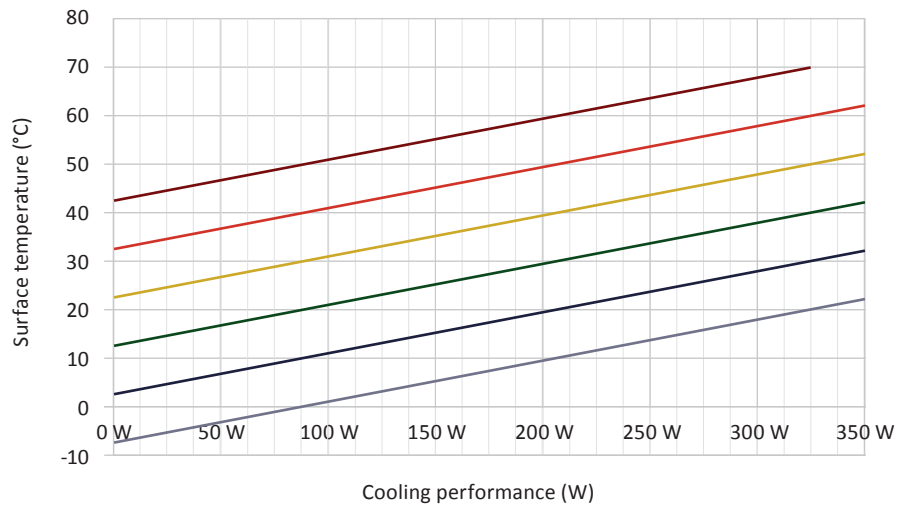
GN-316-C



Umgebungs-
temperatur:

- T umg = 70°C
- T umg = 60°C
- T umg = 50°C
- T umg = 40°C
- T umg = 30°C
- T umg = 20°C

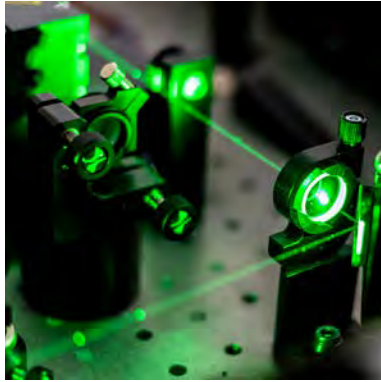
GR-316-C



Ambient temperature:

- T umg = 70°C
- T umg = 60°C
- T umg = 50°C
- T umg = 40°C
- T umg = 30°C
- T umg = 20°C

Examples for possible areas of application for surface coolers

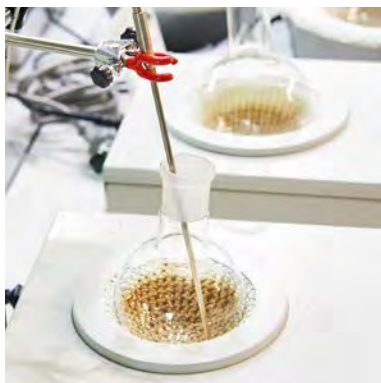


Laser systems

The use of lasers often comes with a locally concentrated dissipation of heat loss in order to ensure safe operation of the system. This can be caused by possible overheating of individual components, which must be protected accordingly. In addition, precise temperature control is necessary to ensure the quality of the laser beam in this area of application. Surface coolers offer the necessary compactness in this context in order to dissipate heat locally. The absence of water circuits and refrigerants also reduces the risk in the system.

Enclosure technology

The electronic components installed in enclosures are becoming increasingly compact. This trend also displays at the design of enclosures themselves. In some cases electronic housings are so compact that the use of conventional coolers with heat exchangers and fans, which protrude into the interior of the housing, is not possible. Surface coolers enable cooling even in such applications and are also particularly suitable for applications in which conductive heat transfer from the power electronics to the cooler via the enclosure can be created via the housing itself.



Laboratory technology

Precise temperature control is essential in the field of laboratory technology due to the nature of many samples, as living organisms are sensitive to any change in temperature. Many measurements and test results would also be falsified by a change in temperature and thus couldn't be used anymore. Surface coolers offer the possibility to work precisely and clean. The use of the Peltier technology, in conjunction with appropriate controls leads to extreme temperature precision but also hygienic conditions can be ensured. The use of sterile, smooth surfaces prevents unwanted contamination and soiling.

Peltier surface coolers at a glance



- ✓ For temperatures up to 70 °C
- ✓ Configurable contact plates
- ✓ Precise temperature control possible
- ✓ Orientation independent operation

Direct cooling using Peltier surface cooler

Surface coolers are used wherever space is limited or maximum precision and agile temperature control are required. The elimination of cooling fins and fans on the inside means that they can be used for enclosures whenever there wouldn't be space for cooling devices otherwise. The direct thermal contact with the component which needs to be cooled or heated also enables extremely agile temperature control which is essential for laboratory applications. To ensure a perfect direct thermal contact, the plates of our surface coolers can be configured on request in terms of geometry and screw connection points.

Let our experts advise you and find the right solution, to utilize the advantages of Peltier technology for your compact industrial or laboratory application.

Deutschland



Fuhrmeister + Co GmbH Industrie-Elektronik
 Stahlschmidtsbrücke 61
 42499 Hückeswagen, Germany
 Tel.: +49-2192-93764-0
 Fax: +49-2192-93764-44
 info@fuhrmeister-gmbh.de
 www.fuhrmeister-gmbh.de



MBI GmbH
 Ubstadter Pfad 5
 76694 Forst, Germany
 Tel.: +49 7251 30 20 408
 Fax: +49 7251 30 20 409
 info@mbi-gmbh.de
 www.mbi-gmbh.de

Dänemark



Carlo Gavazzi Handel A/S
 Over Hadstenvej 40
 8370 - Hadsten, Denmark
 Tel.: +45 89 60 61 00
 Fax: +49-2192-93764-44
 www.carlogavazzi.com

Italien

ERACON

ERACON S.r.l.
 C.so Duca degli Abruzzi 81/BIS
 10129 Torino (TO)
 Cell. +39 349 3596789

Polen

ASTAT



Astat Sp. z o.o.
 ul. Dąbrowskiego 441
 60-451 Poznań, Poland
 Tel.: +48-61-848-88-71
 Fax: +48-61-848-82-76
 info@astat.com.pl
 www.astat.com.pl

Distributors

Schweden



EG Electronics AB
Fagerstagatan 3
SE-163 53 Spånga, Sweden
Tel.: +46 (0)8 759 35 70
info@egelectronics.com
www.egelectronics.com

Slovakei & Tschechien



GHV Trading, spol. s r. o.
Edisonova 2955/3, 612 00 Brno
Czech Republic
+420 541 235 532-4

Belgien, Luxemburg & Niederlande



Serticom
Concorde 11, 5126 RM Gilze,
Niederlande
Tel.: +31-88-7378-000
sales@serticom.nl
www.serticom.nl

Spanien



Eracon S.R.L.
Francesc Samaranch, 11, Nau Fons, dreta
08750 – Molins de Rei (Barcelona), Spain
Tel.: +43-93-680-1564
Fax: +43-93-680-0439
wohnelec@yahoo.es
www.wohnelec.com

China, Japan, Mongolei, Südkorea & Taiwan



Z-MAX Co. Ltd.
Room 1502, Wealth Commercial Centre,
No.48, Kwong Wa Street Mongkok,
Kowloon, Hong Kong
Tel.: +852-3743-0356
Fax: +852-2267-8070
www.z-max.jp

Südafrika



ATI Systems
159 Galjoen Road
Wadeville, Germiston
South Africa
Tel.: +27-11-3838300
Fax.: +27-11-8241353
sales@atisystems.co.za
www.atisystems.co.za

Distributors

Finnland



Murri Oy
 Koukkukatu 1
 15700 Lahti, Finland
 Tel.: +358-3-882-4000
 Fax: +358-3-882-4040
 myynti@murri.fi
 www.murri.fi

Rumänien



SC Marsipo Prod SRL
 str. Augustin Bunea nr.8
 Brasov, jud. Brasov 500299, Romania
 Tel.: +40-268-328-679
 Fax: +40-268-306-457
 www.marsipo.ro

Türkei

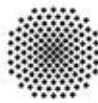


* Deneyimli ve teknik birleşimdir. *

Deltec Electric & Controls Ltd.
 Soyak Olimpiakent H12-6 Kucukcekmece
 Istanbul / Turkey
 Tel.: +90 212 472 55 00
 Fax: +90 212 472 55 10
 info@deltec.com.tr
 www.deltec.com.tr



References



Universität Stuttgart

