



-40°C/+60°C  
**OUTDOOR-SAFE™**



Thermal management of electrical enclosures

# Stronger than the elements

Pfannenbergs units for outdoor thermal management.

SHARING  
COMPETENCE 

**Pfannenberg**   
ELECTRO-TECHNOLOGY FOR INDUSTRY



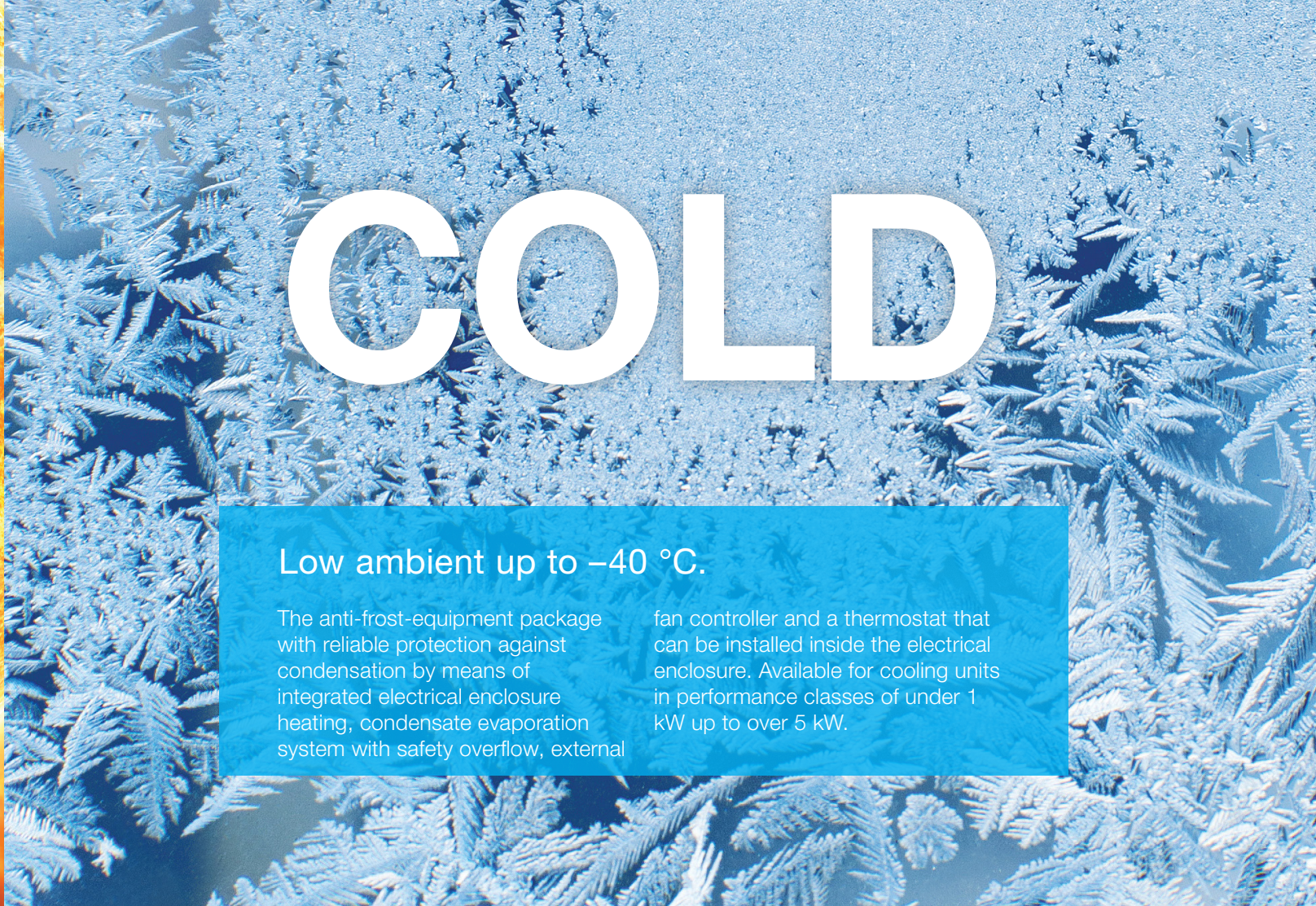


# HOT

High temperature up to +60 °C.

The advantage of safety in extreme heat: temperature stable compressors and large condensers guarantee reliable protection of the electrical enclosure components at

extraordinarily high ambient temperatures. The high temperature equipment package is available for both compact and large, extra powerful cooling units.



# COLD

Low ambient up to -40 °C.

The anti-frost-equipment package with reliable protection against condensation by means of integrated electrical enclosure heating, condensate evaporation system with safety overflow, external

fan controller and a thermostat that can be installed inside the electrical enclosure. Available for cooling units in performance classes of under 1 kW up to over 5 kW.



# WET

High degrees of protection IP 56 and N3R.

Reliable protection against foreign bodies and the penetration of dust and jet water: Our outdoor cooling units have the high degrees of pro-

tection IP 56 and N3R as standard, on request models extendible to NEMA Type 4X are available.



# DUSTY

Maintenance free, filter free design.

The fins of the condenser have an extra large spacing of 3 mm and make our outdoor cooling units less susceptible to dirt deposits.

The advantage: high efficiency and maintenance free availability, also in ambient air that is strongly contaminated with particles.



# Pfannenberg outdoor cooling units with high IP degrees of protection.

The thermal management of outside applications poses specific challenges for system integrators and those who are responsible for planning. As a leading manufacturer

in the area of industrial thermal management, we provide a large range of robust outdoor cooling units with high systems of protection (**IP 56** and **N3R** as

**standard**) as well as heaters, thermostats and hygrometers which complement the system.



## Equipped for the largest possible application area.

Whether there is frost, heat or dust: Our cooling units work reliably in a range from **-40 °C** to **+60 °C** with the equipment

packages **Low Ambient (LA)** and **High Temperature (HT)** for particularly low and/or high outside temperatures.

An ideal solution for virtually every requirement.

IP 56   N3R   230 V

LA -40/+55 °C

HT 0/+60 °C



300 W	700 W	1200 W	1950 W	1900 W	3200 W	5800 W
<b>DTS 3031</b>	<b>DTS 3061</b>	<b>DTS 3161</b>	<b>DTS 3165</b>	<b>DTS 3261</b>	<b>DTS 3265</b>	<b>DTS 3661</b>
	LA HT	LA	HT	LA	LA HT	LA

## Features of the DTS 3261 LA.

### Closed loop design

Designed to isolate the external ambient air from the internally conditioned air eliminating the risk of contaminants entering the cabinet.

### Thermal overload protection

Compressor and fan motors are outfitted with integral temperature switches to shut down the unit in the event of excessive temperature. This increases the operating life of the compressor by preventing thermal overload trips.

### High ambient performance

The DTS 3000 series cooling units were designed utilising high temperature compressors and larger condensers. Both the indoor NEMA Type 12 units and outdoor units perform very well in environments that require cooling where the maximum ambient temperature is 55 °C.

### Hermetically sealed compressor

The absence of any refrigerant fill valves eliminates leak paths. Recharging is never needed. 100 % cooling capacity efficiency is ensured.

### Pressure overload protection

High pressure cut-out switch ensures safety by shutting off the compressor in the event of excessive pressure appearing in the refrigeration circuit.

### Maintenance free, filterless design

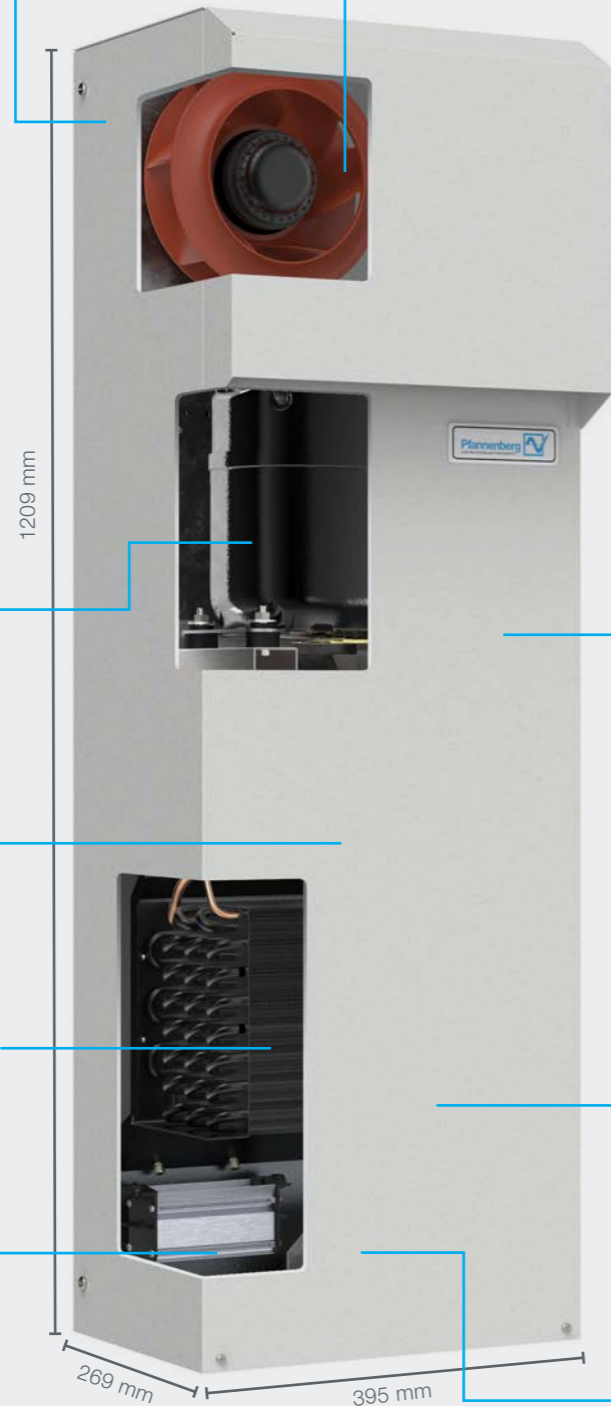
The wide fin spacing is less susceptible to clogging from dirt build-up which can cause the unit to work harder and hamper efficiency.

### Active condensate management

Condensation is a natural by-product of refrigeration. The heated condensate collection pan boils this off thereby eliminating the need for drain tubes and buckets. To conserve power, this heater only activates when necessary.

### High airflow backward curve impeller fan

Provides high airflow in a long lasting, single bearing design. Outperforms typical two-bearing blowers with nearly twice the lifespan.



### ERP efficiency certified

As a component of the Kyoto Protocol to reduce carbon monoxide emissions, the European Energy Related Products (ERP) Directive includes an efficiency rating for fans. Pfannenberg proudly utilises components which adhere to these requirements.

### Environmentally friendly

Utilises HFC free R134a refrigerant versus a blended refrigerant for easier service and minimised negative impact to the environment.

### Self protected from harsh environments

Our unit is uniquely designed to protect itself in NEMA 3R, 4, and 4X environments. An example of this is the location of our control electronics within our dry, cool interior circuit.

### Rugged design

Powder coated steel or stainless steel cover designed for manufacturing environments. Easily painted to match enclosure or machine.

### Thermal expansion valve

Regulates the flow of refrigerant based on thermal demand for efficient performance over the entire operating temperature range.

### Corrosion protection

Outdoor and wash-down units have a special coating on pipes and coils on the ambient side of the unit to provide maximum protection from saltwater, sour gas, and other corrosive substances.

### Quiet operation

Achieved with waste heat exhausted through the bottom.

## The useful addition for outdoor cooling units: heaters, thermostats and hygrometers.

Additional protection against condensation and corrosion and also for the optimisation of the energy balance and the cost balance.



### PFH fan heaters

- 7 performance levels from 200 to 1200 W.
- PTC technology for failure proof heating.
- -40 ... +70 °C.



### FLZ thermostats

- Heating control in defined temperature range.
- Heating control in several temperature ranges.
- -40 ... +80 °C.



### FLZ hygrometers

- Heating control when a defined relative air humidity is exceeded.
- Supervision of relative air humidity and temperature by hygrometer/thermostat combination.
- -20 ... +60 °C, 40-90 % rel. humidity.

## Minimise project costs with Pfannenberg!

Our wide range of products provides you with a variety of solutions for demanding outdoor thermal management which are available very quickly. Furthermore, we are glad to advise you regarding engineered solutions. Feel free to contact us.

## Pfannenberg Sizing Software (PSS).

We offer a free tool, PSS. This helps you with the ideal sizing by providing you with a qualified recommendation for devices and units. PSS is available online and for download on [www.pfannenberg.com/pss](http://www.pfannenberg.com/pss)

## Your design. Our support.

Our experts are happy to support you in the planning of your outdoor thermal management solution. Please feel free to contact us directly on [customer.care@pfannenberg.com](mailto:customer.care@pfannenberg.com)

## Visit us online.

Online you can get comprehensive information on all our outdoor thermal management devices. Additionally, you are able to download product data sheets, manuals, declarations of conformity and certificates.

# PFANNENBERG.COM/OUTDOOR



# The Pfannenberg group worldwide

Pfannenberg Europe GmbH  
Werner-Witt-Straße 1  
21035 Hamburg  
Germany

Phone: +49 40 73412 156  
Telefax: +49 40 73412 101  
Email: [info@pfannenberg.com](mailto:info@pfannenberg.com)  
Web: [www.pfannenberg.com](http://www.pfannenberg.com)

Pfannenberg Austria, Ottnang am Hausruck  
Phone: +43 7676 50219  
Email: [info.austria@pfannenberg.com](mailto:info.austria@pfannenberg.com)

Pfannenberg Brazil, Indaiatuba  
Phone: +55 19 3935 7187  
Email: [info@pfannenberg.com.br](mailto:info@pfannenberg.com.br)

Pfannenberg China, Suzhou  
Phone: +86 512 6287 1078  
Email: [info@pfannenberg.cn](mailto:info@pfannenberg.cn)

Pfannenberg France, Rueil-Malmaison  
Phone: +33 1 4708 4747  
Email: [info@pfannenberg.fr](mailto:info@pfannenberg.fr)

Pfannenberg India, Chennai  
Phone: +91 44 69000697/98  
Email: [info@pfannenberg.in](mailto:info@pfannenberg.in)

Pfannenberg Italy, Fidenza (PR)  
Phone: +39 0524 516 711  
Email: [info@pfannenberg.it](mailto:info@pfannenberg.it)

Pfannenberg Poland, Warsaw  
Phone: +48 228907246  
Email: [info@pfannenberg.pl](mailto:info@pfannenberg.pl)

Pfannenberg Russia, St. Petersburg  
Phone: +7 812 612 8106  
Email: [info@pfannenberg.ru](mailto:info@pfannenberg.ru)

Pfannenberg Singapore, Singapore  
Phone: +65 6293 9040  
Email: [info@pfannenberg.com.sg](mailto:info@pfannenberg.com.sg)

Pfannenberg United Kingdom, Rotherham  
Phone: +44 1709 36 4844  
Email: [info@pfannenberg.co.uk](mailto:info@pfannenberg.co.uk)

Pfannenberg USA, N.Y.  
Phone: +1 716 685 6866  
Email: [info@pfannenbergusa.com](mailto:info@pfannenbergusa.com)

Deliveries are made on the basis of the General Terms and Services of the ZVEI.  
Subject to technical amendments and misprints. This paper has been manufactured from chlorine-free bleached cellulose.



075000282