

MOBILE HEATING AND COOLING



Dantherm[®]
CONTROL YOUR CLIMATE



OPTIMAL CLIMATE CONTROL
FOR SOLDIERS AND RESCUE TEAMS
AROUND THE WORLD

MOBILE HEATING AND COOLING UNITS

Optimal climate control for soldiers and rescue teams around the world

Dantherm mobile heating and cooling units are specially developed and built for use by the military and relief agencies in focal points around the world. In order to secure a comfortable climate where soldiers and rescue teams work and sleep, both groups require equipment that operates flawlessly at maximum load even under extreme weather conditions.

This is why the thoroughly tested and well-documented heating and cooling units from Dantherm are preferred by a considerable number of NATO forces and Non-Governmental Organizations.

Dantherm mobile heating and cooling units are manufactured at our factory in Skive, Denmark where only the latest manufacturing technology is used and they meet the highest standards, such as ISO 9001 and 14001.

Ease of mind

Dantherm not only offers reliable and virtually maintenance-free products that make field operations run smoother and the soldiers and NGO field workers more comfortable. We also provide ease of mind by assisting procurement specialists size heating and cooling requirements.

Furthermore, part of our technical competence is to advise on the spare parts needed to secure smooth operations in distant corners of the world – for any given period of time.

NATO Standard

Dantherm mobile units conform to all NATO requirements and norms and are chosen as the NATO standard. All units and accessories are allocated global NATO stock numbers (NSN) for easy integration into national logistics and supply channels or programs. This makes ordering of our products much easier.

Forever pursuing the ideal

No one knows what it takes to maintain a comfortable climate in the field better than the soldiers and rescue teams who work, live and sleep there. The development team at Dantherm is always looking to design new products or improve on existing ones to meet the requirements of those who use them on an everyday basis.

Regular visits to military camps keep us updated with new requirements and give us invaluable feedback on the performance of our products, thus allowing our R&D team to constantly working on improving the quality and functionality of our products.

In close cooperation with tent and container manufacturers we have developed and supplied customized heating and cooling units to be integrated in their accommodation solutions for tent camps, relief camps, field hospitals etc.

Facts about Dantherm mobile heating and cooling units:

- ▶ Produced at our own state-of-the-art manufacturing facilities in Denmark.
- ▶ Built to comply with advanced AQAP requirements as well as ISO 9001 and 14001.
- ▶ Adopted as a NATO standard and allocated NATO stock numbers.
- ▶ Operational at temperatures from -40°C to +60°C
- ▶ Exceptionally versatile, rugged and reliable units of high quality.

Dantherm offer:

- ▶ Stock readiness
- ▶ Thorough documentation
- ▶ Expert support
- ▶ Extensive product training courses
- ▶ Service agreements
- ▶ Site-specific, customized solutions for tent and container manufacturers.
- ▶ After sales service - back-in-shop concept.

MOBILE HEATING UNITS

Reliable operation even at the coldest locations

Dantherm mobile heating units provide a comfortable indoor climate that creates optimal working conditions – even when temperatures outside are far below freezing. Tactical command centres, communication centres and operating rooms are always pleasantly warm, allowing staff to execute critical decisions free from any discomfort.

Easy transport and efficiency in logistics

Dantherm mobile heaters are light and compact. They are made to be moved and installed in no time. The units are easy to carry over rough terrain, and feature either a hook for a crane or built-in glides for lifting with a fork truck. In addition, the units are stackable and easy to fasten to air-freight pallets, which makes them easy to handle and transport.

Benefits of Dantherm mobile heating units:

- ▶ Can operate at temperatures down to -40°C .
- ▶ Comfortable working and accommodation climate for staff. This provides optimal rest and revitalisation in the shortest possible time.
- ▶ Equipment such as helicopters stays warm and ready for use, reducing wear and tear and ensuring quicker response times.
- ▶ Reliable and virtually maintenance free.
- ▶ Easy to transport, even over ice and snow.
- ▶ Can be set up by one person without the use of tools, and is easy to operate.
- ▶ Developed in close collaboration with the armed forces of NATO countries.
- ▶ Chosen as the NATO standard, conforming to all NATO requirements and norms.
- ▶ All units are allocated NATO stock numbers (NSN).



Applications:

- Tents
- Containers
- Relief camps
- Field hospitals
- Operating rooms
- Communication centres
- Tactical command centres

Accessories:

- Remote thermostat with cable
- Remote CO monitor with cable
- Flex. air ducts
- Storage bag
- Air distribution ducts
- Oil lance
- Flue gas analyser kit

RELIABLE OPERATION
EVEN AT THE COLDEST LOCATIONS



| Technical data | Heat output (kW) | Air flow (m ³ h) | Height (mm) | Length (mm) | Width (mm) | Weight (kg) |
|----------------|------------------|-----------------------------|-------------|-------------|------------|-------------|
| VAM 15 MK II | 18 | 1080 | 605 | 1360 | 490 | 93 |
| VAM 40 MK II | 37 | 2200 | 890 | 1400 | 700 | 129 |

Flexible installation

All Dantherm mobile heating units can be installed without the use of tools, and are easy to adapt to local conditions. The units use insulated, flexible air ducts, but can also be connected to permanent air ducts.

Wide range of accessories

The mobile heating units can be equipped with a wide range of accessories, which are allocated NATO stock numbers (NSN). Available accessories include air distribution plenums ensuring the perfect distribution of warm air throughout the room. The ducts come in various lengths, designed to suit any camp layout. They have military grade reinforcing wire and provide flexibility even at zero degrees.

Multifuel operation

All Dantherm heating units are multifuel (diesel) capable which gives commanders great flexibility. Due to a specially designed suction pump the fuel tanks can simply be placed on the ground near the heating units. This makes refueling of the supply tanks easier.



Dantherm mobile heating units:



VAM 15 MK II mobile heating unit



VAM 40 MK II mobile heating unit

MOBILE COOLING UNITS

Stay cool under hot skies

Dantherm mobile cooling units are ideal for cooling tents, containers and other temporary buildings. They provide a comfortable indoor climate, optimal for making fast decisions. Dantherm cooling units ensure that electronic equipment stays at operating temperatures, and they help staff keep a cool head – thus reducing the risk of critical errors.

Easy transport and efficiency in logistics

Dantherm mobile cooling units are light and compact. They are made to be moved and re-installed in no time. Even the more stationary models, used in environments such as office, housing and technical containers, are designed for quick installation and removal. All units feature either a hook for a crane or built-in pockets for lifting with a fork truck. In addition, the units are stackable and easy to fasten to air-freight pallets, which make them easy to handle and transport.

Benefits of Dantherm mobile cooling units:

- ▶ Can operate at temperatures up to +60°C
- ▶ Comfortable working and accommodation environment for staff. This provides optimal rest and revitalization in the shortest possible time.
- ▶ Cool environment for electronic equipment, so that down time and other operational disturbances are avoided.
- ▶ Fresh air supply to ensure sufficient air change
- ▶ Reliable and virtually maintenance free.
- ▶ Easy to move, set up and operate.
- ▶ Developed in close collaboration with the armed forces of several NATO countries.
- ▶ Chosen as the NATO standard, conforming to all NATO requirements and norms.
- ▶ All units are allocated NATO stock numbers (NSN).



Applications:

- Tents
- Containers
- Relief camps
- Field hospitals
- Communication centres
- Tactical command centres
- Oil, gas and mining camps

Accessories:

- Trap door and welding frame
- Trolley with wheels
- Booster heater
- Remote thermostat with cable
- Electric heating coil
- Flex. ducts with storage bag
- Air distribution ducts
- Filters

STAY COOL
UNDER HOT SKIES



| Technical data | Max. cooling (kW) | Heating* (kW) | Air flow (m ³ h) | Height (mm) | Length (mm) | Width (mm) | Weight (kg) |
|----------------|-------------------|---------------|-----------------------------|-------------|-------------|------------|-------------|
| ACM 5* | 4,9 | 2 | 700 | 446 | 752 | 630 | 79 |
| ACM 5 MK II* | 4,7 | 2 | 900 | 482 | 755 | 666 | 79 |
| ACM 7 MK II* | 6,5 | 7,2 | 2500 | 1233 | 934 | 984 | 190 |
| ACM 11* | 11,5 | 8 | 1700 | 735 | 1140 | 1140 | 170 |
| ACM 18* | 17,5 | 6/16 | 2500 | 780 | 1450 | 1140 | 240 |
| ACM 18 CBRN* | 17,5 | 16/20 | 2500 | 780/780 | 725/725 | 1140/1140 | 104/137 |
| HX-M100 | - | - | 100 | 360 | 1140 | 235 | 25 |

* Option with built-in heating.

Flexible installation

All Dantherm mobile cooling units are easy to adapt to local conditions. Some units must be placed outside the rooms, while others are placed half inside and half outside. In order to optimise the cooling effect, the units - and ideally also the ducts - must be placed adjacent to the tent with ducts as short as possible on the outside to minimise solar radiation. Solar shielding of the cooling unit and ducts will further increase performance.

Energy savings with fresh air/heat exchanger unit

Up to 50% energy can be saved by using a heat exchanger unit HX-M100 together with container air conditioners.

Heating and cooling from the same unit

All of the Dantherm mobile cooling units can be supplied with a built-in heat source. This makes these units especially useful in geographical areas with extreme differences in daytime and night-time temperatures, such as deserts.

Wide range of accessories

The units can be equipped with a wide range of Dantherm accessories, which are also allocated NATO stock numbers (NSN). Available accessories include air distribution plenums, ensuring the perfect distribution of cooled air throughout the room.



Dantherm mobile cooling units:



ACM 11 mobile cooling unit



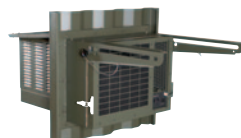
ACM 18 mobile cooling unit



ACM 18 CBRN mobile cooling unit



ACM 5 mobile cooling unit



ACM 5 MK II mounted in trap door system



ACM 7 MK II mobile cooling unit



HX-M100 heat exchanger

ELECTRONICS COOLING

DEHUMIDIFICATION

VENTILATION

MOBILE HEATING AND COOLING

Dantherm is a market-leading supplier of energy-efficient climate control solutions for customers across the globe. Our subsidiaries in Norway, Sweden, Germany, the UK, the US and China and our representative office in Russia unite approx. 600 employees. We operate in the following four main business areas:

Electronics cooling:

Climate control for electronics and battery cooling in radio base stations and other Telecom infrastructure. Telecom customers include network suppliers and network operators.

Dehumidification:

Mobile and stationary dehumidifiers for drying buildings and for use in private pools and wellness centres.

Ventilation:

Large ventilation systems used in swimming pools and buildings such as shopping centres and cinemas requiring frequent air change. The range also includes domestic ventilation products based on high-performance heat exchangers.

Mobile heating and cooling:

Products for heating or cooling of tents and equipment used by the armed forces and aid organisations. The customers are primarily the armed forces in NATO countries as well as tent and container manufacturers.

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