



## 2022 HVAC SOLUTIONS FOR HUMANITARIAN AND DEFENCE

MOBILE HEATING AND MOBILE AIR-CONDITIONING

DANTHERMGROUP

## Dantherm<sup>®</sup> CLIMATE SOLUTIONS

#### About the Dantherm Group

Originally founded in 1954, the Dantherm Group is a European leader in portable and installed climate control solutions for a wide range of industries and uses. Based on the work of more than 500 passionate climate control experts and more than three million installations, our competence centres around Europe design and build exceptional heating, cooling, dehumidification and ventilation units that form the backbone of these climate solutions. In everything they do, they remain focused on creating healthy and comfortable climate surroundings in a sustainable, energy-efficient and cost-effective way.

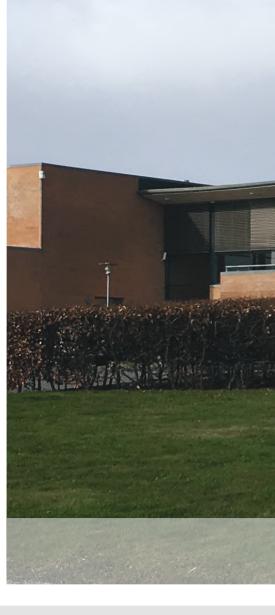


Five competence centres in Denmark, Germany, Italy, Spain and UK.









#### **Competence centre**

for HVAC solutions for military and field camps: Skive, Denmark.



#### **Humanitarian and Defence**

Our climate control solutions have supported military and humanitarian field camps for over 35 years, becoming the NATO standard for field deployable mobile heating, cooling and drying units with more than 30.000 deployed climate controlled units. Complying with advanced NATO requirements, as well as ISO 9001 and 14001 standards, we work closely with tent and container suppliers to develop site-specific solutions that allow military camps, field hospitals and more function in all conditions.



## CONTENT

Based on the extensive knowhow of our climate solution experts across the Group, we have developed an industry-leading range of products and solutions all characterised by reliability, sustainability, efficiency and ease of use.

Being able to source everything from just one supplier will help streamline your purchasing supply lines and reduce your costs for internal handling. To that end, you'll also find our local presence with an extensive network of professional dealers across Europe helpful. It means support in your time zone and language – from people who understand your local market requirements.

Enjoy the read!

Our solutions rest on these four pillars:

**Reliability** has always been at the heart of everything we do. So we still use long-lasting, solid components that have been through extensive testing.

**Sustainability** is an integral part of how we work. We aim to create solutions that are at least as good for the environment as any comparable solution.

**Efficiency** is about delivering impressive performance while generating savings in the form of reduced energy costs.

**Usability** is key to any solution. Our experts do many usability tests to make sure ours are easy to install and hassle-free to operate.



### TENT AND SPACE HEATING

P6



### CONTAINER AND TENT COOLING

P10

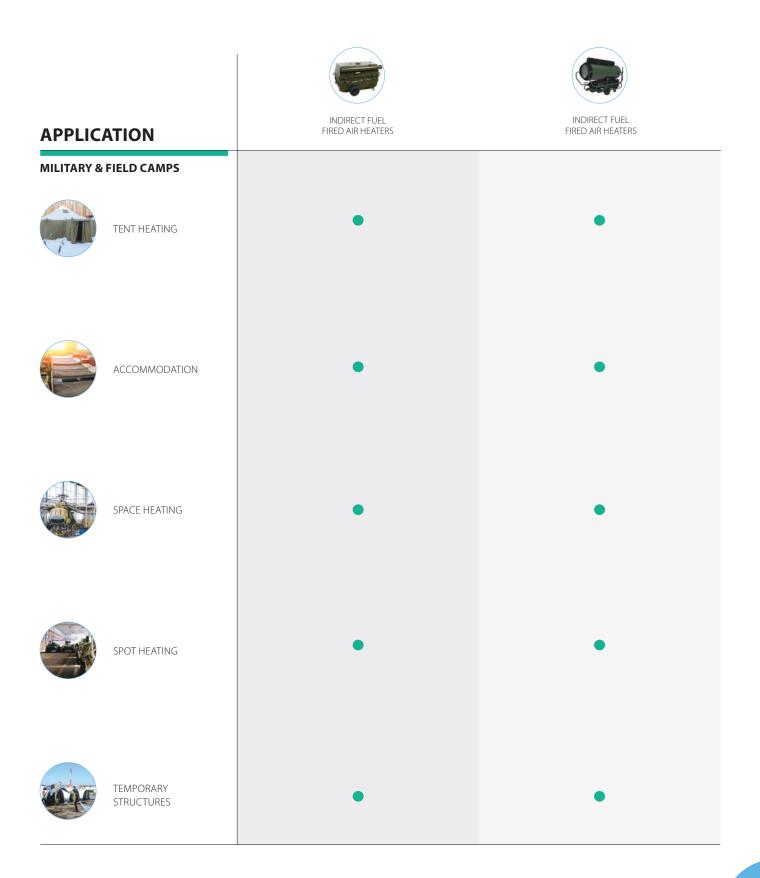
## HEATING

Military camps and field hospitals often need to perform in the toughest of conditions. Our rugged and reliable military heaters provide much-needed warmth in typically testing environments.

Designed to provide uninterrupted heating to army tents in temperatures as low as -40°C, our mobile heaters are virtually maintenance free and easy to set up and transport in icy conditions. Plus, for many years our products have been the source of comfort for patients and refugees in Humanitarian camps worldwide.

## **HEATING SOLUTIONS FOR:**

MILITARY CAMPS, FIELD HOSPITALS AND BUILDINGS





### INDIRECT FUEL FIRED AIR HEATERS - TENT HEATING VA-M15MKII, VA-M40MKII







VA-M40MKII



- Can operate at temperatures down to -40°C •
- Creates a comfortable working environment .
- Equipment and transportation such as helicopters stay 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)
- Ideal for open air operation with ducted supply and • return air
- Adjustable fresh-air intake
- The efficient multi-liquid burner accepts almost all . diesel fuels

#### **Optional accessories**



**Remote thermostat** with cable 15m – **018668** 



Storage bag for



Remote CO sensor with cable 15m – **096472** 

295331

Air distribution ducts

Ø225mm x 6m –



Insulated flexible air duct with spigot Ø225mm x 3m - 295030

Alternative fuel lance for oil drum -293766

Specifications	Units	VA-M15MKII	VA-M40MKII
Registered NSN number	-	Yes	Yes
Operating temperature range	°C	-40 - +30	-40 - +30
Heat output	kW	18	38
Air flow	m³/h	1,080	2,200
Sound level @ 1.5m	dB(A)	60	60
Protection class		IPX4	IPX4
Max. fuel consumption	l/h	1.7	3.6
Power supply	V/Hz	230/1ph/50	230/1ph/50
Max. power consumption	W	1,000	1,055
Air discharge temperature	°C	80	80
Flex duct connection	Ømm	225	225
Product size (h x l x w)	mm	605 x 1360 x 490	890 x 1400 x 700
Weight	kg	93	129



### INDIRECT FUEL FIRED AIR HEATERS - TENT HEATING FH 20-40





#### **FH WITH WHEELS** AND FORKLIFT POCKETS

#### **Product variants**

- Bronze = Unit with built-in wheels •
- Silver = Bronze package + lifting pockets •
- Gold = Silver package + stackable frame •



- Can operate at temperatures down to -40°C
- Creates a comfortable working environment
- Equipment and transportation such as helicopters stay warm and ready for use, reducing wear and tear and ensuring quicker response times
- Reliable and virtually maintenance free
- Easy to transport
- 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
- Ideal for open air operation with ducted supply and • return air
- Adjustable fresh-air intake
- Large built-in fuel tank
- Efficient multi-liquid burner which accepts almost all diesel fuels
- Innovative 2 stage burning principle, which reduces energy consumption

#### **Optional accessories**



Insulated flexible air duct nylon, black FH 20 - Ø350mm x 3m 4515.371

FH 40 - Ø400mm x 3m 4515.372

**Consumables pack** FH 20 - **4519.004** FH 40 - **4519.005** 



Remote CO sensor with cable 15m – **096472** 

Air distribution ducts, black

FH 20 - Ø350mm x 5m







$\langle \rangle$	Digital remote
	thermostat
	TH M with cable
	15m - <b>4035.555</b>

Specifications	Units	FH 20	FH 40
Registered NSN number	-	Yes	Yes
Operating temperature range	°C	-40 - +30	-40 - +30
Heat output – stage 1/2	kW	21/27	36/49
Air flow	m³/h	1,815	2,555
Sound level (measured with mounted hoses) @ 1.5m	dB(A)	74	70
Protection class		IP44	IP44
Max. fuel consumption	l/h	1.6/2.1	2.9/3.9
Power supply	V/Hz	230/1ph/50	230/1ph/50
Rated current	А	3.8	4.2
Air discharge increasing temperature	°C	37/49	36/49
Flex duct connection	Ømm	350	400
Tank capacity		65	105
Product size (h x l x w)	mm	1458 x 614 x 966	1723 x 718 x 1039
Weight - Bronze variant	kg	95	125



## COOLING

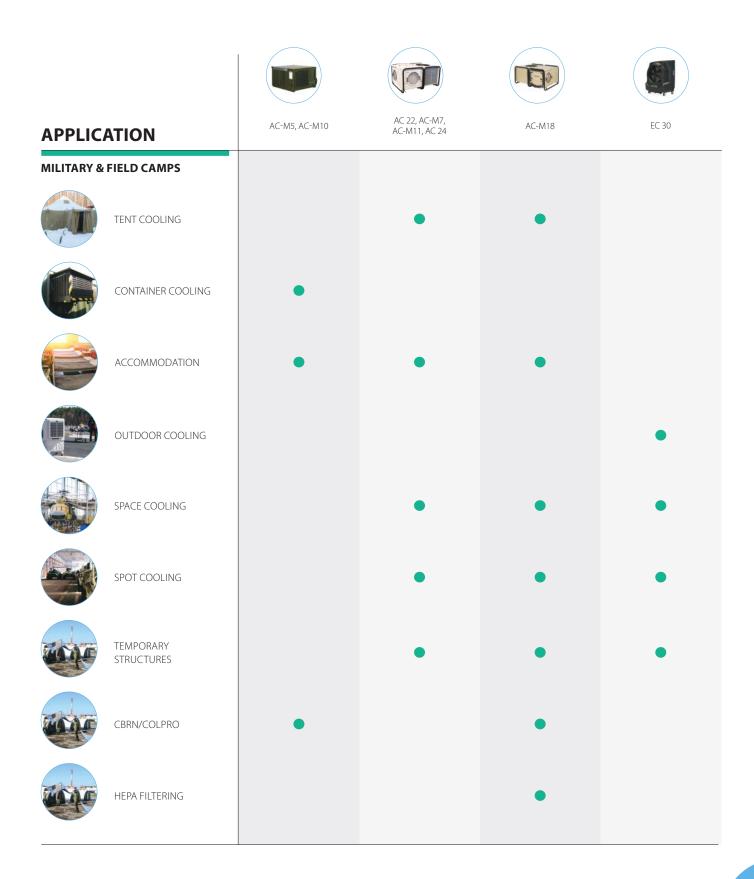
Dantherm

Beating the heat in military camps, field hospitals and more is a top priority, so soldiers, patients and refugees remain comfortable and supported. Our mobile military coolers are exceptionally versatile, rugged and reliable, providing consistent cooling at temperatures up to 60°C.

Easy to set up, maintain and transport to limit your logistics costs, we develop cooling systems specific to your site, with our team always staying-up-to-date on emerging needs that impact your team's performance.

### **COOLING SOLUTIONS FOR:**

MILITARY CAMPS, FIELD HOSPITALS, CONTAINERS AND BUILDINGS





### CONTAINER COOLING AC-M5 MKI





AC-M5MKI



#### **Optional accessories**



Trap door system – 322007

Welding frame for

corrugated container - 019502



- Manufactured from hot dip galvanized and powder • coated steel sheet
- Top finish painting is standard NATO green, RAL 6014
- Can provide cooling at ambient temperatures up to +60°C
- Scroll compressor for high degree of reliability and low • noise
- HP pressostat switching off the unit at too high ambient temperatures
- Easily controlled by a room thermostat placed inside ٠ the container
- Two speed selector for the internal fan
- "VENT-only" option, allowing ventilation without • cooling
- Built-in fresh air intake •
- Coarse filters in front of internal air intake as well as in front of external air intake and fresh air intake
- During transport the AC-M5W is stored inside the • container

Specifications	Units	AC-M5 MKI (50 Hz)
Registered NSN number	-	Yes
Operating temperature range, cooling	°C	+20 - +60
Operating temperature range, heating	°C	-32 - +20
Air flow	m³/h	900
Sound level, fan-speed 1 & 2 @ 1m	dB(A)	52/59
Protection class		IPX4
Refrigerant		R134a
Nominal cooling capacity	kW	4.7
Heating capacity (optional)	kW	2
Power supply	V/Hz	230/1ph/50
Max. running current, cooling/heating	А	9.8/9.3
Locked rotor amperage (LRA)	А	47
Max. power consumption cooling/heating	W	2,300
Hose connection	Ømm	N/A
Product size (h x l x w)	mm	482 x 755 x 666
Weight	kg	79



## CONTAINER COOLING AC-M5 MKII







AC-M5MKII TRAP DOOR

#### **Optional accessories**



Trap door . system – 322040



Welding frame for corrugated container - 019502







- Manufactured from hot dip galvanized and powder coated steel sheet
- When in operation and transportation mode the trap door and AC-M5MKII provides an air tight boundary to ambient environment
- The above qualifies for CBRN/COLPRO compatibility •
- The trap door unit also serves as protection against rain and extreme sun when the unit is operating
- Provides cooling at ambient temperatures up to +60°C
- NATO green, IR reflective, BS381C285 optional colours . on request
- Scroll compressor for high degree of reliability and low noise
- Easy to operate microprocessor to control temperature • and comply with EMC military standard
- Two speed selector for the internal fan
- "VENT-only" option, allowing ventilation without cooling
- Possible to lock the trapdoor with a padlock or positively lock the trapdoor for under-slung transportation by helicopter

# container cooling





AC-M10





- Manufactured from hot dip galvanized and powder coated steel sheet
- Can provide cooling at ambient temperatures up to +60°C
- No fresh air intake as to qualify CBRN/COLPRO compliance
- When in operation and transportation mode the trap door and AC -M10 provides an air tight boundary to ambient environment
- Scroll compressor for high degree of reliability and low noise level
- Safety high pressure switch to prevent over pressure
- Easy to operate micro-processor to control temperature
- PPL 15 filtering recirculated air within the shelter
- Easy mounting into the trap door system by means of a forklift
- ErP 2015 compliant

#### **Optional accessories**



Trap door frame – 322048



Door and mounting kit- 322049



Welding frame for corrugated container – 111536

Specifications	Units	AC-M10	AC-M10 Arctic
Registered NSN number		Yes	Yes
Operating temperature range, cooling	°C	-20 - +60	-51 - +60
Operating temperature range, heating	°C	-32 - +20	-51 - +20
Air flow	m³/h	1,600	1,600
Sound level @ 1.5m	dB(A)	60	60
Protection class		IPX5	IPX5
Refrigerant	Type/kg	R134a/2.5	R134a/2.5
Nominal cooling capacity	kW	10	10
Cooling capacity 35°C outdoor/ 25°C indoor	kW	6.9	6.9
Heating capacity (optional)	kW	4	4
Power supply	V/Hz	400/3ph/50	400/3ph/50
Max. running current	А	10	10
Locked rotor amperage (LRA)	А	48	48
Max. power consumption cooling	W	4,525	4,525
Colour (standard)		BS285 (NATO green)	BS285 (NATO green)
Product size (h x l x w)	mm	800 x 860 x 800	800 x 860 x 800
Weight	kg	139	141



# tent cooling









- The AC 24 is built into a cabinet manufactured from 0.9-2.5mm galvanized and powder coated steel sheet
- Top finish painting is pure white, RAL 9010
- Cooling at outside temperatures up to +55°C
- Environmentally friendly R134a refrigerant
- High/low pressure switch ensuring a long compressor lifespan
- The unit connects to the mains power supply or to a separate diesel generator via a 10m power cable with a CEE plug
- Temperature control carried out by a room thermostat hard-wired to the air-conditioner
- Inlet and discharge openings for Ø315mm uninsulated, flexible ducts
- Easy transportation by either forklift or on the four, mounted wheels (accessory)
- Setup and operation can be done by a single person

#### Lifting 2 extra Air distribution Duct-tie **Flexible tubes** handles and handles for duct set, 3 pcs – 3m - 097754 wheel set -2-man lift -5m – **097756** 098108 096673 093894 **Specifications** Units AC 24 Registered NSN number Yes Operating temperature range, cooling °C +20 - +55°C Operating temperature range, heating m³/h Air flow 2,180 Sound level @ 1.5m dB(A) 62 Protection class IPX5 Refrigerant R134a kW 6.0 Nominal cooling capacity Heating capacity (optional) kW V/Hz 230/1ph/50 Power supply Max. running current, cooling А 14 Locked rotor amperage (LRA) А 40 Hose connection 1 x 315 Ømm Product size (h x l x w) mm 1110 x 919 x 752 Weight kg 160

#### **Optional accessories**



## TENT COOLING





#### AC-M7MKII ONE OPENING

#### **Optional accessories**



AC-M7MKII

**TWO OPENINGS** 



- Manufactured from hot dip galvanized and powder coated steel sheet
- Can provide cooling at ambient temperatures up to +55°C
- Connect to the mains power supply or a separate diesel generator through a 15m power cable with CEE plug
- "VENT-only" option, allowing ventilation without cooling
- Temperature control by a room thermostat placed inside the tent
- Washable and easy removable coarse filters in front of internal air intake as well as in front of external air intake
- Easy transportation, either by forklift, the four lifting hooks on top of the unit or with the two wheels
- Setup and operation can be done by a single person
- Removable wheels, which can be stowed on top of the unit
- Adjustable fresh air intake
- As operational range, heating: an option can be provided to operate between -32°C to +20°C

Specifications	Units	AC-M7 MKII
Registered NSN number	-	Yes
Operating temperature range, cooling	°C	+20 - +55
Operating temperature range, heating	°C	-20 - +20
Air flow	m³/h	2,500
Sound level @ 1.5m	dB(A)	69
Protection class		IPX4
Refrigerant		R134a
Nominal cooling capacity	kW	7.6
Heating capacity (optional)	kW	7.2
Power supply	V/Hz	400/3ph/50
Max. running current, cooling/heating	А	7.2/13
Locked rotor amperage (LRA)	А	24
Max. power consumption cooling/heating	W	3,700/7,700
Hose connection	Ømm	1 x 315 or 2 x 225
Product size (h x l x w)	mm	1150 x 796 x 756
Weight	kg	190



### TENT COOLING AC-M11





AC-M11

#### **Optional accessories**





**Trolley** with wheels -068459



068532



- Designed for optimal utilization of a standard 20" ISO • container (30 pcs)
- The AC-M11 is built into a strong metal frame with insulated panels where relevant, powder coated
- Top finish painting is standard sand colour
- Option with built in heating will heat when ambient • temperature is below 20°C
- Scroll compressor for a high degree of reliability and low noise level
- Automatic phase surveillance •
- Sequential start of units possible •
- HP/LP pressostat switches ensuring long compressor lifetime
- Fresh air intake •
- Four way fork lift handling •

Specifications	Units	AC-M11
Registered NSN number		Yes
Operating temperature range, cooling	°C	+20 - +60
Operating temperature range, heating	°C	-32 - +20
Air flow	m³/h	1,700
Sound level @ 1m	dB(A)	55
Protection class		IPX5
Refrigerant		R134a
Nominal cooling capacity	kW	11
Heating capacity (optional)	kW	8
Power supply	V/Hz	400/3ph/50
Max. running current, cooling/heating	А	15/16
Locked rotor amperage (LRA)	А	65.5
Max. power consumption cooling/heating	W	4,200/8,800
Hose connection	Ømm	1 x 315
Product size (h x l x w)	mm	735 x 1140 x 1140
Weight	kg	170



## tent cooling





AC-M18

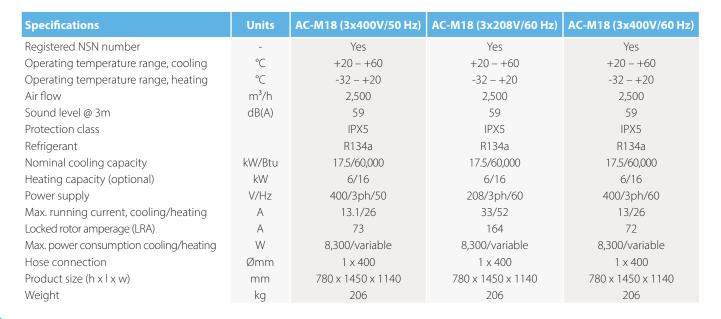
#### **Optional accessories**

323041





- Designed for optimal utilization of a standard 20" ISO container (24 pcs)
- The AC-M18 is built into a strong metal frame with insulated panels where relevant, powder coated
- Top finish painting is standard sand colour
- Option with built in heating will heat when ambient temperature is below 20°C
- Scroll compressor for a high degree of reliability and low noise level
- Automatic phase surveillance
- Sequential start of units possible
- HP/LP pressostat switches ensuring long compressor lifetime
- Fresh air intake
- Four way fork lift handling
- Easy strap down on air cargo pallets and stackable (two units on top of each other)





### TENT COOLING AC-M18 CBRN





#### **Optional accessories**



- The AC-M18 is built into a strong metal frame with insulated panels where relevant, powder coated
- Top finish painting is standard sand colour
- Scroll compressor for a high degree of reliability and
- HP/LP pressostat switches ensuring long compressor
- Easy strap down on air cargo pallets and stackable (two



Specifications	Units	AC-M18 CBRN (50 Hz)	AC-M18 CBRN (60 Hz)
Registered NSN number	-	Yes	Yes
Operating temperature range, cooling	°C	+20 - +60	+20 - +60
Operating temperature range, heating	°C	-32 - +20	-32 - +20
Air flow	m³/h	2,500	2,500
Sound level @ 1m	dB(A)	54	59
Protection class		IPX5	IPX5
Refrigerant		R134a	R134a
Nominal cooling capacity	kW/Btu	17.5/60,000	17.5/60,000
Heating capacity (optional)	kW	16/20	6/16
Power supply	V/Hz	400/3ph/50	3x208/60
Max. running current, cooling/heating	А	16 (depending heating capacity)	33/52
Locked rotor amperage (LRA)	А	73	179
Max. power consumption cooling/heating	W	8,300/variable	8,300/variable
Hose connection	Ømm	1 x 400	1 × 400
Product size (h x l x w)	mm	(2x) 780 x 725 x 1140	(2x) 780 x 725 x 1140
Weight	kg	243	112/120



## portable air coolers EC 30









- Powerful air volume 30,000 m<sup>3</sup>/h to cool large working areas
- No installation, no duct work required
- Low running costs
- Easy to maintain
- Evaporative filter pads, blocking dirt
- UV lamp, disinfecting the water
- Low energy consumption
- Applications: Workshops and warehouses, plastic, glass, assembly and painting plants, agriculture, greenhouses and aircraft hangars

Specifications	Units	EC 30
Cooling pad	dm³	340
Air flow	m³/h	30,000
Maximum area	m²	400
Power consumption	W	1,050
Power supply	V/Hz	220-240/1ph/50
Rated current	А	4.9
Water consumption	l/h	10-15
Tank capacity	I	200
Direct water connection	inch	1/2
Tank level control		Yes
Product size (l x w x h)	mm	1690 x 920 x 1910
Pallet size ( $l \times w \times h$ )	mm	1000 x 1800 x 2100
Net/gross weight	kg	130
Pallet	pcs	1



## condensation dehumidifier and air-conditioner AC 22





AC 22

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#### **Optional accessories**



PVC flex tube for cold air Ø31cm, 3m – 4515.572



**Flex tube for cold air** Ø31cm, 3m, insulated – **4515.370** 



**Nylon flex tube for cold air** Ø31cm, 7.6m – **4515.360** 



High capacity air-conditioning COLD AIR: 24,000 BTU/h

(equal to 7.1 kW) with just 1.98 kW electrical supply High capacity dehumidifying DRY AIR: 130 l/day water

Ideal for emergency and temporary solutions – quick

applications like workshops, data centers, offices, retail

Portable spot air-conditioning for a wide range of

collection with just 1.98 kW electrical supply

deployment for tents and field hospitals

Ducting connections

Easy to install

premises

Heavy-duty casters

Powerful and quiet fans Compact and lightweight

> Thermostat TAC for cooling – 4250.318

Specifications	Units	AC 22 Air-conditioner Mode	AC 22 Dryer Mode
Cooling capacity (28°C/55% RH)	kW	7.1	-
	Btu/h	24,000	_
Drying capacity (30°C/80% RH)	l/24h	-	130
Air flow	m³/h	1,020/800	1,020/800
Operating temperature range	°C	+10-+42	+10-+42
Nominal power supply (28°C/55%)	W	1,980	1,980
Nominal current (28°C/55%)	А	10	10
Max. current	А	14	14
Sound level	dB(A)	55	55
Refrigerant		R1234yf A2L	R1234yf A2L
Hot air outlet	mm	400	400
Cold air outlet (standard)	mm	2 x 135	2 x 135
Cold air outlet (accessory)	mm	300	300
Product size (I x w x h) with handle	mm	790 x 620 x 1326	790 x 620 x 1326
Box size (l x w x h)	mm	580 x 700 x 1500	580 x 700 x 1500
Weight	kg	98	98





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