

DANTHERMGROUP



# ENVIRONMENT CLIMATE CONTROL SOLUTIONS FOR HUMANITARIAN AND DEFENCE

MOBILE HEATING AND CLIMATE CONTROL SOLUTIONS

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



## About the Dantherm Group

Dantherm Group is the European leader in portable and installed climate control solutions for a wide range of industries and uses. Based on the heritage of the variety of brands we own, our climate control experts build and manufacture hundreds of thousands of exceptional heating, cooling, dehumidification, air cleaning and ventilation units in our own factories in Europe every year.

All of them are designed to create healthy and comfortable climate surroundings in a sustainable, energy-efficient and cost-effective way.

## Why partner with us

- ✓ European design quality
- ✓ Experts in climate control
- ✓ Extensive range of solutions





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## 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.



Discover our  
climate solutions  
[danthermgroup.com](http://danthermgroup.com)



# FH 20



FH 20 (bronze)



FH 20  
(customized colour)



- Will operate at temperatures down to -40°F
- Creates a comfortable working temperature
- 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 and handle and handle
- 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 - more than 24h heating
- The efficient multi-liquid burner - compatible with all NATO fuels and biodiesel HVO100
- New innovative 2 stage burning principle, which reduces energy consumption, creates a more comfortable room temperature and reduces wear and tear
- CE-marked, UL ready
- Registered NSN numbers

## Optional accessories



**Insulated flexible air duct nylon, black**  
Ø13.8" x 9.8ft  
4515.371



**Air distribution ducts, black**  
Ø13.8" x 16.4ft  
4515.380



**Forklift pockets**  
4035.740



**Stacking frame**  
4035.741



**Consumables pack**  
4519.004



**Remote CO sensor with cable**  
49ft  
025432



**Digital remote thermostat TH M with cable**  
49ft  
4035.555

# FH 20

## Product variants



**Bronze**  
Unit with built-in wheels



**Silver**  
Bronze package + forklift pockets



**Gold**  
Silver package + stackable frame

The heaters are based on the in-direct fired (clean air) principle to avoid introducing combustion or fumes into occupied spaces. Specifically developed to provide heating in tents or other temporary and transportable buildings, FH Warm Air Heaters are suitable for outside installation with supply and return air ducted to the tent or temporary building.



Specifications	Units	FH 20
Registered NSN – NATO Stock Number		Yes
Operating temperature range	°F	-40 – +86
Heat output – stage 1/2	BTU	71,650 / 92,100
Efficiency	%	88
Air flow	SCFM	1230
Fresh air volume	SCFM	0 – 200
Protection class	NEMA	3S
Fuel consumption	gal/h	0.423 / 0.555
Power supply	V/Hz	120/1ph/60
Max. current	A	7.15
Sound level (measured with mounted hoses) @ 1.5m	dB(A)	74
Duct connection (1x)	Øin	13.8
Ducting recirculation (1x)	Øin	13.8
Operation above sea level	ft	9,842
Tank capacity	gal	17
Product size (h x l x w)	in	57.4 x 24.2 x 38
Height with chimney installed	ft	7.2
CE & Safety	–	CE + UL compliant
Weight - Bronze variant	lbs	209



**AC-M5 MKII**



**AC-M5 MKII trap door**



- 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 140°F
- Nato green RAL 6014 or RAL 6031 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

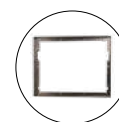
**Control panel**



**Optional accessories**



**Trap door system**  
 322040



**Welding frame for corrugated container**  
 019502

**AC-M5 MKII mounted outside in trap door**



**AC-M5 MKII mounted inside in trap door**



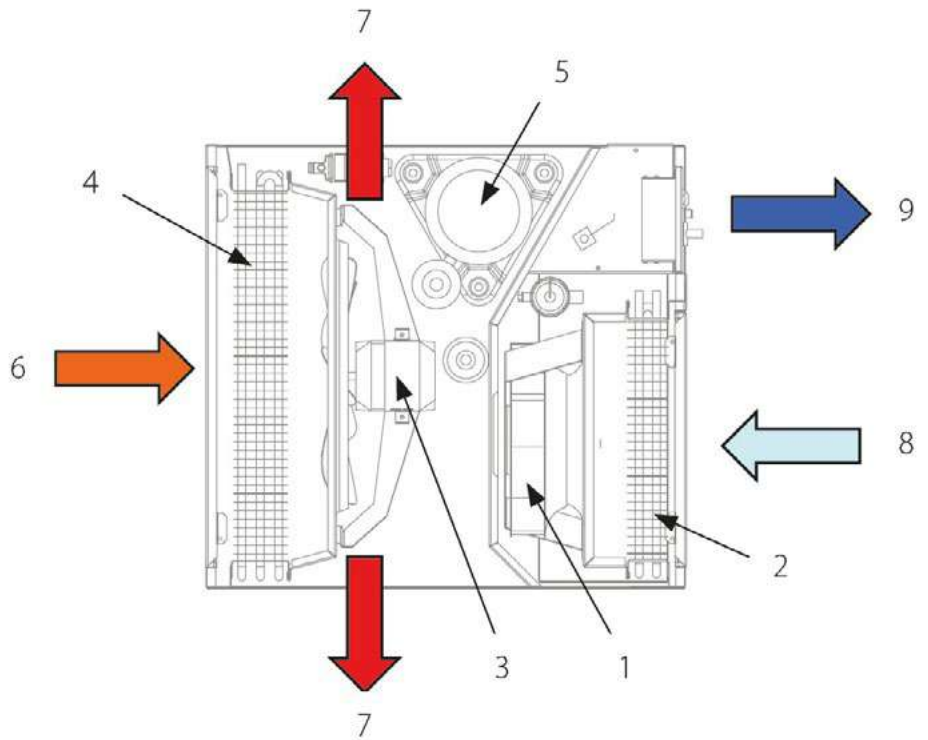
Specifications	Units	AC-M5 MKII (60 Hz)
Registered NSN – NATO Stock Number		Yes
Operating temperature range, cooling	°F	68 to 140
Operating temperature range, heating	°F	-26 to 68
Air flow	SCFM	571
Sound level, fan-speed 1 & 2 @ 1m	dB(A)	49/63
Protection class	NEMA	3S
Refrigerant	Type	R134a
GWP (Global Warming Potential)		1300
Nominal cooling capacity	BTU	16,030
Heating capacity (optional)	BTU	6,825
Power supply	V/Hz	208/230/1ph/60
Max. running current, cooling/heating	A	12/9.2
Locked rotor amperage (LRA)	A	56
Max. power consumption cooling/heating	W	2,400
Hose connection	Øin	N/A
Product size (h x l x w)	in	19 x 29.7 x 26.2
Weight	lbs	163

Container cooling  
**AC-M5 MKII**



**Unit components and airflow**

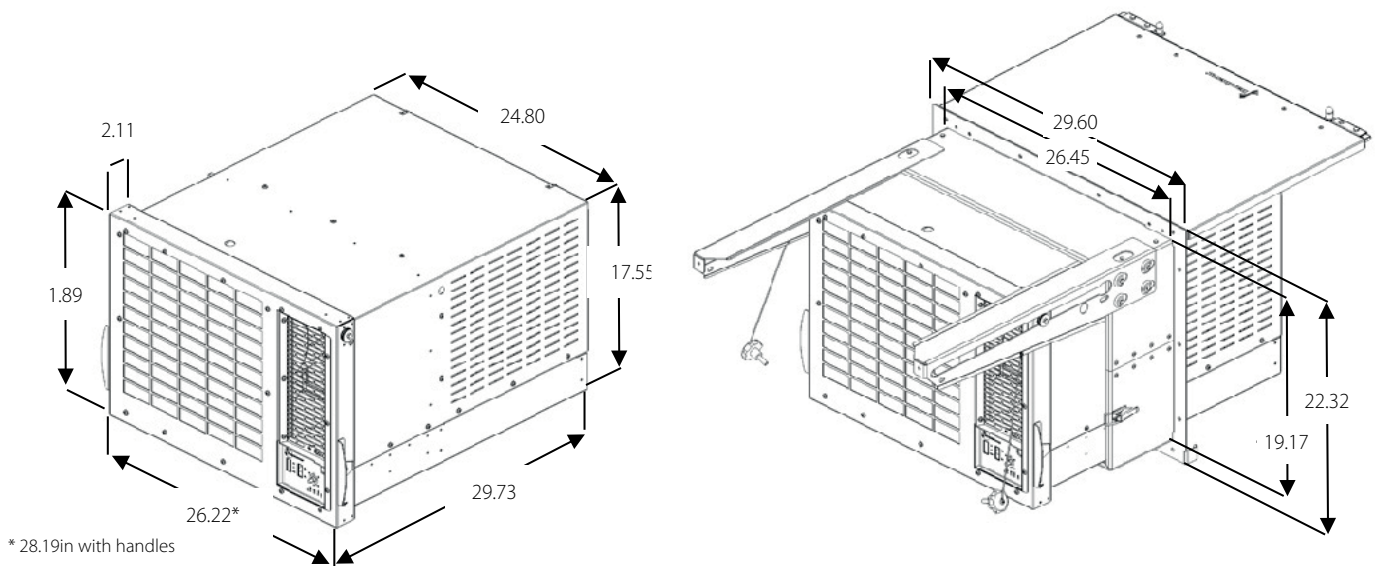
1. Internal fan
2. Evaporator core
3. External fan
4. Condenser core
5. Compressor
6. External air intake
7. External air discharge
8. Internal warm air intake
9. Internal cooled air discharge



**Schuko power plug**



**AC-M5 MKII dimensions**







**AC-M11**



**AC-M11  
with trolley**

**Optional accessories**



**Remote thermostat  
with cable**  
49ft  
**064409**



**Insulated flexible  
air duct including  
storage bag**  
Ø12.4" x 10ft  
**039732**



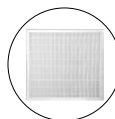
**Uninsulated flexible  
air duct**  
Ø12.4" x 16ft  
**428441**



**Air distribution duct**  
Ø12.4" x 16ft  
**428443**



**Trolley with  
wheels**  
**068459**



**Filter ePM2.5 65%**  
**068532**



- The AC-M11 is capable of maintaining the shelter temperature at 68 to 77°F when the shelter is built accordingly
- The AC-M11 is built into a strong metal frame with insulated panels where relevant, powder coated
- Top finish painting is standard sand colour or NATO green
- Designed for air conditioning when the temperature is above 68°F. It can provide cooling at ambient temperatures up to 140°F. Option with built in heating will heat when ambient temperature is below 68°F
- 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
- Controlled by a room thermostat placed inside the tent (accessory)
- ISO coarse 75% filtration of the internal air
- Dual filters in front of internal air intake as an option
- Fresh air intake
- Four way fork lift handling
- Easy strap down on air cargo pallets and stackable (two units on top of each other)
- Insulated flexible ducts Ø12.4in for exhaust and return air openings
- Low voltage control circuit
- CE-marked
- ErP 2015 compliant
- Designed for optimal utilization of a standard 20" ISO container (30 pcs.)

## Tent cooling AC-M11

The AC-M11 unit is primarily designed to provide air conditioning and heating in temporary or transportable buildings or tents. It is a small light weight unit made out of aluminium and built into a rigid steel frame. The unit is designed to be placed outside, with supply air and return air ducted to the tent.

The function of the AC-M11 is based on a cooling circuit and two powerful fans. The evaporator section contains the evaporator and a radial fan, which draws warm internal air of the tent through the cold evaporator and blows out the cooled air through the side or the top of the unit. The condenser section contains two condenser coils and a large axial fan, returning the heat taken from the internal air to the outside atmosphere.

All sheet metal parts are protected against corrosion by a minimum 80µm top coat.



**Filter ePM2.5 65%**



**Control panel**



**Installation with the air ducts**



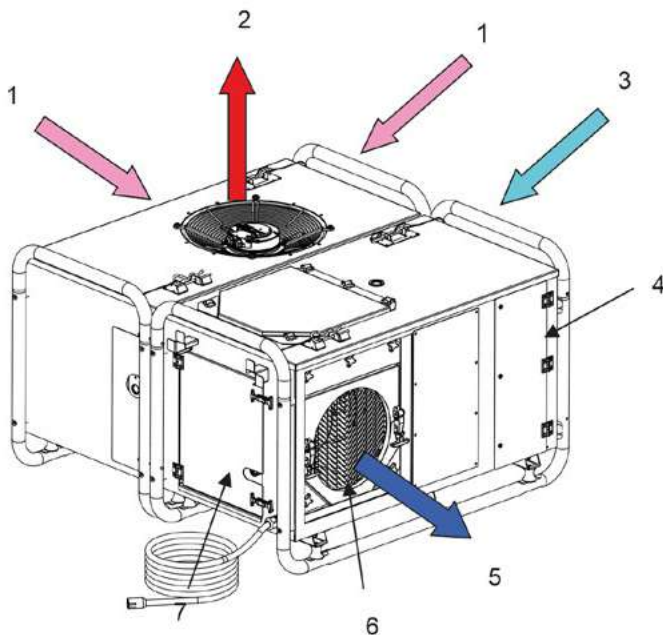
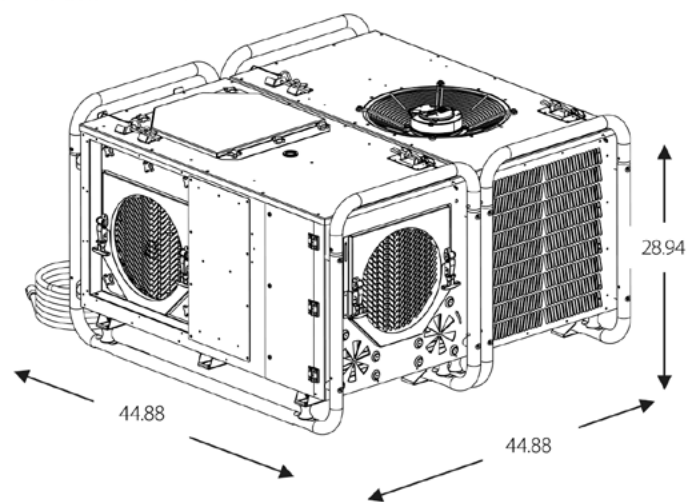
**Trolley with robust wheels**

For field hospitals where a higher filtration than for normal accommodation is wanted, a dual filtration system for the internal air path is available. The AC-M11 is equipped with an electric heating coil, to provide heating for example for night time when temperatures can fall under 68°F.



**Unit components and airflow**

1. Condenser air intake
2. Condenser air discharge
3. Warm air intake
4. Dual filter system (optional)
5. Cooled air discharge
6. Duct coupling (Ø12.4in)
7. Electrical panel with cover

**AC-M11 dimensions**

Specifications	Units	AC-M11
Registered NSN – NATO Stock Number		Yes
Operating temperature range, cooling	°F	+68 to +140
Operating temperature range, heating	°F	-26 to +68
Air flow	SCFM	1000
Sound level @ 1m	dB(A)	55
Protection class	NEMA	3S
Refrigerant		R407C
Nominal cooling capacity	BTU	37,500
Heating capacity (optional)	BTU	27,300
Power supply	V/Hz	208/3ph/60
Max. running current, cooling/heating	A	30/32
Locked rotor amperage (LRA)	A	65.5
Max. power consumption cooling/heating	W	4,200/8,800
Hose connection	Øin	12.4
Product size (h x l x w)	Øin	28.3 x 44.9 x 44.9
Weight	lbs	375



**AC-M18**



- 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 68°F
- 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)
- Filter class: ISO coarse 75%



**AC-M18  
with trolley**

**Optional accessories**



**Remote thermostat  
with cable**  
49ft  
**064409**



**Insulated flexible  
air duct including  
storage bag**  
Ø15.75" x 10ft  
**030774**



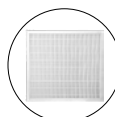
**Uninsulated flexible  
air duct including  
storage bag**  
Ø15.75" x 16ft  
**033223**



**Air distribution duct**  
Ø15.75" x 19.7ft  
**033224**



**Trolley with wheels**  
**075770**



**Filter ePM2.5 65%**  
**090973**



**HEPA filter**  
**323041**



Tent cooling  
**AC-M18**



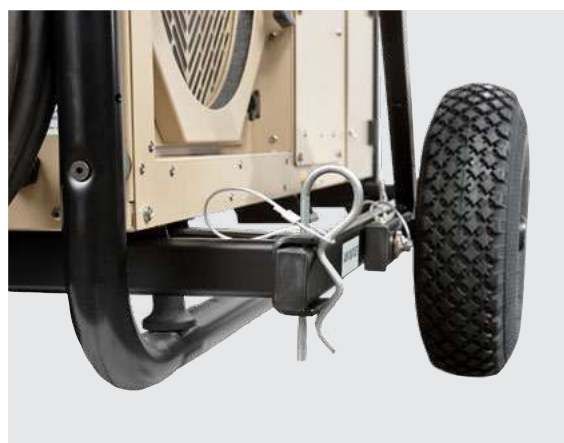
**Control panel**



**Filter ePM2.5 65%**



**Control panel open**



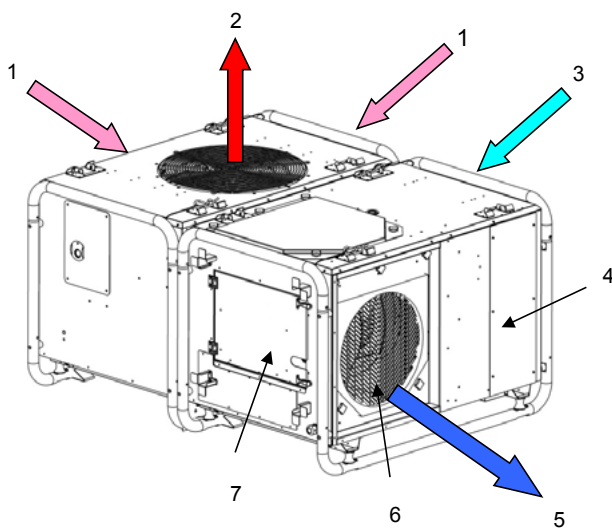
**Trolley with robust wheels**



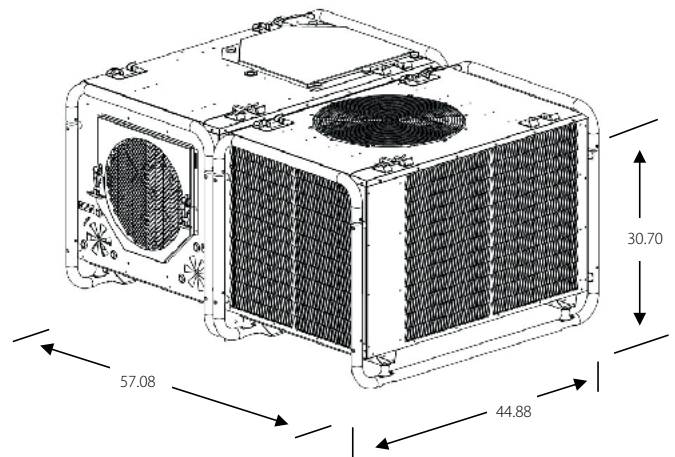
**Condenser view**

**Unit components and airflow**

1. Condenser air intake
2. Condenser air discharge
3. Warm air intake
4. Dual filter system (optional)
5. Cooled air discharge
6. Duct coupling (Ø15.75in)
7. Electrical panel with cover



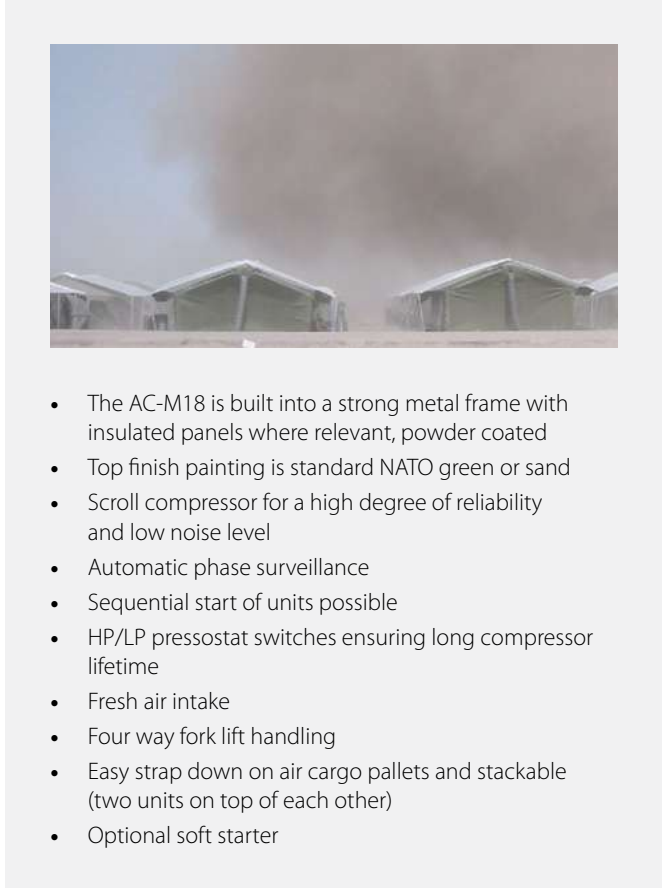
**AC-M18 dimensions**



Specifications	Units	AC-M18 (US 3x208V/60 Hz)	AC-M18 (US 3x400V/60 Hz)
Registered NSN – NATO Stock Number		Yes	Yes
Operating temperature range, cooling	°F	68 to 140	68 to 140
Operating temperature range, heating	°F	-26 to 68	-26 to 68
Air flow	SCFM	1471	1471
Sound level @ 3m	dB(A)	59	59
Protection class	NEMA	3S	3S
Refrigerant		R407	R134a
Nominal cooling capacity	BTU	60,000	60,000
Heating capacity (optional)	BTU	20,500/54,600	20,500/54,600
Power supply	V/Hz	208/3ph/60	400/3ph/60
Max. running current, cooling/heating	A	33/52	13/26
Locked rotor amperage (LRA)	A	164	72
Max. power consumption cooling/heating	W	8,300/variable	8,300/variable
Hose connection	Øin	15.75	15.75
Product size (h x l x w)	In	30.7 x 57.1 x 44.9	30.7 x 57.1 x 44.9
Weight	lbs	454.2	454.2



AC-M18 CBRN



- The AC-M18 is built into a strong metal frame with insulated panels where relevant, powder coated
- Top finish painting is standard NATO green or sand
- 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)
- Optional soft starter

### Optional accessories



**Remote thermostat with cable**  
49ft  
**064409**



**Insulated flexible air duct including storage bag**  
Ø15.75" x 10ft  
**030774**



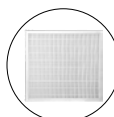
**Uninsulated flexible air duct including storage bag**  
Ø15.75" x 16ft  
**033223**



**Air distribution duct**  
15.75" x 20ft  
**033224**



**Trolley with wheels**  
**075770**



**Filter ePM2.5 65%**  
**090973**



**HEPA filter**  
**323041**

# AC-M18 CBRN



The AC-M18 CBRN is designed to operate on COLPRO applications with the evaporator module placed inside the shelter and the condenser module placed outside. The two modules are interconnected by 16ft long refrigerant hoses, power and control cables. The interconnections are all equipped with quick disconnect components for quick and safe setup and take down.

The HVAC unit can also operate with both modules placed outside, with supply air and return air ducted to one tent. A dual filtration system for the internal air path is available for selective filtration.



**Control panel**



**COLPRO tent application**

Specifications	Units	AC-M18 CBRN (US 60 Hz)
Registered NSN – NATO Stock Number		Yes
Operating temperature range, cooling	°F	68 to 140
Operating temperature range, heating	°F	-26 to 68
Air flow	SCFM	1471
Sound level @ 1m	dB(A)	59
Protection class	NEMA	3S
Refrigerant		R407
Nominal cooling capacity	BTU	60,000
Heating capacity (optional)	BTU	20,500/54,600
Power supply	V/Hz	3x208/60
Max. running current, cooling/heating	A	33/52
Locked rotor amperage (LRA)	A	179
Max. power consumption cooling/heating	W	8,300/variable
Hose connection	Øin	15.75
Product size (h x l x w)	in	(2x) 30.7 x 28.5 x 44.9
Weight Indoor / outdoor	lbs	247 / 265



# AC-M18 CBRN

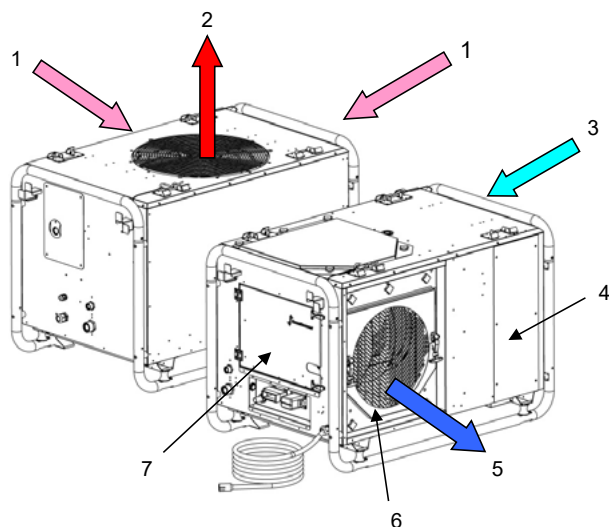
The function of the AC-M18 CBRN is based on a cooling circuit and two powerful fans. The evaporator section contains the evaporator and a radial fan, which draws warm internal air of the tent through the cold evaporator and blows out the cooled air either through the side or top of the unit. The condenser section contains two condenser coils and a large axial fan, returning the heat taken from the internal air to the outside atmosphere.

The AC-M18 CBRN can be equipped with an electric heating coil, to provide heating for example for night time when temperatures can fall under 68°F. All sheet metal parts are protected against corrosion by a minimum 50 to 80µm top coat.

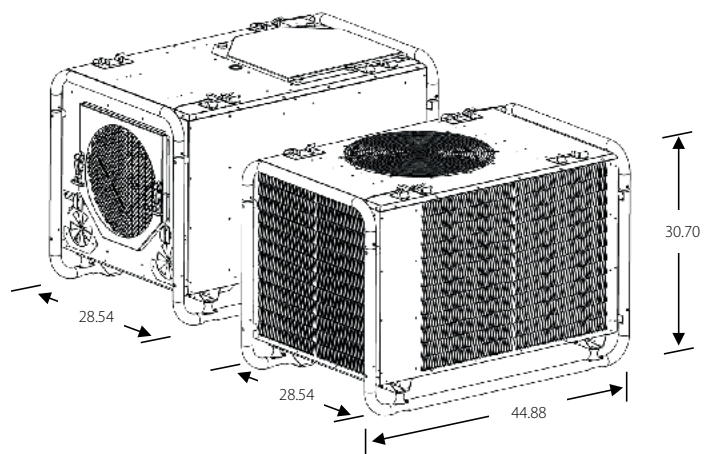


### Unit components and airflow

1. Condenser air intake
2. Condenser air discharge
3. Warm air intake
4. Dual filter system (optional)
5. Cooled air discharge
6. Duct coupling (Ø15.75in)
7. Electrical panel with cover



### AC-M18 CBRN dimensions



# HEPA FILTER



The HEPA filter unit is mounted on top of the AC-M18 unit

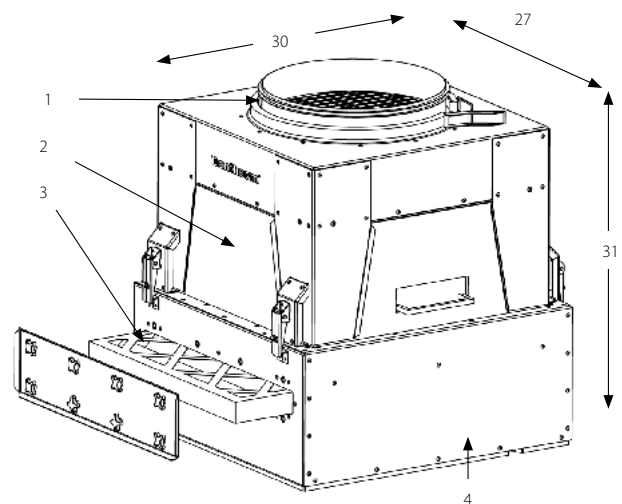


- For external installation, mounted on top of the AC-M18 evaporator side
- Can be fitted with H13 or H14 filters
- Up to four filters can be used in the air stream
- Reduces the internal fan noise of the air-conditioner of 3 dB (at 3.3ft distance)
- Flexible air duct connection diameter 15.75in



AC-M18 with HEPA filter unit and protective tarpaulin




## HEPA filter unit dimensions






Specifications	Units	HEPA filter unit
Registered NSN – NATO Stock Number	-	On all variants
Flex. air duct connection	Øin	15.75
Filter collection efficiency for H13	%	99.95
Filter collection efficiency for H14	%	99.995
Weight (with HEPA and pre-filter)	lb	84
Product size (h x l x w)	in	30 x 27 x 31

# ACCESSORIES

## Thermostats and CO sensors



Illustration	Name	Code	Description	For products
	<b>Thermostat for manual switch between cooling and heating</b>	<b>064409</b>	Water and dust tight enclosure (IP 66), adjustable differential, 15 m connection cable	AC-M11, AC-M18
	<b>Thermostat for automatic switch between cooling and heating</b>			AC-M18, AC-M18 CBRN, AC-M11
	<b>Digital remote thermostat TH-M</b>	<b>4035.555</b>	15 m cable, digital	FH 20
	<b>Remote CO sensor</b>	<b>096472</b>	15 m cable, hanging strap, power indicator, visible alarm, audible alarm	FH 20

## Air duct systems




Illustration	Name	Code	Description	For products
<b>Air duct system Ø315mm</b>				
	<b>Insulated flexible air duct - 3m</b>	<b>562409</b>	Extremely UV resistant (desert conditions), anti-infrared, resistant to mechanical wear, the air duct includes a storage bag	AC-M11
	<b>Non-insulated flexible air duct - 5m</b>	<b>428441</b>		
	<b>Non-insulated flexible air distribution duct - 5m</b>	<b>428443</b>		
	<b>Non-insulated flexible air distribution extension duct - 2m</b>	<b>428442</b>		

# ACCESSORIES



## Air duct systems

Illustration	Name	Code	Description	For products
<b>Air duct system Ø350mm</b>				
	<b>Insulated flexible air duct - 3m</b>	<b>4515.371</b>	Nylon, black, UV resistant, resistant to mechanical wear	FH 20
	<b>Non-insulated flexible air distribution duct - 5m</b>	<b>4515.380</b>	25mm holes in two rows - 18 holes every meter	

## Air duct system Ø400mm

	<b>Insulated flexible air duct - 3m</b>	<b>030774</b>	Extremely UV resistant (desert condition) anti infrared, the air duct includes a storage bag	AC-M18, AC-M18 CBRN
	<b>Non-insulated flexible air duct - 5m</b>	<b>033223</b>		
	<b>Non-insulated flexible air distribution duct - 6m</b>	<b>033224</b>		



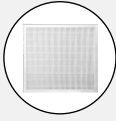


## Additional equipment for air heaters

Illustration	Name	Code	Description	For products
	<b>Forklift pockets</b>	<b>4035.740</b>		FH 20
	<b>Stacking frame</b>	<b>4035.741</b>		FH 20



# ACCESSORIES

## Additional equipment for air-conditioners

Illustration	Name	Code	Description	For products
	Trap door system	322040		AC-M5 MKII
	Welding frame for corrugated container	019502		AC-M5 MKII
	Filter ePM2,5 65%	068532	ePM2,5 65%	AC-M11
		090973		AC-M18, AC-M18 CBRN
	HEPA filter	323041	Can be fitted with H13 or H14 filters, up to four filters can be used in the air stream, flexible air duct connection diameter 400mm	AC-M18, AC-M18 CBRN
	Trolley with wheels	068459	In situations and sites where no forklift is available, the wheel solution enables rapid and easy deployment of the environment control systems.	AC-M11
		075770		AC-M18, AC-M18 CBRN

### Disclaimer:

The information contained in this catalogue is to be used only as a guide to assist with product selection. We disclaim any and all liability for typographical, printing, or production errors or changes affecting the products and/or the specifications contained herein.







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