

# COOLING UNITS



FOR CLIMATE CONTROL,  
COMMERCIAL REFRIGERATION  
AND INDUSTRIAL APPLICATIONS



# Swedish cooling units. Mini, Mid

The Frigadon range of commercial refrigeration products is characterised by compact packaged "plug-in" units available in a wide selection of standard model which can easily be adapted to customer specifications. All products have an environment-friendly refrigerant in a small hermetically sealed system.

All units have a similar layout simplifying maintenance and servicing.

The range consists of the Mini, Midi, Maxi and Mega sizes, with refrigeration capacities from 0.5 kW to 11 kW. The units are designed to cope with harsh Swedish climate without putting any undue stress on the environment, and need only a minimum of maintenance. The units can be factory fitted with accessories such as weather-proofing, watercooled condenser and soundproofing.



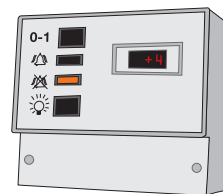
## Minicool 15-E and 20-E

Nominal cooling capacities 1.45 and 2.10 kW.  
Temperature range +2 to +12°C.



## Minicool 5, 10 and 20

Nominal cooling capacities 0.45, 0.85 and 2.10 kW.  
Temperature range +2 to +12°C.



## Remote control panel

Standard for all units except Minicool 5, 10 and 20.  
For indoor use only.



## Midicool 30 and 40

Nominal cooling capacities 3.15 and 4.00 kW.  
Temperature range +2 to +12°C.



## Maxicool 50 and 70

Nominal cooling capacities 4.95 and 6.75 kW.  
Temperature range +2 to +12°C.



## Megacool 90 and 110

Nominal cooling capacities 9.05 and 10.85 kW.  
Temperature range +2 to +12°C.

# i, Maxi and Megacool

## Technical data



Minicool installed in cold room.

## Packaged units Mini, Midi, Maxi, Megacool

The Frigadon cooling units comprise condensing and evaporator sections within a packaged unit. The units are delivered "ready to run". Just install and connect to an electrical supply. Standard equipment includes:

- Automatic condensate water disposal (wall mounted units only)
- Microprocessor controller
- Temperature display with acoustic alarm for high/low temperatures
- Alarm pilot lamp with reset button and open-circuit alarm device (Not Minicool)
- Internal starting, operating and safety devices
- Electrical supply cable fitted for easy wiring to external safety breaker

### • Stop defrost cycle

The units are installed through the wall. Ceiling mounted units are made to order. If the units are installed through an outer wall, the weatherproofed model (additional designation -V) should be ordered

The weatherproofed units are equipped as follows:

- Thermostatically controlled crankcase heater
- Pressure regulated variable speed condenser fan (not Minicool)
- Front cover in UV-stabilized impact resistant light grey plastic (Minicool only)

		Minicool		Minicool			Midicool		Maxicool		Megacool	
		15-E	20-E	5	10	20	30	40	50	70	90	110
Electrical supply	Volt/phase/Hz	230/1/50		230/1/50			400/3N/50		400/3N/50		400/3N/50	
Fuse	Amp, slow	10	10	10	10	10	10	16	16	16	25	25
Absorbed power, max	kW	0.93	1.60	0.61	0.99	1.62	2.10	2.80	3.27	5.10	6.00	8.05
Absorbed power, nominal 1)	kW	0.77	1.06	0.39	0.63	1.15	1.52	2.11	2.47	3.73	4.53	6.08
Cooling capacity 2) T <sub>2</sub> =-10°C	kW	1.15	1.70	0.35	0.65	1.70	2.40	3.10	3.55	5.00	6.90	8.15
Cooling capacity 2) T <sub>2</sub> =-5°C	kW	1.45	2.10	0.45	0.85	2.10	3.15	4.00	4.95	6.75	9.05	10.85
Cooling capacity 3) T <sub>2</sub> =-10°C	kW	1.00	1.50	0.30	0.60	1.50	2.20	2.82	3.15	4.50	6.25	7.25
Cooling capacity 3) T <sub>2</sub> =-5°C	kW	1.30	1.90	0.40	0.80	2.00	2.95	3.75	4.45	6.10	8.30	9.85
Refrigerant	type	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A
Refrigerant charge	kg	1.00	1.00	0.37	0.42	0.80	1.70	1.80	2.80	3.00	8.00	8.50
Sound level 4)	dB(A)	58	58	52	55	58	65	67	69	70	5.00	5.50
Air volume, evaporator	m <sup>3</sup> /s	0.22	0.35	0.09	0.17	0.25	0.42	0.61	0.75	1.05	1.45	1.95
Dimension A	mm	450	450	535	535	600	650	650	870	870	1470	1470
Dimension B	mm	500	500	635	635	700	590	590	730	730	730	730
Dimension C	mm	360	360	70	100	170	340	340	390	390	390	390
Dimension D	mm	-	-	210	210	250	290	290	390	390	390	390
Dimension E	mm	500	500	-	-	180	540	540	720	720	720	720
Dimension F	mm	505	505	595	650	650	750	750	975	975	1575	1575
Dimension G	mm	755	755	695	750	750	1095	1095	1190	1190	1290	1290
Dimension H	mm	-	-	-	-	-	995	995	1090	1090	1190	1190
Installation hole size, width	mm	460	460	545	545	610	675	675	895	895	1495	1495
Installation hole size, height	mm	510	510	645	645	710	1020	1020	1110	1110	1210	1210
Max wall/ceiling thickness	mm	100/-	100/-	210/130	210/130	430/250	300/300	300/300	400/400	400/400	400/400	400/400
Weight	kg	75	75	32	45	70	135	140	230	240	380	390
Suitable room size at +4°C 5)	m <sup>3</sup>	18	30	4	6	18	46	70	100	120	230	330
Suitable room size at +10°C 5)	m <sup>3</sup>	30	48	6	18	48	75	105	128	238	345	405

1. Nominal absorbed power at T<sub>2</sub>=-5°C, T<sub>1</sub>=+40°C and ambient temp = +27°C

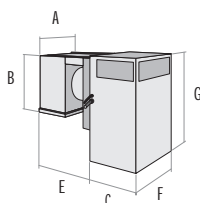
2. Cooling capacity at T<sub>1</sub>=+40°C, ambient temp = +27°C and room temp -T<sub>2</sub> = 10°C

3. Cooling capacity at T<sub>1</sub>=+45°C, ambient temp = +32°C and room temp -T<sub>2</sub> = 10°C

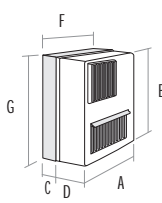
4. Sound level measured at condenser side 1 metre from unit.

5. Room volume at normal usage and ventilation. Ambient temp = +27 °C, U-value 0,30 W/°C/m<sup>2</sup> and compressor run time = 18h/24h. Ambient temp = +32°C => Volume x 0,65

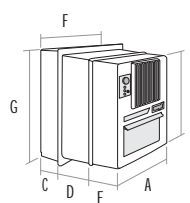
Minicool 15 and 20



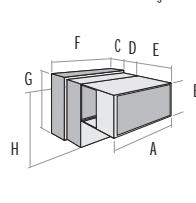
Minicool 5 and 10



Minicool 20



Midi-/Maxi-/Megacool



## Split Units Mini, Midi, Maxi, Megacool

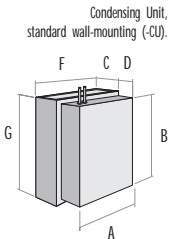
The Frigadon split systems are used where packaged units cannot be installed or where there are several Frigadon evaporator units to be connected to a central Frigadon condensing unit.

Example: a cold storage room and several display counters, refrigerated cabinets (or similar) connected to a single condensing unit.

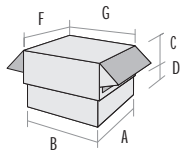
## Condensing Unit (-CU)

Suitable for wall mounting, rooftop installation (-LM) or sitting on rack/stand. Standard units are "ready to run" and the equipment includes receiver, sight glass, internal starting, operating, and safety devices and necessary mounting hardware. The Frigadon condensing unit is controlled with a pump-down

cycle, thereby rendering any wiring between units unnecessary. The standard unit has external pipe connections for easy installation. The Frigadon condensing unit can be supplied in a weatherproofed model (additional designation -V).



Condensing Unit, standard wall-mounting (-CU).



Midi, Maxi, Megacool evaporator unit ceiling installation (-EU-TA).

### Condensing Unit (-CU)

		Minicool		Midicool		Maxicool		Megacool	
		10-CU	20-CU	30-CU	40-CU	50-CU	70-CU	90-CU	110-CU
Electrical supply	Volts/phase/Hz	230/1/50		400/3N/50		400/3N/50		400/3N/50	
Fuse	Amps, slow	10	10	10	10	10	16	20	25
Absorbed power, max	kW	0.91	1.55	1.87	2.51	2.99	4.70	5.43	7.20
Absorbed power, nominal 1)	kW	0.56	1.08	1.37	1.83	2.19	3.33	3.97	5.24
Cooling capacity 1)	kW	Corresponds to packaged units							
Refrigerant	type	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A
Refrigerant charge	kg	0.40	0.60	2.05	2.20	3.40	3.60	5.25	5.50
Sound level 4)	dB(A)	55	58	65	67	69	70	72	74
Dimension A	mm	600	600	650	650	870	870	1470	1470
Dimension B	mm	700	700	995	995	1090	1090	1190	1190
Dimension C	mm	100	170	340	340	390	390	390	390
Dimension D	mm	250	250	290	290	390	390	390	390
Dimension F	mm	650	650	750	750	975	975	1575	1575
Dimension G	mm	750	750	1095	1095	1190	1190	1290	1290
Retaining bolt holes c-c, width	mm	460	460	615	615	835	835	1415	1415
Retaining bolt holes c-c, height	mm	735	735	1040	1040	1135	1135	1235	1235
Weight	kg	40	65	105	110	180	185	290	300

1. Nominal absorbed power at  $T_2 = -5^\circ\text{C}$ ,  $T_1 = +40^\circ\text{C}$  and ambient temp =  $+27^\circ\text{C}$

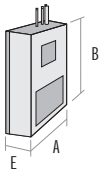
4. Sound level measured at condensing side 1 metre from unit.

## Evaporator Unit (-EU)

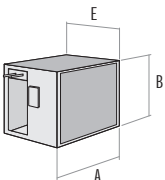
Suitable for wall or ceiling installation (must be specified when ordering). Standard units are "ready to run" and the equipment includes expansion valve, liquid line solenoid valve and micro-processor controller with temperature display.

All controls are fitted within a remote control panel (not Minicool) to be installed as required (indoor use only). The standard unit has external pipe connections for easy installation. All Evaporator Units must be connected to a drain.

Minicool, Evaporator Unit standard wall installation (-EU).



Midi, Maxi, Megacool evaporator unit ceiling installation (-EU-TA).



### Evaporator Unit (-EU)

		Minicool		Midicool		Maxicool		Megacool	
		10-EU	20-EU	30-EU	40-EU	50-EU	70-EU	90-EU	110-EU
Electrical supply	Volt/phase/Hz	230/1/50		230/1/50		230/1/50		230/1/50	
Fuse	Amp, slow	10	10	10	10	10	10	10	10
Absorbed power, max	kW	0.05	0.08	0.15	0.24	0.24	0.29	0.29	0.70
Cooling capacity, $\Delta t = 10^\circ\text{C}$ , RH60%	kW	0.85	2.10	3.15	4.00	4.95	6.75	9.05	10.85
Refrigerant	type	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A	R-404A
Refrigerant charge	kg	0.20	0.30	0.55	0.60	1.10	1.30	2.75	3.00
Dimension A	mm	600	600	650	650	870	870	1470	1470
Dimension B	mm	700	700	590	590	730	730	730	730
Dimension E	mm	100	170	540	540	720	720	720	720
Retaining bolt holes c-c, width	mm	525	525	615	615	895	895	1415	1415
Retaining bolt holes c-c, height	mm	735	735	590	590	750	750	750	750
Weight	kg	15	20	40	40	55	55	90	95

# Additional types and accessories

Frigadon has a complete range of standard accessories which are not separate parts but are integrated in the unit at manufacture and tested before delivery.

Frigadon's products are "made to order", ready to run units, focusing on the exact needs of the customer.

## Choose model/accessory

### Weatherproofed model

Designation V

Unit for installation through an outer wall. The units are equipped with crankcase heater, pressure regulated variable speed condenser fan and front cover in UV-stabilized, impact resistant light grey plastic (the latter only applies to Minicool).

### Arctic model

Designation AR

Air-cooled condenser set-up for ambient temperatures down to  $-30^{\circ}\text{C}$ .

### Built-in or separate light armature

Designation B

Integrated on the evaporator side or for separate wall/ceiling installation. Complete with retaining screws, cable

clamps and door switch for control light/evaporator fan. Available as 1 x 60, 2 x 60, 3 x 60 and 4 x 60 W.

### Built-in electrical heating

Designation EV

For outdoor cold rooms that need to be kept at a constant temperature. Capacity 1 to 15 kW.

### Combi

Designation KO

Cooling/freezing in the same unit.

### Soundproofing

Designation LD

Reduces sound level by approx 3 – 5 dB(A) on the condenser side.

### Tropicalized model

Designation T

Air-cooled condenser set-up for ambient temperatures up to  $+45^{\circ}\text{C}$ .

### Water-cooled condenser

Designation VK

Air-cooled condenser replaced with plate heat-exchanger carefully calculated to your specifications, complete with automatic water regulating valve or manual regulating valves.

### Customer specified colour

The complete unit or just the front cover painted in the colour of your choice.

### Customer specified units

Please ask for quotation.

## Specification guide

1. Choose model – packaged or split system.
2. Choose standard or weatherproofed model.
3. Choose capacity. Make your own calculation or use the quick guide under *Technical Data*. Note! (Intended only as a guideline).
4. Choose wall or ceiling installation.  
DI = Drop-In installation (through ceiling, packaged units only).

LM = Rooftop installation (Condensing units only).  
TA = Ceiling installation (Evaporator units only).

5. Other types/accessories from the above list.

For further information, please contact the Frigadon sales office. See also our other brochures: "Freezer units", "Air-conditioning Units" and "Water Chillers".

# Frigadon

Frigadon is an up to date company working with development, design and manufacturing of refrigeration systems for industry and commercial use. About 20 personnel are employed, working with various applications of refrigeration.

Frigadon has been in the market since 1977. Operations began with small plug-in units for cold rooms. Today, the most expansive market is water chillers and custom designed products supplied to the industry on an OEM basis\*.

Our customers are mainly refrigeration installers and industries who buy process cooling and OEM applications. Most are located in Scandinavia, although some can be found in Europe.

Our products are designed for Swedish climate conditions and meet the requirements of Svensk Kylnorm.

\*OEM stands for Original Equipment Manufacturer. This means that Frigadon manufactures other companies' original products.



Retailer



Frigadon AB  
Box 7001  
S-300 07 Halmstad, Sweden  
Visiting address: Kvarndalsv. 12

Phone: +46 (0)35-16 64 60  
Fax: +46 (0)35-12 40 23  
E-mail: [frigadon@frigadon.se](mailto:frigadon@frigadon.se)  
[www.frigadon.se](http://www.frigadon.se)