# COLORADO Cassette

## K 9A / K 11A / K 15A / K 18A / K 24A

R-407C

| | Cooling capacity (W) | Heating capacity (W) |
|---|---|---|
| **K 9A** | 2500 | 2730 |
| **K 11A** | 3230 | 3500 |
| **K 15A** | 3800 | 4500 |
| **K 18A** | 5600 | 5730 |
| **K 24A** | 7020 | 7100 |

Airwell

INDIVIDUAL COMFORT RANGE

Technical Instructions
**TM 03KA 2 GB A**
*Cancels abd replaces :* **TM 03KA 1 GB A**

# Colorado

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## PRESENTATION

These units are optimised for operating with chlorine-free **R-407C** refrigerant having no harmful effects on the ozone layer.

The range of **«CASSETTE»** type individual air conditioners provides high quality, precisely controlled air conditioning with low installation costs.

These units are suitable for decentralised installations covering a broad range of capacities.

They can be integrated perfectly into standard suspended ceiling modules, thanks to their aesthetic appearance and small dimensions.

This range has been designed for easy connections and maintenance with all connections accessible via the fascia grille.

They are intended for connection to air condenser units from our existing range and are available in the following versions:

- **Cooling only**
  Cooling and electrical heating, dehumidification (electrical heating + cooling).

- **Heatpump**
  Cooling, thermo-dynamic heating and additional electrical heating, dehumidification.

**1. Air treatment cassette unit**
Allying technical quality with reliability and ease of installation.

It comprises :
- A shallow depth (287 mm) cassette unit to be built in to the ceiling, with dimensions compatible with standard suspended ceiling panels (600 mm x 600 mm).
- Three fan speeds, selectable by the user.
- Incorporated electrical heating, to be connected on site.
- Condensate lift pump with float and 3 level detector (start – stop – alarm) to raise the condensates to the upper part of the unit. Gravity drainage from the unit is to be provided on installation (lift height up to 600 mm).
- Interior, slide-mounted electrical controls and safeties box including power supply terminal block with screw-less terminals and multi output automatic transformer for setting different operating speed (on site).
- Infrared remote control with liquid crystal display.
- Combined air distribution and intake grille with air filter, manually adjustable blowing vents on all four sides, central air intake.



# PRESENTATION

**2. Air condenser unit**
Of compact design, taking up very little floor area, this unit houses the cooling compressor, the fan-condenser assembly and the electrical box.

It comprises :
- Specially coated bodywork to withstand bad weather.
- A special soundproofed compartment enclosing the compressor (depending on the model).
- Two installation possibilities: direct positioning on the floor or mounting on a wall bracket with an accessory supplied separately.
- Helicoidal type ventilation with a horizontal flow axial fan.
- Protection grille.

**3. Pipe connections**
Both the indoors and outdoors units are equipped with FLARE connectors, thus enabling the use of FLARE type pipes (refrigerating quality copper piping equipped with nuts at both ends).

**4. Description**
**4.1 Casing**
- Insulated sheet panels on the indoors unit and anti-corrosion surface treatment with baked powder coating or oven-baked paint on the outdoors unit, depending on the models.
- Combined air distribution / intake grille on the Cassette.
- Manual adjustment of air distribution vents on all four sides. Possibility of shutting off vents on two sides.
- Central air intake with filter.
- Pre-stamped cut-outs for connection to a fresh air intake duct or connection of a spur duct to air condition an adjacent room. In this case, decompression must be ensured in the adjacent room to ensure the effective intake of clean air into the Cassette unit.

**4.2 Insulation**
- Thermal and acoustic insulation of the entire indoor air treatment cassette unit.
- Insulation of the entire condenser unit compressor compartment.

**4.3 Refrigeration circuit**
- Hermetically sealed compressor unit equipped with thermal and electrical overload safeties connected to a sealed, entirely brazed, refrigeration circuit.
- «Capillary» type fixed setting expansion device.
- Refrigerant filter incorporated in the refrigeration circuit.
- **«ALL SEASONS»** system (accessory) controlling the refrigeration circuit high pressure for operating at outdoor temperatures as low as –10° C by regulating the outdoors unit fan speed.



## PRESENTATION

- The heat pump version of the cassette unit is equipped with a cooling cycle inversion system enabling operation as an AIR/AIR heat exchanger by thermodynamic heat production. The system can operate down to outdoors temperatures of –7° C.
  This heating process consists of extracting calories from the outdoors air and transferring them to the air to be heated indoors. It offers an attractive coefficient of performance (COP) of between 2.2 and 3, depending on outdoors climatic conditions. In fact, on average, for the same calorific output, these heat pumps consume 3.2 times less electrical energy than traditional electrical heating systems, thus providing considerable savings for the user.
- The heat pump models are equipped with non-return valves and additional capillary expansion circuits.

### 4.4 Ventilation

- Condenser unit (GC) equipped with helicoidal profiled axial flow fan with low rotational speed.
- Direct drive centrifugal turbine.
- Motors mounted on vibration absorbing pads and equipped with internal thermal safety protection. Single speed motor coupled to an auto-transformer.

### 4.5 Filtration

Re-usable type air filter accessible after opening the combined air distribution / intake grille.

### 4.6 Electrical heating

- The cassettes incorporate factory-fitted electrical heating to be connected on site. You must comply with the connections as indicated on the wiring diagrams. (Depending on the model, these units operate on single or three phase power and operate in standard cooling/ ventilation or heat pump mode. The installer is liable for ensuring the correct on site connections, properly adapted to the model in question).
- The electrical heating system is comprised of heating resistances with thermal overload safety protection against any abnormal rise in temperature. This protection is provided by two thermostats :
  - Automatic reset thermostat
  - Manual reset thermostat

### 4.7 Electronic de-icing for heatpump models

Elimination of the frost produced by the cooling of the water vapour present in the outdoors unit in low temperatures is ensured by an electronic de-icing system mounted on the air treatment unit.

The de-icing cycle operates in accordance with 2 principles or algorithms :

1° This system in controlled by a sensor located on the outdoors coil. It is activated further to a comparison of the condenser temperature after the compressor has been running for 20 minutes and is activated if this temperature drops by 3° C.



## PRESENTATION

2° The second de-icing principle is activated if the condenser temperature is below -8° C and after the expiry of the time delay.
This time delay between 2 de-icing cycles is always between 30 and 80 minutes, depending on the duration of the previous de-icing cycle.
The 2 algorithms adjust the time between 2 de-icing cycles in order to optimise the air conditioning system's performance.
The algorithm will automatically extend the time between 2 de-icing cycles and reduce the actual de-icing cycle times in accordance with requirements.

**For units equipped with electrical heating :**
Operation of the electrical heating systems equipping heat pump systems is forced and the air treatment unit fan will run at low speed in accordance with the evaporator sensor values and in relation to the difference between the ambient air temperature sensor value and the set temperature value.

**N.B.**
The «OPER» or green LED on the infra red receiver flashes when the outdoors fan is not turning.

**For units not equipped with electrical heating :**
During de-icing cycles, operation of the clean air intake fan motor is interrupted in order to avoid distributing uncomfortable cold air into the rooms being air conditioned.
This operation is compatible with outdoors temperatures higher than 0° C.

**4.8 Infrared remote control with liquid crystal display**
The infra red remote control with liquid crystal display has an operating range of 8 metres and controls the following functions :
- START / STOP
- 3 ventilation fan speeds and 1 automatic ventilation position
- I FEEL sensor
- Running hours timer programming….

**5. Documentation**
Each unit is supplied with general wiring and connection diagrams and specific installation and operation instructions.
Each accessory (or kit) is accompanied by technical specifications for fitting and adjustment as required. Technical Instructions manuals are available on request.

# Colorado

## TECHNICAL SPECIFICATIONS

| Models | | K 9A | K 11A | K 15A | K 18A | K 24A |
|---|---|---|---|---|---|---|
| R-407C refrigerant | | • | • | • | • | • |
| Power supply 1 ~230 V | | • | • | • | • | - |
| Power supply 3 N ~400 V | | - | - | - | • | • |
| Nominal cooling capacity | W | 2500 | 3230 | 3800 | 5660 | 7020 |
| Power input – cooling only | W | 1110 | 1310 | 1700 | 2200 | 2640 |
| Nominal heating capacity | W | 2720 | 3500 | 4500 | 5730 | 7100 |
| Power input – Heating | W | 1000 | 1320 | 1660 | 2300 | 2780 |
| Cœfficient of Performance | W/W | 2.72 | 2.65 | 2.71 | 2.50 | 2.6 |
| **Indoors unit noise levels** | | | | | | |
| • LS Low Speed | dBA | 31 | 31 | 32 | 33 | 37 |
| • MS Medium Speed | dBA | 35 | 35 | 36 | 37 | 41 |
| • HS High Speed | dBA | 38 | 38 | 39 | 40 | 45 |
| **Outdoors unit noise levels** | dBA | 52 | 58 | 58 | 57 | 57 |
| **Air flow** | | | | | | |
| • LS Low Speed | $m^3/h$ | 360 | 360 | 400 | 530 | 560 |
| • MS Medium Speed | $m^3/h$ | 400 | 400 | 580 | 640 | 680 |
| • HS High Speed | $m^3/h$ | 570 | 570 | 650 | 760 | 800 |
| **Connections** | | | | | | |
| • GAS pipe Ø | inch | 3/8 | 1/2 | 1/2 | 5/8 | 5/8 |
| • LIQUID pipe Ø | inch | 1/4 | 1/4 | 1/4 | 3/8 | 3/8 |
| • Maximum length | m | 12 | 25 | 25* | 25 | 25 |
| • Condensate drainage pipe Ø | mm | 16 | 16 | 16 | 16 | 16 |
| **ST indoors unit dimensions and weight** | | | | | | |
| • Length x Depth x Height | mm | 571 x 571 x 287 | | | | |
| • Grille | mm | 625 x 625 x 40 | | | | |
| • Weight | kg | 26 | | | | 30 |
| • Packed dimensions | mm | 685 x 685 x 415 | | | | |
| **GC outdoors unit dimensions and weight** | | | | | | |
| • Length x Depth x Height | mm | 760 x 245 x 545 | | | 846 x 302 x 690 | |
| • Weight | kg | 33.5 | 40 | 42.5 | 56 | |
| • Packed dimensions | mm | 880 x 310 x 610 | | | 990 x 430 x 770 | |
| **ACCESSORIES** | | | | | | |
| **Electrical heating** | | | | | | |
| • Nominal capacity - Cooling only· | W | 1650 | | 2550 | 2550 | 2700 |
| • Nominal capacity – Heat pump | W | 900 | | 1500 | 1800 | 1800 |
| **ALL SEASONS system** | | • | • | • | • | • |
| **Wall bracket for GC unit** | | • | • | • | • | • |
| **Pipe lengths** | | | | | | |
| • 2.5 / 5 / 8 | m | • | • | • | • | • |
| • 9 to 15 | m | • | • | • | • | • |

These characteristics are provided for information purposes only and are subject to change without prior notice.

**N.B.**

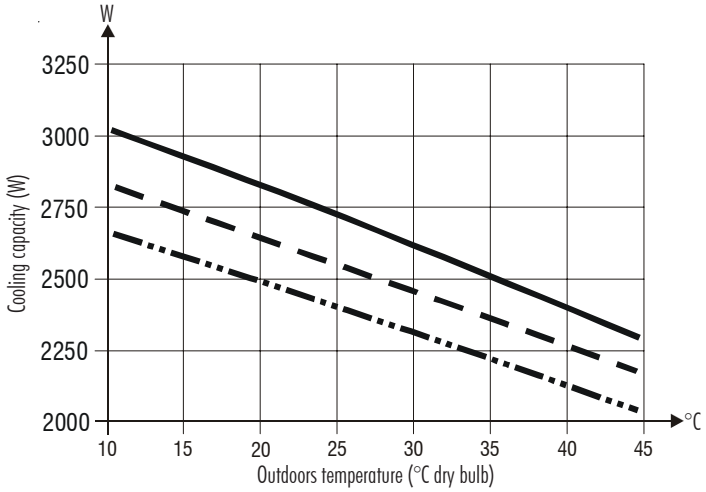
(1) International nominal conditions: (ISO R 859 – NF E 36 – 101) – Type A: 27° / 19° C wet bulb – outdoors air 35° C / 24° C wet bulb.

* 20 m pipe length for the K 15A RC.



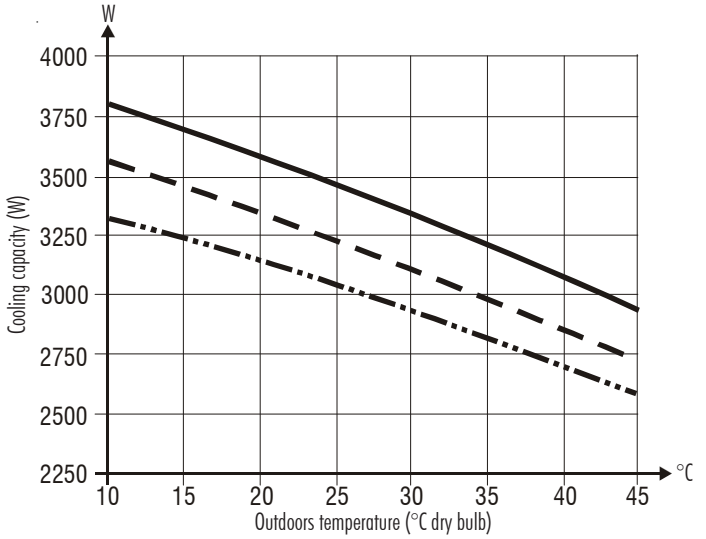
## COOLING CAPACITY

### K 9A model




Indoors temperature
- 27°C dry bulb, 50% hygrometry
- 24°C dry bulb, 50% hygrometry
- 21°C dry bulb, 50% hygrometry

### K 11A model

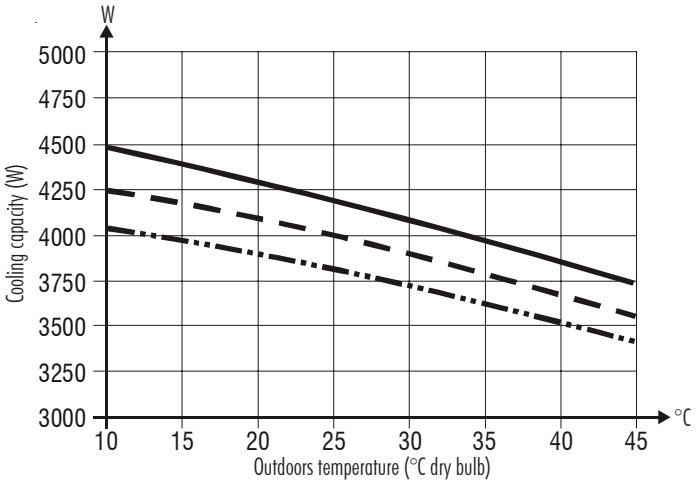



Indoors temperature
- 27°C dry bulb, 50% hygrometry
- 24°C dry bulb, 50% hygrometry
- 21°C dry bulb, 50% hygrometry



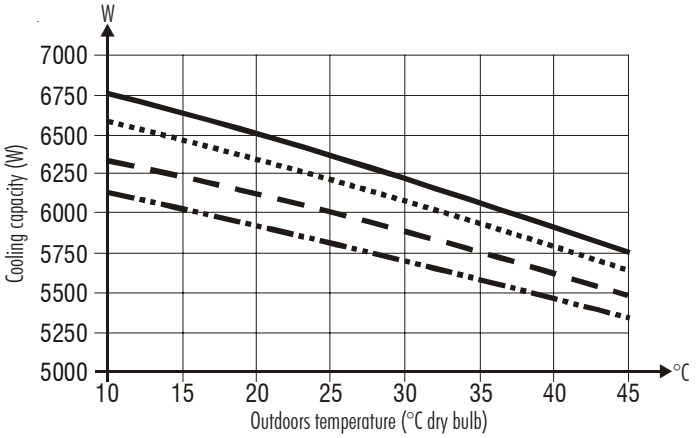
## COOLING CAPACITY

### K 15A model




Indoors temperature
- 22°C wet bulb
- 19°C wet bulb
- 16°C wet bulb

### K 18A model

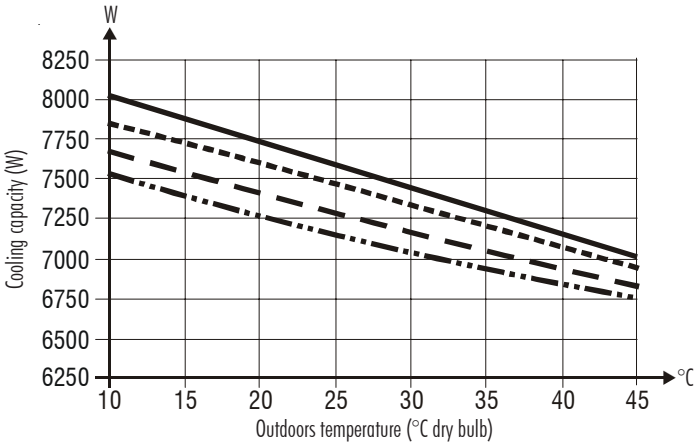



Indoors temperature
- 24°C wet bulb
- 22°C wet bulb
- 20°C wet bulb
- 18°C wet bulb

# Colorado

## COOLING CAPACITY

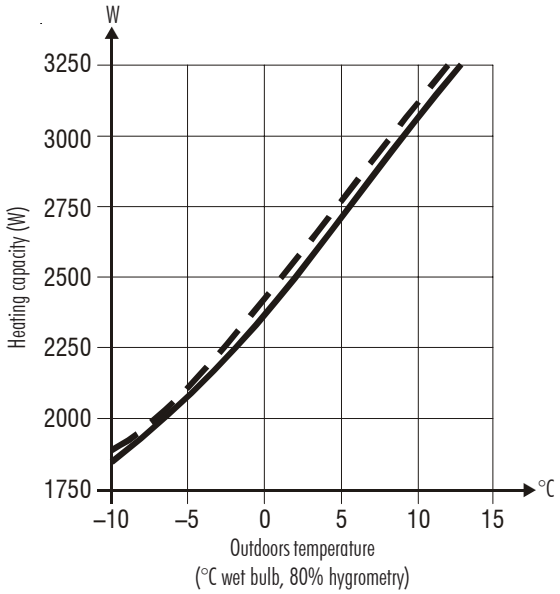
### K 24A model




Indoors temperature
- 24°C wet bulb
- 22°C wet bulb
- 20°C wet bulb
- 18°C wet bulb

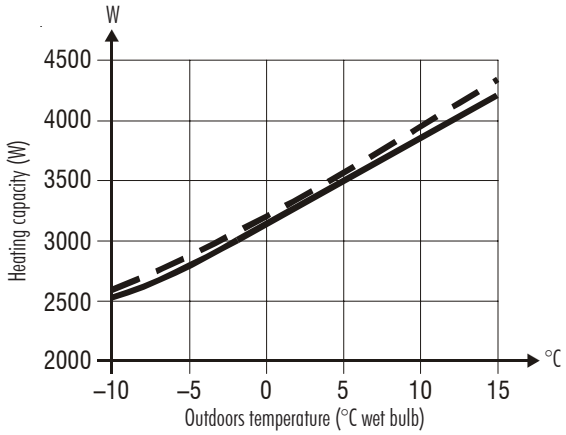
## HEATING CAPACITY

### K 9A model




Indoors temperature
24°C dry bulb
21°C dry bulb

### K 11A model

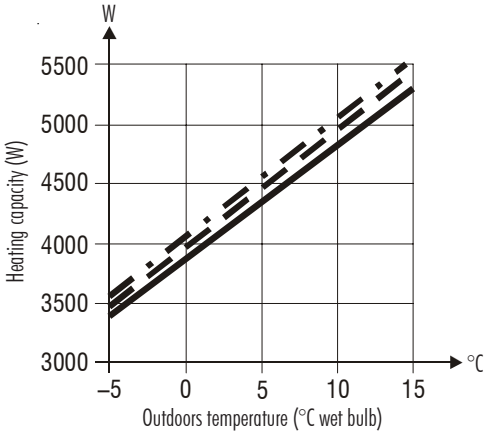



Indoors temperature
24°C dry bulb
21°C dry bulb



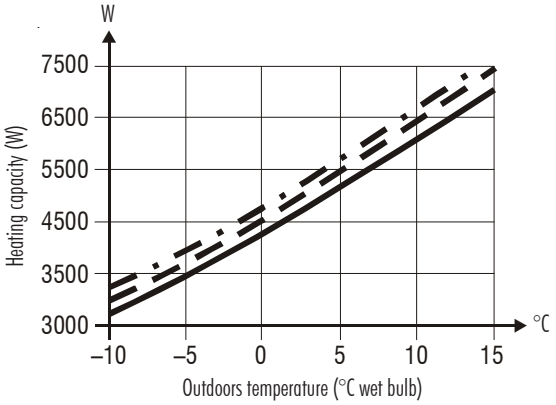
## HEATING CAPACITY

### K 15A model




Indoors temperature
- 21°C dry bulb
- 18°C dry bulb
- 15°C dry bulb

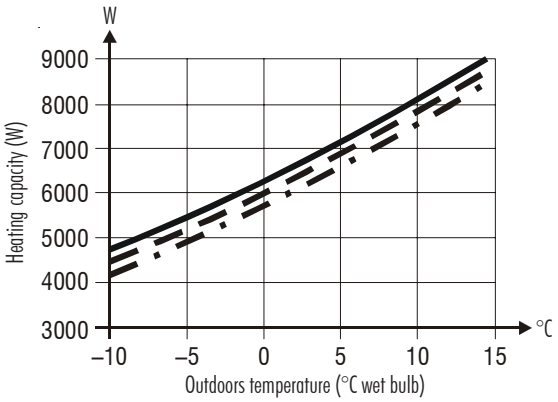
### K 18A model




Indoors temperature
- 25°C dry bulb
- 20°C dry bulb
- 15°C dry bulb

## HEATING CAPACITY

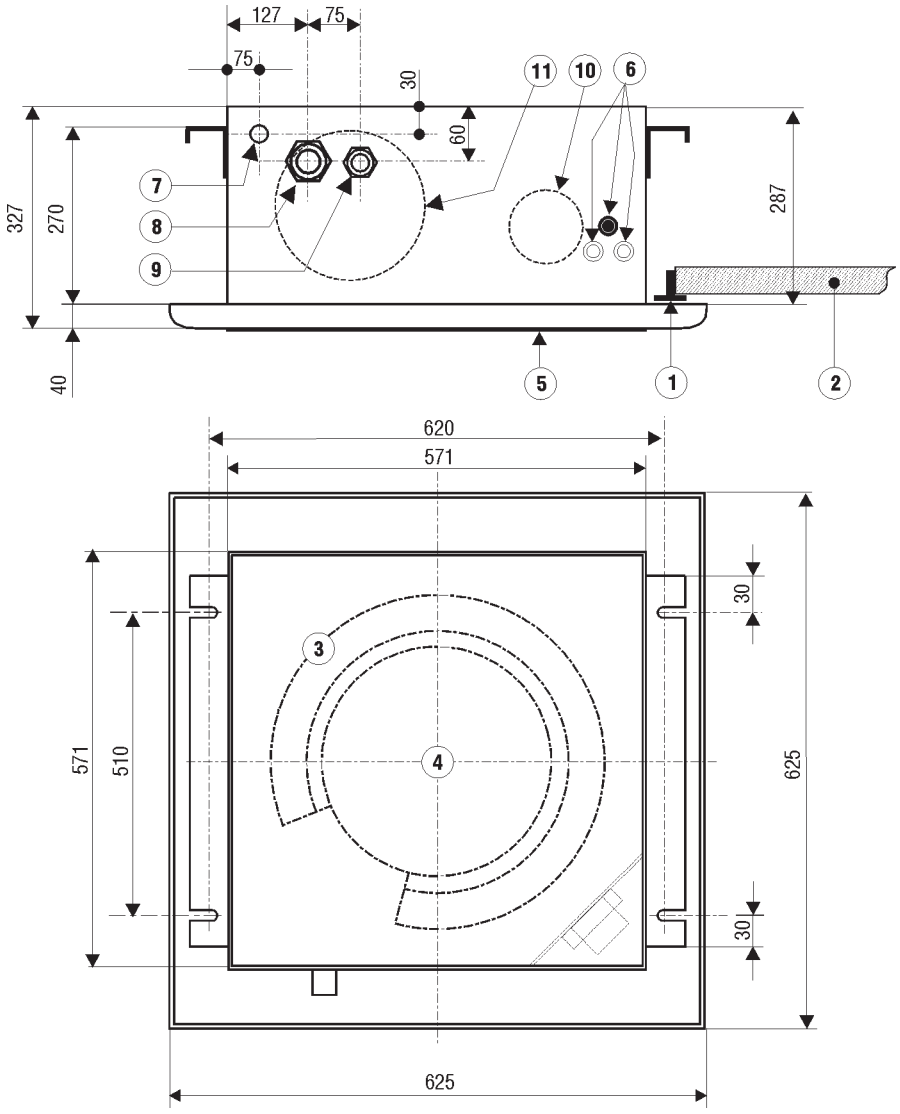
### K 24A model




Indoors temperature
- 15°C dry bulb
- 20°C dry bulb
- 25°C dry bulb

## DIMENSIONS

**Air treatment cassette**
**K 9A / K 11A / K 15A**
**K 18A / K 24A**



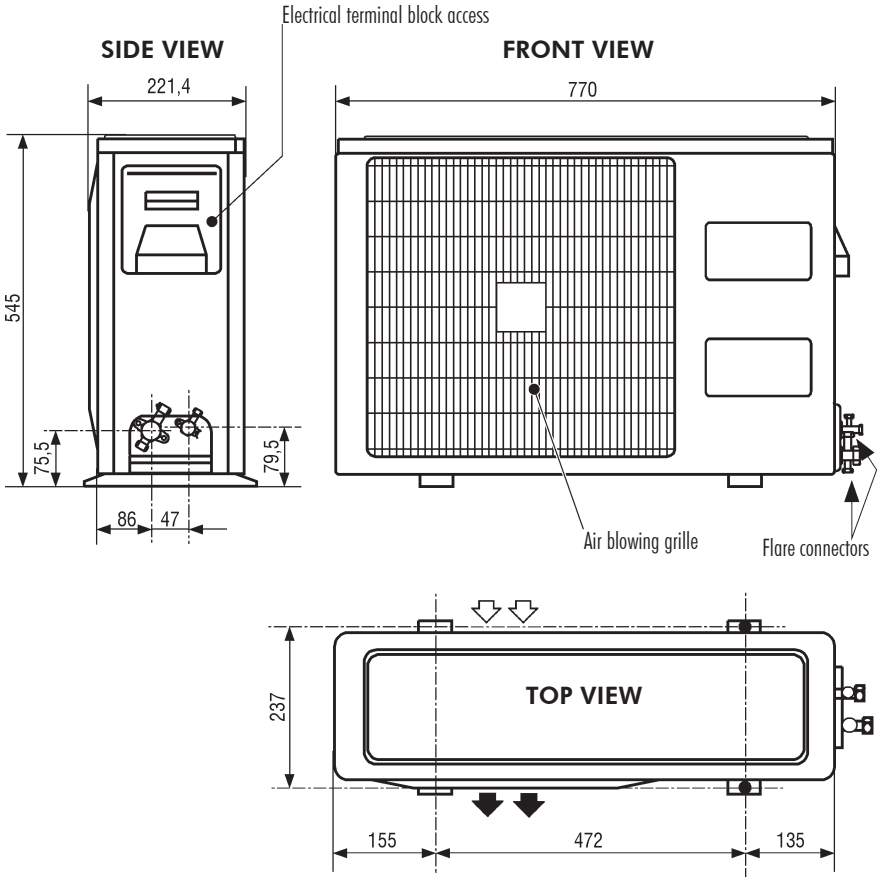

**DESCRIPTION**

1. T bar (suspended ceiling)
2. Suspended ceiling
3. Evaporator
4. Fan
5. Air intake grille
6. Electrical connections
7. Condensates drainage
8. «GAS» valve
9. «LIQUID» valve
10. Fresh air intake
11. Orifice for ducted air distribution into adjacent room



## DIMENSIONS

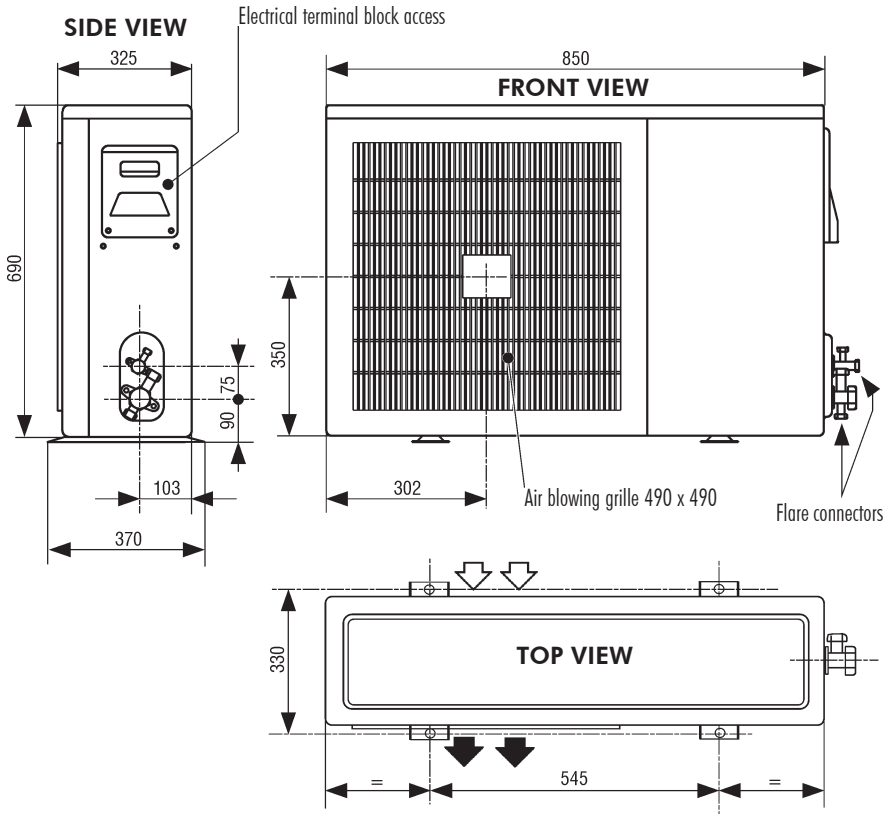
### Condenser unit
### GC 9F / GC 11F / GC 15F




**Installation free clearance around the unit (minimum dimensions)**

At the rear ..... 100 mm
At the front ..... 500 mm
On the left ..... 100 mm
On the right ..... 400 mm
Above ..... 500 mm
Below (Heatpump versions) ..... 150 mm

## DIMENSIONS
### Condenser unit
### GC 18F / GC 24F




**Installation free clearance around the unit (minimum dimensions)**

At the rear ..... 100 mm
At the front ..... 500 mm
On the left ..... 100 mm
On the right ..... 400 mm
Above ..... 500 mm
Below (Heatpump versions) ..... 150 mm

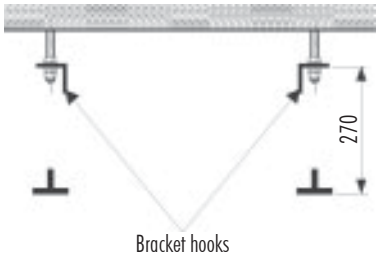


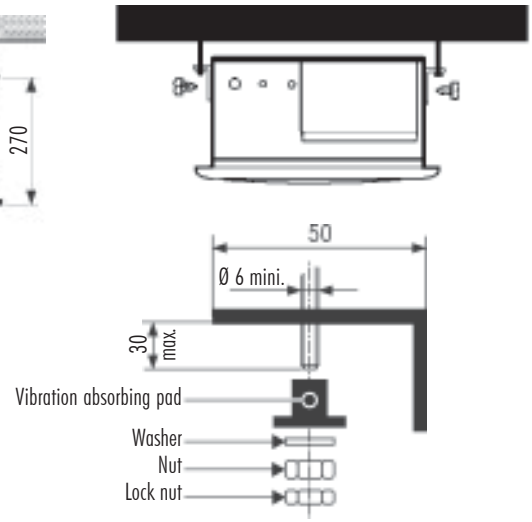
## INSTALLATION

**Refer to detailed assembly specifications in the Installation Instructions supplied with the equipment.**

### INDOORS UNIT

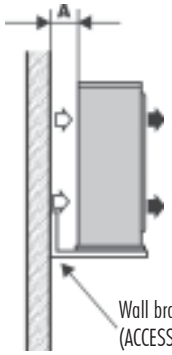
The air treatment cassette fits into a standard dimensions (600 x 600 mm panels) suspended ceiling. It is attached by means of threaded rods to be attached to the mounting lugs.



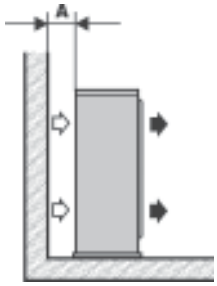




### GC 9 / GC 11 / GC 15 CONDENSER UNIT

**WALL MOUNTED**



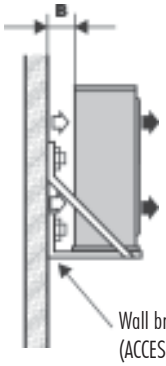

**FLOOR MOUNTED**



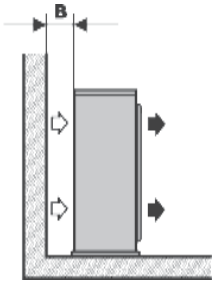

| Minimum clearance | |
|---|---|
| **A** | 100 mm |

### GC 18 / GC 24 CONDENSER UNIT

**WALL MOUNTED**




**FLOOR MOUNTED**




| Minimum clearance | |
|---|---|
| **B** | 150 mm |

**AIR INTAKE**

**AIR BLOWING**

**IMPERATIVE**

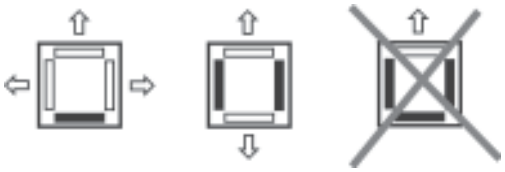
Avoid any recycling, even partial, of blown air with fresh air.



# INSTALLATION

## TREATED AIR DISTRIBUTION

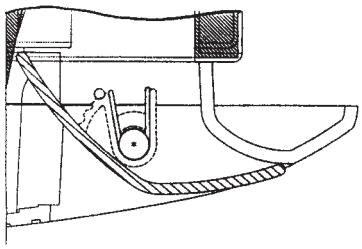
Site the air treatment cassette in the centre of the room to ensure balanced air distribution on all 4 sides.
It is possible to blank off 1 or 2 air distribution vents completely in order to adapt the distribution pattern of the treated air to the constraints of the room being air conditioned (refer to diagram below).



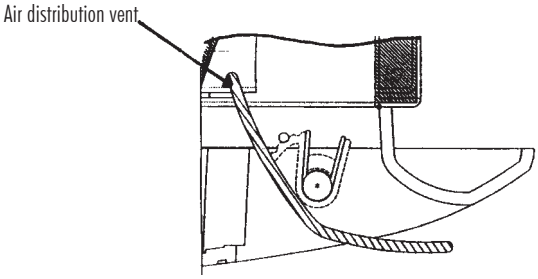
### Air distribution vents

The cassette's air distribution vents can be locked in three different and well defined positions.

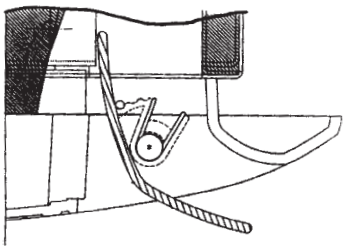
**1st position**
**Vent closed**



**2nd position**
**Vent half open**




**3rd position**
**Vent fully open**



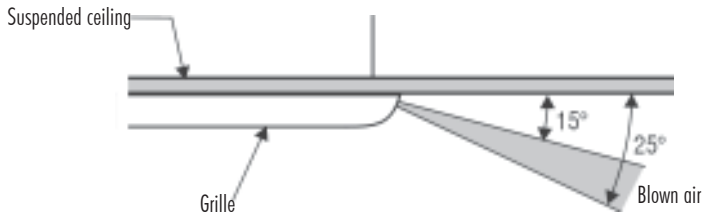


# INSTALLATION

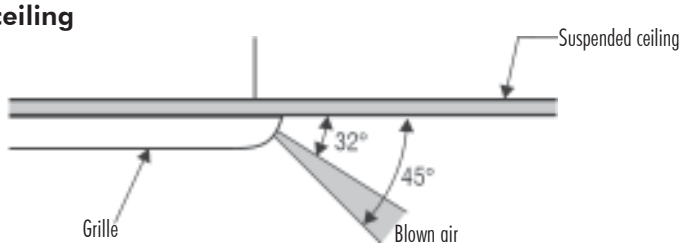
### Distributed air exit angle

The angles at which the distributed air exits the vent are given for maximum airflow (HS), with all the air distribution vents set in the same position.

### Vent open

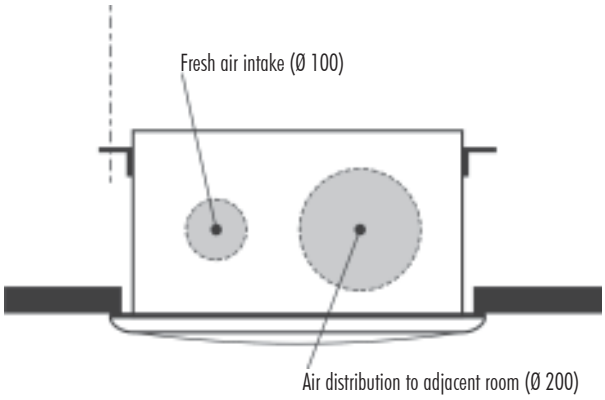



### Suspended ceiling




### Fresh air renewal and treated air distribution in an adjacent room

Pre-stamped side openings enable fresh air intake or air distribution ducting to be installed for air conditioning an adjacent room.





# INSTALLATION

### FRESH AIR RENEWAL

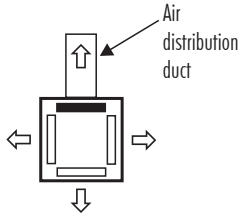
The flow of fresh air must not exceed 20% of the nominal airflow.

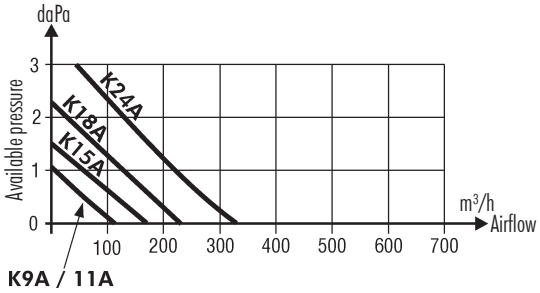
| Models | | K 9A | K 11A | K 15A | K 18A | K 24A |
|---|---|---|---|---|---|---|
| Nominal airflow – High Speed | m³/h | 570 | 570 | 650 | 760 | 800 |
| Maximum fresh airflow | m³/h | 70 | 70 | 75 | 75 | 84 |

### Treated air distribution into an adjacent room

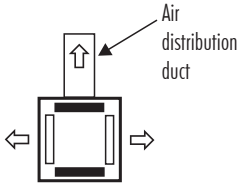
Decompression must be ensured in the adjacent room to ensure the effective intake of clean air into the Cassette unit.

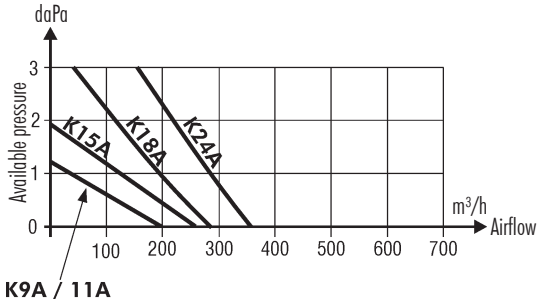
**1 vent closed**




**2 vents closed**





# CONNECTIONS

The pipe and electrical wiring connections to be made between the indoors and outdoors units are fully explained in the Installation Instructions manual supplied with the equipment.

### CONNECTION ORIFICES

- **AIR TREATMENT UNIT (ST):**
  Flare valves located on the side of the unit. Removable electrical box located next to the flare valves.

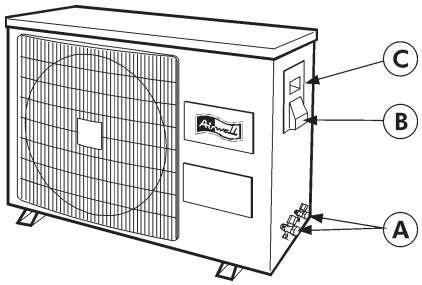
- **OUTDOORS CONDENSER UNIT (GC)**
  Refrigerating valves and electrical connections board are located on the right side of the unit.

### ELECTRICAL CONNECTIONS

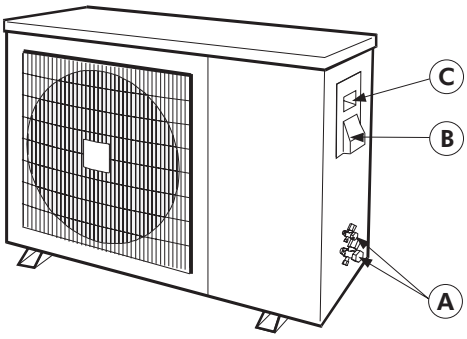
Detailed specifications relating to both the mains power supply characteristics and the various connections to be made between the two units are provided in the electrical specifications section.

### CONNECTIONS TO BE MADE ON SITE

**GC 9**
**GC 11**
**GC 15**




**GC 18**
**GC 24**



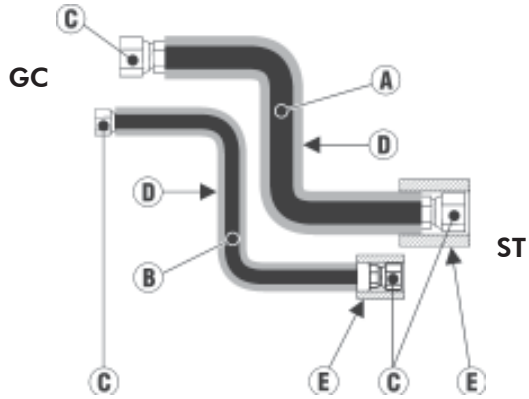

Ⓐ Pipe connections
Ⓑ Electrical connections
Ⓒ Mains power supply



## PIPE CONNECTIONS

The cassettes are designed to be connected to the outdoors units by means of flare type pipe connections (refrigerating quality copper piping equipped with flare nuts at both ends and insulated along the entire length).

Different lengths of pipe work with flare connectors are available from the factory:
Fixed lengths: 2.5 – 5 – 8 metres and varied lengths from 9 to 15 m.



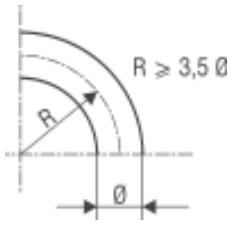

Ⓐ «GAS» pipe
Ⓑ «LIQUID» pipe
Ⓒ Flare nut
Ⓓ Pipe insulation
Ⓔ Insulating sleeve

**Tightening torque**

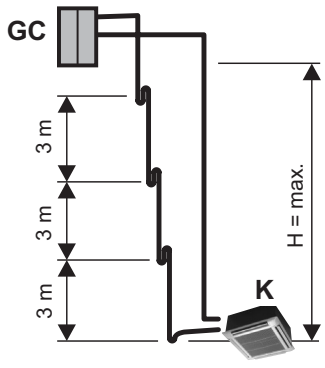
| Pipe diameter | Torque |
|---|---|
| 1/4" pipe | 15-20 Nm |
| 3/8" pipe | 30-35 Nm |
| 1/2" pipe | 50-54 Nm |
| 5/8" pipe | 70-75 Nm |

1 Newton-meter = 0,1 meter-kilo

**Pipe bending**




When the 18 / 24 GC condenser unit is installed above the air treatment unit, and the vertical distance of the intake pipe exceeds 8 m, it is **IMPERATIVE** that siphons are integrated in the system at 3 m intervals.




| Models | **H.** max. (m) |
|---|---|
| **K 9A**<br>**K 11A**<br>**K 15A** | 7 |
| **K 18A**<br>**K 24A** | 10 |



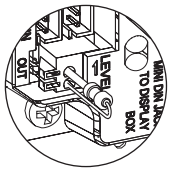
## REFRIGERANT CHARGES

| Models | | K 9A | K 11A | K 15A | K 18A | K 24A |
|---|---|---|---|---|---|---|
| GAS pipe Ø | inch | 3/8 | 1/2 | 1/2 | 5/8 | 5/8 |
| LIQUID pipe Ø | inch | 1/4 | 1/4 | 1/4 | 3/8 | 3/8 |
| GC charge (filled at the factory) | g | 960 | 1030 | 1030 | single phase 1730<br>three phase 1770 | 1900 |
| **Charge to be added in relation to the length of the pipe connection** | | | | | | |
| **Cooling only** | | | | | | |
| 4 to 8 m | g/m | +5 | +5 | +5 | | |
| > of 8 m | g/m | +9 | +9 | +9 | | |
| 7,5 to 15 m | g/m | | | | +20 | +20 |
| 15 to 25 m | g/m | | | | +20 | +20 |
| Maximum length | m | 12 | 25 | 25 | 25 | 25 |
| **Heatpump** | | | | | | |
| 4 to 8 m | g/m | +5 | +5 | +5 | | |
| > of 8 m | g/m | +9 | +9 | +9 | | |
| 7,5 to 15 m | g/m | | | | +40 | +57 |
| 15 to 25 m | g/m | | | | +54 | +57 |
| Maximum length | m | 12 | 25 | 20 | 25 | 25 |

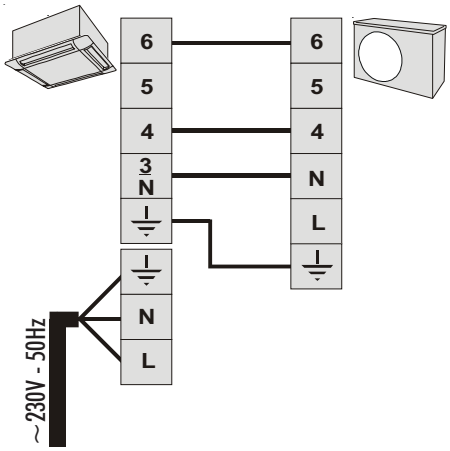


## ELECTRICAL CONNECTIONS

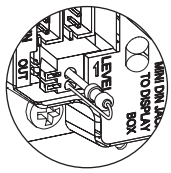
### K 9A / 11A / 15A
**Power supply 1 N ~ 230 V**



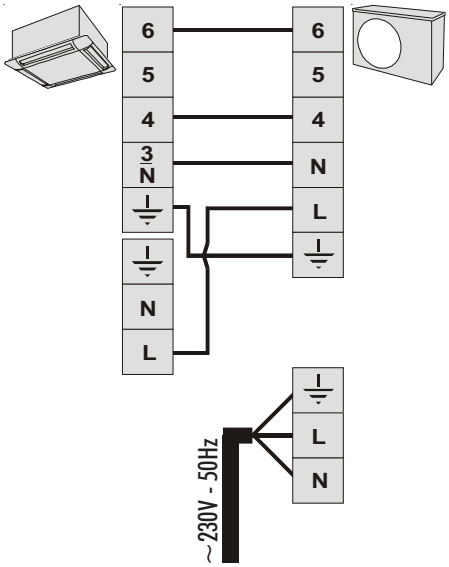

Replace the sensor with a 4.7 KW resistance



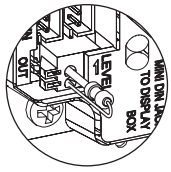

### K 18A / 24A
**Power supply 1 N ~ 230 V**



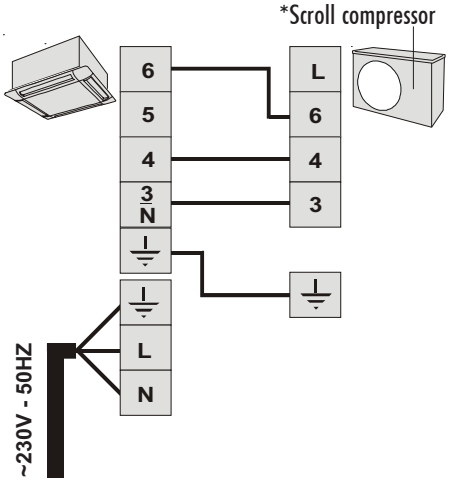

Replace the sensor with a 4.7 KW resistance




### K 18A* Scroll compressor
**Power supply 1 N ~ 230 V**




Replace the sensor with a 4.7 KW resistance

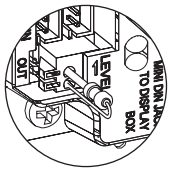




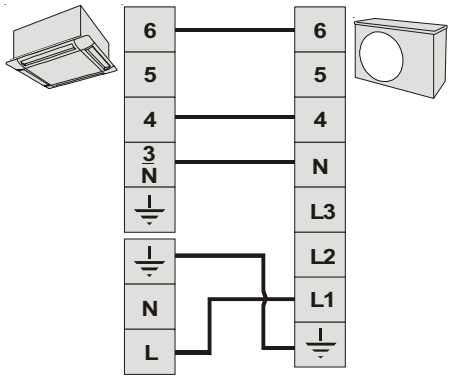
## ELECTRICAL CONNECTIONS

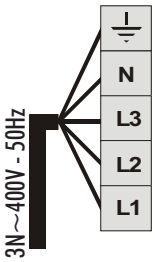
### K 18A / 24A

**Power supply 3 N ~ 400 V**



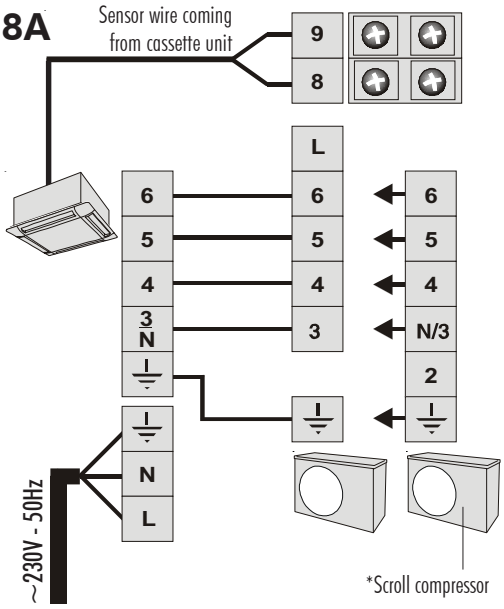

Replace the sensor with a
4.7 KW resistance



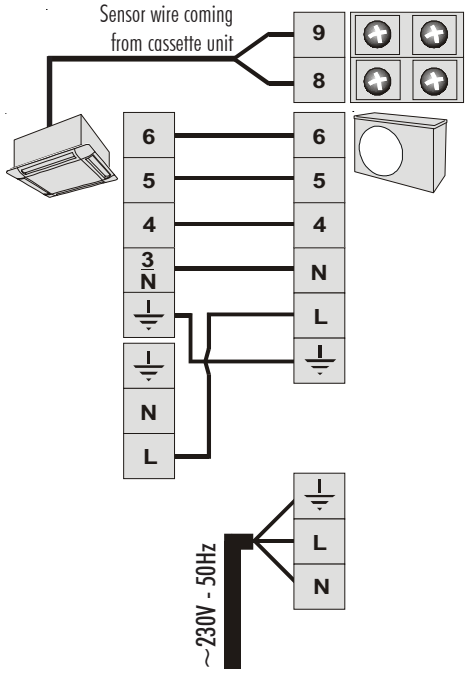



## ELECTRICAL CONNECTIONS
## Heatpump models

### K 9A / 11A / 15A / 18A
**Power supply 1 N ~ 230 V**

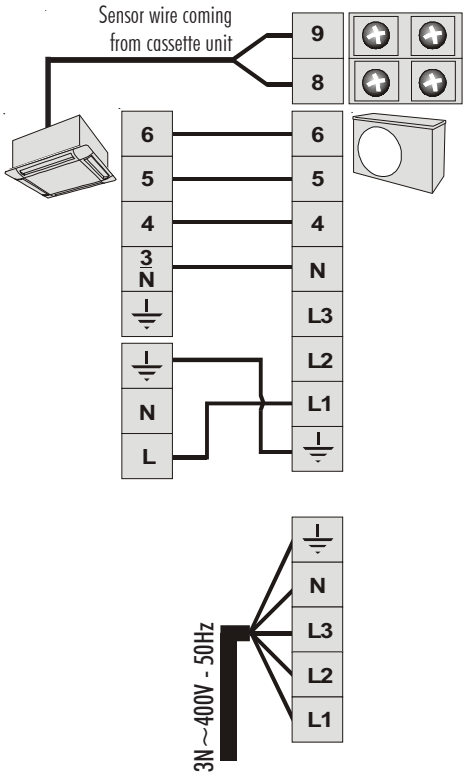



### K 18A / 24A
**Power supply 1 N ~ 230 V**



## ELECTRICAL CONNECTIONS
## Heatpump models

### K 18A / 24A
**Power supply 3 N ~ 400 V**





## ELECTRICAL SPECIFICATIONS

| UNIT TYPE | | K 9A | K 11A | K 15A | K 18A | K 24A |
|---|---|---|---|---|---|---|
| Power supply 1 ~ 230 V - 50 Hz | | • | • | • | • | • |
| **Cooling+ Ventilation** | | | | | | |
| Nominal current | A | 5,1 | 4,7 | 7,9 | 10,1 | 12,6 |
| Maximum current | A | 6,2 | 6,1 | 11,5 | 14 | 17,7 |
| Fuse rating aM | A | 8 | 8 | 12 | 16 | 20 |
| Fuse rating ASE/VDE* | A | 10 | 10 | 16 | 16 | 20 |
| Cable section* | $mm^2$ | 3G 1,5 | 3G 1,5 | 3G 1,5 | 3G 1,5 | 3G 2,5 |
| **Connections** | | | | | | |
| Maximum current | A | 5,85 | 6,1 | 10,5 | 13** | 1 |
| | A | | | | 1*** | |
| Cable section* | $mm^2$ | 4G 1 | 4G 1,5 | 5G 1,5 | 5G 1,5 | 5G 1,5 |
| **Deshumidification mode (Cooling + Ventilation + Electrical heating)** | | | | | | |
| Nominal current | A | 12,2 | 11,9 | 17,7 | 21,2 | 24 |
| Maximum current | A | 13,3 | 14,7 | 22,5 | 26,4 | 31,3 |
| Fuse rating aM | A | 16 | 16 | 25 | 32 | 32 |
| Fuse rating ASE/VDE* | A | 16 | 16 | 25 | 35 | 35 |
| Cable section* | $mm^2$ | 3G 1,5 | 3G 1,5 | 3G 4 | 3G 4 | 3G 6 |
| **Connections** | | | | | | |
| Maximum current | A | 5,8 | 6,1 | 11 | 12,4** | 14,2*** |
| | A | | | | 26,4*** | |
| Cable section* | $mm^2$ | 4G 1,5 | 4G 1,5 | 5G 1,5 | 5G1,5** | 5G 2,5*** |
| | $mm^2$ | | | | 5G 4*** | |

| UNIT TYPE | | K 18A | K 24A |
|---|---|---|---|
| Power supply 3 N ~ 400 V - 50 Hz | | • | • |
| **Cooling + Ventilation** | | | |
| Nominal current | A | 4,4 | 5,4 |
| Maximum current | A | 6,1 | 7,4 |
| Fuse rating aM | A | 8 | 10 |
| Fuse rating ASE/VDE* | A | 10 | 10 |
| Cable section* | $mm^2$ | 5G 1,5 | 5G 1,5 |
| **Connections** | | | |
| Maximum current | A | 1 | 1 |
| Cable section* | $mm^2$ | 5G 1,5 | 5G 1,5 |
| **Deshumidification mode (Cooling + Ventilation + Electrical heating)** | | | |
| Nominal current | A | 15,7 | 16,7 |
| Maximum current | A | 20 | 21 |
| Fuse rating aM | A | 25 | 25 |
| Fuse rating ASE/VDE* | A | 25 | 25 |
| Cable section* | $mm^2$ | 5G 4 | 5G 4 |
| **Connections** | | | |
| Maximum current | A | 14,2 | 14,2 |
| Cable section* | $mm^2$ | 5G 1,5 | 5G 1,5 |

*** IMPORTANT**

These values are provided for information purposes only. They must be verified and adapted in relation to existing standards. These values may vary in relation to the type of installation and the choice of conductors.

** Scroll compressor power supply via ST
*** Power supply via GC



## ELECTRICAL SPECIFICATIONS
### Heatpump models

| UNIT TYPE | | | K 9A | K 11A | K 15A | K 18A | K 24A |
|---|---|---|---|---|---|---|---|
| Power supply 3 N ~ 400 V - 50 Hz | | | • | • | • | • | • |
| **Cooling + Ventilation (or Thermodynamic heating)** | | | | | | | |
| Nominal current | Thermody. heating | A | 4,2 | 4,2 | 6,5 | 9,4 | 11,8 |
| | Cooling + Ventilat. | A | 4,7 | 4,7 | 7,9 | 10,1 | 12,5 |
| Maximum current | | A | 5,3 | 6,1 | 11,5 | 14 | 17,7 |
| Fuse rating aM | | A | 8 | 8 | 12 | 16 | 20 |
| Fuse rating ASE/VDE* | | A | 10 | 10 | 16 | 16 | 20 |
| Cable section* | | $mm^2$ | 3G 1,5 | 3G 1,5 | 3G 1,5 | 3G 1,5 | 3G 2,5 |
| **Connections** Maximum current | | A | 5 | 6,1 | 10,5 | 13** | 1 |
| | | A | | | | 1*** | |
| Cable section* | | $mm^2$ | 5G 1,5 | 5G 1,5 | 6G 1,5 | 6G 1,5 | 6G 1,5 |
| **Electrical heating + Ventilation +Thermodynamic heating** | | | | | | | |
| Nominal current | | A | 8,1 | 8,1 | 13,1 | 16,5 | 19,2 |
| Maximum current | | A | 9,6 | 10,8 | 19,1 | 23 | 26,6 |
| Fuse rating aM | | A | 12 | 12 | 20 | 25 | 32 |
| Fuse rating ASE/VDE* | | A | 16 | 16 | 20 | 25 | 35 |
| Cable section* | | $mm^2$ | 3G 1,5 | 3G 1,5 | 3G 2,5 | 3G 4 | 3G 6 |
| **Connections** Maximum current | | A | 5,5 | 6,1 | 7,6 | 9,5** | 14 |
| | | A | | | | 23*** | |
| Cable section* | | $mm^2$ | 5G 1,5 | 5G 1,5 | 6G 1,5 | 6G 1,5** | 6G 1,5 |
| | | $mm^2$ | | | | 6G 4*** | |

| UNIT TYPE | | | K 18A | K 24A |
|---|---|---|---|---|
| Power supply 3 N ~ 400 V - 50 Hz | | | • | • |
| **Cooling + Ventilation (or Thermodynamic heating)** | | | | |
| Nominal current | Thermody. heating | A | 4,1 | 4,9 |
| | Cooling + Ventilat. | A | 4,4 | 5,4 |
| Maximum current | | A | 6,1 | 7,4 |
| Fuse rating aM | | A | 8 | 10 |
| Fuse rating ASE/VDE* | | A | 10 | 10 |
| Cable section* | | $mm^2$ | 5G 1,5 | 5G 1,5 |
| **Connections** Maximum current | | A | 1 | 1 |
| Cable section* | | $mm^2$ | 6G 1,5 | 6G 1,5 |
| **Chauffage électrique + Ventilation + Chauffage thermodynamique** | | | | |
| Nominal current | | A | 11,5 | 11,3 |
| Maximum current | | A | 15 | 16,3 |
| Fuse rating aM | | A | 16 | 20 |
| Fuse rating ASE/VDE* | | A | 16 | 20 |
| Cable section* | | $mm^2$ | 5G 1,5 | 5G 2,5 |
| **Connections** Maximum current | | A | 9,5 | 9,5 |
| Cable section* | | $mm^2$ | 6G 1,5 | 6G 1,5 |

*** IMPORTANT**

These values are provided for information purposes only. They must be verified and adapted in relation to existing standards. These values may vary in relation to the type of installation and the choice of conductors.

** Scroll compressor power supply via ST
*** Power supply via GC

# Colorado

## INFRARED REMOTE CONTROL


### RESET FUNCTION

1. Remove the battery.
2. Simultaneously press these 4 keys until the symbols disappear.
3. Replace the battery.

The 4 keys concerned are :

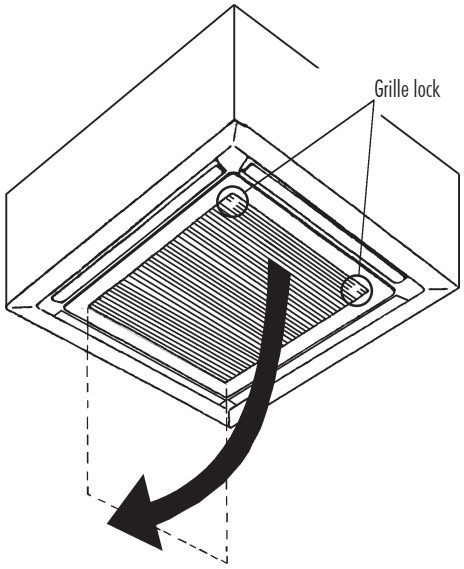

**Note**
Flip open the cover/flap to gain access to the controls.

1. START / STOP key
2. Operating mode selection key : COOLING, HEATING, AUTOMATIC COOLING/HEATING REGULATION, VENTILATION, DEHUMIDIFICATION
3. I FEEL key: local temperature sensing
4. VENTILATION SPEED or AUTOMATIC VENTILATION selection key
5. Key for raising ambient temperature
6. Key for lowering ambient temperature
7. SLEEP key
8. Vertical air distribution flaps sweep key
9. Horizontal air distribution flaps sweep key
10. PROGRAMMING mode selection key
11. «+» key for raising set temperature and increasing operating time
12. «–» key for lowering set temperature and decreasing operating time
13. Liquid crystal display
14. I FEEL sensor
15. Infrared signal emitter
16. ROOM key : ambient temperature display
17. SET key for setting the PROGRAMMING STOP and/or START times
18. CLEAR key for erasing the timer parameters
19. LOCK key

# Colorado

## FILTRATION

- Filter type ..... Quickly removable cassette
- Filter medium ..... Synthetic woven material
- Fire classification ..... M4 (LNE test report N°812 02 29 dated 30/01/89)
- Average efficiency ..... 55 % ( EUROVENT 4/5 – ASHRAE gravimetric 52 76 NF X 44 – 012)
- Maintenance ..... Washable in cold water with added detergent) (25 washes max.) or cleaning with dry compressed air





# ELECTRICAL HEATING

The cassettes electrical heating system comprises heating resistances located inside the evaporator pipes. These resistances are protected against any abnormal temperature rise by two «positive safety» thermostats (the mechanical or thermal destruction of the capillary causes the heating to be definitively closed down) :

- An automatic reset thermostat.
- A manual rest thermostat.

## ELECTRICAL HEATING CAPACITIES

**Power supply : 230 V – 50 Hz**

| Cooling only models | Capacity |
|---|---|
| **K 9A** | 1650 W |
| **K 11A** | 1650 W |
| **K 15A** | 2250 W |
| **K 18A** | 2550 W |
| **K 24A** | 2700 W |

| Heatpump models | Capacity |
|---|---|
| **K 9A** | 900 W |
| **K 11A** | 900 W |
| **K 15A** | 1500 W |
| **K 18A** | 1800 W |
| **K 24A** | 1800 W |

**Power supply : 3 N ~ 400 V – 50 Hz**

| Cooling only models | Capacity |
|---|---|
| **K 18A** | 2550 W |
| **K 24A** | 2700 W |

| Heatpump models | Capacity |
|---|---|
| **K 18A** | 1800 W |
| **K 24A** | 1800 W |

**N.B.:**
Electrical heating is indispensable for heat pump models operating at outdoors temperatures of below O° C.



## ALL SEASONS SYSTEM

The «ALL SEASONS» system (accessory not fitted at the factory) enables the unit to operate in «COOLING» mode with outdoors temperatures as low as -10° C for air conditioning premises with high internal heat generation.

### OPERATION

The condenser group operates with automatic regulation of the helicoidal fan rotational speed in relation to condensing pressure.

### OPERATING RANGES

CONTINUOUS RUNNING
NOMINAL AIR FLOW

| Models | | | K 9A | K 11A | K 15A | K 18A | K 24A |
|---|---|---|---|---|---|---|---|
| Indoors temperature | °C | Thi | 13 | 13 | 13 | 13 | 13 |
| | | Tsi | 19 | 19 | 19 | 19 | 19 |
| Outdoors temperature | °C | Tse | –10 | –10 | –10 | –10 | –10 |

MINIMUM TEMPERATURES LOWER LIMITS

Tse (Odt) = Outdoors dry temperature
Tsi (Idt) = Indoors dry temperature
Thi (Iwt) = Indoors wet temperature

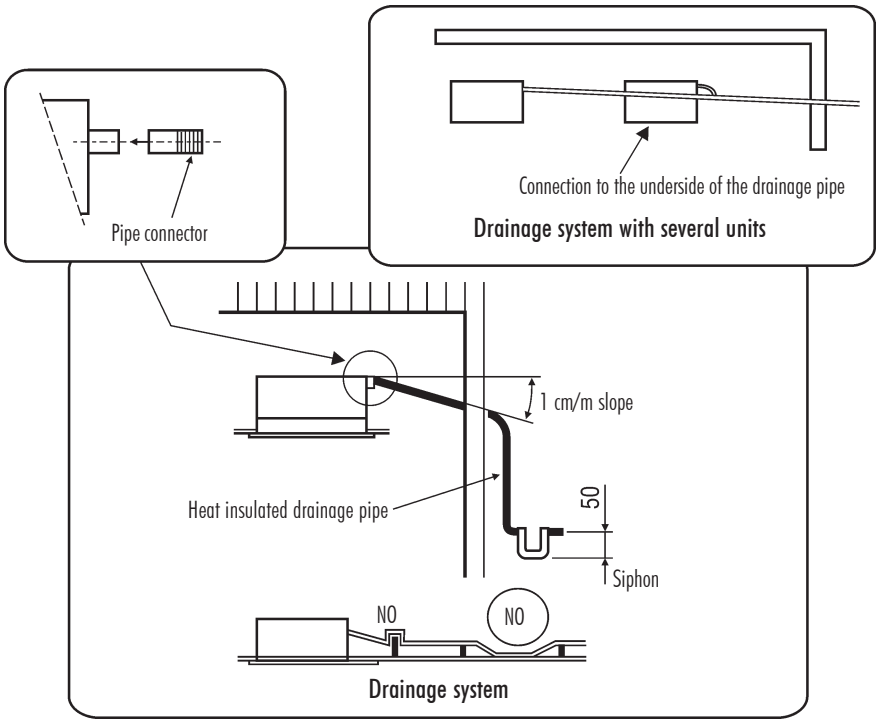


## CONDENSATE DRAINAGE

**Refer to the detailed assembly instructions in the Installation Instructions manual supplied with the equipment**

The air treatment cassette is equipped with a condensate lift pump that raises the water to its upper section.

In accordance with best practices, an inclined gravity drain incorporating a siphon must be connected to the drainage pipe.




Thanks to its miniature size, the drainage pump is perfectly integrated inside the air treatment cassette. The pump has been specially designed to raise condensates to the upper part of the cassette for more efficient drainage. All that is required, in accordance with best practices, is an inclined gravity drain incorporating a siphon connected to the drainage pipe.

| Pump specifications | | |
|---|---|---|
| Nominal voltage | | ~230 V - 50 Hz |
| Power input | W | 16 |
| Current input | A | 0.09 |
| Maximum water flow | l/h | 60 |
| Maximum lift height | mm | 600 |

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Saint-Quentin-en-Yvelines
78284 GUYANCOURT Cedex
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**ACE Klimatechnik GmbH**
**DEUTSCHLAND** :
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Airwell




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