# RAE F Kc/Kr

## AIR COOLED CHILLERS FOR OUTDOOR INSTALLATION
WITH INTEGRATED FREE COOLING, EQUIPPED WITH SCROLL COMPRESSORS AND AXIAL FANS

Cooling capacity from 91 kW to 853 kW


## VERSIONS

**RAE F -** standard version
**RAE F HE -** high efficiency version
**RAE F S e U** - silenced and ultra-silenced versions **on request**

Packaged air cooled chillers of RAE F series with integrated free cooling section are suitable for outdoor installation and can be used to cool glycol fluid solutions for air conditioning or in industrial applications.
Multiscroll technology allows to reach great efficiency improvements at part load, if compared to the other traditional systems for cooling capacity control.

The integrated free cooling section allows to partially or totally recover cooling capacity from external air without big consumption of energy. Units are equipped with an additional coil crossed by the liquid to be chilled and invested by the complete air flow generated by the condenser fans.
These units have been designed considering limited space requirements and keeping, at the same time, high cooling performances. Such result has been attained with high-quality and up-to-date components.
All units are completely assembled and tested in the factory with specific quality procedures and are already equipped with all necessary hydraulic, refrigerant and electrical connections for a quick installation on site.

Before factory testing, cooling circuits are tested under pressure and then supplied with refrigerant and a non-freezing oil charge.

**Units CE certified in compliance with the European regulation 2016/2281 ERP 2021.**

# MAIN COMPONENTS

**STRUCTURE**
Structure made of a base and a chassis manufactured in high-thickness galvanised steel, assembled with stainless steel rivets. All galvanised steel surfaces are powder-coated with colour RAL 7035.

**SCROLL COMPRESSOR**
Scroll compressors operating on one or two independent circuits in single, tandem or trio version. The compressors are installed on rubber isolation dampers, provided with direct-start motors cooled by suction gas and fitted with both overload protection and crankcase heaters. They are charged with polyester oil and the terminal board is IP54. The on-board microprocessor automatically controls the individual compressors to regulate the cooling capacity.

**STAINLESS STEEL PLATE EVAPORATOR**
Of "single" or "dual" circuit type, with high thickness close cell insulation and UV ray-proof. The max operating pressure limits are 6 bar for water side and 45 bar for refrigerant side. The evaporator is also equipped with safety water flow switch switching off the unit in case of low water flow through the evaporator.

**EXTERNAL CONDENSING COIL**
Multisection type, with micro-finned copper tubes, positioned in staggered rows and mechanically expanded into an aluminum finned pack. Fins are designed with such a shape providing the highest heat exchange efficiency (turbo-fin).The max operating pressure refrigerant side is 45 relative bar.

**EXTERNAL FREE COOLING COILS**
Made of copper tubes with optimized section so to reduce the pressure drops glycol side and aluminum finned pack. Fins are designed with such a shape providing the highest heat exchange efficiency (turbo-fin).The max operating pressure fluid side of free cooling coils is 10 relative bar.
As soon as the external air temperature is lower than the temperature of the fluid at the inlet of the unit (return from the plant), free cooling is going to be activated allowing the fans system to achieve the maximum cooling capacity recovered at the above conditions.
The benefit obtained by the free cooling system is much bigger as much lower is the external air temperature in respect to the temperature value of fluid to be chilled. That's why such kind of units are suitable to be installed on air conditioning and refrigeration plants located on places where the weather annual profile is characterized by medium and low external temperatures and where the cooling demand is significant and for long periods of time.
It is almost always recommended that free cooling coils are supplied with glycol mixtures so to prevent the freezing of the fluid to be chilled and to avoid relevant breakages of exchangers.
On applications where is not possible to directly use glycol mixtures, it is possible to add a "GLYCOL LOOP" circuit (option GYL) with wich an hydraulic separation is obtained between the free cooling coils and the whole remaining part of the plant. That circuit provides the separation thanks to an additional water/glycol heat exchanger and is complete of a water pump for the internal fluid circulation. That pump is switched on only during free cooling operation.

**AXIAL FANS**
With external rotor directly coupled to a three-phase electronically commutated motor (EC) they have the possibility of a continuous regulation of the speed by means of a 0-10V signal completely managed by the microprocessor. Aluminum blades with wings profile are suitably designed to avoid any turbulence in the air detachment zone, granting in this way the max efficiency with the minimum noise level. The fan is equipped with galvanized steel protection grid painted after the construction. These fans, thanks to a more accurate regulation of the airflow, allow the unit to operate with an external air temperature up to - 20 °C.

**INDEPENDENT COOLING CIRCUITS**
Each provided with a shut-off valve for refrigerant charge, anti-freeze sensor, shut-off valves on liquid lines, sight glass, dehydrating filter, high-pressure safety device on high pressure refrigerant side and mechanical thermostatic expansion valve up to 3602 model and electronic type for all remaining sizes, as well as high and low pressure switches and gauges and pressure transducer on high pressure side for the automatic condensing pressure regulation. Provided with three-way water valve ON/OFF to activate the free-cooling mode, automatic air vent valves on plate coils and exchangers, glycol solution charge and/or discharge valves, anti-freeze probe.

**ELECTRICAL BOARD**
In compliance with CE Norms, contained in a suitable section protected by internal safety panel, provided with a lock-door main switch. Inside all the control and protection components are suitably placed, together with terminal board and auxiliaries. The electrical board also includes the control device for power supply phases to prevent the compressor wrong side rotation. Microprocessor and relevant display are also placed inside the electrical cabinet.

# ACCESSORIES

| RAE F Kc/Kr | | 801 | 1001 | 1301 | 1501 | 1701 | 2001 | 2302 | 2602 | 3002 |
|---|---|---|---|---|---|---|---|---|---|---|
| Amperometer | **A** | o | o | o | o | o | o | o | o | o |
| Electrical power supply different than standard | **AE** | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Operation in cooling mode down to -20°C | **BF** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Operation in cooling mode down to -10°C | **BT** | o | o | o | o | o | o | o | o | o |
| Soundproofed compressors cabinet with standard material | **CF** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Overall compressor and technical compartment cabinet | **CFT** | o | o | o | o | o | o | o | o | o |
| Soundproofed compressors cabinet with polyester material | **CFU** | o | o | o | o | o | o | o | o | o |
| Compressors inrush counter | **CS** | o | o | o | o | o | o | o | o | o |
| Axial fans with electronic commutated motor | **EC** | o | o | o | o | o | o | o | o | o |
| Condensing coil protection grid | **GP** | o | o | o | o | o | o | o | o | o |
| Anti-intrusion grid | **GP2** | o | o | o | o | o | o | o | o | o |
| Anti-intrusion grid with compressors cabinet | **GP3** | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Glycol loop | **GYL** | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Victaulic insulation on pump side | **I1** | o | o | o | o | o | o | o | o | o |
| Victaulic insulation buffer tank side | **I2** | o | o | o | o | o | o | o | o | o |
| RS 485 Serial interface | **IH** | o | o | o | o | o | o | o | o | o |
| LON Protocol serial interface | **IH-LON** | o | o | o | o | o | o | o | o | o |
| Seawood packing | **IM** | o | o | o | o | o | o | o | o | o |
| TCP/IP Protocol serial interface | **IWG** | o | o | o | o | o | o | o | o | o |
| Phase monitor | **MF** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Buffer tank module | **MV** | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Pump group | **P1** | o | o | o | o | o | o | o | o | o |
| Higher available pressure pump group | **P1H** | o | o | o | o | o | o | o | o | o |
| Double pump group | **P2** | o | o | o | o | o | o | o | o | o |
| Higher available pressure double pump group | **P2H** | o | o | o | o | o | o | o | o | o |
| Rubber-type vibration dampers | **PA** | o | o | o | o | o | o | o | o | o |
| Safety water flow switch | **PF** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Spring-type vibration dampers | **PM** | o | o | o | o | o | o | o | o | o |
| Remote display | **PQ** | o | o | o | o | o | o | o | o | o |
| In-line twin pump group (only one working) | **PT** | o | o | o | o | o | o | o | o | o |
| Anti-freeze heater on evaporator | **RA** | o | o | o | o | o | o | o | o | o |
| Shut-off valve on compressors discharge side | **RD** | o | o | o | o | o | o | o | o | o |
| Power factor correction system cosfi ≥0,9 | **RF** | o | o | o | o | o | o | o | o | o |
| Shut-off valve on compressors suction side | **RH** | o | o | o | o | o | o | o | o | o |
| Compressor overload relays | **RL** | o | o | o | o | o | o | o | o | o |
| Condensing coil with pre-painted fins | **RM** | o | o | o | o | o | o | o | o | o |
| Partial heat recovery | **RP** | o | o | o | o | o | o | o | o | o |
| Copper/Copper coil | **RR** | o | o | o | o | o | o | o | o | o |
| Total heat recovery | **RT** | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Personalized frame painting in alternative RAL colour | **RV** | o | o | o | o | o | o | o | o | o |
| Coil with double layer treatment | **TDS** | o | o | o | o | o | o | o | o | o |
| Electronic thermostatic valve | **TE** | o | o | o | o | o | o | o | o | o |
| Electronic thermostatic valve with solenoid valve | **TE+VS** | o | o | o | o | o | o | o | o | o |
| Voltmeter | **V** | o | o | o | o | o | o | o | o | o |
| Brine Version | **VB** | o | o | o | o | o | o | o | o | o |
| Solenoid valve | **VS** | o | o | o | o | o | o | o | o | o |

• Standard, o Optional, -- Not available

| RAE F Kc/Kr | | 3302 | 3602 | 4002 | 4802 | 5202 | 5402 | 5602 | 6002 |
|---|---|---|---|---|---|---|---|---|---|
| Amperometer | A | o | o | o | o | o | o | o | o |
| Electrical power supply different than standard | AE | □ | □ | □ | □ | □ | □ | □ | □ |
| Operation in cooling mode down to -20°C | BF | ● | ● | ● | ● | ● | ● | ● | ● |
| Operation in cooling mode down to -10°C | BT | o | o | o | o | o | o | o | o |
| Soundproofed compressors cabinet with standard material | CF | ● | ● | ● | ● | ● | ● | ● | ● |
| Overall compressor and technical compartment cabinet | CFT | -- | -- | -- | -- | -- | -- | -- | -- |
| Soundproofed compressors cabinet with polyester material | CFU | o | o | o | o | o | o | o | o |
| Compressors inrush counter | CS | o | o | o | o | o | o | o | o |
| Axial fans with electronic commutated motor | EC | o | o | o | o | o | o | o | o |
| Condensing coil protection grid | GP | o | o | o | o | o | o | o | o |
| Anti-intrusion grid | GP2 | -- | -- | -- | -- | -- | -- | -- | -- |
| Anti-intrusion grid with compressors cabinet | GP3 | o | o | o | o | o | o | o | o |
| Glycol loop | GYL | □ | □ | □ | □ | □ | □ | □ | □ |
| Victaulic insulation on pump side | I1 | o | o | o | o | o | o | o | o |
| Victaulic insulation buffer tank side | I2 | o | o | o | o | o | o | o | o |
| RS 485 Serial interface | IH | o | o | o | o | o | o | o | o |
| LON Protocol serial interface | IH-LON | o | o | o | o | o | o | o | o |
| Seawood packing | IM | o | o | o | o | o | o | o | o |
| TCP/IP Protocol serial interface | IWG | o | o | o | o | o | o | o | o |
| Phase monitor | MF | ● | ● | ● | ● | ● | ● | ● | ● |
| Buffer tank module | MV | □ | □ | □ | □ | □ | □ | □ | □ |
| Pump group | P1 | o | o | o | o | o | o | o | o |
| Higher available pressure pump group | P1H | o | o | o | o | o | o | o | o |
| Double pump group | P2 | o | o | o | o | o | o | o | o |
| Higher available pressure double pump group | P2H | o | o | o | o | o | o | o | o |
| Rubber-type vibration dampers | PA | o | o | o | o | o | o | o | o |
| Safety water flow switch | PF | ● | ● | ● | ● | ● | ● | ● | ● |
| Spring-type vibration dampers | PM | o | o | o | o | o | o | o | o |
| Remote display | PQ | o | o | o | o | o | o | o | o |
| In-line twin pump group (only one working) | PT | o | o | o | o | o | o | o | o |
| Anti-freeze heater on evaporator | RA | o | o | o | o | o | o | o | o |
| Shut-off valve on compressors discharge side | RD | o | o | o | o | o | o | o | o |
| Power factor correction system cosfi ≥0,9 | RF | o | o | o | o | o | o | o | o |
| Shut-off valve on compressors suction side | RH | o | o | o | o | o | o | o | o |
| Compressor overload relays | RL | o | o | o | o | o | o | o | o |
| Condensing coil with pre-painted fins | RM | o | o | o | o | o | o | o | o |
| Partial heat recovery | RP | o | o | o | o | o | o | o | o |
| Copper/Copper coil | RR | o | o | o | o | o | o | o | o |
| Total heat recovery | RT | □ | □ | □ | □ | □ | □ | □ | □ |
| Personalized frame painting in alternative RAL colour | RV | o | o | o | o | o | o | o | o |
| Coil with double layer treatment | TDS | o | o | o | o | o | o | o | o |
| Electronic thermostatic valve | TE | o | o | o | o | o | ● | ● | ● |
| Electronic thermostatic valve with solenoid valve | TE+VS | o | o | o | o | o | -- | -- | -- |
| Voltmeter | V | o | o | o | o | o | o | o | o |
| Brine Version | VB | o | o | o | o | o | o | o | o |
| Solenoid valve | VS | o | o | o | o | o | o | o | o |

• Standard, o Optional, -- Not available

| RAE F HE Kc/Kr | | 801 | 1001 | 1301 | 1501 | 1701 | 2001 | 2302 | 2602 | 3002 |
|---|---|---|---|---|---|---|---|---|---|---|
| Amperometer | **A** | o | o | o | o | o | o | o | o | o |
| Electrical power supply different than standard | **AE** | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Soundproofed compressors cabinet with standard material | **CF** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Overall compressor and technical compartment cabinet | **CFT** | o | o | o | o | o | o | -- | -- | -- |
| Soundproofed compressors cabinet with polyester material | **CFU** | o | o | o | o | o | o | o | o | o |
| Compressors inrush counter | **CS** | o | o | o | o | o | o | o | o | o |
| Axial fans with electronic commutated motor | **EC** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Condensing coil protection grid | **GP** | o | o | o | o | o | o | o | o | o |
| Anti-intrusion grid | **GP2** | o | o | o | o | o | o | -- | -- | -- |
| Anti-intrusion grid with compressors cabinet | **GP3** | -- | -- | -- | -- | -- | -- | o | o | o |
| Glycol loop | **GYL** | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Victaulic insulation on pump side | **I1** | o | o | o | o | o | o | o | o | o |
| Victaulic insulation buffer tank side | **I2** | o | o | o | o | o | o | o | o | o |
| RS 485 Serial interface | **IH** | o | o | o | o | o | o | o | o | o |
| LON Protocol serial interface | **IH-LON** | o | o | o | o | o | o | o | o | o |
| Seawood packing | **IM** | o | o | o | o | o | o | o | o | o |
| TCP/IP Protocol serial interface | **IWG** | o | o | o | o | o | o | o | o | o |
| Phase monitor | **MF** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Buffer tank module | **MV** | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Pump group | **P1** | o | o | o | o | o | o | o | o | o |
| Higher available pressure pump group | **P1H** | o | o | o | o | o | o | o | o | o |
| Double pump group | **P2** | o | o | o | o | o | o | o | o | o |
| Higher available pressure double pump group | **P2H** | o | o | o | o | o | o | o | o | o |
| Rubber-type vibration dampers | **PA** | o | o | o | o | o | o | o | o | o |
| Safety water flow switch | **PF** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Spring-type vibration dampers | **PM** | o | o | o | o | o | o | o | o | o |
| Remote display | **PQ** | o | o | o | o | o | o | o | o | o |
| In-line twin pump group (only one working) | **PT** | o | o | o | o | o | o | o | o | o |
| Anti-freeze heater on evaporator | **RA** | o | o | o | o | o | o | o | o | o |
| Shut-off valve on compressors discharge side | **RD** | o | o | o | o | o | o | o | o | o |
| Power factor correction system cosfi ≥0,9 | **RF** | o | o | o | o | o | o | o | o | o |
| Shut-off valve on compressors suction side | **RH** | o | o | o | o | o | o | o | o | o |
| Compressor overload relays | **RL** | o | o | o | o | o | o | o | o | o |
| Condensing coil with pre-painted fins | **RM** | o | o | o | o | o | o | o | o | o |
| Partial heat recovery | **RP** | o | o | o | o | o | o | o | o | o |
| Copper/Copper coil | **RR** | o | o | o | o | o | o | o | o | o |
| Total heat recovery | **RT** | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Personalized frame painting in alternative RAL colour | **RV** | o | o | o | o | o | o | o | o | o |
| Coil with double layer treatment | **TDS** | o | o | o | o | o | o | o | o | o |
| Electronic thermostatic valve | **TE** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Voltmeter | **V** | o | o | o | o | o | o | o | o | o |
| Brine Version | **VB** | o | o | o | o | o | o | o | o | o |
| Solenoid valve | **VS** | o | o | o | o | o | o | o | o | o |

• Standard, o Optional, -- Not available

| RAE F HE Kc/Kr | | 3302 | 3602 | 4002 | 4802 | 5202 | 5402 | 5602 | 6002 |
|---|---|---|---|---|---|---|---|---|---|
| Amperometer | A | o | o | o | o | o | o | o | o |
| Electrical power supply different than standard | AE | □ | □ | □ | □ | □ | □ | □ | □ |
| Soundproofed compressors cabinet with standard material | CF | ● | ● | ● | ● | ● | ● | ● | ● |
| Overall compressor and technical compartment cabinet | CFT | -- | -- | -- | -- | -- | -- | -- | -- |
| Soundproofed compressors cabinet with polyester material | CFU | o | o | o | o | o | o | o | o |
| Compressors inrush counter | CS | o | o | o | o | o | o | o | o |
| Axial fans with electronic commutated motor | EC | ● | ● | ● | ● | ● | ● | ● | ● |
| Condensing coil protection grid | GP | o | o | o | o | o | o | o | o |
| Anti-intrusion grid | GP2 | -- | -- | -- | -- | -- | -- | -- | -- |
| Anti-intrusion grid with compressors cabinet | GP3 | o | o | o | o | o | o | o | o |
| Glycol loop | GYL | □ | □ | □ | □ | □ | □ | □ | □ |
| Victaulic insulation on pump side | I1 | o | o | o | o | o | o | o | o |
| Victaulic insulation buffer tank side | I2 | o | o | o | o | o | o | o | o |
| RS 485 Serial interface | IH | o | o | o | o | o | o | o | o |
| LON Protocol serial interface | IH-LON | o | o | o | o | o | o | o | o |
| Seawood packing | IM | o | o | o | o | o | o | o | o |
| TCP/IP Protocol serial interface | IWG | o | o | o | o | o | o | o | o |
| Phase monitor | MF | ● | ● | ● | ● | ● | ● | ● | ● |
| Buffer tank module | MV | □ | □ | □ | □ | □ | □ | □ | □ |
| Pump group | P1 | o | o | o | o | o | o | o | o |
| Higher available pressure pump group | P1H | o | o | o | o | o | o | o | o |
| Double pump group | P2 | o | o | o | o | o | o | o | o |
| Higher available pressure double pump group | P2H | o | o | o | o | o | o | o | o |
| Rubber-type vibration dampers | PA | o | o | o | o | o | o | o | o |
| Safety water flow switch | PF | ● | ● | ● | ● | ● | ● | ● | ● |
| Spring-type vibration dampers | PM | o | o | o | o | o | o | o | o |
| Remote display | PQ | o | o | o | o | o | o | o | o |
| In-line twin pump group (only one working) | PT | o | o | o | o | o | o | o | o |
| Anti-freeze heater on evaporator | RA | o | o | o | o | o | o | o | o |
| Shut-off valve on compressors discharge side | RD | o | o | o | o | o | o | o | o |
| Power factor correction system cosfi ≥0,9 | RF | o | o | o | o | o | o | o | o |
| Shut-off valve on compressors suction side | RH | o | o | o | o | o | o | o | o |
| Compressor overload relays | RL | o | o | o | o | o | o | o | o |
| Condensing coil with pre-painted fins | RM | o | o | o | o | o | o | o | o |
| Partial heat recovery | RP | o | o | o | o | o | o | o | o |
| Copper/Copper coil | RR | o | o | o | o | o | o | o | o |
| Total heat recovery | RT | □ | □ | □ | □ | □ | □ | □ | □ |
| Personalized frame painting in alternative RAL colour | RV | o | o | o | o | o | o | o | o |
| Coil with double layer treatment | TDS | o | o | o | o | o | o | o | o |
| Electronic thermostatic valve | TE | ● | ● | ● | ● | ● | ● | ● | ● |
| Voltmeter | V | o | o | o | o | o | o | o | o |
| Brine Version | VB | o | o | o | o | o | o | o | o |
| Solenoid valve | VS | o | o | o | o | o | o | o | o |

• Standard, o Optional, -- Not available

# TECHNICAL DATA

| RAE F Kc | | 801 | 1001 | 1301 | 1501 | 1701 | 2001 | 2302 | 2602 | 3002 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Cooling mode (R410A) (1)** | | | | | | | | | | |
| Cooling capacity | kW | 91,4 | 118,0 | 147,4 | 170,1 | 192,8 | 245,0 | 265,0 | 294,0 | 340,2 |
| Compressor input power | kW | 22,3 | 27,9 | 34,7 | 40,5 | 46,2 | 60,2 | 62,6 | 69,4 | 80,9 |
| Total input power | kW | 26,7 | 32,7 | 40,0 | 47,1 | 53,5 | 68,2 | 71,4 | 78,6 | 90,6 |
| Nominal input current | A | 47,0 | 57,7 | 70,5 | 83,0 | 94,2 | 120,1 | 125,8 | 138,5 | 159,6 |
| EER Gross | W/W | 4,10 | 4,23 | 4,25 | 4,20 | 4,17 | 4,07 | 4,23 | 4,24 | 4,21 |
| EER Net | W/W | 3,42 | 3,60 | 3,68 | 3,61 | 3,61 | 3,59 | 3,71 | 3,74 | 3,75 |
| Flow rate (4) | $m^3/h$ | 17,0 | 21,9 | 27,4 | 31,6 | 35,9 | 45,6 | 49,3 | 54,7 | 63,3 |
| Pressure drop | kPa | 66,8 | 70,4 | 72,5 | 63,7 | 64,4 | 74,4 | 70,4 | 69,9 | 65,3 |
| Circuits | n° | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Compressors | n° | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 |
| **Free Cooling (2)** | | | | | | | | | | |
| Cooling capacity | kW | 82,7 | 85,2 | 87,7 | 124,0 | 127,8 | 131,6 | 165,4 | 170,4 | 175,5 |
| Input power | kW | 4,4 | 4,8 | 5,3 | 6,6 | 7,3 | 8,0 | 8,8 | 9,2 | 9,7 |
| Input current | A | 8,4 | 9,3 | 10,2 | 12,7 | 13,9 | 15,3 | 16,9 | 17,7 | 18,6 |
| EER | W/W | 18,8 | 17,6 | 16,5 | 18,8 | 17,6 | 16,5 | 18,8 | 18,4 | 18,1 |
| Flow rate (4) | $m^3/h$ | 15,7 | 16,1 | 16,6 | 23,5 | 24,2 | 24,9 | 31,3 | 32,3 | 33,2 |
| Pressure drop | kPa | 154,7 | 136,1 | 124,6 | 133,2 | 127,4 | 120,3 | 126,4 | 122,3 | 116,0 |
| **Free Cooling (3)** | | | | | | | | | | |
| Cooling capacity | kW | 57,03 | 58,75 | 60,51 | 85,55 | 88,12 | 90,76 | 114,07 | 117,49 | 121,01 |
| Input power | kW | 4,4 | 4,8 | 5,3 | 6,6 | 7,3 | 8,0 | 8,8 | 9,2 | 9,7 |
| Input current | A | 8,4 | 9,3 | 10,2 | 12,7 | 13,9 | 15,3 | 16,9 | 17,7 | 18,6 |
| EER | W/W | 13,0 | 12,1 | 11,4 | 13,0 | 12,1 | 11,4 | 13,0 | 12,7 | 12,5 |
| Flow rate (4) | $m^3/h$ | 10,8 | 11,1 | 11,5 | 16,2 | 16,7 | 17,2 | 21,6 | 22,3 | 22,9 |
| Pressure drop | kPa | 73,6 | 64,7 | 59,3 | 63,3 | 60,6 | 57,2 | 60,1 | 58,2 | 55,2 |
| **Axial fans** | | | | | | | | | | |
| Quantity | n° | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 |
| Total air flow | $m^3/h$ | 41100 | 44400 | 46700 | 61500 | 66400 | 69700 | 81500 | 88100 | 92400 |
| Total power input | kW | 4,4 | 4,8 | 5,3 | 6,6 | 7,3 | 8,0 | 8,8 | 9,2 | 9,7 |
| Total input current | A | 8,4 | 9,3 | 10,2 | 12,7 | 13,9 | 15,3 | 16,9 | 17,7 | 18,6 |
| **Weight** | | | | | | | | | | |
| Transport weight | kg | 1340 | 1390 | 1506 | 1735 | 1810 | 1916 | 2190 | 2310 | 2440 |
| Operating weight | kg | 1358 | 1408 | 1524 | 1762 | 1837 | 1943 | 2226 | 2346 | 2476 |
| **Dimensions** | | | | | | | | | | |
| Length | mm | 2770 | 2770 | 2770 | 3810 | 3810 | 3810 | 4850 | 4850 | 4850 |
| Width | mm | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 |
| Height | mm | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 |
| **Sound data** | | | | | | | | | | |
| Total LWA (5) | dB(A) | 96,4 | 96,7 | 97 | 98,1 | 98,7 | 99,1 | 100,3 | 100,5 | 100,9 |
| Total SPL 1m (6) | dB(A) | 77,8 | 78,1 | 78,4 | 78,9 | 79,5 | 79,9 | 80,6 | 80,8 | 81,2 |
| **Power supply** | | | | | | | | | | |
| Voltage/phase/frequency | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| **General electrical data** | | | | | | | | | | |
| Maximum input power | [A] | 77 | 86 | 109 | 126 | 145 | 185 | 192 | 212 | 246 |
| Maximum input current | [A] | 218 | 282 | 347 | 370 | 394 | 509 | 443 | 485 | 545 |

(1) Water in/out: 15/10°C - Ambient air temperature 30°C
(2) Water in/out: 15/10°C - Ambient air temperature 0°C
(3) Water in/out: 15/10°C - Ambient air temperature 5°C
(4) Hydraulic data referred to fluid Glycol 30%
(5) Sound power level in accordance with ISO 3744.
(6) Sound pressure level at 1m from the unit in free field conditions, in accordance with ISO 3744

| RAE F Kc | | 3302 | 3602 | 4002 | 4802 | 5202 | 5402 | 5602 | 6002 |
|---|---|---|---|---|---|---|---|---|---|
| **Cooling mode (R410A) (1)** | | | | | | | | | |
| Cooling capacity | kW | 385,0 | 437,8 | 490,0 | 530,3 | 578,4 | 630,6 | 682,8 | 735,0 |
| Compressor input power | kW | 92,4 | 105,6 | 118,8 | 169,2 | 138,6 | 151,8 | 165,0 | 178,2 |
| Total input power | kW | 105,6 | 120,1 | 136,4 | 188,5 | 158,8 | 174,0 | 191,4 | 207,2 |
| Nominal input current | A | 186,0 | 211,6 | 240,3 | 332,2 | 279,8 | 306,6 | 337,2 | 365,1 |
| EER Gross | W/W | 4,17 | 4,15 | 4,12 | 3,13 | 4,17 | 4,15 | 4,14 | 4,12 |
| EER Net | W/W | 3,65 | 3,64 | 3,59 | 2,81 | 3,64 | 3,62 | 3,57 | 3,55 |
| Flow rate (4) | $m^3/h$ | 71,6 | 81,4 | 91,1 | 98,6 | 107,6 | 117,3 | 127,0 | 136,7 |
| Pressure drop | kPa | 64,8 | 73,4 | 76,6 | 64,8 | 57,1 | 66,8 | 64,4 | 66,3 |
| Circuits | n° | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Compressors | n° | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| **Free Cooling (2)** | | | | | | | | | |
| Cooling capacity | kW | 276,0 | 284,3 | 368,0 | 379,0 | 460,0 | 473,8 | 552,0 | 568,6 |
| Input power | kW | 13,2 | 14,5 | 17,6 | 19,4 | 20,2 | 22,2 | 26,4 | 29,0 |
| Input current | A | 25,3 | 27,8 | 33,8 | 37,1 | 38,7 | 42,6 | 50,6 | 55,7 |
| EER | W/W | 20,9 | 19,6 | 20,9 | 19,6 | 22,8 | 21,3 | 20,9 | 19,6 |
| Flow rate (4) | $m^3/h$ | 52,3 | 53,8 | 69,7 | 71,8 | 87,1 | 89,7 | 104,6 | 107,7 |
| Pressure drop | kPa | 132,5 | 130,1 | 142,8 | 132,4 | 135,4 | 137,1 | 141,7 | 139,1 |
| **Free Cooling (3)** | | | | | | | | | |
| Cooling capacity | kW | 190,34 | 196,06 | 253,79 | 261,41 | 317,24 | 326,76 | 380,69 | 392,11 |
| Input power | kW | 13,2 | 14,5 | 17,6 | 19,4 | 20,2 | 22,2 | 26,4 | 29,0 |
| Input current | A | 25,3 | 27,8 | 33,8 | 37,1 | 38,7 | 42,6 | 50,6 | 55,7 |
| EER | W/W | 14,4 | 13,5 | 14,4 | 13,5 | 15,7 | 14,7 | 14,4 | 13,5 |
| Flow rate (4) | $m^3/h$ | 36,1 | 37,1 | 48,1 | 49,5 | 60,1 | 61,9 | 72,1 | 74,3 |
| Pressure drop | kPa | 63,0 | 61,9 | 67,9 | 63,0 | 64,4 | 65,2 | 67,4 | 66,2 |
| **Axial fans** | | | | | | | | | |
| Quantity | n° | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 |
| Total air flow | $m^3/h$ | 107800 | 116500 | 143200 | 153600 | 178300 | 188900 | 211900 | 228800 |
| Total power input | kW | 13,2 | 14,5 | 17,6 | 19,4 | 20,2 | 22,2 | 26,4 | 29,0 |
| Total input current | A | 25,3 | 27,8 | 33,8 | 37,1 | 38,7 | 42,6 | 50,6 | 55,7 |
| **Weight** | | | | | | | | | |
| Transport weight | kg | 3425 | 3684 | 4065 | 4318 | 4425 | 4825 | 5130 | 5536 |
| Operating weight | kg | 3481 | 3741 | 4140 | 4394 | 4518 | 4919 | 5242 | 5649 |
| **Dimensions** | | | | | | | | | |
| Length | mm | 3775 | 3775 | 4750 | 4750 | 5720 | 5720 | 6700 | 6700 |
| Width | mm | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 |
| Height | mm | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 |
| **Sound data** | | | | | | | | | |
| Total LWA (5) | dB(A) | 99,4 | 100,2 | 101,6 | 102,2 | 103,6 | 104,1 | 105,2 | 105,7 |
| Total SPL 1m (6) | dB(A) | 79,6 | 80,4 | 81,3 | 81,9 | 82,9 | 83,4 | 84,1 | 84,6 |
| **Power supply** | | | | | | | | | |
| Voltage/phase/frequency | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| **General electrical data** | | | | | | | | | |
| Maximum input power | [A] | 285 | 323 | 364 | 429 | 468 | 487 | 512 | 552 |
| Maximum input current | [A] | 569 | 648 | 689 | 674 | 791 | 813 | 838 | 877 |

(1) Water in/out: 15/10°C - Ambient air temperature 30°C
(2) Water in/out: 15/10°C - Ambient air temperature 0°C
(3) Water in/out: 15/10°C - Ambient air temperature 5°C
(4) Hydraulic data referred to fluid Glycol 30%
(5) Sound power level in accordance with ISO 3744.
(6) Sound pressure level at 1m from the unit in free field conditions, in accordance with ISO 3744

| RAE F HE Kc | | 801 | 1001 | 1301 | 1501 | 1701 | 2001 | 2302 | 2602 | 3002 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Cooling mode (R410A) (1)** | | | | | | | | | | |
| Cooling capacity | kW | 107,9 | 137,8 | 174,5 | 201,8 | 230,7 | 283,3 | 311,0 | 358,9 | 415,0 |
| Compressor input power | kW | 21,6 | 27,1 | 35,3 | 40,9 | 46,6 | 58,0 | 61,9 | 71,5 | 83,1 |
| Total input power | kW | 25,4 | 31,3 | 41,0 | 47,2 | 54,2 | 66,4 | 73,3 | 83,5 | 95,6 |
| Nominal input current | A | 44,7 | 55,1 | 72,3 | 83,1 | 95,5 | 117,0 | 129,2 | 147,1 | 168,5 |
| EER Gross | W/W | 5,00 | 5,08 | 4,94 | 4,93 | 4,95 | 4,88 | 5,02 | 5,02 | 5,00 |
| EER Net | W/W | 4,25 | 4,40 | 4,25 | 4,28 | 4,26 | 4,27 | 4,24 | 4,30 | 4,34 |
| Flow rate (4) | $m^3/h$ | 20,1 | 25,6 | 32,5 | 37,5 | 42,9 | 52,7 | 57,8 | 66,8 | 77,2 |
| Pressure drop | kPa | 71,8 | 75,3 | 79,7 | 70,4 | 72,4 | 77,5 | 74,6 | 81,7 | 76,2 |
| Circuits | n° | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Compressors | n° | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 |
| **Free Cooling (2)** | | | | | | | | | | |
| Cooling capacity | kW | 85,3 | 85,6 | 126,0 | 133,2 | 158,7 | 166,5 | 278,8 | 288,6 | 291,3 |
| Input power | kW | 3,8 | 4,2 | 5,7 | 6,3 | 7,6 | 8,4 | 11,4 | 12,0 | 12,6 |
| Input current | A | 7,3 | 8,0 | 10,9 | 12,0 | 14,6 | 16,0 | 21,9 | 23,0 | 24,1 |
| EER | W/W | 22,5 | 20,5 | 22,1 | 21,2 | 20,9 | 19,9 | 24,5 | 24,1 | 23,2 |
| Flow rate (4) | $m^3/h$ | 16,2 | 16,2 | 23,9 | 25,2 | 30,1 | 31,5 | 52,8 | 54,7 | 55,2 |
| Pressure drop | kPa | 144,6 | 128,1 | 141,1 | 129,8 | 133,5 | 125,8 | 160,2 | 152,8 | 137,0 |
| **Free Cooling (3)** | | | | | | | | | | |
| Cooling capacity | kW | 58,84 | 59,01 | 86,90 | 91,86 | 109,45 | 114,83 | 192,28 | 199,03 | 200,90 |
| Input power | kW | 3,8 | 4,2 | 5,7 | 6,3 | 7,6 | 8,4 | 11,4 | 12,0 | 12,6 |
| Input current | A | 7,3 | 8,0 | 10,9 | 12,0 | 14,6 | 16,0 | 21,9 | 23,0 | 24,1 |
| EER | W/W | 15,5 | 14,1 | 15,2 | 14,7 | 14,4 | 13,7 | 16,9 | 16,6 | 16,0 |
| Flow rate (4) | $m^3/h$ | 11,1 | 11,2 | 16,5 | 17,4 | 20,7 | 21,8 | 36,4 | 37,7 | 38,1 |
| Pressure drop | kPa | 68,8 | 60,9 | 67,1 | 61,7 | 63,5 | 59,8 | 76,2 | 72,7 | 65,1 |
| **Axial fans** | | | | | | | | | | |
| Quantity | n° | 2 | 2 | 3 | 3 | 4 | 4 | 6 | 6 | 6 |
| Total air flow | $m^3/h$ | 42400 | 44600 | 63900 | 68700 | 80400 | 87200 | 110400 | 118200 | 121200 |
| Total power input | kW | 3,8 | 4,2 | 5,7 | 6,3 | 7,6 | 8,4 | 11,4 | 12,0 | 12,6 |
| Total input current | A | 7,3 | 8,0 | 10,9 | 12,0 | 14,6 | 16,0 | 21,9 | 23,0 | 24,1 |
| **Weight** | | | | | | | | | | |
| Transport weight | kg | 1340 | 1390 | 1690 | 1787 | 2020 | 2145 | 3180 | 3225 | 3296 |
| Operating weight | kg | 1358 | 1408 | 1717 | 1814 | 2055 | 2181 | 3236 | 3282 | 3353 |
| **Dimensions** | | | | | | | | | | |
| Length | mm | 2770 | 2770 | 3810 | 3810 | 4850 | 4850 | 3775 | 3775 | 3775 |
| Width | mm | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 | 2300 | 2300 | 2300 |
| Height | mm | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 | 2560 | 2560 | 2560 |
| **Sound data** | | | | | | | | | | |
| Total LWA (5) | dB(A) | 94,6 | 94,9 | 95,2 | 96,3 | 96,9 | 97,3 | 98,5 | 98,7 | 99,1 |
| Total SPL 1m (6) | dB(A) | 76,0 | 76,3 | 76,6 | 77,1 | 77,7 | 78,1 | 78,8 | 79,0 | 79,4 |
| **Power supply** | | | | | | | | | | |
| Voltage/phase/frequency | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| **General electrical data** | | | | | | | | | | |
| Maximum input power | [A] | 76 | 85 | 110 | 125 | 146 | 186 | 197 | 217 | 251 |
| Maximum input current | [A] | 217 | 281 | 348 | 369 | 395 | 510 | 448 | 490 | 550 |

(1) Water in/out: 15/10°C - Ambient air temperature 30°C
(2) Water in/out: 15/10°C - Ambient air temperature 0°C
(3) Water in/out: 15/10°C - Ambient air temperature 5°C
(4) Hydraulic data referred to fluid Glycol 30%
(5) Sound power level in accordance with ISO 3744.
(6) Sound pressure level at 1m from the unit in free field conditions, in accordance with ISO 3744

| RAE F HE Kc | | 3302 | 3602 | 4002 | 4802 | 5202 | 5402 | 5602 | 6002 |
|---|---|---|---|---|---|---|---|---|---|
| **Cooling mode (R410A) (1)** | | | | | | | | | |
| Cooling capacity | kW | 458,8 | 509,2 | 568,2 | 678,0 | 733,7 | 770,5 | 793,6 | 853,5 |
| Compressor input power | kW | 92,7 | 103,4 | 114,2 | 139,5 | 148,6 | 156,1 | 160,4 | 171,2 |
| Total input power | kW | 107,9 | 120,1 | 133,2 | 160,4 | 171,4 | 181,1 | 187,0 | 200,5 |
| Nominal input current | A | 190,0 | 211,7 | 234,7 | 282,6 | 302,0 | 319,1 | 329,5 | 353,2 |
| EER Gross | W/W | 4,95 | 4,92 | 4,97 | 4,86 | 4,94 | 4,94 | 4,95 | 4,99 |
| EER Net | W/W | 4,25 | 4,24 | 4,27 | 4,23 | 4,28 | 4,25 | 4,24 | 4,26 |
| Flow rate (4) | $m^3/h$ | 85,3 | 94,7 | 105,7 | 126,1 | 136,4 | 143,3 | 147,6 | 158,7 |
| Pressure drop | kPa | 72,2 | 77,3 | 80,8 | 82,4 | 71,3 | 76,0 | 68,0 | 69,8 |
| Circuits | n° | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Compressors | n° | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| **Free Cooling (2)** | | | | | | | | | |
| Cooling capacity | kW | 374,5 | 382,4 | 464,8 | 477,2 | 560,4 | 576,2 | 665,4 | 673,2 |
| Input power | kW | 15,2 | 16,7 | 19,0 | 20,9 | 22,8 | 25,1 | 26,6 | 29,3 |
| Input current | A | 29,2 | 32,1 | 36,4 | 40,1 | 43,7 | 48,1 | 51,0 | 56,1 |
| EER | W/W | 24,6 | 22,9 | 24,5 | 22,8 | 24,6 | 23,0 | 25,0 | 23,0 |
| Flow rate (4) | $m^3/h$ | 70,9 | 72,4 | 88,0 | 90,4 | 106,1 | 109,1 | 126,0 | 127,5 |
| Pressure drop | kPa | 147,9 | 143,2 | 154,1 | 140,4 | 141,1 | 142,1 | 147,6 | 143,1 |
| **Free Cooling (3)** | | | | | | | | | |
| Cooling capacity | kW | 258,28 | 263,72 | 320,55 | 329,10 | 386,45 | 397,38 | 458,90 | 464,28 |
| Input power | kW | 15,2 | 16,7 | 19,0 | 20,9 | 22,8 | 25,1 | 26,6 | 29,3 |
| Input current | A | 29,2 | 32,1 | 36,4 | 40,1 | 43,7 | 48,1 | 51,0 | 56,1 |
| EER | W/W | 17,0 | 15,8 | 16,9 | 15,7 | 16,9 | 15,8 | 17,3 | 15,9 |
| Flow rate (4) | $m^3/h$ | 48,9 | 50,0 | 60,7 | 62,3 | 73,2 | 75,3 | 86,9 | 87,9 |
| Pressure drop | kPa | 70,3 | 68,1 | 73,3 | 66,8 | 67,1 | 67,6 | 70,2 | 68,0 |
| **Axial fans** | | | | | | | | | |
| Quantity | n° | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 |
| Total air flow | $m^3/h$ | 148800 | 158400 | 184000 | 192000 | 217200 | 232800 | 263200 | 273000 |
| Total power input | kW | 15,2 | 16,7 | 19 | 20,9 | 22,8 | 25,1 | 26,6 | 29,3 |
| Total input current | A | 29,2 | 32,1 | 36,4 | 40,1 | 43,7 | 48,1 | 51,0 | 56,1 |
| **Weight** | | | | | | | | | |
| Transport weight | kg | 3925 | 4098 | 4296 | 4415 | 4990 | 5124 | 5620 | 5760 |
| Operating weight | kg | 4000 | 4174 | 4390 | 4510 | 5103 | 5238 | 5752 | 5893 |
| **Dimensions** | | | | | | | | | |
| Length | mm | 4750 | 4750 | 5720 | 5720 | 6700 | 6700 | 7670 | 7670 |
| Width | mm | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 |
| Height | mm | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 |
| **Sound data** | | | | | | | | | |
| Total LWA (5) | dB(A) | 97,6 | 98,4 | 99,8 | 100,4 | 101,8 | 102,3 | 103,4 | 103,9 |
| Total SPL 1m (6) | dB(A) | 77,8 | 78,6 | 79,5 | 80,1 | 81,1 | 81,6 | 82,3 | 82,8 |
| **Power supply** | | | | | | | | | |
| Voltage/phase/frequency | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| **General electrical data** | | | | | | | | | |
| Maximum input power | [A] | 289 | 327 | 366 | 432 | 473 | 492 | 512 | 552 |
| Maximum input current | [A] | 573 | 652 | 691 | 677 | 796 | 818 | 838 | 877 |

(1) Water in/out: 15/10°C - Ambient air temperature 30°C
(2) Water in/out: 15/10°C - Ambient air temperature 0°C
(3) Water in/out: 15/10°C - Ambient air temperature 5°C
(4) Hydraulic data referred to fluid Glycol 30%
(5) Sound power level in accordance with ISO 3744.
(6) Sound pressure level at 1m from the unit in free field conditions, in accordance with ISO 3744

| RAE F Kr | | 801 | 1001 | 1301 | 1501 | 1701 | 2001 | 2302 | 2602 | 3002 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Cooling mode (R454B) (1)** | | | | | | | | | | |
| Cooling capacity | kW | 99,5 | 128,0 | 162,2 | 187,6 | 214,4 | 262,3 | 286,2 | 333,6 | 385,7 |
| Compressor input power | kW | 21,1 | 26,3 | 34,3 | 39,7 | 45,3 | 56,4 | 61,1 | 69,5 | 80,7 |
| Total input power | kW | 25,5 | 31,2 | 39,6 | 46,3 | 52,5 | 64,4 | 69,9 | 78,7 | 90,4 |
| Nominal input current | A | 44,9 | 54,9 | 69,8 | 81,6 | 92,5 | 113,4 | 123,2 | 138,6 | 159,2 |
| EER Gross | W/W | 4,72 | 4,86 | 4,73 | 4,72 | 4,74 | 4,65 | 4,68 | 4,80 | 4,78 |
| EER Net | W/W | 3,91 | 4,11 | 4,09 | 4,05 | 4,08 | 4,07 | 4,09 | 4,24 | 4,27 |
| Flow rate (4) | $m^3/h$ | 18,5 | 23,8 | 30,2 | 34,9 | 39,9 | 48,8 | 53,2 | 62,0 | 71,7 |
| Pressure drop | kPa | 83,2 | 87,2 | 92,3 | 81,5 | 83,8 | 89,7 | 86,3 | 94,6 | 88,3 |
| Circuits | n° | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Compressors | n° | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 |
| **Free Cooling (2)** | | | | | | | | | | |
| Cooling capacity | kW | 82,7 | 85,2 | 87,7 | 124,0 | 127,8 | 131,6 | 165,4 | 170,4 | 175,5 |
| Input power | kW | 4,4 | 4,8 | 5,3 | 6,6 | 7,3 | 8,0 | 8,8 | 9,2 | 9,7 |
| Input current | A | 8,4 | 9,3 | 10,2 | 12,7 | 13,9 | 15,3 | 16,9 | 17,7 | 18,6 |
| EER | W/W | 18,8 | 17,6 | 16,5 | 18,8 | 17,6 | 16,5 | 18,8 | 18,4 | 18,1 |
| Flow rate (4) | $m^3/h$ | 15,7 | 16,1 | 16,6 | 23,5 | 24,2 | 24,9 | 31,3 | 32,3 | 33,2 |
| Pressure drop | kPa | 157,6 | 138,0 | 126,0 | 135,0 | 128,9 | 121,4 | 127,9 | 123,6 | 116,9 |
| **Free Cooling (3)** | | | | | | | | | | |
| Cooling capacity | kW | 57,03 | 58,75 | 60,51 | 85,55 | 88,12 | 90,76 | 114,07 | 117,49 | 121,01 |
| Input power | kW | 4,4 | 4,8 | 5,3 | 6,6 | 7,3 | 8,0 | 8,8 | 9,2 | 9,7 |
| Input current | A | 8,4 | 9,3 | 10,2 | 12,7 | 13,9 | 15,3 | 16,9 | 17,7 | 18,6 |
| EER | W/W | 13,0 | 12,1 | 11,4 | 13,0 | 12,1 | 11,4 | 13,0 | 12,7 | 12,5 |
| Flow rate (4) | $m^3/h$ | 10,8 | 11,1 | 11,5 | 16,2 | 16,7 | 17,2 | 21,6 | 22,3 | 22,9 |
| Pressure drop | kPa | 75,0 | 65,7 | 59,9 | 64,2 | 61,3 | 57,8 | 60,8 | 58,8 | 55,6 |
| **Axial fans** | | | | | | | | | | |
| Quantity | n° | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 |
| Total air flow | $m^3/h$ | 41100 | 44400 | 46700 | 61500 | 66400 | 69700 | 81500 | 88100 | 92400 |
| Total power input | kW | 4,4 | 4,8 | 5,3 | 6,6 | 7,3 | 8,0 | 8,8 | 9,2 | 9,7 |
| Total input current | A | 8,4 | 9,3 | 10,2 | 12,7 | 13,9 | 15,3 | 16,9 | 17,7 | 18,6 |
| **Weight** | | | | | | | | | | |
| Transport weight | kg | 1340 | 1390 | 1506 | 1735 | 1810 | 1916 | 2190 | 2310 | 2440 |
| Operating weight | kg | 1358 | 1408 | 1524 | 1762 | 1837 | 1943 | 2226 | 2346 | 2476 |
| **Dimensions** | | | | | | | | | | |
| Length | mm | 2770 | 2770 | 2770 | 3810 | 3810 | 3810 | 4850 | 4850 | 4850 |
| Width | mm | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 |
| Height | mm | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 |
| **Sound data** | | | | | | | | | | |
| Total LWA (5) | dB(A) | 96,4 | 96,7 | 97 | 98,1 | 98,7 | 99,1 | 100,3 | 100,5 | 100,9 |
| Total SPL 1m (6) | dB(A) | 77,8 | 78,1 | 78,4 | 78,9 | 79,5 | 79,9 | 80,6 | 80,8 | 81,2 |
| **Power supply** | | | | | | | | | | |
| Voltage/phase/frequency | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| **General electrical data** | | | | | | | | | | |
| Maximum input power | [A] | 77 | 86 | 109 | 126 | 145 | 185 | 192 | 212 | 246 |
| Maximum input current | [A] | 218 | 282 | 347 | 370 | 394 | 509 | 443 | 485 | 545 |

(1) Water in/out: 15/10°C - Ambient air temperature 30°C
(2) Water in/out: 15/10°C - Ambient air temperature 0°C
(3) Water in/out: 15/10°C - Ambient air temperature 5°C
(4) Hydraulic data referred to fluid Glycol 30%
(5) Sound power level in accordance with ISO 3744.
(6) Sound pressure level at 1m from the unit in free field conditions, in accordance with ISO 3744

| RAE F Kr | | 3302 | 3602 | 4002 | 4802 | 5202 | 5402 | 5602 | 6002 |
|---|---|---|---|---|---|---|---|---|---|
| **Cooling mode (R454B)** [1] | | | | | | | | | |
| Cooling capacity | kW | 426,4 | 471,5 | 528,0 | 627,3 | 678,3 | 705,8 | 735,9 | 791,5 |
| Compressor input power | kW | 90,0 | 102,2 | 114,1 | 135,5 | 147,4 | 153,3 | 159,3 | 171,2 |
| Total input power | kW | 103,2 | 116,8 | 131,7 | 154,9 | 167,6 | 175,6 | 185,7 | 200,2 |
| Nominal input current | A | 181,8 | 205,7 | 232,1 | 272,9 | 295,3 | 309,3 | 327,2 | 352,7 |
| EER Gross | W/W | 4,74 | 4,61 | 4,63 | 4,63 | 4,60 | 4,60 | 4,62 | 4,62 |
| EER Net | W/W | 4,13 | 4,04 | 4,01 | 4,05 | 4,05 | 4,02 | 3,96 | 3,95 |
| Flow rate [4] | $m^3/h$ | 79,3 | 87,7 | 98,2 | 116,7 | 126,1 | 131,3 | 136,9 | 147,2 |
| Pressure drop | kPa | 83,6 | 89,5 | 93,5 | 95,5 | 82,5 | 88,0 | 78,7 | 80,8 |
| Circuits | n° | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Compressors | n° | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| **Free Cooling** [2] | | | | | | | | | |
| Cooling capacity | kW | 276,0 | 284,3 | 368,0 | 379,0 | 460,0 | 473,8 | 552,0 | 568,6 |
| Input power | kW | 13,2 | 14,5 | 17,6 | 19,4 | 20,2 | 22,2 | 26,4 | 29,0 |
| Input current | A | 25,3 | 27,8 | 33,8 | 37,1 | 38,7 | 42,6 | 50,6 | 55,7 |
| EER | W/W | 20,9 | 19,6 | 20,9 | 19,6 | 22,8 | 21,3 | 20,9 | 19,6 |
| Flow rate [4] | $m^3/h$ | 52,3 | 53,8 | 69,7 | 71,8 | 87,1 | 89,7 | 104,6 | 107,7 |
| Pressure drop | kPa | 134,3 | 131,8 | 145,1 | 134,1 | 137,4 | 139,2 | 143,9 | 141,3 |
| **Free Cooling** [3] | | | | | | | | | |
| Cooling capacity | kW | 190,34 | 196,06 | 253,79 | 261,41 | 317,24 | 326,76 | 380,69 | 392,11 |
| Input power | kW | 13,2 | 14,5 | 17,6 | 19,4 | 20,2 | 22,2 | 26,4 | 29,0 |
| Input current | A | 25,3 | 27,8 | 33,8 | 37,1 | 38,7 | 42,6 | 50,6 | 55,7 |
| EER | W/W | 14,4 | 13,5 | 14,4 | 13,5 | 15,7 | 14,7 | 14,4 | 13,5 |
| Flow rate [4] | $m^3/h$ | 36,1 | 37,1 | 48,1 | 49,5 | 60,1 | 61,9 | 72,1 | 74,3 |
| Pressure drop | kPa | 63,9 | 62,7 | 69,0 | 63,8 | 65,3 | 66,2 | 68,5 | 67,2 |
| **Axial fans** | | | | | | | | | |
| Quantity | n° | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 |
| Total air flow | $m^3/h$ | 107800 | 116500 | 143200 | 153600 | 178300 | 188900 | 211900 | 228800 |
| Total power input | kW | 13,2 | 14,5 | 17,6 | 19,4 | 20,2 | 22,2 | 26,4 | 29,0 |
| Total input current | A | 25,3 | 27,8 | 33,8 | 37,1 | 38,7 | 42,6 | 50,6 | 55,7 |
| **Weight** | | | | | | | | | |
| Transport weight | kg | 3425 | 3684 | 4065 | 4318 | 4425 | 4825 | 5130 | 5536 |
| Operating weight | kg | 3481 | 3741 | 4140 | 4394 | 4518 | 4919 | 5242 | 5649 |
| **Dimensions** | | | | | | | | | |
| Length | mm | 3775 | 3775 | 4750 | 4750 | 5720 | 5720 | 6700 | 6700 |
| Width | mm | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 |
| Height | mm | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 |
| **Sound data** | | | | | | | | | |
| Total LWA [5] | dB(A) | 99,4 | 100,2 | 101,6 | 102,2 | 103,6 | 104,1 | 105,2 | 105,7 |
| Total SPL 1m [6] | dB(A) | 79,6 | 80,4 | 81,3 | 81,9 | 82,9 | 83,4 | 84,1 | 84,6 |
| **Power supply** | | | | | | | | | |
| Voltage/phase/frequency | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| **General electrical data** | | | | | | | | | |
| Maximum input power | [A] | 285 | 323 | 364 | 429 | 468 | 487 | 512 | 552 |
| Maximum input current | [A] | 569 | 648 | 689 | 674 | 791 | 813 | 838 | 877 |

(1) Water in/out: 15/10°C - Ambient air temperature 30°C
(2) Water in/out: 15/10°C - Ambient air temperature 0°C
(3) Water in/out: 15/10°C - Ambient air temperature 5°C
(4) Hydraulic data referred to fluid Glycol 30%
(5) Sound power level in accordance with ISO 3744.
(6) Sound pressure level at 1m from the unit in free field conditions, in accordance with ISO 3744

| RAE F HE Kr | | 801 | 1001 | 1301 | 1501 | 1701 | 2001 | 2302 | 2602 | 3002 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Cooling mode (R454B) (1)** | | | | | | | | | | |
| Cooling capacity | kW | 93,1 | 118,9 | 150,6 | 174,1 | 199,1 | 244,5 | 268,3 | 309,7 | 358,1 |
| Compressor input power | kW | 19,3 | 24,3 | 31,7 | 36,7 | 41,8 | 52,0 | 55,5 | 64,1 | 74,4 |
| Total input power | kW | 23,1 | 28,5 | 37,4 | 42,9 | 49,4 | 60,4 | 66,9 | 76,1 | 87,0 |
| Nominal input current | A | 40,8 | 50,2 | 65,8 | 75,6 | 87,0 | 106,4 | 117,9 | 134,0 | 153,3 |
| EER Gross | W/W | 4,81 | 4,89 | 4,76 | 4,75 | 4,77 | 4,70 | 4,83 | 4,83 | 4,81 |
| EER Net | W/W | 4,02 | 4,18 | 4,03 | 4,06 | 4,03 | 4,05 | 4,01 | 4,07 | 4,12 |
| Flow rate (4) | $m^3/h$ | 17,3 | 22,1 | 28,0 | 32,4 | 37,0 | 45,5 | 49,9 | 57,6 | 66,6 |
| Pressure drop | kPa | 52,8 | 55,4 | 58,6 | 51,8 | 53,2 | 57,0 | 54,8 | 60,1 | 56,1 |
| Circuits | n° | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Compressors | n° | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 |
| **Free Cooling (2)** | | | | | | | | | | |
| Cooling capacity | kW | 85,3 | 85,6 | 126,0 | 133,2 | 158,7 | 166,5 | 278,8 | 288,6 | 291,3 |
| Input power | kW | 3,8 | 4,2 | 5,7 | 6,3 | 7,6 | 8,4 | 11,4 | 12,0 | 12,6 |
| Input current | A | 7,3 | 8,0 | 10,9 | 12,0 | 14,6 | 16,0 | 21,9 | 23,0 | 24,1 |
| EER | W/W | 22,5 | 20,5 | 22,1 | 21,2 | 20,9 | 19,9 | 24,5 | 24,1 | 23,2 |
| Flow rate (4) | $m^3/h$ | 16,2 | 16,2 | 23,9 | 25,2 | 30,1 | 31,5 | 52,8 | 54,7 | 55,2 |
| Pressure drop | kPa | 144,0 | 127,8 | 140,6 | 129,4 | 133,1 | 125,4 | 159,4 | 152,1 | 136,5 |
| **Free Cooling (3)** | | | | | | | | | | |
| Cooling capacity | kW | 58,84 | 59,01 | 86,90 | 91,86 | 109,45 | 114,83 | 192,28 | 199,03 | 200,90 |
| Input power | kW | 3,8 | 4,2 | 5,7 | 6,3 | 7,6 | 8,4 | 11,4 | 12,0 | 12,6 |
| Input current | A | 7,3 | 8,0 | 10,9 | 12,0 | 14,6 | 16,0 | 21,9 | 23,0 | 24,1 |
| EER | W/W | 15,5 | 14,1 | 15,2 | 14,7 | 14,4 | 13,7 | 16,9 | 16,6 | 16,0 |
| Flow rate (4) | $m^3/h$ | 11,1 | 11,2 | 16,5 | 17,4 | 20,7 | 21,8 | 36,4 | 37,7 | 38,1 |
| Pressure drop | kPa | 68,5 | 60,8 | 66,9 | 61,6 | 63,3 | 59,7 | 75,8 | 72,4 | 64,9 |
| **Axial fans** | | | | | | | | | | |
| Quantity | n° | 2 | 2 | 3 | 3 | 4 | 4 | 6 | 6 | 6 |
| Total air flow | $m^3/h$ | 42400 | 44600 | 63900 | 68700 | 80400 | 87200 | 110400 | 118200 | 121200 |
| Total power input | kW | 3,8 | 4,2 | 5,7 | 6,3 | 7,6 | 8,4 | 11,4 | 12,0 | 12,6 |
| Total input current | A | 7,3 | 8,0 | 10,9 | 12,0 | 14,6 | 16,0 | 21,9 | 23,0 | 24,1 |
| **Weight** | | | | | | | | | | |
| Transport weight | kg | 1340 | 1390 | 1690 | 1787 | 2020 | 2145 | 3180 | 3225 | 3296 |
| Operating weight | kg | 1358 | 1408 | 1717 | 1814 | 2055 | 2181 | 3236 | 3282 | 3353 |
| **Dimensions** | | | | | | | | | | |
| Length | mm | 2770 | 2770 | 3810 | 3810 | 4850 | 4850 | 3775 | 3775 | 3775 |
| Width | mm | 1370 | 1370 | 1370 | 1370 | 1370 | 1370 | 2300 | 2300 | 2300 |
| Height | mm | 2420 | 2420 | 2420 | 2420 | 2420 | 2420 | 2560 | 2560 | 2560 |
| **Sound data** | | | | | | | | | | |
| Total LWA (5) | dB(A) | 94,6 | 94,9 | 95,2 | 96,3 | 96,9 | 97,3 | 98,5 | 98,7 | 99,1 |
| Total SPL 1m (6) | dB(A) | 76,0 | 76,3 | 76,6 | 77,1 | 77,7 | 78,1 | 78,8 | 79,0 | 79,4 |
| **Power supply** | | | | | | | | | | |
| Voltage/phase/frequency | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| **General electrical data** | | | | | | | | | | |
| Maximum input power | [A] | 76 | 85 | 110 | 125 | 146 | 186 | 197 | 217 | 251 |
| Maximum input current | [A] | 217 | 281 | 348 | 369 | 395 | 510 | 448 | 490 | 550 |

(1) Water in/out: 15/10°C - Ambient air temperature 30°C
(2) Water in/out: 15/10°C - Ambient air temperature 0°C
(3) Water in/out: 15/10°C - Ambient air temperature 5°C
(4) Hydraulic data referred to fluid Glycol 30%
(5) Sound power level in accordance with ISO 3744.
(6) Sound pressure level at 1m from the unit in free field conditions, in accordance with ISO 3744

| RAE F HE Kr | | 3302 | 3602 | 4002 | 4802 | 5202 | 5402 | 5602 | 6002 |
|---|---|---|---|---|---|---|---|---|---|
| **Cooling mode (R454B) (1)** | | | | | | | | | |
| Cooling capacity | kW | 395,9 | 439,4 | 490,2 | 585,0 | 633,0 | 664,8 | 684,7 | 736,5 |
| Compressor input power | kW | 83,1 | 92,7 | 102,4 | 125,0 | 133,2 | 139,9 | 143,8 | 153,5 |
| Total input power | kW | 98,3 | 109,4 | 121,4 | 145,9 | 156,0 | 164,9 | 170,4 | 182,7 |
| Nominal input current | A | 173,1 | 192,8 | 213,8 | 257,1 | 274,8 | 290,6 | 300,2 | 321,9 |
| EER Gross | W/W | 4,77 | 4,74 | 4,79 | 4,68 | 4,75 | 4,75 | 4,76 | 4,80 |
| EER Net | W/W | 4,03 | 4,02 | 4,04 | 4,01 | 4,06 | 4,03 | 4,02 | 4,03 |
| Flow rate (4) | $m^3/h$ | 73,6 | 81,7 | 91,2 | 108,8 | 117,7 | 123,6 | 127,3 | 137,0 |
| Pressure drop | kPa | 53,1 | 56,9 | 59,4 | 60,6 | 52,4 | 55,9 | 50,0 | 51,4 |
| Circuits | n° | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Compressors | n° | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| **Free Cooling (2)** | | | | | | | | | |
| Cooling capacity | kW | 374,5 | 382,4 | 464,8 | 477,2 | 560,4 | 576,2 | 665,4 | 673,2 |
| Input power | kW | 15,2 | 16,7 | 19,0 | 20,9 | 22,8 | 25,1 | 26,6 | 29,3 |
| Input current | A | 29,2 | 32,1 | 36,4 | 40,1 | 43,7 | 48,1 | 51,0 | 56,1 |
| EER | W/W | 24,6 | 22,9 | 24,5 | 22,8 | 24,6 | 23,0 | 25,0 | 23,0 |
| Flow rate (4) | $m^3/h$ | 70,9 | 72,4 | 88,0 | 90,4 | 106,1 | 109,1 | 126,0 | 127,5 |
| Pressure drop | kPa | 147,3 | 142,7 | 153,4 | 139,8 | 140,6 | 141,6 | 147,0 | 142,5 |
| **Free Cooling (3)** | | | | | | | | | |
| Cooling capacity | kW | 258,28 | 263,72 | 320,55 | 329,10 | 386,45 | 397,38 | 458,90 | 464,28 |
| Input power | kW | 15,2 | 16,7 | 19,0 | 20,9 | 22,8 | 25,1 | 26,6 | 29,3 |
| Input current | A | 29,2 | 32,1 | 36,4 | 40,1 | 43,7 | 48,1 | 51,0 | 56,1 |
| EER | W/W | 17,0 | 15,8 | 16,9 | 15,7 | 16,9 | 15,8 | 17,3 | 15,9 |
| Flow rate (4) | $m^3/h$ | 48,9 | 50,0 | 60,7 | 62,3 | 73,2 | 75,3 | 86,9 | 87,9 |
| Pressure drop | kPa | 70,1 | 67,9 | 73,0 | 66,5 | 66,9 | 67,3 | 69,9 | 67,8 |
| **Axial fans** | | | | | | | | | |
| Quantity | n° | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 |
| Total air flow | $m^3/h$ | 148800 | 158400 | 184000 | 192000 | 217200 | 232800 | 263200 | 273000 |
| Total power input | kW | 15,2 | 16,7 | 19 | 20,9 | 22,8 | 25,1 | 26,6 | 29,3 |
| Total input current | A | 29,2 | 32,1 | 36,4 | 40,1 | 43,7 | 48,1 | 51,0 | 56,1 |
| **Weight** | | | | | | | | | |
| Transport weight | kg | 3925 | 4098 | 4296 | 4415 | 4990 | 5124 | 5620 | 5760 |
| Operating weight | kg | 4000 | 4174 | 4390 | 4510 | 5103 | 5238 | 5752 | 5893 |
| **Dimensions** | | | | | | | | | |
| Length | mm | 4750 | 4750 | 5720 | 5720 | 6700 | 6700 | 7670 | 7670 |
| Width | mm | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 |
| Height | mm | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 | 2560 |
| **Sound data** | | | | | | | | | |
| Total LWA (5) | dB(A) | 97,6 | 98,4 | 99,8 | 100,4 | 101,8 | 102,3 | 103,4 | 103,9 |
| Total SPL 1m (6) | dB(A) | 77,8 | 78,6 | 79,5 | 80,1 | 81,1 | 81,6 | 82,3 | 82,8 |
| **Power supply** | | | | | | | | | |
| Voltage/phase/frequency | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| **General electrical data** | | | | | | | | | |
| Maximum input power | [A] | 289 | 327 | 366 | 432 | 473 | 492 | 512 | 552 |
| Maximum input current | [A] | 573 | 652 | 691 | 677 | 796 | 818 | 838 | 877 |

(1) Water in/out: 15/10°C - Ambient air temperature 30°C
(2) Water in/out: 15/10°C - Ambient air temperature 0°C
(3) Water in/out: 15/10°C - Ambient air temperature 5°C
(4) Hydraulic data referred to fluid Glycol 30%
(5) Sound power level in accordance with ISO 3744.
(6) Sound pressure level at 1m from the unit in free field conditions, in accordance with ISO 3744