EREBA™ ACCESS

Air-Cooled Liquid Chillers and
Reversible Air-to-Water Heat Pumps

Easy and fast installation

Hydraulic module available

Compact, reliable and efficient

Nominal cooling capacity : 16-21 kW

Nominal heating capacity: 18-22 kW

50°

HFC R-410A

Cooling or heating

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Use

The **EREBA™ ACCESS** air-to-water heat pump / chiller is designed for heating and cooling applications in individual homes and small commercial applications.

When installed alone, **EREBA™ ACCESS** is compatible with low to medium temperature emitters (underfloor heating, fan coil units, water cassettes, radiators, mixed installations, etc.). **EREBA™ ACCESS** is also compatible with medium to high temperature emitters for boiler backup operation.

The **EREBA™ ACCESS** unit is installed outside in an open area, ideally as close as possible to the machine room.

Each unit is tested in the factory and delivered ready for operation.

- End-of-line test of all unit operating parameters.
- Circuit leakage, electrical compliance, water and refrigerant pressures.

Range

EREBA™ ACCESS's range is composed by 2 models in cooling only and 2 models reversible.

Operating range **EREBA™ ACCESS** :

- Cooling mode with an outdoor temperature from -10°C to 48°C
- Heating from -15°C to +40°C.

In heating mode, if the heat pump is not powerful enough, a backup type boiler or electrical heater is necessary. It must be managed by an external device.

Compliance

Low Voltage Directive 2014/35/EU

EMC : Electromagnetic Compatibility 2014/30/EU

PED : Pressure Equipment Directive 2014/6/EU

WEEE : Waste Electrical & Electronic Equipment 2012/19/EU

RoHS : Restriction of Hazardous Substances Directive 2011/65/EU

EREBA™ ACCESS

Air-Cooled Liquid Chillers and
Reversible Air-to-Water Heat Pumps

The **EREBA™ ACCESS** liquid chiller/heat pump range was designed for commercial applications such as the air conditioning of offices, hotels and residential houses.

The units integrate the latest technological innovations: Non-ozone depleting refrigerant R410A, scroll or rotary compressors, low-noise fans and auto-adaptative microprocessor control.

For added flexibility the **EREBA™ ACCESS** units are available with hydraulic module integrated into the unit chassis, limiting the installation to straightforward operations like connection of the power supply and the water supply and return piping.

Features

The **EREBA™ ACCESS** chiller/heat pump systems can be used with a wide choice of CIAT terminal fan coil units, and ductable products.

Ecodesign is the European Directive that sets mandatory requirements for Energy related Products (ErP) to improve their energy efficiency.

Quiet operation

Compressors
- Low-noise rotary/scroll compressor with low vibration levels and maintenance free.

Air heat exchanger section
- Vertical air heat exchanger coils
- The latest-generation low-noise fans are now even quieter and do not generate intrusive low-frequency noise
- Rigid fan installation for reduced start-up noise.

Easy and fast installation

Integrated hydraulic module
- Fixed-speed pump.
- Water filter protecting the water pump against circulating debris
- High-capacity membrane expansion tank ensures pressurisation of the water circuit
- Overpressure valve, set to 4 bar
- Thermal insulation and frost protection down to -10°C using pump cycling for all sizes and electric resistance heater .

Physical features
- Advanced circuit design and component selection has resulted in a compact unit with an exceptionally small footprint that is easy to transport even through narrow doors. Reduced operating weight and a handle on the unit panels to facilitate transport.
- The unit is enclosed by easily removable panels, covering all components (except air heat exchanger and fans).
- A neutral colour (RAL 7035) to facilitate the integration in residential area

Simplified electrical connections
- Single power supply point.
- Main disconnect switch with high trip capacity .
- Transformer for safe 24 V control circuit supply included.

Economical operation

Increased seasonal efficiency
- In accordance with EN 14825:2022, Average Climate, energy label reach A and B (see physical data).
- Specific Free Defrost algorithm is present to optimise performance and comfort even during defrost period.

Reduced maintenance costs
- Maintenance-free scroll or rotary compressors
- Fast diagnosis of possible incidents and their history via the Pro-Dialog+ control.
- R410A refrigerant is easier to use than other refrigerant blends

Environmental care

Ozone-friendly R410A refrigerant
- Chlorine-free refrigerant of the HFC group with zero ozone depletion potential
- Very efficient - gives an increased energy efficiency ratio (EER)

Leak-tight refrigerant circuit
- Brazed refrigerant connections for increased leak-tightness.
- Verification of pressure transducers and temperature sensors without transferring refrigerant charge

Superior reliability

Auto-adaptive control
- Control algorithm prevents excessive compressor cycling and permits reduction of the water quantity in the hydraulic circuit.

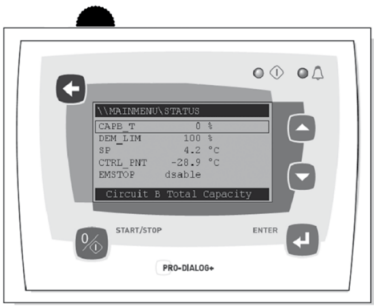
Exceptional endurance tests
- Corrosion resistance tests in salt mist in the laboratory
- Accelerated ageing test on components that are submitted to continuous operation: Compressor piping, fan supports
- Transport simulation test in the laboratory on a vibrating table.

Pro-Dialog+

Pro-Dialog+ control for models 17-21

Pro-Dialog+ combines intelligence with operating simplicity. The control constantly monitors all machine parameters and precisely manages the operation of compressors, expansion devices, fans and of the water heat exchanger water pump for optimum energy efficiency.

Pro-Dialog+ interface



Energy management
- Seven-day internal time schedule clock: Permits unit on/off control and operation at a second set point
- Set point reset based on the outside air temperature or the return water temperature or on the water heat exchanger delta T
- Master/slave control of two units operating in parallel with operating time equalisation and automatic change-over in case of a unit fault.
- Change-over based on the outside air temperature

- Integrated features
  - Night mode: Capacity and fan speed limitation for reduced noise level
- Ease-of-use
  - The new backlit LCD interface includes a manual control potentiometer to ensure legibility under any lighting conditions.
  - The information is displayed clearly in English, French, German, Italian and Spanish (for other languages please consult CIAT)
  - The Pro-Dialog+ navigation uses intuitive tree-structure menus, similar to the Internet navigators. They are user-friendly and permit quick access to the principal operating parameters: Number of compressors operating, suction/discharge pressure, compressor operating hours, set point, air temperature, entering/leaving water temperature.

Remote operating mode with volt-free contacts

A simple two-wire communication bus between the RS485 port of the unit offers multiple remote control, monitoring and diagnostic possibilities.
- Start/stop: Opening of this contact will shut down the unit
- Dual set point: Closing of this contact activates a second set point (example: Unoccupied mode)
- Alert indication: This volt-free contact indicates the presence of a minor fault
- Alarm indication: This volt-free contact indicates the presence of a major fault that has led to the shut-down of the unit
- User safety: This contact can be used for any customer safety loop, closing of the contact generates a specific alarm
- Out of service: This signal indicates that the unit is completely out of service
- Unit capacity: This analogue output (0-10 V) gives an immediate indication of the unit capacity
- Compressor operation: This contact signals that the compressor is in operation

PHYSICAL DATA

EREBA™ ACCESS Cooling only				17HT	21HT
Cooling					
Standard unit Full load performances*	CA1	Nominal capacity	kW	16,2	21,3
		EER	kW/kW	2,95	3,07
	CA2	Nominal capacity	kW	22,6	29,5
		EER	kW/kW	3,76	3,84
Standard unit Seasonal energy efficiency**		**SEPR $_{-2/-8°C}$ Process medium temp.**	**kWh/kWh**	**2,99**	**3,03**
		SEPR $_{12/7°C}$ Process high temp.	kWh/kWh	5,20	5,27
		SEER $_{12/7°C}$ Comfort low temp.	kWh/kWh	3,25	3,38
		SEER $_{23/18°C}$ Comfort medium temp.	kWh/kWh	4,05	4,00

* In accordance with standard EN 14511-3:2022.
** In accordance with standard EN 14825:2022, average climate
CA1 Cooling mode conditions: Temperature of the supply/return water to/from the evaporator 12 °C/7 °C, outdoor air temperature 35 °C. Evaporator fouling factor 0 m² k/W
CA2 Cooling mode conditions: Temperature of the supply/return water to/from the evaporator 23 °C/18 °C, outdoor air temperature 35 °C. Evaporator fouling factor 0 m² k/W.
SEPR $_{-2/-8°C}$ **Values in bold comply with Ecodesign Regulation (EU) No. 2015/1095 for Process application**
SEER $_{12/7 °C}$ & SEPR $_{12/7 °C}$ Values calculated in accordance with EN 14825:2022
SEER $_{23/18 °C}$ Values calculated in accordance with EN 14825:2022

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Eurovent certified values

EREBA™ ACCESS Reversible				17HT	21HT
Heating					
Standard unit Full load performances*	HA1	Nominal capacity	kW	17,7	22
		COP	kW/kW	3,98	3,96
	HA2	Nominal capacity	kW	17,2	21,6
		COP	kW/kW	3,18	3,27
Standard unit Seasonal energy efficiency**	HA1	**SCOP $_{30/35°C}$**	**kWh/kWh**	**3,19**	**3,19**
		ηs heat $_{30/35°C}$	**%**	**125**	**125**
		P_{rated}	kW	13	13
		Energy labelling		A+	A+
Cooling					
Standard unit Full load performances*	CA1	Nominal capacity	kW	15,6	19,7
		EER	kW/kW	2,99	2,98
	CA2	Nominal capacity	kW	21,8	26,9
		EER	kW/kW	3,88	3,66
Standard unit Seasonal energy efficiency**		SEPR $_{12/7°C}$ Process high temp.	kWh/kWh	5,15	5,07
		SEER $_{12/7°C}$ Comfort low temp.	kWh/kWh	3,11	3,14
		SEER $_{23/18°C}$ Comfort medium temp.	kWh/kWh	3,94	3,73

* In accordance with standard EN 14511-3:2022.
** In accordance with standard EN 14825:2022, average climate
HA1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30 °C/35 °C, outside air temperature tdb/twb = 7 °C db/6 °C wb, evaporator fooling factor 0 m² k/W
HA2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40 °C/45 °C, outside air temperature tdb/twb = 7 °C db/6 °C wb, evaporator fooling factor 0 m² k/W
CA1 Cooling mode conditions: Temperature of the supply/return water to/from the evaporator 12 °C/7 °C, outdoor air temperature 35 °C. Evaporator fouling factor 0 m² k/W
CA2 Cooling mode conditions: Temperature of the supply/return water to/from the evaporator 23 °C/18 °C, outdoor air temperature 35 °C. Evaporator fouling factor 0 m² k/W.
ηs heat $_{30/35 °C}$ & SCOP $_{30/35 °C}$ **Values in bold comply with Ecodesign Regulation (EU) No. 813/2013 for heating application**
SEER $_{12/7 °C}$ & SEPR $_{12/7 °C}$ Values calculated in accordance with EN 14825:2022
SEER $_{23/18 °C}$ Values calculated in accordance with EN 14825:2022

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Eurovent certified values

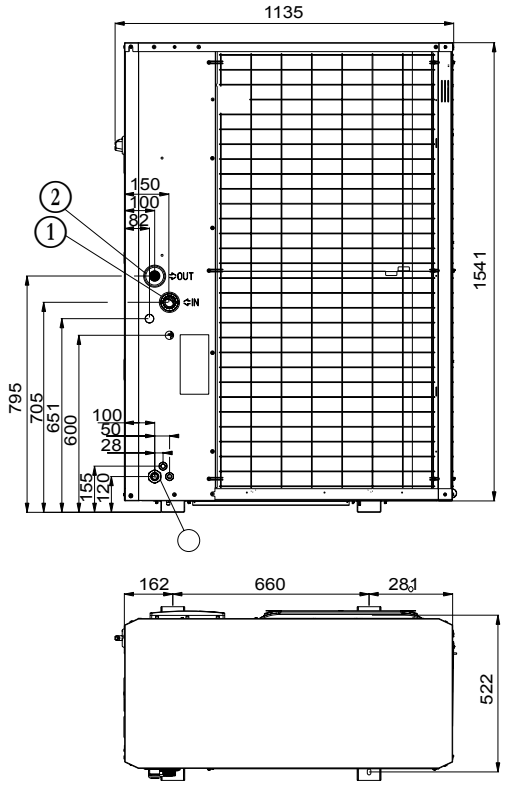
PHYSICAL DATA

EREBA™ ACCESS			Cooling only		Reversible	
			17T	21T	17HT	21HT
Sound power level(1)		dB(A)	72	74	72	74
Sound pressure level at 10 m(2)		dB(A)	40	42	40	42
Length		mm	1136		1136	
Width		mm	584		584	
Height		mm	1580		1580	
Operating weight(3)		kg	189	208	206	223
Compressors			Scroll			
Refrigerant R410A charge(3)		kg	5,5	6,4	6,4	7,7
		CO_2 eq	11,5	13,4	13,4	16,1
Air heat exchanger			Grooved copper tubes, aluminium fins			
Axial Fans			2 twin-speed		2 twin-speed	
Diameter		mm	495		495	
Air flow		l/s	2212		2217	1978
Water Heat Exchanger			Brazed plate			
Water volume		L	1,52	1,9	1,52	1,9
Expansion tank volume		L	5		5	
Pump			Fixed speed			
Available static pressure	C1/H1	kPa	152	126	148	130
Available static pressure	C2/H2	kPa	110	71	152	134
Minimum system water content		l	58	75	56	71
Max. water-side operating pressure		kPa	400			
Outlet diameter			1"1/4 G male			
Chassis paint colour			RAL 7035			

(1) In dB ref=10^{-12} W, (A) weighting. Declared dual-number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3 dB(A)). Measured in accordance with ISO 9614-1 and certified by Eurovent.
(2) In dB ref 20 µPa, (A) weighting. Declared dual-number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3 dB(A)). For information, calculated from the sound power level Lw(A).
(3) Values are guidelines only. Refer to the unit nameplate.

Dimensions (in mm)

EREBA™ ACCESS 17-21



Key
All dimensions are given in mm
1 Water inlet
2 Water outlet
3 Power connections
Mounting holes (ø10 mm)

EREBA™ ACCESS	Weight (in kg)	
	Operating weight(1)	
	Cooling only (T)	Reversible (HT)
17	189	206
21	208	223

(1) Values are guidelines only. Refer to the unit nameplate