



## 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: 27-39 kW

Nominal heating capacity: 29-39 kW



Cooling or  
heating

HFC  
R-410A



## USE

The **EREBA™ ACCESS** air-to-water heat pump / chiller range 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

The **EREBA™ ACCESS** range offers 3 models in cooling only and reversible version.

Operating range:

- Cooling mode with an outdoor temperature from -10°C to 46°C (or 48°C for 17-40 models)
- Heating from -15°C to +40°C.

In heating mode, by low external temperature, the heat pump can manage, a backup type boiler or electrical heater if necessary.

## 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

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 R-410A, scroll or rotary compressors, low-noise fans and auto-adaptative microprocessor control.

For more 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, 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.

### 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 and electric resistance heater for sizes.
- **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 14825:2018, 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.
  - R-410A refrigerant is easier to use than other refrigerant blends.

### Environmental responsibility

- **Non-ozone depleting refrigerant R-410A**
  - Chlorine-free refrigerant of the HFC group with zero ozone depletion potential.
  - Very efficient - gives an increased energy efficiency ratio (EER/SEER/COP/SCOP).
- **Leak-tight refrigerant circuit**
  - Brazed refrigerant connections for increased leak-tightness.
  - Verification of pressure transducers and temperature sensors without transferring refrigerant charge.

### Superior reliability

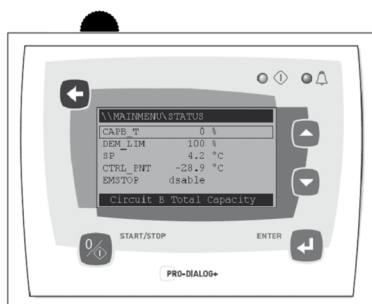
- **Auto-adaptive control**
  - Control algorithm prevents excessive compressor cycling and permits reduction of the water quantity in the hydraulic circuit.
- **Exceptional endurance tests**
  - Corrosion resistance tests in salt mist in the laboratory.
  - Accelerated ageing test on components that are submitted to continuous operation: compressor piping, fan supports.
  - Transport simulation test in the laboratory on a vibrating table.

### Pro-Dialog+

#### ■ Pro-Dialog+ control

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.

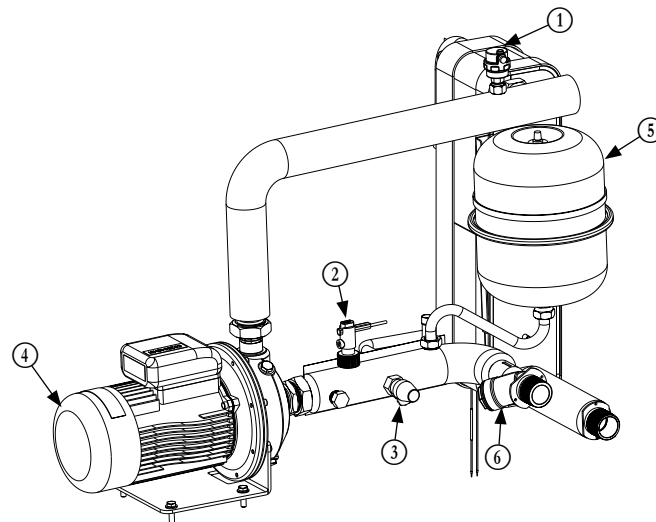
- Start/stop: Opening of this contact will shut down the unit
- Dual set point: Closing of this contact activates a second set point (example: Unoccupied mode)
- Alert indication: This volt-free contact indicates the presence of a minor fault
- Alarm indication: This volt-free contact indicates the presence 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

### HYDRAULIC MODULE

The hydraulic module reduces the installation time. The unit is factory-equipped with the main hydraulic components required for the installation.

The water heat exchanger and the hydraulic module are protected against frost down to -10°C, using an electric resistance heater and pump cycling. However, the use of EG (Ethylen Glycol) can effectively protect the installation even in case of power failure

#### EREBA™ ACCESS 26-40



**Key:**

- ① Automatic purge valve
- ② Flow switch
- ③ Relief valve
- ④ Circulation pump
- ⑤ Expansion tank
- ⑥ Mesh filter

## PERFORMANCES DATA

EREBA™ ACCESS Cooling only	26T	33T	40T
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### Cooling

Standard unit Full load performances*	CA1	Nominal capacity	kW	27,1	33,0	41,0
		EER	kW/kW	3,01	3,22	2,91
	CA2	Nominal capacity	kW	38,4	45,5	56,5
		EER	kW/kW	3,91	4,00	3,44
Standard unit		SEPR <sub>2/-8°C</sub> Process medium temp.	kWh/kWh	<b>3,17</b>	<b>3,02</b>	<b>3,07</b>
Seasonal energy efficiency**		SEPR <sub>12/7°C</sub> Process high temp.	kWh/kWh	4,97	5,04	4,91
		SEER <sub>12/7°C</sub> Comfort low temp.	kWh/kWh	3,15	3,36	3,22
		SEER <sub>23/18°C</sub> Comfort medium temp.	kWh/kWh	3,76	3,83	3,67

EREBA™ ACCESS Heat pump	26HT	33HT	40HT
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### Heating

Standard unit Full load performances*	HA1	Nominal capacity	kW	30,9	34,4	38,9
		COP	kW/kW	3,96	3,96	3,51
	HA2	Nominal capacity	kW	29,9	33,3	41,0
		COP	kW/kW	3,20	3,19	3,16
Standard unit		SCOP <sub>30/35°C</sub>		<b>3,19</b>	<b>3,20</b>	<b>3,19</b>
Seasonal energy efficiency**	HA1	η <sub>s heat</sub> <sub>30/35°C</sub>	%	<b>125</b>	<b>125</b>	<b>125</b>
		P <sub>rated</sub>	kW	21	24	31
		Energy labelling		A+	A+	A+

### Cooling

Standard unit Full load performances*	CA1	Nominal capacity	kW	26,0	32,0	38,9
		EER	kW/kW	2,87	3,09	2,81
	CA2	Nominal capacity	kW	33,7	42,7	53,8
		EER	kW/kW	3,50	3,80	3,36
Standard unit		SEPR <sub>12/7°C</sub> Process high temp.	kWh/kWh	4,78	4,97	3,86
Seasonal energy efficiency**		SEER <sub>12/7°C</sub> Comfort low temp.	kWh/kWh	3,06	3,30	3,19
		SEER <sub>23/18°C</sub> Comfort medium temp.	kWh/kWh	3,57	3,73	3,64

*	In accordance with standard EN14511-3:2018.
**	In accordance with standard EN14825:2018, average climate
CA1	Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fooling factor 0 m².K/W
CA2	Cooling mode conditions: Evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C, evaporator fooling factor 0 m².K/W
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
SEPR <sub>2/-8°C</sub>	<b>Bold values compliant to Ecodesign regulation: (EU) No 2015/1095 for Process application</b>
SEER <sub>12/7°C</sub> & SEPR <sub>12/7°C</sub>	Values calculated in accordance with EN14825:2018
SEER <sub>23/18°C</sub>	Values calculated in accordance with EN14825:2018
η <sub>s heat</sub> <sub>30/35°C</sub> & SCOP <sub>30/35°C</sub>	<b>Bold values compliant to Ecodesign regulation: (EU) No 813/2013 for Heat Pump application</b>



Eurovent certified values

## PHYSICAL DATA

EREBA™ ACCESS			Cooling only			Reversible			
			26T	33T	40T	26HT	33HT	40HT	
Sound power level <sup>(1)</sup>			dB(A)	78	78	80	78	78	80
Sound pressure level at 10 m <sup>(2)</sup>			dB(A)	46	46	48	46	46	48
Length			mm	1002			1002		
Width			mm	824			824		
Height			mm	1790			1790		
Operating weight <sup>(3)</sup>			kg	255	280	291	280	295	305
Compressors				Scroll					
Refrigerant R-410A charge <sup>(3)</sup>			kg	5,8	8,6	8,8	7,6	9,5	9,8
			CO <sub>2</sub> eq	12,1	18	18,4	15,9	19,9	20,5
Air heat exchanger				Grooved copper tubes, aluminium fins					
Axial Fans				1 twin-speed			1 twin-speed		
Diameter			mm	710			710		
Air flow			l/s	3530			3530		
Water Heat Exchanger				Brazed plate					
Water volume			L	2,28	2,85	3,8	2,28	2,85	3,8
Expansion tank volume			L	8			8		
Pump				Fixed speed					
Available static pressure		C1/H1	kPa	174	160	188	188	176	187
Available static pressure		C2/H2	kPa	78	56	106	197	186	193
Minimum system water content			l	96	117	145	94	115	140
Max. water-side operating pressure			kPa	400					
Outlet diameter				1"1/4 G male					
Chassis paint colour				RAL 7035					

(1) In dB ref=10<sup>-12</sup> 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.

## ELECTRICAL DATA

EREBA™ ACCESS		26	33	40
Nominal power supply	V-ph-Hz	400-3+N-50		400-3-50
Voltage range	V	340-460		360-440
Control circuit supply		24 V via internal transformer		
Maximum start-up current (Un) <sup>(1)</sup>	A	118	118	176
Unit power factor at nominal capacity <sup>(2)</sup>		0,77	0,81	0,9
Maximum operating power input <sup>(2)</sup>	kW	11	13,8	17,5
Nominal unit operating current drawn <sup>(3)</sup>	A	16	17	25
Maximum operating current draw (Un) <sup>(4)</sup>	A	20	24	30
Maximum operating current draw (Un-15%) <sup>(5)</sup>	A	23	27	36
Power fuse current (gL fuse)	A	40	50	63
Power supply cable section		H07RN-F - 5x16mm <sup>2</sup>		H07RN-F - 4x16mm <sup>2</sup>
Pump - power input <sup>(6)</sup>	kW	0,99	1,1	1,2
Pump - nominal operating current draw <sup>(6)</sup>	A	2,4	2,6	2,8
Pump - maximum current (external pump)	A	2,5		2,4
Number of fan motor capacitors (5 µF/450 V)		0	0	0
Remote controller - Power supply cable section		H03VV-F - 7x0,5mm <sup>2</sup>		

(1) Maximum instantaneous start-up current (locked rotor current of the compressor).

(2) Power input, compressors and fans, at the unit operating limits (saturated suction temperature 10°C, saturated condensing temperature 65°C) and nominal voltage of 400V (data given on the unit nameplate)

(3) Standardised Eurovent conditions: water heat exchanger entering/leaving water temperature 12 °C/7 °C, outside air temperature 35 °C.

(4) Maximum unit operating current at maximum unit power input and 400 V (data given on the unit nameplate).

(5) Maximum unit operating current at maximum unit power input and 340-460 V for sizes 026 to 033 or 360-440 V for size 040.

(6) Gross performances.

## PART-LOAD PERFORMANCES

### ■ SEER for comfort chillers (in accordance with EU ECODESIGN)

The **SEER** (Seasonal Energy Efficiency Ratio) measures the seasonal energy efficiency of **comfort chillers** by calculating the ratio between annual cooling demand of the building and annual energy demand of the chiller. It takes into account the energy efficiency achieved for each outdoor temperature weighted by the number of hours observed for each of these temperatures, using actual climate data.

**SEER** is a new way of measuring the true energy efficiency of chillers for **comfort cooling** over an entire year. This new indicator gives a more realistic indication of the real energy efficiency and environmental impact of a cooling system. (Ecodesign Regulation 2016/2281).

### ■ SCOP (In accordance with standard N14825:2018, average climate)

The **SCOP** (Seasonal Coefficient of Performance) permit evaluation of the average energy efficiency at part load, based on multipoint conditions (16°C to -10°C for average climate) and number of hours occurring at each air temperature (Bin hours).

To be able to compare the energy efficiency of boilers using a primary energy source (gas or fuel) with heat pumps using a final energy source (electricity), the seasonal efficiency criteria used by the Ecodesign regulations is known as it is based on the use of primary energy sources and expressed in %.

### ■ SEPR for process chillers (in accordance with EU ECODESIGN)

The **SEPR** (Seasonal Energy Performance Ratio) measures the seasonal energy efficiency of **process chillers** by calculating the ratio between annual cooling demand of the process and annual energy demand of the chiller. It takes into account the energy efficiency achieved at each outdoor temperature of an average climate weighted by the number of hours observed for each of these temperatures.

**SEPR** is a new way of measuring the true energy efficiency of chillers for **process cooling** over an entire year. This new indicator gives a more realistic indication of the real energy efficiency and environmental impact of the cooling system (Ecodesign Regulation 2015/1095).

## Low temp (30/35)

### ■ Average climate

EREBA™ ACCESS	$\eta_s$ (%)	SCOP	P <sub>design</sub> (kW)	Annual power input with backup heater (kWh)	Sound power level dB(A)	Energy Class
26 HT	125	3,19	21	13664	78	A+
33 HT	125	3,19	23	15145	78	A+
40 HT	125	3,19	31	20999	80	A+

### ■ Colder climate

EREBA™ ACCESS	$\eta_s$ (%)	SCOP	P <sub>design</sub> (kW)	Annual power input with backup heater (kWh)	Sound power level dB(A)
26 HT	122	3,13	30	21219	-
33 HT	123	3,14	34	23735	-
40 HT	120	3,07	42	30292	-

### ■ Warmer climate

EREBA™ ACCESS	$\eta_s$ (%)	SCOP	P <sub>design</sub> (kW)	Annual power input with backup heater (kWh)	Sound power level dB(A)
26 HT	137	3,50	21	7637	-
33 HT	138	3,52	23	8492	-
40 HT	133	3,41	28	10623	-



## SOUND SPECTRUM

### ■ Sound power level (dB(A))

#### Sound power level (L<sub>w</sub>)-Cooling mode

EREBA™ ACCESS	Sound Power level spectrum <sup>(1)</sup>						Overall Sound Power level <sup>(2)</sup>
	125	250	500	1000	2000	4000	
26	79	76	76	74	67	60	78
33	79	76	76	74	67	60	78
40	82	79	77	76	71	65	80

(1) In dB ref=10<sup>-12</sup> W, as a guideline. Measured in accordance with ISO 9614-1.

(2) In dB ref=10<sup>-12</sup> W, weighting (A), with uncertainty +/-3 dB. Measured in accordance with ISO 9614-1 and certified by Eurovent.

## OPERATING LIMITS

### ■ Water flow rate (in l/s)

Data applicable for pure water.

EREBA™ ACCESS	Minimum	Maximum @ 50kPa <sup>(1)</sup>		Maximum @ C1 <sup>(2)</sup>
		Cooling mode	Heating mode	Cooling mode 12°C/7°C, 35°C
26	0,67	1,96	2,18	1,32
33	0,87	2,18	2,29	1,60
40	1,05	2,6	2,6	1,99

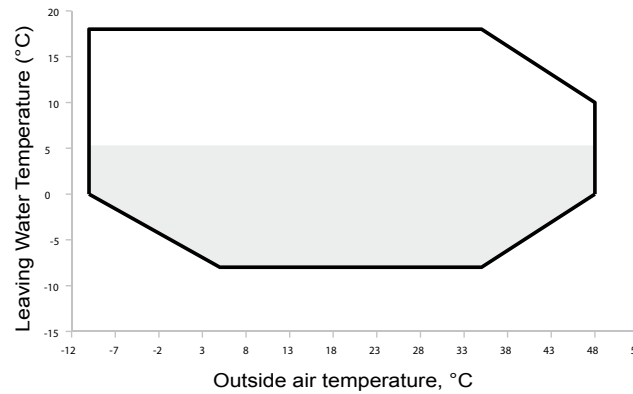
(1) Maximum flow rate at an available pressure of 50 kPa (unit with hydraulic module)

(2) Maximum flow rate at condition 1 - evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C.

## OPERATING LIMITS

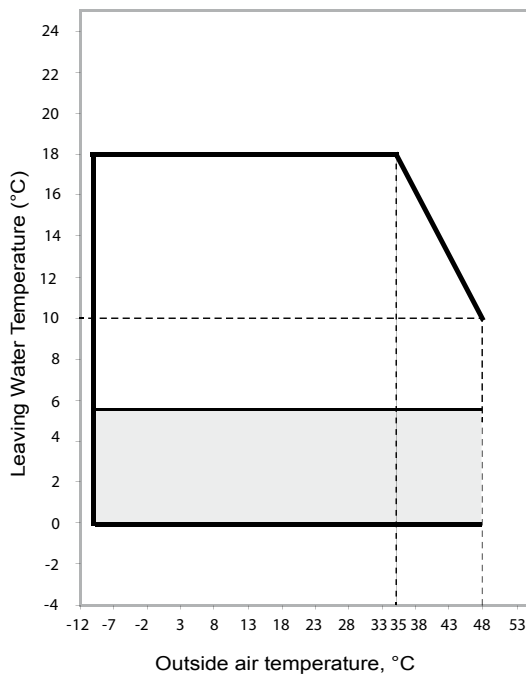
### ■ Operating range for EREBA™ ACCESS 26-40

Operating range EREBA™ ACCESS 26-40T cooling mode



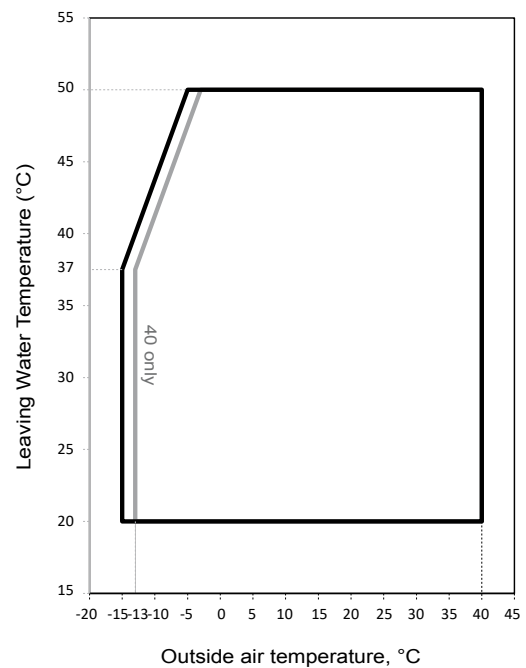
■ Operating range with anti-freeze solution

Operating range EREBA™ ACCESS 26-40 HT cooling mode



■ Operating range with anti-freeze solution

Operating range EREBA™ ACCESS 26-40 HT heating mode

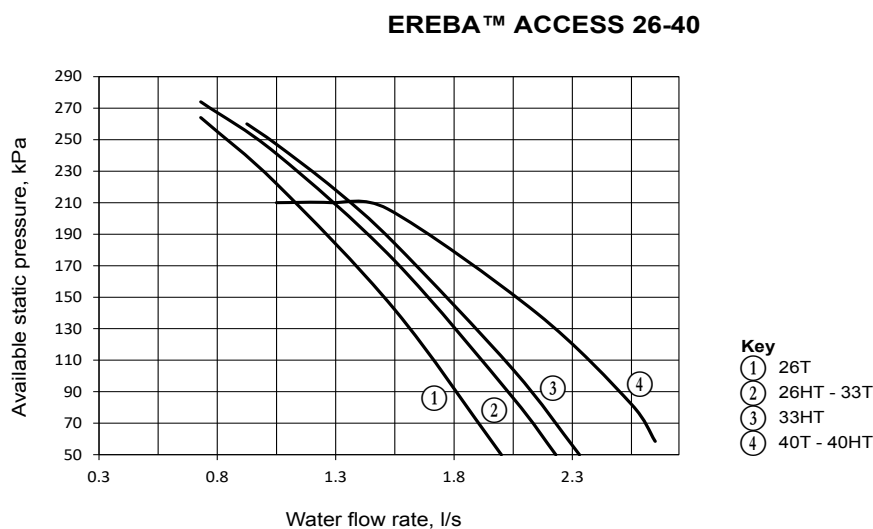


■ Operating range with anti-freeze solution

## AVAILABLE STATIC SYSTEM PRESSURE

### ■ Available external static pressure for EREBA™ ACCESS

Data applicable for pure water.



## SYSTEM MINIMUM WATER VOLUME

The minimum water loop volume, in litres, is given by the following formula:

$$\text{Volume (l)} = \text{CAP (kW)} \times \text{N}$$

Where CAP is the nominal cooling capacity at nominal operating conditions.

Application	N
Air conditioning	3,5
Heating or domestic hot water application	6
Industrial process cooling	See note

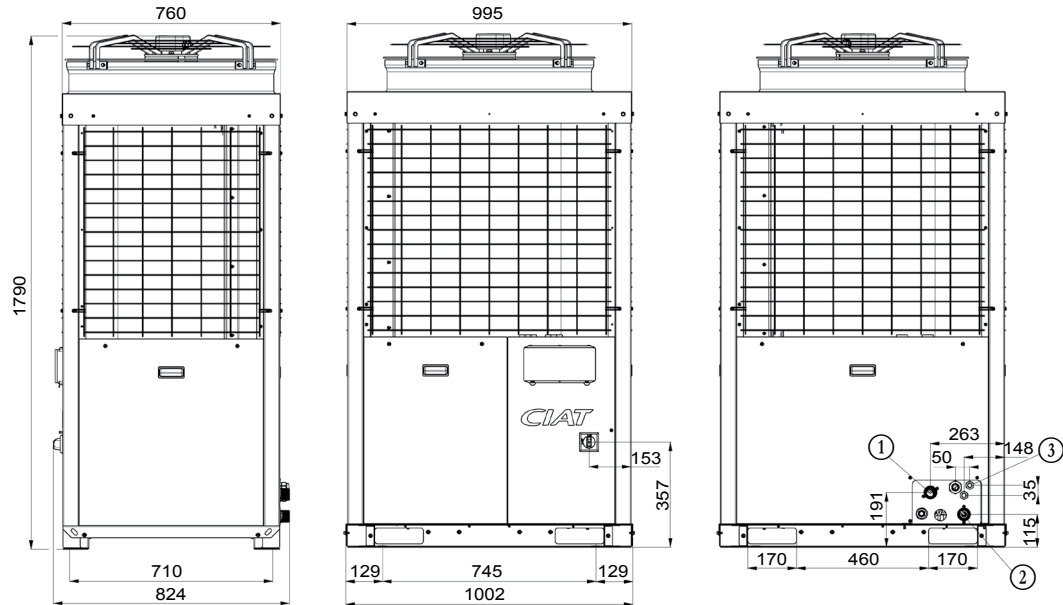
Note: For industrial process cooling applications, where high stability of water temperature levels must be achieved, the values above must be increased. We recommend consulting the factory for these particular applications.

## SYSTEM MAXIMUM WATER VOLUME

Water maximum volume (L)		
Static pressure (bar)	1,5	3
Fresh water	200	50
Ethylen glycol 10%	150	28
Ethylen glycol 20%	110	28
Ethylen glycol 30%	90	23

## DIMENSIONS (IN MM)

### ■ EREBA™ ACCESS 26-40



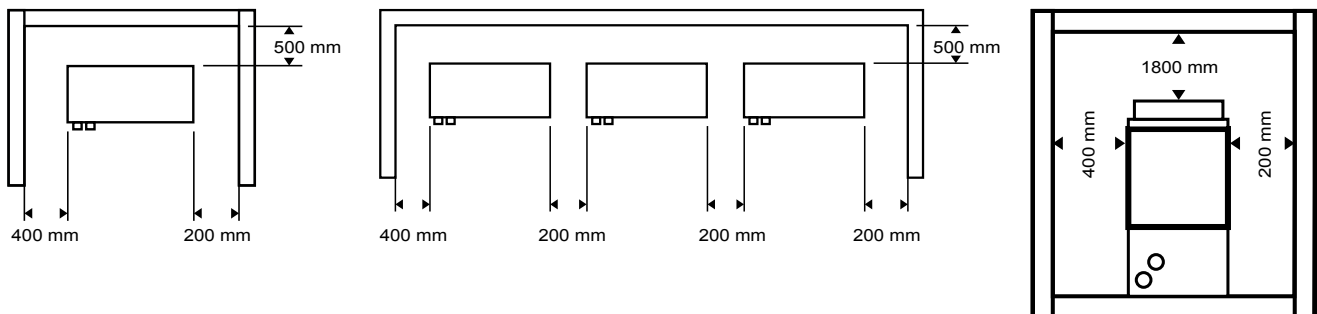
**Key**  
All dimensions are given in mm  
① Water inlet  
② Water outlet  
③ Power connections  
Mounting holes (ø10 mm)

EREBA™ ACCESS	Weight (in kg)	
	Operating weight <sup>(1)</sup>	
	Cooling only (T)	Reversible (HT)
26	255	280
33	280	295
40	291	305

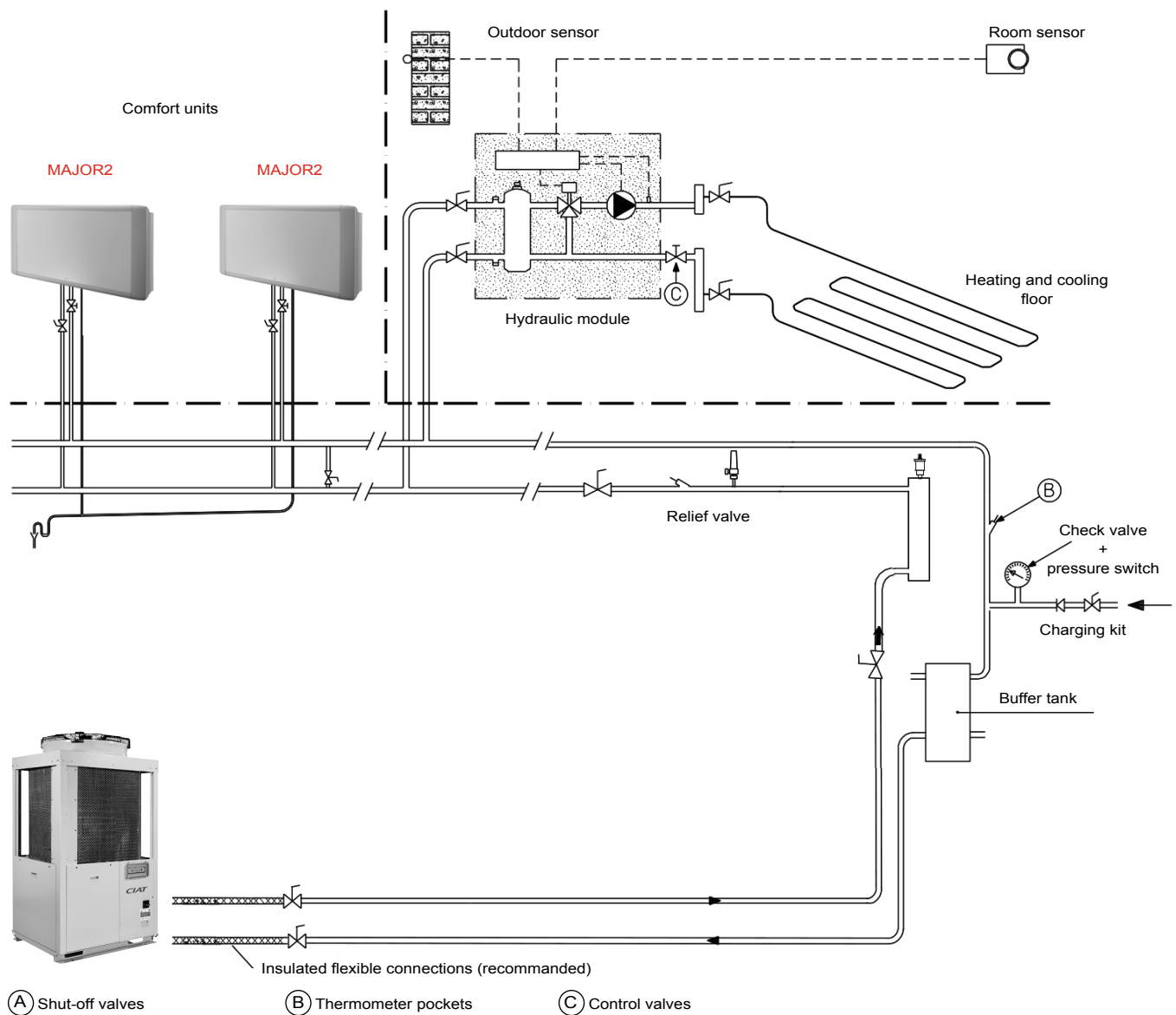
(1) Values are guidelines only. Refer to the unit nameplate

## CLEARANCES (IN MM)

### ■ EREBA™ ACCESS 26-40



### SCHEMATIC INSTALLATION DIAGRAM



**Note: the schematic diagrams herein are provided for information only. Under no circumstances do they constitute actual installation diagrams**

