

Packaged air-conditioning unit

CSRN-XHE2 FFA: reversible heat pump
Air cooled
Roof Top
Capacity from 33 to 90 kW



Electronic wall-mounting room thermostat

pAD Main functions:

- unit on/off
- manual or automatic summer/winter switching
- temperature set-point modification
- humidity set-point modification
- unit main information

CLIVETPack² FFA

The packaged air-conditioning units of the **CSRN-XHE2 FFA** series are Roof-top type units developed by Clivet using the most recent and advanced technologies available on the market dedicated to the treatment of air. Destined to the air-conditioning of all those environments that need full fresh air-conditioning that feature suction hoods such as kitchens, laboratories, projection rooms, etc..

- ▶ **Versatility of use:** the wide range of versions, options and accessories allow unique integration and flexibility of choice, regardless of the intended use. During winter it is able to condition with full fresh air just through electrical supply up to -12°C and below such temperature air-conditioning is possible via pre-heating with a hot water or gas module coil.
- ▶ **Easy to position and install:** the units are exceptionally compact, perfect for positioning on particularly crowded roofs. The units, pretested in the factory, feature immediate start-up thanks to the packaged approach, which includes everything the systems needs. It only requires to be connected to the electrical mains and the air system.
- ▶ **Reduced management costs:** thanks to the high efficiency of the innovative refrigeration circuit optimized for the functioning at partial load, of free-cooling, of the standard heat recoverer on all models featuring air exhaust, of optional electrostatic air filters, of the automatic control and adjustment of all air flows drastically reduce the energy consumption and therefore the management costs.

functions and features



Heat pump



Air cooled



Outdoor installation



R-410A



Hermetic Scroll



Ice protection system



FREE-COOLING



Thermodynamic recovery



ECOBREEZE



Electronically commutated Plug Fan



Electronic expansion valve

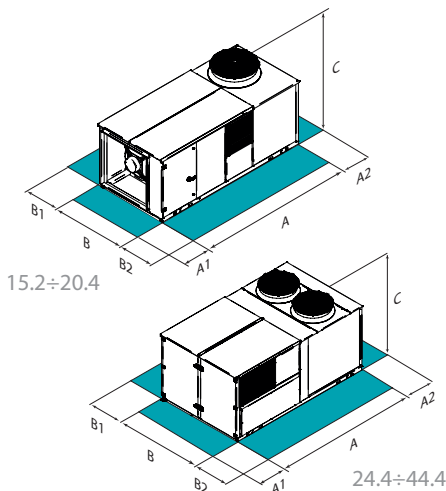


Adaptive+



Constant Air Volume

dimensions and clearances



Size - CSRN-XHE2-FFA			12.2	16.2	20.4	22.4	24.4
CBFFA	A - Length	mm	2560	2560	3175	3175	3175
CBFFA	B - Width	mm	2300	2300	2300	2300	2300
CBFFA	C - Height	mm	1650	1650	1650	1650	1650
CBFFA	A1	mm	1500	1500	1500	1500	1500
CBFFA	A2	mm	1500	1500	1500	1500	1500
CBFFA	B1	mm	1500	1500	1500	1500	1500
CBFFA	B2	mm	1500	1500	1500	1500	1500
CCFFA	Operating weight	kg	1401	1425	1560	1595	1629
CBFFA	Operating weight	kg	1273	1297	1358	1393	1427

The above mentioned data are referred to standard units for the constructive configurations indicated. For all the other configurations, refer to the relative Technical Bulletin.

CBFFA Configuration for fresh air supply only

CCFFA Configuration for fresh air supply with extraction and exhaust

CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

versions and configurations

CONFIGURATION:

- ▶ **CBFFA** Configuration for fresh air supply only (Standard)
- ▶ **CCFFA** Configuration for fresh air supply with extraction and exhaust

technical data

Size – CSRN-XHE2-FFA			12.2	16.2	20.4	22.4	24.4
CBFFA	▶ Cooling capacity	(1) kW	33,1	49,5	76,1	83,4	90,4
CBFFA	Sensible capacity	(1) kW	18,8	27,8	38,3	43,3	48,0
CBFFA	Compressor power input	(1) kW	9,20	12,9	20,0	21,7	23,3
CBFFA	EER	(1) -	3,60	3,84	3,81	3,84	3,88
CBFFA	▶ Heating capacity	(2) kW	39,6	50,0	73,2	81,4	89,5
CBFFA	Compressor power input	(2) kW	9,90	11,9	17,2	18,2	20,7
CBFFA	COP	(2) -	4,00	4,20	4,26	4,47	4,32
CBFFA	No. of compressors	Nr	2	2	4	4	4
CBFFA	Type of compressors	(3) -	Scroll	Scroll	Scroll	Scroll	Scroll
CBFFA	Supply airflow	l/s	944	1250	1667	1944	2222
CBFFA	Type of supply fan	(4) -	RAD	RAD	RAD	RAD	RAD
CBFFA	Number of supply fans	Nr	1	1	1	1	1
CBFFA	Fan diameter	mm	400	400	560	560	560
CBFFA	Max. static pressure supply fan	(5) Pa	675	470	775	730	650
CBFFA	Standard power supply	V	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
CBFFA	Sound pressure level	dB(A)	65	66	67	68	69

Notes

- (1) Ambient air at 27°C D.B./19°C W.B. Outdoor air temperature: 35°C D.B./ 24°C W.B; EER referred only to compressors
- (2) Ambient temperature 20°C DB. Outside temperature 7°C DB/6°C WB; COP referred only to compressors
- (3) SCROLL = scroll compressor
- (4) RAD = radial fan
- (5) Available nett pressure to overcome the supply
- CBFFA Configuration for fresh air supply only

accessories

- ▶ **RE1** Thermodynamic heat recovery system (construction configuration C)
- ▶ **M3** Downflow supply
- ▶ **M5** Upward supply air
- ▶ **R3** Floor air inlet
- ▶ **DAOP** Over pressure damper
- ▶ **PCOSM** Constant supply airflow
- ▶ **PCOSME** Constant airflow in supply and exhaust
- ▶ **CREFB** Device for fan consumption reduction of the external section, ECOBREEZE type
- ▶ **VENH** High static pressure fans
- ▶ **F7** High efficiency F7 air filter
- ▶ **FES** Electronic filters
- ▶ **PSAF** Differential pressure switch for dirty air filters
- ▶ **EH17** 18 kW electric heaters
- ▶ **EH22** 27 kW electric heaters (sizes 20.4÷24.4)
- ▶ **EH12** 9 kW electric heaters (sizes 12.2÷16.2)
- ▶ **EH14** 12 kW electric heaters (sizes 12.2÷16.2)
- ▶ **CHW2** Two-rows hot water coil
- ▶ **3WVM** Modulating three-way valve
- ▶ **2WVM** Modulating 2-way valve
- ▶ **GC08X** Condensing gas heating module with modulating control 44kW
- ▶ **GC09X** Condensing gas heating module with modulating control 65kW
- ▶ **GC10X** Condensing gas heating module with modulating control 82kW (sizes 20.4÷24.4)
- ▶ **GC01X** Condensing gas heating module with modulating control 35kW (sizes 12.2÷16.2)
- ▶ **LTEMP1** Application for low outdoor temperature
- ▶ **CPHG** Hot gas re-heating coil
- ▶ **HSE8** 8 kg/h immersed electrodes steam humidifier
- ▶ **HSE9** 15 kg/h immersed electrodes steam humidifier (sizes 20.4÷24.4)
- ▶ **HWS** Water to waste evaporating wet-deck humidifier
- ▶ **HSE5** 5 kg/h immersed electrodes steam humidifier (sizes 12.2÷16.2)
- ▶ **MHP** High and low pressure gauges
- ▶ **CMSC9** Serial communication module for Modbus supervisor
- ▶ **CMSC10** Serial communication module for LonWorks supervisor
- ▶ **CMSC11** Serial communication module for BACnet-IP supervisor
- ▶ **CTERM** Remote keypad for indoor temperature and humidity control
- ▶ **PM** Phase monitor
- ▶ **PFCP** Power factor correction capacitors (cosfi > 0.9)
- ▶ **SFSTC** Progressive compressor start-up device
- ▶ **CLMX** Clivet Master System
- ▶ **PCM0** Sandwich panels of the handling zone in M0 fire reaction class
- ▶ **AMRX** Rubber antivibration mounts
- ▶ **AMRMX** Rubber antivibration mounts for unit and gas module
- ▶ **RCX** Roof curb

Key to symbols and notes

- Accessories separately supplied
- For compatibility between the various accessories, please refer to the dedicated Technical Bulletin or our website in the Systems and Products section.