



Convert your energy expenses into Profit



Multiplex cinemas



Hypermarkets



Shopping Centres



Production areas



Theatres



Hotels and Restaurants



Kitchens



Convention rooms

The applications

For over 20 years, Clivet has been offering specialized rooftop heat pump solutions for air conditioning and air renewal in medium and high attendance areas such as multiplex cinemas, hypermarkets, shopping centres, theaters, congress rooms, restaurants and performance venues.

In these applications where optimum temperature and humidity, air purification and correct ventilation are essential for the comfort of customers and operators, laws and hygiene standards imposing high external air flow to guarantee correct ambient fresh air are valid too.

The success of these Clivet Rooftop packaged solutions is based on their high energy efficiency, their compact size and operation and maintenance simplicity and the flexibility in selecting best suited the model for the specific installation.

Over 20 years of experience with thousands of installed solutions



over 2000 shops



over 1300 shopping centres and hypermarkets



over 1000 hotels and restaurants



over 1500 cinemas



over 1000 industries

Rooftop: heat pump packaged units

With Clivet rooftop units, comfort and air quality are guaranteed with a single product. Being packaged units, all plant components are inside the unit, already assembled and tested. The necessary thermal or cooling energy is produced only where and when it is needed, for this

reason they can be installed autonomously near the area to be air-conditioned with plant savings. The Installation and maintenance operations are simple and quick.



YOUR INVESTMENT INCREASES THE BUILDING VALUE

Clivet participates in the ECP programme for "Rooftops" which means units are strictly tested in accordance with the European standards.

The certified high seasonal efficiency guarantees the reduction of the overall energy requirement by improving the energy class of the building and increasing the value of the property.

Check ongoing validity of certificate on www.eurovent-certification.com"



GREEN COMFORT AND BILL SAVINGS

Thanks to the use of heat pump technology, saving energy also means reducing CO2 emissions, one of the main factors responsible for the ongoing climate change.

In this way, you can only consume energy when you need it, without wasting and using renewable energy massively.

This is how the energy footprint of buildings is reduced and their construction is environmentally friendly.



RENEWED AND 99% FILTERED AIR

Clivet rooftops automatically renew the indoor air according to real people occupancy and are able to manage high renewal air flow rates up to 100% during freecooling, avoiding useless waste of energy.

Combined with electronic filtration, effective on fumes, fine dust, viruses and bacteria, and UV-C germicidal lamps, represent the ideal solution for pure air, always.

Indeed, as highlighted by main world health associations, Indoor Air Quality plays a fundamental role to face the actual outbreak of Covid-19 and ensure the indoor wellbeing of people.



+ COMFORT + WELLNESS + PUBLIC + INCOME

Neither hot, nor cold, fresh and pure air without odour, nor too dry, nor too humid and without draughts, with filtered air for greater safety, to feel good and enjoy the show or shopping even in the busiest moments.

A silent auditorium in the world of entertainment is necessary to better appreciate the special effects, dialogues and music of sound diffusion systems as well as working in a healthy and comfortable environment increases concentration and productivity. Feeling good and feeling safe increases the presence of new customers and therefore also increases the income.

The advantages

Technology



THERMODYNAMIC ENERGY RECOVERY FROM STALE AIR

The energy contained in the exhaust air from the indoor environments is not simply exhausted, but conveyed and recovered by the external finned coil exchanger (CCK version). The thermodynamic heat recovery is even more efficient in the CCK-REVO and CCKP configurations. In the first one, the airflow is conveyed in a dedicated section of the source coil, while in the second it passes through a dedicated heat exchanger integrated in the refrigerant circuit (Thermodynamic Overboost Recovery).



REFRIGERANT R32

CSRN-iY and CSRN-Y introduce low GWP R32 refrigerant allowing to reduce the environmental impact up to -80%. Thanks to the optimization of the refrigerant charge, units are noticeably more compact.



FREE COOLING

As soon as it is allowed by the external conditions, the unit is able to automatically activate the FREE-COOLING mode, which cools the served environment by keeping the compressors off and introducing appropriately filtered outdoor air.

To achieve maximum energy savings, FREE-COOLING mode is activated even when it is not sufficient to provide the full capacity required. In this case, the integration cooling capacity is provided by activating the refrigerant circuit.

At reduced load, or with rigid outdoor air temperatures, the cooling capacity in FREE-COOLING mode is regulated by modulating the outdoor air damper.



CONNECTIVITY AND REMOTE MANAGEMENT OF THE UNITS

In addition to compatibility with the main communication protocols (Modbus, LonWorks, BACnet), there is also the remote management, analysis and troubleshooting service, Clivet Eye. Via an App on your smartphone, tablet or PC, Clivet Eye provides a map of all connected units and allows you to monitor and manage the main operating parameters of the unit, alarms, set-points, operating modes and weekly programming via the cloud.



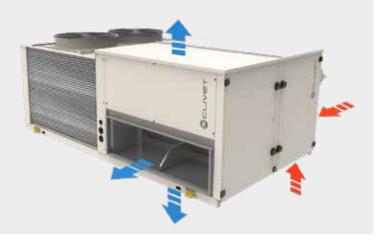
ENTHALPY WHEEL HEAT RECOVERY

For R-32 series, enthalpy wheel heat recovery is available as an option for the CBK-G configuration. This recovery option is particularly suited for applications with high difference between indoor and outdoor conditions.

The energy contained in the exhaust air is transferred to the supply airflow, reaching closer conditions to the target and reducing the thermal load required by the refrigerant circuit.

Airflow flexibility

It simplifies the positioning of the unit even in the most delicate installations thanks to the compactness of the units and the multiple aeraulic configurations available.



Comfort and air quality in one product

The electric Heat pump technology promotes and provides incentives by the European Union with specific standards, such as the EU Directive 2009/28/CE of April 23rd 2009 that recognises ambient heat as a renewable source.

Compared to a combustion system, the electric heat Pump allows:

- \checkmark energy saving and reduction of the CO₂ emissions by an average of 50%
- √ use of electric energy, increasingly produced through alternative and renewable sources
- √ operation and reduced maintenance reliability
- no fossil combustion and therefore absence of chimney, absence of periodical controls on the emissions in the ambient and no local production of fine dust
- √ cost reduction of first investment with the reversible models that
 use a single system for both heating and cooling.



Renewable energy heat pump technology

THERMAL COMFORT

The unit acts on the overall loads generated by the outdoor air and the ambient loads.

The unit's resources are managed in order to meet the desired internal conditions and ensure the highest level of efficiency in all working conditions.



HUMIDITY CONTROL

In cooling mode, it is possible to satisfy high latent loads while avoiding the introduction of too cold air thanks to the free post-heating coil integrated in the unit and the modulation of Free Cooling. In heating mode, the steam humidifier or the evaporating heater increase the humidity of the air entered to keep the desired value in the environment.



FILTRATION AND SANITISATION

Air filtration is one of the key factors that influence the psycho-physical wellbeing of the occupants. In addition to a first filtration stage ISO 16890 Coarse 60% (G4), a second filtration stage is also available among ISO 16890 ePM1 55% (F7), ePM1 80% (F9) or ePM1 90% through electronic filters.

The latter technology grants very low pressure losses and high filtration efficiencies, obtaining optimum purification levels of the airflow as well as low ventilation and maintenance costs.

Electronic filtration is also available with iFD technology that allow a even easier and faster maintenance thanks to the cleaning process that can be made using tap water and common degreaser.



For an additional airflow purification, UV-C lamps are also available exerting the virucidal and bactericidal action on the supply airflow, on the treatment coils and the condensation tray.

AIR QUALITY

When the served area is partially occupied, less air exchange is sufficient. The air quality probe sensitive to the CO₂ tracer and to the VOC (Volatile Organic Compounds) automatically modulates the introduction of the correct fresh air flow thus avoiding waste of energy and money for the treatment of an amount of outdoor air greater than real needs.



Functionalities

ECOBREEZE TECHNOLOGY

Reduction of consumption and noise emissions in the external section are guaranteed thanks to the continuous modulation of the rotation speed according to the punctual operating conditions of the refrigeration circuit.

SMART DEFROST MANAGMENT

Integrated management of defrosting cycles, with technical solutions tested and optimized to reduce their frequency and duration, guaranteeing continuity of operation and high efficiency even in heating mode.

AUTOMATIC OPERATION

The graphical interface designed for wall installation automatically manages the operation of the unit and includes:

- √ security features
- √ alarm management
- advanced features such as daily and weekly scheduling
- √ manual change of set points and operating mode
- √ temperature and humidity measurement

ADDITIONAL COMPONENTS

- √ electric heaters
- √ hot water coils
- √ gas modules
- √ humidifiers

EASY ACCESSIBILITY FOR MAINTENANCE

Internal components arranged by type in homogeneous areas that are easy and safe to access thanks to the hinges with adjustable locking closures. Device that locks the access panel to the electrical panel and protects the operator in case of rain.



The MultiScroll technology on two refrigeration circuits and the solution with inverter compressors allow to accurately adapt the unit's resources to the different ambient load profiles, allowing great energy savings thanks to the very high efficiency achieved at partial loads.



AIR QUALITY AND FILTRATION

- √ First stage of filtration
 - G4 ISO 16890 Coarse 60%
- √ Second stage of filtration
 - F7 ISO 16890 ePM1 55%
 - F9 ISO 16890 ePM1 80%
 - Electronic filters ISO 16890 ePM1 90%
 - Electronic filtersi iFD ISO 16890 ePM1 90%
- √ UV-C lamps with germicidal effect



- √ STANDARD Constant supply airflow in all conditions
- √ ECO The supply airflow is kept constant as the thermal load changes, stopping instead when the load is satisfied. Manual or automatic activation with Clivet Supervision System.
- √ VARIABLE AIRFLOW The supply airflow varies according to the thermal load up to a minimum value compatible with the chosen air distribution and diffusion system. Ventilation active even if the load is satisfied.

EC FANS, EFFICIECY AND PRECISION

The ventilation is carried out through fans directly coupled with electronically controlled brushless motors. Thanks to EC technology you get:

- √ Speed and precision of airflow setting according to each system;
- √ +70% efficiency compared to traditional motor;
- √ Increased useful life;
- √ Soft start and reduced inrush currents thanks to the Soft Start function. The units are therefore suitable for most applications with textile channels for air distribution.







ELECTRONIC EXPANSION VALVE

- ✓ Efficient operation at any condition
- √ Real-time fitting to the load and control stability
- √ Further efficiency increase
- √ Longer compressor life

ACOUSTIC AND THERMAL INSULATION

Sandwich paneling consists of a double steel wall that encloses the insulating material, based on polyurethane foam. Sealing gasket along the entire perimeter.

The range

applications needs % of unit outdoor air Medium attendance W R-32 SMARTPack² CLIVETPack3i √ offices CKN-XHE2i CSRN-iY √ shops load Intensity ■ 3.200÷10.500 m³/h ■ 9.500 - 34.000 m³/h ■ 20÷45 kW ■ 60-175 kW √ supermarkets contemporaneity ✓ medium of loads √ hypermarkets need for √ shopping centres renewal air ✓ production areas CLIVETPack³ CLIVETPack² CSRN-Y CRH-XHE2 ■ 8.500÷60.000 m³/h ■ 29000 - 60000 m³/h ■ 190-375 kW ■ 50÷410 kW High attendance load Intensity √ cinemas contemporaneity √ theaters √ high of loads √ conference rooms need for renewal air $CLIVETPack^2$ CSNX-XHE2 ■ 4.000÷20.000 m³/h ■ 40÷160 kW Full fresh air

√ kitchens

 \checkmark smoking rooms

load Intensity

contemporaneity of loads

need for renewal air √ total



CLIVETPack² FFA CSRN-XHE2 FFA

- 3.000÷9.000 m³/h
- 30÷90 kW

- Airflow (MIN÷MAX)
- Capacity (MIN÷MAX)

Configurations



	Refrigerant -	Configurations							
		CAK	СВК	CBK-G	ССК	CCK-REVO	ССКР	CBFFA	CCFFA
Medium attendance	R32	✓	✓	✓	-	✓	-	-	-
	R410A	✓	✓	-	✓		/*	-	-
High attendance	R410A	-	-	-	✓	-	✓	-	-
Full fresh air	R410A	_	_	_	_	-	_	J	J

^{*} Not available for CKN-XHE2i series

CAK - Single fan section for full recirculation

For air conditioning applications only, without the need for air renewal. The supply fan section provides the required supply and return available static pressure.

CBK - Single fan section for recirculation and fresh air

For applications where you need to keep the room in over-pressure, with the option of controlling a particular fresh air flow. The supply fan section provides the required supply and return available static pressure.

CBK-G - Single fan section for recirculation, renewal and free cooling management system

For applications with automatic air renewal and FREE-COOLING function control. In addition to the components in the CBK configuration, the unit also is equipped with a gravity exhaust damper. The supply fan section provides the required supply and return available static pressure.

For this configuration, enthalpy wheel heat recovery available as an option.

CCK - Double fan section for recirculation, fresh air, exhaust, thermodynamic recovery

For applications with automatic air renewal and FREE-COOLING function control. In addition to the components in the CBK configuration, the unit is equipped with an exhaust section with thermodynamic energy recovery of the exhaust air. This air, which is still rich in energy, is mixed with the outdoor air, favouring the temperature conditions on the source side of the exchanger and improving the heating and cooling capacity.

CCK-REVO - Double fan section for recirculation, renewal and exhaust air with high efficiency REVO thermodynamic recovery

For applications with automatic air renewal and FREE-COOLING function control.

This configuration combines in a single unit the advantages and performances of the previous CCK and CCKP configurations.

The unit is fitted with an exhaust section featuring an innovative and patented REVO thermodynamic recovery for exhaust air (Recovery EVOlution). The energy contained in the exhaust air is recovered in a dedicated sector of the direct expansion source coil.

CCKP - Double fan section with fresh air and THOR thermodynamic recovery

For applications with automatic air renewal and freecooling function control. In addition to the parts contained in the CCK configuration, the unit is equipped with an exhaust section with innovative thermodynamic energy recovery of the exhaust air through a dedicated THOR (THermodynamic Overboost Recovery) exchanger.

The energy contained in the exhaust air is recovered and transferred to handling through the refrigeration circuit.

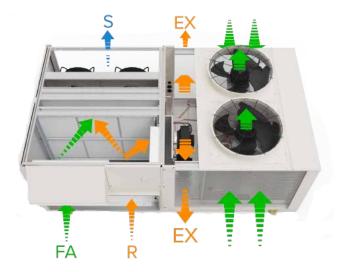
CBFFA - Only for fresh air inlet

For full fresh air applications with separate management of the exhaust air. The supply fan section provides the supply and return available pressure.

CCFFA - Fresh air supply with extraction and exhaust

For full fresh air applications with the need to exhaust air from the served areas by the unit with complete separation between supply and exhaust air flow; the energy contained in the latter flow is thermodynamically recovered on the source side.

REVO thermodynamic recovery



- **FA** Fresh Air
- S Supply air
- Return air
- **EX** Exhaust air





CCK-REVO thermodynamic recovery combines in a single version the benefits of the previous CCK and CCKP configurations: from the first inherits simplicity since it is not required an additional coil, from the second the high

The energy contained in the exhaust air is conveyed and recovered in a dedicated section of the source coil.

- √ EU patented technology
- ✓ No additional recovery heat exchanger or circuit
- ✓ Increased capacity and energy efficiency for a great energy saving.
- ✓ Improved overall compactness and refrigerant charge for a lower environmental impact
- √ Less defrost cycles thanks to return airflow on the heat exchanger

New solutions

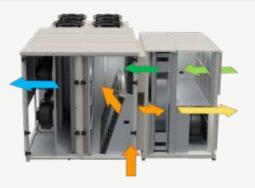
CBK-G



Single fan section for recirculation, renewal and exhaust

- √ Modulating recirculation damper
- √ Exhaust gravity damper
- √ Up to 100% free cooling without additional ventilation section.
- √ Return pressure losses lower than 50 Pa

Enthalpy wheel recovery



Additional module with enthalpy wheel available for CBK-G configuration.

- √ particularly suited for applications with high difference between indoor and outdoor conditions.
- √ Enthalpy wheel, ISO 16890 Coarse 50% (G4) filters on both airflow directions, EC extraction fan, rainproof grilles and gravity exhaust damper included within the module.

Clivet Innovation Centre



As a further confirmation of quality and efficiency, Eurovent certification, already available for nominal capacities up to 100 kW, is now extended to all the sizes up to 200 kW which were tested in the approved laboratories by the certification body (test rooms 7.1 and 7.2) in the new Clivet Innovation Centre.

In the new testing rooms, it is now possible to test, verify and optimize Rooftop systems up to 350 kW and 60.000 m3/h of air flow.



Clivet participates in the ECP Programme for "Rooftop". Check ongoing validity of certificate on www.eurovent-certification.com"



Why Clivet?



ENERGY SAVING

Devices developed to intelligently manage energy and their coordination according to environmental conditions. They allow: reduction of operating costs, maximum use of renewable energy, reduction of environmental impact, increase in the value of the property.



PROFESSIONAL INSTALLATION

Clivet entrusts the proposal of its products to specialized professionals.

Clivet certified technicians carry out the first start-up of the installed unit, checking its correct installation and optimal operation.



WARRANTY

Clivet's After-Sales Service reaches its Customers through a well-organized support network that is always on hand, as high technology levels require fast and skilled services.

Learn more about the warranty and service conditions for your country by contacting the Distributor or the Branch closest to you.



ASSISTANCE AND MAINTENANCE

Clivet has a widespread network of service centers in Italy and abroad. This guarantees rapid interventions, limits travel expenses for any type of on-site intervention for repairs, modifications, verification of the condition of the unit.

For assistance or information on maintenance programs, contact the Authorized Service Center in your area.



SPARE PARTS

The original Clivet spare parts are available at the spare parts warehouse of the Clivet headquarters in Feltre, offering replacement spare parts even in the event of discontinued units.

On the Italian territory there are local warehouses, with the possibility of collecting the goods even on pre-holiday and public holidays.

Best practice



PUMA House of Football - Centro P. Vismara

Systems: Packaged, Hydronic

Year: 2021



NDUSTRY

OROS SRL

Feltre, Belluno – Italy System: Packaged Year: 2022



Laboratoires OLEA

Abidjan, Ivory Coast PHARMACEUTICAL Industry System: Packaged Year: 2021

NDUSTR



IDE (INTRACOM DEFENSE)

Location: Greece

Systems: Packaged, Hydronic

Year: 2022



INDUSTRY

MORO 2.0 Data Centre fase 1 di Huawei

Dubai - AL Qudrah, United Arab Emirates Systems: Packaged, VRF, FAHU and DX

Year: 2022



SAN MARINO OUTLET EXPERIENCE

San Marino Republic Luxury Outlet Systems: Packaged, Hydronic, Air Renewal Year: 2021

Best practice



RETAI

CPC Modena

Modena, Italy Mechanical processing industry Systems: Packaged, Hydronic, Air Renewal Year: 2021



Centro Porsche Padova

Padua, Italy Systems: Packaged, Split Year: 2020



IMA LIFE

Castel San Pietro Terme - Bologna, Italy System: Packaged Year: 2020



GROB ITALY S.r.I.

Pianezza – Torino, Italy System: Evolved VRF + Rooftop Year:2020



STADLER

Szolnok, Hungary System: Packaged Year 2019



HD4 Sport Hall

Mountain Divcibare, Serbia System: Packaged Year: 2020 INDUSTRY





EURONEWS STUDIO TV

Tirana Albania System: Packaged Year 2019



NDUSTRY

RAUCH SERBIA DOO.

Koceljeva Serbia System: Packaged Year 2019



NISSAN PADELCENTER

Oskarström, Sweden System: Packaged Year: 2018



Cagliari-Elmas airport

Cagliari, Italy Systems: Packaged, VRF, Primary Air, Hydronic Year 2018



Settimo Cielo, Retail Park

GLA: 69.000 m² Settimo Torinese, Torino, Italy System: Packaged, Hydronic, Split, VRF Year 2019



CINEMAS

THEATRES

go

Amintore Galli Theatre

Rimini, Italy Historical theater System: Packaged (CSNX-XHE2) Year: 2018

Best practice



CASTORAMA STORE

Odintsovo - Moscow, Russia System: Packaged Year 2017



HEINEKEN

Valencia - Spagna System: Packaged Year: 2016



IKEA MALLORCA

Palma de Mallorca, España Systems: Packaged Year: 2015



RETAIL

CASA VINICOLA LUIGI CECCHI & F. S.R.L.

Monteriggioni - Italy System: Packaged Year 2017



RETAIL

IL CENTRO Shopping Center

Arese, Milan, Italy GLA: 93.000 m² Systems: WLHP, Packaged Year 2017



IV L U

EXPO 2015

Rho Milan, Italy System: Packaged Year: 2015





Sisk Healthcare

Dublin, Ireland System: Packaged (CLIVETPack²) Year: 2020



Rogoza Sport Center

Rogoza, Slovenia System: Packaged Year: 2020



COMPENDIO SPORTIVO AREA RODOCANACHI

Arenzano, Genova, Italy System: Packaged Year 2019



Camping Village Marina di Venezia

Cavallino Treporti, Venezia, Italy System: Packaged (SMARTPack²) Year: 2018



Nutrilab

Giessen, Netherlands Systems: Packaged (SMARTPack²), Hydronic Year: 2020



Zanasi Group

Maranello, Italy System:Packaged Year: 2023

INDUSTRY

ALWAYS READY FOR THE FUTURE

INSPIRING SOLUTIONS

In over 30 years of working on the design, manufacturing and distribution of air conditioning and handling systems, combining high efficiency with minimal environmental impact, Clivet has developed solutions to ensure sustainable comfort and the well-being of people and the environment. Designing and developing year-round air conditioning solutions with innovative technologies are part of Clivet's DNA, which means the company has always been ready for the future.

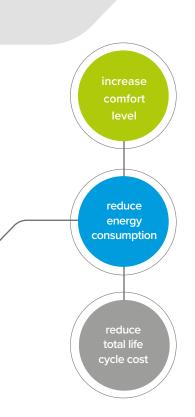


COMFORT FOR THE PLANET & PEOPLE

OUR VALUES FOR THE SECTORS

IN THE RESIDENTIAL, COMMERCIAL AND INDUSTRIAL SECTORS

Increasing comfort, saving energy and providing customers with the best value for the entire life cycle of the system: these are the values that inspire our systems for the residential, services and industrial sectors.



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Clivet, in compliance with Regulation 517/2014, informs that its products contain or function with the use of fluorinated greenhouse gases

FOR OVER 30 YEARS WE HAVE BEEN OFFERING SOLUTIONS TO ENSURE SUSTAINABLE COMFORT AND THE WELL-BEING OF PEOPLE AND THE ENVIRONMENT

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