INTELLIPLANT CORE & INTELLIAIR

OFFICIAL AIR CONDITIONING & AIR QUALITY PARTNER

Clivet Smart Building

HYDRONIC SYSTEM

INTELLIPLANT CORE

Management and control system for centralised hydronic systems consisting of all Clivet units: chillers, medium and high temperature heat pumps, multi-purpose units for simultaneous comfort and domestic hot water production.

CHILLER AND HEAT PUMPS

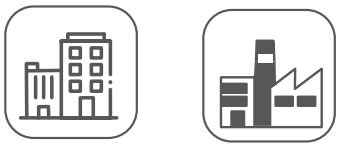
Dynamic management of unit activation according to load distribution and saturation logic.

- Automatic rotation
- Working time balancing

EFFICIENT MANAGEMENT

For both applications

- Comfort
- Process

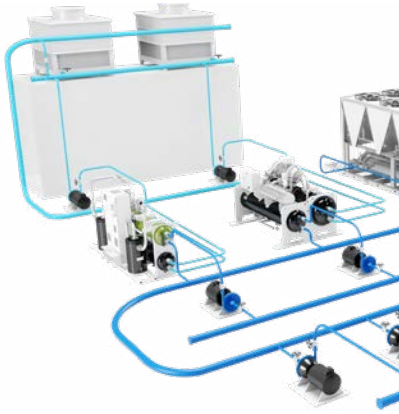


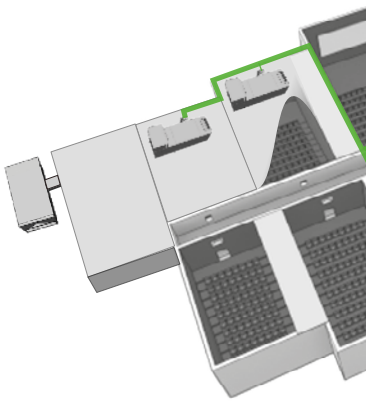
IDEAL FOR ANY SYSTEM CONFIGURATION

It also allows the management of pumping units (integrated into the unit, primary only), even at variable speed exploiting the advanced Intelliplant Core logic to minimise the system's electricity consumption.

CLIVET CLOUD

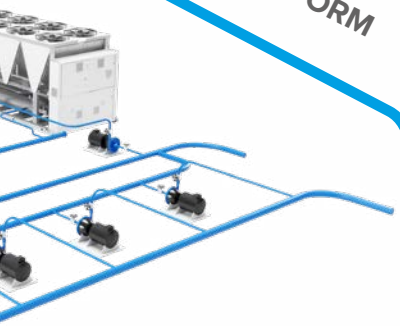
- ✓ Local and remote management by administrators via Cloud connection
- ✓ Multi-site platform that allows administrators and technical staff to manage and monitor their facilities throughout Italy



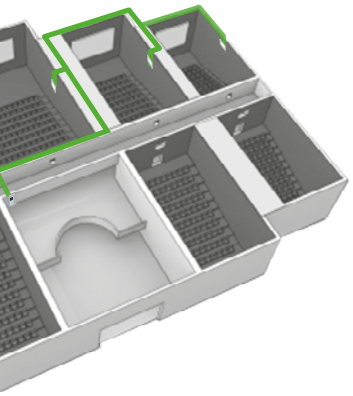


CENTRALISED AIR CONDITIONING

SINGLE PLATFORM



HYDRONIC SYSTEM



CENTRALISED AIR CONDITIONING

INTELLIAIR

Supervision system for air conditioning systems and centralisation of all units.

ROOF-TOP

Smart modulation of the heating pump and domestic hot water tank charging.

AIR RENEWAL UNIT

Active thermodynamic recovery ventilation system to ensure the maximum level of indoor air quality.

AIR QUALITY

Acquisition of temperature, humidity, noise, VOC carbon monoxide, carbon dioxide and methane values

INTELLIPLANT CORE

Hydronic units

- ✓ Monitoring and control of hydronic chiller units, reversible heat pumps and multifunctional units
- ✓ Workload distribution: The heating and cooling load is equally distributed between the various units, making the most of their operation in partial load mode.
- ✓ Centralised management: Professional multi-site cloud platform for unified and simplified control. This allows the various systems to be monitored and managed from a single interface.

System manager

The INTELLIPLANT system allows you to efficiently and continuously manage the hydronic units on the local operator panel and on the remote interface on a computer, smartphone or tablet. INTELLIPLANT CORE consists of a main control panel that manages the connection to the various hydronic units (chillers, reversible heat pumps and multifunctional units) equipped with both serial and Ethernet communication. Thanks to the values acquired in real time from the system, advanced control logics enable efficient management of thermal loads based on real system demand, constantly monitoring the system conditions and selecting unit activation, either based on the most performing activation sequence or by balancing the operating hours.

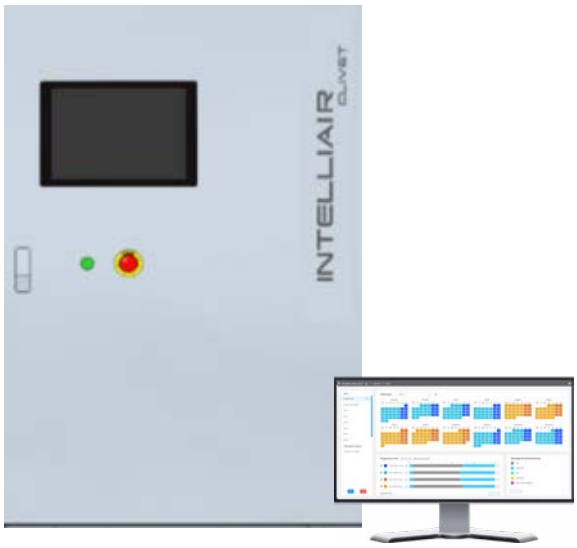
- ✓ Monitoring and control of hydronic chiller units, reversible heat pumps and multifunctional units
- ✓ Primary circuit management of 2-pipe and 4-pipe systems with Clivet air source units with integrated hydronic unit
- ✓ Integration with BMS/BAS through open protocols
- ✓ Management of operating parameters such as temperature and seasonal mode change
- ✓ Scheduled and manual system switch-on
- ✓ Wear check of the main components
- ✓ Lower maintenance costs, prevention of system downtime due to faults
- ✓ Management of scheduled and preventive maintenance
- ✓ Online management of system documentation

management

Safety and professionalism

The INTELLIPLANT CORE system ensures centralised multi-site monitoring via a cloud platform that adheres to data protection privacy levels in accordance with the most stringent interpretations of the GDPR (Global Data Protection Regulation).

Aimed at operators such as facility managers, system operators and plant managers.



- ✓ Centralised control and supervision of ventilation and air conditioning systems
- ✓ Advanced scheduler for the activation of energy profiles
- ✓ Local and remote management by administrators via professional cloud platform
- ✓ Integration with BMS/BAS for alarm notification and supervision
- ✓ Diagnostic survey system for preventive maintenance management

System managers

IINTELLIAIR is the specialised solution for the supervision and control of air conditioning systems in all applications where comfort and energy efficiency are paramount. Thanks to the integration with autonomous rooftop air conditioning units, a high level of consumption optimisation in air treatment can be achieved while ensuring the maximum comfort in the rooms.

The INTELLIAIR supervision solution is perfect for:

- ✓ shopping centres
- ✓ multiplex cinemas, theatres, auditoriums
- ✓ commercial premises and areas
- ✓ Ho.Re.Ca sector

ENERGY SAVING

The high energy savings achieved by INTELLIAIR are ensured by the automated management of independent areas. By programming power profiles and using intelligent algorithms to optimise the operation of the ventilation and air conditioning system, energy consumption can be reduced without compromising occupant comfort.
INTELLIAIR is designed to continuously monitor and optimise indoor air quality. It uses advanced sensors to detect levels of CO_2, humidity, and other polluting particles, automatically adjusting the ventilation system to ensure a healthy and comfortable environment.

Everything under control

Communication between INTELLIAIR, Clivet air conditioning units and field devices is via RS-485 serial line with RTU Modbus communication protocol, which simplifies wiring and ensures long operating distances. Furthermore, communication can be provided based on Ethernet protocol to extend the application range to Clivet units with TCP/IP Modbus communication protocol.

GRAPHIC INTERFACE

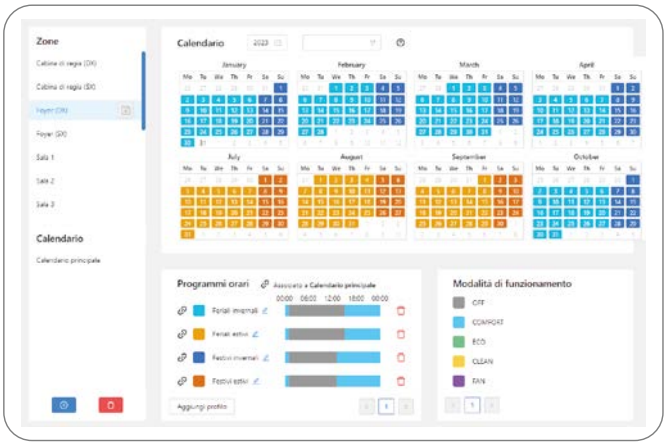
INTELLIAIR and INTELLIPLANT CORE share the same platform and offer a fast and intuitive graphical interface that includes all information related to the system's operating mode as well as specific pages.

In detail, the user can access all parameters specific to the area or individual units and their operating parameters.

Scheduling

Programming is one of the most important features of INTELLIAIR for automatic system operation. With the scheduler, you can program the right comfort in the different zones of the building throughout the year so as to maintain their comfort independently of the others, thus eliminating the waste and inefficiency that can occur in centralised systems. The main features are:

- ✓ Daily/annual programming of temperature, humidity, $CO_{2\ setpoints}$
- ✓ Sharing set-points with all the units belonging to that zone
- ✓ Maintenance planning



From an overall view to the individual detail

The main system page provides direct access to the various zones and displays the following main information:

- ✓ operating status of the system and buttons for quick actions
- ✓ percentage and operating mode of single units, by area
- ✓ maintenance status following the preventive analysis of each individual unit
- ✓ priority and second-level alarms
- ✓ current day's weather and forecast for the next 7 days

Percentage and operating mode of single units, by area:

- ✓ 7-day scheduling of units connected to the area
- ✓ display and modification of the room temperature setpoint, relative humidity and air quality
- ✓ alarm status and specific warnings for the area
- ✓ room temperature, relative humidity and air quality trends over the last 12 hours

The following basic information is displayed for each unit:

- ✓ operating mode (heating / cooling / Auto) and performance of the unit
- ✓ operating status (comfort / Eco / off)
- ✓ current temperature, relative humidity and air quality values
- ✓ detailed component status (fans, compressors, etc.)

Note: the pages and information reportable vary depending on the functions in the managed units.
The screens shown above are for demonstration purposes only

INTELLIPLANT CORE

Control panel

Control and monitoring of hydronic units for 2-pipe and 4-pipe systems
- ✓ Chiller
- ✓ Reversible heat pumps
- ✓ Multifunction units

Unit management by sequencing and balancing unit operating hours
Local and remote management via professional cloud platform for facility managers, system operators and plant managers.

Physical	
Dimensions	L: 600, A:800, P:300
Weight:	50 kg
Power supply:	230Vac / 50 hz
Wall-mounted installation	

Field components

STX

Well temperature probe

Temperature probe for monitoring water temperature on common supply, return and by-pass manifolds.
- ✓ Hot/cold circuit for 2-pipe systems (3 sensors)
- ✓ Hot and cold circuits for 4-pipe systems (6 sensors)

Physical	
Code	PEIP00001
NTC probe measuring range	-10...+120°C
Signal	4~20 mA 2-wire
Power supply voltage	11...33 VDC

PZT100X

Temperature probe well

- ✓ Allows housing of the temperature sensor

Physical	
Code	PEIP00019
Length (R)	100 mm
Diameter	9 mm

STAEX

Outdoor temperature probe

✓ Temperature probe for outside air monitoring

Physical	
Code	PEIP00002
NTC probe measuring range	-50...50°C
Signal	4~20 mA 2-wire
Power supply voltage	11...33 VDC
Protection	IP65

MEAX

Electric energy consumption meter

✓ Three-phase electric energy meter with RS-485 Modbus communication port

Physical	
Code	PEIP00014
Including 50A/5A openable current transformers (CT)	

INTELLIAIR

Control panel

Centralised control and supervision of ventilation and air conditioning systems

✓ Independent programming of zones

✓ Management and scheduling of power profiles

Local and remote management via professional cloud platform for facility managers, system operators and plant managers.

Physical	
Dimensions	L: 600, A:800, P:300
Weight:	50 kg
Power supply:	230Vac / 50 hz
Wall-mounted installation	

Field components

Z-IAQ

The wall-mounted internal air quality detector monitors the quality of the air, giving you real-time readings of temperature, humidity, noise, VOCs, carbon monoxide, carbon dioxide, and methane.

Physical	
Device name	Z-IAQX
Installation	Wall-mounted with mounting box
Operating temperature	-10~55°C
Operating humidity	≤95% (non-condensing)
Power supply	12V direct current
Max consumption	≤100mA
Detection type	VOC, CO, CO2, NO2, CH4, ambient noise, relative humidity and temperature

Features	
Colour	White
Dimensions	110 x 70 x 28 mm (LxHxP)
Weight	172g

FOR 35 YEARS WE HAVE BEEN OFFERING SOLUTIONS FOR SUSTAINABLE COMFORT AND THE WELL-BEING OF PEOPLE AND THE ENVIRONMENT

www.clivet.com

Valid from: November 2024
DF24M038GB-00

CLIVET S.p.A.
Via Camp Lonc 25, Z.I. Villapaiera 32032 - Feltre (BL) - Italy
Tel. +39 0439 3131 - info@clivet.it

CLIVET GMBH
Hummelsbütteler Steindamm 84,
22851 Norderstedt, Germany
Tel. +49 40 325957-0 - info.de@clivet.com

CLIVET LLC
Office 508-511, Elektozavodskaya st. 24,
Moscow, Russian Federation, 107023
Tel. +7495 6462009 - info.ru@clivet.com

Clivet Group UK LTD
Units F5 & F6 Railway Triangle,
Portsmouth, Hampshire PO6 1TG
Tel. +44 02392 381235 -
Enquiries@Clivetgroup.co.uk

CLIVET MIDEAST FZCO
Dubai Silicon Oasis (DSO) Headquarter Building,
Office EG04-05, P.O Box-342009, Dubai, UAE
Tel. +9714 5015840 - info@clivet.ae