



# Product Guide

## 2025



COMFORT FOR THE  
PLANET & PEOPLE

# NATURAL COMFORT

## Over 35 years of expertise in heat pumps.

Clivet has been leading the way in heat pump innovation since 1989. We were among the first to recognize the technology's potential for efficient and sustainable comfort – and our dedication to innovation hasn't wavered since.

## Purpose-built solutions.

Clivet engineers its solutions from the ground up to offer specialized systems designed for a diverse range of applications and environments. Boasting the widest range of heat-pump solutions, our flexible, adaptable approach ensures a perfect fit for your specific requirements.

## Crafted in Europe, made for North America.

As a pioneer in heat pump technology in Europe, Clivet delivers innovative solutions tailored to diverse market needs worldwide. Our products are specifically designed to meet the comfort demands of the North American market, built on four key pillars: dedicated product development, industry-leading manufacturing and quality excellence, and the strength of our partners' premium pre and post-sales service network.

## A simplified product experience.

Clivet systems streamline every step, from simplified design and installation to effortless operation and control. Engineered for efficiency from the ground up, Clivet delivers unparalleled ease of use, lower operating costs, and a lasting commitment to sustainability.



COMFORT FOR THE  
PLANET & PEOPLE

# OUR NUMBERS

**53.500 m<sup>2</sup>**  
PLANTS IN  
FELTRE, BELLUNO, VERONA

**1000**  
EMPLOYEES

**290**  
WHOLESALERS

**185**  
SERVICE CENTRES

**2016**  
STRATEGIC ALLIANCE  
WITH MIDEA GROUP

**100**  
COUNTRIES

**8 BRANCHES:**  
GREAT BRITAIN,  
GERMANY, INDIA,  
RUSSIA, UAE, CHINA,  
BALKANS AND FRANCE

**2023**  
FIRST  
SUSTAINABILITY  
REPORT

**2024**  
MIDEA GROUP **277** FORTUNE  
GLOBAL  
500  
**48.5 \$B**  
MIDEA TURNOVER

## Residential



## Offices



## Hotels



## Cinemas



**SPECIALIZED  
SYSTEMS**  
for any application  
and climate condition

Today, buildings have to deliver an elevated and constant standard of well-being, regardless of outdoor conditions.

Not all buildings are alike; depending on their use, there are considerable differences in terms of load intensity, simultaneous requests for hot and chilled water, domestic hot water production and air renewal.

That is why Clivet has created a series of specialized system solutions for applications that meet the specific needs of different buildings by optimizing the overall efficiency in relation to traditional systems (boiler, chiller, AHU).

Clivet's specialized systems simplify the design and installation work, improve the control of the entire system, reduce the environmental impact and, at the same time, optimize the initial investment by reducing running costs and increasing the building's energy rating and therefore its value on the market.

## Public Buildings



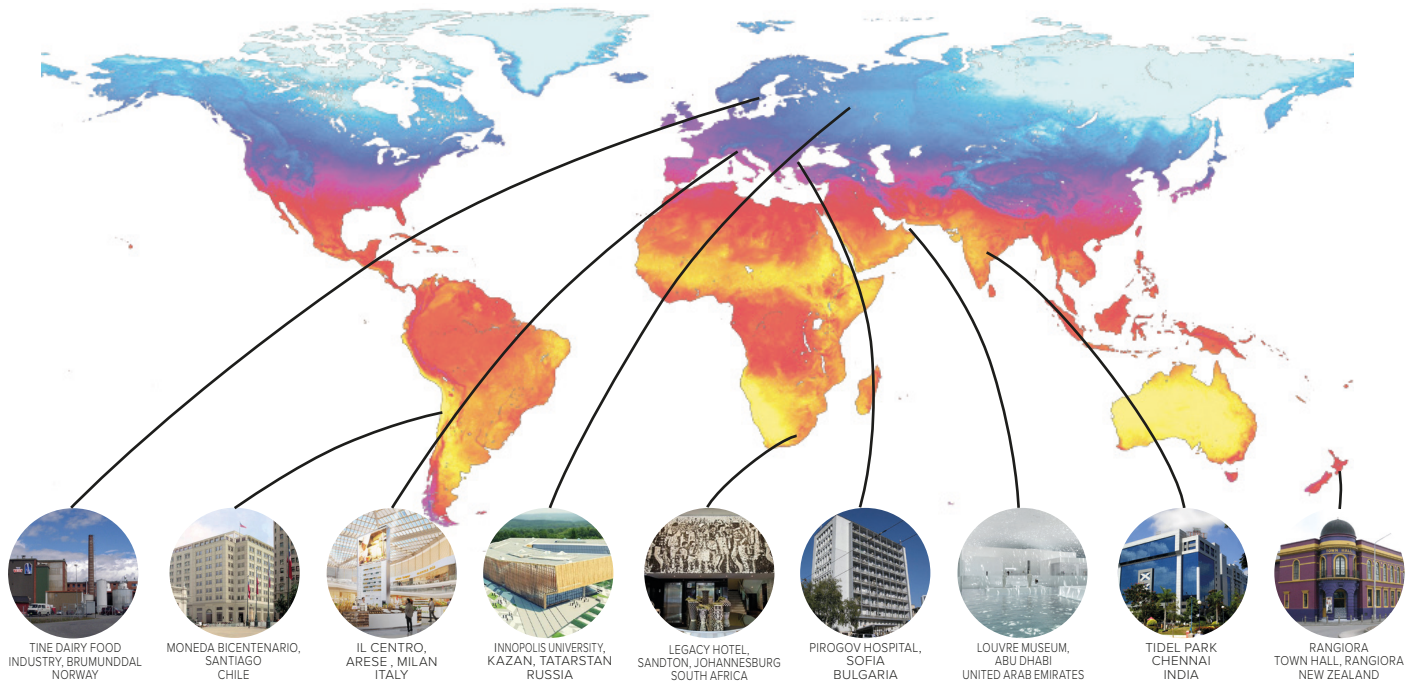
## Shopping Centers



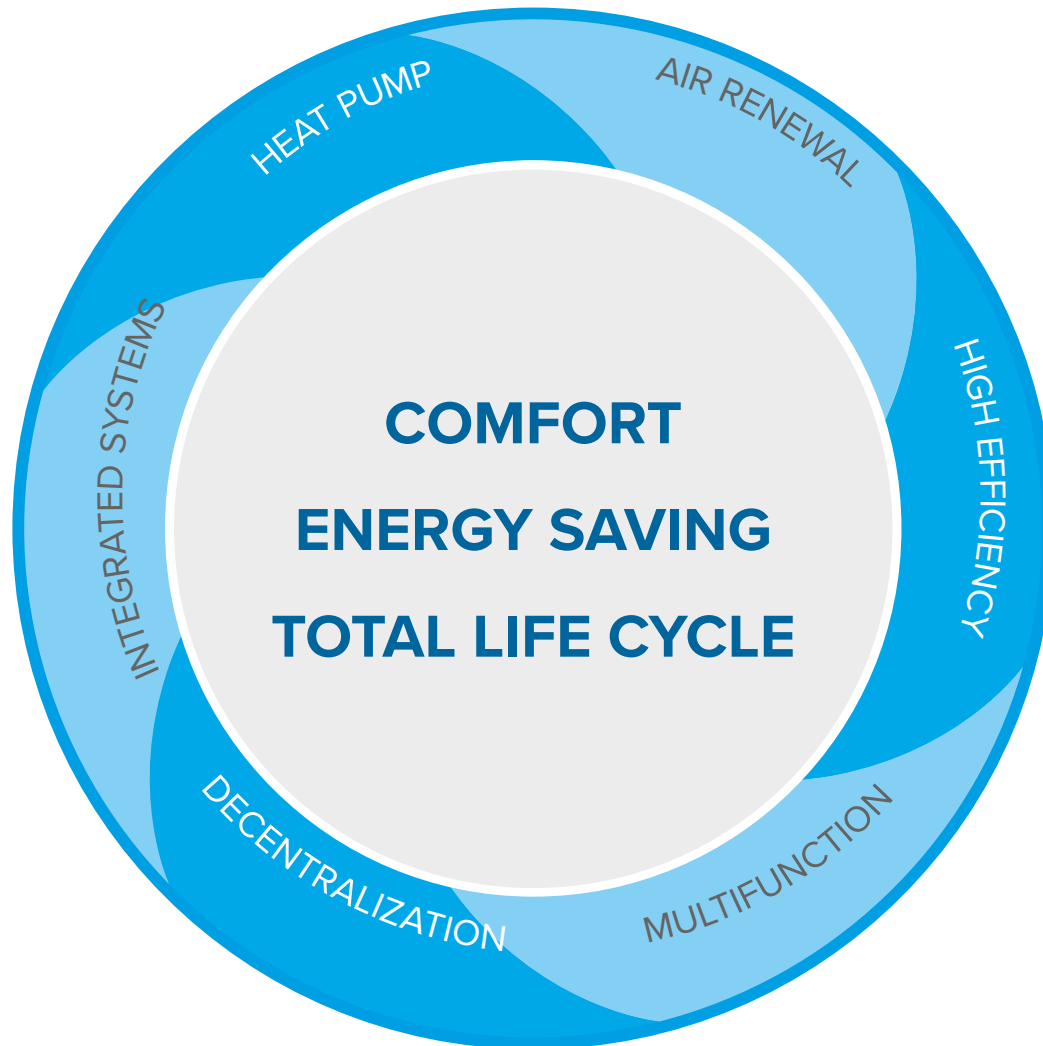
## Hospitals



## Industry



# Clivet Principles



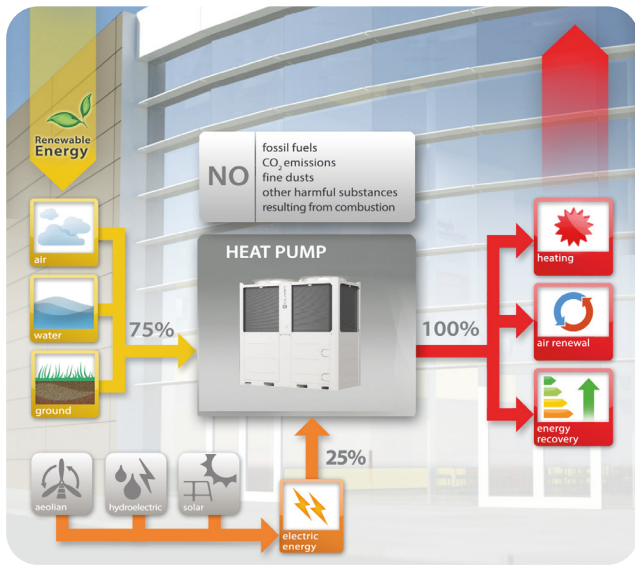
## CLIVET PRINCIPLES

All Clivet systems are based on six key principles that make Clivet's products and systems unique.

These principles are the basis for making application-specific systems, which have always been part of Clivet's DNA.

The six key principles are the foundation of Clivet's entire outlook, and they are the driving force behind Clivet's development of sustainable systems of the future.

# Heat Pump Technology



Heat pumps are the technology of the future because they are significantly more efficient than traditional combustion systems:

- ✓ Reductions of 50% in Primary Energy, CO<sub>2</sub> and Running Costs
- ✓ Extensive use of Renewable Energy

Due to Clivet's heat pump technology, Clivet's systems guarantee:

- ✓ A single system for both heating and cooling
- ✓ Controlled mechanical ventilation with innovative thermodynamic recovery
- ✓ Free production of domestic hot water in summer
- ✓ Simultaneous heating and cooling to fulfill simultaneous loads

# Importance of Air Renewal



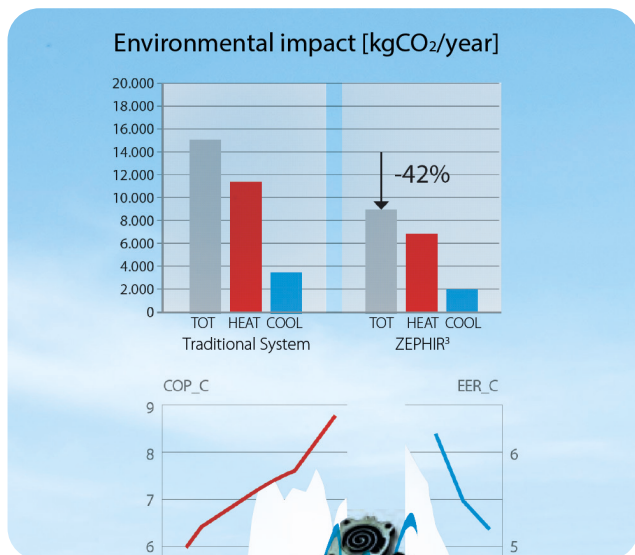
The quality of air inside modern airtight buildings is undermined by a number of pollutants.

A controlled mechanical ventilation system is essential to creating a more liveable environment.

**Clivet's stand-alone system with thermodynamic energy recovery dedicated to ventilation has the following benefits:**

- ✓ Recovers energy both in winter and in summer
- ✓ Reduces the load of outdoor air with a more efficient system and provides more energy for interior rooms
- ✓ Reduces the capacity of the main generators by limiting their operation to seasonal peaks
- ✓ Dehumidifies in summer

# High Seasonal Efficiency



ZEPHIR<sup>3</sup>, Office Building in London, case study

Every application has different needs which vary depending on multiple factors, including different indoor and outdoor climatic conditions, crowding and thermal loads.

**Clivet systems are designed to meet the specific needs of every application, thereby optimizing the use of the system's resources to reach top seasonal efficiency levels thanks to:**

- ✓ One systemic solution
- ✓ Use of the most favourable resources
- ✓ Full control over the system
- ✓ Continuous capacity modulation

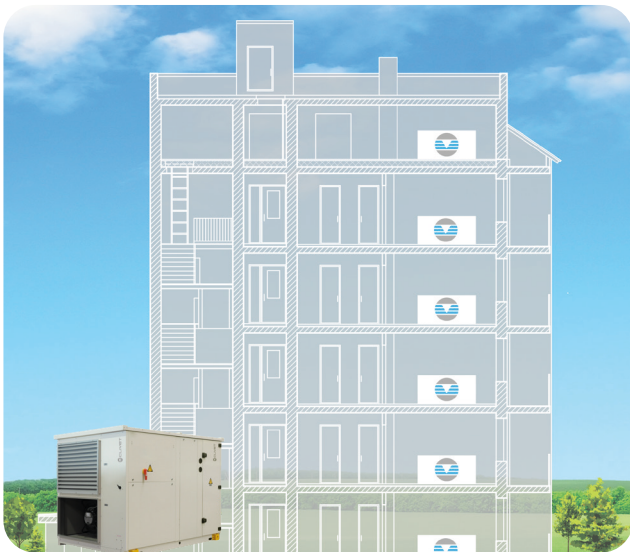
## Polyvalent



**Clivet's multifunction systems include all the elements to ensure year-round comfort.** Clivet has developed complete dedicated systems that use the following functions to provide a tailored and specialized solution for each individual application:

- ✓ Heating
- ✓ Cooling
- ✓ Domestic hot water
- ✓ Air renewal and purification
- ✓ Dehumidification

## Decentralization



Example of floor-based decentralization

In developing Clivet products and systems, great attention was given to how to rationalize each choice in terms of design and construction, which could affect the system's running costs and environmental impact for its entire life cycle.

**Many years ago, Clivet successfully developed the principle of generating energy as close as possible to where it needs to be used:**

- ✓ Modular systems that are active only where and when required
- ✓ Reduction or complete elimination of auxiliary consumption (for instance, pumping energy)
- ✓ Stand-alone system
- ✓ Easy to maintain and handle
- ✓ Adapts to the needs of the system

## Integrated Systems



Clivet designs its systems by integrating all the services required for each application.

**The system's elements, optimized and industrially processed to work together, guarantee the highest efficiency and reliability.**

- ✓ Simplified design and installation
- ✓ Lower investment costs
- ✓ Quality of the systems
- ✓ Guaranteed performance



# Digital Solutions

In residential, commercial and industrial buildings, the air conditioning system is the main source of energy consumption, accounting for almost half of the building's total consumption. There is an increasing need for an energy transition as the effect of climate change is growing.

Clivet has decided to play a key role by designing and promoting new technological solutions to improve the efficiency of buildings and significantly reduce its carbon footprint for increasingly sustainable installations.



## Optimization system for the commercial and industrial sector

Optimizing the operation of HVAC systems allows the efficiency of commercial and industrial plants to be maximized in various working conditions, guaranteeing the reduction of energy consumption and ensuring continuity of operation in the production and distribution of thermo-cooling energy.

Clivet's **CHILLER PLANT MANAGER** solution manages all the elements of medium and large hydronic systems, guaranteeing the best operating conditions for the lowest possible energy consumption.

Developed entirely by Clivet specialists, CHILLER PLANT MANAGER makes it possible to achieve the maximum efficiency of the system and the units it interfaces with, thanks to algorithms derived from Clivet know-how that make better use of the machine control logics than the most common generalist solutions on the market.

# SHEEN NA



## Reversible heat pump

Air cooled  
Inverter Technology  
Outdoor installation  
**Capacity 20 TON**  
**WiSAN-YSE1 NA**  
**30.2**

- ✓ **Reversible Heat Pump Technology.** Capable of producing hot or cold water based on the season.
- ✓ **High Reliability Design.** Inverter Scroll compressor ensure efficient and reliable operation. DC Inverter fans offer superior airflow and energy efficiency. Two independent circuits provide redundancy and enhanced reliability.
- ✓ **High Sustainability Ecological Refrigerant.** R32 with a Global Warming Potential of 675, reducing environmental impact.
- ✓ **Industry-Leading Efficiency.** Full inverter scroll technology guarantees performance at full and partial load to adapt to the needs of the plant. IPLV (Integrated Part Load Value) up to 20.15, maximizing seasonal performance.
- ✓ **Ultra-Quiet Operation.** Our super-silenced version reduces noise levels, ensuring a quieter environment. Configurable sound emissions reduce the fans speed.
- ✓ **Wide Operating Envelope.** Delivers outlet water temperatures up to 149°F and operates in outdoor temperatures as low as -22°F.
- ✓ **Faster, More Efficient Defrosting.** A special hydrophilic coil treatment shortens defrost cycles, ensuring uninterrupted performance and efficiency.
- ✓ **System scalability up to 160 Tons.** Modular operation up to 8 units in a cascade setup.

## Functions and Features



Heat pump

AIR

Air cooled



Outdoor installation



R-32



Hermetic scroll



Electronic expansion valve

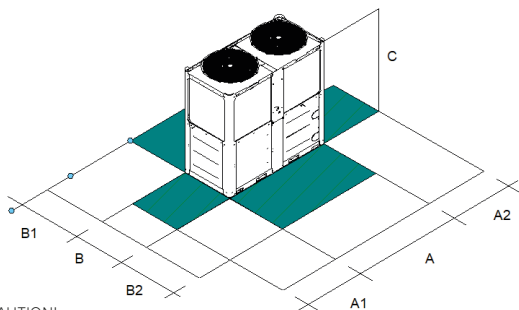


ECOBREEZE



Full inverter

## Dimensions and Clearances



### CAUTION!

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

Size	▶ SHEEN-NA	30.2
A - Length	in	78.74
B - Width	in	37.8
C - Height	in	74.2
A1	in	59.1
A2	in	59.1
B1	in	59.1
B2	in	59.1
Operating weight	lbs	1,193

The above mentioned data are referred to standard units for the constructive configurations indicated.

PRELIMINARY DATA

## Versions and Configurations

### SUPPLY VOLTAGE:

- 208-230/3~/60 Supply voltage (Standard)

### ENERGY VERSION:

**EXC** High efficiency

### EXTERNAL SECTION FAN CONSUMPTION REDUCTION:

**VENDC** DC high efficiency fan (Standard)

## Technical Data

<b>SIZE</b>	<b>▶ SHEEN-NA</b>	<b>30.2</b>
Cooling Capacity	(1) ton	20
Total power input	(1) kW	23.45
EER	(1) BTU / (Wh)	10.24
IPLV	(1) BTU / (Wh)	20.15
Heating Capacity	(2) MBH	255.9
Total power input	(2) kW	22.06
COP	(2) kW / kW	3.40
Refrigeration circuits	Nr	2
N° of compressors	Nr	2
Type of compressors	-	INVERTER SCROLL
Refrigerant	-	R-32
Standard power supply	V	208-230/3~/60

(1) Data: User side heat exchanger water 54 °F / 44 °F; Outdoor Air 95 °F

(2) Data: User side heat exchanger water 110 °F / 120 °F; Outdoor air 47 °F d.b. / 43 °F w.b.

PRELIMINARY DATA

## Accessories

**BCACF** Copper / aluminium condenser coil with acrylic lining

**CMSC13X** Serial communication module for Modbus TCP/IP, BACnet IP, BACnet MSTP supervisor

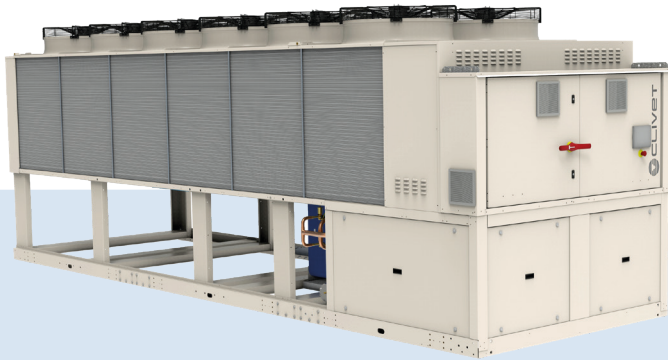
**AMRX** Rubber antivibration mounts

**HYGU1VI** User side hydronic group with 1 inverter pump

**TCDC** Condensate collection pan with electric heater

Accessories whose code ends with "X" are supplied separately

# SPINCHILLER<sup>4</sup> NA



## Reversible heat pump

Air cooled

Outdoor installation

Capacity from 65.7 to 124 TON

**WSAN-YSC4 NA**

**90.4÷175.4**

- ✓ **Reversible Heat Pump Technology.** Capable of producing hot or cold water based on the season.
- ✓ **High Reliability Design.** Multiscroll technology optimizes performance with precise load adjustments, delivering consistent comfort and efficiency. EC axial fans offer superior airflow and energy efficiency. Two independent circuits provide redundancy and enhance reliability.
- ✓ **High Sustainability Ecological Refrigerant.** R32 with a Global Warming Potential of 675, reducing environmental impact.
- ✓ **Industry-Leading Efficiency.** High performance at full and partial load to adapt to the needs of the plant. IPLV (Integrated Part Load Value) up to 17.4, maximizing seasonal performance.
- ✓ **Ultra-Quiet Operation.** Our super-silenced version reduces noise levels, ensuring a quieter environment.
- ✓ **Faster, More Efficient Defrosting.** A special hydrophilic coil treatment shortens defrost cycles, ensuring uninterrupted performance and efficiency.
- ✓ **Optimized Modular Operation.** Cascade capability up to 7 units in a cascade setup.
- ✓ **Full Range of Accessories.** Comprehensive accessory options tailored for the North American market.

## Functions and Features



Heat pump



Air cooled



Outdoor installation



R-32



Hermetic scroll



Electronic expansion valve



ECOBREEZE

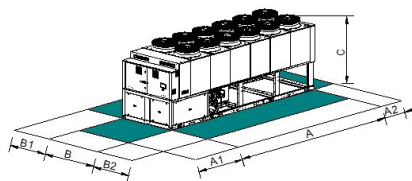


HydroPack



Chiller plant manager

## Dimensions and Clearances



### CAUTION!

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

Size	▶ WSAN-YSC4 NA	90.4	100.4	110.4	120.4	130.4	145.4	160.4	175.4
A - Length	in	164.4	164.4	164.4	164.4	164.4	202.8	202.8	202.8
B - Width	in	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6
C - Height	in	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
A1	in	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1
A2	in	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
B1	in	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2
B2	in	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2
Operating weight	lbs	6,371	6,526	6,596	7,075	7,562	8,891	9,017	9,156

The above mentioned data are referred to standard units for the constructive configurations indicated.

PRELIMINARY DATA

## Versions and Configurations

### SUPPLY VOLTAGE:

<b>4606H</b>	460/3/60 Supply voltage (Standard)
<b>5756H</b>	573/3/60 Supply voltage

### ACOUSTIC CONFIGURATION:

<b>SC</b>	Acoustic configuration with compressor soundproofing (Standard)
<b>EN</b>	Super-silenced acoustic configuration

### EXTERNAL SECTION FAN CONSUMPTION REDUCTION:

<b>CREFB</b>	Device for fan consumption reduction of the external section, ECOBREEZE type (Standard)
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## Technical Data

SIZE		▶▶ WSAN-YSC4 NA	90.4	100.4	110.4	120.4	130.4	145.4	160.4	175.4
Cooling Capacity	(1)	ton	65.7	71.2	76.8	82.4	90.4	103	113	124
Total power input	(1)	kW	77.9	87.6	96.4	106	116	128	142	160
EER	(1)	BTU / (Wh)	10.1	9.76	9.57	9.34	9.36	9.62	9.53	9.32
IPLV	(1)	BTU / (Wh)	17.4	16.8	16.4	16.0	16.1	16.5	16.3	16.0
Heating Capacity	(2)	MBH	811	879	945	1,046	1,146	1,310	1,448	1,592
Total power input	(2)	kW	83.0	89.7	97.4	105.0	114	130	145	163
COP	(2)	kW / kW	2.87	2.87	2.84	2.91	2.96	2.95	2.92	2.86
Refrigeration circuits		Nr					2			
N° of compressors		Nr					4			
Type of compressors		-					SCROLL			
Refrigerant		-					R-32			
Standard power supply		V					460/3~/60			
Sound power level	(3)	dB(A)	90	91	91	91	91	92	93	93

(1) Data: User side heat exchanger water 54 °F / 44 °F; Outdoor Air 95 °F

(2) Data: User side heat exchanger water 110 °F / 120 °F; Outdoor air 47 °F d.b. / 43 °F w.b.

(3) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2

PRELIMINARY DATA

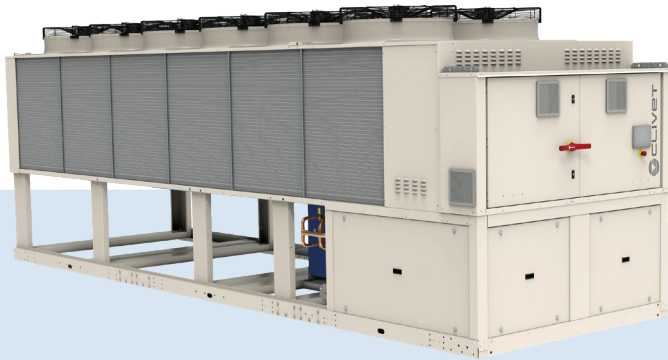
## Accessories

<b>CCCA</b>	Copper / aluminium condenser coil with acrylic lining
<b>CCCA1</b>	Condenser coil with Aluminium Energy Guard DCC treatment
<b>PFGP</b>	Soundproofing paneling of the pumping unit
<b>IVFDT</b>	Inverter driven variable flow-rate user side control depending on the temperature differential
<b>CSVX</b>	Couple of manually operated shut-off valves
<b>IFWX</b>	Steel mesh strainer on the water side
<b>CMSC9</b>	Serial communication module for Modbus supervisor
<b>CMSC11</b>	Serial communication module for BACnet-IP supervisor
<b>CMSC12</b>	Serial communication module for BACnet-MSTP supervisor
<b>RCMRX</b>	Remote control via microprocessor control
<b>RE-25</b>	Electrical panel antifreeze protection for min. outdoor temperature down to -25°C
<b>DML4-20</b>	Demand limit with 4-20 mA
<b>DML0-10</b>	Demand limit with 0-10 V
<b>ECS</b>	ECOSHARE function for the automatic management of a group of units

<b>SPC1</b>	Set-point compensation with 4-20 mA
<b>SCP4</b>	Set-point compensation with 0-10 V
<b>PSX</b>	Mains power supply
<b>AMMX</b>	Rubber antivibration mounts
<b>PGFC</b>	Finned coil protection grill
<b>PGCCH</b>	Anti-hail protection grilles
<b>1PM</b>	Hydropack user side with 1 on/off pump
<b>1PMV</b>	Hydropack user side with 1 inverter pump
<b>1PMH</b>	Hydropack user side with 1 high static pressure on/off pump
<b>1PMVH</b>	Hydropack user side with 1 high static pressure inverter pump
<b>1P1SB</b>	Hydropack user side with 1+1 on/off pump
<b>1P1SBV</b>	Hydropack user side with 1+1 inverter pump
<b>1PAPS</b>	Hydropack user side with 1+1 high static pressure on/off pump
<b>1PAPSV</b>	Hydropack user side with 1+1 high static pressure inverter pump

Accessories whose code ends with "X" are supplied separately

# SPINCHILLER<sup>4</sup> PL NA



## Polyvalent reversible heat pump

Air cooled

Outdoor installation

Capacity from 65.7 to 124 TON

**WSAN-YSC4 PL NA**

**90.4÷175.4**

- ✓ **Polyvalent Heat Pump Technology.** Capable of producing hot and cold water at the same time.
- ✓ **High Reliability Design.** Multiscroll technology optimizes performance with precise load adjustments, delivering consistent comfort and efficiency. EC axial fans offer superior airflow and energy efficiency. Two independent circuits provide redundancy and enhance reliability.
- ✓ **High Sustainability Ecological Refrigerant.** R32 with a Global Warming Potential of 675, reducing environmental impact.
- ✓ **Industry-Leading Efficiency.** High performance at full and partial load to adapt to the needs of the plant. Total Efficiency Ratio (TER) up to 7.6 for outstanding energy savings. IPLV (Integrated Part Load Value) up to 17.4, maximizing seasonal performance.
- ✓ **Ultra-Quiet Operation.** Our super-silenced version reduces noise levels, ensuring a quieter environment.
- ✓ **Smart Defrost Technology.** Our advanced defrost algorithm, reduces energy loss by 33% compared to traditional defrost. A special hydrophilic coil treatment shortens defrost cycles, ensuring performance and efficiency.
- ✓ **Optimized Modular Operation.** Cascade capability up to 7 units in a cascade setup.
- ✓ **Full Range of Accessories.** Comprehensive accessory options tailored for the North American market.

## Functions and Features



Heat pump



Air cooled



Outdoor installation



R-32



Hermetic scroll



Electronic expansion valve



ECOBREEZE

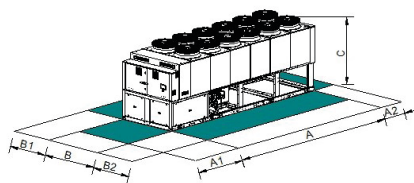


HydroPack



Chiller plant manager

## Dimensions and Clearances



Size	▶▶ WSAN-YSC4 PL NA	90.4	100.4	110.4	120.4	130.4	145.4	160.4	175.4
A - Length	in	164.4	164.4	164.4	164.4	164.4	202.8	202.8	202.8
B - Width	in	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6
C - Height	in	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
A1	in	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1
A2	in	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
B1	in	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2
B2	in	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2
Operating weight	lbs	6,631	6,830	6,920	7,410	7,919	8,217	8,488	8,933

The above mentioned data are referred to standard units for the constructive configurations indicated.

### CAUTION!

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

PRELIMINARY DATA

## Versions and Configurations

### SUPPLY VOLTAGE:

<b>4606H</b>	460/3/60 Supply voltage (Standard)
<b>5756H</b>	573/3/60 Supply voltage

### STRUCTURAL CONFIGURATION:

<b>4T</b>	Configuration for 4-pipe system
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### EXTERNAL SECTION FAN CONSUMPTION REDUCTION:

<b>CREFB</b>	Device for fan consumption reduction of the external section, ECOBREEZE type (Standard)
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### ACOUSTIC CONFIGURATION:

<b>SC</b>	Acoustic configuration with compressor soundproofing (Standard)
<b>EN</b>	Super-silenced acoustic configuration

## Technical Data

SIZE		▶▶ <b>WSAN-YSC4 PL NA</b>	<b>90.4</b>	<b>100.4</b>	<b>110.4</b>	<b>120.4</b>	<b>130.4</b>	<b>145.4</b>	<b>160.4</b>	<b>175.4</b>
<b>Cooling 100% - Heating 0%</b>										
Cooling Capacity	(1)	ton	65.7	71.2	76.8	82.4	90.4	103	113	124
Total power input	(1)	kW	77.9	87.6	96.4	106	116	128	142	160
EER	(1)	BTU / (Wh)	10.1	9.76	9.57	9.34	9.36	9.62	9.53	9.32
IPLV	(1)	BTU / (Wh)	17.4	16.8	16.4	16.0	16.1	16.5	16.3	16.0
<b>Cooling 0% - Heating 100%</b>										
Heating Capacity	(2)	MBH	813	880	946	1,047	1,147	1,312	1,450	1,594
Total power input	(2)	kW	80.8	87.3	95.0	103	110	127	141	159
COP	(2)	kW / kW	2.95	2.96	2.92	2.99	3.05	3.03	3.01	2.94
<b>Cooling 100% - Heating 100%</b>										
Cooling Capacity	(3)	ton	62.1	68.7	74.4	81.1	89.9	100	110	122
Heating Capacity	(3)	MBH	1,008	1,113	1,211	1,315	1,449	1,614	1,781	1,976
Total power input	(3)	kW	77.4	84.9	93.4	101	109	123	137	149
TER	(3)	kW / kW	6.63	6.69	6.60	6.66	6.81	6.70	6.62	6.76
Refrigeration circuits		Nr				2				
N° of compressors		Nr				4				
Type of compressors		-				SCROLL				
Refrigerant		-				R-32				
Standard power supply		V				460/3~/60				
Sound power level	(4)	dB(A)	90	91	91	91	91	92	93	93

(1) Data: User side heat exchanger water 54 °F / 44 °F; Outdoor Air 95 °F

(2) Data: User side heat exchanger water 110 °F / 120 °F; Outdoor air 47 °F d.b. / 43 °F w.b.

(3) Water hot side heat exchanger \*120°F; Water to cold side heat exchanger \*144 °F

(4) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2

PRELIMINARY DATA

## Accessories

<b>CCCA</b>	Copper / aluminium condenser coil with acrylic lining
<b>CCCA1</b>	Condenser coil with Aluminium Energy Guard DCC treatment
<b>PFGP</b>	Soundproofing paneling of the pumping unit
<b>IVFCDT</b>	Variable flow rate control cooling side by inverter according to the temperature differential
<b>IVFHDT</b>	Variable flow rate control heating side by inverter according to the temperature differential
<b>CSVX</b>	Couple of manually operated shut-off valves
<b>IFWX</b>	Steel mesh strainer on the water side
<b>CMSC9</b>	Serial communication module for Modbus supervisor
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<b>ECS</b>	ECOSHARE function for the automatic management of a group of units
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<b>PSX</b>	Mains power supply

<b>AMMX</b>	Rubber antivibration mounts
<b>PGFC</b>	Finned coil protection grill
<b>PGCCH</b>	Anti-hail protection grilles
<b>1PMCS</b>	Hydropack cold side with 1 on-off pump
<b>1PMCSH</b>	Hydropack cold side with 1 high static pressure on-off pump
<b>1+1PMCS</b>	Hydropack cold side with 1 + 1 on-off pump
<b>1+1PMCSH</b>	Hydropack cold side with 1 + 1 high static pressure on-off pump
<b>1PMCSV</b>	Hydropack cold side with 1 inverter pump
<b>1PMCSVH</b>	Hydropack cold side with 1 high static pressure inverter pump
<b>1+1PMCSV</b>	Hydropack cold side with 1 + 1 inverter pump
<b>1+1PMCSVH</b>	Hydropack cold side with 1 + 1 high static pressure inverter pump
<b>1PMHS</b>	Hydropack hot side with 1 on-off pump
<b>1PMHSH</b>	Hydropack hot side with 1 high static pressure on-off pump
<b>1+1PMHS</b>	Hydropack hot side with 1 + 1 on-off pump
<b>1+1PMHSH</b>	Hydropack hot side with 1 + 1 high static pressure on-off pump
<b>1PMHSV</b>	Hydropack hot side with 1 inverter pump
<b>1PMHSVH</b>	Hydropack hot side with 1 high static pressure inverter pump
<b>1+1PMHSV</b>	Hydropack hot side with 1 + 1 inverter pump
<b>1+1PMHSVH</b>	Hydropack hot side with 1 + 1 high static pressure inverter pump

Accessories whose code ends with \*X\* are supplied separately

# CHILLER PLANT MANAGER

Optimization system and modular heat pump supervisor



- ✓ **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.
- ✓ **Centralized management:** professional multi-site cloud platform for unified and simplified control allows the various systems to be monitored and managed from a single interface.

## System Manager

The CHILLER PLANT MANAGER 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. 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
- ✓ Integration with BMS/BAS through open protocols

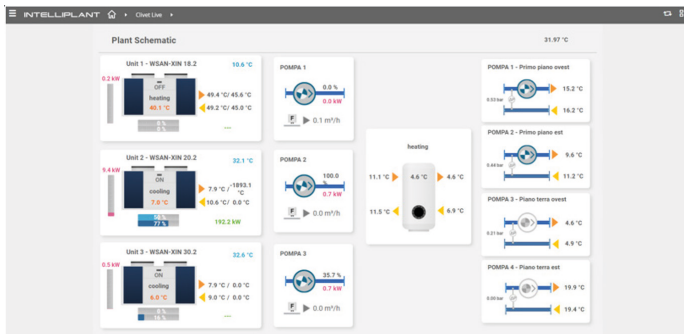
## System Type Management

SYSTEM TYPE	UNITS IN-BUILT CONTROL	CHILLER PLANT MANAGER
2 PIPES (no DHW)	✓	
2 PIPES + DHW		✓
4 PIPES (no DHW)		✓
2 PIPES (no DHW)		✓
2 PIPES + DHW		✓
4 PIPES (no DHW)		✓



## Graphic Interface

### Plant Schematic

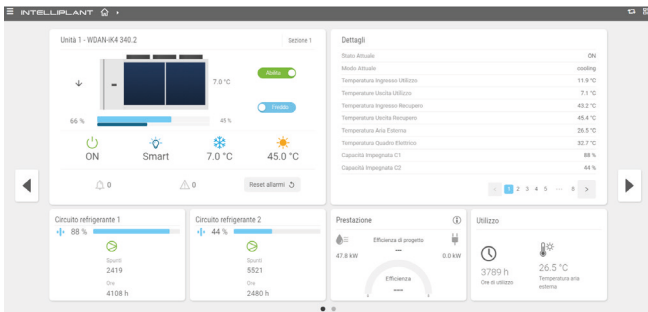


The page offers a customized graphic representation where each area can be checked:

- ✓ operation status;
- ✓ real-time values of key operating parameters such as temperature and humidity;
- ✓ presence of alarms that must be promptly reported to the system supervisor/manager.

The user can access detailed parameters specific to the area or individual units.

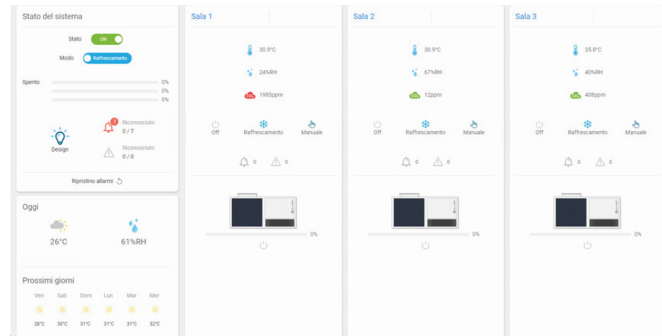
### Unit



The following basic information is displayed for each unit:

- ✓ graphical model of the unit with dynamic representation of the operating state;
- ✓ operating status of the unit and buttons for quick actions;
- ✓ details of component status (fans, compressors, etc.);
- ✓ list of parameters and their values in real time.

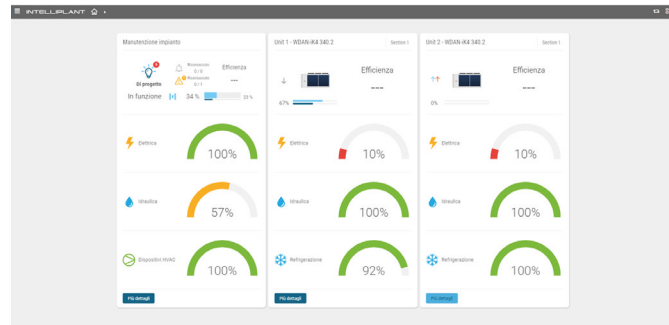
### Plant Dashboard



The main page of the system provides an overview with reports for all areas:

- ✓ system operational status and quick action buttons;
- ✓ percentage and mode of operation of individual units, broken down by areas;
- ✓ maintenance status resulting from the preventive analysis of each individual unit;
- ✓ priority and second-level alarms;
- ✓ current day's weather and forecast for the next 7 days.

### Predictive Maintenance



CHILLER PLANT MANAGER helps to develop the concept of maintenance from traditional "scheduled routine maintenance" to the more advanced idea of "condition based maintenance", i.e. maintenance customized per event according to its operational status, applicable to the most significant situations affecting refrigeration thermal unit components.



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