

NEW IDEAS FOR 2020



## CPS (Capsule)

New multi-purpose plug-and-play unit with various temperature levels

Cooling, multi-temperature heating and domestic hot water, all from a single high-efficiency unit for use in hotels and the residential, industrial and commercial sectors



CPS (CAPSULE)

# More simple. More compact. More ecological.

## The innovative solution for water systems with various temperature levels.

AERMEC presents CPS, the new solution that revolutionises the way of creating heating-cooling control units; the AERMEC CPS models are plug-and-play units that combine the efficiency of a multi-purpose unit with the performance of extra high temperature heat pumps, all in one single machine.

Optimum use of renewable energy in all applications



### NZEB: the ecological evolution of the building industry starts here

With CPS, all the services of the building can be served via a heat pump, using high percentages of renewable energy both for air conditioning and for domestic hot water, making it the perfect answer for the increasingly strict requisites of the new NZEB buildings.

Simple, compact design



### A revolution in the use in the domestic sector

The single platform with two units offering extremely high technological and performance quality, linked hydraulically and equipped with optimised adjustment for system management, drastically reduces the system design and installation times and the overall space required.

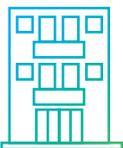
Energy efficiency and cost effectiveness



### Huge savings, even without a photovoltaic system

The free-heating of the multi-purpose unit, and the high efficiency of the machines used, makes this the ideal solution in terms of energy consumption and cost effectiveness, both for new systems and the requalification of existing ones.

## APPLICATIONS



Hotels



Shopping centres



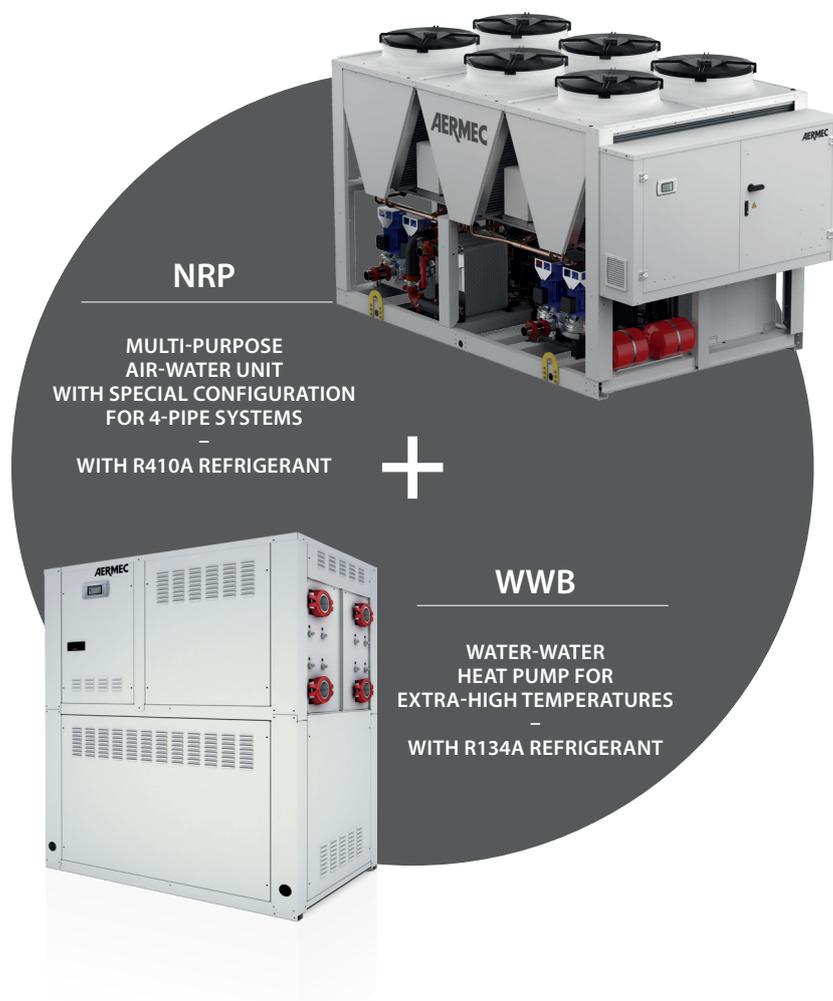
Multi-purpose centres

The AERMEC CPS units are ideal in applications calling for the **simultaneous availability of cooling energy and thermal energy**, especially when the heat needs to be at **various temperature levels**. This means they're ideal for hotels and accommodation facilities, shopping centres, multi-purpose buildings and, in certain cases, industrial and process applications.

CPS (CAPSULE)

# NRP and WWB: a high-performance combination

The efficiency of the new AERMEC NRP air-water multi-purpose unit with V-block structure takes **full advantage of free-heating** for the simultaneous production of hot and cold air; **thanks to the raising of the temperature by the second AERMEC WWB booster heat pump**, part of the heat from the unit can be used at the same time to produce domestic hot water by means of free-heating, especially in the summer months.



## COMPONENTS

### NRP 4-pipe version

Multi-purpose air-water unit for several services, ideal for systems with 4-pipe distribution:

- SCROLL COMPRESSORS
- R410A REFRIGERANT
- PLATE HEAT EXCHANGERS
- THREE SERVICE CIRCUITS SUPPLIED:  
MEDIUM-TEMPERATURE HOT WATER,  
HIGH-TEMPERATURE HOT WATER,  
CHILLED WATER

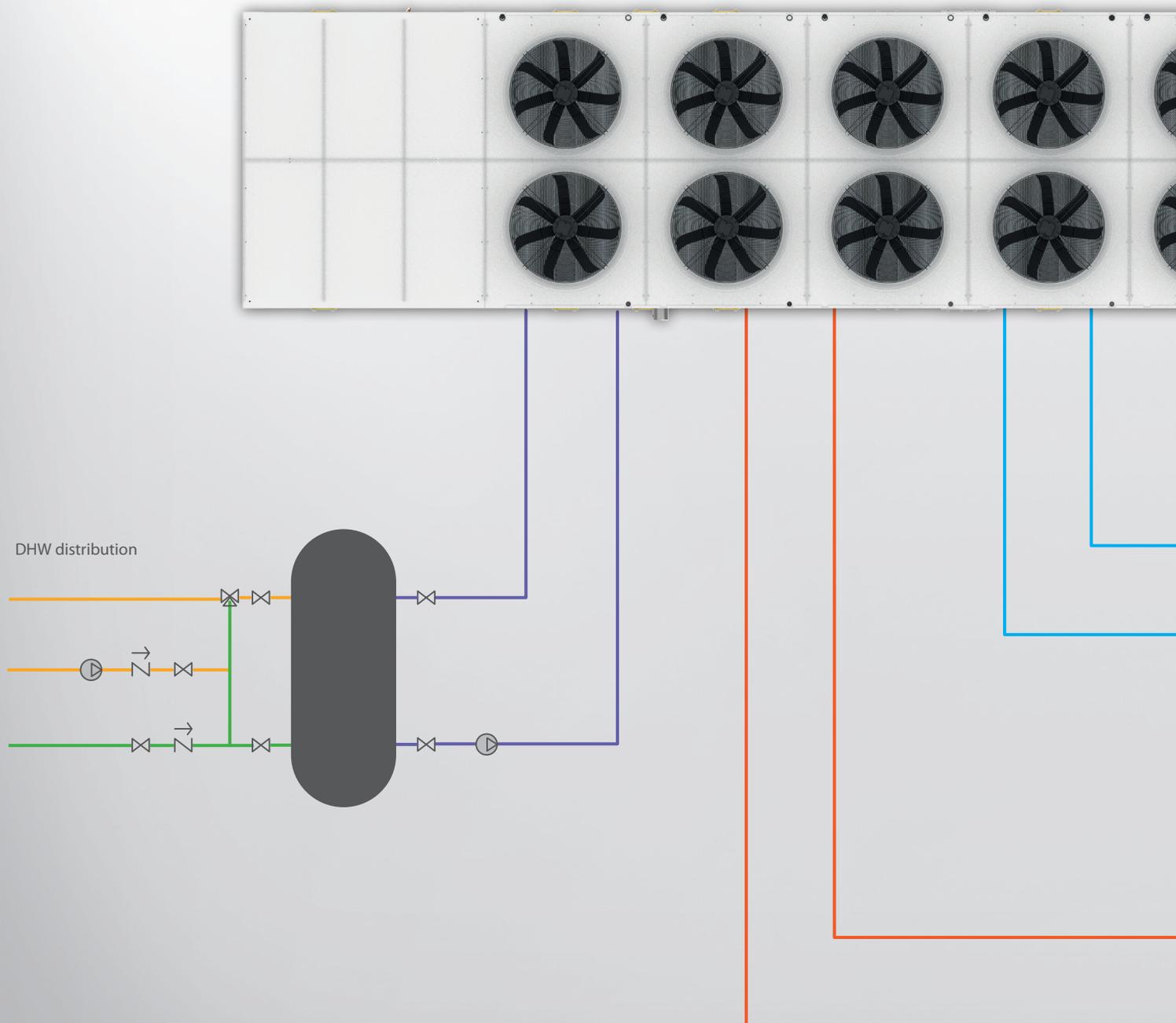
### WWB

Heat pump in water-water heating only, for high processed water temperature:

- 2 COOLING CIRCUITS
- OPTIMISED SCROLL COMPRESSORS
- R134A REFRIGERANT
- PLATE HEAT EXCHANGERS
- SLIDING ELECTRICAL PANEL WITH SIDE OPENING
- MAX. PROCESSED WATER TEMPERATURE 80°C

CPS (CAPSULE)

# The innovation of AERMEC CPS: efficiency, practicality and wide operating limits



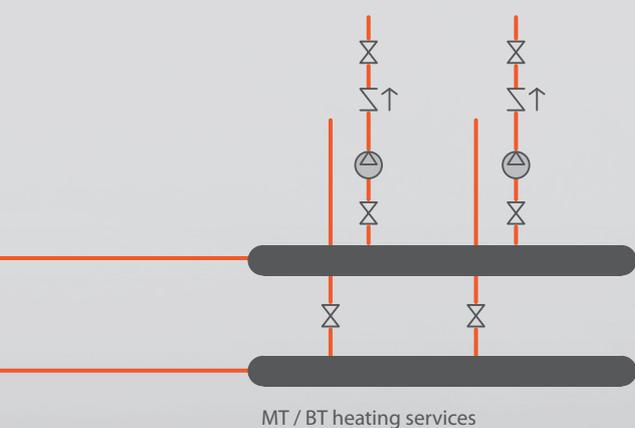
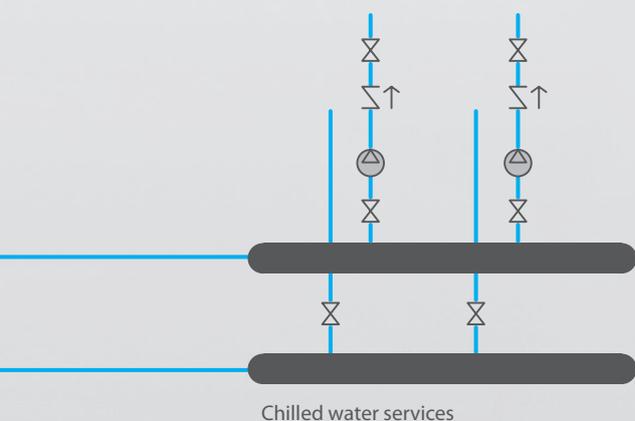
The CPS solution makes it easy to design and install the most advanced systems, reducing the overall dimensions, extending the operating limits and increasing average seasonal efficiency.

# 73°

Processed water up to 73°C



Electrical panel



## ALL THE ADVANTAGES OF THE CAPSULE SYSTEM

- 1** **SIMPLE DESIGN**  
 The two units are linked hydraulically and the system has a specific adjustment function for managing the interaction between the units in all system operating conditions.
- 2** **SIMPLE INSTALLATION**  
 The two units, the connections and all the components are on a single platform, reducing the overall dimensions and ensuring easy connection of the service circuits for a plug-and-play system.
- 3** **MAXIMUM EFFICIENCY AND USE OF RENEWABLE ENERGY**  
 Possibility of thermal/chilled energy recovery on the multi-purpose unit, and use of the heat recovered in summer for the booster.
- 4** **WIDE OPERATING LIMITS:**  
 Possibility to produce water up to 73°C, using mainly free-heating for cooling requests.



## Range

### CPS 0704 NRP0700+WWB0350

Frame: 2 V-blocks

Inertial storage tank:500 lt  
(WWB condenser ring)

H x L x P = 2450 x 3975 x 2200 mm (preliminary)



### CPS 1004 NRP1004 + WWB0700

Frame: 3 V-blocks

Inertial storage tank:800 lt  
(WWB condenser ring)

H x L x P = 2450 x 5165 x 2200 mm



### CPS 1805 NRP1805 + WWB0900

Frame: 5 V-blocks

Inertial storage tank:800 lt  
(WWB condenser ring)

H x L x P = 2450 x 7550 x 2200 mm



## Parts

### Hydraulic components

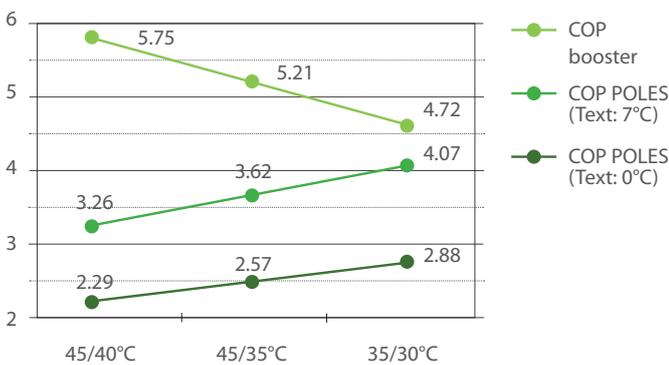
Pumping assemblies in line, with single or twin pump (pump + reserve) on the average temperature (cooling/heating) heat exchangers, a booster evaporator with its own pump and mixer valve for controlling the working conditions, variable speed pump and technical stabiliser storage tank on the condenser side of the booster, intermediate DHW heat exchanger with examinable plates.

### Regulation

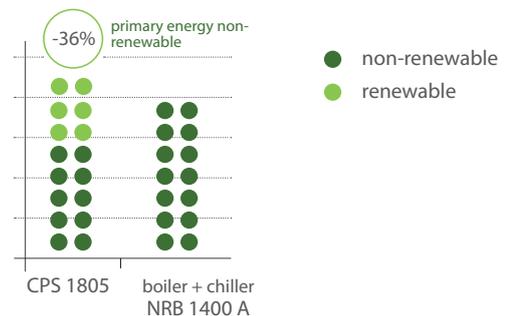
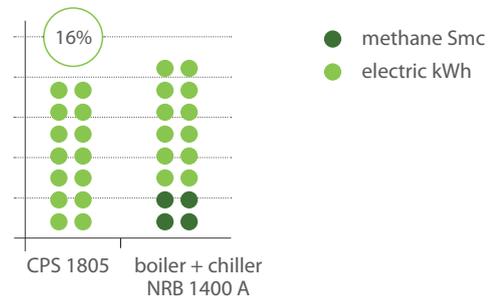
Multi-purpose unit and booster (each fitted with its own processor for managing the individual functions), connected via Modbus and equipped with a service interface in the panel, touchscreen C service interface panel.

## Analysis of the savings

**AERMEC CPS can be used with 4-pipe fan coils with a single boosted coil and VCFX4 valve for supply in heating mode with low-temperature water**



### Savings on annual energy costs (even without a photovoltaic system or other incentive factors)







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