



3WP

New 3-pipe hydronic system

A range of components for the creation of innovative hydronic 3-pipe systems for the air conditioning of spaces that are heated and cooled all year round



3WP

The 3-pipe air conditioning revolution

Aermec presents its new 3WP system, the new solution for hydronic plants with multiple temperature levels which is **revolutionising the way in which thermal and cooling energy are distributed**; the specific configuration of the 3WP multi-purpose unit enables it to serve the different plant services, with dedicated outlets at optimised temperatures; in particular, for the circuit dedicated to terminals in rooms, a series of special three-pipe connections are available, facilitating more **compact and economical distribution**, serving the special AERMEC 3WP terminals, equipped with an optimised coil for low water flow rate operation and a dual two-way valve.

-30%

installation costs of the distribution system compared to a traditional 4-pipe system



Robustness, durability, flexibility and efficiency


Energy efficiency and renewable energy



High efficiency thanks to heat recovery and the use of renewable energy

The AERMEC 3WP system enables high energy efficiency levels to be achieved, courtesy of the heat recovery of the multi-purpose unit and the fact that a high percentage of the thermal energy consumption requirements are met by aerothermal renewable energy.

Significant cost reductions compared to traditional 4-pipe hydronic systems



Innovative hydronic 3-pipe distribution

The innovative configuration of the multi-purpose unit and the use of terminals that are optimised for operation at low heating temperatures and low water flow rates enables the creation of extremely compact and economical hydronic systems.

APPLICATIONS

The future of energy efficiency

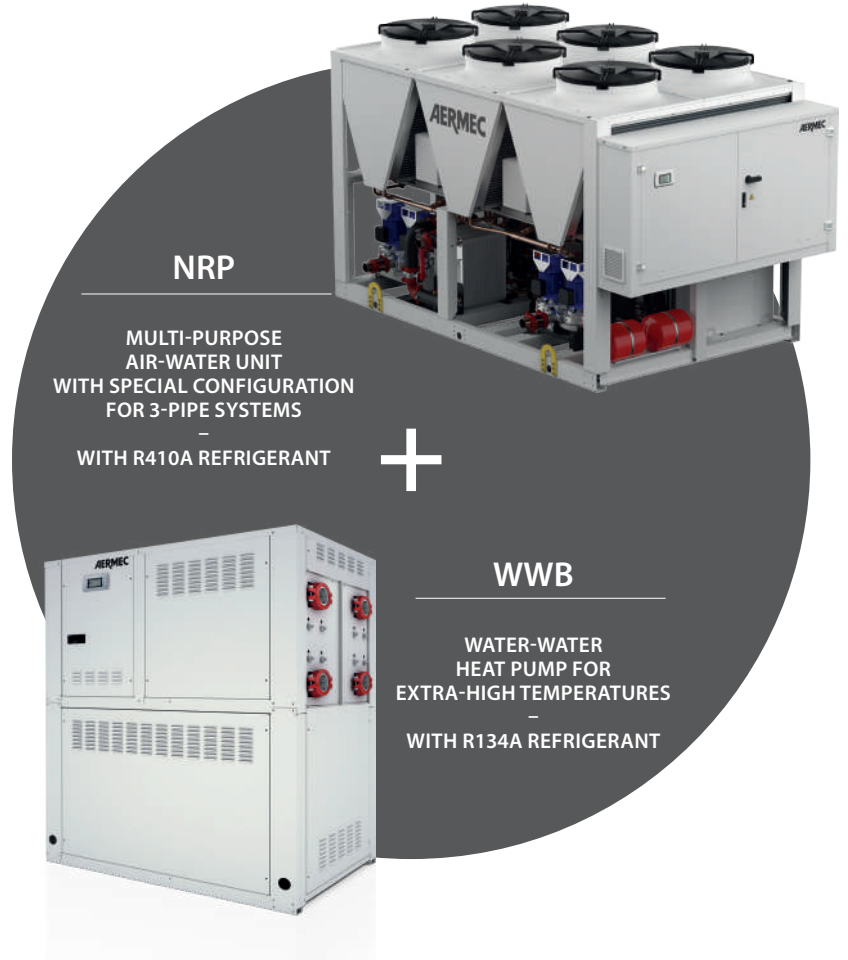
The construction sector is moving towards almost zero energy buildings, with increasingly strict regulations designed to foster reductions in consumption and the use of renewable energy sources; increasingly high levels of comfort are expected, and the larger amounts of insulation used means that new buildings must have both heating and cooling systems in individual rooms, with demand that varies according to the time of day.



3WP

NRP with 3WP and WWB configurations: a high-performance combination

The special configuration of the multi-purpose unit also includes a medium-temperature water outlet which is not connected to the three-pipe distribution system, and is thus dedicated to other heating services such as AHU coils and the domestic hot water production system. The AERMEC water-water heat pump from the WWB range is the optimal solution for the production of high-temperature hot water for hygienic-sanitary applications; designed to be connected on the evaporator side to the multi-purpose unit, it enables the outlet water temperature to be increased to up to 80°C, and can meet the full range of possible requirements.



COMPONENTS

NRP 3WP version

Multi-purpose air-water unit for multiple services, ideal for systems with 3-pipe distribution on the terminals:

- SCROLL COMPRESSORS
- R410A REFRIGERANT
- PLATE HEAT EXCHANGERS
- THREE SERVICE CIRCUITS SUPPLIED: HOT WATER (AHU AND DHW), CHILLED WATER (AHU) AND 3-PIPE TERMINALS (HEATING AND COOLING OF ROOMS)

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

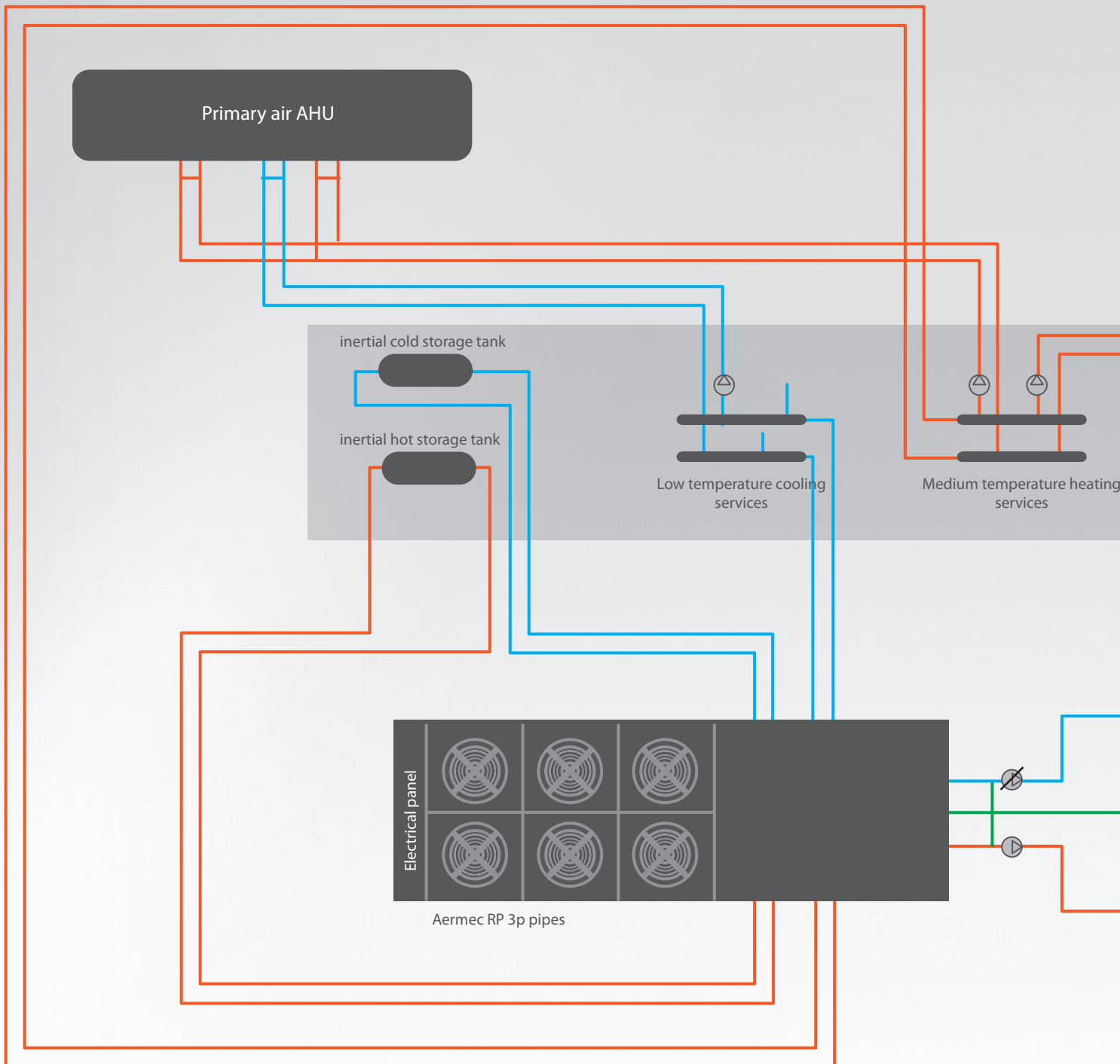
FC3WP terminals in 3WP version

Ventilated room terminals with specially-designed heat exchangers and two-way valve kit for use in 3-pipe systems:

- HEAT EXCHANGERS OPTIMISED FOR LOW WATER FLOW RATES
- INVERTER FANS
- VERY QUIET OPERATION
- HIGH LEVELS OF COMFORT
- LOW ELECTRICAL POWER CONSUMPTION

3WP

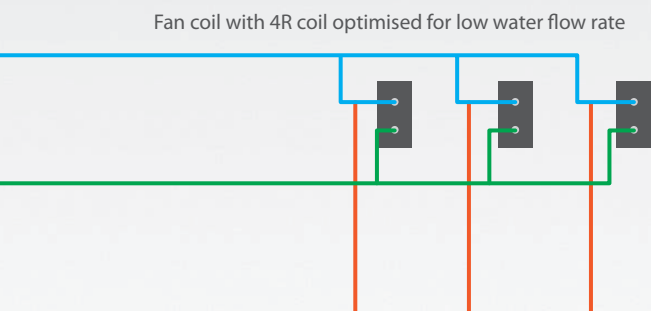
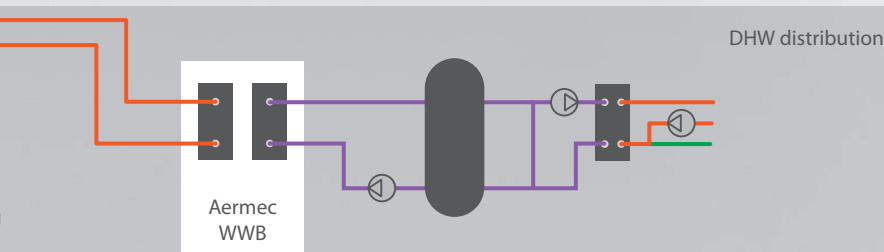
Saving has never been so sustainable.



The specific design of the NRP multi-purpose unit in 3WP configuration for three-pipe systems and the use of special terminals in rooms which are suitable for operation with low water temperatures and low flow rates enables the creation of annual cycle hydronic systems with **cooling and heating, which are always available for the rooms in which they are used, with a much lighter and more economical distribution.**

The reduction in water flow rates and in the temperature of the hot water provided makes it possible to minimise the effect of mixing on the return pipe, whilst simultaneously allowing for a **considerable reduction in pumping costs.**

The result is a system with the performance of a 4-pipe system, but with a significant **reduction in weight, footprint and above all piping costs.**



ALL THE BENEFITS OF THE 3WP SYSTEM

- 1 Reduction in initial costs and the space occupied by the piping
- 2 Highly reliable, flexible and efficient hydronic system
- 3 Savings on pumping costs
- 4 Multi-purpose plug and play for multiple services
- 5 Potential for re-investment of initial savings in further energy efficiency measures
- 6 Potential for connection and management of additional heat pumps



Range

NRP with 3WP configuration

- cooling capacity
from 43 kW to 960 kW
- heating capacity
from 46 kW to 987 kW



3-pipe NRP

Terminals for FC3WP 3-pipe systems

- total cooling capacity
from 1.1 kW to 7.5 kW
- heating capacity
from 0.8 kW to 4.9 kW



FCZ

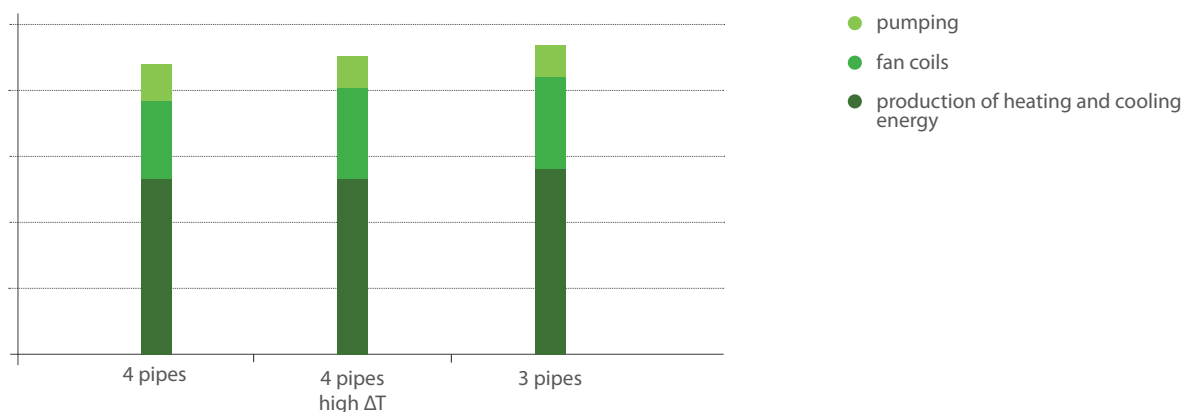
Analysis of the savings

Immediate economic benefits

-30%
on piping costs compared to a traditional
4-pipe system

-16%
on piping costs compared to a 4-pipe
high ΔT system

Energy performance equivalent to a conventional system







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