

5. Cooling system



COOLING

By cooling we mean transformation of the floor of each space into an immense cool surface. This is achieved by distributing cold water through underfloor heating pipes.

The floor cooling system maximises comfort levels by uniformly absorbing heat from all directions.

Advantages

A comfortable, healthy environment.

Uniform room temperature, sense of pleasant coolness.

Great energy-savings.

Higher operating temperatures, reduced losses, freedom from draughts.

Lower initial construction costs

By using existing pipes and subdimensioning the cooling machine (chiller) we exploit the great inertia and heat capacity of the system.

Complete freedom of arrangement of spaces

There are no limitations whatsoever to space.

Clean spaces

Thanks to the low temperatures and lack of draughts there is no blackening of walls as is the case with air conditioning units.



Floor cooling basic characteristics

Water temperature: supply 18 °C and return 23 °C.

Floor temperature 20 °C.

Average capacity per sq. metre 35-50 Watts.

Average pipe length per sq. metre 7-9 metres.

Activation of cold water operation according to demand.

Deactivation of cooling operation when the outdoor temperature falls below 26 °C.

Minimum temperature threshold for supply or return (optional).



Air-Water Heat Pumps

The pumps operate smoothly all year round providing hot or cold water according to the season (winter-summer).

Specially designed for use in underfloor heating and cooling systems guaranteeing maximum performance (COP 3.4 – 3.6) with the lowest power consumption.

Available in 4 sizes with a capacity of 6 to 13 Kw, they can cover all the installations, since two heat pumps can operate simultaneously when the areas to be covered are extensive (e.g. 8 Kw x 2 = 16 Kw capacity).



Energy Controller

This is a complete system that manages underfloor heating and cooling, enabling the use of a combination of different energy sources.



Fan Coils

These units strengthen the floor cooling system and absorb the relative humidity of the space. They combine elegant design, high performance (from 1.4 Kw-11 Kw) and noise-free operation.

Available in a large range (Floor, Wall, Ceiling, Covered) they cover all applications and installation requirements for office buildings and domestic use.