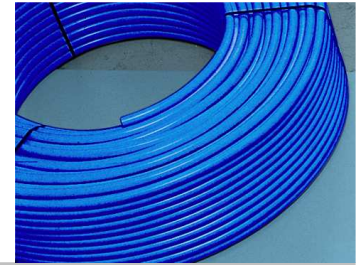


JUPITER



Controls

Heating and cooling

With building design incorporating ever more insulation there is an increasing need for cooling. Air conditioning systems are expensive and produce poor air quality. It makes sense to use the underfloor heating pipe work infrastructure for cooling as well as heating. With the lightweight JUPITER IDEAL panels it is possible to not only install a cooling system within the floor but also on walls and ceilings.

Using the underfloor pipe work for heating as well as cooling with a sophisticated control systems means that a constant temperature can be maintained all year round. Internal temperature and humidity sensors as well as external temperature sensors ensure that the switch between heating and cooling is automatic and un-noticed by the occupants. The humidity control sensor eliminates any surface condensate formation.

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Just as underfloor heating requires a boiler or ground source heat pump (GSHP), underfloor cooling requires a water chilling equipment. A GSHP can be used for both heating and cooling.

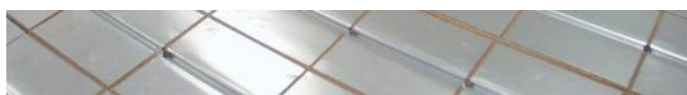


Installation

The climate control regulator is installed near the heat / cooling source. Connections are made from the climate regulator to the external sensor as well as the humidity sensor located internally via a sophisticated electrical junction box.

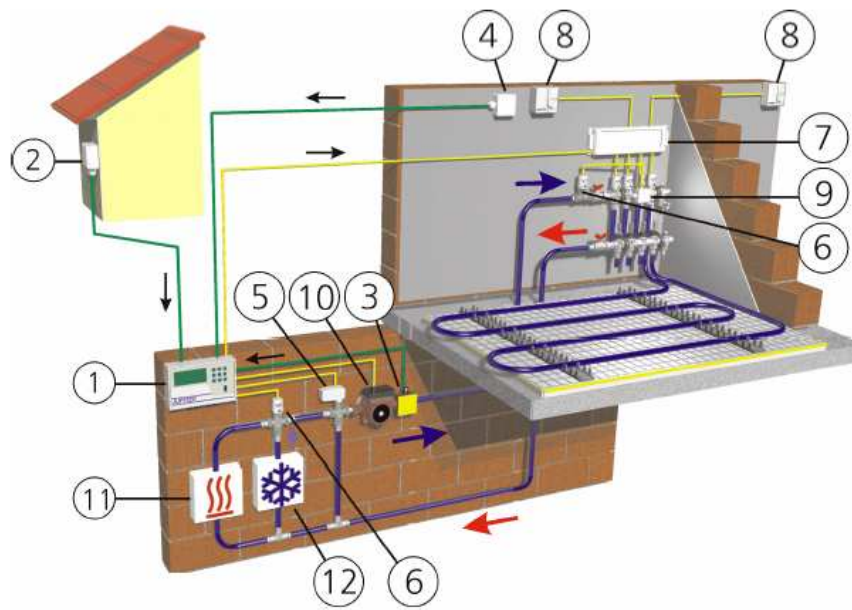
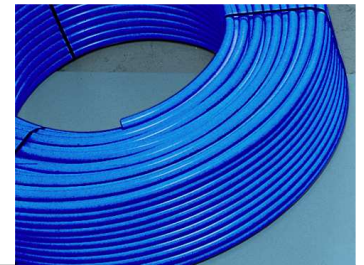
Advantages

- One system for heating and cooling
- Greater comfort than AC
- Silent
- Lower installation and running costs



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"...no need to screed"™



Key

- 1 Climate regulator
- 2 External temperature sensor
- 3 Water flow temperature sensor
- 4 Internal humidity sensor
- 5 Three way valve actuator
- 6 Three way valve actuator
- 7 Wiring centre - Heating and cooling
- 8 Room Thermostat
- 9 Dew point monitor
- 10 Circulation pump
- 11 Warm water source
- 12 Cool water source

Function

The switch between heating and cooling is automated via the central climate control regulator (1) which is connected to the external temperature sensor (2), the water flow temperature sensor (3) as well as the internal humidity sensor (4). The accumulation of data from the various sensors result in the water flow temperature being adjusted by the actuator on the three way valve (5). The dew point is continuously monitored and the water flow temperature is raised automatically to avoid the formation of surface condensate. The controlled three way valve (6) link the climate control regulator with the heat source (11) and cool source (12).