

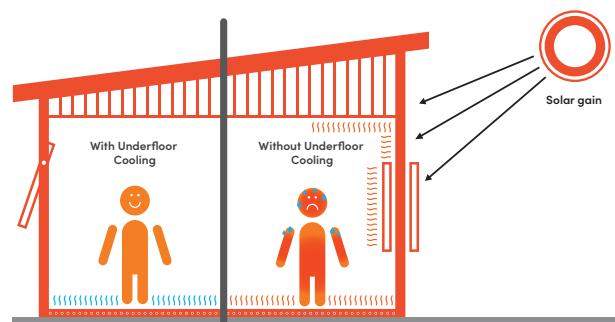
# Underfloor Radiant Cooling

## Latest cooling technology

Central Heating New Zealand have been at the forefront of warmth comfort for 18 years. We are now pleased to offer radiant cooling to new houses planning to have underfloor hydronic warm water central heating.

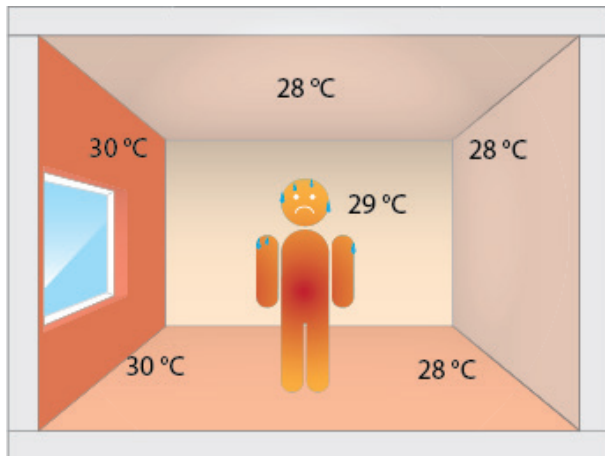
This is a recent concept from Europe that we have developed locally over the past 4 years and are confident of the effectiveness in Kiwi homes. It's not air conditioning, but a more comfortable cooling sensory relief – more comfortable to the human body than cooling the air.

Using the same Air-to-Water heat pump for warming the floor slab in winter, but in reverse cycle chilling mode, it cools the floor slab down. This cooler floor slab absorbs heat from the structure of the home that it gathers during the day. The radiant temperature of a home is the average of the surfaces of the walls, floor and ceiling. We can bring the radiant temperature in a home down in summer by cooling the surfaces. There is little change in the air temperature but the feeling to the body is relief from the heat.

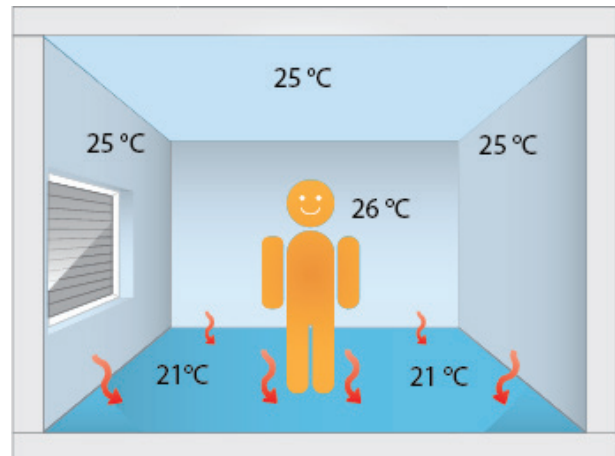


— Underfloor cooling combats homes that are too warm

- Radiant floor cooling makes a more comfortable environment
- Suitable for all floor types
- Cooling relief during the summer season
- One hydronic system doing both heating and cooling
- No blown chilly air
- No noise



— Home without cooling (body overheats)



— Home with underfloor cooling (body comfortable)

On sticky, hot days and nights, the ambient temperature inside the home only lowers a few degrees from the underfloor cooling, but the body feels comfortably cool due to heat flowing from the body to the cooler floor. This is radiant cooling and is particularly effective in bedrooms at night and conveniently quiet.

There are some limitations to the effectiveness in houses with excessive solar gain through windows and areas of high humidity (in New Zealand), but the systems will work to most peoples satisfaction in many areas of New Zealand, and exceed expectation in most homes.

The cooler water pumped around the floor slab is automatically adjusted in temperature to suit the humidity by a controller specifically designed for radiant heating and cooling.

### Why this is revolutionary

- Best of both worlds from one system
  - superior heating, comfortable cooling
- Less effect from open windows and doors
  - suits Kiwi lifestyles
- No drafts/blown air/dust
- Completely quiet
- Low capital cost add on to a warm water underfloor system
- Very reasonable running costs