

In Germany, accelerating thermal renovation in multi-family housing with factory-assembled heat pump modules

Daikin has developed a new concept that enables the quick and easy deployment of heat pumps in new or renovated multi-family houses, while ensuring high standards of quality. This article highlights an installation in Germany.

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The Energy Module concept

A factory-assembled module, similar in shape to a container, integrates all the components required to supply space heating and domestic hot water to an entire apartment building (heat pump, hydraulic networks, hydraulic separator and boiler room accessories).

The rectangular steel module, which can be customised to meet customer requirements (with wooden or green wall), houses the heat pumps in the number and capacity needed to supply

heating and DHW to an entire residential building.

The unit is pre-assembled, with pipes pre-connected (plug and play system) at the factory so that it arrives on site as a single unit. A single module can contain up to eight Daikin Altherma 3 H HT heat pumps delivering a heating capacity ranging from 26 to 102 kW, allowing up to 40 residential units to be connected. These modules offer professional customers increased productivity and more peace of mind.

Installations in record time

An example of an installation in Germany is presented below. In Maintal, one energy module was installed to supply 9 existing multi-family houses, consisting of 210 residential units. One of the main advantages of these modules is their quick installation.

The installation process is simple:

1. Industrial prefabrication of an energy module and quality assurance through industrial standards
2. Preliminary work on-site, including communication with local authorities (permit, road closure, etc.), getting an assessment from an acoustics consultant, and providing information to the energy supplier. The energy module's foundations are set in place, along with the necessary connection lines. (e.g. connection duct between energy module and building foundation)
3. Quick and easy installation of the energy module
4. Connection of the module to the building services.

Modularity offers other advantages

- Security : the module is fully enclosed to prevent any external access.
- Space saving: Less space needed in the building.
- Customisable: Exterior design can match the colours, materials, and roof shape of the building.
- Easy replacement : When it comes to end of life, no interior work is required. ●



General overview and deployment of the Energy Module at Maintal. © Daikin.