



Licensing opportunity

Hybrid thermal apparatus

Field of use

Heating and cooling systems

Current state of technology

Prototype under development

Intellectual Property

Patent pending

Publication

Developed by

University of Ljubljana, Faculty of
Mechanical Engineering

Reference

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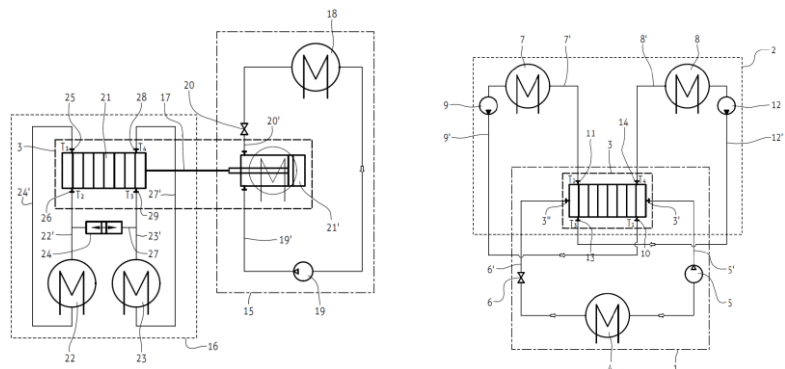
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Background

Most refrigerating systems and heat pumps are based on vapour-compression cooling technology. The technology dates back to 1834, making it a dated and environmentally unfriendly technology with low efficiency. There are alternatives which, however, for various reasons have not yet made a breakthrough in everyday use. One of the alternatives is elastocaloric cooling and heating, which has been recognised by the USA and EU as the most perspective technology of the future in this field.

Description of the Invention

The invention presents a hybrid cooling and heating system. It is based on the idea of exploiting the pressure difference of the vapour-compressor system for loading and unloading of elastocaloric material – hybrid system.

Main Advantages

Introduction of the hybrid system promises higher efficiency, enables low-power operation of the vapour-compression cooling system and consequently reduced consumption of energy and refrigerants which are not environmentally friendly. Furthermore, the hybrid system enables gradual introduction of the alternative “green” technology of the elastocaloric cooling and heating.



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