Title (en)

METHOD FOR INCREASING THE COEFFICIENT OF PERFORMANCE OF HYBRID REFRIGERATION MACHINES OR HEAT PUMPS

Publication

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Application

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Priority

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Abstract (en)

[origin: EP0248296A2] The method according to the invention is proposed for the operating of compression-absorption heat pumps or refrigeration machines (of hybrid heat pumps and refrigeration machines), using a working medium consisting of two media of different volatility but which dissolve well one in the other. In the method, when heat is extracted during a first heat exchange operation, on the one hand the vapour of the more volatile component (component with lower boiling point) is dissolved in the liquid of the less volatile component (component with higher boiling point) (absorption), on the other hand the vapour of the less volatile component is condensed (condensation), then, after expansion of the working medium, when heat is supplied during a second heat exchange operation, on the one hand the more volatile component is at least partially driven out of the solution (degassing), on the other hand the less volatile component is at least partially evaporated (evaporation), after which the working medium is compressed. <??>The novelty of the method according to the invention is that the working medium is derived from the first heat exchange operation as a mixture of two different phases (liquid and vapour) of different concentration. <??>The heat pump or refrigeration machine suitable for realising the method according to the invention includes, in series connection in the direction of flow of the working medium, a condenser-absorber (1), a liquid-cooling inner heat exchanger (5), a pressure reducer (2), an evaporator-degasser (3) and a pressure increaser (compressor) (4), the output of the latter being connected to the input of the condenser-absorber (1). <??>The novelty of the device is that a vapour-cooling inner heat exchanger (6) is interposed between the condenser-absorber (1) and the liquid-cooling inner heat exchanger (5). <IMAGE>

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Cited by

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