

Title (en)
SPACE COOLING AND HEATING AND HOT WATER SUPPLYING APPARATUS

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Application
EP 84109370 A 19840807

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Abstract (en)
[origin: EP0134015A2] A space cooling and heating and hot water supplying apparatus comprising a compressor (1), a first indoor heat exchanger (3) for hot water supply connected at one end thereof to the compressor at its discharge side via a conduit (1a), a second indoor heat exchanger for space cooling and heating (6) and an outdoor heat exchanger (7) each switchingly connected at one end thereof via a four-way valve (2) to an opposite end of the first indoor heat exchanger and a suction side of the compressor via conduits (7a, 1b, 4a, 6a), and an expansion valve (8) connecting together opposite ends of the second indoor heat exchanger and outdoor heat exchanger via conduits (6b, 7b). The apparatus further includes a first on-off valve (11a) and a second on-off valve (11b) operating in reverse actions connected at one end thereof to inlet and outlet ports of a refrigerant tank (10) for regulating the amount of a sealed-in refrigerant and at an opposite end thereof to the lower pressure conduit (7b) and the higher pressure conduit (6b), respectively, connected together by the expansion valve located at their boundary. In a space heating mode, the refrigerant tank is brought into communication with the lower pressure conduit when space heating and hot water supply are both needed, and when only the hot water supply is needed, and in a space cooling mode, the refrigerant tank is brought into communication with the lower pressure conduit when space cooling and hot water supply are both needed and when only the hot water supply is needed, and the refrigerant tank is brought into communication with the higher pressure conduit when only the space cooling is needed.

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Cited by
EP3587954A1; EP0952411A1; AU2014406800B2; EP1467158A3; US4685307A; FR2949527A1; CN110762887A; CN114562829A; EP1312877A3; EP2360442A4; EP2378210A1; EP2629023A1; FR2986860A1; FR3083297A1; FR2589560A1; FR2950678A1; EP2312227A1; US8839636B2; US10317118B2; US9383126B2; US10935260B2; US11506430B2; WO0155647A1; WO2013142760A1; WO2018086418A1; US10866002B2; US11435095B2; US10871314B2; US11448430B2; EP3376121A1; EP3196558A1; WO9858214A1; EP3196559A1; US10345004B1; US10753661B2; US11480372B2; US11592215B2; US11927377B2; US11953239B2

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