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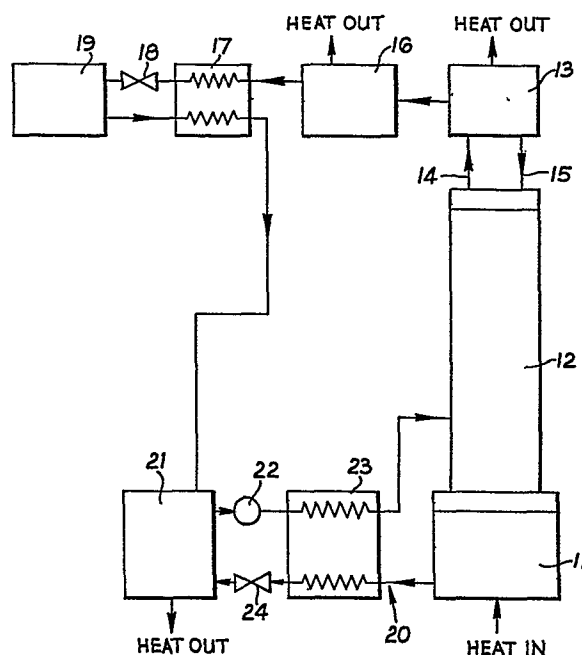
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54 **An absorption cycle heat pump.**

57 An absorption cycle heat pump includes a generator (11) which contains a refrigerant and a solvent for the refrigerant and to which, in use, an external source of heat is applied to raise the temperature thereof such that a vapour rich in the refrigerant is expelled from the generator (11). A condenser (13, 16) is connected to the generator (11) so as to receive and condense the vapour expelled from the generator (11) in use, and an evaporator (19) is connected to the condenser (13, 16) through a heat exchanger (17) and valve means (18) so as to re-evaporate the condensed vapour into the evaporator (19). An absorber (21) is connected through the heat exchanger (17) to the evaporator (19), the absorber (21) and the generator (11) forming part of a series circuit (20) through which, in use, a liquid rich in the solvent flows from the generator (11) to the absorber (21) for recombination with the fluid from the evaporator (19). A pump in the series circuit (20) returns the recombined refrigerant and solvent from the absorber (21) to the generator (11).

In order to ensure maximum thermodynamic efficiency when operating as a heat emitting device, the heat pump is arranged so that the normal boiling points difference of the solvent and the refrigerant is less than or equal to 200°C and so that:-

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a) evaporation of the condensed vapour into the evaporator is incomplete and the fluid leaving the evaporator (19) contains 5 to 30% by mass of liquid, and

b) the refrigerant liquid in the fluid flowing from the evaporator (19) is evaporated in the heat exchanger (17) so that the fluid leaving the heat exchanger (17) is at between a maximum superheat of 2°C and a flash ratio of 2%.



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A	US-A-3 817 050 (ALEXANDER) *Column 2, line 3 - column 4, line 23; figure 1*	1-3,7	F 25 D 29/00
A	EP-A-0 003 293 (STIEBEL ELTRON) *Page 4, line 19 - page 18, line 5; figures 1,2* & US - A - 4 314 668	1,7	
A	DE-A-2 801 529 (SCHAFER) *Page 3, line 1 - page 5, line 11; page 6, line 18 - page 9, line 35; figures 1,2*	1-3,7	
A	EP-A-0 001 858 (NEDERLANDSE GASUNIE) *Page 5, line 31 - page 11, line 14; drawing*	1-3,7	
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
			F 24 J F 25 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 18-06-1982	Examiner WEIS E.V.H
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	