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(71) Applicant (for all designated States except US): INTEROTEX E.E.I.G. (GB/GB); Rivermill House, 152 Grosvenor Road, London SW1V 3JL (GB).		
(72) Inventors; and (75) Inventors/Applicants (for US only): WINNINGTON, Terence, Leslie (GB/GB); Hillside House, Jacobs Knoll, Burleigh, Stroud, Gloucestershire GL5 2PR (GB). GREEN, Richard, John (GB/GB); The Shieling, 1 Court Orchard, Working Lane, Gretton, Cheltenham GL54 5YU (GB). LORTON, Robert (GB/GB); 37 Hayward Road, Charlton Kings, Cheltenham GL52 6RQ (GB). USELTON, Robert, Brownlee (US/US); 14700 Marsh Lane #126, Addison, TX 75234 (US).		
(74) Agents: NEWELL, William, Joseph et al.; Wynne-Jones, Laine & James, 22 Rodney Road, Cheltenham, Gloucestershire GL50 1JJ (GB).		

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(54) Title: **HEAT PUMPS**

(57) Abstract

A rotary heat pump (10) comprises a vapour generator (20), a condenser (24/34), an evaporator (42) and an absorber (40) interconnected to provide cyclic fluid flow paths for a volatile fluid component and an absorbent fluid therefor. To allow operation of the pump close to the crystallisation boundary the pump includes crystallisation control means which cause the temperature of the fluid in the region prone to crystallisation to be raised when the onset of crystallisation is detected. For example the pressure increase upstream of a crystallisation site may cause warm fluid to be diverted directly or indirectly to increase the fluid temperature at the crystallisation site. The specification also describes features for controlling the absorbent mixture flow rate; for controlling the concentration thereof; for damping a scoop pump; for assuring flow onto the generator face; for pressure relief and extended operation of the pump; to novel heat exchangers; to metal compositions for the heat pump, and to hydrogen getters for use in heat pumps.

