

Title (en)  
HYDRATION AND FREEZING PLANT FOR FLEXIBLE REFRIGERANT MEDIA

Title (de)  
WÄSSERUNGS- UND GEFRIERANLAGE FÜR BIEGSAME KÄLTETRÄGER

Title (fr)  
INSTALLATION D'HYDRATATION ET DE CONGELATION POUR SUPPORTS DE REFRIGERANT SOUPLES

Publication  
**EP 1009960 A1 20000621 (EN)**

Application  
**EP 98934421 A 19980710**

Priority  
• US 9814366 W 19980710  
• US 89340597 A 19970711  
• US 7542998 A 19980508

Abstract (en)  
[origin: WO9902931A1] Apparatus for preparing packaging materials for use in shipment of heat sensitive materials, utilizes a hydration module (11), a freezing module (40), and a delivery module (45). Rolls of superabsorbent polymer-based refrigerant media (117) in the form of a continuous web of a selected length and width are maintained in dry storage. These may be cut to size along the web material which separates cells containing the superabsorbent polymer. The web or pad is advanced into the hydration module (11) which comprises a dip tank (17) or spray system (26) to provide an adequate supply of hydrating fluid to the superabsorbent polymer. The hydrated web is then conveyed through a freezing chamber (40) having a temperature of -10 DEG Fahrenheit, or lower, where the fluid absorbed within the cells freezes. The small footprint of the modular system means that necessary handling, including cutting into a suitable size and shape, may be accomplished in the consumer's shipping area for placement around perishable materials in shipping containers.

IPC 1-7  
**F25D 13/06**; **F25D 17/02**; **F25D 25/04**

IPC 8 full level  
**F25D 3/00** (2006.01); **F25D 13/06** (2006.01); **F25D 25/04** (2006.01); **F28D 20/02** (2006.01)

CPC (source: EP KR)  
**F25D 13/06** (2013.01 - EP KR); **F25D 25/04** (2013.01 - EP); **F25D 13/065** (2013.01 - EP); **F25D 13/067** (2013.01 - EP)

Designated contracting state (EPC)  
AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE

DOCDB simple family (publication)  
**WO 9902931 A1 19990121**; AU 747273 B2 20020509; AU 8394298 A 19990208; BR 9810864 A 20000829; CA 2294633 A1 19990121; CN 1263590 A 20000816; EP 1009960 A1 20000621; EP 1009960 A4 20001004; IL 133946 A0 20010430; JP 2001509583 A 20010724; KR 20010021754 A 20010315; NO 20000117 D0 20000110; NO 20000117 L 20000310; NO 312486 B1 20020513; NZ 502149 A 20010928; TR 200000063 T2 20000721

DOCDB simple family (application)  
**US 9814366 W 19980710**; AU 8394298 A 19980710; BR 9810864 A 19980710; CA 2294633 A 19980710; CN 98807085 A 19980710; EP 98934421 A 19980710; IL 13394698 A 19980710; JP 2000502371 A 19980710; KR 20007000317 A 20000111; NO 20000117 A 20000110; NZ 50214998 A 19980710; TR 200000063 T 19980710