

Title (en)

WATER RECOVERY IN DESICCANT ENHANCED EVAPORATIVE COOLING SYSTEMS

Title (de)

WASSERRÜCKGEWINNUNG IN TROCKENMITTELVERSTÄRKTEN VERDAMPFUNGSKÜHLSYSTEMEN

Title (fr)

RÉCUPÉRATION D'EAU DANS DES SYSTÈMES DE REFROIDISSEMENT PAR ÉVAPORATION AMÉLIORÉS PAR DÉSHYDRATANT

Publication

EP 3612772 A1 20200226 (EN)

Application

EP 17906575 A 20170418

Priority

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Abstract (en)

[origin: WO2018191807A1] Disclosed are systems and methods for conditioning air for an enclosed space using a liquid to air membrane energy exchanger (LAMEE) as a pre-dryer for removing moisture from an air stream with a desiccant flowing through the LAMEE. The LAMEE can be arranged inside a plenum configured to receive and condition an air stream. The LAMEE can be used in combination with a regeneration system to recover water from the dilute desiccant exiting the LAMEE for use as make up water for one or more evaporative coolers in the conditioning system. This can reduce or eliminate an external water supply for operation of the one or more evaporative coolers. The conditioning system can operate effectively with only a portion of the dilute desiccant being regenerated. In an example, a mixing tank can be used to mix the dilute desiccant (exiting the LAMEE) with a concentrated desiccant stream from regeneration.

IPC 8 full level

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