

Title (en)
TOTAL HEAT EXCHANGER ELEMENT AND PROCESS FOR MANUFACTURING THE SAME

Title (de)
GESAMTWÄRMETAUSCHERELEMENT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
ÉLÉMENT D'ÉCHANGE THERMIQUE TOTAL ET SON PROCÉDÉ DE FABRICATION

Publication
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Application
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Abstract (en)
[origin: EP2163842A1] A total heat exchange element has a stacked-layer structure in which sheet-like partition members added a water-soluble moisture absorbent thereto and spacing members are stacked alternately, the spacing members are joined with the partition members by using an adhesive so as to form air flow passages together with the partition members. According to the present invention, the spacing members have water retention properties. Further, an adhesive that exhibits insolubility to the water-soluble moisture absorbent or an aqueous solution of the water-soluble moisture absorbent is used as the adhesive. As a result, it is easy to obtain a total heat exchange element with which it is possible to easily constitute an air-conditioning apparatus or a ventilator that has high latent heat exchange efficiency and has high reliability.

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Citation (search report)

- [A] EP 1312870 A2 20030521 - MITSUBISHI ELECTRIC CORP [JP]
- [A] US 6019170 A 20000201 - YOKOYA HISAO [JP], et al
- [A] JP 2002372393 A 20021226 - MATSUSHITA SEIKO KK
- See references of WO 2009004695A1

Cited by
US10788393B2

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