

Title (en)

Ceiling mounted apparatus for heating and cooling

Title (de)

Deckenmontagevorrichtung für Heizung und Kühlung

Title (fr)

Appareil pour chauffage et refroidissement encastré dans un plafond

Publication

EP 0926451 A1 19990630 (EN)

Application

EP 97830721 A 19971224

Priority

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Abstract (en)

A ceiling mounted apparatus (10) draws air upwardly through an inlet and processes the air through heat exchange elements (36) before distributing the air downwardly. The air is preferably distributed downwardly by air discharge structure surrounding the heat exchange elements (36). The air is ultimately discharged through one or more air discharge ducts (28) positioned relatively close to the air inlet. Each air discharge duct (28) includes a rotatable louver (30) mounted therein that in conjunction with the walls of the duct defines particular paths for the conditioned air in heating versus cooling. <IMAGE>

IPC 1-7

F24F 1/00

IPC 8 full level

F24F 1/0059 (2019.01); **F24F 1/0047** (2019.01); **F24F 13/14** (2006.01)

CPC (source: EP KR US)

F24F 1/0022 (2013.01 - EP); **F24F 1/0047** (2019.01 - EP KR US); **F24F 1/0059** (2013.01 - EP KR US); **F24F 13/02** (2013.01 - KR); **F24F 13/081** (2013.01 - KR); **F24F 2013/0616** (2013.01 - EP)

Citation (search report)

- [XA] US 5577958 A 19961126 - KUMEKAWA ERIKO [JP], et al
- [A] DE 29601794 U1 19960314 - LUFTSCHLEIERANLAGEN GMBH [DE]
- [A] PATENT ABSTRACTS OF JAPAN vol. 013, no. 281 (M - 842) 27 June 1989 (1989-06-27)
- [A] PATENT ABSTRACTS OF JAPAN vol. 096, no. 008 30 August 1996 (1996-08-30)
- [A] PATENT ABSTRACTS OF JAPAN vol. 018, no. 329 (E - 1566) 22 June 1994 (1994-06-22)

Cited by

US6370907B1; EP1589292A1; EP1139034A1; EP3842703A4; EP1310743A4; EP3124888A1; EP1139033A1; US2015096723A1; CN106403220A; CN112013528A; US10047972B2; US6450880B1; US11408618B2; US10197298B2; US10203124B2; US10054320B2; US10203150B2

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DOCDB simple family (application)

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