Title (en)

COMPRESSOR DEVICE

Title (de)

KOMPRESSORVORRICHTUNG SOWIE EINE DAMIT AUSGERÜSTETE KÜHLVORRICHTUNG UND EINE DAMIT AUSGERÜSTETE KÄLTEMASCHINE

Title (fr)

DISPOSITIF DE COMPRESSEUR

Publication

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Application

EP 12745677 A 20120802

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Abstract (en)

[origin: WO2013017669A1] A compressor device and a cooling device fitted therewith and a cooler unit fitted therewith are provided, which unlike known compressor arrangements with a rotary valve, operates with lower losses. The combination of a compressor arrangement, in which a working medium is periodically compressed by a reciprocating compressor element and then expanded again, with a drive arrangement mechanically coupled to the compressor element, allows the compressed gas to be provided within the frequency range required for Gifford-McMahon coolers and pulse-tube coolers. The electro-hydrostatic drive arrangement and the compressor element are coupled by a mechanical or a magnetic coupling. This eliminates the need to use high-loss generating rotary valves. The combination of simple controllability of an electric motor and the force of a hydraulic mechanism can be applied to build an extremely efficient compressor which, due to the absence of a rotary valve when using with Gifford-McMahon coolers or pulse-tube coolers, results in considerably lower losses. A highly-efficient compressor arrangement is thus provided.

IPC 8 full level

F04B 9/105 (2006.01); **F04B 9/125** (2006.01); **F04B 23/06** (2006.01); **F04B 41/06** (2006.01)

CPC (source: EP US)

F04B 9/105 (2013.01 - EP US); **F04B 9/125** (2013.01 - EP); **F04B 19/22** (2013.01 - US); **F04B 23/06** (2013.01 - EP US); **F04B 41/06** (2013.01 - EP US); **F04B 45/053** (2013.01 - EP US); **F04B 53/16** (2013.01 - US); F04B 35/01 (2013.01 - US)

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