

Title (en)  
VORTEX TUBE COOLING SYSTEM AND METHOD OF USING SAME

Title (de)  
WIRBELROHRKÜHLSYSTEM UND VERFAHREN ZU DESSEN VERWENDUNG

Title (fr)  
SYSTÈME DE REFROIDISSEMENT DE TUYAU À TOURBILLON ET SON PROCÉDÉ D'UTILISATION

Publication  
**EP 4004459 A4 20230802 (EN)**

Application  
**EP 20844316 A 20200721**

Priority  

- CA 2020051006 W 20200721
- US 201962876936 P 20190722
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Abstract (en)  
[origin: WO2021012045A1] The present disclosure relates to a vortex tube for separating a working fluid into a first working fluid and a second working fluid, the vortex tube comprising: a hot end; a cold end opposed to the hot end; a vortex generator between the hot end and the cold end, the vortex generator configured to receive a working fluid, the vortex generator comprising: a vortex chamber including a bottom wall defining a bore therethrough; and a plurality of channels configured to direct the working fluid into the vortex chamber, wherein one or more of the bottom wall and the plurality of channels are configured to direct the working fluid in a vortex motion to form a first toroidal moving away from the vortex chamber and towards the hot end; and wherein a first working fluid exits the hot end and a second working fluid is turned away from the hot end and flows through the bore to exit the cold end. The present disclosure also relates to use of the vortex tube for panel and spot cooling.

IPC 8 full level  
**F25B 9/04** (2006.01)

CPC (source: EP US)  
**F25B 9/04** (2013.01 - EP US)

Citation (search report)  

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Designated contracting state (EPC)  
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DOCDB simple family (publication)  
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DOCDB simple family (application)  
**CA 2020051006 W 20200721**; CA 3148276 A 20200721; EP 20844316 A 20200721; US 202017629118 A 20200721