

Title (en)  
Cryogenic refrigerator

Title (de)  
Tiefemperatur-Kältemaschine

Title (fr)  
Réfrigérateur cryogénique

Publication  
**EP 0851184 A1 19980701 (FR)**

Application  
**EP 96402923 A 19961230**

Priority  
EP 96402923 A 19961230

Abstract (en)  
The cryogenic refrigerator comprises two oscillating sources of pressure (1) operating in phase opposition. Each source is connected by a conduit (5A, 5B) to the cold end (6A, 6B) of an associated pulsed tube (3A, 3B). The hot end (7A, 7B) of each pulsed tube is connected to a respective capacitance which may be formed by the other pulsed tube. A heat exchanger (2) places the two conduits in a heat exchange relationship, with the flow in opposite directions. The oscillating pressure sources may be provided by a double piston oscillator (1). There may also be a choke bypass (15A, 15B) connecting the hot end of the each pulsed tube (3A, 3B) to the associated conduit (5A, 5B). The pressure sources operate at the ambient temperature.

Abstract (fr)  
Ce réfrigérateur cryogénique comprend deux sources de pression oscillantes (1) fonctionnant en opposition de phases. Chaque source est reliée par un conduit (5A, 5B) à l'extrémité froide (6A, 6B) d'un tube pulsé associé (3A, 3B). L'extrémité chaude (7A, 7B) de chaque tube pulsé est reliée à une capacité respective, qui peut être constituée par l'autre tube pulsé. Un échangeur de chaleur (2) met les deux conduits en relation d'échange thermique à contre-courant. Application à la production frigorifique au-dessous de 10 K. <IMAGE>

IPC 1-7  
**F25B 9/14**

IPC 8 full level  
**F25B 9/14** (2006.01)

CPC (source: EP)  
**F25B 9/145** (2013.01); **F25B 9/10** (2013.01); **F25B 2309/1422** (2013.01); **F25B 2309/14241** (2013.01); **F25B 2309/1425** (2013.01); **F25B 2400/06** (2013.01)

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