

Title (en)  
REFRIGERATION CYCLE APPARATUS

Title (de)  
KÄLTEKREISLAUFVORRICHTUNG

Title (fr)  
APPAREIL À CYCLE DE RÉFRIGÉRATION

Publication  
**EP 3193089 A1 20170719 (EN)**

Application  
**EP 14901661 A 20140908**

Priority  
JP 2014073666 W 20140908

Abstract (en)  
Provided is a refrigeration cycle apparatus, including a refrigeration cycle through which refrigerant circulates, the refrigeration cycle being formed by connecting a compressor (10), a first heat exchanger (12), an expansion device (16), and a second heat exchanger (15) by a refrigerant pipe, the refrigerant including single-component refrigerant made of a substance having such a property as to cause a disproportionation reaction or a refrigerant mixture, the refrigerant pipe including a bent portion (45), one of the first heat exchanger (12) and the second heat exchanger (15) being configured to serve as a condenser and an other thereof being configured to serve as an evaporator, the bent portion (45) being provided to one or both of a passage between the condenser and the expansion device and a passage between the expansion device and the evaporator, in which a bending radius R of the bent portion (45) through which liquid refrigerant or two-phase refrigerant flows satisfies the following relationship:  $R \geq \frac{d}{2} \times \frac{1 + \tan \frac{\alpha}{36} + \cos \frac{\alpha}{36}}{1 - \tan \frac{\alpha}{36} + \cos \frac{\alpha}{36}}$ , where  $\alpha$  (rad) represents an angle formed between a center line of an inlet pipe configured to form a refrigerant inlet side of the bent portion (45) and a center line of an outlet pipe configured to form a refrigerant outlet side of the bent portion (45), R (mm) represents a bending radius of the bent portion, and d (mm) represents an inner diameter of the inlet pipe of the bent portion (45).

IPC 8 full level  
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Citation (search report)  
See references of WO 2016038659A1

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