

Title (en)  
Two-stage compression cycle

Title (de)  
Zweistufiger Kompressionszyklus

Title (fr)  
Cycle de compression à deux étages

Publication  
**EP 2863151 A2 20150422 (EN)**

Application  
**EP 14188877 A 20141014**

Priority  
JP 2013216944 A 20131018

Abstract (en)  
An object is to provide a two-stage compression system that has no need for oil equalization between a lower-stage compressor and a higher-stage compressor, which makes it possible to simplify the configuration, and that makes it possible to reliably ensure appropriate oil levels in both the lower-stage compressor and the higher-stage compressor. In a two-stage compression system (1) in which a lower-stage compressor (2) and a higher-stage compressor (3) are disposed in series, and an oil separator (7) is provided on a discharge side of the higher-stage compressor (3), a first oil-returning circuit (11) and a second oil-returning circuit (12), which are independent of each other, are provided so as to be connected between the oil separator (7) and the lower-stage compressor (2) and the higher-stage compressor (3), and  $V1 > V2$  is satisfied, assuming that the volume of oil returned to the lower-stage compressor (2) from the first oil-returning circuit (11) is  $V1$ , and the volume of oil returned to the higher-stage compressor (3) from the second oil-returning circuit (12) is  $V2$ .

IPC 8 full level  
**F25B 1/10** (2006.01); **F25B 31/00** (2006.01); **F25B 41/00** (2006.01)

CPC (source: EP US)  
**F25B 1/10** (2013.01 - EP US); **F25B 31/004** (2013.01 - EP); **F25B 41/40** (2021.01 - EP US); **F25B 2400/072** (2013.01 - EP); **F25B 2400/075** (2013.01 - EP)

Citation (applicant)  
JP H07260263 A 19951013 - SANYO ELECTRIC CO

Cited by  
CN105758066A; CN108444137A; CN110325803A; CN106766371A; EP3385640A4; US11428226B2; US11415342B2; US11428225B2; US11994127B2

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Designated extension state (EPC)  
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