

Title (en)
Expansion valve

Title (de)
Expansionsventil

Title (fr)
Vanne d'expansion

Publication
EP 1832822 A2 20070912 (EN)

Application
EP 07003767 A 20070223

Priority
JP 2006060813 A 20060307

Abstract (en)
A thermostatic expansion valve 3 is applied to a refrigeration cycle having an internal heat exchanger 5 for heat exchange between high-temperature refrigerant flowing from a condenser 2 to the expansion valve 3 and low-temperature refrigerant flowing from an evaporator 4 2 via the expansion valve 3 to a compressor. The expansion valve 3 comprises a bypass passage 3a or 3b for guiding refrigerant either from a high-pressure refrigerant inlet or a low-pressure refrigerant outlet to the downstream side of a temperature-sensing section, such that moist refrigerant is mixed with refrigerant whose degree of superheat is controlled by the expansion valve 3. This lowers the temperature of refrigerant that is drawn into the compressor 1.

IPC 8 full level
F25B 41/06 (2006.01)

CPC (source: EP KR US)
F25B 40/00 (2013.01 - KR); **F25B 41/32** (2021.01 - EP KR US); **F25B 41/335** (2021.01 - EP KR US); **F25B 40/00** (2013.01 - EP US); **F25B 2341/0683** (2013.01 - EP KR US); **F25B 2400/0409** (2013.01 - EP KR US); **F25B 2400/0411** (2013.01 - EP KR US); **F25B 2500/06** (2013.01 - EP KR US); **F25B 2500/08** (2013.01 - EP KR US)

Cited by
CZ308054B6; DE102012224121A1; EP4063766A1; EP2811242A1; FR2934039A1; EP4137723A4; DE102013113221A1; CZ306851B6; GB2550921A; CN109477674A; US12025233B2; US8616012B2; WO2022256479A1; WO2010076101A1

Designated contracting state (EPC)
DE FR

Designated extension state (EPC)
AL BA HR MK YU

DOCDB simple family (publication)
EP 1832822 A2 20070912; **EP 1832822 A3 20080123**; **EP 1832822 B1 20090121**; CN 101033805 A 20070912; DE 602007000497 D1 20090312; JP 2007240041 A 20070920; KR 20070092118 A 20070912; US 2007209387 A1 20070913

DOCDB simple family (application)
EP 07003767 A 20070223; CN 200710086024 A 20070307; DE 602007000497 T 20070223; JP 2006060813 A 20060307; KR 20070021698 A 20070306; US 71168307 A 20070228