

Title (en)  
Expansion valve

Title (de)  
Entspannungsventil

Title (fr)  
Vanne de détente

Publication  
**EP 1669703 A1 20060614 (EN)**

Application  
**EP 05026630 A 20051206**

Priority  
• JP 2004354142 A 20041207  
• JP 2005283622 A 20050929

Abstract (en)  
A damper chamber 23 of an expansion device is formed by a cylinder 16 in a housing 10 defining a valve seat 14. A piston 17 is integral with a valve element 15. When the valve element 15 undergoes a sudden pressure change, the volume of a damper chamber 23 changes to accommodate sudden motion of the valve element 15, whereby vibrations of the valve element 15 are suppressed, to reduce generation of untoward noise. The ratio (b/a) between the valve element diameter (b) and a port diameter (a) of a valve hole (13) is set to be less than 1.5 so as to suppress a valve element suction phenomenon and to establish a flow rate corresponding to the value of a differential pressure between primary and secondary pressures.

IPC 8 full level  
**F25B 41/06** (2006.01)

CPC (source: EP KR US)  
**F25B 41/30** (2021.01 - EP KR US); **F25B 2341/063** (2013.01 - EP KR US); **F25B 2500/01** (2013.01 - EP KR US);  
**F25B 2500/12** (2013.01 - EP KR US); **F25B 2600/2505** (2013.01 - EP KR US)

Citation (search report)  
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• [A] PATENT ABSTRACTS OF JAPAN vol. 1999, no. 14 22 December 1999 (1999-12-22)

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Designated contracting state (EPC)  
DE FR

DOCDB simple family (publication)  
**EP 1669703 A1 20060614**; JP 2006189240 A 20060720; KR 20060063730 A 20060612; US 2006117793 A1 20060608

DOCDB simple family (application)  
**EP 05026630 A 20051206**; JP 2005283622 A 20050929; KR 20050117811 A 20051206; US 29327805 A 20051205