

Title (en)  
Heat exchangers and headers therefor

Title (de)  
Wärmetauscher mit Endkammern

Title (fr)  
Échangeurs thermiques avec boîtes collectrices

Publication  
**EP 1978322 A3 20140702 (EN)**

Application  
**EP 08001368 A 20080124**

Priority  
• US 1765908 A 20080122  
• US 78987007 A 20070426  
• US 69879207 A 20070126

Abstract (en)  
[origin: EP1978322A2] A header (1010) for a heat exchanger comprising an inflow side (1018), an outflow side (1020), a bypass chamber (1052) therebetween, and a pressure-sensitive flapper valve (1146) proximal the bypass port. As pressure increases at the inflow side of the header, the flapper valve (1146) opens proportionally, and, as pressure decreases at the inflow side, the flapper valve (1146) closes proportionally. A tube-in-tube heat exchanger (2020) including a helical tube-in-tube assembly (2046) adapted for-flow therethrough of a plurality of fluids for heat transfer therebetween. A heat system including an embodiment of the header and an embodiment of the tube-in-tube heat exchanger, so as to provide a bypass of the tube-in-tube heat exchanger under a pressure condition.

IPC 8 full level  
**F28D 7/14** (2006.01); **F28F 9/02** (2006.01); **F28F 27/02** (2006.01)

CPC (source: EP US)  
**F28D 7/14** (2013.01 - EP US); **F28F 9/02** (2013.01 - EP US); **F28F 27/02** (2013.01 - EP US); **F28F 2250/06** (2013.01 - EP US)

Citation (search report)  
• [XYI] US 3227175 A 19660104 - REMINGTON JOHN W, et al  
• [X] WO 2006040053 A1 20060420 - BEHR GMBH & CO KG [DE], et al  
• [X] EP 1336736 A2 20030820 - DELPHI TECH INC [US]  
• [Y] EP 1691117 A1 20060816 - HONEYWELL INT INC [US]  
• [Y] US 4008732 A 19770222 - FICHTER BARRY S, et al

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CN102235836A

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA MK RS

DOCDB simple family (publication)  
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