

Title (en)
Heat exchanger for an internal combustion engine

Title (de)
Wärmetauscher für Verbrennungsmotor

Title (fr)
Échangeur thermique pour moteur à combustion interne

Publication
EP 2458312 A1 20120530 (EN)

Application
EP 10192794 A 20101126

Priority
EP 10192794 A 20101126

Abstract (en)
A heat exchanger, namely a charge air cooler or a exhaust gas cooler comprises a pipe block (14) formed by a plurality of pipes (16), the pipes opening at both ends in a respective tank (12, 12') for a first fluid. The pipes (16) are maintained at both ends by a respective header plate (18) having through openings (20) therein for the pipes (16). A cover (22, 22', 22'') extends between the tanks (12, 12') and laterally surrounds the pipe block (14). Mechanical locking means are integrated in the cover about both pipe block ends to maintain the respective tanks (12, 12') in place on the pipe block (14).

IPC 8 full level
F28D 7/16 (2006.01); **F28F 9/02** (2006.01)

CPC (source: EP)
F28D 7/1684 (2013.01); **F28F 9/0224** (2013.01); **F28D 21/0003** (2013.01); **F28D 2021/0082** (2013.01); **F28F 2275/122** (2013.01)

Citation (applicant)
US 2008289833 A1 20081127 - SCHIENEMANN MARK [DE], et al

Citation (search report)
• [XY] WO 2010003807 A1 20100114 - VALEO SYSTEMES THERMIQUES [FR], et al
• [XI] US 5048596 A 19910917 - LU JAMES W B [US]
• [YA] FR 2251794 A1 19750613 - SUEDEDEUTSCHE KUEHLER BEHR [DE]
• [A] FR 2254770 A1 19750711 - CHAUSSON USINES SA [FR]
• [A] DE 102008018594 A1 20081016 - BEHR GMBH & CO KG [DE]
• [A] EP 1707911 A1 20061004 - MODINE MFG CO [US]

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EP3232149A1; DE102019112194A1; FR3030711A1; CN104896990A; DE102012211857A1; EP4382848A1; US2015283875A1; US10279648B2; US2015241143A1; US10323886B2; CN106104192A; EP3115735A4; US9970717B2; US10006723B2; EP3809088A1; WO2016097135A1

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

Designated extension state (EPC)
BA ME

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