

Title (en)  
COOLER FOR COMBUSTION ENGINES

Publication  
**EP 0197168 B1 19890726 (DE)**

Application  
**EP 85104244 A 19850409**

Priority  
EP 85104244 A 19850409

Abstract (en)  
[origin: EP0197168A1] 1. A radiator (1) for internal combustion engines, heat exchanger units, compressors and other installations requiring heat exchange, wherein a liquid coolant is channelled in shallow, parallel coolant ducts (5) whose heat-conducting walls (4) are provided with means (8) which increase their surface area and over which air produced by ventilation and/or a slip stream sweeps transverse to the direction of flow of the coolant, said radiator (1) consisting of radiator elements (2, 3) with their vertical large faces placed sealingly together, the walls (4) being closed on the side remote from the corresponding other radiator element (2; 3) and open on the side facing the corresponding other radiator element (2; 3) and carrying crosspieces (7) disposed therebetween, thereby forming air ducts (6) extending between said crosspieces, characterised by the fact that two radiator elements (2, 3) are placed sealingly together along a single vertical plane transverse to the direction of air flow, that the crosspieces (7) in each case interconnect the two adjacent walls (4) of two coolant ducts (5) and are integral therewith, and that the crosspieces (7) of one or both radiator elements (2, 3) are in each case set one behind the other and staggered in height in two vertical planes.

IPC 1-7  
**F28D 1/03; F28F 3/04**

IPC 8 full level  
**F28D 1/03** (2006.01); **F28F 3/04** (2006.01); **F28F 7/02** (2006.01)

CPC (source: EP)  
**F28D 1/0316** (2013.01); **F28F 3/048** (2013.01); **F28F 7/02** (2013.01)

Cited by  
CN114607510A

Designated contracting state (EPC)  
AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)  
**EP 0197168 A1 19861015; EP 0197168 B1 19890726**; AT E45029 T1 19890815; DE 3571868 D1 19890831

DOCDB simple family (application)  
**EP 85104244 A 19850409**; AT 85104244 T 19850409; DE 3571868 T 19850409