

Title (en)  
HEAT EXCHANGER

Title (de)  
WÄRMETAUSCHER

Title (fr)  
ECHANGEUR DE CHALEUR

Publication  
**EP 2532998 A4 20150107 (EN)**

Application  
**EP 10845251 A 20101029**

Priority  
• JP 2010022997 A 20100204  
• JP 2010069768 W 20101029

Abstract (en)  
[origin: EP2532998A1] A heat exchanger wherein the pipe member is formed in a single stage to reduce the height of the heat exchanger in the thickness direction thereof to thereby enable the heat exchanger to be satisfactorily mounted below the floor of an automobile and wherein the pipe member is prevented from being broken by a stone flipped up by the automobile during running thereof. A heat exchanger comprises: fin members (3) formed as corrugated fins and having engagement recesses (8) formed in curved sections (6); and a pipe member (1) formed by connecting straight pipe sections (2) by U-shaped bend sections (5), the straight pipe sections (2) being arranged by means of the fin members (3). In a state in which the straight pipe sections (2) are engaged with the engagement recesses (8) of the fin members (3), the outer diameter of the pipe member (1) is in the range of 8 to 12 mm, and the facing distance (17) between the fin members (3) is in the range of 0.5 to 5.0 mm. Also, the height of the protrusion of the fin members (3) is set to a value which is less than or equal to 11 mm and which, when the facing distance (17) is within the range of 0.5 to 5.0 mm, satisfies the formula of  $y \neq 2.46x - 0.29$  (y: (the height of the protrusion of the fin members (3) from the surface of the pipe member (1))/(the facing distance (17) between curved top sections (15)), x: the facing distance (17) between the curved top sections (15)).

IPC 8 full level  
**F28F 1/30** (2006.01); **F28D 1/047** (2006.01); **F28F 1/10** (2006.01); **F28F 1/12** (2006.01); **F28F 1/32** (2006.01); **F28F 9/00** (2006.01)

CPC (source: EP US)  
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