

Title (en)  
ENGINE HEAT PUMP

Title (de)  
MOTORWÄRMEPUMPE

Title (fr)  
POMPE THERMIQUE À MOTEUR

Publication  
**EP 1762792 A4 20080507 (EN)**

Application  
**EP 05730684 A 20050418**

Priority  
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Abstract (en)  
[origin: EP1762792A1] An object of the invention is to provide an engine heat pump whose compression work is reduced without increase of consumed electric power, thereby improving its driving efficiency (energy efficiency). An engine heat pump comprises: an engine (4); a main compressor (2) driven by the engine (4); a sub compressor (3) delivering a refrigerant to be joined to a refrigerant delivered from the main compressor (2); an indoor heat exchanger (8); an outdoor heat exchanger (5); an expansion valve (23) for the indoor heat exchanger; an expansion valve (21) for the outdoor heat exchanger; and a supercooling heat exchanger (15) disposed on a liquid refrigerant passage (main passage 26) of a connection passage between the indoor heat exchanger (8) and the outdoor heat exchanger (5). In the supercooling heat exchanger (15), a supercooling liquid refrigerant branched into a branching passage (27(27a, 27b)) supercools a liquid refrigerant before being branched. The sub compressor (3) is driven by the engine (4) so as to compress the supercooling liquid refrigerant. A ratio (R) of a capacity of the sub compressor (3) to a total capacity of the main compressor (2) and the sub compressor (3) ranges between 20% and 29%.

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Citation (search report)  
• [PX] JP 2005061784 A 20050310 - YANMAR CO LTD  
• [A] JP S62293066 A 19871219 - YANMAR DIESEL ENGINE CO  
• See references of WO 2005114064A1

Cited by  
EP2450647A3; FR2956190A1; EP3080527A4; US10704810B2

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