

Title (en)  
CASCADED ORGANIC RANKINE CYCLE (ORC) SYSTEM USING WASTE HEAT FROM A RECIPROCATING ENGINE

Title (de)  
ABWÄRME VON EINEM HUBKOLBENMOTOR VERWENDENDEN IN KASKADE GESCHALTETES ORGANIC RANKINE CYCLE (ORC-)SYSTEM

Title (fr)  
SYSTÈME DE CYCLE DE RANKINE ORGANIQUE (ORC) EN CASCADE UTILISANT DE LA CHALEUR RÉSIDUELLE D'UN MOTEUR ALTERNATIF

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Application  
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Abstract (en)  
[origin: WO2009045196A1] A method and system for operating a cascaded organic Rankine cycle (ORC) system (100) utilizes two waste heat sources from a positive-displacement engine (106), resulting in increased efficiency of the engine (106) and the cascaded ORC system (100). A high temperature waste heat source from the positive-displacement engine (106) is used in a first ORC system (102) to vaporize a first working fluid (118). A low temperature waste heat source from the positive-displacement engine (106) is used in a second ORC system (104) to heat a second working fluid (130) to a temperature less than the vaporization temperature. The second working fluid (130) is then vaporized using heat from the first working fluid (118). In an exemplary embodiment, the positive-displacement engine (106) is a reciprocating engine. The high temperature waste heat source may be exhaust gas and the low temperature waste heat source may be jacket cooling water.

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