

Title (en)  
TURBO-MACHINE HAVING AT LEAST TWO COUNTER-ROTATABLE ROTORS AND HAVING MECHANICAL TORQUE COMPENSATION

Title (de)  
STRÖMUNGSMASCHINE MIT ZUMINDEST ZWEI KONTRAROTIERBAREN ROTOREN UND MECHANISCHEM MOMENTENAUSGLEICH

Title (fr)  
TURBOMACHINE PRESENTANT AU MOINS DEUX ROTORS TOURNANT EN SENS OPPOSES ET UNE COMPENSATION MECANIQUE DU COUPLE

Publication  
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Application  
**EP 09753819 A 20090520**

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Abstract (en)  
[origin: WO2009144164A1] A turbo-machine (1, 40) having at least two rotors (10, 11) which are mounted so as to be rotatable in opposite directions relative to one another about a rotational axis (7) and on which are arranged blades (14) or vanes, having a rotatably mounted machine shaft (15) and having a drive mechanism (16) which connects the machine shaft (15) to the at least two rotors (10, 11) and which converts a rotational movement of the machine shaft (15) into rotational movements of the rotors (10, 11) in opposite directions relative to one another or vice versa, is designed to utilize the hydrodynamic advantages of counter-rotating rotors yet at the same time have comparatively low mechanical complexity and component density and therefore increased reliability. This is possible according to the invention in that the turbo-machine (1, 40) has a housing (2) which forms a duct (3) for a flow of a fluid, wherein the rotors (10, 11) are arranged in series in the duct (3) in the flow direction (6) of the fluid, the machine shaft (15) and the rotors (10, 11) are of annular design and are rotatably mounted in the housing (2), and wherein the annular rotors (10, 11) have in each case a ring inner side (12) and a ring outer side (13), wherein the blades (14) or vanes are arranged on the ring inner side (12).

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