

Abstract of disclosure

A rotary machine for conveying a fluid is suggested having a drive unit (2) for driving a shaft (5), having an impeller (31) arranged at the shaft (5) for conveying the fluid, having at least one mechanical seal (6) for sealing the shaft (5), having a first and a second heat exchange system (41; 42) for cooling or heating the mechanical seal (6), wherein the first heat exchange system (41) is configured for the direct application of a fluid heat carrier at the mechanical seal and the second heat exchange system (42) comprises a heat exchange jacket (421) which can be flowed through by a fluid heat carrier without direct contact with the mechanical seal (6). The first and the second heat exchange system (41; 42) form a common heat exchange system (40) in which a common fluid heat carrier can be circulated and a fan wheel (44) is provided for the circulation of the fluid heat carrier in the heat exchange system (40). Furthermore, a method for the heat exchange in a rotary machine is suggested.

(Fig. 1)