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HÅKANSSON et al.(10) **Pub. No.: US 2022/0352781 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **ELECTRIC MACHINE**(52) **U.S. Cl.**(71) Applicant: **Volvo Car Corporation**, Gothenburg
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(57)

ABSTRACT

The present disclosure relates to an electric machine, a vehicle comprising such an electric machine and a manufacturing method for such an electric machine.

The electric machine comprises a stator unit, a rotor unit, a housing, and a heat exchanging unit. The stator unit and the rotor unit are arranged inside the housing and the housing comprises an inlet port configured to provide a medium inside the housing and an outlet port configured to release the medium out of the housing. The heat exchanging unit is coupled with each of the inlet port and the outlet port and comprises a plurality of channels arranged on an outer surface of the housing. The plurality of channels being configured to transfer heat between the medium and the environment.

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