Title (en)

SIDE-CHANNEL COMPRESSOR FOR A FUEL CELL SYSTEM FOR CONVEYING AND/OR COMPRESSING A GASEOUS MEDIUM

Title (de)

SEITENKANALVERDICHTER FÜR EIN BRENNSTOFFZELLENSYSTEM ZUR FÖRDERUNG UND/ODER VERDICHTUNG VON EINEM GASFÖRMIGEN MEDIUM

Title (fr)

COMPRESSEUR À CANAL LATÉRAL POUR SYSTÈME DE PILE À COMBUSTIBLE, PERMETTANT LE TRANSPORT ET/OU LA COMPRESSION D'UN FLUIDE GAZEUX

Publication

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Application

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Abstract (en)

[origin: WO2020104226A1] The invention relates to a side-channel compressor (1) for a fuel cell system (37) for conveying and/or compressing a gaseous medium, in particular hydrogen, comprising a housing (3); a compressor chamber (30) which is situated in the housing (3) and which has at least one encircling side channel (19, 21); a compressor impeller (2) which is situated in the housing (3) and which is arranged so as to be rotatable about a rotational axis (4), wherein the compressor impeller (2) has conveying cells (5) arranged on the impeller circumference in the region of the compressor chamber (30), and the conveying cells (5) are delimited by a circumferential inner delimiting ring (26) on the side facing the rotational axis (4); and in each case at least one gas inlet opening (14) formed on the housing (3) and one gas outlet opening (16), which are fluidically connected together via the compressor chamber (30) and the at least one side channel (19, 21). The housing (3) has at least one respective end face (32, 34) radially to the rotational axis (4), each end face facing the compressor impeller (2), and at least one functionally relevant gap dimension (36, 38) is formed in the region of each gap surface. According to the invention, the compressor impeller (2) has at least one impeller shell (10, 12), said impeller shell having a lateral wall (13, 23) which runs radially to the rotational axis (4) and/or an outer delimiting ring (28) which runs parallel to the rotational axis, whereby a fluidic encapsulation of the conveying cells (5) and/or the side channel (19, 21) is produced in particular.

IPC 8 full level

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