

Title (en)  
THROUGHFLOW ASSEMBLY

Title (de)  
DURCHSTRÖMBARE ANORDNUNG

Title (fr)  
DISPOSITIF POUVANT ÊTRE TRAVERSÉ

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Application  
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Abstract (en)  
[origin: WO2019057412A1] The invention relates to an arrangement (ARG), through which a process fluid (PFF) can flow along a main flow direction (MFD), comprising an impeller (IMP) that can rotate about an axis (X) in a rotation direction (RTD) and a stationary diffuser (DFF) located downstream of the impeller (IMP) and being provided with guide vanes (VNE), wherein the impeller (IMP) has an inlet (ILI) for a substantially axial inflow and an outlet (EXI) for a substantially radial outflow, wherein: radially and axially extending impeller vanes (BLD) are arranged between a wheel disc (HWI) and a cover disc (SWI) of the impeller (IMP), said vanes separating impeller channels (ICH) from one another in a circumferential direction (CDR); the diffuser (DFF) extends substantially radially along a main flow direction (MFD); the diffuser (DFF) has an axial cover disc side (SWS) and an axial wheel disc side (HWS) which delimit an axial channel width (SAC) of the diffuser (DFF) therebetween; the diffuser (DFF) has a diffuser inlet (IND) for a substantially radial inflow and a diffuser outlet (EXD); and guide vanes (VNE) extending axially along a vane vertical direction and radially along a through-flow direction are arranged between the wheel disc side (HWS) and the cover disc side (SWS) of the diffuser (DFF), said vanes separating the guide vane channels (HCN) from one another in a circumferential direction (CDR). According to the invention, an inlet edge angle (LEA) for each axial vane height is defined as an angle between an inlet edge tangent (TLV) on a mean line (BWL) on an inlet edge (DLE) of the respective guide vane (VNE) and a circumferential tangent (CTG) through the inlet edge, wherein the inlet edge angle (LEA) is smaller on the cover disc side than on the wheel disc side.

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