

Title (en)
RECIRCULATION STAGE

Title (de)
RÜCKFÜHRSTUFE

Title (fr)
ÉTAGE DE RETOUR

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Abstract (en)
[origin: WO2016079222A1] The invention relates to a recirculation stage (RF) of a radial turbo compressor (RTC) comprising, in the flow direction (FD) of a process fluid (PF), the following sections (SE): a) an annular space (RR), b) a radial turn (RT), c) a recirculation channel (RC), wherein the sections (SE) are formed such that they each extend in annular fashion about an axis of rotation (X) of the radial turbo compressor (RTC), wherein the radial turn (RT) is formed by an outer contour (OC) and an inner contour (IC), wherein for each meridional section a midline (ML) between the outer contour (OC) and the inner contour (IC) is defined as the location of the center points of the circles to which the two contours are tangential. In order to minimize flow losses, it is proposed that in the meridional section the recirculation stage (RS) in the radial turn (RT) has, over at least the first 150° of the turn, a widening of the meridional width of the cross-sectional area (CSS) which extends perpendicular to the midline (ML) and is flowed through in the flow direction (FD), wherein the midline (ML) has a radius of curvature (BRML) which decreases in the flow direction (FD).

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