

Title (en)
TWIN FEED SCREW

Title (de)
ZWILLINGS-FÖRDERSCHRAUBEN

Title (fr)
VIS TRANSPORTEUSES JUMEELES

Publication
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Application
EP 96920677 A 19960708

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Abstract (en)
[origin: WO9721926A1] In known embodiments, media are fed in a contact-free manner in propeller pumps by single-thread twin feed screws which are guided via pilot gears, the twin feed screws having the same transverse profile with a core circle, tip circle, an involute flank and a hollow flank, enabling the pump chamber to be divided into axially staggered cells and thus obtain high pressure differences in one stage. In addition to dynamics, efficiency and production, the control of the medium is also determined by the contour of the end profile, the variation of which improves all the dependent variables. According to the invention, the involute is replaced by a curve which does not rise constantly and has a central saddle region and a smooth connection to the core circle. The variations in the end face achieved thereby improve the dynamics and volumetric efficiency and extend the possibilities for controlling medium at the end face. The detailed adaptation to the new curve together with the smooth connection at the base point enable the core and flanks to be produced jointly by a single tool. Feed screws with profiles of this type are suitable for flow rates of between 100 and 100 m³/h and ultimate pressure of < 0.05 mbar at speeds of rotation of approximately 3000 min⁻¹ and approximately 50 % efficiency.

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