

ABSTRACT

Screw elements for multi-shaft screw-type machines

The invention relates to screw elements (10, 10') for multi-shaft screw-type machines having screw shafts (W, W') rotating pairwise in the same direction, wherein said screw elements scrape off one another precisely and the screw shafts composed of said screw elements have two or more screw flights. The screw profiles (11, 11') can be represented over the entire cross section by respective profile curves, each profile curve (11, 11') having at least one inflection point (K, K') lying inside an outer radius (RA, RA') of the profile curve over the progression thereof. The inflection point is considered to be a position of an abrupt change of pitch or a geometrical discontinuity in the pitch of the profile curve. The invention further relates to a method for producing screw elements (10, 10'), wherein circular arcs (1-5) are combined into a curve to form the screw profiles (11, 11'), the curve having at least one inflection point (K, K') or one point of discontinuity in the pitch of the curve over the progression thereof, said point (K, K') lying inside an outer radius (RA, RA') of the profile curve. The invention additionally relates to screw-type machines having the screw elements according to the invention. The invention further relates to the use of screw elements according to the invention for extruding plastic materials.