Abstract

Disclosed is a polycondensation reactor for polyesters, polyamides or polyarylates in which a low I.V. material is introduced into the reactor and a relative high I.V. polymer exits the reactor. The reactor has at least two overlapping cyclindrical interior chambers, each with a rotating shaft through its length. Each shaft has a plurality of stirrers and spacers designed to wipe all interior surfaces of the reactor. The stirrers can be shaped as a cycloid or involute profile, for example. Generally the stirrers on each shaft are indexed from one another preferably by 90° and interdigitate with stirrers on the adjacent shaft. Stirring the low I.V. material by rotating the stirrers (on the shafts) through the material spreads it into a plurality of thin films. At the temperature and vacuum conditions of the reactor, a volatile component is removed, thus causing the material to polymerize, by condensation, forming a relatively high I.V. polymer.

This Sheet Has Been Replaced

