

Reactor and process for continuous polymerization

A b s t r a c t

The present invention relates to a reactor (10) and a process for continuous polymerization, where the reactor (10) has an essentially tubular reactor housing (16). The reactor housing (16) has a drive (38) which runs along the geometric central axis (12) in the flow direction (22) and is configured as a central shaft. A rotatably arranged scraper or wiper (36) is provided within the reactor housing (16); the scraper or wiper (36) has at least one scraper or wiper blade (42) to run along an interior side (44) of the reactor housing (16). The rotational movement of the scraper or wiper (36) results in radial mixing of a stream within the reactor housing (16) which dominates gravity effects and, by virtue of shaping of the scrapers or wipers, optionally makes plug flow or a loop flow or backflow within the reactor (10) or else via an additional external pumped circulation system (23) possible. This allows the reaction conditions in the axial direction of the reactor housing (16) to be predicted and individually suitable reaction conditions to be set and controlled along the reactor housing, so that, in particular, a desired molecular weight distribution can be set.

Fig. 7