

Device For Synthesizing A Polymer With Reduced Formation Of Deposits In The
Reaction Chamber

Abstract

5

The invention relates to a device for synthesizing a polymer accompanied by separating a gaseous substance. Said device comprises: a reactor chamber (1) having a substantially circular cylinder-shaped upper section (11), which is delimited by two circular surfaces (111, 112) and a circumferential surface (113) and has a longitudinal cylinder axis, and a lower section (12), the upper section (11) and the lower section (12) being connected to one another via the first circular surface (111); an inlet opening (2); a first outlet opening (3), which is arranged in a wall of the lower section (12); a second outlet opening (4), which is arranged in the second circular surface (112) or in the circumferential surface (113) between the inlet opening (2) and the second circular surface (112); and a removal device (51), which is arranged so as to be movable along the longitudinal cylinder axis at least between the second circular surface (112) and the inlet opening (2), and contacts the circumferential surface (113). The invention further relates to a method comprising: feeding an oligomer melt (7) into a circular cylinder-shaped first section (11) of a reaction chamber (1) through an inlet opening (2) tangentially to a circumferential surface (113) of the first section (11); polymerizing the oligomer melt (7) to form a polymer melt (8); removing the polymer melt (8) from the reaction chamber (1) through a first outlet opening (3) of the reaction chamber (1); and removing a gaseous substance (9) from the reaction chamber (1) through a second outlet opening (4) of the reaction chamber (1) above the inlet opening (2). Deposits on at least one inner wall of the first section (11) of the reaction chamber (1) above the inlet opening (2) are removed by a removal device (51).

10

15

20

25

(Fig. 3)