

Mixing and kneading machine for continual compounding and method of implementing continual compounding by means of a mixing and kneading machine

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Abstract

A mixing and kneading machine (1) for continual compounding comprises a screw shaft (3) rotating in a casing 2 and simultaneously moving axially translationally. To sustainably enhance the efficiency of the machine as regards its material thruput per unit of time a screw shaft is proposed having the following geometric ratios:

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- $Da/Di = 1.5$ to 2.0 , i.e. the ratio of screw shaft outer diameter Da to screw shaft inner diameter Di is 1.5 to 2.0 ,
- $Da/H = 4$ to 6 , i.e. the ratio of screw shaft outer diameter Da to stroke H is between 4 and 6 ,
- 15 - $T/H = 1.3$ to 2.5 , i.e. the ratio of pitch T to stroke H is between 1.3 and 2.5 .

The mixing and kneading machine (1) provided with such a screw shaft (3) is operated preferably at a rotational speed exceeding 500 rpm, particularly exceeding 800 rpm.

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(FIG. 2)