

Solid Bowl Centrifuge And Method For Regulating The Separation Process Of The Solid Bowl Centrifuge

Abstract

The invention relates to a solid bowl centrifuge, in particular a two- or three-phase solid bowl centrifuge, comprising the following: a rotor with a drum (1) rotating about an axis of rotation during operation and having a supply for a suspension to be processed in the centrifugal field and a separation chamber (5), in which a screw (2) that rotates during operation is arranged, a solid material discharge (14) for discharging a solid material phase (S) and at least one liquid outlet for letting out the at least one liquid phase (L), wherein the at least one liquid outlet has a device (6) for influencing an immersion depth (Dt) in the separation chamber (5) or the diameter of a separation zone (Dz) in the separation chamber (5), wherein this device (6) has at least one or more pressure chamber(s) (62), into which a respective fluid supply line (61) feeds, via which a gas pressure in the respective pressure chamber (62) can be influenced such that, in the respective pressure chamber (62), the gas pressure is to be applied to at least one liquid surface of the exiting liquid phase, in order to influence the diameter, the immersion depth (Dt) and/or the diameter of the separation zone (Dz) in the drum (1) during operation, in particular adjusting with open-loop or closed-loop control, wherein the respective pressure chamber (62) is formed in the rotor, and one or more functional discs (1511, 1512, 1513, 1514) are arranged in the region of the respective pressure chamber (62), wherein all of these functional discs rotate along with the rotor during operation.

Fig. 1