

Pneumatic clamping and/or braking device

ABSTRACT

5 This disclosure describes a clamping and/or braking device for clamping and/or braking an object to be clamped and/or braked, comprising: a housing comprising a first housing part and a second housing part, wherein each of the housing parts comprises an annular recess, which defines a first contact surface of the housing part and a second contact surface of the housing part, and wherein the two housing parts are arranged relative to one another and fastened to one another in such a way that the recesses of the first and second housing parts together form an inner space within the housing; a spring arranged in the inner space comprising a first annular spring plate and a second annular spring plate, wherein the first annular spring plate is clamped in the annular recess of the first housing part between the first contact surface and the second contact surface of the first housing part, and wherein the second annular spring plate is clamped in the annular recess of the second housing part between the first contact surface and the second contact surface of the second housing part; at least one clamping element, wherein each clamping element has a clamping surface which is designed, when a first end of one of the spring plates is supported on the first contact surface of one of the housing parts and a second end of the one of the spring plates presses on the second contact surface of the one of the housing parts, to transmit a clamping and/or braking force to the object to be clamped and/or braked; wherein the spring plates are arranged within the inner space in such a way that in the inner space at least one pressure space is formed, which is at least partially delimited by the spring plates, wherein the pressure space can be ventilated or vented and can be acted upon by positive pressure of a pressure medium which can be supplied to the housing, wherein the spring plates are arranged relative to the at least one pressure space in such a way that by ventilating or venting the pressure space or acting upon the pressure space with positive pressure, a bending of at least one of the spring plates can be changed and thereby the clamping and/or braking device changes between an open state, in which the at least one clamping surface is spaced apart from the object, and a closed state, in which one or more of the at least one clamping surfaces transmit a clamping and/or braking force to the object; wherein the clamping and/or braking device further comprises at least one insert plate, which is arranged between the first spring plate and the second spring plate in the inner space.

(Fig. 7)