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(54) Title: PNEUMATIC RECIPROCATORY ACTUATOR AND METHOD OF OPERATING IT

(57) Abstract

In a pneumatic reciprocatory actuator (1 - 3) of the kind comprising a cylinder (1) which defines a forward-motion chamber (5) and a return-motion chamber (7), and a piston (2) which is reciprocable in the cylinder (1) and separates the forward-motion chamber (5) and the return-motion chamber (7), a start stroke forwardly is initiated by admission of a gaseous operating fluid from an inlet port (4) into the forward-motion chamber with both the forward-motion chamber (5) the return-motion chamber (7) initially at zero pressure. The operating fluid is also passed from the inlet port (4) into the return-motion chamber (7) during the start stroke until a back pressure of a predetermined magnitude (4) has been produced in the return-motion chamber (7). Then the return-motion chamber (7) is automatically closed by a pressure control valve unit (20, 21), whereby the return-motion chamber (7) will form a cushioning chamber for cushioning the movement of the piston (2) in the forward direction, thereby preventing piston overspeeding during the start stroke.

