

Valve Train

Abstract

A valve actuator (10) that is in particular suited for gas valves (11) having safety shut-off function comprises an electric motor (12), in particular a stepper motor, that opens, and also closes if need be, the valve via a gearing (15). A voltage supply device (19), which is part of the valve actuator, is included for the operation of the electric motor (12). As necessary, said voltage supply device has an input rectifier circuit and a buffer device (24) connected thereto, for example in the form of a capacitor C. From the voltage buffered by the capacitor C, a motor control circuit (25) obtains the energy for operating the electric motor (12).

15 In order to prevent the valve (11) from being kept open too long after the voltage supply at the input (20) has been switched off, a switch-off device (34) is provided, which, after elimination of the voltage at the input (20), cuts off the energy flow from the voltage buffer device (24) to the electric motor (12).

The valve actuator can thus be designed for a very wide operating voltage range of, for example, 85 V to 265 V or 12 to 36 V, wherein, regardless of the magnitude of the voltage used, a uniformly short switch-off time, i.e. valve closing time, is ensured.

(Figure 1)