

ABSTRACT

PIEZOELECTRIC DRIVEN CONTROL VALVE

Stable flow control is made possible, even under high-temperature environments, by relieving a tensional force applied to a piezoelectric element when a piezoelectric actuator 16 is retracted. The present invention is directed to a piezoelectric driven control valve 1 including: a body 8 having a valve seat 8d; a metal diaphragm 9 disposed to contact with, and separatable from the valve seat 8d; an actuator box 13 supported to move ascendably and descendably on the body 8; a split base 11 fixed to the body 8; a disc spring 15 that presses and urges the actuator box 13 downward so as to bring the metal diaphragm 9 into contact with the valve seat 8d; and a piezoelectric actuator 16 housed inside the actuator box 13 and extended upward with application of a voltage so as to press the actuator box 13 upward against the elastic force of the disc spring 15, and a precompression mechanism 20 for applying a compression force constantly to piezoelectric elements in the piezoelectric actuator 16 is provided between the split base 11 and the piezoelectric actuator 16.

Figure 2