

ABSTRACT

A fluid passage is emergently-closed in a short time without causing a water hammer by an extremely simple device and operation. A water hammerless closing device includes an actuator operated valve provided in a fluid passage, an electro-pneumatic conversion device for supplying a 2-step actuator operating pressure P_a to an actuator operated-type valve, a vibration sensor removably secured to the pipe passage on the upstream side of the actuator operated-type valve, and a tuning box receiving a vibration detection signal P_r from the vibration sensor and delivering a control signal S_c to the electro-pneumatic conversion device for controlling the step operating pressure $P_{s'}$ of the 2-step actuator operating pressure P_a so that, with the control signal S_c being regulated, the electro-pneumatic conversion device outputs the 2-step actuator operating pressure P_a with the step operating pressure $P_{s'}$ capable of bringing the vibration detection signal P_r substantially to zero.