

FLOW RATE CONTROL UNIT AND WATER SUPPLY DEVICE WITH FINE BUBBLE GENERATING ARRANGEMENT INCORPORATING FLOW RATE CONTROL UNIT

ABSTRACT

A flow rate control unit comprises (a) a housing 10 including a hollow cylindrical wall 12 configured to form a flow passage 15 that guides a liquid from an upstream side toward a downstream side, an upstream wall 14 disposed on an upstream side, a downstream wall 13 disposed on a downstream side, an inlet opening 16, and an outlet opening 22; (b) a valve member 25 disposed inside the cylindrical wall and between the upstream wall and the downstream wall, configured to move between a most upstream position at which a movement toward an upstream side is restricted by the upstream wall and a most downstream position at which movement toward a downstream side is restricted by the downstream wall, the valve member including a pressure receiving portion 31 that faces the inlet opening and receives a force in a direction toward a downstream side from a liquid flowing into the flow passage from the inlet opening; and (c) an elastic biasing member 35 configured to bias the valve member toward the most upstream position and deform so that a movement amount toward a downstream side of the valve member increases as a force received by the pressure receiving portion from a liquid increases. (d) The valve member or the cylindrical wall forms a first guide passage 30 that guides a liquid flowing into the flow passage from the inlet opening to a downstream side of the valve member. (e) The valve member forms, between the valve member and the downstream wall, a second guide flow passage 33 that guides a liquid from the first guide flow passage to the outlet opening in cooperation with the downstream wall. (f) The second guide flow passage constitutes a variable resistance portion in which resistance given to a liquid passing through the second guide flow passage increases as the valve member moves to a downstream side from the upstream wall by cooperation of the valve member and the downstream wall.

[Selected Drawing] Fig. 2