

ABSTRACT OF THE DISCLOSURE

PROPORTIONAL PRESSURE REDUCING VALVE FOR USE IN WATERWORKS

The invention provides a proportional pressure reducing valve for waterworks, comprising a cylindrical valve box 2 that has an inlet 4 and an outlet 5 designed to be greater in diameter than the inlet 4 at ends, respectively, of the valve box; a piston 3 slidably fitted in the valve box, the piston having a valve member 11 used to open and close the inlet 4 at one end and having a hollow part 12 opened toward the outlet 5 at an opposite end; a space 15, whose sectional area is greater than an area S_1 of the inlet 4, between a periphery on a side of the one end of the piston 3 and an inner wall of the valve box 2; an annular caved surface 14 formed in a peripheral wall of the piston 3 facing the inner wall of the valve box 2 through the space 15; and a plurality of water-flow ports 19 formed in the caved surface 18, each of the water-flow ports 19 leading to the hollow part 12 and having the same diameter as a width of the caved surface 18, the water-flow ports 19 arranged to be at an acute angle with respect to an axial line, to be slantingly toward the outlet 5, and to be with small intervals L therebetween; wherein a total area S_a of the water-flow ports 19 is designed to be greater than the area S_1 of the inlet 4 and to be greater than an area $(S_b - S_a)$ of the caved surface 18 excluding the total area S_a of the water-flow ports 19, whereby a flow path small in pressure loss is constructed. (Figure 1)