

ABSTRACT

REVERSE FLOW PREVENTION APPARATUS

A reverse flow prevention apparatus is provided so as to drastically decrease pressure loss without installing an independent pressure regulator mechanism therein. With the reverse flow prevention apparatus, a flow path running along a straight line is provided in an outer box, and is partitioned by a diaphragm into an upstream region, and the downstream of a midstream region. An inner cylindrical body is provided at the center of the diaphragm, integrally therewith, so as to fit slidably into the upstream region of the outer box, an escape valve is provided on the downstream side of the inner cylindrical body in such a way as to be able to freely open and close a valve port provided between the midstream region and the downstream region while the escape valve is energized towards valve opening by the urging of an escape valve spring, and first and second check valves are provided inside the inner cylindrical body and the downstream region of the outer box, respectively. An effective diameter of the diaphragm and a diameter of a valve seat of the escape valve are set substantially at an equal value while a spring load of a first check valve spring and that of the escape valve spring are set such that a pressure of the midstream region is maintained always lower by a predetermined value than a pressure on the upstream side.

(Figure 1)