

[TITLE OF DOCUMENT] ABSTRACT

[TITLE OF THE INVENTION] Pressure Reducing Valve and
Upper-Layer Diaphragm Addition Unit to Be Used for the Pressure
Reducing Valve

[Abstract]

[Object] To avoid an increase in size in a centrifugal
direction of a diaphragm.

[Solution Means] One or more upper-layer diaphragm addition
units 13 are interposed and joined between a valve body 8
including a lowermost-layer diaphragm 7 that is joined to a
valve element 5 via a valve stem 6 and is displaced by a pressure
change of a secondary-side flow channel 2, and a spring cover
10 including a cover flange 10a provided so as to be capable
of press-contacting the peripheral edge of an upper-layer
diaphragm 9 having the same shape as the lowermost-layer
diaphragm 7, and the unit 13 is provided with a recessed pressure
chamber 29 an upper opening 29a of which is closed by an
upper-layer diaphragm 9 and which is connectable to the
secondary-side flow channel 2, and a diaphragm chamber 31 which
is partitioned by a bottom plate 29b of the recessed pressure
chamber and covers the lowermost-layer diaphragm 7 or another
upper-layer diaphragm 9, and in which a valve spring to bias
this diaphragm 7 or 9 in a valve opening direction as necessary

is incorporated, a connection valve stem 32 is provided to penetrate through and project upward and downward from an upper-layer diaphragm 9, and a lower end 32b of the connection valve stem is inserted slidably in a watertight manner through the bottom plate 29b so as to be joined to a valve stem upper end 6a or a connection valve stem upper end 32a penetrating through and projecting from the lowermost-layer diaphragm 7 or another upper-layer diaphragm 9.

[Selected Drawing] Fig. 3