Patent claims

1. Pressure-reducing valve (1) for fluid and gaseous media, more particularly for regulating the pressure in pipeline systems, preferably in buildings, containing a housing (2) preferably consisting of at least one upper (3) and lower part (4), an interior housing (5) wherein the interior housing (5) has a poppet bore (6), a diaphragm (7) for dividing the housing (2) into a fluid-free and fluid-flowing area, a pressure adjustment unit (8), wherein the pressure adjustment unit (8) comprises a spindle (9), a spring valve (10), a spring holder (22) and at least one spring (11), a fastening means (12) and a poppet (13), wherein the poppet (13) and the diaphragm (7) are connected to one another by fastening means (12), wherein the poppet (13) is disposed in the poppet bore (6) and at least one sealing element (14) is arranged between the poppet (13) and poppet bore (6) for sealing action, characterized in that the poppet (13) is formed in one piece and the sealing element (14) is disposed integrally on the poppet (13) or integrally on the interior housing (5).

2. Pressure-reducing valve (1) according to Claim 1 characterized in that the poppet (13) is arranged displaceably in the poppet bore (6).

3. Pressure-reducing valve (1) according to Claim 1 characterized in that the interior housing (5) is arranged displaceably along the poppet (13).

4. Pressure-reducing valve (1) according to one of Claims 1 to 3 characterized in that the sealing element (14) seals against the shell surface of the poppet bore (6), preferably above the through-flow openings (15) of the interior housing (5).

5. Pressure-reducing valve (1) according to one of Claims 1 to 3 characterized in that the sealing element (14) seals against the outside surface of the poppet (13), preferably above the through-flow openings (15) of the interior housing (5).

6. Pressure-reducing valve (1) according to one of Claims 1 to 5 characterized in that the sealing element (14) is pressure-assisted.

7. Pressure-reducing valve (1) according to one of Claims 1 to 6 characterized in that the sealing element (14) has the form of a sealing lip (14).

8. Pressure-reducing valve (1) according to one of Claims 1 to 9 characterized in that the poppet (13) is made from a material which has a high sliding capacity or a low friction resistance.

9. Pressure-reducing valve (1) according to one of Claims 1 to 8 characterized in that the poppet (13) is made from PTFE, PFA, PVDF and/or TFM or from a material which has at least one addition of these materials.

10. Pressure-reducing valve (1) according to one of the preceding claims characterized in that the poppet (13) has a sealing cone (16).

11. Pressure-reducing valve (1) according to one of the preceding claims characterized in that the sealing cone (16) is disposed integrally on the poppet (13).

12. Pressure-reducing valve (1) according to one of the preceding claims characterized in that the pressure adjustment unit (8) has at least two springs (11).

13. Pressure reducing valve (1) according to Claim 9 characterized in that the springs (11) are arranged one inside the other.

Claims

1. A pressure-reducing valve (1) for fluid and gaseous media, more particularly for regulating the pressure in pipeline systems, preferably in buildings, containing a housing (2) preferably consisting of at least one upper (3) and lower part (4), an interior housing (5) wherein the interior housing (5) has a poppet bore (6), a diaphragm (7) for dividing the housing (2) into a fluid-free and fluid-flowing area, a pressure adjustment unit (8), wherein the pressure adjustment unit (8) comprises a spindle (9), a spring valve (10), a spring holder (22) and at least one spring (11), a fastening means (12) and a poppet (13), wherein the poppet (13) and the diaphragm (7) are connected to one another by fastening means (12), wherein the poppet (13) is disposed in the poppet bore (6) and at least one sealing element (14) is arranged between the poppet (13) and poppet bore (6) for sealing action, characterized in that the poppet (13) is formed in one piece and the sealing element (14) is disposed integrally on the poppet (13) or integrally on the interior housing (5).

2. The pressure-reducing valve (1) according to Claim 1, characterized in that the poppet (13) is arranged displaceably in the poppet bore (6).

3. The pressure-reducing valve (1) according to Claim 1, characterized in that the interior housing (5) is arranged displaceably along the poppet (13).

4. The pressure-reducing valve (1) according to one of Claims 1 to 3, characterized in that the sealing element (14) seals against the shell surface of the poppet bore (6), preferably above

the through-flow openings (15) of the interior housing (5).

5. The pressure-reducing valve (1) according to one of Claims 1 to 3, characterized in that the sealing element (14) seals against the outside surface of the poppet (13), preferably above the through-flow openings (15) of the interior housing (5).

6. The pressure-reducing valve (1) according to one of Claims 1 to 5, characterized in that the sealing element (14) is pressure-assisted.

7. The pressure-reducing valve (1) according to one of Claims 1 to 6, characterized in that the sealing element (14) has the form of a sealing lip (14).

8. The pressure-reducing valve (1) according to one of Claims 1 to 7, characterized in that the poppet (13) is made from a material which has a high sliding capacity or a low friction resistance.

9. The pressure-reducing valve (1) according to one of Claims 1 to 8, characterized in that the poppet (13) is made from PTFE, PFA, PVDF and/or TFM or from a material which has at least one addition of these materials.

10. The pressure-reducing valve (1) according to one of the preceding claims, characterized in that the poppet (13) has a sealing cone (16).

11. The pressure-reducing valve (1) according to one of the preceding claims, characterized in that the sealing cone (16) is disposed integrally on the poppet (13).

12. The pressure-reducing valve (1) according to one of the preceding claims, characterized in that the pressure adjustment unit (8) has at least two springs (11).

13. The pressure-reducing valve (1) according to Claim 12, characterized in that the springs (11) are arranged one inside the other.