10.2.2. Automatic pressure AD-50

Automatic pressure control AD-50 is designed to automatically maintain a working pressure of air in the system in the range of 40 ... 50+4 kgf / cm ^{2} while charging it from the board or airfield source.

Automatic pressure AD-50 (Fig.10.3)

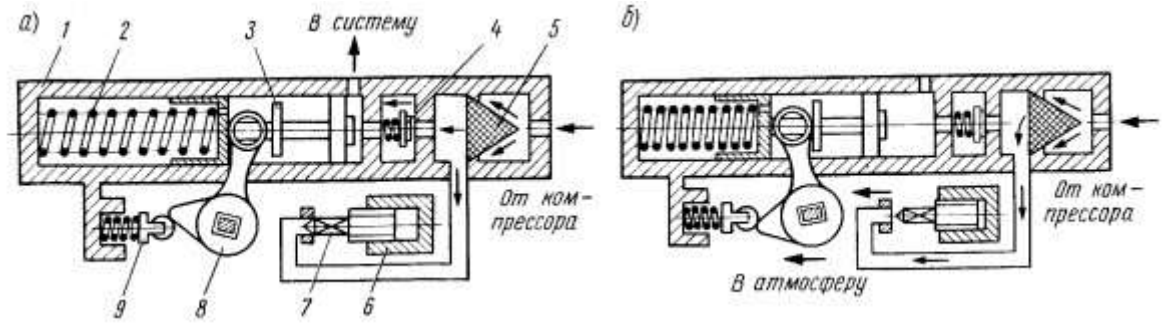

Fig. 10.3. Scheme of automatic pressure AD-50:
a-charging of the air system, and b-when translating a charging source to idle 1 - body, 2 - spring Reduction 3 - piston, 4 - check valve, 5 - Filter 6 - nut 7 - needle, 8 - arm needle , 9 - latch

consists of case 1, the piston 3, 5 strainer, check valve 4, the reduction springs 2, needle 7 and nut 6, the lever 8 needle roller retainer 9 and spring fittings - air supply from a charging source, exhaust air into the system and venting to the atmosphere.

The outer surface of the needle has a screw thread, which the needle is screwed into the nut, mounted in the housing machine. When you turn the needle in the nut, it makes the axial displacement. On the middle of the needle mounted double-arm lever, one-shoulder kinematically connected to the piston, and the other - the striker.

If you charge the air system from the compressor air enters through port "from the compressor", filter and check valve in the piston cavity and through the side connector into the system. With the increase of air pressure in the system increases the pressure on the piston, which is loaded with a spring on one side of the reduction on the other - increases air pressure. When the pressure piston is moved in the direction of reduction spring, compressing it. Simultaneously choose the gap between lever arm and right shoulder needle piston. Retainer spring force holds the needle in the closed position by a cam lever needle.

When the pressure of air in the system, and therefore in the cavity of the piston (5 +0.4) MPa [(50 +4) kgf / cm], the piston moves in the opposite position, the lever rotates the needle and roller clamp moves to the opposite slant cam . When turning the needle is not only angular, axial movement and needle, which opens the message pipeline compressor with the atmosphere and the latest changes to idle. Simultaneously with the opening of the needle and the pressure drop check valve under the pressure difference closes and cuts off the air system from the mains charging. As the pressure drop in the system and in the cavity of the piston under the piston moves to the right of reduction spring, choosing a gap between the left shoulder and the piston lever arm needle.

When reducing the air pressure in the system to 4 MPa (40 kgf / cm $^{2)}$ due to the impact of the reduction spring piston moves and rotates the needle arm, which moves simultaneously with the turn and charge the line divides the atmosphere. Compressor switches to throw and recharges the air system.