

Пневмоклапан редукционный П-РК-6-1(2)



Описание

Description and purpose

Reducing valve type P-РК-6-1(2) represents pressure-regulating pneumatic devices, designed for decreasing and stabilizing compressed-air pressure in pneumatic feed/manifold systems. The valve perceives input pressure at $p \leq 1$ MPa and outputs steady ordinate pressure within adjustable range 0.05-0.85 MPa. Main function – to reduce supplied air pressure to required operational level and to maintain that level within small deviation regardless changes in flow rate, within nominal performance up to 0.2 m³/min.

Technical characteristics and dimensions

Pneumo-valve reducer P-РК-6-1(2) has nominal duct of 6-mm and couplings marked as K1/4 (or altern. G1/4). Nominal operating pressure equals 1 MPa at input side. Device allows precise adjustment of output pressure in region from 0.05 MPa up to 0.85 MPa, i.e. ≈ 5 -85% of input pressure. Out-pressure decline caused by variation of flow rate from zero to nominal (0.2 m³/min) is capped at 0.03 MPa. If input pressure falls from 1 MPa down to 0.5 MPa, the rise in output pressure does not exceed 0.035 MPa. Over-pressure threshold that opens safety-drain valve and bleeds atmosphere is not beyond 0.06 MPa above set output level.

Parameter name	Value for P-РК-6-1 (2)
Nominal duct, mm	6
Coupling type	K1/4 (G1/4)
Nominal operating pressure, MPa	1
Nominal air flow at output prest. 0.4 MPa, m ³ /min, min	0.2
Output-pressure adjustment range, MPa	0.05-0.85
Decline of output pressure when flow changes 0→nominal at input $p=1$ MPa and preset output p	0.03
Rise of output pressure on input drop from 1 MPa to 0.5 MPa at flow 5% nominal, MPa, max	0.035
Exceed over preset output p where safety-dump valve opens, at input $p=1$ MPa, MPa, max	0.06
Mass, kg, max	0.25

Code TRW VED – pneumatic reducer valve P-ПК-6-1(2).

Engineer jets discussing pneumatic reducer valve's operation with team: "From now, just turn valve to needed pressure, it will regulate itself."

Benefits and operation advantages

- Increasing equipment lifespan via stable pressure maintenance;
- Reducing service interruptions thanks to pressure-holding ability;
- Convenience of mounting, as valve orientation in any spatial position is allowed;
- Using GOST-classified filtered air helps resist wear-down, extending work resource;
- Compatibility with majority spectrum of hydraulic-pump gens and pneumatic hose.

Operating principle and functionality

The pneumatic reducer valve integrates four functional nodes: pneumatic cavity for compressed-air intake; adjustable resistor (manual set-dial); membranous sensing element that detects pressure diff.; stabilization discharge valve that vents atmosphere in case of over-pressure. Pressure differential across sensing membrane triggers output regulation: signal gets translated via internal electrometer chip that actuates throttling or opening safety drain. Valve operates as standalone regulator or cascade series for multi-stage pressure reduction.

Temperature modes and resource life

Operating medium is compressed air, quality filtered to notch worse than GOST class 17433. Continuous operation mode suits 24/7 pneumatic feed systems. Works reliably in on-off and intermittent duty also. Resource life strongly depends on air cleanliness (filtering freq.), avoidance of exposure to corrosive fluids, and correct press limits maintaining not to exceed spec range.

Areas of application and typical installations

Pneumatic reducer valves P-ПК-6-1(2) are utilized on various pneumatic equipments, including pressure-feed stations, pneumatic splitters, hydraulic pumping sets, pneumatic-hydraulic regulation assists, hydraulic axis controllers. Utilization spheres: industrial pneumatic servicing (assembly factories), mechanical fabrication, air-handled dosing apparatus, industrial pneumatic hoses for manufacturing, servicing.

Composition and frequent failure parts

Part	Typical failure cause
Membrane sense element	If air purity degrades, membrane responsiveness drifts prematurely.
Pressure equalization resistors	If subject to over-pressure bursts, they saturate and require recalibration.
Safety discharge valve	Upon frequent open-close cycles, wear mounts; however robust spans thousands cycles normally.
Coupling orifice bush	If mismatched to hose coupling size, leakage occurs.

Common selection mistakes

- Choosing based only on duct size while ignoring needed pressure differential range;
- Neglecting temperature limit of workplace milieu, causing valve beyond spec limits;
- Mis-judging flow requirement vs nominal grade; valve may become restrictive;
- Filtrating quality disregard leading to faster wear-out;
- Over-estimate of resource expectancy without factoring required service intervals.

The higher-grade implementation K- rather than G-type offers enhanced res and dampen compensation; choose per site coupling stand.

Dimensional check and compatibility

Box dimensions see image below; coupling 6-mm duct suits hose 1/4 inch. Verify clearance vs existing mounted equipment sizes by cross-checking those diagrams. Orifice K1/4 inches means thread female for 6-mm duct.

Example orders

- Basic model P-RK-6-1(2), K1/4 coupling, 0.25 kg box;
- Similar with G-type coupling G1/4-A per GOST 6357-81 spec;
- Vok? foot 10-mm duct similar principle.

Delivery via Russia and SCG channels feasible through provider GIDRAVALIKA. Supply-router cities: Moscow, Saint-Peterburg, Ecaternington, Novosi Brsk, Kazur, Rossie na Donu and other Russian zones, plus SCG national.