

Lacquer Pressure Regulator PRP-2023-R, pneumatic, backflushable

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1. Introduction

The **APSON Lacquer Pressure Regulator PRP-2023-R** is a *pneumatically controllable* and *backwards flushable flow-through regulator* for aggressive viscous media, e.g. paints, solvents, alkalis, a.o. Because of the design, it allows before the flushing process to *recover medium*, not only by pushing forward, but also by pushing medium backwards. This regulator type is optimized for good rinsing barness and small solvent consumption. Therefore it is particularly suitable to the employment in automatic systems.



Fig. 1: APSON Lacquer Pressure Regulator PRP-2023-R

2. Features

- As well forward as backward flushable.
- Environmental carefully due to short rinsing times.
- Very good rinsing barness and small solvent consumption.
- Compact design, large throughput and small pressure losses.
- Very fast exchange of a defective diaphragm (2 minutes).

- Simple handling at assembling, adjustment and maintenance.

3. Structure and Function

The APSON Lacquer Pressure Regulator PRP-2023-R (see Fig. 2) consists mainly of a housing (4, 21, 22) with medium input 1 and throttle valve (3, 5, 6), lacquer chamber 26, two solvent-resistant diaphragms (8, 10) connected by spacer ring 9 and thrust piece (7, 11, 12), as well as the pneumatic chamber 23. The indicator unit 13 allows to monitor or to manually control the regulation process.

The diaphragms are subjected on one side with the pressure of the to be regulated medium 26 and on the other side with the pressure of the pneumatical control air 23. Pressure variations at the input of the controller are smoothed by this construction.

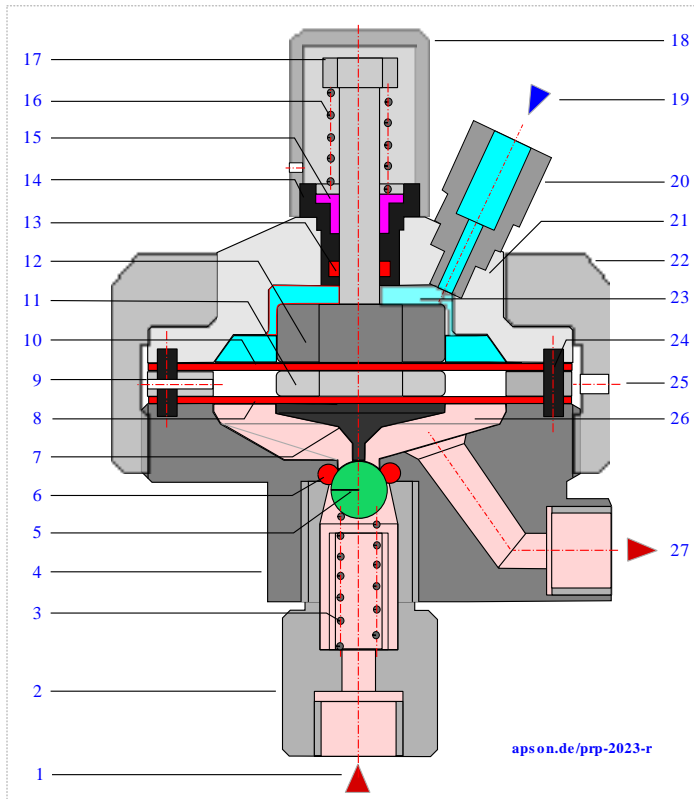


Fig. 2: APSON Lacquer Pressure Regulator PRP-2023-R -- Structure

Legend: 1 = Medium input, 2 = Input connector, 3 = Closing spring, 4 = Lower casing part, 5 = Sealing ball, 6 = Sealing ring, 7 = Thrust piece, 8 = Medium diaphragm, 9 = Spacer ring, with vent hole, 10 = Pressure air diaphragm, 11 = Spacer nut, 12 = End nut, 13 = Sealing ring, 14 = Indicator unit, 15 = Slide bush, 16 = Compression spring, 17 = Indicator pin, 18 = Indicator cap (optional), 19 = Pneumatic input, 20 = Plug-in connection, 21 = Upper casing part, 22 = Overthrow nut, 23 = Pneumatic chamber, 24 = Centering pin, 25 = Vent hole, 26 = Lacquer chamber, 27 = Medium output.

The thrust piece connected with the diaphragms controls the medium quantity per time unit, flowing through the pressure regulator, via the throttle provided with the sealing ball. The regulation procedure is achieved through the equilibrium of the forces between the pneumatic pressure on one side, and on the other side by the resulting force due to the medium pressure together with the force of the recoil spring in the supply bore of the throttle.

The desired medium pressure at the outlet of the regulator is adjusted pneumatically via pressure air at the pneumatic input of the regulator. For backward flushing of the pressure regulator, the control air must be set approximately to the pressure of the flushing medium.

Important: APSON Lacquer Pressure Regulators are robust in-stream flow-through regulators for viscous media. Any calibrations and measurements are to be run only when the medium *actively streams through* the regulator.

When exchanging the diaphragms it is to be made certain that the Teflon™-coated surface of the diaphragm points into the direction of the medium.

4. Technical Data

Denomination:	APSON Lacquer Pressure Regulator PRP-2023-R
Media:	Lacquers, solvents, alkalis, a.o.
Medium pressure input:	max. 25 bar
Flushing pressure:	max. 12 bar
Operating pressure range, at the output:	approx. 0 to 20 bar (best results in the upper third of the operating range)
Connections:	1 lacquer input G1/4", 1 lacquer output G1/4", 1 pneumatic input G1/8"
Materials:	Medium-touching parts made of inoxidable steel. Union nut and cover part from aluminum, hardcoated. Diaphragms from rubber with fabric proportion, Teflon™-coated.
Dimensions [mm]:	Height 80, Diameter 57, Length 60
Mass:	approx. 330 g

5. Ordering Data

Denomination	Part-Nr.
APSON Lacquer Pressure Regulator PRP-2023-R, with indicator unit	040-A005-R4
APSON Lacquer Pressure Regulator Key (wrench width 54 mm)	100-0105

Options: All aluminum parts made of inoxidable steel.

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