

# Minivalve VNT-3015

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## 1. Introduction

The **APSON Minivalve VNT-3015** is a *normally closed*, pneumatically controllable 2/2-ways tandem-valve for aggressive work materials, e.g. lacquers, solvents, alkalis. It operates with the standard pneumatic pressures of the industry. It is mainly used in **special applications** as well as in **APSON SRS** safety lacquer changers.



Fig. 1: APSON Minivalve VNT-3015

## 2. Features

- Work material supply through hollow valve needle, casing very compact and smaller diameter.
- Valve closes tight with the casing, thereby good rinsing in the valve block.
- Compact 2-pistons tandem-valve, suitable for the standard pneumatic pressures of the industry.
- Metallic parts made of stainless steel, seals are resistant against aggressive work materials.
- Mounting in the valve block by pluggable connection and secured by locking screw.
- Assembly and disassembly using simple tools.

## 3. Structure and Function

The **APSON Minivalve VNT-3015** is a *normally closed* 2/2-ways valve. The casing and parts are made of stainless steel. The valve (see figure 2) mainly consists of a cylindrical casing with one axial inlet and one axial outlet, for the work material. Located inside the casing are three axially arranged chambers. Through these chambers leads pressure-tight an axial, movable hollow valve needle, at which two pistons and the main seal of the valve are fixed. The pneumatic control air is supplied through the valve block.

The *two chambers on the inlet side* each contain a pistons und are divided by them each into two partial-chambers - vent chamber and pressure chamber. If the pressure chambers are charged with compressed air, the valve opens. The air release is effected by ventilation holes. Due to the tandem design, the pushing forces of the two pistons sum. A compression spring in the first vent chamber closes the valve as soon as it is no longer charged with compressed air.

The *chamber on the outlet side* is the real valve chamber for switching of the work material. It has a sealing seat and contains the output of the hollow valve needle (radial throughput bores), as well as the main seal of the valve. The valve conducts the working material through the hollow valve needle with good throughput.

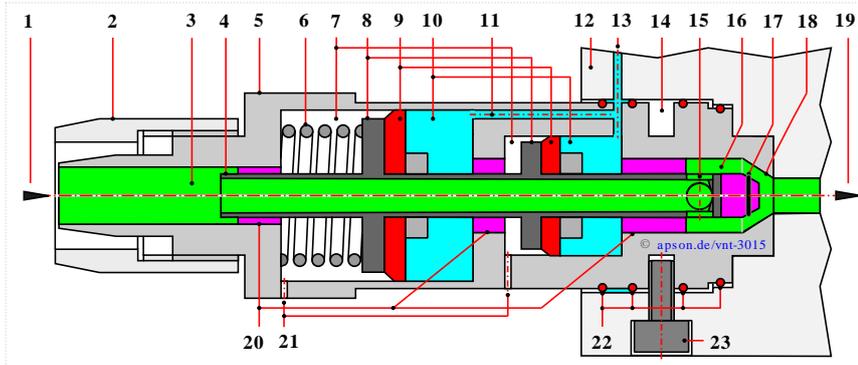


Fig. 2: APSON Minivalve VNT-3015 - Structure and Function

**Legend:** 1=inlet for work material, 2=hose connector, SL hose-nut, 3=work material, 4=hollow valve needle, 5=valve casing, 6=compression spring, 7=vent chambers, 8=pistons, 9=piston seals, 10=pressure chambers, 11=control-air channel, 12=valve block, 13=inlet for pneumatic control air, 14=periferal locking groove, 15=throughput bores from hollow valve needle to the valve chamber, 16=valve chamber, 17=main seal of the valve (for better understanding of the flow of the work material, the valve is shown in the *activ, open* status), 18=sealing seat of the main seal, 19=outlet for the work material, 20=valve needle seals, 21=ventilation bore holes, 22=case sealings, O-rings, 23=locking screw.

## 4. Technical Data

<b>Designation:</b>	<b>APSON Minivalve VNT-3015</b>
Valve type:	Normally closed, 2/2-ways
Work materials:	Solventborn and waterborn lacquers, solvents, alkalis, a.o.
Work material pressure:	Max 30 bar, hose-nut for hose [mm] d x D = 6 x 8
Pneumatc control air pressure:	6 to 8 bar
Casing parts:	Stainless steel
Main seal of hollow valve needle:	Kalrez™
Seals for pistons and valve needle cone:	UHMWP (Ultra High Molecular Weight Polyethylene)
Casing sealings:	Viton™, or on customers request
Casing dimensions [mm] L x M:	Approx. 80 x M 24
Mass:	Approx. 100 g
Approvals:	CE

## 5. Ordering Data

Designation	Ordering-Nr.
APSON Minivalve VNT-3015	060A070

*APSON Lackiertechnik GmbH · Am Wiesengrund 15 · D-63075 · Offenbach · Germany*  
*Phone: +49-69-82-369-447 · Mobile: +49-171-373-1633 · Fax: +49-69-82-369-448*  
*[email@apson.de](mailto:email@apson.de) · [www.apson.de](http://www.apson.de)*

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