

# Minivalve VNT-3011

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## 1. Introduction

The **APSON Minivalve VNT-3011** 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 the **APSON Mini Lacquer Changer LCM-2010**.



Fig. 1: APSON Minivalve VNT-3011

## 2. Features

- Indicator for switch status and sealage resp. leakage.
- Very 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.
- Assembly and disassembly using simple tools.

## 3. Structure and Function

The **APSON Minivalve VNT-3011** is a *normally closed* 2/2-ways valve. The casing and parts are made of stainless steel. Located inside the casing, (see figure 2), are two axially arranged pressure chambers, each with a piston and piston seal. Through these chambers leads pressure-tight an axial, movable hollow valve needle, at which the two pistons and the main seal of the valve are fixed. The rear part of the valve needle is visible and contains an axial bore. This allows to determine the switching state and the sealage or leakage of the valve. The work material and the pneumatic control air are supplied through the valve block.

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 compression spring chamber closes the valve as soon as it is no longer charged with compressed air. The actual

valve chamber for switching of the work material and the sealing seat of the main seal are located in the respective valve block (see **APSON Mini Lacquer Changer LCM-2010**).

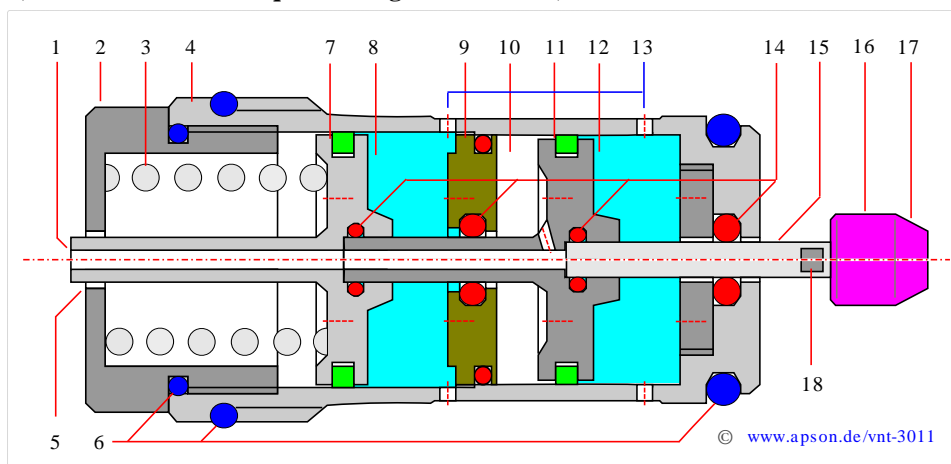


Fig. 2: APSON Minivalve VNT-3011 - Structure (simplified representation)

**Legend:** 1=indicator for the switching state and the sealage or leakage, 2=housing lid, 3=compression spring, 4=valve housing, (wrench size 17 mm), 5=venting bore of the pressure spring chamber, 6=housing seals, O-rings, 7=rear piston with piston seal, 8=rear pressure chamber, 9=sealing plate for the pressure chamber, 10=vent space, 11=front piston with piston seal, 12=front pressure chamber, 13=control-air channels, 14=valve needle seals, 15=valve needle, 16=main seal of the valve, 17=wrench surface (wrench size 1.5 mm).

## 4. Technical Data

<b>Designation:</b>	<b>APSON Minivalve VNT-3011</b>
Valve type:	Normally closed, 2/2-ways
Work materials:	Solventborn and waterborn lacquers, solvents, alkalis, a.o.
Work material pressure:	Max. 15 bar
Pneumatic control air pressure:	6 to 8 bar
Materials:	Housing parts: stainless steel, housing seals: Viton™
Seals of valve needle and pistons:	Teflon™ and/or Kalrez™, or on customers request
Main seal, valve needle cone:	UHMWP (Ultra High Molecular Weight Polyethylene)
Dimensions [mm] L x M, WS:	Approx. 47 x (M 17 x 1), wrench size 17
Mass:	Approx. 30 g

## 5. Ordering Data

Designation	Ordering-Nr.
APSON Minivalve VNT-3011	060A060

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)