Backflow Control Valve BCV-2011-P, Pneumatically

Table of Contents

1. Introduction

The **APSON Backflow Control Valve BCV-2011-P** is a *pneumatically* adjustable pressure relief valve. It is particularly suitable for aggressive media, e.g. varnishes, solvents, alkalis, a.o. The control valve releases the flow to the output as long as the medium pressure at the input exceeds a preset value. It is optimized for good rinsing and is intended for use in painting plants, for lacquer back pressure control or as a dynamic bypass in automatic systems.

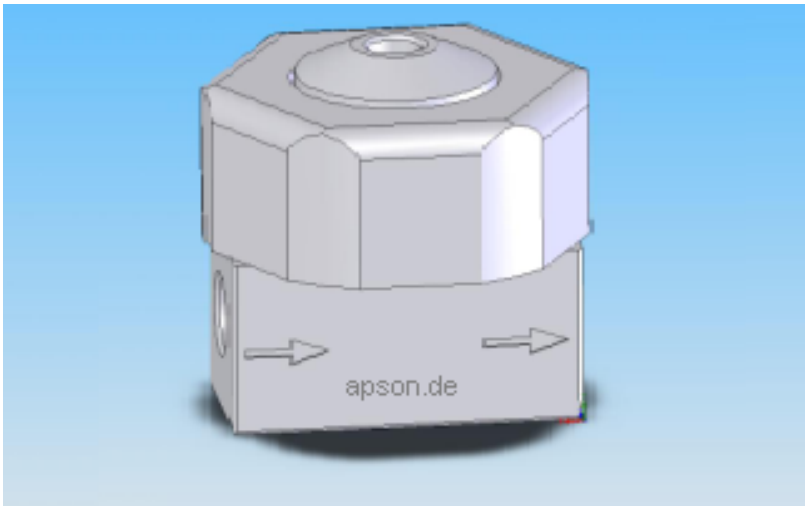

Fig. 1: APSON Backflow Control Valve BCV-2011-P

2. Features

- Environmental carefully due to short rinsing times.
- Good rinsing and low solvent consumption.
- Efficient maintenance and spare parts inventory.
- Very fast replacement of a defective diaphragm (approx. 2 minutes).
- Easy handling during installation, adjustment and maintenance.
- Very compact design.

3. Structure and Function

The **APSON Backflow Control Valve BCV-2011-P** is equipped with a spacer ring **D** and two ondulated membranes (diaphragms), a medium membrane **MM** and a control air membrane **PM** (see Fig. 2). The resulting gap space between ring and membranes has a radial output **S**. It is used as a safety device. The double diaphragm separates the control air from the use medium and is equipped with a sealing piston **K**. The backflow control valve keeps the medium pressure at the inlet (!) constant and independent of pressure changes of the medium-supply system as long as the force acting on the piston K force due to the medium pressure at the input is greater than the opposing force acting on the piston due to the pneumatic pressure.

In the **Normal Case resp. Normal Mode**, the input and the output result according to the arrow direction. For special applications with higher working pressures the **APSON Back Flow Control Valve BCV-2011-P** can also be operated in **Inverse Mode** (input and output against the arrow).

Occurs **a damage to the medium membrane MM** at still perfect control air membrane, then the use medium penetrating the membranes interspace is derived through the discharge opening S. Occurs **a damage to the control air membrane PM** at still perfect medium membrane, then the control air penetrating into the membranes interspace is discharged through the outflow opening S of the interspace.

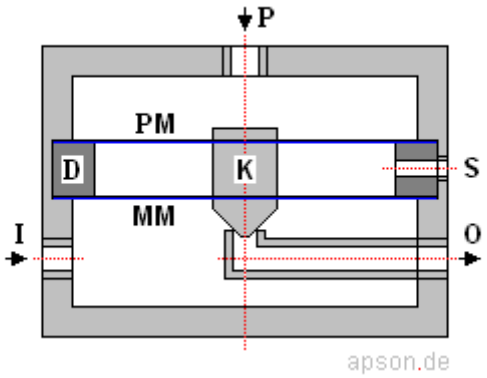

Fig. 2: APSON Backflow Control Valve BCV-2011-P -- Functional Scheme

With proper operation of the control valve, the advance of use medium into the pneumatic system can be prevented in case of failure. The flow geometry of the valve interior gives a very brief rinse. The desired pressure of the use medium at the input of the control valve is adjusted by means of pneumatic control air pressure.

Note: When replacing a diaphragm, make sure that the Teflon™-coated surface of the diaphragm is mounted towards the use medium.

4. Technical Data

Designation:	APSON Backflow Control Valve BCV-2011-P
Use media:	Lacquers, solvents, alkalis, a.o.
Maximum working pressure:	Normal Mode: 12 bar, Inverse Mode: 20 bar
Max. throughput (with water):	Normal Mode: 20 l/min, Inverse Mode: 30 l/min
Materials:	Wetted parts are stainless steel. Nut and cap made of high-strength aluminum, hard anodized. Membranes made of rubber with fabric portion, Teflon™ -coated.
Pneumatic connection:	G1/8"
Use media connections:	G1/4" with 90° sealing cone
Dimensions:	Diameter 57 mm, height 66 mm
Mass:	Approx. 270 g

5. Ordering Data

Designation	Ordering Nr.
APSON Backflow Control Valve BCV-2011-P	040-A027E
APSON Spare parts / consumable package for APSON BCV-2011-P	300-0077
APSON Paint pressure regulator key (wrench size 54 mm)	100-0105

Options: All aluminum parts of stainless steel

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