

## Techconnet BlowOff - Type BO 2.1 HD – BO 2.4 HD

Automatic Air Blast System for Aspiration Smoke Detectors

### Installation guide

Current state: February 2017



Certified by VdS according to DIN EN 54-20 with  
**Vesda/Xtralis and Wagner**

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**Note**

Technical specification / Installation guide BO 2.1 HD- BO 2.4 HD  
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## 1. Technical data of BlowOff Type BO 2.1 HD – BO 2.4 HD

<b>Blow Off module</b>	compatible to all commercial aspiration smoke detectors with 1 to 4 pipes, upgradeable
<b>Casing</b>	Metal /IP 65/ color RAL 7035, door dooble lockable
<b>Electrical connections</b>	230 V AC 50-60Hz; from 3x1,5mm <sup>2</sup> to 3x2,5 mm <sup>2</sup>
<b>Rated input current</b>	Schneider Electric ZELIO LOGIC
without extensions	160mA
with extensions	280mA
<b>Power loss</b>	
without extensions	4VA
with extensions	7,5VA
<b>Valves</b>	Elektronical (Festo) – control and blow off Pneumatical (Festo) G1 – main line
<b>Compressed air connection</b>	with quick-coupler DN 7.2, max. 7,0 bar technically oil-free and dry
<b>Pipe connections</b>	easily accessible from outside / can be quickly installed
<b>Probe tube / suction pipe</b>	Adapter from a diameter of 28 mm to 25 mm
<b>Input contacts</b>	- Unscheduled air blast - Deactivate air blast
<b>Output contacts</b>	- Potential-free signalling contact(s) (to fire control panel / ASD) - Contact for operating status
<b>Protection class</b>	SKI earthed
<b>Type of protection</b>	IP 65 standard Version Complete protection against contact with live parts, spray-water tight in all directions and dust-free
<b>Work area</b>	-5° C to +40° C without heater -20° C to +40° C with heater (optional)
<b>Mounting</b>	simple wall mounting with external brackets (4 wall drillings with M8 dowels)
<b>Dimensions</b>	W x H x D: 700 x 500 x 250 in mm
<b>Installation</b>	interior applications under normal environmental conditions, no acid content in ambient air

**Control unit** Internal PLC (Schneider / Telemecanique),  
factory-set: 4 times per day:  
1:00 am, 7:00 am, 1:00 pm, 7:00 pm  
or  
programmable in freely selectable intervals

**Optional:**

**Control cabinet heating** variable, integrated, with thermostat

**Pressure switch** to monitor, if pressure is on

## 2. Installation and fixing

The air-blast system is installed between aspiration smoke detectors and sensor pipe system.

**2.1** The air-blast system is tightly fastened with dowels and screws to the four prepared mounting lugs on the wall.



**2.2** The blow-off system is connected with adapters 28 mm / 25 mm to the external, standard plastic piping on top and bottom. The appropriate number of adapters are supplied with each device.



**2.3** Compressed air is connected by means of the quick coupler located at the bottom of the housing.

**Notice!** The compressed air connection must be fed with dry and technically oil-free compressed air (ISO8573-1:2010, class 1.5.2) of max. 7.0 bar pressure – depending on sensor pipe length.

**Continuous supply of compressed air of min. 4.0 bar must be ensured.**

### 3. Electrical connections

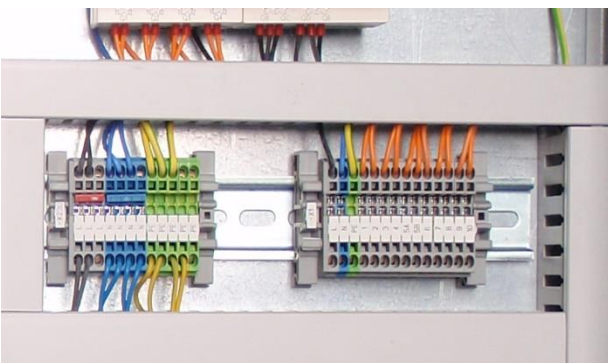


Wiring and power supply are provided through the cable bushings located at the bottom.

The BlowOff system is operated with 230 V AC.



- 3.1** Use the 3 mm two-way key to open the casing door  
A key is supplied with every unit.



- 3.2** The phase L (black), the neutral conductor N (blue) and the protective earth conductor PE (green/ yellow) must be connected to the power supply terminal.
- 3.3** The input/output contacts are connected according to the desired programming.

The potential-free output contacts are used for operational monitoring and can be assigned individually as required (see terminal diagram).

## 4. Setting blow-off times

**4.1** Air-blast times are pre-programmed at the factory according to a time schedule.

Standard : 4 times per day: 07:00; 13:00; 19:00; 01:00 am

## 4.2 Changing cleaning times

For reprogramming, proceed according to the operating instructions for the switch clock.

To change the blow-off times of our BlowOff systems, you need a password.

The corresponding password is indicated on the nameplate inside the casing cover. e.g., our project number PJ09-2063 => password = **2063**

If you wish to change the cleaning times via the parameter setting, you always have to set the desired time "X" as an "ON" command, and set an "OFF" command 1 minute later.

If no "Off" command is set, the plant will permanently remain in the cleaning process.



## 5. Switching on the BlowOff



**5.1** Use the 3 mm two-way key to close the casing door.



**5.2** Turn the external "on" button to the "on" position.



**5.3** The "Operation 230V" pilot lamp is located on the top of the casing. It lights when the device is switched on.

The BlowOff is ready for operation.

## 6. Manual cleaning using the BlowOff air-blast system



To perform manual cleaning for maintenance purposes, you can press the "Manual cleaning" button on the casing. This will trigger a complete blow-off cycle.

**Note:** Please note that the time interval between the cleaning cycles is 300 seconds from pipe to pipe.



## 7. Functioning of the BlowOff air-blast system

The air is sucked from the sensor pipe system through the air-blast system to the ASD for early fire detection.



A top quality, 1 inch valve (FESTO) is used to avoid loss of suction pressure as a result of flow resistance at valves.

Oil-free, compressed air is fed into the BlowOff system through a universal coupling. In non-operating state, it is permanently present at the control valves. To avoid any unnecessary increase in the air volume delivered by the compressor, a separate compressed-air valve is used for every filler pipe run.

Upon the air blast, the 1 inch valves shut off air intake. Thus, the ASD is disconnected from the sensor pipe system. The pneumatic valve opens with a short delay and leads compressed air through the sensor pipe for approx. 20 seconds. Dirt and dust deposits are thus blown out of the system. The compressed-air valve is shut again after this, and the operation is repeated for every filler pipe run\*. When the pneumatic valve is closed, the suction valves open again and the ASD again sucks air from the now cleaned sensor pipe system. This operation is repeated at the pre-programmed times.

If a fire alarm or a pre-alarm is indicated to the BlowOff system via **terminal 6-9** depending on the version (230 V signal) either before or during the cleaning process, cleaning is suppressed or stopped immediately for as long as the signal is available plus a closing lock-out of 20 minutes.

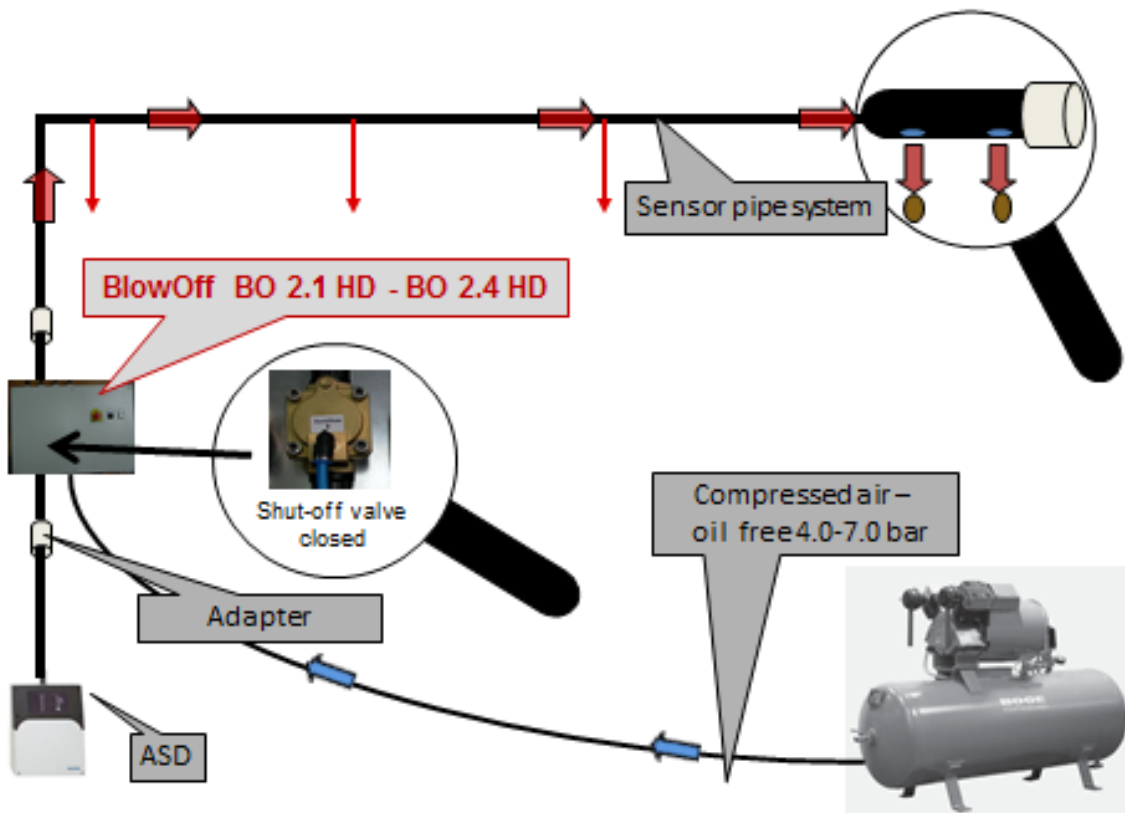
The operational monitoring of BlowOff is signalled permanently via a potential-free make contact at **terminals 3 and 4**. In the event of a power failure or of an operational failure of the PLC, the air-blast system is disabled and the signal is output via the potential-free make contact at **terminals 3 and 4**.

Regular cleaning is performed automatically. But it can also be carried out manually if necessary. (See item 6 at page 8)

Using the PLC, the cleaning process active message must be signalled to the Fire Control Panel via a potential-free make contact at **terminals 1 and 2** during the entire blow-off cycle in order to reset the "low air flow" error message of the ASD ( due to the closure of the intake side during blow off) or disable this message for the period of cleaning.

**\*Note:** Please note that the time interval between the cleaning cycles is **300 seconds** from pipe to pipe.

## 8. Integrating the Techconnet BlowOff unit into the fire alarm system



**9. Terminal diagram (with technical data and connection options)**

**BO 2.1 HD – BO 2.4 HD**

**Supplied with the unit**