



WHITEPAPER: THE BLAZER

FOR WHEN USING ASPIRATING SYSTEMS
IN A HARSH POLLUTED ENVIRONMENT



Dust and dirt cause many failures to your aspirating system because the sampling holes and filters frequently get polluted and as a result of this maintenance needs to be performed regularly throughout the year.

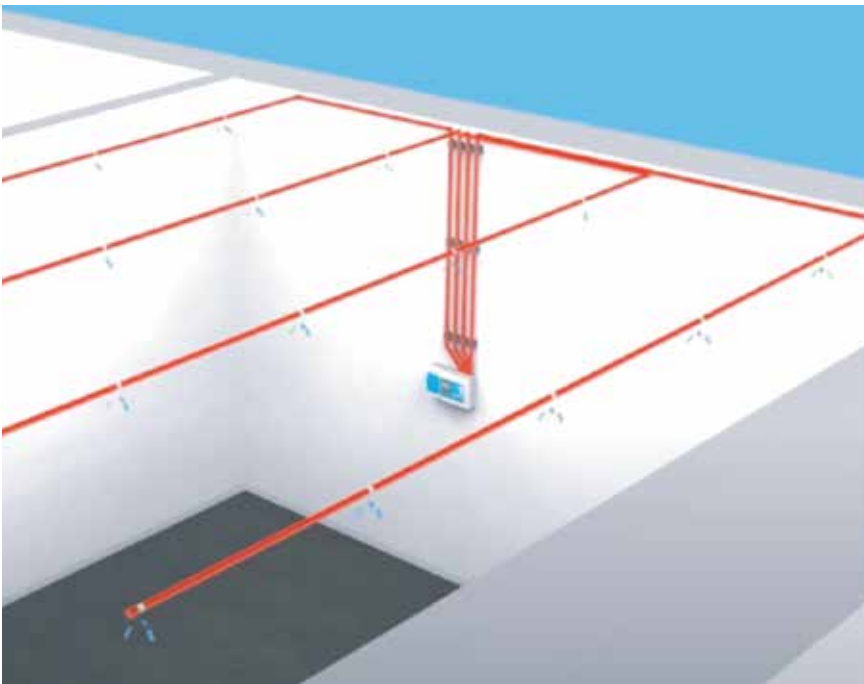
When every second counts

Waste treatment, industrial metal works, raw material processing, storage areas and animal husbandry; these are just a few examples of environments where the involved process can cause large amounts of dirt and dust to become airborne. Within these environments will also be found machinery and infrastructure which represents a large investment on behalf of the owner which will need to be adequately protected.

The importance of detecting a fire at an early stage by means of a reliable and well-functioning system is essential in an environment where dust and dirt can interfere with the smoke detection system.

ASPIRATING SYSTEMS

Aspirating smoke systems are frequently used in situations where a standard point detector does not function or is difficult to install due to environmental influences or building structure.



A typical layout of an aspirating system

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Aspirating smoke systems are known as active smoke detectors that utilise a sampling tube system in conjunction with calculated and drilled sampling holes. Through this system of tubes and holes it continuously samples air from the environment which is then analysed by the detector for smoke particles. Multiple alarm smoke levels can be manually set. This makes a smoke aspirating system a highly efficient fire detector which automatically compensates for the influences generated by the local environment. The more highly favourable the conditions, the more highly sensitive the unit can be configured.

While aspirating systems actively sample dusty and dirty air continuously, the sampling holes and filters in polluting situations will overtime become blocked. The dirtier the environment, the more frequently the smoke aspirating system will require maintenance. This is where The Blazer comes into its own in terms of ensuring system integrity and continuous operation.



Example aspiration detector:
VESDA VEU A00

ORIGIN

The Blazer is a wholly in house developed aspirating maintenance unit by FireSense.

Version 2.0 now includes new valves designed by FireSense.

The FireSense designed valves are essential to the correct functionality of the aspirating smoke system. The clean, high pressure air requires a solid solution. Several years of development have resulted in the Blazer 2.0.

Applications for The Blazer:

- Waste disposal
- Cocoa storage
- Raw material storage
- Animal houses
- Recycling
- Mining



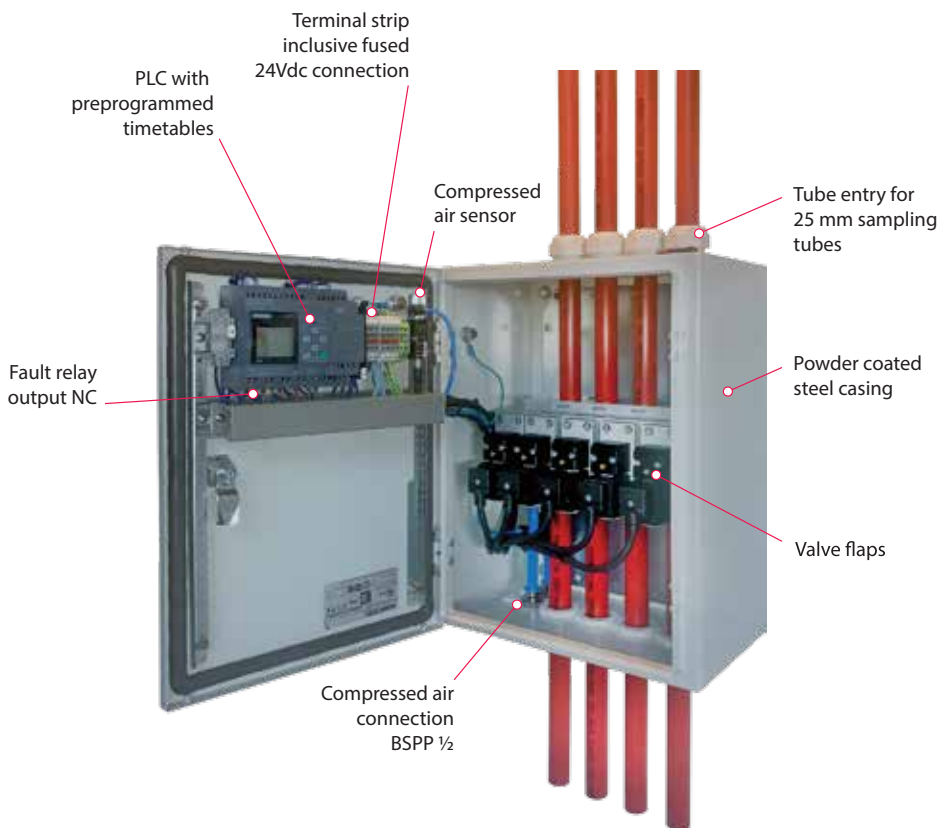
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HOW DOES THE BLAZER WORK

The Blazer is a device designed to run an automatically sequenced maintenance schedule on the aspirating system. The product is developed in a way that installation and setting up of the system can be done in a simple, yet effective manner.

With the continuous sampling of the air, especially in an environment where the dirt comes into contact with moisture causing the tiny particles to clump together, it is inevitable that blockages will occur. The sampling holes of the tubing are only a few millimetres in size and are susceptible to clogging by dirt and dust in these harsh environments.

The Blazer provides clean air that is blown into the system under high pressure in the opposing direction to the standard airflow on a regular basis. The Blazer is placed as close to the aspirating system as possible at the beginning of the sampling tubes. The height of the pressure that is offered depends on the total length of the tube, the number of holes and the intensity of the potential pollution. This is between 5 and 8 bar. If the air pressure drops or if the compressor is not supplying enough air a contact will be activated and can simply be relayed to the fire panel.



EXPORT

The first version of The Blazer was developed in 2004 and was recognised as state of the art within the international markets.

As a result of this, The Blazer has found its way into a number of countries:

- Australia
- Canada
- Denmark
- United Kingdom
- France
- Ireland
- Lithuania
- Poland
- Singapore
- Indonesia



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The high pressure compressed air is introduced to the system in pulsating bursts, with the aim of clearing blockages and ensuring system integrity.

The system is controlled by a PLC in which there are seven pre-programmed cycles, each of which can be adjusted to determine the maintenance intervals according to the on site requirements. Depending on the pollution, intervals can be selected from one hour, one day or up to once a week.

An aspirating system generally consists of 1 to 4 sampling tubes and The Blazer can therefore be equipped with 1, 2, 3 or 4 valves that are included per tube in the piping network. During cleaning, the sampling pipes are cleaned one by one, whereby both the pulse time and the number of pulses are adjustable.

The Blazer valves are designed so that the air resistance of the valves is within tolerances to ensure proper operation of the aspiration system. Due to the expansive configuration options available in The Blazer, it is possible to schedule the back flushing of the pipes to be in unison with the extraction system with regards to air flow monitoring.

THE ADVANTAGES

Smoke aspiration systems should be maintained annually. The sampling tube should be cleaned and if necessary the filters be replaced. However, in a highly polluted environment one time maintenance of a smoke extraction system per year is not sufficient. This needs to be repeated several times a year in order to keep the system in a functional state. The maintenance costs will be many times higher in cases where more visits are needed annually. More maintenance visits can also cause more interruptions and/or hinder your business processes, with another side effect causing increased operating costs.

The Blazer offers a cost effective solution. Any additional maintenance visits required can be taken over by The Blazer. The preventive periodic cleaning of the sampling pipes makes the aspiration system function properly even in the most challenging environments. This is done completely autonomously without disrupting the business or personnel. In this way, one maintenance visit a year is sufficient.

The Blazer periodically cleans the sampling pipes, but not the applied external filters. If necessary, these should be cleaned or replaced periodically.



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In conclusion when purchasing an aspirating system in combination with The Blazer the key benefits are:

- Long-term operating costs are many times lower
- Maintenance is guaranteed to take place at set times
- No disruption to work processes during maintenance
- No climbing equipment required for maintenance
- Independent of the aspiration system brand
- The life of the aspiration system is extended by the use of The Blazer
- The chance of malfunctions decreases sharply when using The Blazer
- System integrity and optimal system performance is maintained by using the Blazer

TECHNICAL DATA

The Blazer has 4 versions suitable for 1, 2, 3 or 4 sampling pipes.

Part numbers	ETBU-101, The Blazer suitable for 1 sampling tube ETBU-202, The Blazer suitable for 2 sampling tubes ETBU-303, The Blazer suitable for 3 sampling tubes ETBU-404, The Blazer suitable for 4 sampling tubes
Diameter	Of the aspirating tube to be connected: 25 mm
Power consumption	24Vdc Nominal; 18-30 Vdc
Dimensions	400 mm x 300 mm x 210 mm
Casing	Steel, powder coated RAL 7035
Protection	IP66
Weight	ETBU-101, 12.1 kg ETBU-202, 13.2 kg ETBU-303, 14.4 kg ETBU-404, 15.5 kg
Outputs PLC	PLC-Q1; 5A @ 30 Vdc (max.) for failure transmission
Inputs PLC	PLC-I1 to 7; adjustable time schedules
Display	Alarm status, fault and time



Compressed air compressor specifications

Compressor power	Minimum 1.5 Kw
Compressed air connection	12m female BSPP ½
Buffer tank	At least 90 litre per minute
Compressed air pressure	Between 5 and 8 Bar
Compressed air quality	Oil-free, ISO 8573-1: 2010 class 1.4.1
CE certificate	Present



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