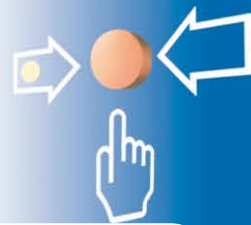


Automatic Purging Unit

Series AFE70



- **Fully integrated compact system**
- **Use in smoke aspiration systems and with fire detection control panels by any manufacturer**
- **Patented design without air resistance as defined by EN 54-20**
- **Selectable purging program – preventive or event-triggered**
- **Several systems can be coupled in master-slave mode**



Description

Smoke aspiration systems continuously sample air from the monitored room through a sensor pipe network with aspiration holes. In the evaluation unit the samples are examined for typical characteristics of fire.

Over the operating time, the continuous aspiration of air from the room causes contamination of the pipe system and the small aspiration holes, which can disturb the measuring process. In order to prevent this contamination, pipe systems and filters must be regularly „purged“ with compressed air.

In contrast to conventional systems, the Automatic Purging Units Series AFE70 by Labor Strauss only has one built-in solenoid valve. Through this valve, the evaluation unit is isolated from the pipe system in order to protect the evaluation unit against damage caused by the compressed air. At the same time the valve is also used to introduce the compressed air into the pipe system.

With their thoughtful and patented design, the Automatic Purging Units Series AFE70 ensure completely unhindered air flow from the sensor pipe network through the purging unit to the evaluation unit of the smoke aspiration system. The solenoid valve is actuated through a control board that is integrated into the housing.

Thanks to the compact structure of the Automatic Purging Units Series AFE70 and the integration of all components in a housing, the extensive mechanical installations and electrical control devices required for conventional purging systems as well as the piping and cabling needed for this can be saved.

The unit is available in 2 versions:

- the Automatic Purging Unit AFE70-1 with an air flow rate of typ. 1000l/min is intended for smaller pipe networks,
- the Automatic Purging Unit AFE70-2 with an air flow rate of typ. 3500l/min is designed for larger pipe networks.

The following features distinguish the Automatic Purging Units Series AFE70:

- 6 purging programs, each with short or long purging cycle
- manual control by means of an external push-button
- internal clock for up to 6 daily timed, preventive purging processes
- automatic start if fault message is received from smoke aspiration system
- if there are several AFE70's, a time delay between the purging processes of the individual units can be used to avoid rapid consumption of large compressed-air volumes
- master-slave mode with actuation of one or more „slaves“
- functional over a wide pressure range
- prepared for connection to all usual fire detection control panels and smoke aspiration systems
- easy commissioning without software tools
- multicoloured LED indicates the system conditions.

Operating principle

If the smoke aspiration system that is connected to the purging unit detects a fault – for example, due to the contamination of aspiration holes of the sensor pipe network – it reports this to the purging unit as fault. The purging unit delays the forwarding of the fault to the fire detection control panel and starts an automatic purging process.

If the clogging has been removed by the purging process, the smoke aspiration system resets the air flow fault within the observation period. The purging unit and the smoke aspiration system are in normal operation again.

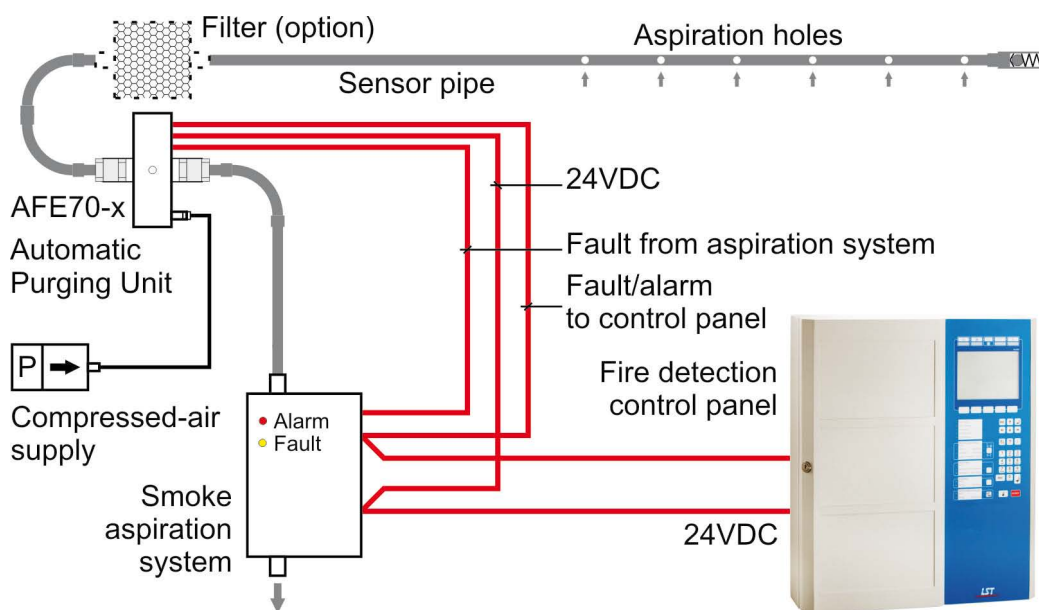
If the clogging could not be removed by the purging process, the smoke aspiration system remains in the fault condition. After expiry of the observation period, the purging unit forwards the fault to the fire detection control panel.

All conditions are indicated by the multicoloured status LED on the purging unit.

With the appropriate setting, the integrated clock of the purging unit can start timed automatic purging processes daily at determined times. These purging processes are carried out independently of the fault message of the smoke aspiration system and serve to preventively remove contaminations from the sensor pipe network and the aspiration holes.

External devices – such as a push-button or a central timer – can be connected to an input in order to allow initiation of additional manual or automatic activations of the purging process.

Schematic view



Specifications

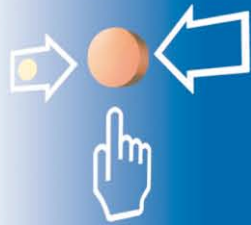
Supply voltage	21.6 – 30VDC
Ambient temperature	+5°C to +50°C
Protection class	IP10B
Dimensions W × H × D (excluding push-in fittings)	204 × 68 × 160 (mm)
Dimensions W × H × D (including push-in fittings)	204 × 201 × 160 (mm)
Colour of cover of housing	grey white, RAL 9002
Weight	approx. 3.2kg
Patent number	AT 514912

Automatic Purging Unit AFE70-1

Current consumption at 24V	8mA (normal condition) 450mA (solenoid valve energised)
Compressed air connection maximum permissible overpressure recommended minimum pressure	1.0MPa (10.0bar) 0.2MPa (2.0bar)
Flow rate solenoid valve	0.4MPa: typ. 600 l/min 0.6MPa: typ. 800 l/min 0.8MPa: typ. 1,100 l/min 1.0MPa: typ. 1,400 l/min
Order number	222050
Order name	Automatic Purging Unit/1000L AFE70-1

Automatic Purging Unit AFE70-2

Current consumption at 24V	8mA (normal condition) 300mA (solenoid valve energised)
Compressed air connection maximum permissible overpressure recommended minimum pressure	0.7MPa (7.0bar) 0.2MPa (2.0bar)
Flow rate solenoid valve	0.2MPa: typ. 1,300 l/min 0.4MPa: typ. 2,300 l/min 0.6MPa: typ. 3,200 l/min 0.7MPa: typ. 3,700 l/min
Order number	222051
Order name	Automatic Purging Unit/3500L AFE70-2



ASTEC B.V.

Kerkweg 70
6155 KN Puth
Tel. +31 (0)46 443 55 77
Fax. +31 (0)46 443 04 82
E-mail: info@astec.nl
Internet: www.astec.nl

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