FP 150 ATEX

APPLICATION

The FP 150 ATEX is equipped with a cleanable anti-static filter cartridge which allows dust build-up to be removed from the filter using bursts of compressed air. This means that the device is ideal for applications in which large amounts of dry, flammable dust with a minimum ignition energy of > 3 mJ are extracted, and that it has a very long service life in comparison to systems with saturation filters.

The system meets the requirements of the ATEX directive (EX II 2/- Dc IIIC T100ºC) and is suitable for extraction from a zone 21, although the system must be placed outside of the zone. The suitability for the respective application depends on the substance to be extracted and must be considered individually. In appropriate situations, use for a minimum ignition energy of < 3 mJ can also be checked.

Similar to image

AREAS OF APPLICATION:

Flammable dusts (minimum ignition energy > 3 mJ) from the following processes:

- Laser processing (in some cases combined with precoating)
- Mechanical processing (grinding, deburring, milling, drilling, cutting)
- Transferring materials, packaging processes, transporting/ conveying processes

THE SYSTEM INCLUDES NUMEROUS FEATURES:

- Developed in accordance with the ATEX directive
- Cleanable filter cartridge
- Simple dust removal
- Powerful electronics

FUNCTIONAL PRINCIPLE

The contaminated air, which consists of flammable dusts, is collected by the collection unit (extractor hood, suction arm, hose, etc.) and transported into the filter unit directly or through an earthed pipe or flexible hose. The dust particles are filtered out by a cleanable anti-static filter cartridge in the filter unit. The filter cartridge is cleaned using an automatic cleaning system. The automatic cleaning system is triggered by the system's differential pressure controls whenever the extraction level decreases. The filtered-out dust particles are collected in a dust collector for easy disposal. If necessary, a dust bag can also be inserted for low-contamination disposal. The cleaned air is then passed through a particle filter (which represents another level of safety) and – depending on the application – transported back into the work area or diverted outdoors.

PRODUCT FEATURES

DEVELOPED IN ACCORDANCE WITH THE ATEX DIRECTIVE

The system was specially developed in accordance with the ATEX directive, and the documentation was stored at a named location, in accordance with the standard's requirement. The device is appropriately labelled with the designation EX II 2/-Dc IIIC T100°C. It may be used to extract from a zone 21 (the zone is appraised by the user), although the system must be placed outside of the zone.

Customers receive a special sample explosion protection document, which enables them to appraise the overall system of TBH extraction system and customer environment.

CLEANABLE FILTER CARTRIDGE

TBH standard filter cartridges feature a microfibre surface made of PES (polyester) and a conductive coating. They are tough and well-protected against mechanical damage, and they represent a solution for a wide range of customer applications. For special applications, PTFe-coated filter cartridges and other accessories are also available.

Please contact the TBH sales team for more information about your specific application.

new filter cartridge

filter cartridge in use

filter cartridge after cleaning

SIMPLE DUST REMOVAL

The dust collected in the process can be disposed of using the removable dust collector. If necessary, a dust bag can also be inserted for low-contamination disposal.

POWERFUL CONTROL ELECTRONICS

The FP 150 ATEX is equipped with INSPIRE control electronics and a comprehensive interface. This allows controlling and monitoring the following functions:

- Switching between run/standby
- Manual adjustment of the rotation speed
- Manual start of the filter-cartridge cleaning
- Filter-saturation indicator of the extraction system
- Visual and acoustic display of the filter saturation
- Fault display and notification

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INTERFACE:

- System start/stop
- Warning at a filter saturation of 75% (notification, e.g. for external control of the cleaning process)
- Visual and acoustic signals when filter is saturated
- Collective fault output (rotation speed, temperature, filter full 100%)
- External adjustment of the rotation speed
- External start of the cleaning process
- Error memory improves the coordination between the customer and the TBH service
- Parameterization access for the activation of custom functions

OPERATING ELEMENTS:

A) Switching between run/standby

B) Manual adjustment of the rotation speed

C) Manual start of the filter-cartridge cleaning

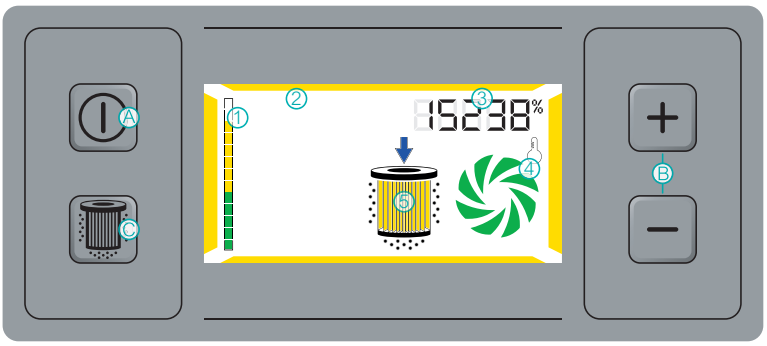
1) Filter-saturation indicator

2) System status indicator

3) Performance-setting indicator/ operating-hours meter

4) Temperature and turbine-malfunction indicator

5) Cleaning-in-progress indicator



ADSORPTION OF GASEOUS SUBSTANCES

Two complimentary filter materials are used for the adsorption of gaseous substances. The activated carbon facilitates the physical adsorption process while the BAC granules facilitate a chemical adsorption process. Neutralisation of specific gaseous substances is achieved through chemical binding with the reaction substance that is deposited on the carrier material. Because the physical and chemical adsorption processes are complementary, an extremely wide range of gases and odours can be collected.

Activated carbon

BAC granules

Activated carbon/BAC