

APPLICATION

The FP 150 is equipped with a cleanable 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 dust are extracted, and that it has a very long service life in comparison to systems with saturation filters. Precoating (applying a separating layer to the filter cartridge) enables the system to reliably filter out even sticky and moist dust.

AREAS OF APPLICATION:

- 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:

- Upgradeable with various filter modules
- Cleanable filter cartridge
- Simple dust removal
- Powerful electronics



Similar to image

FUNCTIONAL PRINCIPLE

The contaminated air is collected by the collection unit (extractor hood, suction arm, hose, etc.) and transported into the filter unit directly or through a pipe or flexible hose. The dust particles are filtered out by a cleanable filter cartridge in the filter unit. The filter cartridge can be cleaned by hand using a compressed air gun, but for health reasons, the optional automatic cleaning system is recommended. 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.

PRODUCT FEATURES

UPGRADEABLE WITH VARIOUS FILTER MODULES

The FP 150 is equipped with a cleanable filter cartridge of dust class M. An optional particle filter (H13) can be installed downstream to increase the separation efficiency, e.g. where carcinogenic substances are present. A molecular filter (activated carbon/BAC) is also available to eliminate odours from the process air. For each additional filter selected, a machine pedestal must be ordered to increase the system's stability.



CLEANABLE FILTER CARTRIDGE

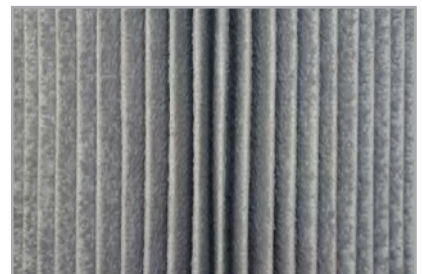
TBH standard filter cartridges feature a microfibre surface made of PES (polyester) and a conductive coating. They are tough and well-protected against mechanical damage, and they represent a solution for a wide range of customer applications. For special applications, PTFe-coated filter cartridges and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



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 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

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

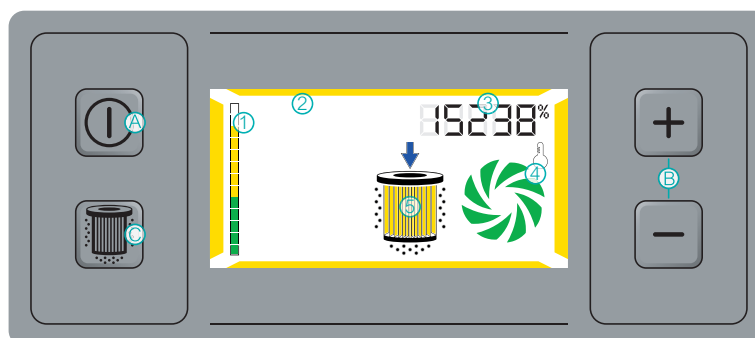
1) Filter-saturation indicator

2) System status indicator

3) Performance-setting indicator/
operating-hours meter

4) Temperature and turbine-malfunction
indicator

5) Cleaning-in-progress indicator



FILTER-CARTRIDGE CLEANING:

The FP 150 is equipped with a special cleaning control allowing the automatic removal of dust covering the filter cartridge thus significantly increasing the filter service life.

Depending on the specific case of application, different options can be parameterized by the customer:

- Differential-pressure-controlled cleaning (factory setting)

The system constantly monitors the actual filter saturation and automatically starts the cleaning cycle once a set value has been reached (factory setting: filter saturation of 75%)

- Interval cleaning (can be parameterized via interface)

The system automatically starts the cleaning cycle in accordance with individually adjustable periods of time (minutes/hours)

- Coastdown cleaning (can be parameterized via interface)

Coastdown cleaning can also be activated in addition to the other modes. The cleaning cycle is started automatically once the system is switched to standby. This allows the system to clean the filter at the end of a work shift without interrupting any work processes.

- Start cleaning via interface

Depending on the individual case of application, the customer can activate the cleaning by means of the interface. Using this function is recommended whenever the customer's work process must not be interrupted in an unforeseen manner.

ADDITIONAL FUNCTIONS:

Slide-valve control, system shutdown during a running cleaning process, cycle times and much more.

INDUSTRIAL SAFETY AND HEALTH PROTECTION

In order to meet our customers' safety requirements even better, TBH has complemented its product range by different extraction and filter systems specifically tested by the German Institut für Arbeitsschutz (IFA) [Institute for Occupational Safety and Health] in accordance with DIN ISO 15012-1 (2013).

W 3	ISO 15012-1 $\eta \geq 99\%$	W 3
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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

