



FP 200 ATEX SERIES

FILTER / EXTRACTION / ENVIRONMENTAL // TECHNOLOGY



HUMANS / ENVIRONMENT / MACHINERY

FP 200 ATEX Series**Designed for larger dust volumes**

The FP 211 ATEX and FP 213 ATEX are equipped with special filter-cleaning control and with antistatic filter cartridges, which enable the filter to be freed from dust by compressed air blasts. The units are therefore particularly well suited for applications in which large quantities of dry, combustible dust with a minimum ignition energy of >10mJ are extracted and achieves enormously long service lives compared to systems with saturation filters.

**Developed according to ATEX directive**

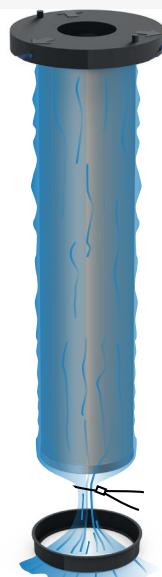
The systems meet the requirements of the ATEX directive (EX II 2- Dc IIIC T100 °C) and are suitable for extraction from a zone 21, whereby the system must be installed outside a zone. The suitability for the respective application depends on the material to be extracted and must be considered individually. In appropriate cases, the use at minimum ignition energies of >3mJ can also be tested. The customer receives a special sample explosion-protection document that enables him to evaluate the entire system consisting of the TBH extraction system and the customer environment.



Illustration similar

**Contamination-free filter change****Patented technology**

Bayonet lock: Tool-free filter exchanging



Filter cartridge - safe removal and packaging through patented technology.

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Application-dependent filter equipment

The filter and extraction system can be equipped with suitable filter cartridges depending on application. A differentiation is made between:

Standard:

Dedusting processes with dry dusts that can be easily dedusted from the filter-cartridge surface. A polyester fleece cartridge with conductive aluminium coating is used here. The standard filter cartridge represents the optimum between filter efficiency and costs

Optional:

Processes with dusts that are difficult to dedust, e.g. in connection with precoating. A polyester fleece cartridge with PTFE and aluminium coating is used here. Due to its special coating, the optional filter cartridge has a greatly improved cleaning characteristics and is optimally suited for difficult applications.

Apart of the available filter cartridge options, the system can be equipped ex works with a variety of filter modules.

This may be necessary depending on application and occupational safety regulations.

A molecular filter (activated carbon/BAC) is also available for removal of odours and gases from the process air.



Illustration similar



Simple dust removal



Dust removal

The dust generated during the process is disposed of via the removable dust container.

If required, a dust bag can be inserted for low-contamination dust removal.



Filter-cleaning control

The FP 200 ATEX series is equipped with special filter-cleaning control, which enables the filter cartridge to be automatically freed from dust and thus increase the filter service life enormously.

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

Differential-pressure controlled dedusting (factory setting)

- The system continuously measures the current filter saturation and automatically starts the dedusting cycle when a set value is reached (factory setting: 75% filter saturation).

- Interval dedusting (parameterizable via interface)

The system automatically starts the dedusting cycle at adjustable intervals (minutes/hours).

- After-run cleaning (parameterizable via interface)

The after-run cleaning can also be activated in addition to another mode. When the system is switched to standby, a dedusting cycle starts automatically. This allows the system to clean the filters at the end of a working shift without interrupting a work process.

- Start filter dedusting via interface (no automatic filter dedusting).

Depending on the application, the customer can easily activate the dedusting process via the interface. This function is recommended when the customer's work process may not be unexpectedly disturbed. Additionally, the dedusting can be started manually via the system's front foil. This setting is, as an example, is absolutely necessary for manual precoating and can already added in the order process.

Additional functions:

Control of shut-off valve, system shut-down during dedusting, cycle times, etc.

The precoating process

The FP 211 and FP 213 can be manually precoated with the Precofix 200 precoating powder. The precoating powder creates a thin separating layer between the filter medium and the extracted debris particles. This protects the surface of the filter cartridge and facilitates the cleaning of even sticky and moist particles (Fig.1). This enormously increases the application range of cartridge filter systems of the FPV and FP series and greatly extends the filter service life, even under difficult conditions.



Figure 1



Long service life due to effective filter cleaning



New filter cartridge



Filter cartridge in operation



Filter cartridge after dedusting

The FP 211 and FP 213 ATEX are equipped with six dedustable filter cartridges of dust class M. The filter cartridges are made of IFA-tested filter material (dust class M), which enables an optimized dedusting due

to its special folding. Depending on the application, specially coated variants can be used. Please contact the TBH sales department.



Application-dependent motor selection

TBH offers a selection of different motor concepts in its product range to ensure the optimum suitability of the filter and extraction system for the respective application. This enables the system to be ideally adapted to the conditions on site, for example through:

- short or long extraction lines,
- large or small line cross sections,
- coarse or fine particles,
- Single or multi-station extraction,
- noise-sensitive environment,
- industrial production hall.



Double adsorption power



Active carbon



BAC granulate



Active carbon/BAC

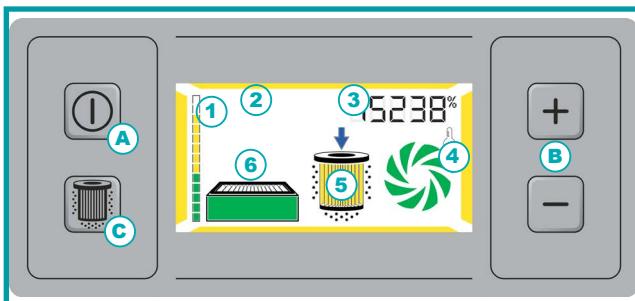
The adsorption of the gaseous substances takes place with activated carbon (physical adsorption) and BAC granulate (chemical adsorption).

In addition, they take up a very broad spectrum of gases and odours.

-> Neutralization through chemical bonding with the reaction substance applied to the substrate material.

Inspiring control

**Continuous full control over
the system**



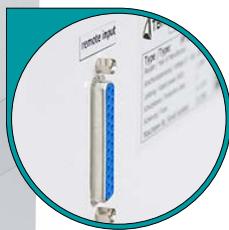
- A - Start / Stop button
- B - Manual power control
- C - Manual start of filter-cartridge dedusting
- 1 - Saturated filter notification
- 2 - System status indication
- 3 - Power-setting indication/
Hour meter
- 4 - Temperature and turbine-status indication
- 5 - Filter status indication

SUB-D 25 interface

External control of the system



Illustration similar



Powerful control unit

- Start / Stop button
- "Filter full" pre-warning stage (75%)
- Group-error output
(speed, temperature, "filter full" 100%)
- External power control
- Parameterization access for activating special functions and dedusting mode
- Message cache
- Digital interface (RS232)

Further information on the series

Scan QR code:



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Applications



Refilling work, packaging processes, feeding and conveying processes

When materials are moved from one place to another, such as during packaging or transportation, this process can cause particles to be released. Especially since they are not visible to the human eye, the risk should not be underestimated. Particles can develop from turbulences. TBH filter and extraction systems safely remove these particles from the ambient air.



Mechanical processing (grinding, deburring, milling, drilling, cutting)

Processes such as grinding, deburring, milling, drilling or cutting generate dust, vapours and gases. These by-products must be extracted before their tiny particles are inhaled and can cause serious harm to the human body.



Laser technology

Lasers are used for processing metals, woods and plastics. Due to this versatility, companies are intensively involved in laser technology. This not only increases efficiency, but also creates unwanted by-products, regardless of type and performance. TBH systems ensure safe extraction of fine dust and laser fumes.



Plastics processing

Almost every industry today processes plastics. TBH systems are exactly the right solution for the safe extraction and filtration of grinding dusts and vapours that occur during the processing of plastics. Be convinced by our quality.

System configuration FP 200 ATEX Series



For easy configuration of your desired TBH filter and extraction system type FP 211 or FP 213, please observe the following steps:

A - Selection of basic model

Depending on the application, select the suitable system based on its performance data (Fig. 2).

TECHNICAL DATA	UNIT	FP 211	FP 213
Air flow rate with free air delivery	m³/h	2000	700
Effective air volume flow	m³/h	300-1500	100-550
Max. static pressure	Pa	5500	15000
Voltage	V	400 (3P+N)	230

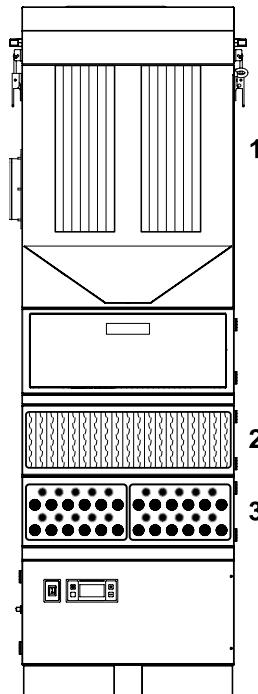


Figure 2

BASIC MODEL
FP 211 / FP 213 ATEX

B - Selection of filter cartridges

In the FP 211 ATEX and the FP 213 ATEX, antistatic filter cartridges are used as standard. Depending on the application, special filter cartridges can also be used. Please contact the TBH sales department.

C - Selection of intermediate modules

To ensure ATEX protection for the systems, an intermediate module with a special particle filter (H13) is used as a safety level. The particle-filter differential pressure is monitored separately to increase ease of maintenance. Depending on the application, an additional filter housing module with activated carbon/BAC filter can be selected (Fig. 3).

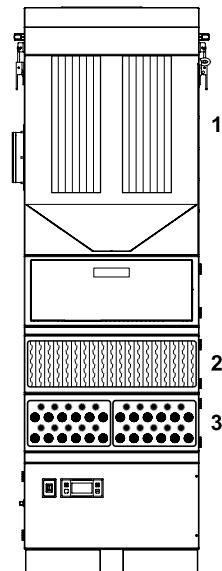
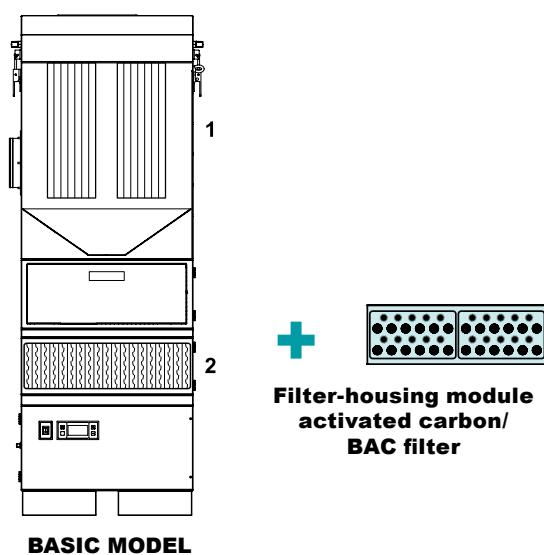


Figure 3

System configuration FP 200 ATEX Series



Figure 4

D - Selection of intake socket

Select the intake socket of your system (position and diameter) from (Fig. 4). Please note any existing connections, e.g. to laser systems or similar. Please also pay attention to a reasonable dimensioning of the line cross-sections in relation to your application (air velocity, pressure loss).

E - Selection of filter dedusting

The system is factory-delivered with the function "Differential-pressure controlled dedusting". When the filter saturation reaches the set value, the system automatically starts its dedusting cycle.

The cleaning modes interval dedusting and follow-up dedusting can be easily parameterized by the customer via the system's interface. Please contact your country representative, if in doubt.

The filter cartridge dedusting can also be started externally via the interface.

F - Selection of precoating socket

Select a possibly required precoating nozzle (Fig. 5) based on the selected intake socket.

Required replacement filters can be found in the corresponding ordering data tables.

For any questions, please contact the TBH sales department.

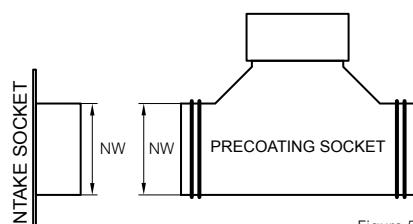


Figure 5

Technical data FP 211 ATEX



Illustration similar



Delivery scope:

- Completely assembled (incl. the selected filter equipment)
- Base stands (suitable for forklift trucks)
- Crane eyelets (optional)
- Power cord

TECHNICAL DATA	UNIT	FP 211 ATEX
Air flow rate with free air delivery	m³/h	2000
Effective air flow rate	m³/h	300-1500
Max. static pressure	Pa	5500
Voltage	V	400 (3P+N)
Frequency	Hz	50/60
Motor output	kW	3.0
Class of protection	-	1
Drive type	-	Continuous running
Sound level	db(A)	approx. 68
Serial interface	Sub-D	25-pin
Weight	kg	approx. 240
Dimensions (HxWxD)	mm	2145x700x780
Minimum ceiling height for filter removal	mm	2380x700x780
Intake sleeve	-	On rear side or left
Exhaust sleeve NW 250	-	Standard
Automatic dedusting	-	✓
Differential-pressure measurement	-	✓
Filter Surface	m²	16.2
Dust collection container	Liters	50
Color	RAL	7035

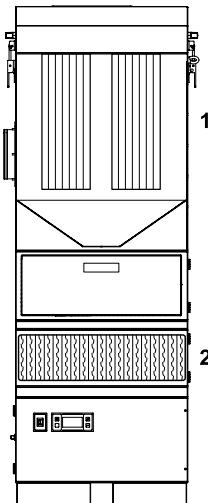
FILTER CONFIGURATION

Filter cartridge, anti-static (dust category M), dedustable	6 x 2.7 m²
Particle filter H13	✓
activated carbon/BAC filter	optional (2 x 26 liters)

* you can choose between two filter materials

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Ordering data FP 211 ATEX



BASIC MODEL

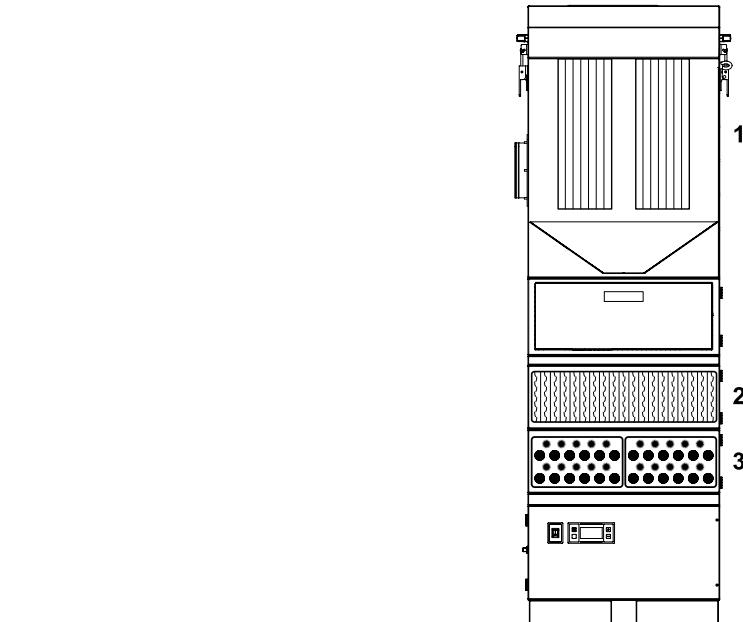
A DESIGNATION	ART. NO.
FP 211 ATEX 400V (3P+N) 50/60Hz	90361

B FILTER EQUIPMENT	ART. NO.
6 x filter cartridges, antistatic	STAN-DARD
6 x filter cartridges, antistatic PTFE	20185
Filter-housing module Particle filter	STAN-DARD

SPARE FILTER	ART. NO.
Filter cartridge set, antistatic, pack of 6	20171
Antistatic filter-cartridge set, pack of 6, PTFE	20183
Particle filter	15571

D INTAKE SOCKET	
Left*	13171
Rear side*	13172
NW 160**	16536
NW 200**	16537

* Indicates position only ** Sleeve dimension



WITH INTERMEDIATE MODULE

C FILTER EQUIPMENT	ART. NO.
Filter-housing module, ac- tivated carbon/BAC filter*	14274

* reduces the extraction capacity of the system by approx.
20% - alternatively, an additional filter module can be
connected downstream of the system so that the capac-
ity is not negatively affected (see accessories from page
18 onwards)

SPARE FILTER	ART. NO.
2 x activated carbon/ BAC filter	14517

E FILTER CLEANING	
Differential-pressure controlled	Standard
only after-run dedusting	14407
no autom. dedusting	20223*

F PRECOATING SOCKET	
NW 160	14483
NW 200	13714

* Necessary for manual precoating or automati-
ed production lines. Automatic dedusting of
the filters is not initiated. The filter dedusting is
controlled manually via the button on the front
foil or via the interface/customer's PLC.Additional
cleaning modes can be easily parameterized via
the system's interface.

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Technical data FP 213 ATEX

Illustration similar

**Delivery scope:**

- Completely assembled (incl. the selected filter equipment)
- Base stands (suitable for forklift trucks)
- Crane eyelets (optional)
- Power cord

TECHNICAL DATA		UNIT	FP 213 ATEX
Air flow rate with free air delivery		m³/h	700
Effective air flow rate		m³/h	100-550
Max. static pressure		Pa	15000
Voltage		V	230
Frequency		Hz	50/60
Motor output		kW	1.8
Class of protection		-	1
Drive type		-	Continuous running
Sound level		db(A)	approx. 68
Serial interface		Sub-D	25-pin
Weight		kg	approx. 240
Dimensions (HxWxD)	Basic model	mm	2145x700x780
	with intermediate module	mm	2380x700x780
Minimum ceiling height for filter removal	Basic model	mm	2700
	with intermediate module	mm	2950
Intake sleeve		-	Rear side or left
Exhaust sleeve NW 250		-	Standard
Automatic dedusting		-	✓
Differential-pressure measurement		-	✓
Filter Surface		m²	16.2
Dust collection container		Liters	50
Color		RAL	7035

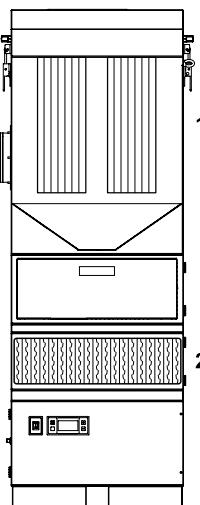
FILTER CONFIGURATION

Filter cartridge, anti-static (dust category M), dedustable	6 x 2.7 m²
Particle filter H13	✓
Activated carbon/BAC filter	optional (2 x 26 liters)

* you can choose between two filter materials

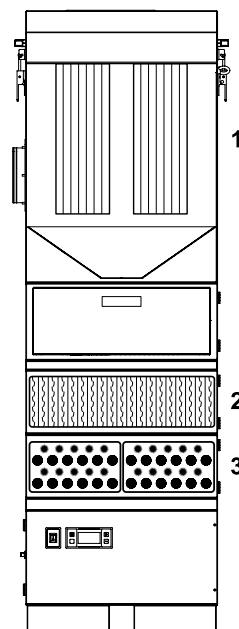
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Ordering data FP 213 ATEX



BASIC MODEL

A	DESIGNATION	ART. NO.
FP 213 ATEX 400V (3P+N) 50/60Hz		90364
B	FILTER EQUIPMENT	ART. NO.
6 x filter cartridges, antistatic	STANDARD	1
6 x filter cartridges, antistatic PTFE		1
Filter-housing module Particle filter	STANDARD	2



WITH INTERMEDIATE MODULE

B	FILTER EQUIPMENT	ART. NO.	3
Filter-housing module, activated carbon/BAC filter*		14274	

* reduces the extraction capacity of the system by approx. 20% - alternatively, an additional filter module can be connected downstream of the system so that the capacity is not negatively affected (see accessories from page 18 onwards)

	SPARE FILTER	ART. No.
Filter cartridge set, antistatic, pack of 6	20171	1
Antistatic filter-cartridge set, 6-pack PTFE	20183	1
Particle filter	15571	2

	SPARE FILTER	3
2 x activated carbon/ BAC filter	14517	

D	INTAKE SOCKET
Left*	13171
Rear side*	13172
NW 80**	16533
NW 100**	16534
NW 125**	16535

E FILTER CLEANING	
Differential-pressure controlled	Standard
only after-run dedusting	14407
no autom. dedusting	20223*

F PRECOATING SOCKET	
NW 80	14481
NW 100	14482
NW 125	14484

* Indicates position only ** Sleeve dimension

* Necessary for manual precoating or automated production lines. Automatic dedusting of the filters is not initiated. The filter dedusting is controlled manually via the button on the front foil or via the interface/customer's PLC. Further cleaning modes can be easily parameterized via the system's interface.

Electronic control system

FUNCTION	FP 211 ATEX	FP 213 ATEX
Start / Stop button	✓	✓
Manual output control	✓	✓
Saturated filter notification (complete system)	✓	✓
Individual filter monitoring of the particulate filter	✓	✓
Visual and audible indication of filter saturation	✓	✓
Display & notification of malfunctions	✓	✓
Manual start of filter-cartridge dedusting	✓	✓
Filter dedusting indication	✓	✓

INTERFACE FUNCTION

Interface	Sub-D	Sub-D
Start / Stop button	✓	✓
Pre-warning, filter saturated to 75%*	✓	✓
Visual and audible indication of filter saturated	✓	✓
Group-error output (speed, temperature, "filter full"100%)	✓	✓
External speed control	✓	✓
External dedusting start	✓	✓
Message cache	✓	✓
Parameterization access for activating special functions	✓	✓

* Message, e.g. to control the dedusting from an external source

Accessories**USB CONNECTION**

USE	DESIGNATION	CABLE LENGTH	ART. NO.
FP 211 / 213 ATEX	USB connection cable	1.5 meters	16455

DELIVERY SCOPE: Connection cable (incl. software)

**CABLE REMOTE CONTROL**

USE	DESIGNATION	CABLE LENGTH	ART. NO.
FP 211 / 213 ATEX	Cable remote control	7 meters	16477

FUNCTIONS:

- Indication „Filter saturated“
- Run/Stand-by switch-over
- Speed control
- Switch-on status of the system: Standby operation

DELIVERY SCOPE: Remote control (incl. cable)

Harting option



HARTING MAINS CONNECTION

USE	DESIGNATION	ART. NO.
FP 211 / 213 ATEX	Mains connection Harting option	17036



INTERFACE HARTING

USE	DESIGNATION	ART. NO.
FP 211 / 213 ATEX	Interface Harting option	15719



USB CONNECTION HARTING

USE	DESIGNATION	CABLE LENGTH	ART. NO.
FP 211 / 213 ATEX	USB connection cable Harting	1.5 meters	16466

DELIVERY SCOPE: Connection cable (incl. software)

Accessories

**SPARK EXTINGUISHER** (Use in piping)

USE	AIR VOLUME	\varnothing d (mm)	ART. NO.
FP 213 ATEX	300-600m³/h	80	16766

ATEX approval to EN1834

Installation: Depending on the application and size, the spark extinguishers can be installed on the wall or on a worktable using a special holder (incl. magnets, included in delivery scope) or with pipe clamps (please order separately).

**SIGNAL MODULE**

USE	ART. NO.
FP 211 / 213 ATEX	16621

**DUST BAG**

Dust bag for low-contamination disposal of the dedusted filtrate

USE	DESIGNATION	ART. NO.
FP 211 / 213 ATEX	Dust bag	16710

**FLOW-RATE MONITORING DEVICE**

USE	\varnothing d (mm)	ART. NO.
FP 213 ATEX	80	16642
FP 213 ATEX	100	16643
FP 211 / 213 ATEX	125	16644
FP 211 ATEX	160	16762
FP 211 ATEX	200	16661

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Accessories



FILTER RUPTURE MONITORING

USE	Ø d (mm)	ART. NO.
FP 213 ATEX	100	16651
FP 211 ATEX	160	16652
FP 211 ATEX	250	16653



SET OF CRANE EYELETS

USE	DESIGNATION	ART. NO.
FP 211 / FP 213 ATEX	Set of crane eyelets	14408



PRECOATING SOCKET

USE	NW (mm)	ART. NO.
FP 213 ATEX	NW 80	14481
FP 213 ATEX	NW 100	14482
FP 213 ATEX	NW 125	14484
FP 211 ATEX	NW 160	14483
FP 211 ATEX	NW 200	13714



PRECOATING ACCESSORIES

USE	DESIGNATION	ART. NO.
FP 211 / 213 ATEX	Precifix 200, 15 liters	14389
FP 211 / 213 ATEX	Precifix 200, 60 liters	14417

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Accessories**ACTIVATED CARBON/BAC SEPARATOR**

USE	DESIGNATION	ART. NO.
FP211 / 213 ATEX	Activated carbon/BAC separator	90461

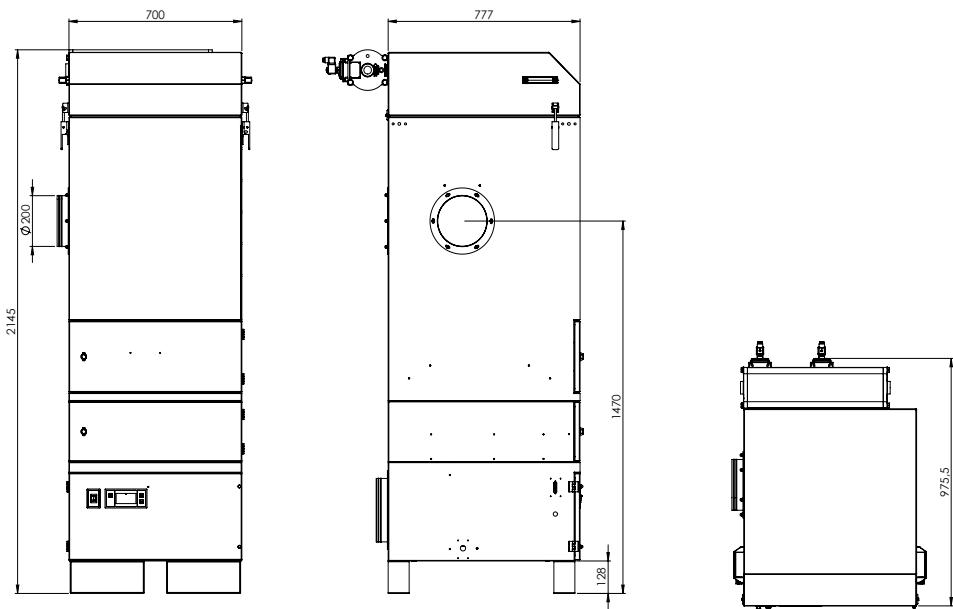
Is connected downstream of the filter and extraction system

- Optimum inflow and contact time
- 150 l activated carbon/BAC filter for longer service life
- Reduction of pressure losses / Increase of system performance

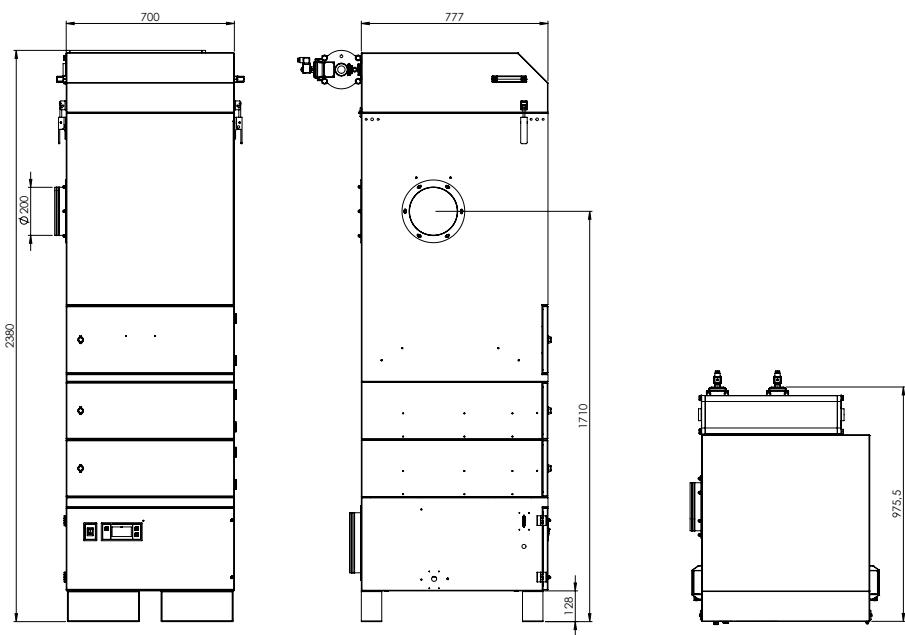
SPARE FILTER

USE	DESIGNATION	ART. NO.
FP 211 / 213 ATEX	4x activated carbon/BAC filter	20225

Technical drawings



FP 211 / FP 213 ATEX basic model



FP 211 / FP 213 ATEX (with one intermediate module)

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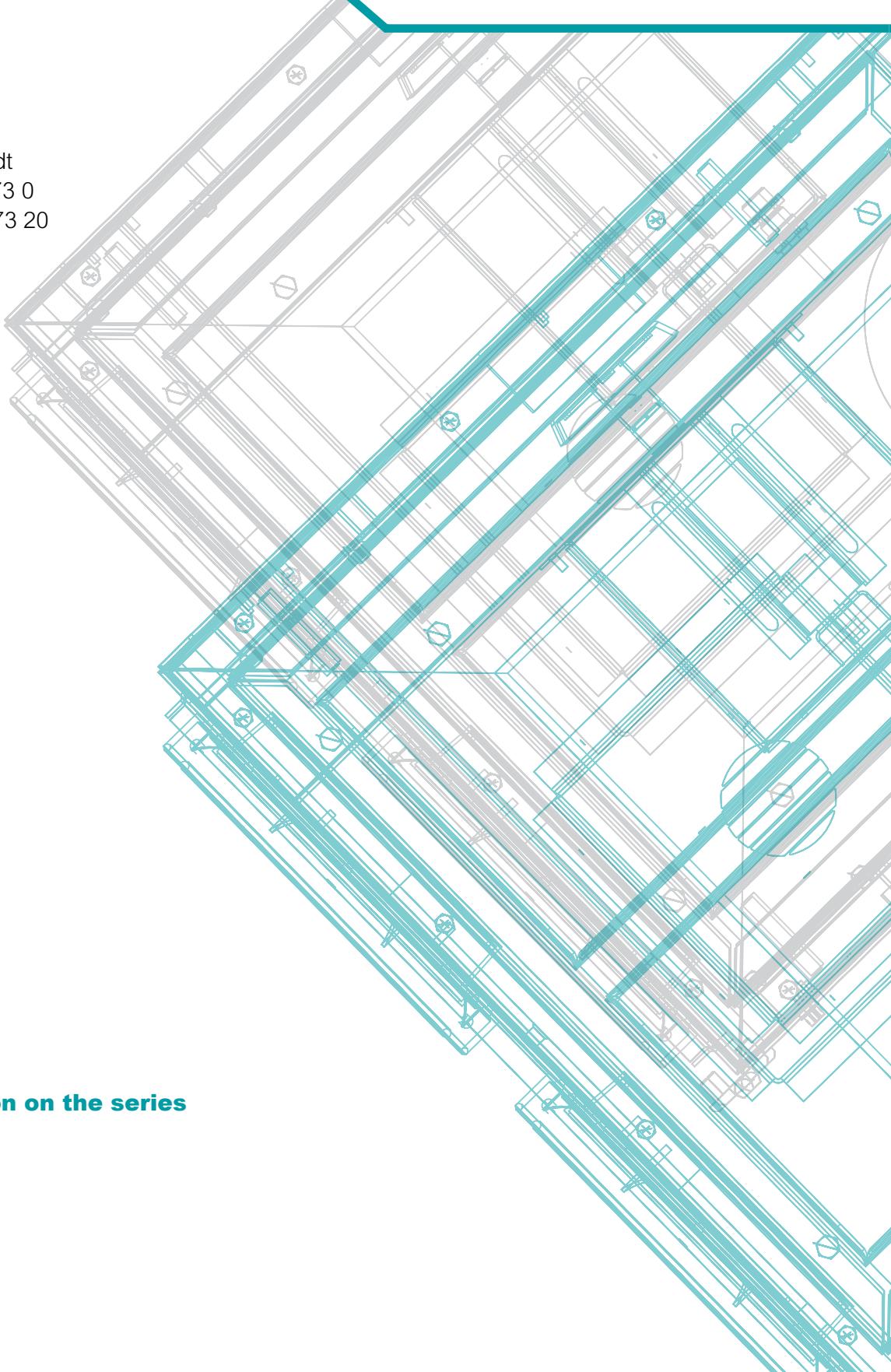
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Further information on the series



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