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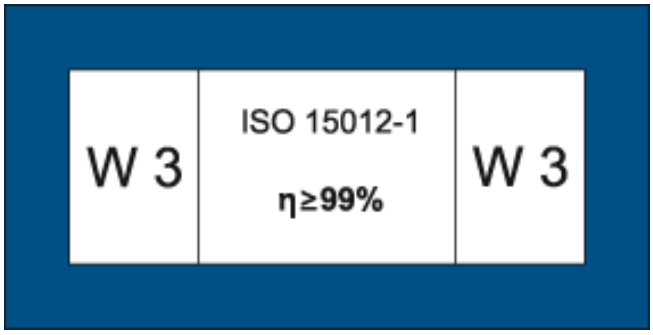
Assurance in occupational and health safety

Welding fumes and dusts from related processes are easily handled by this system. The Institute for Occupational Safety and Health (IFA) has specifically tested them in accordance with DIN ISO 15012-1 (2013) and 15012-4 (2016). It fulfils the protection level for safe extraction and filtering required by the TRGS 528 Directive. High safety requirements are thus met. Smoke, vapours or dusts with particles in the micrometer range are safely filtered out of the air. Awarded W3 and the DGUV seal, the system offers triple protection for humans, environment and machinery, and is accordingly listed on the "IFA positive list".



Application-dependent motor selection

In order to ensure the optimal suitability of the filter and extraction system for the respective application, the TBH product range offers various motor concepts to choose from. In this way, it is possible to optimally adapt the design of the system to the conditions given on site - for example:

- Short or long extraction lines,
- Large or small line cross-sections,
- Coarse or fine particles,
- Single-spot or multi-spot extraction,
- Noise-sensitive environment or industrial production hall

Low-contamination filter changing

The system is used in the area of laser marking. It is also ideal for laser engraving and other applications with medium or high dust levels. For the TFS series, the filters used were specially optimized with regard to handling and system service life. For this, the SafeLine filter developed is accommodated in an enclosed housing that can be easily closed off when changing the filter. Thus, it effectively protects the user from the filtrate contained in it. The design allows heavy particles to settle at the bottom of the filter without putting load on the filter surface. The enormous filter surface and the simultaneously optimal inflow of the filter packs results in long service life. Filter changing easily takes place via the front door of the system. SafeLine and particle filters are separate filters in a common clamping system of the TFS series. However, they can be changed separately. The filter changing is tool-free and requires only a few minutes. The activated carbon/BAC filter is located above the two saturation filters and can be changed separately as required. The individual filter monitoring allows for optimal maintenance planning, keeping the filter costs respectively low.

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.

Draws off every harmful particle

Pollutants do not stand a chance

- Low-contamination dust disposal
- Molecular sieve against gaseous pollutants
- Piping / Flexible hose / Extraction arm
- Air-recirculation or exhaust-air pipe

Special filter concept

Easy handling and prolonged service time

- Simple operation
- H14 particle filter for more safety
- Separation of ultrafine particles
- Return of purified air possible
- Optimized contact times with gas-filter granulate

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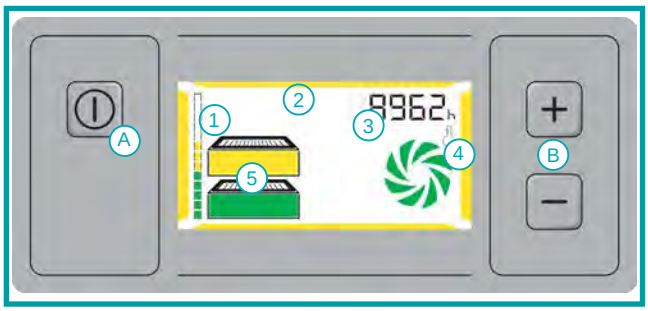
20 YEARS OF QUALITY INDOOR AIR SERVICES

Inspiring checking

Always full control over the system



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

Sub-D 25 interface

External control of the system

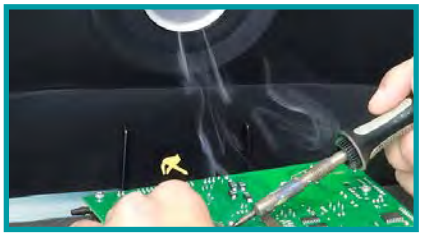
Illustration similar

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
. Message cache
. Digital interface (RS232)

Applications

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.

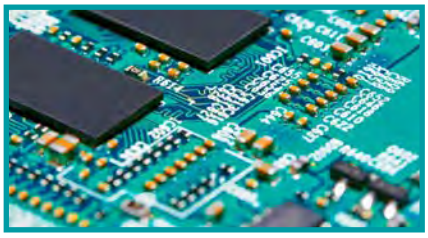


Soldering

Soldering connects two different materials by melting. Tin solder being used releases additives that have harmful effects on the respiratory organs. Depending on the soldering application (manual or automated), a suitable filter and extraction system must therefore be used.

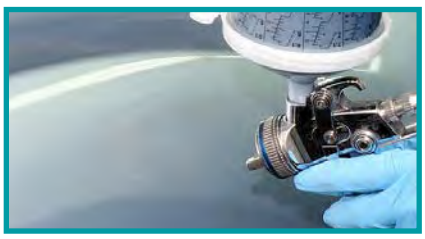
Welding/Grinding/Cutting

Welding, grinding and cutting processes result in very fine particles from the surfaces being worked. These dangerous substances settle in the lungs and can lead to permanent inability of the respective employee to work. To prevent this from happening, welding fumes must be efficiently extracted. This is demanded by the legal authorities in TRGS528. TBH GmbH therefore offers a large number of systems with W3 / DGUV approval.



Electronics

Manufacturers of electronic products work with small or tiny elements. Highly-toxic materials such as arsenic or phosphorus are often used to modify the properties of semiconducting substances. Solvents are used for removing contaminants on microchips; these pollute the environment and are harmful for employees.



Work processes with vapours/gases

Gases are much more difficult to separate than solid particles. Due to their chemical structure, they can pass through most filters without any problems. Special filters are required to extract gases correctly and reliably.

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.

Textile processing

Clothing can lose small lint and thread particles. These are so light that they can hover in the air of enclosures, and any motion continuously whirls them up. A high concentration of these airborne fibres is present particularly in the processing of textiles. There are also chemicals used for dyeing clothing, which are usually harmful to health and therefore need to be extracted

Technical glass

Glass production results in great heat. The high temperatures required for melting glass cause gases containing large quantities of environmentally-hazardous substances to rise. In the course of the acid polishing, the hot or cold final layer releases tin or titanium chlorides, such as hydrofluoric acid and sulphuric acid. These substances must be drawn off, as they are harmful to one's health.

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.

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Technical data TFS 500

Illustration similar

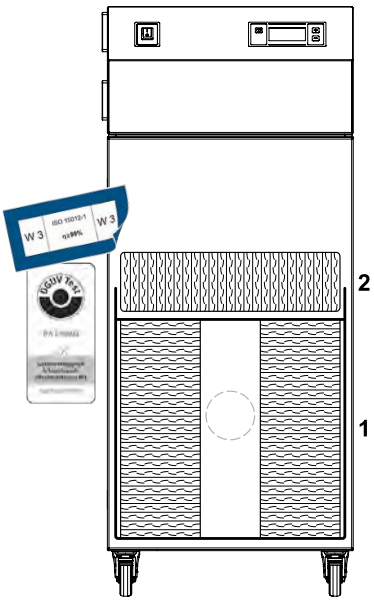
Delivery scope:

- Completely mounted
- 4 castors for mobile use
- Power cord

TECHNICAL DATA	UNIT	TFS 500 STANDARD	TFS 500 PLUS
Air flow rate with free air delivery	m³/h	max. 700	max. 700
Effective air flow rate	m³/h	50-550	50-550
Max. static pressure	Pa	15000	15000
Voltage	V	120/230	120/230
Frequency	Hz	50/60	50/60
Motor output	kW	1.8	1.8
Class of protection	-	1	1
Drive type	-	Continuous running	
Sound level	db(A)	30%-100% : 44-65	30%-100% : 44-65
Serial interface	Sub-D	25-pin	25-pin
Weight	kg	approx. 120	approx. 150
Dimensions (HxWxD)	mm	1300x540x730	1300x540x730
Intake sleeve NW 125	Quantity	1	1
Exhaust sleeve NW 160	Quantity	1	1
Color (housing)	RAL	7035	7035
Color (of lid)	RAL	7037	7037

FILTER CONFIGURATION			
	Pre-filter F9	✓	✓
	Particle filter H14	✓	✓
A	Activated carbon/BAC filter	-	50 liters

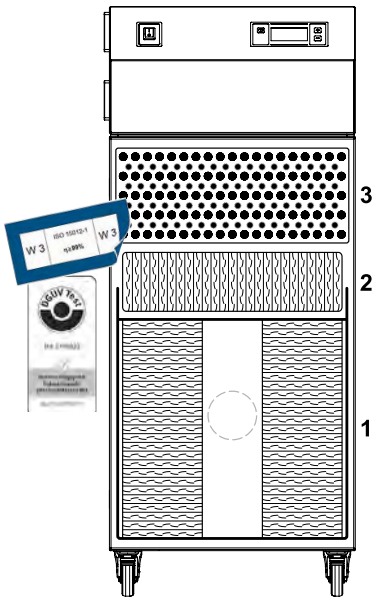
Orderring data TFS 500



TFS 500 STANDARD

DESIGNATION	ART. NO.
TFS 500 230V 50/60 Hz	90428
TFS 500 120V 50/60 Hz	90430

SPARE FILTER		
SafeLine filter	16196	1
Particle filter	16175	2
activated carbon/ BAC filter	-	



TFS 500 PLUS

DESIGNATION	ART. NO.
TFS 500 Plus 230V 50/60 Hz	90429
TFS 500 Plus 120V 50/60 Hz	90431

SPARE FILTER		
SafeLine filter	16196	1
Particle filter	16175	2
Active carbon filter/ BAC filter	16191	3

Note:

For operation intended as a "W3" system, a signal module including volume-flow monitoring must be used or equivalent functions provided by the customer. For any questions, please contact your sales partner.

Technical data TFS 1000

Illustration similar

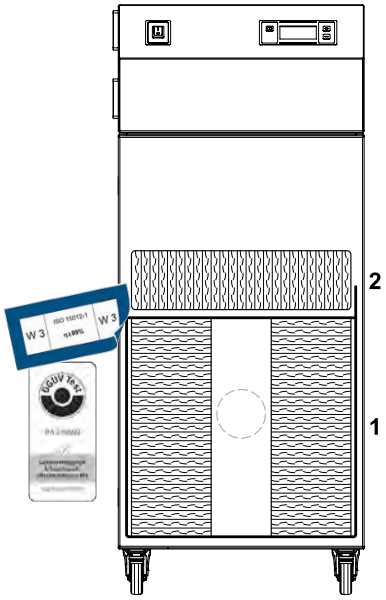
Delivery scope:

- Completely mounted
- 4 castors for mobile use
- Power cord

TECHNICAL DATA	UNIT	TFS 1000 STANDARD	TFS 1000 PLUS
Air flow rate with free air delivery	m³/h	max. 1000	max. 1000
Effective air flow rate	m³/h	200-850	200-850
Max. static pressure	Pa	3700	3700
Voltage	V	120/230	120/230
Frequency	Hz	50/60	50/60
Motor output	kW	1.4	1.4
Class of protection	-	1	1
Drive type	-	Continuous running	
Sound level	db(A)	30%-100% : 44-68	30%-100% : 44-68
Serial interface	Sub-D	25-pin	25-pin
Weight	kg	approx. 120	approx. 150
Dimensions (HxWxD)	mm	1300x540x730	1300x540x730
Intake sleeve NW 125	Quantity	1	1
Exhaust sleeve NW 160	Quantity	1	1
Color (housing)	RAL	7035	7035
Color (of lid)	RAL	7037	7037

FILTER CONFIGURATION			
	Pre-filter F9	✓	✓
	Particle filter H14	✓	✓
A	Activated carbon/BAC filter	-	50 liters

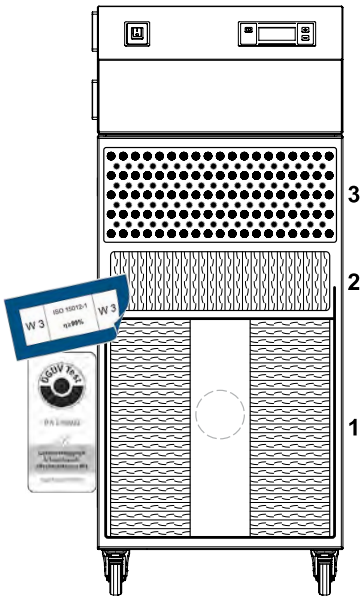
Orderring data TFS 1000



TFS 1000 STANDARD

DESIGNATION	ART. NO.
TFS 1000 230V 50/60 Hz	90415
TFS 1000 120V 50/60 Hz	90417

SPARE FILTER		
SafeLine filter	16196	1
Particle filter	16175	2
activated carbon/ BAC filter	-	



TFS 1000 PLUS

DESIGNATION	ART. NO.
TFS 1000 Plus 230V 50/60 Hz	90416
TFS 1000 Plus 120V 50/60 Hz	90418

SPARE FILTER		
SafeLine filter	16196	1
Particle filter	16175	2
activated carbon/ BAC filter	16191	3

Note:

For operation intended as a "W3" system, a signal module including volume-flow monitoring must be used or equivalent functions provided by the customer. For any questions, please contact your sales partner.

Electrical control system

FUNCTION	TFS 500 / 1000 STANDARD	TFS 500 / 1000 PLUS
Manual output control	✓	✓
Start / Stop button	✓	✓
Indication of filter status, SafeLine filter	✓	✓
Indication of filter status, particle filter	✓	✓
Indication of system status *	✓	✓
"Filter full" indication of system (unit switches off)*	✓	✓
Indication of power setting/hour meter	✓	✓
Indication of temperature and turbine error	✓	✓

INTERFACE FUNCTION		
Indication „Filter full“	✓	✓
Start / Stop button	✓	✓
External power control	✓	✓
Indication speed OK	✓	✓
Indication temperature error	✓	✓
Indication group error	✓	✓
Error memory	✓	✓
Programming access	✓	✓

* Measurement of all filters installed in the extraction system together

Accessories

USB CONNECTION

USE	DESIGNATION	CABLE LENGTH	ART. NO.
TFS 500 / 1000	USB connection cable	1.5 meters	16455

DELIVERY SCOPE: Connection cable(incl. software)

CABLE REMOTE CONTROL

USE	DESIGNATION	CABLE LENGTH	ART. NO.
TFS 500 / 1000	Cable remote control	7 meters	16477

FUNKTIONS:

- Indication „Filter saturated“
- Start / Stop button
- 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.
TFS 500 / 1000 (230V)	Mains connection Harting option	17036

INTERFACE HARTING

USE	DESIGNATION	ART. NO.
TFS 500 / 1000	Interface Harting option	15719

USB CONNECTION HARTING

USE	DESIGNATION	CABLE LENGTH	ART. NO.
TFS 500 / 1000	USB connection cable Harting	1.5 meters	16466

DELIVERY SCOPE: Connection cable (incl. software)

ELECTRIC FOOT SWITCH

USE	DESIGNATION	CABLE LENGTH	ART. NO.
TFS 500 / 1000	Electric foot switch	2 meters	16369

FUNKTIONS:

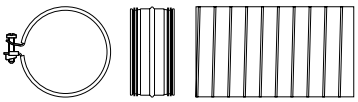
- Start / Stop button
- Switch-on status of the system: Standby operation

DELIVERY SCOPE: Foot switch (incl. cable)

FLOW-RATE MONITORING DEVICE

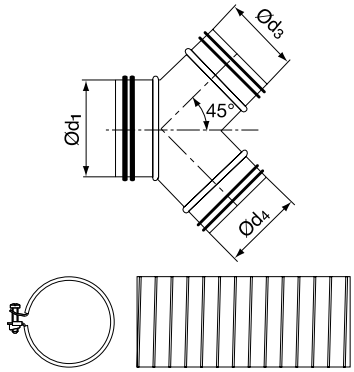
USE	Ø d (mm)	ART. NO.
TFS 500 / 1000	80	16642
TFS 500 / 1000	100	16643
TFS 500 / 1000	125	16644
TFS 500 / 1000	160	16762

Accessories



AIR INLET - flexible connection hoses

DESIGNATION	NW (mm)	LENGTH (m)	ART. NO.
Hose set with red.	125/100	2.5	16580
		5.0	16581
Hose set with nipple and hose clamps	125	2.5	13183
		5.0	13184
	160	2.5	13185
		5.0	13186



DISTRIBUTOR SET

Consisting of: 1x distributor, 2x hose, 4x wire hose clamp

USE	Ø d_1 (mm)	Ø d_2 (mm)	Ø d_4 (mm)	ART. NO.
TFS 500 / 1000	125	100	100	16281

SIGNAL MODULE

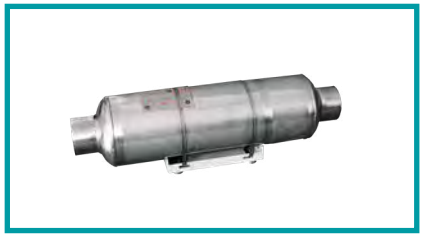
USE	ART. NO.
TFS 500 / 1000	16621
TFS 500 / 1000	16767*

* Signal module with input for volume-flow monitoring (suitable for "W3" systems)

Accessories

FILTER-RUPTURE MONITORING DEVICE

USE	ø d (mm)	ART. NO.
TFS 500 / 1000	100	16651
TFS 500 / 1000	160	16652
TFS 500 / 1000	250	16653



SPARK EXTINGUISHER (Use in piping)

USE	AIR VOLUME	Ø d (mm)	ART. NO.
TFS 500	300-600 m³/h	80	16766
TFS 500 / 1000	600-1000 m³/h	125	16695

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).

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Controlled Environments Accreditation No.15597

Accessories

Illustration similar

EXTRACTION ARM SYSTEM 75 AL

USE	DESIGNATION	ART. NO.
TFS 500	Extraction arm system 75-AL (L=1200 mm)	17055*

* Mounted on right side as standard, optional left mounting; please contact your sales partner. Detection element not included in delivery scope, please order separately.

Illustration similar

EXTRACTION ARM SYSTEM 100 AL

USE	DESIGNATION	ART. NO.
TFS 500 / 1000	Extraction arm system 100-AL (L=1200 mm)	16698*

* Mounted on right side as standard, optional left mounting; please contact your sales partner. Detection element not included in delivery scope, please order separately.

Accessories

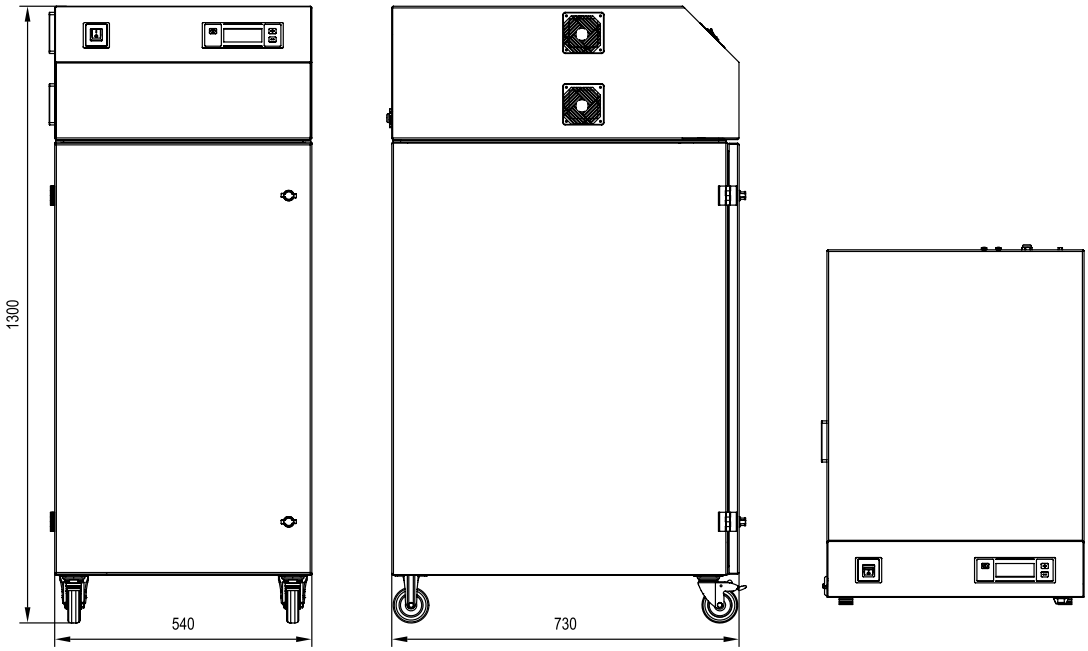
Illustration similar

EXTRACTION ARM SYSTEM 75 AL - SPARK EXTINGUISHER

USE	DESIGNATION	ART. NO.
TFS 500	Extraction arm system 75-AL (L=1200 mm), spark extinguisher NW80**	17056*

* Mounted on right side as standard. Mounting on the left optionally selectable; please contact your sales partner.
Detection element not included in delivery scope, please order separately.
** ATEX approval EN 1834

Technical drawings



TFS 500 / 1000 STANDARD

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