

# Tigemma®

„YOUR PARTNER FOR MACHINERY AND CLEAN AIR“



## CATALOGUE SHEET

TFS Filtering System

# TFS Series Filter System

The TIG TFS filter unit is primarily designed for removing and cleaning fumes, dusts, and solid particles from the production floor. These fumes contain by products from the cutting, welding, grinding and many other process and can be harmful to human health if inhaled. Our precise design of the filter unit is your guaranty for many years of reliable operation under harsh operating conditions. The unit is designed for indoor or outdoor installation. The TFS series is designed for 3700-13400 m<sup>3</sup>/h output. The filtration units are fitted with filter cartridges giving an efficiency of > 99.96%.

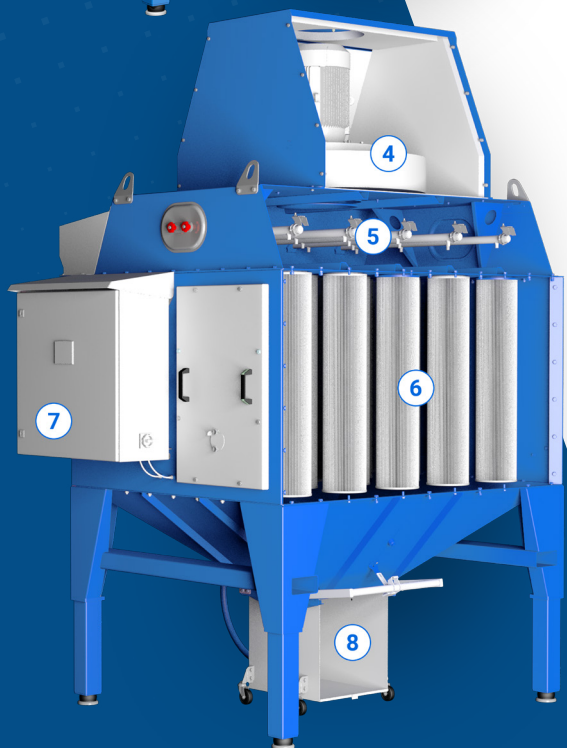
For most applications our filtration units enable air to be returned back to the production floor. Operators of the filter units must pay attention to local legislation relating to dangerous materials. For example, regulations regarding minimum allowable levels of fresh air supply and other country-specific regulations.

## How does the TFS device work?

- Air containing pollution is sucked through the piping to the filtration unit
- The filter cartridges separate dusts and harmful particles from the air. Here we use the principle of 'surface filtration'
- Clean air is the exhausted by a medium pressure fan (for example, back into the production floor or outdoors)
- The filter cartridges are cleaned automatically
- Dust is collected in waste containers

## Application

- Burning and cutting systems (thermal cutting of metal with lasers, plasma etc ...)
- Welding and grinding
- Robotic welding stations, cleaning stations
- And many more



- |                   |  |
|-------------------|--|
| ① Blower cover    | ⑤ Pulse cleaning                         |
| ② Exhaust fitting | ⑥ Filtration cartridges                  |
| ③ Suction fitting | ⑦ Electrical cabinet with control system |
| ④ Blower          | ⑧ Waste containers                       |

# Advantages of the TFS Device

1. Continuous operation without interrupting the operation of the filter device with automatic regulation
2. Large waste containers
3. Simple and effective installation: The unit is supplied with lifting lugs for crane. The unit is equipped with an appropriate fitting for connection to the duct work
4. Energy savings are ensured by the control system with frequency controller
5. It removes harmful contaminants from the air protecting the health of employees
6. Tried and tested high quality design

## Filtration Elements and Filtration Material

### FILTRATION ELEMENTS

For our TFS units, we use case filter cartridges from a renowned German company  
The advantages of filter cartridges are:

- The design of the cartridges allows them to handle high dust loads / concentrations
- Long life cycle
- Produced from high quality materials
- Our filter material offers high efficiency
- Smaller footprint compared to bag filters

### FILTRATION MATERIAL

Based on years of practical experience, our company can offer a wide range of high quality filtration material depending on the type of application. All filtration material is certified and is classified according to DIN EN 60335 according to the „M“ filtration class. Of course, all of the filter materials supplied by us have IFA (BGIA) certification.

The efficiency of our filter materials varies, depending on the type of media selected, from 99.96 to 99.99% for dust particle sizes ranging from 0.2-2 microns.

## Basic Overview of the Most Common Filter Materials

Designation of the filter material	Separation	Additional information	Basic fields of application
ePTFE Polyester with a teflon membrane 973995 and 973115	99,99%	<b>Properties of the 973995 and 973115 materials ACCORDING TO DIN EN 1822, classified as HEPA filter category, class H13</b>	Suitable for: e.g. for thermal burning
Polyester with teflon impregnation 973001	99,96%		Suitable for: e.g. greasy dusts and welding fumes, or for environments with higher atmospheric humidity
PTFE Polyester with a teflon membrane in antistatic design 973116	99,99%		Suitable for: e.g. very fine dusts from plastic, aluminium, glass fibres and cast iron
Polyester standard 973010	99,97%		Suitable for: e.g. grinding and blasting

## Automatic Cleaning System

The TFS filter unit is equipped with an automatic pulse cleaning system. Using compressed air, this system precisely and effectively cleans the filter cartridges. The cleaning system reduces or prolongs the cleaning interval based on the degree of clogging of the filter material, thereby optimizing the compressed air consumption.

# Control System PTC-s (ProfesionalTigemmaControl software)

Control system PTC-s is an important part of our filter units. Tigemma spol. s.r.o has developed a control system to precisely and effectively control and diagnose all processes which are critical for filtration results. Advantages of our control system:

- The control system allows communication with other systems using digital signals.
- Operation is simple and intuitive, on a large touch screen
- The control system allows remote control of the device either via connection to a corporate network or via a modem<sup>1)</sup> (LTE, GSM, WIFI)

## Remote Control<sup>1)</sup>

This new feature leads to maximum user comfort and contributes to the trouble-free operation of our device and effectively provides solutions to problems.

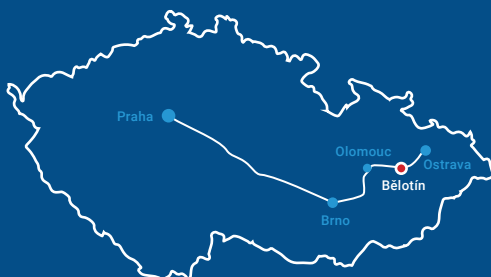
Advantages of remote control:

- The device can be remotely checked by our technicians.
- In case of a problem, we can quickly analyse and react quickly.
- The user can check the actual status of the unit via a mobile app on a phone or tablet.

<sup>1)</sup>This feature is offered for a surcharge.

## Basic Technical Parameters TIG TFS

TIG TFS	Max.extraction capacity	Filter surface	Rated power of the filter device	Dimension WxLxH (mm)	Weight
TIG TFS 3700	3700m <sup>3</sup> /h	63 m <sup>2</sup>	4 kW	1650 x 1518 x 3195	785 kg
TIG TFS 5000	5000m <sup>3</sup> /h	84 m <sup>2</sup>	5,5 kW	1650 x 1560 x 3195	820 kg
TIG TFS 6700	6700m <sup>3</sup> /h	112 m <sup>2</sup>	7,5 kW	1650 x 1900 x 3195	960 kg
TIG TFS 8400	8400m <sup>3</sup> /h	140 m <sup>2</sup>	11 kW	1650 x 2290 x 3274	1012 kg
TIG TFS 10000	10000m <sup>3</sup> /h	168 m <sup>2</sup>	15 kW	1650 x 2650 x 3274	1500 kg
TIG TFS 11700	11700m <sup>3</sup> /h	196 m <sup>2</sup>	15 kW	1650 x 3000 x 3274	1600 kg
TIG TFS 13400	13400m <sup>3</sup> /h	224 m <sup>2</sup>	18,5 kW	1650 x 3310 x 3239	1650 kg



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