

# Tigemma®

„YOUR PARTNER FOR MACHINERY AND CLEAN AIR”



## CATALOGUE SHEET

TFD Filtering System

## TFD Series Filtering System

The TIG TFD filtering unit primarily designed for removing and cleaning fumes, dusts, and solid particles from the production floor. These fumes contain byproducts from the cutting process and can be harmful to human health if inhaled. Precise design of filtering unit is a guaranty for many years of reliable operation also in hard operating conditions. The unit is primarily designed for indoor installation. For outside application we recommend to discuss application with Tigemma technicians. TFD series is designed with 1250-4850 m<sup>3</sup>/h output. The filtration units are fitted with filtering cartridges with an efficiency of > 99.9%.

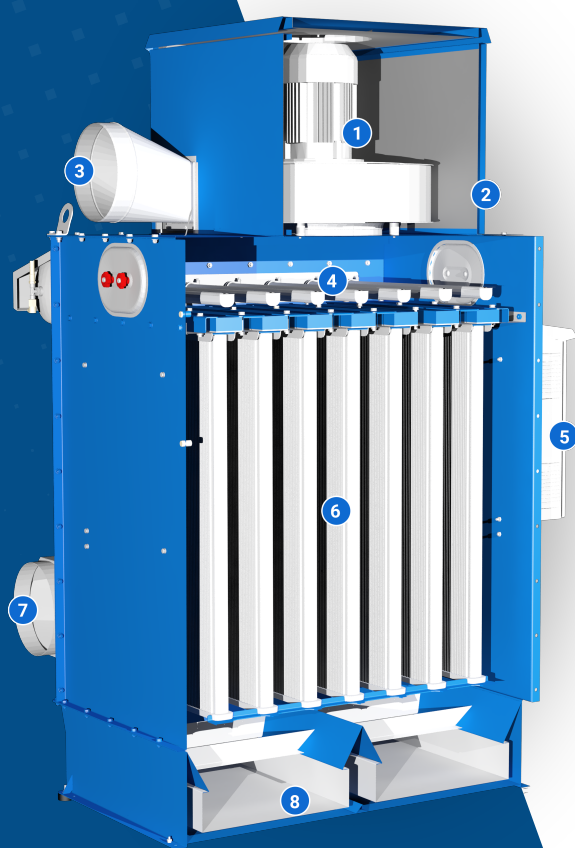
For most of applications our filtration units enable returning of the air back to the production floor. Operator of filtering unit must keep attention to local legislative for dangerous materials. For example, the regulation of the minimum proportion of fresh air supply and/or other country-specific regulations.

### How does the TFD device work?

- Air containing pollutions is sucked thorough the piping to the filtration unit
- The surface of the filtration cartridges separates from air dusts and harmful particles. Here we use principle of surface filtration"
- Clean air is by medium pressure fan blown out (for example, back into the production floor or outdoors)
- The filtering cartridges are cleaned automatically
- Dust is collected in waste collection 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
- 2 Blower cover
- 3 Exhaust fitting
- 4 Pulse cleaning
- 5 Electrical cabinet with control system
- 6 Filtration cartridges
- 7 Suction fitting
- 8 Waste containers

## Advantages of the TFD Device

1. Continuous operation without interrupting the operation of the filtering device with automatic regulation
2. Large waste containers
3. Simple and effective installation: The unit is supplied with crane handling lugs. Unit is equipped with an appropriate fitting for connection to the air-conditioning piping
4. Energy saving secured by the control system with frequency controller
5. It removes harmful contaminants from the air protecting the health of employees
6. Proved high quality design

## Filtration Elements and Filtration Material

### FILTRATION ELEMENTS

For our TFD units, we use case filtering cartridges of a renowned German company. The advantages of case filtering cartridges are:

- The design of the case cartridges allows higher load and dust concentration
- Long-term filtration material live
- High quality of used materials
- High effectivity of our filtration materials
- Space saving compared to hose or pocket filters

### FILTRATION MATERIAL

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

The efficiency of the supplied filtering materials varies, depending on the type of the selected material, from 99.9 to 99.99% for the dust particle size of 0.2-2 microns.

## Basic Overview of the Most Common Filtering Materials

Designation of the filtering 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 e.g. for thermal burning
Polyester with teflon impregnation 973001	99,96%		Suitable e.g. for 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 e.g. for very fine dusts from plastic, aluminium and glass fibres, and cast iron
Polyester standard 973010	99,97%		Suitable e.g. for grinding and blasting

## Automatic Cleaning System

The TFD filtering unit is equipped with an automatic pulse cleaning system.

Using compressed air, this system precisely and effectively cleans the filtration cartridges. The cleaning system reduce or prolongs the cleaning interval based on the degree of clogging of the filtering 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 superior 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 to effective solution of problems.

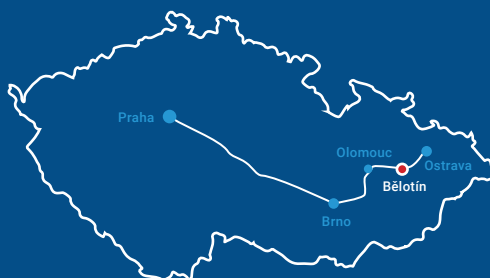
Advantages of remote control:

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

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

## Basic Technical Parameters TIG TFD

TIG TFD	Max.extraction capacity	Filter surface	Rated power of the filter device	Dimension WxLxH (mm)	Weight
TIG TFD 1250	1250m <sup>3</sup> /h	19 m <sup>2</sup>	2,2 kW	1255x1100x2425	401 kg
TIG TFD 1850	1850m <sup>3</sup> /h	29 m <sup>2</sup>	2,2 kW	1255x1100x2425	419 kg
TIG TFD 2450	2450m <sup>3</sup> /h	38 m <sup>2</sup>	3 kW	1310x1100x2425	439 kg
TIG TFD 3050	3050m <sup>3</sup> /h	48m <sup>2</sup>	3 kW	1310x1350x2505	518 kg
TIG TFD 3650	3650m <sup>3</sup> /h	57m <sup>2</sup>	4 kW	1350x1495x2505	591 kg
TIG TFD 4250	4250m <sup>3</sup> /h	66 m <sup>2</sup>	5,5 kW	1350x1658x2505	639 kg
TIG TFD 4850	4850m <sup>3</sup> /h	76 m <sup>2</sup>	5,5 kW	1350x1815x2505	688 kg



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Subject to technical changes Dokument CS-FSD/2018/9/revize1