

# **TBH**® **Fume Extraction & Filtration Systems**

TBH offers the broadest range of products in the industry to cover your industrial filtration and extraction requirements. Over 25 years of experience, coupled with our modular design provides us with the knowledge and flexibility to ensure that particulate, vapor, and fumes are removed in a timely and cost-efficient manner.

Various industrial processes can cause hazardous, toxic vapors, gases, aerosols and particulates that can be harmful to your employees' and customers' health. Even non-toxic substances affect workplace quality with dust and odor nuisance and are dangerous to your employees' health.

Adding a fume extractor or filtration system to your facility can eliminate many of these hazards. Here are some of the applications where TBH provides solutions by removing toxic, hazardous and damaging by-products.

- **Laser Applications.** With the increasing use of lasers for cutting, marking, engraving, and welding on a variety of materials, it is vital to protect against the dust and laser smoke these processes create.
- **Soldering and Welding Operations.** These processes, which also include brazing & flux by-products, create toxic fumes which must be removed from the work environment.
- **EDM.** Mists and hazardous fumes can be generated by the dielectric tools used in these processes.
- **Metal Machining.** Milling, turning, drilling, grinding, and chipping form particles that are often barely recognizable to the eye. Due to the thermal influence of the manufactured components, pollutants penetrate deep into the lungs and can lead to serious diseases.
- **Bonding & Gluing.** Hazardous vapors can be produced by adhesives
- **Printing and Paper Use.** Dust, fumes and solvents can cause health hazards which are not visible to the eye.
- **Mechanical Processing.** Processes like grinding, deburring, milling, drilling, tapping, or cutting, create dusts, vapors and gases. These by-products need to be extracted so they cannot be inhaled.
- **Plastics Processing.** Almost every industry processes plastics these days; the processing of plastics creates abrasive dusts and vapors.
- **Technical Glass.** The high temperatures required for melting glass allow gases to rise, these gases contain environmentally hazardous substances. In addition, the hot or cold terminal layer releases tin or titanium chlorides in acid polishing which contain substances such as hydrofluoric and sulfuric acid, all are harmful to human health.
- **Textile Processing.** Textile products can lose small lint and threads which are so light they float throughout your facility. Textile production also uses chemicals which are mostly harmful to health and have to be extracted.
- **Medical Applications.** Medical laser treatments let harmful smoke particles rise which are debilitating for both doctors and patients. It is crucial to have a contamination-free environment with an effective extracting solution.



## TBH Systems adapt to your requirements

The series shown here are highly adaptable and expandable to solve your shop floor environmental hazard issues. Primary features include:

- Expandable to adapt to your changing needs
- Tool-less filter changes



## Saturation Filter Systems (SFS)

These systems use filter replaceable elements to collect pollutants in their small fibers. When the filters become saturated and need to be changed the system provides visual and sound alerts and stops extracting pollutants.

## W3 Systems (W3)

Most of these systems can also be adapted to ensure clean air for your welding, laser processes with metals and related production work. The additional modules required depend on the level of filtration/separation required to meet legal regulations (DIN EN 15012) on your shop floor.

## BF Series (SFS, W3)

These Basic Filtration units cover all essential filtering and extraction functions. The base unit can be expanded with a variety of filter modules. The BF series also has an energy-saving blower, high negative pressure and electronic controls.

## LN Series (SFS, W3)

Compact and modular in design, the LN system are built to adapt to your shop floor's requirements. For the removal of vapors and gases from the air. The LN system has high performance turbines, arranged in decentralized configuration, and extract over long distances. These systems were designed to use with soldering and/or laser processes, as well as sticky and damp dusts.

## TFS Series (SFS, W3)

The system was developed for laser marking and cutting. It can also be used for laser engraving and other medium or high dust applications. In its integrated SafeLine filter, heavy particles can settle at the bottom without polluting the filter surface. This leads to an enormous increase in the filter surface and at the same time optimum flow over the filter packages. The SafeLine filter is also housed in a case that can be closed during an exchange and is therefore low in contamination. The differentiated monitoring between the SafeLine and particle filters simplifies the planning of maintenance, since any change in the filter's status can be easily identified.

## GL Desk Series (SFS only)

This series was especially developed as a substructure for compact lasers with a max base area of 700 x 700 mm. Its space-saving installation replaces a worktable that otherwise would be necessary. Extensions for larger lasers can be upgraded individually. Adjustments to applications can be made at any time. The GL series stands as "Green Line" for particularly environmentally friendly. The energy-saving and noiseless blowers used are barely noticeable in noise-sensitive environments such as laboratories and offices. It is possible to save up to 65%.



BF Series



LN Series



TFS Series



GL Desk Series

## Clean Room Systems

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In cleanrooms and grey rooms, pollutants must be kept to an absolute minimum. Even the smallest particle can cause considerable damage to the manufactured product. It does not make a difference whether it is a chemical or medical clean room. To ensure their reliable functions, TBH filter and extraction systems are easily adapted to different processes and materials in these rooms. Our Clean Room systems are:

- CCI confirmed
- DIN EN ISO 14644-1 approved

## Oil & Emulsion Mist Systems

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Oil and emulsion mist from industrial baths or in metalworking is not only a problem but is also a huge danger for worker health. TBH constructed the OEN series specifically to extract and remove harmful particles. A molecular sieve combined with an H13 filter removes gaseous substances and enables safe air re-circulation too.

## Hazardous Substance Systems

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Special care is required when working with hazardous substances. Not only does it mean the handling of toxic chemicals, it also includes substances which only become hazardous when they react with each other. Systems that extract and filter particles in such processes must comply with certain standards and guidelines. All TBH systems are designed to handle hazardous substances.

## Additional Filtration System Options from TBH

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TBH offers a full line of accessories for our systems. A few of these accessories are as follows:

- Articulated extraction arms
- Nozzles, hoses and hoods
- ATEX Certified spark arrestors
- Signal wands with lights and audible alarms
- Reducers and adapters
- Component kiting
- Cable remote control
- Down draft tables
- Flow rate monitors
- Filter rupture monitors
- and many more

## Systems with Cleanable Filter Cartridges

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These systems have cartridges that allow pollutants to accumulate and develop a so-called filter cake. By means of compressed air surges, these “filter cakes” can be freed from the cartridge, so that space for new particles arises. The waste debris can fall into a dust container and can easily be disposed. These systems can be used for processes such as laser working, metal working and package processing.



Clean Room System



Oil and Emulsion Mist System



The TBH line of fume extraction and filtration systems has many unique features that make their products more user-friendly, flexible and cost-effective including:

- Modular design allows you to get *exactly* what you need.
- Models are all upgradeable and adjustable, so if your needs change, you can easily adapt to meet them.
- All models are easy to maintain and built “tank” tough.
- TBH gives you all the specs you need to determine which model is right for you.
- No combi filters are used that force you to buy other filters that may not need to be changed.
- No brushed motors are used in their industrial product lines.
- No bellows or pre-filters that pollute the work place when they need to be changed are used in TBH systems.
- No bags of carbon to handle.
- TBH has the broadest range of solutions in the industry – even self-cleaning units are available.

Depending on the system, TBH products have been approved by internationally recognized groups like ISO, CCI, IFA, UL, ATEX and others.

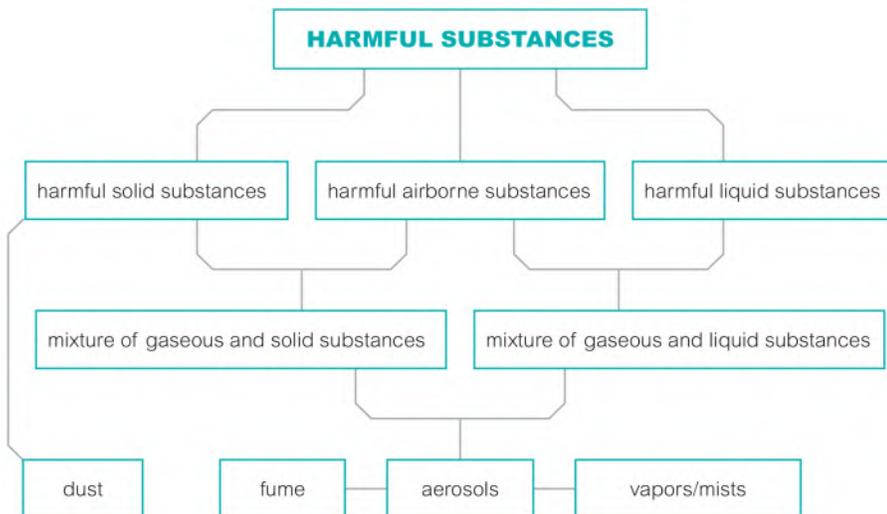
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## Dangerous Health Effects of Fumes and Dust



The health effects of fumes and dust include:

- Inflammations and tissue changes in breathing organs
- Asthma, allergies and functional disorders of the lungs
- Deterioration of the lung's ability to clean itself and cancer

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