



## Press Release

March 23, 2015  
tbh1502

Mobile extraction and filtration systems for laser applications

### **Premier: curtain up for TFS 1000**

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STRAUBENHARDT – During the LASER World of PHOTONICS taking place in Munich from May 22 to 25, 2015, TBH GmbH presents a new generation of extraction and filtrations systems for laser marking and engraving applications: the new TFS 1000.

The system is the result of intensive development work. It is used for 30 to 150 W CO<sub>2</sub> lasers or 10 to 50 W solid-state lasers (fibre lasers and crystal lasers) with a working surface of up to 1,500 x 1,000 mm. Within the TBH product range, TFS 1000 is the first system equipped with the new electronic control system INSPIRE.

At the development of the TFS 1000, the main focus was on the prefilter as most important component of the system. Separating about 80% of the particles it is, at the same time, the most stressed component. Optimum filter inflow and a large filter surface concomitant with a small overall size thus are the main requirements for a reliable operation of the system. Furthermore, the prefilter bears the highest risk for the operator to come in contact with harmful filtered matters. These demands placed on an optimum prefilter led to the development of the new SafeLine filters. At these filters, air is led directly into the filter preventing the formation of deposits. The complementary gravity separation of heavy particles does not affect the filter surface. Two separate filter packs enable an optimum inflow into the filter medium. Thanks to this concept, the air speed within the filter is reduced significantly thus considerably expanding the service life of the filter. Low-contamination filter disposal and the replacement of the filter can be carried out easily and without any tools by simply closing the filter.

In order to meet the constantly growing safety requirements of our customers, particularly in the area of laser welding, the TFS 1000 is equipped with an H14 particle filter (meeting the DIN EN 1822 standard). This filter even facilitates the separation of ultra-fine particles and enables the recirculation of the cleaned air to the work area. For easy handling of the filter, it is braced directly onto the prefilter by means of a new tensioning system inside the extraction and filtration system. In this manner, service on the system is optimized as well.

The increase in service life of the activated carbon / BAC (biological activated carbon) was another major aspect during the development. It is the stage of the filter separating gaseous substances. For a further increase in lifetime, the entire airflow inside the filter was modified as well thus optimizing both the flow rate and the contact time of air and granulate.

#### **Further Information:**

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As is the case with all of the TBH activated-carbon/BAC filters, TFS 1000 also uses two different filter materials for the absorption of gaseous substances. While activated carbon supports the physical absorption process, BAC granulate is used for chemical absorption. Neutralisation of specific gaseous substances is achieved through chemical binding with the reaction substance applied to the carrier material. Since physical and chemical adsorption processes are complementary, an extremely wide range of gases and odours can be collected.

In addition to comprehensive innovations in the areas of filter structure and system handling, the TFS 1000 is launched with the new INSPIRE control electronics. Its integrated colour display enables intuitive handling without complicated menu navigation and provides a quick overview about important information regarding the system status. Separate monitoring of prefilter and particle filter contributes to optimized service on the system and reduced costs for replacement filters. In addition to the known features, the new interface now also includes an error memory and a special programming access. On the one hand, this improves the support communication with the retailer/manufacturer and, on the other hand, it facilitates the adjustment of the system to the customer's specific requirements directly on site.

Picture caption: Extraction and filtration system TFS 1000 with electronic control system INSPIRE

**Visit us at the LASER World of PHOTONICS 2015 fair in hall A3, stand 301.**

TBH has been designing healthy workplace environments free from harmful gases, foreign particles and dust since 1992. Our extraction and filtration systems are used in a wide variety of production processes to protect mankind, the environment and machines. The products fulfil the highest quality standards and are certified with the necessary seals of approval in both the industrial and medical fields. Regardless of whether standard or individual requirements, we can offer the right solution for every extraction or filtration requirement - worldwide.

**You can also find this press release online at: <http://presse.tbh.eu>**

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