Oil Mist Solutions
Oil mist filters for emulsion application and
Oil smoke filters for neat oil applications
Filtac AB, was founded in 1982 in Gothenburg, Sweden and specializes in filtration, industrial ventilation and clean-room technology. We offer customized air treatment solutions for industry and commerce. In addition to distributing well known brands, Filtac also develops and produces its own products. We design, supply, install and validate solutions for customers from our headquarters in Kinna, Sweden.

Filtac’s in-house designed oil mist collectors are developed to overcome many of the shortfalls of other technologies and designs. The design minimizes the need for service and filter changes, provides exceptional fluid drainage capacity, is suitable for high concentration mist/smoke applications, clean air quality, low maintenance and life cycle cost.

Filtac’s Oil Mist Filter Systems are designed for single or multiple machine tools and have the highest degree of filtering utilizing the expertise of Filtac’s experienced staff. We divide the filters into two different areas. Oil Mist Filters, (OMF) for emulsion applications and Oil Smoke Filters (OSF) for neat oil applications.

Filtac’s collectors efficiently capture oil mist and oil droplets. They coalesce the collected fluid particles into larger particle fractions which enables the larger droplets to drain from the media and be collected in the sump. When cleaned in the centralized fluid system, the fluid is recycled and can be reused. The clean air can in most cases be sent straight back into the work shop environment without any hazards. If the air, for some reason, is sent to the outside, a heat exchanger can be used for heat recovery.

We divide the filters into two different areas
- OMF – Oil Mist Filters for emulsion applications
- OSF – Oil Smoke Filters for neat oil applications
The faster and more efficient the manufacturing processes is, the more oil mist and emulsion mist is created by the machine tools. To be able to handle this pollutants Filtac developed the Oil Mist FibreDrain™ Concept.

With high speed, heat and high pressure the droplets get very small, < 1 µm. Special treated filter media is necessary to capture these submicron droplets and to drain the coalesced droplets back to the process. Filtac’s combination of fibers enables this and secures the performance. The FibreDrain™ filter concept is the secret behind the outstanding performance and ensures the long filter life and maintains the excellent filtration and drainage properties. With over 50 different formulas on fibers and combinations, we can always propose the best solution for the application.

The principal of operation involves passing the particulate laden gas stream through the layers of compressed filter media at low velocity. The result is the removal of particles/droplets. The lower the velocity, the better the performance. The airstream enters at the bottom of the filter unit and passes upward through the filter cartridges. The captured mist drains from the filter surface by gravity down in the sump of the collector.

The final stage of filtration is with a HEPA Filter in grade H13 according to test standard CEN 1822. The filter media is in water proof glass and the frame is developed for mist applications in water proof MDF or plastic casing.

To prolong HEPA filter life, the upstream filter stages must be highly efficient. HEPA filter life depends on the cumulative loading it receives, which in turn, depends on the performance of the upstream collection stages. Therefore the combination of FibreDrain oil mist filters and Hepa filter makes the exhaust air clean and very long filter life is achieved.
WHY IT WORKS

The efficiency and drainage capability versus pressure drop are the parameters that have to be understood and observed. Filtac’s competence in using special treated fibers in different sizes and combining them in filter cartridges is why we can maintain high efficiency and long filter life.

To have a good working oil mist collector, you need to understand what filter media to use, where and what size of unit to install. Filtac has this experience and, therefore, always suggests the best filter combination and unit architecture.

Filtac solve the oil mist problem in close collaboration with the customer.

PRE FILTER ORF (OIL REPELLENT FILTER)

Some applications create a lot of solid particles that can destroy the filters. To secure the filter life time of the FibreDrain™ filters, an Oil Repellent pre filter, ORF can be installed. All units are prepared with room for pre filter as standard.

THE UNITS

All units are manufactured using high grade materials and are fully welded and of heavy duty design. All units are blasted and cleaned before they are painted with coolant and oil resistant powder coating. All filters are secured with a filter locking device that makes the filter air tight and safely installed.

The units are divided in two product application categories

- Standard units
- Bespoke units
The standard units are designed for airflows from 500m3/h up to 8000m3/h. They are installed as stand-alone units and connected to one or several machine tools. The radial fans with backward bent blades are designed with consideration to efficiency, airflow and pressure capability.

The FlexComp series is designed to be mounted on top of the machines or wherever the horizontal design is more suitable.

Standard units
- OMF 1000 - OMF 8000 (OMF 1000, 2000, 4000, 6000, 8000)
- OSF 1000 - OSF 4000 (OSF 1000, 2000, 3000, 4000)
- OMF FlexComp (OMF Comp 1000, 2000, 3000)
- OSF FlexComp (OMS Comp 500, 1000, 1500)

Units built together with a fan on top or standing on the side are always considered a customized, bespoke unit. There is a lot of flexibility for designing these units due to Filtac’s in-house designers and experience.

Accessories
Filtac have a wide range of accessories to customize and fulfill the different applications and customer needs.
ELECTRICAL AND CONTROL UNIT

All standard units are equipped with start/stop and motor protection. For more advanced monitoring and control of the operation there are complete control cabinets with inverters, PLC’s etc. which can be connected to the customer’s internal monitoring system.

FANS AND SOUND ENCLOSURES

The fan is a vital part of the supply of oil mist collectors. We do the calculations of velocity, pressure drop and sound pressure for each installation to get the right performance of the complete system.

PUMP SYSTEMS FOR COLLECTED OILS

We offer both standard pump systems as special systems with customer demands on parts and capabilities.

Other accessories that can be included in the deliveries from us

- Automatic spray system
- Silencers
- Adsorption Filters for VOC
- Unit stands for the Compact units
The right filter makes all the difference

The Filtac FibreDrain™ Concept technology makes the difference...
The employees at Filtac are very knowledgeable and have many years of solid experience solving problems with oil mist.

Please do not hesitate to contact us!