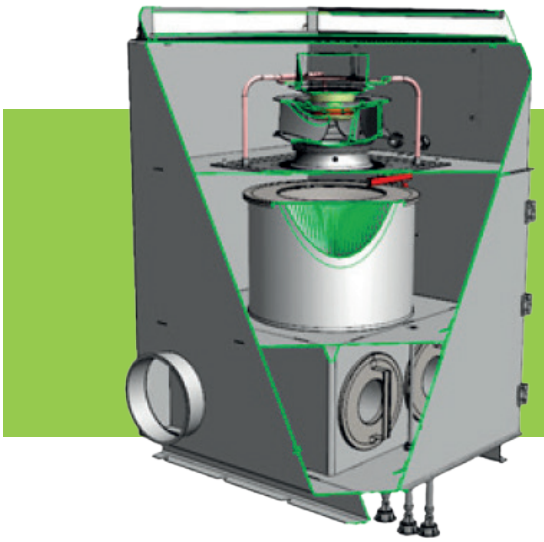
FILCOM FILTRATION

Aerosol separation on machine tools

Metalworking companies worldwide use several thousnd tons of cooling lubricant to machine their products. The cooling lubricant, which can consist of a pure machining oil or an emulsion, is sprayed onto the workpiece or product by pumps at high or low pressure during machining. This is necessary to cool the machining area and also to remove chips. Aerosols are generated by physical. effects.



FG LGAir
Picture source: Filtration Group Industrial

Aerosols

These aerosols occur in various sizes. Depending on their fineness and substances properties, aerosols are defined as mist or airborne dust and are found inside the processing machine. It is necessary to extract the aerosols from the machining area or at the machining point. The cooling lubricant areosols, which are defined as mist in their fineness and can therefore remain in the air for a very long time without settling, are therefore to be considered critical. These are also alveolar aerosols. The almost invisible vapor component is often neglected. „Out of sight out of mind.“ However, the regulations for the limit values take the aerosols and vapor components into account.

LGAir - FG aerosol separator

Ventilation systems

Manufacturers of processing machines are forced to install an air handling system if the formation of aerosols cannot be prevented. Technically and physically, the formation of aerosols cannot be prevented. Additional components, such as aerosol mist separators, which are presented in the vernacular as a necessary evil, have only an indirect benefit on the end products when looking at the machine tools. Thus, it is clear that the focus of machine tool drivers is on the direct components used to machine the workpieces.

Aerosol separation of the highest quality, technology and know-how

In order to further serve application in the lower performance spectrum in terms of aerosol exposure, another LGA series is under development at Filtration Group Industrial.

COMING SOON: The LGAir BASIC / ADVANCE O600/E1200 will meet the challenges of metal-cutting machine tools and like the LGA series, will provide the clean air workers need.

LGAir

In the LGAir aerosol separator, filtration is subdivided into pre-separation, main filtration, fine filtration and HEPA filtration. The specially matched filter stages can be used for oil and emulsion applications. The size shown can be operated with a volume flow of approx. 600 m³/h for oil applications and with approx. 1,200 m³/h for emulsion applications.

The LGAir will be available as BASIC and ADVANCE version. The LGAir is cost-reduced in the sense of „PLUG & WORK". The LGAir Advance variant includes optical status indicators of the filter stages as well as volume flow control.

- SMART yet POWERFUL
- COST-EFFECTIVE yet EFFICIENT
- AEROSOL SEPARATION of the highest quality, technology and know-how

Assembly

As is usual with the already familiar LGA series, the unit is mounted on the roof of the machine tool / machining center or on a frame to the side. Separated oils or emulsions are discharged via the proven coolant recirculation systems. The LGAir is designed to be service-friendly so that elements can be changed without tools during maintenance work.

Improved air quality & effective extraction

Aerosol extractors promote employee satisfaction at machine tools by improving air quality. Preventing the spread of aerosol mist provides a cleaner environment and reduces the risk of accidents by preventing greasy aerosols from settling on walkways over time.

Effective extraction requires close consideration of the cirumstances. Various parameters regarding the machine tool plus the selection of high-quality components such as the filter technology lead to the efficient separation of aerosols. Employees and factory halls are free from disturbing and dangerous lubricant aerosol mist.

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