

AERO optimizes the separation of very fine coolant aerosols.

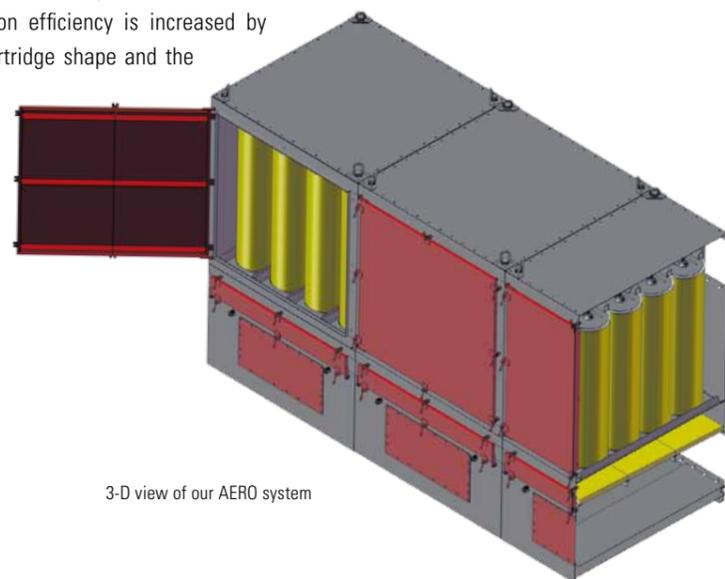
AERO's secret lies with the new MICOS-P fine fiber filter elements which separate up to 99 percent of the smallest lubricant particles from the air in machining processes or mechanical metalforming activities. New manufacturing processes – such as at Daimler, among others – set innovation in motion. In addition, the German car manufacturer utilizes the initial models of our new separators. There are more to come and existing systems will be retrofitted with MICOS-P filter elements.

It is a technical challenge to reliably separate very fine coolant aerosols. Keller Lufttechnik sets new standards with the new oil mist separator AERO. The modular combined system provides a separation efficiency of 99 percent without utilizing a storage filter. Moreover, it is compact in size and requires little floor space. "Space on production floors is expensive and this is why efficient use of floor space is an important economic consideration", according to Leopold Rang, sales representative at Keller Lufttechnik. The compact design is accomplished by using the new, efficient MICOS-P filters. The filters are composed of fiber material, whose separation efficiency is increased by the use of a cartridge shape and the

larger filtration surface that it provides. Therefore, only one main filtration stage is sufficient for the AERO system. Only a single demister is installed upstream. The knitted metal mesh serves as a pre-separator of coarser particles and simultaneously adjusts the air flow so that it maintains an even flow through the main filter.

Modified manufacturing processes required a new generation of separation technology.

The development of the new system has its own history: Daimler in Untertürkheim, which is close to Stuttgart, has been utilizing Keller oil mist separators for years – until their manufacturing process changed. "Our customary demisters reached their limits due to the strong dirty air load", explains Michael Osdoba, Keller's Key Account Manager for Daimler Stuttgart. "Clean air values no longer met the requirements. So we started retrofitting the separators with MICOS filter elements – and as a result, our AERO was developed as a completely new product." Keller experts provided evidence that the clean air value was reduced from 93 mg of mineral-based oil aerosols to 0.3 mg for every cubic meter of air.



3-D view of our AERO system



AERO reliably separates coolant aerosols which are created during the grinding of automotive parts.

New separator convinces in daily use

Since the beginning of 2011, AERO has been utilized at Daimler in engine production. The separator has proven successful and still maintains the preset limit values. The separator has proven successful and still maintains the preset limit values.

Retrofitting existing systems

Some systems which no longer meet requirements will be retrofitted with MICOS-P filters.

"However, we have to check if this is feasible in specific cases because of the system dimensions", according to Michael Osdoba. "Potentially, we have to add another filtration level since the continued use of existing housing, electrical and ductwork connections is economically beneficial."

Automatic filter cleaning

If necessary, MICOS-P filters are cleaned automatically in specified intervals during operation or optionally after switching-off the separation system. The demisters are rinsed in process oil which drains into a tub together with the oil mist. It drains through a drain connection and then either flows back into the machine or into a treatment system. If a drain outlet is inadequate, a pump container can easily be installed in the AERO if necessary.

Modular construction

Keller's AERO is available in three sizes for nominal airflows of 4.000, 7.500 and 12.500 cubic meters per hour. The modules can be combined and operated economically by a fan and a common control. <

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