

ADVANTAFLO™
PATENTED INLET
TECHNOLOGY FOR
HIGH PERFORMANCE
DUST COLLECTORS



MIKROPUL

DUST COLLECTION
GAS CLEANING
PRODUCT RECOVERY
ENGINEERING
SERVICES

MIKROPUL ADVANTAFLO™ INLET TECHNOLOGY

Significantly improve new or existing dust collector performance for quick payback with our unique inlet designs

Many years of field and laboratory research revealed that a major problem with dust collector performance is uneven air flow distribution to the filter elements. This uneven distribution is the result of ineffective inlet and diffuser device designs.

Several diffuser designs were investigated: Impingement Plate, Perforated Disc, and Perforated Mail Box. In all cases the air stream formed two vortex motions. The primary vortex occurs in the filter housing causing very high localized dust laden velocities. A secondary vortex motion is created in the lower part of the hopper, causing high dust re-entrainment and uneven dust discharge.

This condition is the main reason for:

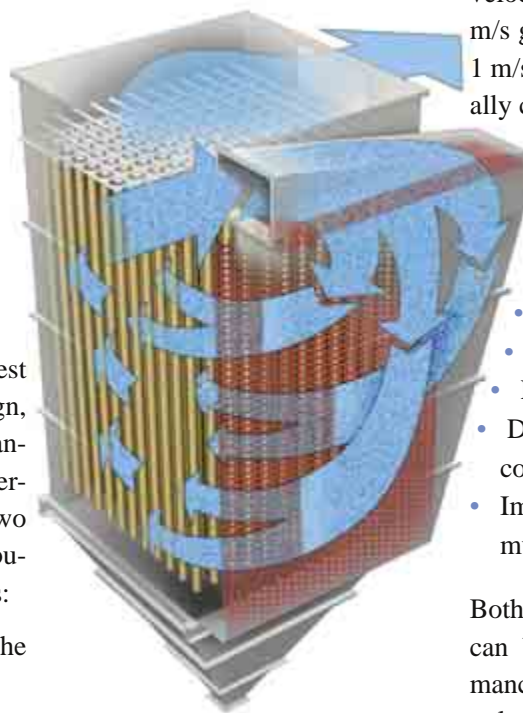
- Abrasion
- Short bag life
- High pressure drop
- Reduced air flow capacity
- High cleaning power consumption

MikroPul carried out extensive test series to find an optimal inlet design, and developed the patented Advantaflo™ inlet technology for high performance dust collection with two solutions which effectively distribute air flow evenly to the filter bags:

the Cascadair™ hopper inlet and the Expandiffuse™ side inlet.



Cascadair™



Expandiffuse™

Cascadair™

The Cascadair™ diffuser uses a succession of orifice plates to gradually divert portions of the incoming air in stages. The results achieved are:

- Lower pressure drop
- Significantly increased air flow capacity/air to cloth-ratio (filter rate)
- Minimised dust re-entrainment
- Enhanced dust separation at the hopper entry
- Increased bag life
- Better overall filter performance (10 -15%)

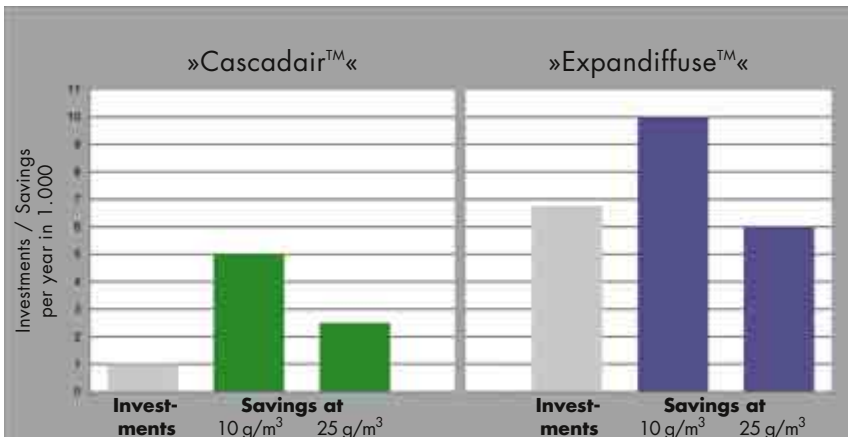
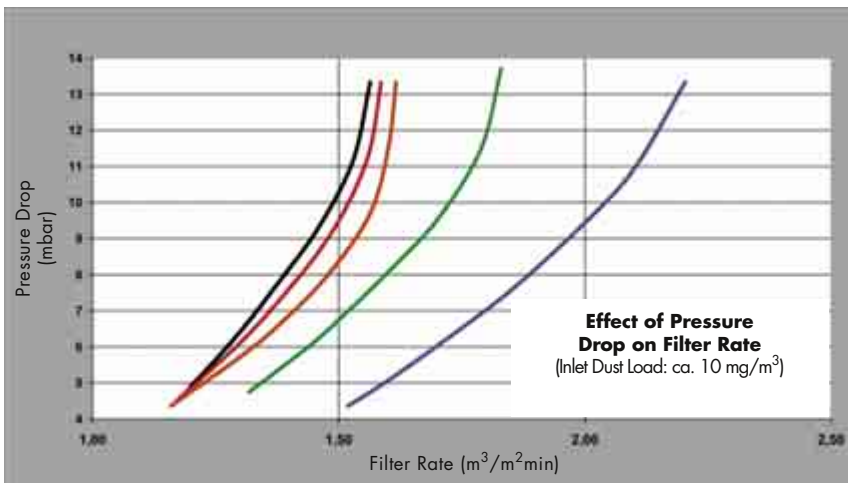
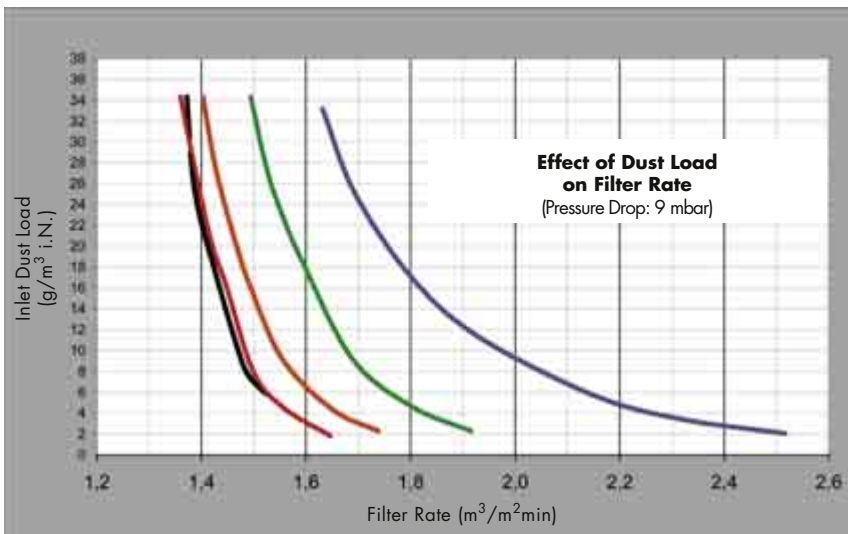
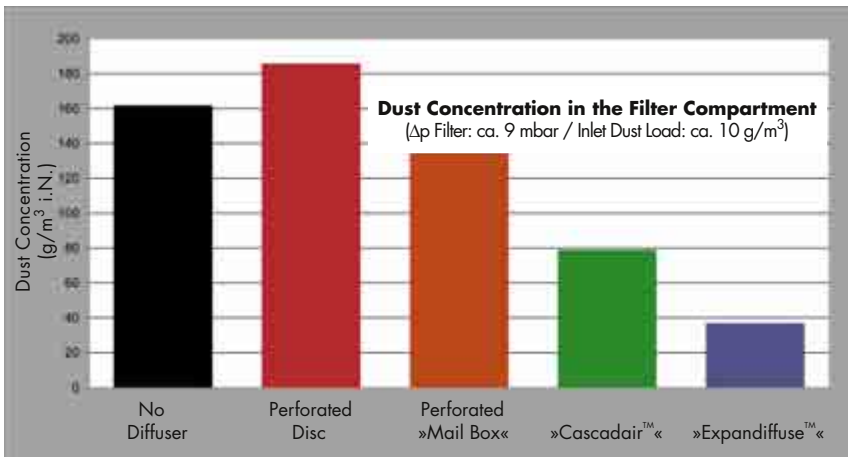
Expandiffuse™

The Expandiffuse™ offers a more dramatic improvement in performance. Expandiffuse™ is a two stage inlet with diffusers at right angles to each other. The final housing inlet occupies nearly one full side of the housing. This large opening reduces velocities over 90%. In other words, a 18 m/s gale force wind has been changed to a 1 m/s gentle breeze. Expandiffuse™ is ideally combined with MikroPul's Long Bag technology. Benefits include:

- Reduced pressure drop
- Higher A/C ratio; i.e. greater flow capacity
- Elimination of dust re-entrainment
- Reduction of pulse air consumption
- Longer bag life
- Dramatically reduced maintenance costs
- Improved pulse-jet performance by as much as 40%

Both the Cascadair™ and Expandiffuse™ can be retrofitted to improve the performance of any style or make of rectangular pulse-jet or cartridge collector. The Cascadair™ can also be used to improve the performance of any dust collector with a hopper inlet, including cylindrical pulse-jet, shaker, or reverse-air type units.

MIKROPUL ADVANTAFLO™ INLET TECHNOLOGY



Performance Comparison

In our search for better filter performance, we have collected data about a variety of commonly used inlet designs. These graphs compare the following:

- No diffuser
- Perforated disc
- Perforated mail box
- Cascadair™
- Expandiffuse™

The results clearly show the superiority of the Cascadair™ and Expandiffuse™ compared with other inlet design solutions.

Calculated Savings

The final graph gives you an idea of the yearly savings you could expect for fan power, compressed air, replacement filter bags, and maintenance labour costs. The result is a payback ranging from a few months to a little over a year. The calculations are based on a 200 bag unit operating 8.700 h/year at 20.000 m³/h air flow per hour, 10 ct/kWh electricity costs, and 30 €per hour labour rate.

As you can see, Advantaflo™ technology can boost your collector's performance and save you money.

If you are interested in upgrading your existing dust collector, regardless of manufacturer, call us and ask for our Field Service Department. We'll inspect your dust collector and give you an estimate for the type of inlet you desire.

Cascadair™ and Expandiffuse™ are protected by Australian, Canadian, European Community, Japanese, and U.S. patents.

MIKROPUL SUPPORT

Maintenance

MikroPul backs up our products and systems with worldwide customer support. Contact us any time you need help.

Spare parts

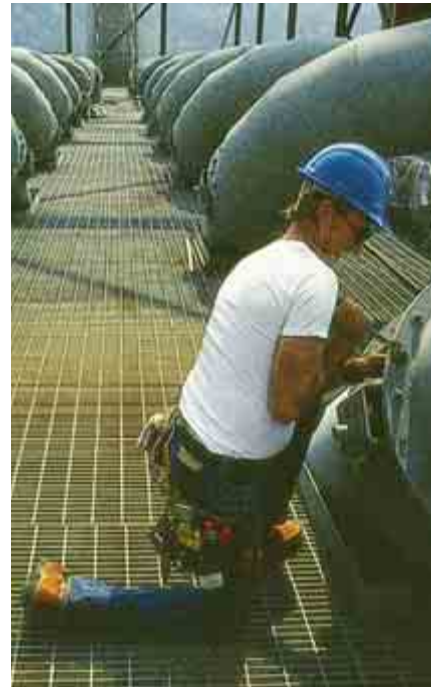
MikroPul systems are known for long lasting, reliable operation. Using original MikroPul spare parts ensures that your plant always operates with maximum performance. We supply a full line of parts, from gaskets, filter bags and hinges or timers and differential pressure gauges to major components, for all our products. High wear items are kept in stock for immediate shipment.

Service

MikroPul provides an array of services to help you select, install, operate, and maximize your equipment investment. If your collector needs upgrading to meet increased demands or process changes, our engineering and service staffs are here to help you.

Services include:

- Process analysis
- Inspections of plants and components
- Converting old equipment to new technology
- Conversions/Replacements
- Maintenance seminars
- Technical trainings



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INNOVATION IN FILTRATION