

Air Eco₂nomy[®]

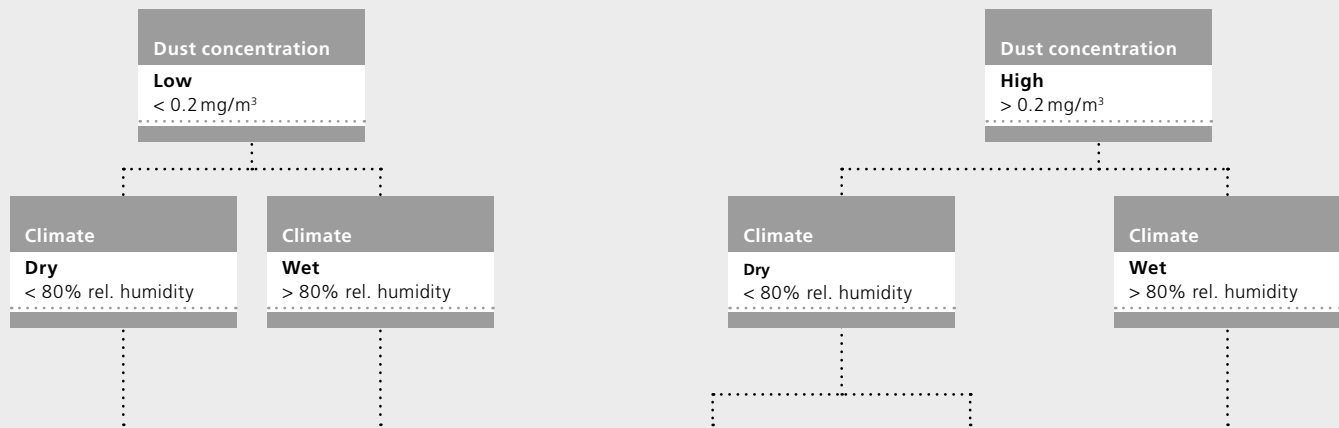


Selection criteria and modules

From the desert to the tropics – always the ideal solution

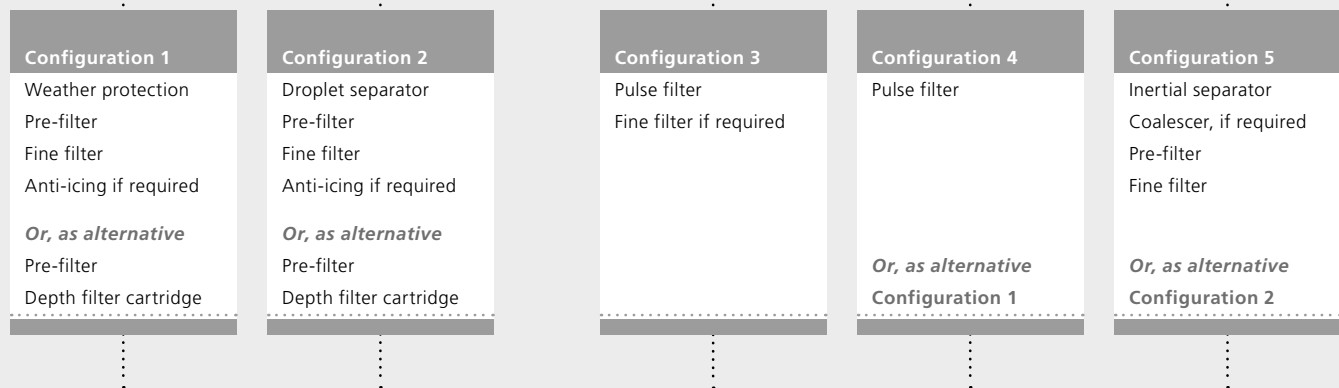
From the standpoint of machine protection, sandstorms cause different problems than do monsoons. As the operator of compressors, turbines, and engines, you therefore need filter systems that are individually matched to climate conditions, dust concentrations, and other local parameters. Our selection diagram below will simplify for you the choice of the ideal system. In addition to our standard systems, which can be variably combined, we also offer you systems tailored to your specific application. And, in addition, we provide comprehensive services such as professional assembly, initial startup, and maintenance.

Selection criteria for air intake systems

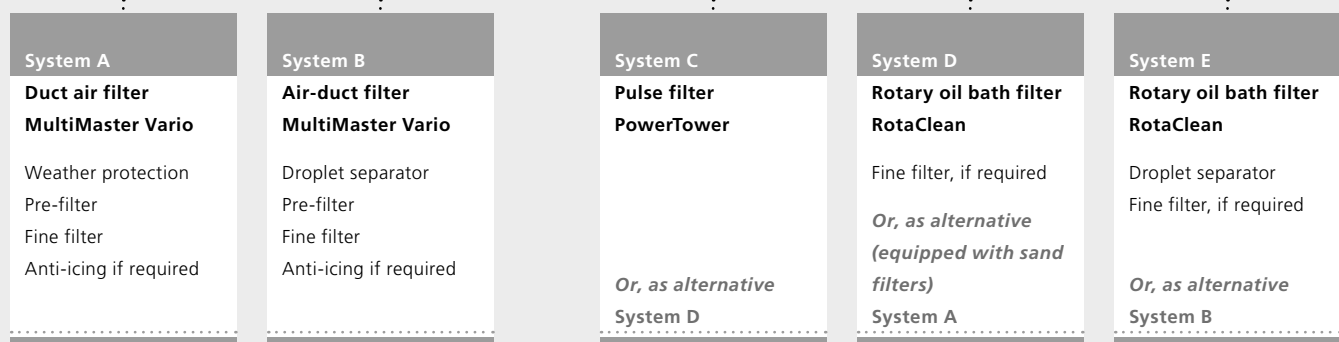


Customised systems

Sandstorms are possible



Standard systems



Air Eco₂nomy

Top performance thanks to clean air



Air Eco₂nomy is more than just engineering. It is an attitude that creates values with a future: quality of life for people. Climate and environment protection. Security for companies and investors.

- Extensive filter program for air intake systems – for gas turbines, compressors, engines, and process air
- Standard systems and customised engineering
- Technical design of the filters on the basis of local environmental conditions
- Structural design of the entire air intake system
- Acoustic design in accordance with local noise-emission regulations
- Electrical wiring and control boxes that satisfy all international standards
- On-time delivery of systems, including filters, sound attenuators, and accessories
- Assembly, installation, and initial startup anywhere in the world
- Continuous quality assurance in compliance with DIN EN ISO 9001:2008

Gas turbines, compressors, and engines require clean air in order to provide maximum performance: which is guaranteed by air intake systems from GEA Delbag Lufttechnik. Air Eco₂nomy assures top process efficiency with a minimum of energy consumption.

GEA Delbag Lufttechnik is your guarantee for top competence and experience from 100 years of market leadership in air filter technology. Under the motto “Air Eco₂nomy,” we offer you holistically oriented solutions that set not only economic but also ecological standards. A prime example here is the air intake solutions that we have continuously developed for more than 50 years now, in close collaboration with the manufacturers and operators of gas turbines, compressors, and engines.

Turbomachines and engines are operated throughout the world, often under the most difficult of conditions. In order that these machines reach peak performance on a sustainable basis, the intake air must be optimally cleaned. Our air intake systems perform this function. They prevent, for example, the efficiency of gas turbines from being reduced by impaired aerodynamic features of the turbine blade system (e.g. fouling). In addition, good air intake filtration prevents cost-intensive maintenance (e.g. on-line washing) as well as damages by abrasive particles (e.g. erosion) or deposited corrosive matter. Complementary air conditioning measures, furthermore, minimise operating costs over the entire equipment service life.

Air intake systems

Customised systems

Static filter systems (configurations 1 and 2)

In regions with relatively low dust concentration, a static filter system is the most practicable solution. Most frequently, a two-stage configuration with pre-filter and fine filter is selected, in order to achieve the required filter class and service life. Normally, bag filters are employed in the first stage, and compact filter elements in the fine-filter stage. A droplet separator is additionally integrated for climates with long periods of high humidity and/or fog. In zones with extremely high degrees of outdoor wetness (e. g., in coastal areas), an additional upstream coalescer filter is recommended.

Anti-icing systems for static filters (configurations 1 and 2)

Anti-icing systems are used wherever low temperatures can occur in combination with high humidity. During such weather periods, these systems prevent the formation of ice, which could lead to rapid increase in pressure drop or even to blockage of air filters. The bandwidth of GEA Delbag anti-icing systems includes heat exchangers, warm- and hot-air distributors, infrared systems, and electric heaters.

Pulse filter systems (configurations 3 and 4)

Self-cleaning pulse filter systems are effectively used where high dust concentrations prevail, such as in desert areas and especially in polluted industrial regions. The dust particles are captured on the surface of the filter medium. The dust cake that results is effectively removed on-line by a counter-flow pulse-jet cleaning process with compressed air. According to the local conditions, the pulse filter cartridges are configured horizontally (cross-flow systems) or vertically (table filter systems). GEA Delbag pulse filter systems are operated without additional anti-icing systems.

Inertial separators (configuration 5)

In regions in which great dust concentrations can occur with a large share of coarse particles, and in combination with high humidity, intake air can be effectively cleaned by inertial separators type TFA. The eliminated dust is ejected to the outside by a secondary-air fan.

Depth filter cartridge systems (configurations 1, 2, 4 and 5)

Depth filter cartridge systems are effective in covering a broad field of application. The pre-filter – in the form of an economical filter sock that can be easily exchanged – is pulled directly over the depth filter cartridge. The compact design combines maximal filter performance with long service life. Experience has shown that anti-icing systems (as required for static filter systems) are not necessary here. Depth filters can also be used as retrofits for existing pulse filter systems, if the filter performance and the service life of pulse filter cartridges are not sufficient because of insufficient dust concentrations or high moisture.



Static filter system with anti-icing



Pulse filter system (cross flow)



Depth filter cartridge system (table filter)

Air intake systems

Standard systems

Standard solutions from GEA Delbag are characterised by dimensionally matched modular configurations. All modules can be easily combined and extended by further standard components such as weather hoods, droplet eliminators, sound attenuators, and connecting air ducts.

MultiMaster Vario duct air filter module (systems A and B)

The MultiMaster Vario universal duct air filter by GEA Delbag enables individual solutions for a great number and variety of application areas. The system is equipped with static filters such as filter mats, bag filters, filter elements, and roll filters. G2 to H13 filter classes can be implemented. Thanks to innovative structural design, the housings provide very great stability and long service life.

PowerTower pulse filter module (system C)

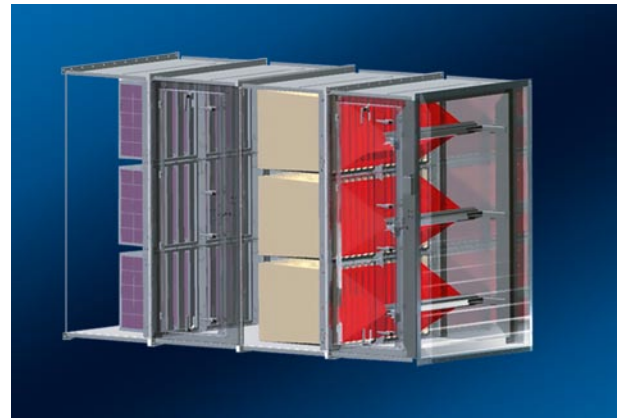
With the PowerTower standard pulse filter system, the technical benefits of pulse filter cartridges can be economically implemented even for small air volumes. As a result, the PowerTower is especially used for engines and relatively small compressors. This development can be equipped with either horizontally or vertically suspended cartridges, as required. With the hanging cartridges, apron panels assure sufficient coverage. In the horizontal models, droplet eliminators are integrated as standard in the intake opening.

RotaClean rotary oil bath filter module (systems D and E)

RotaClean rotary oil bath filters are primarily used for filtration of coarse dust from the combustion air of diesel engines – also under the most difficult of environmental conditions. Oil-moistened filter panels provide effective and safe separation of dust. These filters are especially economical owing to their low maintenance and operating costs.

Replacement filter media

GEA Delbag offers virtually the entire spectrum of replacement filter media normally used on the market, and covers all systems and applications. The range includes coalescer filters (e.g., filter mats, metal filters, and bag filters), class G2 to F7 pre-filters (e.g., filter mats and bag filters), fine filters in classes F6 to F9 (e.g., bag filters and filter elements), HEPA filter elements in classes H10 to H13, as well as pulse filter and depth filter cartridges of all types and dimensions.



MultiMaster Vario duct air filter with infrared anti-icing



RotaClean rotary oil bath filters and the PowerTower pulse filter



Replacement filter media



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