

Blue.ion

Clean air for a safe trip.

In one hour, the ventilation system in a car draws 300,000 liters of air into the interior of the vehicle – together with pollutants, allergens and odors from the immediate environment. Astonishing, but proven: The level of exposure to the vehicle's occupants can be up to five times higher than that of passersby on the roadside. But the quality of the air in the cabin is extremely important for both health and driving safety.

Fortunately, cabin air filters substantially reduce the pollution level even in the case of very fine particles (PM1 and smaller), therefore contributing to a healthy and hygienic climate in the vehicle. The design of cabin air filters involves the conflicting goals of combining a compact design with the lowest possible flow resistance as well as filtration of the finest particles.

Reason enough for us to blaze new trails in the development of the Blue.ion by using a technology that fulfills all of four requirements:

- **Maximum protection**
against pollutants, viruses and allergens
- **Compact design**
and maximum performance
- **Energy efficiency**
due to low flow resistance
- **Long life**
and low filtration loss



Stephan Kochmann and Dr. Lars Petersen played a decisive role in the development of the Blue.ion. They provide interesting insights and share their experiences from the perspective of the developer and customer.

What is the future of vehicle cabin air filters?

Dr. Lars Petersen: The Corona pandemic has once more raised awareness about air quality, especially with respect to enclosed areas such as a vehicle cabin. This results in higher filtration requirements and the demand for new solutions.

Which developments can you already foresee today?

Dr. Lars Petersen: Due to the growing requirements, large particulate air filters that can also filter out ultra-fine dust are ever more in demand. At Hengst Filtration we recognize the potential to use electrification of filtration as an alternative technology. The system is also being further developed in the field of HEPA separation. The lowest possible differential pressure will continue to be an important factor for achieving energy-efficient particle separation.

What gave you the idea to use ionization and polarization in a cabin air filter?

Stephan Kochmann: At Hengst our daily work focuses on making filtration as innovative and efficient as

possible. That is why we have long been examining new technologies in the field of air filtration. In the course of development activities we discovered that combining the two technologies of ionization and polarization offers decisive added value.

What makes the Blue.ion so special?

Stephan Kochmann: We are not aware of any other energy-efficient approach on the market that offers comparable filtration performance in such a compact design. High filtration performance usually requires higher energy requirements in the form of additional differential pressure; the Blue.ion requires only a fraction of this energy.

Where is the Blue.ion to be used?

Stephan Kochmann: The Blue.ion was developed with a focus on passenger cars, but can also easily be adapted for use in utility vehicles, as well as agricultural and construction machinery. Currently we are also examining potentials for use of the Blue.ion beyond automotive applications.

Any other questions?

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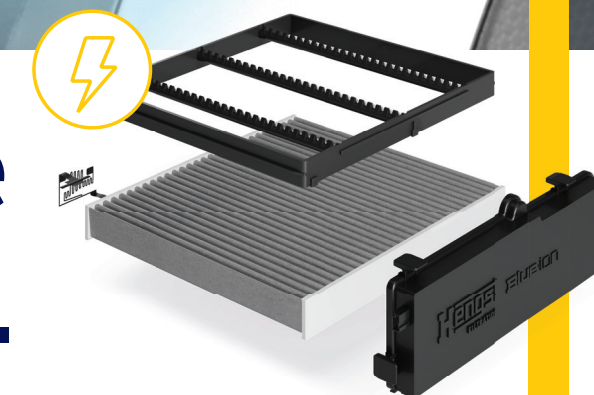
www.hengst.com/blue.ion



www.hengst.com/blue.ion



This one has it all.



**Electrified, compact, and efficient:
the Blue.ion vehicle cabin air filter.**

Blue.ion

purifying our planet



The wide world of filtration.

As a family operated company with 3,500 employees at 23 locations, Hengst Filtration is known worldwide for its innovative filtration and fluid management solutions.

Our custom-tailored solutions are used in medical cleanrooms, air conditioning systems, cleaning machines, industrial systems, electric tools and robots.

Our products are used in millions of applications around the world to make something cleaner. But we can do even better. We think filtration – in everything we do. We deliver leading edge filtration systems for the fields of plant and machine engineering, industrial filtration, hydraulics, life science and health care.

We are also an OEM supplier for the international automotive and motor industry and a development partner for sustainable drivetrain and mobility concepts.



Making our planet a purer place.

Mobility, Health, Economy, Environmental Protection & Sustainability: Our daily work focuses on the major issues of our time. With the goal of making the planet a cleaner place. This enables worldwide forward-looking technologies in all industries.

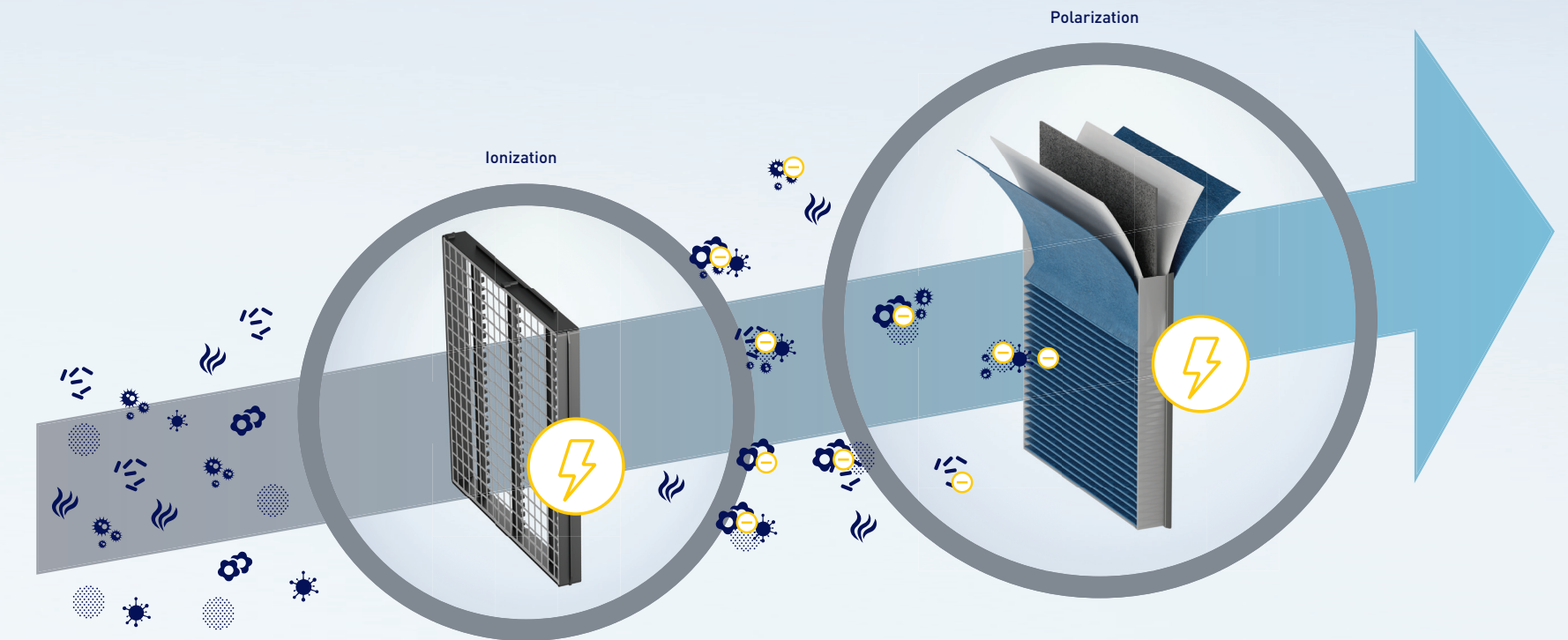
Safety through ionization & polarization.

The new Blue.ion cabin air filter from Hengst can boast constantly high and also energy-efficient filtration performance, which is achieved by combining two technologies: ionization of particles in the air flow and polarization of the filter medium.

An ionizer provided directly upstream of the filter ensures that the particles are electrically charged. This improves separation of the particles in the filter, which is likewise charged. Even despite the ionization, the charge decreases over the life of the filter, resulting in a performance drop with reduced particle separation. This is where polarization comes into the picture.

The use of an electrostatic field permanently maintains the charge in the filter medium. Altogether, the combined system ensures consistently high separation throughout the entire filter life.

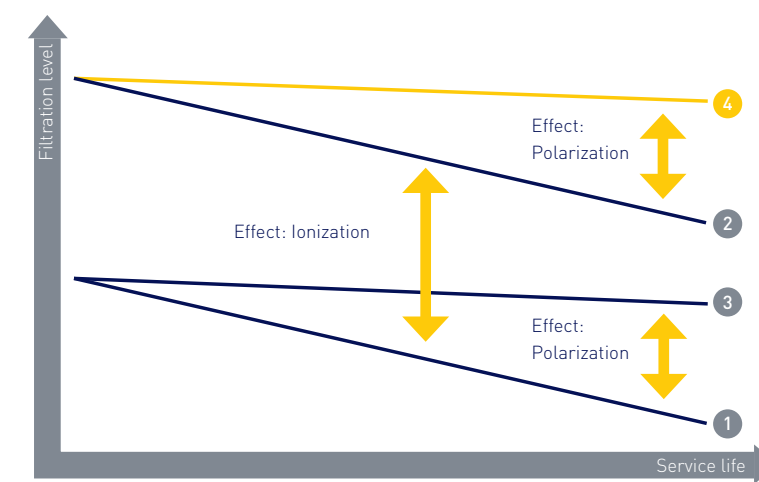
-  Viruses
-  Ultra-fine dust
-  Bacteria
-  Pollen
-  Mold and spores
-  Odors



Ionization: Charges particles for improved separation | **Polarization:** Maintains the charge in the filter for consistently high separation
Representation of a compact design, even a separation of ionization and polarization can be implemented.

Long lasting

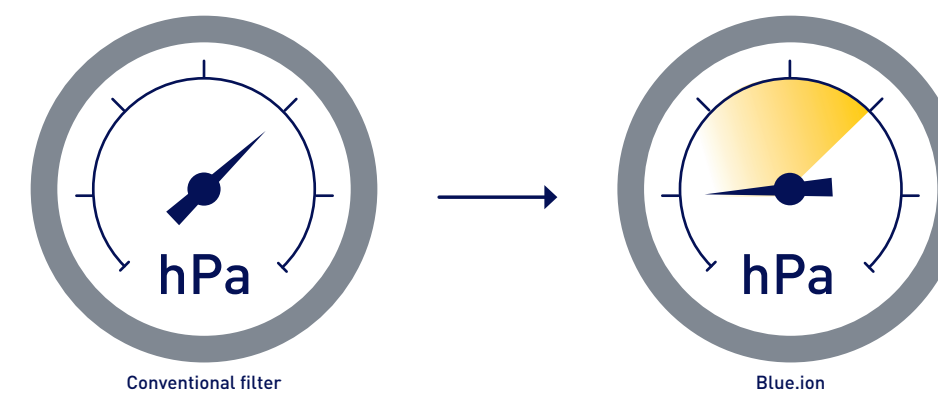
The combined effects of ionization and polarization achieve consistently high particle separation. An advantage that benefits your customers every single day.



- 1 Conventional filter
- 2 Filter with ionization
- 3 Filter with polarization
- 4 Blue.ion with polarization and ionization

Efficient

The low differential pressure means: lower power consumption by the fan and lower noise emissions. In this respect, the Blue.ion is also superior to conventional filters, which need five times the differential pressure to achieve the same efficiency.



Compact

With the same differential pressure, conventional filters need about five times more installation space than the Blue.ion to achieve the rated capacity. This is another advantage of the smart cabin air filter with the ionization and polarization effect.

