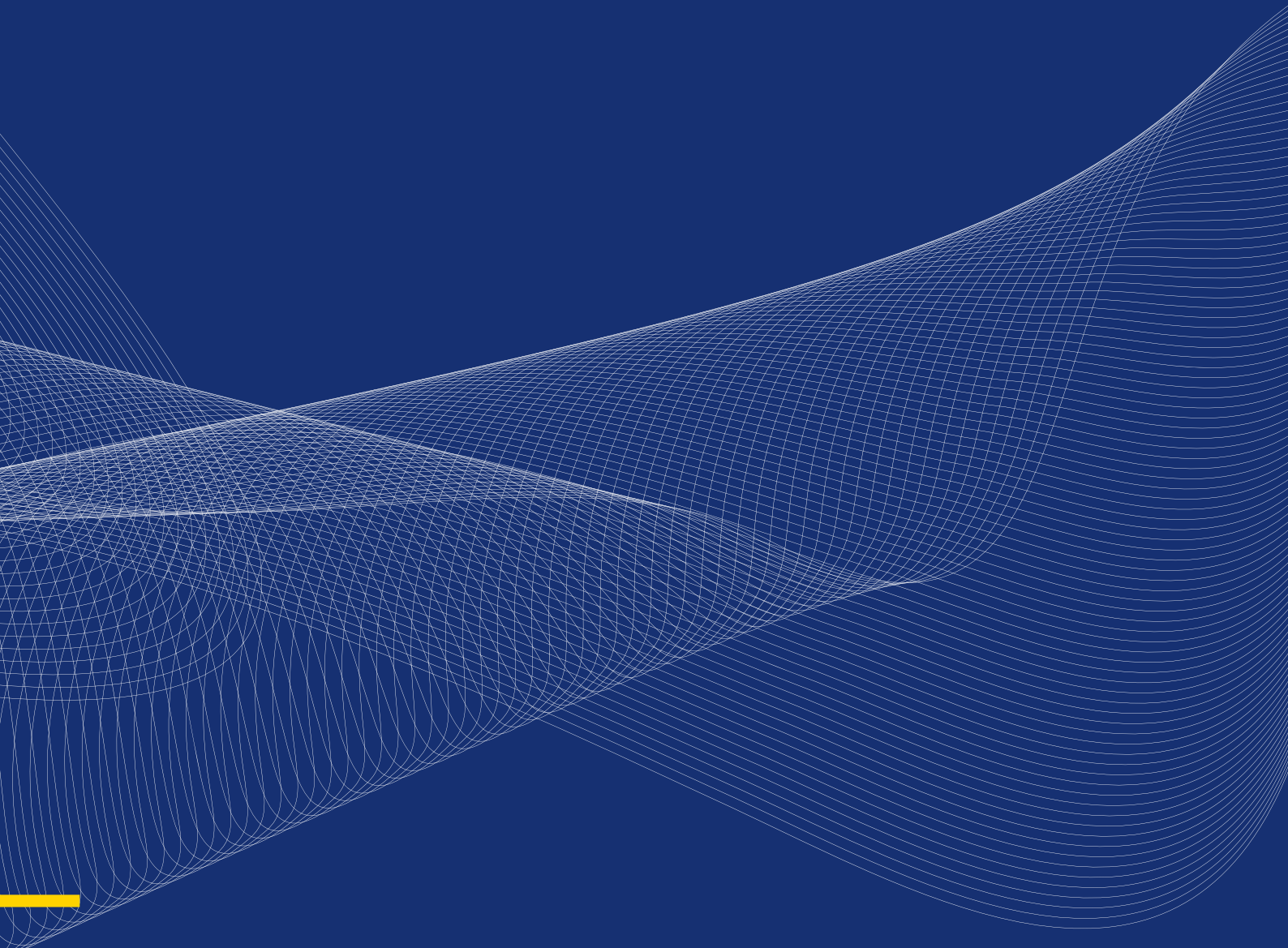


Das Original

Hengst[®]
FILTER



For each type always the
right solution



Your engine is what drives us



Welcome to Hengst

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We are perfectionists – with a tradition and passion for modern, efficient engine technology. Our company has been established for over 50 years as a development partner to the automotive industry and as a reliable supplier to the aftermarket. Our extensive and constantly updated filter range covers all current types of engines for cars, commercial vehicles as well as agricultural and construction machinery. Although many things change – one thing remains the same: Our endeavor to achieve 100-percent customer satisfaction.

Anyone can supply products – what we do is create solutions: Not least, this includes close personal contact with our customers based on mutual trust. We are close to the aftermarket and know its requirements down to every last detail.

Founded in 1958, we remain an independent German company managed by its third generation of family with all associated strengths: quick decision making, a high level of flexibility and 100-percent reliability.

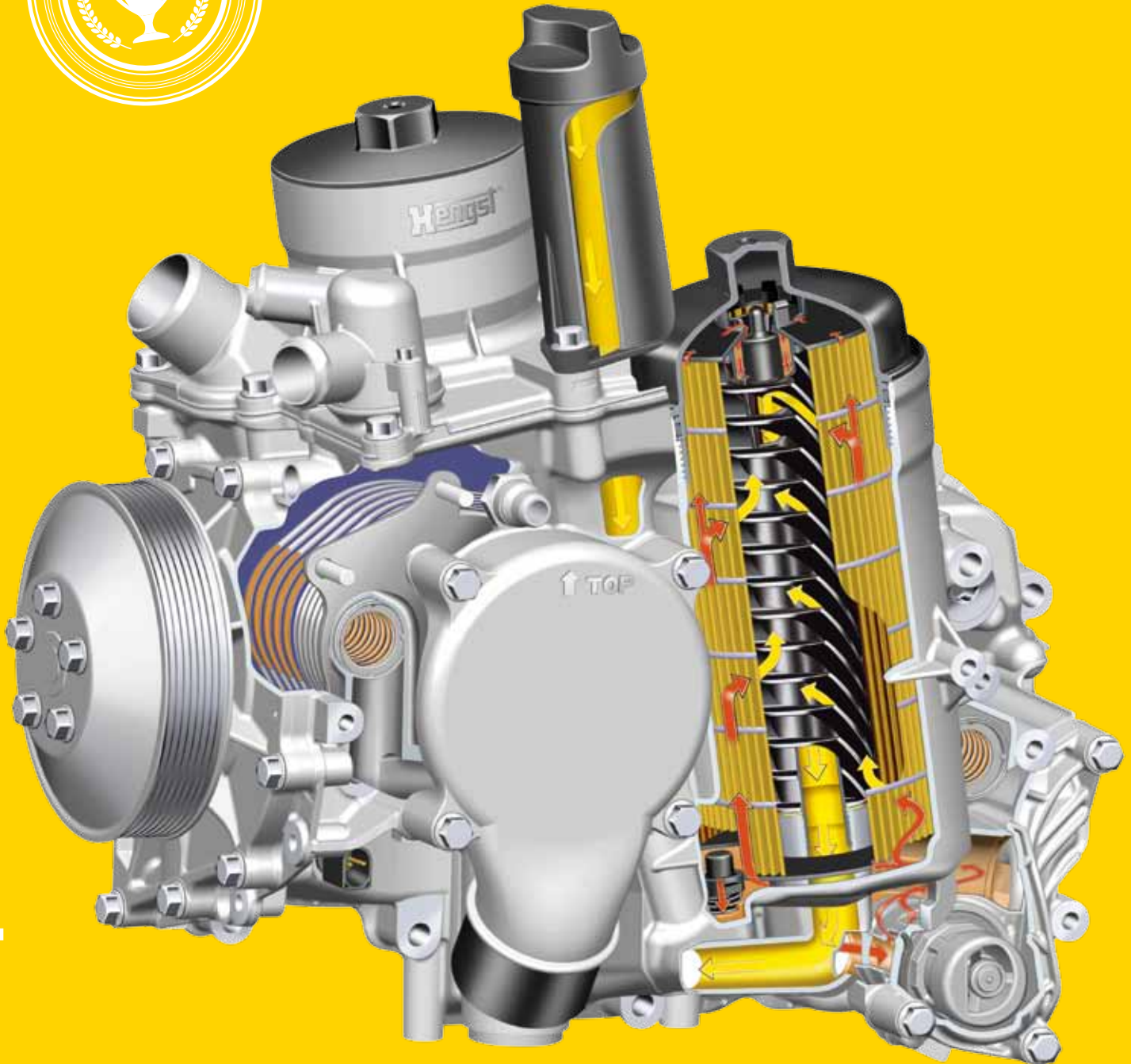
At the same time, we possess the skills and resources expected of a series supplier to the automotive industry. With around 3000 employees, we are active throughout the world with nine sites in Europe, North and South America and Asia. We have enjoyed strong, above-average growth for many years and are continuing to build up our international presence.

Around 2500 different filter applications are proof of success: With our huge range of products, we are able to fulfill the most diverse requirements quickly, reliably and in premium quality. As true professionals when it comes to filters, we always offer the right solution.

You can rely on Hengst filters.



Fluid management module for commercial vehicles of the Daimler Truck Group



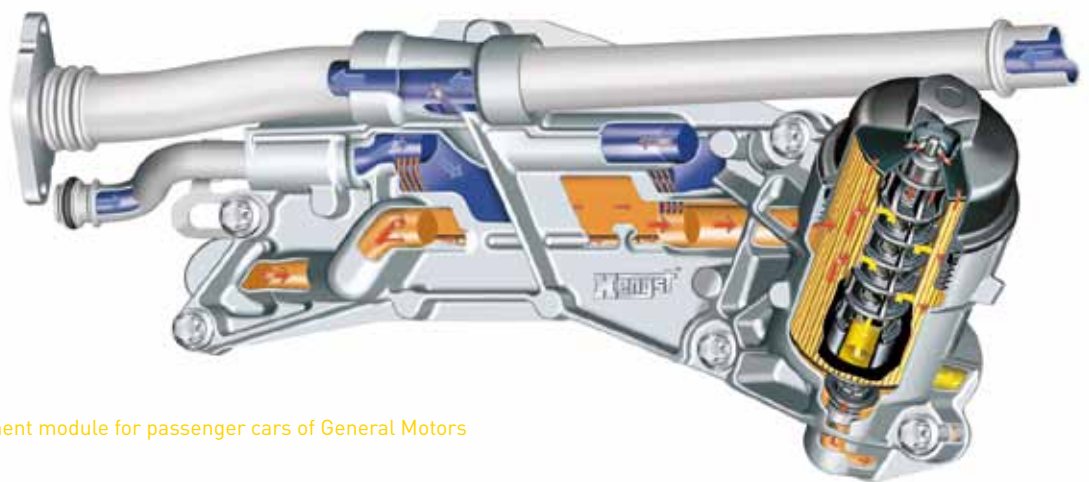
2006 Logistic supplier prize, DaimlerChrysler Global Service & Parts 2006 "Trucknology® Supplier of the Year", MAN
2010 First prize in the International Aluminum-Pressure Die Casting Competition in the category "Multifunctional Casting"
2010 Grand Innovation Award for the development of a plastic module 2011 "Best Supplier 2010", Shanghai GM
2011 "Bronze Award 2010" for the high level of delivery reliability, Shanghai VW

Original Equipment Quality for Every Engine

Working on tomorrow's technology today. As a longstanding development partner and series supplier to the automotive industry, we are closely involved in concept design for future vehicle generations and enjoy the trust of all prominent manufacturers throughout the world.

Our solutions in the area of filtration and fluid management excel thanks to their high functional reliability, fitting accuracy and durability as well as their outstanding price-performance ratio. Our longstanding expertise in the original equipment sector guarantees the highest quality in the spare parts range as well – with products that always correspond to the latest technical developments and which are tailored to the relevant vehicle. Precisely defined manufacturer specifications combined with extensive checks and tests vouch for this claim. Filters developed for the original equipment industry are incorporated into the aftermarket program with no change in construction.

When it comes to service, it pays to invest in spare part filters of premium quality: That means dealers and workshops can be sure of achieving the best possible filtration of air, oil or fuel. This forms the basis for optimum engine performance, a long service life and reliable operation.



Fluid management module for passenger cars of General Motors

Numerous certifications reflect the high quality standards behind the phrase "made by Hengst":

ISO 9001: Internationally valid management system for assuring the quality and increasing customer satisfaction. **ISO/TS 16949:** Quality management in the automotive industry, containing ISO 9001 as well as additional and stricter requirements. **ISO 14001:** Internationally valid management system, with which environmental consequences are avoided or reduced and environmental protection is improved on a voluntary basis.



Oil Filters

Perfection pure and simple: Hengst oil filters effectively free the oil circulation of impurities and are especially sturdy, durable and service-friendly.



Modern combustion engines have to perform ever more efficiently – and should therefore always be lubricated in the best possible way. Depending on the application, several hundred liters are pumped through the engine circulation system every minute so as to reduce the friction of moving parts, thus preventing the premature wear of pistons, con rods and other similar components. Besides the quality of the lubricant, it is essential for the oil filter to function reliably.

- Dust, metal abrasions and other residues down to the smallest particles of 10 µm (0.01 mm) are reliably removed from the lubricating circuit
- The risk of damage and wear to engine components is significantly reduced
- Fuel consumption and emissions are reduced as a result of the oil being cleaner and the lubricant acting more effectively
- Only a high-quality oil filter can withstand temperatures of up to 160°C, while demonstrating a static pressure resistance of up to 20 bar
- With over 120 different filter media, we have the right solution for every application

Filter insert



ENERGETIC® filter inserts can be replaced easily and cleanly. Only the insert is replaced in just a few steps – thereby benefiting the environment as well, as the disposal volume during servicing is reduced on a sustainable basis.

Screw-on filter



In the oil screw-on filter, the filter element is located in a housing that is screwed onto the engine block by a threaded joint. The complete spin-on filter is replaced during servicing.

Your benefits at a glance:

- Optimum filter performance thanks to **high dirt absorption capacity**
- **Pressure and temperature resistance** in all operating situations
- **High-quality machining** and **precise welding** of the filter components ensure **perfect functioning**
- **Precise fitting** accuracy makes installation easier and guarantees functional reliability
- Damage and **wear to engine components is significantly reduced**
- **Pulsation resistance** under extreme operating pressures





Fuel Filters

Nothing runs without clean fuel: Hengst fuel filters maintain the operational reliability of the engine and protect the injection system against impurities.



Injection systems for modern gasoline and diesel engines respond sensitively to the smallest impurities in the fuel. Studies reveal that the amount of dirt particles in fuels recommended by the international associations (less than 24 mg/kg) is often exceeded considerably. Failure to replace the fuel filter at the specified intervals can cause the injection systems to become blocked, thus putting the operational reliability at risk.

- Dirt particles are removed highly effectively thanks to a filter fineness of $\geq 2 \mu\text{m}$ (0.002 mm) which means they cannot find their way into the injection system
- The filter separates water from the fuel in modern diesel injection systems in order to prevent corrosion damage in the injection system (e.g. high-pressure pump)
- Inadequately filtered fuel can lead to failure of the injection system
- The engine can achieve its optimum performance, while consumption and emission values are reduced as a result of finely filtered fuel

Filter insert



The housing remains fixed in the engine, only the ENERGETIC® insert is replaced. That saves valuable time and material – a real plus when it comes to environmental protection.

Screw-on filter



The housing and filter element form a unit and are completely replaced during servicing.

In-line filter



In-line filters are available as screen or paper filters and are installed in the fuel line. Depending on the application, the filter housing is made of aluminum, sheet steel or plastic.

Your benefits at a glance:

- Hengst fuel filters can withstand pressures peaks of up to 15 bar as a result of **precise and high-quality machining**
- **Optimum filter performance** and the **highest level of purification** thanks to the use of state-of-the-art filter materials such as melt-blown media
- Significantly **longer replacement intervals**
- The **injection units** and the engine **are protected**
- **Insensitivity even to aggressive fuels** and high injection pressures





Air Filters

Let the engine breathe: Quality air filters from Hengst protect the engine and electronic components by purifying the intake air in a highly efficient and reliable way.



The air filter is by far the most important filter both in gasoline and diesel engines. Depending on the power, a commercial vehicle engine sucks in up to 1500 m³ of air an hour with a particle content of up to 50 mg/m³. Quality filters permanently remove foreign particles from the intake air, thereby maintaining the engine performance. The air filter ensures an optimally metered fuel-air mixture, thus guaranteeing the best possible combustion.

- Modern quality filters achieve efficiencies of almost 100 percent, therefore ensuring effectiveness over the entire maintenance interval
- Thanks to the high pulsation stability, the filters do not let any dust through even under dynamic engine conditions
- Particles introduced via the air can accumulate on the air mass sensor without reliable filtration, thereby impairing performance and increasing wear
- Reduction of intake noise
- A reliable filtration ensures clean engine operation on a lasting basis and extends the service life

Filter insert



The air filter forms the heart of the complete air intake system, whether as a round or plate air filter insert. The various designs sometimes have stabilization beads or meshes.

Safety element



Safety elements are the solution when the operating conditions for commercial vehicles, agricultural and construction machinery are especially dusty. The safety element provides protection against dirt particles when replacing the main air filter.

Screw-on filter



The air screw-on filter usually consists of a sheet steel housing with pressure-resistant screw-on plate, in which the filter insert is located. The entire system is replaced during servicing.



Your benefits at a glance:

- **Protection against engine wear** and a **longer service life** thanks to tremendous levels of dirt separation
- **High fitting precision and stability** ensure **100-percent tightness** and permanent **functional reliability**
- **Flame-retardant filter media** prevent engine fires due to flying sparks
- Thanks to a **high-quality impregnation**, the filter paper **remains stable** under pressure and **does not tear** even during humid weather
- Special paper embossing ensures **maximum filter stability** and prevents the pleats from bundling



Cabin Air Filters

Pure air without exhaust gases, dust, pollen and other impurities: Cabin air filters ensure healthy and hygienic air conditions in the vehicle, allowing drivers to keep their concentration.



We strongly recommend that you replace the cabin air filter regularly if the air-conditioning is to function without fault on a permanent basis: As a rule of thumb, at least once a year or if you drive extensively, twice a year. A replacement not only ensures the air quality in the vehicle, but also protects the motor of the fresh air fan at the same time, as the air stream can flow freely.

- Pollen, dust, other allergens and unpleasant odors such as exhaust gases are nearly 100 percent filtered out of the air
- Particles down to 3 µm (0.003 mm) are effectively restrained
- The activated carbon layer works similar to a sponge and binds harmful gases – in pores that are 10,000 times finer than a human hair
- Fine dust harmful to health inside the vehicle is reduced on a lasting basis

■ Pollen filter



Spores, pollen and dust, as well as bacteria, fungi and road wear are effectively restrained. Particles are mechanically sifted out of the air flow in the close-fiber particle filter web.

■ Activated carbon filter



The filter also consists of an activated carbon granulate, held together by an upper and lower non-woven layer. Besides the particles, harmful gases such as nitrogen oxides, methane and ozone are bound in the activated carbon.

■ Mode of action



The pollen filter keeps all particles out of the interior air – while the activated carbon filter also keeps out unpleasant odors and gaseous pollutants.



Your benefits at a glance:

- **Maximum efficiencies** for healthy air inside the vehicle
- **Uniform filtration performance** during the entire maintenance interval
- The **formation of condensation** and a film of dirt on the windshield is **prevented**
- **Minimized exposure to odors**
- **Quick and easy installation** thanks to detailed installation instructions



Special Applications

All from a single source: Besides standard filtration applications, we offer a wide variety of additional products associated with all aspects of vehicle services with the well known Hengst quality.



You can find customized solutions even for the most diverse special applications in cars and commercial vehicles as part of our extensive product range.

A small selection:

Centrifuge



Oil filter centrifuges are primarily used in commercial vehicles. They are operated in the partial stream parallel to the main stream filter. Their efficient effect means that maintenance intervals can be extended even further.

Oil mist separator



Oil mist separators separate blow-by gases from the crankcase. The separated engine oil is returned to the oil circulation of the engine, while the cleaned gas is supplied to the intake system.

Water filter



Coolant filters provide perfect protection for the engine cooling. Deposits and fine particulates are filtered out of the water so as to prevent the fine ducts of the engine cooling from becoming blocked. As a result, the service life and performance of the engine are improved.

Brake air dryer



Moisture is removed from the compressed air using a special granulate. This ensures corrosion protection for the control and regulating valves of the brake system and the air suspension.

Further special applications



Besides the so-called special filters, Hengst also offers a series of further products, for example transmission oil filters, manual feed pumps, urea filters, hydraulic oil filters, screw caps, service parts and screen filters.



Your benefits at a glance:

- Hengst offers you an **extensive range of products** for special applications
- The **service life and performance** of the engine are **optimized** on a lasting basis through a more effective filtration
- The **reliability** of the vehicle during operation is **increased**
- The **engine is protected more effectively** through special separator or pre-filter solutions
- You can find the special applications for your vehicle **quickly and easily in our online catalog**

Knowledge at a Glance

Quick and easy

24/7

Know-how on paper



Our **product information** always keeps you up-to-date – conveniently, easily and directly. Our partners are **continually informed of all new developments by email**, which they can also communicate to their customers.

Our **online catalog** is even faster: Data updated daily, quick and easy to find and available around the clock – that **saves valuable work time** and provides the required information in next to no time. With its **sophisticated search functions, personal memo list** and user-friendly navigation you will no longer want to do without our online catalog. And if you do not have Internet access for any particular reason, the **offline catalog** available as a download with updating option or on CD-ROM will give you an overview of our spare part filter range.

Our **printed catalog** presents the spare part filter range in an **attractive layout**. Available in **twelve languages**, the catalogue is a valuable tool for service operators **around the world** for all types of filtration and vehicle manufacturers.

Your Success – a Real Team Effort

Achieving more together: Let us work towards boosting your success. To this end, we not only supply brand filters but also ideas and concepts for invigorating sales in this sector. With your technical and sales training courses you can become a filter professional yourself, allowing you to advise your customers competently with current specialist expertise. Chose from a wide variety of attractive advertising materials or make use of our targeted support for individual marketing measures. For example, additional potentials can be utilized and sales generated through services when it comes to seasonal issues such as the climate service.



All trade fair dates at
www.hengst.com

Trade fairs

We take our Service Personally



Service and proximity to customers are not mere words to us, they are part and parcel of our daily work – around the globe. Our employees do their utmost to fulfill your wishes and requirements optimally and rapidly.

Added value for our customers

We aim to boost the success of our customers. We know and understand your business and, as a result, always find the best solution for you.



A **partnership** you can rely on: We always provide correct and up-to-date information, while offering an individual and efficient service to create clear added value for you.

For us, **quality** has to do with much more than just products. We wish to offer you the same high level in customer service, logistics and consulting. With personal contacts and reliable cooperation.

Welcome to the Hengst family – we are looking forward to presenting you with top quality in every respect.

Outstanding Performance – 5 good reasons choosing Hengst



- 1 Targeted distribution policies** – We avoid over-distribution through marketing competence and targeted sales steering, because the business relation with you is very important to us. As a result, we carefully select every partner with long-term collaboration in mind so that we can both grow successfully.
- 2 Impressive product range** – Always up-to-date and continuously extended. We meet all requirements with our extensive portfolio in original equipment quality.
- 3 Rapid availability** – We supply what you need. Quickly and reliably, thanks to our efficient logistics.
- 4 Personal service** – Your customer service representative takes care of all your inquiries and is always ready to listen.
- 5 Quick processes** – Decisions do not take weeks with us, we respond quickly – A cooperation you can count on.

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For each type
www.hengst.com

Hengst Automotive

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