

Introducing CHILI™, an innovative emission control solution

Proventia's new product in the field of emission control is electrically regenerated filter technology, that we simply call CHILI™ solutions. CHILI™ has been designed and is ideally suited for application that show variable exhaust temperature profiles, especially low & medium duty engines.



Proventia CHILI™ filter element

WHAT IS A CHILI FILTER?

CHILI™ filters are sintered metal filter elements that are regenerated electrically to effectively filter the particulate matter (PM) from diesel engine exhaust.

CHILI™ filter element itself serves as resistive heater, which enables very quick and energy efficient regeneration.

By directly heating up the filter medium with electricity, regeneration can be carried out at any exhaust temperature, independent of engine operation. In addition the filter media & elements can be selected to required purification level. Filter can be designed to various voltage ranges as well.

BENEFITS

CHILI™ filter consists of a three-layer, non-woven, sintered Fe-Cr-Al alloy metal fiber structure.

- Excellent heat & corrosion resistance
- Long filter lifetime
- Very low thermal mass combined with high conductivity
- Excellent heating properties with suitably low electric power
- Low back pressure values, while "in-depth" filtration allows a high soot load capacity

Possible to coat the filter media with precious metals

- HC and CO reduced

WHAT IS A CHILI™ DPF SYSTEM?



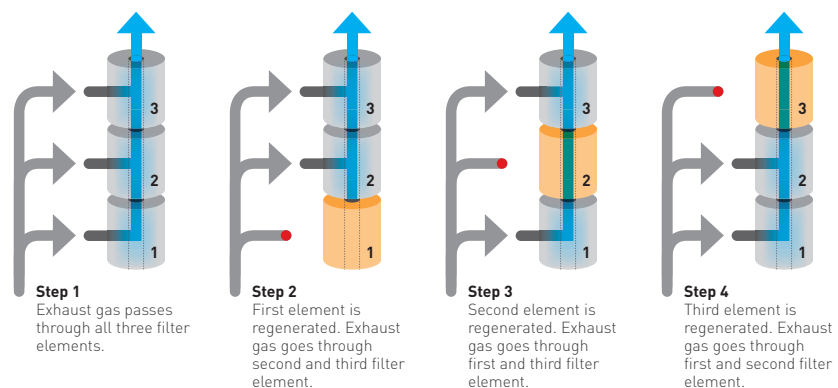
Proventia CHILI™ filter system

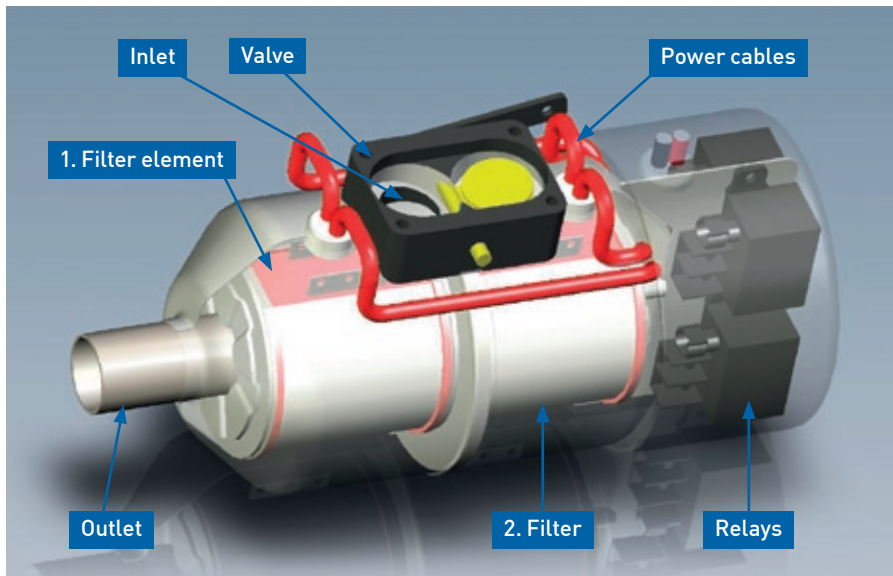
CHILI™ DPF (diesel particulate filter) system is an integrated device that filters exhaust particulate matter from diesel engines.

For regeneration, the system draws electric power from the application's system. Regeneration occurs only when needed, during normal equipment operation, thus completely avoiding any downtime or operation limitation.

HOW DOES CHILI™ DPF SYSTEM OPERATE?

CHILI™ system consists of several filter elements: when one of the filter elements needs regeneration, exhaust gases pass through other filters.





**AN EXAMPLE OF
 THE CHILI™ SYSTEM STRUCTURE**

- Filter elements, 12 V system, integrated relays
- Time or pressure based regeneration, also combination possible
- Integration of the regeneration strategy to the engine ECU

Just imagine the design possibilities!



Innovative integration, flexibility and customization. All the way.

Proventia –
 the emission control
 specialist from A to Z



High performance engine & emission lab
 at your service.

CEO's preface



**MARKKU
 HAKKARAINEN,
 CEO, PROVENTIA
 GROUP:** "CHILI™
 technology is
 an excellent
 new solution for
 manufacturers
 of the low and
 medium duty

applications; CHILI™ systems bring significant advantages to fleet and machine owners as well. CHILI™ systems regenerate during normal machine operation at any exhaust temperature, meaning that the machines operate without incurring downtimes. CHILI™ systems do not need any additives, and the systems are always integrated to equipment and vehicle control system.

CHILI™ solutions are based on our extensive expertise on sintered metal filters. The technology has thousands of operation hours behind it in auxiliary power units used in trucks, both in laboratories and in everyday use under California's stringent emission regulations. At Proventia we design, engineer and test the system so that it fits the application and requirements perfectly. In addition we are very flexible in manufacturing. We can supply the entire system as well as the filter elements or components only. Cost-efficiency, performance and customer satisfaction are naturally our top priorities."

DESIGN SERVICES

Our in-house engineering department designs complete emission control systems to seamlessly fulfill the engine and the application requirements. We have the know-how to integrate the CHILI™ system to application and engine's control system.

TESTING SERVICES

Emission & vibration tests are carried out in Proventia's engine & emission laboratory, to assure quality, durability and performance of our products.

MANUFACTURING & SUPPLY

Proventia's flexible manufacturing concept ensures efficient and low-cost manufacturing and supply of the complete system, components and spare parts for every customer.