

# CWF<sup>TM</sup><sub>plus</sub> particulate filter

Passive regeneration by chemical reaction



## AT A GLANCE

- Extremely versatile and practical particulate filter system
- Purely passive regeneration for exhaust temperatures from 230 °C (10 to 15 % load) without additional energy demand, control or additives
- A reduction in particulate matter of > 99 %
- Reduction of hydrocarbons (HC) and carbon monoxide (CO), at times below the limit of detection
- Monitoring of exhaust temperature and backpressure by means of PTL filter monitoring and digital display in the cockpit
- VERT® / LRV conformity, ABE, RDW certification and TRGS 554-compliant
- Retrofitting subsidised by BG Bau (DE)

The »Catalytic Wall-Flow particulate filter« (CWF<sup>TM</sup><sub>plus</sub>) is among the most cutting-edge passive generation-style particulate filter systems on the market. The system incorporates many of the results from the continuous development of this regeneration concept.

The benefits of these developments make this CWF<sup>TM</sup><sub>plus</sub> particulate filter system one of the most widely used systems of its kind. Applications in on- and offroad

commercial vehicles, construction and processing machinery, railway vehicles, ships or stationary equipment can be realized easily. The filtration medium in the system is a cordierite wall-flow substrate.

The filter substrate has a precious metal catalytic coating and a highly active wash coat which facilitates automatic, passive regeneration even at exhaust temperatures of 220 - 230 °C.

## PRODUCT OVERVIEW

- |                      |                   |                           |
|----------------------|-------------------|---------------------------|
| Active DPF           | Muffler           | Catalysts                 |
| • <b>Passive DPF</b> | Thermal isolation | Spark arresters           |
| SCR-System           | Exhaust pipes     | Pipe Connection Technique |

The coated filter substrate is fixed in a precious metal housing with a temperature-resistant, elastic sealing mat. The practical design of the housing makes the filter system easy to handle whilst also providing maximum sealing, stability and durability.

## FUNCTION

The CWF<sup>TM</sup><sub>plus</sub> particulate filter system has been specifically developed for use at exhaust temperatures below 300 °C so that it can also be installed in diesel engines with low duty cycles.

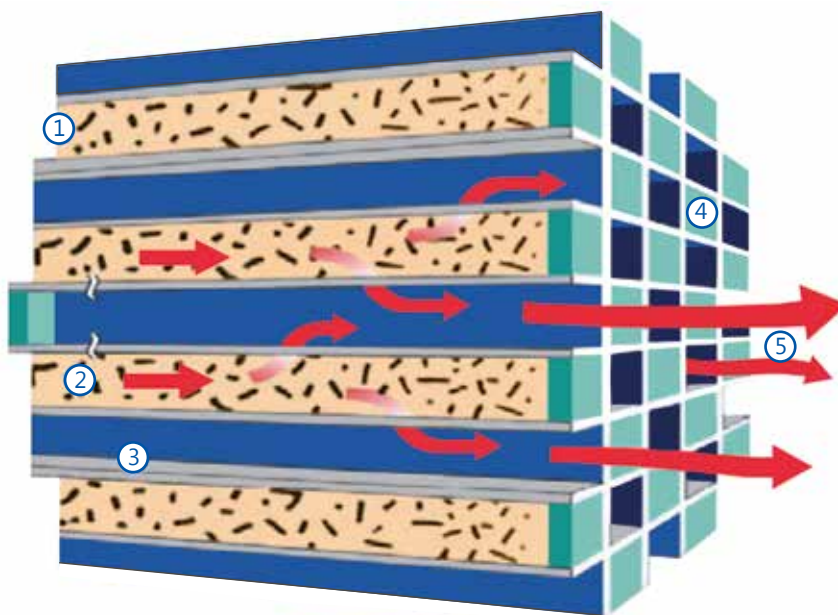
There is no need for either an additional active energy source (heater, burner) or a fuel additive for regeneration in the CWF<sup>TM</sup><sub>plus</sub> particulate filter system, as the catalytic coating on the filter substrate significantly reduces the regeneration temperature of the soot particulate.

This results in automatic and continuous regeneration of the filter without the need for any additional energy input once the engine is under minimum load and exhaust temperatures beginning to rise.

The particles are filtered out by forcing the exhaust to flow through porous channel walls ('wall flow') in the filter substrate, as the square channels are alternately closed at opposite ends.

This special channel structure and the thin wall-thicknesses produce the maximum possible filter surface area. Combined with the high active coating these maximum surface for the oxidation process guarantees low backpressure at high storage capacity for oil ashes.

## CWF<sup>TM</sup><sub>plus</sub> SETUP



- 1 Exhaust gas inlet (particulate, CO, HC)
- 2 Filtered particulate
- 3 Ceramic filter channel walls with catalytic coating
- 4 Plugs
- 5 Exhaust gas outlet (CO<sub>2</sub>, H<sub>2</sub>O)



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