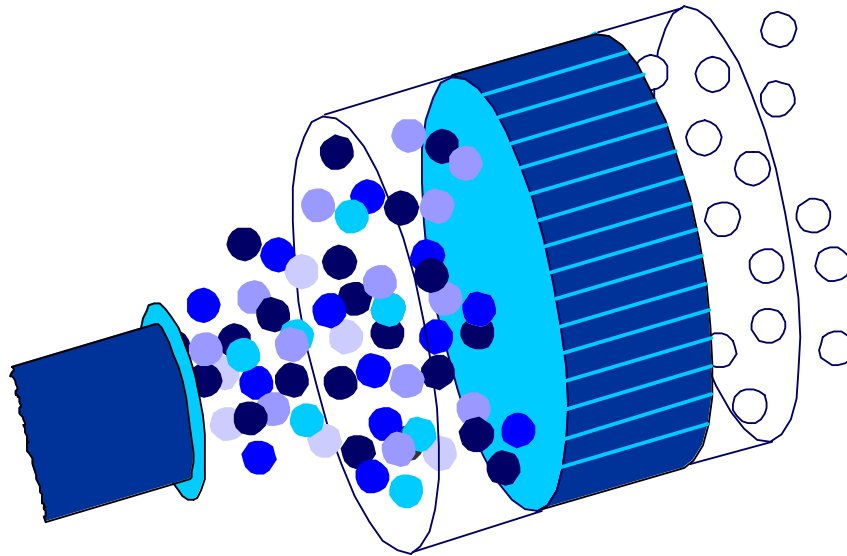


CTK
Catalyst Technology
Kaltwasser

Soot Filters for Diesel Applications



Manufacturing & Distribution

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1 Application

The CTK Mobile Diesel Soot Filter is specially designed for the treatment of particulate emissions and fumes from machines which are operated in halls, tunnels, car parks, garages, ditches and other enclosed areas.

The filter is available in 2 variants:

- **CTK MOBILE for short term / low load operation; easy to fit and release**
Applied i.e. to haulage trucks during loading/unloading, vehicles which are running in garages or fire engines stalling in depots.
This filter system can be easily plugged into the tailpipe. Specially designed and patented adaptors guarantee a tight fit and allow the exhaust gas to enter the filter. Diesel particulates are efficiently filtered and stored in the regenerative filter media. Optional charcoal layers can further minimize fumes and gaseous pollutants.



- **CTK FIX for permanent / high load operation; simple installation & control**
Applied i.e. to construction machines, fork-lift-trucks or generator sets which are operated in closed work spaces.
The filter is firmly mounted on the vehicle and attached to the tailpipe (directly or via flex pipe). It efficiently filters the particulate matter in Diesel exhausts. Combined with a Diesel Oxidation Catalyst (DOC) it also treats gaseous toxics.



2 Design and Installation

The filter element of the CTK Soot Filter consists of a knitted mesh from ceramic fibers, reinforced with a stainless steel core. This design makes it resistant against high temperatures without losing its flexibility. The filter material is embedded in a flanged tube which fits into the housing (2). It is fixed with a quick release clamp.



The exhaust gas axially enters the filter housing. A radial inlet can be supplied optionally.



The CTK DUO filter employs 2 filter elements in 1 housing. The exhaust gas radially enters the filter. This allows higher exhaust volumes (= higher engine power) to be treated or increases the capacity.



CTK MOBILE is plugged in the tailpipe and the exhaust gas enters the filter via an exhaust hose. CTK developed various quick-fit adaptors to connect the hose with the tailpipe.

Smaller filters or the CTK MOBILE COMPACT version directly link the coupling system with the filter so no hose is required.



CTK FIX filters are supplied with brackets to mount the filter at an appropriate space on the vehicle. A dedicated flex pipe (also included in the kit) connects the filter inlet with the tailpipe. Optionally available is a DOC and a back pressure monitoring device.

3 Regeneration & Maintenance

Regeneration of the filter elements is required when the fiber mesh displays a dark grey color at its outlet end. Cleaning of the filters should be done regularly in order not to suffer from an unacceptable pressure drop.

The filter element can be thermally regenerated at 600°C.

To detach the filter element from the housing, please open the quick-release clamp. Mind the hot surface in case the engine is still hot.

When you use CTK regeneration kiln please carefully study the User Manual.

If you use an own furnace mind that there is enough oxygen available to burn the soot. Don't overheat the filters.

While heating up the filters in the kiln, stored soot oxidizes into CO₂ and water. Therefore regeneration should only be performed outdoors or under ventilation.

The regeneration is complete when the filter material has its white color back.

The filter material is nearly maintenance-free. In case there are residues of ash from the regeneration, clean it with pressurized air against the direction of Flow.

Alternatively you can send the filter element to CTK for regeneration.

4 Quick-Fit Coupling Systems

CTK Internal Coupling System ISV



CTK External Coupling System ASV



The patented CTK Coupling Systems are developed to plug in or connect to various exhaust diameters and shapes. They tightly fit and hence exhibit minimum by-pass of exhaust gas.

5 Emission Test Results

The CTK FILTER is VERT-certified (No.B128a/07.04) and fulfills the German TRGS 554 for Occupational Health & Safety.

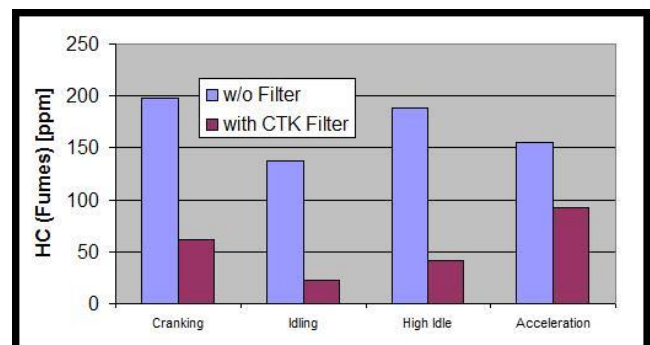
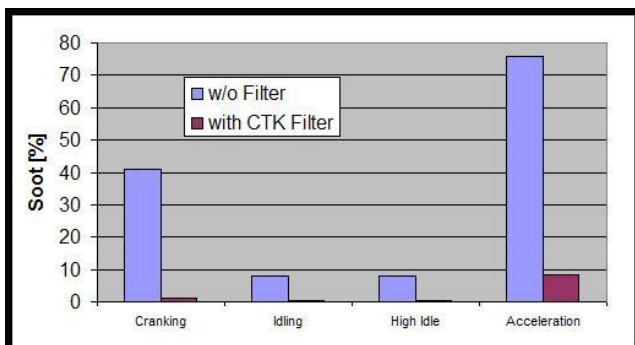
VERT is widely accepted, i.e. by AUVA (Austria), BAFU & SUVA (Switzerland), BG BAU, & UBA (Germany).



VERT[®] Data-Certificate

Product	TWPF		
Manufacturer	Diesel Technik; represented by CTK Abgastechnik		
VERT-Test-Number	B128/04.03		
Properties		Reduction	Penetration
	Reduction of Particle Number PN 20-300 nm	98.9 %	0.01
	Reduction of Particle Mass PM	92 %	0.06
	Reduction of Smoke at free acceleration	97 %	0.03
Final Assessment	Acc. to VERT-criteria this filter is suitable for short duration use (Indoors. Loading-Unloading, Workshop), as long as the exhaust gas flow remains below 300 kg/h continuous and the temperature below 600 °C. It is recommended for construction machines, onroad vehicles and genset engines, if the sulfur content of the fuels is below 50 ppm. The properties of this device have been investigated and certified by the Swiss exhaust gas emission laboratory AFHB/Biel acc. to the technical standard SN 277206. The VERT Test-Number B128/04.03 must show up at the specification plate of the filter.		

Test results of CTK Filter with Charcoal layer



6 Customer References and Examples

Customers of CTK Soot Filters are i.e. MAN in Salzgitter, Gustavsburg & München, DAF in Eindhoven, Siemens in Braunschweig & Karlsruhe, BMTI in Garching, Bobcat Germany, FedEx, UPS, several fire stations, German Army. Further KramerNeuson, Terex and Kärcher are using CTK Filters in their production facility.

Example MAN plant in Gustavsburg



Storage compartment for CTK Filters

