

## **Liebherr SCRFilter: Exhaust gas aftertreatment system for stage V**

- Compact system combines SCR catalytic converter and particulate filter
- SCRFilter already tried and tested in machines for tunnel construction
- Exhaust gas aftertreatment system is part of modular Liebherr engine concept for every emission standard

**Bulle (Switzerland) November 2015 – At this year's Agritechnica, Liebherr presents a solution for adhering to the EU emissions standard of the future stage V: The SCRFilter is already used in machines for tunnel construction, and has been certified for stage IV and the Swiss market and also conforms to the regulations planned for stage V. The SCRFilter system is part of the modular Liebherr engine concept, is extremely compact and is characterised by long service intervals of over 4,500 hours.**

### **Exhaust gas aftertreatment system for stage V already in use today**

According to recent information, in 2019 in the European Union the regulations for exhaust gases from mobile machinery will be further tightened to protect the environment. The current valid emissions standard stage IV will be replaced with stage V. For engines with an output range between 130 kW and 560 kW, the limit values for the emitted particulate matter will be lowered again in the planned regulations and a maximum figure for emitted particulate matter will be introduced. Furthermore, from 2019 engines with a performance range over 560 kW will also be regulated. Very similar emissions regulations already apply to tunnelling applications in the EU and for off-road machines in Switzerland. Therefore, Liebherr fitted the first machines with the SCRFilter system in 2014. Since mid-2015 the system is being installed in end devices as standard. An exhaust gas aftertreatment system is thus available to customers which has already been tried and tested in the field.

### **Compact system combines SCR catalytic converter and particulate filter**

The SCRFilter system from Liebherr comprises a DOC catalytic converter, a SCR catalytic converter and a SCR-coated particulate filter. The DOC catalytic converter is

maintenance-free and the coated particulate filter has passive regeneration, making the system very reliable and easy to operate. The combustion process was optimised so that only a few particles arise that have to be held back by the SCRFilter. As a result, the maintenance intervals can be stretched to more than 4,500 operating hours. The in-house development of engine, injection system, engine control and exhaust gas aftertreatment enables high system integration. High efficiency stage can be achieved with simultaneous low fuel consumption. As an all-in-one solution, the further developed ECU3 engine control unit comprises all control functions for engines up to 560 kW and also for exhaust gas aftertreatment.

### **Modular engine concept for every emission standard**

The SCRFilter is part of the Liebherr modular system for engines and is therefore compatible with all engines in the D93, D94 and D95 series. These engines have the same performances, machine cooling system requirements and the same interfaces during installation for the emission standards IIIA/ IV and stage V. The simple replacement of the engine allows the customer to use the same machine design for various emission standards.

### **Captions**

liebherr-6-cylinder-inline-engine-agritechnica-300dpi.jpg

6-cylinder in-line engine from Liebherr with exhaust gas aftertreatment system SCRFilter

liebherr-scronly-scrfilter-comparison-agritechnica-300dpi.jpg

Comparison of installation space between Liebherr-SCRonly for stage IV and Liebherr-SCRFilter for stage V

liebherr-scrfilter-system-agritechnica-300dpi.jpg

Schematic diagram of the operating principle of the SCRFilter system from Liebherr

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