

Technology concept for engines < 56 kW**Size matters – CompactCat® for small construction machines**

- **Highly efficient DOC for engines < 56 kW EU Stage IIIB from 2013**
- **Close-coupled, robust, space-optimized according to exhaust system**
- **System cost savings**

The European Union has defined stringent exhaust emission limits for construction equipment engines (Stage IIIB), effective from 2013. While the nitrogen oxides (NO_x) emission limit stays unchanged at 4.7 g/kWh, a very low particulate matter emission limit of 0.025 g/kWh has to be met. The generally small construction machines that are equipped with such engines have to comply with the new emission requirements with minimum cost and effort by using the latest engine technology and highly effective diesel oxidation catalysts (DOC). There is not enough scope for the development of large, heavy and expensive solutions for a vast variety of machines. Size matters – and in this case smaller is better!

Emitec Gesellschaft für Emissionstechnologie mbH, Lohmar, the specialist for exhaust aftertreatment and world leader in metal catalyst substrates and metal diesel particulate filters, has developed the CompactCat, which offers a particularly neat solution for such applications. The DOC substrate features the highly effective LS-structure. In the CompactCat, the exhaust gas flows through the catalyst and before being routed back along the outside of the catalyst element. The catalyst warms up more quickly and stays at operating temperature for longer even under rapidly changing engine load conditions. Consequently, the catalyst can be built 30 – 40% smaller compared to a standard catalyst installed further downstream in the exhaust system. Savings in expensive precious metals, such as platinum and palladium, also reduce system costs.

The robust metal catalyst can be installed directly at the exhaust manifold or turbocharger outlet because it is completely resistant to high exhaust temperatures, pulsation, and vibrations. These products have proven themselves in demanding applications such as high-performance sports cars for many years.

Highly effective metal catalysts from Emitec are produced in a variety of geometries and can be installed in the engine compartment with a minimum installation space requirement.

Press enquiries:

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Emitec is presenting the Bomag BW 135 BW compact tandem vibration roller at booth 109 in hall B3 at bauma 2010. The CompactCat was installed in the current model equipped with a Deutz D2011 L3i engine without the need for any modifications in the exhaust system.

This installation concept study shows how future emissions control requirements can be met without changes to the construction machine.

Engine Power	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
P < 19 kW	No limits									
19 ≤ P < 37	US: NO _x + HC = 2.5 / PM = 0.6									
	EU: NO _x + HC = 7.5 / PM = 0.3									
37 ≤ P < 56	NO _x = 7.0 PM = 0.4	US: NO _x = 4.7 / PM = 0.3					US: NO _x 4.7 PM 0.02			
		EU: NO _x = 4.7 / PM = 0.4					EU: NO _x 4.7 PM 0.025			
56 < P < 76						US: NO _x 4.7 PM 0.02		NO _x 0.4 PM 0.02		
						EU: NO _x 4.7 PM 0.025		NO _x 0.4 PM 0.025		
76 ≤ P < 130	US: NO _x = 4.0 / PM = 0.3					NO _x 3.4 PM 0.02		NO _x 0.4 PM 0.02		
	EU: NO _x = 4.0 / PM = 0.3					NO _x 3.3 PM 0.025		NO _x 0.4 PM 0.025		
130 ≤ P < 660	US: NO _x + HC = 4.0 / PM = 0.2					US: NO _x 2.0 PM 0.02		NO _x 0.4 PM 0.02		
	EU: NO _x + HC = 4.0 / PM = 0.3					EU: NO _x 2.0 PM 0.025		NO _x 0.4 PM 0.025		

ULSD (<15ppm) →

 EU Stage III B/ Tier 4 Interim

 EU Stage IV/ Tier 4

Emissions legislation for NRMM

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Tandem-Vibration Roller Bomag BW 135 BW



Engine Deutz D2011 L



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