Topsøe automotive SCR catalyst DNXV-905

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Haldor Topsøe's automotive technology is based on the unique DNX catalyst. The DNXV-905 catalyst has been carefully adopted to comply with the very stringent demands of the automotive industry and has shown high performance and durability.

The catalyst is based on a lightweight fibre-reinforced ceramic structure with a high cell density. The catalytic active metals are vanadium and tungsten oxides on a carrier of titanium oxide. The catalyst is of a full body type, meaning that the walls in the channels are made of catalytic material.

The DNXV-905 can be produced in several dimensions with a diameter of up to 17.5". This unique feature makes it possible to install DNXV-905 as one single catalytic brick in vehicles with engines up to the 16 litre class. The DNXV-905 can also be supplied with an end zone coating for ammonia slip reduction called ASC.

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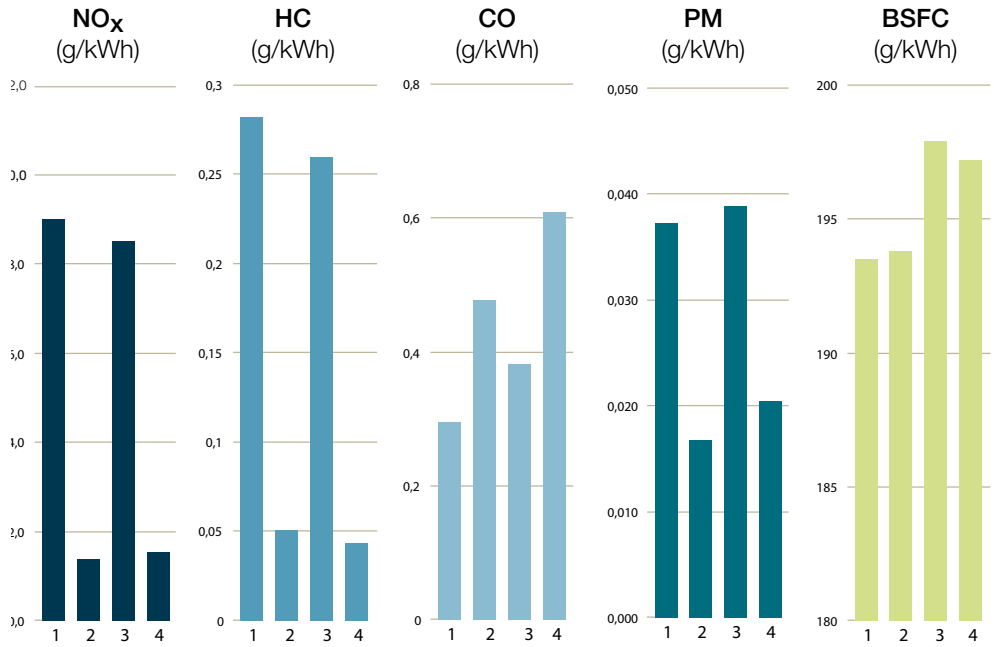


1: ESC-TEST w/o SCR (CVS Analyses)
2: ESC-TEST with SCR (CVS Analyses)
3: ETC-TEST w/o SCR (CVS Analyses)
4: ETC-TEST with SCR (CVS Analyses)

Summary of regulated emissions in ESC and ETC cycles with a 20 litre catalyst and a 12 litre class 400 hp diesel engine

High conversion

As the DNXV-905 is a full body catalyst, it offers a high nitrogen oxide conversion in the whole temperature window of operation and has a high conversion of hydrocarbons (HC) and particulate matter (PM). Furthermore, the DNXV-905 has an excellent selectivity to ensure a maximal utilisation of injected urea and low urea consumption. The full body catalyst also ensures the catalyst a long service life.

Applications

DNXV-905 is especially suited to comply with the Euro 4 and higher emission standards or similar, also in countries with high sulphur fuel qualities.

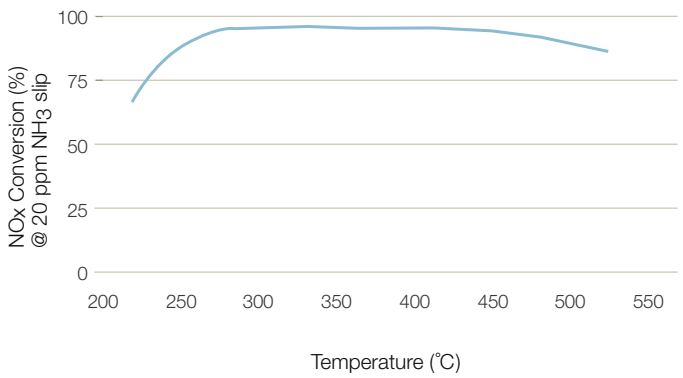
Catalyst data

Weight	500g/l
Active metals	Vanadium and tungsten oxides
Carrier type	Titanium oxide
Channel density	270
Diameters	Ø 5.66 - 17”

Installation

The catalyst can be delivered with a high tolerance metal sleeve, enabling a smooth fitting of the catalyst to various types of silencer installations.

The DNXV-905 is produced in a fully automated plant according to superior standards TS16949 and ISO 14000 and used by several truck manufacturers in Europe.



Catalytic performance of 24 litre catalyst at maximal flow on a 400 hp 12 litre class diesel engine

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