



umicore

Fuel Cell & Stationary Catalysts

DNX[®] GT and DNO GTC catalysts

Better SCR control and superior CO-VOC oxidation for gas turbines

A photograph of an industrial facility, likely a refinery or chemical plant, at dusk. The sky is a deep blue, and the facility is illuminated by warm, golden lights. Several tall, cylindrical towers with platforms and ladders are visible, along with a complex network of pipes and structural steel. The overall scene is industrial and modern.

DNX[®] GT and DNO GTC benefits:

- High catalytic activity
- Low pressure drop
- Controls multiple emissions in a single catalyst bed
- 4 to 5 times lower SO₂ oxidation than classical CO oxidation catalyst
- High sulfur tolerance
- Space saving
- Easy to install, self-supporting module

NO_x, CO AND VOC EMISSIONS CONTROL

The new generation of DNX® catalysts from Umicore is designed to meet today's stricter emission standards while improving responsiveness, performance and profitability.

The DNX® GT series is for improved NO_x reduction, while the new DNO GTC series is for superior CO and VOC control, alone or with NO_x control. The DNX® series uses a space-saving monolithic catalyst that reduces SCR pressure drop, increases catalyst response during load swings, and reduces overall ammonia slip.

Umicore's improved design applies next-generation chemistry and production techniques to fully utilize the active sites throughout the catalyst wall. The result is a highly active and responsive catalyst.

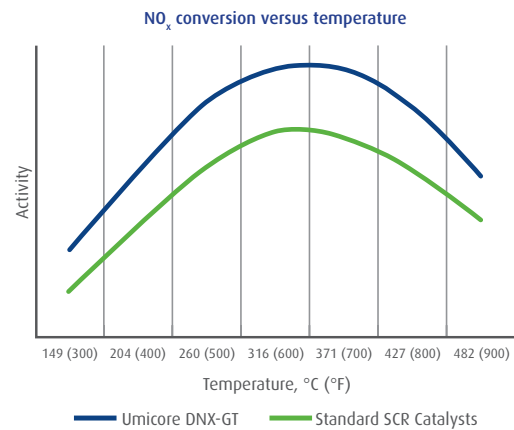
The easy-to-install DNX® series catalysts help plants comply with new permit emission regulations without costly downtime or capital expenditures.

DNO GTC SERIES FOR CO-VOC OXIDATION AND OPTIONAL NO_x REDUCTION

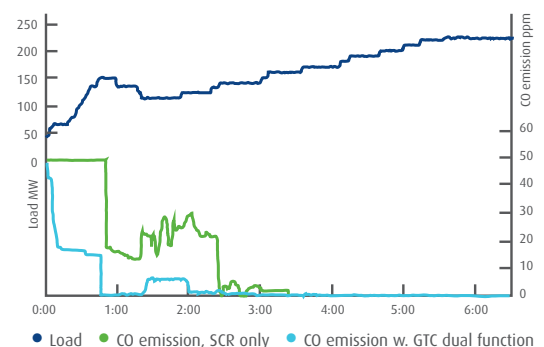
The DNO GTC series can be designed to deliver single functionality for CO or VOC oxidation, or dual functionality to handle both CO-VOC oxidation and NO_x reduction. The GTC catalyst shares the same features as the well-proven GT catalyst and is available in a high-temperature version that can be positioned upstream of the ammonia injection grid (AIG), and a version optimized for positioning downstream where the dual-functionality leads to reduced SCR catalyst volume and even lower pressure drop.

Positioning the catalyst downstream of the SCR catalyst or in combination with the SCR catalyst eliminates excess ammonia slip from the SCR while limiting SO₂ oxidation to levels 4 to 5 times lower than a standard CO oxidation catalyst. The resulting lower SO₃ downstream also reduces the risk of ammonia salts build-up on the cold-end of the HRSG.

The GTC catalyst enables the addition of CO-VOC oxidation to both new and existing HRSGs by simply replacing the existing SCR catalyst. This multi-purpose emission control option allows users to reduce the length of new HRSGs — saving as much as USD 1 million in capital outlays. In addition, the single-layer approach after the AIG can reduce total system pressure drop by 25% while reducing catalyst volume by 40% compared to a conventional arrangement of SCR and CO-VOC catalyst.



The DNX® GT Series exhibits higher catalytic activity across the temperature range compared with a standard SCR catalyst.



CO emission during start-up of a gas turbine before and after replacement of an SCR-only catalyst with the DNX® dual-function catalyst. Catalyst beds can be designed for up to 99% conversion.

Umicore Catalysis is the leading supplier of SCR catalyst solutions for Waste to Energy, Engines, Gas Turbines, Biomass, FCC Units and Crackers with more than 2800 SCR installations worldwide.

Umicore Denmark (EMEA)

Kogle Allé 1
2970 Hoersholm
Denmark
Tel: +45 2265 5022

Umicore Catalyst USA LLC (Americas)

17625 El Camino Real Suite 210
Houston, TX 77058
Tel.: +1 (281) 684 8809

Umicore Catalyst (China) Co., Ltd.

Room 2207, Full Tower
9 East 3rd-Ring Road, Chaoyang District
Beijing 100020
P.R. China
Tel.: +86 139 110 62179

<https://secc.umicore.com>


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