

Company Profile

Tonexus listed on the Shenzhen Stock.Exchange Main Board (003027), upholds the corporate philosophy of “Co-Creating a Net-Zero Industrial Future”. The company is committed to becoming a globally recognized strategic partner in pollution, carbon reduction and industrial net-zero, contributing Tonexus’s expertise to the world’s green transition.

Main Business Sectors

Low-temperature SCR Denitration Catalyst:	Covers the full temperature range of 150-350 °C (efficiency ≥85% at 150-160 °C and ≥90% above 160 °C), featuring high activity, sulfur and alkali metal resistance and strong hydrophobicity.
Wide-temperature CO Oxidation Catalyst:	Annual output of 2000 cubic meters for collaborative industrial waste gas treatment, covering the full temperature range of 240-320 °C.
Multi-Functional Catalysts:	Combines CO oxidation, SCR denitrification and VOCs oxidation capabilities. It is applicable to exhaust gas purification systems for gas turbines, distributed energy facilities, and natural gas/fuel-fired boilers.
Technology R&D and Upgrading:	It achieves continuous innovation through university-enterprise cooperation such as Beijing University of Technology, and expands into new fields including ammonia decomposition catalysts and marine multi-exhaust gas purification.

Core Service Fields

We take the lead in domestic R&D with abundant application track records, high denitrification efficiency, long service lifespan and numerous first-set domestic equipment projects.



We provide customized solutions for over 100 clients including China Baowu, Shenhua Group, Everbright Kango Environment, Grandblue Environment and other enterprises.

Our business covers industrial flue gas treatment scenarios such as iron & steel, power generation, coking, building materials, chemical industry, non-ferrous smelting, waste incineration, papermaking, gas turbine power generation, distributed energy, natural gas and fuel-fired boilers.

100000 m²
R&D & Production Base

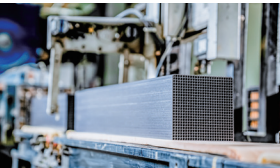
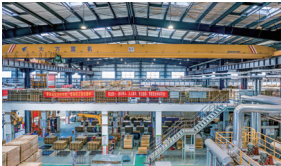
800+ Set
Project Experience

208 Item
Authorized Patents

20000 m³/a
Key Catalytic Materials

5 piece
First Domestic Set

6 Item
Internationally Leading Technology



Core Advantages

Tonexus Multi-Functional Catalysts integrates CO oxidation, SCR denitrification and VOCs oxidation functions into a single catalyst layer, realizing the collaborative treatment of multiple pollutants including CO, NOx and VOCs via "multi-effect in one catalyst bed".

Its core advantages fall into two aspects: first, simultaneous compliance with emission standards for all three pollutants; second, system simplification helps customers cut renovation costs, operational energy consumption and upgrade difficulties of existing projects.



Triple-Effect Synergy, Stable Compliance

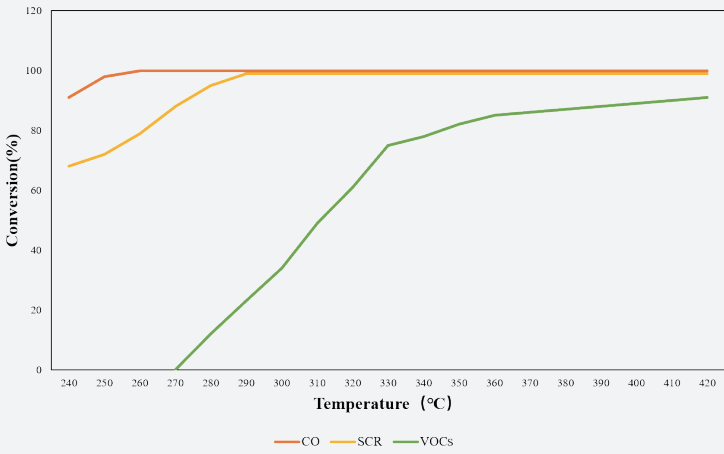
- Three functions including CO oxidation, SCR denitrification and VOCs oxidation are integrated in one catalyst layer.
- Simultaneous removal of CO, NOx and VOCs can be achieved within the temperature range of 280–400°C.
- Performance curves intuitively demonstrate the collaborative conversion efficiency of CO, SCR and VOCs, enabling stable near-zero emission of multiple pollutants.



Streamlined System, Cost & Energy Savings

- Fewer catalyst beds to cut renovation costs:** eliminate repeated arrangement of CO, SCR and VOC oxidation layers, reduce reactor size, flue duct reconstruction workload and installation expenses.
- Low pressure drop design for optimized energy consumption:** fewer beds reduce overall system resistance, lowering fan power consumption and long-term operating costs.
- Direct upgrade for existing projects:** conventional SCR systems can be retrofitted without large-scale flue duct reconstruction to add collaborative CO/VOCs removal capacity.

Triple Pollutant Co-Removal Performance Curve



Performance: Simultaneous removal of CO, NOx and VOCs can be realized within the temperature range of 280–400°C. The CO conversion rate exceeds 98%, the SCR denitrification efficiency is above 95%, and excellent removal performance is achieved for partial VOCs. Actual treatment efficiency shall be further technically verified according to flue gas conditions, inlet pollutant concentration and system parameters.

Application Scenarios



Gas Turbine Power Generation

Focused on low-dust, high-air-volume and continuous-operation flue gas treatment scenarios, it realizes the collaborative removal of NOx, CO and VOCs in gas turbine exhaust.



Distributed Energy System

Applicable to exhaust gas purification of distributed energy systems such as combined cooling, heating and power (CCHP), it achieves multi-pollutant compliance within compact space.



Natural Gas / Fuel-Fired Boiler

Suitable for flue gas treatment demands of clean fuel boilers, it eliminates repeated multi-layer catalyst layout and reduces the complexity of system reconstruction.



Upgrade of Existing SCR Systems

It can be replaced or collaboratively arranged with existing SCR systems to boost collaborative CO/VOCs treatment capacity without large-scale flue duct reconstruction.

Applicable Conditions



Applicable Temperature

Suitable for medium & high-temperature combustion flue gas at 280–400°C. The exact temperature window can be customized based on project operating conditions and technical verification.



Applicable Flue Gas

For low-dust, high-volume combustion flue gas; applicable to continuous operation, steady load or wide load fluctuation working scenarios.



Applicable Fuels

Clean fuels such as natural gas and fuel oil. Adaptation assessment is also available for other low-dust industrial combustion flue gas conditions.



Target Pollutants

CO、NOx、VOCs



Applicable Systems

Gas turbine exhaust purification systems, distributed energy flue gas treatment systems, natural gas/fuel-fired boiler flue gas treatment systems, retrofitting & upgrading of existing SCR systems, and other low-dust industrial combustion flue gas treatment facilities.

Technology R&D

3 Large R&D Centers, More than 80 Authorized Patented Technologies

Tonexus has 3 R&D centers, more than 130 R & D team, equipped with more than 100 sets of high-end R&D test equipment, long-term investment in flue gas treatment, catalytic chemistry and other project research, has a wealth of R&D and innovation capabilities, has been a total of more than 80 authorized patented technologies.

Invention Patents

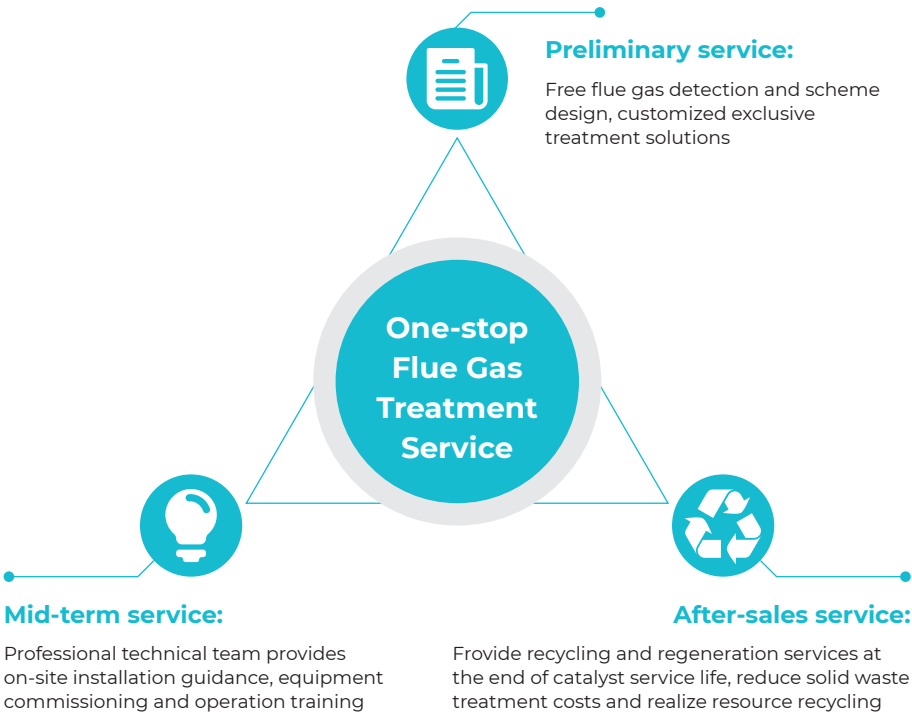


Utility Model Patents



Customized Service System

Provide customers with full-process one-stop flue gas treatment services



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Tonexus Multi-Functional Catalysts

CO + NOx + VOCs
Collaborative Treatment Solutions

- Triple Functions Integrated**
- Multi-Effect Single Catalyst Bed**
- Low Energy Consumption**
- Facilitate Near-Zero Emission**

