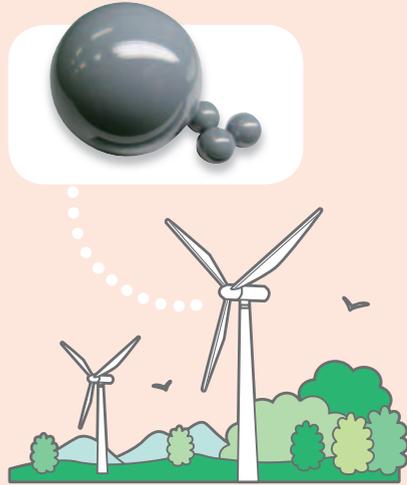


NGK SPARK PLUG's products and technologies are used in a wide range of applications from everyday items essential for people's lives including automobiles, motorcycles, mobile phones, and LED lighting, to infrastructure components such as wind power generators, railroads, aircraft, and communication networks. As a manufacturer committed to creating value for the future, we will continue to contribute our advanced products and technologies broadly to society.

Ceramic Ball Bearing for wind power generators

Wind power generation is receiving a lot of attention as a clean energy. NGK SPARK PLUG has developed large ceramic ball bearing made from silicon nitride for use in wind power generators. Features include: ① Lightweight design to reduce energy losses, ② Use of insulating ceramics to avoid galvanic corrosion and ensure long life, and ③ Usability under lean lubrication conditions. Bearing balls 50 mm in diameter allow smooth rotation in large wind power generators.



Medical Oxygen Concentrator Sansomate-3G

Sansomate is a medical device that provides higher oxygen concentrations to patients with chronic respiratory disorders. Launched in the summer of 2012, the 3G offers a universal design that ensures safe and correct use. Improvements incorporated in the 3G include a larger control panel, icons used to indicate alarms, and flow rate selection buttons. This oxygen concentrator is 8% smaller in volume and 24% lighter than our conventional product due to a reduction in the number of parts and material changes.



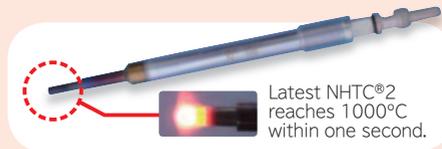
Spark plug developed exclusively for the Chinese market

The NGK CX Lie Yan spark plug is our first spark plug with the Chinese characters “烈焰” on the insulator. It is specifically designed for the Chinese market. It features not only an epoch-making aesthetic design; it also significantly improves combustion efficiency compared with general spark plugs because of the very thin center electrode made of platinum alloy. NGK CX Lie Yan is a high-performance spark plug which offers high ignition performance and provides excellent fuel economy, acceleration, engine startability and anti-fouling performance.



Ceramic glow plugs

The glow plug is a component that helps a diesel engine to start. We produce high-performance ceramic glow plugs as well as general metal glow plugs. The heater, which is made of ceramic, can reach high temperatures and helps reduce hazardous substances in the exhaust gases. Since the heating time is long in the latest clean diesel cars, ceramic glow plugs are in the limelight because of their excellent durability.

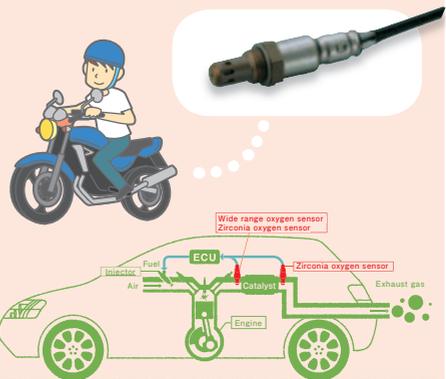


Latest NHTC®2 reaches 1000°C within one second.



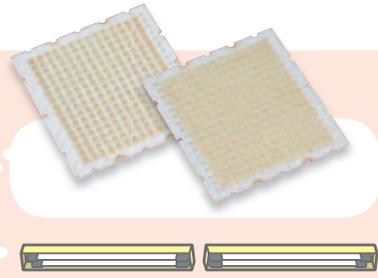
Automotive oxygen sensors

Automotive oxygen sensors mounted upstream and downstream of the three-way catalyst* are core parts of the engine air-fuel ratio control system, sending electrical signals to the ECU corresponding to the oxygen concentration of the exhaust gas. In addition to ensuring compliance with strict exhaust gas regulations in Japan, America, and Europe, we are developing sensors with improved durability, heat resistance, small size, light and highly vibration-resistant for emerging nations where regulations will be strengthened in the future. Through these efforts, NGK SPARK PLUG is contributing to cleaner exhaust gases.



Ceramic LED packages

Having become synonymous with energy saving, LED technology has become essential in our everyday lives. LED packages using our multilayer ceramics technology exploits the advantage of its long service life. We receive many inquiries from our customers interested in using ceramic LED packages for industrial or infrastructure applications. NGK/NTK will brighten your future due to our many years of experience in ceramics technology.



Back turning tool "Back Duo"

Problems associated with back turning performed by Swiss-type lathes include chips tampering with the workpiece and the need for finishing to achieve a good machined surface. Back Duo with our proprietary 3D chipbreaker solves these problems. Moreover, it comes with improvements to every feature expected of a lathe tool, including chip handling performance, machined surface finish, accuracy, cycle time, tool life, and ease of tip replacement to help our users improve their productivity.

In recognition of this achievement, the Japan Cemented Carbide Tool Manufacturers' Association has given its technical achievement award to NGK SPARK PLUG CO., LTD.

