



KONICA MINOLTA

News Release

Konica Minolta Jointly Develops an Ozone Generator for the First Time with Tamura TECO, a Leading Company of Ozone-related Products

Co-creating Value of Products for Preventing the Spread of Covid-19 by Harnessing Japan's Manufacturing Capabilities

Tokyo (March 31, 2022) – Konica Minolta, Inc. (Konica Minolta) today announced that the company has jointly developed an ozone generator with Tamura TECO Co., Ltd. (Tamura TECO), a leading company of ozone-related products that are effective for disinfecting viruses, to prevent the spread of Covid-19 and contribute to creating a clean and safe living environment. This is the first joint development between the companies. Mass production has started at DMC*1–MIKAWA, a smart factory in Japan (Toyokawa City, Aichi Prefecture).



Significance of the Collaboration

- Co-create value through collaboration with companies of various sizes and types to resolve social issues by harnessing Japan's manufacturing capabilities
- Offer a seamless process involving design and development, production technology, quality assurance, and procurement of parts as an engineering service by taking full advantage of Konica Minolta's manufacturing capabilities
- Achieve a high-value-added design for the new product, including safe ozone control using a sensor and visualization of the disinfection effect using an indicator
- Sell products in Japan through the sales channels of the Konica Minolta Group

The jointly developed BACTECTOR 2.0MD features a high-value-added design and high quality based on Konica Minolta's technologies for multi-functional peripherals (MFPs) and its rigorous commercialization process for healthcare products, which is equivalent to that for medical equipment. The product will be sold by Tamura TECO under the Tamura TECO brand, while also using the sales channels of the Konica Minolta Group. Ozone generator technology, which originated in Japan, will continue to be improved through collaboration with various types of companies. Tamura TECO also plans to sell the product overseas as part of the co-creation of value by harnessing Japan's manufacturing capabilities.

Konica Minolta will jointly develop new products for medical use with Tamura TECO and also aims to use FORXAI, its imaging IoT platform.

This joint development with Tamura TECO is a model case for Konica Minolta to co-create value into the future. Konica Minolta will continue to expand collaboration based on engineering services to resolve social issues.

*1: Digital Manufacturing Center

Background of the Collaboration

When the demand for ozone disinfection systems rapidly increased due to the Covid-19 pandemic, Tamura TECO struggled to supply products, including procurement of parts and production. In December 2020 Tamura TECO and Konica Minolta started to work as partners in procuring necessary parts to increase their capacity to manufacture ozone-related products. The two companies have also collaborated to sell Tamura TECO's existing ozone-related products, which are suitable for offices and nursing care facilities, in Japan through the sales channels of the Konica Minolta Group.

Overview of DMC-MIKAWA

Konica Minolta is committed to the production of diverse products in variable quantities in Japan, stable supply to Tamura TECO, and the security and safety of new products. DMC-MIKAWA, the global mother plant of the Konica Minolta Group, can handle mixed production efficiently. Main parts are manufactured in-house through integrated production, starting from dies and molds, allowing diverse products to be produced in smaller quantities for the supply chain. Because the Konica Minolta Group ships MFPs and medical equipment to the global market, it has proprietary expertise in meeting the regulations of respective countries, such as standard certification for electric and electronic devices and environmental standards, and can thus support Tamura TECO in expanding overseas.

Features of the new BACTECTOR 2.0MD

The BACTECTOR 2.0MD disinfects and inactivates viruses and bacteria adhered to indoor surfaces by using low-concentration ozone gas. It was jointly developed as a new product of BACTECTOR, Tamura TECO's existing product which is already used in various facilities, including schools, hospitals, long-term care and healthcare facilities for senior citizens, and station terminals. It has also been used in ambulances across Japan and delivered to public institutions. Its main functions are as follows.

- The ozone concentration is kept at a safe and constant level based on control using an ozone concentration sensor.
- The effectiveness of disinfection from the start of operation is detected as the CT value*2 and displayed on the indicator.
- The operation trend for a one-month period is recorded in an SD card.

*2: The CT value is an internationally recognized index of the disinfection and inactivation effect. It is the product of gas concentration and time: concentration [ppm] multiplied by time [minute]. A higher CT value means higher effectiveness and vice versa.

Utilization of technologies for MFPs and healthcare products

Ozone is generated by applying a high voltage to a generator, generating electromagnetic waves, or “noise.” This noise is harmful to electronic devices nearby and could cause them to malfunction. Konica Minolta has technology for suppressing noise, because MFPs use a high-voltage power source during printing. This technology was used in the ozone generation process to meet the electromagnetic standards imposed on medical equipment. The product was seamlessly commercialized through a rigorous process, such as assessment and traceability, ranging from product planning to design to manufacture, based on the model of Konica Minolta’s healthcare products.

Konica Minolta is committed to improving its corporate value by addressing social challenges toward 2030 and beyond, such as improving fulfillment in work and corporate dynamism, supporting healthy, high-quality living, ensuring the security and safety of society, effectively utilizing limited resources, and addressing climate change, by increasing intangible assets and business competitiveness through digital transformation (DX) and by constantly offering value to customers and society. In its unique value creation process, Konica Minolta aims to attain “people-centric pursuit of motivation and satisfaction in life” and “realization of a sustainable society” at the highest level.

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Supplemental Information

Research team at Nara Medical University confirms the effectiveness of low-concentration ozone for inactivating Covid-19 variants

A research group consisting of members from Nara Medical University, Tamura TECO (a member of the MBT Consortium), and MBT Microbiology Laboratories, Co., Ltd. confirmed that the following Covid-19 variants were inactivated when exposed to ozone gas of 0.05 ppm and 0.1 ppm, which are reference values for spatial concentration in a manned environment.

- Alpha variant
- Beta variant
- Gamma variant
- Delta variant

The test results showed that the disinfection system could be used as an auxiliary device under certain conditions, such as in unmanned environments and environments without an air flow. It was also confirmed that the speed of inactivation increased under high humidity conditions. Thus, the research group scientifically demonstrated the usefulness of ozone.

Tamura TECO has asked the research group to conduct a test on the Omicron variant in the same environment; the verification will be conducted at Nara Medical University as soon as the experiment conditions are met. Based on past results, the BACTECTOR 2.0MD is expected to be similarly effective against the Omicron variant.

The test did not examine the effectiveness on airborne viruses or impact on the human body.

Link to Tamura TECO Co., Ltd. (in Japanese)

<https://www.teco.co.jp/wp/topix/8741>

Link to Nara Medical University (in Japanese)

<https://www.narmed-u.ac.jp/university/kenkyu-sangakukan/oshirase/r3nendo/ozone.html>