# Environmentally Friendly and Contributing Products



While contributing to global environmental conservation and reduction of environmental impact through our products and its applications, we have promoted development of new technologies and sales of products to reduce such impact from the products themselves based on our guidelines for "Environmentally Friendly and Contributing Products" as follows.

## Environmentally Friendly Products

Products that are designed to have less impact on the environment, such as by reducing the amount of waste or designing products that are easy to recycle, and that have improved one or more of the following compared to conventional products.

- Smaller, thinner and lighter
- Power saving
- Longer service life
- Products with reduced or eliminated hazardous substances (hazardous substances: RoHS 10 substances, the environment-related substances to be controlled set by us, etc.)
- Reusability (reuse)

## Environmentally Contributing Products

The products themselves or the final products using them that contributes to and are used for applications such as the conservation of the global environment.

- Prevention of global warming, diffusion of new and renewable energy sources
- Prevention of ozone depletion, air pollution, water pollution, and soil contamination; analysis of pollutants
- Analysis of chemical substances contained in products, evaluation of toxicity of chemical substances
- Reduction, separation and disposal of waste

## Case Studies

Every year, we develop new environmentally friendly and contributing products. Here are some typical examples from the current fiscal year.

### ●Flame sensor module / C16956 series

The UV tron, which is a UV ON/OFF sensor (light sensor), drive circuit, and control circuit, are all integrated into a module in a dedicated housing. External control is also possible, making it easy to install in equipment. In addition, the built-in UV tron is designed to be replaceable. It is expected to monitor combustion such as hydrogen combustion and ammonia combustion, which contribute to carbon neutrality. It is also expected to contribute to the suppression of large-scale forest fires through early detection of natural fires.

### ● Photomultiplier tube module/H13126-01、-02、-03

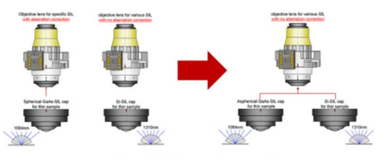
Lidar (light detection and ranging) is one of the methods used to monitor air pollution. Lidar transmits pulsed laser beams into the atmosphere and receives backscattered light reflected from atmospheric molecules, aerosols, clouds, and other particles. In order to measure this reflected light, a photodetector is required that is capable of measuring light levels from low photon count levels to high photon count levels. H13126-01, -02, and -03 have a 10-digit wide dynamic range and can be used for atmospheric lidar applications.

### ● NanoZoomer® S20 / C16300

In conventional NanoZoomer, the main unit and accessories were packed separately. With the NanoZoomer S60v2, the main unit is packaged in a separate box with an interior pad to include the accessories, reducing the amount of cardboard and packaging materials used. The new NanoZoomer S20 also reduces the amount of cardboard and packaging materials used by including the main unit and accessories in a single box by dividing the main unit and accessories with an interior padding.

### ● Aspherical SIL Cap for WR 60 μm～90 μm /A14487-41

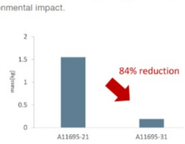
Aspherical SIL has been developed as a lineup of SIL caps used for A12913-08 NanoLens-WR.
In the past, a dedicated objective lens and a dedicated SIL cap were required to obtain high-resolution images at 1064 nm. With the commercialization of the aspherical SIL, it is now possible to obtain the same performance as the conventional dedicated objective lens with a standard objective lens. Therefore, this product leads to a reduction in the number of parts (one objective lens).




Conventional metal package and new ceramic package

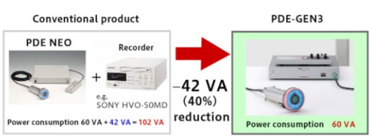
### ● Output optics A11695-31

A11695-31 is an output optical system for streak cameras. A11695-31 can be used by optimizing the design of the C16910 universal streak camera series to be used in combination. Compared to the A11695-21 output optics previously specified for the C10910 universal streak camera series, the A11695-31 has achieved an 84% reduction in mass (from approximately 1.55 kg to approximately 0.19 kg). Compact, lightweight, and low-cost design reduces environmental impact.




### ● Fluorescent imaging camera system / PDE®-GEN3

In clinical practice, video recording is always required. The current pde-neo® requires a separate medical recording device. In contrast, the next-generation PDE-GEN3 has a recording function in the main unit, which not only saves space but also reduces power consumption by 40%.




### ● Monitoring technology for wastewater quality by bioassay and spectrometry

We have verified the effectiveness of water quality monitoring by combining environmental risk assessment of wastewater using algae bioassay (ISO 23734:2021), which utilizes weak luminescence detection technology, with spectroscopic analysis (UV absorption and UV fluorescence) that can detect a wide range of water quality changes. Currently, we are working on the commercialization of the C17056-01, a weak luminescence counter capable of performing algae bioassays. We have also built a prototype on-site spectrometer with a built-in compact UV spectrometer and xenon flashlamp to combine with the bioassay.