# **GLASS PROCESSING PRODUCTS GTMS Products / Glass processing products**

Since its establishment in 1949, Yamamura Photonics has continued to develop glass-metal joining (GTMS = Glass to Metal Seal) as a core technology. Based on our long experience in manufacturing glass containers for electronic tubes, we mainly provide a wide variety of glass processing products for infrastructure, medical and industrial equipment. Such products include GTMS products for high-vacuum applications such as vacuum circuit breakers, X-ray diagnostic imaging equipment, gas-filled cells used in various measuring instruments, and high-precision glass tubes for ozone-generating equipment.

Leveraging our advanced glass processing technologies and high-quality hermetic sealing technologies, we at Yamamura Photonics will continue to support further developments in the fields of social infrastructures and medical equipment, which will become increasingly important in the future.

#### **GTMS Products**



We have a wide lineup of GTMS (glass-to-metal sealing) products. We realize excellent hermeticity by ringsealing or glass frit bonding (Helium leak rate:  $1 \times 10^{-11} \text{ Pa} \cdot \text{m}^3/\text{s}$ or less) and provide these products for highvacuum applications.

#### **Gas Reference Cells**



There are two standard shapes, cylindrical and cuboid. As for the enclosed gas, most gases other than toxic gas and hydrogen chloride gas can be used. Cylindrical:

φ5 to 30 mm Cuboid:

☐ 3 to 20 mm

### **Glass Forming Products**



In addition to ordinal tube processing, we process various shapes such as polygonal, semicircular, oval, and other special shapes of tubes.

# **Glass Hermetic Sealed Connectors**)



We manufacture glass stems for electron tubes and X-rays. We can support the sealing processing of metal terminals for electrodes (made of tungsten, Kovar, etc.).

## Features

High reliability

High hermeticity and high reliability are realized by metal oxide film control and its diffusion control technology. Hermeticity:  $1 \times 10^{-11}$  Pa· m³/s or less (Helium leak rate)

Wide variety of product line-up

In addition to GTMS products, which we are the most specialized in, we have experience in processing a wide range of products, including glass tubes, deformed tubes, bulbs, and cells.

Ex) High-precision glass tube (outer diameter tolerance  $\pm 0.08$ mm)

Integrated support from design to mass production We integratedly support from material development and product design to glass melting, processing, and finishing. From the development stage, we provide customers with the best proposal based on our abundant experience.

#### **Contact Information**

New Product Development Department

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This products information is subject to changed or updated without notice.