



Work Detection in Vacuum Processing to the Semiconductor Market

Application Notes

The application of fibers in the vacuum chambers occasionally requires special fiber properties that can handle higher temperatures and vacuum pressure without out-gassing. An optical coupler located in the chamber wall and a stainless steel flex tube fiber in the vacuum chamber provides the connection with the outside world and offers the protection necessary to ensure the integrity of the wafer processing.

Applications

- CVD
- Ion implantation
- Sputtering
- Etching

Features and Benefits

Responding to High Degree of Vacuum

- The fiber connection of fiber optic photoelectric sensors to the vacuum chamber is made with an optical coupler. This optical coupler is subjected to a leak test of 10^{-10} Pa·m³/s pressures by helium before shipping from the factory.

Long Scan Distance Requirements

- Long distance lenses are available for thru scan situations where up to 10 times the scanning power can be achieved. Additionally, high power modes of the fiber optic amplifiers provide additional diffuse mode scanning power.

High Temperatures

- Heat resistance of up to 200°C can be achieved by the fiber in the chamber.

Unique Requirements

- Custom cable adaptations or designs can be manufactured to comply with the specific needs of an application. Cable length, shape, or other requirements are negotiable.

Yamatake Products

Vacuum Fiber:

- Thru scan HPF-VT01
- Optical coupler HPF-VJ01
- Retro reflective HPF-VD01
- Atmosphere side fiber HPF-VA01

Fiber Optic Photoelectric Sensor:

- HPX Series

Autotuning Type:

- HPX-T Series
- HPX-NT

