

# MINERAL INSULATED THERMOCOUPLE FOR HIGH PRESSURE HYDROGEN

## Mineral Insulated Thermocouple for High Pressure Hydrogen

Meeting the needs of hydrogen stations for fuel cell vehicle and the coming hydrogen economy.

■ Conforms to explosion protection standards of Japan, other countries and regions, and IECEx!  
Certified in: Japan, Europe, China, Korea, Russia, Kazakhstan, Belarus, India, Taiwan, Brazil

■ Used in many hydrogen applications with a design pressure of 100 to 150 MPa!  
(Thermocouple measuring junction: Ungrounded)

■ Used in many real liquid hydrogen applications!



**OKAZAKI**

株式会社 岡崎製作所

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## Sheathed Thermocouple With Excellent Pressure Resistance and Explosion/Flame Proof Design

The high-pressure tanks with which fuel cell vehicles are equipped are filled with hydrogen, the fuel for these vehicles. Today's fuel cell vehicles require high pressures of 35 MPa - 70 MPa, so hydrogen stations are equipped with the piping and tanks to supply hydrogen at these pressures. Safe management of the hydrogen requires high-pressure hydrogen temperature sensors, so we began developing them in 2005. In 2007, we delivered our product to a hydrogen station, where it has received satisfactory reviews as a result of evaluation tests. Hydrogen stations handle combustible hydrogen gas, so these require the use of explosion-proof electrical equipment and our temperature sensors must also be explosion and flame proof to comply with the laws and regulations of Japan. The thermocouple measuring junction is ungrounded and has been used at the 150 MPa level. It has also been used at a next-generation pressure boosting facility that directly compresses liquid hydrogen with a pump.



### [Specifications]

Model: T99

Explosion/Flame Proof Class: ExdIICT6

Thermocouple Type: K, T, E

Sheath Material: SUS 316

Sheath Diameter:  $\phi$ 1.6

Measuring Junction: ungrounded

Maximum Operational Pressure: 150 MPa

(pressure test at 225 MPa for 10 min., water pressure)

High-pressure Seal: Autoclave Engineers or BuTech Pressure System

Special sheath for high-pressure

### [Option]

When requested, we offer designs using SUS 316 with a nickel equivalent exceeding 28.5 for the gas contact part. Please contact the nearest sales office in advance.

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Information in this catalog is subject to change without notice.



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