Cast Iron Gas Stove Temperature Range 0-1800°C Ceramic Protection Tube Material for Heavy-Duty Food Preparation

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Huarui
- Model Number: Cf2501

Product Specification

- Features: High Temperature Resistance, Fast Response Time, Durable And Reliable
- Protection Tube Material: Ceramic
- Accuracy: ±1.5°C Or ±0.4%
- Probe Material: Platinum/Rhodium
- Protection Tube Diameter: 12mm
- Type: Type K
- Connection Type: Fixed Thread
- Protection Tube Length: 500mm
- Highlight: **cast iron gas stove thermocouple**, **heavy-duty food preparation thermocouple**, **ceramic protection tube thermocouple**

Product Description:

In the fiercely competitive landscape of modern foundries and steel mills, knowledge is power, and timing is everything. Among the most critical pieces of knowledge is the exact temperature of your molten iron. This single data point dictates the success of every subsequent operation—from inoculation and alloying to tapping and pouring. An inaccurate reading can lead to catastrophic consequences: cold shuts, misruns, gas porosity, weakened mechanical properties, and ultimately, massive scrap rates.
The Huarui Robust Immersion Thermocouple is engineered to be the unfailing pulse-taker of your molten metal process. We understand that measuring temperatures exceeding 1300°C in an aggressive, abrasive, and thermally shocking environment is one of the most challenging tasks in industrial sensing. Therefore, our HR-TC-MI Series is not just a sensor; it is a sophisticated, disposable system designed for one purpose: to deliver speed, accuracy, and reliability when it matters most, safeguarding your product quality and your bottom line.

Features:

A superior thermocouple is a synergy of advanced materials and precision engineering. Every component of the HR-TC-MI is optimized for the harsh reality of the foundry floor.
2.1. The Sensing Element: The Heart of Accuracy

Type S (Platinum-Rhodium) Excellence: For the most demanding applications and highest accuracy requirements, we offer Type S (Platinum/Platinum-10% Rhodium) elements. These provide exceptional stability and precision for critical iron and steel processing.
Robust Type B & R Options: For even higher temperature ranges found in steel production, Type B (Platinum-30% Rhodium/Platinum-6% Rhodium) elements are available, offering superior longevity and resistance to degradation.
Metallurgical Purity: Our noble metal wires are of the highest purity, ensuring a stable and consistent Electromotive Force (EMF) output, which is the foundation of a precise temperature reading.
2.2. The Protective Sheath: The First Line of Defense

The sheath is the component that bears the full brunt of the molten metal's chemical and thermal assault.
High-Zirconia Ceramic (ZrO_2): Our standard for excellence. Zirconia sheaths offer outstanding resistance to molten iron erosion and slag attack. They possess exceptional thermal shock resistance, surviving the rapid temperature change from room temperature to 1600°C+ in seconds without cracking.
Fused Quartz (SiO_2): A cost-effective alternative for certain iron applications, providing good thermal shock resistance and non-wettability against molten iron.
Alumina (Al_2O_3): For ultra-high temperatures and environments requiring extreme mechanical strength and chemical inertness.
Multi-Layer Protection: Key models feature a multi-layered construction, often with an inner insulator and an outer protective tube, to maximize safety and signal integrity.
2.3. The Paper Tube & Connecting Head: Seamless Integration and Safety

Steel-Wire Reinforced Paper Tube: The sturdy paper tube provides structural integrity for safe immersion. It is often reinforced with steel wires to prevent bending or breaking during handling. Its combustible nature is a safety feature, ensuring it burns away cleanly without contaminating the metal.
Standardized Quick-Connect Plug: The industrial-standard ceramic or plastic connector head ensures a foolproof, secure connection to your temperature display unit or automated temperature measurement system. This eliminates signal noise and connection failures.
2.4. The Moisten Agent: Ensuring a Clean Measurement

The tip of the thermocouple is often coated with a special moisten agent. This coating serves a vital function: it promotes immediate wetting of the sheath by the molten metal, preventing slag adhesion and ensuring a rapid thermal transfer for a faster, more representative reading.

Technical Parameters:

Core Product Advantages: Why Huarui is the Uncompromising Choice
Blazing Fast Response Time: < 4 Seconds. Our thin-walled, optimally designed sheaths transfer heat with incredible speed, capturing the true temperature of the metal before the bath can cool or the thermocouple can degrade. This allows for quicker decisions and higher throughput.
Unwavering Measurement Accuracy: ±0.2%~0.5% of Reading. Precision-engineered sensing elements and high-quality materials ensure that the temperature you see is the temperature you have, giving you the confidence to make perfect metallurgical calls.
Exceptional Thermal & Mechanical Shock Resistance: The proprietary material composition and manufacturing process of our sheaths create a component that can withstand repeated, rapid immersion without failure, ensuring reliability across every heat.
Superior Slag & Erosion Resistance: The dense, non-porous microstructure of our ceramic sheaths minimizes erosion from the abrasive molten metal and resists penetration by corrosive slags, leading to a longer usable life and consistent performance.
Operational Safety & Ease of Use: From the easy-grip paper tube to the unambiguous quick-connect plug, every aspect is designed for operator safety, efficiency, and to minimize human error in high-stress environments.

Applications:

The HR-TC-MI Series plays a vital role throughout the molten metal workflow:
Furnace or Ladle Tapping: Determining the precise tapping temperature is crucial to ensure that the metal falls within the optimal treatment and pouring range.
In-Ladle Treatment Stations: These stations are essential for monitoring temperature during inoculation and alloying processes, given their high sensitivity to temperature changes.
Pre-Pour Assessment in the Transfer Ladle: This step serves as the final check before the metal is poured into the mold, confirming it

has not cooled below the required fluidity level.

Continuous Temperature Monitoring in Channel Furnaces: There are specific models available for continuous monitoring in channel furnaces, designed for extended immersion periods or frequent dipping cycles.

Customization:

Product Customization Services for the Thermocouple For Molten Iron:
- Brand Name: Huarui
- Model Number: Cf2501
- Place of Origin: China
- Type: Type K
- Accuracy: ±1.5°C Or ±0.4%
- Probe Length: 300mm
- Application: Measurement Of Molten Iron Temperature In Foundry Industry
- Connection Size: M20x1.5

Our customization services include J Type Thermocouple Cable, Ceramic Thermocouple Protection Tubes, and Cast Iron Casserole options.

Support and Services:

The Thermocouple For Molten Iron product offers comprehensive product technical support and services to ensure optimal performance and customer satisfaction. Our dedicated team of experts is available to provide assistance with installation, calibration, troubleshooting, and maintenance of the thermocouple.

Additionally, we offer training programs and resources to help users maximize the capabilities of the thermocouple and address any technical queries or challenges that may arise. Our commitment to customer service extends beyond the initial purchase, as we strive to build long-term relationships with our clients by offering ongoing support and expertise.

Packing and Shipping:

Product Name: Thermocouple For Molten Iron
Description: High-quality thermocouple designed for accurate temperature measurement in molten iron applications.
Package Includes: Thermocouple sensor, protective casing, user manual
Packaging: The product is carefully packaged in a sturdy cardboard box to ensure safe delivery.
Shipping: We offer fast and reliable shipping options to ensure your order reaches you in a timely manner.

FAQ:

Q: What is the brand name of this thermocouple for molten iron?
A: The brand name is Huarui.
Q: What is the model number of this thermocouple?
A: The model number is Cf2501.
Q: Where is this thermocouple for molten iron manufactured?
A: It is manufactured in China.
Q: Is this thermocouple suitable for use with molten iron?
A: Yes, this thermocouple is specifically designed for use with molten iron.
Q: How can I purchase this thermocouple?
A: You can purchase this thermocouple from authorized distributors or directly from the manufacturer.

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