

12mm Protection Tube Industrial Steam Ironing Machine for Large-Scale and Commercial Ironing Needs

Our Product Introduction

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Basic Information

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



Product Specification

- Features: High Temperature Resistance, Fast Response Time, Durable And Reliable
- Connection Type: Fixed Thread
- Type: Type K
- Probe Length: 300mm
- Protection Tube Material: Ceramic
- Temperature Range: 0-1800°C
- Application: Measurement Of Molten Iron Temperature In Foundry Industry
- Probe Diameter: 6mm
- Highlight: 12mm industrial steam ironing machine, commercial steam ironing protection tube, large-scale ironing thermocouple tube

Product Description

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 (ZrO₂): 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 (SiO₂): A cost-effective alternative for certain iron applications, providing good thermal shock resistance and non-wettability against molten iron.

Alumina (Al₂O₃): 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 Moistening Agent: Ensuring a Clean Measurement

The tip of the thermocouple is often coated with a special moistening 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 an essential role throughout the entire molten metal workflow. It is employed in various key stages:

Furnace or Ladle Tapping: This function involves determining the exact tapping temperature to guarantee that the metal falls within the ideal range for subsequent treatment and pouring.

In-Ladle Treatment Stations: These stations are crucial for monitoring the temperature during processes such as inoculation and alloying, as these procedures are extremely sensitive to temperature fluctuations.

Pre-Pour Assessment in the Transfer Ladle: This step serves as the final evaluation before the metal is poured into the mold, making sure it has not cooled below the required fluidity threshold.

Continuous Temperature Monitoring in Channel Furnaces: Specific models within the series are designed for prolonged immersion or

frequent dipping, ensuring continuous monitoring of temperatures in channel furnaces.

Customization:

Enhance your industrial processes with our Product Customization Services for the Thermocouple For Molten Iron, designed by Huarui. The model number Cf2501 originates from China, ensuring quality and reliability. Our customization services include a protection tube length of 500mm, ideal for applications such as the measurement of molten iron temperature in the foundry industry. The thermocouple wire length is set at 2m, providing flexibility in your setup. Constructed with a ceramic protection tube and a probe material of Platinum/Rhodium, this thermocouple is built to withstand high temperatures and harsh environments.

Support and Services:

The Thermocouple For Molten Iron product comes with comprehensive Product Technical Support and Services to ensure optimal performance and customer satisfaction. Our technical support team is available to provide assistance with installation, calibration, troubleshooting, and maintenance of the thermocouple. Additionally, we offer training programs to educate users on the proper use and care of the product, as well as on-site services for more complex issues. Our goal is to provide reliable and efficient support to maximize the performance and longevity of the thermocouple in molten iron applications.

Packing and Shipping:

Product Packaging:

The Thermocouple For Molten Iron is carefully packaged in a sturdy box to ensure its safe transportation. The product is securely placed inside the box with protective packaging materials to prevent any damage during shipping.

Shipping:

Orders for the Thermocouple For Molten Iron are processed and shipped within 1-2 business days. We use reliable shipping carriers to deliver the product to your designated address. You will receive a tracking number to monitor the status of your shipment.

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: What type of material is this thermocouple made of?

A: This thermocouple is made of high-quality materials suitable for molten iron applications.

Q: Is this thermocouple suitable for high-temperature environments?

A: Yes, this thermocouple is designed to withstand high temperatures commonly found in molten iron processes.



Shandong Huarui Electric Furnace Co., Ltd.



+86 13235363441



sales@huarui-furnace.com



melt-furnaces.com

Mount Taishan Street, Anqiu Economic Development Zone, Weifang, Shandong, China