

Molten Iron Thermal Analyzer —

User Manual

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1. Product Overview

The XQY-TG series thermal analyzer is mainly used for rapid on-site composition testing of molten iron in the foundry industry. Connect power, sample cup and bracket, and it is ready; after pouring molten iron into the cup, C%, Si% and CEL are determined automatically within 1–2 minutes. Fast, simple and accurate — it plays an important role in casting quality control.

2. Instrument Specifications

Item	Specification
Working temperature (industrial PC)	0–40 °C
Monitor	15-inch LCD
Relative humidity	<80%
Power supply	AC 100 / 220 V, 50 / 60 Hz
Power consumption	40 W
Dimensions	410 × 340 × 150 mm
Weight	8 kg

3. Measuring Range and Accuracy

Item	Range	Accuracy
Carbon equivalent (CEL)	2.50% – 4.80%	±0.08%
Carbon content (C%)	2.30% – 4.20%	±0.05%
Silicon content (Si%)	0.60% – 3.80%	±0.10%
Nodularity	60% – 99%	±5%
Tensile strength	150 – 400 MPa	±10 MPa
Brinell hardness	100 – 300 HB	±10 HB

4. Main Functions

Function	Description
Measuring	CEL, C%, Si%, nodularity, tensile strength, Brinell hardness, undercooling, etc.
Adjustment calculation	Automatic / manual calculation of composition additions
Data storage	Records by measurement time, 1000+ results
Data output	USB (U-disk) or RJ45 (network) transfer to other computers
History review	Historical data and cooling curve replay

5. Basic Operation

1. Connect 220 V power — the host starts automatically.
2. After startup, the system enters the composition measurement interface automatically.
3. Mount the sample cup and pour in molten iron; results are determined automatically within 1–2 minutes.

6. Cautions

- Use our matching thermal analysis cups to ensure accuracy.
- Place the instrument in a ventilated, dry location away from heat, dust and vibration.
- Do not disassemble the host; contact after-sales for remote software support.

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