

Furnace Tracker[®]

for Billet Re-heat Furnaces

The DATAPAQ[®] Furnace Tracker monitoring system brings you the latest technology to get accurate and comprehensive temperature profiles of your billet while in a re-heat furnace.

The system is mounted on a special “fork” welded to the billet and travels with the product to monitor its true temperature throughout the rotary hearth or walking beam furnace.

Billet re-heat processes of 5 hours or longer, with temperatures of up to 1300°C (2372°F), can be monitored. The Furnace Tracker system will monitor from up to 20 thermocouples, placed at various distances along the billet, and at specific depths within the billet. This ensures that you get maximum temperature information from the trial.



Furnace Tracker system for billet re-heat furnaces



Furnace Tracker system in rotary hearth furnace



DATAPAQ TP3 data logger

SYSTEM FEATURES

- Low thermal barrier height and width – to minimize loading problems
- High thermal capacity to cope with rolling mill stoppages
- Incorporates advanced DATAPAQ technologies:
 - “Phased evaporation” for long thermal duration
 - “Floating plate” for minimal barrier distortion
- Made of rugged high grade stainless steel to resist high temperatures
- 10 or 20 thermocouples (for maximum information)
- Radio frequency (RF) telemetry option for process monitoring in real time

SYSTEM BENEFITS

- True knowledge of product temperatures allows you to set optimum re-heat furnace conditions – save energy usage or increase production
- Scale layer can be minimized to increase mill yields
- Non-uniform heating, that causes tube eccentricity, can be identified
- Gives vital information for verification of mathematical furnace models
- Problem areas of furnace (hot and cold spots) quickly identified
- 2 logger styles for dedicated 10 and 20 channel operation
- 20 front-loaded thermocouple channels, for ease-of-use and setup
- Complete solution: thermal barrier, data logger, analysis software, thermocouples and setup drawings and guides
- On-site commissioning globally supported

TECHNICAL SPECIFICATIONS



DATAPAQ TP3116 data logger



DATAPAQ TP3 data logger



DATAPAQ Insight™ software

DATA LOGGER

| Model number | TP3116 | TP3136 |
|----------------------------|--|--|
| Temperature range | -100 °C to 1370 °C (-148 °F to 2498 °F) | |
| Connectivity | USB or Bluetooth® | |
| Max. operating temperature | 110 °C (230 °F) | |
| Memory capacity | 3.2 million data points* | 3.6 million data points* |
| Number of channels | 10 | 20 |
| Sampling interval | 0.3 sec – 50 min no telemetry 1 sec – 50 min RF telemetry | |
| Logger accuracy | ±0.3 °C (±0.5 °F) | |
| Battery | Lithium AA replaceable | |
| Battery life | 1 min sample interval 100 °C (212 °F) = 500 hours | 1 min sample interval 100 °C (212 °F) = 450 hours |
| Thermocouple type | K (other types available) | |

* Note that memory may be limited by battery life restrictions.

THERMAL BARRIERS

| Model number | TB4066 | TB4203 | TB4127 |
|-------------------------------|--|---|---|
| Dimensions L×W×H | 550 × 250 × 250 mm (21.65 × 9.85 × 9.85 in) | 670 × 350 × 250 mm (26.37 × 13.77 × 9.85 in) | 590 × 450 × 360 mm (23.22 × 17.7 × 14.17 in) |
| Duration at 1250 °C (2282 °F) | 3.5 hours | 5 hours | 8 hours |
| Weight filled | 25.5 kg (56.2 lb) | 35 kg (77 lb) | 54 kg (119 lb) |

Note: Other models available, contact DATAPAQ for details.

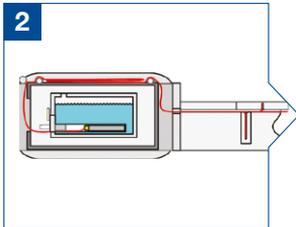
THERMOCOUPLES

The thermocouples supplied with the system are mineral insulated type K to ANSI specification MC 96.1 (special limits of error). They have a special high temperature outer sheath.

Part number PA076X – where the “X” denotes length in meters (feet) from 1 to 9 meters (3.3 to 29.5 feet) e.g. PA0761 = 1 meter (3.3 feet) in length

HOW IT WORKS

1. Program the data logger
2. Fit the data logger into the thermal protection system on the billet
3. Place the test billet into the furnace
4. Remove the data logger
5. Analyze the information



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Worldwide Service
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