

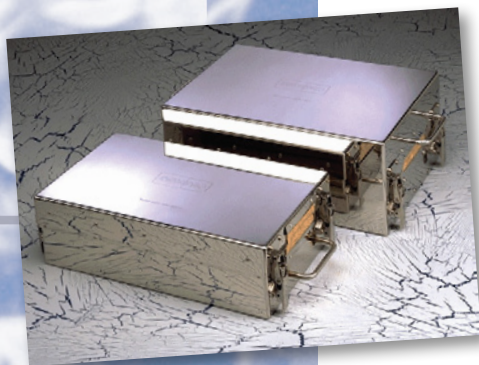


A Fluke Company

# Furnace Tracker<sup>®</sup>

## TB4000 Series Thermal Barriers

These barriers work in two stages to keep the logger at a safe working temperature as it travels through the process which is operating, at temperatures up to 850°C (1560°F). Microporous insulation slows down the passage of heat. The second layer of insulation features a unique heat sink with phase-change material that maintains an internal temperature of 58°C (136°F).



### FEATURES AND BENEFITS

- Operating temperature up to 850°C (1560°F)
- Rugged 304 stainless steel construction
- Microporous insulation provides the best thermal protection of any known material
- Various heights available to meet limited clearances
- Wear strips minimize maintenance costs
- Environmentally preferred mullite textile barrier lining
- Optional stand to avoid distortion, i.e., due to differential thermal contraction if a hot barrier is placed on a cold floor
- Compatible loggers: TPaq21 and DQ1860
- TM21 telemetry compatible
- Option of low height barriers where furnace height clearance is limited

| Part Number            | TB4005               | TB4012              | TB4026              | TB4033              | TB4015                |
|------------------------|----------------------|---------------------|---------------------|---------------------|-----------------------|
| Heat Sink              | Yes                  | Yes                 | Yes                 | Yes                 | Yes                   |
| Weight                 | 11.95 kg<br>(26 lbs) | 20 kg<br>(44 lbs)   | 31 kg<br>(68 lbs)   | 43 kg<br>(95 lbs)   | 11.7 kg<br>(25.8 lbs) |
| Height                 | 125 mm<br>(4.9 in)   | 170 mm<br>(6.7 in)  | 250 mm<br>(9.8 in)  | 300 mm<br>(11.8)    | 100 mm<br>(3.9)       |
| Width                  | 248 mm<br>(9.8 in)   | 296 mm<br>(11.6 in) | 357 mm<br>(14 in)   | 406 mm<br>(16 in)   | 247 mm<br>(9.7 in)    |
| Length                 | 504 mm<br>(19.8 in)  | 511 mm<br>(20.1 in) | 543 mm<br>(21.4 in) | 593 mm<br>(23.4 in) | 509 mm<br>(20 in)     |
| Duration* (hours)      |                      |                     |                     |                     |                       |
| 400°C (752°F)          | 2.0                  | 6.5                 | 12.0                | 18.0                | 1.8                   |
| 500°C (932°F)          | 1.5                  | 5.0                 | —                   | —                   | 1.4                   |
| 600°C (1112°F)         | —                    | 4.0                 | 8.5                 | 10.5                | 1.1                   |
| 800°C (1472°F)         | 1.0                  | 2.0                 | 6.0                 | 8.50                | 0.8                   |
| Compatible<br>Logger** | TPaq21<br>DQ1860     | TPaq21<br>DQ1860    | TPaq21<br>DQ1860    | TPaq21<br>DQ1860    | DQ1860                |

\*The thermal duration shown above is based on average temperatures throughout the process and not maximum temperatures

\*\* For additional details on the data loggers, please refer to the data sheets for these items.

# TECHNICAL SPECIFICATIONS

## TB4000 LOW HEIGHT THERMAL BARRIERS (TB2005/TB4021)

### APPLICATIONS

The TB2005 and TB4021 are high performance, low height thermal barriers and are designed for short duration, high temperature processes where clearance in the furnace may be limited.

They are suitable for forming and toughening glass windscreens for automobiles, as well as short duration aluminium brazing processes.

### DATA LOGGER

The TB2005 and TB4021 thermal barriers are specifically designed to accept the Q18 data logger (DQ1860). For full specification information for the Q18 data logger, please refer to the Q18 data sheet

### THERMAL DURATIONS

| Thermal Barrier | Height            | Width              | Length              | Length Overall      | Weight              |
|-----------------|-------------------|--------------------|---------------------|---------------------|---------------------|
| <b>TB4021</b>   | 40 mm<br>(1.5 in) | 170 mm<br>(6.6 in) | 226 mm<br>(8.8)     | –<br>–              | 1.6 kg<br>(3.5 lbs) |
| <b>TB2005</b>   | 68 mm<br>(2.6 in) | 188 mm<br>(7.4 in) | 293 mm<br>(11.5 in) | 368 mm<br>(14.4 in) | 4.5 kg<br>(9.9 lbs) |

| Thermal Barrier | Average Furnace Temperature | 100°C<br>(212°F) | 200°C<br>(392°F) | 300°C<br>(572°F) | 400°C<br>(752°F) | 600°C<br>(1112°F) | 800°C<br>(1472°F) |
|-----------------|-----------------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|
| <b>TB4021</b>   | Process time (mins)         | 45               | 20               | 15               | 11               | 7                 | 4                 |
| <b>TB2005</b>   | Process time (mins)         | 105              | 45               | 30               | 22               | 14                | 10                |

The thermal barrier duration shown above is based on the average temperature (not the maximum temperature) in the furnace throughout the process.

## The Worldwide Leader in Temperature Profiling



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