

# Beamex FB

FIELD TEMPERATURE BLOCK



Lightweight, highly accurate temperature dry block for industrial field use

750773407508347350843  
67508654545454546  
75077405405405132132131  
62507965836458734657  
6853876735084653400

An ideal temperature block for industrial field use



# Lightweight, highly accurate temperature dry block for industrial field use

The Beamex field temperature block (FB) is an ideal temperature block for industrial field use. It is lightweight and easy to carry. It is an extremely quick dry block, yet it provides excellent accuracy.

## Main features of the Beamex FB

### Lightweight, portable

The Beamex FB field temperature block is ideal for industrial field use. It only weighs about 8 kg, and it is small enough to carry around.

### Speed

The Beamex FB is extremely quick to reach various temperatures, i.e. it cools down to  $-25\text{ °C}$  in 15 minutes and heats up to  $+660\text{ °C}$  in 15 minutes. This saves time and increases productivity.

### Accuracy and performance

The Beamex FB is an easily portable unit that also provides excellent calibration accuracy. The display accuracy is up to  $\pm 0.2\text{ °C}$  and its control technology provides great stability up to  $\pm 0.01\text{ °C}$ . The dual zone controlled block provides excellent axial uniformity up to  $\pm 0.04\text{ °C}$  and radial uniformity up to  $\pm 0.01\text{ °C}$ .

### Smart reference sensors

The Beamex FB has an internal reference thermometer (in R models), which enables connections to the Beamex smart reference sensors. These sensors have a memory that contains all of the sensor correction data. This enables the use of the reference sensor as a real plug-and-play.

### Accredited calibration

Each Beamex FB field temperature block is delivered with an accredited calibration certificate.

### Usability

The large LCD display, function keys and multilingual, menu-based user interface makes the Beamex FB easy to use. A graphic and audible stability indicator lets you know when a block is stable. The HOT warning light indicates when the block is hot (over  $+50\text{ °C}$ ). It blinks as long as the block is too hot to touch, even when the unit is switched off or when the mains cable is disconnected.

### Part of the Beamex ICS integrated calibration solution

The communication port enables communication with selected Beamex MC calibrators for automation calibration and documentation, making the Beamex FB products part of the Beamex ICS integrated calibration solution. Combined with the Beamex MC6 calibrator, loop calibrations are possible with conventional, HART and Fieldbus temperature transmitters with sensors.



# Beamex FB series specifications

|   | FB150  | FB350  | FB660  |
|---|--|--|--|
| <b>Temperature range at 23 °C</b>   | -25 °C to 150 °C<br>(-13 °F to 302 °F)   | 33 °C to 350 °C<br>(91 °F to 662 °F)   | 50 °C to 660 °C<br>(122 °F to 1220 °F)                                       |
| <b>Display accuracy</b>   | ±0.2 °C Full range   | ±0.2 °C Full range   | ±0.35 °C at 50 °C<br>±0.35 °C at 420 °C<br>±0.5 °C at 660 °C                 |
| <b>Stability</b>  | ±0.01 °C Full range  | ±0.02 °C at 33 °C<br>±0.02 °C at 200 °C<br>±0.03 °C at 350 °C                | ±0.03 °C at 50 °C<br>±0.05 °C at 420 °C<br>±0.05 °C at 660 °C                |
| <b>Axial uniformity at 40 mm (1.6 in)</b>   | ±0.05 °C Full range  | ±0.04 °C at 33 °C<br>±0.1 °C at 200 °C<br>±0.2 °C at 350 °C                  | ±0.05 °C at 50 °C<br>±0.35 °C at 420 °C<br>±0.5 °C at 660 °C                 |
| <b>Radial uniformity</b>  | ±0.01 °C Full range  | ±0.01 °C at 33 °C<br>±0.015 °C at 200 °C<br>±0.02 °C at 350 °C               | ±0.02 °C at 50 °C<br>±0.05 °C at 420 °C<br>±0.10 °C at 660 °C                |
| <b>Loading effect<br/>(with a 6.35 mm reference probe<br/>and three 6.35 mm probes)</b> | ±0.006 °C Full range   | ±0.015 °C Full range   | ±0.015 °C at 50 °C<br>±0.025 °C at 420 °C<br>±0.035 °C at 660 °C             |
| <b>Hysteresis</b>   | ±0.025 °C  | ±0.03 °C   | ±0.01 °C   |
| <b>Immersion depth</b>  | 150 mm (5.9 in)  |  |  |
| <b>Insert OD dimensions</b>   | 30 mm (1.18 in)  | 25.3 mm (0.996 in)   | 24.4 mm (0.96 in)  |
| <b>Heating time</b>   | 16 min: 23 °C to 140 °C<br>23 min: 23 °C to 150 °C<br>25 min: -25 °C to 150 °C | 5 min: 33 °C to 350 °C   | 15 min: 50 °C to 660 °C  |
| <b>Cooling time</b>   | 15 min: 23 °C to -25 °C<br>25 min: 150 °C to -25 °C                            | 32 min: 350 °C to 33 °C<br>14 min: 350 °C to 100 °C                          | 35 min: 660 °C to 50 °C<br>25 min: 660 °C to 100 °C                          |
| <b>Resolution</b>   | 0.01 °C / °F   |  |  |
| <b>Display</b>  | LCD, °C or °F user-selectable  |  |  |
| <b>Size (H x W x D)</b>   | 290 mm x 185 mm x 295 mm (11.4 x 7.3 x 11.6 in)                                |  |  |
| <b>Weight</b>   | 8.16 kg (18 lb)  | 7.3 kg (16 lb)   | 7.7 kg (17 lb)   |
| <b>Power requirements</b>   | 230 V (±10%) 50/60 Hz, 575 W<br>100 V to 115 V (±10%) 50/60 Hz, 635 W          | 230 V (±10%), 50/60 Hz, 1800 W<br>100 V to 115 V (±10%), 50/60 Hz,<br>1400 W | 230 V (±10%), 50/60 Hz, 1800 W<br>100 V to 115 V (±10%), 50/60 Hz,<br>1400 W |
| <b>Computer interface</b>   | RS-232   | RS-232   | RS-232   |
| <b>Calibration</b>  | Accredited calibration certificate provided                                    |  |  |
| <b>Environmental operating conditions</b>   | 0 °C to 50 °C, 0% to 90% RH (non-condensing)                                   |  |  |
| <b>Specifications valid in<br/>environmental conditions</b>                             | 13 °C...33 °C  |  |  |

| R MODEL SPECIFICATIONS                                  | FB  |
|---|---|
| <b>Resistance range</b>                                 | 0 Ω to 400 Ω  |
| <b>Resistance accuracy <sup>1)</sup></b>                | 0 Ω to 42 Ω: ±0.0025 Ω<br>42 Ω to 400 Ω: ±60 ppm of reading |
| <b>Characterizations</b>                                | ITS-90, CVD, IEC-60751, resistance                          |
| <b>Temperature accuracy (100 ohm PRT) <sup>2)</sup></b> | ±(0.015 °C + 0.008% of temperature reading)                 |
| <b>Sensor connection</b>                                | 4-wire, 6-pin Smart Lemo                                    |
| <b>Calibration</b>                                      | Accredited calibration certificate provided                 |

1) Measurement accuracy specifications apply within the specified environmental operating conditions and assume 4-wires for PRTs.

2) The built-in reference thermometer readout accuracy does not include the sensor probe accuracy.

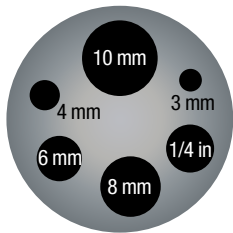


# Inserts

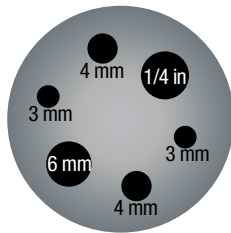
## INSERTS FOR FB MODELS

| INSERT  | MODEL        | DESCRIPTION  |
|---------|--------------|--|
| MH1     | FB150        | Multihole, metric / reference; ¼", 3 mm, 4 mm, 6 mm, 8 mm, 10 mm |
| MH1     | FB350, FB660 | Multihole, metric / reference; ¼", 4 mm, 6 mm, 8 mm, 10 mm       |
| MH2     | All models   | Multihole, metric / reference; ¼", 2x3 mm, 2x4 mm, 6 mm          |
| B       | All models   | Blank  |
| Special | All models   | Special  |

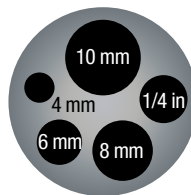
Please contact Beamex for custom inserts.



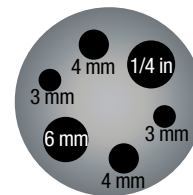
FB150-MH1



FB150-MH2



FB350-MH1, FB660-MH1



FB350-MH2, FB660-MH2

## STANDARD ACCESSORIES

- Power Cord
- RS-232 Cable
- User Guide
- Accredited Calibration Certificate
- LEMO Connector for reference sensor (R models only)
- Block Insulator (in FB150)
- Tongs (insert removal tool)

## OPTIONAL ACCESSORIES

- Transport Case for temperature block
- Inserts

# Beamex FB

## FIELD TEMPERATURE BLOCK

98

Lightweight, highly accurate temperature dry block for industrial field use. The Beamex field temperature block (FB) is an ideal temperature block for industrial field use. It is lightweight and easy to carry. It is an extremely quick dry block, yet it provides excellent accuracy.

### Available models

- FB150 / FB150R with range  $-25\text{ °C} \dots +150\text{ °C}$
- FB350 / FB350R with range  $+33\text{ °C} \dots +350\text{ °C}$
- FB660 / FB660R with range  $+50\text{ °C} \dots +660\text{ °C}$

The R models include an internal reference thermometer with a connection for an external reference sensor.

### Smart reference probes

Beamex smart reference probes are high-quality extremely stable reference PRT probes with an integrated memory which stores the individual probe coefficients. They are available in two versions: 300 mm straight version or a 90° bent version.



### Main features

- ▶ Lightweight, portable and quick field block
- ▶ Highly accurate
- ▶ Temperature ranges from a  $-25\text{ °C}$  to  $+660\text{ °C}$
- ▶ Dual zone control techniques enable excellent stability and uniformity
- ▶ Accredited calibration certificate as standard
- ▶ Part of the Beamex ICS integrated calibration solution