Designed to be installed on the fans discharge side. The minimum air speed through the heater must be 2 m/s. Maximum air temperature through the heater: 40ºC. The heaters are fitted with:
- Armoured heating elements to connect to the three phase net (3x400).
- Double protection circuit to connect to the heater control circuit by means of a safety overheat automatic thermostat (60º), connected in series with another safety overheat manual reset thermostat [RESET].
- Wiring box IP43. Available temperature sensors in the duct, ambient temperature sensors and speed controllers to complete the installation and to adjust the air temperature according to every need. By means of this system the supplied air can reach up to 50º. (See the electrical accessories section).

### TECHNICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Models</th>
<th>Supply voltage (V)</th>
<th>Power (kW)</th>
<th>Heater element subdivisions (kW)</th>
<th>Minimum airflow (m³/h)</th>
<th>Controller type</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBE-200/9T</td>
<td>3/400</td>
<td>9</td>
<td>3x3</td>
<td>580</td>
<td>TTC-25 / TTC-2000</td>
</tr>
<tr>
<td>IBE-225/16,5T</td>
<td>3/400</td>
<td>16,5</td>
<td>3x5,5</td>
<td>900</td>
<td>TTC-25 / TTC-2000</td>
</tr>
<tr>
<td>IBE-315/30T</td>
<td>3/400</td>
<td>30</td>
<td>4x7,5</td>
<td>1500</td>
<td>TTC-2000 + TTS-1</td>
</tr>
<tr>
<td>IBE-355/30T</td>
<td>3/400</td>
<td>30</td>
<td>4x7,5</td>
<td>2000</td>
<td>TTC-2000 + TTS-1</td>
</tr>
<tr>
<td>IBE-400/50T</td>
<td>3/400</td>
<td>50</td>
<td>3x16,7</td>
<td>2400</td>
<td>TTC-40F + TTS-4</td>
</tr>
<tr>
<td>IBE-450/67T</td>
<td>3/400</td>
<td>67</td>
<td>4x16,7</td>
<td>3600</td>
<td>TTC-40F + TTS-4</td>
</tr>
</tbody>
</table>
**DIMENSIONS (mm)**

Minimum distance between the fan and the heater, 2.5xA (inner width of the flange)

**PERFORMANCE CURVES**

**IBE - Pressure drop ∆p (Pa)**

**IBE - Air temperature increases ∆T (°C)**

**SELECTION EXAMPLE**

**DATA:**
- Airflow: 3300 m³/h (Q)
- Temp. of supplied air: -5°C
- Temp. of exhausted air: 20°C

**ELECTRIC HEATER POWER REQUIRED:**

\[ P = Q \times 0.36 \times ∆T = 3300 \times 0.36 \times (20 - (-5)) = 29700 \text{ W} = 29.7 \text{ kW} \]

**SELECTION OF IBE-315/30T or IBE-355/30T HEATER (Diagram 2):**
The final selection depends on:
- Total system pressure drop
- Desired sound level
- Available space
ELECTRIC HEATER ACCESSORIES

For more information see electrical accessories.

PULSER
Single phase electric heater controller.

TTC-2000
Three phase electric heater controller.

TTC-25 and TTC-40F
Three phase electric heater controller.

TG-R
Room temperature sensor.
TG-R430: Adjustable
TG-R530: Not adjustable

TG-K
Duct temperature sensor.

TTS-1
Additional PCB to increase the output power controlled.

TTS-4
Module to increase the controller power TTC-40F, up to 66kW.

TBI-10 / TBI-30
External potentiometer.

TRAFO-15D
Transformer to power the TTS-4 to 24V.