

# THERMOCOUPLE, PT100 & THERMISTOR PROBES

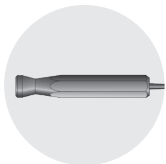
Thermometers are only part of the system; of equal importance is the design of the temperature probes used to physically measure the item. ETI manufacture an extensive range of probes to compliment our range of instrumentation.

## RESPONSE TIMES

The response time is the time taken for the sensor to reach  $2/3^{\text{rds}}$  of the final reading and is the standard means of measuring probe response times. Five times the quoted response time is the figure normally required to obtain 100 % of the reading. Response times are dependent upon the substance being measured and in the case of liquid or gas, upon the degree of agitation. It is therefore difficult to quote an accurate response time without knowledge of the application. The results given in this catalogue were obtained in a stirred oil bath and may differ from those obtained under other conditions but can be used as a general guide when selecting probes.

## HANDLE TYPES

Where appropriate, each probe is supplied with a hexagonal, small rounded, ribbed heavy duty or T-shaped handle. To reduce bacterial growth, probe handles contain Biomaster Antimicrobial Technology.



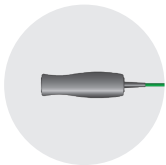
### HEXAGONAL

Manufactured from nylon and available in black. Maximum temperature is 105 °C.



### T-SHAPED

Manufactured from polypropylene and available in black or white. Maximum temperature is 105 °C.



### SMALL ROUNDED

Manufactured from nylon and available in black. Maximum temperature is 105 °C.



### RIBBED HEAVY DUTY

Manufactured from polypropylene and available in black or white. Maximum temperature is 85 °C. Available with colour-coded caps.

## PROBE ACCURACY SPECIFICATIONS

### K Thermocouple Probes/Sensors

All type K thermocouple probes/sensors are manufactured from Class 1 type K thermocouple wire as detailed in the British Standard BS EN 60584-1:2013, and meet the following accuracy specification:

- $\pm 1.5$  °C between -40 & 375 °C
- $\pm 0.4$  % between 375 & 1000 °C

### T Thermocouple Probes/Sensors

All type T thermocouple probes/sensors are manufactured from Class 1 type T thermocouple wire as detailed in the British Standard BS EN 60584-1:2013, and meet the following accuracy specification:

- $\pm 0.5$  °C between -40 & 125 °C
- $\pm 0.4$  % between 125 & 400 °C

### NTC Thermistor Probes/Sensors

The tolerance specification for all ETI manufactured thermistor probes is as follows:

- $\pm 0.4$  °C between -20 & 100 °C
- $\pm 0.2$  °C between 0 & 70 °C
- $\pm 0.3$  °C between -10 & 0 °C

### High Accuracy K Thermocouple Probes/Sensors (indicated in the catalogue with the icon)

ETI high accuracy type K probes are manufactured from Class 1 type K thermocouple wire which is chosen for improved accuracy and performance and meet the following accuracy specification:

- $\pm 0.5$  °C between 0 & 100 °C

### High Accuracy T Thermocouple Probes/Sensors (indicated in the catalogue with the icon)

ETI high accuracy type T probes are manufactured from Class 1 type T thermocouple wire which is chosen for improved accuracy and performance and meet the following accuracy specification:










- $\pm 0.2$  °C between -20 & 70 °C

### PT100/RTD Probes/Sensors

All PT100/RTD probes/sensors are manufactured from Class A PT100/RTD 100  $\Omega$  (ohms) detectors as detailed in the IEC 60751 (2008) standard, and meet the following accuracy specification:

- $\pm 0.15$  °C  $\pm 0.2$  % between -200 & 600 °C









# HAND HELD TYPE K OR T THERMOCOUPLE PROBES

		Order code	
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b>      Ø3.3 x 130 mm</p>	<p>This stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-160 323-160 (coiled lead)</p>	
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b>      Ø3.3 x 300 mm</p>	<p>This extended, stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-168 323-168 (coiled lead)</p>	
<p><b>FAST RESPONSE PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b>      Ø3.3 x 100 mm</p>	<p>This reduced tip (Ø1.8 x 25 mm), fast response, stainless steel penetration probe is ideal for liquids or semi-solids i.e. soft rubber and other similar materials.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-159 323-159 (coiled lead)</p>	
<p><b>NEEDLE PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b>      Ø1.8 x 130 mm</p>	<p>This fast response, stainless steel needle penetration probe is ideal for liquids or semi-solids i.e. soft rubber or plastic.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-100 323-100 (coiled lead)</p>	
<p><b>OVEN PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b>      Ø3.3 x 130 mm</p>	<p>This oven probe has a stainless steel handle and a two metre PTFE high temperature lead. An oven probe without a handle is available.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe and lead temperature range -75 to 250 °C</li> </ul>	<p>133-170 133-173 (no handle)</p>	
<p><b>RIGID BETWEEN PACK PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b>      Ø4.5 x 130 mm</p>	<p>This rigid, stainless steel between pack probe is strong and versatile, designed specifically to measure between packets or boxes of produce.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-060 323-060 (coiled lead)</p>	
<p><b>HIGH TEMPERATURE PROBE</b></p>  <p>Ø1.5 x 130 mm</p>	<p>This flexible, mineral insulated (MI) probe can be bent to any shape without affecting its performance. Ideal for measuring high temperatures i.e. fryers or furnaces.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -200 to 1100 °C</li> </ul>	<p>123-204 323-204 (coiled lead)</p>	
<p><b>HIGH TEMPERATURE PROBE</b></p>  <p>Ø3 x 130 mm</p>	<p>This flexible, mineral insulated (MI) probe can be bent to any shape without affecting its performance. Ideal for measuring high temperatures i.e. fryers or furnaces.</p> <ul style="list-style-type: none"> <li>• Response time less than 3 seconds</li> <li>• Probe temperature range -200 to 1100 °C</li> </ul>	<p>123-212 323-212 (coiled lead)</p>	
<p><b>HIGH TEMPERATURE PROBE</b></p>  <p>Ø3 x 300 mm</p>	<p>This extended, flexible, mineral insulated (MI) probe can be bent to any shape without affecting its performance. Ideal for measuring high temperatures i.e. fryers or furnaces.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -200 to 1100 °C</li> </ul>	<p>123-213 323-213 (coiled lead)</p>	

Please note: for hand held type T thermocouple probes, replace the third digit (3) of the order code with the number 7

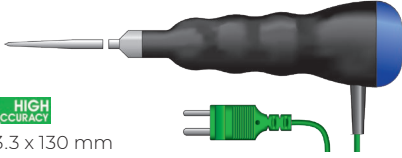
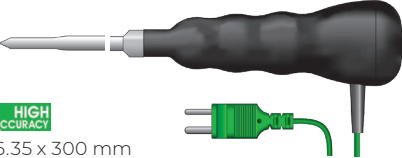
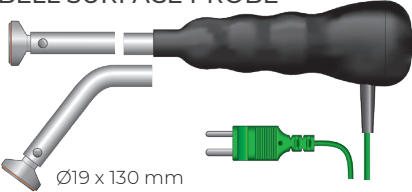
TEMPERATURE PROBES

# HAND HELD TYPE K OR T THERMOCOUPLE PROBES

		Order code
<p><b>BINDER PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b></p> <p>Ø3 x 130 mm</p>	<p>This rounded tip, stainless steel probe is designed for inserting into Binder self-sealing glands to measure the temperature of vessels or radiators.</p> <ul style="list-style-type: none"> <li>• Response time less than 3 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-240</p> <p>323-240 (coiled lead)</p>
<p><b>AIR OR GAS PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b></p> <p>Ø4.5 x 130 mm</p>	<p>This stainless steel, fast response air or gas probe is ideal for measuring air temperature in chill cabinets, fridges, freezers, offices, storage areas and similar.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-300</p> <p>323-300 (coiled lead)</p>
<p><b>RIBBON SURFACE PROBE</b></p>  <p>Ø15 x 130 mm</p>	<p>This precision, ribbon surface probe utilises flat ribbon technology that ensures a fast, accurate response with minimal heat loss. A right-angled version is also available.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-030</p> <p>123-032 (right-angled)</p>
<p><b>RIBBON SURFACE PROBE</b></p>  <p>Ø8 x 130 mm</p>	<p>This precision, ribbon surface probe utilises flat ribbon technology that ensures a fast, accurate response with minimal heat loss. A right-angled version is also available.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-044</p> <p>123-052 (right-angled)</p>
<p><b>WATERPROOF SURFACE PROBE</b></p>  <p>Ø8 x 130 mm</p>	<p>This waterproof, ribbon surface probe incorporates a moulded mini plug and utilises flat ribbon technology to ensure a fast, accurate response with minimal heat loss.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-046</p> <p>323-046 (coiled lead)</p>
<p><b>SURFACE PROBE</b></p>  <p>Ø6 x 130 mm</p>	<p>This surface probe incorporates a spring-loaded copper disc sensing tip. The probe is ideal for a variety of surface temperature measurements.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -100 to 600 °C</li> </ul>	<p>123-000</p> <p>323-000 (coiled lead)</p>
<p><b>HEAVY DUTY SURFACE PROBE</b></p>  <p>Ø12 x 130 mm</p>	<p>This high temperature surface probe is ideal for measuring the temperature of griddles, hotplates etc. A right-angled version is also available.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -100 to 1000 °C</li> </ul>	<p>123-020*</p> <p>123-028* (right-angled)</p>
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b></p> <p>Ø3.3 x 100 mm</p>	<p>This small handled, stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids. A fast response version with a reduced tip is also available.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-162</p> <p>123-158 (reduced tip)</p>





Please note: for hand held type T thermocouple probes, replace the third digit (3) of the order code with the number 7.  
\*Order codes 123-020 & 123-028 are not available in type T thermocouple

# WATERPROOF TYPE K THERMOCOUPLE PROBES

		Order code
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø3.3 x 130 mm</p>	<p>This stainless steel, waterproof penetration probe is strong, versatile and incorporates a heavy duty handle with a colour-coded end cap. Suitable for liquids and semi-solids.</p> <ul style="list-style-type: none"> <li>● Response time less than 3 seconds</li> <li>● Probe temperature range -75 to 250 °C</li> </ul>	<ul style="list-style-type: none"> <li>● 143-161</li> <li>● 143-162</li> <li>● 143-164</li> <li>● 143-165</li> <li>○ 143-166</li> <li>● 143-167</li> </ul>
<p><b>REDUCED TIP PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø6.35 x 300 mm</p>	<p>This extended, waterproof, stainless steel probe incorporates a reduced tip (Ø4.5 x 25 mm) and heavy duty ribbed handle, ideal for heavy duty applications including food processing, asphalt and other similar materials.</p> <ul style="list-style-type: none"> <li>● Response time less than 7 seconds</li> <li>● Probe temperature range -75 to 250 °C</li> </ul>	143-120
<p><b>BELL SURFACE PROBE</b></p>  <p>Ø19 x 130 mm</p>	<p>These fast response, waterproof heavy duty surface probes utilise a bell-shaped housing with a thin, flat, stainless steel measuring disc that ensures a fast, accurate response. Ideal for measuring a variety of surface temperatures.</p> <ul style="list-style-type: none"> <li>● Response time less than 3 seconds</li> <li>● Probe temperature range -75 to 200 °C</li> </ul>	143-080 (straight) 143-084 (45° angle) 143-086 (90° angle)

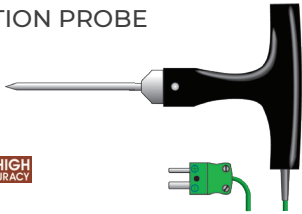
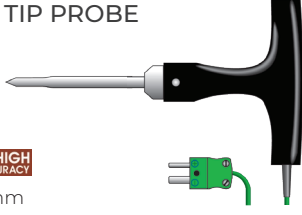
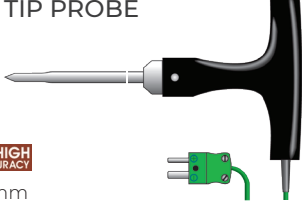
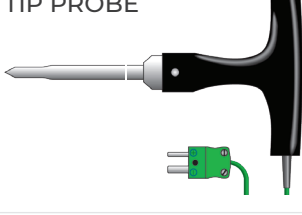
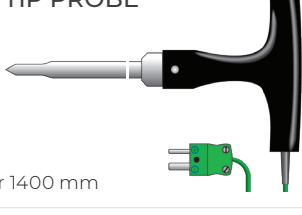
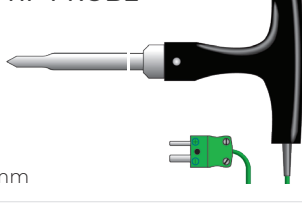
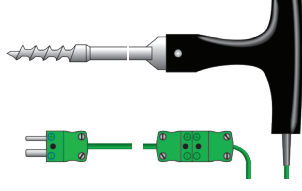
Please note: the above type K thermocouple probes are supplied with a moulded thermocouple connector and are waterproof to IP67 when connected to an instrument

# PLUG-MOUNTED TYPE K THERMOCOUPLE PROBES

		Order code
<p><b>INTERCHANGEABLE PROBE HANDLE</b></p>  <p>Ø25 x 151 mm</p>	<p>This probe handle incorporates a miniature thermocouple socket, to be used in conjunction with our range of plug-mounted probes. Supplied with a one metre coiled PU lead and miniature plug.</p>	323-950
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø3.3 x 120 mm</p>	<p>This stainless steel, penetration probe is strong, versatile and ideal for liquids or semi-solids. A fast response version with reduced tip (Ø1.8 x 25 mm) is also available.</p> <ul style="list-style-type: none"> <li>● Response time less than 2 seconds</li> <li>● Probe temperature range -75 to 250 °C</li> </ul>	133-161 133-153 (reduced tip)
<p><b>AIR OR GAS PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø3.3 x 120 mm</p>	<p>This probe has a perforated stainless steel tip for fast response. Ideal for chill cabinets, fridges, freezers and HVAC units.</p> <ul style="list-style-type: none"> <li>● Response time less than 2 seconds</li> <li>● Probe temperature range -75 to 250 °C</li> </ul>	133-301
<p><b>SURFACE PROBE</b></p>  <p>Ø8 x 120 mm</p>	<p>This stainless steel surface probe uses flat ribbon technology ensuring a fast, accurate response with minimal heat loss. A right-angled version is also available.</p> <ul style="list-style-type: none"> <li>● Response time less than 1 second</li> <li>● Probe temperature range -75 to 250 °C</li> </ul>	133-045 133-046 (right-angled)









Please note: for hand held type T thermocouple probes, replace the third digit (3) of the order code with the number 7

# HEAVY DUTY TYPE K OR T THERMOCOUPLE PROBES

		Order code
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø4 x 100 mm</p>	<p>This robust, stainless steel penetration probe incorporates a T-shaped polypropylene handle and is ideal for a variety of heavy duty applications including food processing and other similar industries.</p> <ul style="list-style-type: none"> <li>• Response time less than 3 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	133-124
<p><b>REDUCED TIP PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø6.35 x 100 mm</p>	<p>This robust, stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø4.5 x 25 mm) for faster response. Ideal for a variety of heavy duty applications including food processing etc.</p> <ul style="list-style-type: none"> <li>• Response time less than 9 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	133-126
<p><b>REDUCED TIP PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø6.35 x 300 mm</p>	<p>This extended robust, stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø4.5 x 25 mm) for faster response. Ideal for a variety of heavy duty applications including food processing etc.</p> <ul style="list-style-type: none"> <li>• Response time less than 9 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	133-120
<p><b>REDUCED TIP PROBE</b></p>  <p>Ø8 x 500 mm</p>	<p>This extended robust, stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response. Ideal for a variety of heavy duty applications including food processing etc.</p> <ul style="list-style-type: none"> <li>• Response time less than 20 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	133-130
<p><b>REDUCED TIP PROBE</b></p>  <p>Ø9.5 x 1000 or 1400 mm</p>	<p>This Ø9.5 mm stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response. Ideal for applications where a longer probe is required, i.e. grain silos.</p> <ul style="list-style-type: none"> <li>• Response time less than 20 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	133-136 (1000 mm) 133-135 (1400 mm)
<p><b>REDUCED TIP PROBE</b></p>  <p>Ø9.5 x 2000 mm</p>	<p>This extended stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response. Ideal for applications where a very long probe is required, i.e. grain silos.</p> <ul style="list-style-type: none"> <li>• Response time less than 20 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	133-133
<p><b>CORKSCREW PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø8 x 100 mm</p>	<p>This stainless steel probe incorporates a heavy duty T-shaped polypropylene handle and a corkscrew design sensing tip. Ideal for industrial and food processing applications. Supplied with a one metre PU detachable lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 9 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	133-175

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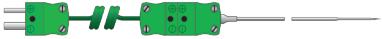


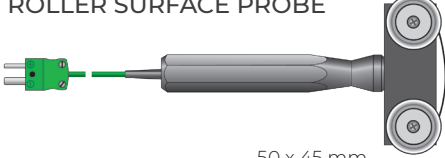

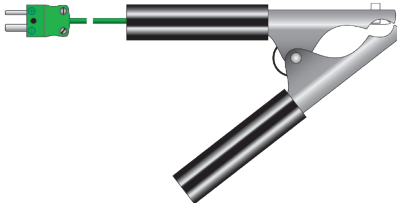
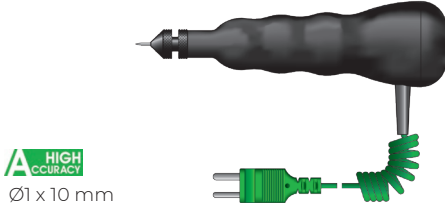
# FAST RESPONSE K OR T THERMOCOUPLE WIRE PROBES

		Order code
<p><b>PTFE WIRE PROBE</b></p>  <p><b>A HIGH ACCURACY A HIGH ACCURACY</b>    Ø1.5 x 1000 or 2000 mm</p>	<p>This PTFE insulated, exposed junction wire probe is suitable for measuring the air temperature in fridges, freezers, ovens etc. Extended probe lengths over two metres are available upon request.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>133-362 (1000 mm)</p> <p>133-363 (2000 mm)</p>
<p><b>HEAVY DUTY PTFE WIRE PROBE</b></p>  <p><b>A HIGH ACCURACY A HIGH ACCURACY</b>    Ø2.4 x 1000 or 2000 mm</p>	<p>This heavy duty, PTFE insulated wire probe is ideal for measuring the air temperature in fridges, freezers, ovens etc. Extended probe lengths over two metres are available upon request.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>133-372 (1000 mm)</p> <p>133-373 (2000 mm)</p>
<p><b>FIBREGLASS WIRE PROBE</b></p>  <p><b>A HIGH ACCURACY A HIGH ACCURACY</b>    Ø1.5 x 1000 or 2000 mm</p>	<p>This fibreglass, exposed junction wire probe is ideal for measuring the air temperature of ovens, hot cupboards and similar appliances. Extended probe lengths over two metres are available upon request.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -60 to 350 °C</li> </ul>	<p>133-382 (1000 mm)</p> <p>133-383 (2000 mm)</p>
<p><b>HIGH TEMPERATURE WIRE PROBE</b></p>  <p><b>A HIGH ACCURACY A HIGH ACCURACY</b>    Ø3 x 1000 or 2000 mm</p>	<p>This high temperature, fibreglass wire probe is insulated with a stainless steel braid and is ideal for ovens, hot cupboards and similar appliances. Supplied with a one or two metre stainless steel braided lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -60 to 600 °C</li> </ul>	<p>133-387 (1000 mm)</p> <p>133-389 (2000 mm)</p>
<p><b>ATTACHMENT PADS</b></p>  <p>12 x 18 mm</p>	<p>These easy to use attachment pads are recommended for attaching small diameter wire thermocouples to surfaces. Supplied in packs of 25.</p> <ul style="list-style-type: none"> <li>• For use over the range of -50 to 200 °C</li> </ul>	<p>600-485</p>
<p><b>PROBE EXTENSION LEAD - STRAIGHT</b></p>  <p>1000 or 2000 mm</p>	<p>This probe extension lead enables the user to connect to any ETI thermocouple type K probe, extending reach up to an additional 1000 or 2000 mm. Supplied with a PVC straight lead with MPK to MSK.</p>	<p>627-732 (1000 mm)</p> <p>627-733 (2000 mm)</p>
<p><b>PROBE EXTENSION LEAD - COILED</b></p>  <p>1000 or 2000 mm</p>	<p>This probe extension lead enables the user to connect to any ETI thermocouple type K probe, extending reach up to an additional 1000 or 2000 mm. Supplied with a PU coiled lead with MPK to MSK.</p>	<p>627-740 (1000 mm)</p> <p>627-741 (2000 mm)</p>
<p><b>MINIATURE PLUG OR SOCKET</b></p>  <p>MPK    MSK</p> <p>16 x 19 mm    16 x 25 mm</p>	<p>Miniature thermocouple plugs and sockets are a must for accurate readings when joining probe cables. The flat pins (plug) and socket are manufactured from compatible thermocouple material and can accommodate wires up to Ø0.5 mm</p>	<p>625-217 (plug)</p> <p>421-501 (socket)</p>

Please note: for type T thermocouple wire probes, replace the third digit (3) of the order code with the number 7








TEMPERATURE PROBES

# SPECIALIST TYPE K OR T THERMOCOUPLE PROBES

		Order code
<p><b>MINIATURE PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø1.4 mm reducing to Ø1 mm tip x 50 mm</p>	<p>This miniature, stainless steel needle probe is supplied with a one or two metre PTFE lead. Ideal for measuring small semi-solid items and sous vide cooking.</p> <ul style="list-style-type: none"> <li>• Response time less than 1 second</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>133-180 (1m lead)</p> <p>133-182 (2m lead)</p>
<p><b>FAST RESPONSE MEAT PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø1 mm tip x 90 mm</p>	<p>This fast response, meat penetration probe is specially designed for measuring burger patties etc. Supplied with a one metre coiled lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>133-150</p>
<p><b>BURGER PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b> Ø4.5 x 45 x 160 mm (6 or 12 mm tip)</p>	<p>This burger probe has been specifically designed for use in fast food kitchens. The 12 mm stainless steel disc ensures the correct insertion depth (6 or 12 mm) every time.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-745 (6 mm tip)</p> <p>123-746 (12 mm tip)</p>
<p><b>MAGNET SURFACE PROBE</b></p>  <p>Ø24 x 28 mm</p>	<p>This magnet probe is supplied with a 500 mm PTFE lead. Ideal for monitoring the surface temperature of ferrous metals, e.g. radiators or hotplates.</p> <ul style="list-style-type: none"> <li>• Response time less than 30 seconds</li> <li>• Probe temperature range -20 to 80 °C</li> </ul>	<p>133-017</p>
<p><b>ROLLER SURFACE PROBE</b></p>  <p>50 x 45 mm</p>	<p>These roller surface probes have either s/steel or PTFE wheels and are designed for measuring moving surfaces. Max. speed 100 m/min.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>123-038 (s/steel)</p> <p>123-036 (PTFE)</p>
<p><b>VELCRO PIPE PROBE</b></p>  <p>20 x 500 mm</p>	<p>This 500 mm wrap-around velcro pipe probe is suitable for both medium and large pipe temperature measurement in the HVAC industry. Supplied with a two metre lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 30 seconds</li> <li>• Probe temperature range -10 to 100 °C</li> </ul>	<p>133-080</p>
<p><b>PIPE CLAMP PROBE</b></p> 	<p>This robust, pipe clamp probe is suitable for measuring the surface temperature of pipes in refrigeration, heating and ventilating systems etc. Simple clamp-on design for simplicity of use, suitable for pipes from Ø6 to Ø30 mm.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -10 to 100 °C</li> </ul>	<p>133-040</p>
<p><b>ADJUSTABLE TYRE PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø1 x 10 mm</p>	<p>This fast response probe has an adjustable depth stop (1 to 10 mm) which the user can manually set. This probe has been specifically designed for measuring tyre temperatures, supplied with a one metre coiled lead and moulded thermocouple connector.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>343-100</p>

Please note: for type T thermocouple wire probes, replace the third digit (3) of the order code with the number 7

# THERMADATA® WIFI LOGGER THERMOCOUPLE PROBES

		Order code
<p><b>GENERAL PURPOSE PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b></p> <p>Ø3.3 x 100 mm</p>	<p>This stainless steel probe is suitable for a wide range of applications. Supplied with a one, three or five metre PTFE insulated lead and connector.</p> <ul style="list-style-type: none"> <li>• Response time less than 5 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	<p>133-158 (1000 mm)</p> <p>133-220 (3000 mm)</p> <p>133-222 (5000 mm)</p>
<p><b>FOOD SIMULANT PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b></p> <p>9 x 100 x 100 mm</p>	<p>This polypropylene simulant probe is designed for use in refrigeration, food storage and chill cabinets. Supplied with a one, three or five metre PTFE insulated lead and connector..</p> <ul style="list-style-type: none"> <li>• Probe temperature range -20 to 100 °C</li> </ul>	<p>133-350 (1000 mm)</p> <p>133-352 (3000 mm)</p> <p>133-354 (5000 mm)</p>
<p><b>Ø4.8MM STANDARD PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b></p> <p>Ø4.8 x 100 mm</p>	<p>This Ø4.8 mm general purpose, stainless steel probe is ideal for a variety of applications. Supplied with a two metre PVC lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 17 seconds</li> <li>• Probe temperature range -50 to 100 °C</li> </ul>	<p>133-453</p>
<p><b>Ø6MM STANDARD PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b></p> <p>Ø6 x 100 mm</p>	<p>This Ø6 mm general purpose, stainless steel probe is ideal for a variety of applications. Supplied with a two metre PVC lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 20 seconds</li> <li>• Probe temperature range -50 to 100 °C</li> </ul>	<p>133-448</p>
<p><b>Ø6.35MM STANDARD AIR PROBE</b></p>  <p><b>A HIGH ACCURACY</b> <b>A HIGH ACCURACY</b></p> <p>Ø6.35 x 150 mm</p>	<p>This Ø6.35 mm stainless steel air or gas probe is ideal for measuring air temperatures in chill cabinets, fridges, freezer, storage areas or similar. Supplied with a two metre PVC lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -50 to 100 °C</li> </ul>	<p>133-499</p>
<p><b>MINERAL INSULATED PROBES</b></p>  <p>Ø1.5 x 180, 500 or 1000 mm</p>	<p>These Ø1.5 mm high temperature MI probes can be bent to any shape without affecting performance. Supplied with a plain pot seal and a two metre PTFE lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -200 to 1100 °C</li> </ul>	<p>133-420 (180 mm)</p> <p>133-421 (500 mm)</p> <p>133-422 (1000 mm)</p>
<p><b>MINERAL INSULATED PROBES</b></p>  <p>Ø3 x 180, 500 or 1000 mm</p>	<p>These Ø3 mm high temperature MI probes can be bent to any shape without affecting performance. Supplied with a plain pot seal and a two metre PTFE lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -200 to 1100 °C</li> </ul>	<p>133-425 (180 mm)</p> <p>133-428 (500 mm)</p> <p>133-429 (1000 mm)</p>

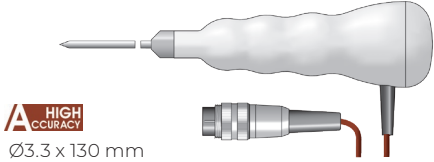
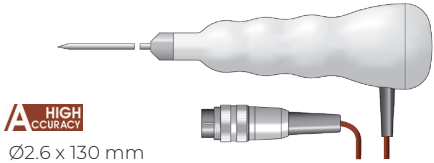
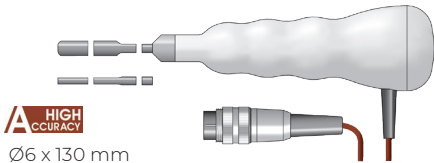
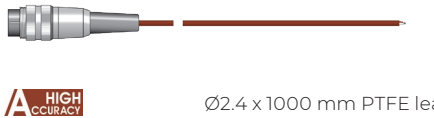
Please note: Longer leads are available for the probes above, please contact our technical sales office for more information

## CUSTOMISED & SPECIAL TEMPERATURE PROBES

ETI manufactures a wide range of fully interchangeable, fast response and special probes to meet most customer requirements but, if the probe you need is not in our catalogue or on our website, ask a member of our sales team and we will do our best to manufacture the probe to your specification. It is vital to choose the correct probe for a specific purpose. If you have any requirements outside the specifications of our current range, please call our sales office on 01903 202151 or email [technical@etild.com](mailto:technical@etild.com)

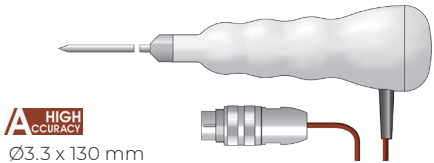



# LUMBERG CONNECTOR TYPE T THERMOCOUPLE PROBES

		Order code
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø3.3 x 130 mm</p>	<p>This stainless steel penetration probe is strong, versatile and incorporates a heavy duty, ribbed, polypropylene handle with a white end cap. Ideal for measuring liquids, semi-solids and granular materials.</p> <ul style="list-style-type: none"> <li>• Response time less than 5 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	177-166
<p><b>FAST RESPONSE PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø2.6 x 130 mm</p>	<p>This stainless steel, fast response, needle penetration probe incorporates a heavy duty ribbed, polypropylene handle. Suitable for liquids and soft semi-solid materials including fish, fruit and other soft or delicate materials.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	177-100
<p><b>RIGID BETWEEN PACK PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø6 x 130 mm</p>	<p>This rigid, stainless steel, between pack probe is strong, versatile and incorporates a heavy duty ribbed, polypropylene handle. The probe has been specifically designed to measure between packs or boxes of produce.</p> <ul style="list-style-type: none"> <li>• Response time less than 3 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	177-060
<p><b>AIR OR GAS WIRE PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø2.4 x 1000 mm PTFE lead</p>	<p>This fast response, air or gas wire probe is ideal for measuring air temperatures in fridges, freezers, chill cabinets and similar. Supplied complete with a one metre PTFE lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	177-372





Please note: the above type T thermocouple probes are suitable for use with the Therna 22 & Therna 22 Plus

# WATERPROOF TYPE T THERMOCOUPLE PROBES

		Order code
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø3.3 x 130 mm</p>	<p>This waterproof, stainless steel, penetration probe with Lumberg connector is strong, versatile and incorporates a heavy duty, ribbed, polypropylene handle with a white end cap. Ideal for measuring liquids, semi-solids and granular materials.</p> <ul style="list-style-type: none"> <li>• Response time less than 5 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	177-266
<p><b>PENETRATION PROBE</b></p>  <p><b>A HIGH ACCURACY</b> Ø3.3 x 100 mm</p>	<p>This waterproof, stainless steel, plug-mounted probe with lumberg connector is strong, versatile and ideal for measuring liquids, semi-solids and granular materials.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -75 to 250 °C</li> </ul>	177-200



Please note: the above type T thermocouple probes (177-266 & 177-200) are suitable for use with the Therna 22 Plus and are waterproof to IP67 when connected to an instrument

# PT100 CLASS A TEMPERATURE PROBES

		Order code
<p><b>PENETRATION PROBE</b></p>  <p>Ø3.3 x 130 mm</p>	<p>This stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids accurately in a variety of applications.</p> <ul style="list-style-type: none"> <li>• Response time less than 6 seconds</li> <li>• Probe temperature range -100 to 200 °C</li> </ul>	160-160
<p><b>AIR OR GAS PROBE</b></p>  <p>Ø3.3 x 130 mm</p>	<p>This stainless steel air or gas probe is ideal for measuring air or gas temperatures accurately in rooms and ducts in HVAC and industrial applications.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -100 to 200 °C</li> </ul>	160-300
<p><b>LIQUID PROBE</b></p>  <p>Ø3.3 x 130 mm</p>	<p>This liquid probe features a rigid, stainless steel stem with a flat tip. The probe is suitable for accurate temperature measurement in a wide variety of laboratory applications.</p> <ul style="list-style-type: none"> <li>• Response time less than 6 seconds</li> <li>• Probe temperature range -100 to 200 °C</li> </ul>	160-220
<p><b>AIR OR GAS WIRE PROBE</b></p>  <p>Ø3.7 x 30 mm with 1000 mm FEP lead</p>	<p>This FEP insulated air or gas wire probe is ideal for measuring air or gas temperatures accurately in a variety of HVAC and industrial applications.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -100 to 200 °C</li> </ul>	160-372

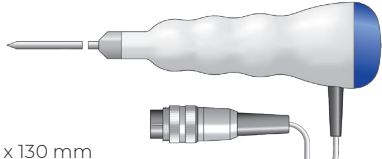
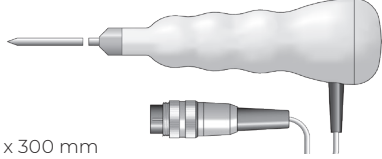
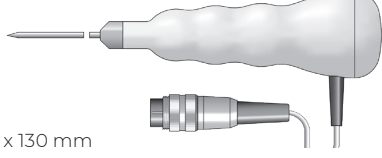
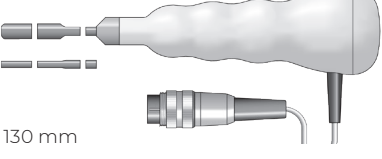
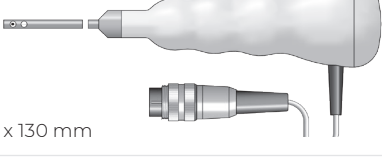
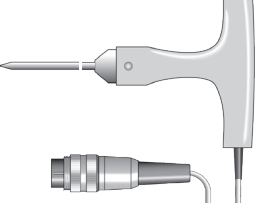
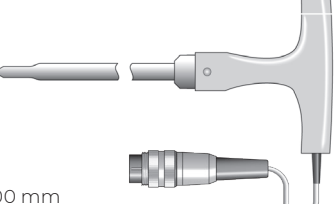
Please note: the above PT100 Class A probes are suitable for use with the Precision 0.1 °C thermometer

# PT100 1/10<sup>TH</sup> DIN TEMPERATURE PROBES

		Order code
<p><b>LIQUID PROBE</b></p>  <p>Ø3.3 x 130 mm</p>	<p>This hand held liquid probe features a rigid, stainless steel stem with a flat tip. Suitable for high accuracy temperature measurement in a wide variety of laboratory applications.</p> <ul style="list-style-type: none"> <li>• Response time less than 8 seconds</li> <li>• Probe temperature range -200 to 200 °C</li> </ul>	160-222
<p><b>LIQUID PROBE</b></p>  <p>Ø4.8 x 250 mm with 2000 mm PTFE lead</p>	<p>This liquid probe features a rigid, stainless steel stem with a flat tip. Suitable for high accuracy temperature measurement in a wide variety of laboratory applications.</p> <ul style="list-style-type: none"> <li>• Response time less than 14 seconds</li> <li>• Probe temperature range -200 to 200 °C</li> </ul>	160-446

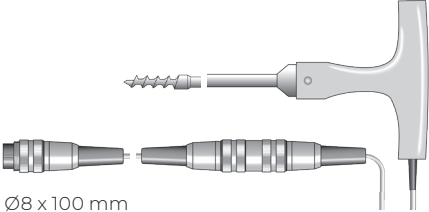



Please note: accuracy of the above PT100 1/10<sup>th</sup> DIN probes is ±0.03 °C ±0.1 % of reading between -100 °C to 200 °C otherwise ±0.2 % of reading. The above probes are suitable for use with the Precision Plus 0.01 °C thermometer

# NTC THERMISTOR PROBES WITH LUMBERG CONNECTOR

		Order code
<p><b>PENETRATION PROBE</b></p>  <p>Ø3.3 x 130 mm</p>	<p>This stainless steel penetration probe is strong, versatile and incorporates a heavy duty, ribbed, polypropylene handle with a colour-coded end cap. Ideal for measuring liquids, semi-solids and granular materials.</p> <ul style="list-style-type: none"> <li>● Response time less than 5 seconds</li> <li>● Probe temperature range -40 to 150 °C</li> </ul>	<ul style="list-style-type: none"> <li>● 174-161</li> <li>● 174-162</li> <li>● 174-164</li> <li>● 174-165</li> <li>● 174-166</li> <li>● 174-167</li> </ul>
<p><b>PENETRATION PROBE</b></p>  <p>Ø3.3 x 300 mm</p>	<p>This extended, stainless steel penetration probe is strong, versatile and incorporates a heavy duty, ribbed, polypropylene handle with a white end cap. Ideal for measuring liquids, semi-solids and granular materials.</p> <ul style="list-style-type: none"> <li>● Response time less than 5 seconds</li> <li>● Probe temperature range -40 to 150 °C</li> </ul>	174-168
<p><b>FAST RESPONSE PROBE</b></p>  <p>Ø2.6 x 130 mm</p>	<p>This stainless steel, fast response, needle penetration probe incorporates a heavy duty ribbed, polypropylene handle. The probe is suitable for liquids and soft semi-solids including fish, fruit and other delicate materials.</p> <ul style="list-style-type: none"> <li>● Response time less than 4 seconds</li> <li>● Probe temperature range -40 to 150 °C</li> </ul>	174-100
<p><b>RIGID BETWEEN PACK PROBE</b></p>  <p>Ø6 x 130 mm</p>	<p>This rigid, stainless steel between pack probe is strong, versatile and incorporates a heavy duty ribbed, polypropylene handle. The probe has been specifically designed to measure between packs or boxes of produce.</p> <ul style="list-style-type: none"> <li>● Response time less than 3 seconds</li> <li>● Probe temperature range -40 to 150 °C</li> </ul>	174-060
<p><b>AIR OR GAS PROBE</b></p>  <p>Ø3.3 x 130 mm</p>	<p>This stainless steel, fast response air or gas probe incorporates a heavy duty ribbed, polypropylene handle. The probe is ideal for measuring air temperature in refrigeration units, storage areas and other similar applications.</p> <ul style="list-style-type: none"> <li>● Response time less than 2 seconds</li> <li>● Probe temperature range -40 to 150 °C</li> </ul>	174-300
<p><b>PENETRATION PROBE</b></p>  <p>Ø4 x 100 mm</p>	<p>This robust, stainless steel penetration probe incorporates a heavy duty, T-shaped polypropylene handle. The strong, durable probe is suitable for a wide variety of heavy duty, general purpose industrial or food processing applications.</p> <ul style="list-style-type: none"> <li>● Response time less than 4 seconds</li> <li>● Probe temperature range -40 to 150 °C</li> </ul>	170-169
<p><b>REDUCED TIP PROBE</b></p>  <p>Ø9.5 x 1000 mm</p>	<p>This extended, robust Ø9.5 mm stainless steel reinforced probe incorporates a heavy duty, T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response. Ideal for a wide variety of heavy duty, general purpose industrial or food processing applications.</p> <ul style="list-style-type: none"> <li>● Response time less than 15 seconds</li> <li>● Probe temperature range -40 to 150 °C</li> </ul>	170-136

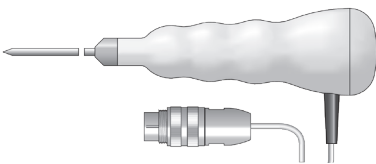

Please note: the above NTC thermistor probes are suitable for use with the Therma 20, 22, 20 Plus, 22 Plus & 8100 Plus

# NTC THERMISTOR PROBES WITH LUMBERG CONNECTOR

		Order code
<p><b>CORKSCREW PROBE</b></p>  <p>Ø8 x 100 mm</p>	<p>This frozen food probe incorporates a heavy duty T-shaped, polypropylene handle and a corkscrew design sensing tip. Ideal for measuring deep frozen foods or other frozen materials. Supplied with a one metre PVC detachable lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 9 seconds</li> <li>• Probe temperature range -40 to 150 °C</li> </ul>	170-175
<p><b>FOOD SIMULANT PROBE</b></p>  <p>9 x 100 x 100 mm</p>	<p>This polypropylene probe is designed for use in food storage, chill cabinets and refrigeration where simulation of food temperature is required. The probe incorporates a one metre PUR /PVC lead and compatible Lumberg connector.</p> <ul style="list-style-type: none"> <li>• Probe temperature range -20 to 100 °C</li> </ul>	170-350
<p><b>AIR OR GAS WIRE PROBE</b></p>  <p>Ø3.7 x 30 mm with 1000 mm FEP lead</p>	<p>This fast response, air or gas wire probe is ideal for measuring air temperature in chill cabinets, fridges, freezers, offices, storage areas and similar. Supplied with a one metre FEP lead.</p> <ul style="list-style-type: none"> <li>• Response time less than 2 seconds</li> <li>• Probe temperature range -40 to 150 °C</li> </ul>	170-372
<p><b>FOIL BETWEEN PACK PROBE</b></p>  <p>40 x 50 mm with 1000 mm FEP lead</p>	<p>This easy to use, flexible, fast response, foil between pack probe has been designed to measure between packs or boxes of produce in a variety of applications.</p> <ul style="list-style-type: none"> <li>• Response time less than 3 seconds</li> <li>• Probe temperature range 0 to 100 °C</li> </ul>	170-090

Please note: the above NTC thermistor probes are suitable for use with the Therma 20, 22, 20 Plus, 22 Plus & 8100 Plus

# WATERPROOF NTC THERMISTOR PROBES

		Order code
<p><b>PENETRATION PROBE</b></p>  <p>Ø3.3 x 130 mm</p>	<p>This waterproof, stainless steel penetration probe with Lumberg connector is versatile, strong and incorporates a heavy duty, ribbed, polypropylene handle with a white end cap. Ideal for measuring liquids, semi-solids and granular materials.</p> <ul style="list-style-type: none"> <li>• Response time less than 5 seconds</li> <li>• Probe temperature range -40 to 150 °C</li> </ul>	174-266
<p><b>PENETRATION PROBE</b></p>  <p>Ø3.3 x 100 mm</p>	<p>This waterproof, stainless steel plug-mounted penetration probe with Lumberg connector is versatile and strong. Ideal for measuring liquids, semi-solids and granular materials in a wide variety of applications.</p> <ul style="list-style-type: none"> <li>• Response time less than 4 seconds</li> <li>• Probe temperature range -40 to 150 °C</li> </ul>	172-000

Please note: the above NTC thermistor probes (174-266 & 172-000) are suitable for use with the Therma 20 Plus, 22 Plus & 8100 Plus and are waterproof to IP67 when connected to an instrument