



Temperature Probes

Thermocouple, PT100 (RTD) & Thermistor



Thermometers are only part of the system; of equal importance is the design of the temperature probes used to physically measure the item. ETI manufactures an extensive range of type K or T thermocouple probes, PT100 (RTD) probes and thermistor probes to complement our range of portable, hand held thermometers and data-loggers.

response times

The response time is the time taken for the sensor to reach 66.6 % of the final reading and is the industry 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

As standard and where appropriate, each probe is supplied with either a hexagonal, T-shaped or ribbed heavy duty handle.

Hexagonal handle is manufactured from Triax (ABS/nylon blend) and available in black. Maximum temperature is 105 °C.



T-shaped handle is manufactured from polypropylene and available in blue or white. Maximum temperature is 85 °C.



Ribbed heavy duty handle (with colour-coded caps) is manufactured from polypropylene and available in blue or white. Maximum temperature is 85 °C.



Biomaster - both the hexagonal and ribbed handles contain Biomaster anti-bacterial additive, as standard.

lead types










PVC straight lead is a general purpose lead and available in lengths up to 100 metres. As standard and where appropriate, each probe is supplied with a one metre straight PVC lead and a connector. As an alternative, a one metre coiled PU lead is available for the standard, hand held, type K or T thermocouple probes, replace the first digit (1) of the order code with the number 3. Maximum temperature for both PVC and PU is 80 °C.

applications

Applications quoted are typical for the specific probe, although there are many alternative uses for which the probe could be equally suitable. For advice on a specific probe for a particular application, please contact the ETI technical sales team. Where requirements cannot be met from the existing standard range of probes, alternative designs can be manufactured.

Hand Held Temperature Probes



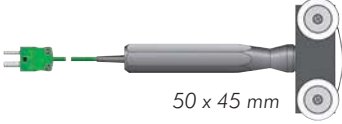
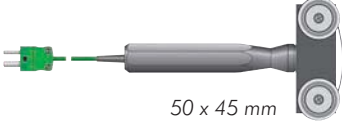

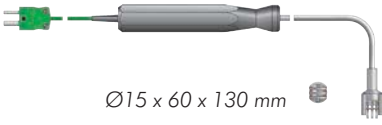



thermocouple type K or T

		t/c	order code
<p>penetration probe</p>  <p>Ø3.3 x 130 mm</p>	<p>This stainless steel penetration probe is strong and versatile. Ideal for measuring a wide variety of applications including liquids and semi-solids. Response time less than three seconds. Maximum probe temperature 250 °C.</p>	<p>K T</p>	<p>123-160 127-160</p>
<p>penetration probe</p>  <p>Ø3.3 x 300 mm</p>	<p>This extended, stainless steel, penetration probe is versatile. Ideal for measuring a wide variety of applications including liquids and semi-solids. Response time less than three seconds. Maximum probe temperature 250 °C.</p>	<p>K T</p>	<p>123-168 127-168</p>
<p>fast response probe</p>  <p>Ø3.3 x 100 mm</p>	<p>This reduced tip, fast response, stainless steel, penetration probe is ideal for liquids or semi-solids i.e. delicate foods, soft rubber and other similar materials. Response time less than two seconds. Maximum probe temperature 250 °C.</p>	<p>K T</p>	<p>123-159 127-159</p>
<p>needle penetration probe</p>  <p>Ø1.8 x 130 mm</p>	<p>This fast response, stainless steel, needle penetration probe is suitable for liquids and semi-solids including delicate foods, soft rubber/plastic etc. Response time less than two seconds. Maximum probe temperature 250 °C.</p>	<p>K T</p>	<p>123-100 127-100</p>
<p>PTFE handle probe</p>  <p>Ø3.3 x 130 mm</p>	<p>This high temperature penetration probe incorporates a PTFE handle and a two metre PTFE lead, making it ideal for ovens and similar applications. Response time less than three seconds. Maximum probe and handle temperature 250 °C.</p>	<p>K</p>	<p>133-162</p>
<p>weighted griddle probe</p>  <p>Ø40 x 80 mm</p>	<p>This weighted griddle surface probe utilises flat ribbon thermocouple technology ensuring a fast response with minimal heat loss. Response time less than two seconds. Maximum probe temperature 250 °C.</p>	<p>K</p>	<p>133-018</p>
<p>rigid between pack probe</p>  <p>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. Response time less than three seconds. Maximum probe temperature 250 °C.</p>	<p>K T</p>	<p>123-060 127-060</p>
<p>high temperature probe</p>  <p>Ø1.5 x 130 mm</p>	<p>This flexible MI probe can be bent to any shape without affecting its performance. Ideal for measuring high temperatures, i.e. fryers/furnaces. Response time less than two seconds. Maximum probe temperature 1100 °C (type K).</p>	<p>K T</p>	<p>123-204 127-204</p>
<p>high temperature probe</p>  <p>Ø3 x 130 mm</p>	<p>This flexible MI probe can be bent to any shape without affecting its performance. Ideal for measuring high temperatures, i.e. fryers/furnaces. Response time less than two seconds. Maximum probe temperature 1100 °C (type K).</p>	<p>K T</p>	<p>123-212 127-212</p>



Hand Held Temperature Probes

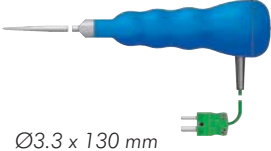
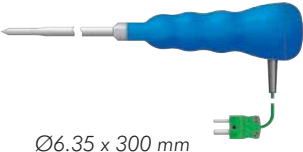
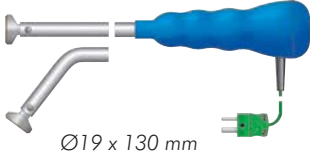
thermocouple type K or T

	t/c	order code	
<p>Binder probe</p>  <p>Ø3 x 130 mm</p>	K T	123-240 127-240	
<p>air or gas probe</p>  <p>Ø4.5 x 130 mm</p>	K T	123-300 127-300	
<p>PTFE roller surface probe</p>  <p>50 x 45 mm</p>	K	123-036	
<p>roller surface probe</p>  <p>50 x 45 mm</p>	K	123-038	
<p>ribbon surface probe</p>  <p>Ø15 x 130 mm</p>	K	123-030	
<p>ribbon surface probe</p>  <p>Ø15 x 60 x 130 mm</p>	K	123-032	
<p>ribbon surface probe</p>  <p>Ø8 x 130 mm</p>	K T	123-044 127-044	
<p>surface probe</p>  <p>Ø6 x 130 mm</p>	K	123-000	
<p>heavy duty surface probe</p>  <p>Ø12 x 130 mm</p>	K	123-020	






Heavy Duty Temperature Probes

thermocouple type K with colour coded end caps

	cap	order code	
<p>penetration probe</p>  <p>Ø3.3 x 130 mm</p>	<ul style="list-style-type: none"> ● 143-162 ● 143-163 ● 143-164 ● 143-165 ● 143-166 ● 143-167 		
<p>penetration probe</p>  <p>Ø6.35 x 300 mm</p>	<ul style="list-style-type: none"> ● 143-120 		
<p>bell surface probe</p>  <p>Ø19 x 130 mm</p>	<ul style="list-style-type: none"> ● 143-080 (straight) ● 143-084 (45° angle) ● 143-086 (90° angle) 		

Small Handled Temperature Probes

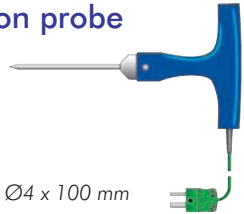
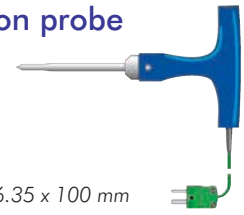
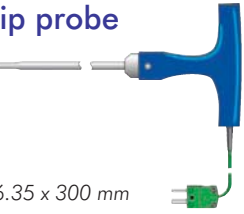
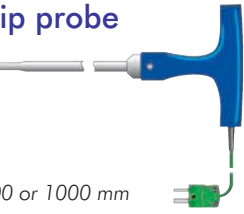
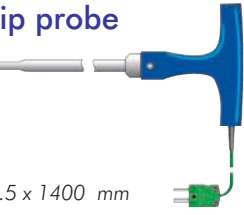
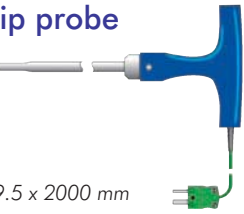
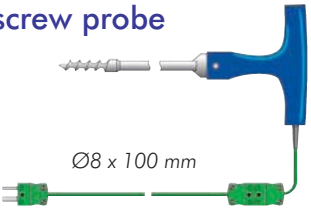
thermocouple type K

	t/c	order code	
<p>penetration probe</p>  <p>Ø3.3 x 100 mm</p>	K	123-162	
<p>fast-response probe</p>  <p>Ø3.3 x 100 mm</p>	K	123-158	
<p>needle penetration probe</p>  <p>Ø1.8 x 100 mm</p>	K	123-101	



Heavy Duty Temperature Probes








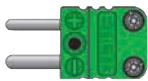

thermocouple type K or T

	t/c	order code	
<p>penetration probe</p>  <p>Ø4 x 100 mm</p>	K T	133-124 137-124	
<p>penetration probe</p>  <p>Ø6.35 x 100 mm</p>	K T	133-126 137-126	
<p>reduced tip probe</p>  <p>Ø6.35 x 300 mm</p>	K T	133-120 137-120	
<p>reduced tip probe</p>  <p>Ø8 x 500 or 1000 mm</p>	K K	133-130 (500 mm) 133-136 (1000 mm)	
<p>reduced tip probe</p>  <p>Ø9.5 x 1400 mm</p>	K	133-135	
<p>reduced tip probe</p>  <p>Ø9.5 x 2000 mm</p>	K	133-133	
<p>corkscrew probe</p>  <p>Ø8 x 100 mm</p>	K T	133-175 137-175	



Fast Response Temperature Probes





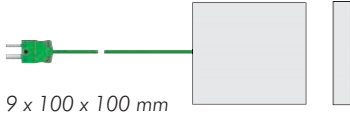


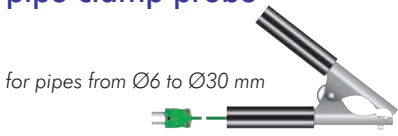
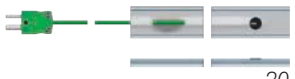
exposed junction wire thermocouples

		t/c	order code	
PTFE wire probe  Ø1.5 x 1000 mm	This PTFE insulated exposed junction wire probe is suitable for measuring the air temperature in fridges, freezers, ovens etc. Response time less than 0.5 of a second. Maximum probe temperature 250 °C.	K T	133-362 137-362	
PTFE wire probe  Ø1.5 x 2000 mm	This PTFE insulated exposed junction wire probe is suitable for measuring the air temperature in fridges, freezers, ovens etc. Response time less than 0.5 of a second. Maximum probe temperature 250 °C.	K T	133-363 137-363	
heavy duty PTFE wire probe  Ø2.4 x 1000 mm	This heavy duty PTFE insulated wire probe is ideal for measuring the air temperature in a range of appliances, such as fridges and freezers. Response time less than 0.5 of a second. Maximum probe temperature 250 °C.	K T	133-372 137-372	
heavy duty PTFE wire probe  Ø2.4 x 2000 mm	This heavy duty PTFE insulated wire probe is ideal for measuring the air temperature in a range of appliances, such as fridges and freezers. Response time less than 0.5 of a second. Maximum probe temperature 250 °C.	K T	133-373 137-373	
fibreglass wire probe  Ø1.5 x 1000 mm	This fibreglass exposed junction wire probe is ideal for measuring the air temperature of ovens, hot cupboards and similar appliances. Response time less than 0.5 of a second. Maximum probe temperature 350 °C.	K T	133-382 137-382	
fibreglass wire probe  Ø1.5 x 2000 mm	This fibreglass exposed junction wire probe is ideal for measuring the air temperature of ovens, hot cupboards and similar appliances. Response time less than 0.5 of a second. Maximum probe temperature 350 °C.	K T	133-383 137-383	
attachment pads  12 x 18 mm	These easy to use attachment pads are supplied in packs of 25. The pads are recommended for attaching small diameter wire thermocouples to surfaces. These PTFE pads operate in the range of -50 to 200 °C.	n/a	600-485	
miniature plug  16 x 19 mm	Miniature thermocouple plugs are a must for accurate readings when joining probe cables. The flat pins are manufactured from compatible thermocouple material and can accommodate wires up to Ø0.5 mm.	K T	625-217 625-221	
miniature socket  16 x 25 mm	Miniature thermocouple sockets are a must for accurate readings when joining probe cables. The socket incorporates compatible thermocouple material and can accommodate wires up to Ø0.5 mm.	K T	421-501 421-503	



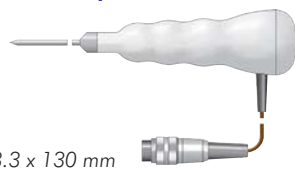
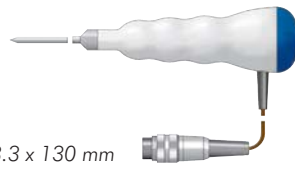
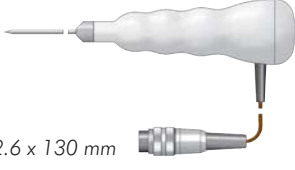
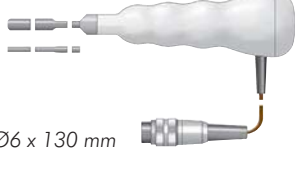
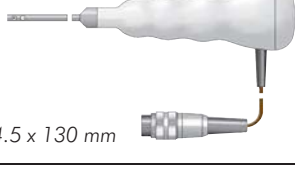


Special Temperature Probes

thermocouple type K or T

	t/c	order code	
<p>miniature needle probe</p>  <p>Ø1.4 reducing to Ø1 mm tip x 50 mm</p>	K T	133-180 137-180	
<p>oven probe</p>  <p>Ø3.3 x 130 mm</p>	K K	133-170 133-173 (no handle)	
<p>fast response meat probe</p>  <p>Ø1 mm tip x 90 mm</p>	K T	133-150 137-150	
<p>Sous-Vide needle probe</p>  <p>Ø1.4 reducing to Ø1 mm x 60 or 120 mm</p>	K K	133-109 (60 mm) 133-110 (120 mm)	
<p>food simulant probe</p>  <p>9 x 100 x 100 mm</p>	K T	133-350 137-350	
<p>black ball probe</p>  <p>Ø50 mm</p>	K T	133-475 137-475	
<p>magnet surface probe</p>  <p>Ø24 x 28 mm</p>	K T	133-017 137-017	
<p>pipe clamp probe</p>  <p>for pipes from Ø6 to Ø30 mm</p>	K T	133-040 137-040	
<p>velcro pipe probe</p>  <p>20 x 500 mm</p>	K T	133-080 137-080	

Therma 22 Thermometer Probes






thermocouple type T probes with Lumberg connectors

		order code	
<p>penetration probe</p>  <p>Ø3.3 x 130 mm</p>	<p>This stainless steel penetration probe is versatile and strong and incorporates a heavy duty, ribbed, polypropylene handle with a white end cap. Ideal for many temperature measurement applications including liquids, semi-solids and granular materials. Response time less than three seconds. Maximum probe temperature 250 °C.</p>	177-166	
<p>penetration probe</p>  <p>Ø3.3 x 130 mm</p>	<p>The above penetration probe is also available with colour-coded end caps. Maximum probe temperature 250 °C.</p> <ul style="list-style-type: none"> ● blue cap ● brown cap ● green cap ● red cap ● yellow cap 	177-162 177-163 177-164 177-165 177-167	
<p>fast response probe</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-solid materials including fish, fruit and other soft or delicate materials. Response time less than one second. Maximum probe temperature 250 °C.</p>	177-100	
<p>rigid between pack probe</p>  <p>Ø6 x 130 mm</p>	<p>This rigid, stainless steel, between pack probe is strong and versatile. The probe incorporates a heavy duty ribbed, polypropylene handle. The probe has been specifically designed to measure between packs or boxes of produce. Response time less than three seconds. Maximum probe temperature 250 °C.</p>	177-060	
<p>air or gas probe</p>  <p>Ø4.5 x 130 mm</p>	<p>This stainless steel, fast response, hand held air or gas probe incorporates a heavy duty ribbed, polypropylene handle. The probe is ideal for measuring air temperatures in refrigeration units, storage areas and other similar applications. Response time less than two seconds. Maximum probe temperature 250 °C.</p>	177-300	
<p>air or gas wire probe</p>  <p>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. The probe is supplied complete with a one metre PTFE lead. Response time less than 0.5 seconds. Maximum probe temperature 250 °C.</p>	177-372	
<p>foil between pack probe</p>  <p>40 x 50 mm with 1000 mm PTFE lead</p>	<p>This easy to use, fast response, foil between pack probe is flexible and has been designed to measure between packs or boxes of produce in a variety of applications. The probe is supplied with a one metre PTFE lead. Response time less than two seconds. Maximum probe temperature 250 °C.</p>	177-090	





PT100 Class A Temperature Probes

for use with the Precision 0.1 °C thermometer

		order code	
<p>penetration probe</p>  <p>Ø3.3 x 130 mm</p>	<p>This stainless steel penetration probe is strong and versatile, ideal for measuring accurately liquids and semi-solids in a variety of applications. Response time less than four seconds. Maximum probe temperature 200 °C.</p>	160-160	
<p>air or gas probe</p>  <p>Ø4.5 x 130 mm</p>	<p>This stainless steel air or gas probe is ideal for measuring accurately air or gas temperatures in rooms and ducts in HVAC and industrial applications. Response time less than four seconds. Maximum probe temperature 200 °C.</p>	160-300	
<p>between pack probe</p>  <p>Ø6 x 130 mm</p>	<p>This heavy duty, stainless steel, between pack probe is strong and versatile, designed to accurately measure between packets/boxes of produce. Response time less than 14 seconds. Maximum probe temperature 200 °C.</p>	160-060	
<p>liquid probe</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 measuring the temperature accurately in a wide variety of laboratory applications. Response time less than four seconds. Maximum probe temperature 200 °C.</p>	160-220	
<p>air or gas wire probe</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. Response time less than four seconds. Maximum probe temperature 200 °C.</p>	160-372	








PT100 1/10 DIN Temperature Probes

for use with the Precision Plus 0.01 °C thermometer

		order code	
<p>liquid probe</p>  <p>Ø3.3 x 130 mm</p>	<p>This hand held liquid probe features a rigid, stainless steel stem with a flat tip. The probe is suitable for high accuracy temperature measurement in a wide variety of laboratory applications. Response time less than four seconds. Maximum probe temperature 200 °C.</p>	160-222	
<p>liquid probe</p>  <p>Ø4.8 x 250 mm with 2 m PTFE lead</p>	<p>This liquid probe features a rigid, stainless steel stem with a flat tip. The probe is suitable for high accuracy temperature measurement in a wide variety of laboratory applications. Response time less than ten seconds. Maximum probe temperature 200 °C.</p>	160-446	

NTC Thermistor Temperature Probes

for use with ThermaData™ loggers

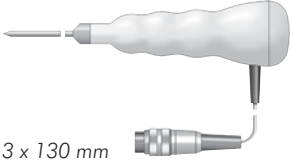

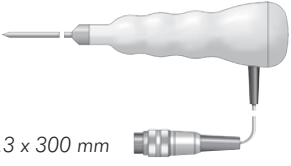
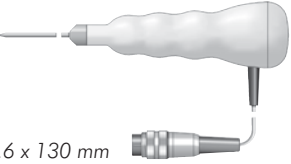
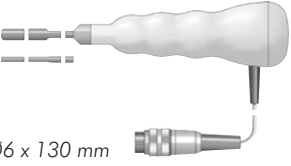
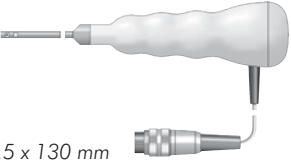
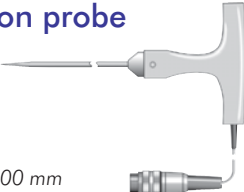
		order code
<p>general purpose probe</p>  <p>Ø3.3 x 100 mm</p>	<p>This general purpose, stainless steel, penetration probe is suitable for a wide range of remote monitoring applications. Supplied with a one metre PUR/PVC lead and compatible three-pin Binder connector. Response time less than two seconds. Maximum probe temperature 125 °C.</p>	172-011
<p>general purpose probe</p>  <p>Ø3.3 x 300 mm</p>	<p>This 300 mm long general purpose, stainless steel penetration probe is suitable for a wide variety of remote monitoring applications. Supplied with a one metre PUR/PVC lead and compatible three-pin Binder connector. Response time less than two seconds. Maximum probe temperature 125 °C.</p>	172-168
<p>air or gas probe</p>  <p>Ø3.7 x 30 mm with 1000 mm lead</p>	<p>This stainless steel air probe is ideal for measuring air temperature in chill cabinets, fridges/freezers, offices, storage areas etc. The probe incorporates a one metre PUR/PVC lead and compatible three-pin Binder connector. Response time less than one second. Maximum probe temperature 125 °C.</p>	172-372
<p>surface patch probe</p>  <p>8 x 21 x 26 mm</p>	<p>This self-adhesive surface patch probe is ideal for measuring the temperature of pipes, radiators and flat surfaces. The probe incorporates a one metre PUR/PVC lead and compatible three-pin Binder connector. Response time less than four seconds. Maximum probe temperature 100 °C.</p>	172-070
<p>foil between pack probe</p>  <p>40 x 50 mm with 1000 mm PTFE lead</p>	<p>This flexible fast response foil between pack probe has been designed to measure between packs or boxes of produce. Supplied with a one metre PUR/PVC lead and compatible three-pin Binder connector. Response time less than three seconds. Maximum probe temperature 100 °C.</p>	172-090
<p>food simulant probe</p>  <p>9 x 100 x 100 mm</p>	<p>This polypropylene food simulant probe is designed for use in food storage and refrigeration. The probe simulates the temperature of foods in chill cabinets and similar appliances. The probe incorporates a one metre PUR/PVC lead and compatible three-pin Binder connector. Maximum probe temperature 100 °C.</p>	172-350
<p>logger extension lead</p>  <p>150 mm PVC lead</p>	<p>This logger extension lead enables a user to connect any ETI NTC thermistor probe, fitted with a Lumberg connector to a ThermaData logger. The extension lead can be extended up to a maximum of two metres without adversely affecting the readings or accuracy. Maximum probe temperature 100 °C.</p>	172-015

Please note: the maximum temperatures quoted are probe tip temperatures. The maximum PUR/PVC lead temperatures are 80 °C.



Therma 20/22 Thermometer Probes

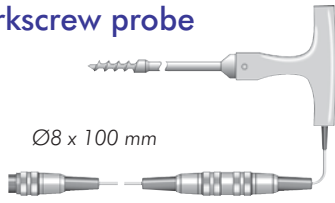
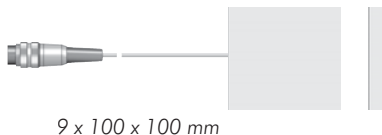
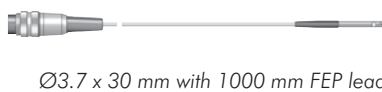
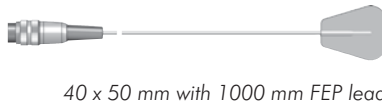

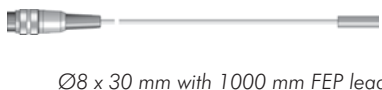
NTC thermistor probes with lumberg connectors

		order code
<p>penetration probe</p>  <p>Ø3.3 x 130 mm</p>	<p>This stainless steel penetration probe is versatile and strong and incorporates a heavy duty, ribbed, polypropylene handle with a white end cap. Ideal for many temperature measurement applications including liquids, semi-solids and granular materials. Response time less than two seconds. Maximum probe temperature 150 °C.</p>	174-166
<p>penetration probe</p>  <p>Ø3.3 x 130 mm</p>	<p>The above penetration probe is also available with colour-coded end caps. Maximum probe temperature 150 °C.</p> <ul style="list-style-type: none"> ● blue cap ● brown cap ● green cap ● red cap ● yellow cap 	174-162 174-163 174-164 174-165 174-167
<p>penetration probe</p>  <p>Ø3.3 x 300 mm</p>	<p>This stainless steel penetration probe is 300 mm long, is both versatile and strong and incorporates a heavy duty, ribbed, polypropylene handle with a white end cap. Ideal for many temperature measurement applications including liquids, semi-solids and granular materials. Response time less than two seconds. Maximum probe temperature 150 °C.</p>	174-168
<p>fast response probe</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-solid materials including fish, fruit and other soft or delicate materials. Response time less than one second. Maximum probe temperature 150 °C.</p>	174-100
<p>rigid between pack probe</p>  <p>Ø6 x 130 mm</p>	<p>This rigid, stainless steel, between pack probe is strong and versatile. The probe incorporates a heavy duty ribbed, polypropylene handle. The probe has been specifically designed to measure between packs or boxes of produce. Response time less than three seconds. Maximum probe temperature 150 °C.</p>	174-060
<p>air or gas probe</p>  <p>Ø4.5 x 130 mm</p>	<p>This stainless steel, fast response, hand held air or gas probe incorporates a heavy duty ribbed, polypropylene handle. The probe is ideal for measuring air temperatures in refrigeration units, storage areas and other similar applications. Response time less than two seconds. Maximum probe temperature 150 °C.</p>	174-300
<p>penetration probe</p>  <p>Ø4 x 100 mm</p>	<p>This robust, stainless steel, penetration probe incorporates a heavy duty, T-shaped polypropylene handle. The strong and durable probe is suitable for a wide variety of heavy duty, general purpose industrial or food processing applications. Response time less than five seconds. Maximum probe temperature 150 °C.</p>	170-169



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	order code
<p>corkscrew probe</p>  <p>Ø8 x 100 mm</p>	170-175
<p>food simulant probe</p>  <p>9 x 100 x 100 mm</p>	170-350
<p>air or gas wire probe</p>  <p>Ø3.7 x 30 mm with 1000 mm FEP lead</p>	170-372
<p>foil between pack probe</p>  <p>40 x 50 mm with 1000 mm FEP lead</p>	170-090
<p>penetration probe</p>  <p>Ø3.3 x 130 mm</p>	172-000
<p>damped air probe</p>  <p>Ø8 x 30 mm with 1000 mm FEP lead</p>	172-006



Customised & Special temperature probes

ETI manufactures a wide range of fully interchangeable, fast response and special probes to meet most customers requirements but, if the probe you need is not in our catalogue, ask 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, e.g. a probe designed to measure asphalt (heavy duty needle probe), would not be suitable for measuring a fridge or freezer temperature (air probe).

If you have any requirements outside the specifications in the catalogue, ring the sales office on 022 27666033 and ask for a quotation, alternatively you could e-mail or fax your drawings.

