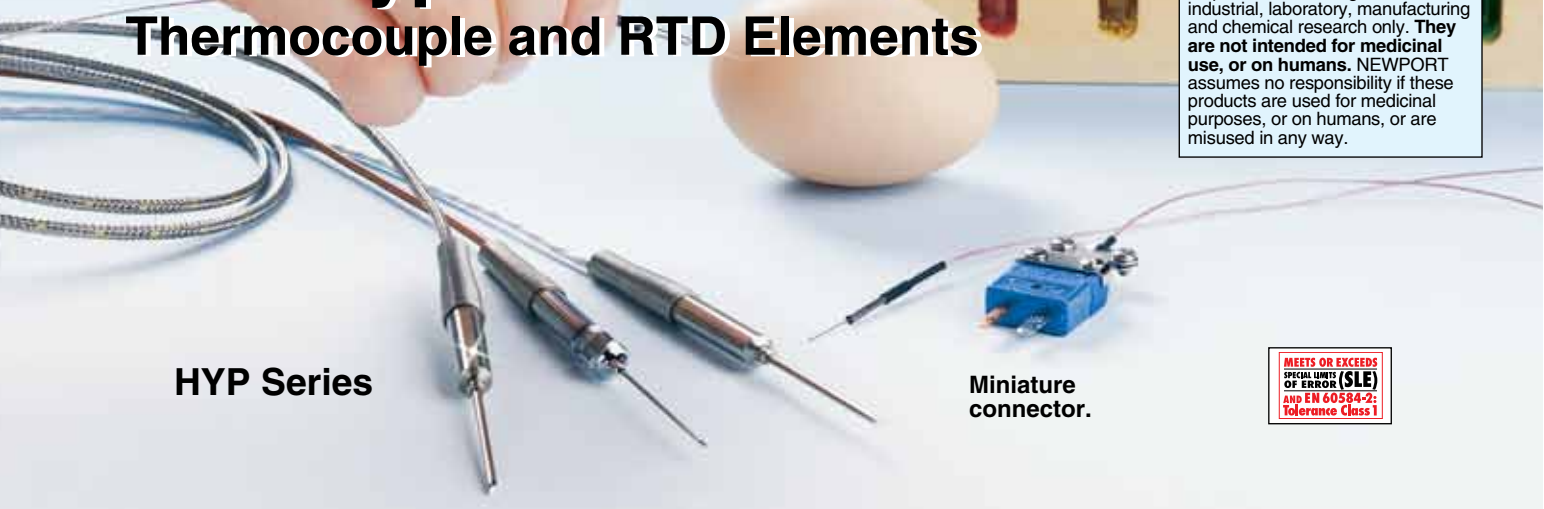


Hypodermic and Mini Hypodermic Probes

Thermocouple and RTD Elements

All probes were designed for industrial, laboratory, manufacturing and chemical research only. **They are not intended for medicinal use, or on humans.** NEWPORT assumes no responsibility if these products are used for medicinal purposes, or on humans, or are misused in any way.



HYP Series

Miniature connector.

MEETS OR EXCEEDS SPECIAL LIMITS OF ERROR (SLE) AND EN 60584-2: Tolerance Class 1

Hypodermic Needle Temperature Probes are designed for industrial, laboratory, manufacturing and chemical research applications. Five probe types are available, with diameters from 0.2 to 1.65 mm (0.008 to 0.065"). The HYP0, HYP1 and HYP2 have type T (Copper-Constantan) thermocouple elements, while the HYP3 is available in J, K, T or E calibration, and the HYP4 has a 100 Ω Platinum RTD ($\alpha = 0.00385$).

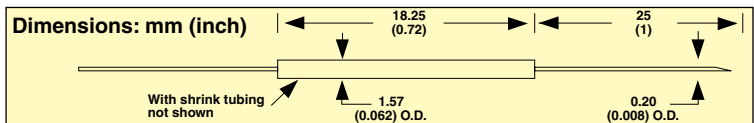
The HYP0 is a mini-hypodermic probe, with 0.2 mm (0.008") diameter. The HYP1 has an OD of 0.3 mm (0.012"), and has an added feature of being steam autoclavable to temperatures up to 160°C (325°F). The HYP3 and HYP4 are industrial probes, with thermocouple and RTD elements respectively.

The HYP0 Mini Hypodermic probe with a needle diameter of only 0.2 mm (0.008") is the least likely to disturb the surrounding insertion

area. Binocular microscope micro-manufacturing techniques result in an extremely small type T (Copper-Constantan) thermocouple being implanted in a 33 gage, 25 mm (1") long stainless steel hypodermic needle. The HYP0 has the fastest response of the hypodermic probes, and has a continuous temperature rating of 200°C (400°F). It has 1.5 m (5' long PFA coated, 36 AWG leads with an SMP type subminiature connector.

Thermocouple Probe Model HYP0

The HYP0 mini-hypodermic probe with a needle diameter of only 0.2 mm (0.008") is the least likely to disturb the surrounding insertion area. Binocular microscope micro-manufacturing techniques result in an extremely small Type T (copper-constantan) thermocouple being implanted in a 33 gauge, 25 mm (1") long stainless steel hypodermic needle. The HYP0 has the fastest response of the hypodermic probes, and has a continuous temperature rating of 200°C (400°F). It has 1.5 m (5') long PFA-coated, 36 AWG leads with an SMP-type miniature connector.



To Order

Model No. ANSI Color Code

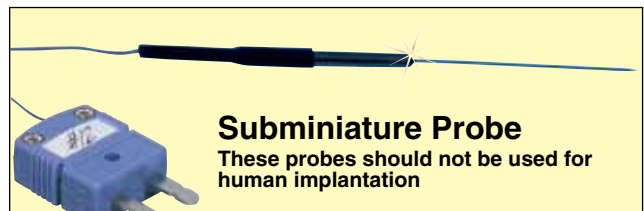
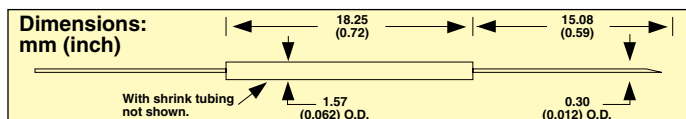
HYP0-33-1-(*)-G-60-SMPW-M

* Specify calibration: **K**, or **T**. **T** = Copper-Constantan, **K** = CHROME[®]-ALOMEGA[®]. Lead wire lengths over 1.5 m (60") at an additional cost/300 mm (12") and modify model number.

Ordering Example: HYP0-33-1-T-G-60-SMPW-M, mini hypodermic probe with Type T grounded thermocouple, 1.5 m (5') long bead wire, and a miniature SMPW male connector.

Thermocouple Probe Model HYP1

Research, autoclavable probe is designed to give instant readings in plants, other semi-solids and liquids. A 30 gage x 15 mm needle provides this very fast response. The measurable temperature range is cryogenic to 200°C (400°F). This is a Type T (Copper-Constantan) grounded-junction probe with PFA insulated extension wire and a subminiature male connector termination. The entire assembly is steam autoclavable to a temperature of 160°C (325°F). All probes have 1.5 m (5') leads.



Subminiature Probe

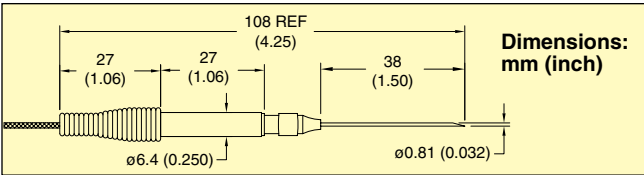
These probes should not be used for human implantation

Model No. ANSI Color Code

HYP1-30-1/2-(*)-G-60-SMPW-M

* Specify calibration: **K**, **T**, or **E**. **K** = CHROME[®]-ALOMEGA[®], **T** = Copper-Constantan, **E** = CHROME[®]-Constantan. For lead wire lengths over 1.5 m (60") at an additional cost/300 mm (12") and modify model number.

Ordering Example: HYP1-30-1/2-T-G-60-SMPW-M, thermocouple probe.



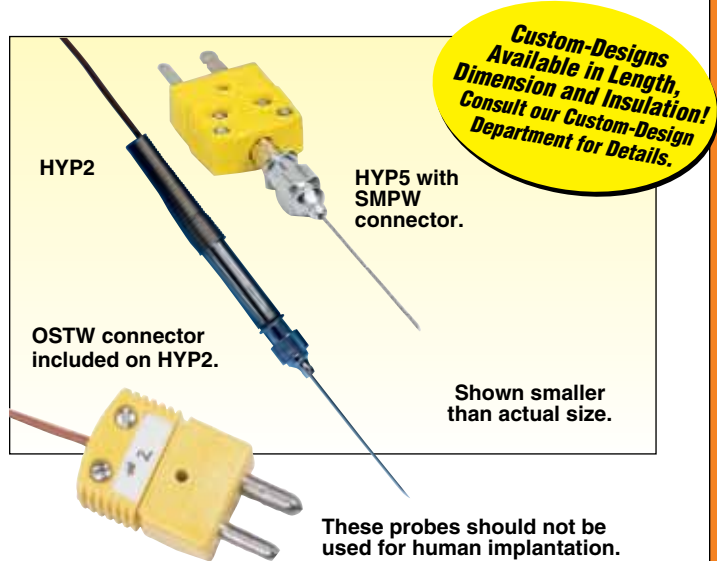
Thermocouple Probe Model HYP2 and HYP5
 The HYP2 and HYP5 Probes have Natural Science, Industrial and Food Processing uses. These assemblies come complete with a Type T (Copper-Constantan) element, 1.2 m (4') PFA insulated lead wire, and uses a standard (21 gage) hypodermic needle 38 mm (1.5") long. 1.2 m (4') lead wire is standard. Standard size male connector terminates the lead wire.

Model No. ANSI Color Code
HYP2-21-1-1/2-(*)-G-48-OSTW-M
HYP2-21-1-1/2-(*)-G-48-SMPW-M
HYP5-21-1-1/2-(*)-G-SMPW

† HYP5 does not have lead wires
 * Specify calibration: **J, K, T, or E.**
 * J = Iron-Constantan
 K = CHROMEALOMEGA®-ALOMEGA®
 T = Copper-Constantan
 E = CHROMEALOMEGA®-Constantan

Easy grip handle, add "EGH" suffix, for additional cost.
 For lead wire lengths over 1.2 m (48") at an additional cost/300 mm (12") and modify model number.

Ordering Example: HYP2-21-1-1/2-T-G-48-OSTW-M, Type T grounded junction probes.



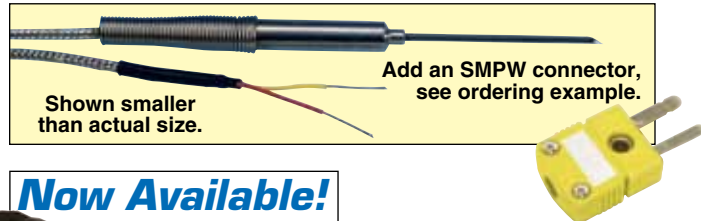
Thermocouple Probe Model HYP3

Industrial Hypodermic Probe uses a 16 gage x 38 mm (1.5") long needle and may contain J, K, T, E calibrations; they may have a grounded or ungrounded junction, and come with stainless steel overbraided extension wire. The stainless steel overbraiding adds flexibility and extends the probe life. These probes are not autoclavable. They are designed for heavy-duty service. 1.2 m (4') lead wire is standard. Maximum tip temperature is 200°C (400°F).

Model No. ANSI Color Code
HYP3-16-1-1/2-(*)-(**)-48-RP

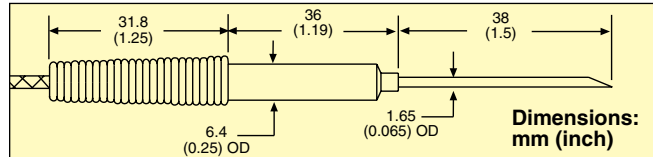
When ordering, specify calibration and whether grounded or ungrounded junction is desired
 * Specify calibration: **J, K, T, or E.**
 J = Iron-Constantan
 T = Copper-Constantan
 K = CHROMEALOMEGA®-ALOMEGA®
 E = CHROMEALOMEGA®-Constantan
 ** Specify measuring junction style: U or G

Also Available: R and S (platinum)—consult factory for price and delivery.
 Easy Grip Handle, add "EGH" suffix, for additional cost
 For lead wire lengths over 1.2 m (48") at an additional cost/300 mm (12") and modify model number.
 To add an SMPW male connector add suffix "-SMPW-M" to model number for additional cost.



Now Available!
M8/M12 CONNECTORS

These probes should not be used for human implantation.



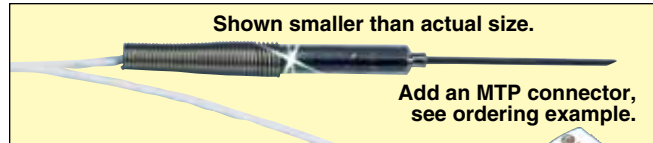
For a male straight M8 plug add "M8-S-M" to the model number for additional cost, for a male straight M12 plug add "M12-S-M" to the model number for additional cost.
 For a male right-angled M8 plug add "M8-R-M" to the model number for additional cost, for a male right-angled M12 plug add "M12-S-M" to the model number for additional cost.
Ordering Example: HYP3-16-1-1/2-K-G-48-SMPW-M, Type K grounded junction probe with 1.2 m (48") leads.

RTD Probe Model HYP4

The RTD Hypodermic Probes are offered for Industrial, Natural Sciences and Food Processing use. These probes contain a 100 Ω platinum RTD (α = 0.00385) within a 16 gage x 38 mm (1.5") hypodermic needle, and come with 1.2 m (4') PFA insulated lead wire.

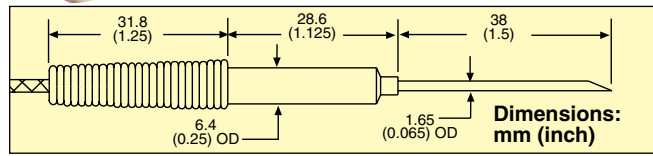
Model No. ANSI Color Code
HYP4-16-1-1/2-100-EU-48-RP

All probes were designed for industrial, laboratory, manufacturing and chemical research only. **They are not intended for medicinal use, or on humans.** NEWPORT assumes no responsibility if these products are used for medicinal purposes, or on humans, or are misused in any way.
 For lead wire lengths over 1.2 m (48") at an additional cost/300 mm (12") and modify model number.
 For a male straight M8 plug add "M8-S-M" to the model number for additional cost, for a male straight M12 plug add "M12-S-M" to the model number for additional cost.
 For a male right-angled M8 plug add "M8-R-M" to the model number for additional cost, for a male right-angled M12 plug add "M12-S-M" to the model number for additional cost.
 To add an MPT-U male connector add suffix "-MTP-M" for additional cost.



Now Available!
M8/M12 CONNECTORS

These probes should not be used for human implantation.



Ordering Example: HYP4-16-1-1/2-100-EU-48-MTP-M, RTD hypodermic probe with 1.2 m (48") leads and MPT-U male connector.