

# RTD Meters 392 Series Platinum RTD Probes

## 392 Series Platinum RTD Probes **TRANSCAT**

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Platinum resistance temperature detectors (RTD's) are recognized worldwide by metrology laboratories as the most reliable standard for measuring and comparing temperature information. Platinum provides long-term stability and repeatability for use as a primary standard. It has a wide useful temperature range which makes it ideal for laboratory and industrial applications.

Our accurate, stable platinum sensors are housed in thin wall stainless steel shanks with low mass tips that don't compete with the measured object. That's why Wahl probes have fast response, and provide an accuracy of  $\pm 0.2^\circ\text{F}$  at ice point,  $\pm 0.5\%$  of reading thereafter.

Every probe is engineered to do a specific job in measuring surfaces, liquids, semi-solids or gasses. Each probe has a high quality, heat-resistant Delrin® handle, a coiled 5-foot cord and a snap-in connector that mates it solidly to our thermometer (exceptions noted in descriptions below).

Every probe is calibrated at two or three temperature points on NIST traceable secondary standards and tagged "Wahl Test Certified" with calibration data. You can order a NIST certificate with test data for meters and probes. See page 6.

**For 392HP Probes, simply add "HP" after Model Number**

- 112 Fine-Tip Penetration Probe** for foods and other soft substances. .084" diameter, 1" long tip at the end of a 2-3/4" overall length shank. 450°F temperature limit with 3 second response<sup>(2)</sup>.
- 114 Heavy-Duty Piercing Probe** for plastic melts, rubber, asphalt, frozen foods, or other semi-solids. Adjustable penetration depth limiter. 900°F temperature limit with 3.7 second response<sup>(2)</sup>. 4-1/2" shank length is 1/8" diameter with penetration tip.
- 121 Spring Articulated Straight Surface Probe** for molds, dies, platens, electronics, machine housings and all other surfaces. Spring tip allows conformity and maximum contact to measured surface. 900°F temperature limit; 2-second response<sup>(1)</sup>. 4-1/4" shank, .25" diameter, straight tip design. Also with -12" and -18" shank lengths.
- 123U Right Angle Fast Surface Probe** sealed sensor design with low profile 90° bend tip for reaching into die and mold cavities, electronic chassis, or other restricted areas. 900°F temperature limit, 3-second response<sup>(1)</sup>. 4" shank, .250" diameter tip
- 124 Rigid Shank Fast Surface Probe.** Sealed sensor design for rugged applications. 4" shank length, straight tip. 900°F temperature limit with 3 second response<sup>(1)</sup>.
- 145 45° Spring Articulated Surface Probe,** for molds, dies, platens, electronics, and all other surfaces. Spring tip allows conformity and maximum contact. 4" shank and 45° tip angle.
- 155 Bolt-on Surface Probe** for permanent installation. Used to monitor engine or reactor surface temperatures. Copper sheathed sensor with .218" diameter bolt hole. 10' stainless steel covered cable and connector. 930°F; 2 second response<sup>(2)</sup>. No handle.
- 172 Self-Adhesive Surface Probe** Polymer-encased sensor in a 1.25" x 1", pressure-sensitive adhesive patch. 10' Teflon coated cable (no handle). Used for monitoring environmental tests, curing cycles, and oven processing. 350°F temperature limit with 1 second response<sup>(2)</sup>.
- 201 General Purpose Immersion Probe** for liquids, foods, candy, granular materials, and semi-solids. 5.75" long X .125" diameter shank. For measurements to 600°F with 1.7 second response<sup>(2)</sup>.
- 202 Sensitive Immersion Probe** with low mass .084" diameter. 5" long shank. Super fast response time of 1.4 seconds<sup>(2)</sup> for use in all liquids and semi-solids. Temperature limit of 900°F.

Response time legend (to 63%): <sup>(1)</sup> Measured on flat surface at 400°F; <sup>(2)</sup> Measured in boiling water; <sup>(3)</sup> Measured in air at 10 fps

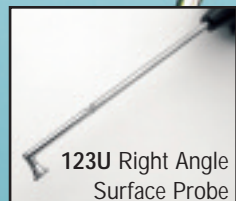
### Custom Probes for Your Applications

Contact Wahl for custom-made probes to your specifications, or let us help you design the right probe for your application.

Look for the "Wahl Tested Certified" calibration tag on every probe.



121 Spring Tip Surface Probe



123U Right Angle Surface Probe

205 Heavy-duty Immersion Probe

205SH Heavy-Duty Shielded Immersion Probe

204CT Paddle Probe

305 Miniature Air/Gas Probe

112 Fine-Tip Penetration Probe

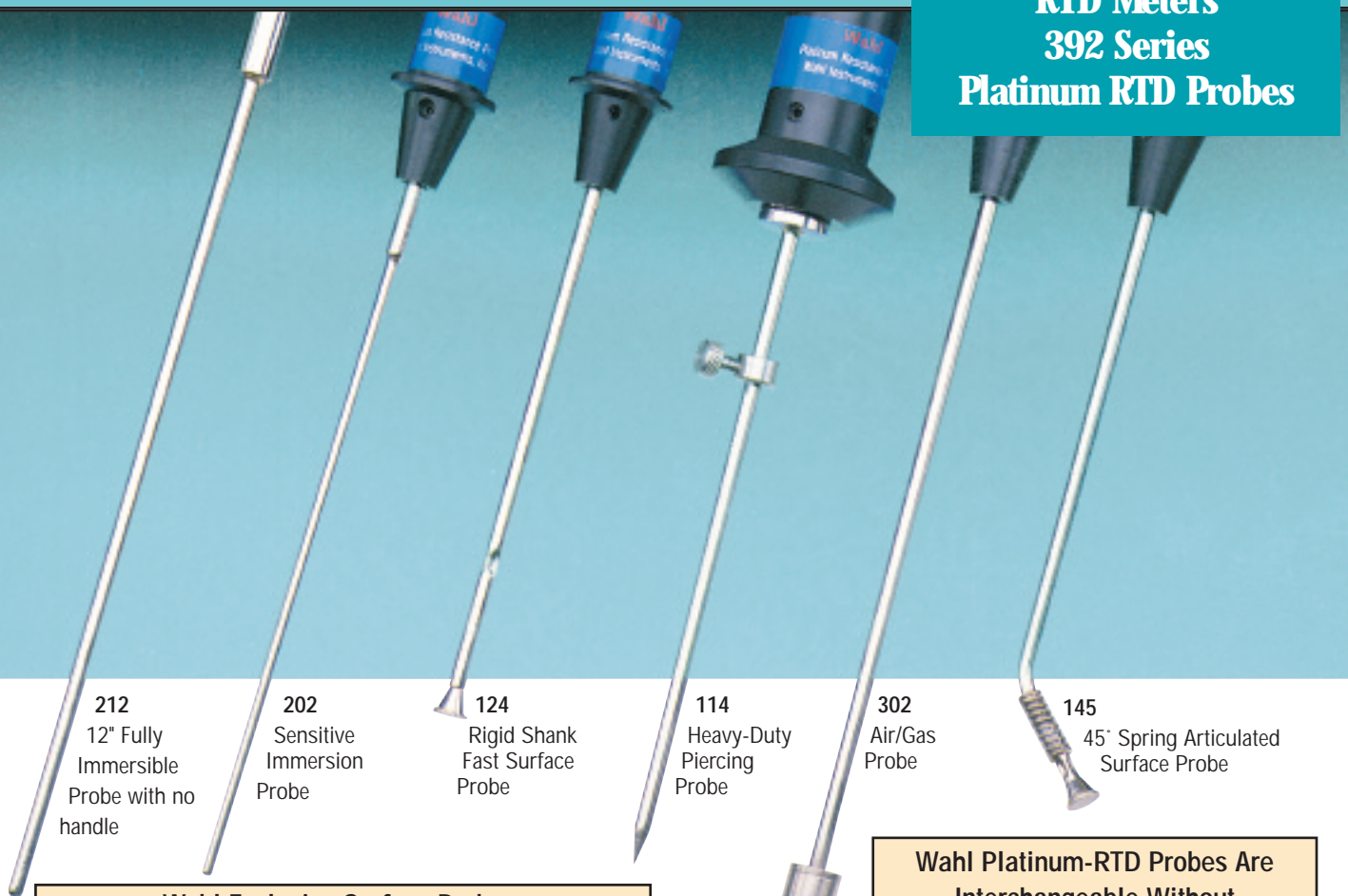
172 Self-Adhesive Surface Probe

155 Bolt-on Surface Probe



Probe listing continued on page 9

# RTD Meters 392 Series Platinum RTD Probes



**212**  
12" Fully  
Immersible  
Probe with no  
handle

**202**  
Sensitive  
Immersion  
Probe

**124**  
Rigid Shank  
Fast Surface  
Probe

**114**  
Heavy-Duty  
Piercing  
Probe

**302**  
Air/Gas  
Probe

**145**  
45" Spring Articulated  
Surface Probe

## Wahl Exclusive Surface Probes

For surface probes where it is necessary to bring the greatest amount of surface heat in direct contact with the sensor, a unique design developed for the U.S. Space Program is employed. The coil is bonded to a platinum base plate of low thermal resistance which contacts the measured surface. The platinum base, in turn, is bonded directly to a thin stainless steel, bell-shaped housing of low mass. Heat loss is impeded by high thermal resistance elements: stainless steel housing, shank and coil spring.



The coil spring in Wahl 121 and 145 surface probes provides automatic articulation of the tip for conformity and uniform contact with the surface being measured. This is especially useful in blind recesses where contact measurements are made by "feel" instead of sight.

## Wahl Platinum-RTD Probes Are Interchangeable Without Recalibration

Only Wahl offers an interchangeable probe system that assures consistent accuracy and  $\pm 0.2^\circ\text{F}$  repeatability without meter recalibration. Our most popular probes are shown on these pages. Contact Wahl for more of our precision Platinum-RTD probes.

## Custom Probes for Your Applications

Contact Wahl for custom-made probes to your specifications, or let us help you design the right probe for your application.

**For 392HP Probes, simply add "HP" after Model Number**

- 203 Teflon-Coated Immersion Probe** for use where corrosive solutions and possible metallic contamination are a concern. 5" shank, .084" diameter 450°F limit, 2 second response<sup>(2)</sup>.
- 204 12" Long-Reach Immersion Probe** with 12" shank (.125" diameter.) for baths, vats, kettles and other deep vessels. 900°F limit with 2 second response<sup>(2)</sup>.
- 204CT Paddle Probe** for crystallization and fluid temperatures while agitating liquids. 3/4" wide paddle tip; .125" diameter shank is 10" long to the paddle tip. 900°F limit with 2 second response<sup>(2)</sup>.
- 205 Heavy-Duty Immersion Probe** for solder baths, liquids, granular materials, and gas. 8" shank. Also with -12", -18", and -24" shank lengths. All have .125" diameter tip. 900°F limit; 3 second response<sup>(2)</sup>. Consult factory for Teflon coating option.
- 205SH Heavy-Duty Shielded Immersion Probe.** Shield protects the tip from the shock of hitting vat or container walls. 24" length shank has .125" diameter. with 3/8" diameter. shield. Temperature limit of 900°F; 7.25 second response<sup>(2)</sup>.

- 212 Fully Immersible Probe** with no handle for plating baths, dipping solutions, brewing vats, storage vats, tanks, rivers and streams. Temperature limit of 450°F; 2 second response<sup>(2)</sup>. 0.125" diameter. by 12" length shank with 10' Teflon cable with connector.
- 302 Air/Gas Probe** with perforated sensor shield to induce good velocity and prevent radiation errors, used in industrial application such as ovens, stacks and ducts. 850°F temperature limit, 6 second response<sup>(3)</sup>. 6-5/8" shank, 3/8" diameter. 2" long shield.
- 305 Miniature Air/Gas Probe** highly sensitive, low mass sensor is shielded by thin, small diameter (.120") perforated steel tube for fast response HVAC applications. 450°F limit, 4 second response<sup>(3)</sup>.

Response time legend (to 63%):

<sup>(1)</sup> Measured on flat surface at 400°F

<sup>(2)</sup> Measured in boiling water;

<sup>(3)</sup> Measured in air at 10 fps



Calibration Services Available

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**PALMER Wahl**  
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170 Years of Continued Innovation