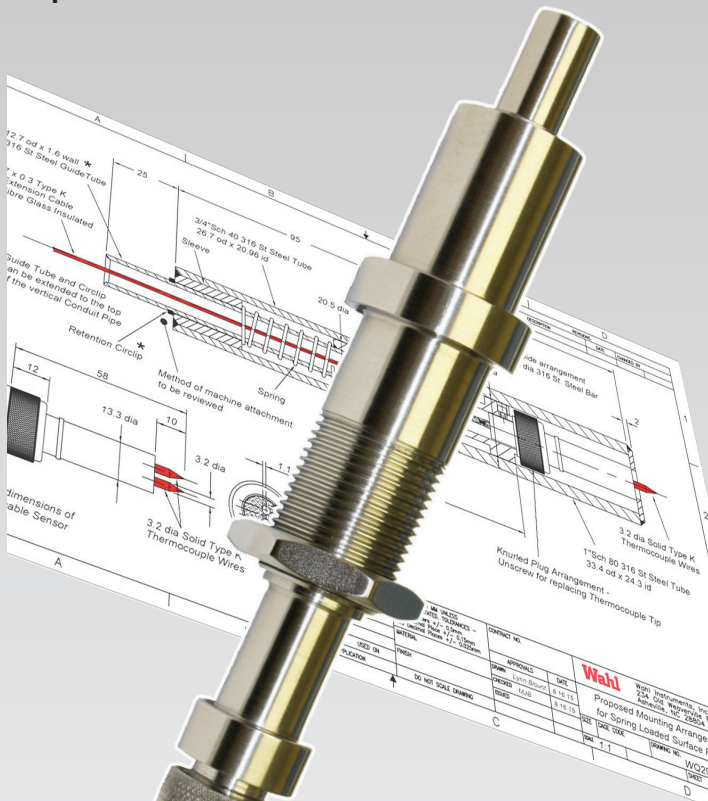


**Wahl Customized Design Service**  
Designed for your application, and to minimize  
unplanned downtime



**WAHL SENSORS FEATURE**

- Fast Response
- High Accuracy
- Internal Spring Loading
- Replaceable End Tips
- High Temperature Operation

*Shown Above: Wahl Sensor designed to provide Automated Surface Temperature Measurement for Aluminum Strip Mills. Part No: R613-12 for Full Assembly, Part No: RTC827AM for Replacement Tip*

# Wahl

INSTRUMENTS, INC.

Wahl Instruments began engineering special sensors in the 1960's for the Apollo Space program. Since then, we have designed and manufactured our RTD and Thermocouple sensors for many critical projects around the world. Call us today to begin your project.

## DESIGNERS, MANUFACTURERS AND SUPPLIERS OF

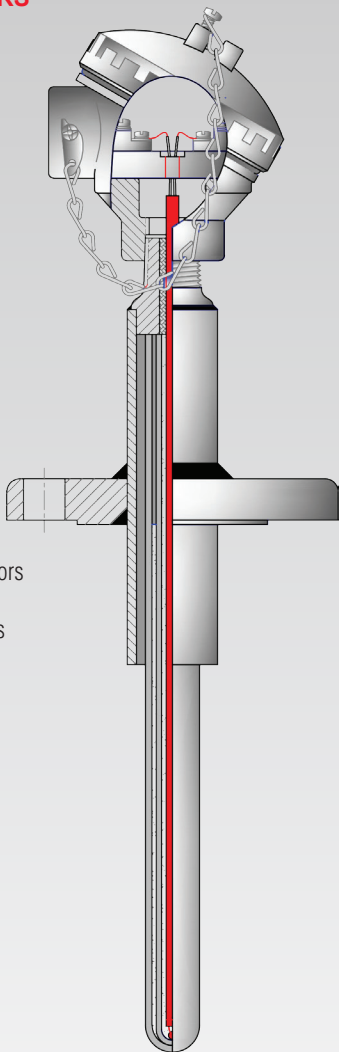
- Mineral Insulated T/C's
- Mineral Insulated RTD's
- 4-20 mA Transmitters
- Transmitters with Integral Indicators
- Solid Drilled Thermowells
- Fabricated Thermowells
- RTD Assemblies
- Multi-point Assemblies
- Tube Skin Thermocouples
- Mechanical & Digital Process Thermometers, Gauges & Recorders

## COMPONENTS FOR PRODUCTION OF TEMPERATURE PRODUCTS

- Mineral Insulated Metal Sheathed Cables with Nickel & Copper Conductors for Resistance Thermometers
- T/C Compensating & Extension Cables
- Connection Heads
- Terminal Blocks
- Pressure Entry & Cable Glands
- Plugs & Sockets & Panels

## PALMER WAHL QUALITY ASSURANCE INCLUDES

- NIST Traceable Calibration
- USDA Approved
- ATEX & FM Approvals
- Material Certification
- Full QA Manuals
- Pressure Testing
- Radiography
- Ultrasonics
- Nace Certification
- Hardness Testing
- Heat Treatment
- Welders Qualifications
- Thermowell Stress Calculation



**ISO 9001:2008**  
CERTIFIED QUALITY  
MANAGEMENT SYSTEM

## Sensor Options

### **RTD Sensor Assemblies are available:**

- In mineral insulated construction
- In sizes of 1/8" and 1/4" inch diameters
- With internal connection leads
- With two, three, or four wire connections
- Standard Accuracy: Class A Minimum  
with Special Accuracy up to 1/10 DIN Standard
- Failure resistant

### **Wahl Thermocouple Sensors are available:**

- In single, duplex, and triplex types in all sheath materials and conductors
- Manufactured from mineral insulated cable with high purity 99.8% magnesium oxide insulation
- With specialty metal sheaths, diameters from 0.020" to 0.5"
- With accuracies up to AMS Special Limits of Error and beyond

## Why Choose Sensors from Wahl

Experienced Wahl engineers are on-call to offer assistance with product design to meet the specifications and demanding requirements of your process. Sensor and thermowell applications that demand rapid response times, feature high pressure ratings, or have vibration concerns are just a few of the issues that can be addressed with our custom made engineered temperature solutions.

### **Experienced assistance with:**

- Product design
- Material selection
- Drawings
- Other considerations necessary to meet the specifications and demanding requirements of the process

### **Wahl Custom Sensors offer:**

- Rapid response times
- High Accuracy
- Internal Spring Loading
- Replaceable End Tips
- Special High Temperatures Designs
- High Pressure Ratings

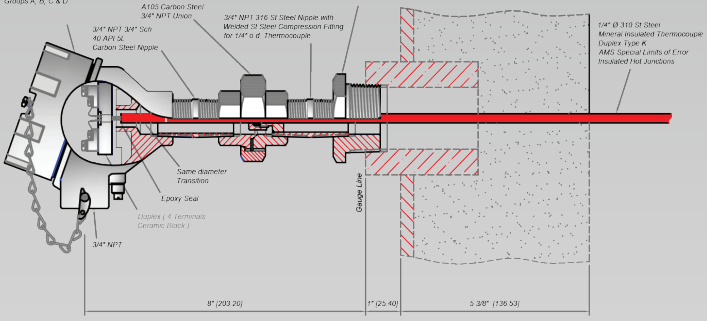
**Call Customer Service • 800-421-2853**

REV	DESCRIPTION	DATE	DESIGNED BY

All Carbon Steel  
Black Epoxy Painted

Type XDA Explosion Proof Connection Head  
Aluminum Epoxy Painted Silver  
3/4" NPT Cable Entry  
FM Approved Class 1 Division 1  
Groups A, B, C & D

1" 1/2" Male to 3/4" NPT Female  
A105 Carbon Steel  
Reducing Bushing



Connection Head Fixing and Sealing Details

APPROVALS		DATE	DATE CODE	ISSUED BY	REV

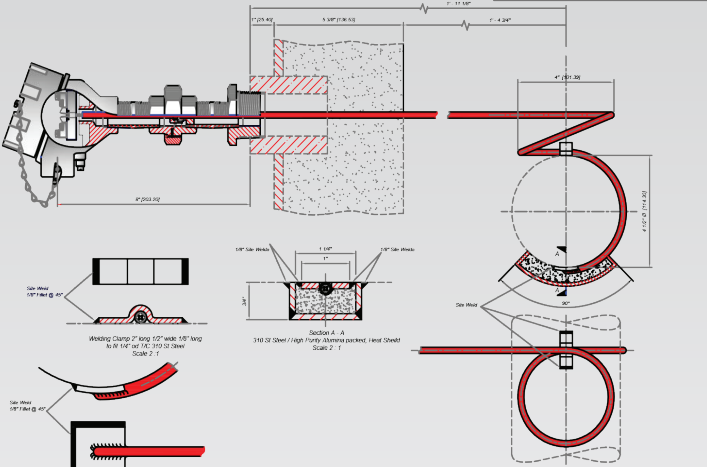
**Wahl** Wahl Instruments, Inc.  
234 Old Waverly Road  
Asheville, NC 28804

Thermocouple with Packed Heat Shield

PW-1021

1 of 2

REV	DESCRIPTION	DATE	DESIGNED BY



Welding Clamp 2" long 1/2" wide 1/8" long  
N/A 1/4" dia 1/2" 316 SS Steel  
Scale 2:1

Weld Heat Detail  
7/8" x 1" x 1/8" 316 SS Steel  
radiused inside 4 1/2" type  
Scale 2:1

APPROVALS		DATE	DATE CODE	ISSUED BY	REV

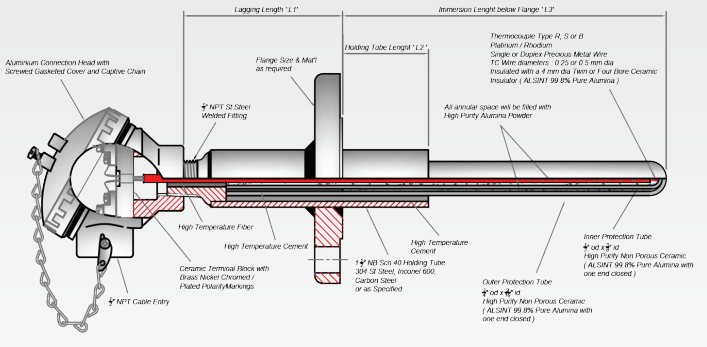
**Wahl** Wahl Instruments, Inc.  
234 Old Waverly Road  
Asheville, NC 28804

Thermocouple with Packed Heat Shield

PW-1021

2 of 2

REV	DESCRIPTION	DATE	DESIGNED BY



Thermocouple Type R, S or B  
Platinum / Rhodium  
Single or Duplex Precious Metal Wire  
TC Wire diameters: 0.25 or 0.5 mm dia  
Insulated with a 4 mm dia Tera or Four Bore Ceramic  
Insulator (AL-SMT 99.9% Pure Alumina)

All annular space will be filled with  
High Purity Alumina Powder

Outer Protection Tube  
1/2" od x 1/2" id  
High Purity Non Porous Ceramic  
(AL-SMT 99.9% Pure Alumina with  
one end closed)

APPROVALS		DATE	DATE CODE	ISSUED BY	REV

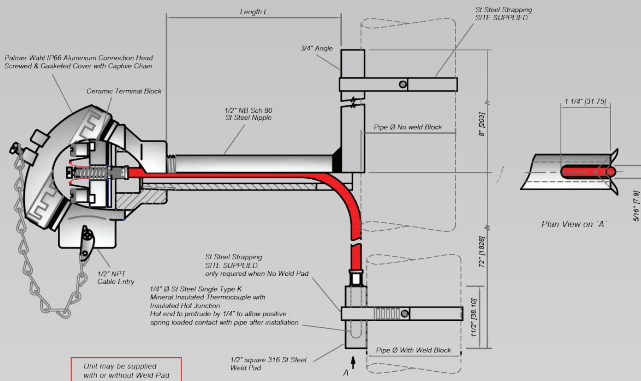
**Wahl** Wahl Instruments, Inc.  
234 Old Waverly Road  
Asheville, NC 28804

High Temperature ITC Assembly  
Ceramic Double Thermowell

PW-1009

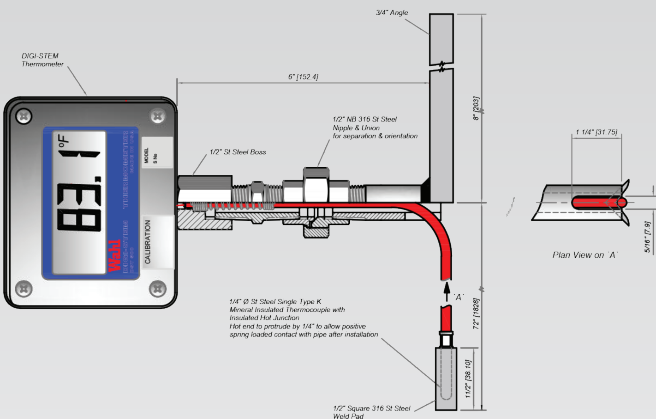
1 of 2

REV	DESCRIPTION	DATE	DESIGNED BY



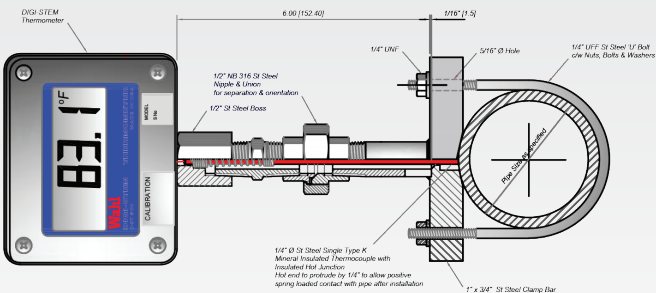
REVISIONS		DATE	BY	DESCRIPTION
1	ASSEMBLED	5/18/16	J. Lynn Stewart	Initial Design
2	APPROVED	5/18/16	M.J.B.	Final Design

**Wahl** Wahl Instruments, Inc.  
 234 Old Warehouse Road  
 Asheville, NC 28804  
**Pipe Surface Temperature Thermocouple Assembly**  
 P/W-1034



REVISIONS		DATE	BY	DESCRIPTION
1	ASSEMBLED	5/18/16	J. Lynn Stewart	Initial Design
2	APPROVED	5/18/16	M.J.B.	Final Design

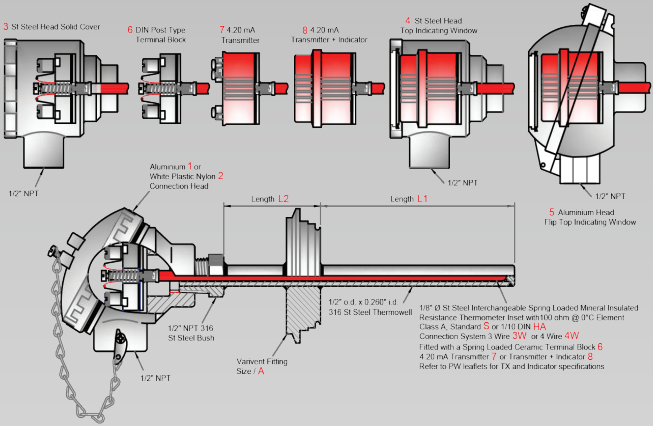
**Wahl** Wahl Instruments, Inc.  
 234 Old Warehouse Road  
 Asheville, NC 28804  
**Dig-Stem Weld Block Pipe Surface Thermocouple Assembly**  
 P/W-1033



REVISIONS		DATE	BY	DESCRIPTION
1	ASSEMBLED	5/18/16	J. Lynn Stewart	Initial Design
2	APPROVED	5/18/16	M.J.B.	Final Design

**Wahl** Wahl Instruments, Inc.  
 234 Old Warehouse Road  
 Asheville, NC 28804  
**Pipe Surface Temperature Thermocouple Assembly**  
 P/W-1029

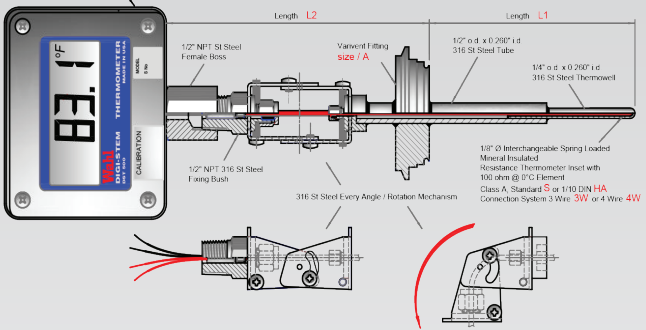
**PALMER WAHL Style PW.2018**



To Order Specify - PW 2018 / Head Type / 6.7 or 8 / Mounting & size / L1 / L2 / S or HA / 3 or 4 Wire / TX Range / Fixed Point Calibration, if required

**PALMER WAHL Style PW.2035**

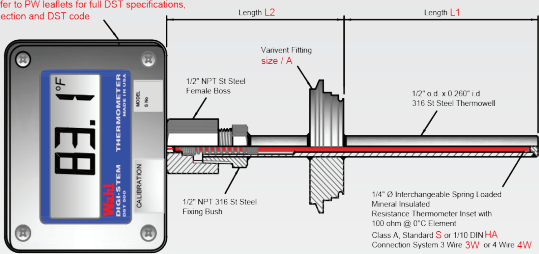
Adjustable Every Angle DIGI-STEM Thermometer  
DS1500 or DS1600 Series  
Refer to PW leaflets for full DST specifications,  
selection and DST code



To Order specify - PW.2035 / DST Type / Mounting & size / L1 / L2 / S or HA / 3 or 4 Wire / Fixed Point Calibration if required

**PALMER WAHL Style PW.2028**

Fixed DIGI-STEM Thermometer  
DS1500 or DS1600 Series  
Refer to PW leaflets for full DST specifications,  
selection and DST code



To Order specify - PW.2028 / DST Type / Mounting & size / L1 / L2 / S or HA / 3 or 4 Wire / Fixed Point Calibration if required

All Mountings 316 St Steel specify code / size

