

Actual Size

- Exclusive Continuous Self-Checking Technology
- Trustworthy Alternative to Mercury-in-Glass
- Designed in compliance with the FDA Final Rule Change for 21 CFR Part 113

Wahl® DST600

**Digi-Stem® Digital RTD
Reference Thermometer
for Retorts & Temperature
Critical Applications**



www.palmerwahl.com

PALMER Wahl
INSTRUMENTATION GROUP

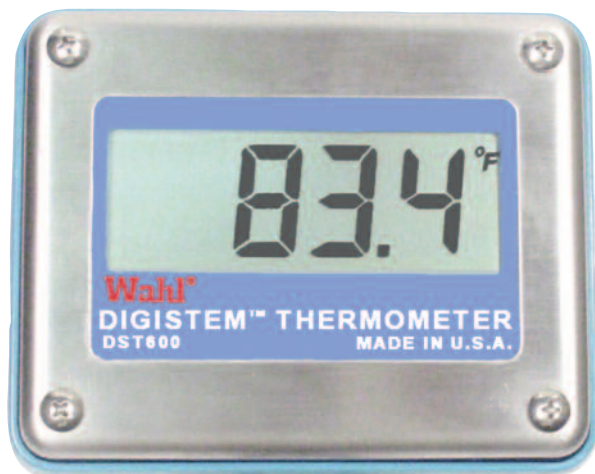
Continued Innovation Since 1836
ISO 9001:2008 CERTIFIED

PW1201

01/09 Rev H

Key Features and Benefits

The Wahl® DST600 is the new standard against which all other temperature indicating devices are compared.



Wahl DST600 with Rigid Mount shown with 1-1/4"-18 Swivel Nut Fitting with Tapered Bulb for use in thermowells.



Shown on cover:
Wahl DST600 Adjustable Angle mounting system allows meter adjustment to any angle required for best viewing.

Shown with 1-1/4"-18 Swivel Nut Fitting and 1/4" Diameter Stem for quick response in union connections.

Applications

- Retorts - for Low-Acid Canned Foods
- Dairy Processors • USDA
- Pharmaceutical Companies
- All Temperature Critical Applications



- Trustworthy Alternative to Mercury-in-Glass
- Exclusive Continuous Self-Checking Technology to ensure accuracy and reliability
- Exclusive Adjustable Meter Update Rate
- User Selectable °F or °C
- Ambient operation at -40°F to 158°F
- Unique Probe ID Feature prevents use of unauthorized probes
- Long Battery Life - 2 years nominal
- Adjustable Angle, Rigid, or Remote configurations available
- Programmable "R0" for "matching" sensor to meter
- User friendly Single Point Software Calibration
- Tamper Resistant - all adjustments require software
- Exclusive Quick Disconnect Connector option on Remote Cables
- NIST Traceable Certificate of Calibration included

Innovative New Technology!

Mercury-in-Glass (MIG) thermometers, the only standard for years, may now be replaced with other technologies under the FDA's Final Rule for 21 CFR Part 113.

Wahl's DST600 is a digital 4-wire RTD thermometer, designed and manufactured using high reliability components to meet the Final Rules mandate that the Temperature-Indicating device be accurate to 1°F, and not be affected by EMI or environmental conditions.

The Wahl DST600 also meets the current USDA 9CFR318.305 for canned meat and 9CFR381.305 for canned poultry products.

Continuous Self Checking Accuracy

The Wahl DST600 meets and exceeds the FDA rules by incorporating self-checking technology which continuously verifies the accuracy of the electronics, and indicates any out-of-tolerance conditions. This assures that its accuracy and ability to function properly during processing are not compromised. Test temperatures are set at 180°F (82.2°C) and 250°F (121.1°C). Out-of-tolerance conditions will be displayed as an error, and immediately indicate to the operator if accuracy is not maintained, preventing under- or over-processing of product. The Wahl DST600 is the best reference standard against potential health hazards!

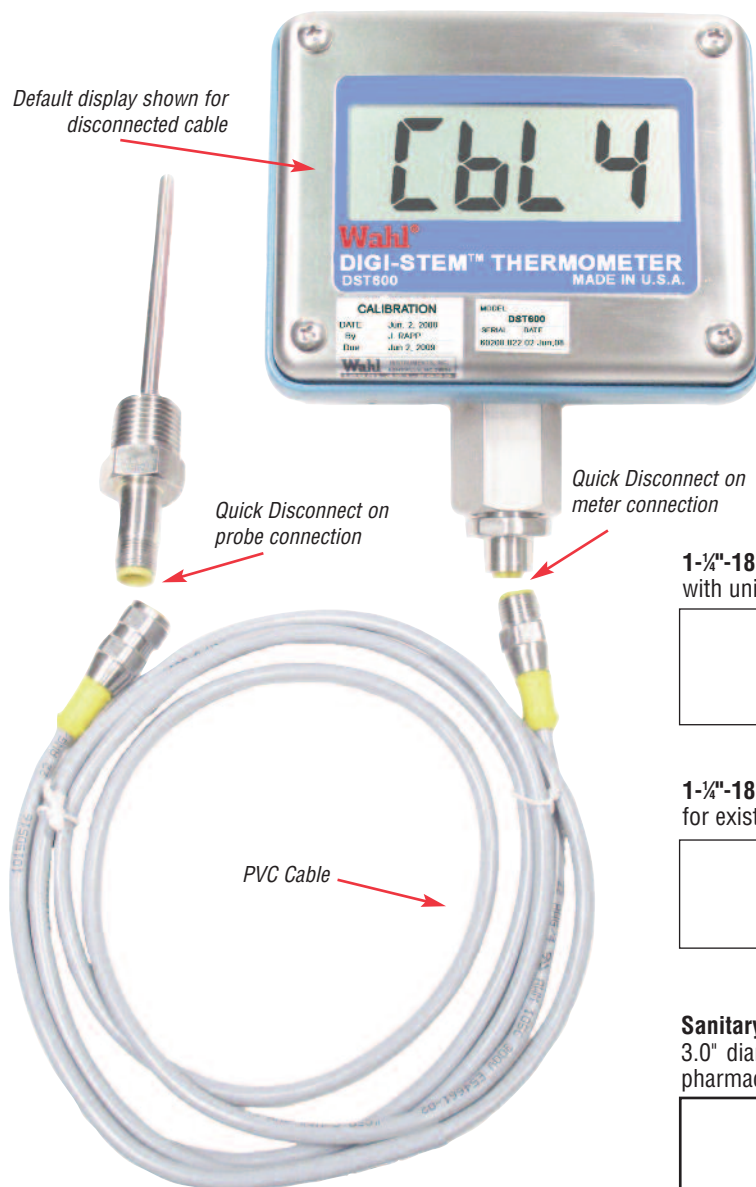
Drop-in Direct MIG Replacement

The Wahl DST600 offers the highest precision temperature measurement technology with many unique features - making it the best choice for your processing needs. It has a field replaceable battery with a 2 year life, and provides a trustworthy alternative to MIG style thermometers with drop-in direct replacement. It is available with MIG standard tapered bulb chambers, or in a variety of probe configurations. The Wahl DST600 also features a 1" high LCD display - readable from 30 feet away!

Complete Calibration Services Available

Probe Selection and Measurement

**Wahl®
DST600**

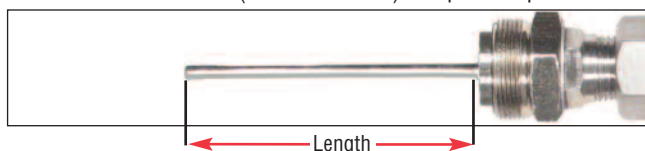


Optional Quick Disconnect for Calibration Convenience

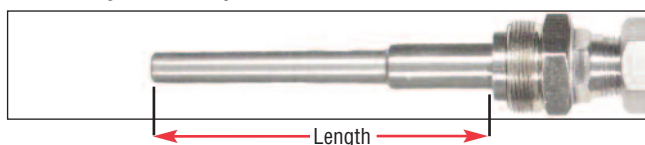
Optional Quick Disconnect for both probe and meter connections offers convenient calibration for the user. This industry leading, and time saving capability allows the probe and meter to be removed and taken to the calibration lab and calibrated as a system - *without removing the installed cables.*

Custom Built Probes available.
Call Customer Service for information.

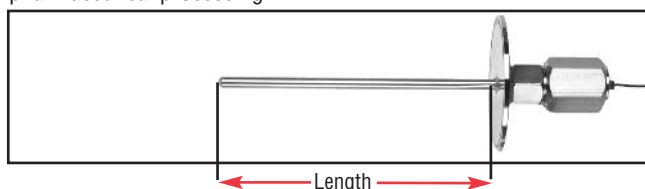
1-1/4"-18 Swivel Nut Fitting with 1/4" Diameter Stem - for use with union connections (no thermowells) for quick response.



1-1/4"-18 Swivel Nut Fitting & Tapered Bulb - Direct replacement for existing MIG's. **Requires use with thermowell.**

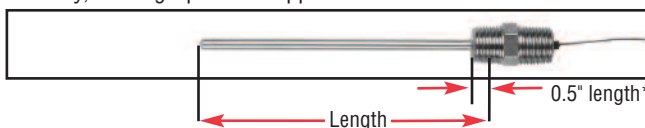


Sanitary Probe: Authorized 3-A Sanitary Standard 74-05 for 1.5" to 3.0" diameter tube sizes with tri-clamp fitting for milk, food and pharmaceutical processing.

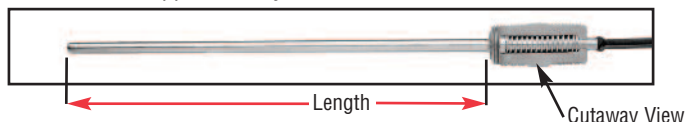


Brazed Probe: Discontinued.

Welded Probe: Sealed for immersion in fluids; for use in thermowells, sanitary, and high-pressure applications.



Spring Loaded Probe: Maintains a positive force against the bottom of thermowells; not for direct immersion in fluids; assembly is not sealed. Allows approximately 1 inch of travel.



Why Calibration is important for your Instruments

- **Product Safety and compliance with FDA Standards.**
- **Increase customer satisfaction with consistent products.**
- **Ensure traceability throughout entire manufacturing process by maintaining accuracy records.**
- **Register your product for our Calibration eMinder Service to be reminded when calibration is due.**
Go to: www.palmerwahl.com/register

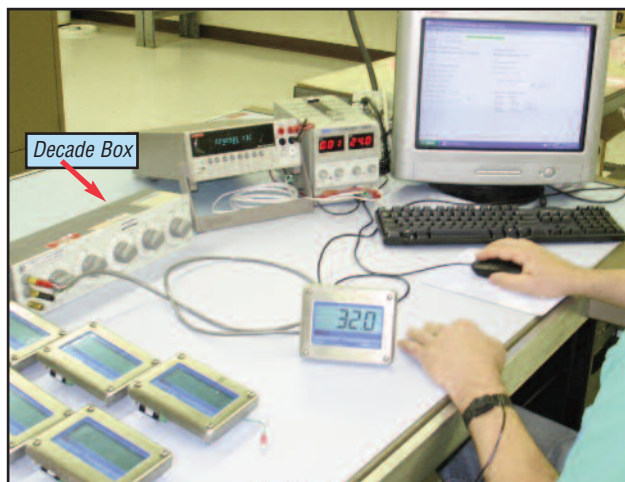


Complete Calibration Services Available

*Note: some connections include 1/2" of threads when measuring probe length. Contact Customer Service for information.

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Calibration and Programming Software and Accessories



Meter Calibration of a Digi-Stem Meter
utilizing a decade box and USB to Computer Interface Box.



System Calibration of a Remote Digi-Stem utilizing an ice bath and
USB to Computer Interface Box

Wahl **DSTCAL Software Kit** is user friendly and includes on-screen prompts for guiding the user through their operation. **DSTCAL** requires Vista, Windows XP, or Windows 7 to operate, and includes a USB cable, DST/USB Interface Module, and Digi-Stem Serial Interface Cable in order to connect the Wahl DST600 to a PC.



Wahl DST/USB Interface
Module, USB Cable, and
Digi-Stem Serial Interface Cable

Probe ID and Probe R0

Probe ID - The unique Probe ID feature verifies that only the authorized probe is connected to the meter. If an unauthorized probe is connected, the meter will display "Prb", indicating the need to perform the probe authorization and probe calibration functions. Probe ID is not available on Remote probes with connectors with cable length over 25-meters.

NO OTHER SYSTEM HAS THIS SAFETY FEATURE!

Probe R0 - The Wahl DST600 includes an exclusive compensation feature utilizing a programmable R0 calibration coefficient for increased accuracy. This allows the meter and probe to be "matched" to each other, and along with the Probe ID feature, guarantees an accurate and secure system.

DST600 Calibration Software

DSTCAL Calibration Software Kit - This software allows the user to configure the following parameters:

- **Sample/Display Rate** - Factory default at 2/seconds. Adjustable from .25 seconds to 10 seconds in .25 second intervals. Slower update rates extend battery life.
- **Probe R0** - Compensation feature which allows calibration of meter to be "matched" to probe.
- **Probe Authorization** - Allows user to change probes and authorize the new probe to operate with the existing meter.
- **Meter Calibration** - calibrates the meters resistance measurement circuits using precision resistances.
- **System Calibration** - used to calibrate a sensor's R0 value to a meter using a standard ice bath.

Software Accessories

DST600 Fixed Probe Calibration Cable - 13500-03 Extends the probe leads when performing system calibrations on fixed probe systems. Allows the meter to be conveniently placed on the benchtop, while the probe is installed in an ice bath.

DST600 Interconnect Calibration Cable - When probe wiring is difficult to remove, simply disconnect the probe and meter from the cable, and use the 2 meter interconnect cable for performing lab calibration.

12370-002 - 2 meter length, 6 conductor cable for use in calibration when installed remote cable cannot be easily removed.



For ordering assistance for all DST600 Series Meters
please call Customer Service at 1-800-421-2853

Complete Calibration Services Available

Meter Specifications and Accessories

DST 600 RTD METER SPECIFICATIONS

	DST600	DST600R	DST600I
Model	Standard	Selectable Resolution	AA Battery for International shipments
Meter Range	-50° to 500°F (-45.5° to 260°C)		
Scale	User Selectable for °F or °C		
Meter Accuracy	± 0.1°F/C, over 1-year period (@ Tamb = 23°C ± 5°C)		
Meter and Probe Accuracy	Temp ≤ 300°F (148.8°C) = ± 0.3°F (± 0.2°C), Temp > 300°F (148.8°C) = ± 0.25% of reading		
Display	1.0" 4-digit LCD display with icons for °F, °C and Low Battery, Readable up to 30 ft.		
Display Resolution	0.1°F/C	User Selectable 1/0.1°F/C	0.1°F/C
Sample/Display Rate	2 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds		3 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds
Ambient Operating Temperature Range	-40° to 158°F (-40° to 70°C)		
Ambient Temperature Coefficient	Maximum of 0.003°/°C over Ambient Operating Temperature Range from 23°C ± 5°C		
Humidity	10% to 100% RH non-condensing		
Battery	1 Lithium Thionyl Chloride "C" Battery, User Replaceable		1 AA Battery, User Replaceable
Battery Life	2 years nominal at 2 second update interval		1 year nominal at 3 second update interval
Enclosure	Stainless Steel and Polycarbonate (NEMA 4X)		
Enclosure Dimensions/Weight	Dimensions: 5.3" W x 4.3" H x 2.7" D (13.5 x 10.9 x 6.9 cm). Weight: 2 lbs. (1kg)		
Sensor/Probe	<ul style="list-style-type: none"> • Sensor - 4-wire RTD, R0 = 100Ω, Alpha = .00385 Ω / Ω / °C with serial ID chip • 304 or 316L Stainless Steel Probe construction • Adjustable Angle Stem Probes • Rigid Stem Probes • Remote Probes with rugged IP68 connection system. • Sanitary Fittings in compliance with 3A Sanitary Standard 74-05 		
Sensor Cables	All Remote Cables are shielded, 6 conductor		
NIST Calibration	Includes NIST Traceable Certificate of Conformance at 3 points: 180°F, 220°F, 250°F (For User Specified Fixed Points please contact Customer Service)		
Programming & Calibration Software	Optional: DSTCAL Calibration Software		

DST600 Series Software and Accessories

DSTCAL	DST600 Series Calibration Software Kit
12370-002	DST600 Series Interconnect Calibration Cable - 2 meter length, 6 conductor
13500-03	DST600 Series Fixed Probe Calibration Cable
DST600 Series Meter Accessories and NIST Traceable Certificate of Conformance	
DSA3030	Wall Mount Bracket (for Remote Mount units)
DSA3031	Wall Mount Bracket (for Remote Mount units) with Grounding Lug
DSA3032	Security Screw Kit (Screws, washers, security wire seal, instructions. Installed when purchased with meter)
DSA3033	Security Wire Seals, 10/pack, Toolless, 8", SS Wire
DSA3062	Spare "C" size Lithium Thionyl Chloride Battery
12234-03	Spare "AA" size Lithium Thionyl Chloride Battery for "I" versions
DS-M	Calibration & Firmware Upgrades (Upgrades if applicable, included in price)
DST6NIST	NIST Traceable Certificate of Conformance of System & Firmware Upgrades*Standard Set Test Points
DST6NIST-1	NIST Traceable Certificate of Conformance of System & Firmware Upgrades*User Specified Test Points
13146	90 Degree Elbow for Rigid stem units, Specify: Back Connection(B), Left(L) or Right Side(R) Mount

*Upgrades if applicable, are included in price

Specifications subject to change without notice



Complete Calibration Services Available

(800) 421-2853 • FAX (828) 658-0728 • www.palmerwahl.com



Wahl DST600 Digi-Stem® RTD Ordering Guide

WAHL DST600 METER & PROBE ORDERING GUIDE

Code	Step 1 - order Digi-Stem DST600 Series RTD Meter - (NIST Certificate included)							
DST600	Digi-Stem RTD Meter, LCD, Battery Powered Display, ("C" Battery included) -50° to 500°F (-45.5° to 260°C)							
I Models¹	Digi-Stem RTD Meter, LCD, International ("AA" Battery included)(add "I" to end of model number)							
NB Models¹	Digi-Stem RTD Meter, (No Battery included) Requires purchase of "C" battery from local supplier (add "NB" to model number)							
R Models	Digi-Stem RTD Meter, Selectable Resolution - User Selectable 1/0.1°F/C (add "R" to end of model number)							
Q Models	Digi-Stem RTD Meter with Quick Disconnect (add "Q" to end of model number)							
	Code	Step 2 - order RTD Probe by inserting correct codes for desired probe in white boxes at bottom of form.						
	DST6	DST600 RTD Probe						
	Code	Process Connections (Select One) * If choosing item with No Charge, please check line to select.						
	01	1/2" NPT Fitting						
	02	3/4" NPT Fitting						
	03	1-1/2" Diameter, 3-A Sanitary Standard 74-05; Stem Type Code "2", Welded only; Material 2, 316L SS/-450°F only						
	04	2" Diameter, 3-A Sanitary Standard 74-05; Stem Type Code "2", Welded only; Material 2, 316L SS/-450°F only						
	05	2-1/2" Diameter, 3-A Sanitary Standard 74-05; Stem Type Code "2", Welded only; Material 2, 316L SS/-450°F only						
	06	3" Diameter, 3-A Sanitary Standard 74-05; Stem Type Code "2", Welded only; Material 2, 316L SS/-450°F only						
	07	1-1/4" x 18 NEF2 Swivel Nut Fitting						
	08	1/2" NPSM Swivel Nut Fitting						
	09	Unthreaded Transition Fitting						
	Code	Mounting Style (Select One) For Back(B), Left(L) or Right Side(R) Mount specify Code B, & add #13146 - 90° Elbow						
	A	Adjustable Angle (Not available on Remote Stems)						
	B	Rigid - (Bottom Connected)					N/C	_____ *
	C	Remote (Mounting Bracket not included)						
	Code	Stem Type (Select One)						
	2	Welded					N/C	_____ *
	3	Spring Loaded, Process Connection Codes "01" & "02" only. Stem Tip Diameter Code "1" only. Allows approx 1.0" Spring Travel.						
	Code	Stem Material/Construction (Select One)						
	1	304 SS, Temperature Rating 400°F (204°C)					N/C	_____ *
	2	316L SS, Temperature Rating 400°F (204°C) (Note: not available with Stem Dia Code "3")						
	Code	Stem Diameter (Select One)						
	1	1/4" Diameter					N/C	_____ *
	2	3/8" Diameter						
	3	5/8" Stem, 7/16" Tapered Bulb, (Process Conn "07" only, Stem Material Code "1" only, Standard Stem Lengths: 3.5", 6", 8", 9", 12", other lengths available upon request)						
	4	1/2" Diameter, One Piece Construction						
	Code	Stem Lengths (Specify)						
	01X-12X	1" to 12" Length in inches - 01X = 1 inch, 02X = 2 inch, 03X = 3 inch, etc. For fractional lengths substitute X with: A = 1/4", B = 1/2", C = 3/4", Example: 03B = 3-1/2". Specify exact length desired_____					N/C	_____ *
	13X-72X	13" to 72" Length in inches. For fractional lengths substitute X with: A = 1/4", B = 1/2", C = 3/4", Example: 13B = 13-1/2". Specify exact length desired_____					\$/in #_____	
Stop here if ordering Adjustable Angle or Rigid Probe.		If ordering Remote Probe continue with options on next page.						
Meter	Probe	Adjustable Angle and Rigid Probe					* If choosing item with No Charge, please check line to select	
DST600_	DST6							

¹ DST Meters come standard with a "C" cell battery, ready for ground shipment in the contiguous 48 states and some areas of Canada. For air shipments, either an "I" model with a "AA" battery, or "NB" model with no battery is required to avoid additional charges in compliance with transportation regulations regarding "C" cell Lithium metal batteries. The purchase of an NB model requires the purchase of a "C" size Lithium Thionyl Chloride battery from a local supplier.

Insert Model Number Code in white boxes below to construct Part Number for product desired, and carry over to next page.

WAHL DST600 METER & PROBE ORDERING GUIDE

If ordering a Remote Probe continue with options below.

Code	Step 3 - Meter Connection - where cable attaches to Digi-Stem Meter (Select One)		
1	Fixed (Cable attached to meter via 1/2" NPT fitting, must be disconnected from PCB to separate from meter)	N/C	___*
2	Quick Disconnect - Straight Connection (Cable attached via IP68 rated TURCK 6-pin plug & receptacle)		
3	Quick Disconnect - 90° Connection (Cable attached via IP68 rated TURCK 6-pin plug & receptacle) (check Lead Time)		
Code	Cable Type		
1	PVC, Temperature Rating 221°F (105°C)	N/C	STD
	Code	Cable Length - 6-Pin Connector (Specify)	
	002	2 meters (6.5 feet)	
	004	4 meters (13.1 feet)	
	006	6 meters (19.7 feet)	
	008	8 meters (26.3 feet)	
	010	10 meters (32.8 feet)	
	011-200	011 = 11 meters, etc. up to 200 meters. Add \$ per meter, Specify exact length desired: _____	\$/meter
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> #12370-XXX for Quick Disconnect on both ends #12371-XXX for Quick Disconnect on Meter end only #12372-XXX for Quick Disconnect on Probe end only </div>			
	Code	Probe Connection - point where cable attaches to probe fitting (Select One)	
Insert Model Number Code in white boxes below to construct Part Number for specific probe desired	1	Fixed (Cable permanently attached to probes process fitting)	N/C ___*
	2	Quick Disconnect - Straight Connection (Cable attached via IP68 rated TURCK plug & receptacle) For Replacement Cable only, add Suffix "C" ¹ For Replacement Probe only, add Suffix "P" ²	
	3	Quick Disconnect - 90° Conn (Cable attached via IP68 rated TURCK plug & receptacle) (check Lead Time) For Replacement Cable only, add Suffix "C" ¹ For Replacement Probe only, add Suffix "P" ²	
Remote Probe Ordering Information		¹ Determine Part Number with Codes on pgs 2 & 3. Determine Price using Codes on pg 3. ² Determine Part Number with Codes on pgs 2 & 3. Determine Price using Codes on pg 2.	
Remember to include RTD probe number from previous page and combine with remote probe number from this page to obtain final part number.			

Insert Final Part Number below:

Meter	Probe	Adjustable Angle and Rigid Probe Ordering Information (from previous page)	Remote Probe Ordering Information (from above)
DST600__	DST6		

Wahl DST600 Series Optional Accessories Ordering Guide

Step 4 - order DST600 Series Software and Accessories		
DSTCAL	DST600 Series Calibration Software Kit (includes USB Cable, DST/USB Interface Module, & Digi-Stem Serial Interface Cable)	
12370-002	DST600 Series Interconnect Calibration Cable, 2 meter length - 6 Conductor	
13500-03	DST600 Fixed Probe Calibration Assembly	
DST600 Series Meter Accessories and NIST Traceable Certificate of Conformance		
DSA3030	Wall Mount Bracket (for Remote Mount units)	
DSA3031	Wall Mount Bracket (for Remote Mount units) with Grounding Lug	
DSA3032	Security Screw Kit (Screws, washers, security wire seal, instructions. Installed when purchased with meter)	
DSA3033	Security Wire Seals, 10/pack, Toolless, 8", SS Wire	
DSA3062	Spare "C" size Lithium Thionyl Chloride Battery	
12234-03	Spare "AA" size Lithium Thionyl Chloride Battery for "I" versions	
DS-M	Calibration and Firmware Upgrades ²	
DST6NIST	NIST Traceable Certificate of Conformance of System & Firmware Upgrades ² Std Set Test Points(New/Subsequent)	
DST6NIST-1	NIST Traceable Certificate of Conformance of System & Firmware Upgrades ² User Specified Test Points(New/Subsequent)	
	Add \$30.00 per User Specified Test Point.	
13146	90 Degree Elbow ³ for Rigid stem units, Specify: Back Connection (B), Left (L) or Right Side (R) Mount	

² Upgrades if applicable, are included in price.

³ For Back, Left, or Right Side Mounting specify Code B - Rigid, under Mounting Style, add #13146 - 90 Degree Elbow accessory, and specify as shown above.



**The World's Finest Manufacturers of Industrial
Temperature, Pressure, Humidity, Test and Calibration Instruments**

CALIBRATION SERVICES

Wahl designs and manufactures to the most stringent quality standards. We provide certified, traceable calibration data in support of companies whose requirements include meeting ISO 9001, FAA and FDA quality standards. Calibrations to both IPTS-68 and ITS-90 are available. Choose from two levels of calibrations services to meet your quality system requirements.

STANDARD CERTIFICATION: Unit is calibrated to factory specifications using NIST traceable equipment. Unit is provided with:

Certificate of Conformance* - Statement that our product meets published specifications. Included when you buy a new product.

Calibration Sticker* - (or tag) Advising you of the date your instrument(s) was/were calibrated, and the suggested date for its next calibration. This is provided when you buy a new product and when you return a product for calibration. (*Most Products)

NIST TRACEABLE TEST REPORT: Unit is calibrated to factory specifications using NIST Traceable equipment. Unit is provided with:

NIST Traceable Test Report - Our quality Management system is certified to conform to ISO9001:2008. We maintain a calibration system in conformance with ANSI/NCCL Z-540 and MIL-STD-45662A.



"As Received" and "As Left" Data with Out of Tolerance conditions noted.

Calibration Sticker (see above).

REPAIR AND OTHER SERVICES

REGISTER YOUR PRODUCT: Registration is fast and easy. In about a minute you can register your product for Warranty Protection and our Calibration Reminder Service to keep your QC Program in compliance. **Go to www.palmerwahl.com/register.**

REPAIR SERVICES: Palmer Wahl offers repair and calibration services on most products we sell. Contact Customer Service for pricing, and an RMA. Please see note below.

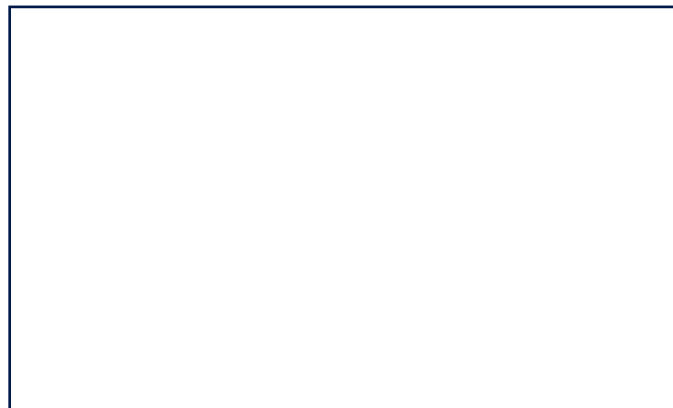
Detailed Repair Report - Available upon request, this report provides details of evaluation and repairs made.

Custom Points - Palmer Wahl will calibrate your instruments at your specified temperature or pressure.

Special Requests - When calibrating your instrument, our experienced personnel will help you to achieve the level of quality that you need in your facility.

Note: You must have a **Return Merchandise Authorization Number**, (RMA) before returning a product for repair or calibration. To obtain an RMA, please call Customer Service at 1-800-421-2853 or go to www.palmerwahl.com and click on: Service > Product Return Request.

Wahl Digi-Stem® Thermometers are distributed by:



**Why you need to
Calibrate your Instruments**

- Increase customer satisfaction with consistent products.
- Comply with quality standards.
- Improve product quality.
- Ensure traceability throughout your entire manufacturing process.
- Palmer Wahl offers a complete line of Calibrators to integrate all the necessary functions for adjustment and maintenance of your process.
- Our products are easy to use and Palmer Wahl is there to help, every step of the way.
- Go to: www.palmerwahl.com > Test & Calibration.

www.palmerwahl.com

Palmer Wahl Warranty

Manufacturer warrants all products listed in this catalog to be free from defects in material or workmanship under normal use and service. The Manufacturer agrees to repair or replace any product which upon examination is revealed to have been defective due to faulty workmanship or material if returned to our factory, transportation charges prepaid, within the product specific warranty period stated in the catalog by the manufacturer. This warranty is in lieu of all other warranties, expressed or implied and of all obligations or liabilities on its part for damages including but not limited to consequential damages, following the use or misuse of instruments sold by the Manufacturer. No agent is authorized to assume for manufacturer any liability except as set forth above.

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