



SOUTHWEST RESEARCH INSTITUTE™

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Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-3692

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: LIETAI YANG

Manufacturer Model: OAKTON 35629-20

Description: THERMOMETER

Serial No: 2332580201-0007

Asset No: 010864

Procedure: IR THERMOMETER, MAY/04

Work Order: 444058930

Date Issued: May 12, 2004

Calibration Date: May 11, 2004

****Calibration Due:** May 11, 2005

Calibration Location: Bldg. 64

Environment: Temp. 73.0°F Hum. 45 %RH

***As Found:** SEE ATTACHED DATA

***As Left:** SEE ATTACHED DATA

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 1999 and ANSI/NCCL Z540-1-1994 which are equivalent to relevant requirements of the ISO 9000-1994 series of standards. This certificate may not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. The results of this calibration relate only to the individual instrument described above. This certificate shall not be used to claim product endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government.

Uncertainty evaluation includes the item under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor of $k=2$ to approximate a 95% confidence level.

*The client has sole responsibility for determination of in/out of tolerance or compliance/noncompliance. An in/out of tolerance opinion is provided for your convenience based only on the Test Instrument (TI) reading(s) and limits as reported. The reported uncertainty relates only to the results at the time of calibration and does not imply any short or long term stability of the TI.

**Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

Remarks: SEE DATA SHEET

Standards Used

Asset	Manufacturer	Model	Description	Cal Due
009414	HART SCIENTIFIC	1502A	TEMPERATURE READOUT	Sep 09, 04
010692	HART SCIENTIFIC	5618	PLATINUM RTD	Aug 03, 04

Approved by: Walt Hill
Metrology Group Leader
m:\Nona21a1.rpt Rev date 11, May 04

Measurements by: Bob Trollinger
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Calibration Report

Work Order:	444058930	Mfr.	Oakton	Technician	blt
Asset No.	010864	Model	35629-20	Cal Date.	11-May-04
Serial No.	2332580201-0007	Type.	IR THERMOMETER		
Remarks:	Reading are without PASS or FAIL determination per customer request.				

Function/Range	Hart	TI Reading	Difference	+/-Uncertainty
Set Point	°C	°C	°C	°C
50°C	50.2	49.4	-0.8	0.55
100°C	99.8	98.1	-1.7	0.55
200°C	199.6	196.2	-3.4	0.55
230°C	229.6	226.4	-3.2	0.55
Set Point	°F	°F	°F	°F
122°F	122.3	121.3	-1.0	0.96
212°F	211.8	208.5	-3.3	0.96
392°F	391.2	385.5	-5.7	0.96
446°F	445.3	439.3	-6.0	0.96
END OF REPORT				