

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 22380 ASSET # 2471 DATE 14 Aug 96

ITEM DATA:

Manufacturer Fisher Model 14-983-10B
Description Thermometer Serial # 183305
Accessories _____

ACTION REQUESTED cal

CUSTODIAN Darrell Dunn Div 20

Turned in by: 20-5708-575 Phone _____

CHARGE # 20-011 Date Required _____

INSTRUMENT USED ON: NUCLEAR DOD NASA GLP SPPE
 OTHER

COPY OF CALIBRATION CERTIFICATE Yes No

- CONDITION RECEIVED:
- _____ Out of tolerance, repaired to specifications
 - _____ In tolerance, minor adjustments/repairs made
 - In tolerance, no adjustments/repairs
 - _____ Out of tolerance, adjusted to specifications
 - _____ Received into system, introduced or reactivated
 - _____ Calibration internal
 - _____ Realibility code

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated per procedure.
Std used
0.0°C 0°C

CAL ENVIRONMENT:
Temperature 80 °F Humidity 33 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure 41-9-30-7403
Date 19 Aug 96 Accuracy ±1°C
Cal Interval 6 mos Time to complete:
Next Cal due 19 Feb 97 Cal 2.0 Repair _____
Standards used (Asset#) 4965

DATE COMPLETED 19 Aug 96
DATE PICKED UP 8/21/96 PICKED UP BY [Signature]

22380

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 24345 ASSET # 002471 DATE 17 Feb 97

ITEM DATA:

Manufacturer Fisher Brand Model 14-985-1003
Description Thermometer Serial # 183305
Accessories _____

ACTION REQUESTED cal

CUSTODIAN Div. 20, Donald Dunn

Turned in by: _____ Phone _____

CHARGE # 70.5700.561 Date Required _____

INSTRUMENT USED ON: NUCLEAR DOD NASA GLP SPPE
 OTHER _____

COPY OF CALIBRATION CERTIFICATE Yes No

CONDITION RECEIVED: _____ Out of tolerance, repaired to specifications
_____ In tolerance, minor adjustments/repairs made
 In tolerance, no adjustments/repairs
_____ Out of tolerance, adjusted to specifications
_____ Received into system, introduced or reactivated
_____ Calibration internal
_____ Reliability code

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated per procedure.
std 445
0.03°C 0.0°C

CAL ENVIRONMENT:
Temperature 50 °F Humidity 36 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure WI-9-30-7103
Date 21 FEB 97 Accuracy +/- 1°C
Cal Interval 6 mos Time to complete: _____
Next Cal due 31 AUG 97 Cal 2.0 Repair _____
Standards used (Asset#) 219, 328

DATE COMPLETED 21 FEB 97
DATE PICKED UP 2/26/97 PICKED UP BY [Signature]

24345

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 26595 ASSET # 002471 DATE 25 Aug 97

ITEM DATA:
Manufacturer Fisher Model M-985-103
Description 1/16" mm scale Serial # 183505
Accessories _____

ACTION REQUESTED cal

CUSTODIAN DV20, David Lim

Turned in by: _____ Phone 6090

CHARGE # 20-5708-561 Date Required _____

INSTRUMENT USED ON: DOD/NASA NUCLEAR GLP SPPE ISO
 OTHER _____

COPY OF CALIBRATION CERTIFICATE Yes No

NEW WORK Yes No If yes, an evaluation shall be made to verify capabilities.
By _____ Date _____

CONDITION RECEIVED: _____ (F) Out of tolerance, repaired to specifications
_____ (G) In tolerance, minor adjustments/repairs made
 (J) In tolerance, no adjustments/repairs
_____ (K) Out of tolerance, adjusted to specifications
_____ (S) Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated per procedure
etc 445
0.025°C 0.0°C

26595

CAL ENVIRONMENT:
Temperature 78 °F Humidity 35 %RH

CALIBRATED/REPAIRED:
By Kelland Cal Procedure WI-9-30-77/23
Date 4 Sep 97 Accuracy ±1°C
Cal Interval 6 mos Reliability Code: 7
Next Cal due 4 Apr 98 Cal Time 1.5 Repair Time _____
Standards used (Asset#) 218, 325

DATE COMPLETED 4 Sep 97
DATE PICKED UP 9/10/97 PICKED UP BY [Signature]

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 28935 ASSET # 002471 DATE 07 Mar 98

ITEM DATA:
Manufacturer Fisher, brand Model 14-983-103
Description 1 thermometer Serial # 18305
Accessories _____

ACTION REQUESTED cal

CUSTODIAN Dr. D. D. D.

Turned in by: _____ Phone 6090

CHARGE # 70-1402-511 Date Required _____

INSTRUMENT USED ON: DOD/NASA NUCLEAR GLP SPPE ISO
OTHER _____

COPY OF CALIBRATION CERTIFICATE Yes No

NEW WORK Yes No If yes, an evaluation shall be made to verify capabilities.
By _____ Date _____

CONDITION RECEIVED: _____ (F) Out of tolerance, repaired to specifications
_____ (G) In tolerance, minor adjustments/repairs made
 (J) In tolerance, no adjustments/repairs
_____ (K) Out of tolerance, adjusted to specifications
_____ (S) Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) _____
cal std unt
0.012°C 0°C

CAL ENVIRONMENT: Temperature 72 °F Humidity 26 %RH

CALIBRATED/REPAIRED:
By 12/12/98 Cal Procedure WI9-30-THO3
Date 10 Mar 98 Accuracy ±1°C
Cal Interval 6 mos Reliability Code: 8
Next Cal due 10 Sep 98 Cal Time 1.0 Repair Time _____
Standards used (Asset#) 219, 328

DATE COMPLETED 10 Mar 98
DATE PICKED UP 3/18/98 PICKED UP BY [Signature]

28935

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 31645 ASSET # 002471 DATE 19 OCT 98

ITEM DATA:

Manufacturer Fisher Model 14-903-03
Description Fisher Monitor Serial # 183305
Accessories 001

ACTION REQUESTED _____

CUSTODIAN DIV. 90, Donald Dunn

Turned in by: _____ Phone 6090

CHARGE # 20-1402-571 Date Required _____

INSTRUMENT USED ON: (DOD/NASA) (NUCLEAR) (GLP) (SPPE) (ISO)
 OTHER _____

COPY OF CALIBRATION CERTIFICATE (Yes) (No)

NEW WORK Yes No If yes, an evaluation shall be made to verify capabilities.

By MARJ Date 10-19-98

Work involves proprietary/confidential information or equipment (Yes) (No)

CONDITION RECEIVED: _____ (F) Out of tolerance, repaired to specifications
_____ (G) In tolerance, minor adjustments/repairs made
 (J) In tolerance, no adjustments/repairs
_____ (K) Out of tolerance, adjusted to specifications
_____ (S) Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated by procedure

CAL ENVIRONMENT:
Temperature 74 °F Humidity 59 %RH

CALIBRATED/REPAIRED:
By Shubert Cal Procedure ASTM E77-92
Date 20 Oct 98 Accuracy 1% span
Cal Interval 6 mos Reliability Code: 9
Next Cal due 20 APR 99 Cal Time 1.0 Repair Time _____
Standards used (Asset#) 219, 328

DATE COMPLETED 20 Oct 98
DATE PICKED UP 10/22/98 PICKED UP BY DD

31645

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 34377 ASSET # 002491 DATE 04 May 99

ITEM DATA:

Manufacturer Fisherbrand Model 14-983-10B
Description thermometer Serial # 183305
Accessories tube

ACTION REQUESTED cal

CUSTODIAN DIV 20, Darrell Duna

Turned in by: _____ Phone 6090

CHARGE # 20-04 Date Required _____

INSTRUMENT USED ON: (DOD/NASA) (NUCLEAR) (GLP) (SPPE) (ISO)
 OTHER _____

COPY OF CALIBRATION CERTIFICATE (Yes) (No)

NEW WORK Yes No If yes, an evaluation shall be made to verify capabilities.

By mad Date 05-04-99

Work involves proprietary/confidential information or equipment (Yes) (No)

CONDITION RECEIVED: _____ (F) Out of tolerance, repaired to specifications
_____ (G) In tolerance, minor adjustments/repairs made
 (J) In tolerance, no adjustments/repairs
_____ (K) Out of tolerance, adjusted to specifications
_____ (S) Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated Per Procedure

CAL ENVIRONMENT:
Temperature 76 °F Humidity 33 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure F.O. 33A3-4-42-1, Apr 97
Date 7 May 99 Accuracy [Signature]
Cal Interval 6 mos Reliability Code: _____
Next Cal due 7 Nov 99 Cal Time 1.5 Repair Time _____
Standards used (Asset#) 5174, 7001

DATE COMPLETED 7 May 99
DATE PICKED UP 5/15/99 PICKED UP BY [Signature]

34377

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

WORK ORDER # 36845 ASSET # 00249 DATE 17 Nov 99

ITEM DATA:

Manufacturer Fisher brand Model 11-993-106
Description Thermometer Serial # 18005
Accessories _____

ACTION REQUESTED Cal

CUSTODIAN Div. 20, Darrell Dunn

Turned in by: _____ Phone 6090

CHARGE # 20.04 Date Required _____

INSTRUMENT USED ON: (DOD/NASA) (NUCLEAR) (GLP) (SPPE) (ISO)
 OTHER _____

COPY OF CALIBRATION CERTIFICATE (Yes) (No)

NEW WORK Yes No If yes, an evaluation shall be made to verify capabilities.

By mad Date 11/17/99

Work involves proprietary/confidential information or equipment (Yes) (No)

CONDITION RECEIVED: _____ Out of tolerance
 In tolerance
_____ Damaged (Contact customer)
_____ Contact _____ Date _____
_____ Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated per procedure

CAL ENVIRONMENT:
Temperature 74 °F Humidity 49 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure CL-9, 1/17/99
Date 1/17/99 Accuracy 1/2 of range
Cal Interval 6 mos Reliability Code 11
Next Cal Due 1/17/00 Cal Time 1 Repair Time _____
Standards used (Asset #) 5243, 5174

DATE COMPLETED 1/17/99
DATE PICKED UP 11/23/99 PICKED UP BY [Signature]

36845



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
(210) 522-5215
Department of Quality Assurance
Calibration Laboratory



Certificate #
0972-01

Certificate of Calibration

19 November 1999

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 14-983-10B
Description: THERMOMETER
Serial Number: 183305
Asset Number: 002471

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results of this calibration certificate were determined in accordance with the terms of accreditation unless stated otherwise below.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 74.0 Degrees Fahrenheit Humidity: 49 % RH

Calibration Date: 19 Nov 99 **Calibration Procedure:** CL-9, MAY99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

Jim Patterson, Supervisor or Walt Hill, Metrologist

Certificate # 36845

m:\a2la.rpt Rev date 10 Mar 99

Measurements performed by:

Ken Harp, Technician

Page 1 of 1

WORK ORDER 39219

Date Received 5/25/00

Asset No. 002471 Manufacturer FISHER SCIENTIFIC Model 14-983-10B
Description THERMOMETER Serial Number 183305
Accessory Received/Required NONE
Div/CC ID NONE Accessory to Asset No. N/A
Div/CC DIV20 Location B57 Custodian DARRELL DUNN Tel. 6090
Charge/Project No. 20.00751.006 Proprietary/Confidential N Date Required ROUTINE
Work Requested CALIBRATION
Receiving Inspection O.K.
Delivered By DARRELL DUNN Tel. 6090

WORK HISTORY

Date	Start Time	Stop Time	Notes

PARTS

Part Name	Part Number	Cost	Failure Description

39219

WORK SUMMARY

Failure Description _____
Repair Action _____
Cal Procedure CL-9, MAY99 Temp 26 F Hum 47 %
Tech JW Cal Hrs. 17 Repair Hrs. _____ Part Cost _____
Action Taken errL
Standards Used 219 5174
Date Cal 1 JUN 2000 Int. 6 Mo. Date Due 1 DEC 2000 Reliability Code _____
Date Picked Up 6/2/00 Picked Up By [Signature]



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
(210) 522-5215
Department of Quality Assurance
Calibration Laboratory

Accredited



Certificate #
0972-01

Certificate of Calibration

1 June 2000

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 14-983-10B
Description: THERMOMETER
Serial Number: 183305
Asset Number: 002471

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. The results of this calibration relate only to the individual item as described above. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

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The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 76.0 Degrees Fahrenheit Humidity: 47 % RH

Calibration Date: 1 Jun 00 **Calibration Procedure:** CL-9, MAY99

Condition as Received: In Tolerance

Remarks:

Approved by:

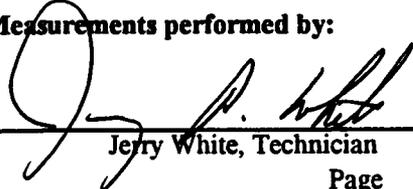


Jim Patterson, Supervisor, or Walt Hill, Metrologist

Certificate # 39219

m:\a2la.rpt Rev date 22 May 00

Measurements performed by:



Jerry White, Technician

Page 1 of 1

SOUTHWEST RESEARCH INSTITUTE

Calibration Laboratory

WORK ORDER

Processed by RCRUZ at 2:38:38PM on 4/26/01

||||| ||||| ||||| ||||| ||||| ||||| |||||

Work Order **444043352**

Arrived 4/26/01

Asset No. 002471

Manufacturer FISHER SCIENTIFIC

Model 14-983-10B

Instrument Type/Class THERMOMETER

Serial No. 183305

Accessory No.

Calibration Procedure CL-9, MAY99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel. 6090

Charge/Project No. 20.00751.006

Delivered By / Telephone DARRELL DUNN

IN4CAL

Special Instructions _____

WORK NOTES

Date	Hours	Remarks/Notes
<u>5-2-01</u>	<u>1.0</u>	<u>Calibrate</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

REPAIR PARTS

Date	Hours	Part Name	Part Number	Failure Description	Cost
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

WORK SUMMARY

Failure Description None

Repair Action None

Calibration Procedure CL-9, 5/95

Temp 72 F

Hum. 43 %

Tech R Dykster

Totals Cal Hours 1.0

Repair Hours _____

Parts Cost _____

Standards Used 517A, 5243

Date Picked Up 5/8/01

Picked Up By Darrell Dunn

444043352



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
(210) 522-5215
Department of Quality Assurance
Calibration Laboratory



Certificate #
0972-01

Certificate of Calibration

2 May 2001

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 14-983-10B
Description: THERMOMETER
Serial Number: 183305
Asset Number: 002471
Work Order Number: 444043352

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. The results of this calibration relate only to the individual item as described above. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results of this calibration certificate were determined in accordance with the terms of accreditation unless stated otherwise below.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 72.0 Degrees Fahrenheit Humidity: 43 % RH

Calibration Date: 2 May 01 **Calibration Procedure:** CL-9, MAY99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

Walt Hill, Supervisor
Institute Calibration Laboratory

Measurements performed by:

Roger Dykstra, Technician

SOUTHWEST RESEARCH INSTITUTE

Calibration Laboratory

WORK ORDER

Received by WHILL, 11/16/01 12:38:23PM

Arrived 11/16/01

Work Order **444046132**

Asset No. 002471 Manufacturer FISHER SCIENTIFIC

Model 14-983-10B

Equipment Type THERMOMETER

Serial No. 183305

Accessory No.

Interval 6 M

Calibration Procedure CL-9, MAY99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel 6090

IN4CAL

Special Instructions _____

Notify before adjustments or repairs. () Provide data with certificate () Certificate Typ _____

Charge/Project No. 00751.006.1.20

Requester / Telephone BRIAN/

This information is correct for the work requested. B. P. Day

WORK NOTES

Date	Hours	Remarks/Notes
<u>11/19</u>	<u>1.0</u>	<u>cal</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Date	Hours	Part Name	Part Number	Failure Description	Cost
<u>n/a</u>	<u>→</u>	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

WORK SUMMARY

Failure Description n/a

Repair Action n/a

Tech R. D. K. S. M. Cal Hrs. 1.0 Repair Hrs _____ Parts Cost _____ Temp 76 F Hum. 49 %

Standards Used 0219

Date Picked Up 12/4/02

Picked Up By Darrell Dunn

46132



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
(210) 522-5215
Department of Quality Assurance
Calibration Laboratory

Certificate of Calibration

19 November 2001

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 14-983-10B
Description: THERMOMETER
Serial Number: 183305
Asset Number: 002471
Work Order Number: 444046132

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 76.0 Degrees Fahrenheit Humidity: 49 % RH

Calibration Date: 19 Nov 01 **Calibration Procedure:** CL-9, MAY99

Condition as Received: SEE ATTACHED DATA

Condition as Received: SEE ATTACHED DATA

Remarks:

Approved by:


Walt Hill, Supervisor
Institute Calibration Laboratory

Measurements performed by:


Roger Dykstra, Technician

SOUTHWEST RESEARCH INSTITUTE

Calibration Laboratory

WORK ORDER

Received by AANDERSON, 6/6/02 9:11:09AM

||||| ||||| ||||| ||||| ||||| ||||| |||||

Arrived 6/6/02

Work Order **444048912**

Asset No. 002471 Manufacturer FISHER SCIENTIFIC

Model 14-983-10B

Equipment Type THERMOMETER

Serial No. 183305

Accessory No.

Interval 6 M

Calibration Procedure CL-9, MAY99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel 6090

IN LINE

Special Instructions _____

Notify before adjustments or repairs. (✓) Provide data with certificate (✓) Certificate Typ. _____

Charge/Project No. 00751.006 1.20

Requester / Telephone DARRELL DUNN

This information is correct for the work requested.

WORK NOTES

Date	Hours	Remarks/Notes
<u>6/10/02</u>	<u>.5</u>	<u>cal</u>
<u>6/11/02</u>	<u>.5</u>	<u>cal</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Date	Hours	Part Name	Part Number	Failure Description	Cost
<u>N/A</u>	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

WORK SUMMARY

Failure Description n/a

Repair Action n/a

Tech R. Dykes Cal Hrs. 1.0 Repair Hrs _____ Parts Cost _____ Temp 74 F Hum. 55 %

Standards Used 944, 5174, 9137, 8920

Date Picked Up 6/28/02

Picked Up By Darrell Dunn

48912

Southwest Research Institute
Calibration Laboratory
Calibration Data Sheet

Workorder 444048912
Asset #: 002471
Serial #: 183305

Mfr. Fisher Scientific
Model 14-983-10B
Type Thermometer

Technician R Dykstra
Procedure CL-9, 5/99
Cal Date 6/10/02

Ambient Conditions:

Temperature 74 Degree F
Humidity 55 % R.H.
Baro. Pressure N/A PSIA

Data sheet Revision:

Revision 0 2/21/02

Standards used:

Asset #	Due Date	Nomenclature
9414.00	12/06/02	H.P. 34420A Digital Multi-Meter
005174	12/06/02	RTD probe
009137	12/10/02	Hart Super Thermometer
008920	12/07/02	RTD probe

Is statement of compliance to a specification requested. Yes
(If statement is required, print yes otherwise leave blank)

Tolerance 1.00 Degree C Range -20 to 110 Degree C
(If not required leave blank)

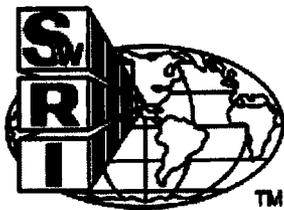
Degree C	Degree C	Degree C	Degree C	Degree C	
Std Reading	TI Reading	Error	Test Limits	Uncertainty	Results
-19.86	-19.6	0.25	1	0.35	Pass
12.18	12.0	-0.18	1	0.35	Pass
44.05	44.0	-0.05	1	0.35	Pass
75.86	76.4	0.54	1	0.35	Pass
108.95	110.0	1.05	1	0.35	

Remarks:

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, which provides a level of confidence of approximately 95%.

If compliance testing to a specification is requested. The results can be pass, fail, or if blank "Not determinable". If results are not determinable it is to end user to determine if results meet thier needs.

If compliance testing to a specification is not requested, only data and uncertainty will be given on data sheet.



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
(210) 522-5215
Department of Quality Assurance
Calibration Laboratory

Certificate of Calibration

11 June 2002

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 14-983-10B
Description: THERMOMETER
Serial Number: 183305
Asset Number: 002471
Work Order Number: 444048912

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 68.0 Degrees Fahrenheit Humidity: 36 % RH

Calibration Date: 11 Jun 02 **Calibration Procedure:** CL-9, MAY99

Condition as Received: SEE ATTACHED DATA

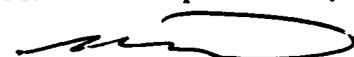
Condition as Returned: SEE ATTACHED DATA

Remarks:

Approved by:


Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

Measurements performed by:


Roger Dykstra, Technician