

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

WORK ORDER

CERTIFICATE # 33565 ASSET # 007168 DATE 05 MAR 99

ITEM DATA:

Manufacturer Fisherbrand Model 15-1664  
Description Thermometer Serial # 198-101  
Accessories None

ACTION REQUESTED MI

CUSTODIAN DUNN, Daniel Dunn

Turned in by: \_\_\_\_\_ Phone 6076

CHARGE # 20446 541 OH 03/2 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 MMW Date 03-05-99

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) 6 Point Cal

CAL ENVIRONMENT:  
Temperature 74 °F Humidity 49 %RH

CALIBRATED/REPAIRED: MMW  
By \_\_\_\_\_ Cal Procedure T033K5-4-42-1 ARR97  
Date 3-17-99 Accuracy ±10%  
Cal Interval None Reliability Code: \_\_\_\_\_  
Next Cal due 3-17-00 Cal Time 1h Repair Time \_\_\_\_\_  
Standards used (Asset#) 000219

DATE COMPLETED 3-17-99  
DATE PICKED UP 3/18/99 PICKED UP BY [Signature]

33565

CALIBRATION CHECK FORM

Date Calibrated 3-16-99

Work Order 33565

Rev      Chg       
Page      of     

Technician M. Wood

Unit Under Test Thermometer

Manufacturer Fisher

Model 15-166A

SN C98-101 ASN 7168

STEP	FUNCTION OR RANGE <u>0-150°C</u>	APPLIED °C	TOLERANCE		MEASURED VALUES		PT	
			MIN	MAX	AS FOUND	RELEASED		
			(±1°C)					
1		0.012	-0.987	1.012	0	Same	P	
2		29.92	28.92	30.92	30.0	↓	P	
3		59.10	58.10	60.10	59.0		P	
4		90.00	89.00	91.00	90.5		P	
5		119.93	118.93	120.93	121.0		P	
6		147.88	146.88	148.88	148.5		P	
			<del>INTOL</del>					

# WORK ORDER 38584

Date Received 4/10/00

Asset No. 007168 Manufacturer FISHER SCIENTIFIC Model 15-166A  
 Description THERMOMETER Serial Number C98-101  
 Accessory Received/Required CONTAINER  
 Div/CC ID NONE Accessory to Asset No. N/A Accuracy \_\_\_\_\_ Mfg. Tol. \_\_\_\_\_  
 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

SwRI Cal-Lab  
 CAL: 03/17/99 DUE: 03/1  
 AN: 007168 SN: C98-10  
 I DON'T WANT TO BE HERE!

## PARTS

Part Name	Part Number	Cost	Failure Description

38584

## WORK SUMMARY

Failure Description \_\_\_\_\_  
 Repair Action \_\_\_\_\_  
 Cal Procedure OL-9 5/99 Temp 76 F Hum 48 %  
 Tech [Signature] Cal Hrs. 1 Repair Hrs. \_\_\_\_\_ Part Cost \_\_\_\_\_  
 Action Taken Cal  
 Standards Used 0219 5174  
 Date Cal 4-18-00 Int. 12 Mo. Date Due 4-18-01 Reliability Code 2  
 Date Picked Up 5/2/00 Picked Up By [Signature]

**CALIBRATION CHECK FORM**

Date Calibrated 4-18-00

Work Order 38584

Cal By *[Signature]*

Procedure No./Date CL-9 5/99

Unit Under Test ASTM 1C Thermometer

Mfg. Fisher

Model 15-166A

SN C98-101 AN 7168

STEP	FUNCTION OR RANGE	APPLIED	TOLERANCE	MEASURED VALUES		P/F
			MIN - MAX	AS FOUND	RELEASED	
	Temp <sup>o</sup> C		± 1 <sup>o</sup> C			
	Nom					
1	-20		-17.74	-18.0		
2	0	0		0.0		
3	50	51.94		52.0		
4	100	99.82		100.7		
5	150	140.49		140.5		



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

18 April 2000

**Issued to:** DARRELL DUNN DIV20 B57  
**Manufacturer/Model:** FISHER SCIENTIFIC 15-166A  
**Description:** THERMOMETER  
**Serial Number:** C98-101  
**Asset Number:** 007168

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: 76.0 Degrees Fahrenheit Humidity: 48 % RH

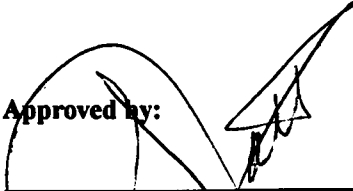
**Calibration Date:** 18 Apr 00 **Calibration Procedure:** CL-9 5/99

**Condition as Received:** IN TOLERANCE

**Condition as Released:** IN TOLERANCE

**Remarks:**

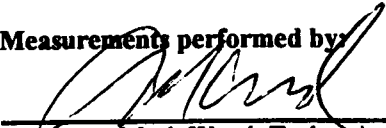
Approved by:

  
\_\_\_\_\_  
Jim Patterson, Supervisor, or Walt Hill, Metrologist

Certificate # 38584

m:\a2l\c\pt\_Rev\_date 14 Dec 99

Measurements performed by:

  
\_\_\_\_\_  
Mack Wood, Technician

Page 1 of 1