



VERAUF, LLC

HVAC
Testing, Adjusting, and Balancing
SUBMITTAL



VERAUF, LLC.
336 Timberwood Drive
Auburn, AL 36830-0508
NEBB Certified Firm # 3805
www.VERAUF.com



About Us

Veraufi LLC is a National Environmental Balancing Bureau (NEBB) certified firm and was formed on March 13, 2018 to provide a standard in the Testing, Adjusting, and Balancing industry. We are certified in TAB, Building Enclosure Testing, Sound and Vibration Measurement, Air Barrier Leakage Testing, and Thermography. With such a gap in workmanship from one firm to the next, we hope to set a standard that other future companies will uphold. Dependability, Integrity, and Communication with our customers is what we strive for. Our firm follows the current *NEBB Procedural Standard for Testing, Adjusting, and Balancing of Environmental Systems (2019 Ninth Edition)* procedures and only uses accurate and calibrated equipment.

Alec Monroe Jr-President:

After serving in the United States Marine Corps, Alec worked with Dunn Buildings, Rabren General Contractors, Stone Building Group, Brasfield & Gorrie, and started working for National True-Test in 2008. Alec is a NEBB Certified Professional in Testing, Adjusting, and Balancing. Alec is also certified in Building Enclosure Testing. With 15 years TAB experience and 22 years combined construction experience, Alec formed Veraufi LLC to serve the southeast and beyond. After starting Veraufi LLC, Alec has supervised TAB work on numerous large projects including large buildings, hospitals, pharmacies, churches, schools, health laboratories, science laboratories, college stadiums, municipal buildings, and energy plants.

Charles Leisy-Technician

With a degree in Marketing at Auburn University of Montgomery, Charlie joined the team in August of 2021. He is actively pursuing a certification as a certified technician. Charlie has performed TAB on numerous projects including Office Buildings, Retail, and Schools.



Mason Hill-Technician

After graduating Auburn University with a bachelor's degree in Agricultural Economics, Mason came to work for our Company in 2022. Mason has worked on several large projects at military installations, hospitals, laboratories and collegiate projects.

Parker Sasser-Technician

After graduating from Huntingdon College with a degree in Business Administration Parker joined the Veraufi team in 2024 to pursue a certification and career in TAB.

Timothy Davis-Independent Testing Consultants

President of Independent Testing Consultants, Tim has been working in Test and Balance and Building Commissioning for 28 years combined experience. Tim has helped us with numerous projects and has been crucial to our Auburn University Covid-19 study work. Tim specializes in troubleshooting complex problems and finding solutions with HVAC and buildings.



Firm Certification

VERAUFILLC

**HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED
STATUS IN THE FOLLOWING DISCIPLINE**

Testing, Adjusting and Balancing of Environmental Systems

3805

NEBB Certification Number

December 31, 2024

Expiration Date

NEBB President

NEBB President-Elect



Certification

ALEC C. MONROE, JR.

**HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED PROFESSIONAL
STATUS IN THE FOLLOWING DISCIPLINE**

Testing, Adjusting and Balancing of Environmental Systems

This Certificate, as well as individual affiliation with a NEBB Certified Firm and associated NEBB Certification Stamp are REQUIRED to provide a NEBB Certified Report. Participation in the NEBB Quality Assurance Program requires the Certificant be affiliated with a NEBB Certified Firm

CP-24276

NEBB Certification Number

December 31, 2024

Expiration Date

NEBB President

NEBB President-Elect



Firm Certification

VERAUFILLC

HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED
STATUS IN THE FOLLOWING DISCIPLINE

Building Enclosure Testing

3805

NEBB Certification Number

December 31, 2024

Expiration Date

NEBB President

NEBB President-Elect



Certification

ALEC C. MONROE, JR.

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Building Enclosure Testing

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Vibration Measurement

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Sound Measurement

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Test and Balance Procedures for Air and Water Balance

Phase One

1. Test and adjust blower RPM to design requirements.
2. Test and record motor load amperes.
3. Make Air Foil traverse of main supply ducts and obtain design CFM at fans.
4. Test and record system static pressures, suction, and discharge.
5. Test and adjust system for design recirculated air, CFM.
6. Test and adjust system for design outside air.
7. Test and record entering air temperatures. (D.B. heating and cooling)
8. Test and record leaving air temperatures. (W.B. cooling)
9. Test and record leaving air temperatures. (D.B. heating and cooling)
10. Test and record leaving air temperatures. (W.B. cooling)
11. Adjust all zones to proper design CFM, supply, and return.
12. Test and adjust each diffuser, grill, and register to within 10% of design requirements, unless specifications require a smaller percentage of error.
13. Each diffuser, grill and register shall be identified as to location.
14. Size and type of diffusers, grill registers and all tested equipment shall be identified and listed. Manufacturer's ratings on all equipment shall be used to make required calculations.
15. Readings and tests of diffusers, grills and registers shall be with direct reading flow hood or will include required FPM velocity and test resultant velocity, required CFM and test resultant CFM after adjustments.
16. In cooperation with the control manufacturer's representative, setting adjustments of automatically operated dampers to operate as specified, indicated, and /or noted. Test agency shall check all controls for proper calibration and list all controls requiring adjustment by control installers.
17. All diffusers, grills and registers shall be adjusted to minimize drafts in all areas.
18. As part of the work of this contract, Mechanical Contractor shall make changes in the pulleys, belts and dampers or the addition of dampers as required for correct balance as recommended by Veraufu, LLC.



Phase - Two

1. Set chilled water and hot water pumps to proper gallons per minute.
2. Adjust water flow of chilled water through chiller.
3. Adjust water flow of hot water through boilers.
4. Check leaving water temperatures and return water temperatures through chiller and boilers. Reset to correct design temperatures.
5. Check water temperatures at inlet side of cooling and heating coils. Note rise or drop of temperatures from source.
6. Proceed to balance each chilled water coil and hot water coil.
7. Upon completion of flow readings and adjustments at coils, mark all settings and record data.

Phase - Three

1. After adjustments to coils are made, re-check settings at the pumps, chillers and boilers and re-adjust if required.
2. Install pressure gauges on coil, read pressure drop through coil at set flow rate on call for full cooling and on full heating. Set pressure drop across bypass valve to match coil flow pressure drop. This prevents unbalanced flow conditions when coils are in full by-pass.
3. Same procedure on chiller to adjust chiller bypass valve.
4. Record and check the following items at each cooling and heating element:
5. Inlet water temperatures.
6. Leaving water temperatures.
7. Pressure drops of each coil.
8. Pressure drop across bypass valve.
9. Pump operating suction and discharge pressures and final T.D.H.
10. List all mechanical specifications of pumps.
11. Rated and actual running amperage of pump motor.
12. Water metering device readings.



Projects/Date Completed

- Alabama Department of Public Health New State Laboratory-Prattville, AL-6/1/2020
- City of Auburn New Public Safety Building-Auburn, AL-4/29/2020
- Airbus-Dual Hanger Extension-Hanger 17 & 18-Mobile, AL-11/12/2019
- Auburn University Performing Arts Center-Auburn, AL-11/13/2019
- Baptist Health South USP 800 Upgrades-Montgomery, AL-11/12/2019
- Baptist Health Prattville USP 800 Upgrades-Prattville, AL-3/16/2020
- East Alabama Medical Center Emergency Department Renovations-Opelika, AL-4/6/2020
- Building 215-Ft Benning-Columbus, GA-9/18/19
- Auburn University Hotel and Conference Center HVAC Upgrades-Auburn, AL-11/12/2019
- Chase Bank Auburn University Location-Auburn, AL-12/18-2019
- SI02 Inc-Cleanroom Addition-Auburn, AL-4/23/2020
- BBVA Village Plains-Auburn, AL-12/18/2019
- Headstart-Queen Ann Rd-Wetumpka, AL-3/16/2020
- Martin Aquatics Center-Auburn University-12/19/2019
- St. Vincent's East Yearly Airflow Verification-Trussville, AL-11/12/2019
- St. Vincent's Yearly Airflow Verification-Birmingham, AL-12/20/2019
- United States Forestry Department-Auburn, AL-3/16/2020
- East Alabama Medical Center-Rheumatology Relocation-Opelika, AL-11/12/2019
- Montgomery Cancer Center-Montgomery, AL-8/19/2020
- Pinnacle Cardiology Associates New Building-Opelika, AL-7/15/2020
- Briggs & Stratton Project Sight-Auburn, AL-10/14/2019
- DCI Dialysis-Columbus, GA-11/12/2019
- Veteran's Affairs Hospital Bldg. 120-Tuskegee, AL-9/30/2019
- Student Activity Center-Auburn University, AL-10/14/2019
- Columbus Water Works Laboratory-Columbus, GA-9/18/2019
- Auburn University Poultry Farm-Process Building-Battery-Hatchery-7/9/2020
- Jack Hughston Memorial Hospital Yearly Airflow Verification-Columbus, GA-9/1/2020
- Auburn University Men's Basketball Locker Room-Auburn, AL-10/14/2019
- Auburn University Equestrian Team Room-Auburn, AL-4/23/2020
- Shoal Creek Church-Wetumpka, AL-8/22/2019
- Wind Creek Casino-Wetumpka, AL-10/5/2020



- AU Village Chick FilA-Auburn, AL-9/18/2019
- Auburn University Pharmacy Research Building Vivarium-Auburn, AL-5/27/2020
- Sio2 Thermal Room III-Auburn, AL-1/8/2021
- New Office for Mint Julep-Opelika, AL-1/8/2021
- SiO2 Coater Enclosures-Auburn, AL-1/8/2021
- United States Coast Guard Hanger 1 S05-Mobile, AL-1/22/2021
- East Alabama Medical Center- Pharmacy Renovations-Opelika, AL-2/15/2021
- Montgomery Water Works Board-Montgomery, AL-2/12/2021
- Bleak Troup Medical Clinic-Ft. Sill, OK-2/15/2021
- Shaw Medical Clinic-Andalusia, AL-2/24/2021
- Building 6611-Fort Rucker, AL-3/2/2021
- East Alabama Medical Center-Primary Care Building-3/2/2021
- Auburn University Covid-19 AHU/OA Evaluation-Multiple Buildings-3/3/2020-Present
- Samford Village-Auburn, AL-3/3/2021
- SiO2 Packout Building-Auburn, AL-3/22/2021
- Montgomery County Annex 1 Renovations-Montgomery, AL-3/22/2021
- New Site Medical Clinic-New Site, AL-3/22/2021
- Corner Storage-Auburn, AL-3/23/2021
- MRI Jackson Hospital-Montgomery, AL-3/29/2021
- Alys Beach-The Whitby-Alys Beach, FL-3/29/2021
- Goodwin Hall-Auburn University, AL-3/29/2021
- Faulkner University Life Sciences Building-Montgomery, AL-4/22/2021
- Southern Union Community College Maintenance Building-3/31/2021
- Greene Hall-Auburn University, AL-4/7/2021
- Baptist Health Post-Partum-Montgomery, AL-4/12/2021
- SiO2 New Moulding Room Relief-Auburn, AL-4/22/2021
- RSA Alabama Chamber of Commerce Renovations-Montgomery, AL-4/22/2021
- EAMC Geriatric Psych Unit-Valley, AL-4/22/2021
- Leach Science Center Butler Building-Auburn University, AL-4/23/2021
- Baptist Health South-Pulmonary Function Lab-5/3/2021
- Building 40-Maxwell Air Force Base-Montgomery, AL-5/8/2021
- Baptist Health South Surgical Simulation Center-Montgomery, AL-5/11/2021
- Alys Beach-The Camden-Alys Beach FL-5/12/2021
- Dura Automotive-Muscle Shoals, AL-5/28/2021
- BLDG 5205-Ft Rucker, AL-6/10/2021
- Laser Eye Surgery Center-Huntsville, AL-8/13/2021
- BSL-3 Laboratory LSU-New Orleans, LA-8/13/2021



- Walker Pharmacy Rooms 1319-1330-Auburn University, AL-9/7/2021
- Women's Breast Center EAMC-Auburn, AL-9/8/2021
- Threefoot Marriot-Meridian, MS-10/8/2021
- Elmore Community Hospital-OR Rooms-Wetumpka, AL-11/19/2021
- Pharmavite Softgels Packing-Opelika, AL-12/6/2021
- SIO2 Riley Street Cleanrooms ISO-7-Auburn, AL-12/18/2021
- Faulkner University COVID-19 AHU/OA Study-Montgomery, AL-12/14/2021
- Bleak Troup Medical Clinic-Ft Sill, OK CW Bypass-12/14/2021
- Bonnie Plant's Corporate Headquarters-Auburn, AL-1/13/2022
- Auburn University Samford Hall 3rd Floor Renovations-Auburn, AL-1/14/2022
- Alys Beach Club Commissioning-Alys Beach, FL-1/15/2022
- SIO2 Pressure Sensor Calibration-Auburn, AL-1/20/2022
- LK Moss Elementary School-Buena Vista, GA-2/4/2022
- Central High School Life Sciences BLDG-Phenix City, AL-2/5/2022
- AL Department of Corrections-Tutwiler Dental/Crisis-Wetumpka, AL-2/18/2022
- Federal Building Chiller Replacement-Jackson, MS-2/18/2022
- Baptist Health South Hospital Kitchen Renovations-Montgomery, AL-2/22/2022
- Jackson Hospital Sterile Processing Department-Montgomery, AL-2/23/2022
- Alys Beach Club Commissioning-Alys Beach, FL-3/1/2022
- Caddell Construction 11th Floor RSA Tower Renovations-Montgomery, AL-3/16/2022
- Powersouth Lowman Energy Century-Jackson, AL-3/29/2022
- Alabama Graphite-Alexander City, AL-3/28/2022
- Montgomery Cancer Center 2nd Floor Renovation-Montgomery, AL-Ongoing
- Wind Creek Casino-Montgomery/Wetumpka, AL-4/7/2022
- Auburn University New Chilled Water Plant-Auburn, AL-4/29/2022
- RSA MP8 RSA Tower-Montgomery, AL-6/7/2022
- State of Alabama Forensic Lab-Hoover AL-6/10/2022
- Ft Rucker Repair Sanford Hall-Ft Rucker, AL-6/30/2022
- OWA Waterpark-Foley AL-10/6/2022
- Auburn Football Performance Center-Auburn University, AL-12/7/2022
- UAB Normandie 2nd FL Cytology-Montgomery, AL-12/7/2022
- Fed Ex Warehouse-Starkville, MS-12/21/2022
- Redstone Arsenal Aircraft Hangar-Huntsville, AL-1/23/2023
- Mcoy Federal Building Chiller Plant-Jackson, MS-1/31/2023
- Powersouth Lowman Energy Center-Leroy, AL-2/6/2023
- Alys Beach Club and Pool-Alys Beach, FL-4/7/2023
- Tampa Federal Building HVAC Renovations-Tampa, FL-5/9/2023



- Federal Bureau of Prisons-Aliceville, AL-5/31/2023
- AL State Capitol HVAC Upgrades-Montgomery, AL-8/5/2023
- Columbus Water Works Service Center-Columbus, GA-8/29/2023
- Wicker Point Golf Club-Lake Martin, AL-9/13/2023
- Bldg 2600 Ft Moore-Columbus, GA-9/18/2024
- RSA Pardons and Parolees Bldg-Montgomery, AL-10/27/2023
- F-35 Repair Hangar 1-Dannely Field-Montgomery, AL-11/13/2023
- Phoenix Senior Living-Opelika, AL-12/12/2023
- Maxwell AFB Bldg 696-Montgomery, AL-11/30/2023
- MGM Airport HVAC Upgrades-Montgomery Airport, AL-1/25/2024
- City of Bay Minette Justice Center-Bay Minette, AL-2/16/2024
- 75th Ranger Regiment HQ-Ft Moore-Columbus, GA-2/10/2024
- New Laboratory for Alabama Dept of Agriculture & Industries-Ongoing



VERAUFU, LLC

Job Title

Sample Report

Location

Certified Test and Balance Report

September 1, 2024

Project #: 2024-XX



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336 Timberwood Drive
Auburn, AL 36830-0508
(205)777-9907
Project #:2024-

Project:

Certified Test, Adjust, & Balance Report

ARCHITECT:

ENGINEER:

GENERAL CONTRACTOR:

MECHANICAL CONTRACTOR:

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the *NEBB Procedural Standard for Testing, Adjusting and Balancing of Environmental Systems*. The measurements shown, and the information given, in this report are certified to be accurate and complete, at the time and date information was gathered. Any variances from design quantities which exceed NEBB tolerances, are noted in the TAB report summary.

Testing, Adjusting and Balancing of the referenced project was performed between 2/1/2024 and 12/31/2024 by Alec C. Monroe, Jr.



THANK YOU,

Veraufu, LLC

Alec Charles Monroe, Jr. President





Project:

Abbreviations

ACH	Air Changes Per Hour	SA	Supply Air
ACU	Air Conditioning Unit	SW	Side Wall
AHU	Air Handler Unit	SWG	Side Wall Grill
CAV	Constant Air Volume	SP	Static Pressure
CD	Ceiling Diffuser	TP	Thermally Protected
CEG	Ceiling Exhaust Grill	UH	Unit Heater
CFM	Cubic Feet per Minute	VAV	Variable Air Volume
CHW	Chilled Water	VFD	Variable Frequency Drive
CRR	Ceiling Return Register	WER	Wall Exhaust Register
DD	Direct Drive	WRR	Wall Return Register
DHU	Dehumidification Unit		
DP	Differential Pressure		
Dx	Direct Expansion		
EF	Exhaust Fan		
EG	Exhaust Grill		
EP	Electronically Protected		
ERU	Energy Recovery Unit		
FH	Flow Hood		
FPM	Feet per Minute		
HX	Heat Exchanger		
Hz	Hertz		
MVD	Manual Volume Damper		
NA	Not Available/ No Access / Not Applicable		
NEBB	National Environmental Balancing Bureau		
NS	Not Specified		
OA	Outside Air		
RA	Return Air		
RG	Return Grill		
RPM	Revolutions Per Minute		
RTU	Roof Top Unit		
SF	Safety / Service Factor		
SA	Supply Air		



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Project #:2024-

Project:

Job Info Sheet

ARCHITECT:

ENGINEER:

GENERAL CONTRACTOR:

MECHANICAL CONTRACTOR:

START DATE:

FINISH DATE:

JOB DONE BY:



Instrument Calibration

Certified Professional: Alec Monroe, Jr.

Equipment	Function	Model #	Serial #	Date Calibrated	Calibration Certificate Holder
Evergreen Pressure/Velocity Module	Pressure/Velocity Air Measurement	S-PVF-1	2300634D	9/20/2023	Evergreen Telemetry
Evergreen Capture Hood	Air Flow Measurement	CH-3	2400115B	1/16/2024	Evergreen Telemetry
Evergreen Temperature Probe	Fluid Temperature	PR-T-4-6	2300268	9/20/2024	Evergreen Telemetry
Evergreen Temp Radio Module	Temperature Radio Module	RM-T-1	2300259A	9/20/2023	Evergreen Telemetry
Evergreen Temperature Probe	Dry Bulb Air Temperature	PR-T-5	2300249	9/20/2023	Evergreen Telemetry
Evergreen Humidity Sensor	Temperature/Barometric/Humidity%	PR-TH-1	2300233	9/20/2023	Evergreen Telemetry
Fluke Voltmeter	Voltages	77 IV	60900434	10/20/2023	Technical Maintenance, Inc.
Fluke Amp Meter	Amperage	i400	61320648	10/20/2023	Technical Maintenance, Inc.
Shimpo Tachometer	Revolutions Per Minute	DT207L	D091B0018	10/20/2023	Technical Maintenance, Inc.
Evergreen Water Pressure Module	H2O Pressure/Water Flow	S-DP-250	2300186B	9/20/2023	Evergreen Telemetry
Evergreen Humidity Sensor	Humidity	PR-TH-12	2300118	10/9/2023	Evergreen Telemetry
Rotating Vane Anemometer	Air Velocity	RVA801	A01761	NA	Not Required
3' Airfoil Probe	Air Velocity	Dwyer	NA	NA	Not Required
4' Airfoil Probe	Air Velocity	Dwyer	NA	NA	Not Required
Shortridge Flow Hood	Flow Measurement	CFM-88L	NA	NA	Not Required

All Calibration Certificates available by request.



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Project #:2024-

Project:

Summary

1



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336 Timberwood Drive
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(205)777-9907
Project #:2024-

Project:

Job Site Status Report

Item	Issue	Date Issued	Response



Project:

Air Conditioning Unit

System
Equipment Location
Area Served
Equipment Manufacturer
Model
Serial Number

Air Data
Total CFM (Fan)
Total CFM (Outlet)
Return Air CFM
Outside Air CFM
Static Pressure (Tot./Ext.)
Inlet Pressure
Discharge Pressure
Fan RPM / Hz

Supply Fan	
Specified	Actual

Return Fan	
Specified	Actual

Motor Data
Motor Manufacturer
Motor HP / BHP
Voltage / Phase / Cycles
Amperage
Motor RPM / S.F.
Motor Sheave / Bore
Fan Sheave / Bore
Number of Belts / Size
Center Distan. / Starter Size
Filter Size / Quantity

Specified	Actual

Specified	Actual

Notes: _____



Project:

Air Conditioning Unit

System
Equipment Location
Area Served
Equipment Manufacturer
Model
Serial Number

Air Data
Total CFM (Fan)
Total CFM (Outlet)
Return Air CFM
Outside Air CFM
Static Pressure (Tot./Ext.)
Inlet Pressure
Discharge Pressure
Fan RPM / Hz

Specified	Actual

Specified	Actual

Motor Data
Motor Manufacturer
Motor HP / BHP
Voltage / Phase / Cycles
Amperage
Motor RPM / S.F.
Motor Sheave / Bore
Fan Sheave / Bore
Number of Belts / Size
Center Distan. / Starter Size
Filter Size / Quantity

Specified	Actual

Specified	Actual

Notes: _____



Project:

Air Handler Unit

System
Equipment Location
Area Served
Equipment Manufacturer
Model
Serial Number

Air Data
Total CFM (Fan)
Total CFM (Outlet)
Return Air CFM
Outside Air CFM
Static Pressure (Tot./Ext.)
Inlet Pressure
Discharge Pressure
Fan RPM / Hz

Specified	Actual

Specified	Actual

Motor Data
Motor Manufacturer
Motor HP / BHP
Voltage / Phase / Cycles
Amperage
Motor RPM / S.F.
Motor Sheave / Bore
Fan Sheave / Bore
Number of Belts / Size
Center Distan. / Starter Size
Filter Size / Quantity

Specified	Actual

Specified	Actual

Notes:



Project:

Roof Top Unit

System
Equipment Location
Area Served
Equipment Manufacturer
Model
Serial Number

Air Data
Total CFM (Fan)
Total CFM (Outlet)
Return Air CFM
Outside Air CFM
Static Pressure (Tot./Ext.)
Inlet Pressure
Discharge Pressure
Fan RPM / Hz

Specified	Actual

Specified	Actual

Motor Data
Motor Manufacturer
Motor HP / BHP
Voltage / Phase / Cycles
Amperage
Motor RPM / S.F.
Motor Sheave / Bore
Fan Sheave / Bore
Number of Belts / Size
Center Distan. / Starter Size
Filter Size / Quantity

Specified	Actual

Specified	Actual

Notes: _____



Project:

Energy Recovery Unit

System
Equipment Location
Area Served
Equipment Manufacturer
Model
Serial Number

Air Data
Total CFM (Fan)
Total CFM (Outlet)
Static Pressure (Tot./Ext.)
Inlet Pressure
Discharge Pressure
Wheel (ΔP)
Fan RPM / Hz

Supply / Outside Air	
Specified	Actual

Exhaust Air	
Specified	Actual

Motor Data
Motor Manufacturer
Motor HP / BHP
Voltage / Phase / Cycles
Amperage
Motor RPM / S.F.
Motor Sheave / Bore
Fan Sheave / Bore
Number of Belts / Size
Center Distan. / Starter Size
Filter Size / Quantity

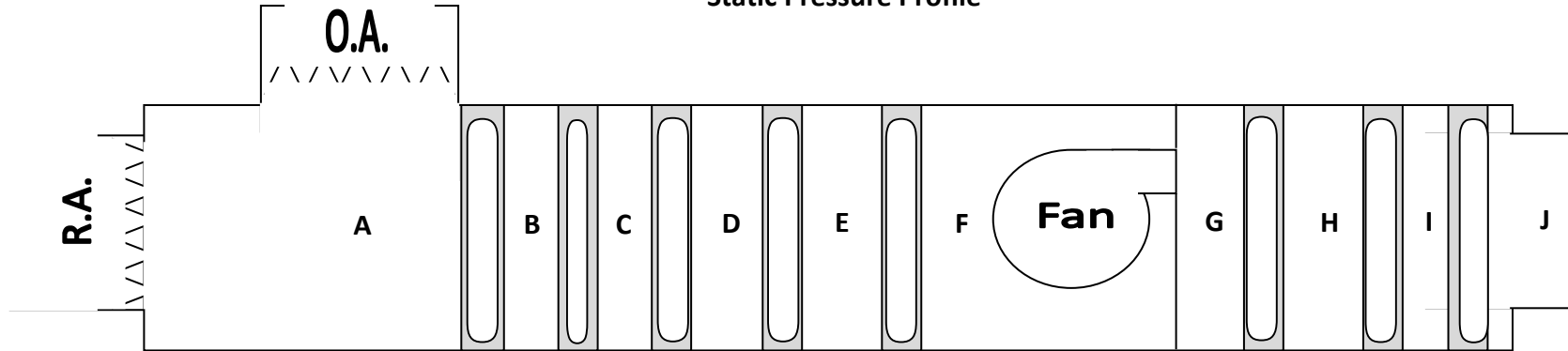
Specified	Actual

Specified	Actual

Notes: _____

Project:

Static Pressure Profile

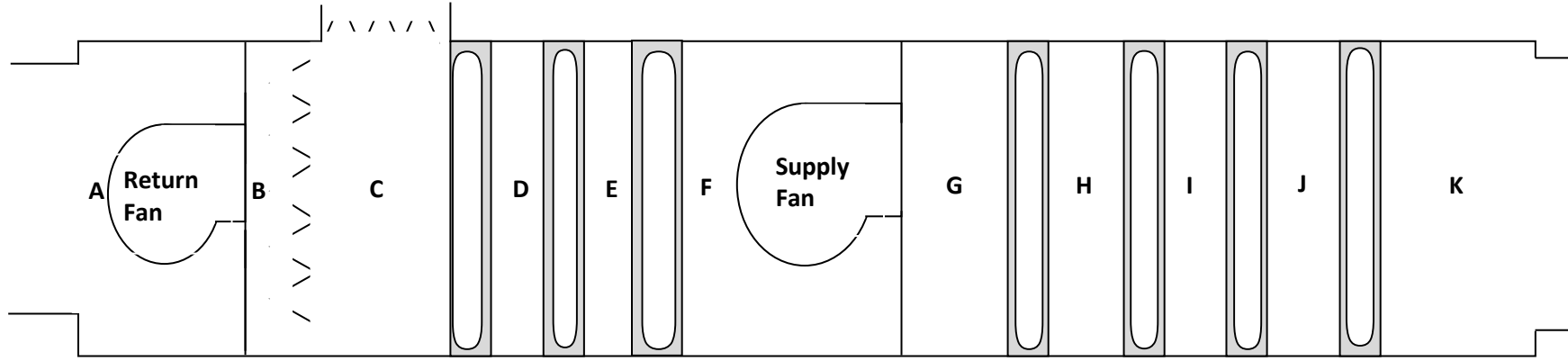


Unit	A	B	C	D	E	F	G	H	I	J

Notes: _____

Project:

Static Pressure Profile

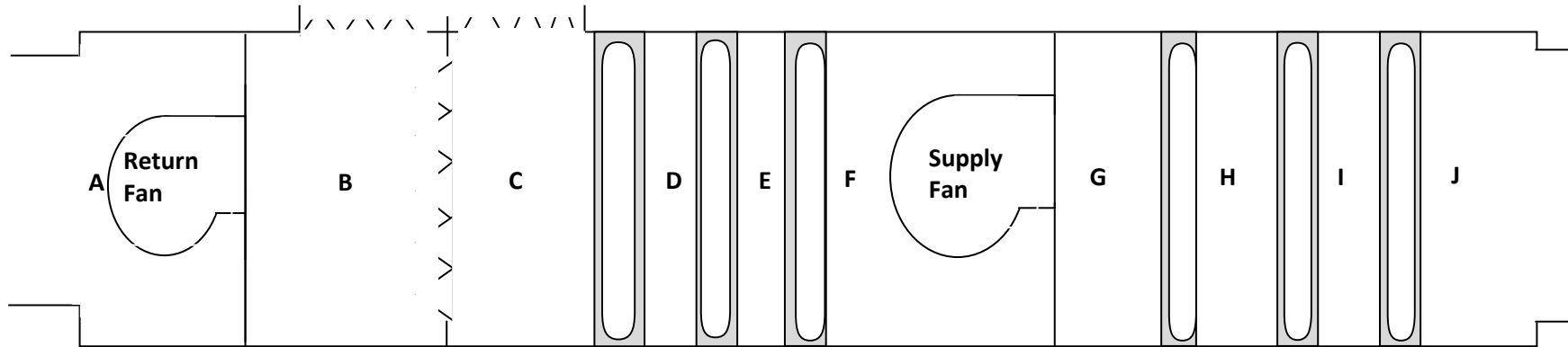


Unit	A	B	C	D	E	F	G	H	I	J	K

Notes: _____

Project:

Static Pressure Profile



Unit	A	B	C	D	E	F	G	H	I	J	K

Notes: _____



Project:

Supply Fan Data

System
Equipment Location
Area Served
Equipment Manufacturer
Model
Serial Number

Air Data
Total CFM (Fan)
Total CFM (Outlet)
Static Pressure (Tot.)
Inlet Pressure
Discharge Pressure
Fan RPM / Hz

Specified	Actual

Specified	Actual

Motor Data
Motor Manufacturer
Motor HP / BHP
Voltage / Phase / Cycles
Amperage
Motor RPM / S.F.
Motor Sheave / Bore
Fan Sheave / Bore
Number of Belts / Size
Center Distan. / Starter Size

Specified	Actual

Specified	Actual

Notes:



Project:

Exhaust Fan Data

System
Equipment Location
Area Served
Equipment Manufacturer
Model
Serial Number

Air Data
Total CFM (Fan)
Total CFM (Outlet)
Static Pressure (Tot.)
Inlet Pressure
Discharge Pressure
Fan RPM / Hz

Specified	Actual

Specified	Actual

Motor Data
Motor Manufacturer
Motor HP / BHP
Voltage / Phase / Cycles
Amperage
Motor RPM / S.F.
Motor Sheave / Bore
Fan Sheave / Bore
Number of Belts / Size
Center Distan. / Starter Size

Specified	Actual

Specified	Actual

Notes:



Project:

Pump Data Sheet

Pump Number		
Manufacturer		
Size		
Impeller		
Service		

Test Data	GPM	Ft. Head	GPM	Ft. Head
Design				
Actual				
Actual Discharge				
Actual Suction				
No Flow Discharge				
No Flow Suction				
No Flow Head	2.31 X	=	2.31 X	=
Pump Off Pressure				

Motor Data	Specified	Actual	Specified	Actual
Motor Manufacturer				
Motor RPM				
Motor HP / BHP				
Voltage / Phase / Cycles				
Amperage				
O/L's Protection				
Computer DP Setting				

Notes: _____



Project:

Air Cooled Chiller

Unit Number		
Manufacturer		
Capacity		
Model		
Serial Number		

Cooler	Design	Actual	Design	Actual
Entering Water Temp.				
Leaving Water Temp.				
Pressure Drop (Ft)				
GPM				

Condenser	Design	Actual	Design	Actual
Entering Air Temp.				
Leaving Air Temp.				

Electric (Volts)	Design	Actual				Design	Actual				
		1	2	3	4		1	2	3	4	
Compressor #											
T1-T2											
T2-T3											
T3-T1											
Amps											
T1											
T2											
T3											

Notes: _____



Project:

Air Cooled Chiller

Unit Number
Manufacturer
Capacity
Model
Serial Number

Cooler
Entering Water Temp.
Leaving Water Temp.
Pressure Drop (Ft)
GPM

Design	Actual

Design	Actual

Condenser
Entering Air Temp.
Leaving Air Temp.

Design	Actual

Design	Actual

Electric (Volts)	Design
Compressor #	
T1-T2	
T2-T3	
T3-T1	
Amps	Design
T1	
T2	
T3	

Actual					
1	2	3	4	5	6
Actual					

Actual					
1	2	3	4	5	6
Actual					

Notes: _____



Project:

Air Cooled Chiller

Unit Number		
Manufacturer		
Capacity		
Model		
Serial Number		

Evaporator	Design	Actual	Design	Actual
Entering Water Temp.				
Leaving Water Temp.				
Pressure Drop (Ft)				
GPM				

Condenser	Design	Actual	Design	Actual
Entering Air Temp.				
Leaving Air Temp.				

Electric (Volts)	Design	Actual	Design	Actual
T1-T2				
T2-T3				
T3-T1				
Amps	Design	Actual	Design	Actual
T1				
T2				
T3				

Notes: _____



Project:

Chiller Data Sheet

Unit Number		
Equipment Location		
Manufacturer		
Capacity		
Model		
Serial Number		

Evaporator	Design	Actual	Design	Actual
Entering Water Temp.				
Leaving Water Temp.				
Pressure Drop Ft.				
GPM				

Condenser	Design	Actual	Design	Actual
Entering Water Temp.				
Leaving Water Temp.				
Pressure Drop Ft.				
GPM				

Electrical		Design	Actual	Design	Actual
Volts	T1-T2				
	T2-T3				
	T3-T1				
Amps	T-1				
	T-2				
	T-3				

Notes: _____



Project:

Cooling Tower

Equipment Information
Tower Number
Equipment Manufacturer
Equipment Model
Serial Number

GPM

Specified	Actual

Specified	Actual

Equipment Information
Tower Number
Equipment Manufacturer
Equipment Model
Serial Number

GPM

Specified	Actual

Specified	Actual

Notes:



Project:

Boiler Data Sheet

Unit Number		
Equipment Location		
Manufacturer		
Model Number		
Serial Number		
Type		
Fuel		

	Design		Actual	
Operating Pressure				
GPM / PD				
Entering Water Temp.				
Leaving Water Temp.				
Safety Valve Setting				
High Limit Setting				
Operating Control Setting				
Input - MBH				
Output - MBH				

Notes:



Project:

Heat Exchanger Converter Test Report

Unit Data							
Unit Tag							
Service							
Rating - MBH							
Manufacturer							
Model Number							
Serial Number							
Steam	Design	Actual	Design	Actual	Design	Actual	Actual
Steam Press. PSI							
Primary Water	Design	Actual	Design	Actual	Design	Actual	Actual
Entering Water Temp.							
Leaving Water Temp.							
Δ Temp.							
Pressure Drop (Ft.)							
GPM							
Secondary Water	Design	Actual	Design	Actual	Design	Actual	Actual
Entering Water Temp.							
Leaving Water Temp.							
Δ Temp.							
Pressure Drop (Ft.)							
GPM							
Control Set Point							

Notes: _____



Project:

Cooling Coil Data Sheet

System
Equipment Location
Area Served
Equipment Manufacturer
Coil
CFM
GPM / Coil P.D.
E. / L. Water Temp.
E. Air Temp. DB / WB
L. Air Temp. DB / WB
Air / Water MBH

Design	Actual
	#DIV/0!

Design	Actual
	#DIV/0!

System
Equipment Location
Area Served
Equipment Manufacturer
Coil
CFM
GPM / Coil P.D.
E. / L. Water Temp.
E. Air Temp. DB / WB
L. Air Temp. DB / WB
Air / Water MBH

Design	Actual
	#DIV/0!

Design	Actual
	#DIV/0!

Notes:



Project:

Blower Door Test

Description of Enclosure Tested:	
<hr/> <hr/> <hr/>	
Test Apparatus	
Blower: _____	
Orifice Size: _____	
Maximum Allowable Leakage	
Specified Test Pressure: <u>-50pa / -0.02"</u>	
Area of room or Ft2 of room: _____	Allowable Enclosure CFM Leakage
Allowable ACH or CFM/Ft2: _____	_____
Enclosure Test Results	
Test Pressure: _____	
CFM of Leakage: _____	Enclosure ACH or CFM/Ft2 Leakage
Equivalent Hole opening size: _____	_____
Comments:	
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	
Tested By: _____	



Project:

Duct Leak Test

Description of Duct Under Test:	
<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div>	
Duct Design Operating S.P. _____ Duct Design Test S.P. _____ Duct Capacity: _____	Pressure Class: _____ Leakage Class: _____ Seal Class: _____
Maximum Allowable Leakage	
Surface Area of Duct: _____ Allowable CFM/100Ft: _____	Allowable Duct Leakage _____
Test Results	
Test Apparatus: Blower: _____ Orifice Tube Size: _____ " Diameter Orifice Size: _____ " Diameter Test Static Pressure: _____ W. G. Test Orifice Differential Pressure: _____ W. G. Leakage: _____ CFM _____ % Tested By: _____	



Certificate of Calibration

Veraufi, LLC

Manufacturer	Evergreen Telemetry	Calibration Environment		
Product	Pressure / Velocity Module	Temperature	74	°F
Model	S-PVF-1	Rel. Humidity	29	%
SN	2300634D	Bar. Pressure	28.5	in Hg

As Found
 As Left
 In Tolerance
 Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range		Test Instrument
			Min	Max	
Barometric Pressure (in Hg)	Spec		-2% - 0.1	+2% + 0.1	
	1	20.0			20.1
	2	28.5			28.6
	3	33.0			33.1
Differential Pressure (in wc)	Spec		-2%-.001	+2%+.001	
	1	10.00			9.972
	2	2.000			1.994
	3	0.5000			0.4953
	4	0.0500			0.0498
	5	-10.00			-10.000
	6	-0.0500			-0.0499
Via Pitot >> Velocity Pressure >> (inW.C. / FPM) -3% -7	7	.00064 / 101	-3% - 7	+3% + 7	102
	8	.0157 / 502			502

Indicates out of tolerance condition -----↑

NIST-Traceable Lab Calibration Standards

Variable	System ID	Calibration Last	Calibration Due
Pressure	7481227	8-Mar-23	8-Mar-25
Pressure	7568470	8-Mar-23	8-Mar-25
Pressure	7871917	16-Nov-21	16-Nov-23
Pressure	7870754	16-Nov-21	16-Nov-23
Pressure	2205000006	27-Jan-22	27-Jan-24
Pressure	1208000080	13-Feb-23	13-Feb-25
Pressure	41001F6C	27-Apr-23	27-Apr-25
Velocity	2100191A	24-Feb-23	24-Feb-25
Velocity	2100190A	1-May-23	1-May-25

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self-calibrated techniques.

Jon D. Hughes

 Calibrated By

20-Sep-2023 20-Sep-2025

 Calibration Date Date Due



Certificate of Calibration

Veraufi, LLC

Manufacturer	Evergreen Telemetry	Calibration Environment		
Product	Capture Hood	Temperature	73	°F
Model	Three Pounder	Rel. Humidity	32	%
SN	2400115B	Bar. Pressure	28.8	in Hg

As Found As Left In Tolerance Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range		Test Instrument
			Min	Max	
Airflow (CFM)	No Plate		-3% - 7	+3%-7	
	1	200			198
	2	1000			996
	3	2500			2490
	4	-1501			-1496
	Plate 1.1				
	1	70			70
	2	300			302
	3	700			706
	4	-600			-598
	Plate 0.3				
	1	25			25
	2	170			171
	3	-80			-80

Indicates out of tolerance condition -----↑

NIST-Traceable Calibration Lab Standards

Variable	System ID	Calibration Last	Calibration Due
Pressure	7481227	8-Mar-23	8-Mar-25
Pressure	7568470	8-Mar-23	8-Mar-25
Pressure	7871917	12-Sep-23	12-Sep-25
Pressure	7870754	12-Sep-23	12-Sep-25
Pressure	2205000006	13-Sep-23	13-Sep-25
Pressure	1208000080	13-Feb-23	13-Feb-25
Pressure	41001F6C	27-Apr-23	27-Apr-25
Velocity	2100191A	24-Feb-23	24-Feb-25
Velocity	2100190A	1-May-23	1-May-25

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.


Calibrated By

January 16, 2024
Calibration Date



Certificate of Calibration

Veraufi, LLC

Manufacturer	Evergreen Telemetry			Calibration Environment		
Temperature Product		Module	Probe	Temperature	74	°F
Model			PR-T-4-6	Rel. Humidity	29	%
SN			2300268	Bar. Pressure	28.5	in Hg

As Found As Left In Tolerance Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range		Test Instrument
			Min	Max	
Cal Lab Module & Test Probe	Spec				
Temperature (*F)	1	78.8	-0.3	+0.3	78.8
	2	242.4	-2.6	+2.6	243.1
	3	-42.1	-1.6	+1.6	-42.1

Indicates out of tolerance condition -----↑

Calibration Standard SN & Dates

Variable	System ID	Calibration Last	Calibration Due
Temperature	21396189	5-Oct-21	5-Oct-23

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self-calibrated techniques.


Calibrated By

20-Sep-2023 20-Sep-2025
Calibration Date Date Due



Certificate of Calibration

Veraufi, LLC

Manufacturer	Evergreen Telemetry		Calibration Environment		
Temperature Product		Module	Probe	Temperature	74 °F
Model		RM-T-1		Rel. Humidity	29 %
SN		2300259A		Bar. Pressure	28.5 in Hg

As Found As Left In Tolerance Out of Tolerance

Calibration Data

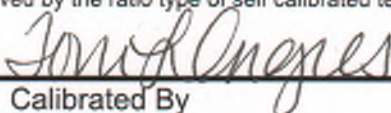
Measurement Variable	Test Point	Cal Standard	Allowable Range		Test Instrument
			Min	Max	
Test Module & Cal Lab Probe	Spec				
Temperature (°F)	1	78.8	-0.3	+0.3	79.0
	2	243.1	-2.6	+2.6	244.0
	3	-44.3	-1.6	+1.6	-43.7

Indicates out of tolerance condition -----↑

Calibration Standard SN & Dates

Variable	System ID	Calibration Last	Calibration Due
Temperature	21396189	5-Oct-21	5-Oct-23

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.


Calibrated By

20-Sep-2023 20-Sep-2025
Calibration Date Date Due



Certificate of Calibration

Veraufi, LLC

Manufacturer	Evergreen Telemetry		Calibration Environment			
Temperature Product		Module	Probe	Temperature	74	°F
Model			PR-T-5	Rel. Humidity	29	%
SN			2300249	Bar. Pressure	28.5	in Hg

As Found As Left In Tolerance Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range		Test Instrument
			Min	Max	
Cal Lab Module & Test Probe	Spec				
Temperature (°F)	1	78.7	-0.3	+0.3	78.9
	2	242.0	-2.6	+2.6	242.3
	3	-44.3	-1.6	+1.6	-43.8

Indicates out of tolerance condition -----↑

Calibration Standard SN & Dates

Variable	System ID	Calibration Last	Calibration Due
Temperature	21396189	5-Oct-21	5-Oct-23

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.

Calibrated By

20-Sep-2023 20-Sep-2025

Calibration Date Date Due



Certificate of Calibration

Veraufi, LLC

Manufacturer	Evergreen Telemetry	Calibration Environment		
Product	Humidity Sensor	Temperature	74	°F
Model	PR-TH-1	Rel. Humidity	29	%
SN	2300233	Bar. Pressure	28.5	in Hg

As Found As Left In Tolerance Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range		Test Instrument
			Min	Max	
Temperature (°F)	Spec				
	1	39.5	-1.0	1.0	39.5
	2	78.6	-1.0	1.0	78.7
	3	86.1	-1.0	1.0	86.1
	4	128.4	-2.0	2.0	128.6
Barometric Pressure (in Hg)	Spec		-2% - 0.1	+ 2% + 0.1	
	1	20.0			20.0
	2	28.6			28.6
	3	33.0			33.0
Humidity %RH 10 to 90%	Spec		-3	3	
	1	8.3			8.7
	2	24.1			26.0
	3	65.2			64.0
	4	86.7			85.7

Indicates out of tolerance condition ----- ↑


Calibration Standard

Variable	System ID	Calibration Last	Calibration Due
Temperature	21396189	5-Oct-21	5-Oct-23
Pressure	2205000006	27-Jan-22	27-Jan-24
Humidity	20558772	26-Oct-21	26-Oct-23

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.

Temperature accuracy (dry bulb) varies across the operating range:

Temperature over 32-100F +/- 1.0 F
Temperature over 100-158F +/- 2.0 F


Calibrated By

20-Sep-2023 20-Sep-2024
Calibration Date Date Due

Customer: VERAUFILLC
336 TIMBERWOOD DR.
AUBURN, AL 36830
FED EX 544324160

P.O. Number: CREDIT CARD

ID Number: 60900434



Description: DIGITAL MULTIMETER
Manufacturer: FLUKE
Model Number: 77 IV
Serial Number: 60900434
Technician: ELLIOTT RENNER

Calibration Date: 10/20/2023
Calibration Due: 10/20/2024
Procedure: METCAL FLUKE 77 IV
Rev: 11/17/2018
Temperature: 72 °F
Humidity: 42 % RH
As Found Condition: IN TOLERANCE
Calibration Results: IN TOLERANCE

On-Site Calibration:

Comments:

Limiting Attribute:

This instrument has been calibrated using standards traceable to the SI units through the National Institute of Standards and Technology (NIST) or other National Metrological Institute (NMI). The method of calibration is direct comparison to a known standard, derived from natural physical constants, ratio measurements or compared to consensus standards.

Reported uncertainties are expressed as expanded uncertainty values at an approximately 95% confidence level using a coverage factor of $k=2$. Statements of compliance are based on test results falling within specified limits with no reduction by the uncertainty of the measurement unless otherwise noted.

TMI's Quality System is accredited to ISO/IEC 17025:2017 and ANSI/NCSL Z540-1-1994. ISO/IEC 17025:2017 is written in a language relevant to laboratory operations, meeting the principles of ISO 9001 and aligned with its pertinent requirements. This calibration is within the current Scope of Accreditation and complies with the requirements of ISO/IEC 17025:2017 and TMI's Quality Manual, QM-1.

Results contained in this document relate only to the item calibrated. Calibration due dates appearing on the certificate or label are determined by the client for administrative purposes and do not imply continued conformance to specifications.

This certificate shall not be reproduced, except in full, without the written permission of Technical Maintenance, Inc.

Measurements not currently on TMI's Scope of Accreditation are identified with an asterisk.

DONNY PRAX, BRANCH MANAGER

Calibration Standards Scott Chamberlain, QUALITY MANAGER

<u>Asset Number</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Date Calibrated</u>	<u>Cal Due</u>
4647902	FLUKE	5522A/SC1100	6/29/2023	6/28/2024



Technical Maintenance, Inc.

117 JETPLEX CIRCLE SUITE C4, MADISON, AL 35758

Phone: 256-772-4115 Fax 256-772-4121

www.tmicalibration.com



ANSI/NCSL Z540-1
ANSI/NCSL Z540.3

AC-2080.02

Instrument Data Sheet

ID Number: 60900434
Serial Number: 60900434Test Run: FOUND-LEFT
Date Tested: 20 October 2023

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	Results	Exp Uncert
AC VOLTAGE ACCURACY VERIFICATION							
0.050 V @ 45 Hz		0.050	0.047	0.053	V	Pass	5.8e-004 V
5.000 V @ 45 Hz		4.996	4.898	5.102	V	Pass	1.2e-003 V
5.000 V @ 1 kHz		4.947	4.898	5.102	V	Pass	1.2e-003 V
50.00 V @ 45 Hz		50.00	48.98	51.02	V	Pass	1.1e-002 V
50.00 V @ 1 kHz		50.03	48.98	51.02	V	Pass	1.1e-002 V
500.0 V @ 45 Hz		499.5	489.8	510.2	V	Pass	1.4e-001 V
500.0 V @ 1 kHz		499.9	489.8	510.2	V	Pass	1.4e-001 V
1000 V @ 45 Hz		1000	978	1022	V	Pass	6.3e-001 V
1000 V @ 1 kHz		1000	978	1022	V	Pass	6.3e-001 V
FREQUENCY ACCURACY VERIFICATION							
99.0 Hz @ 5 V		99.0	98.9	99.1	Hz	Pass	5.8e-002 Hz
900 Hz @ 5 V		900	899	901	Hz	Pass	5.8e-001 Hz
50.00 kHz @ 5 V		50.00	49.94	50.06	kHz	Pass	5.8e+000 Hz
DC VOLTAGE ACCURACY VERIFICATION							
30.0 mV		30.0	29.8	30.2	mV	Pass	5.8e-005 V
-300.0 mV		-300.0	-301.0	-299.0	mV	Pass	5.8e-005 V
600.0 mV		599.9	598.1	601.9	mV	Pass	5.8e-005 V
5.000 V		5.000	4.984	5.016	V	Pass	5.8e-004 V
50.00 V		50.00	49.84	50.16	V	Pass	5.8e-003 V
300.0 V		300.2	299.0	301.0	V	Pass	5.8e-002 V
1000 V		1001	996	1004	V	Pass	5.8e-001 V
-1000 V		-1001	-1004	-996	V	Pass	5.8e-001 V
RESISTANCE ACCURACY VERIFICATION							
500.0 Ohm		500.0	497.3	502.7	Ω	Pass	5.9e-002 Ohm
5.000 kOhm		5.001	4.974	5.026	k Ω	Pass	5.9e-001 Ohm
50.00 kOhm		50.00	49.74	50.26	k Ω	Pass	5.9e+000 Ohm
5.000 MOhm		4.999	4.974	5.026	M Ω	Pass	7.9e+002 Ohm
10.00 MOhm		10.00	9.79	10.21	M Ω	Pass	5.9e+003 Ohm
40.00 MOhm		39.96	39.19	40.81	M Ω	Pass	1.9e+004 Ohm
CONTINUITY ACCURACY VERIFICATION							

Instrument Data Sheet

ID Number: 60900434
Serial Number: 60900434Test Run: FOUND-LEFT
Date Tested: 20 October 2023

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	Results	Exp Uncert
Audible Tone Operational (25 Ohm / Beeper ON)						Pass	
Audible Tone Operational (250 Ohm / Beeper OFF)						Pass	
CAPACITANCE ACCURACY VERIFICATION							
900.0 nF		900.0	887.0	913.0 nF		Pass	2.5e-009 F
9.000 μ F		8.990	8.870	9.130 μ F		Pass	2.5e-008 F
90.00 μ F		89.90	88.70	91.30 μ F		Pass	3.9e-007 F
DIODE ACCURACY VERIFICATION							
2.000 V		2.000	1.978	2.022 V		Pass	5.8e-004 V
DC CURRENT ACCURACY VERIFICATION							
3.00 mA		3.01	2.93	3.07 mA		Pass	5.8e-006 A
50.00 mA		50.00	49.23	50.77 mA		Pass	8.2e-006 A
-400.0 mA		-400.1	-406.2	-393.8 mA		Pass	1.1e-004 A
AC CURRENT ACCURACY VERIFICATION							
0.50 mA @ 45 Hz		0.51	0.47	0.53 mA		Pass	5.8e-006 A
50.00 mA @ 1 kHz		49.87	48.73	51.27 mA		Pass	3.2e-005 A
400.0 mA @ 1 kHz		399.0	389.8	410.2 mA		Pass	2.4e-004 A
10A - AC CURRENT ACCURACY VERIFICATION							
4.000 A @ 45 Hz		3.995	3.898	4.102 A		Pass	3.5e-003 A
9.00 A @ 1 kHz		8.98	8.75	9.25 A		Pass	1.0e-002 A
10A - DC CURRENT ACCURACY VERIFICATION							
4.000 A		4.000	3.938	4.062 A		Pass	2.0e-003 A
-9.00 A		-9.00	-9.16	-8.84 A		Pass	7.0e-003 A

***** End of Certificate *****

PROCEDURE NAME: FLUKE:77IV:VOLTMETER DIGITAL:5520A:1.01:11/17/2018
CTAG: feesa8e1b881024a8d76f4c699c3572e

Customer: VERAUFI LLC
336 TIMBERWOOD DR.
AUBURN, AL 36830
FED EX 544324160

P.O. Number: CREDIT CARD

ID Number: 61320648



Description: AC CURRENT CLAMP
Manufacturer: FLUKE
Model Number: I400
Serial Number: 61320648
Technician: ELLIOTT RENNER

Calibration Date: 10/20/2023
Calibration Due: 10/20/2024
Procedure: METCAL FLUKE I400
Rev: 3/22/2016
Temperature: 72 °F
Humidity: 42 % RH
As Found Condition: IN TOLERANCE
Calibration Results: IN TOLERANCE

On-Site Calibration:

Comments:

Limiting Attribute:

This instrument has been calibrated using standards traceable to the SI units through the National Institute of Standards and Technology (NIST) or other National Metrological Institute (NMI). The method of calibration is direct comparison to a known standard, derived from natural physical constants, ratio measurements or compared to consensus standards.

Reported uncertainties are expressed as expanded uncertainty values at an approximately 95% confidence level using a coverage factor of k=2. Statements of compliance are based on test results falling within specified limits with no reduction by the uncertainty of the measurement unless otherwise noted.

TM's Quality System is accredited to ISO/IEC 17025:2017 and ANSI/NCSL Z540-1-1994. ISO/IEC 17025:2017 is written in a language relevant to laboratory operations, meeting the principles of ISO 9001 and aligned with its pertinent requirements. This calibration is within the current Scope of Accreditation and complies with the requirements of ISO/IEC 17025:2017 and TM's Quality Manual, QM-1.

Results contained in this document relate only to the item calibrated. Calibration due dates appearing on the certificate or label are determined by the client for administrative purposes and do not imply continued conformance to specifications.

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Measurements not currently on TM's Scope of Accreditation are identified with an asterisk.

DONNY PRAX, BRANCH MANAGER

Calibration Standards Scott Chamberlain, QUALITY MANAGER

Asset Number	Manufacturer	Model Number	Date Calibrated	Cal Due
4647902	FLUKE	5522A/SC1100	6/29/2023	6/28/2024
US36030075	HEWLETT PACKARD	34401A	12/1/2022	12/1/2023



Technical Maintenance, Inc.

117 JETPLEX CIRCLE SUITE C4, MADISON, AL 35758

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ANSI/NCSL Z540-1
ANSI/NCSL Z540.3

Instrument Data Sheet

ID Number: 61320648
Serial Number: 61320648

Test Run: FOUND-LEFT
Date Tested: 20 October 2023

Test Results

<u>Test Description</u>	<u>True Value</u>	<u>Test Result</u>	<u>Lower Limit</u>	<u>Upper Limit</u>	<u>Units</u>	<u>Results</u>	<u>Exp Uncert</u>
=====							
AC CURRENT ACCURACY VERIFICATION							
=====							
50.000 A @ 400 Hz		49.938	48.940	51.060	A	Pass	1.0e+000 A
100.00 A @ 45 Hz		100.05	97.94	102.06	A	Pass	4.2e-001 A
100.00 A @ 400 Hz		99.99	97.94	102.06	A	Pass	7.7e-001 A
300.00 A @ 60 Hz		299.81	293.94	306.06	A	Pass	9.4e-001 A
400.00 A @ 60 Hz		398.85	391.94	408.06	A	Pass	1.2e+000 A

***** End of Certificate *****

PROCEDURE NAME: FLUKE:I400:AMMETER:5520A:34401A:x50COIL:1.01:03/22/2016
CTAG: 9515b26c1d69894281d8b5f237effe33

Customer: VERAUF LLC
336 TIMBERWOOD DR.
AUBURN, AL 36830
FED EX 544324160

P.O. Number: CREDIT CARD

ID Number: D091B0018



Description: TACHOMETER
Manufacturer: SHIMPO
Model Number: DT207L
Serial Number: D091B0018
Technician: ELLIOTT RENNER

Calibration Date: 10/20/2023
Calibration Due: 10/20/2024
Procedure: TMI-TACHOMETERS
Rev: 8/31/2016
Temperature: 72 °F
Humidity: 42 % RH
As Found Condition: IN TOLERANCE
Calibration Results: IN TOLERANCE

On-Site Calibration:
Comments:

Limiting Attribute:

This instrument has been calibrated using standards traceable to the SI units through the National Institute of Standards and Technology (NIST) or other National Metrological Institute (NMI). The method of calibration is direct comparison to a known standard, derived from natural physical constants, ratio measurements or compared to consensus standards.

Reported uncertainties are expressed as expanded uncertainty values at an approximately 95% confidence level using a coverage factor of $k=2$. Statements of compliance are based on test results falling within specified limits with no reduction by the uncertainty of the measurement unless otherwise noted.

TMI's Quality System is accredited to ISO/IEC 17025:2017 and ANSI/NCSL Z540-1-1994. ISO/IEC 17025:2017 is written in a language relevant to laboratory operations, meeting the principles of ISO 9001 and aligned with its pertinent requirements. This calibration is within the current Scope of Accreditation and complies with the requirements of ISO/IEC 17025:2017 and TMI's Quality Manual, QM-1.

Results contained in this document relate only to the item calibrated. Calibration due dates appearing on the certificate or label are determined by the client for administrative purposes and do not imply continued conformance to specifications.

This certificate shall not be reproduced, except in full, without the written permission of Technical Maintenance, Inc. Measurements not currently on TMI's Scope of Accreditation are identified with an asterisk.

DONNY PRAX, BRANCH MANAGER

Scott Chamberlain, QUALITY MANAGER

Calibration Standards

Asset Number	Manufacturer	Model Number	Date Calibrated	Cal Due
SG44001964	AGILENT	33220A	4/17/2023	6/12/2024



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Certificate of Calibration

Data Sheet

<u>Parameter</u>	<u>Nominal</u>	<u>Minimum</u>	<u>Maximum</u>	<u>As Found</u>	<u>As Left</u>	<u>Uncertainty</u>	<u>Unit ADJ/FAIL</u>
RPM Accuracy, 0-8299 RPM range	60	59	61	60	60	8.3E-01	RPM
RPM Accuracy, 0-8299 RPM range	600	599	601	600	600	8.4E-01	RPM
RPM Accuracy, 0-8299 RPM range	6000	5999	6001	6000	6000	8.8E-01	RPM
RPM Accuracy, 8300-24999 RPM range	10000	9998	10002	10000	10000	9.1E-01	RPM
RPM Accuracy, 25000-99999 RPM range	60000	59996	60004	60000	60000	1.3E+00	RPM



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AC-2080.02



Certificate of Calibration

Veraufi, LLC

Manufacturer	Evergreen Telemetry	Calibration Environment		
Product	Water Pressure Sensing Module	Temperature	74	°F
Model	S-DP-250	Rel. Humidity	29	%
SN	2300186B	Bar. Pressure	28.5	in Hg

As Found As Left In Tolerance Out of Tolerance

Calibration Data

Specification +/- 2% +/- last digit	Cal Std	Sensor 1 Diff Pres	Difference	Cal Std	Sensor 2 Gage Lo	Diff
Approx Set Point			(%)			%
PSI	(ftwc)	(ftwc)		(ftwc)	(ftwc)	
0.13	0.3	0.3	0	0.3	0.3	0
0.434	1.0	1.0	0	1.0	1.0	0
0.867	2.0	2.0	0	2.0	2.0	0
2.168	5.0	5.0	0	5.0	5.0	0
	PSI	PSI		PSI	PSI	
10	10.0	10.1	1.0	10.0	10.0	0.0
40	40.0	40.1	0.3	40.0	40.1	0.3
80	80.0	80.4	0.5	80.0	80.5	0.6
120	120.0	120.0	0.0	120.0	120.2	0.2
240	240.0	240.3	0.1	240.0	240.2	0.1
Conversion						
PSI	ftwc	inwc				
1.00	2.307	27.68				
0.434	1.00	12.00				

Indicates out of tolerance condition -----↑

NIST-Traceable Calibration Lab Standards

Variable	System ID	Calibration Last	Calibration Due
Pressure	5564304	20-Sep-21	20-Sep-23
Temperature	21396189	5-Oct-21	5-Oct-23

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self-calibrated techniques.

Calibrated By

20-Sep-2023
Calibration Date

20-Sep-2024
Date Due



Certificate of Calibration

Veraufi

Manufacturer	Evergreen Telemetry	Calibration Environment		
Product	Humidity Sensor	Temperature	74	°F
Model	PR-TH-12	Rel. Humidity	33	%
SN	2300118	Bar. Pressure	28.5	in Hg

As Found As Left In Tolerance Out of Tolerance

Calibration Data

Measurement Variable	Test Point	Cal Standard	Allowable Range		Test Instrument
			Min	Max	
Temperature (°F)	Spec				
	1	39.3	-1.0	1.0	39.1
	2	78.9	-1.0	1.0	78.7
	3	86.9	-1.0	1.0	86.5
	4	128.9	-2.0	2.0	128.7
Barometric Pressure (in Hg)	Spec		-2% - 0.1	+ 2% + 0.1	
	1	20.0			20.0
	2	28.6			28.6
	3	33.0			33.0
Humidity %RH 10 to 90%	Spec		-3	3	
	1	3.3			3.6
	2	22.3			23.0
	3	63.6			61.9
	4	86.8			85.1

Indicates out of tolerance condition ———↑

Calibration Standard

Variable	System ID	Calibration Last	Calibration Due
Temperature	16320239	12-Sep-23	12-Sep-25
Pressure	2205000006	13-Sep-23	13-Sep-25
Pressure	1208000080	13-Feb-23	13-Feb-25
Humidity	20558772	12-Sep-23	12-Sep-24
Humidity	20052171	1-Feb-23	1-Feb-24

This instrument has been checked for accuracy, calibrated to manufacturer's specifications, and found to be within the specified tolerance unless otherwise stated. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement, or derived by the ratio type of self calibrated techniques.

Temperature accuracy (dry bulb) varies across the operating range:

Temperature over 32-100F +/- 1.0 F
Temperature over 100-158F +/- 2.0 F

Calibrated By

9-Oct-2023 9-Oct-2024

Calibration Date Date Due