



CERTIFIED TEST, ADJUST, AND BALANCE REPORT

DATE

7/27/2023

PROJECT

**RITZ THEATER
PHASE 3**

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Certification Number: 2847

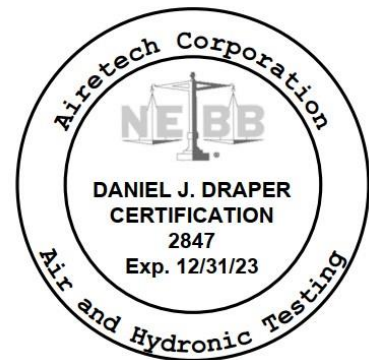


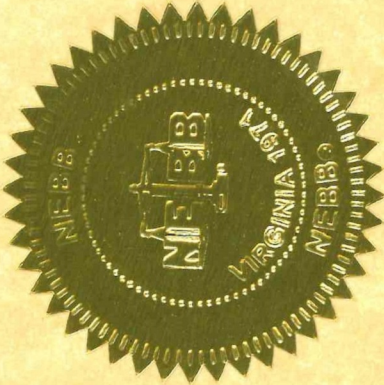
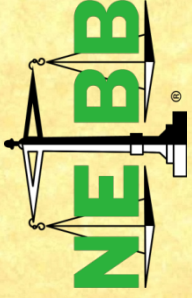
PROJECT: RITZ THEATER PHASE 3

THE DATA PRESENTED IN THIS REPORT IS A RECORD OF SYSTEM MEASUREMENTS & FINAL ADJUSTMENTS THAT HAVE BEEN OBTAINED IN ACCORDANCE WITH THE CURRENT ADDITION OF THE NEBB PROCEDURAL STANDARD FOR TESTING, ADJUSTING & BALANCING OF ENVIRONMENTAL SYSTEMS. THE MEASUREMENTS SHOWN, & THE INFORMATION GIVEN, IN THIS REPORT ARE CERTIFIED TO BE ACCURATE & COMPLETE, AT THE TIME & DATE INFORMATION WAS GATHERED. ANY VARIANCES FROM DESIGN QUANTITIES, WHICH EXCEED NEBB TOLERANCES, ARE NOTED IN THE TAB REPORT PROJECT SUMMARY.

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CERTIFIED BY (TAB SUPERVISOR): DANIEL J DRAPER
CERTIFICATION EXPIRATION DATE: 12/31/2023
SIGNATURE:

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Firm Certification

AIRETECH CORPORATION

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STATUS IN THE FOLLOWING DISCIPLINE

Testing, Adjusting and Balancing of Environmental Systems

2847

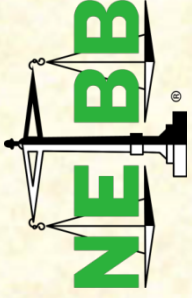
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NEBB President

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Certification

DANIEL J. DRAPER

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Testing, Adjusting and Balancing of Environmental Systems

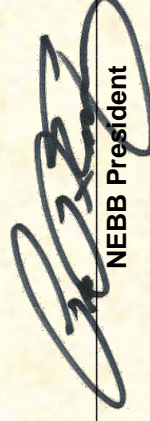
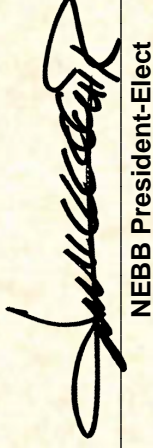
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December 31, 2023

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Instrument Calibration List

	Function	Range	Accuracy	Make	Model #	Serial #	Calibration Date
AIR	Air Pressure Measurement	0 to 10.00 in.w.g.	± 2% of reading	Evergreen	S-PVF-1	2200600A	12/14/2022
	Air Velocity Measurement	100 to 3500 fpm	± 5% of reading	Evergreen	S-PVF-1	2200600A	12/14/2022
	Direct Reading Hood	25 to 2000 cfm	± 5% of reading, ± 7 cfm	Evergreen	S-PVF-1	2200600A	12/14/2022
TEMPERATURE	Air Meter with Probe	0 to 200 °F	± 0.5% of reading	Cooper	SRH77A-E	10709022	10/26/2022
	Immersion Meter with probe	0 to 200 °F	± 0.5% of reading	Cooper	SRH77A-E	10709022	10/26/2022
HUMIDITY	Humidity Measurement	10 to 90% RH	± 3% RH	Evergreen	S-H-3-5	2000197	12/21/2022
ELECTRICAL	Volts AC	0 to 600 VAC	± 2% of reading	Fluke	323	34730682WS	10/27/2022
	Amperes	0.1 to 100 Amps	± 2% of reading	Fluke	323	34730682WS	10/27/2022
ROTATION	Rotation Measurement	60 to 5000rpm	± 2% of reading	Extech	461995	Q083294	10/26/2022
HYDRONIC	Hydronic Pressure Measurement	0.4 to 200 PSI	± 2% of reading	Dwyer	490W-6	01L6RK	3/6/2023
	Hydronic Differential Pressure	0.4 to 75 PSI	± 2% of reading	Dwyer	490W-6	01L6RK	3/6/2023

(N.E.B.B. # 2847)



ABBREVIATIONS

<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>
A	AMPS	HP	HEAT PUMP
AHU	AIR HANDLING UNIT	HW	HEATING WATER
BCU	BLOWER COIL UNIT	KEF	KITCHEN EXHAUST FAN
BTU	BRITISH THERMAL UNIT	LAT	LEAVING AIR TEMPERATURE
CD	CEILING DIFFUSER	LWT	LEAVING WATER TEMPERATURE
CFM	CUBIC FEET PER MINUTE	M/N	MODEL NUMBER
CH	CHILLER	MAT	MIXED AIR TEMPERATURE
CHW	CHILLED WATER	MAU	MAKE UP AIR UNIT
CW	CONDENSER WATER	NA	NOT APPLICABLE
COMP	COMPRESSOR	NL	NOT LISTED
COND	CONDENSER	NLA	NO LOAD AMPS
CRAC	COMPUTER ROOM AIR CONDITIONING	OAT	OUTSIDE AIR TEMPERATURE
CW	CHILL WATER	OAU	OUTSIDE AIR UNIT
DALT	DUCT AIR LEAKAGE TEST	OED	OPEN ENDED DUCT
DB	DRY BULB	PH	PRE-HEAT
DP	DIFFERENTIAL PRESSURE	RG	RETURN GRILLE
DP	DISCHARGE PRESSURE	RH	RE-HEAT
EAT	ENTERING AIR TEMPERATURE	RLA	RUN LOAD AMPS
EF	EXHAUST FAN	RTU	ROOF TOP UNIT
EG	EXHAUST GRILLE	S/N	SERIAL NUMBER
ERU	ENERGY RECOVERY UNIT	SF	SUPPLY FAN
ERV	ENERGY RECOVERY VENTILATOR	SG	SIDEWALL GRILLE
ESP	EXTERNAL STATIC PRESSURE	SP	SUCTION PRESSURE
EVAP	EVAPORATOR	TSP	TOTAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE	V	VOLTS
FCU	FAN COIL UNIT	VAV	VARIABLE AIR VOLUME
FP	FAN POWERED	VRF	VARIABLE REFRIGERANT
FPM	FEET PER MINUTE	WB	WET BULB
GPM	GALLONS PER MINUTE		



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LOCATION: Malvern, AR
PROJECT #: 71900

DATE: 8/3/2023
CONTACT: Elizabeth Amador
AUTHOR:

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REPORT SUMMARY

Test, adjust, and balance work was performed for Phase III at the Ritz Theater in Malvern, Arkansas. There is a gas fired furnace, a ductless mini split system, three exhaust fans, and one unit heater.

The supply grille airflows were measured with a direct reading flowhood, totaled, fan speed adjusted as necessary, and grilles proportionally balanced. The outside airflow was measured and adjusted, the unit operating data measured and recorded.

The exhaust fan airflows were measured with a direct reading flowhood, and fan speeds adjusted as necessary.



Fan Coil

PROJECT: Ritz Theater Phase 3
LOCATION: Malvern, AR
PROJECT #: 71900

DATE: 8/3/2023
CONTACT: Elizabeth Amador
AUTHOR:

SYSTEM/UNIT: F-1

Tested By: Greg Rinehart
 Date: 7/27/2023

Unit Data	
Unit Manufacturer	Lennox
Unit Model Number	ML196UH030XE36B-53
Unit Serial Number	1723B12381
Filter Type	Pleated
Filter Qty - S1	1
Filter Size - S1	16x20x2

Motor Data	
Motor HP	1/2 HP
Motor Rated Volts	120 Volts
Motor Phase	1
Motor Hertz	60 Hz
Motor FL Amps	6.8 Amps
Motor Type	Direct Drive
Direct Drive Speed	High

Test Data	
Cool Ent Air DB Temp Actual	68.0 Deg F
Cool Ent Air WB Temp Actual	60.0 Deg F
Cool Leav Air DB Temp Actual	53.0 Deg F
Cool Leav Air WB Temp Actual	51.0 Deg F
Heat Ent Air Temp Actual	69.0 Deg F
Heat Leav Air Temp Actual	107.0 Deg F
Heating Air Delta T	38.0 Deg F

Air Test Data	
Design Airflow	1030 CFM
Actual Airflow	1087 CFM
Design OSA	200 CFM
Actual OSA	186 CFM
Design Rtn Airflow	830 CFM
Actual Rtn Airflow	901 CFM

Electrical Test Data	
Motor Volts T1-T2	119 Volts
Motor Amps T1	5.70 Amps

F-1 Supply Outlet Summary

System/Unit	Area Served	Outlet Type	Size LxW / D	Design Airflow	Prelim Airflow	% Prelim Diff.	Final Airflow	% Final Diff.	Instrument
Outlet-01	Room	CD1	6	100	71	71.0	95	95.0	Evergreen
Outlet-02	110	CD1	6	50	37	74.0	52	104.0	Evergreen
Outlet-03	111	CD1	6	50	82	164.0	54	108.0	Evergreen
Outlet-04	112	SG1	8/6	30	159	530.0	31	103.3	Evergreen
Outlet-05	200	SG1	18/8	300	357	119.0	317	105.7	Evergreen
Outlet-06	200	SG1	18/8	300	356	118.7	326	108.7	Evergreen
Outlet-07	200	SG1	18/8	200	321	160.5	212	106.0	Evergreen
Totals:		-	-	1030	1383	134.3	1087	105.5	-

Fan Coil

PROJECT: Ritz Theater Phase 3
LOCATION: Malvern, AR
PROJECT #: 71900

DATE: 8/3/2023
CONTACT: Elizabeth Amador
AUTHOR:

SYSTEM/UNIT: MS-1

Tested By: Greg Rinehart
 Date: 7/27/2023

Unit Data	
Unit Manufacturer	Daikin
Unit Model Number	FAQ18TAVJU
Unit Serial Number	E002853
Filter Type	Washable
Filter Qty - S1	2

Test Data	
Cool Ent Air DB Temp Actual	71.0 Deg F
Cool Ent Air WB Temp Actual	64.0 Deg F
Cool Leav Air DB Temp Actual	52.0 Deg F
Cool Leav Air WB Temp Actual	50.0 Deg F
Heat Ent Air Temp Actual	72.0 Deg F
Heat Leav Air Temp Actual	98.0 Deg F
Heating Air Delta T	26.0 Deg F

Electrical Test Data	
Motor Volts T1-T2	210 Volts
Motor Amps T1	0.30 Amps

Motor Data	
Motor Rated Volts	208-230 Volts
Motor Phase	1
Motor Hertz	60 Hz
Motor FL Amps	0.4 Amps
Motor Type	Direct Drive
Direct Drive Speed	High

Air Test Data	
Design Airflow	500 CFM
Actual Airflow	500 CFM
Design OSA	0 CFM
Actual OSA	0 CFM
Design Rtn Airflow	500 CFM
Actual Rtn Airflow	500 CFM



Fan Unit

PROJECT: Ritz Theater Phase 3
 LOCATION: Malvern, AR
 PROJECT #: 71900

DATE: 8/3/2023
 CONTACT: Elizabeth Amador
 AUTHOR:

SYSTEM/UNIT: EF-01

Tested By: Greg Rinehart
 Date: 7/27/2023

Unit Data	
Fan Manufacturer	Cook
Fan Model Number	Gemini 140
Fan Serial Number	NL

Test Data	
Design Airflow	70 CFM
Actual Airflow	73 CFM
Motor Volts T1-T2	119 Volts
Motor Amps T1	0.3 Amps

Motor Data	
Motor Rated Volts	115 Volts
Motor Phase	1
Motor Hertz	60 Hz
Motor FL Amps	0.4 Amps
Corrected FL Amps	0.39 Amps
Motor Type	Direct Drive
Direct Drive Speed	Medium RPM

EF-01 Exhaust Inlet Summary

System/Unit	Area Served	Inlet Type	Size LxW / D	Design Airflow	Prelim Airflow	% Prelim Diff.	Final Airflow	% Final Diff.	Instrument
Inlet-01	110	ER1	8/4	70	90	128.6	73	104.3	Evergreen
Totals:		-	-	70	90	128.6	73	104.3	-

SYSTEM/UNIT: EF-02

Tested By: Greg Rinehart
 Date: 7/27/2023

Unit Data	
Fan Manufacturer	Cook
Fan Model Number	Gemini 140
Fan Serial Number	NL

Test Data	
Design Airflow	70 CFM
Actual Airflow	76 CFM
Motor Volts T1-T2	118 Volts
Motor Amps T1	0.3 Amps

Motor Data	
Motor Rated Volts	115 Volts
Motor Phase	1
Motor Hertz	60 Hz
Motor FL Amps	0.4 Amps
Corrected FL Amps	0.39 Amps
Motor Type	Direct Drive
Direct Drive Speed	Medium RPM

EF-02 Exhaust Inlet Summary

System/Unit	Area Served	Inlet Type	Size LxW / D	Design Airflow	Prelim Airflow	% Prelim Diff.	Final Airflow	% Final Diff.	Instrument
Inlet-01	111	ER1	8/4	70	94	134.3	76	108.6	Evergreen
Totals:		-	-	70	94	134.3	76	108.6	-

Fan Unit

PROJECT: Ritz Theater Phase 3
LOCATION: Malvern, AR
PROJECT #: 71900

DATE: 8/3/2023
CONTACT: Elizabeth Amador
AUTHOR:

SYSTEM/UNIT: EF-03

Tested By: Greg Rinehart
 Date: 7/27/2023

Unit Data	
Fan Manufacturer	Cook
Fan Model Number	Gemini 140
Fan Serial Number	NL

Test Data	
Design Airflow	50 CFM
Actual Airflow	54 CFM
Motor Volts T1-T2	119 Volts
Motor Amps T1	0.2 Amps

Motor Data	
Motor Rated Volts	115 Volts
Motor Phase	1
Motor Hertz	60 Hz
Motor FL Amps	0.4 Amps
Corrected FL Amps	0.39 Amps
Motor Type	Direct Drive
Direct Drive Speed	Low RPM

EF-03 Exhaust Inlet Summary

System/Unit	Area Served	Inlet Type	Size LxW / D	Design Airflow	Prelim Airflow	% Prelim Diff.	Final Airflow	% Final Diff.	Instrument
Inlet-01	112	ER2	8/6	50	88	176.0	54	108.0	Evergreen
Totals:		-	-	50	88	176.0	54	108.0	-



Unit Heater

PROJECT: Ritz Theater Phase 3
LOCATION: Malvern, AR
PROJECT #: 71900

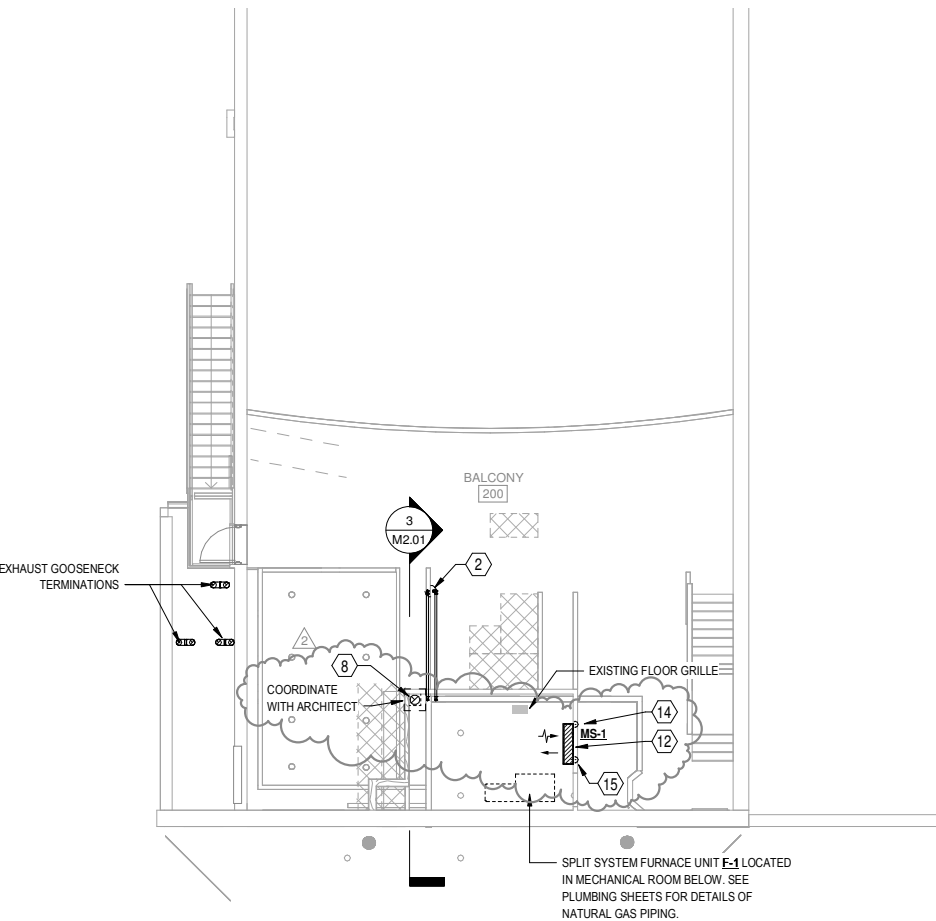
DATE: 8/3/2023
CONTACT: Elizabeth Amador
AUTHOR:

SYSTEM/UNIT: UH-01

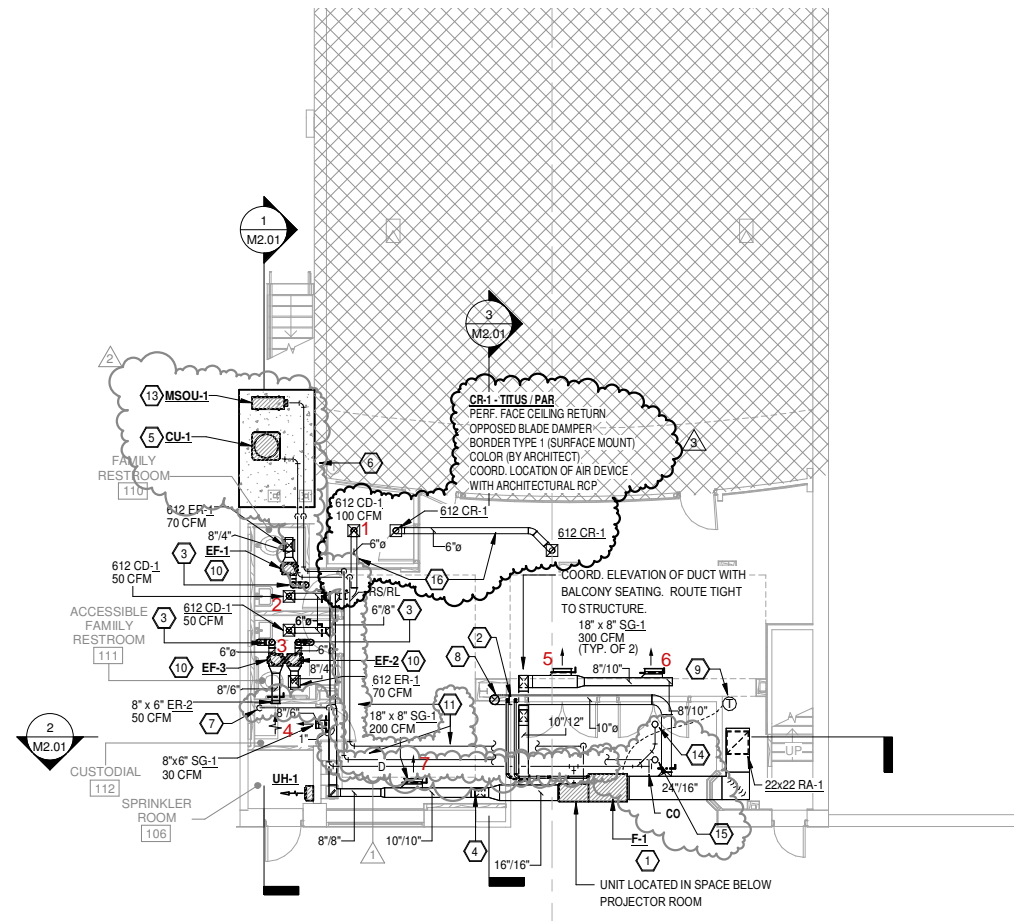
Tested By: Greg Rinehart
Date: 7/27/2023

Unit Data	
Unit Manufacturer	TPI Corporation
Model Number	J3422T
Serial Number	NL
Motor Volts	208 Volts
Motor Amps	1.30 Amps
Actual Volts	210 Volts
Actual Amps	1.00 Amps

Air Test Data	
Design Airflow	245 CFM
Actual Airflow	245 CFM
EAT	79.0 Deg F
LAT	99.0 Deg F
Delta T	20 Deg F



2 BALCONY PLAN - HVAC
1/8" = 1'-0"



1 FIRST FLOOR PLAN - HVAC
1/8" = 1'-0"