Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246

Report: CERTIFIED TAB REPORT

Function: Test, Adjust, & Balance

Date: 06/11/2024

PROJECT

Wingstop (Redding, CA)

1020 E. Cypress Ave

Redding, CA 96002

Client

KMS Resource Group Inc.

8502 E CHAPMAN AVE

SUITE 274

ORANGE, CA 92869

National TAB

Project: Wingstop (Redding, CA)

Table Of Contents

CERTIFICATION

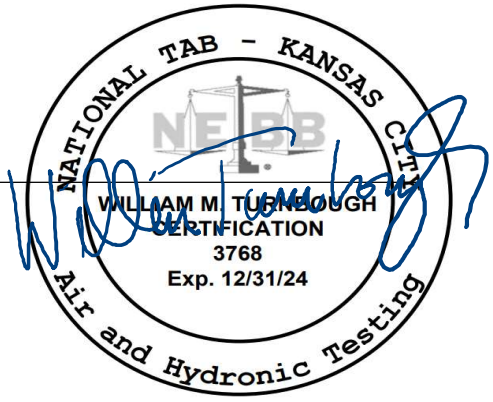
PROJECT: WingStop - Redding CA

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 project summary.

NEBB TAB FIRM: National TAB - Kansas City
REGISTRATION NO: 3768
CERTIFIED BY: Will Turnbough
DATE: 6/11/2024

Submitted and Certified by:

NEBB TAB FIRM: National TAB - Kansas City
TAB PROFESSIONAL: Will Turnbough
REGISTRATION NO: CP-24289
CERTIFICATION EXP: 12/31/2024



Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

RTU's (Roof Top Units) w/ Diffusers

Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

Kitchen Exhaust Hood & Associated Fans

Each kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow. . Any EF's that fell outside of this tolerance is noted throughout the report.

MUA (Make Up Air Unit) w/ PSP

Total flow for the MAU (Make-up Air Unit) unit was measured by readings taken at the discharge of the hood's perforated supply plenum. Readings taken with a velocity matrix were averaged and multiplied by a manufacturer's corrected area. Adjustments to the fan speed were made in order to bring the unit to within design tolerance. Any MUA's that fell outside of this tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

Final Building Tests

After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances of -0.02" wc to +0.02" wc and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

National TAB

Project: Wingstop (Redding, CA)

System/Unit: AHU/RTU

Asset: RTU-1 AREA:HOOD-1

Unit Data		
	Design	**Actual**
MFG	NA	BRYANT
Serial Num	-	0714C55531
Model Num	NA	580JP05A072A2A0AAA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	9”X9”
Num PreFilter 1	-	2
PreFilter Size 1	-	25”X15”X2”

Test Data		
	Design	**Actual**
SF CFM	1602	1583
SF RPM	-	976
RA CFM	1290	1266
OA CFM	310	317
RL Voltage	208	209.6/209.8/209.3
RL Amperage	-	1.96/1.81/1.69
OA Damper Position	-	3/4
Brake Horse Power	-	0.50

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56Y
Horsepower	-	1.5
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.2
Service Factor	-	1.15

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.27"
Fan Suction SP	-	-0.53"
Fan Discharge SP	-	0.26"
Total ESP	-	0.53"
Fan Total SP	-	0.76"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	3”
Motor Bore Size	-	0.625”
Motor Sheave SetPt	-	3 TURNS OUT
Fan Sheave Size	-	AFD44
Belt CL Distance	-	15”
Num of Belts	-	1
Belt Size	-	AX38

Completed By: Jordan Best on 06/10/2024

Notes:
Manual OA Damper

Written By: Jordan Best on 06/10/2024

National TAB

Project:Wingstop (Redding, CA)

AHU/RTU

Diffuser Supply (GRD)

RTU-1/HOOD-1

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
1-1	106	CD	10	238	230	240	100.8
1-2	106	CD	10	238	253	228	95.8
1-3	106	CD	10	238	272	261	109.7
1-4	105	CD		238	162	218	91.6
1-5	HOOD-1	HOOD AC	8	130	115	123	94.6
1-6	HOOD-1	HOOD AC	8	130	116	133	102.3
1-7	HOOD-1	HOOD AC	8	130	118	131	100.8
1-8	HOOD-1	HOOD AC	8	130	119	123	94.6
1-9	HOOD-1	HOOD AC	8	130	112	126	96.9
Total				1602	1497	1583	98.81%

National TAB

Project: Wingstop (Redding, CA)

System/Unit: AHU/RTU

Asset: RTU-2 AREA:101

Unit Data		
	Design	**Actual**
MFG	NA	YORK
Serial Num	-	N1H9173210
Model Num	NA	XN048C000B2A1AAA1A1
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	10”X7"
Num PreFilter 1	-	3
PreFilter Size 1	-	15”X20”X1” / 14”X25”X1”

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	56HZ
Horsepower	-	1.5
Motor Rpm	-	1740
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	4.3
Service Factor	-	1.15

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	5.5”
Fan Sheave Bore	-	0.875”
Belt CL Distance	-	12.5”
Num of Belts	-	1
Belt Size	-	A36

Test Data		
	Design	**Actual**
SF CFM	1598	1642
SF RPM	-	897
RA CFM	1290	1339
OA CFM	310	303
RL Voltage	203	208.7/208.9/208.5
RL Amperage	-	2.72/2.92/2.79
OA Damper Position	-	2/4 (SET MANUALLY)
Brake Horse Power	-	0.97

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.33"
Fan Suction SP	-	-0.67"
Fan Discharge SP	-	0.56"
Total ESP	-	0.89"
Fan Total SP	-	1.23"

Completed By: Jordan Best on 06/10/2024

Notes:
Damper position manually set.

Written By: Will Turnbough on 06/11/2024

National TAB

Project:Wingstop (Redding, CA)

AHU/RTU

Diffuser Supply (GRD)

RTU-2/101

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
2-1	111	CD	6	80	32	72	90.0
2-2	105	CD		253	277	268	105.9
2-3	102	CD	10	253	293	274	108.3
2-4	104	CD		253	246	242	95.7
2-5	102	CD		253	261	238	94.1
2-6	101	CD		253	351	271	107.1
2-7	101	CD		253	382	277	109.5
Total				1598	1842	1642	102.75%

Completed By: Jordan Best on 06/10/2024

National TAB

Project: Wingstop (Redding, CA)

System/Unit: FAN - Exhaust

Asset: EF-1 AREA:111

Unit Data		
	Design	**Actual**
MFG	NA	BROAN
Model Num	NA	HD80
Type	CEILING	CEILING

Test Data		
	Design	**Actual**
CFM	80	77

Completed By: Jordan Best on 06/10/2024

National TAB

Project: Wingstop (Redding, CA)

System/Unit: FAN - Exhaust

Asset: KEF-1 AREA:105

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU180HFA
Serial Num	-	6460865
Type	CRE UPBLAST	CRE UPBLAST

Test Data		
	Design	**Actual**
CFM	2700	2712
RL Voltage	-	210.1/210.2/210.4
RL Amperage	-	5.6
Total ESP	0.50	-1.13

Motor Data		
	Design	**Actual**
Motor MFG	-	WEG
Frame	-	DT80K
Horsepower	2	2
Motor Rpm	1164	1170
Phase	3	3
Voltage (rated)	208	230
Amperage (rated)	-	6.44
Service Factor	-	1.25

Completed By: Jordan Best on 06/10/2024

Notes:
Amps read from VFD (Parameter 508)
Fan Speed Set Pt. 60.7 HZ

Written By: Jordan Best on 06/10/2024

National TAB

Project: Wingstop (Redding, CA)

System/Unit: FAN - Supply

Asset: MAU-1 AREA:105

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	A1-15D
Serial Num	-	6460865
Type	-	MAU
Configuration	VERTICAL	VERTICAL
Num Filters Size 1	-	3
Filter Size 1	-	24.5”X19.5”

Test Data		
	Design	**Actual**
CFM	2160	2168
SF RPM	2053	1396
RL Voltage	-	209.2/209.7/209.2
RL Amperage	-	2.9
Brake Horse Power	-	1.343

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO WESTINGHOUSE
Frame	-	145T
Horsepower	2.0	2
Motor Rpm	2053	1745
Phase	3	3
Voltage (rated)	208	230
Amperage (rated)	-	5.64
Service Factor	-	1

Completed By: Jordan Best on 06/10/2024

Notes:
Amps read from VFD (Parameter 508)
Fan Speed Set Pt. 40.8 HZ

Written By: Jordan Best on 06/10/2024

National TAB

Project: Wingstop (Redding, CA)

System/Unit: Kitchen Hood Type I

Asset: HOOD-1 AREA:105

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	5430 ND-2-ACPSP-F
Job / Serial Num	-	6460865
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	132"	132"
Hood Width	54"	54"
Supply Plenum Type	-	ACPSP
Supply Plenum Width	-	14"
Supply Plenum Length	-	144"

Test Data Exhaust		
	Design	**Actual**
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	20"X16"	20"X16"
Filter Qty 1	8	8
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	16.64	16.64
Filter1 FPM	-	162
Filter2 FPM	-	147
Filter3 FPM	-	172
Filter4 FPM	-	160
Filter5 FPM	-	156
Filter6 FPM	-	171
Filter7 FPM	-	167
Filter8 FPM	-	169
Filter Ave FPM(corr)	-	163
CFM	2700	2712

Cooking Equipment		
	Design	**Actual**
Item 1	-	FRYER
Item 2	-	FRYER
Item 3	-	FRYER
Item 4	-	FRYER
Item 5	-	FRYER

Test Data Supply		
	Design	**Actual**
Total AK Area	-	14
Kv factor (Vel)	-	0.87
Num of Readings	-	12
Reading1 FPM	-	245
Reading2 FPM	-	200
Reading3 FPM	-	133
Reading4 FPM	-	171
Reading5 FPM	-	189
Reading6 FPM	-	167
Reading7 FPM	-	152
Reading8 FPM	-	177
Reading9 FPM	-	172
Reading10 FPM	-	188
Reading11 FPM	-	192
Reading12 FPM	-	160
Ave FPM(corr)	-	178
CFM	2160	2168

Completed By: Jordan Best on 06/10/2024

National TAB

Testing, Adjusting, and Balancing Equipment

Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	TSI EBT731 EBT732117009	9/7/2023	9/7/2024
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	TSI EBT731 EBT732117009	9/7/2023	9/7/2024
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 5 % +/- 7 cfm	TSI EBT731 EBT732117009	9/7/2023	9/7/2024
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/29/2023	9/29/2024
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/29/2023	9/29/2024
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/29/2023	9/29/2024
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/29/2023	9/29/2024
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/29/2023	9/29/2024
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/29/2023	9/29/2024
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper SRH77A S/N 100516003	9/29/2023	9/29/2024
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Klein Tools CL800 S/N 1220C-C1	9/29/2023	9/29/2024
	AMPERAGE MEASUREMENT	0 Amperers to 100 Amperes	2 % reading +/- 5 digits	Klein Tools CL800 S/N 1220C-C1	9/29/2023	9/29/2024
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	Shimpo DT 207Lp S/N D1690029R	9/29/2023	9/29/2024

Report of Calibration

Kansas City Calibration Lab., Inc.
8847 Long Street
Lenexa, Kansas 66215
Telephone: (913) 541-0629 Internet: www.kccl.com Email: service@kccl.com

UNIT UNDER TEST:	TSI EBT731 Diferental Digital Meter	TEST RESULT:	PASS
SERIAL NUMBER:	EBT732117009	PERFORMED ON:	9/7/2023
ASSET NUMBER:	EBT732117009	DATA TYPE:	FOUND-LEFT
PROCEDURE NAME:	ADM-XXX / EBT-XXX-XX 2.0% Reading : 1 Yr Cert CPC(	TEMPERATURE:	23.8°C
PROCEDURE REV.:	20210930C	HUMIDITY:	44 %
CALIBRATED BY:	Bart Schwartz	BAROMETRIC:	28.93 inHg
P.O. NUMBER:		**Recalibration Date**	
CUSTOMER:	National TAB 1126 Swift Street NKC, MO 64116	**September 07, 2024**	
		Calibration Number:	00077333
Cal Seals Intact:	Yes	Previous Calibration Date:	**August 12, 2022**

K.C. Calibration Lab., Inc. certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This calibration is traceable to the International System of Units (SI), throught National Metrology Institutes (NIST, PTB NRC NPL, etc), ratiometric techniques, or natural physical constants. This calibration complies with MIL-STD-45662A and ANSI/NCSL Z540-1-1994.

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Note: Any Test Uncertainty Ratio (TUR) that is less than four to one will appear under the "TUR" heading on the data record. If the TUR meets or exceeds four to one, the field is left blank.

REMARKS:

Standards Used

Asset #	Description	Cal Date	Due Date
41001AR6	Mensor CPC6050 Low & Meduim Pressure Calibrator	3/15/2023	3/15/2024

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	TUR
Vertical Accuracy: ±2.0% ±0.001 Reading INH2O @ 60F						
Reference Documents: Mfr. Manuals						
Internal Barometric Reading: 28.80 inHg						
Version Number is 1.11.1						
"+" Connector						
0.000 inh20	0.000	-0.0005	-0.0100	0.0100	inh20	Pass
5.000 inh20	5.000	5.1000	4.9000	5.1000	inh20	Pass
10.000 inh20	10.000	10.0300	9.8000	10.2000	inh20	Pass
14.900 inh20	14.900	14.9100	14.6020	15.1980	inh20	Pass
0.000 inh20	0.000	-0.0003	-0.0100	0.0100	inh20	Pass
-5.000 inh20	-5.000	-5.0100	-5.1000	-4.9000	inh20	Pass
-10.000 inh20	-10.000	-10.0200	-10.2000	-9.8000	inh20	Pass
-14.900 inh20	-14.900	-14.9600	-15.1980	-14.6020	inh20	Pass

Report of Calibration for SERIAL NUMBER: EBT732117009 ASSET NUMBER: EBT732117009

Printed On: Thursday, September 7, 2023 Page 1 of 2

Test Results indicate the following: **Found-Left:** *Unit was left as found*. **As-Left:** *Unit was left after adjustments*.

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	TUR
"+" Connector						
0.000 inh20	0.000	-0.0001	-0.0100	0.0100	inh20	Pass
5.000 inh20	5.000	4.9800	4.9000	5.1000	inh20	Pass
10.000 inh20	10.000	10.0300	9.8000	10.2000	inh20	Pass
14.900 inh20	14.900	14.9100	14.6020	15.1980	inh20	Pass
0.000 inh20	0.000	0.0001	-0.0100	0.0100	inh20	Pass
-5.000 inh20	-5.000	-5.0100	-5.1000	-4.9000	inh20	Pass
-10.000 inh20	-10.000	-10.0300	-10.2000	-9.8000	inh20	Pass
-14.900 inh20	-14.900	-14.9200	-15.1980	-14.6020	inh20	Pass

**********END OF CALIBRATION**********

K.C. Calibration Labs Seal

Signed: Bart A. Schwartz , Engineer in Charge

Report of Calibration for SERIAL NUMBER: EBT732117009 ASSET NUMBER: EBT732117009

Printed On: Thursday, September 7, 2023 Page 2 of 2

Test Results indicate the following: **Found-Left:** *Unit was left as found*. **As-Left:** *Unit was left after adjustments*.

Report of Calibration

Kansas City Calibration Lab., Inc.
8847 Long Street
Lenexa, Kansas 66215
Telephone: (913) 541-0629 Internet: www.kccl.com Email: service@kccl.com

UNIT UNDER TEST:	Shimpo DT-207lp Tachometer	TEST RESULT:	PASS
SERIAL NUMBER:	D1690029R	PERFORMED ON:	9/29/2023
ASSET NUMBER:	D1690029R	DATA TYPE:	FOUND-LEFT
PROCEDURE NAME:	Shimpo DT-20xx : 1 Year Certification	TEMPERATURE:	24.9°C
PROCEDURE REV.:	20210818C	HUMIDITY:	47 %
CALIBRATED BY:	Bart Schwartz		
P.O. NUMBER:		**Recalibration Date**	
CUSTOMER:	National TAB 1126 Swift Street NKC, MO 64116	**September 29, 2024**	
		Calibration Number:	00077544
Cal Seals Intact:	Yes	Previous Calibration Date:	**August 11, 2022**

K.C. Calibration Lab., Inc. certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This calibration is traceable to the International System of Units (SI), throught National Metrology Institutes (NIST, PTB NRC NPL, etc), ratiometric techniques, or natural physical constants. This calibration complies with MIL-STD-45662A and ANSI/NCSL Z540-1-1994.

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REMARKS:

Standards Used

Asset #	Description	Cal Date	Due Date
MY59000813	Keysight Technologie 33511B Function/Arb Waveform Generator	12/1/2022	12/1/2023

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	TUR
RPM						
10.00 RPM	10.0	10	9	11	RPM	Pass
100.00 RPM	100.0	100	99	101	RPM	Pass
1000.0 RPM	1000.0	1000	999	1001	RPM	Pass
10 ,000.0 RPM	10000.0	10000	9998	10002	RPM	Pass
99 ,900.0 RPM	99900.0	99902	99893	99907	RPM	Pass

Report of Calibration for SERIAL NUMBER: D1690029R ASSET NUMBER: D1690029R

Printed On: Friday, September 29, 2023 Page 1 of 2

Test Results indicate the following: **Found-Left:** *Unit was left as found*. **As-Left:** *Unit was left after adjustments*.

Report of Calibration

Kansas City Calibration Lab., Inc.
8847 Long Street
Lenexa, Kansas 66215
Telephone: (913) 541-0629 Internet: www.kccl.com Email: service@kccl.com

UNIT UNDER TEST:	Cooper Instrument SRH77A Digital Thermometer	TEST RESULT:	PASS
SERIAL NUMBER:	100516003	PERFORMED ON:	9/29/2023
ASSET NUMBER:	100516003	DATA TYPE:	FOUND-LEFT
PROCEDURE NAME:	Met Temp NIST(SI) 1 Year	TEMPERATURE:	24.1°C
PROCEDURE REV.:		HUMIDITY:	46 %
CALIBRATED BY:	Bart Schwartz		
P.O. NUMBER:		**Recalibration Date**	
CUSTOMER:	National TAB 1126 Swift Street NKC MO 64116	**September 29, 2024**	
		Calibration Number:	00077543
Cal Seals Intact:	Yes	Previous Calibration Date:	**August 12, 2022**

K.C. Calibration Lab., Inc. certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This calibration is traceable to the International System of Units (SI), throught National Metrology Institutes (NIST, PTB NRC NPL, etc), ratiometric techniques, or natural physical constants. This calibration complies with MIL-STD-45662A and ANSI/NCSL Z540-1-1994.

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REMARKS:

Standards Used

Asset #	Description	Cal Date	Due Date
2659119	Hart Scientific 1523 Single Chan Reference Thermometer	1/9/2023	1/9/2024
905040	Burns Engineering 5615 Platinum Resistance Thermometer	2/8/2023	2/8/2024
DW518	Fluke 518 Dry-Block Calibrator	8/28/2023	8/28/2024
MB7103	Hart Scientific 7103 Micro Bath Calibrator	12/8/2022	12/8/2023

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	TUR
1075 General Purpose Puncture Probe						
Accuracy ±1.3 deg F / ±0.2 deg C or ±0.5% or reading						
-10.00	F	-10.08	-8.70	1.38		
32.00	F	32.34	32.70	0.36		
122.00	F	122.71	121.80	-0.91		
212.00	F	211.90	211.10	-0.80		
280.00	F	279.96	280.70	0.74		
4011 Pipe Strap Probe						
Accuracy ± 2°F Range -25° to 212°F / -32° to 100°C						
0.00	F	0.27	2.10	1.83		
75.00	F	75.25	75.10	-0.15		
150.00	F	150.31	150.00	-0.31		

Report of Calibration for SERIAL NUMBER: 100516003 ASSET NUMBER: 100516003

Printed On: Friday, September 29, 2023 Page 1 of 2

Test Results indicate the following: **Found-Left:** *Unit was left as found*. **As-Left:** *Unit was left after adjustments*.

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	TUR
5028 Slim Humidity Probe						
Accuracy ±2% from 20 to 80%RH, ±3% below 20 and a						
10.0 %RH @ 23.0°C	%RH	10.0	16	6.0		
25.0 %RH @23.0°C	%RH	25.0	30	5.0		
50.0 %RH @ 23.0°C	%RH	50.0	53	3.0		
75.0 %RH @ 23.0°C	%RH	75.0	77	2.0		
23.0°C @ 10.0 %RH	C	23.0	23.2	0.2		
23.0°C @ 25.0 %RH	C	23.0	23.2	0.2		
23.0°C @ 50.0 %RH	C	23.0	23.2	0.2		
23.0°C @ 75.0 %RH	C	23.0	23.1	0.1		

**********END OF CALIBRATION**********

K.C. Calibration Labs Seal

Signed: Bart A. Schwartz , Engineer in Charge

Report of Calibration for SERIAL NUMBER: 100516003 ASSET NUMBER: 100516003

Printed On: Friday, September 29, 2023 Page 2 of 2

Test Results indicate the following: **Found-Left:** *Unit was left as found.* **As-Left:** *Unit was left after adjustments.*

Report of Calibration

Kansas City Calibration Lab., Inc.
8847 Long Street
Lenexa, Kansas 66215

Telephone: (913) 541-0629 Internet: www.kccl.com Email: service@kccl.com

UNIT UNDER TEST:	Klein Tools CL800 True RMS Digital Clampmeter	TEST RESULT:	PASS
SERIAL NUMBER:	1220C-C1	PERFORMED ON:	9/29/2023
ASSET NUMBER:	1220C-C1	DATA TYPE:	FOUND-LEFT
PROCEDURE NAME:	Klein Tools CL800 : (1 year) CAL VER / 5520	TEMPERATURE:	24.9°C
PROCEDURE REV.:	20230928	HUMIDITY:	46 %
CALIBRATED BY:	Bart Schwartz		
P.O. NUMBER:		**Recalibration Date**	
CUSTOMER:	National TAB 1126 Swift Street NKC, MO 64116	**September 29, 2024**	
		Calibration Number:	00077542
		Previous Calibration Date:	
Cal Seals Intact:	Unknown		

K.C. Calibration Lab., Inc. certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). This calibration is traceable to the International System of Units (SI), throught National Metrology Institutes (NIST, PTB NRC NPL, etc), ratiometric techniques, or natural physical constants. This calibration complies with MIL-STD-45662A and ANSI/NCSL Z540-1-1994.

Note: Any Test Uncertainty Ratio (TUR) that is less than four to one will appear under the "TUR" heading on the data record. If the TUR meets or exceeds four to one, the field is left blank.

REMARKS:

Standards Used

Asset #	Description	Cal Date	Due Date
3277903	Fluke 5522A Multi-Product Calibrator	11/30/2022	11/30/2023

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	TUR
Root Difference Square guardbanding method used						
AC VOLTS TESTS						
6 V Range						
5.900 V @ 60 Hz	5.9000	5.897	5.807	5.994	V	Pass
60 V Range						
59.00 V @ 60 Hz	59.000	58.97	58.24	59.76	V	Pass
600 V Range						
590.0 V @ 60 Hz	590.00	589.7	582.4	597.6	V	Pass
1000 V Range						
990.0 V @ 60 Hz	990.00	991.0	970.1	1009.9	V	Pass
DC VOLTS TESTS						
600 mV Range						
600.0 mV	600.00	599.8	593.2	606.8	m V	Pass

Report of Calibration for SERIAL NUMBER: 1220C-C1 ASSET NUMBER: 1220C-C1

Printed On: Friday, September 29, 2023 Page 1 of 3

Test Results indicate the following: **Found-Left:** *Unit was left as found.* **As-Left:** *Unit was left after adjustments.*

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	TUR
-600.0 mV	-600.00	-599.9	-606.8	-593.2	m V	Pass
6 V Range						
6.000 V	6.0000	5.997	5.937	6.063	V	Pass
-6.000 V	-6.0000	-5.995	-6.063	-5.937	V	Pass
60 V Range						
60.00 V	60.000	59.96	59.37	60.63	V	Pass
600 V Range						
600.0 V	600.00	599.6	593.7	606.3	V	Pass
1000 V Range						
1000 V	1000.0	1001	985	1015	V	Pass
-1000 V	-1000.0	-1001	-1015	-985	V	Pass
CONTINUITY TESTS						
Audible Indicator ON @ 10 ohms						Pass
Audible Indicator OFF @ 51 ohms						Pass
RESISTANCE TESTS						
600 Ohm Range						
600.0 Ohm	600.00	601.2	590.5	609.5	Ω	Pass
6 kOhm Range						
6.000 kOhm	6.0000	6.000	5.905	6.095	k Ω	Pass
60 kOhm Range						
60.00 kOhm	60.000	59.99	59.05	60.95	k Ω	Pass
600 kOhm Range						
600.0 kOhm	600.00	599.9	590.5	609.5	k Ω	Pass
6 MOhm Range						
6.000 MOhm	6.0000	5.993	5.905	6.095	M Ω	Pass
60 MOhm Range						
60.00 MOhm	60.000	59.47	58.70	61.30	M Ω	Pass
DIODE CHECK TESTS						
Diode Voltage						Pass
FREQUENCY TESTS						
9.000 Hz @ 8 V	9.0000	8.999	8.905	9.095	Hz	Pass
90.00 Hz @ 8 V	90.000	90.00	89.05	90.95	Hz	Pass
900.0 Hz @ 8 V	900.00	900.0	890.5	909.5	Hz	Pass
9.000 kHz @ 8 V	9.0000	9.000	8.905	9.095	k Hz	Pass
90.00 kHz @ 8 V	90.000	90.00	89.05	90.95	k Hz	Pass
100.0 kHz @ 8 V	100.00	100.0	98.5	101.5	k Hz	Pass
DUTY CYCLE						
50.0 % @ 1 kHz	50.00	50.3	49.3	50.8	%	Pass
CAPACITANCE TESTS						
60 nF Range						
59.00 nF	59.000	59.96	55.70	62.30	n F	Pass
600 nF Range						
590.0 nF	590.00	597.1	571.8	608.2	n F	Pass
6 uF Range						
5.900 µF	5.9000	5.854	5.718	6.082	µ F	Pass
60 uF Range						
59.00 µF	59.000	58.87	57.18	60.82	µ F	Pass

Report of Calibration for SERIAL NUMBER: 1220C-C1 ASSET NUMBER: 1220C-C1

Printed On: Friday, September 29, 2023 Page 2 of 3

Test Results indicate the following: **Found-Left:** *Unit was left as found.* **As-Left:** *Unit was left after adjustments.*

Test Results

Test Description	True Value	Test Result	Lower Limit	Upper Limit	Units	TUR
600 uF Range						
590.0 µF	590.00	590.6	560.0	620.0	µ F	Pass
6000 uF Range						
5900 µF	5900.0	5957	5600	6200	µ F	Pass
TEMPATURE F TESTS						
-14 °F	-14.0	-10	-23	-5	°F	Pass
100 °F	100.0	102	94	106	°F	Pass
500 °F	500.0	502	490	510	°F	Pass
900 °F	900.0	902	873	927	°F	Pass
TEMPATURE C TESTS						
-25 °C	-25.0	-23	-31	-20	°C	Pass
100 °C	100.0	102	96	104	°C	Pass
350 °C	350.0	351	344	357	°C	Pass
500 °C	500.0	501	485	515	°C	Pass
AC CURRENT TESTS						
60 A Range						
50.00 A @ 60 Hz	50.000	49.60	48.92	51.08	A	Pass
50.00 A @ 400 Hz	50.000	50.00	48.92	51.08	A	Pass
400 A Range						
500.0 A @ 60 Hz	500.00	494.2	489.5	510.5	A	Pass
500.0 A @ 100 Hz	500.00	494.4	489.5	510.5	A	Pass
60 A Range						
50.00 A	50.000	49.20	48.92	51.08	A	Pass
600 A Range						
300.0 A	300.00	296.5	293.5	306.5	A	Pass
590.0 A	590.00	582.7	577.7	602.3	A	Pass

**********END OF CALIBRATION**********

K.C. Calibration Labs Seal

Signed: Bart A. Schwartz , Engineer in Charge

Report of Calibration for SERIAL NUMBER: 1220C-C1 ASSET NUMBER: 1220C-C1

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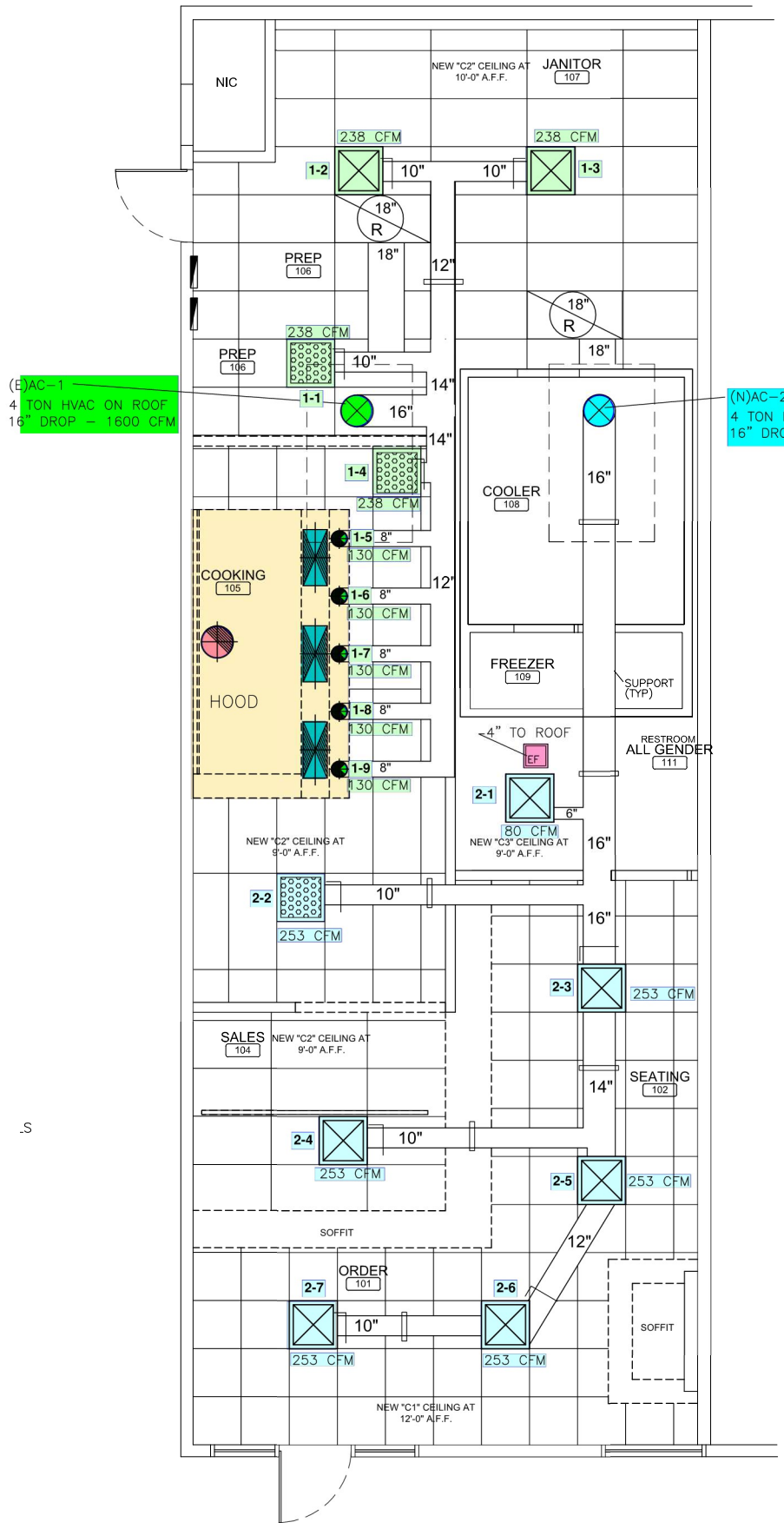
Test Results indicate the following: **Found-Left:** *Unit was left as found.* **As-Left:** *Unit was left after adjustments.*

Abbreviation List

A = Area (ft^2)	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A_k = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T_{ma} = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T_{oa} = Outside Air Temperature
CD = Ceiling Diffuser	T_{ra} = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO2 = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C_v = Flow Constant	K_v = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T_{ra} = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
$\%_{ra}$ = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio



Hz, 4.8 KW

RIC UNIT

Hz, 4.8 KW

3.42"H

TECTION DEVICE AND DC .S

LICENSED ARCHITECT
STATE OF CALIFORNIA
MAXWELL A. BEAUMONT
NO. C 2462
2-28-25
RENEWAL

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WING STOP RESTAURANT

CYPRESS POINTE SHOPPING CENTER
1020 E. CYPRESS AVE.,Suite A
REDDING, CA 96002
STORE GL#AB078

DWG DATE:

DRAWN BY:
MSD

HVAC FLOOR PLAN

TRUE NORTH

PLAN NORTH

HVAC PLAN
SCALE: 1/4" = 1'-0"

FaciliBuild 2
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