Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 10/10/2025

Completed By: National TAB

PROJECT

09-15-25 QT #1727 EMERSON, GA

105 OLD ALLATOONA ROAD

EMERSON, GA 30121

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 09-15-25 QT #1727 EMERSON, GA

Table Of Contents

Project Summary

The Summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report are further details 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)

Each of the RTU's was measured with a flow hood to establish total flow. The total flow was then adjusted via the VFD so that airflow fell within design tolerances. All diffusers on the kitchen RTU were balanced to the engineer's design flow. The diffusers on the sales floor were only adjusted when there were noticeable issues present like drafting or dampers that were found completely closed. The Hoods On outside air rate was set by first establishing the Nominal Hoods ON setpoint of 46% at the Emerson controller and then making manual adjustments on the roof to achieve design. The hoods off airflow setpoint was found by adjusting the damper position at the Emerson controller until the design airflow was achieved. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. After completion of TAB all overrides were released.

Kitchen Exhaust Hood & Associated Fans

The 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.

Restroom Exhaust Fans

The restroom exhaust fans were measured with a flow hood. Except for the new exhaust grille over the combi-oven, total flow was balanced for the fans. The newly installed grille over the oven was individually balanced to design.

Final Building Tests

After completing the test and balance, the final building pressure was measured in both Hoods On and Hoods Off conditions. It was confirmed that the building pressure fell within acceptable tolerances 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.

CheckList List

- 01: RTU’s/AHU’s
- 02: Exhaust Fans
- 03: Hoods
- 04: Final Tests

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CheckList Information

Name :	01: RTU’s/AHU’s	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/08/2025 - Trinity Dodds - National TAB		
Completed Date :	09/19/2025 - Sagar Patel - National TAB		

CheckList Item Details

RTU's/AHU's

Evaporator coils are clean?	Pass
Comment:	
Condenser coils are clean?	Pass
Comment:	
Gas piping is installed and valves are turned on?	N/A
Comment:	
Unit free of noticeable noise and vibration	Pass
Comment:	

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CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/08/2025 - Trinity Dodds - National TAB		
Completed Date :	09/19/2025 - Sagar Patel - National TAB		

CheckList Item Details

EF's

Hinge kit installed installed on hood fan?	Pass
Comment:	
Flex conduit is long enough so that fan can be completely tilted back?	Pass
Comment:	
No major leakage around the fan base	Pass
Comment:	
Unit is free of noise and vibration	Pass
Comment:	

09-15-25 QT #1727 EMERSON, GA

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/08/2025 - Trinity Dodds - National TAB		
Completed Date :	09/19/2025 - Sagar Patel - National TAB		

CheckList Item Details

HOODS

Hood is free of alarms?	Pass
Comment:	
Hood is free of damage?	Pass
Comment:	
End panels are installed per prototype?	Pass
Comment:	

09-15-25 QT #1727 EMERSON, GA

CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/08/2025 - Trinity Dodds - National TAB		
Completed Date :	09/19/2025 - Sagar Patel - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

FRYER AND OVEN

List smoke candle type used

Comment:

SMOKE EMITTER 45 SECOND

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	09/19/2025

Comment:

TAB tech name / Firm

Comment:

SAGAR PATEL / NATIONAL TAB INTELLIGENCE

Site super name / Firm

Comment:

LESLIE HUNTER / LESLIE HUNTER CONTRACTING

Owner representative name / Firm (if Applicable)

Comment:

BUILDING PRESSURE

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)	Pass

Comment:

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Project: 09-15-25 QT #1727 EMERSON, GA

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	202009-ANEK21078
Model Num	NA	RN-013-8-0-EA0A-152
Type	-	RTU
Num OA Filters 1	-	1
OA Filter Size 1	-	45X22”

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	3
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Drive Data	
	Actual
Motor Sheave Size	DD

Test Data		
	Design	**Actual**
SF CFM	4200	4128
SF RPM	-	1238
RA CFM	3400	3316
OA CFM	800	812
RL Voltage	-	131 VFD
RL Amperage	-	6.19 VFD
SF Rotation	-	CCW
SF System SetPt	-	42.2 Hz
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.54”
Fan Suction SP	-	-0.81”
Fan Discharge SP	-	0.19”
Total ESP	-	0.73"
Fan Total SP	-	1.00"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Sagar Patel on 09/19/2025

Notes:
RTU balanced for total flow and diffusers balanced for comfort

Written By: on

Unit Data - PHOTO LOG

10/14/2025

National TAB

Project: 09-15-25 QT #1727 EMERSON, GA

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	202009-ANEK2180
Model Num	NA	RN-013-8-0-EA0A-152
Type	-	RTU
Num OA Filters 1	-	1
OA Filter Size 1	-	45X22”

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	3
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Drive Data	
	Actual
Motor Sheave Size	DD

Test Data		
	Design	**Actual**
SF CFM	4200	4197
SF RPM	-	1270
RA CFM	3400	3461
OA CFM	800	736
RL Voltage	-	141 VFD
RL Amperage	-	7.24 VFD
SF Rotation	-	CCW
SF System SetPt	-	43.3 Hz
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.46”
Fan Suction SP	-	-0.72”
Fan Discharge SP	-	0.23”
Total ESP	-	0.69"
Fan Total SP	-	0.95"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Sagar Patel on 09/19/2025

Notes:
RTU balanced for total flow and diffusers balanced for comfort

Written By: on

Unit Data - PHOTO LOG

10/14/2025

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Project: 09-15-25 QT #1727 EMERSON, GA

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	202009-ANEK21079
Model Num	NA	RN-013-8-0-EA0A-152
Type	-	RTU
Num OA Filters 1	-	1
OA Filter Size 1	-	45X22”

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Rated Voltage	-	
Rated Amperage	-	

Drive Data	
	Actual
Motor Sheave Size	DD

Test Data		
	Design	**Actual**
SF CFM	4200	4039
SF RPM	-	1291
RA CFM	3400	3296
OA CFM	800	743
RL Voltage	-	145 VFD
RL Amperage	-	7.45 VFD
SF Rotation	-	CCW
SF System SetPt	-	44.0 Hz
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.62”
Fan Suction SP	-	-0.83”
Fan Discharge SP	-	0.45”
Total ESP	-	1.07"
Fan Total SP	-	1.28"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Sagar Patel on 10/14/2025

Unit Data - PHOTO LOG

10/14/2025

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Project:09-15-25 QT #1727 EMERSON, GA

AHU/RTU

Diffuser Supply (GRD)

RT-3/BOH/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SUPPORT SERVICE	SI	12"	800	1	236	530	726	90.8
SGRD2	SUPPORT SERVICE	SI	12"	800	1	349	827	794	99.3
SGRD3	SUPPORT SERVICE	SI	12"	800	1	370	831	762	95.3
SGRD4	SUPPORT SERVICE	SI	12"	800	1	300	687	741	92.6
SGRD5	WORKROOM	ES	10"	500	1	245	567	508	101.6
SGRD6	WORKROOM	ES	10"	250	1	124	292	259	103.6
SGRD7	WORKROOM	ER	8"	250	1	108	241	249	99.6
Total				4200		1732	3975	4039	96.17%

Completed By: Sagar Patel on 10/14/2025

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Project: 09-15-25 QT #1727 EMERSON, GA

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RR/JANITOR'S CLOSET

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR50HFA
Serial Num	-	4639275
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	HSSA
Frame	-	N/L
Horsepower	-	0.5
Motor Rpm	-	1625
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	7.6
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	750	803
Fan Rotation	-	CCW
System SetPt	-	LOW
RL Voltage	-	[1]
RL Amperage	-	[1]
Total ESP	-	-0.16”
Fan Inlet SP	-	-0.16”
Fan Discharge SP	-	1 ATM

Completed By: Sagar Patel on 09/19/2025

Notes:
[1] UNABLE TO READ VOLTS AND AMPS SAFELY

Written By: Sagar Patel on 09/19/2025

Unit Data - PHOTO LOG

10/14/2025

Diffuser Ret/Exh (GRD)

EF1/RR/JANITOR'S CLOSET

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD4	SUPPORT SERVICE	RI	8"	150	1	138	138	140	93.3
Total				150		138	138	140	93.33%

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Project: 09-15-25 QT #1727 EMERSON, GA

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HOOD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	7632101
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCOGREEN
Frame	-	N/L
Horsepower	1/2	0.5
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.8
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	1350	1263
Fan RPM	-	1235
Fan Rotation	-	CCW
Motor RPM	-	1235
System SetPt	-	65.8 HZ (65% at MSC)
RL Voltage	-	209
RL Amperage	-	1.8
Total ESP	-	-0.58”
Fan Inlet SP	-	-0.58”
Fan Discharge SP	-	1 ATM

Completed By: Sagar Patel on 10/14/2025

Unit Data - PHOTO LOG

10/14/2025

National TAB

Project: 09-15-25 QT #1727 EMERSON, GA

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:GRIDDLE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030 ND-2-F	6030 ND-2-F
Job / Serial Num	-	7632101
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	-	109”
Hood Width	-	60”

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	CAPTRATE
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	107
Filter2 FPM	-	104
Filter3 FPM	-	103
Filter4 FPM	-	106
Filter5 FPM	-	97
Filter6 FPM	-	90
Filter Ave FPM(corr)	-	101.16
CFM	1350	1263

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	OVEN

Completed By: Sagar Patel on 09/19/2025

Unit Data - PHOTO LOG

10/14/2025