

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 11/21/2025
Completed By: National TAB

PROJECT
11-10-25 QT #0465 PHOENIX, AZ

23550 N 23RD AVE

PHOENIX, AZ 85027

Client

QUIKTRIP
4705 SOUTH 129TH EAST AVENUE
TULSA, OK 74134

National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ

Table Of Contents

Section	Page #
SUMMARY	3
REMARKS	4
BALANCE SCHEDULE	7
CHECKLISTS	8
RTUS	14
RTU3	18
FAN - Exhaust	21
Kitchen Hood Type I	27
GRD	29



National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ
Function: Test, Adjust, & Balance

Project Summary

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) 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 for comfort and hood performance. 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.

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 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.

Issue List

- DIFFUSER LYING ON TOP OF CEILING
- STORE PC NOT AFFECTING OA DAMPERS



11-10-25 QT #0465 PHOENIX, AZ

Project Issue Information

Issue Name : DIFFUSER LYING ON TOP OF CEILING
Description : Diffuser is not in use, should be conditioning the humid area behind the soda machines. Recommend reopening damper for duct and replacing where it should be.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** SGRD5
Originated Date : 11/23/2025 - Christine Weale - National TAB

Project Issue File Details



11/23/2025



11/23/2025



11-10-25 QT #0465 PHOENIX, AZ

Project Issue Information

Issue Name : STORE PC NOT AFFECTING OA DAMPERS
Description : Store PC not communicating OA position to any of the 3 units.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : [Medium](#) **Asset Tag :**
Originated Date : 11/23/2025 - Christine Weale - National TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HOOD ON OA		HOOD OFF OA		HOOD ON EXHAUST		HOOD OFF EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU 1	SALES	800	853	350	378				
RTU-2	SALES	800	866	350	358				
RTU-3	BOH/KITCHEN	800	853	350	358				
EF-1	RR/JANITOR CLOSET					750	945	750	945
EF-3	HOOD					1350	1408	0	0
TOTALS		2400	2572	1050	1094	2100	2353	750	945

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2572
TOTAL EXHAUST	2100	2353
NET AIRFLOW	300	219

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.004
SIDE	0.003
REAR	0.006
AVERAGE	0.0043

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1094
TOTAL EXHAUST	750	945
NET AIRFLOW	300	149

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.004
SIDE	0.003
REAR	0.008
AVERAGE	0.005

NOTES:

CheckList List

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



11-10-25 QT #0465 PHOENIX, AZ

CheckList Information

Name : 01: RTU's/AHU's **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 09/04/2025 - Trinity Dodds - National TAB
Completed Date : 11/23/2025 - Christine Weale - 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? Pass

Comment:

Unit free of noticeable noise and vibration Pass

Comment:



11-10-25 QT #0465 PHOENIX, AZ

CheckList Information

Name : 02: Exhaust Fans **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 09/04/2025 - Trinity Dodds - National TAB
Completed Date : 11/23/2025 - Christine Weale - 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:



11-10-25 QT #0465 PHOENIX, AZ

CheckList Information

Name : 03: Hoods **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 09/04/2025 - Trinity Dodds - National TAB
Completed Date : 11/23/2025 - Christine Weale - 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:



11-10-25 QT #0465 PHOENIX, AZ

CheckList Information

Name : 04: Final Tests **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 09/04/2025 - Trinity Dodds - National TAB
Completed Date : 11/23/2025 - Christine Weale - National TAB

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

Fryers and dual-oven

List smoke candle type used

Comment:

45s S102

Smoke test capture % - Perimeter of hood

Comment:

100

Smoke test capture % - Top of cooking surface

Comment:

100

WITNESS

Date test was completed

11/21/2025

Comment:

TAB tech name / Firm

Comment:

Christine Weale, NTI

Site super name / Firm

Comment:

TBuilt

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:



National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202303-ANEK25718
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22
Num Final Filter 1	2
Final Filter Size 1	46X19.5X2

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3.0
Rated Voltage	208
Rated Amperage	10.6

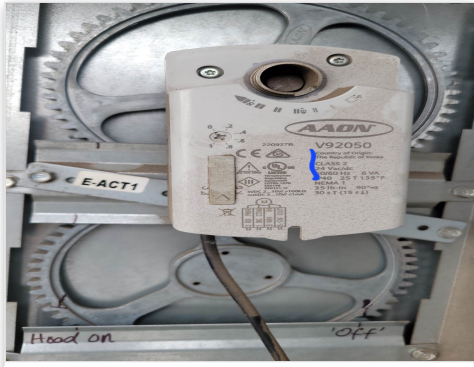
Test Data		
	Design	Actual
SF CFM	4200	4612
SF RPM	-	43.8 HZ
OA CFM (Hoods On)	800	853
OA CFM (Hoods Off)	350	378
RL Voltage	-	143
RL Amperage	-	6.95
VFD Max SetPt	-	73
VFD Min SetPt	-	24
OA Damper Position (Hoods On)	-	46.0
OA Damper Position (Hoods Off)	-	0.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.47"
Fan Suction SP	-	-0.67"
Fan Discharge SP	-	0.24"
Total ESP	-	0.71"
Fan Total SP	-	0.91"

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

Completed By: Christine Weale on 11/22/2025

Unit Data - PHOTO LOG



11/22/2025



11/22/2025



National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202303-ANEK25719
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22
Num Final Filter 1	2
Final Filter Size 1	46X19.5X2

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3.0
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4572
SF RPM	-	49.8 HZ
OA CFM (Hoods On)	800	866
OA CFM (Hoods Off)	350	358
RL Voltage	-	181.6
RL Amperage	-	8.65
VFD Max SetPt	-	83.0
VFD Min SetPt	-	24.0
OA Damper Position (Hoods On)	-	46.0
OA Damper Position (Hoods Off)	-	0.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.62"
Fan Suction SP	-	-0.90"
Fan Discharge SP	-	0.66"
Total ESP	-	1.28"
Fan Total SP	-	1.56"

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

Completed By: Christine Weale on 11/22/2025

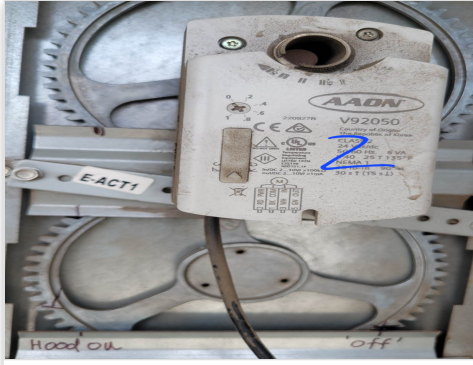
Notes:
RECOMMEND REPLACING SGRD-5 AND REOPENING DAMPER TO CONDITION BEHIND SODA MACHINES AND EVEN OUT AIR FLOW.

Written By: Christine Weale on 11/28/2025

Unit Data - PHOTO LOG



11/22/2025



11/22/2025



National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	202303-ANEK25717
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22
Num Final Filter 1	2
Final Filter Size 1	46X19.5X2

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4497
SF RPM	-	46.2 HZ
OA CFM (Hoods On)	800	853
OA CFM (Hoods Off)	350	358
RL Voltage	-	158.8
RL Amperage	-	7.7
VFD Max SetPt	-	77.0
VFD Min SetPt	-	24.0
OA Damper Position (Hoods On)	-	46.0
OA Damper Position (Hoods Off)	-	0.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.36"
Fan Suction SP	-	-0.55"
Fan Discharge SP	-	0.28"
Total ESP	-	0.64"
Fan Total SP	-	0.83"

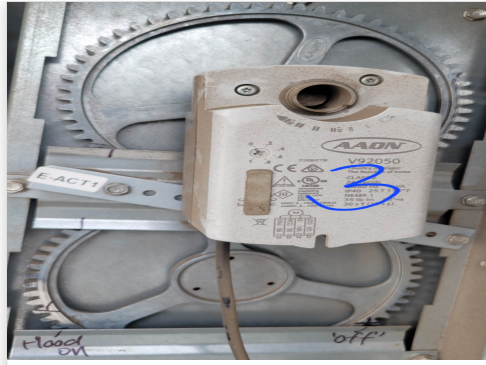
General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Christine Weale on 11/22/2025

Unit Data - PHOTO LOG



11/22/2025



11/22/2025



National TAB

Project:11-10-25 QT #0465 PHOENIX, AZ

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	810	810	810	101.3
SGRD2	SUPPORT SERVICE	SI	12"	800	1	808	808	808	101.0
SGRD3	SUPPORT SERVICE	SI	12"	800	1	816	816	816	102.0
SGRD4	SUPPORT SERVICE	SI	12"	800	1	666	666	666	83.3
SGRD5	WORKROOM	ES	10"	500	1	523	523	523	104.6
SGRD6	WORKROOM	ES	10"	500	1	550	550	550	110.0
SGRD7	PLUMBING ROOM	ER	8"	540	1	324	324	324	60.0
Total				4740		4497	4497	4497	94.87%

National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ
System/Unit: FAN - Exhaust



Asset: EF1

AREA:RR/JANITOR

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR50HFA
Serial Num	-	5920923
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	HSSA
Frame	-	48Y
Horsepower	-	0.5\0.75
Motor Rpm	-	1625
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	5.6\8.4
Service Factor	-	1.0

Test Data		
	Design	Actual
CFM	750	834
Fan RPM	-	N/A
Fan Rotation	-	CCW
Motor RPM	-	N/A
System SetPt	-	LOW
RL Voltage	-	N/A
RL Amperage	-	7.51
Total ESP	-	0.17"
Fan Inlet SP	-	-0.17"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 11/22/2025

Unit Data - PHOTO LOG



11/22/2025

National TAB

Project:11-10-25 QT #0465 PHOENIX, AZ

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF1/RR/JANITOR

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	MEN'S RR	EE	10"	300	1	310	310	310	103.3
EGRD2	JANITOR CLOSET	EE	6"	100	1	86	86	86	86.0
EGRD3	WOMEN'S RR	EE	10"	200	1	438	438	438	219.0
Total				600		834	834	834	139%

National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ
System/Unit: FAN - Exhaust



Asset: EF3

AREA: KITCHEN HOOD

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	7644877
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

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

Test Data		
	Design	Actual
CFM	1350	1408
Fan RPM	-	1217
Fan Rotation	-	CCW
Motor RPM	-	1217
System SetPt	-	51.8 HZ
RL Voltage	-	216.2
RL Amperage	-	1.93
Total ESP	-	0.66"
Fan Inlet SP	-	-0.66"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 11/22/2025

Unit Data - PHOTO LOG



11/22/2025

National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ
System/Unit: FAN - Exhaust



Asset: EF4

AREA:COMBI-OVEN

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	INLINE	
Configuration	VERTICAL	

Test Data		
	Design	Actual
CFM	150	111
Fan RPM	-	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	-	
Fan Inlet SP	-	
Fan Discharge SP	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage (rated)	-	
Amperage (rated)	-	
Service Factor	-	

Completed By: Christine Weale on 11/28/2025

Notes:
INFORMATION FOR UNIT NOT PROVIDED AND INACCESSIBLE.

Written By: Christine Weale on 11/28/2025

National TAB

Project: 11-10-25 QT #0465 PHOENIX, AZ

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	-	7644877
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	-	108"
Hood Width	-	60"

Test Data Exhaust		
	Design	Actual
Filter Type	-	CAPTRATE SOLO
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	110
Filter2 FPM	-	123
Filter3 FPM	-	117
Filter4 FPM	-	112
Filter5 FPM	-	106
Filter6 FPM	-	109
Filter Ave FPM(corr)	-	113
CFM	1350	1408

Cooking Equipment	
	Actual
Item 1	FRYERS
Item 2	DUAL-OVEN

Completed By: Christine Weale on 11/22/2025

Unit Data - PHOTO LOG



11/22/2025

