Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 10/22/2025

Completed By: National TAB

PROJECT

01-12-26 QT #0415 SURPRISE, AZ

SWC SR 303 & W BELL RD

SURPRISE, AZ

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 01-12-26 QT #0415 SURPRISE, AZ

Table Of Contents

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)
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 typical QT set point at the Emerson controller and then making manually adjustments on the roof. 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. The total flow was balanced for the fan with the exception of the new grille over the combi-oven, which was balanced to the listed design.

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

- DIRTY UNIT FILTERS
- EF3 CAN'T BE TILTED BACK
- RTU3 INACCESSIBLE DAMPERS

01-12-26 QT #0415 SURPRISE, AZ

Project Issue Information

Issue Name : DIRTY UNIT FILTERS

Description : Filters are extremely dirty. MSET shows mech contractor should be replacing these after project is complete.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

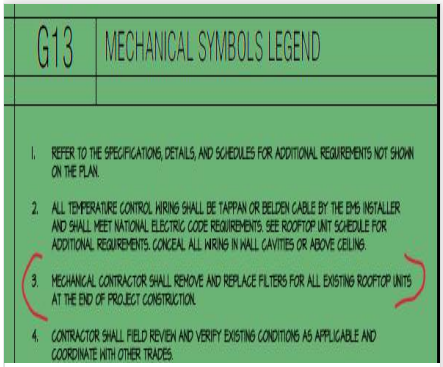
Status : Open

Priority : Low

Asset Tag :

Originated Date : 01/23/2026 - Christine Weale - National TAB

Project Issue File Details



02/24/2026

01/23/2026

01-12-26 QT #0415 SURPRISE, AZ

Project Issue Information

Issue Name : EF3 CAN'T BE TILTED BACK

Description : Electrical conduit is supposed to be long enough to tilt the fan back... but they have attached it to the base, which has made it almost completely immobile.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Medium	**Asset Tag :**	EF3
Originated Date :	01/15/2026 - Christine Weale - National TAB		

Project Issue File Details

01/15/2026

01/15/2026

01-12-26 QT #0415 SURPRISE, AZ

Project Issue Information

Issue Name :	RTU3 INACCESSIBLE DAMPERS		
Description :	Dampers		
Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	High	**Asset Tag :**	
Originated Date :	01/15/2026 - Christine Weale - National TAB		

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	869	350	358				
RTU-2	SALES	800	853	350	371				
RTU-3	BOH/KITCHEN	800	853	350	385				
EF-1	RR/JANITOR EXHAUST					750	762	750	762
EF-3	HOOD					1350	1406	0	0
TOTALS		2400	2575	1050	1114	2100	2168	750	762

HOOD ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2575
TOTAL EXHAUST	2100	2168
NET AIRFLOW	300	407

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.003
SIDE	0.004
REAR	0.002
AVERAGE	**0.003**

HOOD OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1114
TOTAL EXHAUST	750	762
NET AIRFLOW	300	352

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.002
SIDE	0.002
REAR	0.003
AVERAGE	**0.0023**

NOTES:

CheckList List

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

01-12-26 QT #0415 SURPRISE, 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 :	01/15/2026 - 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:	

01-12-26 QT #0415 SURPRISE, 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 :	01/15/2026 - 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?	Fail
Comment:	
Conduit is probably long enough, but the techs mounted it to the base, so it is almost completely immobile.	
No major leakage around the fan base	Pass
Comment:	
Unit is free of noise and vibration	Pass
Comment:	

01-12-26 QT #0415 SURPRISE, 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 :	02/24/2026 - Christine Weale - National TAB		

CheckList Item Details

HOODS

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

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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 :	02/24/2026 - Christine Weale - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

All equipment on @ testing time

List smoke candle type used

Comment:

45s S102

Smoke test capture % - Perimeter of hood

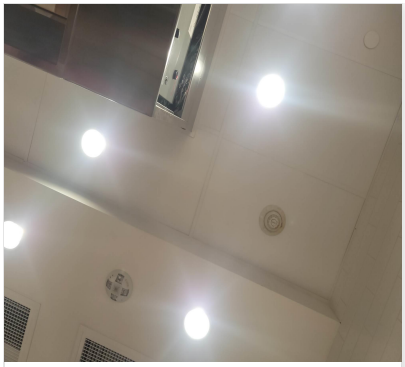
Comment:

75 - there was a lot of smoke on left side. Light smoke, the dense smoke was pulled out.

Smoke test capture % - Top of cooking surface

Comment:

90 - pizza oven fan pushes smoke out of right side (100 w/ fan off).



02/24/2026

02/24/2026

WITNESS	
Date test was completed	01/14/2026
Comment:	
TAB tech name / Firm	
Comment:	
Site super name / Firm	
Comment:	
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: 01-12-26 QT #0415 SURPRISE, AZ

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202210-ANEK25537
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	46X19.5

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	4658
SF RPM	-	47.4 HZ
OA CFM (Hoods On)	800	869
OA CFM (Hoods Off)	350	358
RL Voltage	-	165.9
RL Amperage	-	7.77
VFD Max SetPt	-	79
VFD Min SetPt	-	24
OA Damper Position (Hoods On)	-	0.5"
OA Damper Position (Hoods Off)	-	0.0 - GAP @BOTTOM

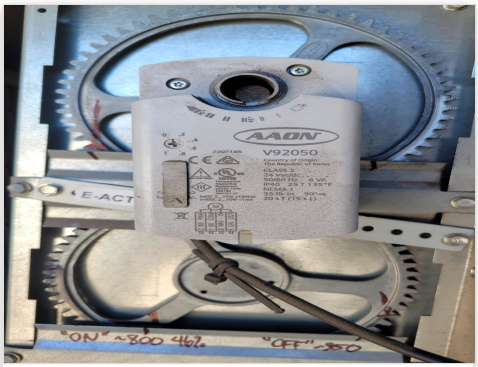
Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.53"
Fan Suction SP	-	-0.67"
Fan Discharge SP	-	0.45"
Total ESP	-	0.98"
Fan Total SP	-	1.12"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christine Weale on 01/22/2026

Unit Data - PHOTO LOG

01/22/2026



01/22/2026

National TAB

Project: 01-12-26 QT #0415 SURPRISE, AZ

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202210-ANEK25535
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	46X19.5

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	4407
SF RPM	-	48.6 HZ
OA CFM (Hoods On)	800	165.9
OA CFM (Hoods Off)	350	371
RL Voltage	-	220.0
RL Amperage	-	9.8
VFD Max SetPt	-	81.0
VFD Min SetPt	-	24.0
OA Damper Position (Hoods On)	-	0.5"
OA Damper Position (Hoods Off)	-	0-GAP @BOTTOM

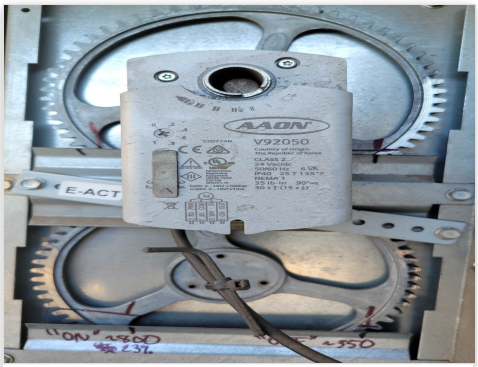
Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.57"
Fan Suction SP	-	-0.92"
Fan Discharge SP	-	0.45"
Total ESP	-	1.02"
Fan Total SP	-	1.37"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christine Weale on 02/24/2026

Unit Data - PHOTO LOG

01/22/2026



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National TAB

Project: 01-12-26 QT #0415 SURPRISE, AZ

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	202210-ANEK25536
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	46X19.5

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	4436
SF RPM	-	49.98 HZ
OA CFM (Hoods On)	800	853
OA CFM (Hoods Off)	350	385
RL Voltage	-	183.0
RL Amperage	-	8.7
VFD Max SetPt	-	83.3
VFD Min SetPt	-	24
OA Damper Position (Hoods On)	-	0.5"
OA Damper Position (Hoods Off)	-	0.0 SMALL GAP

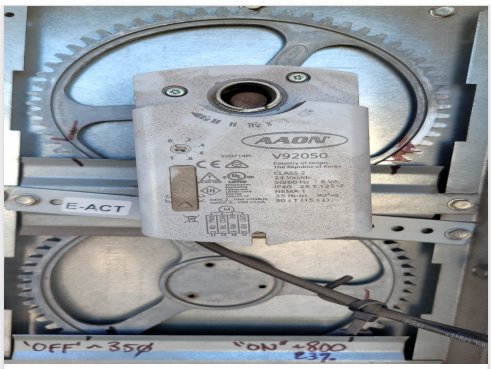
Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.68"
Fan Suction SP	-	-1.05"
Fan Discharge SP	-	0.45"
Total ESP	-	1.13"
Fan Total SP	-	1.50"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christine Weale on 02/24/2026

Unit Data - PHOTO LOG

01/22/2026



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National TAB

Project:01-12-26 QT #0415 SURPRISE, 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	899	810	810	101.3
SGRD2	SUPPORT SERVICE	SI	12"	800	1	1014	929	929	116.1
SGRD3	SUPPORT SERVICE	SI	12"	800	1	811	833	833	104.1
SGRD4	SUPPORT SERVICE	SI	12"	800	1	889	911	911	113.9
SGRD5	WORKROOM	ES	10"	500	1	609	624	624	124.8
SGRD6	WORKROOM	ES	10"	500	1	300	329	329	65.8
Total				4200		4522	4436	4436	105.62%

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Project: 01-12-26 QT #0415 SURPRISE, AZ

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RR/JANITOR

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR50HFA
Serial Num	-	5608954
Type	-	DOWNBLAST
Configuration	-	VERTICAL

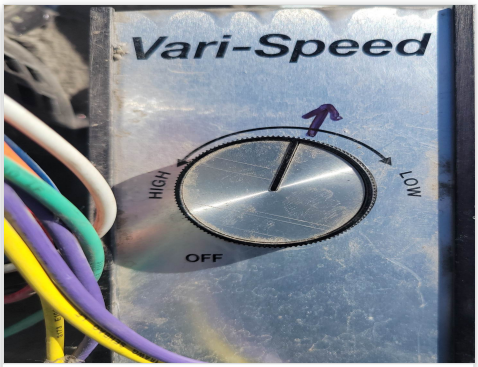
Motor Data		
	Design	**Actual**
Motor MFG	-	HSSA
Frame	-	48Y
Horsepower	-	0.75
Motor Rpm	-	1625
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	8.4
Service Factor	-	1.0

Test Data		
	Design	**Actual**
CFM	750	762
Fan RPM	-	N/A
Fan Rotation	-	CCW
Motor RPM	-	N/A
System SetPt	-	MED-LOW
RL Voltage	-	74.3
RL Amperage	-	8.27
Total ESP	-	0.35"
Fan Inlet SP	-	-0.35"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 01/17/2026

Unit Data - PHOTO LOG

01/22/2026



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Diffuser Ret/Exh (GRD)

EF1/RR/JANITOR

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD4	SUPPORT SERVICE	RI	8"	150	1	505	141	141	94.0
Total				150		505	141	141	94%

National TAB

Project: 01-12-26 QT #0415 SURPRISE, AZ

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HOOD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	7644876
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	1406
Fan RPM	-	1218
Fan Rotation	-	CCW
Motor RPM	-	1218
System SetPt	-	51.8 HZ
RL Voltage	-	212.0
RL Amperage	-	1.62
Total ESP	-	0.75"
Fan Inlet SP	-	-0.75"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 01/17/2026

Unit Data - PHOTO LOG

01/22/2026

National TAB

Project: 01-12-26 QT #0415 SURPRISE, AZ

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:GRIDDLE

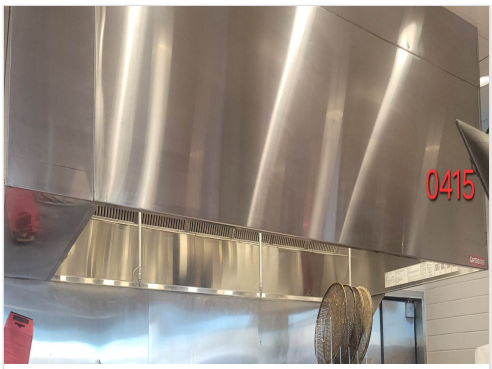
Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030 ND-2-F	6030 ND-2-F
Job / Serial Num	-	7644876
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	-	108"
Hood Width	-	60"

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	-	111
Filter2 FPM	-	112
Filter3 FPM	-	124
Filter4 FPM	-	112
Filter5 FPM	-	110
Filter6 FPM	-	107
Filter Ave FPM(corr)	-	112.67
CFM	1350	1406

Cooking Equipment	
	Actual
Item 1	FRYERS
Item 2	DUAL-OVEN

Completed By: Christine Weale on 01/17/2026

Unit Data - PHOTO LOG



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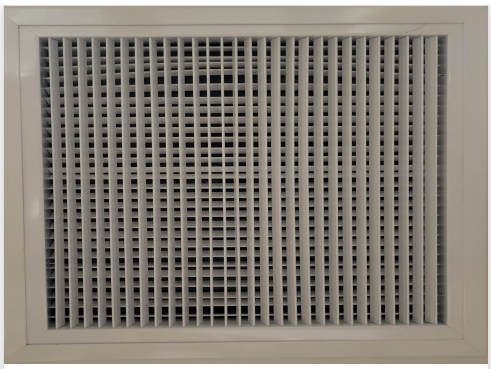

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