Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 10/28/2025

Completed By: National TAB

PROJECT

10-13-25 QT #0591 OMAHA, NE

11910 W. DODGE RD

OMAHA, NE

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 10-13-25 QT #0591 OMAHA, NE

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

- HOOD1: Missing Caulking
- RT-2: Inaccessible diffuser
- RT-3: Broken Damper Handle
- RTUs: Dirty Filter Compartment
- RTUs: Dirty Filters
- RTUs: Disconnected Thermostats
- RTUs: OA Actuators

10-13-25 QT #0591 OMAHA, NE

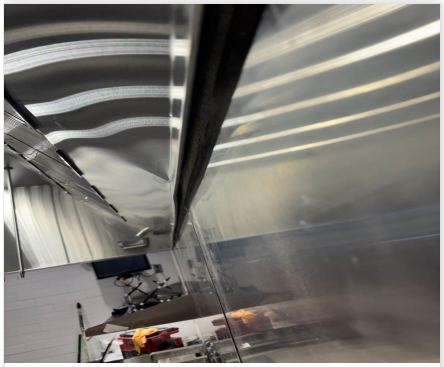
Project Issue Information

Issue Name : HOOD1: Missing Caulking

Description : The hood is missing caulking between the rear of hood and wall that it sets up against. The hood is also not properly aligned to the wall.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	HD1
Originated Date :	10/28/2025 - Kalen Kemp - National TAB		

Project Issue File Details



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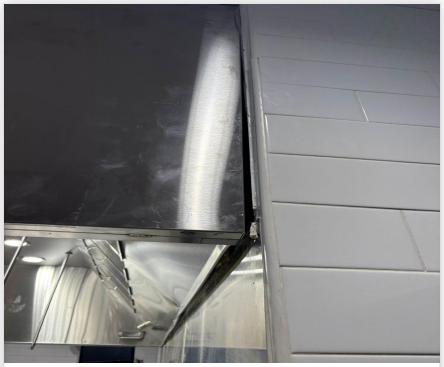

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Project Issue Information

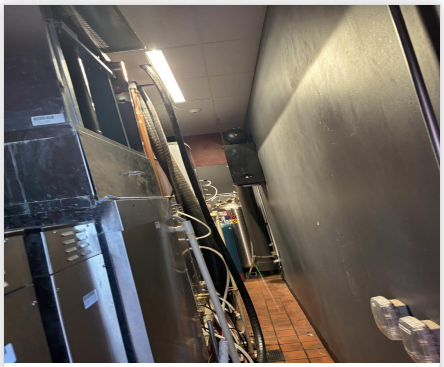
Issue Name : RT-2: Inaccessible diffuser

Description : Unable to access diffuser or duct for traverse. Closed damper for RTU total supply airflow. Then opened damper back to initial position. Noting for clarity on report.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	InfoOnly	**Asset Tag :**	SGRD10
Originated Date :	10/16/2025 - Kalen Kemp - National TAB		

Project Issue File Details

10/16/2025



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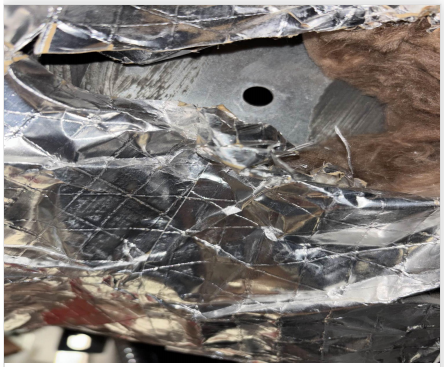
Project Issue Information

Issue Name : RT-3: Broken Damper Handle

Description : The damper handle is broken. The damper fell down into the duct and is obstructing airflow. Recommend replacing the damper.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	SGRD3
Originated Date :	10/15/2025 - Kalen Kemp - National TAB		

Project Issue File Details



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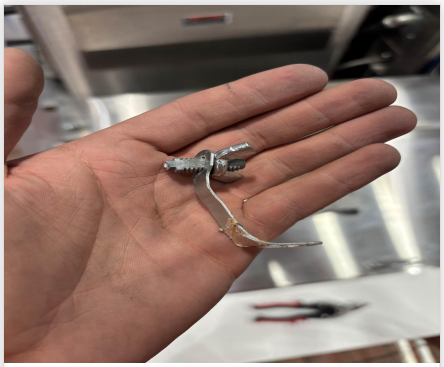

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10-13-25 QT #0591 OMAHA, NE

Project Issue Information

Issue Name : RTUs: Dirty Filter Compartment
Description : The filter compartments are very dirty. Recommend cleaning.

Created By : National TAB
Assigned To : National TAB - Dan Hertenstein

Status : Open
Priority : Medium
Asset Tag :
Originated Date : 10/16/2025 - Kalen Kemp - National TAB

Project Issue File Details

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10-13-25 QT #0591 OMAHA, NE

Project Issue Information

Issue Name : RTUs: Dirty Filters

Description : The filters for the RTUs are dirty. Recommend replacing.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

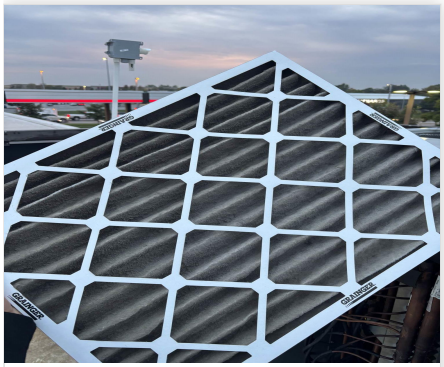
Status : Open

Priority : Low

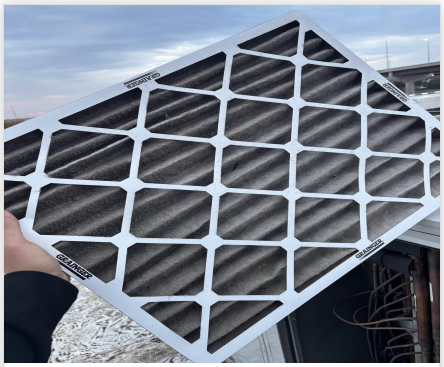
Asset Tag :

Originated Date : 10/16/2025 - Kalen Kemp - National TAB

Project Issue File Details



10/16/2025



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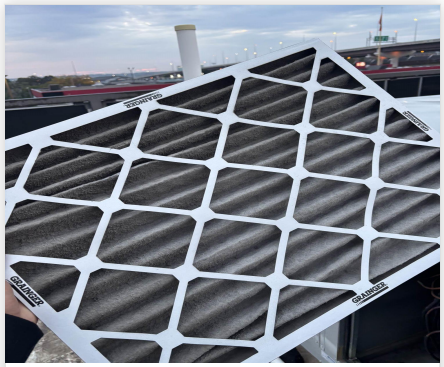

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10-13-25 QT #0591 OMAHA, NE

Project Issue Information

Issue Name : RTUs: Disconnected Thermostats

Description : The thermostats inside of the RTUs are disconnected. Recommend reconnecting and powering.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

Status : Open

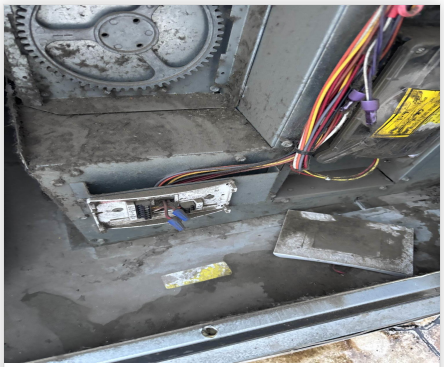
Priority : Medium

Asset Tag :

Originated Date : 10/16/2025 - Kalen Kemp - National TAB

Project Issue File Details

10/16/2025



10/16/2025

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10-13-25 QT #0591 OMAHA, NE

Project Issue Information

Issue Name : RTUs: OA Actuators

Description : The OA damper actuators are not responding to the Emerson controls. OA damper points had to be set manually. Recommend service.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

Status : Open

Priority : High

Asset Tag :

Originated Date : 10/16/2025 - Kalen Kemp - National TAB

Project Issue File Details

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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	858	350	352				
RTU-2	SALES	800	759	350	359				
RTU-3	BOH/KITCHEN	800	837	350	344				
EF-1	RR/JANITOR CLOSET					750	709	750	709
EF-3	HOOD					1350	1385	0	0
TOTALS		2400	2454	1050	1055	2100	2094	750	709

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2454
TOTAL EXHAUST	2100	2094
NET AIRFLOW	300	360

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0025
SIDE	0.0015
REAR	0.002
AVERAGE	**0.002**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1055
TOTAL EXHAUST	750	709
NET AIRFLOW	300	346

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0083
SIDE	0.006
REAR	0.0084
AVERAGE	**0.0076**

NOTES:

CheckList List

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

10-13-25 QT #0591 OMAHA, NE

CheckList Information

Name :	01: RTU’s/AHU’s	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/17/2025 - Trinity Dodds - 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:	

10-13-25 QT #0591 OMAHA, NE

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/17/2025 - Trinity Dodds - 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:	

10-13-25 QT #0591 OMAHA, NE

CheckList Information

Name :	03: Hoods	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/17/2025 - Trinity Dodds - National TAB		

CheckList Item Details

HOODS

Hood is free of alarms?	Pass
Comment:	
Hood is free of damage?	Fail
Comment:	Hood has minor dents along back side that runs against the wall/stainless steel. Hood is missing caulking between back of hood and wall.
End panels are installed per prototype?	Pass
Comment:	

10-13-25 QT #0591 OMAHA, NE

CheckList Information

Name :	04: Final Tests	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/17/2025 - Trinity Dodds - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

EF3 HOOD1

List smoke candle type used

Comment:

S102

Smoke test capture % - Perimeter of hood

Comment:

100% SMOKE CAPTURE

Smoke test capture % - Top of cooking surface

Comment:

100% SMOKE CAPTURE

WITNESS

Date test was completed	10/16/2025

Comment:

TAB tech name / Firm

Comment:

KALEN KEMP / NATIONAL TAB

Site super name / Firm

Comment:

SAM SNIDER / SNIDER CONSTRUCTION

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: 10-13-25 QT #0591 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	201811-ANEK18279
Model Num	NA	RN-013-8-0-EA0A
Num OA Filters 1	-	1
OA Filter Size 1	-	22.5X45
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

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

Test Data		
	Design	**Actual**
SF CFM	4200	4389
SF RPM	-	NA
OA CFM (Hoods On)	800	858
OA CFM (Hoods Off)	350	352
RL Voltage	-	206
RL Amperage	-	7.26
VFD Max SetPt	-	63% (37.8 Hz)
VFD Min SetPt	-	24 Hz
OA Damper Position (Hoods On)	-	46% (0.625” OPEN)
OA Damper Position (Hoods Off)	-	0.125” OPEN

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.40”
Fan Suction SP	-	-0.73”
Fan Discharge SP	-	0.34”
Total ESP	-	0.74”
Fan Total SP	-	1.07”

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

Completed By: Kalen Kemp on 10/15/2025

Notes:
-RT-2 IN THE EMERSON CONTROLS
-OA ACTUATOR NOT RESPONDING TO EMERSON COMMANDS. HAD TO MANUALLY SET OA DAMPER. LEFT IN HOODS ON POSITION.

Written By: Kalen Kemp on 10/16/2025

Unit Data - PHOTO LOG

10/15/2025

10/15/2025

National TAB

Project: 10-13-25 QT #0591 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	201811-ANEK18260
Model Num	NA	RN-013-8-0-EA0A-152
Num OA Filters 1	-	1
OA Filter Size 1	-	22.5X45
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	3.0
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4255
SF RPM	-	NA
OA CFM (Hoods On)	800	759
OA CFM (Hoods Off)	350	359
RL Voltage	-	205
RL Amperage	-	7.55
VFD Max SetPt	-	63% (37.8 Hz)
VFD Min SetPt	-	24 Hz
OA Damper Position (Hoods On)	-	46% (0.375" OPEN)
OA Damper Position (Hoods Off)	-	0.0625" OPEN

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.46"
Fan Suction SP	-	-0.73"
Fan Discharge SP	-	0.44"
Total ESP	-	0.90"
Fan Total SP	-	1.17"

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

Completed By: Kalen Kemp on 10/15/2025

Notes:
-RT-1 IN THE EMERSON CONTROLS
-OA ACTUATOR NOT RESPONDING TO EMERSON CONTROLLER. OA DAMPER SET MANUALLY. LEFT IN HOODS ON POSITION.

Written By: Kalen Kemp on 10/16/2025

Unit Data - PHOTO LOG

10/15/2025

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National TAB

Project: 10-13-25 QT #0591 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	201811-ANEK18281
Model Num	NA	RN-013-8-0-EA0A
Num OA Filters 1	-	1
OA Filter Size 1	-	22.5X45
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2
Num Final Filter 2	-	
Final Filter Size 2	-	

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	3.0
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	3837
SF RPM	-	NA
OA CFM (Hoods On)	800	837
OA CFM (Hoods Off)	350	344
RL Voltage	-	208
RL Amperage	-	9.43
VFD Max SetPt	-	77.3% (46.4 Hz)
VFD Min SetPt	-	24 Hz
OA Damper Position (Hoods On)	-	46% (0.375" OPEN)
OA Damper Position (Hoods Off)	-	0.0625" OPEN

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.58"
Fan Suction SP	-	-0.93"
Fan Discharge SP	-	1.25"
Total ESP	-	1.83"
Fan Total SP	-	2.18"

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

Completed By: Kalen Kemp on 10/15/2025

Notes:
-OA ACTUATOR NOT RESPONDING TO EMERSON COMMANDS. OA DAMPER SET MANUALLY. LEFT IN HOODS ON POSITION.
-DIFFUSER 3-2 HAS BROKEN DAMPER HANDLE. DAMPER IS LAYING IN DUCT OBSTRUCTING AIRFLOW. UNABLE TO BALANCE AIRFLOW.

Written By: Kalen Kemp on 10/16/2025

Unit Data - PHOTO LOG

10/15/2025

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National TAB

Project:10-13-25 QT #0591 OMAHA, NE

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	1.0	846	994	748	93.5
SGRD2	SUPPORT SERVICE	SI	12"	800	1.0	159	189	579	72.4
SGRD3	SUPPORT SERVICE	SI	12"	800	1.0	760	903	741	92.6
SGRD4	SUPPORT SERVICE	SI	12"	800	1.0	669	909	748	93.5
SGRD5	WORKROOM	ES		500	1.0	681	820	499	99.8
SGRD6	WORKROOM	ES		500	1.0		575	522	104.4
Total				4200		3115	4390	3837	91.36%

National TAB

Project: 10-13-25 QT #0591 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RR/JANITOR'S CLOSET

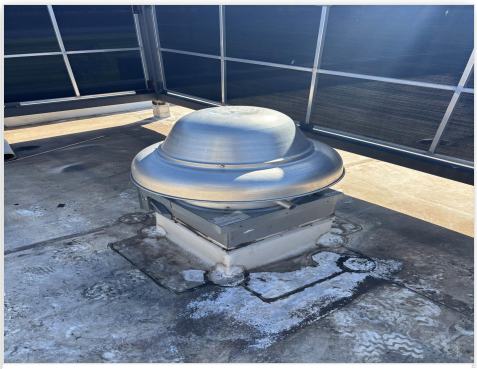
Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVE-AIRE
Model Num	NA	DR50HFA
Serial Num	-	NL (JOB#: 3631252)
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	HSSA
Frame	-	48Y
Horsepower	-	0.50
Motor Rpm	-	1625
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	5.6
Service Factor	-	1.0

Test Data		
	Design	**Actual**
CFM	750	709
Fan RPM	-	NA
Fan Rotation	-	COUNTERCLOCKWISE
Motor RPM	-	NA
System SetPt	-	LOW SPEED
RL Voltage	-	118
RL Amperage	-	3.76
Total ESP	-	0.16”
Fan Inlet SP	-	-0.16”
Fan Discharge SP	-	ATM

Completed By: Kalen Kemp on 10/16/2025

Unit Data - PHOTO LOG



10/16/2025

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	1.0	642	265	154	102.7
Total				150		642	265	154	102.67%

National TAB

Project: 10-13-25 QT #0591 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVE-AIRE
Model Num	NA	DU50HFA
Serial Num	-	NL (JOB#: 7610142)
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	1/2	0.50
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.8
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1350	1385
Fan RPM	-	NA
Fan Rotation	-	COUNTERCLOCKWISE
Motor RPM	-	NA
System SetPt	-	50.8 Hz
RL Voltage	-	207
RL Amperage	-	1.81
Total ESP	-	0.53”
Fan Inlet SP	-	-0.53”
Fan Discharge SP	-	ATM

Completed By: Kalen Kemp on 10/16/2025

Notes:
-MIN AIRFLOW CHECK: 861 CFM
-MIN AIRFLOW FREQUENCY: 35 Hz
-UNABLE TO CONTROL FAN USING EMERSON. FAN SPEEDS SET THROUGH HMI IN CONTROL PANEL

Written By: Kalen Kemp on 10/18/2025

Unit Data - PHOTO LOG

10/16/2025

National TAB

Project: 10-13-25 QT #0591 OMAHA, NE

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:GRIDDLE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2
Job / Serial Num	-	7610142
Type	-	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	-	96
Filter2 FPM	-	111
Filter3 FPM	-	121
Filter4 FPM	-	122
Filter5 FPM	-	108
Filter6 FPM	-	106
Filter Ave FPM(corr)	-	111
CFM	1350	1385

Cooking Equipment	
	Actual
Item 1	FRYER (2)
Item 2	PIZZA OVEN (2)

Completed By: Kalen Kemp on 10/16/2025

Notes:
-UNABLE TO CONTROL FAN USING EMERSON. FAN SPEEDS SET THROUGH HMI IN CONTROL PANEL.

Written By: Kalen Kemp on 10/18/2025

Unit Data - PHOTO LOG

10/16/2025