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

09-22-25 QT #0579 OMAHA, NE

1704 SOUTH 72ND STREET

OMAHA, NE

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 09-22-25 QT #0579 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

- EF2: Missing Damper
- EF2: Speed Controller not Functional
- RT-1: Missing Diffuser
- RT-3: Damper Motor not Properly Functioning
- RTs: No power to thermostats
- RTUs: Dirty Coils
- RTUs: Dirty Filters

09-22-25 QT #0579 OMAHA, NE

Project Issue Information

Issue Name : EF2: Missing Damper

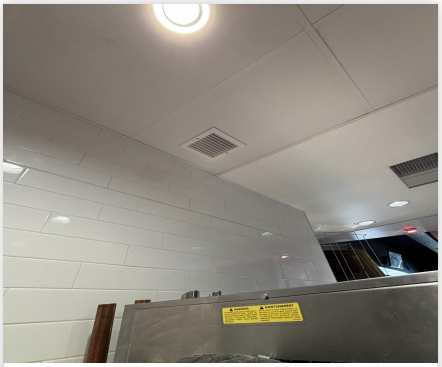
Description : The damper for the grille above the combi-oven is missing. Unable to balance airflow to design amount.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	EF2
Originated Date :	09/26/2025 - Kalen Kemp - National TAB		

Project Issue File Details

09/26/2025

09/26/2025



09/26/2025

09-22-25 QT #0579 OMAHA, NE

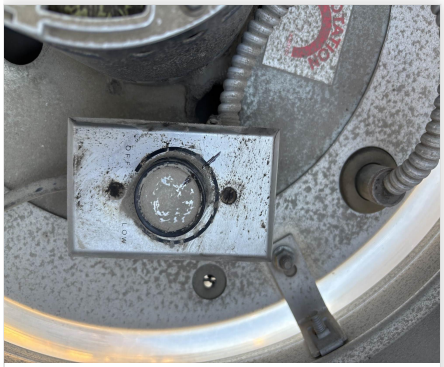
Project Issue Information

Issue Name : EF2: Speed Controller not Functional

Description : The speed controller for EF2 does not work. The screws to the cover plate are worn and was unable to remove cover. Could not access min. position dial. Unable to balance fan to proper airflow.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	EF2
Originated Date :	09/26/2025 - Kalen Kemp - National TAB		

Project Issue File Details



09/26/2025

09-22-25 QT #0579 OMAHA, NE

Project Issue Information

Issue Name : RT-1: Missing Diffuser

Description : There is a diffuser that was taken out that goes to RT-1. This was taken out for the security monitors. Noting for clarity on report.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	InfoOnly	**Asset Tag :**	RT-1
Originated Date :	09/26/2025 - Kalen Kemp - National TAB		

Project Issue File Details

09/26/2025

09-22-25 QT #0579 OMAHA, NE

Project Issue Information

Issue Name : RT-3: Damper Motor not Properly Functioning

Description : The motor for the OA damper does not open/close all the way. Had to loosen actuator bolts and manually set OA.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

Status : Open

Priority : High

Asset Tag :

Originated Date : 09/26/2025 - Kalen Kemp - National TAB

Project Issue File Details

09/26/2025

09-22-25 QT #0579 OMAHA, NE

Project Issue Information

Issue Name : RTs: No power to thermostats

Description : There is no power to the thermostats inside of the RTUs. The cover is off of the thermostat inside of RT-2.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

Status : Open

Priority : High

Asset Tag :

Originated Date : 09/26/2025 - Kalen Kemp - National TAB

Project Issue File Details

09/26/2025

09/26/2025

09/26/2025

09-22-25 QT #0579 OMAHA, NE

Project Issue Information

Issue Name : RTUs: Dirty Coils
Description : The coils inside of the RTUs are dirty. Recommend cleaning.

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

Status : Open
Priority : Medium
Asset Tag :
Originated Date : 09/30/2025 - Kalen Kemp - National TAB

Project Issue File Details

09/30/2025

09/30/2025

09/30/2025

09-22-25 QT #0579 OMAHA, NE

Project Issue Information

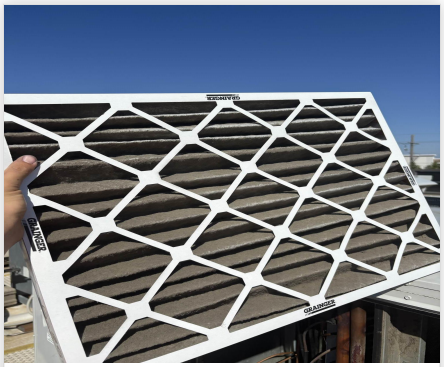
Issue Name : RTUs: Dirty Filters

Description : The filters in the RTUs are dirty. The inside of the filter compartment is very dirty as well. Recommend Cleaning.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Medium	**Asset Tag :**	
Originated Date :	09/26/2025 - Kalen Kemp - National TAB		

Project Issue File Details

09/26/2025



09/26/2025

09/26/2025

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	760	350	352				
RTU-2	SALES	800	823	350	323				
RTU-3	BOH/KITCHEN	800	858	350	380				
EF-1	WOMEN'S RR					225	223	225	223
EF-2	MEN'S RR					525	700	525	700
EF-3	HOOD					1350	1310	0	0
TOTALS		2400	2441	1050	1055	2100	2233	750	923

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2441
TOTAL EXHAUST	2100	2233
NET AIRFLOW	300	208

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0059
SIDE	0.0039
REAR	0.0026
AVERAGE	**0.0041**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1055
TOTAL EXHAUST	750	923
NET AIRFLOW	300	132

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0027
SIDE	0.0043
REAR	0.003
AVERAGE	**0.0033**

NOTES:

CheckList List

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

09-22-25 QT #0579 OMAHA, NE

CheckList Information

Name :	01: RTU’s/AHU’s	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/15/2025 - Trinity Dodds - National TAB		
Completed Date :	10/28/2025 - Kalen Kemp - National TAB		

CheckList Item Details

RTU's/AHU's

Evaporator coils are clean?	Fail
Comment: ALL RTs: Dirty Coils	
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:	

09-22-25 QT #0579 OMAHA, NE

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/15/2025 - Trinity Dodds - National TAB		
Completed Date :	10/28/2025 - Kalen Kemp - 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:	

09-22-25 QT #0579 OMAHA, NE

CheckList Information

Name :	03: Hoods	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/15/2025 - Trinity Dodds - 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:	

09-22-25 QT #0579 OMAHA, NE

CheckList Information

Name :	04: Final Tests	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/15/2025 - 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:

N/A

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 09/26/2025

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: 09-22-25 QT #0579 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	201702-ANEK15251
Model Num	NA	RN-013-8-0-EA0A-152
Type	-	RTU
Num OA Filters 1	-	1
OA Filter Size 1	-	22.5X45”

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	4099
SF RPM	-	NA
RA CFM	3400	3339
OA CFM	800	760
RL Voltage	-	210
RL Amperage	-	7.06
SF Rotation	-	CLOCKWISE
SF System SetPt	-	55% (33 Hz)
RA Damper Position	-	2.75” OPEN
Min OA Damper Position	-	0.625” OPEN
Min OA Damper Type	-	MOTORIZED

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.37”
Fan Suction SP	-	-0.58”
Fan Discharge SP	-	0.18”
Total ESP	-	0.55”
Fan Total SP	-	0.76”

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

Completed By: Kalen Kemp on 10/28/2025

Notes:
-RTU balanced for total flow and diffusers balanced for comfort
-No diffuser at 1-3. Security camera monitors in that location

Written By: Kalen Kemp on 10/28/2025

Unit Data - PHOTO LOG

09/30/2025

09/30/2025

National TAB

Project: 09-22-25 QT #0579 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	201702-ANEK15252
Model Num	NA	RN-013-8-0-EA0A-152
Type	-	RTU
Num OA Filters 1	-	1
OA Filter Size 1	-	22.5X45”

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	4302
SF RPM	-	NA
RA CFM	3400	3479
OA CFM	800	823
RL Voltage	-	210
RL Amperage	-	7.06
SF Rotation	-	CLOCKWISE
SF System SetPt	-	53% (32 HZ)
RA Damper Position	-	2.375” OPEN
Min OA Damper Position	-	0.5” OPEN
Min OA Damper Type	-	ECON

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.40”
Fan Suction SP	-	-0.59”
Fan Discharge SP	-	0.23”
Total ESP	-	0.63”
Fan Total SP	-	0.82”

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

Completed By: Kalen Kemp on 10/28/2025

Notes:
RTU balanced for total flow and diffusers balanced for comfort
-HOOD OFF OA: 363

Written By: Kalen Kemp on 10/28/2025

Unit Data - PHOTO LOG

09/30/2025

09/30/2025

National TAB

Project: 09-22-25 QT #0579 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data		
	Design	**Actual**
MFG	NA	AAON
Serial Num	-	201702-ANEK15253
Model Num	NA	RN-013-8-0-EA0A-152
Type	-	RTU
Num OA Filters 1	-	1
OA Filter Size 1	-	22.5X45”

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	4038
SF RPM	-	NA
RA CFM	3400	3170
OA CFM	800	858
RL Voltage	-	210
RL Amperage	-	4.97
SF Rotation	-	CLOCKWISE
SF System SetPt	-	55% (33 Hz)
RA Damper Position	-	2.75” OPEN
Min OA Damper Position	-	0.625” OPEN
Min OA Damper Type	-	MOTORIZED

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.41
Fan Suction SP	-	-0.61
Fan Discharge SP	-	0.22
Total ESP	-	0.63”
Fan Total SP	-	0.83”

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

Completed By: Kalen Kemp on 10/28/2025

Notes:
-HOOD OFF OA: 352

Written By: Kalen Kemp on 10/28/2025

Unit Data - PHOTO LOG

09/30/2025

09/30/2025

National TAB

Project:09-22-25 QT #0579 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	566	838	838	104.8
SGRD2	SUPPORT SERVICE	SI	12"	800	1.0	595	857	857	107.1
SGRD3	SUPPORT SERVICE	SI	12"	800	1.0	592	820	820	102.5
SGRD4	SUPPORT SERVICE	SI	12"	800	1.0	597	770	770	96.3
SGRD5	DOCK	ES	12"	650	1.0	413	604	604	92.9
SGRD6	WORKROOM	ES	8"	150	1.0	117	149	149	99.3
Total				4000		2880	4038	4038	100.95%

National TAB

Project: 09-22-25 QT #0579 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF1 AREA:WOMENS RESTROOM

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	90 ACEH 90C15D
Serial Num	-	009SG92137-00/0000701
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	-	0.125
Motor Rpm	-	1600
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.7
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	225	223
Fan RPM	-	DD
Fan Rotation	-	COUNTERCLOCKWISE
Motor RPM	-	DD
System SetPt	-	SPEED CONTROL
RL Voltage	-	121
RL Amperage	-	1.53
Total ESP	-	0.18”
Fan Inlet SP	-	-0.18”
Fan Discharge SP	-	ATM

Completed By: Kalen Kemp on 10/28/2025

National TAB

Project: 09-22-25 QT #0579 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF2 AREA:MENS RESTROOM

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	120 ACE 120C13D
Serial Num	-	009SG92137-00/00001901
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	QUEACE
Frame	-	48Y
Horsepower	-	0.25
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.3
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	525	700
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	SPEED CONTROL
RL Voltage	-	[1]
RL Amperage	-	[1]
Total ESP	-	0.68”
Fan Inlet SP	-	-0.68”
Fan Discharge SP	-	ATM

Completed By: Kalen Kemp on 10/28/2025

Notes:
-SPEED CONTROLLER NOT FUNCTIONAL. UNABLE TO ADJUST AIRFLOW.
-MISSING DAMPER TO GRILLE ABOVE COMBI-OVEN IN KITCHEN. UNABLE TO ADJUST AIRFLOW.
[1] COULD NOT ACCESS VOLTAGE/AMPERAGE READING SAFELY.

Written By: Michael McDonnell on 10/28/2025

National TAB

Project:09-22-25 QT #0579 OMAHA, NE

Diffuser Ret/Exh (GRD)

EF2/MENS RESTROOM

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	SUPPORT SERVICE	RI	8"	150	1.0	249	249	249	166.0
Total				150		249	249	249	166%

Completed By: Kalen Kemp on 10/28/2025

Asset	Notes	Date	Written By
EGRD1	[1] NO DAMPER INSTALLED	10/28/2025	Michael McDonnell

National TAB

Project: 09-22-25 QT #0579 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HOOD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	7631941
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
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	1310
Fan RPM	-	1494
Fan Rotation	-	CCW
Motor RPM	-	1494
System SetPt	-	49.8 Hz
RL Voltage	-	209
RL Amperage	-	1.67
Total ESP	-	0.62”
Fan Inlet SP	-	-0.62”
Fan Discharge SP	-	ATM

Completed By: Kalen Kemp on 10/28/2025

National TAB

Project: 09-22-25 QT #0579 OMAHA, NE

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	-	7631941
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	-	105
Filter2 FPM	-	106
Filter3 FPM	-	115
Filter4 FPM	-	110
Filter5 FPM	-	105
Filter6 FPM	-	92
Filter Ave FPM(corr)	-	105
CFM	1350	1310

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Kalen Kemp on 10/28/2025

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	760	350	352				
RTU-2	SALES	800	823	350	323				
RTU-3	BOH/KITCHEN	800	858	350	380				
EF-1	WOMEN'S RR					225	223	225	223
EF-2	MEN'S RR					525	700	525	700
EF-3	HOOD					1350	1310	0	0
TOTALS		2400	2441	1050	1055	2100	2233	750	923

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2441
TOTAL EXHAUST	2100	2233
NET AIRFLOW	300	208

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0059
SIDE	0.0039
REAR	0.0026
AVERAGE	**0.0041**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1055
TOTAL EXHAUST	750	923
NET AIRFLOW	300	132

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0027
SIDE	0.0043
REAR	0.003
AVERAGE	**0.0033**

NOTES:

[1] INSTALL NEW OWNER-FURNISHED TYPE-I KITCHEN HOOD EXHAUST SYSTEM. FIRE SUPPRESSION SYSTEM, DUCT, AND ALL OTHER REQUIREMENTS FOR A TYPE-I SYSTEM. INSTALL HOOD CONTROL PANEL, TEMPERATURE SENSOR(S), AND HUMIDITY SENSOR(S) WITHIN HOOD UTILITY CABINET ACCORDING TO MANUFACTURER'S INSTALLATION REQUIREMENTS.

[2] INSTALL NEW OWNER-FURNISHED ROOF-MOUNTED EXHAUST FAN. INSTALL 12" GREASE DUCT TO