

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 06/23/2025
Completed By: National TAB

PROJECT
06-16-25 FREDDY'S GLENDORA, CA

1834 E.Route 66

Glendora, CA 91740

Client

Freddy's Frozen Custard & Steakburgers (CORPORATE)
260 N Rock Rd
Suite 200
Wichita, KS 67206

National TAB

Project: 06-16-25 FREDDY'S GLENDORA, CA

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Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail 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.

DOAS w/ Diffusers

Each of the DOAS were measured at their terminal devices or via traverse to establish a total flow for that unit. Each DOAS was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. 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.

General Exhaust Fans w/ Grilles

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment 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 of $-0.02''$ wc to $+0.02''$ wc 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

- DOAS-1 NO DAMPERS INSTALLED
- RTU-1 DAMPERS NOT INSTALLED



06-16-25 FREDDY'S GLENDORA, CA

Project Issue Information

Issue Name : DOAS-1 NO DAMPERS INSTALLED
Description : Damper not installed/not found for all branches. Unable to adjust diffusers to design airflow. Recommend installing dampers to ensure proper airflow distribution in kitchen area.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Low **Asset Tag :**
Originated Date : 06/16/2025 - David Nicolas Sanchez - National TAB

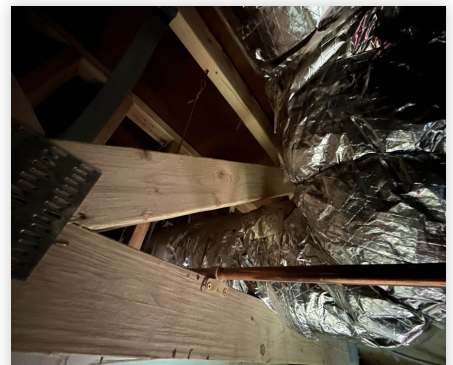
Project Issue File Details



06/16/2025



06/16/2025



06/16/2025



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Project Issue Information

Issue Name : RTU-1 DAMPERS NOT INSTALLED
Description : Dampers not installed. Unable to properly balance and adjust diffuser to design. Recommend installing dampers for airflow adjustments.
Created By : National TAB **Assigned To :** National TAB - Brianna Biggs
Status : Open
Priority : Low **Asset Tag :**
Originated Date : 06/16/2025 - David Nicolas Sanchez - National TAB

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Project: 06-16-25 FREDDY'S GLENDORA, CA

- [Open](#) BLANK_BS.xlsx

CheckList List

- TECH - STEP 1: INITIAL SITE WALK THROUGH
- TECH - STEP 2: UNIT DATA AND EVAL
- TECH - STEP 3: TEST, ADJUST AND BALANCE
- TECH - STEP 4: FINAL TESTS



06-16-25 FREDDY'S GLENDORA, CA

CheckList Information

Name : TECH - STEP 1: INITIAL SITE WALK THROUGH **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 06/16/2025 - Brianna Biggs - National TAB
Completed Date : 06/17/2025 - David Nicolas Sanchez - National TAB

CheckList Item Details

INITIAL SITE WALKTHROUGH

All diffusers and grilles are installed and match design? Yes

Comment:

All hood filters installed and accounted for? Yes

Comment:

Hoods are wired and have power? Yes

Comment:

Hood is free of alarms? Yes

Comment:

Thermostats have power? Yes

Comment:

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?

Comment:

Yes



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CheckList Information

Name : TECH - STEP 2: UNIT DATA AND EVAL **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/16/2025 - Brianna Biggs - National TAB

Completed Date : 06/17/2025 - David Nicolas Sanchez - National TAB

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

RTU's/AHU's

Economizers are assembled and functional? Yes

Comment:

DCV Max damper opening position is set to minimum? Yes

Comment:

Free cooling enthalpy set point set for lowest setting (Typically "D") Yes

Comment:

Motors are all operating below the FLA rating? Yes

Comment:

Are belts tight?

Comment:

Yes

If direct drive unit is the speed controller working.

Comment:

Yes

Is gas piping installed and valves turned on?

Yes

Comment:

Unit free of noticeable noise and vibration

Yes

Comment:

EF's

Rotation is correct?

Yes

Comment:

Belts are tight?

Comment:

N/A

Grease cup installed on hood fan?

Yes

Comment:

Hinge kit installed installed on hood fan?

Yes

Comment:

Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?

Yes

Comment:

Flex conduit is long enough so that fan can be completely tilted back?

Yes

Comment:

There is no major leakage around base of fan?

Yes

Comment:

Is the motor operating below the motor FLA rating?

Yes

Comment:

For restroom fan(s) is the back draft damper installed and can it fully open? N/A

Comment:

Unit free of noticeable noise and vibration? Yes

Comment:

MUA

Rotation is correct? N/A

Comment:

Gas piping is installed and valves are in on position? N/A

Comment:

Heater tested and is functional? N/A

Comment:

Internal motorized damper is fully opening? N/A

Comment:

Motor is operating below the FLA rating? N/A

Comment:

Unit free of noticeable noise and vibration? N/A

Comment:

HOODS

Kitchen equipment installed in proper places? Yes

Comment:

Can kitchen equipment be turned on for final smoke test? Yes

Comment:

Griddle is completely centered underneath hood?

Yes

Comment:

DOCUMENTATION

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?

Yes

Comment:

PICTURES TAKEN OF:

All Issues

Yes

Comment:

Each Piece of equipment

Yes

Comment:

Each Hood

Yes

Comment:

Front of Store

Yes

Comment:



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CheckList Information

Name : TECH - STEP 3: TEST, ADJUST AND BALANCE **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 06/16/2025 - Brianna Biggs - National TAB
Completed Date : 06/17/2025 - David Nicolas Sanchez - National TAB

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting? Yes

Comment:

Is space comfortable in all areas? Yes

Comment:

Is the space free of ventilation noise? Yes

Comment:

If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".

Comment:

NA



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CheckList Information

Name : TECH - STEP 4: FINAL TESTS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/16/2025 - Brianna Biggs - National TAB

Completed Date : 06/23/2025 - David Nicolas Sanchez - National TAB

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

Griddles and Fryers

List smoke candle type used

Comment:

CE0163 45 Seconds

Smoke test capture - Perimeter of hood

Comment:

100%

Smoke test capture - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed

06/17/2025

Comment:

TAB tech name / Firm

Comment:

David Nicolas Sanchez / National TAB Intelligence

Site super name / Firm

Comment:

N/A

Owner representative name / Firm (if Applicable)

Comment:

N/A

Building pressure at front & back doors (All Systems On)

Comment:

Front: 0.0044" Side: 0.0038" Back: 0.0012"

ADDITIONAL

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

Comment:

Yes

Thermostats are programmed?

Yes

Comment:

Thermostats Schedules: Program all thermostats to following settings:

All three thermostats have correct time/date? (if not set correctly)

Yes

Comment:

Occupied Time: 8am-11:55pm

No

Comment:

Occupied Fan ON

No

Comment:

Occupied cooling 74

No

Comment:

Occupied heating 68

No

Comment:

Unoccupied Time 11:55pm-8am

No

Comment:

Unoccupied Fan Auto

No

Comment:

Unoccupied cooling 79

No

Comment:

Unoccupied heating 63

No

Comment:

Set a Partial Screen Lock for Thermostats (i.e., make sure temperature is adjustable but not schedule)

No

Comment:

Password is set to 999 for Partial Screen Lock?

No

Comment:

RTU Economizers

Note: These instructions are for Lennox units. There are similar settings for other OEMs. Call office for assistance if needed.

Enthalpy is set to "D" for all three units

N/A

Comment:

"DCV Set" dials turned all the way to the left (counter clockwise)

N/A

Comment:

"DCV Max" dials turned all the way to the left (counter clockwise)

N/A

Comment:

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Project: 06-16-25 FREDDY'S GLENDORA, CA

System/Unit: AHU/RTU



Asset: DOAS1

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Serial Num	-	6658359
Model Num	CAS-HVAC2-I.150-15-10T	CAS-HVAC2-I.150-15-10T
Type	DOAS	DOAS
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	20X25X2
Num Final Filter 1	-	8
Final Filter Size 1	-	16X20X2

Motor Data		
	Design	Actual
Motor MFG	-	NEMA
Frame	-	145T
Horsepower	2	2
Motor Rpm	-	1745
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.64

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	Actual
SF CFM	2300	2514
SF RPM	-	1500
RA CFM	0	0
OA CFM	2300	2514
RL Voltage	-	151@VFD
RL Amperage	-	4.4@VFD
SF Rotation	-	CCW
SF System SetPt	-	51.6HZ
RA Damper Position	-	0%
Min OA Damper Position	-	100%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	N/A

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

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 Project:06-16-25 FREDDY'S GLENDORA, CA
AHU/RTU



Diffuser Supply (GRD)

DOAS1/KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	PREP	SD2	10"	300	1	256	312	312	104.0
SGRD2	PREP	SD2	10"	350	1	244	344	344	98.3
SGRD3	OFFICE	SD4	8"	140	1	62	132	132	94.3
SGRD4	KITCHEN	SD3	10"	360	1	336	336	336	93.3
SGRD5	KITCHEN	SD3	10"	360	1	224	324	324	90.0
SGRD6	DRIVE THRU	SD2	10"	310	1	273	293	293	94.5
SGRD7	CUSTOMER		10"	310	1	262	312	312	100.6
SGRD8	WOMENS RR	SD5	8"	100	1	292	292	292	292.0
SGRD9	MENS RR	SD5	8"	100	1	169	169	169	169.0
Total				2330		2118	2514	2514	107.9%

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Project: 06-16-25 FREDDY'S GLENDORA, CA

System/Unit: AHU/RTU



Asset: RTU1

AREA:DINING

Unit Data		
	Design	Actual
MFG	TRANE	YORK
Serial Num	-	N2K4849495
Model Num	DHC092H3	ZJ090N12R2B2DAA1A3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	21X30
Num Final Filter 1	-	4
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	2.75	3
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	9.6

Drive Data	
	Actual
Motor Sheave Size	1VP50
Motor Bore Size	7/8"
Motor Sheave SetPt	1/2 TURNS OPEN
Fan Sheave Size	AK69
Fan Sheave Bore	1"
Belt CL Distance	19.5"
Num of Belts	1
Belt Size	A54
Belt Alignment	VERIFIED

Test Data		
	Design	Actual
SF CFM	3000	3042
SF RPM	-	645
RA CFM	2367	2392
OA CFM	633	650
RL Voltage	-	201/201/201
RL Amperage	-	3.55/3.95/4.10
SF Rotation	-	CW
SF System SetPt	-	60%
RA Damper Position	-	70%
Min OA Damper Position	-	30%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	28BTU

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.13"
Fan Suction SP	-	-0.33"
Fan Discharge SP	-	0.19"
Total ESP	1.0"	0.32"
Fan Total SP	-	0.52"

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

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National TAB
 Project:06-16-25 FREDDY'S GLENDORA, CA
AHU/RTU



Diffuser Supply (GRD)

RTU1/DINING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	DINING	SD1	12"	725	1	1163	780	780	107.6
SGRD2	DINING	SD1	12"	725	1	967	718	718	99.0
SGRD3	DINING	SD1	12"	725	1	964	6758	758	104.6
SGRD4	DINING	SD1	12"	725	1	1151	786	786	108.4
Total				2900		4245	9042	3042	104.9%

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Project: 06-16-25 FREDDY'S GLENDORA, CA

System/Unit: FAN - Exhaust



Asset: EF1

AREA:WOMENS RR

Unit Data		
	Design	Actual
MFG	COOK	GREENHECK
Model Num	GC-166	SP-B150-QD
Serial Num	-	184389314-0067
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	150	184
Fan RPM	-	DD
Fan Rotation	-	CW
Motor RPM	-	DD
System SetPt	-	SINGLE SPEED

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.07	NL
Motor Rpm	1100	1050
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.8
Service Factor	-	NL

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Project: 06-16-25 FREDDY'S GLENDORA, CA

System/Unit: FAN - Exhaust



Asset: EF2

AREA:MENS RR

Unit Data		
	Design	Actual
MFG	COOK	GREENHECK
Model Num	GC-166	SP-B150-QD
Serial Num	-	184389314-0067
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	150	186
Fan RPM	-	DD
Fan Rotation	-	CW
Motor RPM	-	DD
System SetPt	-	SINGLE SPEED

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.07	NL
Motor Rpm	1100	1050
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.8
Service Factor	-	NL

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Project: 06-16-25 FREDDY'S GLENDORA, CA

System/Unit: FAN - Exhaust



Asset: KEF1

AREA:HOOD 1

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	CASRE18DD	CASRE18DD
Serial Num	-	6658359
Type	UTILITY	UTILITY
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	NEMA
Frame	-	56HZ
Horsepower	2	2.0
Motor Rpm	-	1740
Phase	3	3
Voltage (rated)	208	230
Amperage (rated)	-	5.38
Service Factor	-	1.15

Test Data		
	Design	Actual
CFM	1600	1660
Fan RPM	1338	1015
Fan Rotation	-	CW
Motor RPM	-	1015
System SetPt	-	35HZ
RL Voltage	-	89@VFD
RL Amperage	-	3.8 @VFD
Total ESP	1.8"	0.73"
Fan Inlet SP	-	-0.73"
Fan Discharge SP	-	ATMS

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Project: 06-16-25 FREDDY'S GLENDORA, CA

System/Unit: FAN - Exhaust



Asset: KEF2

AREA:HOOD 2

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU50HFA	DU50HFA
Serial Num	-	6658359
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	NEMA
Frame	-	NL
Horsepower	0.5	0.5
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	NL
Service Factor	-	NL

Test Data		
	Design	Actual
CFM	775	733
Fan RPM	1449	900
Fan Rotation	-	CCW
Motor RPM	-	900
System SetPt	-	50%
RL Voltage	-	116
RL Amperage	-	1.3
Total ESP	1.0"	0.30"
Fan Inlet SP	-	-0.30"
Fan Discharge SP	-	ATMS

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Project: 06-16-25 FREDDY'S GLENDORA, CA

System/Unit: Kitchen Hood Type I



Asset: HD1

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2	5424 ND-2
Job / Serial Num	-	6658359
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	96"	96"
Hood Width	54"	54"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	BAFFLED
Filter Size 1	16X16	16X16
Filter Qty 1	5	5
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	8.1	8.1
Filter1 FPM	-	184
Filter2 FPM	-	204
Filter3 FPM	-	238
Filter4 FPM	-	214
Filter5 FPM	-	186
Filter Ave FPM(corr)	-	205
CFM	1600	1660

Cooking Equipment	
	Actual
Item 1	GRIDDLE
Item 2	GRIDDLE

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Project: 06-16-25 FREDDY'S GLENDORA, CA

System/Unit: Kitchen Hood Type I



Asset: HD2

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2	5424 ND-2
Job / Serial Num	-	6658359
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	60"	60"
Hood Width	54"	54"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	3	3
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	4.86	4.86
Filter1 FPM	-	147
Filter2 FPM	-	150
Filter3 FPM	-	157
Filter Ave FPM(corr)	-	151
CFM	775	733

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	FRYER

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