

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 08/12/2025
Completed By: National TAB

PROJECT
08-11-25 DUTCH BROTHERS MUNCIE, IN

1111 EAST MCGALLIARD RD

MUNCIE, IN

Client

NCA Consultants
6510 125TH AVE NORTH
ST 1001
LARGO, FL 33773

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Project: 08-11-25 DUTCH BROTHERS MUNCIE, IN

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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.

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 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.

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 and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	BUILDING	1200	1227	1080	1116	120	111	10.0%	9.0%						
RTU-2	BUILDING	1200	1179	1080	1049	120	130	10.0%	11.0%						
EF-1	RESTROOM													75	69
TOTALS		2400	2406	2160	2165	240	241			0	0	0	0	75	69

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	240	241
TOTAL EXHAUST	75	69
NET AIRFLOW	165	172

NOTES:

CheckList List

- 01: RTU'S/AHU'S
- 02: EF'S
- 03: MUA
- 04: HOODS
- 05: FINAL TESTS



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CheckList Information

Name : 01: RTU'S/AHU'S **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/12/2025 - Brianna Biggs - National TAB

CheckList Item Details

RTU's/AHU's

Thermostats installed and have power? Pass

Comment:

All diffusers and grilles are installed and match design? Pass

Comment:

Economizer blank plate is installed below the outside air intake (Trane only) (N/A = not applicable) N/A

Comment:

Economizers are assembled and functional? Pass

Comment:

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

Comment:

Motors are all operating below the FLA rating? Pass

Comment:

Are belts tight? N/A

Comment:

If direct drive unit is the speed controller working?

Pass

Comment:

Is gas piping installed and valves turned on?

Pass

Comment:

Unit free of noticeable noise and vibration

Pass

Comment:

Final outside air damper position is marked with permanent marker?

Pass

Comment:



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CheckList Information

Name : 02: EF'S **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/12/2025 - Brianna Biggs - National TAB

CheckList Item Details

EF's

Rotation is correct?

Pass

Comment:

Belts are tight?

N/A

Comment:

Hinge kit installed installed on hood fan?

N/A

Comment:

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

N/A

Comment:

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

N/A

Comment:

There is no major leakage around base of fans?

Pass

Comment:

Is the motor operating below the motor FLA rating?

Pass

Comment:

For restroom fan(s) is the back draft damper installed if specified and can it fully open?

N/A

Comment:

Unit free of noticeable noise and vibration?

Pass

Comment:

For direct drive fans, mark the final setting on the speed controller with permanent marker

N/A

Comment:



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CheckList Information

Name : 03: MUA **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/12/2025 - Brianna Biggs - National TAB

CheckList Item Details

MUA

Rotation is correct? N/A

Comment:

Gas piping is installed and valves are in on position? 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:

If unit is heated is the heater functional? (If not heated put N/A) N/A

Comment:

If unit has cooling, is cooling functional (If no cooling installed put N/A) N/A

Comment:



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CheckList Information

Name : 04: HOODS **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/12/2025 - Brianna Biggs - National TAB

CheckList Item Details

HOODS

All hood filters installed and accounted for? N/A

Comment:

Hoods are wired and have power? N/A

Comment:

Hood is free of alarms? N/A

Comment:

Hood is free of damage? N/A

Comment:

Quarter or full vertical end panels are installed if specified? N/A

Comment:



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CheckList Information

Name : 05: FINAL TESTS Status : Not Completed

Assigned Organization : National TAB Asset :

Requesting Organization : National TAB

Created Date : 08/12/2025 - Brianna Biggs - National TAB

CheckList Item Details

FINAL CHECKS

Is space free of drafting? Pass

Comment:

Is space comfortable in all areas? Pass

Comment:

Is the space free of ventilation noise? Pass

Comment:

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

List smoke candle type used

Comment:

Smoke test capture % - Perimeter of hood

Comment:

Smoke test capture % - Top of cooking surface

Comment:

WITNESS

Date test was completed

Comment:

TAB tech name / Firm

Comment:

Site super name / Firm

Comment:

Owner representative name / Firm (if Applicable)

Comment:

BUILDING PRESSURE

Building pressure at all doors:

Comment:

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

Comment:

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Project: 08-11-25 DUTCH BROTHERS MUNCIE, IN

System/Unit: AHU/RTU



Asset: RTU1

AREA:WHOLE BUILDING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	2824C05709
Model Num	50GCQJ04	50GCQJ04
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	28"x14"
Num Final Filter 1	-	2
Final Filter Size 1	-	16"x24"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.1

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	1200	1227
RA CFM	1080	1116
OA CFM	120	111
RL Voltage	-	211/210/213
RL Amperage	-	1.3/1.4/1.4
SF Rotation	-	CCW
SF System SetPt	-	8.8 VDC
RA Damper Position	-	MECHANICALLY LINKED
Min OA Damper Position	-	19%
Min OA Damper Type	-	OPPOSABLE BLADE

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.25"
Fan Suction SP	-	-0.40"
Fan Discharge SP	-	0.15"
Total ESP	-	0.65"
Fan Total SP	-	0.55"

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

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AHU/RTU



Diffuser Supply (GRD)

RTU1/WHOLE BUILDING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	PRODUCTION	S1	10"	300	1	190	313	313	104.3
SGRD2	PRODUCTION	S1	10"	300	1	319	284	284	94.7
SGRD3	PRODUCTION	S1	10"	300	1	379	328	328	109.3
SGRD4	PRODUCTION	S1	10"	300	1	345	302	302	100.7
Total				1200		1233	1227	1227	102.25%

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Project: 08-11-25 DUTCH BROTHERS MUNCIE, IN

System/Unit: AHU/RTU



Asset: RTU2

AREA:WHOLE BUILDING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	1423C05445
Model Num	50GCQJ04	50GCQJ04
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	28"x14"
Num Final Filter 1	-	2
Final Filter Size 1	-	16"x24"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.1

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	1200	1179
RA CFM	1080	1049
OA CFM	120	130
RL Voltage	-	211/213/209
RL Amperage	-	1.25/1.3/1.2
SF Rotation	-	CCW
SF System SetPt	-	8.78 VDC
RA Damper Position	-	MECHANICALLY LINKED
Min OA Damper Position	-	18%
Min OA Damper Type	-	OPPOSABLE BLADE

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.19"
Fan Suction SP	-	-0.34"
Fan Discharge SP	-	0.24"
Total ESP	-	0.53"
Fan Total SP	-	0.58"

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

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Project:08-11-25 DUTCH BROTHERS MUNCIE, IN

AHU/RTU



Diffuser Supply (GRD)

RTU2/WHOLE BUILDING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	RESTROOM	S2	6"	50	1	76	55	55	110.0
SGRD2	PRODUCTION	S1	10"	400	1	320	297	405	101.3
SGRD3	PRODUCTION	S1	10"	350	1	509	428	348	99.4
SGRD4	PRODUCTION	S1	10"	400	1	390	355	371	92.8
Total				1200		1295	1135	1179	98.25%

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System/Unit: FAN - Exhaust



Asset: EF1

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	COOKE	COOKE
Model Num	GC-148	GC-148
Serial Num	-	GEMINI 140 SERIES
Type	CCW CEILING	CCW CIELING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	29W	15W
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	0.4

Test Data		
	Design	Actual
CFM	75	69
Fan Rotation	-	CCW
System SetPt	-	ONE SPEED
RL Voltage	-	INACCESSIBLE
RL Amperage	-	0.25
Total ESP	0.4"	CEILING MOUNTED
Fan Inlet SP	-	CEILING MOUNTED
Fan Discharge SP	-	ATM

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