

Report By:

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



Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 08/06/2024

PROJECT
06-17-24 PENN STATION CLEVES,
OH_937742570

4175 OH 128

CLEVES , OH 45002

Client

C&T DESIGN
4025 PORT UNION RD.
FAIRFIELD, OH 45014

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: AHU/RTU



Asset: RTU1

AREA:MENS RR

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	3402G40503
Model Num	48TFD012	48TFD012
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	32"x23"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"x20"x2"

Test Data		
	Design	Actual
SF CFM	4100	3337
SF RPM	-	825
RA CFM	3220	2484
OA CFM	880	853
RL Voltage	-	206/207/208
RL Amperage	-	5.2/5.2/5.3
SF Rotation	-	CW
Min OA Damper Position	-	MANUALLY SET
Min OA Damper Type	-	MANUALLY SET

Motor Data		
	Design	Actual
Motor MFG	-	GE
Frame	-	56Y
Horsepower	-	NA
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.2

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.49"
Fan Suction SP	-	-0.81"
Fan Discharge SP	-	0.55"
Total ESP	-	1.04"
Fan Total SP	-	1.36"

Drive Data	
	Actual
Motor Sheave Size	4"
Motor Bore Size	5/8"
Motor Sheave SetPt	2 OUT
Fan Sheave Size	7"
Fan Sheave Bore	1"
Belt CL Distance	17.25"
Num of Belts	1
Belt Size	4L-500
Belt Alignment	GOOD

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

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Notes:
 MOTOR MAXED ON AMPERAGE.
 DIRTY FILTERS REMOVED FOR TAB.
 DIFFUSER 1-9 DAMPER FULLY OPEN NOT REACHING FLOW.

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Project:06-17-24 PENN STATION CLEVES, OH_937742570

AHU/RTU



Diffuser Supply (GRD)

RTU1/MENS RR

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
2-12				50				46	92.0
2-13				50				53	106.0
SGRD1	ENTRY VESTIBULE		6"	50	1	70	75	43	86.0
SGRD2	DINING		10"	400	1	273	297	316	79.0
SGRD3	DINING		10"	400	1	331	333	366	91.5
SGRD4	DINING		10"	400	1	313	318	338	84.5
SGRD5	DINING		10"	400	1	365	372	319	79.8
SGRD6	DINING		10"	400	1	76	314	338	84.5
SGRD7	DINING		10"	375	1	316	353	288	76.8
SGRD8	DINING		10"	375	1	261	268	294	78.4
SGRD9	DINING		10"	400	1	231	229	245	61.3
SGRD10	DINING		10"	375	1	277	288	325	86.7
SGRD11	DINING		10"	375	1	314	322	320	85.3
SGRD12	RR HALLWAY		6"	50	1	107	113	46	92.0
Total				4100		2934	3282	3337	81.39%

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System/Unit: AHU/RTU



Asset: RTU2

AREA:

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	1202G20643
Model Num	48TFD012	48TFD008
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	32"x23"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"x16"x2"

Test Data		
	Design	Actual
SF CFM	2900	2286
SF RPM	-	870
RA CFM	2545	1821
OA CFM	455	465
RL Voltage	-	208/208/210
RL Amperage	-	4.5/4.5/4.6
SF Rotation	-	CW
Min OA Damper Position	-	MANUALLY SET
Min OA Damper Type	-	MANUALLY SET

Motor Data		
	Design	Actual
Motor MFG	-	GE
Frame	-	56Y
Horsepower	-	NA
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.2

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.20"
Fan Suction SP	-	-0.71"
Fan Discharge SP	-	0.77"
Total ESP	-	0.97"
Fan Total SP	-	1.54"

Drive Data	
	Actual
Motor Sheave Size	3.75"
Motor Bore Size	5/8"
Motor Sheave SetPt	2 OUT
Fan Sheave Size	7"
Fan Sheave Bore	1"
Belt CL Distance	17.5"
Num of Belts	1
Belt Size	A48
Belt Alignment	GOOD

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

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Notes:

2-12 and 2-13 connected to RTU 1

2-11 NOT INSTALLED. LOAD ADDED TO 2-7,2-9, AND 2-10

UNDERSIZED DUCTWORK TO COOKLINE DIFFUSERS 2-2,2-3,2-4,2-6 INSTALLED 2X4" DUCTS FOR EACH.

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Project:06-17-24 PENN STATION CLEVES, OH_937742570

AHU/RTU



Diffuser Supply (GRD)

RTU2/

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	HOOD 1	ACPSP	70X6	465	2.275	426	426	426	91.6
SGRD2	KITCHEN			315	1	141		166	52.7
SGRD3	KITCHEN			315	1	114		146	46.3
SGRD4	KITCHEN			315	1	140		163	51.7
SGRD5	HOOD 3	ACPSP	48X6	250	1.56	332	273	273	109.2
SGRD6	KITCHEN			315	1	164		177	56.2
SGRD7	BOH		10"	225	1	224		273	121.3
SGRD8	BOH		6"	50	1	238		46	92.0
SGRD9	BOH		8"	225	1	406		307	136.4
SGRD10	BOH		8"	225	1	472		309	137.3
SGRD11	BOH		8"	200					-
Total				2900		2657	699	2286	78.83%

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: FAN - Exhaust



Asset: EF4

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	ECONAIR	ZHONGSHAN AOCHUANG
Model Num	EADU85H	BPT13-14D
Serial Num	-	774741
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	75	75

Motor Data		
	Design	Actual
Phase	-	1
Voltage (rated)	-	120
Amperage (rated)	-	0.18

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: FAN - Exhaust



Asset: EF5

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	ECONAIR	ZHONGSHAN AOCHUANG
Model Num	EADU85H	BPT13-14D
Serial Num	-	ILLEGIBILE
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	75	59

Motor Data		
	Design	Actual
Phase	-	1
Voltage (rated)	-	120
Amperage (rated)	-	0.18

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Notes:
SINGLE SPEED FAN.
NO OBSTRUCTIONS TO NOTE.
UNABLE TO INCREASE AIRFLOW.

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: FAN - Exhaust



Asset: KEF1

AREA: GRILL HOOD

Unit Data		
	Design	Actual
MFG	ECONAIR	ECONAIR
Model Num	EADU85H	EADU85H
Serial Num	-	6351756
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	0.750	0.75
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	8.9

Test Data		
	Design	Actual
CFM	1120	1129
Fan Rotation	-	CCW
System SetPt	-	60%
RL Voltage	-	120
RL Amperage	-	4.9
Total ESP	1.150"	1.01"
Fan Inlet SP	-	-1.01"
Fan Discharge SP	-	ATM

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: FAN - Exhaust



Asset: KEF2

AREA:OVEN HOOD

Unit Data		
	Design	Actual
MFG	ECONAIR	ECONAIR
Model Num	EADU85H	EADU33H
Serial Num	-	6351756
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	0.333	0.333
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	4.3

Test Data		
	Design	Actual
CFM	600	602
Fan Rotation	-	CCW
System SetPt	-	80%
RL Voltage	-	121
RL Amperage	-	3.2
Total ESP	0.600"	0.86"
Fan Inlet SP	-	-0.86"
Fan Discharge SP	-	ATM

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: FAN - Exhaust



Asset: KEF3

AREA:FRY HOOD

Unit Data		
	Design	Actual
MFG	ECONAIR	ECONAIR
Model Num	EADU85H	EADU85H
Serial Num	-	6351756
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCOGREEN
Horsepower	0.750	0.750
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	8.9

Test Data		
	Design	Actual
CFM	850	894
Fan Rotation	-	CCW
System SetPt	-	55%
RL Voltage	-	120
RL Amperage	-	4.6
Total ESP	1.150"	1.07"
Fan Inlet SP	-	-1.07"
Fan Discharge SP	-	ATM

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: FAN - Supply



Asset: MUA1

AREA:COOKLINE

Unit Data		
	Design	Actual
MFG	ECONAIR	ECONAIR
Model Num	EA1-D.250-15D	EA1-D.250-15D
Serial Num	-	6351756
Type	MUA	MUA
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	WESTINGHOUSE
Frame	-	145T
Horsepower	1.5	1.5
Motor Rpm	-	1740
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	4.03
Service Factor	-	1.15

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	YES
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	55	55
Discharge Air Temp SetPt	60	60
Air Flow Switch SP Actual	-	0.30"

Test Data		
	Design	Actual
CFM	1630	1661
SF System SetPt	-	59.6
RL Voltage	-	207/208/209
RL Amperage	-	3.7/3.0/3.3
Total ESP	-	0.47"
Fan Discharge SP	-	0.47"

General	
	Actual
Fan Rotation Correct	YES

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: Kitchen Hood Type I



Asset: HD1

AREA:

Unit Data		
	Design	Actual
MFG	ECON AIR	ECON AIR
Model Num	3650 ELPX-2	3650 ELPX-2
Job / Serial Num	-	6351756
Type	TYPE I LOW PROXIMITY	TYPE 1 CANOPY
Hood length	72"	72"
Hood Width	36"	36"
Supply Plenum Type	-	ACPSP
Supply Plenum Width	14"	14"
Supply Plenum Length	72"	72"

Test Data Supply		
	Design	Actual
Total AK Area	7	7
Kv factor (Vel)	0.89	0.89
Num of Readings	-	4
Reading1 FPM	-	168
Reading2 FPM	-	160
Reading3 FPM	-	182
Reading4 FPM	-	181
Ave FPM(corr)	-	154
CFM	1000	1076

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16x16
Filter Qty 1	4	4
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	6.48	6.46
Filter1 FPM	-	173
Filter2 FPM	-	185
Filter3 FPM	-	178
Filter4 FPM	-	183
Filter Ave FPM(corr)	-	282
CFM	1120	1129

Cooking Equipment	
	Actual
Item 1	GRIDDLE

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: Kitchen Hood Type I



Asset: HD2

AREA:

Unit Data

	Design	Actual
MFG	ECON AIR	ECON AIR
Model Num	3650 ELPX-2	NL
Job / Serial Num	-	NL
Type	TYPE I CANOPY	OVEN
Hood length	21.25"	21"
Hood Width	44"	44"

Test Data Exhaust

	Design	Actual
Filter Type	SS BAFFLE	SS BAFFLE
Filter Size 1	20X10	20x10
Filter Qty 1	2	2
Filter AK factor size 1	-	1.2
Filter Total AK Area	-	2.4
Filter1 FPM	-	250
Filter2 FPM	-	252
Filter Ave FPM(corr)	-	301
CFM	600	602

Cooking Equipment

	Actual
Item 1	OVEN

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Project: 06-17-24 PENN STATION CLEVES, OH_937742570

System/Unit: Kitchen Hood Type I



Asset: HD3

AREA:

Unit Data		
	Design	Actual
MFG	ECON AIR	ECON AIR
Model Num	3650 ELPX-2	3650 ELPX-2
Job / Serial Num	-	6351756
Type	TYPE I LOW PROXIMITY	TYPE 1 CANOPY
Hood length	50"	50"
Hood Width	36"	36"
Supply Plenum Type	-	ACPSP
Supply Plenum Width	14"	14"
Supply Plenum Length	50"	50"

Test Data Supply		
	Design	Actual
Total AK Area	4.86	4.86
Kv factor (Vel)	0.89	0.89
Num of Readings	-	4
Reading1 FPM	-	133
Reading2 FPM	-	104
Reading3 FPM	-	146
Reading4 FPM	-	158
Ave FPM(corr)	-	146
CFM	630	585

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	-	184
Filter2 FPM	-	191
Filter3 FPM	-	177
Filter Ave FPM(corr)	-	289
CFM	850	894

Cooking Equipment	
	Actual
Item 1	FRYER

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