

Report By:

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



**Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 04/24/2024**

**PROJECT
Joseph House (Cincinnati, OH)**

3304 COLERAIN AVE

CINCINNATI, OH

Client

Cincinnati Air
3239 Profit Dr

Fairfield, OH 45014

National TAB

Project: Joseph House (Cincinnati, OH)

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CERTIFICATION



PROJECT: Joseph House (Cincinnati, OH)

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems*. Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB

REGISTRATION NO: 3629

CERTIFIED BY: Joe Hertenstein

DATE: 4/23/2024

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB

REGISTRATION NO: 3629


CERTIFIED BY: Joe Hertenstein

DATE: _____

Submitted and Certified by:

NEBB TAB FIRM: National TAB

TAB PROFESSIONAL: Joe Hertenstein

SIGNATURE: 

REGISTRATION NO: 3629

CERTIFICATION EXP: 12/31/2024





National TAB



Testing, Adjusting, and Balancing Equipment

INTELLIGENCE

Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Kanomax Micromanometer 6700 S/N 30513	7/23/2023	7/27/2024
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Kanomax Micromanometer 6700 S/N 30513	7/23/2023	7/7/2024
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 5 % +/- 7 cfm	Kanomax Micromanometer 6700 S/N 30513	7/23/2023	7/7/2024
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	6/6/2023	6/6/2024
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	6/6/2023	6/6/2024
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	6/6/2023	6/6/2024
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	6/6/2023	6/6/2024
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	6/6/2023	6/6/2024
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	6/6/2023	6/6/2024
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 071118034	6/6/2023	6/6/2024
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Fluke 373 True RMS, S/N: 33290686	6/1/2023	6/1/2024
	AMPERAGE MEASUREMENT	0 Amperes to 100 Amperes	2 % reading +/- 5 digits	Fluke 373 True RMS, S/N: 33290686	6/1/2023	6/1/2024
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	SHIMPO DT-207LR S/N: D1530081R	6/1/2023	6/1/2024
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Alnor HM675 S/N: 72214041	5/2023	5/2024
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Alnor HM675 S/N: 72214041	5/2023	5/2024



Abbreviation List

A = Area (ft ²)	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A _k = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T _{ma} = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T _{oa} = Outside Air Temperature
CD = Ceiling Diffuser	T _{ra} = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO ₂ = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C _v = Flow Constant	K _v = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T _{ra} = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
% _{ra} = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: AHU-1-1

AREA:130A

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	32R0270530P90Y
Model Num	NA	TPEFYP018MA144A
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	8"X19"X1"

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	0.162
Motor Rpm	-	NA
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	1.54
Service Factor	-	NA

Test Data		
	Design	Actual
SF CFM	600	580
RA CFM	524	518
OA CFM	76	62
RL Voltage	208	214.6
RL Amperage	-	0.70
SF System SetPt	-	4/4
OA Damper Position	-	SET MANUALLY

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.36"
Fan Discharge SP	-	0.022"
Total ESP	0.6	0.382"

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

AHU-1-1/130A

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1-1	131	CD-4	8	160	85	148	92.5
1-2	131	CD-4	8	160	75	137	85.6
1-3	130	CD-4	8	110	69	109	99.1
1-4	129B	CD-3	6	15	59	19	126.7
1-5	130	CD-4	8	110	93	111	100.9
1-6	129A	CD-3	6	15	50	21	140.0
1-7	130A	CD-3	6	30	82	35	116.7
Total				600	513	580	96.67%

Diffuser Ret/Exh (GRD)

AHU-1-1/130A

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R1-1	RG-1	22X10	320	1	173	175	175	54.7
R1-2	RG-1	22X10	320	1	163	161	161	50.3
Total			640		336	336	336	52.5%

Completed By: Jordan Best on 04/12/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: AHU-1-2

AREA:128

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	35R0368430P90Z
Model Num	NA	TPEFYP024MA144A
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	8"X19"X1"

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	0.162
Motor Rpm	-	NA
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	2.88

Test Data		
	Design	Actual
SF CFM	800	769
RA CFM	740	714
OA CFM	60	55
RL Voltage	208	213.2
RL Amperage	-	1.94
SF System SetPt	-	4/4
OA Damper Position	-	SET MANUALLY

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.50"
Fan Discharge SP	-	0.195"
Total ESP	0.6	0.695"

Completed By: Jordan Best on 04/18/2024

Notes:
Diffuser 5 below design- confirmed 100% open.

Written By: Nick Payne on 04/23/2024

National TAB

Project: Joseph House (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

AHU-1-2/128

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-1	125	CD-4	8	160	52	146	91.3
2-2	124	CD-4	8	160	138	168	105.0
2-3	126	CD-4	8	160	156	144	90.0
2-4	127	CD-4	8	160	133	166	103.8
2-5	128	CD-4	8	160	125	145	90.6
Total				800	604	769	96.12%

Diffuser Ret/Exh (GRD)

AHU-1-2/128

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-1	RG-1	22X10	148	1	187	128	122	82.4
R2-2	RG-1	22X10	148	1	158	131	115	77.7
R2-3	RG-1	22X10	148	1	116	122	132	89.2
R2-4	RG-1	22X10	148	1	73	109	117	79.1
R2-5	RG-1	22X10	148	1	71	114	114	77.0
Total			740		605	604	600	81.08%

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: AHU-1-3

AREA:136

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	34R01886
Model Num	NA	PEFY-P30NMAU-E4
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	8"X19"X1"

Test Data		
	Design	Actual
SF CFM	1000	994
RA CFM	940	936
OA CFM	60	58
RL Voltage	208	214.1
RL Amperage	-	2.48
SF System SetPt	-	4/4
OA Damper Position	-	SET MANUALLY

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	0.162
Motor Rpm	-	NA
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	2.88

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.49"
Fan Discharge SP	-	NA
Total ESP	0.6	0.49"

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

AHU-1-3/136

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-1	133	CD-4	8	115	184	119	103.5
3-2	133	CD-4	8	115	155	119	103.5
3-3	132	CD-4	8	115	20	98	85.2
3-4	132	CD-4	8	115	139	111	96.5
3-5	134	CD-4	8	115	90	123	107.0
3-6	134	CD-4	8	115	127	116	100.9
3-7	135	CD-4	8	115	135	116	100.9
3-8	135	CD-4	8	115	109	116	100.9
3-9	136	SR-1	6X6	80	76	76	95.0
Total				1000	1035	994	99.4%

Diffuser Ret/Exh (GRD)

AHU-1-3/136

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R3-1	RG-1	22X10	225	1	206	187	143	63.6
R3-2	RG-1	22X10	225	1	173	185	142	63.1
R3-3	RG-1	22X10	225	1	89	142	130	57.8
R3-4	RG-1	22X10	225	1	63	148	126	56.0
R3-5	RR-1	6X6	40	1	185	53	64	160.0
Total			940		716	715	605	64.36%

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: AHU-1-4

AREA:100A

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	32R02019
Model Num	NA	PEFY-P48NMAU-E4
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	8"X19"X1"

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	0.402
Motor Rpm	-	NA
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	3.09
Service Factor	-	NA

Test Data		
	Design	Actual
SF CFM	1600	1478
RA CFM	1490	1372
OA CFM	110	106
RL Voltage	208	215
RL Amperage	-	2.33
SF System SetPt	-	4/4
OA Damper Position	-	SET MANUALLY

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.10"
Fan Discharge SP	-	0.065"
Total ESP	0.6	0.162"

National TAB

Project: Joseph House (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

AHU-1-4/100A

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-1	105	CD-1	6	40	127	41	102.5
4-2	103	CD-4	8	250	175	192	76.8
4-3	100A	CD-4	8	150	148	155	103.3
4-4	100A	CD-4	8	150	144	160	106.7
4-5	114	CD-3	6	30	32	33	110.0
4-6	115	CD-3	6	30	42	32	106.7
4-7	102	SR-4	8	350	261	260	74.3
4-8	100A	CD-4	8	150	151	150	100.0
4-9	100A	CD-4	8	150	163	151	100.7
4-10	100A	CD-4	8	150	127	133	88.7
4-11	100A	CD-4	8	150	103	95	63.3
4-12	106	CD-4	8	70	81	76	108.6
Total				1670	1554	1478	88.5%

Diffuser Ret/Exh (GRD)

AHU-1-4/100A

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R4-1	RG-1	22X10	175	1	350	170	170	97.1
R4-2	RR-3	20X6	275	1	317	270	270	98.2
R4-3	RG-3	10X10	80	1	117	72	72	90.0
R4-4	RG-2	22X22	860	1	222	322	322	37.4
Total			1390		1006	834	834	60%

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: AHU-1-6

AREA:119

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	35R0368530P90Z
Model Num	NA	TPEFYP024MA144A
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	8"X19"X1"

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	0.162
Motor Rpm	-	NA
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	2.88

Test Data		
	Design	Actual
SF CFM	800	771
RA CFM	740	707
OA CFM	60	64
RL Voltage	208	214.5
RL Amperage	-	1.19
SF System SetPt	-	4/4
OA Damper Position	-	SET MANUALLY

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.39"
Fan Discharge SP	-	0.024"
Total ESP	0.6	0.414"

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

AHU-1-6/119

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-1	121	CD-4	8	95	102	92	96.8
6-2	121	CD-4	8	95	101	95	100.0
6-3	122	CD-4	8	95	97	93	97.9
6-4	122	CD-4	8	95	105	99	104.2
6-5	120	CD-4	8	95	119	87	91.6
6-6	120	CD-4	8	95	106	86	90.5
6-7	119	CD-4	8	115	119	111	96.5
6-8	119	CD-4	8	115	111	108	93.9
Total				800	860	771	96.38%

Diffuser Ret/Exh (GRD)

AHU-1-6/119

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R6-1	RG-1	22X10	185	1	202	202	139	75.1
R6-2	RG-1	22X10	185	1	131	131	128	69.2
R6-3	RG-1	22X10	185	1	108	108	144	77.8
R6-4	RG-1	22X10	185	1	98	98	136	73.5
Total			740		539	539	547	73.92%

Completed By: Jordan Best on 04/12/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: AHU-1-7

AREA:118

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	35R0369530P90Z
Model Num	NA	TPEFYP024MA144A
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	8"X25"X1"

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	2.03

Test Data		
	Design	Actual
SF CFM	800	832
RA CFM	695	568
OA CFM	105	116
RL Voltage	208	214
RL Amperage	-	1.8
SF System SetPt	-	4/4
OA Damper Position	-	SET MANUALLY

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.69"
Fan Discharge SP	-	0.05"
Total ESP	0.6	0.74"

Completed By: Jordan Best on 04/18/2024

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Project: Joseph House (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

AHU-1-7/118

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
7-1	116	CD-4	8	140	106	145	103.6
7-2	112A	CD-1	6	30	40	34	113.3
7-3	116	CD-4	8	140	121	153	109.3
7-4	117	CD-4	8	145	101	148	102.1
7-5	117	CD-4	8	145	93	142	97.9
7-6	118	CD-4	8	100	107	108	108.0
7-7	118	CD-4	8	100	116	102	102.0
Total				800	684	832	104%

Diffuser Ret/Exh (GRD)

AHU-1-7/118

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R7-1	RG-1	22X10	280	1	249	206	222	79.3
R7-2	RG-1	22X10	290	1	166	186	209	72.1
R7-3	RG-1	22X10	200	1	155	179	137	68.5
Total			770		570	571	568	73.77%

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: AHU-1-8

AREA:106

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	34R01875
Model Num	NA	PEFY-P30NMAU-E4
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	8"X28"X1"

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	2.03

Test Data		
	Design	Actual
SF CFM	1000	1004
RA CFM	800	588
OA CFM	200	204
RL Voltage	208	215
RL Amperage	-	2.0
SF System SetPt	-	4/4
OA Damper Position	-	MANUALLY SET

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.56"
Fan Discharge SP	-	0.02"
Total ESP	0.6	0.58"

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

AHU-1-8/106

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
8-1	109	CD-4	8	125	138	133	106.4
8-2	109	CD-4	8	125	140	118	94.4
8-3	110	CD-4	8	125	107	121	96.8
8-4	110	CD-4	8	125	116	128	102.4
8-5	108	CD-4	8	125	128	135	108.0
8-6	108	CD-4	8	125	114	129	103.2
8-7	107	CD-4	8	90	95	92	102.2
8-8	107	CD-4	8	90	90	85	94.4
Total				930	928	941	101.18%

Diffuser Ret/Exh (GRD)

AHU-1-8/106

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R8-1	RG-1	22X10	200	1	185	205	205	102.5
R8-2	RG-1	22X10	200	1	280	231	231	115.5
R8-3	RG-1	22X10	200	1	110	120	120	60.0
R8-4	RG-1	22X10	165	1	74	120	134	81.2
R8-5	RG-1	22X10	35	1	86	32	32	91.4
Total			800		735	708	722	90.25%

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: AHU-1-9

AREA:111

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	32R02027
Model Num	NA	PEFY-P48NMAU-E4
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	8"X45"X1"

Motor Data		
	Design	Actual
Horsepower	-	0.402
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	3.09

Test Data		
	Design	Actual
SF CFM	1910	1492
RA CFM	1340	913
OA CFM	260	270
RL Voltage	208	215
RL Amperage	-	2.9
SF System SetPt	-	4/4
OA Damper Position	-	SET MANUALLY

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.58"
Fan Discharge SP	-	0.03"
Total ESP	0.6	0.61"

Completed By: Jordan Best on 04/18/2024

Notes:
Unit below design CFM operating at highest set point.

Written By: Nick Payne on 04/23/2024

National TAB

Project: Joseph House (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

AHU-1-9/111

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
9-1	111	CD-4	8	155	103	124	80.0
9-2	111	CD-4	8	155	71	118	76.1
9-3	111	CD-4	8	155	48	67	43.2
9-4	111	CD-4	8	155	98	129	83.2
9-5	111	CD-4	8	155	96	117	75.5
9-6	111	CD-4	8	155	96	118	76.1
9-7	113	CD-1	6	50	90	74	148.0
9-8	111	CD-4	8	155	104	124	80.0
9-9	111	CD-4	8	155	91	114	73.5
9-10	111	CD-4	8	155	118	132	85.2
9-11	111	CD-4	8	155	125	122	78.7
9-12	111	CD-4	8	155	144	125	80.6
9-13	111	CD-4	8	155	114	128	82.6
Total				1910	1298	1492	78.12%

Diffuser Ret/Exh (GRD)

AHU-1-9/111

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R9-1	RG-2	22X9	1315	1	528	528	528	40.2
R9-2	RG-3	10X4	25	0.33333	385	385	385	1540.0
Total			1340		913	913	913	68.13%

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-1

AREA:129A

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-B90-QD
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	70	81

Completed By: Jordan Best on 04/09/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-2

AREA:129B

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-B90-QD
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	70	85

Completed By: Jordan Best on 04/09/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-112

AREA:112

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A200-QD
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	195	220

Completed By: Jordan Best on 04/09/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-114

AREA:114

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-B90-QD
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	70	84

Completed By: Jordan Best on 04/09/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-115

AREA:115

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-B90-QD
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	70	92

Completed By: Jordan Best on 04/09/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-130

AREA:130A

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A200-QD
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	140	205

Completed By: Jordan Best on 04/09/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-131

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-A250-QD	SP-A250-QD
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	240	264

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-132

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-A250-QD	SP-A250-QD
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	240	253

Completed By: Jordan Best on 04/18/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-202

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	83

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-203

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	83

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-204

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	77

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-205

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	82

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-208

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	78

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-209

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	76

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-210

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	86

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-211

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	84

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-212

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	88

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-213

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	81

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-214

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	81

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-215

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	84

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)
System/Unit: FAN - Exhaust



Asset: EF-216

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	79

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)
System/Unit: FAN - Exhaust



Asset: EF-217

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	79

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-219

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	83

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-220

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	78

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-221

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	77

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-222

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	82

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-223

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	83

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-225

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	79

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-226

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	77

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-227

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	82

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-228

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	74

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-302

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	79

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-303

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	78

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-304

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	80

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-305

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	81

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-308

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	82

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-309

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	82

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-310

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	76

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-311

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	85

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-312

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	77

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-313

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	83

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-314

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	82

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-315

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	82

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-316

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP-0511W	SP-AP-0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	84

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-317

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	86

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-319

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	81

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-320

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	80

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-321

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	102

Completed By: Jordan Best on 04/24/2024

Notes:

Speed controller not functioning, has been painted over. Could possibly have affected performance. Fan above design.

Written By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-322

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	87

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-323

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	77

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-325

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	84

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-326

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	79

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-327

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	83

Completed By: Jordan Best on 04/24/2024

National TAB

Project: Joseph House (Cincinnati, OH)

System/Unit: FAN - Exhaust



Asset: EF-328

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-AP0511W	SP-AP0511W
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	77

Completed By: Jordan Best on 04/24/2024