

Report By:

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

**NATIONAL**

**TAB**

Comfort. Under control.

**Report: PRELIM TAB REPORT**  
**Function: Test, Adjust, & Balance**  
**Date: 12/08/2022**

# PROJECT

## Kingswood Park Barn (Mason, OH)

IRWIN SIMPSON RD

MASON, OH

Client

AIRRUSH HVAC

# National TAB

Project: Kingswood Park Barn (Mason, OH)

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## **Summary:**

Included in this Report for Kingswood Park Barn is TAB data for 1 AHU, 2 Restroom exhaust fans, and one wall mounted heat evacuation fan.

### **AHU:**

The AHU was balanced while in commissioning mode to +/- 10% of design flow via adjustment of the VFD setpoint. All terminal devices were balanced to within +/-10% of design unless otherwise noted. Sidewall Grilles were measured with a velocity matrix and 2'x2' Diffusers were measured with a flow hood. Final performance data was taken with clean filters.

### **EFs:**

The ceiling mounted restroom Exhaust fans were measured with a flow hood to confirm design CFM is within +/-10%.

EF-3 was measured with a velocity matrix and taking the free area of the fan intake to calculate CFM. CFM was balanced to within +/-10% of design. Adjustments were made to the motor sheave as necessary to achieve design CFM.

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Project: Kingswood Park Barn (Mason, OH)

System/Unit: AHU/RTU



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Asset: AHU-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	YORK
Serial Num	-	N2F2625778
Model Num	NA	XP120E36R2A5BCA2A1
Type	-	AHU
Configuration	-	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	32X20
Num Final Filter 1	-	1
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1750
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	8.3
Service Factor	-	1.15

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VM50
Motor Bore Size	-	0.875"
Fan Sheave Size	-	7"
Fan Sheave Bore	-	1"
Belt CL Distance	-	20"
Num of Belts	-	1
Belt Size	-	A54

Test Data		
	Design	Actual
SF CFM	3240	3358
SF RPM	-	840
RA CFM	2412	2517
OA CFM	828	841
RL Voltage	-	209.2/209.3/209.6
RL Amperage	-	6.75/6.27/6.72
VFD Max SetPt	-	85%
SF Motor Freq(HZ)	-	51.2HZ
SF System SetPt	-	85%
RA Damper Position	-	90%
OA Damper Position	-	10%
Brake Horse Power	1.3	2.35

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.41"
Fan Suction SP	-	-0.62"
Total ESP	-	0.83"
Fan Total SP	1.0"	1.04"

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Project: Kingswood Park Barn (Mason, OH)

## AHU/RTU



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### Diffuser Supply (GRD)

#### AHU-1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	106	CD-2	6"	140	127	140	100.0
SGRD2	102	CD-2	6"	100	38	91	91.0
SGRD3	104	CD-1	6"	100	91	98	98.0
SGRD4	103	CD-1	6"	100	74	92	92.0
SGRD5	101	SG-1	12"X4"	140	163	138	98.6
SGRD6	101	SG-1	12"X4"	140	150	146	104.3
SGRD7	101	SG-1	12"X4"	140	172	150	107.1
SGRD8	101	SG-1	12"X4"	140	161	141	100.7
SGRD9	101	SG-1	12"X4"	140	164	145	103.6
SGRD10	101	SG-1	12"X4"	140	115	152	108.6
SGRD11	101	SG-1	12"X4"	140	132	142	101.4
SGRD12	101	SG-1	12"X4"	140	129	147	105.0
SGRD13	101	SG-1	12"X4"	140	124	144	102.9
SGRD14	101	SG-1	12"X4"	140	133	146	104.3
SGRD15	101	SG-1	12"X4"	140	124	150	107.1
SGRD16	101	SG-1	12"X4"	140	132	151	107.9
SGRD17	101	SG-1	12"X4"	140	152	137	97.9
SGRD18	101	SG-1	12"X4"	140	180	154	110.0
SGRD19	101	SG-1	12"X4"	140	192	147	105.0
SGRD20	101	SG-1	12"X4"	140	192	146	104.3
SGRD21	101	SG-1	12"X4"	140	189	142	101.4
SGRD22	101	SG-1	12"X4"	140	167	153	109.3
SGRD23	101	SG-1	12"X4"	140	180	151	107.9
SGRD24	101	SG-1	12"X4"	140	195	150	107.1

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Project: Kingswood Park Barn (Mason, OH)  
System/Unit: FAN - Exhaust



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Asset: EF-1

AREA:104

Unit Data		
	Design	Actual
<b>MFG</b>	NA	GREENHECK
<b>Model Num</b>	NA	SP-B150-QD
<b>Serial Num</b>	-	137046327-0041

Test Data		
	Design	Actual
<b>CFM</b>	150	160

Motor Data		
	Design	Actual
<b>Motor MFG</b>	-	GREENHECK
<b>Horsepower</b>	-	NL
<b>Motor Rpm</b>	-	1050
<b>Phase</b>	1	1
<b>Voltage (rated)</b>	115	115
<b>Amperage (rated)</b>	-	1.8

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Project: Kingswood Park Barn (Mason, OH)

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF-2

AREA:103

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-B150-QD
Serial Num	-	137585150-0048

Test Data		
	Design	Actual
CFM	150	158

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Horsepower	-	NL
Motor Rpm	-	1050
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.8

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Project: Kingswood Park Barn (Mason, OH)

System/Unit: FAN - Exhaust



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Asset: EF-3

AREA:105

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SBE-1H24-4-X
Serial Num	-	19906795
Type	-	AXIAL

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	48Y
Horsepower	0.25	0.25
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	4.8
Service Factor	-	1.35

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VP25
Motor Bore Size	-	0.625
Motor Sheave SetPt	-	1 TURN OUT
Fan Sheave Size	-	AK59
Fan Sheave Bore	-	0.75"
Belt CL Distance	-	6.75"
Num of Belts	-	1
Belt Size	-	3L260R

Test Data		
	Design	Actual
CFM	1950	1868
Fan RPM	4.43	734
RL Voltage	-	120.9
RL Amperage	-	4.84
Suction ESP	-	-0.04"
Discharge ESP	-	0.10"
Total ESP	0.25"	0.14"
Brake Horse Power	-	0.25

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Notes: