

**Report By:**

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

**NATIONAL**

**TAB**

Comfort. Under control.

**Report: PRELIM REPORT  
Function: Test, Adjust, & Balance  
Date: 05/30/2023**

**PROJECT  
Boot Barn (Kansas City, MO)**

9900 NW Global Ave

Kansas City, MO 64153

**Client**

Metro Air Conditioning  
8151 McCoy

Shawnee, KS 66227

# National TAB

Project: Boot Barn (Kansas City, MO)

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# National TAB

Project: Boot Barn (Kansas City, MO)  
System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU-1

AREA:MAIN OFFICE

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	0123C05467
Model Num	NA	48FCEA05A2A6A0A0A0
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1 METAL MESH
OA Filter Size 1	-	14X28
Num PreFilter 1	-	2
PreFilter Size 1	-	16X25X2

Test Data		
	Design	Actual
SF CFM	1600	1578
RA CFM	1380	1412
OA CFM	220	166
RL Voltage	-	487/489/488
RL Amperage	-	0.96/0.94/0.98
OA Damper Position	-	9% HIGH/ 9% LOW
Brake Horse Power	-	0.647

Motor Data		
	Design	Actual
Motor MFG	-	UTO
Frame	-	UTO
Horsepower	-	1.1
Motor Rpm	-	UTO
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	1.7
Service Factor	-	UTO

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.24"
Fan Suction SP	-	-0.42"
Fan Discharge SP	-	0.47"
Total ESP	-	0.71"
Fan Total SP	-	0.89"

Completed By: Jacob Davidson on 05/22/2023

# National TAB

Project: Boot Barn (Kansas City, MO)

## AHU/RTU



Comfort. Under control.

### Diffuser Supply (GRD)

#### RTU-1/MAIN OFFICE

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	RESTROOM	SD-2	8	100	162	96	96.0
SGRD2	MAIN OFFICE	SD-1	10	350	432	324	92.6
SGRD3	MAIN OFFICE	SD-1	10	350	447	332	94.9
SGRD4	MAIN OFFICE	SD-1	10	400	306	414	103.5
SGRD5	MAIN OFFICE	SD-1	10	400	391	412	103.0

Completed By: Jacob Davidson on 04/26/2023

# National TAB

Project: Boot Barn (Kansas City, MO)

## System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU-2

AREA:MAIN OFFICE

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	0123C05465
Model Num	NA	48FCEA05A2A6A0A0A0
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1 METAL MESH
OA Filter Size 1	-	14X28
Num PreFilter 1	-	2
PreFilter Size 1	-	16X25X2

Test Data		
	Design	Actual
SF CFM	1600	1609
RA CFM	1340	1342
OA CFM	260	267
RL Voltage	-	490/488/488
RL Amperage	-	0.91/0.92/0.94
OA Damper Position	-	HIGH 3.95V LOW 4.60V
Brake Horse Power	-	0.602

Motor Data		
	Design	Actual
Motor MFG	-	UTO
Frame	-	UTO
Horsepower	-	1.1
Motor Rpm	-	UTO
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	1.7
Service Factor	-	UTO

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.20"
Fan Suction SP	-	-0.39"
Fan Discharge SP	-	0.48"
Total ESP	-	0.68"
Fan Total SP	-	0.87"

Completed By: Jacob Davidson on 04/26/2023

# National TAB

Project: Boot Barn (Kansas City, MO)

## AHU/RTU



Comfort. Under control.

### Diffuser Supply (GRD)

#### RTU-2/MAIN OFFICE

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	RESTROOM	SD-2	8	150	206	159	106.0
SGRD2	MAIN OFFICE	SD-1	10	325	416	295	90.8
SGRD3	MAIN OFFICE	SD-1	10	325	428	311	95.7
SGRD4	MAIN OFFICE	SD-1	10	400	340	408	102.0
SGRD5	MAIN OFFICE	SD-1	10	400	375	436	109.0

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# National TAB

Project: Boot Barn (Kansas City, MO)  
System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU-3

AREA:MAIN OFFICE

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	0123C05466
Model Num	NA	48FCEA05A2A6A0A0A0
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1 METAL MESH
OA Filter Size 1	-	14X28
Num PreFilter 1	-	2
PreFilter Size 1	-	16X25X2

Test Data		
	Design	Actual
SF CFM	1600	1601
RA CFM	1480	1479
OA CFM	120	122
RL Voltage	-	488/489/491
RL Amperage	-	0.34/0.32/0.41
OA Damper Position	-	HIGH 2.70V LOW 3.30V
Brake Horse Power	-	0.239

Motor Data		
	Design	Actual
Motor MFG	-	UTO
Frame	-	UTO
Horsepower	-	1.1
Motor Rpm	-	UTO
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	1.7
Service Factor	-	UTO

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.22"
Fan Suction SP	-	-0.36"
Fan Discharge SP	-	0.52"
Total ESP	-	0.74"
Fan Total SP	-	0.88"

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# National TAB

Project: Boot Barn (Kansas City, MO)

## AHU/RTU



Comfort. Under control.

### Diffuser Supply (GRD)

#### RTU-3/MAIN OFFICE

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	MAIN OFFICE	SD-1	8	175	224	165	94.3
SGRD2	MAIN OFFICE	SD-1	8	175	228	185	105.7
SGRD3	MAIN OFFICE	SD-1	8	175	216	179	102.3
SGRD4	MAIN OFFICE	SD-1	10	375	323	360	96.0
SGRD5	MAIN OFFICE	SD-1	10	300	331	313	104.3
SGRD6	MAIN OFFICE	SD-1	10	400	336	399	99.8

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# National TAB

Project: Boot Barn (Kansas City, MO)  
System/Unit: FAN - Exhaust



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Asset: CEF-1

AREA:RESTROOM

Unit Data		
	Design	Actual
<b>MFG</b>	NA	GREENHECK
<b>Model Num</b>	NA	SP-A110
<b>Serial Num</b>	-	20620943
<b>Type</b>	-	CEILING

Test Data		
	Design	Actual
<b>CFM</b>	150	162
<b>RL Voltage</b>	-	121
<b>RL Amperage</b>	-	0.40
<b>Total ESP</b>	-	UTO

Motor Data		
	Design	Actual
<b>Motor MFG</b>	-	MCMILLAN
<b>Frame</b>	-	NL
<b>Horsepower</b>	-	1/50
<b>Motor Rpm</b>	-	1400
<b>Phase</b>	-	1
<b>Voltage (rated)</b>	-	115
<b>Amperage (rated)</b>	-	0.45
<b>Service Factor</b>	-	NL

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# National TAB

Project: Boot Barn (Kansas City, MO)  
System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: CEF-2

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A190
Serial Num	-	20620940
Type	-	CEILING

Test Data		
	Design	Actual
CFM	150	50
RL Voltage	-	116
RL Amperage	-	0.37
Total ESP	-	UTO

Motor Data		
	Design	Actual
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	-	1/50
Motor Rpm	-	1400
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	0.45
Service Factor	-	NL

Completed By: Michael Gabbert on

Notes: Speed is at max. The unit is above hard ceiling so tech cannot investigate why flow is low.

Date: 05/22/2023

# National TAB

Project: Boot Barn (Kansas City, MO)  
System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: CEF-3

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A190
Serial Num	-	20620938
Type	-	CEILING

Test Data		
	Design	Actual
CFM	75	77
RL Voltage	-	121
RL Amperage	-	0.40
Total ESP	-	UTO

Motor Data		
	Design	Actual
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	-	1/50
Motor Rpm	-	1400
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	0.45
Service Factor	-	NL

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# National TAB

Project: Boot Barn (Kansas City, MO)  
System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: CEF-4

AREA:RESTROOM

Unit Data		
	Design	Actual
<b>MFG</b>	NA	GREENHECK
<b>Model Num</b>	NA	SP-A110
<b>Serial Num</b>	-	20620942
<b>Type</b>	-	CEILING

Test Data		
	Design	Actual
<b>CFM</b>	75	79
<b>RL Voltage</b>	-	121
<b>RL Amperage</b>	-	0.15
<b>Total ESP</b>	-	UTO

Motor Data		
	Design	Actual
<b>Motor MFG</b>	-	GREENHECK
<b>Frame</b>	-	NL
<b>Horsepower</b>	-	NL
<b>Motor Rpm</b>	-	950
<b>Phase</b>	-	1
<b>Voltage (rated)</b>	-	115
<b>Amperage (rated)</b>	-	0.19
<b>Service Factor</b>	-	NL

Completed By: Jacob Davidson on 04/26/2023

# National TAB

Project: Boot Barn (Kansas City, MO)

## System/Unit: Split Sys Furnace



Comfort. Under control.

Asset: AHU-2

AREA:NORTH OFFICE

Unit Data		
	Design	Actual
MFG	NA	PAYNE
Model Num	NA	PG95ESAA30040A
Serial Num	-	2921A50966
Configuration	-	HORIZONTAL
Filter Size Size 1	-	12.5X23 MESH

Motor Data		
	Design	Actual
Motor MFG	-	BROAD OCEAN
Frame	-	NL
Horsepower	-	1/2
Motor Rpm	-	NL
Phase	-	NL
Voltage	-	115
Amperage	-	2.2

Test Data		
	Design	Actual
SF CFM	800	828
Motor Speed SetPt	-	YELLOW ON COOL
RL Voltage	-	NOT SAFE
RL Amperage	-	NOT SAFE
RA CFM	720	707
OA CFM	80	121

Performance Data		
	Design	Actual
Suction ESP	-	-0.12"
Discharge ESP	-	0.14"
Total ESP	0.5	0.26"

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# National TAB

Project: Boot Barn (Kansas City, MO)

## Split Sys Furnace



Comfort. Under control.

### Diffuser Supply (GRD)

#### AHU-2/NORTH OFFICE

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	NORTH OFFICE	SD-1	12	500	645	546	109.2
SGRD2	RESTROOM	SD-4	6	35	37	32	91.4
SGRD3	RESTROOM	SD-4	6	35	39	34	97.1
SGRD4	NORTH OFFICE	SD-1	8	200	278	216	108.0

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