

Report By:

National TAB



Report: Final Report
Function: Test, Adjust, & Balance
Date: 09/15/2025
Completed By: National TAB

PROJECT
Fifth Third Bank (Union, KY)

Lot 11 Sec 2 Union Promenade

Union, KY 41091

Client

Mechanical Optimizers

2145 Patterson Street

Cincinnati, OH 45214

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Project: Fifth Third Bank (Union, KY)

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Project: Fifth Third Bank (Union, KY)
System/Unit: AHU/RTU



Asset: RTU-1

AREA:MEETING

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	4624C09822
Model Num	NA	48GCSL05E3M5-3W4R0
Configuration	-	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	28.25"x14.25"
Num PreFilter 1	-	2
PreFilter Size 1	-	15.5"x24.5"

Test Data		
	Design	Actual
SF CFM	1715	1681
SF RPM	-	2075
RA CFM	1535	1489
OA CFM	180	192
RL Voltage	-	213/214/214
RL Amperage	-	2.6/2.6/2.7
SF System SetPt	-	2075 RPM
OA Damper Position	-	18%

Motor Data		
	Design	Actual
Phase	-	3
Rated Voltage	-	230
Rated Amperage	-	5.5

Performance Data		
	Design	Actual
Fan Suction SP	-	-1.0
Fan Discharge SP	-	0.33
Total ESP	1.00	1.08
Fan Total SP	-	1.33

Completed By: Corey Dick on 09/09/2025

Notes:

Diffuser 5 has damper wide open with unit at design speed and all other diffusers in design. Diffuser is still not receiving proper airflow.

Written By: Corey Dick on 09/09/2025

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AHU/RTU



Diffuser Supply (GRD)

RTU-1/MEETING

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1-1		S	8	90	205	96	106.7
1-2	MEN'S RESTROOM	S		60	95	66	110.0
1-3	WOMEN'S RR	S		60	91	60	100.0
1-4		S		115	219	118	102.6
1-5		S	10	220	82	115	52.3
1-6		S	8	180	153	188	104.4
1-7		LSD	10	340	389	354	104.1
1-8		LSD	10	155	187	159	102.6
1-9	VESTIBULE/ENTRANCE	LSD	10	155	157	156	100.6
1-10		LSD	10	340	345	369	108.5
Total				1715	1923	1681	98.02%

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Project: Fifth Third Bank (Union, KY)
System/Unit: AHU/RTU



Asset: RTU-2

AREA: LOUNGE

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	4524C09465
Model Num	NA	48GCRL06E2M5-3W4R0
Configuration	-	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	28.25"x14.25"
Num PreFilter 1	-	4
PreFilter Size 1	-	15.5"x15.5"

Test Data		
	Design	Actual
SF CFM	2000	2077
SF RPM	-	2350
RA CFM	1750	1820
OA CFM	250	257
RL Voltage	-	213/214/214
RL Amperage	-	9.1/9.2/9.1
SF System SetPt	-	2350 RPM
OA Damper Position	-	18%

Motor Data		
	Design	Actual
Phase	-	3
Rated Voltage	-	230
Rated Amperage	-	9.2

Performance Data		
	Design	Actual
Fan Suction SP	-	-1.25
Fan Discharge SP	-	0.34
Total ESP	1.00	1.34
Fan Total SP	-	1.59

Completed By: Corey Dick on 09/10/2025

Notes:

Diffusers 9 and 10 did not have individual dampers installed. Rather, there was a single branch damper connected to both of the diffusers. In order to get enough air to the larger security room the small phone room was left high.

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Project: Fifth Third Bank (Union, KY)

AHU/RTU



Diffuser Supply (GRD)

RTU-2/LOUNGE

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-1		S	24x24	130	128	118	90.8
2-2		S	24x24	150	126	158	105.3
2-3		S	24x24	115	109	104	90.4
2-4		S	24x24	115	105	105	91.3
2-5		S	24x24	115	99	109	94.8
2-6		S	24x24	50	45	45	90.0
2-7		S	24x24	50	43	45	90.0
2-8		S	24x24	50	42	46	92.0
2-9	LOUNGE	S	24x24	145	104	136	93.8
2-10		S	24x24	30	45	92	306.7
2-11		LSD	48	175	169	191	109.1
2-12		LSD	48	175	114	186	106.3
2-13		LSD	48	175	93	192	109.7
2-14		LSD	48	175	141	191	109.1
2-15		LSD	48	175	117	167	95.4
2-16		LSD	48	175	112	192	109.7
Total				2000	1592	2077	103.85%

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Project: Fifth Third Bank (Union, KY)

System/Unit: FAN - Exhaust



Asset: EF-1

AREA: JANITOR'S CLOSET

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-B90
Serial Num	-	193105904-0045
Type	-	CEILING

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Motor Rpm	-	950
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.15

Test Data		
	Design	Actual
CFM	50	55
System SetPt	-	CONTROLLER MARKED
RL Voltage	-	INACCESSIBLE
RL Amperage	-	0.16
Suction ESP	-	CEILING MOUNTED
Discharge ESP	-	ATM
Total ESP	0.33	CEILING MOUNTED

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Project: Fifth Third Bank (Union, KY)
System/Unit: FAN - Exhaust



Asset: EF-2

AREA: MEN'S RESTROOM

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-B110
Serial Num	-	196532049-0054
Type	-	CEILING

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Motor Rpm	-	950
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.15

Test Data		
	Design	Actual
CFM	70	74
System SetPt	-	CONTROL MARKED
RL Voltage	-	INACCESSIBLE
RL Amperage	-	0.95
Suction ESP	-	CEILING
Discharge ESP	-	ATM
Total ESP	0.33	CRILING

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Project: Fifth Third Bank (Union, KY)
System/Unit: FAN - Exhaust



Asset: EF-3

AREA:WOMEN'S RR

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-B110
Serial Num	-	196531049-0039
Type	-	CEILING

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Motor Rpm	-	950
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.15

Test Data		
	Design	Actual
CFM	70	69
System SetPt	-	CONTROL MARKED
RL Voltage	-	INACCESSIBLE
RL Amperage	-	0.93
Suction ESP	-	CEILING
Discharge ESP	-	ATM
Total ESP	0.33	CEILING

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Project: Fifth Third Bank (Union, KY)

System/Unit: Fan Coil



Asset: FCU-2

AREA: VESTIBULE/ENTRANCE

Unit Data		
	Design	Actual
MFG	NA	MITSUBISHI ELECTRIC
Model Num	NA	PEAD-A24AA9
Serial Num	-	45R01098
Type	-	HORIZONTAL DUCTED
Configuration	-	HORIZONTAL

Motor Data		
	Design	Actual
Horsepower	-	0.162
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	1.65
Brake Horse Power	-	0.055

Test Data		
	Design	Actual
SFAN CFM	800	784
SFAN Rotation	-	CORRECT
Motor Speed SetPt	-	HIGH
RL Voltage	-	213
RL Amperage	-	0.55
RA CFM	800	784
OA CFM	-	0

Performance Data		
	Design	Actual
Suction ESP	-	-0.1
Discharge ESP	-	0.12
Fan Inlet SP	-	-0.1
Fan Discharge SP	-	0.12
Total Fan SP	-	0.22

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Fan Coil



Diffuser Supply (GRD)

FCU-2/VESTIBULE/ENTRANCE

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F2-1	LOBBY	LSD		135	217	142	105.2
F2-2	LOBBY	LSD		135	215	137	101.5
F2-3	VESTIBULE	LSD		180	63	163	90.6
F2-4	VESTIBULE	LSD		180	71	166	92.2
F2-5	VESTIBULE	LSD		175	232	176	100.6
Total				805	798	784	97.39%