Report By:

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

NATIONAL TAB

Comfort. Under control.

Report: FINAL TAB REPORT
Function: Test, Adjust, & Balance
Date1: 09/21/2022

PROJECT

09-19 NIKE - THE WOODLANDS, TX

9595 SIX PINES DR

THE WOODLANDS, TX

Client

Alliance Retail Construction Inc.
5952 Clark Center Ace

Sarasota, FL 34238

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Project: 09-19 NIKE - THE WOODLANDS, TX

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Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

RTU's

Each of the RTU's were measured at their terminal devices utilizing a flow hood. The sum of these readings is equal to the total flow for that particular unit. The total flow of each RTU was then adjusted within tolerance of the specified design. Each terminal diffuser was balanced to within tolerance of the engineer's design volume utilizing the provided hand damper located at the takeoff of the main & branch trunk line(s). Any equipment that fell outside of this tolerance is noted throughout the report.

Variable Air Volume (VAV) Terminals

The VAV's were calibrated in a call for max cooling and the correction factors are reported on the individual asset. While in a call for full cooling, the individual air devices were then balanced within design tolerance. The VAVs were then stroked to minimum cool and the airflow values reported. The VAV was then stroked to heating and the airflow values reported. It was verified that there was a sufficient temp rise on each VAV.

General Exhaust Fans

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

Final Building Tests

After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances of -0.02" wc to +0.02" wc and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

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Project: 09-19 NIKE - THE WOODLANDS, TX

System/Unit: AHU/RTU

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Asset: RTU1 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	2522P26569
Model Num	48HCDE17	48HCDE17A2M6A2X1G0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL DISCHARGE
Num OA Filters 1	-	4
OA Filter Size 1	-	16x24
Num Final Filter 1	-	6
Final Filter Size 1	-	20x25x2

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	-	NL
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	480	460
Rated Amperage	-	4.6

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VM50
Motor Bore Size	-	7/8"
Fan Sheave Size	-	BK100
Fan Sheave Bore	-	1 3/16"
Belt CL Distance	-	12"
Num of Belts	-	1
Belt Size	-	BX44

Electrical		
	Design	**Actual**

Test Data		
	Design	**Actual**
SF CFM	3660	3681
SF RPM	-	826
RA CFM	2675	2726
OA CFM	985	955
RL Voltage	-	479/480/477
RL Amperage	-	4.3/4.6/4.6
SF Rotation	-	CW
RA Damper Position	-	65%
Min OA Damper Position	-	35%
Min OA Damper Type	-	OPPOSED BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.71"
Fan Suction SP	-	-1.02"
Fan Discharge SP	-	0.62"
Total ESP	1.25"	1.33"
OA Temp (db/wb)	-	100.6/94.9
RA Temp (db/wb)	-	72.1/62.7
SA Temp (db/wb)	-	55.5/49.6

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

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Project:09-19 NIKE - THE WOODLANDS, TX

AHU/RTU

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Diffuser Supply (GRD)

RTU1/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	DSG1	12X8	125	0.54		-	131	104.8
SGRD2	SALES	DSG1	12X8	125	0.54		-	137	109.6
SGRD3	SALES	DSG1	12X8	125	0.54		-	132	105.6
SGRD4	SALES	DSG1	12X8	125	0.54		-	134	107.2
SGRD5	SALES	DSG1	12X8	175	0.54		-	192	109.7
SGRD6	SALES	DSG1	12X8	175	0.54		-	187	106.9
SGRD7	SALES	DSG1	12X8	175	0.54		-	186	106.3
SGRD8	RR HALL	CSD3	6"	65	1.00		-	70	107.7
SGRD9	SALES	CSD2	6"	75	1.00		-	78	104.0
SGRD10	SALES	CSD2	6"	75	1.00		-	78	104.0
SGRD11	SALES	DSG1	12X8	175	0.54		-	190	108.6
SGRD12	SALES	DSG1	12X8	175	0.54		-	188	107.4
SGRD13	SALES	DSG1	12X8	175	0.54		-	182	104.0
SGRD14	SALES	DSG1	12X8	175	0.54		-	190	108.6
SGRD15	SALES	DSG1	12X8	175	0.54		-	189	108.0
SGRD16	SALES	DSG1	12X8	175	0.54		-	180	102.9
VAV1	SOLAR ZONE		12"	1070			-	975	91.1
VAV2	FITTING ROOMS		7"	300		4567	-	262	87.3

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Project: 09-19 NIKE - THE WOODLANDS, TX

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU2 AREA:BOH

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	2822P78836
Model Num	48HCDE08	48HCDE08A2M6A2W1G0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL DISCHARGE
Num OA Filters 1	-	1
OA Filter Size 1	-	20x36
Num Final Filter 1	-	4
Final Filter Size 1	-	20x20x2

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	-	NL
Motor Rpm	-	1670
Phase	3	3
Rated Voltage	480	460
Rated Amperage	-	3.3

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL44
Motor Bore Size	-	5/8"
Fan Sheave Size	-	AFD74
Fan Sheave Bore	-	1"
Belt CL Distance	-	16 3/4"
Num of Belts	-	1
Belt Size	-	A48

Electrical		
	Design	**Actual**

Test Data		
	Design	**Actual**
SF CFM	2135	
SF RPM	-	
RA CFM	1785	
OA CFM	350	
RL Voltage	-	
RL Amperage	-	
SF Rotation	-	CCW
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	OPPOSED BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	1.25"	
OA Temp (db/wb)	-	
RA Temp (db/wb)	-	
SA Temp (db/wb)	-	

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES

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Project:09-19 NIKE - THE WOODLANDS, TX

AHU/RTU

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Diffuser Supply (GRD)

RTU2/BOH

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	QUIET ROOM	CSD1	6"	90					-
SGRD2	BREAK ROOM	CSD1	8"	135					-
SGRD3	BREAK ROOM	CSD1	8"	140					-
SGRD4	COACH'S OFFICE	CSD1	8"	170					-
SGRD5	BOH	CSD2	8"	200					-
SGRD6	ELECTRICAL	CSD3	6"	100					-
SGRD7	IT ROOMS	CSD3	8"	200					-
SGRD8	BOH	CSD2	8"	200					-
SGRD9	BOH	CSD2	8"	200					-
SGRD10	BOH	CSD2	8"	200					-
SGRD11	BOH	CSD2	10"	250					-
SGRD12	BOH	CSD2	8"	175					-
SGRD13	RESTROOM (ADA)	CSD3	6"	75					-

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Project: 09-19 NIKE - THE WOODLANDS, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF1 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SQ-080-VG	SQ-80-VG-X
Serial Num	-	19945953
Type	INLINE	CENTRIFUGAL
Configuration	HORIZONTAL	INLINE

Motor Data		
	Design	**Actual**
Motor MFG	-	BROAD OCEAN
Frame	-	NL
Horsepower	1/10	0.10
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	NL
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	200	200
Fan RPM	1548	DIRECT DRIVE
Fan Rotation	-	CW
Motor RPM	-	DIRECT DRIVE
System SetPt	-	LOW
RL Voltage	-	121
RL Amperage	-	0.94
Total ESP	0.5"	0.39"
Fan Inlet SP	-	-0.22"
Fan Discharge SP	-	0.17"

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Project:09-19 NIKE - THE WOODLANDS, TX

FAN - Exhaust

Comfort. Under control.

Diffuser Ret/Exh (GRD)

EF1/RESTROOM

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	RESTROOM	CEG1	6"	100	1.0	136	93	97	97.0
EGRD2	JANITOR	CEG1	6"	100	1.0	162	109	103	103.0

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Project: 09-19 NIKE - THE WOODLANDS, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF2 AREA:IT CLOSET

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SQ-100-VG	SQ-100-VG-4-X
Serial Num	-	19945973
Type	INLINE	CENTRIFUGAL
Configuration	HORIZONTAL	INLINE

Motor Data		
	Design	**Actual**
Motor MFG	-	BROAD OCEAN
Frame	-	NL
Horsepower	1/4	0.25
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	NL
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1000	
Fan RPM	1385	
Fan Rotation	-	CW
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.3"	
Fan Inlet SP	-	
Fan Discharge SP	-	

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Notes:

VAV - Single Duct

3HVAC EQUIPMENT/

Asset									
Asset Name	**Type**	**Size**	**Design Max CFM**	**Max CFM**	**Design Min CFM**	**Min CFM**	**Design Heat CFM**	**Heat CFM**	**Ak (max)**
VAV1	VAV	12"	975	975	0	0	535	540	2250
VAV2	VAV	7"	300	262	175	170	175	178	670