

Report By:

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



Report: Report
Function: Test, Adjust, & Balance
Date: 08/25/2023

PROJECT
Festhaus - Make Up Air

3600 Kings Island Dr

Mason, OH 45040

Client

F.G. Schaefer Co.
2145 Florence Ave

Cincinnati, OH 45206

National TAB

Project: Festhaus - Make Up Air

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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 (Roof Top Units) w/ Diffusers

Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

Kitchen Exhaust Hood & Associated Fans

Each kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow. . Any EF's that fell outside of this tolerance is noted throughout the report.

MUA (Make Up Air Unit) w/ PSP

Total flow for the MAU (Make-up Air Unit) unit was measured by readings taken at the discharge of the hood's perforated supply plenum. Readings taken with a velocity matrix were averaged and multiplied by a manufacturer's corrected area. Adjustments to the fan speed were made in order to bring the unit to within design tolerance. Any MUA's that fell outside of this tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles

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.

The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

- Captive Aire balance the hood system via factory direct & their testing is included in back of report

CheckList List

- CHECKLIST -MAU



Festhaus - Make Up Air

CheckList Information

Name : CHECKLIST -MAU **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 08/25/2023 - Austin McFall - National TAB
Completed Date : 08/25/2023 - Austin McFall - National TAB

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

MUA

Rotation is correct? Yes

Comment:

Gas piping is installed and valves are in on position? Yes

Comment:

Heater tested and is functional? Yes

Comment:

Internal motorized damper is fully opening? Yes

Comment:

Motor is operating below the FLA rating? Yes

Comment:

Unit free of noticeable noise and vibration? Yes

Comment:

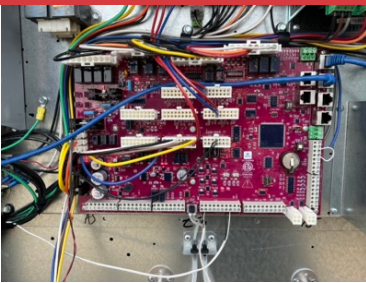
FESTHAUS MAKE UP AIR

Friday, August 25, 2023

9 Issues Identified



STATIC PRESSURE



CONTROL BOARD

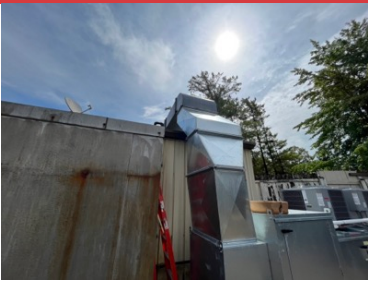
Jumper installed: 24V to Unit interlock



BUILDING PRESSURE



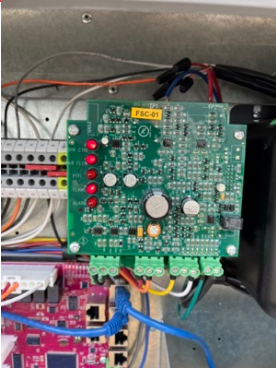
DUCTWORK



DUCTWORK



MAKE UP AIR FAN



HEATER FLAME TEST



TRAVERSE TAKEN



TRAVERSE TAKEN

National TAB

Project: Festhaus - Make Up Air

System/Unit: FAN - Supply



Asset: Make Up Air 1

AREA:

Unit Data		
	Design	Actual
MFG	CaptiveAire	CaptiveAire
Model Num	A3-D.500-24D-MPU	A3-D.500-24D-MPU
Serial Num	-	6012736
Type	MAKE UP AIR	MAKE UP AIR
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	-	4950
SF RPM	-	DD
Motor RPM	-	1750
SF System SetPt	-	52 HZ
RL Voltage	-	206/207/206
RL Amperage	-	17.6/17.2/17.9

Motor Data		
	Design	Actual
Motor MFG	-	ODP
Frame	-	NA
Horsepower	-	7.5
Motor Rpm	-	1750
Phase	-	3
Voltage (rated)	-	208
Amperage (rated)	-	21.1
Service Factor	-	1.15

General		
	Design	Actual
Fan Rotation Correct	-	CORRECT

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	YES
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	-	55
Discharge Air Temp SetPt	-	65
Air Flow Switch SP Actual	-	0.366"

Completed By: Austin McFall on 08/25/2023

Notes:
HEATER PASSED, COOLING CONDENSERS BOTH ENERGIZED WITH CALL FOR COOLING. JUMPER WAS LANDED ON 24V & UNIT INTERLOCK. UNIT WAS TRAVESED TO BALANCE AIRFLOW. BUILDING PRESSURE SLIGHTLY POSITIVE 0.006"

Written By: Austin McFall on 08/25/2023