Report By:

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

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 02/29/2024

PROJECT

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

1484 NORTH MILWAUKEE AVE

CHICAGO, IL 60622

Client

CAVA

702 H ST NW

2nd floor

Washington, DC 20001

National TAB

Project: 02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Table Of Contents

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.

Issue List

- EF1 hingekit not installed
- EF2 extra diffuser
- EF2 no backdraft damper
- HD1 alarm faults
- HD1 space above hood needs to be sealed
- RTU1 missing humidity sensor in space
- RTU1 space humidity alarm
- RTU1/RTU2 final filters needed

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Project Issue Information

Issue Name : EF1 hingekit not installed

Description : Hingekit is not installed on EF1 to lift fan up to clean in the future.

Created By : National TAB

Assigned To : National TAB - Jacob Davidson

Status : Open

Priority :

Asset Tag :

Originated Date : 02/28/2024 - Jacob Davidson - National TAB

Project Issue File Details

EF1
02/28/2024

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Project Issue Information

Issue Name : EF2 extra diffuser

Description : An extra diffuser was found above ceiling for the mop sink that was not on any plans. Tech will read out the exhaust as is.

Created By : National TAB

Assigned To : National TAB - Jacob Davidson

Status : Open

Priority :

Asset Tag :

Originated Date : 02/29/2024 - Jacob Davidson - National TAB

Project Issue File Details

Extradiffuser
02/29/2024

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Project Issue Information

Issue Name : EF2 no backdraft damper
Description : EF2 has no backdraft damper installed.

Created By : National TAB
Assigned To : National TAB - Jacob Davidson

Status : Open
Priority :
Asset Tag :
Originated Date : 02/28/2024 - Jacob Davidson - National TAB

Project Issue File Details

Duct
02/28/2024

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Project Issue Information

Issue Name : HD1 alarm faults

Description : HD1 has alarm faults “Core #01 Fault” and “Pressure Switch Fault”. These flash whether the fans are on or off. They do not seem to be interfering with TAB.

Created By : National TAB

Assigned To : National TAB - Jacob Davidson

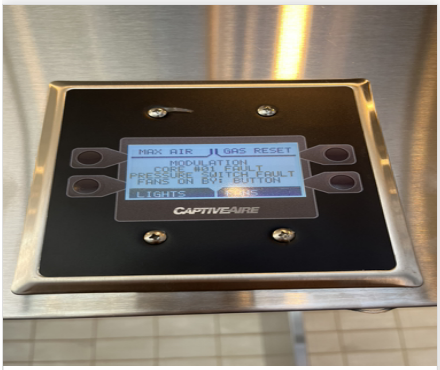
Status : Open

Priority :

Asset Tag :

Originated Date : 02/26/2024 - Jacob Davidson - National TAB

Project Issue File Details



Fault
02/26/2024

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Project Issue Information

Issue Name : HD1 space above hood needs to be sealed

Description : Space above the hood isn't sealed and is open to the attic space. This will interfere with getting accurate building pressure

Created By : National TAB

Assigned To : National TAB - Jacob Davidson

Status : Open

Priority : Low

Asset Tag :

Originated Date : 02/26/2024 - Jacob Davidson - National TAB

Project Issue File Details

Spaceabovehood
02/26/2024

Project Issue Response Details

- **02/27/2024 National TAB - Jacob Davidson**
  - Spoke to GC and parts for the rest of the hood are on order. If needed, plastic can cover the space temporarily for testing.

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Project Issue Information

Issue Name : RTU1 missing humidity sensor in space

Description : RTU1 is scheduled for humidity control but there is no humidity sensor in the space where the plans call for it.

Created By :	National TAB	**Assigned To :**	National TAB - Jacob Davidson
Status :	Open		
Priority :	Medium	**Asset Tag :**	
Originated Date :	02/29/2024 - Jacob Davidson - National TAB		

Project Issue File Details

Plans
02/29/2024

Space
02/29/2024

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Project Issue Information

Issue Name : RTU1 space humidity alarm

Description : RTU1 has a space humidity input alarm on its controller that needs to be investigated.

Created By : National TAB

Assigned To : National TAB - Jacob Davidson

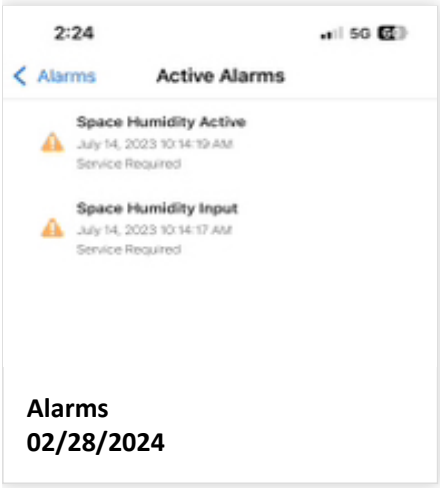
Status : Open

Priority :

Asset Tag :

Originated Date : 02/28/2024 - Jacob Davidson - National TAB

Project Issue File Details



Alarms
02/28/2024

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

Project Issue Information

Issue Name : RTU1/RTU2 final filters needed

Description : RTU1 and RTU2 need their final MERV pleated filters. Both units take 3 16X24X2 filters and 2 18X24X2 filters.

Created By : National TAB

Assigned To : National TAB - Jacob Davidson

Status : Open

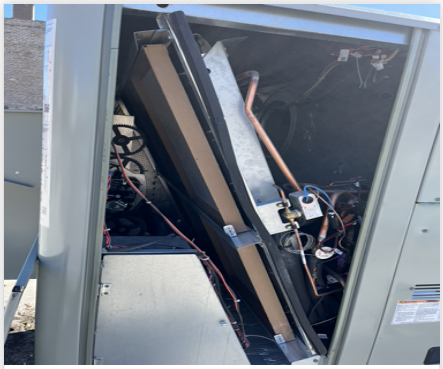
Priority :

Asset Tag :

Originated Date : 02/28/2024 - Jacob Davidson - National TAB

Project Issue File Details

RTU2(1)
02/28/2024



RTU1
02/28/2024

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	DINING	5000	5089	4200	4214	800	875	16.0%	17.2%						
RTU-2	KITCHEN	3800	3731	3380	3282	420	449	11.1%	12.0%						
MUA-1	COOKLINE									1976	2056				
EF-1	HOOD 1											2381	2402		
EF-2	RESTROOMS													500	648
TOTALS		8800	8820	7580	7496	1220	1324			1976	2056	2381	2402	500	648

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	3196	3380
TOTAL EXHAUST	2881	3050
NET AIRFLOW	315	330

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	-0.22
SIDE	-0.2
REAR	-0.19
AVERAGE	**-0.2033**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✗

PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✗

NOTES:

Base line building pressure with no fans running is -0.18". Tech is unable to overcome baseline building negative pressure.

CheckList List

- FIV - EF'S
- FIV - HVAC DUCTWORK
- FIV - RTU'S
- FIV – HOODS
- FIV – MUA
- FPT - BUILDING PRESSURE AND HOOD CONTAINMENT
- FPT - KEF'S
- FPT - RTU's
- FPT – MUA
- SITE PICTURES

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name : FIV - EF'S **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 02/20/2024 - Brianna Biggs - National TAB

CheckList Item Details

Unit Tag matches the design and submittal MFG and Model	Fail
Comment: EF2 IS NOT A COOK FAN	
Each exhaust fan is proper tagged for proper identification with tags sized and placed on the fan for visual ease	Fail
Comment:	
Fans are installed in the correct location and orientation	Pass
Comment:	
All packing, material and debris has been removed from the blower/wheel housing and the motor compartment	Pass
Comment:	
Fan wheels turn easily by hand (turn power off prior to testing)	Pass
Comment:	
Fans grease duct curb top plate is properly transitioned to the fan inlet and flush on top of the curb, sealed to the fan base to prevent leakage	Pass
Comment:	

Exhaust fans have external disconnects and are connected to allow full hinging of each exhaust fan	Pass

Comment:

Fan is properly hinged and supported when hinged fully back for grease duct access (for Halton fans, ensure the base mounted disconnect is not hitting the fan base/curb when fully hinged back)	Fail

Comment:

Nohingekit
02/28/2024

Grease cups are properly installed and connected to the fan base grease drain to prevent spilling outside of the grease cup	Pass

Comment:

Exhaust fans are located 5ft from parapet wall and 10ft from any fresh air intake.	Pass

Comment:

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name :	FIV - HVAC DUCTWORK	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/20/2024 - Brianna Biggs - National TAB		

CheckList Item Details

KVS - GREASE DUCT (HOOD SYSTEM)

Grease duct is sized and routed per plan	Fail
Comment: Duct not routed per plan, however airflow is at design.	
Grease duct is properly supported	Pass
Comment:	
Grease duct has code required negative pitch from fan inlet back to the hood riser connection	N/A
Comment:	
Grease duct has required clean-out doors installed, labeled, and accessible for removal/cleaning. Doors are located as required by code	N/A
Comment:	
Grease duct clean-out doors are secured using tool less fasteners and seal fully when hand tightened	N/A
Comment:	
Grease duct is centered in the curb and transitions as required to ensure the fan inlet is fully covered by the grease duct opening. Duct top plate flanges to the edges of the curb and is secured and flat so that the fan sits flush and square.	Pass

Comment:

Grease duct is wrapped if welded duct, or is double wall round duct?	Pass

Comment:

KVS - MUA DUCT (HOOD SYSTEM)

MUA duct is routed and sized as per plan	Pass

Comment:

MUA duct is properly supported	Pass

Comment:

MUA duct seams are sealed air tight using proper sealant and application for SMACNA pressure rating of duct systems	Yes

Comment:

MUA duct is externally insulated and taped to prevent vapor barrier from being breached	Pass

Comment:

MUA duct drop box and transitions are done to encourage laminar flow and avoid restrictions	Pass

Comment:

Branch take-off's have accessible dampers exposed for the TAB team to adjust each line as necessary	Pass

Comment:

Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length	Pass

Comment:

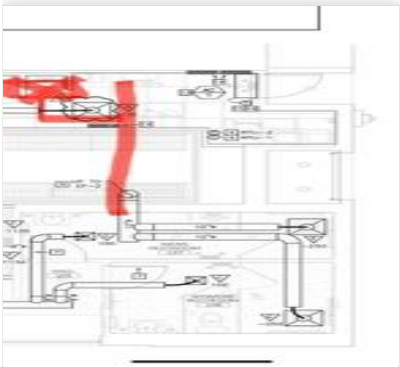
Connection to the hood MUA plenum is secured and foil taped to prevent air leakage	Pass

Comment:

RESTROOM DUCT

Restroom duct is routed and sized per plan	Fail

Comment:



Routing
02/29/2024

Restroom duct is properly supported	Pass

Comment:

Duct seams are sealed	Yes

Comment:

Dampers are accessible to TAB team for balancing	Pass

Comment:

Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length	Pass

Comment:

Duct is secured to exhaust register	Pass

Comment:

Gravity damper is installed, opens and closes freely, and is sealed to prevent air leakage	Fail

Comment:

Nodamper(1)
02/29/2024

Duct to curb transition is centered and sized to ensure it covers the entire fan inlet. Curb top plate is flush and secured to the ends of the curb.	Pass
Comment:	

HVAC DUCT

Kitchen and Dining room duct is routed and sized as per plan	Pass
Comment:	
Ducts are properly supported	Pass
Comment:	
Ductwork is externally insulated	Yes
Comment:	
Duct seams are sealed air tight using proper sealant and application for SMACNA pressure rating of duct systems	Pass
Comment:	
Ducts are securely insulated as per specificatins and foil taped to prevent air barrier from being breached	Pass
Comment:	
Takeoffs are installed to serve required terminal diffusers and are equipped with accessible dampers for TAB team access and can be opened or closed fully with no impingements	Pass

Comment:	
Flex duct (if used) is supported and straight with no more than one (1) hard 90 degree elbow and less than 5ft in total length	Pass
Comment:	
Takeoff to diffuser is installed securely to prevent slippage and air leakage	Pass
Comment:	
All diffuser neck or opening sizes are installed as planned	Pass
Comment:	
Supply and Return duct transitions to top of RTU curb, sized to full width and length of opening and is flashed fully to the sides of the curb.	Pass
Comment:	

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name :	FIV - RTU'S	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/20/2024 - Brianna Biggs - National TAB		

CheckList Item Details

RTU IDENTIFICATION, ORIENTATION & LOCATION

Each RTU is tagged for proper identification with tags sized and placed on the fan for visual ease	Pass
Comment:	
Identify and ensure the RTU label information and size is correct	Pass
Comment:	
Ensure proper location of unit	Pass
Comment:	
Ensure orientation of curb & RTU is per plan	Pass
Comment:	
Ensure Packing in the blower compartment has been removed	Pass
Comment:	

RTU - INSTALLATION DETAILS

With disconnect switch "off" spin the indoor and outdoor fan wheel's by hand and ensure they spin freely	Pass

Comment:	
Ensure Roof Curb is fully flashed by roofing material and secured and curb is level	Pass
Comment:	
Inspect the interior of the supply heat exchange compartment and return air compartment - validate that the duct is flashed and sealed to the top of the curb to prevent leakage or short cycling	Pass
Comment:	
Hail guards installed on outdoor condenser coils	Pass
Comment:	
RTU - ACCESSORIES	
Power connected & disconnect installed	Pass
Comment:	
Gas line connected per specification (size, painting, supports, shut-off valves, traps)	Pass
Comment:	
OA hood & filters installed	Pass
Comment:	
Economizer wired to control board	Pass
Comment:	
Evaporator coil filters are properly installed with specified MERV rating	Fail
Comment:	

Filters
02/28/2024

Economizer damper is installed properly	Pass
Comment:	
Economizer OA temperature / enthalpy sensors installed and wired	Pass
Comment:	
Thermostat and humidity (if applicable) control wires wired to RTU terminals	Fail
Comment:	
Condensate drain installed per specification	N/A
Comment:	
Condensate line drains away from unit to a approved roof drain	Fail
Comment:	

Ptrap
02/28/2024

Belts are tight?	N/A
Comment:	

Pulleys aligned?	N/A
Comment:	

MERV rated filters are installed and are clean?	Fail
Comment:	
NEED FINAL FILTERS INSTALLED	

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name :	FIV – HOODS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/20/2024 - Brianna Biggs - National TAB		

CheckList Item Details

HOOD INSTALLATION DETAILS

Kitchen hoods tags match design and submitted information	N/A
Comment: NOTHING SUBMITTED TO MATCH	
Kitchen hoods are hung Level using 1/2" threaded rod	Pass
Comment:	
Kitchen hoods are supported using beam clamps and/or Unistrut per required structural and local AHJ requirements	Pass
Comment:	
Kitchen hoods are hung level front to back and side to side	Pass
Comment:	
Kitchen hoods are hung at 80" AFF	Pass
Comment:	
Kitchen Hoods are flush against the wall along the bottom and each of it's side walls.	Pass
Comment:	

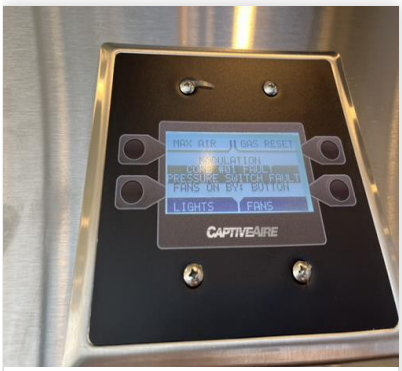
Caulk is applied (less than 1/8" thick) from the hood against all wall surfaces or between connecting side to side hoods to prevent grease accumulation inside any crevice.	Pass
Comment:	
There are no penetrations into the hood canopy other than fire system nozzles	Pass
Comment:	
The hood is in "As New" condition with no visible damage, rust, pitting, or other blemishes	Pass
Comment:	
All protective film has been peeled away from the wall or other areas of impingement to assure it can be easily and fully removed prior to cleaning.	Pass
Comment:	
HOOD ACCESSORIES	
End panels are installed	Pass
Comment:	
Hood filters are installed	Pass
Comment:	
Grease cups are installed	Pass
Comment:	
Ceiling Wrappers are installed and the ceiling grid is fixed to the top of the ceiling wrappers	Fail
Comment:	
Parts of ceiling wrapper were either damaged or stolen. They are on order to replace.	

Hoodwrap
02/29/2024

Hood control panel has been identified and is located as per plan, is accessible, and contains all components and temperature sensors to meet local interlock (normal and abnormal conditions) and heat auto on/off functionality.	Fail

Comment:

HMI has CORE#01 FAULT and PRESSURE SWITCH FAULT



Faults
02/29/2024

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name : FIV – MUA **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 02/20/2024 - Brianna Biggs - National TAB

CheckList Item Details

MUA Tag information matches design and submittal criteria	Pass
Comment:	
MUA Fan has a permanent tag for identification located on the unit located and sized for visual ease	Pass
Comment:	
MUA is installed in the proper location and orientation	Pass
Comment:	
MUA intake is a minimum 10ft from any exhaust, roof vent or dirty air source	Pass
Comment:	
Blower compartment and internal heater area is free of packing material, debris, and dirt	Pass
Comment:	
Blower wheel turns freely by hand (turn power off prior to testing)	Pass
Comment:	
All MUA compartment and control doors are fully accessible, minimum 36" clearance for service allowing the doors to fully open without restriction	Pass

Comment:

MUA Electrical disconnect is external to the unit and properly wired	Pass

Comment:

Outdoor air awning is installed and fitted with proper OA mesh filters	Pass

Comment:

Condensate drain is installed (for cooling MUA's) with proper traps, clean-outs, and drain away from the unit to an acceptable roof drain	Pass

Comment:

Refrigeration line sets are installed and connected properly with adequate supports per specifications	Pass

Comment:

Condenser is installed away from any grease producing exhaust fans and located as per roof plan	Pass

Comment:

Condenser's electrical disconnect is external to the unit and properly wired (if applicable)	Pass

Comment:

Condenser hail guards are installed (if applicable)	Pass

Comment:

All Condenser compartment and control doors are fully accessible, minimum 36" clearance for service allowing the doors to fully open without restriction (if applicable)	Pass

Comment:

Gas line is installed per specification and properly supported	Pass

Comment:

Gas line is installed per specification and properly supported and contains maintenance shut-off valve, trap, and regulator (if line pressure requires it). MUA is equipped with inlet gas pressure gauge to validate incoming gas pressure is suitable	Pass

Comment:

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name :	FPT - BUILDING PRESSURE AND HOOD CONTAINMENT	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/20/2024 - Brianna Biggs - National TAB		

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

NONE

List smoke candle type used

Comment:

45 SECOND S102 SMOKE EMITTER

Smoke test capture - Perimeter of hood (%)

Comment:

100%

Smoke test capture - Top of cooking surface (%)

Comment:

100%

WITNESS

Date test was completed	02/29/2024

Comment:

TAB tech name / Firm

Comment:

JACOB DAVIDSON

Site super name / Firm

Comment:

PAT GABEL / VEQUITY CONSTRUCTION

Owner representative name / Firm (if Applicable)

Comment:

N/A

BUILDING PRESSURE

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)

Comment:

No, building is pulling in air due to many fans being used at the restaurant next door. The base building pressure with no units on is -0.07"

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name : FPT - KEF'S **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 02/20/2024 - Brianna Biggs - National TAB

CheckList Item Details

Exhaust fans wheel rotation is correct	Pass
Comment:	
TAB firm has balanced the exhaust fans to proper design levels	Pass
Comment:	
All motor and electrical readings are below the full load rating of each fan	N/A
Comment: UNABLE TO GET READINGS ON EF1	
Exhaust Fans do not have any unusual noise or vibration while operating	Pass
Comment:	
Smoke and Grease from exhaust fans appear to properly elevate above the parapet wall and off the roof.	Pass
Comment:	
Hoods have been started up by the manufacturers rep?	Pass
Comment:	
Hoods free of alarms?	Fail

Comment:

CORE#01 FAULT AND PRESSURE SWITCH FAULT

Exhaust fans modulate to high speed when kitchen equipment is on and at cooking temperatures? If not, adjust modulation/offset down.	Pass

Comment:

SET TO NO MODULATION

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name : FPT - RTU's **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 02/20/2024 - Brianna Biggs - National TAB

CheckList Item Details

THERMOSTAT PROGRAMMING AND CALIBRATION

Time is correct on the thermostats	Pass
Comment:	
Occupied Time = 7:30 AM	Pass
Comment:	
Occupied Heat setpoint = 68	Pass
Comment:	
Occupied Cooling setpoint = 72	Pass
Comment:	
Dehumidification Setpoint = 55%	Pass
Comment:	
Occupied Fan = On	Pass
Comment:	
Unoccupied Time = 12:00AM	Pass

Comment:	
Unoccupied Heat setpoint = 60	Pass
Comment:	
Occupied Cooling setpoint = 80	Pass
Comment:	
Unoccupied Fan = Auto	Pass
Comment:	
Actual measured temperature is within +/-1 degree of temperature displayed on thermostat. If not calibrate the sensor	Pass
Comment:	
Actual measured RH is within +/-3 % of displayed RH at RTU or thermostat. If not calibrate the sensor	Pass
Comment:	
CONTROL WIRING VALIDATION	
Economizer Dry Bulb sensor wired	Pass
Comment:	
Economizer Dry Bulb sensor operational	Pass
Comment:	
OCP/OCC terminal wired correctly	Pass
Comment:	
Thermostat Wired correctly (R,C,Y1,Y2,W1,W2)	Pass
Comment:	
Humidity Sensor Wired correctly	Fail

Comment:

NO HUMIDITY SENSOR

CALIBRATION & PROGRAMMING

RTU OA DB StPt, Reading Accuracy (+/- 2 degrees / 10 minute time to calibrate to actual reading)

Comment:

RTU MAT StPt, Reading Accuracy (+/- 2 degrees / 10 minute time to calibrate to actual reading)

Comment:

RTU MAT Low StPt

Comment:

RTU Low T Lockout

Comment:

Economizer set to 28 BTU/lb enthalpy setpoint.

Comment:

Temperature tests

Outside air temperature / humidity

Comment:

TEMP: 45.9 degrees F RH: 15.8%

Full cooling LAT/H

Comment:

RTU1 TEMP: 52.7 degrees F RH: 18.0% RTU2 TEMP: 52.6 degrees F RH: 14.9%

Full heating LAT/H

Comment:

RTU1 TEMP: 94.4 degrees F RH: 16.1% RTU2 TEMP: 100.3 degrees F RH: 12.5%

OUTDOOR AIR / RELIEF DAMPER

If power exhaust installed, set point is higher than the OA damper setpoint	Pass

Comment:	
If power exhaust installed, open the OA damper above the power exhaust setpoint and ensure that the power exhaust turns on	Pass
Comment:	
If relief damper is installed, ensure that it is installed properly and can open freely.	Pass
Comment:	
OCCUPANCY VALIDATION	
Place the thermostat in "unoccupied" - Does the OA damper close fully	Pass
Comment:	
Stage cooling and Heating in "unoccupied" - Does the unit properly stage and does the OA damper remain closed	Pass
Comment:	
Place the thermostat in "Occupied" - Does the OA damper open to the TAB preset minimum position in High speed	Pass
Comment:	
Place the thermostat in "Occupied" - Does the OA damper open to the TAB preset minimum position in Low speed (if applicable)	Pass
Comment:	

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name : FPT – MUA **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 02/20/2024 - Brianna Biggs - National TAB

CheckList Item Details

TAB firm has balanced the MUA to within proper design limits	Pass
Comment:	
Blower wheel rotation is correct	Pass
Comment:	
MUA does not have any unusual noise or vibration while operating	Pass
Comment:	
Motor and electrical measurements are below the full load rating	Pass
Comment:	
Startup has been completed by the manufacturers rep?	Pass
Comment:	
Heater tested and is functional?	Pass
Comment:	
Cooling is tested and is functional?	Yes
Comment:	

02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

CheckList Information

Name :	SITE PICTURES	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/20/2024 - Brianna Biggs - National TAB		

CheckList Item Details

STORE FRONT

Comment:

Front(1)
02/28/2024

RTU-1

Comment:

RTU1
02/29/2024

RTU-2

Comment:

RTU2(1)
02/29/2024

EF-1

Comment:

KEF1(1)
02/29/2024

EF-2

Comment:

EF2(1)
02/29/2024

MUA-1

Comment:

MAU
02/29/2024

HOOD-1

Comment:

Hood1
02/28/2024

National TAB

Project: 02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

System/Unit: AHU/RTU

Asset: RTU1 AREA:

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	234813469L
Model Num	YHJ150	YHJ150A3S0H03K000A1B1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1 METAL MESH
OA Filter Size 1	-	23.5X37.5
Num Final Filter 1	-	3
Final Filter Size 1	-	16X24X2
Num Final Filter 2	-	2
Final Filter Size 2	-	18X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	3.1	5
Motor Rpm	-	NA
Phase	3	3
Rated Voltage	208	208-230
Rated Amperage	-	11.0

Test Data		
	Design	**Actual**
SF CFM	5000	5089
SF RPM	-	1088
RA CFM	4200	4214
OA CFM	800	875
RL Voltage	-	209/213/213
RL Amperage	-	6.7/6.9/7.1
SF Rotation	-	CW
RA Damper Position	-	79%
Min OA Damper Position	-	21%
Min OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.94"
Fan Suction SP	-	-1.27"
Fan Discharge SP	-	0.81"
Total ESP	1.0"	1.75"
Fan Total SP	-	2.08"

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	NO, NEED FINAL FILTERS
Condensate Drain Installed	-	YES

Completed By: Jacob Davidson on 02/28/2024

Notes:
SPEED SETPOINT: 85%

Written By: Jacob Davidson on 02/28/2024

National TAB

Project:02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

AHU/RTU

Diffuser Supply (GRD)

RTU1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	DINING	D	18X10	525	0.841	547	555	540	102.9
SGRD2	DINING	D	18X10	525	0.841	588	542	553	105.3
SGRD3	DINING	D	18X10	525	0.841	590	501	522	99.4
SGRD4	DINING	D	18X10	525	0.841	601	509	531	101.1
SGRD5	DINING	D	18X10	525	0.841	531	552	542	103.2
SGRD6	DINING	D	18X10	525	0.841	491	539	537	102.3
SGRD7	DINING	D	18X10	525	0.841	569	609	551	105.0
SGRD8	DINING	D	18X10	525	0.841	564	601	506	96.4
SGRD9	QUEUE	C	8"	150	1	88	142	149	99.3
SGRD10	QUEUE	C	8"	150	1	94	139	145	96.7
SGRD11	QUEUE	C	8"	150	1	93	145	152	101.3
SGRD12	HALL	C	8"	150	1	91	148	158	105.3
SGRD13	WOMENS RR	C	8"	100	1	86	90	101	101.0
SGRD14	MENS RR	C	8"	100	1	86	93	102	102.0
Total				5000		5019	5165	5089	101.78%

Completed By: Jacob Davidson on 02/27/2024

National TAB

Project: 02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

System/Unit: AHU/RTU

Asset: RTU2 AREA:

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	234711710L
Model Num	YHJ120	YHJ120A3S0L04K0000A1B1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1 METAL MESH
OA Filter Size 1	-	23.5X37.5
Num Final Filter 1	-	3
Final Filter Size 1	-	16X24X2
Num Final Filter 2	-	2
Final Filter Size 2	-	18X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	3.1	3
Motor Rpm	-	NA
Phase	3	3
Rated Voltage	208	208-230
Rated Amperage	-	8.8

Test Data		
	Design	**Actual**
SF CFM	3800	3731
SF RPM	-	891
RA CFM	3380	3282
OA CFM	420	449
RL Voltage	-	209/213/213
RL Amperage	-	4.7/8.3/8.7
SF Rotation	-	CW
RA Damper Position	-	80%
Min OA Damper Position	-	20%
Min OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.75"
Fan Suction SP	-	-1.10"
Fan Discharge SP	-	0.65"
Total ESP	1.0"	1.85"
Fan Total SP	-	1.75"

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	NO, NEED NEW FILTERS
Condensate Drain Installed	-	YES

Completed By: Jacob Davidson on 02/29/2024

Notes:
Speed Setpoint: 73%

Written By: Jacob Davidson on 02/29/2024

National TAB

Project:02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

AHU/RTU

Diffuser Supply (GRD)

RTU2/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	FRONT KITCHEN	B	10X10	350	1	278	305	316	90.3
SGRD2	FRONT KITCHEN	B	10X10	350	1	293	316	325	92.9
SGRD3	FRONT KITCHEN	B	10X10	350	1	306	325	339	96.9
SGRD4	FRONT KITCHEN	B	10X10	350	1	378	344	345	98.6
SGRD5	FRONT KITCHEN	B	10X10	350	1	370	329	332	94.9
SGRD6	FRONT KITCHEN	B	10X10	350	1	380	339	342	97.7
SGRD7	HOOD 1	ACPSP	139X6	600	4.52	705	745	645	107.5
SGRD8	FRONT KITCHEN	B	10X10	350	1	307	330	329	94.0
SGRD9	FRONT KITCHEN	B	10X10	350	1	343	389	357	102.0
SGRD10	BACK KITCHEN	A	8"	130	1	218	119	128	98.5
SGRD11	BACK KITCHEN	A	8"	135	1	154	132	134	99.3
SGRD12	BACK KITCHEN	A	8"	135	1	121	135	139	103.0
Total				3800		3853	3808	3731	98.18%

Completed By: Jacob Davidson on 02/27/2024

National TAB

Project: 02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

System/Unit: FAN - Exhaust

Asset: EF1 AREA:

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU85HFA	DU85HFA
Serial Num	-	6283173
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	1	1
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	11.6
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	2381	2402
Fan RPM	1574	DD ECM
Fan Rotation	-	CCW
Motor RPM	-	DD ECM
System SetPt	-	100% ECM
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	1.0"	1.07"
Fan Inlet SP	-	-1.07"
Fan Discharge SP	-	ATM

Completed By: Jacob Davidson on 02/28/2024

National TAB

Project: 02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

System/Unit: FAN - Exhaust

Asset: EF2 AREA:

Unit Data		
	Design	**Actual**
MFG	COOK	PENNBARRY
Model Num	90C17DH	DX11QGP
Serial Num	-	C23AY12661
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	1/8	1/8
Motor Rpm	-	350-1725
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	5.2
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	500	648
Fan RPM	1584	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	MARKED ON DIAL
RL Voltage	-	122V
RL Amperage	-	1.97A
Total ESP	0.35"	0.29"
Fan Inlet SP	-	-0.29
Fan Discharge SP	-	ATM

Completed By: Jacob Davidson on 02/28/2024

Notes:
An extra diffuser was added to the mop sink required by the city of Chicago. Tech read the diffuser as is since it was not on the plans. Restrooms are still balanced to 250 CFM each.

Written By: Jacob Davidson on 02/29/2024

National TAB

Project:02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF2/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EF2-EGRD1	WOMENS RR	E	10"	250	1	276	249	249	99.6
EF2-EGRD2	MENS RR	E	10"	250	1	288	257	257	102.8
EF2-EGRD3	MOP SINK	C	6"		1	142	142	142	-
Total				500		706	648	648	129.6%

National TAB

Project: 02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

System/Unit: FAN - Supply

Asset: MUA1 AREA:

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	A1-D.250-15D-MPU	A1-D.250-15D-MPU
Serial Num	-	6283173
Type	MUA	MAU
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO WESTINGHOUSE
Frame	-	145T
Horsepower	2	2
Motor Rpm	-	1740
Phase	3	3
Voltage (rated)	208	230/460
Amperage (rated)	-	5.48/2.74
Service Factor	-	1.15

Gas Heat		
	Design	**Actual**
Heater Operates (y/n)	-	YES
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	55	55
Discharge Air Temp SetPt	60	60
Air Flow Switch SP Actual	-	0.36"

Test Data		
	Design	**Actual**
CFM	1976	2056
SF RPM	2167	1795
Motor RPM	-	1795
SF System SetPt	-	61.9HZ
RL Voltage	-	139V VFD
RL Amperage	-	4.1A VFD
Total ESP	-	NA
Fan Discharge SP	-	NA

General		
	Design	**Actual**
Fan Rotation Correct	-	YES

Completed By: Jacob Davidson on 02/29/2024

National TAB

Project: 02-26-24 CAVA - CHICAGO, IL (WICKER PARK)

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	6030 ND-2
Job / Serial Num	-	6283173
Type	-	TYPE I CANOPY
Hood length	-	127"
Hood Width	-	60"
Supply Plenum Type	-	ACPSP
Supply Plenum Width	-	14"
Supply Plenum Length	-	139"

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	CAPTRATE SOLO
Filter Size 1	-	20X16
Filter Qty 1	-	7
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	14.56
Filter1 FPM	-	164
Filter2 FPM	-	166
Filter3 FPM	-	182
Filter4 FPM	-	179
Filter5 FPM	-	168
Filter6 FPM	-	154
Filter7 FPM	-	145
Filter Ave FPM(corr)	-	165
CFM	2381	2402

Cooking Equipment		
	Design	**Actual**
Item 1	-	OVEN
Item 2	-	STOVETOP
Item 3	-	GRILL
Item 4	-	FRYER

Test Data Supply		
	Design	**Actual**
Total AK Area	-	13.51
Kv factor (Vel)	-	0.89
Num of Readings	-	10
Reading1 FPM	-	175
Reading2 FPM	-	142
Reading3 FPM	-	167
Reading4 FPM	-	179
Reading5 FPM	-	170
Reading6 FPM	-	165
Reading7 FPM	-	177
Reading8 FPM	-	176
Reading9 FPM	-	160
Reading10 FPM	-	205
Ave FPM(corr)	-	171
CFM	1976	2056

Completed By: Jacob Davidson on 02/26/2024