Report By:
United Test & Balance, Inc.
7013 Flagler Rd,
Nordland, WA 98358

NATIONAL TAB
INTELLIGENCE

For:
National TAB
1126 Swift Street
North Kansas City, MO 64116

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 12/14/2023

PROJECT

11-06-23 SHACK SHACK #1443 - NORTH LAS VEGAS, NV (CRAIG RD) TAB, IAQ

1830 W CRAID RD

NORTH LAS VEGAS, NV 89031

Client

(SMC) Shrader & Martinez Construction USA LLC

160 DRY CREEK RD

SEDONA, AZ 86336

National TAB

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

- FC-1 outside air
- RTU-2 outside air manually set

11-06-23 SHACK SHACK #1443 - NORTH LAS VEGAS, NV (CRAIG RD) TAB, IAQ

Project Issue Information

Issue Name :	FC-1 outside air
Description :	Outside air is operating at 0 CFM for a design of 15 CFM as traversed. Mechanical contractor confirmed installation is correct. No further action is possible. The duct is open and no damper installed.
Created By :	National TAB
Status :	Open
Priority :	InfoOnly

11-06-23 SHACK SHACK #1443 - NORTH LAS VEGAS, NV (CRAIG RD) TAB, IAQ

Project Issue Information

Issue Name :	RTU-2 outside air manually set
Description :	At the time of testing, the outside air controller was not functioning. OA was manually set and marked.
Created By :	National TAB
Status :	Open
Priority :	Low

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	4937	4170	4037	830	900	16.6%	18.2%						
RTU-2	KITCHEN	5000	4946	4530	4458	470	488	9.4%	9.9%						
FC-1	OFFICE					15	0	-	-						
MUA-1	COOKLINE									3045	2778				
EF-1	HD 1											1900	1845		
EF-2	HD 2											1910	1918		
EF-3	RESTROOMS													300	324
TOTALS		10000	9883	8700	8495	1315	1388			3045	2778	3810	3763	300	324

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	4360	4166
TOTAL EXHAUST	4110	4087
NET AIRFLOW	250	79

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.022
SIDE	
REAR	0.015
AVERAGE	**0.0185**

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. ✓

KITCHEN PRESSURIZATION (MUST BE NEGATIVE)

TOTALS	DESIGN	ACTUAL
TOTAL KITCHEN OA	3530	3266
TOTAL KITCHEN EXHAUST	3810	3763
NET AIRFLOW	-280	-497

CheckList List

- TECH - STEP 1: INITIAL WALKTHROUGH
- TECH - STEP 2: UNIT DATA AND EVAL
- TECH - STEP 3: TEST, ADJUST AND BALANCE
- TECH - STEP 4: FINAL TESTS

11-06-23 SHACK SHACK #1443 - NORTH LAS VEGAS, NV (CRAIG RD) TAB, IAQ

CheckList Information

Name :	TECH - STEP 1: INITIAL WALKTHROUGH	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/05/2023 - Brianna Biggs - National TAB		

CheckList Item Details

INITIAL SITE WALKTHROUGH

Review Plan Review Checklist, has it been signed off and meets our standards to start balancing? If not contact processor to ensure job is ready.

Comment:

Yes

All diffusers and grilles are installed and match design?

Comment:

Yes

All hood filters installed and accounted for?

Comment:

Yes

Hoods are wired and have power?

Comment:

Yes

Hood is free of alarms?

Comment:

Yes

Thermostats have power?

Comment:

Yes

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?

Comment:

Yes

Notes/Comments :

Trades have been notified

Date :12/14/2023

11-06-23 SHACK SHACK #1443 - NORTH LAS VEGAS, NV (CRAIG RD) TAB, IAQ

CheckList Information

Name :	TECH - STEP 2: UNIT DATA AND EVAL	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/05/2023 - Brianna Biggs - National TAB		

CheckList Item Details

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

RTU's/AHU's

Economizers are assembled and functional?

Comment:

See issues

DCV Max damper opening position is set to minimum?

Comment:

Complete

Free cooling enthalpy set point set for lowest setting (Typically "D")

Comment:

Honeywell controls

Motors are all operating below the FLA rating?

Comment:

Yes

Are belts tight?

Comment:

NA

If direct drive unit is the speed controller working.

Comment:

Yes

Is gas piping installed and valves turned on?

Comment:

Yes

Unit free of noticeable noise and vibration

Comment:

Yes

EF's

Rotation is correct?

Comment:

Yes

Belts are tight?

Comment:

Yes

Grease cup installed on hood fan?

Comment:

Yes

Hinge kit installed installed on hood fan?

Comment:

Yes

Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?

Comment:

Yes

Flex conduit is long enough so that fan can be completely tilted back?

Comment:

Yes

There is no major leakage around base of fan?

Comment:

No issues noted

Is the motor operating below the motor FLA rating?

Comment:

Yes

For restroom fan(s) is the back draft damper installed and can it fully open?

Comment:

Yes

Unit free of noticeable noise and vibration?

Comment:

Yes

MUA

Rotation is correct?

Comment:

Yes

Gas piping is installed and valves are in on position?

Comment:

Yes

Heater tested and is functional?

Comment:

Yes

Internal motorized damper is fully opening?

Comment:

Yes

Motor is operating below the FLA rating?

Comment:

Yes

Unit free of noticeable noise and vibration?

Comment:

Yes

HOODS

Kitchen equipment installed in proper places?

Comment:

Yes

Can kitchen equipment be turned on for final smoke test?

Comment:

Yes

DOCUMENTATION

Comment:

Yes

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?

Comment:

11-06-23 SHACK SHACK #1443 - NORTH LAS VEGAS, NV (CRAIG RD) TAB, IAQ

CheckList Information

Name :	TECH - STEP 3: TEST, ADJUST AND BALANCE	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/05/2023 - Brianna Biggs - National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?

Comment:

Yes

Is space comfortable in all areas?

Comment:

Yes

Is the space free of ventilation noise?

Comment:

Yes

If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".

Comment:

NA

11-06-23 SHACK SHACK #1443 - NORTH LAS VEGAS, NV (CRAIG RD) TAB, IAQ

CheckList Information

Name :	TECH - STEP 4: FINAL TESTS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/05/2023 - Brianna Biggs - National TAB		

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

All

List smoke candle type used

Comment:

Smoke Emitter

Smoke test capture - Perimeter of hood

Comment:

100%

Smoke test capture - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed

Comment:

11/06/2023

Building pressure at front & back doors (All Systems On)

Comment:

0.022(Front) and 0.015 (Back)

ADDITIONAL

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

Comment:

Yes

Is the kitchen negative to the dining (use balance schedule sheet for calculation)?

Comment:

Yes

Thermostats are programmed?

Comment:

Yes

SYSTEM/UNIT: RTU-01

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Design Total	5000
Design Grille Total	5000
Design Return	4170
Design Min O/A	830

Unit Design Data	
Submittal Make	Not Provided
Submittal Model #	Not Provided
Submittal Airflow	Not Provided
Sched./Sub. Volts	208
Sched./Sub. Phase	3
Sched./Sub. HP	2.2
Submittal BHP	Not Provided
Filter MERV Rating (Sched/Sub)	Not Listed

Design Static Pressures (in wg)	
Design Ext SP	.70
Submittal Total SP	Not Provided
Submittal Clg Coil Δ SP	Not Provided

Filter Data	
Condition	Clean
Filter Type	Media
MERV Rating	Not listed
Filter Size Set 1 (in)	20x20x2
# Filters Set 1	4
Filter Size Set 2 (in)	-
# Filters Set 2	-

Motor Nameplate Data	
Motor Make	Motor Tag Not Accessible
Motor Frame	-
Motor HP	-
Motor RPM	-
Motor Volts	230
Motor Phase	3

Final Airflow (CFM)	
Actual Total CFM	4937
Actual Grille Total CFM	4937
Actual Return Air CFM	4037
Actual Min O/A CFM	900
Fan CFM Test Method	Supply Outlet Total
OA Method/Instrument	Face Vel/ADM-Velgrid
OA Ak (sq ft)	3.232
OA Damper Position	22% Open (3.8/4.6)
RA Damper Position	78% Open

Unit Data	
Make (tag)	Carrier
Model # (tag)	48FCFM14
Serial # (tag)	0323P71564
Location	Roof
Unit Discharge	Horizontal
Cooling Coil Location	Unit / Drawthru
Coil Area (sq ft)	11.1
Clg Coil Vel (FPM)	444
Fan Service	Supply
Fan Type	Centrifugal (FC)
Fan Discharge	Horizontal
Fan Arrangement	SWSI

Fan Design Data	
Submittal Motor RPM	Not Provided
Submittal Fan RPM	Not Provided

Fan Data	
Actual Fan RPM/Speed	C 75
Actual Motor RPM	Not Accessible

Electrical Data	
Measurement Method	Not Accessible
Motor Volts 1	-
Motor Volts 2	-

SYSTEM/UNIT: RTU-01

Tested By: Jorge Acosta
Date: 11/6/2023

Motor Nameplate Data	
Motor Amps	12.6
Motor S.F.	-
Motor % PF	-
Motor % Eff.	-
Other Motor Data	Above data from unit tag

Drive Data	
Drive Type	Direct Drive
Sheave Type	-
Fan Sheave Make	-
Fan Shv Mod# or Size (in)	-
Fan Sheave Bore (in)	-
Motor Sheave Make	-
Mtr Shv Mod# or Size (in)	-
Motor Sheave Bore (in)	-
VP Range	-
Center Distance (in)	-
No of Belts	-
Belt Make	-
Belt Size	-
Other Data	-

Electrical Data	
Motor Volts 3	-
Motor Amps 1	-
Motor Amps 2	-
Motor Amps 3	-
Operating HZ	60.00
Approx. BHP	
Corr. Nameplate Amps	
Starter Data	Internal to ECM
VFD Reference	Not Applicable
Attach images of UV lighting	Yes

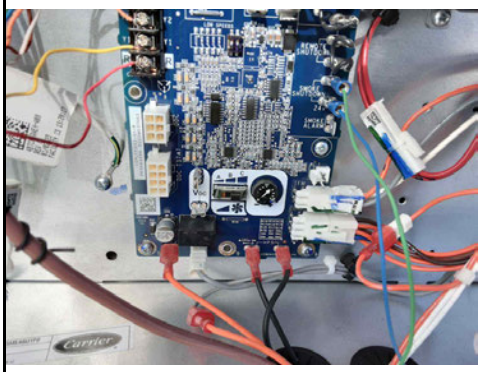
Make (tag) Photo:

Name: RTU-01 Tag.jpg
Captured: 12/3/2023 11:40 AM
Caption:

SYSTEM/UNIT: RTU-01

Tested By: Jorge Acosta
Date: 11/6/2023

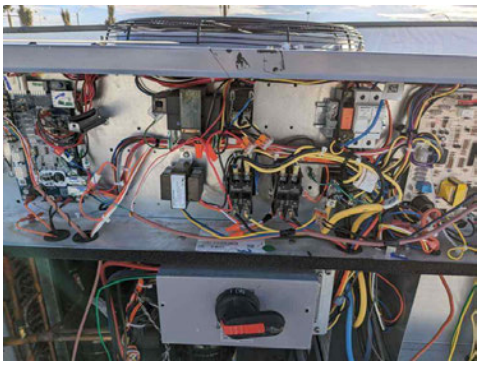
Actual Fan RPM/Speed Photo:



Name: Speed.jpg
Captured: 11/28/2023 2:05 PM
Caption:

Attach images of UV lighting Photo:

Name: RTU-01 UV.jpg
Captured: 12/3/2023 11:42 AM
Caption:

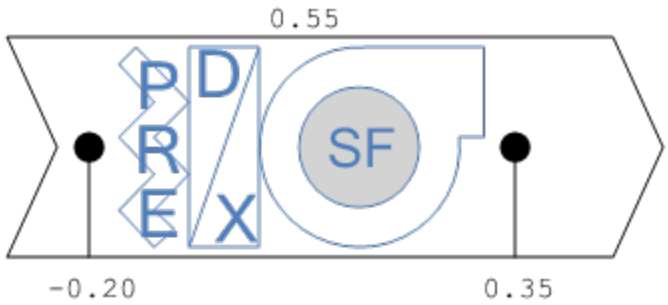


Name: RTU-01 Transformer.jpg
Captured: 12/3/2023 11:42 AM
Caption:

SYSTEM/UNIT: RTU-01/Static Profile

Tested By: Jorge Acosta
Date: 11/6/2023

Static Pressure Profile



RTU-01 Supply Outlet Summary

System/Unit	Area Served	Type	Size / Area (in)	Design CFM	Prelim CFM	Final CFM	% Final	Instrument	Ak	Open (sq ft)	Final FPM
S-01	102 Queuing	SW	18/6	350	300	353	101	RVA	0.600	0.750	588
S-02	102 Queuing	SW	18/6	350	555	333	95	RVA	0.600	0.750	555
S-03	102 Queuing	SW	18/6	350	265	344	98	RVA	0.600	0.750	573
S-04	103 Dining	SW	18/8	450	490	444	99	RVA	0.800	1.000	555
S-05	103 Dining	SW	24/6	400	433	413	103	RVA	0.800	1.000	516
S-06	103 Dining	SW	12/12	450	555	453	101	Velgrid	0.800	1.000	566
S-07	103 Dining	SW	24/14	850	733	805	95	Velgrid	1.870	2.330	430
S-08	103 Dining	SW	12/12	450	400	466	104	Velgrid	0.800	1.000	583
S-09	103 Dining	SW	12/12	450	50	455	101	Velgrid	0.800	1.000	569
S-10	103 Dining	SW	12/12	450	666	438	97	Velgrid	0.800	1.000	548
S-11	103 Dining	SW	12/12	450	555	433	96	Velgrid	0.800	1.000	541
	Totals:	-	-	**5000**	**5002**	**4937**	**99**	-	-	-	-

SYSTEM/UNIT: RTU-02

Tested By: William Clayton
Date: 11/28/2023

Design Airflow (CFM)	
Design Total	5000
Design Grille Total	5000
Design Return	4530
Design Min O/A	470

Unit Design Data	
Submittal Make	Not Provided
Submittal Model #	Not Provided
Submittal Airflow	Not Provided
Sched./Sub. Volts	208
Sched./Sub. Phase	3
Sched./Sub. HP	2.2
Submittal BHP	Not Provided
Filter MERV Rating (Sched/Sub)	Not Listed

Design Static Pressures (in wg)	
Design Ext SP	.70
Submittal Total SP	Not Provided
Submittal Clg Coil Δ SP	Not Provided

Filter Data	
Condition	Clean
Filter Type	Media
MERV Rating	Not listed
Filter Size Set 1 (in)	20x20x2
# Filters Set 1	4
Filter Size Set 2 (in)	-
# Filters Set 2	-

Motor Nameplate Data	
Motor Make	Motor Tag Not Accessible
Motor Frame	-
Motor HP	-
Motor RPM	-
Motor Volts	230
Motor Phase	3

Final Airflow (CFM)	
Actual Total CFM	4946
Actual Grille Total CFM	4946
Actual Return Air CFM	4458
Actual Min O/A CFM	488
Fan CFM Test Method	Supply Outlet Total
OA Method/Instrument	Face Velocity/RVA
OA Ak (sq ft)	3.232
OA Damper Position	10% Open
RA Damper Position	90% Open

Unit Data	
Make (tag)	Carrier
Model # (tag)	48FCFM14
Serial # (tag)	0323P71563
Location	Roof
Unit Discharge	Horizontal
Cooling Coil Location	Unit / Drawthru
Coil Area (sq ft)	11.1
Clg Coil Vel (FPM)	446
Fan Service	Supply
Fan Type	Centrifugal (FC)
Fan Discharge	Horizontal
Fan Arrangement	SWSI

Fan Design Data	
Submittal Motor RPM	Not Provided
Submittal Fan RPM	Not Provided

Fan Data	
Actual Fan RPM/Speed	C 45
Actual Motor RPM	Not Accessible

Electrical Data	
Measurement Method	Not Accessible
Motor Volts 1	_
Motor Volts 2	-

SYSTEM/UNIT: RTU-02

Tested By: William Clayton
Date: 11/28/2023

Motor Nameplate Data	
Motor Amps	12.6
Motor S.F.	-
Motor % PF	-
Motor % Eff.	-
Other Motor Data	Above data from unit tag

Drive Data	
Drive Type	Direct Drive
Sheave Type	-
Fan Sheave Make	-
Fan Shv Mod# or Size (in)	-
Fan Sheave Bore (in)	-
Motor Sheave Make	-
Mtr Shv Mod# or Size (in)	-
Motor Sheave Bore (in)	-
VP Range	-
Center Distance (in)	-
No of Belts	-
Belt Make	-
Belt Size	-
Other Data	-

Electrical Data	
Motor Volts 3	-
Motor Amps 1	-
Motor Amps 2	-
Motor Amps 3	-
Operating HZ	60.00
Approx. BHP	
Corr. Nameplate Amps	
Starter Data	Internal to ECM
VFD Reference	Not Applicable
Attach images of UV lighting	Yes

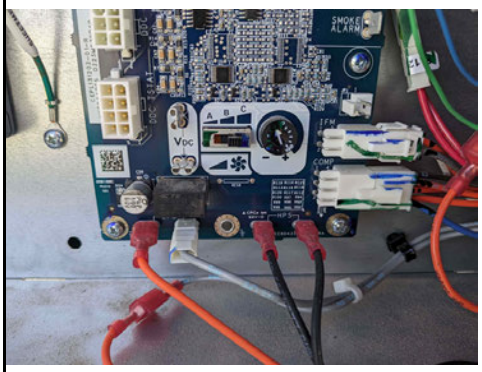
Make (tag) Photo:

Name: RTU-02 Tag.jpg
Captured: 12/3/2023 11:40 AM
Caption:

SYSTEM/UNIT: RTU-02

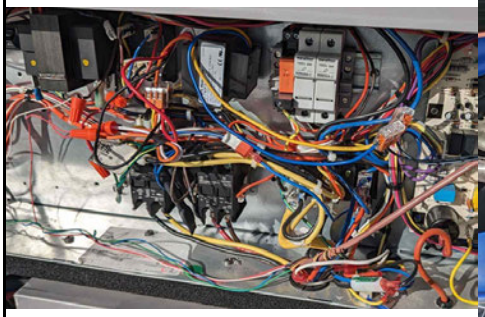
Tested By: William Clayton
Date: 11/28/2023

Actual Fan RPM/Speed Photo:



Name: RTU-02 SCR.jpg
Captured: 12/3/2023 11:43 AM
Caption:

Attach images of UV lighting Photo:



Name: RTU-02 Transformer.jpg
Captured: 12/3/2023 11:42 AM
Caption:

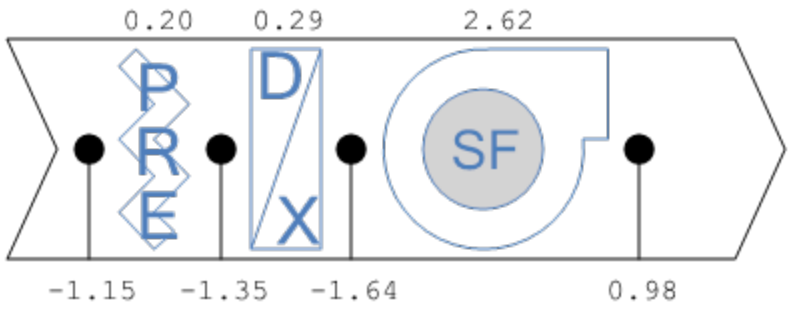
Name: RTU-02 UV.jpg
Captured: 12/3/2023 11:42 AM
Caption:

Log: RTU-02 At the time of testing, the outside air controller was not functioning. OA was manually set and marked.

SYSTEM/UNIT: RTU-02/Static Profile

Tested By: Jorge Acosta
Date: 11/6/2023

Static Pressure Profile



RTU-02 Supply Outlet Summary

System/Unit	Area Served	Type	Size / Area (in)	Design CFM	Prelim CFM	Final CFM	% Final	Instrument	Ak	Open (sq ft)	Final FPM
S-01	111 BOH	CD	15	680	714	688	101	Capture Hood	1.000	1.000	688
S-02	111 BOH	CD	15	680	885	667	98	Capture Hood	1.000	1.000	667
S-03	108 Kitchen	CD	16	660	578	669	101	Capture Hood	1.000	1.000	669
S-04	108 Kitchen	CD	16	660	618	668	101	Capture Hood	1.000	1.000	668
S-05	108 Kitchen	CD	16	660	557	659	100	Capture Hood	1.000	1.000	659
S-06	108 Kitchen	CD	16	660	70	595	90	Capture Hood	6.530	1.000	91
S-07	108 Kitchen	CD	126/6	400	532	380	95	Velgrid	4.160	5.333	91
S-08	108 Kitchen	CD	126/6	400	492	425	106	Velgrid	4.160	5.333	102
S-09	106 Womens RR	CD	5	100	67	105	105	Capture Hood	1.000	1.000	105
S-10	105 Mens RR	CD	5	100	50	90	90	Capture Hood	1.000	1.000	90
	Totals:	-	-	**5000**	**4563**	**4946**	**99**	-	-	-	-

SYSTEM/UNIT: EF-01

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Design Airflow	1900
Design Grille Airflow	1900

Unit Design Data	
Submittal Make	Not Provided
Submittal Model #	Not Provided
Submittal Airflow	Not Provided
Sched./Sub. Volts	Not Listed
Sched./Sub. Phase	Not Listed
Sched./Sub. HP	Not Listed
Submittal BHP	Not Provided

Design Static Pressures (in wg)	
Design External SP	Not Listed
Submittal Total SP	Not Provided

Motor Nameplate Data	
Motor Make (tag)	TELCO GREEN
Motor Frame (tag)	48
Motor HP (tag)	3/4
Motor RPM (tag)	1800
Motor Volts (tag)	208
Motor Phase (tag)	1
Motor Amps (tag)	5.2
Motor S.F. (tag)	Not Listed
Mtr % PF (tag)	Not Listed
Mtr % Eff. (tag)	Not Listed
Other Motor Data	-

Drive Data	
Drive Type	Direct Drive
Sheave Type	-
Fan Sheave Make	-
Fan Shv Mod# or Size (in)	-
Fan Sheave Bore (in.)	-
Motor Sheave Make	-

Final Airflow (CFM)	
Actual Airflow	1845
Actual Grille Airflow	Not Applicable
Fan CFM Test Method	See Kitchen Hood Sheet
Test Method Ak (sq ft)	See Kitchen Hood Sheet

Unit Data	
Make (tag)	Captive Aire
Model # (tag)	DU85HFA
Serial # (tag)	5741882
Unit Location	Roof
Unit Discharge	Upblast
Fan Service	Exhaust
Fan Type	Centrifugal (BI)
Fan Discharge	Upblast
Fan Arrangement	SWSI

Fan Design Data	
Submittal Motor RPM	Not Provided
Submittal Fan RPM	Not Provided

Fan Data	
Actual Fan RPM/Speed	Not Accessible
Actual Motor RPM	Not Accessible
Speed Cont. Position	70%

Electrical Data	
Measurement Method	V/A Meter
Motor Volts 1	Internal to ECM
Motor Volts 2	-
Motor Volts 3	-
Motor Amps 1	Internal to ECM
Motor Amps 2	-
Motor Amps 3	-
Operating HZ	Internal to ECM
Starter Data	Internal to ECM
Approx. BHP	

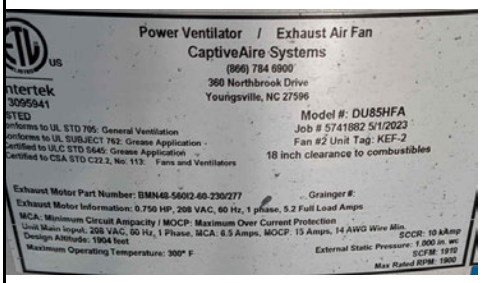
SYSTEM/UNIT: EF-01

Tested By: Jorge Acosta
Date: 11/6/2023

Drive Data	
Mtr Shv Mod# or Size (in)	-
Motor Sheave Bore (in.)	-
VP Range	-
Center Distance (in.)	-
No of Belts	-
Belt Make	-
Belt Size	-
Other Data	-

Electrical Data
Corr. Nameplate Amps

Make (tag) Photo:

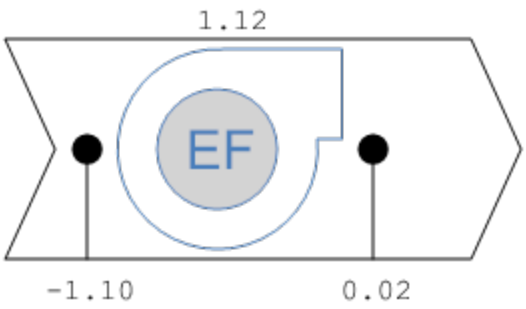


Name: EF-01 Tag.jpg
Captured: 12/3/2023 11:39 AM
Caption:

SYSTEM/UNIT: EF-01/Static Profile

Tested By: Jorge Acosta
Date: 11/6/2023

Static Pressure Profile



SYSTEM/UNIT: EF-01/Kitchen Hood - 01

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Design Exhaust CFM	1900
Halton Design SP	-

Final Airflow (CFM)	
Actual Exhaust CFM	1845
Halton Actual SP	-

Kitchen Hood Information	
Service	Cooking Surface
Manufacturer	Captiveaire
Model Number	5430 ND-2
Serial Number	5741882
Test Method	Filters

EF-01/Kitchen Hood - 01 Exhaust Filter Summary

System/Unit	Size	Type	Ak	Reading 2	Reading 1	FPM	Instrument	CFM
Filter-01	20x16	Baffle	2.08		100	100	Velgrid	208
Filter-02	20x16	Baffle	2.08		106	106	Velgrid	220
Filter-03	20x16	Baffle	2.08		113	113	Velgrid	235
Filter-04	20x16	Baffle	2.08		124	124	Velgrid	258
Filter-05	20x16	Baffle	2.08		119	119	Velgrid	248
Filter-06	20x16	Baffle	2.08		110	110	Velgrid	229
Filter-07	20x16	Baffle	2.08		103	103	Velgrid	214
Filter-08	20x16	Baffle	2.08		112	112	Velgrid	233
Totals:	-	-	-	-	-	-	-	**1845**

SYSTEM/UNIT: EF-02

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Design Airflow	1910
Design Grille Airflow	1910

Unit Design Data	
Submittal Make	Not Provided
Submittal Model #	Not Provided
Submittal Airflow	Not Provided
Sched./Sub. Volts	Not Listed
Sched./Sub. Phase	Not Listed
Sched./Sub. HP	Not Listed
Submittal BHP	Not Provided

Design Static Pressures (in wg)	
Design External SP	Not Listed
Submittal Total SP	Not Provided

Motor Nameplate Data	
Motor Make (tag)	TELCO GREEN
Motor Frame (tag)	48
Motor HP (tag)	3/4
Motor RPM (tag)	1800
Motor Volts (tag)	208
Motor Phase (tag)	1
Motor Amps (tag)	5.2
Motor S.F. (tag)	Not Listed
Mtr % PF (tag)	Not Listed
Mtr % Eff. (tag)	Not Listed
Other Motor Data	-

Drive Data	
Drive Type	Direct Drive
Sheave Type	-
Fan Sheave Make	-
Fan Shv Mod# or Size (in)	-
Fan Sheave Bore (in.)	-
Motor Sheave Make	-

Final Airflow (CFM)	
Actual Airflow	1918
Actual Grille Airflow	Not Applicable
Fan CFM Test Method	See Kitchen Hood Sheet
Test Method Ak (sq ft)	See Kitchen Hood Sheet

Unit Data	
Make (tag)	Captive Aire
Model # (tag)	DU85HFA
Serial # (tag)	5741882
Unit Location	Roof
Unit Discharge	Upblast
Fan Service	Exhaust
Fan Type	Centrifugal (BI)
Fan Discharge	Upblast
Fan Arrangement	SWSI

Fan Design Data	
Submittal Motor RPM	Not Provided
Submittal Fan RPM	Not Provided

Fan Data	
Actual Fan RPM/Speed	Not Accessible
Actual Motor RPM	Not Accessible
Speed Cont. Position	70%

Electrical Data	
Measurement Method	V/A Meter
Motor Volts 1	Internal to ECM
Motor Volts 2	-
Motor Volts 3	-
Motor Amps 1	Internal to ECM
Motor Amps 2	-
Motor Amps 3	-
Operating HZ	Internal to ECM
Starter Data	Internal to ECM
Approx. BHP	

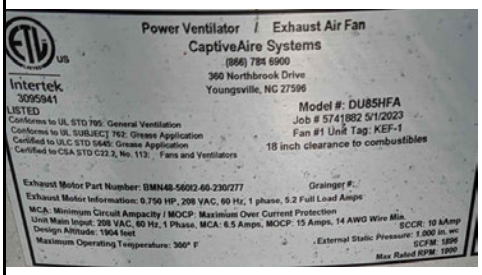
SYSTEM/UNIT: EF-02

Tested By: Jorge Acosta
Date: 11/6/2023

Drive Data	
Mtr Shv Mod# or Size (in)	-
Motor Sheave Bore (in.)	-
VP Range	-
Center Distance (in.)	-
No of Belts	-
Belt Make	-
Belt Size	-
Other Data	-

Electrical Data
Corr. Nameplate Amps

Make (tag) Photo:

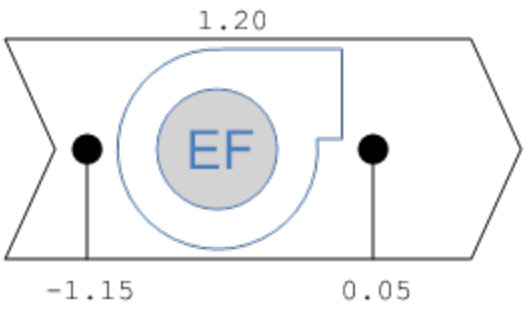


Name: EF-02 Tag.jpg
Captured: 12/3/2023 11:39 AM
Caption:

SYSTEM/UNIT: EF-02/Static Profile

Tested By: Jorge Acosta
Date: 11/6/2023

Static Pressure Profile



SYSTEM/UNIT: EF-02/Kitchen Hood - 02

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Design Exhaust CFM	1910
Halton Design SP	-

Final Airflow (CFM)	
Actual Exhaust CFM	1918
Halton Actual SP	-

Kitchen Hood Information	
Service	Cooking Surface
Manufacturer	Captiveaire
Model Number	5430 ND-2
Serial Number	5741882
Test Method	Filters

EF-02/Kitchen Hood - 02 Exhaust Filter Summary

System/Unit	Size	Type	Ak	Reading 2	Reading 1	FPM	Instrument	CFM
Filter-01	20x16	Baffle	2.08		117	117	VELGRID	243
Filter-02	20x16	Baffle	2.08		116	116	VELGRID	241
Filter-03	20x16	Baffle	2.08		123	123	VELGRID	256
Filter-04	20x16	Baffle	2.08		125	125	VELGRID	260
Filter-05	20x16	Baffle	2.08		111	111	VELGRID	231
Filter-06	20x16	Baffle	2.08		117	117	VELGRID	243
Filter-07	20x16	Baffle	2.08		108	108	VELGRID	225
Filter-08	20x16	Baffle	2.08		105	105	VELGRID	218
Totals:	-	-	-	-	-	-	-	**1918**

SYSTEM/UNIT: EF-03

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Design Airflow	300
Design Grille Airflow	300

Unit Design Data	
Submittal Make	Not Provided
Submittal Model #	Not Provided
Submittal Airflow	Not Provided
Sched./Sub. Volts	115
Sched./Sub. Phase	1
Sched./Sub. HP	1/8
Submittal BHP	Not Provided

Design Static Pressures (in wg)	
Design External SP	Not Listed
Submittal Total SP	Not Provided

Motor Nameplate Data	
Motor Make (tag)	McMillan
Motor Frame (tag)	48
Motor HP (tag)	1/8
Motor RPM (tag)	1550
Motor Volts (tag)	115
Motor Phase (tag)	1
Motor Amps (tag)	2.6
Motor S.F. (tag)	Not Listed
Mtr % PF (tag)	Not Listed
Mtr % Eff. (tag)	Not Listed
Other Motor Data	-

Drive Data	
Drive Type	Direct Drive
Sheave Type	-
Fan Sheave Make	-
Fan Shv Mod# or Size (in)	-
Fan Sheave Bore (in.)	-
Motor Sheave Make	-

Final Airflow (CFM)	
Actual Airflow	324
Actual Grille Airflow	324
Fan CFM Test Method	Inlet Total
Test Method Ak (sq ft)	Not Applicable

Unit Data	
Make (tag)	Greenheck
Model # (tag)	G-095-D-8-1-17-X
Serial # (tag)	22376582 25F
Unit Location	Roof
Unit Discharge	Downblast
Fan Service	Exhaust
Fan Type	Centrifugal (BI)
Fan Discharge	Downblast
Fan Arrangement	SWSI

Fan Design Data	
Submittal Motor RPM	Not Provided
Submittal Fan RPM	Not Provided

Fan Data	
Actual Fan RPM/Speed	Not Accessible
Actual Motor RPM	Not Accessible
Speed Cont. Position	30%

Electrical Data	
Measurement Method	V/A Meter
Motor Volts 1	118
Motor Volts 2	-
Motor Volts 3	-
Motor Amps 1	1.9
Motor Amps 2	-
Motor Amps 3	-
Operating HZ	60.0
Starter Data	Thermally Protected
Approx. BHP	0.09

SYSTEM/UNIT: EF-03

Tested By: Jorge Acosta
Date: 11/6/2023

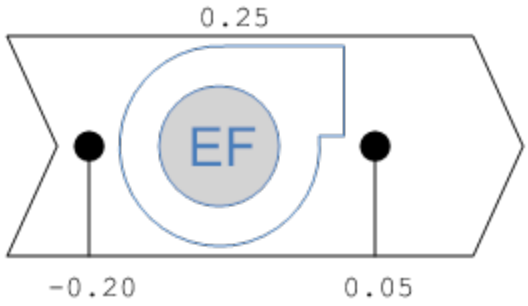
Drive Data	
Mtr Shv Mod# or Size (in)	-
Motor Sheave Bore (in.)	-
VP Range	-
Center Distance (in.)	-
No of Belts	-
Belt Make	-
Belt Size	-
Other Data	-

Electrical Data	
Corr. Nameplate Amps	2.5

SYSTEM/UNIT: EF-03/Static Profile

Tested By: Jorge Acosta
Date: 11/6/2023

Static Pressure Profile



EF-03 Exhaust Inlet Summary

System/Unit	Area Served	Type	Size / Area (in)	Design CFM	Prelim CFM	Final CFM	% Final	Instrument	Ak	Open (sq ft)	Final FPM
E-01	106 Womens RR	CD	8/6	150	50	165	110	Capture Hood	1.000	1.000	165
E-02	105 Mens RR	CD	8/6	150	237	159	106	Capture Hood	1.000	1.000	159
	Totals:	-	-	**300**	**287**	**324**	**108**	-	-	-	-

SYSTEM/UNIT: MAU-01

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Design Airflow	3045
Design Grille Airflow	3045

Unit Design Data	
Submittal Make	Not Provided
Submittal Model #	Not Provided
Submittal Airflow	Not Provided
Sched./Sub. Volts	
Sched./Sub. Phase	
Sched./Sub. HP	
Submittal BHP	Not Provided

Design Static Pressures (in wg)	
Design External SP	
Submittal Total SP	Not Provided

Motor Nameplate Data	
Motor Make (tag)	TECO
Motor Frame (tag)	182T
Motor HP (tag)	3
Motor RPM (tag)	1755
Motor Volts (tag)	230
Motor Phase (tag)	3
Motor Amps (tag)	8.6
Motor S.F. (tag)	1.15
Mtr % PF (tag)	Not Listed
Mtr % Eff. (tag)	89.5
Other Motor Data	-

Drive Data	
Drive Type	Direct Drive
Sheave Type	-
Fan Sheave Make	-
Fan Shv Mod# or Size (in)	-
Fan Sheave Bore (in.)	-
Motor Sheave Make	-

Final Airflow (CFM)	
Actual Airflow	2778
Actual Grille Airflow	Not Applicable
Fan CFM Test Method	See Kitchen Hood Sheet
Test Method Ak (sq ft)	See Kitchen Hood Sheet

Unit Data	
Make (tag)	Captive Aire
Model # (tag)	A2-D.250-20D-MPU
Serial # (tag)	57418882
Unit Location	Roof
Unit Discharge	Horizontal
Fan Service	Make-Up Air
Fan Type	Centrifugal (BI)
Fan Discharge	Horizontal
Fan Arrangement	SWSI

Fan Design Data	
Submittal Motor RPM	Not Provided
Submittal Fan RPM	Not Provided

Fan Data	
Actual Fan RPM/Speed	Not Accessible
Actual Motor RPM	Not Accessible
Speed Cont. Position	Not Applicable

Electrical Data	
Measurement Method	VFD Display
Motor Volts 1	228
Motor Volts 2	-
Motor Volts 3	-
Motor Amps 1	8.1
Motor Amps 2	-
Motor Amps 3	-
Operating HZ	53.5
Starter Data	Internal to VFD
Approx. BHP	2.80

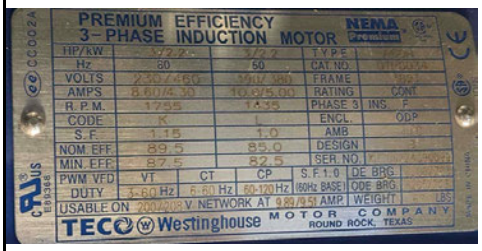
SYSTEM/UNIT: MAU-01

Tested By: Jorge Acosta
Date: 11/6/2023

Drive Data	
Mtr Shv Mod# or Size (in)	-
Motor Sheave Bore (in.)	-
VP Range	-
Center Distance (in.)	-
No of Belts	-
Belt Make	-
Belt Size	-
Other Data	-

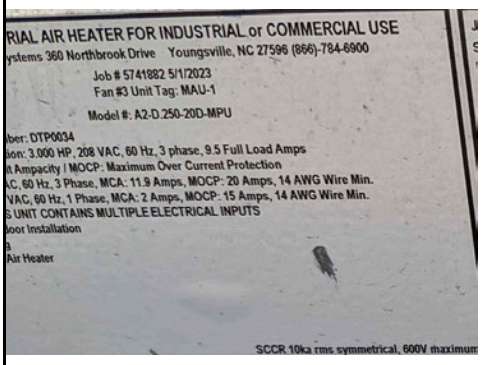
Electrical Data	
Corr. Nameplate Amps	8.7

Motor Make (tag) Photo:



Name: MAU Motor.jpg
Captured: 12/3/2023 11:40 AM
Caption:

Make (tag) Photo:

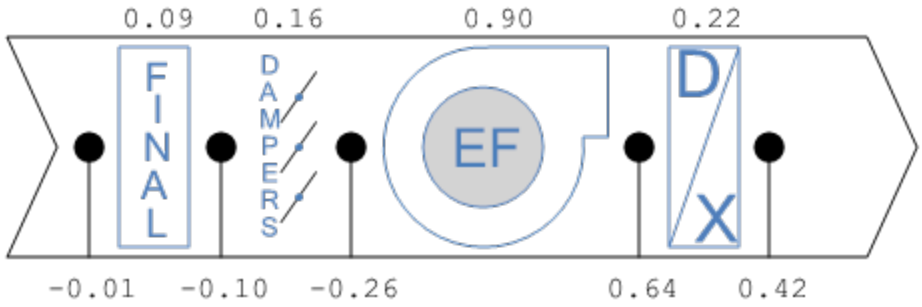


Name: MAU Tag.jpg
Captured: 12/3/2023 11:40 AM
Caption:

SYSTEM/UNIT: MAU-01/Static Profile

Tested By: Jorge Acosta
Date: 11/6/2023

Static Pressure Profile



SYSTEM/UNIT: MAU-01/Kitchen Hood - Supply

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Des. Make-up Air	3045
Halton Design SP	-

Final Airflow (CFM)	
Act. Make-up Air	2778
Halton Actual SP	-

Filter Data	
MUA Filter (Type 1)	-
Qty MUA Filter (Type 1)	-
MUA Filter (Type 2)	-
Qty MUA Filter (Type 2)	-

Test Data	
PSP Length (in)	254
PSP Width (in)	12
Correction Factor	0.83
Total MA Ak (sq ft)	17.57
Avg. MA Velocity (FPM)	158

Kitchen Hood Information	
Manufacturer	Captive Aire
Test Method	Perforated Supply

SYSTEM/UNIT: FC-01

Design Airflow (CFM)	
Design Total CFM (Sched)	350
Submittal Total CFM (Submittal)	Not Provided
Design Grille CFM	Not Applicable
Design Return CFM	335
Design Min O/A	15

Unit Design Data	
Make (Submittal)	Not Provided
Model # (Submittal)	Not Provided
Volts (Sched/Sub)	208
Phase (Sched/Sub)	1
HP (Sched/Sub)	Not Listed
BHP (Submittal)	Not Provided
Filter MERV Rating (Sched/Sub)	Not Listed

Design Static Pressures (in wg)	
External SP (Sched/Subs)	Not Listed
Total SP (Submittal)	Not Provided
Clg Coil Δ SP (Submittal)	Not Provided

Filter Data	
Condition	Clean
Filter Type	Washable
MERV Rating	Not Listed
Filter Size	Manuf Specific
# Filters	1

Motor Nameplate Data	
Motor Type	Embedded
Motor Volts (tag)	208
Motor Phase (tag)	1
Motor Amps (tag)	-
Other Motor Data	Above data from unit tag

Drive Data	
Drive Type	Direct Drive / Embedded

Final Airflow (CFM)	
Actual Total CFM	Not Measurable
Total CFM Test Method	-
Actual Grille Total	Not Applicable
Actual Return Air	-
Actual Min O/A	0
OA Damper Position	Not Applicable

Unit Data	
Make (tag)	Carrier
Model # (tag)	40MBCQ09---3
Serial # (tag)	0223V19229
Location	Ceiling
Unit Discharge	Downblast
Cooling Coil Location	Unit/Blowthru
Coil Area (sq ft)	Not Accessible
Clg Coil Vel (FPM)	Not Accessible

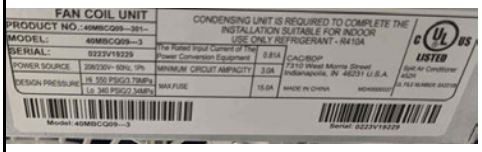
Fan Design Data	
Fan RPM (Submittal)	Not Provided
Motor RPM (Submittal)	Not Provided

Fan Data	
Service	Supply
Type	Centrifugal (FC)
Fan Discharge	Downblast
Arrangement	SWSI
Fan Speed	High

Electrical Data	
Measurement Method	Not Accessible
Motor Volts T1-T2	-
Motor Amps T1	-

SYSTEM/UNIT: FC-01

Make (tag) Photo:



Name: FC-01 Tag.jpg
Captured: 12/4/2023 10:20 AM
Caption:

Log:		
	FC-01	Outside air is operating at 0 CFM for a design of 15 as traversed. Mechanical confirmed installation is correct. No further action possible, duct is open, no damper.

SYSTEM/UNIT: FC-02

Tested By: Jorge Acosta
Date: 11/6/2023

Design Airflow (CFM)	
Design Total CFM (Sched)	380
Submittal Total CFM (Submittal)	Not Provided
Design Grille CFM	Not Applicable
Design Return CFM	380
Design Min O/A	0

Unit Design Data	
Make (Submittal)	Not Provided
Model # (Submittal)	Not Provided
Volts (Sched/Sub)	208
Phase (Sched/Sub)	1
HP (Sched/Sub)	Not Listed
BHP (Submittal)	Not Provided
Filter MERV Rating (Sched/Sub)	Not Listed

Design Static Pressures (in wg)	
External SP (Sched/Subs)	Not Listed
Total SP (Submittal)	Not Provided
Clg Coil Δ SP (Submittal)	Not Provided

Filter Data	
Condition	Clean
Filter Type	Washable
MERV Rating	Not Listed
Filter Size	Manuf Specific
# Filters	1

Motor Nameplate Data	
Motor Type	Embedded
Motor Volts (tag)	208
Motor Phase (tag)	1
Motor Amps (tag)	-
Other Motor Data	Above data from unit tag

Drive Data	
Drive Type	Direct Drive / Embedded

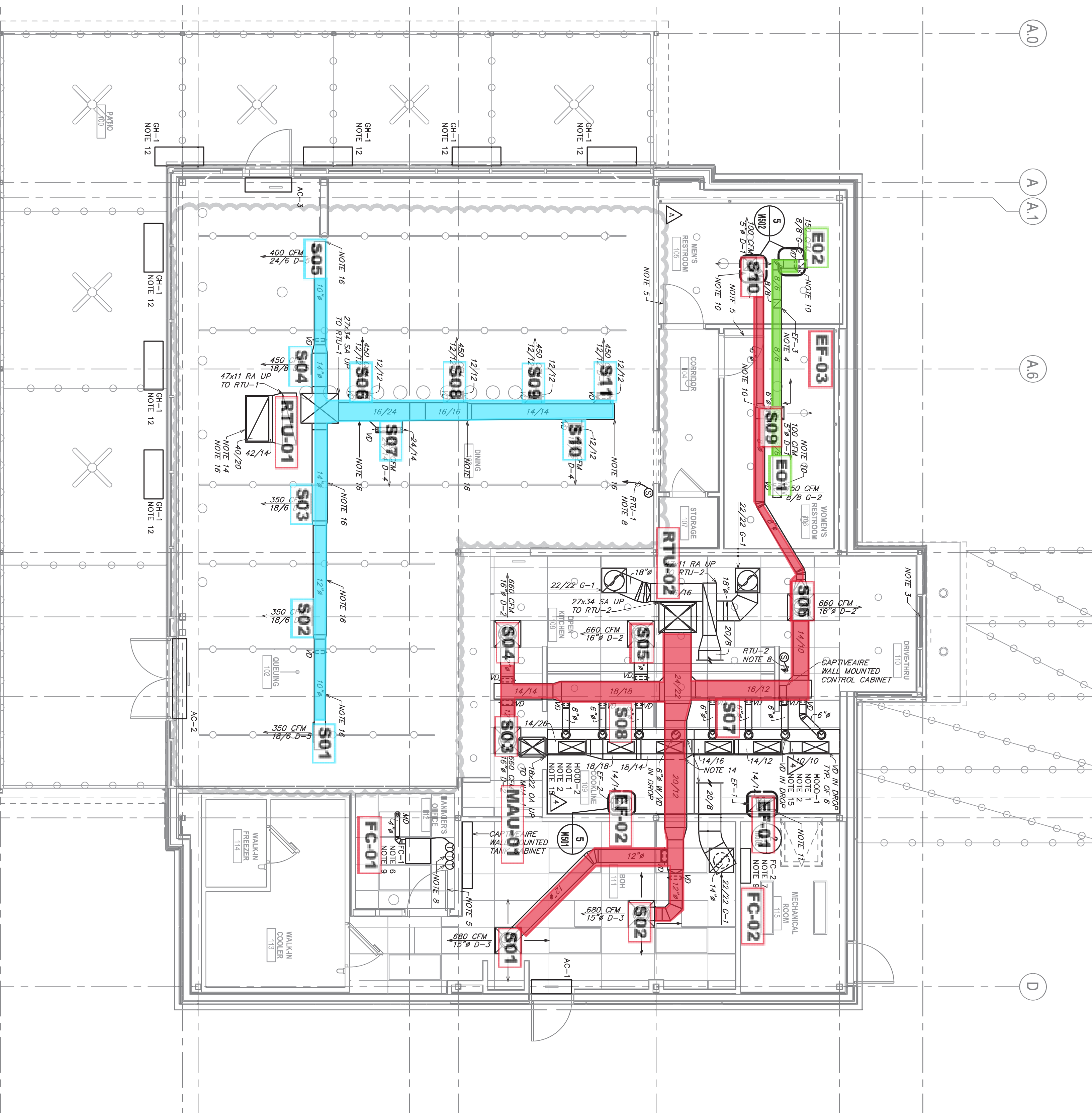
Final Airflow (CFM)	
Actual Total CFM	Not Measurable
Total CFM Test Method	-
Actual Grille Total	Not Applicable
Actual Return Air	-
Actual Min O/A	0
OA Damper Position	Not Applicable

Unit Data	
Make (tag)	Carrier
Model # (tag)	40MAHBQ06XA301
Serial # (tag)	0123V18693
Location	Wall Mounted
Unit Discharge	Horizontal
Cooling Coil Location	Unit/Drawthru
Coil Area (sq ft)	Not Accessible
Clg Coil Vel (FPM)	Not Accessible

Fan Design Data	
Fan RPM (Submittal)	Not Provided
Motor RPM (Submittal)	Not Provided

Fan Data	
Service	Supply
Type	Centrifugal (FC)
Fan Discharge	Downblast
Arrangement	SWSI
Fan Speed	High

Electrical Data	
Measurement Method	Not Accessible
Motor Volts T1-T2	-
Motor Amps T1	-


S05
S04
S06
S08
S09
S11
RTU-01
S07
S10
S03
S02
S01
E02
EF-03
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RTU-02
S06
S04
S05
S08
S07
S03
MAU-01
EF-02
EF-01
FC-01
S02
S01
FC-02