Report By:

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

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 10/03/2023

PROJECT

10-02-23 CULVERS - MOUNT DORA, FL

18996 US HWY 441

MOUNT DORA, FL 32757

Client

Captive-Aire Region #60

National TAB

Project: 10-02-23 CULVERS - MOUNT DORA, FL

System/Unit: AHU/RTU

Asset: RTU1 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Serial Num	-	5703543
Model Num	CASTRU3 452-24-2OT	CASRTU3-E.452-24-20T
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	
Num Final Filter 1	-	8
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	215T
Horsepower	-	10
Motor Rpm	-	1755
Phase	3	3
Rated Voltage	208	230
Rated Amperage	-	24.3

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	-
Motor Sheave SetPt	-	-
Fan Sheave Size	-	-
Fan Sheave Bore	-	-
Belt CL Distance	-	-
Num of Belts	-	-
Belt Size	-	-
Belt Alignment	-	-

Test Data		
	Design	**Actual**
SF CFM	6150	6190
SF RPM	-	60 HZ
RA CFM	4450	4400
OA CFM	1700	1790
RL Voltage	-	207/206/208
RL Amperage	-	23.5/23.2/23.1
SF Rotation	-	CCW
RA Damper Position	-	5.6 V
Min OA Damper Position	-	4.4 V
Min OA Damper Type	-	ECONOMZIER
OA Enthalpy Setpt	-	NA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	NA
Fan Suction SP	-	-
Fan Discharge SP	-	-
Total ESP	0.75"	-
Fan Total SP	-	-

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

Completed By: Ian Fuller on 10/03/2023

Notes:
DID NOT TAKE PRESSURE - DOAS UNIT

Written By: Ian Fuller on 10/03/2023

National TAB

Project:10-02-23 CULVERS - MOUNT DORA, FL

AHU/RTU

Diffuser Supply (GRD)

RTU1/DINING

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	ENTRY	SD3	8"	150	1	191	152	157	104.7
SGRD2	DINING	SD1	8"	150	1	167	144	155	103.3
SGRD3	DINING	SD1	8"	150	1	248	145	155	103.3
SGRD4	DINING	SD1	8"	150	1	126	159	154	102.7
SGRD5	DINING	SD1	8"	150	1	92	115	135	90.0
SGRD6	DINING	SD1	8"	150	1	97	126	135	90.0
SGRD7	DINING	SD1	8"	150	1	263	162	154	102.7
SGRD8	DINING	SD1	8"	150	1	128	158	162	108.0
SGRD9	DINING	SD1	8"	150	1	110	135	135	90.0
SGRD10	DINING	SD1	8"	150	1	248	165	159	106.0
SGRD11	DINING	SD1	8"	150	1	157	200	152	101.3
SGRD12	DINING	SD1	8"	150	1	178	150	158	105.3
SGRD13	DINING	SD1	8"	150	1	138	185	154	102.7
SGRD14	DINING	SD1	8"	150	1	110	134	154	102.7
SGRD15	DINING	SD1	8"	150	1	173	134	162	108.0
SGRD16	DINING	SD1	8"	150	1	153	196	158	105.3
SGRD17	DRINKS	SD1	10"	300	1	273	331	295	98.3
SGRD18	ENTRY	SD1	8"	150	1	167	137	138	92.0
SGRD19	DINING	SD1	12"	500	1	330	420	478	95.6
SGRD20	DINING	SD1	10"	200	1	198	233	189	94.5
SGRD21	DINING	SD1	12"	450	1	352	419	450	100.0
SGRD22	CUST. SER	SD1	10"	350	1	246	357	368	105.1
SGRD23	CUST. SER	SD1	10"	350	1	262	319	334	95.4
SGRD24	CUST. SER	SD1	10"	350	1	205	350	356	101.7
SGRD25	CUST. SER	SD1	10"	350	1	315	378	384	109.7
SGRD26	HALL	SD1	12"	450	1	364	474	461	102.4
SGRD27	W. RR	SD4	8"	150	1	158	145	150	100.0
SGRD28	M.RR	SD4	8"	150	1	244	152	148	98.7
Total				6150		5693	6175	6190	100.65%

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Project: 10-02-23 CULVERS - MOUNT DORA, FL

System/Unit: AHU/RTU

Asset: RTU2 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Serial Num	-	5703543
Model Num	CASTRU3 302-24-2OT	CASRTU3-E.302-24-20T
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	17
OA Filter Size 1	-	45.75X1.5
Num Final Filter 1	-	8
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	215T
Horsepower	-	10
Motor Rpm	-	1755
Phase	3	3
Rated Voltage	208	230
Rated Amperage	-	24.3

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	-
Motor Sheave SetPt	-	-
Fan Sheave Size	-	-
Fan Sheave Bore	-	-
Belt CL Distance	-	-
Num of Belts	-	-
Belt Size	-	-
Belt Alignment	-	-

Test Data		
	Design	**Actual**
SF CFM	6150	5720
SF RPM	-	62 HZ
RA CFM	4475	4111
OA CFM	1675	1609
RL Voltage	-	208/208/207
RL Amperage	-	24.1/24.2/24.3
SF Rotation	-	CCW
RA Damper Position	-	5.3 V
Min OA Damper Position	-	4.7 V
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	NA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	NA
Fan Suction SP	-	-
Fan Discharge SP	-	-
Total ESP	0.75"	-
Fan Total SP	-	-

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

Completed By: Ian Fuller on 10/03/2023

Notes:
DID NOT TAKE PRESSURE - DOAS UNIT

Written By: Ian Fuller on 10/03/2023

National TAB

Project:10-02-23 CULVERS - MOUNT DORA, FL

AHU/RTU

Diffuser Supply (GRD)

RTU2/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	KITCHEN	SD1	12"	600	1	391	391	541	90.2
SGRD2	KITCHEN	SD1	12"	600	1	94	539	558	93.0
SGRD3	KITCHEN	SD5	12"	200	1	292	292	189	94.5
SGRD4	KITCHEN	SD5	12"	375	1	357	325	367	97.9
SGRD5	KITCHEN	SD5	12"	400	1	223	239	366	91.5
SGRD6	KITCHEN	SD5	12"	400	1	340	370	367	91.8
SGRD7	KITCHEN	SD5	10"	250	1	260	299	231	92.4
SGRD8	KITCHEN	SD5	10"	275	1	276	323	248	90.2
SGRD9	KITCHEN	SD5	8"	125	1	176	184	122	97.6
SGRD10	STORAGE	SD1	8"	75	1	103	103	70	93.3
SGRD11	KITCHEN	SD5	12"	350	1	434	466	346	98.9
SGRD12	KITCHEN	SD5	12"	350	1	374	403	345	98.6
SGRD13	KITCHEN	SD5	12"	350	1	287	234	332	94.9
SGRD14	UTILITY RM.	SD1	12"	600	1	327	348	550	91.7
SGRD15	DRY GOOD	SD1	12"	600	1	360	382	541	90.2
SGRD16	DRY GOODS	SD1	12"	600	1	464	526	547	91.2
Total				6150		4758	5424	5720	93.01%

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Project: 10-02-23 CULVERS - MOUNT DORA, FL

System/Unit: FAN - Exhaust

Asset: EF1 AREA:

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	CFA 100CA	CFA 100CA
Serial Num	-	NA
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	-
Horsepower	-	-
Motor Rpm	-	-
Phase	1	-
Voltage (rated)	115	-
Amperage (rated)	-	-
Service Factor	-	-

Test Data		
	Design	**Actual**
CFM	75	70
Fan RPM	493	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	1 SPEED FAN
RL Voltage	-	122
RL Amperage	-	0.1
Total ESP	0.125"	NA
Fan Inlet SP	-	-
Fan Discharge SP	-	-

Completed By: Ian Fuller on 10/03/2023

Notes:
UNABLE TO SEE MOTOR STICKER TO GET INFORMATION

Written By: Ian Fuller on 10/02/2023

National TAB

Project: 10-02-23 CULVERS - MOUNT DORA, FL

System/Unit: FAN - Exhaust

Asset: PRV1 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DR12HFA	DR12HFA
Serial Num	-	5703543
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	NA
Horsepower	0.25	0.25
Motor Rpm	-	NA
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	2.9
Service Factor	-	NA

Test Data		
	Design	**Actual**
CFM	300	313
Fan RPM	1010	904
Fan Rotation	-	CCW
Motor RPM	-	904
System SetPt	-	48%
RL Voltage	-	122
RL Amperage	-	0.85
Total ESP	0.25"	0.13”
Fan Inlet SP	-	-0.13”
Fan Discharge SP	-	ATM

Completed By: Ian Fuller on 10/03/2023

National TAB

Project:10-02-23 CULVERS - MOUNT DORA, FL

FAN - Exhaust

Diffuser Ret/Exh (GRD)

PRV1/RESTROOM

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	RESTROOM	EG1	8X8	150	1	154	154	154	102.7
EGRD2	RESTROOM	EG1	8X8	150	1	159	159	159	106.0
Total				300		313	313	313	104.33%

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Project: 10-02-23 CULVERS - MOUNT DORA, FL

System/Unit: FAN - Exhaust

Asset: PRV2 AREA:HOOD 1

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU85HFA	DU85HFA
Serial Num	-	5838075
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	HSSA
Frame	-	NA
Horsepower	-	0.75
Motor Rpm	-	1725
Phase	3	3
Voltage (rated)	208	208-230
Amperage (rated)	-	2.6-2.5
Service Factor	-	1.15

Test Data		
	Design	**Actual**
CFM	1500	1056
Fan RPM	1406	1543
Fan Rotation	-	CCW
Motor RPM	-	1543
System SetPt	-	53.7 HZ
RL Voltage	-	208/208/20
RL Amperage	-	1.8/1.8/1.8
Total ESP	1.412"	0.76"
Fan Inlet SP	-	0.76"
Fan Discharge SP	-	ATM

Completed By: Ian Fuller on 10/03/2023

National TAB

Project: 10-02-23 CULVERS - MOUNT DORA, FL

System/Unit: FAN - Exhaust

Asset: PRV3 AREA:HOOD 2

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU85HFA	DU85HFA
Serial Num	-	5838075
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	HSSA
Frame	-	NA
Horsepower	-	0.75
Motor Rpm	-	1725
Phase	3	3
Voltage (rated)	208	208-230
Amperage (rated)	-	2.6-2.5
Service Factor	-	NA

Test Data		
	Design	**Actual**
CFM	1500	1458
Fan RPM	1348	1265
Fan Rotation	-	CCW
Motor RPM	-	1265
System SetPt	-	44.0 HZ
RL Voltage	-	208/207/208
RL Amperage	-	2.2/2.2/2.2
Total ESP	1.250"	1.0"
Fan Inlet SP	-	-1.0"
Fan Discharge SP	-	ATM

Completed By: Ian Fuller on 10/03/2023

National TAB

Project: 10-02-23 CULVERS - MOUNT DORA, FL

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	3347 BD2	3347 BD-2
Job / Serial Num	-	5838075
Type	TYPE I	TYPE I LOW PROXIMITY
Hood length	66"	66"
Hood Width	37	33"

Test Data Exhaust		
	Design	**Actual**
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	4	4
Filter AK factor size 1	1.53	1.62
Filter Total AK Area	6.12	6.48
Filter1 FPM	-	167
Filter2 FPM	-	156
Filter3 FPM	-	160
Filter4 FPM	-	169
Filter Ave FPM(corr)	-	163
CFM	1500	1056

Cooking Equipment		
	Design	**Actual**
Item 1	-	GRIDDLE

Completed By: Ian Fuller on 10/03/2023

National TAB

Project: 10-02-23 CULVERS - MOUNT DORA, FL

System/Unit: Kitchen Hood Type I

Asset: HD2 AREA:

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	3347 BD2	3347 BD-2
Job / Serial Num	-	5838075
Type	TYPE I	TYPE I LOW PROXIMITY
Hood length	84"	84"
Hood Width	33"	33"

Test Data Exhaust		
	Design	**Actual**
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	5	5
Filter AK factor size 1	1.53	1.62
Filter Total AK Area	7.65	8.10
Filter1 FPM	-	155
Filter2 FPM	-	194
Filter3 FPM	-	192
Filter4 FPM	-	177
Filter5 FPM	-	179
Filter Ave FPM(corr)	-	180
CFM	1500	1458

Cooking Equipment		
	Design	**Actual**
Item 1	-	FRYERS

Completed By: Ian Fuller on 10/02/2023

Issue List

- PRV2 is below design air flow

10-02-23 CULVERS - MOUNT DORA, FL

Project Issue Information

Issue Name : PRV2 is below design air flow

Description : Currently fan is at 1064 CFM when design is at 1500 CFM. A fan wheel with a 10” diameter is currently installed. The correct fan wheel is 12” in diameter. CaptiveAire representative has confirmed findings, and a new fan wheel has been ordered to the location.

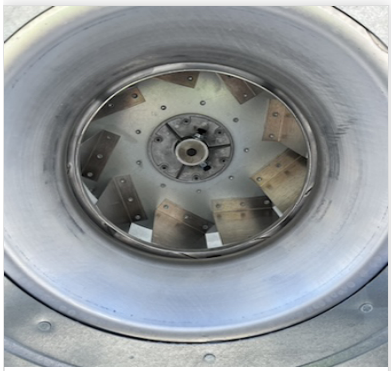
Created By : National TAB **Assigned To :** National TAB - Ian Fuller

Status : Open

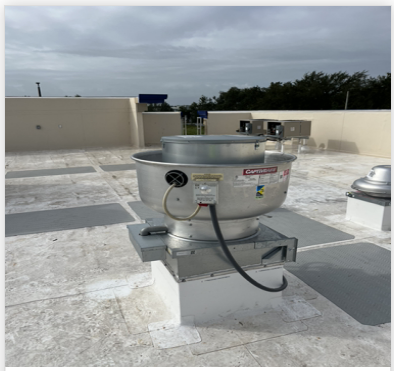
Originated Date : 10/02/2023 - Ian Fuller - National TAB

Project Issue Response Details

- **10/02/2023 National TAB - Ian Fuller**
  - .



FanBlades
10/02/2023



PRV2
10/02/2023

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	6150	6190	4450	4400	1700	1790	27.6%	28.9%						
RTU-2	KITCHEN	6150	5720	4475	4111	1675	1609	27.2%	28.1%						
PRV-2	HOOD 1											1500	1056		
PRV-3	HOOD 2											1500	1458		
PRV-1	RESTROOM													300	313
EF1	MOP ROOM													75	70
TOTALS		12300	11910	8925	8511	3375	3399			0	0	3000	2514	375	383

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	3375	3399
TOTAL EXHAUST	3375	2897
NET AIRFLOW	0	502

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.0068
SIDE	0.0076
REAR	0.0031
AVERAGE	**0.0058**

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: