

**Report By:**

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

**NATIONAL**

**TAB**

Comfort. Under control.

**Report: TAB REPORT**  
**Function: Test, Adjust, & Balance**  
**Date: 7/6/2022**

# PROJECT

## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

9601 SOUTH SANTA MONICA BLVD

BEVERLY HILLS, CA 90210

### **Client**

KDC Construction  
1442 E. Lincoln Ave  
  
Orange, CA 92865

# National TAB

Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

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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.



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## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

### Project Issue Information

**Issue Name :** CONSTRUCTION FILTERS INSTALLED IN RTU'S  
**Description :** Recommend installing final filters.  
**Created By :** National TAB                      **Assigned To :** National TAB - Will Turnbough  
**Status :** Open  
**Originated Date :** 07/06/2022 - Will Turnbough - National TAB



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## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

### Project Issue Information

**Issue Name :** RTU-1 AND RTU-2 OA DAMPER

**Description :** BOTH RTU'S DO NOT HAVE FUNCTIONAL OA DAMPERS. BOTH ARE MANUALLY SET.

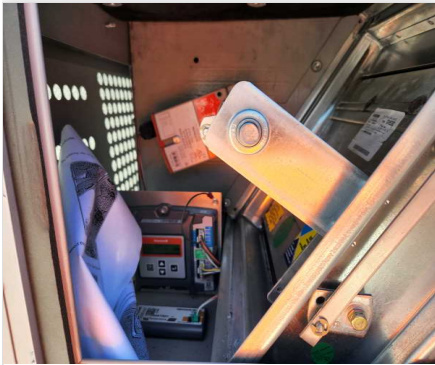
**Created By :** National TAB

**Assigned To :** National TAB - Will Turnbough

**Status :** Open

**Originated Date :** 07/06/2022 - Zack Eismin - National TAB

#### Project Issue File Details



20220628\_112458.jpeg

#### Project Issue Response Details

- **07/06/2022 National TAB - Will Turnbough**
  - BUILDING PRESSURE WAS MEASURED AS SLIGHTLY NEGATIVE/NEUTRAL LIKELY DUE TO FAN SPEEDS MODULATING AND OUTSIDE AIR DAMPERS NOT ADJUSTING TO COMPENSATE. ONCE FULLY FUNCTIONAL BUILDING PRESSURE ANTICIPATED TO BE SLIGHTLY POSITIVE.



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## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

### Project Issue Information

**Issue Name :** RTU-1 OUTSIDE AIR

**Description :** RTU-1 OUTSIDE AIR IS BELOW DESIGN WITH THE DAMPER FULLY OPEN. THERE IS NO MECHANICALLY LINKED RETURN DAMPER INTERNAL OF THE UNIT. UNABLE TO INCREASE OUTSIDE AIR FURTHER. NET BUILDING PRESSURIZATION IS POSITIVE SO MAY NOT BE AN ISSUE.

**Created By :** National TAB

**Assigned To :** National TAB - Will Turnbough

**Status :** Open

**Originated Date :** 07/06/2022 - Will Turnbough - National TAB

#### Project Issue File Details



Screenshot\_2022\_07\_06\_110159.png



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## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

### Project Issue Information

**Issue Name :** RTU-3 DAMPERS

**Description :** DAMPERS FOR RTU-3 ARE STUCK IN POSITION.

**Created By :** National TAB

**Assigned To :** National TAB - Will Turnbough

**Status :** Open

**Originated Date :** 07/06/2022 - Zack Eismin - National TAB

#### Project Issue File Details



20220629\_143120.jpeg

### 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	2100	2168	1500	1829	600	339	28.6%	15.6%						
RTU-2	BOH	2100	2334	1820	2046	280	288	13.3%	12.3%						
RTU-3	KITCHEN	2500	2419	2050	1940	450	479	18.0%	19.8%						
MUA-1	COOKLINE									2764	2882				
KEF-1	HD1											1633	1712		
KEF-2	HD2											1617	1685		
EF-1	RESTROOMS													270	187
<b>TOTALS</b>		6700	6921	5370	5815	1330	1106			2764	2882	3250	3397	270	140

#### NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	4094	3988
TOTAL EXHAUST	3520	3537
<b>NET AIRFLOW</b>	<b>574</b>	<b>451</b>

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	-0.0034
SIDE	
REAR	-0.0044
<b>AVERAGE</b>	<b>-0.0039</b>

#### FINAL CHECKS

- ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✔

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- MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✘

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

#### KITCHEN PRESSURIZATION (MUST BE NEGATIVE)

TOTALS	DESIGN	ACTUAL
TOTAL KITCHEN OA	3214	3361
TOTAL KITCHEN EXHAUST	3250	3397
<b>NET AIRFLOW</b>	<b>-36</b>	<b>-36</b>



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## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

### CheckList Information

**Name :** TECH - SITE PICTURES

**Status :** NotSubmitted

**Assigned Organization :** National TAB

**Asset :**

**Requesting Organization :** National TAB

### CheckList Item Details

RTU-1



20220629\_174109.jpg

RTU-2



20220629\_174128.jpg

RTU-3



20220629\_174109.jpg

MAU-1



20220629\_174153.jpg

KEF-1



20220629\_174159.jpg

EF-1



20220629\_174157.jpg

EF-2



20220629\_174212.jpg

HOOD-1



Screenshot\_20220704\_21543  
2\_Gallery.jpg

HOOD-2

Yes



Screenshot\_20220704\_21561  
1\_Gallery.jpg

Notes/Comments :



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## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

### CheckList Information

**Name :** TECH - STEP 1: INITIAL WALKTHROUGH **Status :** NotSubmitted

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** 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.	YES
All diffusers and grilles are installed and match design?	YES
All hood filters installed and accounted for?	YES
Hoods are wired and have power?	YES
Hood is free of alarms?	YES
Thermostats have power?	YES
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	YES

**Notes/Comments :**



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## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

### CheckList Information

**Name :** TECH - STEP 2: UNIT DATA AND EVAL **Status :** NotSubmitted

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** 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?	YES
DCV Max damper opening position is set to minimum?	YES
Free cooling enthalpy set point set for lowest setting (Typically "D")	YES
Motors are all operating below the FLA rating?	YES
Are belts tight?	N/A
If direct drive unit is the speed controller working.	YES
Is gas piping installed and valves turned on?	NO
Unit free of noticeable noise and vibration	YES

##### EF's

Rotation is correct?	YES
Belts are tight?	N/A
Grease cup installed on hood fan?	YES
Hinge kit installed installed on hood fan?	YES
Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	YES

Flex conduit is long enough so that fan can be completely tilted back?	YES
There is no major leakage around base of fan?	YES
Is the motor operating below the motor FLA rating?	YES
For restroom fan(s) is the back draft damper installed and can it fully open?	YES
Unit free of noticeable noise and vibration?	YES

**MUA**

Rotation is correct?	YES
Gas piping is installed and valves are in on position?	NO
Heater tested and is functional?	NO
Internal motorized damper is fully opening?	YES
Motor is operating below the FLA rating?	YES
Unit free of noticeable noise and vibration?	YES

**HOODS**

Kitchen equipment installed in proper places?	YES
Can kitchen equipment be turned on for final smoke test?	YES

**DOCUMENTATION**

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	YES
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**Notes/Comments :**

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### 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

#### CheckList Information

**Name :** TECH - STEP 3: TEST, ADJUST AND BALANCE **Status :** NotSubmitted

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

#### CheckList Item Details

**TEST, ADJUST, AND BALANCE ALL EQUIPMENT:**

**DURING TESTING MAKE NOTE OF THE FOLLOWING:**

Are total flows for all equipment within +/-5% per Shake Shack standard? If not explanation is required	YES
Is space free of drafting?	YES
Is space comfortable in all areas?	YES
Is the space free of ventilation noise?	YES
If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".	YES

**Notes/Comments :**



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## 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

### CheckList Information

<b>Name :</b>	TECH - STEP 4: FINAL TESTS	<b>Status :</b>	NotSubmitted
<b>Assigned Organization :</b>	National TAB	<b>Asset :</b>	
<b>Requesting Organization :</b>	National TAB		

### CheckList Item Details

#### FINAL TESTS

#### HOOD CAPTURE TEST

List equipment turned on for testing	NONE
List smoke candle type used	S102
Smoke test capture - Perimeter of hood	100%
Smoke test capture - Top of cooking surface	100%

#### WITNESS

Date test was completed	06/29/2022
TAB tech name / Firm	ZACK / NATIONAL TAB
Site super name / Firm	ERNESTO
Owner representative name / Firm (if Applicable)	N/A
Video taken of the smoke test?	YES
Building pressure at front & back doors (All Systems On)	-0.0039" - Building pressure is neutral to very slightly negative the balance schedule indicates net positive airflow. May be negative due to economizers being manually set and modulating. Also possible it was being affected by a neighboring tenant. Ran out of time to investigate further. Current pressure not anticipated to be an issue.

#### ADDITIONAL

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

YES

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

YES

Thermostats are programmed?

YES

**Notes/Comments :**



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Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: AHU/RTU

Asset: RTU1

AREA:DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	0422C09357
Model Num	48GCLM06A2A3-0A0A0	48GCLM06A2A3-0A0A0
Type	-	RTU
Configuration	-	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	27x12.5
Num Final Filter 1	-	4
Final Filter Size 1	-	16X16X2
Num Final Filter 2	-	
Final Filter Size 2	-	

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	-	NL
Motor Rpm	-	2500
Phase	1	1
Rated Voltage	230	208/230
Rated Amperage	-	8.6

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

Test Data		
	Design	Actual
SF CFM	2100	2168
SF RPM	2310	2320
RA CFM	1500	1829
OA CFM	600	339
RL Voltage	-	244
RL Amperage	-	7.9
SF Rotation	-	CW
RA Damper Position	-	NONE
Min OA Damper Position	-	100%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	[1]
Brake Horse Power	-	

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.16"
Fan Suction SP	-	-0.29"
Fan Discharge SP	-	0.08"
Total ESP	1.0"	0.24"
Fan Total SP	-	0.37"

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES, CONSTRUCTION FILTERS
Condensate Drain Installed	-	YES

Completed By: Zack Eismín

Notes:DIFFUSER DESIGN TOTAL = 2080CFM. UNIT SCHEDULED AT 2100CFM. [1] ETHALPY CANNOT BE SET DUE TO HONEYWELL DAMPER CONTROL NOT BEING POWERED



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# National TAB

Project:06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## AHU/RTU

### Diffuser Supply (GRD)

#### RTU1/DINING

Asset	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
SGRD1	DINING	SG2	17X7.5	260	0.885	522	264
	<b>FINAL CFM</b>	<b>% to design</b>					
	264	101.5					
SGRD2	DINING	SG1	17X7.5	260	0.885	402	272
	<b>FINAL CFM</b>	<b>% to design</b>					
	272	104.6					
SGRD3	DINING	SG2	17X7.5	260	0.885	301	252
	<b>FINAL CFM</b>	<b>% to design</b>					
	252	96.9					
SGRD4	DINING	SG1	17X7.5	260	0.885	273	267
	<b>FINAL CFM</b>	<b>% to design</b>					
	267	102.7					
SGRD5	DINING	SG2	17X7.5	260	0.885	183	258
	<b>FINAL CFM</b>	<b>% to design</b>					
	258	99.2					
SGRD6	DINING	SG1	17X7.5	260	0.885	175	269
	<b>FINAL CFM</b>	<b>% to design</b>					
	269	103.5					
SGRD7	QUEUE	SG1	17X7.5	260	0.885	143	252
	<b>FINAL CFM</b>	<b>% to design</b>					
	252	96.9					
SGRD8	QUEUE	SG1	17X7.5	260	0.885	132	270
	<b>FINAL CFM</b>	<b>% to design</b>					
	270	103.8					

Completed By: Brianna Biggs on

Asset	Notes
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Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: AHU/RTU

Asset: RTU2

AREA:BOH

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	0422C09356
Model Num	48GCLM06A2A3-0A0A0	48GCLM06A2A3-0A0A0
Type	-	RTU
Configuration	-	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	27X12.5
Num Final Filter 1	-	4
Final Filter Size 1	-	16X16X2
Num Final Filter 2	-	
Final Filter Size 2	-	

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	-	NL
Motor Rpm	-	2500
Phase	1	1
Rated Voltage	230	208/230
Rated Amperage	-	8.6

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

Test Data		
	Design	Actual
SF CFM	2100	2334
SF RPM	2310	2004
RA CFM	1820	2046
OA CFM	280	288
RL Voltage	-	243
RL Amperage	-	7.6
SF Rotation	-	CW
RA Damper Position	-	NONE
Min OA Damper Position	-	60% open
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	[1]
Brake Horse Power	-	

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.11"
Fan Suction SP	-	-0.36"
Fan Discharge SP	-	0.1"
Total ESP	1.0"	0.21"
Fan Total SP	-	0.46"

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

Completed By: Zack Eismin

Notes:DIFFUSER DESIGN TOTALS =2250CFM. UNIT SCHEDULED AT 2100CFM. Diffuser 7 cannot be dampered down any further [1] ETHALPY CANNOT BE SET DUE TO HONEYWELL DAMPER CONTROL NOT BEING POWERED



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Project:06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## AHU/RTU

### Diffuser Supply (GRD)

#### RTU2/BOH

Asset	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
SGRD1	BOH	CD1	12"	400	1	375	311
	<b>FINAL CFM</b>	<b>% to design</b>					
	419	104.8					
SGRD2	BOH	CD1	12"	400	1	595	507
	<b>FINAL CFM</b>	<b>% to design</b>					
	382	95.5					
SGRD3	MANAGERS OFFICE	CD1	12"	450	1	107	97
	<b>FINAL CFM</b>	<b>% to design</b>					
	452	100.4					
SGRD4	CUSTARD ROOM	CD1	12"	350	1	625	522
	<b>FINAL CFM</b>	<b>% to design</b>					
	363	103.7					
SGRD5	DISHWASH AREA	CD1	12"	400	1	476	506
	<b>FINAL CFM</b>	<b>% to design</b>					
	417	104.3					
SGRD6	RESTROOM	CD2	8"	125	1	243	206
	<b>FINAL CFM</b>	<b>% to design</b>					
	124	99.2					
SGRD7	RESTROOM	CD2	8"	125	1	231	199
	<b>FINAL CFM</b>	<b>% to design</b>					
	177	141.6					

Completed By: Brianna Biggs on

Asset	Notes
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Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: AHU/RTU

Asset: RTU3

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Serial Num	-	5087678
Model Num	CASRTU1-E.151-16-7.5T1	CASRTU1-E.151-16-7.5T1
Type	-	RTU
Configuration	-	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	16X20X2
Num Final Filter 1	-	8
Final Filter Size 1	-	16X16X2

Motor Data		
	Design	Actual
Motor MFG	-	ZIEHL-ABEGG
Frame	-	NL
Horsepower	-	1.675
Motor Rpm	-	2700
Phase	1	1
Rated Voltage	240	240
Rated Amperage	-	8.3

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

Test Data		
	Design	Actual
SF CFM	2500	2419
SF RPM	2304	2304
RA CFM	2050	1940
OA CFM	450	479
RL Voltage	-	243
RL Amperage	-	5.54
SF Rotation	-	CCW
RA Damper Position	-	4.4
Min OA Damper Position	-	6.6
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	LOW
Brake Horse Power	-	1.12

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.43"
Fan Suction SP	-	-1.27"
Fan Discharge SP	-	0.28"
Total ESP	1.7"	0.71"
Fan Total SP	-	1.65"

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

Completed By: Zack Eismín

Notes:OA SETPOINT 4.5 CURRENTLY 6.6



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# National TAB

Project:06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## AHU/RTU

### Diffuser Supply (GRD)

#### RTU3/KITCHEN

Asset	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
SGRD1	COOKLINE	CD1	10"	300	1	0	126
	<b>FINAL CFM</b>	<b>% to design</b>					
	126	42.0					
SGRD2	OPEN KITCHEN	CD1	12"	350	1	366	338
	<b>FINAL CFM</b>	<b>% to design</b>					
	338	96.6					
SGRD3	OPEN KITCHEN	CD1	12"	350	1	512	420
	<b>FINAL CFM</b>	<b>% to design</b>					
	420	120.0					
SGRD4	FOOD PREP	CD1	12"	350	1	236	200
	<b>FINAL CFM</b>	<b>% to design</b>					
	200	57.1					
SGRD5	COOKLINE	CD1	12"	350	1	441	345
	<b>FINAL CFM</b>	<b>% to design</b>					
	345	98.6					
SGRD6	HOOD 1	ACPSP	8"	400	3.9	509	489
	<b>FINAL CFM</b>	<b>% to design</b>					
	489	122.3					
SGRD7	HOOD 2	ACPSP	8"	400	4.75	522	501
	<b>FINAL CFM</b>	<b>% to design</b>					
	501	125.3					

Completed By: Brianna Biggs on

Asset	Notes
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# National TAB

Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: FAN - Exhaust

Asset: EF1

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	G-070-VG	G-070-VG
Serial Num	-	19004422
Type	DOWNBLAST	DOWNBLAST
Configuration	HORIZONTAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	VARI-GREEN
Frame	-	NL
Horsepower	0.06	1/15
Motor Rpm	-	1750
Phase	1	1
Voltage (rated)	230	115/230
Amperage (rated)	-	1.3/0.65
Service Factor	-	1.15

Test Data		
	Design	Actual
CFM	270	330
Fan RPM	1542	1542
Fan Rotation	-	CW
Motor RPM	-	1542
System SetPt	-	100%
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.25"	0.1"
Fan Inlet SP	-	-0.1"
Fan Discharge SP	-	ATM

Completed By: Zack Eismin

Notes:



Comfort. Under control.

# National TAB

Project:06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## FAN - Exhaust

### Diffuser Ret/Exh (GRD)

#### EF1/RESTROOM

Asset	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
EGRD1	RESTROOM	EG1	8"	135	1	227	227
	<b>FINAL CFM</b>	<b>% to design</b>					
	187	138.5					
EGRD2	RESTROOM	EG1	8"	135	1	105	105
	<b>FINAL CFM</b>	<b>% to design</b>					
	140	103.7					

Completed By: Brianna Biggs on

Asset	Notes



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# National TAB

Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: FAN - Exhaust

Asset: KEF1

AREA:HOOD 1

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU85HFA	DU85HFA
Serial Num	-	5087678
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	0.75	0.75
Motor Rpm	-	1900
Phase	1	1
Voltage (rated)	230	230
Amperage (rated)	-	5.0
Service Factor	-	1.15

Test Data		
	Design	Actual
CFM	1633	1712
Fan RPM	1323	1347
Fan Rotation	-	CW
Motor RPM	-	1347
System SetPt	-	63%
RL Voltage	-	243
RL Amperage	-	3.3
Total ESP	1.0"	0.7"
Fan Inlet SP	-	-0.7"
Fan Discharge SP	-	ATM

Completed By: Zack Eismín

Notes:

Asset	Notes



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# National TAB

Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: FAN - Exhaust

Asset: KEF2

AREA:HOOD 2

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU85HFA	DU85HFA
Serial Num	-	5087678
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	0.75	0.75
Motor Rpm	-	1900
Phase	1	1
Voltage (rated)	230	230
Amperage (rated)	-	5.0
Service Factor	-	1.15

Test Data		
	Design	Actual
CFM	1617	1685
Fan RPM	1318	1302
Fan Rotation	-	CW
Motor RPM	-	1302
System SetPt	-	62%
RL Voltage	-	243
RL Amperage	-	3.2
Total ESP	1.0"	0.51"
Fan Inlet SP	-	-0.51"
Fan Discharge SP	-	ATM

Completed By: Zack Eismín

Notes:

Asset	Notes



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# National TAB

Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: FAN - Supply



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Asset: MAU1

AREA:COOKLINE

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	A2-D.250-20D	A2-D.250-20D
Serial Num	-	5087678
Type	MAU	MAU
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TECO
Frame	-	184T
Horsepower	2	2
Motor Rpm	-	1165
Phase	3	3
Voltage (rated)	208	230/460
Amperage (rated)	-	7.51/3.76
Service Factor	-	1.15

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

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	NO
Flame Status (pass/fail)	-	NO
Inlet Air Temp SetPt	-	55
Discharge Air Temp SetPt	-	65
Air Flow Switch SP Actual	-	0.21"

Test Data		
	Design	Actual
CFM	2764	2882
SF RPM	1335	713
Motor RPM	-	713
RL Voltage	-	244
RL Amperage	-	4.6
Total ESP	-	NA
Fan Discharge SP	-	NA

General		
	Design	Actual
Fan Rotation Correct	-	YES

Completed By: Zack Eismín

Notes:

Asset	Notes



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# National TAB

Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: Kitchen Hood Type I

Asset: HD1

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5430 ND-2-ACPSP-F	5430 ND-2-ACPSP-F
Job / Serial Num	-	5087678
Type	TYPE I	TYPE I
Hood length	98"	98"
Hood Width	54"	54"
Supply Plenum Type	-	PERFORATED
Supply Plenum Width	24"	24"
Supply Plenum Length	118"	118"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE	CAPTRATE
Filter Size 1	16X20	16X20
Filter Qty 1	6	6
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	12.48	12.48
Filter1 FPM	-	126
Filter2 FPM	-	149
Filter3 FPM	-	136
Filter4 FPM	-	148
Filter5 FPM	-	134
Filter6 FPM	-	134
Filter Ave FPM(corr)	-	137
CFM	1633	1712

Cooking Equipment		
	Design	Actual
Item 1	-	FLAT TOP GRILL
Item 2	-	FRYER
Item 3	-	WARMER
Item 4	-	FRYER
Item 5	-	

Test Data Supply		
	Design	Actual
Total AK Area	19.7	19.7
Kv factor (Vel)	0.89	0.89
Num of Readings	-	8
Reading1 FPM	-	101
Reading2 FPM	-	94
Reading3 FPM	-	89
Reading4 FPM	-	95
Reading5 FPM	-	94
Reading6 FPM	-	81
Reading7 FPM	-	78
Reading8 FPM	-	78
Reading9 FPM	-	
Reading10 FPM	-	
Reading11 FPM	-	
Reading12 FPM	-	
Reading13 FPM	-	
Reading14 FPM	-	
Ave FPM(corr)	-	87
CFM	1470	1525

Performance Data		
	Design	Actual
Exh-Supply Net CFM	163	187
Smoke Generation Type	-	S102
Cooking Equip Heat On	-	NONE
Hood Capture %	-	100%
End Panels Installed (Y/N)	-	YES
Space Offset Temp Riser 1	-	15
Space Offset Temp Riser 2	-	
Riser Temp F (idle) Riser 1	-	72
Riser Temp F (idle) Riser 2	-	71
Ambient Room Temp	-	70.2

General		
	Design	Actual
Third Party Witness	-	ERNESTO
Third Party Company	-	KDL
Tech Witness	-	ZACK

Completed By: Zack Eismín

Notes:

Asset	Notes



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# National TAB

Project: 06-27 SHAKE SHACK #1380 - BEVERLY HILLS, CA

## System/Unit: Kitchen Hood Type I

Asset: HD2

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5430 ND-2-ACPSP-F	5430 ND-2-ACPSP-F
Job / Serial Num	-	5087678
Type	TYPE I LOW PROXIMITY	TYPE I
Hood length	97"	97"
Hood Width	54"	54"
Supply Plenum Type	-	PERFORATED
Supply Plenum Width	24"	24"
Supply Plenum Length	98"	98"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE	CAPTRATE
Filter Size 1	16X20	16X20
Filter Qty 1	6	6
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	12.48	12.48
Filter1 FPM	-	139
Filter2 FPM	-	133
Filter3 FPM	-	144
Filter4 FPM	-	133
Filter5 FPM	-	132
Filter6 FPM	-	132
Filter Ave FPM(corr)	-	135
CFM	1617	1685

Cooking Equipment		
	Design	Actual
Item 1	-	FLAT TOP GRILL
Item 2	-	FRYER
Item 3	-	WARMER
Item 4	-	FRYER
Item 5	-	

Test Data Supply		
	Design	Actual
Total AK Area	16.4	16.4
Kv factor (Vel)	0.89	0.89
Num of Readings	-	8
Reading1 FPM	-	100
Reading2 FPM	-	87
Reading3 FPM	-	97
Reading4 FPM	-	100
Reading5 FPM	-	91
Reading6 FPM	-	85
Reading7 FPM	-	97
Reading8 FPM	-	94
Reading9 FPM	-	
Reading10 FPM	-	
Reading11 FPM	-	
Reading12 FPM	-	
Reading13 FPM	-	
Reading14 FPM	-	
Ave FPM(corr)	-	93
CFM	1294	1357

Performance Data		
	Design	Actual
Exh-Supply Net CFM	323	328
Smoke Generation Type	-	S102
Cooking Equip Heat On	-	NONE
Hood Capture %	-	100%
End Panels Installed (Y/N)	-	YES
Space Offset Temp Riser 1	-	15
Space Offset Temp Riser 2	-	
Riser Temp F (idle) Riser 1	-	71
Riser Temp F (idle) Riser 2	-	72
Ambient Room Temp	-	70.2

General		
	Design	Actual
Third Party Witness	-	ERNESTO
Third Party Company	-	KDL
Tech Witness	-	ZACK

Completed By: Zack Eismín

Notes:

Asset	Notes

