Report By:

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

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 04/02/2024

PROJECT

Brass Tap (Marina, CA)

99 General Stilwell Dr

Marina, CA 93933

Client

KMS Resource Group Inc.

8502 E CHAPMAN AVE

SUITE 274

ORANGE, CA 92869

National TAB

Project: Brass Tap (Marina, CA)

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CERTIFICATION

PROJECT: Brass Tap (Marina, CA)

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.* Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

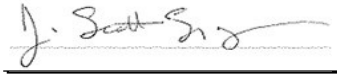
The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM:	National TAB-Southeast
REGISTRATION NO:	3755
CERTIFIED BY:	J. Scott Springer 23312
DATE:	4/2/2024

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM:	National TAB-Southeast
REGISTRATION NO:	3086
CERTIFIED BY:	J. Scott Springer 23312
DATE:	

Submitted and Certified by:

NEBB TAB FIRM:	National TAB-Southeast
TAB PROFESSIONAL:	J. Scott Springer
SIGNATURE:	
REGISTRATION NO:	3755 (NTAB) / 23312
CERTIFICATION EXP:	12/31/2024

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Testing, Adjusting, and Balancing Equipment

Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Shortridge ADM-860C S/N M19547	10/17/2023	10/16/2024
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Shortridge ADM-860C S/N M19548	10/17/2023	10/16/2024
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 3 % +/- 7 cfm	Shortridge Flow Hood	10/17/2023	10/16/2024
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/20/2023	10/19/2024
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	10/20/2023	10/19/2024
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/20/2023	10/19/2024
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	10/20/2023	10/19/2024
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/20/2023	10/19/2024
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	10/20/2023	10/19/2024
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 090315046	10/20/2023	10/19/2024
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/16/2023	10/15/2024
	AMPERAGE MEASUREMENT	0 Amperers to 100 Amperes	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/16/2023	10/15/2024
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	Dwyer TAC-L - S/N S1100123	10/16/2023	10/15/2024
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Dwyer 490W-6 - S/N 01L6NK	6/21/2023	6/20/2024
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Dwyer 490W-6 - S/N 01L6NK	6/21/2023	6/20/2024
DALT	DUCT LEAKAGE	-10"- +10" wc	±1% of reading +/- 0.004" wc	Kanomax DALT 6900 S/N: 080439	5/2023	5/2024

Abbreviation List

A = Area (ft^2)	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A_k = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T_{ma} = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T_{oa} = Outside Air Temperature
CD = Ceiling Diffuser	T_{ra} = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO2 = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C_v = Flow Constant	K_v = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T_{ra} = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
$\%_{ra}$ = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio

National TAB

Project: Brass Tap (Marina, CA)

System/Unit: AHU/RTU

Asset: RTU-1 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	NA	RHEEM
Serial Num	-	F462201222
Model Num	NA	RGEDZS090ACB15BAA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	19X19
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Test Data		
	Design	**Actual**
SF CFM	3000	2894
SF RPM	-	775
RA CFM	2305	2186
OA CFM	695	708
RL Voltage	208	212/212/212
RL Amperage	9.0	5.36/5
OA Damper Position	-	28/5.320%
Brake Horse Power	-	1.76

Motor Data		
	Design	**Actual**
Motor MFG	-	PROTECH
Frame	-	NL
Horsepower	-	3
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	208	208
Rated Amperage	9.0	9.0
Service Factor	-	1.15

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.40"
Fan Suction SP	-	-0.61"
Fan Discharge SP	-	0.47"
Total ESP	0.5	0.87"
Fan Total SP	-	1.08"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP50BB
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5 TURNS OPEN
Fan Sheave Size	-	8.5"
Fan Sheave Bore	-	1"
Belt CL Distance	-	16.5"
Num of Belts	-	1
Belt Size	-	A50

Completed By: Zack Eismin on 03/26/2024

Notes:
DIFFUSER 1-2 DELETED AND CFM PROPORTIONALLY ADDED TO REMAINING DIFFUSERS.

Written By: Zack Eismin on 03/26/2024

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Project:Brass Tap (Marina, CA)

AHU/RTU

Diffuser Supply (GRD)

RTU-1/DINING

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
1-1	DINING	FABRIC DUCTSOX	16	1300	1542	1275	98.1
1-3	STORAGE	CS-4	8	200	180	193	96.5
1-4	SCULLERY	CS-4	8	200	156	185	92.5
1-5	DINING	FABRIC DUCTSOX	16	1300	1023	1241	95.5
Total				3000	2901	2894	96.47%

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Project: Brass Tap (Marina, CA)

System/Unit: AHU/RTU

Asset: RTU-2 AREA:SCULLERY

Unit Data		
	Design	**Actual**
MFG	NA	RHEEM
Serial Num	-	F221800459
Model Num	NA	RGEDZS090ACB15BAA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	19X19
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Test Data		
	Design	**Actual**
SF CFM	3000	3066
SF RPM	-	888
RA CFM	-	2363
OA CFM	695	703
RL Voltage	208	212/212/212
RL Amperage	9.0	7.6/7.7/7.8
OA Damper Position	-	20%
Brake Horse Power	-	2.56

Motor Data		
	Design	**Actual**
Motor MFG	-	PROTECH
Frame	-	NL
Horsepower	-	3
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	208	208
Rated Amperage	9.0	9.0
Service Factor	-	1.15

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.49"
Fan Suction SP	-	-0.77"
Fan Discharge SP	-	0.59"
Total ESP	0.5	1.08"
Fan Total SP	-	1.36"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP50BB
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5 TURNS OPEN
Fan Sheave Size	-	8.5"
Fan Sheave Bore	-	1"
Belt CL Distance	-	16.5"
Num of Belts	-	1
Belt Size	-	A50

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National TAB

Project:Brass Tap (Marina, CA)

AHU/RTU

Diffuser Supply (GRD)

RTU-2/SCULLERY

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
2-1	DINING	FABRIC DUCTSOX	16	1250	1065	1287	103.0
2-2	DINING	FABRIC DUCTSOX	14	800	823	841	105.1
2-3	WOMEN	CS-4A	6	100	179	102	102.0
2-4	SECURE STOR	CS-4A	8	150	141	157	104.7
2-5	MEN	CS-4A	6	100	71	97	97.0
2-6	KITCHEN	CS-4	10	300	178	289	96.3
2-7	SCULLERY	CS-4	10	300	179	293	97.7
Total				3000	2636	3066	102.2%

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Project: Brass Tap (Marina, CA)

System/Unit: FAN - Exhaust

Asset: KHF-1 AREA:KITCHEN HOOD

Unit Data		
	Design	**Actual**
MFG	NA	ACCUREX
Model Num	NA	XCUE-140-10-1-26-G
Serial Num	-	21676105
Type	CRE UPBLAST	UPBLAST

Test Data		
	Design	**Actual**
CFM	1700	1863
RL Voltage	-	212
RL Amperage	-	3.02
Total ESP	1.611	1.13"

Motor Data		
	Design	**Actual**
Motor MFG	-	WEG
Frame	-	56
Horsepower	1.0	1.0
Motor Rpm	1725	1760
Phase	3	3
Voltage (rated)	208	230/460
Amperage (rated)	-	3.14/1.57
Service Factor	-	1.15

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Project: Brass Tap (Marina, CA)

System/Unit: FAN - Exhaust

Asset: REF-1 AREA:MECH

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	101ACE101C17DEC
Serial Num	-	138SK19508
Type	CRE DNBLAST	DOWNBLAST

Test Data		
	Design	**Actual**
CFM	550	535
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.5	0.53"

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	NL
Horsepower	0.25	1/4
Motor Rpm	1490	1725
Phase	1	1
Voltage (rated)	115	120
Amperage (rated)	-	3.4
Service Factor	-	NL

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Project:Brass Tap (Marina, CA)

FAN - Exhaust

Diffuser Ret/Exh (GRD)

REF-1/MECH

Asset								
Asset Name	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
E1-1	CE-1	8	200	1	321	217	217	108.5
E1-3	CE-1	8	200	1	289	211	211	105.5
RE1-2	CE-1	6	100	1	208	107	107	107.0
Total			500		818	535	535	107%

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National TAB

Project: Brass Tap (Marina, CA)

System/Unit: FAN - Exhaust

Asset: REF-2 AREA:STORAGE

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	101ACE101C17DEC
Serial Num	-	138SK19508
Type	CRE DNBLAST	DOWNBLAST

Test Data		
	Design	**Actual**
CFM	500	478
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.5	0.39"

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	NL
Horsepower	0.25	1/4
Motor Rpm	1550	1725
Phase	1	1
Voltage (rated)	115	120
Amperage (rated)	-	3.4
Service Factor	-	NL

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Project: Brass Tap (Marina, CA)

System/Unit: FAN - Supply

Asset: MAU-1 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	NA	ACCUREX
Model Num	NA	XKSFB-109-H15-01
Serial Num	-	21676634
Type	-	MAU
Configuration	VERTICAL	VERTICAL
Num Filters Size 1	-	4
Filter Size 1	-	16X20

Test Data		
	Design	**Actual**
CFM	1360	1251
SF RPM	773	832
RL Voltage	-	212/212/212
RL Amperage	-	1.9/1.91/1.92
Suction ESP	-	NA
Discharge ESP	-	NA
Total ESP	0.3	NA
Brake Horse Power	-	0.63

Motor Data		
	Design	**Actual**
Motor MFG	-	WEG
Frame	-	143T
Horsepower	1.0	1
Motor Rpm	1725	1760
Phase	3	3
Voltage (rated)	208	230/460
Amperage (rated)	-	3.02/1.51
Service Factor	-	1.15

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP40
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	1 TURN OPEN
Fan Sheave Size	-	8"
Fan Sheave Bore	-	3/4"
Belt CL Distance	-	16"
Num of Belts	-	1
Belt Size	-	A47

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Project: Brass Tap (Marina, CA)

System/Unit: Kitchen Hood Type I

Asset: KH-1 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	NA	ACCUREX
Model Num	NA	XBEP-102.00-S
Job / Serial Num	-	21681778
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	102	102"
Hood Width	36	36"
Supply Plenum Type	-	BSP
Supply Plenum Width	6	6
Supply Plenum Length	102	102

Test Data Exhaust		
	Design	**Actual**
Filter Type	SS BAFFLE	SS BAFFLES
Filter Size 1	16X16	16X16
Filter Size 2	20X16	20X16
Filter Qty 1	5	5
Filter Qty 2	1	1
Filter AK factor size 1	1.66	1.66
Filters AK factor size 2	1.96	1.96
Filter Total AK Area	10.26	10.26
Filter1 FPM	-	203
Filter2 FPM	-	173
Filter3 FPM	-	175
Filter4 FPM	-	163
Filter5 FPM	-	182
Filter6 FPM	-	194
Filter7 FPM	-	
Filter8 FPM	-	
Filter9 FPM	-	
Filter10 FPM	-	
Filter11 FPM	-	
Filter12 FPM	-	
Filter Ave FPM(corr)	-	181
CFM	1720	1863

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

Test Data Supply		
	Design	**Actual**
Total AK Area	4.25	4.25
Kv factor (Vel)	0.76	0.76
Num of Readings	-	6
Reading1 FPM	-	491
Reading2 FPM	-	371
Reading3 FPM	-	377
Reading4 FPM	-	388
Reading5 FPM	-	351
Reading6 FPM	-	341
Reading7 FPM	-	
Reading8 FPM	-	
Reading9 FPM	-	
Reading10 FPM	-	
Reading11 FPM	-	
Reading12 FPM	-	
Reading13 FPM	-	
Reading14 FPM	-	
Ave FPM(corr)	-	387
CFM	1360	1251

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