



# Penn Air Control, Inc.

SB STATE CERTIFIED, SUPPLIER #1021379

State License C-20 348326

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Cypress, CA 90630

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## PRE-READS REPORT

for

Project: VA WEST LOS ANGELES

P.O. #: DNP

Location: 11301 WILSHIRE BLVD. ~ LOS ANGELES, CALIFORNIA

Architect: DNP

Engineer: DNP

Contractor: IMEG CORP.

Project Number: DG1820

Review By: ZSOLT SZATLOCZKI

Air Balance Tech: ZSOLT SZATLOCZKI

This is to Certify that **PENN AIR CONTROL, INC.**, has surveyed the system described in accordance with the plans, specifications and within the limitations of the equipment and installation.

This survey has been performed in accordance with the standard requirements and procedures of the **Associated Air Balance Council** and the results of these tests are herein recorded.

Associated Air Balance Council Certification #82-01-14

Date: DECEMBER 26, 2017



Members of Associated Air Balance Council

Guam  
(671) 477-0325

Hawaii  
(808) 485-8880

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(787) 874-3612

San Diego, CA  
(760) 451-2025

Seoul, Korea  
011-822-34937983/4



**Associated Air Balance Council**

## *Annual Membership Certificate*

*Awarded to*

**Penn Air Control, Inc.**

*as a member in good standing of the Associated Air Balance Council for the year*

**2017**

*This member has met all requirements for membership and is entitled to all rights and privileges of AABC certification. This certificate is renewable on an annual basis and expires December 31, 2017.*



*Michael Delcamp*

Michael Delcamp, President

*Kenneth M. Sufka*

Kenneth M. Sufka, Executive Director



**Associated Air Balance Council**

**Annual Certificate**

*Awarded to*

**Herman Philhower**

**Penn Air Control, Inc.**

*In recognition of his qualifications as a*

***Certified Test and Balance Engineer***

*under the rules, regulations, and requirements of the Associated Air Balance Council. The above named is fully authorized to perform total system balance in accordance with the standards as established by the AABC and as a member of the Associated Air Balance Council for the year*

**2017**

*This registration number 82-01-14 is fully recognized by the bylaws and charter of this professional association. Certification is renewable on an annual basis after examination of the agency's record for the preceding year. This certificate expires December 31, 2017.*



*Michael Delcamp*

Michael Delcamp, President

*Kenneth M. Sufka*

Kenneth M. Sufka, Executive Director





**Associated Air Balance Council**

*hereby certifies that*

**Zsolt S. Szatloczki**

*has met all requirements and passed the necessary examination  
to perform testing and balancing as an AABC*

*Certified Test & Balance Technician*

*under the supervision of a certified test and balance engineer for*

**Penn Air Control, Inc.**

*This registration number 226-01-11 is only recognized under the  
auspices of the above named AABC member agency. This certificate  
expires December 31, 2017 and is renewable on an annual basis.*

*Michael Delcamp*

Michael Delcamp, President

*Kenneth M. Sufka*

Kenneth M. Sufka, Executive Director



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*INSERTS - ABBREVIATIONS & TERMINOLOGIES*



## **GENERAL NOTES**

PAGE # 1

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES - PRE-READS

1. EQUIPMENT OVER 3 YEARS OLD. SOME UNIT TAGS MISSING OR FADED. DATA NOT AVAILABLE.
2. UNABLE TO SHUT OFF AHU-16 TO GET SHEAVE PACKAGE INFO.
3. EF FANS HAD CRACKED OR LOOSE BELTS. NOTED ON BOTTOM OF FAN TEST SHEET.
4. NO MECHANICAL SCHEDULE PROVIDED. UNABLE TO RECORD SOME DESIGN VALUES.
5. EXHAUST RISER FOR EF-94 AND EF-96 WAS 16"X16" LOCATED IN INTERSTITIAL.  
EXHAUST RISER FOR EF-64 WAS 22"X22" LOCATED IN INTERSTITIAL.



## AIR HANDLER TEST SHEET

PAGE # 2

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES - PRE-READS

SYSTEM ID	AHU-16
EQUIPMENT LOCATION	INTERSTITIAL
AREA SERVED	CANTEEN/CAFETERIA
EQUIPMENT MANUFACTURER	DNP *1
MODEL NUMBER	DNP *1
SERIAL NUMBER	DNP *1

MOTOR INFORMATION	
MOTOR MANUFACTURER	BALDOR
MOTOR HP	25
MOTOR PHASE	3
MOTOR VOLTAGE	230/460
MOTOR AMPERAGE	60/30
MOTOR RPM	1775 (ACTUAL: 1786 )
MOTOR SERVICE FACTOR	1.15
MOTOR FRAME	284T
MOTOR BHP DES. / ACT. / KW	DNP / DNP / DNP
STARTER HEATER ELEMENT	TP

MEASUREMENTS	REQUIRED	ACTUAL		
TOTAL CFM - FAN	DNP	16,915		
TOTAL CFM - OUTLET	DNP	-		
TOTAL CFM - TRAVERSE	-	16,915		
STATIC PRESSURE DISCHARGE	-	1.290 "		
STATIC PRESSURE SUCTION	-	-0.550 "		
TOTAL STATIC PRESSURE	DNP	1.840 "		
FAN RPM	DNP	1723		
VOLTAGE	460	482	481	483
AMPERAGE	30	22.1	22.5	22.2

DRIVE INFORMATION				
DRIVE MANUFACTURER	DNA			*2
MOTOR SHEAVE	DNA	*2	CENTER DISTANCE	DNA *2
FAN SHEAVE	DNA	*2	SHEAVE ADJUSTMENT % CL.	DNA *2
BELT SIZE ( # )	DNA	*2	MOTOR ADJUSTMENT + / -	DNA *2

NOTE \*1: NO UNIT TAG LOCATED ON EQUIPMENT

NOTE \*2: UNABLE TO SHUT OFF UNIT. DATA NOT AVAILABLE.



## TRAVERSE DATA SHEET

PAGE # 3

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES - PRE-READS

AHU-16 SUPPLY

TL# 1

	A	B	C	D	E	F	G	H	I	J	K	L
1	581	613	640	658	604							
2	590	639	617	607	540							
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												

TOTAL FPM	# OF READINGS	AVERAGE FPM	AREA	UNADJUSTED CFM
6089	10	609	27.78	16,915

DESIGN CFM	DNP		
DESIGN DUCT SIZE ID IN INCHES	20	X	20

TRAVERSE TEST DATA			
TESTED DUCT SIZE ID IN INCHES	20	X	20
TESTED AREA	27.78		
CENTER LINE STATIC PRESSURE	-0.55		
CFM STANDARD CONDITION	1.0	16,915	
CFM TEMPERATURE CORRECTION	1.0	16,915	





## FAN TEST SHEET

PAGE # 4

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES - PRE-READS

SYSTEM ID	EF-64
EQUIPMENT LOCATION	2ND FLOOR ROOF
AREA SERVED	OFF THE GRILL MAIN KITCHEN HOOD
EQUIPMENT MANUFACTURER	DNP
MODEL NUMBER	FLS 34
SERIAL NUMBER	746715

MOTOR INFORMATION	
MOTOR MANUFACTURER	BALDOR
MOTOR HP	2 HP
MOTOR PHASE	3
MOTOR VOLTAGE	230/460
MOTOR AMPERAGE	6.4/3.2
MOTOR RPM	1725 (ACTUAL: 1749 )
MOTOR SERVICE FACTOR	1.15
MOTOR FRAME	DNP
MOTOR BHP DES. / ACT. / KW	DNP / DNP / DNP
STARTER HEATER ELEMENT	TP

MEASUREMENTS	REQUIRED	ACTUAL		
TOTAL CFM - FAN	DNP	1,270		
TOTAL CFM - OUTLET	DNP	1,270		
TOTAL CFM - TRAVERSE	-	-		
STATIC PRESSURE DISCHARGE	-	0.000 "		
STATIC PRESSURE SUCTION	-	-0.720 "		
TOTAL STATIC PRESSURE	DNP	0.720 "		
FAN RPM	DNP	1206		
VOLTAGE	460	481	479	480
AMPERAGE	3.20	2.70	2.60	2.80

DRIVE INFORMATION			
DRIVE MANUFACTURER	BROWNING		
MOTOR SHEAVE	MA58 X 7/8"	CENTER DISTANCE	7-1/2" "
FAN SHEAVE	4"OD X 3/4"	SHEAVE ADJUSTMENT % CL.	80.00% CL.
BELT SIZE ( # )	A37 (1) *1	MOTOR ADJUSTMENT + / -	+ 1 / - 1

NOTE \*1: BELT IS LOOSE.



## TRAVERSE DATA SHEET

PAGE # 5

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES PRE READS

EF-64

TL# 1

	A	B	C	D		F	G	H	I	J	K	L
1	212	239	259	302	260							
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												

TOTAL FPM	# OF READINGS	AVERAGE FPM	AREA	TOTAL CFM
1272	5	254	2.29	1,270

DESIGN CFM	DNP			
DESIGN DUCT SIZE ID IN INCHES	22	X	15	(5)

TRAVERSE TEST DATA				
TESTED DUCT SIZE ID IN INCHES	22	X	15	(5)
TESTED AREA	2.29			
CENTER LINE STATIC PRESSURE	-0.72			
CFM STANDARD CONDITION	1.0	1,270		
CFM TEMPERATURE CORRECTION	1.0	1,270		

NOTE \*1: 5 GREASE FILTERS AT 22"X15".



## FAN TEST SHEET

PAGE # 6

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES - PRE-READS

SYSTEM ID	EF-94
EQUIPMENT LOCATION	2ND FLOOR ROOF
AREA SERVED	OFF THE GRILL KITCHEN HOOD
EQUIPMENT MANUFACTURER	LOREN COOK
MODEL NUMBER	150VCR
SERIAL NUMBER	138S4641C4000004503C497

MOTOR INFORMATION	
MOTOR MANUFACTURER	BALDOR
MOTOR HP	7.5
MOTOR PHASE	3
MOTOR VOLTAGE	208-230/460
MOTOR AMPERAGE	3.2-3.0/1.5
MOTOR RPM	1725 (ACTUAL: 1757 )
MOTOR SERVICE FACTOR	1.25
MOTOR FRAME	56
MOTOR BHP DES. / ACT. / KW	DNP / DNP / DNP
STARTER HEATER ELEMENT	TP

MEASUREMENTS	REQUIRED	ACTUAL		
TOTAL CFM - FAN	DNP	684		
TOTAL CFM - OUTLET	DNP	684		
TOTAL CFM - TRAVERSE	-	-		
STATIC PRESSURE DISCHARGE	-	0.000 "		
STATIC PRESSURE SUCTION	-	-0.280 "		
TOTAL STATIC PRESSURE	DNP	0.280 "		
FAN RPM	DNP	1438		
VOLTAGE	DNP	479	480	482
AMPERAGE	DNP	1.42	1.40	1.45

DRIVE INFORMATION			
DRIVE MANUFACTURER	BROWNING		
MOTOR SHEAVE	1VL44 X 5/8"	CENTER DISTANCE	6-1/2 "
FAN SHEAVE	4"OD X 3/4"	SHEAVE ADJUSTMENT % CL.	0.00% CL.
BELT SIZE ( # )	4L-250 (1) *1	MOTOR ADJUSTMENT + / -	+ 2 / - 1

NOTE \*1: BELT IS CRACKED.



## TRAVERSE DATA SHEET

PAGE # 7

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES PRE READS

EF-94

TL# 1

	A	B	C	D		F	G	H	I	J	K	L
1	599	621										
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												

TOTAL FPM	# OF READINGS	AVERAGE FPM	AREA	TOTAL CFM
1220	2	610	0.56	684

DESIGN CFM	DNP			
DESIGN DUCT SIZE ID IN INCHES	20	X	4	(2)

TRAVERSE TEST DATA				
TESTED DUCT SIZE ID IN INCHES	20	X	4	(2)
TESTED AREA	0.56			
CENTER LINE STATIC PRESSURE	-0.28"			
CFM STANDARD CONDITION	1.0	684		
CFM TEMPERATURE CORRECTION	1.0	684		

NOTE \*1: 2 EXHAUST OPENINGS AT 20"X4".



## FAN TEST SHEET

PAGE # 8

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES - PRE-READS

SYSTEM ID	EF-96
EQUIPMENT LOCATION	2ND FLOOR ROOF
AREA SERVED	PIZZA KITCHEN HOOD
EQUIPMENT MANUFACTURER	LOREN COOK
MODEL NUMBER	135VCR
SERIAL NUMBER	138S4643760100023010497

MOTOR INFORMATION	
MOTOR MANUFACTURER	MARATHON
MOTOR HP	1/2
MOTOR PHASE	3
MOTOR VOLTAGE	DNP *1
MOTOR AMPERAGE	DNP *1
MOTOR RPM	1725 (ACTUAL: 1759 )
MOTOR SERVICE FACTOR	1.25
MOTOR FRAME	DNP *1
MOTOR BHP DES. / ACT. / KW	DNP / DNP / DNP *1
STARTER HEATER ELEMENT	TP

MEASUREMENTS	REQUIRED	ACTUAL		
TOTAL CFM - FAN	DNP	1,095		
TOTAL CFM - OUTLET	DNP	1,095		
TOTAL CFM - TRAVERSE	-	-		
STATIC PRESSURE DISCHARGE	-	0.000 "		
STATIC PRESSURE SUCTION	-	-0.160 "		
TOTAL STATIC PRESSURE	DNP	0.160 "		
FAN RPM	DNP	1340		
VOLTAGE	DNP	481	479	477
AMPERAGE	DNP	5.20	5.10	5.40

DRIVE INFORMATION			
DRIVE MANUFACTURER	BROWNING		
MOTOR SHEAVE	3"OD X 1/2"	CENTER DISTANCE	6-1/2 "
FAN SHEAVE	AK34 X 3/4"	SHEAVE ADJUSTMENT % CL.	20.00% CL.
BELT SIZE ( # )	A20 (1) *2	MOTOR ADJUSTMENT + / -	+ 0 / - 2

NOTE \*1: MOTOR STICKER DAMAGED. UNABLE TO GET RATED INFO.

NOTE \*2: BELT IS LOOSE.





## TRAVERSE DATA SHEET

PAGE # 9

DATE: 12/14/2017

PROJECT NAME: VA WEST LOS ANGELES - PRE-READS

EF-96

TL# 1

	A	B	C	D		F	G	H	I	J	K	L
1	1095											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												

TOTAL FPM	# OF READINGS	AVERAGE FPM	AREA	TOTAL CFM
1095	1	1095	1.00	1,095

DESIGN CFM	DNP		
DESIGN DUCT SIZE ID IN INCHES	12	X	12

TRAVERSE TEST DATA			
TESTED DUCT SIZE ID IN INCHES	12	X	12
TESTED AREA	1.00		
CENTER LINE STATIC PRESSURE	-0.16"		
CFM STANDARD CONDITION	1.0	1,095	
CFM TEMPERATURE CORRECTION	1.0	1,095	

NOTE \*1: 2 EXHAUST OPENINGS AT 20"X4".



## **ABBREVIATIONS & TERMINOLOGY**

A:	Nameplate Amps	ECON:	Economizer - Controls & Components that allow an Air Handler to logically utilize outdoor air for cooling as opposed to the use of mechanical cooling.
AHU:	Air Handling Unit	EDC:	Electric Duct Coil
AC:	Air Conditioner	EDH:	Electric Duct Heater
ACU:	Air Conditioning Unit	EF:	Exhaust Fan
ACCU:	Air Cooled Condensing Unit	EG:	Exhaust Grille
ACH:	Air Changers Per Hour	EH:	Exhaust Hood
AMP:	Ampere	EMS:	Energy Management System (s)
AVG:	Average	EMCS:	Energy Management Control System(s)
		ENT:	Entering
BDD:	Back Draft Damper	ER:	Exhaust Register
BHP:	Brake Horsepower	EWT:	Entering Water Temperature
BTU:	British Thermal Unit		
BTUH:	British Thermal Units Per Hour		
CAV:	Constant Air Volume	F:	Degrees Fahrenheit
CC:	Cooling Coil	FCU:	Fan Coil Unit
CD:	Ceiling Diffuser	FD:	Fire Damper
CFM:	Cubic Feet Per Minute	FH:	Fume Hood
CH:	Chiller	FG:	Floor Grille
CHW:	Chilled Water	FLA:	Full Load Amperage
CHWR:	Chilled Water Return	FLTS:	Filters
CHWS:	Chilled Water Supply	FPB:	Fan Powered Box
CP:	Circulating Pump	FPM:	Feet Per Minute
CR:	Ceiling Register	FR:	Floor Register
CT:	Cooling Tower	FSD:	Fire/Smoke Damper
CU:	Condensing Unit	FTU:	Fan Terminal Unit
CUH:	Cabinet Unit Heater		
CW:	Condensing Water		
CWR:	Condenser Water Return	GPM:	Gallons Per Minute
CWS:	Condenser Water Supply		
CX:	Commissioning		
		HC:	Heating Coil
DAT:	Discharge Air Temperature	HD:	Head Pressure Measured in Inches or Feet of Water
DB:	Dry Bulb	Heater OL:	Thermal Overload Protection for Motors Located at the Motor Starter
DD:	Direct Drive	HEPA:	High Efficiency Particulate Arrestance
DP:	Delta Pressure, Difference, Net Decrease or Increase	HOA:	Hand/Off/Auto Switch
DNA:	Data Not Available	HP:	Horse Power
DNG:	Data Not Given	HPS:	High Pressure Steam
DNL:	Data Not Listed	HRC:	Heat Recovery Coil or Heat Reclaim Coil
DNP:	Data Not Provided		
EAT:	Entering Air Temperatures		



## **ABBREVIATIONS & TERMINOLOGY**

HVAC:	Heating Ventilating & Air Conditioning	RND:	Round
HWR:	Hot Water Return or Heating Water Return	RA:	Return Air
HWS:	Hot Water Supply or Heating Water Supply	RAT:	Return Air Temperature
HX:	Heat Exchanger	REQ:	Required
Hydronic:	Indicates the Use or Conveyance of Liquid for Thermal Transfer	RF:	Return Air Fan
		RHC:	Re-Heat Coil
		RPM:	Revolutions Per Minute
		SA:	Supply Air
ID:	Inside Diameter	SAT:	Supply Air Temperature
IV:	Inlet Vanes	SCD:	Static Control Damper
		SEF:	Smoke Exhaust Fan
K:	Correction Factor	SF:	Supply Fan (Air)
		SHC:	Steam Heating Coil
LAT:	Leaving Air Temperature	SP:	Set Point
LPS:	Low Pressure Steam	SPF:	Stairwell Pressurization Fan
LV:	Leaving	SP 'WC':	Static Pressure Resistance Measured in Inches of Water Column
LWG:	Low Wall Grille	SWG:	Sidewall Grille
LWR:	Low Wall Register	SWR:	Sidewall Register
LWT:	Leaving Water Temperature		
		TAB:	Testing, Adjusting and Balancing
MUAH:	Make-Up Air Handler	TD:	Differential Temperature, Net Temperature Decrease or Increase
MAU:	Make-Up Air Unit	TP:	Traverse Point/Test Point
MBH:	Thousand BTU's Per Hour	TSP:	Total Static Pressure
		UH:	Unit Heater
N/A:	Not Applicable or Not Available		
N/L:	Not Listed	V:	Voltage/Volt/Volts
NVL:	No Valid Location	VAV:	Variable Air Volume
		VD:	Volume Damper
OD:	Outside Diameter	VEL:	Velocity
		VFD:	Variable Frequency Drive (Electric Motor Speed Controller)
OSA or OA:	Outside Air	VP:	Velocity Pressure
OAT:	Outside Air Temperature		
		W:	Watts
P:	Circulating Pump	WB:	Wet Bulb
PD:	Differential Pressure or Pressure Drop	WG:	Water Gauge
PF:	Power Factor		
PHC:	Pre-Heat Coil		
PH:	Phase (s)		
PSI:	Pounds Per Square Inch		