Report By:

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

Report: AHU37A-B Evaluation Report

Function: Test, Adjust, & Balance

Date: 11/18/2025

Completed By: National TAB

PROJECT

VA Hospital Eval (Indianapolis, IN)

1481 West Tenth Street

Indianapolis, IN 46202

Client

Specialized Engineering Solutions

10360 ELLISON CIR

OMAHA, NE 68134

National TAB

Project: VA Hospital Eval (Indianapolis, IN)

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National TAB

Project: VA Hospital Eval (Indianapolis, IN)

System/Unit: AHU-DUAL FAN

Asset: AHU-37A 1 AREA:

UNIT DATA - SUPPLY	
	Actual
Manufacturer	YORK
Model Number	CM
Serial Number	5476

TEST DATA - SUPPLY		
	Design	**Actual**
Total CFM	-	17983 [2]
VFD Speed	-	59 HZ
RL Voltage	-	460 [1]
RL Amperage	-	31 (AVE)

PERFORMANCE DATA - SUPPLY		
	Design	**Actual**
Suction S.P.	-	-2.03"
Discharge S.P.	-	2.6"
Total S.P.	-	4.63"
Chilled Water Coil P.D.	-	1.66"
Pre Heat Coil P.D.	-	0.10" [3]
Total ESP	-	2.7" [3]

Notes:
MANF DATE 10/1992 JOB IDENTIFICATION T47207 AC37B
UNIT IS LABELED AS 37A
[1] FROM VFD
[2] TOTAL SUPPLY MEASURED FOR BOTH UNITS
COMBINED 35,983. HALF OF THE AIRFLOW ASSUMED FOR AHU37A = 17,983
[3] PRE-HEAT COIL IS ACTUALLY HEATING.
UNIT IN OPERATION & NOT ABLE TO ACCESS INSIDE UNIT. UNIT DATA COLLECTED FROM UNIT TAG IN DOCUMENT FOUND ON SITE.
Supply @94% during VAV readout

Written By: Joe Hertenstein on 11/24/2025

National TAB

Project: VA Hospital Eval (Indianapolis, IN)

System/Unit: AHU-DUAL FAN

Asset: AHU-37B 1 AREA:TWINNED WITH AHU-37A

UNIT DATA - SUPPLY	
	Actual
Manufacturer	YORK
Model Number	CM
Serial Number	5475

TEST DATA - SUPPLY		
	Design	**Actual**
Total CFM	-	17983 [2]
VFD Speed	-	57.65 HZ
RL Voltage	-	448 (AVE) [1]
RL Amperage	-	NA

PERFORMANCE DATA - SUPPLY		
	Design	**Actual**
Suction S.P.	-	-1.65"
Discharge S.P.	-	2"
Total S.P.	-	3.65"
Chilled Water Coil P.D.	-	0.49"
Pre Heat Coil P.D.	-	0.24" [3]

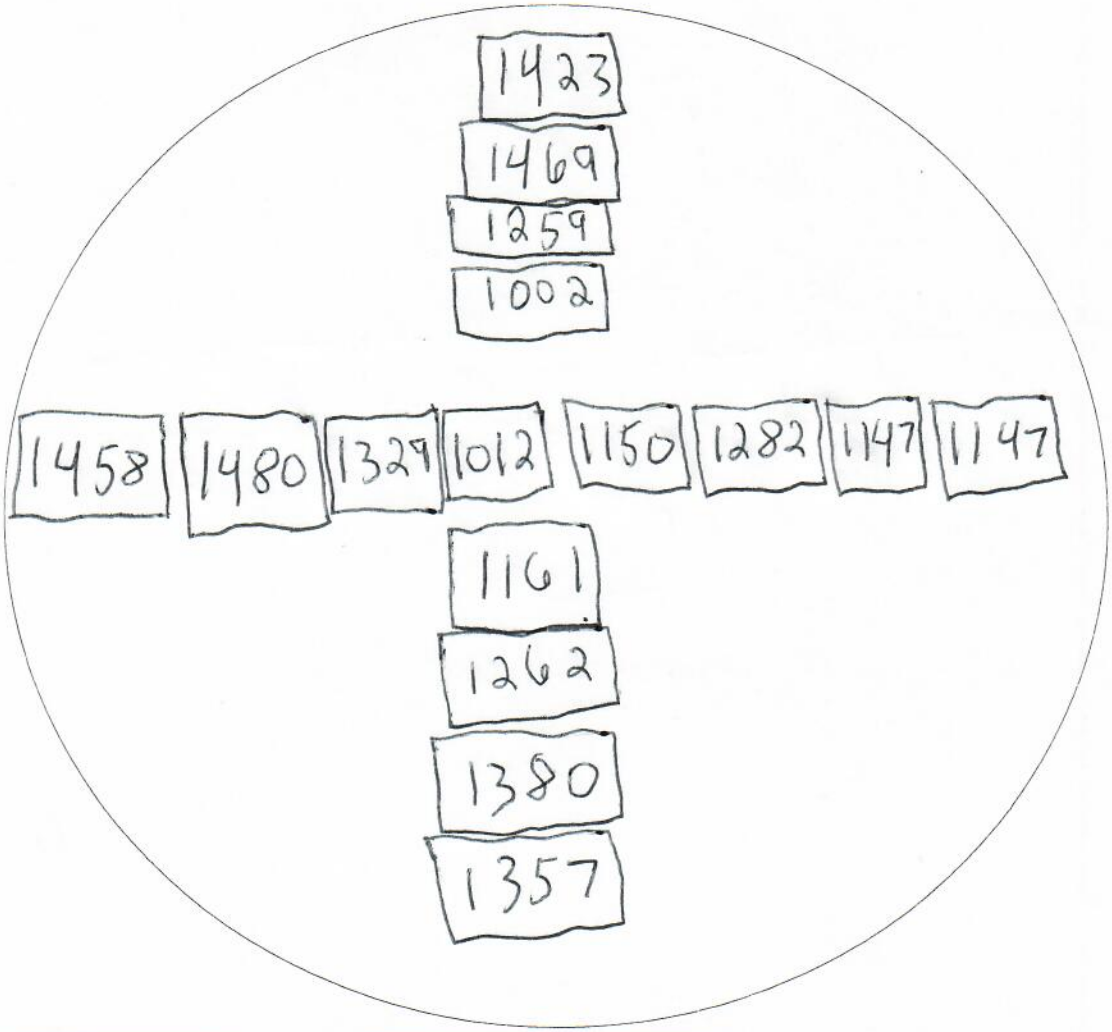
Notes:
UNIT MANF-10/1992 JOB IDENT: 74206 AC37A
UNIT IS LABELED AS 37B
[1] FROM VFD
[2] TOTAL SUPPLY MEASURED FOR BOTH UNITS
COMBINED 35,983. HALF OF THE AIRFLOW ASSUMED FOR AHU37A = 17,983
[3] PRE-HEAT COIL IS ACTUALLY HEATING.
UNIT IN OPERATION & NOT ABLE TO ACCESS INSIDE UNIT. UNIT DATA COLLECTED FROM UNIT TAG IN DOCUMENT FOUND ON SITE.

Written By: Joe Hertenstein on 11/24/2025

ROUND DUCT TRAVERSE FORM

PROJECT:				SYSTEM:	AHU37A+B
LOCATION - ZONE:				SERVICE:	
ALTITUDE:		DENSITY:		FACTOR:	

DUCT		REQUIRED		ACTUAL	
S.P.:	2.50"	SCFM:		SCFM:	
SIZE:	52"	FPM:		FPM:	1269
AREA:	14.70 ft²	CFM:		CFM:	18,728
TEMP:					

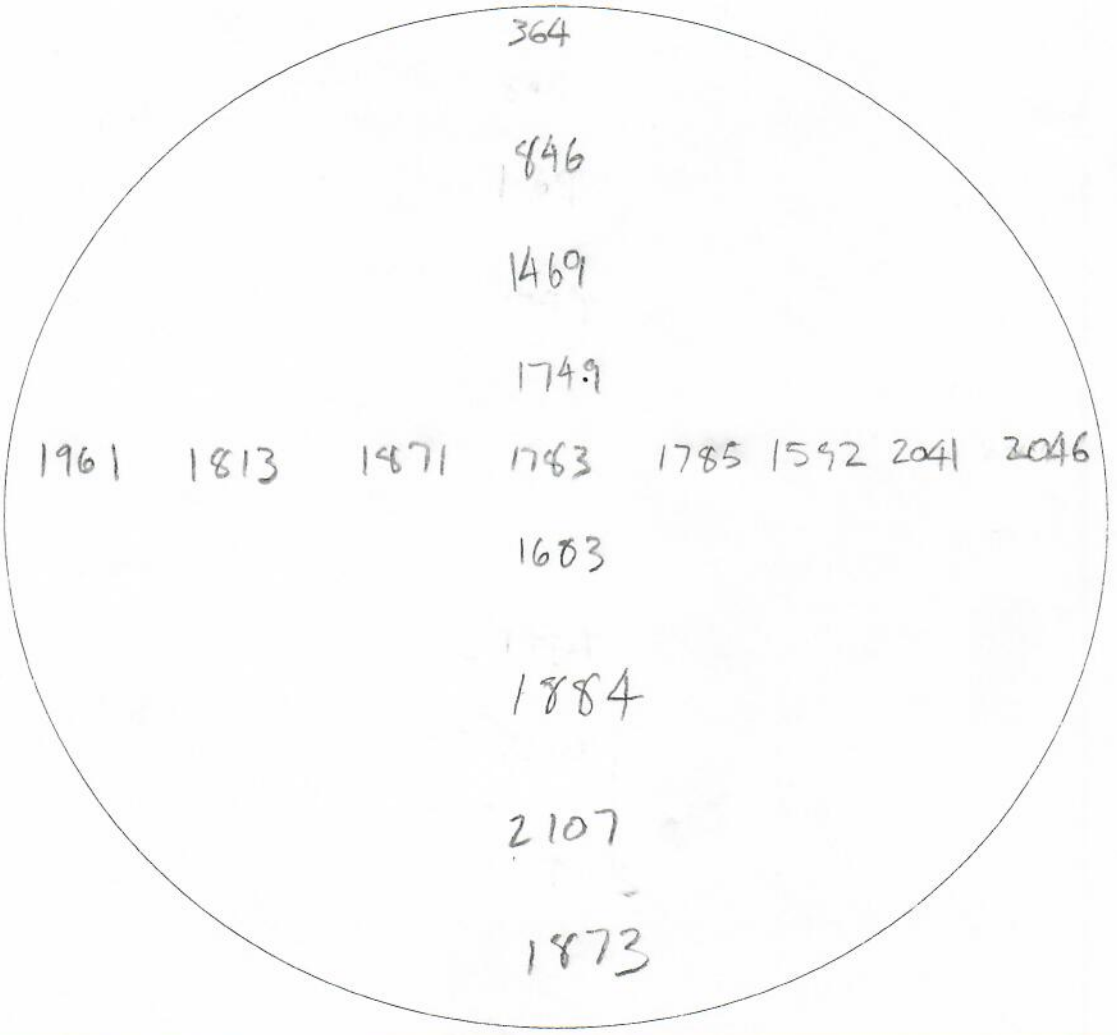


TEST DATE:	REMARKS:
10/1/25	TEST #8A
READINGS BY:	
Aaron	

ROUND DUCT TRAVERSE FORM

PROJECT:				SYSTEM:	AHU-37A-B
LOCATION - ZONE:				SERVICE:	
ALTITUDE:		DENSITY:		FACTOR:	

DUCT		REQUIRED		ACTUAL	
S.P.:	2.42"	SCFM:		SCFM:	
SIZE:	42"	FPM:		FPM:	1680
AREA:	9.62 sq ft	CFM:		CFM:	16,155
TEMP:					



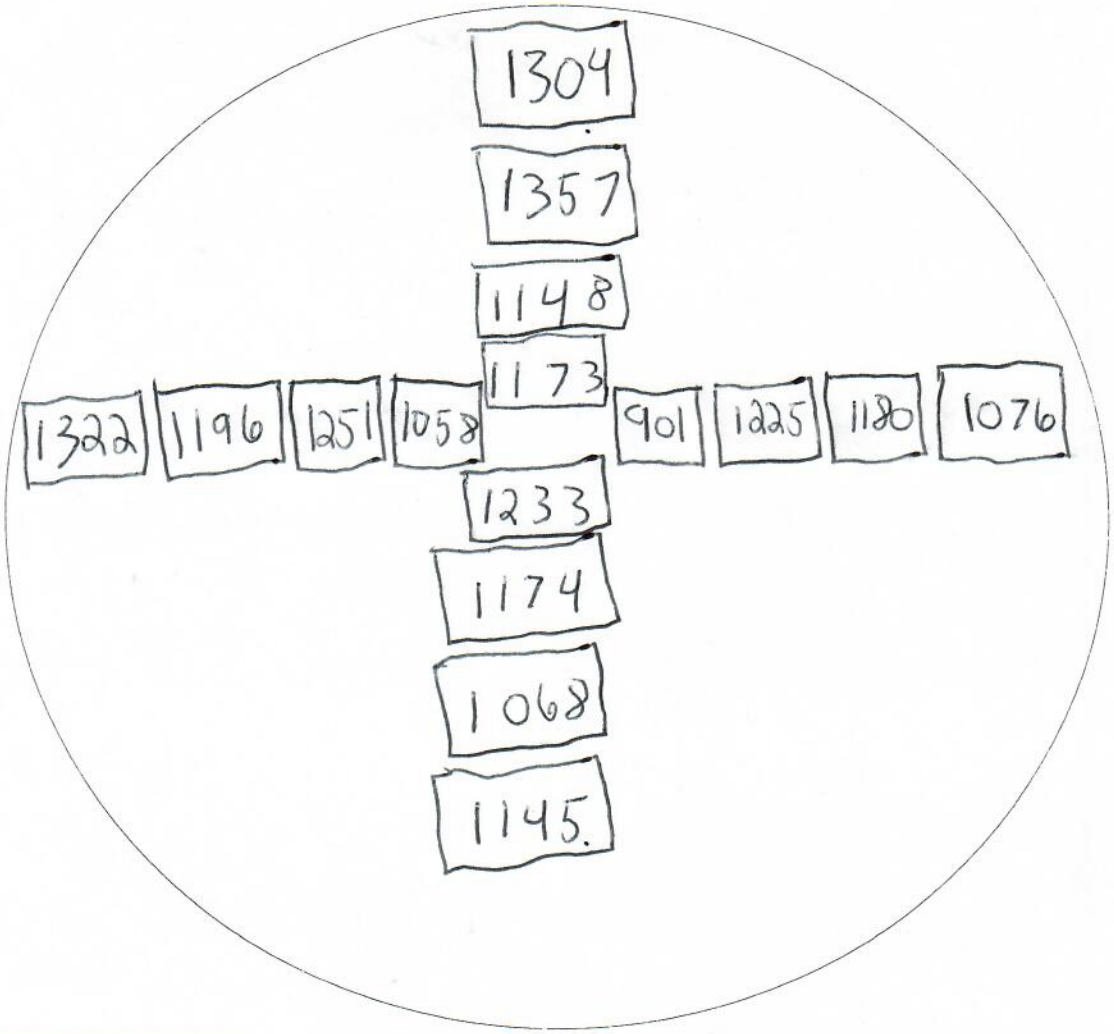
TEST DATE:	REMARKS:
	TEST # CF
READINGS BY:	
NICK	

PAGE:

ROUND DUCT TRAVERSE FORM

PROJECT:		SYSTEM:	AHU37A-B
LOCATION - ZONE:		SERVICE:	
ALTITUDE:	DENSITY:	FACTOR:	

DUCT		REQUIRED		ACTUAL	
S.P.:	2.54"	SCFM:		SCFM:	
SIZE:	12"	FPM:		FPM:	1175
AREA:	0.785 ft²	CFM:		CFM:	923
TEMP:					



TEST DATE:	REMARKS:
10/1/25	TEST #BB
READINGS BY:	
Aaron C.	

National TAB

Project: VA Hospital Eval (Indianapolis, IN)

System/Unit: FAN - Return

Asset: AHU37A-RF1 AREA:

Unit Data		
	Design	**Actual**
MFG	PennBarry	PennBarry
Model Num	ESI245ARR9C2	ESI245ARR9C2
Serial Num	-	G242558
Type	-	INLINE TUBULAR

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	254T
Horsepower	-	15
Motor Rpm	-	1765
Phase	-	3
Voltage (rated)	-	230/460
Amperage (rated)	-	35.4/17.7
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	NOT ACCESSIBLE
Fan Sheave Size	NOT ACCESSIBLE
Num of Belts	2
Belt Size	2L432G

Test Data		
	Design	**Actual**
CFM	-	9082
Return Fan RPM	-	1559
Motor Frequency	-	52.8 HZ
RL Voltage	-	
RL Amperage	-	11.8 (AVE)
Suction ESP	-	-2.74"
Discharge ESP	-	+1.06"
Total ESP	-	3.8"

National TAB

Project: VA Hospital Eval (Indianapolis, IN)

System/Unit: FAN - Return

Asset: AHU37B-RF1 AREA:

Unit Data		
	Design	**Actual**
MFG	PennBarry	PennBarry
Model Num	ESI245ARR9C2	ESI245ARR9C2
Serial Num	-	H60726
Type	-	INLINE TUBULAR

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	245T
Horsepower	-	15
Motor Rpm	-	1765
Phase	-	3
Voltage (rated)	-	230/460
Amperage (rated)	-	35.4/17.7
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	NOT ACCESSIBLE
Fan Sheave Size	NOT ACCESSIBLE
Num of Belts	2
Belt Size	2L432G

Test Data		
	Design	**Actual**
CFM	-	11849
Motor Frequency	-	54 HZ
RL Voltage	-	
RL Amperage	-	14 (AVE)
Suction ESP	-	-2.78"
Discharge ESP	-	+1.03
Total ESP	-	3.81"

SQUARE DUCT TRAVERSE FORM

PROJECT				SYSTEM	AHU-37B-RF
LOCATION				SERVICE	
ALTITUDE	-	DENSITY	-	FACTOR	-

DUCT			REQUIRED		ACTUAL	
S.P.	1.23"	TEMP -	SCFM	-	SCFM	-
SIZE	42" x 42"		FPM		FPM	967
AREA	12.3 ft²		CFM		CFM	11,849

DISTANCE FROM BOTTOM	POSITION	1	2	3	4	5	6	7	8	9	10	11	12
	1	1213	1294	1177	1134	1085	1166	1081	1033				
	2	1490	1138	782	788	868	924	869	1060				
	3	1362	1051	866	757	759	1035	1170	994				
	4	1306	979	669	699	828	1134	1191	1021				
	5	1262	930	719	640	902	1087	1208	1205				
	6	1200	1068	785	755	660	793	1017	1149				
	7	1162	803	1011	815	762	809	987	566				
	8	1043	894	604	740	803	796	932	880				
	9												
	10												
	11												
	12												
	13												
DISTANCE FROM DUCT EDGE													
VELOCITY SUB - TOTALS													

REMARKS:

TEST = BC

Consistent readings

TEST DATE: 10/1/25

READINGS BY: Aaron C

PAGE:

SQUARE DUCT TRAVERSE FORM

PROJECT			SYSTEM	AHU-37A-RF	
LOCATION			SERVICE		
ALTITUDE	-	DENSITY -	FACTOR	-	

DUCT			REQUIRED		ACTUAL	
S.P.	1.23"	TEMP -	SCFM	-	SCFM	-
SIZE	42x42		FPM		FPM	741
AREA	12.3 Ft²		CFM		CFM	9082

DISTANCE FROM BOTTOM	POSITION	1	2	3	4	5	6	7	8	9	10	11	12
	1	1197	1291	1094	1165	1033	961	910	1214				
	2	1248	840	464	505	550	563	834	931				
	3	1455	932	531	224	221	211	664	749				
	4	1495	602	241	238	347	261	640	598	571			
	5	1411	521	315	353	396	513	627	603	663			
	6	1314	449	611	462	416	653	525	496				
	7	1508	952	709	752	586	573	539	440				
	8	1603	1240	1152	965	901	582	617	656				
	9												
	10												
	11												
	12												
	13												
DISTANCE FROM DUCT EDGE													
VELOCITY SUB - TOTALS													

REMARKS:

TEST = BD

Numbers were consistent at specific spots, but air was the highest at the edges and lowest in the middle.

TEST DATE: 10/1/25 READINGS BY: Aaron C PAGE:

VAV - Single Duct

AHU-37A 1/

Asset							
TU-37-01	Type	Inlet Size	Max CFM				
	CAV	14	2788	-	-	-	-
	14	2788					
TU-37-02	Type	Inlet Size	Max CFM				
	CAV	12	1783	-	-	-	-
	12	1783					
TU-37-03	Type	Inlet Size	Max CFM				
	CAV	8	372	-	-	-	-
	8	372					
TU-37-04	Type	Inlet Size	Max CFM				
	CAV	8	1129	-	-	-	-
	8	1129					
TU-37-06	Type	Inlet Size	Max CFM				
	CAV	8	104	-	-	-	-
	8	104					
TU-37-07	Type	Inlet Size	Max CFM				
	CAV	12	1803	-	-	-	-
	12	1803					
TU-37-08	Type	Inlet Size	Max CFM				
	CAV	(2) 12	3166	-	-	-	-
	(2) 12	3166					
TU-37-09	Type	Inlet Size	Max CFM				
	CAV	8	221	-	-	-	-
	8	221					
TU-37-5	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	8	744				
	Heat CFM	Ak (max)					
TU-37-10	Type	Inlet Size	Max CFM				
	CAV	6	570	-	-	-	-
	6	570					
TU-37-11	Type	Inlet Size	Max CFM				
	CAV	6	0	-	-	-	-
	6	0					
TU-37-12	Type	Inlet Size	Max CFM				
	CAV	6	457	-	-	-	-
	6	457					
TU-37-13	Type	Inlet Size	Max CFM				
	CAV	14	846	-	-	-	-
	14	846					

TU-37-14	Type	Inlet Size	Max CFM				
	CAV	14	1666	-	-	-	-
	14	1666					
TU-37-15	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	10	524				
	Heat CFM	Ak (max)					
TU-37-16	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	6	40				
	Heat CFM	Ak (max)					
TU-37-17	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	10	696				
	Heat CFM	Ak (max)					
TU-37-18	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	14	1724				
	Heat CFM	Ak (max)					
TU-37-21	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	12	4179				
	Heat CFM	Ak (max)					
TU-37-23	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	8	284				
	Heat CFM	Ak (max)					
TU-37-24	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	10	1096				
	Heat CFM	Ak (max)					
TU-37-25	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	8	826				
	Heat CFM	Ak (max)					
TU-37-26	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	Heat CFM	Ak (max)					
TU-37-27	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	8	305				
	Heat CFM	Ak (max)					
TU-37-28	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
	CAV	10	538				
	Heat CFM	Ak (max)					

	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM
TU-37-29	CAV	8	465				
	Heat CFM	Ak (max)					
	Type	Inlet Size	Max CFM				
TU-37-30				-	-	-	-
	Type	Inlet Size	Max CFM				
TU-37-31				-	-	-	-
	Type	Inlet Size	Max CFM				
TU-37-32	CAV	8	58	-	-	-	-
	8	58					
	Type	Inlet Size	Max CFM				
TU-37-33	CAV	12	1617	-	-	-	-
	12	1617					
	Type	Inlet Size	Max CFM				
TU-37-34				-	-	-	-
	Type	Inlet Size	Max CFM				
TU-37-35				-	-	-	-
	Type	Inlet Size	Max CFM				
TU-37-36	CAV	8	54	-	-	-	-
	8	54					
	Type	Inlet Size	Max CFM				
TU-37-37	CAV	12	2295	-	-	-	-
	12	2295					
	Type	Inlet Size	Max CFM				
TU-37-38	CAV	8	598	-	-	-	-
	8	598					
	Type	Inlet Size	Max CFM				
TU-37-39	CAV	8	32	-	-	-	-
	8	32					
	Type	Inlet Size	Max CFM				
TU-37-40	CAV	8	882	-	-	-	-
	8	882					
	Type	Inlet Size	Max CFM				
VAVMC-1	-	6"	161	-	-	-	-
	6"	161					

Asset	Notes	Date	Written By
TU-37-02	Double	10/08/2025	Aaron Cosby
TU-37-07	OR7 labeled tu-37-01 Double VAV	10/08/2025	Aaron Cosby
TU-37-11	Ductwork capped off	10/08/2025	Nick Payne
TU-37-26	Swapped for 1a	10/08/2025	Aaron Cosby
TU-37-30	Swapped for 4a	10/08/2025	Aaron Cosby
TU-37-31	Removed	10/08/2025	Aaron Cosby
TU-37-34	Swapped out	10/08/2025	Aaron Cosby
TU-37-35	Swapped out	10/08/2025	Aaron Cosby
VAVMC-1	pneumatic box located in mechanical room ducted off main trunkline of AHU-37A. Not controlled by BMS.	11/24/2025	Joe Hertenstein

VAV - Single Duct

AHU-37A 1/

Asset									
Asset Name	Type	Inlet Size	Max CFM	Design Max CFM	Design Min CFM	Min CFM	Design Heat CFM	Heat CFM	Ak (max)
AFCV-37-01	CAV	12	1910	-	-	-	-	-	-
AFCV-37-02				-	-	-	-	-	-
AFCV-37-04				-	-	-	-	-	-
AFCV-37-05				-	-	-	-	-	-
AFCV-37-06				-	-	-	-	-	-
AFCV-37-07				-	-	-	-	-	-
AFCV-37-08	CAV	(2) 10	873	-	-	-	-	-	-
AFCV-37-09	CAV	14	1071						
AFCV-37-10	CAV	6	517	-	-	-	-	-	-
AFCV-37-11	CAV	12	1690	-	-	-	-	-	-
AFCV-37-12	CAV	10	705	-	-	-	-	-	-
AFCV-37-13	NA	NA	0	-	-	-	-	-	-
AFCV-37-14	CAV	14	701	-	-	-	-	-	-
AFCV-37-15	CAV	10	829	-	-	-	-	-	-
AFCV-37-16	CAV	14	545	-	-	-	-	-	-
AFCV-37-17	CAV	14	725	-	-	-	-	-	-
AFCV-37-18	NA	NA	0	-	-	-	-	-	-
AFCV-37-19	CAV	8	79	-	-	-	-	-	-
AFCV-37-20	CAV	5	0	-	-	-	-	-	-
AFCV-37-21	CAV	7	281	-	-	-	-	-	-
AFCV-37-22	CAV	7	696	-	-	-	-	-	-
AFCV-37-23	CAV	(2) 12	1022	-	-	-	-	-	-
AFCV-37-24	CAV	6	657	-	-	-	-	-	-
AFCV-37-25	CAV	10	1160	-	-	-	-	-	-
AFCV-37-26				-	-	-	-	-	-
AFCV-37-27	CAV	6	191	-	-	-	-	-	-
AFCV-37-28	CAV	6	548	-	-	-	-	-	-
AFCV-37-29	CAV	6	280	-	-	-	-	-	-
AFCV-37-30	CAV	8	31	-	-	-	-	-	-
AFCV-37-31	CAV	8	274	-	-	-	-	-	-
AFCV-37-32				-	-	-	-	-	-
AFCV-37-33									
AFCV-37-34	CAV	12	869						
AFCV-37-35	CAV	10	0						
AFCV-37-36	CAV	12	416						
AFCV-37-37	CAV	12	801						
AFCV-37-38	CAV	8	131						
AFCV-37-39	CAV	12	832						
AFCV-37-40	CAV	(2) 12	901						
AFCV-37-44	CAV	12	11						
AFCV-37-45	CAV	12	0	-	-	-	-	-	-

Asset	Notes	Date	Written By
AFCV-37-13	Removed and capped.	10/08/2025	Nick Payne
AFCV-37-18	Removed and capped.	10/08/2025	Nick Payne
AFCV-37-20	duct is capped off	10/08/2025	Nick Payne
AFCV-37-21	2 VAVs connected to duct	10/08/2025	Aaron Cosby
AFCV-37-24	2 VAVs connected to duct	10/08/2025	Aaron Cosby
AFCV-37-26	Removed	10/08/2025	Aaron Cosby
AFCV-37-32	Swapped for 1	10/08/2025	Aaron Cosby

Asset	Notes	Date	Written By
AFCV-37-33	Swapped for 1	10/08/2025	Aaron Cosby