

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)



## Circuit Setter

### CHW CS/

Asset							
Asset Name	Size	Type	Design GPM	Setting	Delta P	Final GPM	% to Design
(E)AC-1			500		24.40		-
(E)AC-2			276		14.20		-
(E)AC-3			276		14.20		-
(E)AC-4			190		7.00		-
Total			1242			0	0%

HW CS/

Asset							
Asset Name	Size	Type	Design GPM	Setting	Delta P	Final GPM	% to Design
CUH-1		AUTO	5		2.60		-
CUH-2		AUTO	2		1.80		-
CUH-3		AUTO	5		2.60		-
CUH-4		AUTO	5		2.60		-
CUH-5		AUTO	6		2.20		-
CUH-6		AUTO	5		2.60		-
CUH-7		AUTO	5		2.60		-
CUH-8		AUTO	5		2.60		-
CUH-9		AUTO	5		2.60		-
CUH-10		AUTO	6		2.20		-
CUH-11		AUTO	6		2.20		-
UH-1		AUTO	12		0.80		-
UH-2		AUTO	9		1.20		-
UH-3		AUTO	10		1.90		-
V1-100		AUTO	1.5		0.38		-
V1-117		AUTO	2.4		0.83		-
V1-118		AUTO	6.4		0.7		-
V1-205		AUTO	3.2		0.82		-
V1-207		AUTO	3.8		0.62		-
V1-210		AUTO	6.1		1.56		-
V1-212	3/4"	MANUAL	2.3	0.4	0.115 PSI	2.08	91.3
V1-213	1/2"	MANUAL	1.1	0.1	0.104 PSI	1.04	90.9
V1-215	L 1/2"	MANUAL	1.1	0.05	0.110 PSI		-
V1-216		AUTO	3.9		0.62		-
V1-217	3/4"	MANUAL	3.9	2.3	0.390 PSI	3.85	100.0
V1-100A 1		AUTO	3.8		0.62		-
V1-100B 1		AUTO	3.8		0.62		-
V1-100C 1		AUTO	1.3		0.25		-
V1-100D 1		AUTO	0.9		0.16		-
V1-100E 1		AUTO	3.9		0.97		-
V1-100F 1		AUTO	3.9		0.97		-
V1-100G 1		AUTO	4		2.22		-
V1-100H 1		AUTO	2.8		0.84		-
V1-119A 1		AUTO	1.8		0.28		-
V1-119B 1		AUTO	1.8		0.28		-
V1-119C 1		AUTO	1.4		0.25		-
V1-200A 1		AUTO	0.9		0.16		-
V1-200B 1		AUTO	5.3		0.61		-
V1-200C 1		AUTO	5.3		0.61		-
V1-200D 1		AUTO	5.3		0.61		-
V1-200E 1		AUTO	5.3		0.61		-
V1-200F 1		AUTO	5.3		0.61		-
V1-200G 1		AUTO	5.3		0.61		-
V1-200H 1		AUTO	5.3		0.61		-
V1-200Q 1		AUTO	0.9		0.22		-
V3-300		AUTO	0.9		0.16		-
V3-304		AUTO	1.8		0.28		-
V3-306		AUTO	1.8		0.25		-
V3-307		AUTO	1.4		0.22		-
V3-309		AUTO	1.8		0.25		-
V3-310		AUTO	6.8		3.27		-
V3-311		AUTO	3.4		0.53		-
V3-312		AUTO	3.4		0.53		-
V3-313		AUTO	3.4		0.53		-
V3-317		AUTO	3.8		0.62		-
V3-319		AUTO	0.9		0.16		-
V3-320		AUTO	2.3		0.38		-
V3-325		AUTO	0.9		0.16		-
V3-326		AUTO	1.8		0.25		-
V3-329		AUTO	0.9		0.22		-
V3-309A 1		AUTO	0.9		0.26		-
V3-310A 1		AUTO	4		2.22		-
V3-314A 1		AUTO	3.2		0.82		-
V3-314B 1		AUTO	5.5		1.9		-
V3-314C 1		AUTO	3.9		0.69		-
V3-314D 1		AUTO	3.9		0.97		-
V3-322A 1		AUTO	1.8		0.28		-

V3-322B 1		AUTO	1.8		0.28		-
V3-324A 1		AUTO	4		1.24		-
V3-324B 1		AUTO	4		1.24		-
V4-400		AUTO	2.4		0.27		-
V4-401		AUTO	2.4		0.41		-
V4-402		AUTO	2.3		0.24		-
V4-405		AUTO	0.5		0.16		-
V4-406		AUTO	1.4		0.23		-
V4-407		AUTO	0.9		0.16		-
V4-408		AUTO	0.5		0.16		-
V4-410		AUTO	1.7		0.30		-
V4-412		AUTO	2.4		0.83		-
V4-414		AUTO	1.4		0.35		-
V4-415		AUTO	2.4		2.94		-
V4-417		AUTO	2.3		0.40		-
V4-422		AUTO	0.5		0.16		-
V4-424		AUTO	1.5		0.38		-
V4-425		AUTO	2.0		0.24		-
V4-404A 1		AUTO	2.1		0.34		-
V4-404B 1		AUTO	2.3		0.24		-
V4-406A 1		AUTO	2.8		0.54		-
V4-419A 1		AUTO	2.3		0.4		-
V4-419B 1		AUTO	2.2		0.45		-
V4-420A 1		AUTO	2.2		0.45		-
V4-420B 1		AUTO	2.2		0.45		-
V4-420C 1		AUTO	2.2		0.45		-
V4-426A 1		AUTO	3.9		0.97		-
V4-426B 1		AUTO	2.2		0.45		-
V4-426C 1		AUTO	2.2		0.45		-
V5-100		AUTO	1.4		0.32		-
V5-500		AUTO	2.1		0.37		-
V5-501		AUTO	1.5		0.38		-
V5-502		AUTO	3.3		0.49		-
V5-506		AUTO	3.2		0.42		-
V5-509		AUTO	2.3		0.35		-
V5-510		AUTO	3.9		0.97		-
V5-511		AUTO	2.7		0.49		-
V5-516		AUTO	1.4		0.25		-
V5-518		AUTO	1.7		0.30		-
V5-521		AUTO	3.9		0.97		-
V5-525		AUTO	1.7		0.30		-
V5-526		AUTO	1.8		0.25		-
V5-529		AUTO	1.4		0.25		-
V5-530		AUTO	3.9		0.97		-
V5-541		AUTO	3.8		0.62		-
V5-542		AUTO	1.4		0.22		-
V5-543		AUTO	1.8		0.25		-
V5-546		AUTO	1.4		0.23		-
V5-547		AUTO	0.5		0.16		-
V5-551		AUTO	1.3		0.35		-
V5-553		AUTO	3.9		0.97		-
V5-555		AUTO	1.8		0.25		-
V5-558		AUTO	1.8		0.32		-
V5-561		AUTO	4.0		2.22		-
V5-563		AUTO	4.0		2.22		-
V5-565		AUTO	2.8		0.42		-
V5-516B 1		AUTO	1.4		0.25		-
V5-521D 1		AUTO	1.4		0.25		-
V5-534A 1		AUTO	1.8		0.32		-
V5-534B 1		AUTO	1.9		0.28		-
V5-540A 1		AUTO	1.9		0.29		-
V5-540B 1		AUTO	6.8		3.27		-
Total			389.4			6.97	1.79%

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: FAN - Exhaust



Asset: EF-1

AREA:JAN CLOSET

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	INLINE	

Test Data		
	Design	Actual
CFM	200	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25	

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

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: FAN - Exhaust



Asset: EF-2

AREA:111W

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	TUBE AXIAL INLINE	

Test Data		
	Design	Actual
CFM	4800	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.53	

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

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## FAN - Exhaust



**Diffuser Ret/Exh (GRD)**

**EF-2/111W**

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
E2-1	E-1	6	250					-
E2-2	E-1	6	250					-
E2-2	E-1	6	250					-
E2-4	E-1	6	250					-
E2-4	E-1	6	250					-
E2-6	E-1	6	250					-
E2-7	E-1	6	250					-
E2-8	E-1	6	250					-
E2-9	E-1	6	250					-
E2-10	E-1	6	250					-
E2-11	E-1	6	250					-
E2-12	E-1	6	250					-
E2-13	E-1	6	250					-
E2-14	E-1	6	250					-
E2-15	E-1	6	250					-
E2-16	E-1	6	250					-
E2-17	E-1	6	50					-
E2-18	E-1	6	75					-
E2-19	E-1	6	75					-
E2-20	E-2	8	300					-
E2-21	E-2	8	300					-
<b>Total</b>			4800		0	0	0	0%

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: FAN - Exhaust



Asset: EF-2

AREA:540B

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	CRE DNBLAST	

Test Data		
	Design	Actual
CFM	500	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.68	

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

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## FAN - Exhaust



**Diffuser Ret/Exh (GRD)**

**EF-2/540B**

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
E3-1	EX		250					-
E3-2	EX		250					-
Total			500		0	0	0	0%

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: FAN - Exhaust



Asset: EF-4

AREA:IT 117

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	INLINE	

Test Data		
	Design	Actual
CFM	200	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25	

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

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: FAN - Exhaust



Asset: EF-4

AREA:IT 208

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	INLINE	

Test Data		
	Design	Actual
CFM	200	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25	

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

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: FAN - Exhaust



Asset: EF-6

AREA:IT 104D FLOOR 5

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	
Type	INLINE	

Test Data		
	Design	Actual
CFM	200	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25	

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

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## System/Unit: Pump



Asset: CHWP-1

AREA: CHILLED WATER

Unit Data		
	Design	Actual
MFG	NA	BELL&GOSSETT
Model Num	NA	E-1510 SSF
Serial Num	-	C352767-02A42
Service	-	CHILLED WATER
Type	-	
Configuration	-	
Pump RPM	-	1200
GPM/HD	1250 - 60	1250-60
Impeller Diameter	-	12.625"

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	324/6T
Horsepower	30	30
Motor Rpm	-	1182
Phase	-	3
Voltage	-	460
Amperage	-	36.0
Service Factor	-	1.25
Efficiency	-	93.6%
Power Factor	-	0.82

Test Data		
	Design	Actual
Pump Off Pres	-	
Pump Dead Head Pres	-	
Act Impeller Dia (IN)	-	
Valve Open GPM	-	
Valve Open Diff (FT)	-	
Final Suction Pres (FT)	-	
Final Discharge Pres (FT)	-	
Total Head Pres (FT)	60	
Final GPM	1250	
Pump Rotation	-	
Motor RPM	-	
Pump RPM	-	
Motor Frequency	-	
System SetPt	-	
RL Voltage	-	460
RL Amperage	-	
Brake Horse Power	-	

Notes:  
NUMBERED CHWP-2 ON DRAWING

Written By: Gabe Merk on 01/22/2025

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## System/Unit: Pump



Asset: CHWP-2

AREA:CHILLED WATER

Unit Data		
	Design	Actual
MFG	NA	BELL&GOSSETT
Model Num	NA	E-1510 SSF
Serial Num	-	C352767-01A42
Service	-	CHILLED WATER
Type	-	
Configuration	-	
Pump RPM	-	1200
GPM/HD	1250 - 60	1250-60
Impeller Diameter	-	12.625"

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	324/6T
Horsepower	30	30
Motor Rpm	-	1182
Phase	-	3
Voltage	-	460
Amperage	-	36.0
Service Factor	-	1.25
Efficiency	-	93.6%
Power Factor	-	0.82

Test Data		
	Design	Actual
Pump Off Pres	-	
Pump Dead Head Pres	-	
Act Impeller Dia (IN)	-	
Valve Open GPM	-	
Valve Open Diff (FT)	-	
Final Suction Pres (FT)	-	
Final Discharge Pres (FT)	-	
Total Head Pres (FT)	60	
Final GPM	1250	
Pump Rotation	-	
Motor RPM	-	
Pump RPM	-	
Motor Frequency	-	
System SetPt	-	
RL Voltage	-	460
RL Amperage	-	
Brake Horse Power	-	

Notes:  
LABELED CHWP-1 ON DRAWING

Written By: Gabe Merk on 01/22/2025

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## System/Unit: Pump



Asset: HWP-1

AREA:HOT WATER

Unit Data		
	Design	Actual
MFG	NA	BELL&GOSSETT
Model Num	NA	E-1510 SSF
Serial Num	-	C352768-02L32
Service	-	HOT WATER
Type	-	CENTRIFUGAL
Configuration	-	VERTICAL
Pump RPM	-	1750
GPM/HD	450 - 50	450-50
Impeller Diameter	-	11.5"

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	254/6T
Horsepower	10	10
Motor Rpm	-	1180
Phase	-	3
Voltage	-	460
Amperage	-	13.9
Service Factor	-	1.15
Efficiency	-	91.7%
Power Factor	-	0.74

Test Data		
	Design	Actual
Pump Off Pres	-	146 FT
Valve Open GPM	-	424
Valve Open Diff (FT)	-	56.3 FT
Final Suction Pres (FT)	-	
Final Discharge Pres (FT)	-	
Total Head Pres (FT)	50	
Final GPM	450	
Pump Rotation	-	
Motor RPM	-	
Pump RPM	-	
Motor Frequency	-	
System SetPt	-	
RL Voltage	-	460
RL Amperage	-	
Brake Horse Power	-	

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## System/Unit: Pump



Asset: HWP-2

AREA:HOT WATER

Unit Data		
	Design	Actual
MFG	NA	BELL&GOSSETT
Model Num	NA	E-1510 SSF
Serial Num	-	C352768-01 L32
Service	-	HOT WATER
Type	-	
Configuration	-	
Pump RPM	-	1200
GPM/HD	450 - 50	450-50
Impeller Diameter	-	11.5"

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	254/6T
Horsepower	10	10
Motor Rpm	-	1180
Phase	-	3
Voltage	-	460
Amperage	-	13.9
Service Factor	-	1.15
Efficiency	-	91.7%
Power Factor	-	0.74

Test Data		
	Design	Actual
Pump Off Pres	-	146 FT
Valve Open GPM	-	
Valve Open Diff (FT)	-	57.5 FT
Final Suction Pres (FT)	-	
Final Discharge Pres (FT)	-	
Total Head Pres (FT)	50	
Final GPM	450	
Pump Rotation	-	
Motor RPM	-	
Pump RPM	-	
Motor Frequency	-	
System SetPt	-	
RL Voltage	-	460
RL Amperage	-	
Brake Horse Power	-	

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## System/Unit: AHU-DUAL FAN



Asset: (E)AC-1

AREA:120

UNIT DATA - SUPPLY		
	Design	Actual
Manufacturer	NA	NA
Model Number	NA	NA
Serial Number	-	
No. Pre-Filters / Size (1)	-	
No. Pre-Filters / Size (2)	-	
No. Pre-Filters / Size (3)	-	
No. Final Filters / Size (1)	-	
No. Final Filters / Size (2)	-	
No. Final Filters / Size (3)	-	

UNIT DATA - EXHAUST/RETURN		
	Design	Actual
Manufacturer	-	
Model Number	-	
Serial Number	-	
No. Pre-Filters / Size (1)	-	
No. Pre-Filters / Size (2)	-	
No. Pre-Filters / Size (3)	-	
No. Pre-Filters / Size (4)	-	
No. Pre-Filters / Size (5)	-	
No. Pre-Filters / Size (6)	-	

MOTOR DATA - SUPPLY	
	Actual
Motor MFG / Frame	
Horsepower / RPM	
Rated Volts / Phase	
Rated Amperage / SF	

MOTOR DATA - EXHAUST/RETURN	
	Actual
Motor MFG / FRAME	
Horsepower / RPM	
Rated Volts / Phase	
Rated Amperage / SF	

DRIVE DATA - SUPPLY		
	Design	Actual
Motor Sheave Size / Bore	-	
Fan Sheave Size / Bore	-	
Belt CL Distance	-	
No. Belts / Size	-	

DRIVE DATA - EXHAUST/RETURN		
	Design	Actual
Motor Sheave Size / Bore	-	
Fan Sheave Size / Bore	-	
Belt CL Distance	-	
No. Belts / Size	-	

TEST DATA - SUPPLY		
	Design	Actual
Total CFM	50000	
OA CFM	-	
Fan RPM	-	
VFD Speed	-	
RL Voltage	-	
RL Amperage	-	
Motor B.H.P.	-	

TEST DATA - EXHAUST/RETURN		
	Design	Actual
Total CFM	39000	
Fan RPM	-	
VFD Speed	-	
RL Voltage	-	
RL Amperage	-	
Motor B.H.P.	-	

PERFORMANCE DATA - SUPPLY		
	Design	Actual
Static Pressure Stpt	-	
Suction S.P.	-	
Discharge S.P.	-	
Total S.P.	4.75	
Reheat Coil P.D.	-	
DX Coil P.D.	-	
Condenser Coil P.D.	-	
Chilled Water Coil P.D.	-	
Pre Heat Coil P.D.	-	
Final Filters P.D.	-	
Heat Wheel P.D.	-	
Pre-Filters P.D.	-	
Air Blender P.D.	-	
Total ESP	-	

PERFORMANCE DATA - EXHAUST/RETURN		
	Design	Actual
Static Pressure Stpt	-	
Suction S.P.	-	
Discharge S.P.	-	
Total S.P.	1.75	
Heat Wheel P.D.	-	
Pre-Filters P.D.	-	
Total ESP	-	

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## AHU-DUAL FAN



**VAV - Single Duct**

**(E)AC-1/120**

Asset											
Asset Name	MFG	Model Num	Type	Inlet Size	Design Max CFM	Max CFM	Design Min CFM	Min CFM	Design Heat CFM	Heat CFM	Ak (max)
V1-100	TITUS	DESV	REHEAT	8	400	407	100	103	175	180	1.03
V1-117	TITUS	DESV	REHEAT	8	400	397	125	121	200	207	1.07
V1-118	TITUS	DESV	REHEAT	24X16	2700	2763	1025	1064	1950	2009	1.08
V1-207	TITUS	DESV	REHEAT	10	600	593	200	205	625	613	1.02
V1-210	TITUS	DESV	REHEAT	14	1960	1803	600	613	600	613	0.84
V1-212	TITUS	DESV	REHEAT	14	2250	2059	675	619	675	619	0.98
V1-213	TITUS	DESV	REHEAT	8	500	506	150	161	150	161	0.94
V1-215	TITUS	DESV	REHEAT	6	250	252	75	81	250	264	1.17
V1-216	TITUS	DESV	REHEAT	8	650	664	200	207	625	634	1.07
V1-217	TITUS	DESV	REHEAT	6	300	315	100	106	300	315	1.00
V1-100A 1	TITUS	DESV	REHEAT	8	750	760	225	218	625	632	1.1
V1-100B 1	TITUS	DESV	REHEAT	8	650	664	200	205	625	631	1.07
V1-100C 1	TITUS	DESV	REHEAT	6	125	132	50	54	125	131	1.03
V1-100D 1	TITUS	DESV	REHEAT	6	250	259	75	81	110	99	1.13
V1-100E 1	TITUS	DESV	REHEAT	10	600	599	200	203	300	389	1.01
V1-100F 1	TITUS	DESV	REHEAT	10	600	595	200	206	300	311	1.04
V1-100G 1	TITUS	DESV	REHEAT	8	450	458	150	159	225	241	1.02
V1-100H 1	TITUS	DESV	REHEAT	8	450	459	100	98	160	171	1.03
V1-122 1	TITUS	DESV	REHEAT	12	1200	1235	350	362	400	421	0.83
V1-126A 1	TITUS	DESV	REHEAT	12	1205	1231	350	361	500	511	1.03
V1-126B 1	TITUS	DESV	REHEAT	12	1205	1226	350	371	500	505	1.13
V1-127 1	TITUS	DESV			200	211	60	61	120	130	1.05
V1-130 1	TITUS	DESV			360	359	100	108	200	214	1.09
V1-200A 1	TITUS	DESV	REHEAT	6	300	301	75	77	125	129	1.10
V1-200B 1	TITUS	DESV	REHEAT	14	1650	1668	525	531	1500	1520	1.06
V1-200C 1	TITUS	DESV	REHEAT	14	1650	1675	525	531	1500	1538	1.09
V1-200D 1	TITUS	DESV	REHEAT	14	1650	1656	525	524	1500	1513	0.84
V1-200E 1	TITUS	DESV	REHEAT	14	1650	1649	525	510	1500	1542	0.94
V1-200F 1	TITUS	DESV	REHEAT	14	1375	1374	525	541	1500	1563	1.04
V1-200G 1	TITUS	DESV	REHEAT	14	1650	1657	525	541	1500	1543	1.12
V1-200H 1	TITUS	DESV	REHEAT	14	1650	1674	525	541	1500	1520	1.10
V1-200Q 1	TITUS	DESV	REHEAT	8	400	401	125	121	200	211	1.16

**Diffuser Supply (GRD)**

**V1-100/121**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1100-1	121H	LD	8	100	95	103	103.0
1100-2	100	S-2	8	150	143	139	92.7
1100-2	100	S-2	8	150	172	165	110.0
Total				400	410	407	101.75%

**V1-117/138**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1117-1	121	S-2	8	200	198	190	95.0
1117-2	121	S-2	8	200	228	207	103.5
Total				400	426	397	99.25%

**V1-207/207**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1207-1	200A	EX-SA		200	226	219	109.5
1207-2	207	EX-SA		200	201	194	97.0
1207-2	207	EX-SA		200	163	180	90.0
Total				600	590	593	98.83%

**V1-213/213**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1213-1	212	EX-SA		200	157	180	90.0
1213-2	213	EX-SA		300	308	326	108.7
Total				500	465	506	101.2%

**V1-215/215**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1215-1	215	S-2	8	125	135	124	99.2
1215-2	215	S-2	8	125	144	128	102.4
Total				250	279	252	100.8%

**V1-216/216**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1216-1	216	S-2	8	200	164	217	108.5
1216-2	216	S-2	8	200	194	181	90.5
1216-2	216A	S-2	8	125	199	131	104.8
1216-4	216A	S-2	8	125	178	135	108.0
Total				650	735	664	102.15%

**V1-217/217**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1217-1	217	S-2	8	150	164	154	102.7
1217-2	217	S-2	8	150	175	161	107.3
Total				300	339	315	105%

**V1-100A 1/125**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1100A-1	121H	LD	8	100	105	95	95.0
1100A-2	125	S-3	10	325	364	336	103.4
1100A-2	125	S-3	10	325	350	329	101.2
Total				750	819	760	101.33%

**V1-100B 1/102**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1100B-1	125	S-3	10	325	346	328	100.9
1100B-2	125	S-3	10	325	351	336	103.4
Total				650	697	664	102.15%

**V1-100C 1/103**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1100C-1	102	S-2	8	125	132	132	105.6
Total				125	132	132	105.6%

**V1-100D 1/120**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1100D-1	104	S-2	8	100	102	95	95.0
1100D-2	103	S-2	8	150	184	164	109.3
Total				250	286	259	103.6%

**V1-100E 1/120**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1100E-1	120	S-3	10	300	298	294	98.0
1100E-2	120	S-3	10	300	310	305	101.7
Total				600	608	599	99.83%

**V1-100F 1/120A**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1100F-1	120	S-3	10	300	309	293	97.7
1100F-2	120	S-3	10	300	322	302	100.7
Total				600	631	595	99.17%

**V1-100G 1/120F**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1100G-1	120B	S-2	8	150	149	156	104.0
1100G-2	120C	S-2	8	150	150	153	102.0
1100G-2	120A	S-2	8	150	157	149	99.3
Total				450	456	458	101.78%

**V1-100H 1/140**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1100H-1	120E	S-2	8	150	155	149	99.3
1100H-2	120F	S-2	8	150	168	160	106.7
1100H-2	120D	S-2	8	150	157	150	100.0
Total				450	480	459	102%

**V1-122 1/130**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1119C-1	130	EX-SA		275		277	100.7
1119C-2	130	EX-SA		275		277	100.7
1119C-2	130	EX-SA		275		283	102.9
1119C-4	130	EX-SA		275		289	105.1
SGRD5	HALL	CEILING DIFF		100		109	109.0
Total				1200	0	1235	102.92%

**V1-127 1/**

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	127			200				211	105.5
Total				200		0	0	211	105.5%

**V1-130 1/120**

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	130			180				172	95.6
SGRD2	130			180				187	103.9
Total				360		0	0	359	99.72%

**V1-200A 1/202**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1200A-1	202	S-1	6	200	140	194	97.0
1200A-2	209	S-1	6	100	188	107	107.0
Total				300	328	301	100.33%

**V1-200B 1/200**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1200B-1	200	S-3	10	275	288	269	97.8
1200B-2	200	S-3	10	275	311	302	109.8
1200B-2	200	S-3	10	275	310	299	108.7
1200B-4	200	S-3	10	275	264	250	90.9
1200B-4	200	S-3	10	275	273	259	94.2
1200B-6	200	S-3	10	275	304	289	105.1
Total				1650	1750	1668	101.09%

**V1-200C 1/200**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1200C-1	200	S-3	10	275	264	283	102.9
1200C-2	200	S-3	10	275	275	302	109.8
1200C-2	200	S-3	10	275	240	250	90.9
1200C-4	200	S-3	10	275	229	248	90.2
1200C-4	200	S-3	10	275	279	302	109.8
1200C-6	200	S-3	10	275	284	290	105.5
Total				1650	1571	1675	101.52%

**V1-200D 1/200**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1200D-1	200	S-3	10	275	241	266	96.7
1200D-2	200	S-3	10	275	263	281	102.2
1200D-2	200	S-3	10	275	251	271	98.5
1200D-4	200	S-3	10	275	249	269	97.8
1200D-4	200	S-3	10	275	259	278	101.1
1200D-6	200	S-3	10	275	248	291	105.8
Total				1650	1511	1656	100.36%

**V1-200E 1/200**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1200D-1	200	S-3	10	275	255	261	94.9
1200D-2	200	S-3	10	275	264	277	100.7
1200D-2	200	S-3	10	275	271	284	103.3
1200D-4	200	S-3	10	275	260	269	97.8
1200D-4	200	S-3	10	275	274	281	102.2
1200D-6	200	S-3	10	275	251	277	100.7
Total				1650	1575	1649	99.94%

**V1-200F 1/200**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1200F-1	200	S-3	10	275	239	251	91.3
1200F-2	200	S-3	10	275	279	272	98.9
1200F-2	200	S-3	10	275	333	300	109.1
1200F-4	200	S-3	10	275	281	272	98.9
1200F-4	200	S-3	10	275	289	279	101.5
Total				1375	1421	1374	99.93%

**V1-200G 1/200**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1200G-1	200	S-3	10	275	295	279	101.5
1200G-2	200	S-3	10	275	345	267	97.1
1200G-2	200	S-3	10	275	288	274	99.6
1200G-4	200	S-3	10	275	348	302	109.8
1200G-4	200	S-3	10	275	274	284	103.3
1200G-6	200	S-3	10	275	267	251	91.3
Total				1650	1817	1657	100.42%

**V1-200H 1/200**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1200H-1	200	S-3	10	275	294	264	96.0
1200H-2	200	S-3	10	275	371	288	104.7
1200H-2	200	S-3	10	275	289	276	100.4
1200H-4	200	S-3	10	275	309	294	106.9
1200H-4	200	S-3	10	275	381	302	109.8
1200H-6	200	S-3	10	275	179	250	90.9
<b>Total</b>				<b>1650</b>	<b>1823</b>	<b>1674</b>	<b>101.45%</b>

**V1-200Q 1/211**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
1200Q-1	211	S-2	8	200	194	184	92.0
1200Q-2	HALL	S-1	6	100	126	109	109.0
1200Q-2	210	S-1	6	100	131	108	108.0
<b>Total</b>				<b>400</b>	<b>451</b>	<b>401</b>	<b>100.25%</b>

Completed By: Corey Dick on 10/27/2025

<b>Asset</b>	<b>Notes</b>	<b>Date</b>	<b>Written By</b>
V1-210	Existing ductwork	10/29/2025	Corey Dick
V1-212	Existing ductwork	10/28/2025	Corey Dick
V1-122 1	Existing ductwork	10/29/2025	Corey Dick

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: AHU-DUAL FAN



Asset: (E)AC-2

AREA:MECH 351

UNIT DATA - SUPPLY		
	Design	Actual
Manufacturer	NA	NA
Model Number	NA	NA
Serial Number	-	-
No. Pre-Filters / Size (1)	-	-
No. Pre-Filters / Size (2)	-	-
No. Pre-Filters / Size (3)	-	-
No. Final Filters / Size (1)	-	-
No. Final Filters / Size (2)	-	-
No. Final Filters / Size (3)	-	-

MOTOR DATA - SUPPLY	
	Actual
Motor MFG / Frame	
Horsepower / RPM	
Rated Volts / Phase	
Rated Amperage / SF	

DRIVE DATA - SUPPLY		
	Design	Actual
Motor Sheave Size / Bore	-	-
Fan Sheave Size / Bore	-	-
Belt CL Distance	-	-
No. Belts / Size	-	-

TEST DATA - SUPPLY		
	Design	Actual
Total CFM	22415	
OA CFM	-	
Fan RPM	-	
VFD Speed	-	
RL Voltage	-	
RL Amperage	-	
Motor B.H.P.	-	

PERFORMANCE DATA - SUPPLY		
	Design	Actual
Static Pressure Stpt	-	
Suction S.P.	-	
Discharge S.P.	-	
Total S.P.	5.75	
Reheat Coil P.D.	-	
DX Coil P.D.	-	
Condenser Coil P.D.	-	
Chilled Water Coil P.D.	-	
Pre Heat Coil P.D.	-	
Final Filters P.D.	-	
Heat Wheel P.D.	-	
Pre-Filters P.D.	-	
Air Blender P.D.	-	
Total ESP	-	

UNIT DATA - EXHAUST/RETURN		
	Design	Actual
Manufacturer	-	
Model Number	-	
Serial Number	-	
No. Pre-Filters / Size (1)	-	
No. Pre-Filters / Size (2)	-	
No. Pre-Filters / Size (3)	-	
No. Pre-Filters / Size (4)	-	
No. Pre-Filters / Size (5)	-	
No. Pre-Filters / Size (6)	-	

MOTOR DATA - EXHAUST/RETURN	
	Actual
Motor MFG / FRAME	
Horsepower / RPM	
Rated Volts / Phase	
Rated Amperage / SF	

DRIVE DATA - EXHAUST/RETURN		
	Design	Actual
Motor Sheave Size / Bore	-	-
Fan Sheave Size / Bore	-	-
Belt CL Distance	-	-
No. Belts / Size	-	-

TEST DATA - EXHAUST/RETURN		
	Design	Actual
Total CFM	27500	
Fan RPM	-	
VFD Speed	-	
RL Voltage	-	
RL Amperage	-	
Motor B.H.P.	-	

PERFORMANCE DATA - EXHAUST/RETURN		
	Design	Actual
Static Pressure Stpt	-	
Suction S.P.	-	
Discharge S.P.	-	
Total S.P.	1.75	
Heat Wheel P.D.	-	
Pre-Filters P.D.	-	
Total ESP	-	

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## AHU-DUAL FAN



**VAV - Single Duct**

**(E)AC-2/MECH 351**

Asset											
Asset Name	MFG	Model Num	Type	Inlet Size	Design Max CFM	Max CFM	Design Min CFM	Min CFM	Design Heat CFM	Heat CFM	Ak (max)
V3-300	TITUS	DESV	REHEAT	6	275	280	75	77	150	147	1.07-481
V3-304	TITUS	DESV	REHEAT	10	800	796	300	298	480	478	1581-1.10
V3-306	TITUS	DESV	REHEAT	10	400	415	250	260	400	415	1376-0.96
V3-307	TITUS	DESV	REHEAT	8	400	406	175	178	300	304	920-1.02
V3-309	TITUS	DESV	REHEAT	10	400	391	250	245	400	391	1498-1.04
V3-310	TITUS	DESV	REHEAT	12	1480	1429	450	435	450	435	2247-1.19
V3-311	TITUS	DESV	REHEAT	12	1580	1591	500	505	500	505	2218-1.17
V3-312	TITUS	DESV	REHEAT	12	1480	1459	450	440	500	490	2277-1.20
V3-313	TITUS	DESV	REHEAT	12	1480	1506	500	505	500	505	2122-1.12
V3-317	TITUS	DESV	REHEAT	10	625	603	200	190	625	603	1526-1.06
V3-319	TITUS	DESV	REHEAT	6	200	201	75	75	100	100	430-0.96
V3-320	TITUS	DESV	REHEAT	12	1300	1289	375	365	630	638	1.24-2349
V3-325	TITUS	DESV	REHEAT	6	150	145	50	49	75	73	555-1.24
V3-326	TITUS	DESV	REHEAT	8	400	403	125	126	350	352	929-1.03
V3-329	TITUS	DESV	REHEAT	8	300	296	75	74	150	148	966-1.07
V3-309A 1	TITUS	DESV	REHEAT	6	275	273	100	99	225	224	500-1.12
V3-310A 1	TITUS	DESV	REHEAT	8	750	757	225	227	225	227	933-1.03
V3-314A 1	TITUS	DESV	REHEAT	12	1260	1265	375	388	375	388	1.21
V3-314B 1	TITUS	DESV	REHEAT	10	880	853	325	330	325	330	1.03-1482
V3-314C 1	TITUS	DESV	REHEAT	14	1540	1557	525	531	525	531	1.34-4034
V3-314D 1	TITUS	DESV	REHEAT	10	1040	1011	300	293	300	293	0.75-1070
V3-322A 1	TITUS	DESV	REHEAT	12	1225	1203	350	355	500	506	1.26-2385
V3-322B 1	TITUS	DESV	REHEAT	12	1225	1256	350	347	500	495	1.21-2287
V3-324A 1	TITUS	DESV	REHEAT	12	1710	1716	400	401	400	401	1.18-2226
V3-324B 1	TITUS	DESV	REHEAT	12	1440	1461	400	405	400	405	1.16-2201

**Diffuser Supply (GRD)**

**V3-300/300**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3300-1	302	S-1	6	75	56	76	101.3
3300-2	303	S-1	6	75	79	74	98.7
3300-2	300	S-2	8	125	157	130	104.0
Total				275	292	280	101.82%

**V3-304/306**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3304-1	100CCC	S-2	8	200	164	194	97.0
3304-2	304	S-2	8	150	178	155	103.3
3304-2	304	S-2	8	150	171	149	99.3
3304-4	305	S-2	8	150	184	138	92.0
3304-4	305	S-2	8	150	177	160	106.7
Total				800	874	796	99.5%

**V3-306/307**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3306-1	306	S-2	8	200	183	205	102.5
3306-2	306	S-2	8	200	210	210	105.0
Total				400	393	415	103.75%

**V3-307/309**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3307-1	307	S-2	8	200	224	216	108.0
3307-2	307	S-2	8	200	190	190	95.0
Total				400	414	406	101.5%

**V3-309/309**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3309-1	309	S-2	8	200	184	196	98.0
3309-2	309	S-2	8	200	225	195	97.5
Total				400	409	391	97.75%

**V3-310/310**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3310-1	310	EX-SA		370	288	234	63.2
3310-2	310	EX-SA		370	528	433	117.0
3310-2	310	EX-SA		370	439	362	97.8
3310-4	310	EX-SA		370	488	400	108.1
Total				1480	1743	1429	96.55%

**V3-311/311**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3311-1	311	EX-SA		370	563	449	121.4
3311-2	311	EX-SA		370	533	424	114.6
3311-2	311	EX-SA		370	380	297	80.3
3311-4	311	EX-SA		370	367	300	81.1
3311-5		EX-SA		100	137	121	121.0
Total				1580	1980	1591	100.7%

**V3-312/312**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3312-1	312	EX-SA		370	178	145	39.2
3312-2	312	EX-SA		370	484	395	106.8
3312-2	312	EX-SA		370	645	522	141.1
3312-4	312	EX-SA		370	475	397	107.3
Total				1480	1782	1459	98.58%

**V3-313/313**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3313-1	313	EX-SA		370	420	332	89.7
3313-2	313	EX-SA		370	431	361	97.6
3313-2	313	EX-SA		370	483	388	104.9
3313-4	313	EX-SA		370	551	425	114.9
Total				1480	1885	1506	101.76%

**V3-317/318**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3317-1	317	S-2	8	225	195	219	97.3
3317-2	327	S-2	8	150	193	140	93.3
3317-2	316	S-3	10	250	270	244	97.6
Total				625	658	603	96.48%

**V3-319/320**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3319-1	319	S-1	6	100	110	96	96.0
3319-2	318	S-1	6	100	80	105	105.0
Total				200	190	201	100.5%

**V3-320/322**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3320-1	320	S-3	10	300	375	308	102.7
3320-2	320	S-3	10	300	398	309	103.0
3320-2	320	S-3	10	300	365	299	99.7
3320-4	320	S-3	10	300	339	277	92.3
3320-5	HALL	S-3	6	100	113	96	96.0
Total				1300	1590	1289	99.15%

**V3-325/326**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3325-1	323	S-1	6	75	90	73	97.3
3325-2	325	S-1	6	75	91	72	96.0
Total				150	181	145	96.67%

**V3-326/329**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3326-1	326	S-2	8	200	210	206	103.0
3326-2	326	S-2	8	200	201	197	98.5
Total				400	411	403	100.75%

**V3-329/329**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3329-1	314	S-1	6	100	108	108	108.0
3329-2	329	S-1	6	100	118	97	97.0
3329-2	314	S-1	6	100	99	91	91.0
Total				300	325	296	98.67%

**V3-309A 1/310**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3309A-1	309A	S-1	6	100	101	96	96.0
3309A-2	309B	S-2	8	175	196	177	101.1
Total				275	297	273	99.27%

**V3-310A 1/311**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3310A-1	100CCC			375	396	384	102.4
3310A-2	100CCC			375	382	373	99.5
Total				750	778	757	100.93%

**V3-314B 1/LOUNGE**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
3314B-1	LOUNGE	EX-SA		220	228	220	100.0
3314B-2	LOUNGE	EX-SA		220	162	153	69.5
3314B-3	LOUNGE	EX-SA		220	294	279	126.8
3314B-4	LOUNGE	EX-SA		220	210	201	91.4
Total				880	894	853	96.93%

**V3-314C 1/LOUNGE**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3314C-1	LOUNGE	EX-SA		385	650	421	109.4
3314C-2	LOUNGE	EX-SA		385	521	370	96.1
3314C-2	LOUNGE	EX-SA		385	592	375	97.4
3314C-4	LOUNGE	EX-SA		385	593	391	101.6
Total				1540	2356	1557	101.1%

**V3-314D 1/327**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3314D-1	LOUNGE	EX-SA		260	372	265	101.9
3314D-2	LOUNGE	EX-SA		260	295	223	85.8
3314D-3	LOUNGE	EX-SA		260	157	277	106.5
3314D-4	LOUNGE	EX-SA		260	71	246	94.6
Total				1040	895	1011	97.21%

**V3-322A 1/322**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3322A-1	HALL	EX-SA		100	133	107	107.0
3322A-2	322	S-3	10	375	515	396	105.6
3322A-3	322	S-3	10	375	442	351	93.6
3322A-4	322	S-3	10	375	457	349	93.1
Total				1225	1547	1203	98.2%

**V3-322B 1/324**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3322B-1	HALL	EX-SA		100	163	130	130.0
3322B-2	322	S-3	10	375	461	392	104.5
3322B-3	322	S-3	10	375	413	363	96.8
3322B-4	322	S-3	10	375	448	371	98.9
Total				1225	1485	1256	102.53%

**V3-324A 1/324**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3324A-1	324	EX-SA		285	336	277	97.2
3324A-2	324	EX-SA		285	297	245	86.0
3324A-2	324	EX-SA		285	348	294	103.2
3324A-4	324	EX-SA		285	354	309	108.4
3324A-4	324	EX-SA		285	351	298	104.6
3324A-6	324	EX-SA		285	348	293	102.8
Total				1710	2034	1716	100.35%

**V3-324B 1/325**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3324B-1	324	EX-SA		360	381	331	91.9
3324B-2	324	EX-SA		360	308	256	71.1
3324B-2	324	EX-SA		360	495	432	120.0
3324B-4	324	EX-SA		360	501	442	122.8
Total				1440	1685	1461	101.46%

Completed By: Gabe Merk on 12/26/2024

Asset	Notes	Date	Written By
V3-311	NO DAMPERS LOCATED, UNABLE TO BALANCE DEVICES INTO DESIGN	10/17/2024	Riley Frady
V3-312	DIFFUSER 1 NO OBSTRUCTIONS TO NOTE	12/26/2024	Gabe Merk
V3-314B 1	DIFFUSER 5 CONNECTED TO 314A. REMOVED FROM 314B TOTAL. DIFFUSERS 1 AND 3 ARE LINEAR.	12/27/2024	Gabe Merk
V3-322B 1	NO DAMPER ON EXISTING DIFFUSER 1	12/27/2024	Gabe Merk
V3-324A 1	EXISTING DUCTWORK. NO DAMPERS TO DISTRIBUTE AIRFLOW.	12/27/2024	Gabe Merk
V3-324B 1	NO DAMPERS TO DISTRIBUTE AIRFLOW.	12/27/2024	Gabe Merk

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: AHU-DUAL FAN



Asset: (E)AC-3

AREA:MECH 427

UNIT DATA - SUPPLY		
	Design	Actual
Manufacturer	NA	NA
Model Number	NA	NA
Serial Number	-	-
No. Pre-Filters / Size (1)	-	-
No. Pre-Filters / Size (2)	-	-
No. Pre-Filters / Size (3)	-	-
No. Final Filters / Size (1)	-	-
No. Final Filters / Size (2)	-	-
No. Final Filters / Size (3)	-	-

MOTOR DATA - SUPPLY	
	Actual
Motor MFG / Frame	
Horsepower / RPM	
Rated Volts / Phase	
Rated Amperage / SF	

DRIVE DATA - SUPPLY		
	Design	Actual
Motor Sheave Size / Bore	-	-
Fan Sheave Size / Bore	-	-
Belt CL Distance	-	-
No. Belts / Size	-	-

TEST DATA - SUPPLY		
	Design	Actual
Total CFM	27490	
OA CFM	-	
Fan RPM	-	
VFD Speed	-	
RL Voltage	-	
RL Amperage	-	
Motor B.H.P.	-	

PERFORMANCE DATA - SUPPLY		
	Design	Actual
Static Pressure Stpt	-	
Suction S.P.	-	
Discharge S.P.	-	
Total S.P.	5.75	
Reheat Coil P.D.	-	
DX Coil P.D.	-	
Condenser Coil P.D.	-	
Chilled Water Coil P.D.	-	
Pre Heat Coil P.D.	-	
Final Filters P.D.	-	
Heat Wheel P.D.	-	
Pre-Filters P.D.	-	
Air Blender P.D.	-	
Total ESP	-	

UNIT DATA - EXHAUST/RETURN		
	Design	Actual
Manufacturer	-	
Model Number	-	
Serial Number	-	
No. Pre-Filters / Size (1)	-	
No. Pre-Filters / Size (2)	-	
No. Pre-Filters / Size (3)	-	
No. Pre-Filters / Size (4)	-	
No. Pre-Filters / Size (5)	-	
No. Pre-Filters / Size (6)	-	

MOTOR DATA - EXHAUST/RETURN	
	Actual
Motor MFG / FRAME	
Horsepower / RPM	
Rated Volts / Phase	
Rated Amperage / SF	

DRIVE DATA - EXHAUST/RETURN		
	Design	Actual
Motor Sheave Size / Bore	-	-
Fan Sheave Size / Bore	-	-
Belt CL Distance	-	-
No. Belts / Size	-	-

TEST DATA - EXHAUST/RETURN		
	Design	Actual
Total CFM	27500	
Fan RPM	-	
VFD Speed	-	
RL Voltage	-	
RL Amperage	-	
Motor B.H.P.	-	

PERFORMANCE DATA - EXHAUST/RETURN		
	Design	Actual
Static Pressure Stpt	-	
Suction S.P.	-	
Discharge S.P.	-	
Total S.P.	1.75	
Heat Wheel P.D.	-	
Pre-Filters P.D.	-	
Total ESP	-	

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## AHU-DUAL FAN



**VAV - Single Duct**

**(E)AC-3/MECH 427**

Asset											
Asset Name	MFG	Model Num	Type	Inlet Size	Design Max CFM	Max CFM	Design Min CFM	Min CFM	Design Heat CFM	Heat CFM	Ak (max)
V4-400	TITUS	DESV	REHEAT	12	1660	1669	500	502	800	804	2241-1.18
V4-401	TITUS	DESV	REHEAT	12	1200	1185	425	420	650	640	2125-1.12
V4-402	TITUS	DESV	REHEAT	14	1800	1771	500	490	750	735	3035-1.01
V4-405	TITUS	DESV	REHEAT	6	100	101	50	50	50	50	444-0.99
V4-406	TITUS	DESV	REHEAT	6	300	299	100	99	200	199	482-1.08
V4-407	TITUS	DESV	REHEAT	6	100	103	50	52	100	103	507-1.13
V4-408	TITUS	DESV	REHEAT	6	100	102	25	26	25	26	502-1.12
V4-410	TITUS	DESV	REHEAT	8	750	742	225	223	340	337	928-1.03
V4-412	TITUS	DESV	REHEAT	8	400	402	125	126	200	201	915-1.01
V4-414	TITUS	DESV	REHEAT	10	1080	1076	325	321	500	506	0.93-1336
V4-415	TITUS	DESV	REHEAT	8	350	344	124	124	125	124	1002-1.11
V4-417	TITUS	DESV	REHEAT	12	1980	1376	425	435	640	651	2186-1.16
V4-422	TITUS	DESV	REHEAT	6	100	106	25	27	25	27	1.17-524
V4-424	TITUS	DESV	REHEAT	8	450	455	125	128	175	173	1.02-926
V4-425	TITUS	DESV	REHEAT	14	1740	1747	200	208	375	376	1.05-3167
V4-404A 1	TITUS	DESV	REHEAT	12	1480	1438	400	390	600	580	2041-1.08
V4-404B 1	TITUS	DESV	REHEAT	12	1480	1490	500	502	725	730	2224-1.18
V4-406A 1	TITUS	DESV	REHEAT	10	600	594	175	173	275	272	1503-1.05
V4-419A 1	TITUS	DESV	REHEAT	12	1480	1513	425	435	640	655	2101-1.11
V4-419B 1	TITUS	DESV	REHEAT	12	1260	1223	200	190	330	317	2273-1.20
V4-420A 1	TITUS	DESV	REHEAT	12	1740	1715	200	199	330	328	2175-1.15
V4-420B 1	TITUS	DESV	REHEAT	12	1740	1768	200	209	330	341	1.10-2084
V4-420C 1	TITUS	DESV	REHEAT	12	1440	1456	200	202	330	333	2173-1.13
V4-426A 1	TITUS	DESV	REHEAT	10	1040	1044	200	201	300	301	1455-1.01
V4-426B 1	TITUS	DESV	REHEAT	12	1680	1670	200	198	330	227	2198-1.16
V4-426C 1	TITUS	DESV	REHEAT	12	1440	1434	200	199	330	328	2140-1.13

**Diffuser Supply (GRD)**

**V4-400/400**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4400-1	400	EX-SA		415	478	445	107.2
4400-2	400	EX-SA		415	473	432	104.1
4400-2	400	EX-SA		415	444	426	102.7
4400-4	400	EX-SA		415	387	366	88.2
Total				1660	1782	1669	100.54%

**V4-401/401**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4401-1	401	EX-SA		300	316	269	89.7
4401-2	401	EX-SA		300	274	253	84.3
4401-2	401	EX-SA		300	408	360	120.0
4401-4	401	EX-SA		300	344	303	101.0
Total				1200	1342	1185	98.75%

**V4-402/402**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4402-1	402	EX-SA		300	67	75	25.0
4402-2	402	EX-SA		300	397	391	130.3
4402-2	402	EX-SA		300	119	110	36.7
4402-4	402	EX-SA		300	410	383	127.7
4402-4	402	EX-SA		300	422	412	137.3
4402-6	402	EX-SA		300	408	400	133.3
Total				1800	1823	1771	98.39%

**V4-405/405**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4405-1	405	S-1	6	100	105	101	101.0
Total				100	105	101	101%

**V4-406/406**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4406-1	406	S-2	8	150	53	151	100.7
4406-2	406	S-2	8	150	49	148	98.7
Total				300	102	299	99.67%

**V4-407/407**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4407-1	407	S-1	6	100	112	103	103.0
Total				100	112	103	103%

**V4-408/408**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4408-1	408	S-1	6	100	323	102	102.0
Total				100	323	102	102%

**V4-410/LOBBY**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4410-1	LOBBY			375	469	358	95.5
4410-2	LOBBY			375	297	384	102.4
Total				750	766	742	98.93%

**V4-412/LOBBY**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4412-1	412	S-2	8	200	196	194	97.0
4412-2	412	S-2	8	200	213	208	104.0
Total				400	409	402	100.5%

**V4-414/414**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4414-1	LOBBY	EX-SA		540	431	493	91.3
4414-2	LOBBY	EX-SA		540	514	583	108.0
Total				1080	945	1076	99.63%

**V4-415/415**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4415-1	415	S-2	8	175	171	165	94.3
4415-2	415	S-2	8	175	219	179	102.3
Total				350	390	344	98.29%

**V4-417/417**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4417-1	417	EX-SA		495	451	451	91.1
4417-2	417	EX-SA		495	287	287	58.0
4417-2	417	EX-SA		495	325	325	65.7
4417-4	417	EX-SA		495	313	313	63.2
Total				1980	1376	1376	69.49%

**V4-422/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4422-11	422	S-1	6	100	117	106	106.0
Total				100	117	106	106%

**V4-424/424**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4424-1	424	S-3	10	225	229	225	100.0
4424-2	424	S-3	10	225	234	230	102.2
Total				450	463	455	101.11%

**V4-425/426**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4425-1	425	EX-SA		870	885	841	96.7
4425-2	425	EX-SA		870	948	906	104.1
Total				1740	1833	1747	100.4%

**V4-404A 1/404**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4404A-1	404	EX-SA		370	376	335	90.5
4404A-2	404	EX-SA		370	376	388	104.9
4404A-2	404	EX-SA		370	246	334	90.3
4404A-4	404	EX-SA		370	475	382	103.2
Total				1480	1473	1439	97.23%

**V4-404B 1/404**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4404B-1	404	EX-SA		370	386	370	100.0
4404B-2	404	EX-SA		370	454	395	106.8
4404B-2	404	EX-SA		370	506	337	91.1
4404B-4	404	EX-SA		370	525	388	104.9
Total				1480	1871	1490	100.68%

**V4-406A 1/406**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4406A-1	406A	S-2	8	150	174	142	94.7
4406A-2	406A	S-2	8	150	153	157	104.7
4406A-2	406A	S-2	8	150	139	144	96.0
4406A-4	406A	S-2	8	150	164	151	100.7
Total				600	630	594	99%

**V4-419A 1/419**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4419A-1	419	EX-SA		370	397	389	105.1
EX-SA2	419	EX-SA		370	382	382	103.2
EX-SA2	419	EX-SA		370	410	381	103.0
EX-SA4	419	EX-SA		370	425	361	97.6
Total				1480	1614	1513	102.23%

**V4-419B 1/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4419B-1	419	EX-SA		315	340	302	95.9
4419B-2	419	EX-SA		315	324	291	92.4
4419B-2	419	EX-SA		315	431	299	94.9
4419B-4	419	EX-SA		315	406	331	105.1
Total				1260	1501	1223	97.06%

**V4-420A 1/420**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4420A-1	HALL	EX-SA		100	64	55	55.0
4420A-2	420	EX-SA		410	397	406	99.0
4420A-2	420	EX-SA		410	518	443	108.0
4420A-4	420	EX-SA		410	455	412	100.5
4420A-4	420	EX-SA		410	437	399	97.3
Total				1740	1871	1715	98.56%

**V4-420B 1/420**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4420B-1	HALL	EX-SA		100	64	62	62.0
4420B-2	420	EX-SA		410	457	429	104.6
4420B-2	420	EX-SA		410	402	375	91.5
4420B-4	420	EX-SA		410	456	417	101.7
4420B-4	420	EX-SA		410	531	485	118.3
Total				1740	1910	1768	101.61%

**V4-420C 1/422**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4420C-1	420	EX-SA		360	455	429	119.2
4420C-2	420	EX-SA		360	372	346	96.1
4420C-2	420	EX-SA		360	355	308	85.6
4420C-4	420	EX-SA		360	435	373	103.6
Total				1440	1617	1456	101.11%

**V4-426A 1/426**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4426A-1	426	EX-SA		260	236	242	93.1
4426A-2	426	EX-SA		260	308	284	109.2
4426A-2	426	EX-SA		260	246	259	99.6
4426A-4	426	EX-SA		260	259	259	99.6
Total				1040	1049	1044	100.38%

**V4-426B 1/426**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4426B-1	426	EX-SA		420	353	333	79.3
4426B-2	426	EX-SA		420	462	428	101.9
4426B-2	426	EX-SA		420	490	454	108.1
4426B-4	426	EX-SA		420	497	455	108.3
Total				1680	1802	1670	99.4%

**V4-426C 1/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
4426C-1	426	EX-SA		360	409	361	100.3
4426C-2	426	EX-SA		360	434	395	109.7
4426C-2	426	EX-SA		360	386	332	92.2
4426C-4	426	EX-SA		360	406	346	96.1
Total				1440	1635	1434	99.58%

Asset	Notes	Date	Written By
V4-414	CAPPED DEAD LEG RAN TO CLASSROOM 419	12/19/2024	Gabe Merk
V4-417	UNABLE TO BALANCE DIFFUSERS. FACE DAMPERS ARE JAMMED OPEN. BOX TOTAL TO INCREASE WITH UNIT FINALS.	12/19/2024	Gabe Merk
V4-420A 1	Swapped for 420B in software, program 420B to control these diffusers. No damper for hallway diffuser.	10/14/2024	Riley Frady
V4-420B 1	VAV 420B controls 420A's devices, suspect they got swapped in software. no dampers to distribute airflow.	12/26/2024	Gabe Merk
V4-426B 1	No dampers present. Diffuser 1 low due to long bending run below ceiling beams.	10/15/2024	Riley Frady

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

System/Unit: AHU-DUAL FAN



Asset: (E)AC-4

AREA:S PENTHOUSE

UNIT DATA - SUPPLY		
	Design	Actual
Manufacturer	NA	NA
Model Number	NA	NA
Serial Number	-	-
No. Pre-Filters / Size (1)	-	-
No. Pre-Filters / Size (2)	-	-
No. Pre-Filters / Size (3)	-	-
No. Final Filters / Size (1)	-	-
No. Final Filters / Size (2)	-	-
No. Final Filters / Size (3)	-	-

MOTOR DATA - SUPPLY	
	Actual
Motor MFG / Frame	
Horsepower / RPM	
Rated Volts / Phase	
Rated Amperage / SF	

DRIVE DATA - SUPPLY		
	Design	Actual
Motor Sheave Size / Bore	-	-
Fan Sheave Size / Bore	-	-
Belt CL Distance	-	-
No. Belts / Size	-	-

TEST DATA - SUPPLY		
	Design	Actual
Total CFM	28320	
OA CFM	-	
Fan RPM	-	
VFD Speed	-	
RL Voltage	-	
RL Amperage	-	
Motor B.H.P.	-	

PERFORMANCE DATA - SUPPLY		
	Design	Actual
Static Pressure Stpt	-	
Suction S.P.	-	
Discharge S.P.	-	
Total S.P.	5.75	
Reheat Coil P.D.	-	
DX Coil P.D.	-	
Condenser Coil P.D.	-	
Chilled Water Coil P.D.	-	
Pre Heat Coil P.D.	-	
Final Filters P.D.	-	
Heat Wheel P.D.	-	
Pre-Filters P.D.	-	
Air Blender P.D.	-	
Total ESP	-	

UNIT DATA - EXHAUST/RETURN		
	Design	Actual
Manufacturer	-	
Model Number	-	
Serial Number	-	
No. Pre-Filters / Size (1)	-	
No. Pre-Filters / Size (2)	-	
No. Pre-Filters / Size (3)	-	
No. Pre-Filters / Size (4)	-	
No. Pre-Filters / Size (5)	-	
No. Pre-Filters / Size (6)	-	

MOTOR DATA - EXHAUST/RETURN	
	Actual
Motor MFG / FRAME	
Horsepower / RPM	
Rated Volts / Phase	
Rated Amperage / SF	

DRIVE DATA - EXHAUST/RETURN		
	Design	Actual
Motor Sheave Size / Bore	-	
Fan Sheave Size / Bore	-	
Belt CL Distance	-	
No. Belts / Size	-	

TEST DATA - EXHAUST/RETURN		
	Design	Actual
Total CFM	26450	
Fan RPM	-	
VFD Speed	-	
RL Voltage	-	
RL Amperage	-	
Motor B.H.P.	-	

PERFORMANCE DATA - EXHAUST/RETURN		
	Design	Actual
Static Pressure Stpt	-	
Suction S.P.	-	
Discharge S.P.	-	
Total S.P.	1.75	
Heat Wheel P.D.	-	
Pre-Filters P.D.	-	
Total ESP	-	

# National TAB

Project: NKU Nunn Hall (Highland Heights, KY)

## AHU-DUAL FAN



**VAV - Single Duct**

**(E)AC-4/S PENTHOUSE**

Asset											
Asset Name	MFG	Model Num	Type	Inlet Size	Design Max CFM	Max CFM	Design Min CFM	Min CFM	Design Heat CFM	Heat CFM	Ak (max)
V5-100	NA	NA	REHEAT	12	1200	1231	100	105	200	216	1.13-4145
V5-500	NA	NA	REHEAT	10	1040	1057	150	152	250	256	1463-1.02
V5-501	NA	NA	REHEAT	8	580	572	200	198	330	327	920-1.02
V5-502	NA	NA	REHEAT	10	900	896	270	269	600	598	1578-1.10
V5-506	NA	NA	REHEAT	12	1700	1706	510	512	950	954	2354-1.24
V5-509	NA	NA	REHEAT	10	600	598	180	180	500	498	1576-1.10
V5-510	NA	NA	REHEAT	10	830	805	200	195	300	290	1356-0.94
V5-511	NA	NA	REHEAT	12	1300	1262	275	268	700	687	2089-1.10
V5-516	NA	NA	REHEAT	12	1605	1653	200	199	300	298	1.04-1967
V5-518	NA	NA	REHEAT	8	750	748	225	224	340	344	1.00-904
V5-521	NA	NA	REHEAT	10	1200	1221	200	204	300	306	1446-1.01
V5-525	NA	NA	REHEAT	8	750	740	225	223	340	337	897-0.99
V5-526	NA	NA	REHEAT	8	750	748	200	200	380	379	900-1.00
V5-529	NA	NA	REHEAT	12	1450	1458	200	202	300	303	1839-0.97
V5-530	NA	NA	REHEAT	10	950	954	200	501	300	301	1505-1.05
V5-541	NA	NA	REHEAT	8	450	451	100	100	312	313	888-0.98
V5-542	NA	NA	REHEAT	8	450	452	150	151	275	276	492-0.54
V5-543	NA	NA	REHEAT	8	450	452	150	151	350	352	922-1.02
V5-547	NA	NA	REHEAT	6	100	104	25	26	50	52	473-1.06
V5-551	NA	NA	REHEAT	8	400	406	200	203	165	167	802-0.89
V5-553	NA	NA	REHEAT	10	950	945	200	201	300	309	1.02-1471
V5-555	NA	NA	REHEAT	10	630	623	200	198	350	347	1466-1.02
V5-558	NA	NA	REHEAT	8	750	752	225	223	350	351	1.01
V5-561	NA	NA	REHEAT	8	540	543	150	154	225	229	0.95-862
V5-563	NA	NA	REHEAT	8	540	534	170	168	225	222	926-1.02
V5-565	NA	NA	REHEAT	14	2160	2138	500	494	860	854	1.03-3118
V5-516B 1	NA	NA	REHEAT	12	1050	1013	200	193	300	302	1.18-2224
V5-521D 1	NA	NA	REHEAT	12	400	397	200	204	200	204	1.04-1972
V5-534A 1	NA	NA	REHEAT	8	450	449	133	133	225	224	824-0.91
V5-534B 1	NA	NA	REHEAT	10	900	885	267	262	450	445	914-1.01
V5-540A 1	NA	NA	REHEAT	12	690	686	328	326	328	326	1891-1.00
V5-540B 1	NA	NA	REHEAT	12	1450	1394	300	297	450	445	1591-0.84

**Diffuser Supply (GRD)**

**V5-100/MEETING 500**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5100-1	CORR 100	EX-SA		300	396	365	121.7
5100-2	CORR 100	EX-SA		300	123	109	36.3
5100-2	CORR 100	EX-SA		300	402	360	120.0
5100-4	CORR 100	EX-SA		300	439	397	132.3
Total				1200	1360	1231	102.58%

**V5-500/OFC 501**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5500-1	COOR 100	EX-SA		570	717	583	102.3
5500-2	MEETING 500	EX-SA		470	348	474	100.9
Total				1040	1065	1057	101.63%

**V5-501/OFC 502**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5501-1	OFC 501	EX-SA		290	347	297	102.4
5501-2	OFC 501	EX-SA		290	243	275	94.8
Total				580	590	572	98.62%

**V5-502/STUDY 508**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5502-1	OFC 502	S-4	12	450	497	442	98.2
5502-2	OFC 502	S-4	12	450	505	454	100.9
Total				900	1002	896	99.56%

**V5-506/OFC 509**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5506-1	STUDY 507	S-2	8	125	74	128	102.4
5506-2	OFC 506	S-3	10	225	283	226	100.4
5506-2	STUDY 507	S-2	8	125	236	117	93.6
5506-4	OFC 503	S-3	10	275	281	294	106.9
5506-4	OFC 506	S-3	10	225	330	224	99.6
5506-6	OFC 503	S-3	10	275	355	289	105.1
5506-7	STUDY 508	S-2	8	225	214	224	99.6
5506-8	STUDY 508	S-2	8	225	185	204	90.7
Total				1700	1958	1706	100.35%

**V5-509/CORR 100**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5509-1	OFC 509	S-3	10	300	341	306	102.0
5509-2	OFC 509	S-3	10	300	323	292	97.3
Total				600	664	598	99.67%

**V5-510/CORR 100**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5510-1	CORR 100			415	436	400	96.4
5510-2				415	339	405	97.6
Total				830	775	805	96.99%

**V5-511/PRINT 505**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5511-1	514	S-4	12	450	514	441	98.0
5511-2	511	S-4	12	450	496	431	95.8
5511-2	510	S-3	10	400	445	390	97.5
Total				1300	1455	1262	97.08%

**V5-516/OFC 522**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5516-1	LOUNGE 516	EX-SA		640	940	700	109.4
5516-2	LOUNGE 516	EX-SA		640	74	640	100.0
5516-2	PRINT 505	EX-SA		325	387	313	96.3
Total				1605	1401	1653	102.99%

**V5-518/OFC 521**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5518-1	OFC 515	EX-SA		125	174	174	139.2
5518-2	OFC 517	EX-SA		125	158	158	126.4
5518-2	OFC 515	EX-SA		125	66	66	52.8
5518-4	OFC 518	EX-SA		125	126	126	100.8
5518-4	OFC 517	EX-SA		125	60	60	48.0
5518-6	OFC 518	EX-SA		125	164	164	131.2
Total				750	748	748	99.73%

**V5-521/OFC 521**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5521-1	OFC 521B	EX-SA		150	178	209	139.3
5521-2	STO 521C	EX-SA		50	67	110	220.0
5521-3	OFC 521	EX-SA		400	283	319	79.8
5521-4	OFC 521	EX-SA		400	217	237	59.3
5521-5	OFC 521D	EX-SA		200	315	346	173.0
Total				1200	1060	1221	101.75%

**V5-525/OFC 525**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5525-1	OFC-519	EX-SA		125	115	116	92.8
5525-2	OFC-519	EX-SA		125	129	130	104.0
5525-2	OFC-520	EX-SA		125	114	114	91.2
5525-4	OFC-525	EX-SA		125	131	132	105.6
5525-4	OFC-520	EX-SA		125	136	137	109.6
5525-6	OFC-525	EX-SA		125	115	115	92.0
Total				750	740	744	99.2%

**V5-526/OFC 528**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5526-1	OFC 526	EX-SA		125	129	131	104.8
5526-2	OFC 527	EX-SA		125	132	129	103.2
5526-2	OFC 526	EX-SA		125	115	114	91.2
5526-4	OFC 527	EX-SA		125	130	131	104.8
5526-4	OFC 528	EX-SA		125	112	113	90.4
5526-6	OFC 528	EX-SA		125	128	130	104.0
Total				750	746	748	99.73%

**V5-529/OFC 531**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5529-1	OFC 529	EX-SA		440	512	531	120.7
5529-2	CORR 100	EX-SA		330	342	351	106.4
5529-2	OFC 531	EX-SA		440	240	249	56.6
5529-4	COOR 100	EX-SA		240	321	327	136.3
Total				1450	1415	1458	100.55%

**V5-530/OFC 530**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5530-1	LOUNGE 533	EX-SA		750	542	529	70.5
5530-2	OFC 530	EX-SA		200	443	423	211.5
Total				950	985	952	100.21%

**V5-541/OFC 542**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5541-1	OFC 541	EX-SA		225	203	204	90.7
5541-2	OFC 541	EX-SA		225	245	247	109.8
Total				450	448	451	100.22%

**V5-542/OFC 542**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
5542-1	OFC 542	EX-SA		220	137	241	109.5
5542-2	OFC 542	EX-SA		220	109	211	95.9
Total				440	246	452	102.73%

**V5-543/OFC 543**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5543-1	OFC 543	EX-SA		225	212	207	92.0
5543-2	OFC 543	EX-SA		225	251	245	108.9
Total				450	463	452	100.44%

**V5-547/OFC 547**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5547-1	OFC 547	S-1	6	100	112	104	104.0
Total				100	112	104	104%

**V5-551/OFC 551**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5551-1	OFC 551	PLENUM SUPPLY	7"x15"		400	353	406
Total					400	353	406
							101.5%

**V5-553/OFC 555**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5553-1	STOR 551	EX-SA		150	156	152	101.3
5553-2	ROOM 553	EX-SA		400	382	371	92.8
5553-2	CORR 100	EX-SA		400	434	422	105.5
Total				950	972	945	99.47%

**V5-555/LOUNGE 558**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5555-1	OFC 557	EX-SA		105	108	103	98.1
5555-2	OFC 557	EX-SA		105	93	95	90.5
5555-2	OFC 556	EX-SA		105	107	103	98.1
5555-4	OFC 556	EX-SA		105	103	107	101.9
5555-4	OFC 555	EX-SA		105	118	112	106.7
5555-6	OFC 555	EX-SA		105	113	103	98.1
Total				630	642	623	98.89%

**V5-558/OFC 561**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5558-1	LOUNGE 558	EX-SA		105	117	115	109.5
5558-2	LOUNGE 558	EX-SA		105	109	107	101.9
5558-2	CORR	EX-SA		330	300	305	92.4
5558-4	LOUNGE 558	EX-SA		105	118	114	108.6
5558-4	LOUNGE 558	EX-SA		105	112	111	105.7
Total				750	756	752	100.27%

**V5-561/MEETING 563**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5561-1	OFC 561	EX-SA		135	117	123	91.1
5561-2	OFC 562	EX-SA		135	145	152	112.6
5561-2	OFC 562	EX-SA		135	150	158	117.0
5561-4	OFC 561	EX-SA		135	104	109	80.7
Total				540	516	542	100.37%

**V5-563/MEETING 563**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5563-1	MEETING 563	EX-SA		135	121	114	84.4
5563-2	OFC 564	EX-SA		135	155	146	108.1
5563-2	OFC 564	EX-SA		135	137	137	101.5
5563-4	MEETING 563	EX-SA		135	140	137	101.5
Total				540	553	534	98.89%

**V5-565/PRINT 566**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5565-1	MEETING 565	EX-SA		305	262	255	83.6
5565-2	MEETING 565	EX-SA		305	387	375	123.0
5565-2	MEETING 565	EX-SA		305	396	384	125.9
5565-4	MEETING 565	EX-SA		305	387	373	122.3
5565-4	PRINT 566	EX-SA		305	299	291	95.4
5565-6	PRINT 566	EX-SA		305	276	265	86.9
5565-7	HALLWAY	EX-SA		330	200	195	59.1
Total				2160	2207	2138	98.98%

**V5-516B 1/OFC 518**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
516B-1	LOUNGE 516	EX-SA		375	336	281	74.9
516B-2	LOUNGE 516	EX-SA		375	287	241	64.3
516B-3	STORAGE 521A	EX-SA		150	276	230	153.3
516B-4	OFC 522	EX-SA		150	336	261	174.0
Total				1050	1235	1013	96.48%

**V5-521D 1/CLASS 534**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5521D-5	LOUNGE 516	EX-SA		200	243	204	102.0
5521D-6	LOUNGE 516	EX-SA		200	206	193	96.5
Total				400	449	397	99.25%

**V5-534A 1/CLASS 534**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5534A-1	CLASS 534	EX-SA	EX-SA	225	216	234	104.0
5534A-2	CLASS 534	EX-SA	EX-SA	225	195	215	95.6
Total				450	411	449	99.78%

**V5-534B 1/CLASS 534**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5534B-1	CLASS 534	EX-SA		225	194	226	100.4
5534B-2	CLASS 534	EX-SA		225	218	209	92.9
5534B-2	CLASS 534	EX-SA		225	258	223	99.1
5534B-4	CLASS 534	EX-SA		225	241	227	100.9
Total				900	911	885	98.33%

**V5-540A 1/CORR**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5540A-1	544	EX-SA		220	226	226	102.7
5540A-2	546	EX-SA		250	190	190	76.0
5540A-2	542	EX-SA		220	270	270	122.7
Total				690	686	686	99.42%

**V5-540B 1/RECPT 540**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5540B-1	540 RECEPTION			430	450	558	129.8
5540B-2	540 RECEPTION			430	271	344	80.0
5540B-2	540A UNISEX RR			80	59	78	97.5
5540B-4	540 RECEPTION			430	259	332	77.2
5540B-4	540B MENS RR			80	187	82	102.5
Total				1450	1226	1394	96.14%

Completed By: Gabe Merk on 12/26/2024

Asset	Notes	Date	Written By
V5-510	TWO DIFFUSERS LOCATED, CFM TAKEN FROM VAV SCHEDULE	10/17/2024	Riley Frady
V5-518	DIFFUSERS 518-3 AND 518-4 NOT ATTACHED TO DUCTWORK ABOVE CEILING. (RESOLVED 12/26/24)	12/26/2024	Gabe Merk
V5-521	DEVICES IN FIELD DO NOT MATCH DRAWING, UPDATED IN GRID VIEW TO MATCH OBSERVED DEVICES	10/17/2024	Riley Frady
V5-529	NO DAMPERS LOCATED, UNABLE TO BRING DEVICES INTO DESIGN.	10/16/2024	Riley Frady
V5-530	NO DAMPERS LOCATED, UNABLE TO BRING DEVICES INTO DESIGN	10/16/2024	Riley Frady
V5-542	DEVICES DO NOT MATCH DRAWING AS INSTALLED. DEVICE LIST UPDATED TO MATCH FIELD INSTALLATION.	10/17/2024	Riley Frady
V5-563	No dampers observed, unable to bring diffuser 1 into design.	10/16/2024	Riley Frady
V5-521D 1	HAS ONLY TWO DIFFUSERS SERVING LOUNGE 516. THE LISTED LOCATION OF THE DIFFUSER IS CORRECT. ADDED FLOW TO DIFFUSERS TO KEEP ROOM TOTAL HOWEVER DIFFUSER NOISE WAS CONSIDERABLE. KEPT INITIAL DIFFUSER DESIGN.	12/19/2024	Gabe Merk
V5-540A 1	DEVICES DO NOT MATCH DRAWING AS INSTALLED. DEVICE LIST UPDATED TO MATCH FIELD INSTALLATION. NO DAMPERS	10/17/2024	Riley Frady
V5-540B 1	DEVICES DO NOT MATCH DRAWING AS INSTALLED. DEVICE LIST UPDATED TO MATCH FIELD INSTALLATION. NO DAMPERS FOR RECEPTION DIFFUSERS	10/17/2024	Riley Frady