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Report: RTU & VAV
Function: Test, Adjust, & Balance
Date: 05/14/2025
Completed By: National TAB

PROJECT

Jefferson County Crime Lab (Pevely, MO)

1177 Mason Cir

Pevely, MO 63070

Client

Crystal Heating and Cooling

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

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National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: AHU/RTU



Asset: AHU-1

AREA:CRIME SCENE EQUIP

Unit Data		
	Design	Actual
MFG	NA	AAON
Serial Num	-	202410-CJEB09166
Model Num	NA	V3-BRB3-0-141D-7DS
Configuration	-	VERTICAL
Num Final Filter 1	-	1
Final Filter Size 1	-	20X24X2"
Num Final Filter 2	-	
Final Filter Size 2	-	

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	1.0	1.0
Motor Rpm	-	1800
Phase	3	3
Rated Voltage	460	460
Rated Amperage	1.2	1.2
Service Factor	-	NA

Test Data		
	Design	Actual
SF CFM	1260	1235
SF RPM	1760	1548
RA CFM	0	953
OA CFM	1260	282
RL Voltage	460	393
RL Amperage	1.2	0.50
VFD Max SetPt	-	51.89 Hz
SF Motor Freq(HZ)	-	51.89Hz
SF System SetPt	-	87%
RA Damper Position	-	NA
OA Damper Position	-	100%
Brake Horse Power	0.61	

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.01
Fan Discharge SP	-	0.10
Total ESP	1.0	0.11

Completed By: Kalen Kemp on 07/03/2025

Notes:
 OA is low. OA damper at 100%.
 No RA damper.
 Unable to increase OA.

Written By: Kalen Kemp on 07/02/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

AHU/RTU



Diffuser Supply (GRD)

AHU-1/CRIME SCENE EQUIP

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
AHU-1-SGRD1	1000	S2	6	100	138	98	98.0
AHU-1-SGRD2	1005	S6	10	290	299	286	98.6
AHU-1-SGRD3	1000	S6	10	290	315	279	96.2
AHU-1-SGRD4	1005	S6	10	290	342	288	99.3
AHU-1-SGRD5	1000	S6	10	290	340	284	97.9
Total				1260	1434	1235	98.02%

Diffuser Ret/Exh (GRD)

AHU-1/CRIME SCENE EQUIP

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
AHU-1-EGRD1	RG	34X20	1150	4.44	1058	831	831	72.3
Total			1150		1058	831	831	72.26%

Completed By: Kalen Kemp on 07/03/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: AHU/RTU



Asset: AHU-1

AREA:CRIME SCENE EQUIP

Unit Data		
	Design	Actual
MFG	NA	AAON
Serial Num	-	202410-CJEB09166
Model Num	NA	V3-BRB3-0-141D-7DS
Configuration	-	VERTICAL
Num Final Filter 1	-	1
Final Filter Size 1	-	20X24X2"
Num Final Filter 2	-	
Final Filter Size 2	-	

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	1.0	1.0
Motor Rpm	-	1800
Phase	3	3
Rated Voltage	460	460
Rated Amperage	1.2	1.2
Service Factor	-	NA

Test Data		
	Design	Actual
SF CFM	1260	1235
SF RPM	1760	1548
RA CFM	0	953
OA CFM	1260	282
RL Voltage	460	393
RL Amperage	1.2	0.50
VFD Max SetPt	-	51.89 Hz
SF Motor Freq(HZ)	-	51.89Hz
SF System SetPt	-	87%
RA Damper Position	-	NA
OA Damper Position	-	100%
Brake Horse Power	0.61	

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.01
Fan Discharge SP	-	0.10
Total ESP	1.0	0.11

Completed By: Kalen Kemp on 07/03/2025

Notes:

- OA is low. OA damper at 100%.
- No RA damper.
- Unable to increase OA.

Written By: Kalen Kemp on 07/02/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

AHU/RTU



Diffuser Supply (GRD)

AHU-1/CRIME SCENE EQUIP

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
AHU-1-SGRD1	1000	S2	6	100	138	98	98.0
AHU-1-SGRD2	1005	S6	10	290	299	286	98.6
AHU-1-SGRD3	1000	S6	10	290	315	279	96.2
AHU-1-SGRD4	1005	S6	10	290	342	288	99.3
AHU-1-SGRD5	1000	S6	10	290	340	284	97.9
Total				1260	1434	1235	98.02%

Diffuser Ret/Exh (GRD)

AHU-1/CRIME SCENE EQUIP

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
AHU-1-EGRD1	RG	34X20	1150	4.44	1058	831	831	72.3
Total			1150		1058	831	831	72.26%

Completed By: Kalen Kemp on 07/03/2025

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Project: Jefferson County Crime Lab (Pevely, MO)



Circuit Setter

HYDRONICS/

Asset							
Asset Name	Size	Type	Design GPM	Setting	Delta P	Final GPM	% to Design
CSHW-1010	0.5	AUTOFLOW CONTROL VALVE	2.10	5.9	14.8 in. WC	2.10	100.0
CSHW-1015	0.5	AUTOFLOW CONTROL VALVE	1.30	4.3	37.6 in. WC	1.30	100.0
CSHW-1025	0.5	AUTOFLOW CONTROL VALVE	1.80	2.2	25.7 in. WC	1.80	100.0
CSHW-1035	0.5	AUTOFLOW CONTROL VALVE	0.80	5.3	10.6 in. WC	0.80	100.0
CSHW-1050	0.5	AUTOFLOW CONTROL VALVE	1.80	4.7	8.5 in. WC	1.80	100.0
CSHW-1055	0.5	AUTOFLOW CONTROL VALVE	1.30	5.6	-- in. WC	1.30	100.0
CSHW-1060	0.5	AUTOFLOW CONTROL VALVE	2.00	5.2	19.3 in. WC	2.00	100.0
CSHW-1085	0.5	AUTOFLOW CONTROL VALVE	1.40	5.2	11.2 in. WC	1.40	100.0
CSHW-1090	0.5	AUTOFLOW CONTROL VALVE	1.90	6.0	7.6 in. WC	1.90	100.0
CSHW-1100	0.5	AUTOFLOW CONTROL VALVE	1.60	1.9	47.3 in. WC	1.60	100.0
CSHW-1110	0.5	AUTOFLOW CONTROL VALVE	1.80	2.5	50.9 in. WC	1.80	100.0
CSHW-1115	0.5	AUTOFLOW CONTROL VALVE	3.90	5.8	53.8 in. WC	3.90	100.0
CSHW-1135	0.5	AUTOFLOW CONTROL VALVE	0.70	5.7	-- in. WC	0.70	100.0
CSHW-1145	0.5	AUTOFLOW CONTROL VALVE	0.70	5.8	25.4 in. WC	0.70	100.0
CSHW-1150	0.5	AUTOFLOW CONTROL VALVE	2.10	5.9	20.5 in. WC	2.10	100.0
CSHW-A1030	0.5	AUTOFLOW CONTROL VALVE	2.00	5.2	-- in. WC	2.00	100.0
CSHW-A1050	0.5	AUTOFLOW CONTROL VALVE	1.4	5.4	9.0 in. WC	1.4	100.0
CSHW-A1060	0.5	AUTOFLOW CONTROL VALVE	1.30	5.4	10.8 in. WC	1.30	100.0
CSHW-A1090	0.5	AUTOFLOW CONTROL VALVE	0.40	0.9	67.4 in. WC	0.40	100.0
CSHW-AC1110	0.5	AUTOFLOW CONTROL VALVE	2.50	6.2	24.8 in. WC	2.50	100.0
CSHW-B1090	0.5	AUTOFLOW CONTROL VALVE	2.00	5.6	13.8 in. WC	2.00	100.0
Total			34.8			34.8	100%

Completed By: Kalen Kemp on 07/02/2025

Asset	Notes	Date	Written By
CSHW-1055	Could not access Delta P reading. Unable to put probes into pipe fitting due to obstruction.	07/01/2025	Kalen Kemp
CSHW-1135	Could not access Delta P reading. Unable to fit probes into pipe fitting due to obstruction.	07/01/2025	Kalen Kemp
CSHW-A1030	Could not access Delta P reading. Unable to put probes into pipe fitting due to obstruction.	07/01/2025	Kalen Kemp

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Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-1

AREA:1055

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	VEKTOR-H-13-A5-X
Serial Num	-	25014692
Type	FUME EXHAUST	FUME

Test Data		
	Design	Actual
CFM	1880	1813
RL Voltage	460	386/389
RL Amperage	-	0.58
Discharge ESP	-	ATM
Total ESP	0.77	0.33

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	56C
Horsepower	2 @0.50	2 @ 0.50
Motor Rpm	1760	1770
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	2.59
Service Factor	-	NA

Completed By: Kalen Kemp on 06/25/2025

Notes:

Motor data retrieved from submittal.

Written By: Kalen Kemp on 06/25/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-1/1055

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-1-EGRD1	FUME HOOD	12	540	0.79	373	749	517	95.7
EF-1-EGRD2	FUME HOOD	12	670	0.79	317	633	684	102.1
EF-1-EGRD3	FUME HOOD	12	670	0.79	262	545	612	91.3
Total			1880		952	1927	1813	96.44%

Completed By: Kalen Kemp on 06/25/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-2

AREA:LABS

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	VEKTOR-H-13-A5-X
Serial Num	-	NA
Type	FUME EXHAUST	FUME

Test Data		
	Design	Actual
CFM	1880	1912
RL Voltage	460	348
RL Amperage	-	0.55
Discharge ESP	-	ATM
Total ESP	0.77	0.20"

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	56C
Horsepower	2@ 0.50	0.5
Motor Rpm	1770	1770
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	2.59
Service Factor	-	NL

Completed By: Kalen Kemp on 06/26/2025

Notes:
Motor Data retrieved from submittal

Written By: Kalen Kemp on 06/26/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-2/LABS

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-2-EGRD1	FUME HOOD	12	670		412			-
EF-2-EGRD2	FUME HOOD	12	670		427			-
EF-2-EGRD3	FUME HOOD	12	540		387			-
Total			1880		1226	0	0	0%

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Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-3

AREA:1030

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	VEKTOR-H-10-A5-X
Serial Num	-	25014705
Type	FUME EXHAUST	FUME

Test Data		
	Design	Actual
CFM	670	677
RL Voltage	460	366
RL Amperage	-	0.44
Discharge ESP	-	ATM
Total ESP	0.52	0.24

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	56C
Horsepower	0.50	0.5
Motor Rpm	1770	1750
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	2.59
Service Factor	-	NL

Completed By: Kalen Kemp on 06/25/2025

Notes:
Motor Data retrieved from Submittal.

Written By: Kalen Kemp on 06/25/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-3/1030

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-3-EGRD1	FUME HOOD	12	670		240	770	677	101.0
Total			670		240	770	677	101.04%

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Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-4

AREA:1010A

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	GB-097-6-1-19-X
Serial Num	-	24909470
Type	CRE DNBLAST	DOWNBLAST

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	NL
Horsepower	0.167	0.167
Motor Rpm	1725	1725
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	3.8
Service Factor	-	1.35

Drive Data	
	Actual
Motor Sheave Size	2.5"
Motor Bore Size	0.5"
Motor Sheave SetPt	2.5 TURNS
Fan Sheave Size	3.75"
Fan Sheave Bore	0.75"
Belt CL Distance	4.625"
Num of Belts	1
Belt Size	3L180

Test Data		
	Design	Actual
CFM	100	108
Fan RPM	1057	1052
RL Voltage	115	121
RL Amperage	4.4	NA
Suction ESP	-	-0.36"
Discharge ESP	-	ATM
Total ESP	0.40	0.36"
Brake Horse Power	-	

Completed By: Kalen Kemp on 07/03/2025

Notes:

- Motor RPM: 1772
- Motor Sheave already turned all the way out. Unable to decrease fan speed.
- Could not safely access amperage reading.

Written By: Kalen Kemp on 06/18/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-4/1010A

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-4-EGRD1	E2	6	100		160			-
Total			100		160	0	0	0%

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Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-5

AREA:1090B

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CUE-140-VG
Serial Num	-	24909471 24I
Type	CRE UPBLAST	UPBLAST

Test Data		
	Design	Actual
CFM	1650	1586
RL Voltage	115	122
RL Amperage	6.4	4.40
Discharge ESP	-	ATM
Total ESP	0.75	0.52"

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.50	0.50
Motor Rpm	1300	1260
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	NL
Service Factor	-	NL

Completed By: Kalen Kemp on 06/26/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-5/1090B

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-5-EGRD1	E5	6	60	1	115	115	65	108.3
EF-5-EGRD2	E6	8	110	1	170	170	118	107.3
EF-5-EGRD3	E3	8	150	1	199	199	153	102.0
EF-5-EGRD4	FUME HOOD	10	470	0.55	395	444	444	94.5
EF-5-EGRD5	E7	10	400	1	329	329	367	91.8
EF-5-EGRD6	E1	6	60	1	84	84	63	105.0
EF-5-EGRD7	E7	10	400	1	343	343	376	94.0
Total			1650		1635	1684	1586	96.12%

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-6

AREA:LABS

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CUE-140-VG
Serial Num	-	24909473 24I
Type	CRE UPBLAST	UPBLAST

Test Data		
	Design	Actual
CFM	1370	1290
RL Voltage	115	121
RL Amperage	6.4	4.45
Discharge ESP	-	ATM
Total ESP	0.75	0.85"

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.50	0.50
Motor Rpm	1300	1750
Phase	1	1
Voltage (rated)	115	115/208-230/277
Amperage (rated)	-	6.4/3.8/3.2
Service Factor	-	NL

Completed By: Kalen Kemp on 06/24/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-6/LABS

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-6-EGRD1	E1	6	100		27	102	94	94.0
EF-6-EGRD2	DUCT	4	100		72	83	92	92.0
EF-6-EGRD3	E6	8	200		446	232	204	102.0
EF-6-EGRD4	E8	12	480		764	431	437	91.0
EF-6-EGRD5	DUCT	4	100		52	69	90	90.0
EF-6-EGRD6	DUCT	4	100		57	81	94	94.0
EF-6-EGRD7	DUCT	4	100		60	83	95	95.0
EF-6-EGRD8	DUCT	4	100		69	85	94	94.0
EF-6-EGRD9	DUCT	4	100		64	81	90	90.0
Total			1380		1611	1247	1290	93.48%

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Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-7

AREA:1125

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CSP-A200

Test Data		
	Design	Actual
CFM	70	71

Completed By: Kalen Kemp on 07/01/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-7/1125

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-7-EGRD1	E2	6	70					-
Total			70		0	0	0	0%

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-8

AREA:1075

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CSP-A200

Test Data		
	Design	Actual
CFM	70	73

Completed By: Kalen Kemp on 07/01/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-8/1075

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-8-EGRD1	E2	6	70					-
Total			70		0	0	0	0%

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-9

AREA:1070

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CSP-A200

Test Data		
	Design	Actual
CFM	70	74

Completed By: Kalen Kemp on 07/01/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-9/1070

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-9-EGRD1	E2	6	70					-
Total			70		0	0	0	0%

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-10

AREA:1030B

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CSP-A200

Test Data		
	Design	Actual
CFM	430	109

Notes:

Could not balance EF.

Airflow was low.

Backdraft damper appears shut.

Written By: Kalen Kemp on 07/03/2025

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Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-10/1030B

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-10-EGRD1	E6	8	360					-
EF-10-EGRD2	E2	6	70					-
Total			430		0	0	0	0%

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-11

AREA:1095

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CSP-A200

Test Data		
	Design	Actual
CFM	70	71

Completed By: Kalen Kemp on 07/01/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-11/1095

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-11-EGRD1	E2	6	70					-
Total			70		0	0	0	0%

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-12

AREA:1025A

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CUE-120-VG-1-19-X
Serial Num	-	24909472 24I
Type	CRE UPBLAST	UPBLAST

Test Data		
	Design	Actual
CFM	1000	1048
RL Voltage	115	120
RL Amperage	3.5	2.05
Discharge ESP	-	ATM
Total ESP	0.50	0.49

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.25	0.25
Motor Rpm	1400	1750
Phase	1	1
Voltage (rated)	115	120
Amperage (rated)	-	3.5/2.1/1.8
Service Factor	-	NL

Completed By: Kalen Kemp on 06/18/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-12/1025A

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-12-EGRD1	E6	8	240		324	277	251	104.6
EF-12-EGRD2	E4	14	760		896	766	797	104.9
Total			1000		1220	1043	1048	104.8%

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-13

AREA:1005

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	USF-04-3-B7-00-02-02
Serial Num	-	24913404 24I
Type	SINGLE WIDTH	SINGLE WIDTH

Test Data		
	Design	Actual
CFM	500	549
RL Voltage	115	120
RL Amperage	-	1.55
Discharge ESP	-	0.20"
Total ESP	0.53	0.69

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.25	0.25
Motor Rpm	1770	1750
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	2.85
Service Factor	-	1.25

Completed By: Kalen Kemp on 06/25/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-14

AREA:1000

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SQ-97-VG4X-QD
Serial Num	-	25409529 24I
Type	CENT INLINE	INLINE

Test Data		
	Design	Actual
CFM	100	107
RL Voltage	115	121
RL Amperage	2.85	0.14
Discharge ESP	-	0.049
Total ESP	0.50	0.049

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.25	0.25
Motor Rpm	1725	1725
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	2.85
Service Factor	-	NL

Completed By: Kalen Kemp on 06/24/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-14/1000

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-14-EGRD1	DUCT	6	100		573	324	107	107.0
Total			100		573	324	107	107%

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: FAN - Exhaust



Asset: EF-15

AREA:1010C

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CUE-080-VG-1-19-X
Serial Num	-	24909474 24I
Type	CRE UPBLAST	UPBLAST

Test Data		
	Design	Actual
CFM	120	113
RL Voltage	115	NA
RL Amperage	1.5	0.39
Discharge ESP	-	ATM
Total ESP	0.40	0.26

Motor Data		
	Design	Actual
Motor MFG	-	VARI-GREEN
Frame	-	NL
Horsepower	0.10	0.10
Motor Rpm	1725	1750
Phase	1	1
Voltage (rated)	115	115/208-230/277
Amperage (rated)	-	1.5/0.9
Service Factor	-	NL

Completed By: Kalen Kemp on 06/18/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-15/1010C

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-15-EGRD1	E2	6	120		253	157	113	94.2
Total			120		253	157	113	94.17%

Completed By: Kalen Kemp on 06/18/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: Pump



Asset: P-01

AREA:1135

Unit Data		
	Design	Actual
MFG	NA	BELL & GOSSETT
Model Num	NA	ECOCIRC XL 55-45
Serial Num	-	20220921
Service	-	HOT WATER
Type	-	CIRCULATOR
Configuration	-	HORIZONTAL
Pump RPM	-	4219
GPM/HD	34.8	34.8
Impeller Diameter	-	3.25"

Motor Data		
	Design	Actual
Motor MFG	-	BELL & GOSSETT
Frame	-	NL
Horsepower	-	0.50
Motor Rpm	-	4219
Phase	-	1
Voltage	-	208
Amperage	-	2.0
Service Factor	-	1.0

Test Data		
	Design	Actual
Pump Off Pres	-	27 psi
Pump Dead Head Pres	-	44 psi
Act Impeller Dia (IN)	-	3.25"
Valve Open GPM (FT)	-	34.8
Valve Open Diff (FT)	-	10 psi
Final Suction Pres (FT)	-	55.90
Final Discharge Pres (FT)	-	85.95 ft
Total Head Pres (FT)	30	30.05
Final GPM	34.8	34.8
Pump RPM	-	4000
RL Voltage	-	210
RL Amperage	-	1.87
Brake Horse Power	-	0.47

Completed By: Kalen Kemp on 07/02/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: Pump



Asset: P-02

AREA:1135

Unit Data		
	Design	Actual
MFG	NA	BELL & GOSSETT
Model Num	NA	ECOCIRC XL 55-45
Serial Num	-	20220914
Service	-	HOT WATER
Type	-	CIRCULATOR
Configuration	-	HORIZONTAL
Pump RPM	-	4219
GPM/HD	34.8	34.8
Impeller Diameter	-	3.25"

Motor Data		
	Design	Actual
Motor MFG	-	BELL & GOSSETT
Frame	-	NL
Horsepower	0	0.50
Motor Rpm	-	4219
Phase	-	1
Voltage	-	208
Amperage	-	2.0
Service Factor	-	1.0

Test Data		
	Design	Actual
Pump Off Pres	-	27 psi
Pump Dead Head Pres	-	44 psi
Act Impeller Dia (IN)	-	3.25
Valve Open GPM (FT)	-	34.81
Valve Open Diff (FT)	-	30.03
Final Suction Pres (FT)	-	55.44
Final Discharge Pres (FT)	-	85.47
Total Head Pres (FT)	30	30.03
Final GPM	34.8	34.8
Pump RPM	-	4000
RL Voltage	208	210
RL Amperage	2.00	1.87
Brake Horse Power	-	0.47

Completed By: Kalen Kemp on 07/02/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

System/Unit: AHU-DUAL FAN



Asset: RTU-1

AREA:CRIME LAB

UNIT DATA - SUPPLY		
	Design	Actual
Manufacturer	NA	AAON
Model Number	NA	RNA-070-D-A-3-EAB0B-CB3L0
Serial Number	-	202409-BNGY118930
No. Pre-Filters / Size (1)	-	
No. Pre-Filters / Size (2)	-	
No. Final Filters / Size (1)	-	24/12x24x2"
No. Final Filters / Size (2)	-	24/12x24x4"

MOTOR DATA - SUPPLY	
	Actual
Motor MFG / Frame	BALDOR
Horsepower / RPM	20 / 1760
Rated Volts / Phase	460 / 3
Rated Amperage / SF	27.0 /

DRIVE DATA - SUPPLY		
	Design	Actual
Motor Sheave Size / Bore	-	NA/1.625"
Fan Sheave Size / Bore	-	NA/1.625"
Belt CL Distance	-	DD
No. Belts / Size	-	DD

TEST DATA - SUPPLY		
	Design	Actual
Total CFM	11500	11770
OA CFM	9020	7790
Fan RPM	1657	1425
VFD Speed	-	52.17 Hz
RL Voltage	460	416
RL Amperage	27.0	16.6
Motor B.H.P.	14.81	

PERFORMANCE DATA - SUPPLY		
	Design	Actual
Static Pressure Stpt	-	0.90"
Suction S.P.	-	-1.72"
Discharge S.P.	-	1.39"
Total S.P.	4.77	3.11"
DX Coil P.D.	-	0.81"
Pre-Filters P.D.	-	COMBINED*
Total ESP	3.75	3.11"

UNIT DATA - EXHAUST/RETURN		
	Design	Actual
Manufacturer	-	WEG
Model Number	-	003180T3E182T-S
Serial Number	-	1087609500

MOTOR DATA - EXHAUST/RETURN	
	Actual
Motor MFG / FRAME	WEG/182/4T
Horsepower / RPM	3 / 1760
Rated Volts / Phase	460 / 3
Rated Amperage / SF	4.8 / 1.15

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

TEST DATA - EXHAUST/RETURN		
	Design	Actual
Total CFM	2480	2418
Fan RPM	1209	411
VFD Speed	-	20.4 Hz
RL Voltage	460	491
RL Amperage	4.8	1.12
Motor B.H.P.	1.48	

PERFORMANCE DATA - EXHAUST/RETURN		
	Design	Actual
Suction S.P.	-	-0.32
Discharge S.P.	-	0.14
Total S.P.	0.50	0.46

Completed By: Kalen Kemp on 07/03/2025

National TAB

Project: Jefferson County Crime Lab (Pevely, MO)

AHU-DUAL FAN



VAV - Single Duct

RTU-1/CRIME LAB

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)
VAV-1010	TITUS	DESV	REHEAT	8	495	505	495	500	495	501	912
VAV-1015	TITUS	DESV	REHEAT	6	340	345	330	329	330	333	447
VAV-1025	TITUS	DESV	REHEAT	10	1020	1006	1020	1000	1020	999	1414
VAV-1035	TITUS	DESV	REHEAT	6	400	425	400	402	400	398	447
VAV-1050	TITUS	DESV	REHEAT	8	650	647	650	653	650	644	912
VAV-1055	TITUS	DESV	REHEAT	10	770	751	770	777	770	767	1414
VAV-1060	TITUS	DESV	REHEAT	8	620	631	620	623	620	629	912
VAV-1085	TITUS	DESV	REHEAT	8	650	655	650	658	650	654	912
VAV-1090	TITUS	DESV	REHEAT	14	1120	1124	1100	1096	1100	1117	3000
VAV-1100	TITUS	DESV	REHEAT	10	810	821	810	812	810	816	1414
VAV-1110	TITUS	DESV	REHEAT	10	900	883	300	289	900	890	1414
VAV-1115	TITUS	DESV	REHEAT	8	650	659	210	211	650	642	912
VAV-1135	TITUS	DESV	REHEAT	6	250	258	200	205	200	203	447
VAV-1145	TITUS	DESV	REHEAT	8	400	403	100	103	330	335	912
VAV-1150	TITUS	DESV	REHEAT	8	630	635	200	198	630	626	912
VAV-A1030	TITUS	DESV	REHEAT	8	620	631	620	625	620	628	912
VAV-A1050	TITUS	DESV	REHEAT	8	650	658	650	660	650	632	912
VAV-A1060	TITUS	DESV	REHEAT	10	720	732	720	723	720	718	1414
VAV-A1090	TITUS	DESV	REHEAT	6	200	204	200	198	200	199	447
VAV-AC1110	TITUS	DESV	REHEAT	8	500	507	210	211	480	479	912
VAV-B1090	TITUS	DESV	REHEAT	8	620	624	620	619	620	625	912

Diffuser Supply (GRD)

RTU-1/CRIME LAB

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	CORRIDOR	S3	8	200	667	195	97.5
Total				200	667	195	97.5%

VAV-1010/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1010A	S1	6	50	82	55	110.0
SGRD2	1010A	S1	6	50	79	50	100.0
SGRD3	1010C	S3	8	135	183	136	100.7
SGRD4	1010A	S2	6	130	117	124	95.4
SGRD5	1010C	S2	36	130	130	140	107.7
Total				495	591	505	102.02%

VAV-1015/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1015	S3	8	140	169	144	102.9
SGRD2	1010A	S3	8	200	169	201	100.5
Total				340	338	345	101.47%

VAV-1025/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1025	S2	6	120	104	123	102.5
SGRD2	1025A	S7	14	660	636	652	98.8
SGRD3	1030B	S2	6	120	107	112	93.3
SGRD4	1025	S2	6	120	141	119	99.2
Total				1020	988	1006	98.63%

VAV-1035/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1030B	S4	10	350	345	376	107.4
SGRD2	1035	S1	6	50	71	49	98.0
Total				400	416	425	106.25%

VAV-1050/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1050 OPEN LAB	S3	8	325	302	297	91.4
SGRD2	1050 OPEN LAB	S3	8	325	356	350	107.7
Total				650	658	647	99.54%

VAV-1055/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1055	S3	8	100	173	97	97.0
SGRD2	1055	S5	12	670	645	654	97.6
Total				770	818	751	97.53%

VAV-1060/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1060	S4	10	300	351	293	97.7
SGRD2	1060	S4	10	320	316	338	105.6
Total				620	667	631	101.77%

VAV-1085/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1085	S3	8	220	182	212	96.4
SGRD2	1070	S1	6	50	105	54	108.0
SGRD3	1075	S1	6	50	97	48	96.0
SGRD4	1085	S3	8	220	177	228	103.6
SGRD5	1085A	S3	8	110	162	113	102.7
Total				650	723	655	100.77%

VAV-1090/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1090	S7	14	550	515	569	103.5
SGRD2	1090	S7	14	570	635	555	97.4
Total				1120	1150	1124	100.36%

VAV-1100/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1105	S1	6	50	91	51	102.0
SGRD2	100	S3	8	200	269	215	107.5
SGRD3	1090C	S1	6	60	74	62	103.3
SGRD4	1100	S4	10	300	367	302	100.7
SGRD5	1100	S3	8	200	221	191	95.5
Total				810	1022	821	101.36%

VAV-1110/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1110	S4	10	300	292	301	100.3
SGRD2	1110	S4	10	365	370	360	98.6
SGRD3	1110	S3	8	235	274	222	94.5
Total				900	936	883	98.11%

VAV-1115/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1115A	S4	10	325	370	343	105.5
SGRD2	1115	S4	10	325	338	316	97.2
Total				650	708	659	101.38%

VAV-1135/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1140	S2	6	75	49	72	96.0
SGRD2	1135	S2	6	75	40	82	109.3
SGRD3	1130	S2	6	50	72	54	108.0
SGRD4	1125	S1	6	50	112	49	98.0
Total				250	273	257	102.8%

VAV-1145/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1145	S3	8	200	249	199	99.5
SGRD2	1145	S3	8	200	263	204	102.0
Total				400	512	403	100.75%

VAV-1150/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1150	S4	10	315	290	313	99.4
SGRD2	1150	S4	10	315	283	322	102.2
Total				630	573	635	100.79%

VAV-A1030/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1020	S2	6	50	54	54	108.0
SGRD2	1030	S7	14	570	569	577	101.2
Total				620	623	631	101.77%

VAV-A1050/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1050A	S3	8	150	147	157	104.7
SGRD2	1050A	S3	8	200	205	204	102.0
SGRD3	1050A	S4	10	300	360	297	99.0
Total				650	712	658	101.23%

VAV-A1060/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1060	S5	12	720	745	732	101.7
Total				720	745	732	101.67%

VAV-A1090/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1080	S2	6	100	114	107	107.0
SGRD2	1090A	S2	6	100	108	97	97.0
Total				200	222	204	102%

VAV-AC1110/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1110C	S2	6	130	96	133	102.3
SGRD2	1110B	S2	6	130	104	135	103.8
SGRD3	1110A	S4	10	240	339	239	99.6
Total				500	539	507	101.4%

VAV-B1090/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	1090B	S7	14	620	681	624	100.6
Total				620	681	624	100.65%

Diffuser Ret/Exh (GRD)**RTU-1/CRIME LAB**

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
EGRD1	1130	R3	8	75	1	182	76	101.3
EGRD2		R3	8	75	1	227	74	98.7
EGRD3	1115	R5	12	495	1	642	447	90.3
EGRD4	1115	R5	12	495	1	650	465	93.9
EGRD5	1110C	R3	8	200	1	317	205	102.5
EGRD6	1110B	R3	8	200	1	224	205	102.5
EGRD7	1110	R4	10	450	1	314	440	97.8
EGRD8	1110A	R3	8	360	1	252	363	100.8
EGRD9	1015	R3	8	210	1	216	211	100.5
EGRD10	1145	R3	8	435	1	322	392	90.1
EGRD11	1150	R6	14	950	1	781	905	95.3
EGRD12	1010C	R3	8	200	1	23	197	98.5
Total				4145		4150	3980	96.02%

Completed By: Kalen Kemp on 07/03/2025