

**Report By:**

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



**Report: TAB REPORT**  
**Function: Test, Adjust, & Balance**  
**Date: 09/11/2025**  
**Completed By: National TAB**

**PROJECT**  
**Liberty Collective (Liberty Twp, OH)**

Lakota Lane

Liberty Twp, OH 45011

**Client**

BACHMAN'S HVAC SOLUTIONS  
4058 CLOUGH WOODS DR.

BATAVIA, OH

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

## Table Of Contents

Section	Page #
Certification	3
Equipment Calibrations	4
Abbreviations	5
GRD	6
AHU/RTU	8
FAN - Exhaust	14
Kitchen Hood Type I	25
Kitchen Hood Type II	29



# CERTIFICATION



**PROJECT:** Liberty Collective (Liberty Twp, OH)

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

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

**NEBB TAB FIRM:** National TAB

**REGISTRATION NO:** 3629

**CERTIFIED BY:** Joe Hertenstein

**DATE:** 9/11/2025

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

**NEBB TAB FIRM:** National TAB

**REGISTRATION NO:** 3629


**CERTIFIED BY:** Joe Hertenstein

**DATE:** \_\_\_\_\_

## Submitted and Certified by:

**NEBB TAB FIRM:** National TAB

**TAB PROFESSIONAL:** Joe Hertenstein

**SIGNATURE:** 

**REGISTRATION NO:** 3629

**CERTIFICATION EXP:** 12/31/2025





# National TAB

Testing, Adjusting, and Balancing Equipment



Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Evergreen S-PVF-1 24D-00281	3/14/2025	3/14/2026
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Evergreen S-PVF-1 24D-00281	3/14/2025	3/14/2026
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 5 % +/- 7 cfm	Evergreen S-PVF-1 24D-00281	3/14/2025	3/14/2026
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Klein Tools CL800 S/N 1220C-C1	9/18/2024	9/18/2025
	AMPERAGE MEASUREMENT	0 Amperes to 100 Amperes	2 % reading +/- 5 digits	Klein Tools CL800 S/N 1220C-C1	9/18/2024	9/18/2025
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	Shimpo DT 207Lp S/N D1690029R	9/18/2024	9/18/2025
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Hydronic Manometer - Dwyer 490W-6-HKIT S/N: 359515093207912	10/17/2024	10/17/2025
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Hydronic Manometer - Dwyer 490W-6-HKIT S/N: 359515093207912	10/17/2024	10/17/2025

## Abbreviation List

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





# National TAB

Project: Liberty Collective (Liberty Twp, OH)  
System/Unit: AHU/RTU



Asset: RTU-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	1624P22603
Model Num	NA	48LCE020A7M5A0N1C0
Configuration	HORIZONTAL	HORIZONTAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16"x25"
Num PreFilter 1	-	9
PreFilter Size 1	-	16"x25"x2"

Test Data		
	Design	Actual
SF CFM	7000	7221
SF RPM	1012	953
RA CFM	5375	5553
OA CFM	1625	1668
RL Voltage	208	214/214/214
RL Amperage	28	13.6/13.3/13.2
OA Damper Position	-	5.5DCV
Brake Horse Power	8.64	

Motor Data		
	Design	Actual
Motor MFG	-	BROAD OCEAN
Horsepower	-	7.5
Motor Rpm	-	1765
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	22.3
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.45"
Fan Suction SP	-	-0.84"
Fan Discharge SP	-	0.37"
Total ESP	-	0.82"
Fan Total SP	-	1.21"
Cooling Coil P.D.	-	0.39"*

Drive Data	
	Actual
Motor Sheave Size	VP71
Motor Bore Size	1-3/8"
Motor Sheave SetPt	N/a
Fan Sheave Size	BK120
Fan Sheave Bore	1-3/16"
Belt CL Distance	12"
Num of Belts	1
Belt Size	BX49

Completed By: Gabe Merk on 09/09/2025

Notes:

DIFFUSERS 9, 15, AND 20 HAVE NO DAMPERS. CURRENTLY NO SPACE FOR AN INLINE DAMPER DUE TO HOW CLOSE DIFFUSER IS TO BOTTOM OF DUCT.

Written By: Gabe Merk on 09/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1		CD-2	8	250	173	272	108.8
SGRD2		CD-2	8	250	110	238	95.2
SGRD3		CD-2	8	250	149	254	101.6
SGRD4		CD-4	8	250	41	232	92.8
SGRD5		CD-2	8	250	177	272	108.8
SGRD6		CD-2	8	250	139	261	104.4
SGRD7		CD-2	8	250	108	238	95.2
SGRD8		CD-2	12	630	271	527	83.7
SGRD9		CD-3	8	200	211	356	178.0
SGRD10		SG-1	6	125	109	121	96.8
SGRD11		CD-2	12	630	174	542	86.0
SGRD12		SG-1	6	125	101	132	105.6
SGRD13		CD-2	10	415	273	335	80.7
SGRD14		CD-2	10	415	211	422	101.7
SGRD15		CD-3	8	200	180	362	181.0
SGRD16		SG-1	6	125	94	131	104.8
SGRD17		CD-2	12	630	187	575	91.3
SGRD18		SG-1	6	125	55	113	90.4
SGRD19		CD-2	12	630	308	693	110.0
SGRD20		CD-3	8	200	341	282	141.0
SGRD21		CD-3	10	350	275	373	106.6
SGRD22		CD-2	10	450	246	490	108.9
Total				7000	3933	7221	103.16%

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: AHU/RTU



Asset: RTU-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	1724P2286
Model Num	NA	48LCE026A7M5-AN1C0
Configuration	HORIZONTAL	HORIZONTAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16"X25"
Num PreFilter 1	-	9
PreFilter Size 1	-	16"X25"X2"

Test Data		
	Design	Actual
SF CFM	9420	9122
SF RPM	1155	1052
RA CFM	6535	6298
OA CFM	2885	2824
RL Voltage	208	214/214/214
RL Amperage	37.3	17.5/18.0/18.7
OA Damper Position	-	6.0 DCV
Brake Horse Power	13.57	6.95

Motor Data		
	Design	Actual
Motor MFG	-	BROAD OCEAN
Horsepower	-	10
Motor Rpm	-	1765
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	26
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.61"
Fan Suction SP	-	-1.06"
Fan Discharge SP	-	0.37"
Total ESP	-	0.98"
Fan Total SP	-	1.43"
Cooling Coil P.D.	-	0.45" COMBINED

Drive Data	
	Actual
Motor Sheave Size	6"
Motor Bore Size	1-1/8"
Motor Sheave SetPt	N/a
Fan Sheave Size	2BK90
Fan Sheave Bore	1-7/16"
Belt CL Distance	13"
Num of Belts	2
Belt Size	BX44

Completed By: Gabe Merk on 09/09/2025

Notes:  
DIFFUSER 3 NOT INSTALLED. REMOVED FROM PLANS.

Written By: Gabe Merk on 09/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-2/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1		CD-1	8	100	174	107	107.0
SGRD2		CD-3	6	125	152	132	105.6
SGRD3		CD-3	6	125	0	0	0.0
SGRD4		CD-3	8	200	233	216	108.0
SGRD5	RR	CD-1	8	150	372	164	109.3
SGRD6	RR	CD-1	8	200	442	189	94.5
SGRD7	SHWR	CD-1	6	175	162	187	106.9
SGRD8	RR	CD-1	8	150	495	149	99.3
SGRD9	RR	CD-1	8	150	258	155	103.3
SGRD10	SHWR	CD-1	6	175	158	179	102.3
SGRD11	RR	CD-1	8	200	145	210	105.0
SGRD12	RR	CD-1	8	150	281	158	105.3
SGRD13	HALL	CD-3	8	150	177	141	94.0
SGRD14	HALL	CD-4	8	125	328	132	105.6
SGRD15		SG-2	18X8	450	453	463	102.9
SGRD16		SG-3	22X8	550	364	521	94.7
SGRD17		SG-2	18X8	450	354	419	93.1
SGRD18		SG-3	22X8	550	446	523	95.1
SGRD19		CD-2	10	325	540	335	103.1
SGRD20		CD-2	10	325	442	328	100.9
SGRD21		SG-3	22X8	550	367	532	96.7
SGRD22		SG-3	22X8	550	495	536	97.5
SGRD23		SG-3	22X8	550	562	573	104.2
SGRD24		CD-2	8	200	158	193	96.5
SGRD25		CD-2	8	200	183	210	105.0
SGRD26		SG-1	16X6	250	154	247	98.8
SGRD27		SG-2	18X8	525	132	482	91.8
SGRD28		SG-3	22X8	385	193	363	94.3
SGRD29		SG-2	18X8	475	266	437	92.0
SGRD30		SG-3	22X8	525	438	479	91.2
SGRD31		SG-2	18X8	385	400	362	94.0
Total				9420	9324	9122	96.84%

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: AHU/RTU



Asset: RTU-3

AREA:

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	3024U4794
Model Num	NA	48A8T030ANM551FB
Configuration	-	HORIZONTAL
Num OA Filters 1	-	8
OA Filter Size 1	-	24"X20"
Num PreFilter 1	-	4
PreFilter Size 1	-	20"X20"X4"
Num PreFilter 2	-	4
PreFilter Size 2	-	20"X24"X4"

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	215T
Horsepower	-	7-1/2
Motor Rpm	-	1768
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	27.8
Service Factor	-	1.15

Test Data		
	Design	Actual
SF CFM	12150	8693
SF RPM	1043	NOT ACCESSIBLE
RA CFM	8550	4928
OA CFM	3600	3765
RL Voltage	208	203 VFD
RL Amperage	-	19.0 VFD
VFD Max SetPt	-	59.9 HZ
VFD Min SetPt	-	59.9 HZ
SF Motor Freq(HZ)	-	59.9 HZ
SF System SetPt	-	100%
OA Damper Position	-	50%
Brake Horse Power	10.73	5.13

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.98"
Fan Discharge SP	-	0.44"
Total ESP	2.05	0.92"
Fan Total SP	-	1.42"
Pre-Filter P.D.	-	0.50"* COMBINED
Cooling Coil P.D.	-	0.50"* COMBINED

Completed By: Gabe Merk on 09/09/2025

**Notes:**

Unit total airflow low at 60 Hz. Carrier Tech Support said max allowable frequency setpoint is 62 Hz. More investigation needed to get to design flow.

**Drive data**

- Fan sheave: 2B5V94
- Fan hub: B 1-15/16
- Fan bore: 1-15/16"
- Motor sheave: 5"
- Motor bore: 1-3/8"
- Cl: 15-1/2"
- Belts: 2-BX50

Written By: Gabe Merk on 09/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-3/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	RR	CD-1	8	175	147	139	79.4
SGRD2	RR	CD-1	8	175	224	163	93.1
SGRD3	HALL	CD-1	8	100	110	93	93.0
SGRD4	HALL	CD-1	8	150	167	38	25.3
SGRD5		CD-1	6	75	71	105	140.0
SGRD6		CD-1	6	75	66	89	118.7
SGRD7		SG-1	16X6	200	83	24	12.0
SGRD8		SG-1	16X6	200	74	108	54.0
SGRD9		SG-1	16X6	175	96	70	40.0
SGRD10		SG-1	16X6	200	95	60	30.0
SGRD11		SG-1	16X6	240	123	135	56.3
SGRD12		SG-1	16X6	235	98	184	78.3
SGRD13		SG-1	16X6	235	125	183	77.9
SGRD14		SG-1	16X6	240	119	177	73.8
SGRD15		SG-3	22X8	550	1985	337	61.3
SGRD16		SG-3	22X8	550		337	61.3
SGRD17		SG-3	22X8	550		337	61.3
SGRD18		SG-3	22X8	550		337	61.3
SGRD19		SG-3	22X8	550		337	61.3
SGRD20		SG-2	18X8	415		337	81.2
SGRD21		SG-2	18X8	400		337	84.3
SGRD22		SG-3	22X8	500		337	67.4
SGRD23		SG-3	22X8	600		337	56.2
SGRD24		SG-2	18X8	400	3331	372	93.0
SGRD25		SG-3	22X8	550		372	67.6
SGRD26		SG-2	18X8	410		372	90.7
SGRD27		SG-2	18X8	350		372	106.3
SGRD28		SG-3	22X8	550		372	67.6
SGRD29		SG-2	18X8	350		372	106.3
SGRD30		SG-2	18X8	450		372	82.7
SGRD31		SG-2	18X8	450		372	82.7
SGRD32		SG-2	18X8	450		372	82.7
SGRD33		SG-2	18X8	450		372	82.7
SGRD34		SG-3	22X8	600		372	62.0
<b>Total</b>				12150	6914	8693	71.55%

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: FAN - Exhaust



Asset: EF-1

AREA:FLR 1 RESTROOMS

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	165RH16DEC
Serial Num	-	INACCESSIBLE
Type	CRE UPBLAST	INACCESSIBLE

Test Data		
	Design	Actual
CFM	1600	2308
System SetPt	-	INACCESSIBLE
RL Voltage	115	INACCESSIBLE
RL Amperage	-	INACCESSIBLE
Suction ESP	-	INACCESSIBLE
Total ESP	1.40	INACCESSIBLE
Brake Horse Power	-	INACCESSIBLE

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	INACCESSIBLE
Motor Rpm	1493	INACCESSIBLE
Phase	1	INACCESSIBLE
Voltage (rated)	115	INACCESSIBLE
Amperage (rated)	-	INACCESSIBLE
Service Factor	-	INACCESSIBLE

Completed By: Gabe Merk on 09/09/2025

Notes:

UNIT INACCESSIBLE. UNABLE TO GAIN ACCESS TO UNIT VIA LADDER ON ROOF. A SNORKLE LIFT MAY BE NECESSARY TO ACCESS FAN SAFELY IN PITCHED ROOF. UNABLE TO REDUCE AIRFLOW TO DESIGN.

Written By: Gabe Merk on 09/10/2025

**National TAB**  
 Project: Liberty Collective (Liberty Twp, OH)  
**FAN - Exhaust**



**Diffuser Ret/Exh (GRD)**

**EF-1/FLR 1 RESTROOMS**

<b>Asset</b>								
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
EGRD1	RR	EG-1	10X10	400	1	574	574	143.5
EGRD2	RR	EG-1	10X10	400	1	659	659	164.8
EGRD3	RR	EG-1	10X10	400	1	532	532	133.0
EGRD4	RR	EG-1	10X10	400	1	543	543	135.8
<b>Total</b>				1600		2308	2308	144.25%

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: FAN - Exhaust



Asset: EF-2

AREA:FLR 2 RR

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GCVF-180
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	100	249

Motor Data		
	Design	Actual
Motor MFG	-	JAKEL
Motor Rpm	1082	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.2

Completed By: Gabe Merk on 07/09/2025

Notes:  
SINGLE SPEED EF WIRED IN HIGH. NO LOW SPEED WIRE.

Written By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: FAN - Exhaust



Asset: EF-3

AREA:FLR 2 RR

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GCVF-180
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	100	243

Motor Data		
	Design	Actual
Motor MFG	-	JAKEL
Motor Rpm	1082	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.2

Completed By: Gabe Merk on 07/09/2025

Notes:  
SINGLE SPEED EF WIRED IN HIGH. NO LOW SPEED WIRE.

Written By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: FAN - Exhaust



Asset: EF-4

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GC-188
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	200	190

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Motor Rpm	1650	1350
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.0

Completed By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: FAN - Exhaust



Asset: EF-5

AREA:

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GC-188
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	200	199

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Motor Rpm	1650	1350
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.0

Completed By: Gabe Merk on 09/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: FAN - Exhaust



Asset: KEF-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU85HFA
Serial Num	-	6294612
Type	CRE UPBLAST	CRE UPBLAST

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	0.75	3/4
Motor Rpm	1482	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	8.9

Test Data		
	Design	Actual
CFM	1350	1373
System SetPt	-	64%
RL Voltage	115	118
RL Amperage	8.9	3.6
Suction ESP	-	-1.10"
Discharge ESP	-	ATM
Total ESP	1.750	1.10"
Brake Horse Power	-	0.30

Completed By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)  
System/Unit: FAN - Exhaust



Asset: KEF-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU85HFA
Serial Num	-	6294612
Type	CRE UPBLAST	CRE UPBLAST

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	0.75	3/4
Motor Rpm	1482	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	8.9

Test Data		
	Design	Actual
CFM	1350	1362
System SetPt	-	78%
RL Voltage	115	120
RL Amperage	8.9	5.4
Suction ESP	-	-1.07"
Discharge ESP	-	ATM
Total ESP	1.750	1.07"
Brake Horse Power	-	0.46

Completed By: Gabe Merk on 09/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: FAN - Exhaust



Asset: KEF-3

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU85HFA
Serial Num	-	6294612
Type	CRE UPBLAST	CRE UPBLAST

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	0.75	3/4
Motor Rpm	1482	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	8.9

Test Data		
	Design	Actual
CFM	1350	1342
System SetPt	-	64%
RL Voltage	115	120
RL Amperage	8.9	3.4
Suction ESP	-	-1.20"
Discharge ESP	-	ATM
Total ESP	1.750	1.20"
Brake Horse Power	-	0.29

Completed By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

System/Unit: FAN - Exhaust



Asset: KEF-4

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU85HFA
Serial Num	-	6294612
Type	CRE UPBLAST	CRE UPBLAST

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	0.75	3/4
Motor Rpm	1482	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	8.9

Test Data		
	Design	Actual
CFM	1350	1372
System SetPt	-	67%
RL Voltage	115	120
RL Amperage	8.9	3.9
Suction ESP	-	-1.32"
Discharge ESP	-	ATM
Total ESP	1.750	1.32"
Brake Horse Power	-	0.33

Completed By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)  
System/Unit: FAN - Exhaust



Asset: KEF-DISH 1

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR33HFA
Serial Num	-	6294612
Type	CRE DNBLAST	CRE DOWNBLAST

Test Data		
	Design	Actual
CFM	525	531
System SetPt	-	41%
RL Voltage	115	118
RL Amperage	4.3	0.31
Suction ESP	-	INACCESSIBLE
Total ESP	1.000	INACCESSIBLE

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	0.33	1/3
Motor Rpm	1567	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	4.3

Completed By: Gabe Merk on 09/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)  
System/Unit: Kitchen Hood Type I



Asset: HD-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	5424 ND-2
Job / Serial Num	-	6294612
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	83	83"
Hood Width	51	54"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	20X16	20"x16"
Filter Qty 1	5	5
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	10.40	10.40
Filter1 FPM	-	126
Filter2 FPM	-	139
Filter3 FPM	-	146
Filter4 FPM	-	136
Filter5 FPM	-	116
Filter Ave FPM(corr)	-	274.6
CFM	1350	1373

Cooking Equipment	
	Actual
Item 1	GRIDDLE
Item 2	FRYER

Completed By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

## System/Unit: Kitchen Hood Type I



Asset: HD-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	5424 ND-2
Job / Serial Num	-	6294612
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	83	83"
Hood Width	51	54"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	20X16	20"x16"
Filter Qty 1	5	5
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	10.40	10.40
Filter1 FPM	-	121
Filter2 FPM	-	144
Filter3 FPM	-	151
Filter4 FPM	-	139
Filter5 FPM	-	104
Filter Ave FPM(corr)	-	272.5
CFM	1350	1362

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	GAS-STOVE/GRIDDLE

Completed By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

## System/Unit: Kitchen Hood Type I



Asset: HD-3

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	5424 ND-2
Job / Serial Num	-	6294612
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	83	83"
Hood Width	51	54"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	20X16	20"x16"
Filter Qty 1	5	5
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	10.40	10.40
Filter1 FPM	-	128
Filter2 FPM	-	141
Filter3 FPM	-	138
Filter4 FPM	-	130
Filter5 FPM	-	112
Filter Ave FPM(corr)	-	268.3
CFM	1350	1342

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	GRIDDLE

Completed By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

## System/Unit: Kitchen Hood Type I



Asset: HD-4

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	5424 ND-2
Job / Serial Num	-	6294612
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	83	83"
Hood Width	51	54"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	20X16	20"x16"
Filter Qty 1	5	5
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	10.40	10.40
Filter1 FPM	-	137
Filter2 FPM	-	140
Filter3 FPM	-	143
Filter4 FPM	-	132
Filter5 FPM	-	111
Filter Ave FPM(corr)	-	274.6
CFM	1350	1372

Cooking Equipment	
	Actual
Item 1	GAS-STOVE/GRIDDLE
Item 2	FRYER

Completed By: Gabe Merk on 07/09/2025

# National TAB

Project: Liberty Collective (Liberty Twp, OH)

## System/Unit: Kitchen Hood Type II



Asset: HD-DISH 1

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	4224 VHB
Serial Num	-	6294612
Type	TYPE II CANOPY	TYPE 2 CANOPY
Hood length	42	42"
Hood Width	42	42"

Test Data		
	Design	Actual
Exhaust CFM	525	531

Completed By: Gabe Merk on 09/09/2025