

We are NOT balancing the hoods - per Joe

**GENERAL CONTRACTOR NOTE**

COORDINATE EXACT LOCATION OF RTUS WITH STRUCTURAL AND ARCHITECT DWGS. DUCT WORK MUST BE INSTALLED WHEN ROOF TRUSSES ARE INSTALLED. SUPPLY AND RETURN DUCT MUST RUN THROUGH OPEN WEBBING OF ROOF TRUSSES. COORDINATE ROUTING OF DUCTWORK WITH ROOF TRUSSES INSTALLED(TYPICAL). GENERAL CONTRACTOR TO COORDINATE IN FIELD.

**KEYED NOTES**

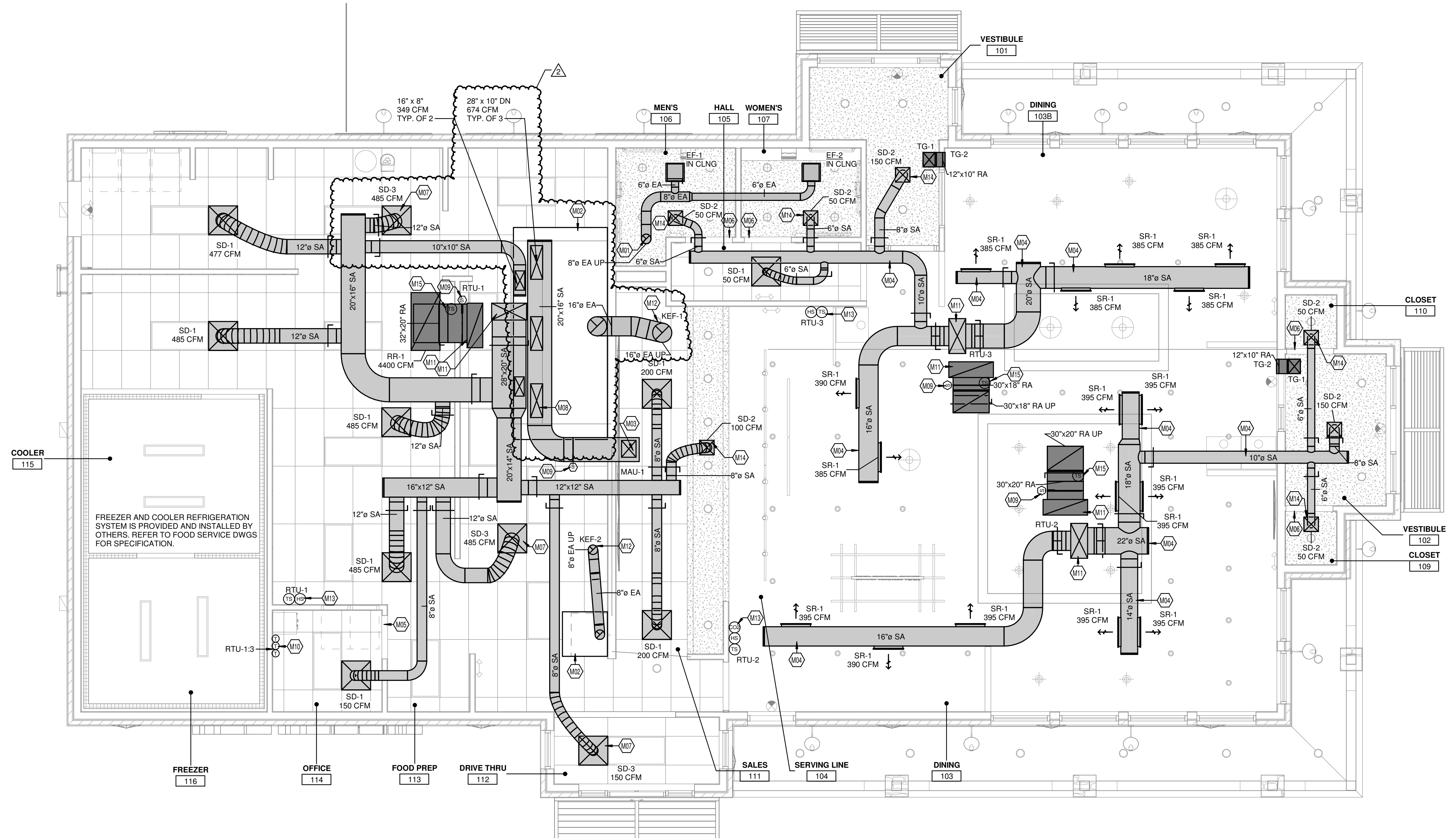
- M01 EXTEND EXHAUST DUCT UP THRU ROOF.
- M02 TYPE I KITCHEN HOOD. REFERENCE FOOD SERVICE (FS) DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- M03 EXTEND AND CONNECT DUCT UP TO MAKE-UP AIR UNIT. PROVIDE FLEXIBLE CONNECTION AT UNIT.
- M04 PROVIDE DOUBLE WALL DUCTWORK WITH 1" INSULATION FOR ALL EXPOSED DUCTWORK. DUCTWORK TO BE PAINTED TO MATCH CEILING. COORDINATE WITH ARCHITECT.
- M05 PROVIDE 1.5" AIRSPACE BETWEEN BOTTOM OF DOOR AND FINISHED FLOOR FOR AIRFLOW.
- M06 PROVIDE 1" AIRSPACE BETWEEN BOTTOM OF DOOR AND FINISHED FLOOR FOR AIRFLOW.
- M07 PERFORATED SUPPLY DIFFUSER PROVIDED WITHOUT PATTERN CONTROLLER.
- M08 EXTEND SUPPLY AIR DUCT DOWN TO SUPPLY CONNECTIONS TO HOOD. PROVIDE TRANSITION DUCT AND BALANCING DAMPER AT HOOD.
- M09 MECHANICAL CONTRACTOR SHALL FURNISH A NEW ADDRESSABLE SMOKE DETECTOR. MECHANICAL CONTRACTOR SHALL INSTALL SMOKE DETECTOR IN NEW AIR DUCT MAIN. MECHANICAL CONTRACTOR SHALL INTERLOCK SMOKE DETECTOR TO FAN MOTOR. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO REMOTE ANNUNCIATOR. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION INCLUDING ANNUNCIATOR LOCATION.
- M10 PROVIDE THERMOSTAT AND EXTEND CONTROL WIRING FROM RTU AND SPACE SENSOR TO THIS LOCATION.
- M11 EXTEND DUCTWORK UP TO UNIT THROUGH OPENING IN ROOF AND CONNECT TO ROOFTOP UNIT. VERTICAL DUCTWORK SAME SIZE AS EQUIPMENT. PROVIDE FLEXIBLE CONNECTION IN VERTICAL DUCT.
- M12 EXTEND GREASE DUCT UP THROUGH ROOF TO EXHAUST FAN ON ROOF. PROVIDE APPROVED FLANGED AND GASKETED DUCT TRANSITION AT EXHAUST FAN. PROVIDE HI-TEMPERATURE DUCT WRAP ON ENTIRE LENGTH OF GREASE DUCT. PROVIDE DUCT CLEAN-OUT AND ACCESS DOORS AS REQUIRED BY IMC AND AUTHORITY HAVING JURISDICTION. REFERENCE SPECIFICATIONS AND FOOD SERVICE (FS) DRAWINGS FOR ADDITIONAL REQUIREMENTS. CONTRACTOR TO PROVIDE OPENING IN ROOF FOR DUCT, CURB AND FAN.
- M13 PROVIDE SPACE SENSOR AT THIS LOCATION. EXTEND CONTROL WIRING TO THERMOSTATS LOCATED IN OFFICE.
- M14 PROVIDE AIR DEVICE WITH BALANCING DAMPER TO BE CONTROLLED REMOTELY AT FACE OF DIFFUSER. BASIS OF DESIGN YOUNG REGULATOR MODEL 270-275 WITH OPPOSED BLADE DAMPER.
- M15 PROVIDE AIR TEMPERATURE SENSOR IN RETURN DUCT.



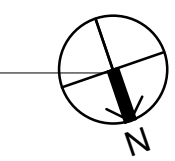
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Revisions:

Mark	Date	By	Description
	06/07/22		
BID/PERMIT			
△	8/16/2022		Hood Updates
△			
△			



1 MECHANICAL PLAN  
1/4" = 1'-0"



**Roy Rogers**

CLEVELS, OH

151 COOPER RD.  
CLEVELS, OH 45002

PROJECT # 24035.00  
DATE ISSUED 06/07/2022

**MECHANICAL -  
DUCTWORK  
PLAN**

**M100**

2" REFERENCE LINE  
KLH JOB #: 24035

# HVAC ELECTRICAL COORDINATION SCHEDULE

ABBREVIATIONS		CONTRACTOR TYPE		MOTOR CONTROL TYPE		CONTROL TYPE	
DC	LOCAL DISCONNECT	EC	ELECTRICAL CONTRACTOR	CS	COMBINATION STARTER	TC	TIMECLOCK
MC	MOTOR CONTROL (POWER)	EX	EXISTING	MCC	MOTOR CONTROL STARTER	CPT	CONTROL POWER TRANSFORMER
SD	DUCT SMOKE DETECTOR	FC	FIRE PROTECTION CONTRACTOR	MG	MAGNETIC STARTER OR CONTACT	BAS	BUILDING AUTOMATION SYSTEM
CN	CONTROLS	GC	GENERAL CONTRACTOR	MS	MANUAL STARTER	LOW	LOW VOLTAGE CONTROLS
TS	TOGGLE SWITCH	HC	HVAC CONTRACTOR	VFD	VARIABLE FREQUENCY DRIVE	LINE	LINE VOLTAGE CONTROLS
C/B	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD	MFR	MANUFACTURER	MSR	MANUAL STARTER W/ CONTROL RELAY	RLINE	REVERSE ACTING LINE VOLTAGE THERMOSTAT
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)	PC	PLUMBING CONTRACTOR	OV	OVERCURRENT PROTECTION	MAN	MANUAL
FLA	OPERATING FULL LOAD AMPS	OR	OWNER OR OTHERS			FA	FIRE ALARM
MCA	MINIMUM CIRCUIT CAPACITY					CO	CARBON MONOXIDE SENSOR
CP	CORD AND PLUG CONNECTION					INT	INTEGRAL TO EQUIPMENT
						ASD	AREA SMOKE DETECTOR
						DS	DUCT SMOKE DETECTOR

EQUIPMENT MARK	DESCRIPTION	VOLTS (V)	PHASE	EMERGENCY	BHP (HP)	HP (HP)	HTG (KW)	WATTS	FLA (A)	MCA (A)	OCF (A)	FED FROM	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	FA SHUTDOWN	AVAILABLE FAULT CURRENT (A)
CU-1 MAU	AIR COOLED CONDENSING UNIT	208	3						9.07	11.2	20		EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC		963
CU-2 MAU	AIR COOLED CONDENSING UNIT	208	3						9.07	11.2	20		EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC		927
EF-1	CEILING MOUNTED VENTILATOR	120	1						0.1				EC	EC	EC	MG	MFR	MFR	MFR	LINE	EC	EC	EC		1458
EF-2	CEILING MOUNTED VENTILATOR	120	1						0.1				EC	EC	EC	MG	MFR	MFR	MFR	LINE	EC	EC	EC		1200
KEF-1	CENTRIFUGAL ROOF VENTILATOR	208	3			2			8.3				EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC		914
KEF-2	CENTRIFUGAL ROOF VENTILATOR	120	1			333			4.3				EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC		1240
MAU-1	PACKAGED OUTDOOR MAKEUP AIR UNIT	208	3			3			8.6	12	20		EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC	DUCT SMOKE	967
RTU-1	PACKAGED OUTDOOR ROOFTOP UNIT	208	3						61	70			EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC	DUCT SMOKE	4932
RTU-2	PACKAGED OUTDOOR ROOFTOP UNIT	208	3						61	70			EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC	DUCT SMOKE	4023
RTU-3	PACKAGED OUTDOOR ROOFTOP UNIT	208	3						45	50			EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC	DUCT SMOKE	2540

# HVAC VENTILATION SCHEDULE

NUMBER	NAME	AREA	PEOPLE	OA PER PERSON	OA PER SQ FT.	REQ SUP	ACT SUP	REQ OA	ACT OA	ACT RET	ACT EXH	CRIT OA	PRESSURE
101	VESTIBULE	84 SF	0	0	0	142	150	18	18	150	0	0	E
102	VESTIBULE	73 SF	0	0	0	145	150	32	33	150	0	0	E
103	DINING	879 SF	62	7.5	0.18	3423	3550	753	781	3550	0	0.2194	E
103B	DINING	879 SF	27	7.5	0.18	2600	2700	312	324	2700	0	0.1251	E
104	SERVING LINE	92 SF	7	7.5	0.18	44	100	7	16	100	0	0.86	E
105	HALL	53 SF	0	0	0.06	50	50	6	6	50	0	0.08	E
106	NEWS	57 SF	0	0	0	50	50	6	6	0	75	0	N
107	WOMENS	51 SF	0	0	0	50	50	6	6	0	75	0	N
109	CLOSET	13 SF	0	0	0.12	50	50	11	11	50	0	0.04	E
110	CLOSET	13 SF	0	0	0.12	50	50	11	11	50	0	0.04	E
111	SALES	184 SF	2	0	0	169	400	27	64	400	127	0	N
112	DRIVE THRU	56 SF	1	0	0	125	150	24	24	150	39	0	N
113	FOOD PREP	1069 SF	12	0	0	1538	3600	246	576	3600	764	0	N
114	OFFICE	52 SF	1	5	0.06	62	150	10	24	150	0	0.0666	E
TOTAL		3064 SF											

# HVAC LOAD SCHEDULE

THE HEATING AND COOLING LOAD CALCULATIONS ARE BASED ON THE CLTD/CLF (COOLING LOAD TEMPERATURE DIFFERENCE/COOLING LOAD FACTOR) METHOD. ASSUMPTIONS AND EXECUTION OF THESE METHODS ARE PER ASHRAE 183-2007...

COOLING LOAD BREAKDOWN												HEATING LOAD BREAKDOWN												
EQUIPMENT MARK	CRUF	CWALL	CPART	CGLASS	CSOLAR	CLIGHTS	CEQUIP	CPSENS	CSSENS	CFAN	COAS	CTSENS	CPLAT	COAL	CTLAT	CTOT	HROOF	HWALL	HPART	HGLASS	HSLAB	HSPACE	HOA	HTOT
RTU-1	2.2	0.7	0	0.4	0.8	7.4	63.1	5.1	80	4.7	13.3	106.4	4.3	17.7	22.4	128.8	4.5	2.5	0	2.3	6.1	15.6	49.7	65.3
RTU-2	1.5	0.5	0	1.4	5.7	5	0	15.4	29.7	3	15.8	94.9	12.9	21	33.7	128.6	3.1	1.8	0	6.7	5.1	16.7	59	75.8
RTU-3	0.9	0.3	0	1.5	9.6	3.2	0	6.6	22.3	2.4	6.8	69.6	5.5	9	14.5	84.1	1.9	1.3	0	7.1	3.8	14.3	25.4	39.7

KITCHEN PRESSURIZATION			
EQUIPMENT	OUTSIDE AIR	EXHAUST AIR	TOTALS
RTU-1	704		704
MAU-1	2022		2022
KEF-1		-2733	-2733
KEF-2		-575	-575
KITCHEN TOTALS	2726	-3308	-582
TOTAL BUILDING PRESSURIZATION			
EQUIPMENT	OUTSIDE AIR	EXHAUST AIR	TOTALS
RTU-1	704		704
RTU-2	836		836
RTU-3	360		360
MAU-1	2022		2022
KEF-1		-2733	-2733
KEF-2		-575	-575
EF-1		-75	-75
EF-2		-75	-75
BUILDING TOTALS	3922	-3458	464
TOTAL BUILDING PRESSURIZATION AT CO2 MINIMUM			
EQUIPMENT	OUTSIDE AIR	EXHAUST AIR	TOTALS
RTU-1	704		704
RTU-2 (CO2 MINIMUM)	375		375
RTU-3	360		360
MAU-1	2022		2022
KEF-1		-2733	-2733
KEF-2		-575	-575
EF-1		-75	-75
EF-2		-75	-75
BUILDING TOTALS	3461	-3458	3

# HVAC FANS SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

EQUIPMENT MARK	DESCRIPTION	WEIGHT (lbs)	MANUFACTURER	MODEL	VOLTS	PHASE	CFM (cfm)	ESP (in WC)	FLA (amps)	Access	AVAILABLE FAULT CURRENT
EF-1	CEILING MOUNTED VENTILATOR	12	GREENHECK	SP-80-VG	120	1	75	0.3	0.1		1458
EF-2	CEILING MOUNTED VENTILATOR	12	GREENHECK	SP-80-VG	120	1	75	0.3	0.1		1200
KEF-1	CENTRIFUGAL ROOF VENTILATOR	208	CAPTIVEAIRE	DU180HFA	208	3	8.3		4.3	BY OTHERS	914
KEF-2	CENTRIFUGAL ROOF VENTILATOR	120	CAPTIVEAIRE	DU33HFA	120	1	5.5		4.3	BY OTHERS	1240

# HVAC DIFFUSERS AND REGISTERS SCHEDULE

TAG	MANUFACTURER	MODEL	FACE	MOUNTING	MATERIAL	FINISH	DAMPER TYPE	BORDER STYLE	REMARKS
RR-1	TITUS	350FL	24"x48"	CEILING	ALUMINUM	STANDARD WHITE	PARALLEL BLADE	LAY IN MOUNTING	REFER TO DRAWINGS FOR DUCT CONNECTION SIZE.
SD-1	TITUS	OMNI-AA	24"x24"	CEILING	ALUMINUM	STANDARD WHITE	OPPOSED BLADE	LAY IN MOUNTING	REFER TO DRAWINGS FOR DUCT CONNECTION SIZE.
SD-2	TITUS	OMNI-AA	12"x12"	CEILING	ALUMINUM	STANDARD WHITE	OPPOSED BLADE	LAY IN MOUNTING	REFER TO DRAWINGS FOR DUCT CONNECTION SIZE.
SD-3	TITUS	PAS-AA	24"x24"	CEILING	ALUMINUM	STANDARD WHITE	(none)	LAY IN MOUNTING	REFER TO DRAWINGS FOR DUCT CONNECTION SIZE.
SR-1	TITUS	S300FL	24"x6"	DUCT	ALUMINUM	BLACK FINISH G.C. TO FIELD PAINT TO MATCH CEILING OR WALLS	SCOOP DAMPER	SURFACE MOUNT	DIFFUSER SHALL RECEIVE FINISH TO MATCH EXPOSED DUCTWORK. COORDINATE WITH ROY ROGERS REPRESENTATIVE.
TG-1	TITUS	350FL	10"x12"	CEILING	ALUMINUM	STANDARD WHITE	(none)	LAY IN MOUNTING	
TG-2	TITUS	350FL	12"x10"	SIDEWALL	ALUMINUM	STANDARD WHITE	(none)	SURFACE MOUNT	

# HVAC AIR COOLED CONDENSING UNIT SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

Equipment Mark	DESCRIPTION	LOCATION	STATUS	MANUFACTURER	MODEL	SEER	VOLTS	PHASE	NOMINAL TONS	FLA (amps)	AVAILABLE FAULT CURRENT
CU-1 MAU	AIR COOLED CONDENSING UNIT	MAU-1	BY OTHERS	CAPTIVEAIRE	A1-D.500-150-MPU	14	208	3	2.5	9.07	963
CU-2 MAU	AIR COOLED CONDENSING UNIT	MAU-1	BY OTHERS	CAPTIVEAIRE	A1-D.500-150-MPU	14	208	3	2.5	9.07	927

# HVAC MAKEUP AIR UNIT SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

EQUIPMENT MARK	DESCRIPTION	STATUS	WEIGHT (lbs)	MANUFACTURER	MODEL	VOLTS	PHASE	OACFM (cfm)	GAS HTG IN (mbh)	GAS HTG OUT (mbh)	MIN GAS PRESSURE (in WC)	MAX GAS PRESSURE (in WC)	FLA (amps)	MCA (amps)	OCF (amps)	AVAILABLE FAULT CURRENT
MAU-1	PACKAGED OUTDOOR MAKEUP AIR UNIT	BY OTHERS	1257	CAPTIVEAIRE	A1-D.500-150-MPU	208	3	4400	0.8	704	4.5	13.5	61	70	4932	2.3,4,10,21,23

# HVAC ACCESSORIES

- ACCESSORIES:
- MOTOR DAMPER
  - ECONOMIZER
  - ROOF CURB
  - HAIL GUARDS
  - INTAKE HOOD
  - VIBRATION ISOLATION
  - FLAT FILTER
  - FILTER/MIXING BOX
  - ACCESS DOOR
  - FLEX CONNECTIONS
  - MOUNTING COLLAR
  - HOT GAS BYPASS
  - FACE/BYPASS DAMPER
  - CONDENSATE PUMP
  - MOTOR GUARD
  - GREASE TRAP
  - DUCT FLANGES
  - BASE RAIL
  - HUMIDIFIER
  - CO2 SENSORS
  - ECON POWERED EXHAUST
  - ECON BAROMETRIC RELIEF
  - HOT GAS REHEAT COIL
  - SHAFT GROUNDING BRUSHES

# HVAC ROOFTOP UNITS SCHEDULE

Equipment shall be braced and labeled by the equipment manufacturer to withstand the minimum scheduled available fault current value for listed equipment.

EQUIPMENT MARK	DESCRIPTION	WEIGHT (lbs)	MANUFACTURER	MODEL	MIN EER	VOLTS	PHASE	CFM (cfm)	ESP (in WC)	OACFM (cfm)	NOMINAL TONS	CO2 CFM	MAT CLG DB (Deg F)	MAT CLG WB (Deg F)	CLG MBH (mbh)	CLG SENS (mbh)	LAT DB (Deg F)	LAT CLG WB (Deg F)	HTG MBH (mbh)	GAS HTG IN (mbh)	GAS HTG OUT (mbh)	MIN GAS PRESSURE (in WC)	MAX GAS PRESSURE (in WC)	MCA (amps)	OCF (amps)	AVAILABLE FAULT CURRENT	ACCESSORIES
RTU-1	PACKAGED OUTDOOR ROOFTOP UNIT	1598	CARRIER	48HCCE11A3MS	12	208	3	4400	0.8	704	10	79	67	129	106	55	54	67	224	184	4.5	13.5	61	70	4932	2.3,4,10,21,23	
RTU-2	PACKAGED OUTDOOR ROOFTOP UNIT	1598	CARRIER	48HCCE11A3MS	12	208	3	3800	0.6	638	10	80	67	129	95	55	54	102	224	184	4.5	13.5	61	70	4023	2.3,4,10,20,21,23	
RTU-3	PACKAGED OUTDOOR ROOFTOP UNIT	1401	CARRIER	48HCDE08A2MS	12	208	3	3000	0.6	360	7.5	78	66	84	70	55	54	64	125	103	4.5	13.5	45	50	2540	2.3,4,10,21,23	

NOTE: PROVIDE RTUS WITH DUAL ENTHALPY ECONOMIZERS, TWO STAGE SUPPLY FANS, AND TWO STAGES OF HEATING AND COOLING.

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8/17/2022

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Revisions:

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	06/07/22		
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△			
△			

# Roy Rogers

CLEVELS, OH  
151 COOPER RD.  
CLEVELS, OH 45002

PROJECT # 24035.00  
DATE ISSUED 06/07/2022

MECHANICAL - SCHEDULES

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Revisions:

Mark	Date	By	Description
06/07/22			
BID/PERMIT			
8/16/2022			
HOOD UPDATES			

# Roy Rogers

Roy Rogers r1 (Clevel,OH)  
 CLEVELS, OH, 45002

CLEVELS, OH  
 151 COOPER RD.  
 CLEVELS, OH 45002

PROJECT # 24035.00  
 DATE ISSUED 06/07/2022

MECHANICAL  
 DETAILS

M104

**HOOD INFORMATION - JOB#5320775**

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)				MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA				CFM	VEL
1	HD1-Grill	5424 ND-2-ACPSP-F	CAPTIVEAIRE	13' 8"	600 DEG	I	HEAVY	185	2528						430 SS WHERE EXPOSED	ALONE	ALONE	
2	HD2-Fry	3650 BD-2	CAPTIVEAIRE	3' 0"	600 DEG	I	HEAVY	192	575						430 SS WHERE EXPOSED	ALONE	ALONE	

**PATENT NUMBERS**  
 AC-PSP (UNITED STATES) - US PATENT 7969830 B2.  
 AC-PSP WALL (CANADA) - CA PATENT 2820509.  
 AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

**HOOD INFORMATION**

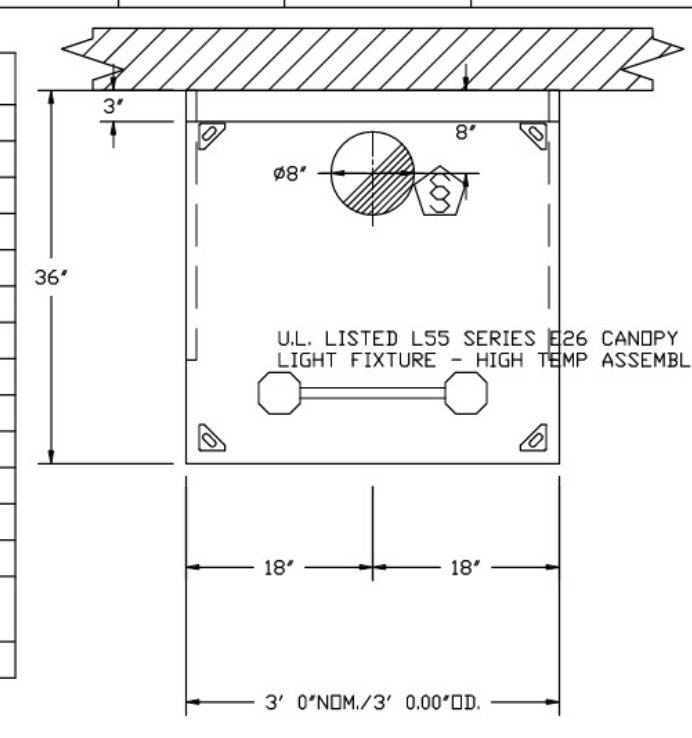
HOOD NO	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)		FIRE SYSTEM	HOOD HANGING WEIGHT				
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE			TYPE	SIZE	MODEL #	QUANTITY
1	HD1-Grill	CAPTRATE SOLD FILTER	10	16"	16"	85% SEE FILTER SPEC	5	L55 SERIES E26	NO	RIGHT	12"x54"x24"	TANK FS	4.0/4.0/4.0	DCV-2122	2 LIGHT 2 FAN	YES	1210 LBS
2	HD2-Fry	CAPTRATE SOLD FILTER	2	16"	16"	85% SEE FILTER SPEC	2	L55 SERIES E26	NO							YES	201 LBS

**HOOD OPTIONS**

HOOD NO	TAG	OPTION
1	HD1-Grill	FIELD WRAPPER 5.00' HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 108.00" HIGH X 18.00" LONG 430 SS VERTICAL.
		BACKSPLASH 80.00" HIGH X 176.00" LONG 430 SS VERTICAL.
		INSULATION FOR BACK OF HOOD.
2	HD2-Fry	FIELD WRAPPER 22.00" HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 61.00" HIGH X 36.00" LONG 430 SS VERTICAL.
		BACKSPLASH - OUTSIDE CORNER 61.00" HIGH X 2.00" LEG LENGTH 430 SS VERTICAL.
		INSULATION FOR BACK OF HOOD.

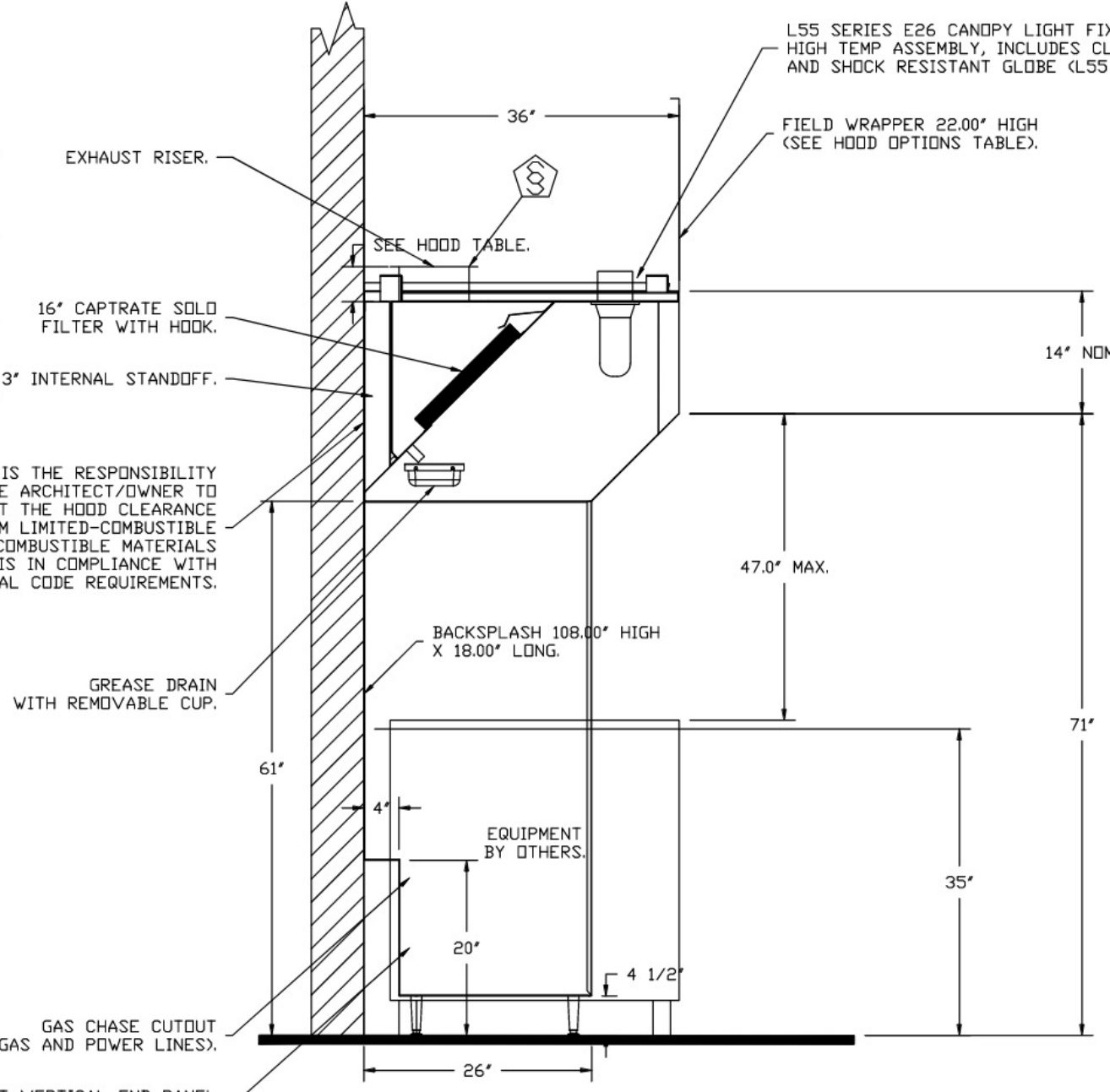
**PERFORATED SUPPLY PLENUM(S)**

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	RISER(S)					
						TYPE	WIDTH	LENG	DIA	CFM	SP
1	HD1-Grill	Front	176'	24'	6'	MUA	10"	28"		674	0.178"
						MUA	10"	28"		674	0.178"
						AC	8"	16"		349	0.100"
						AC	8"	16"		349	0.100"

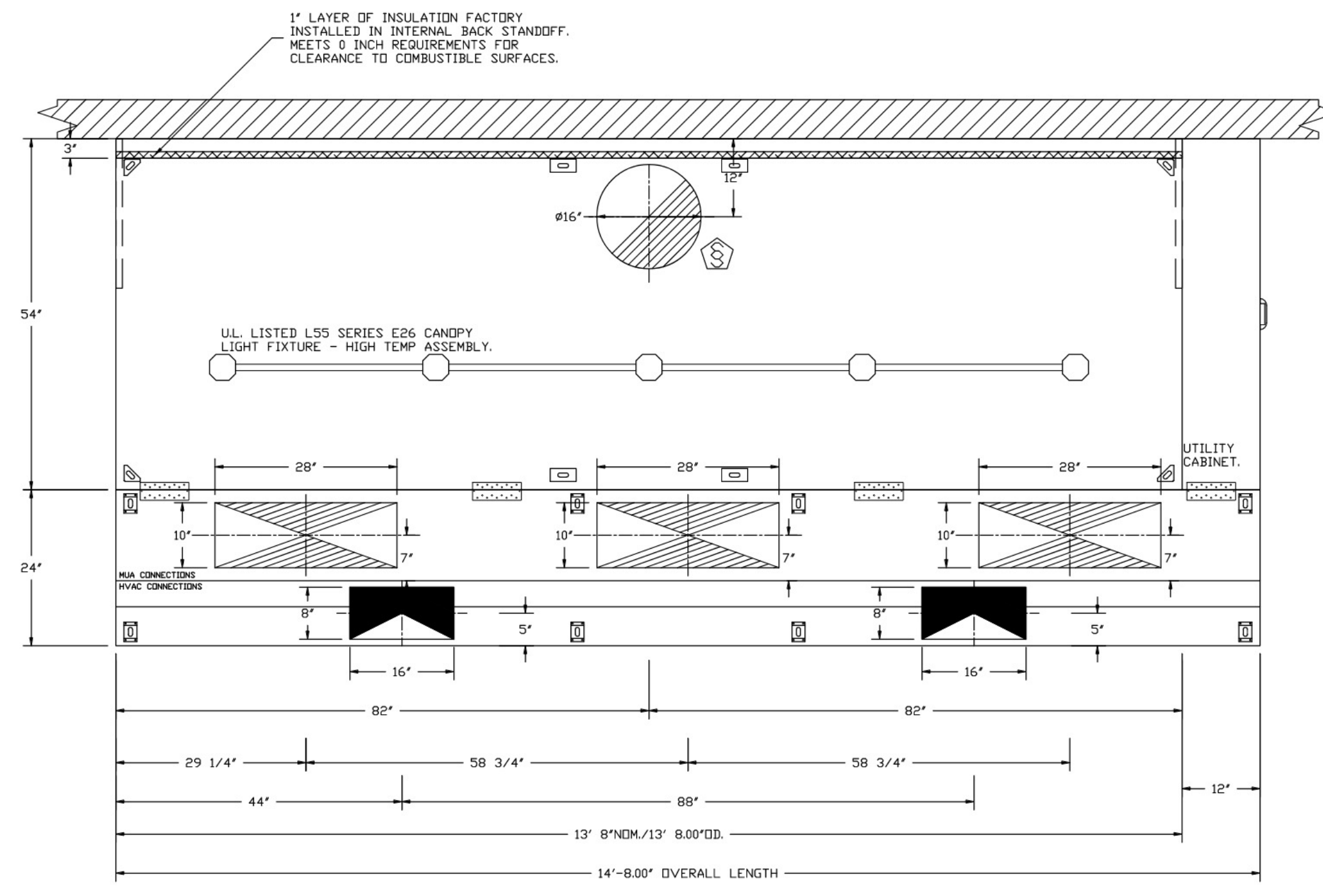


PLAN VIEW - HOOD #2 (HD2-Fry)  
 3' 0.00" LONG 3650BD-2

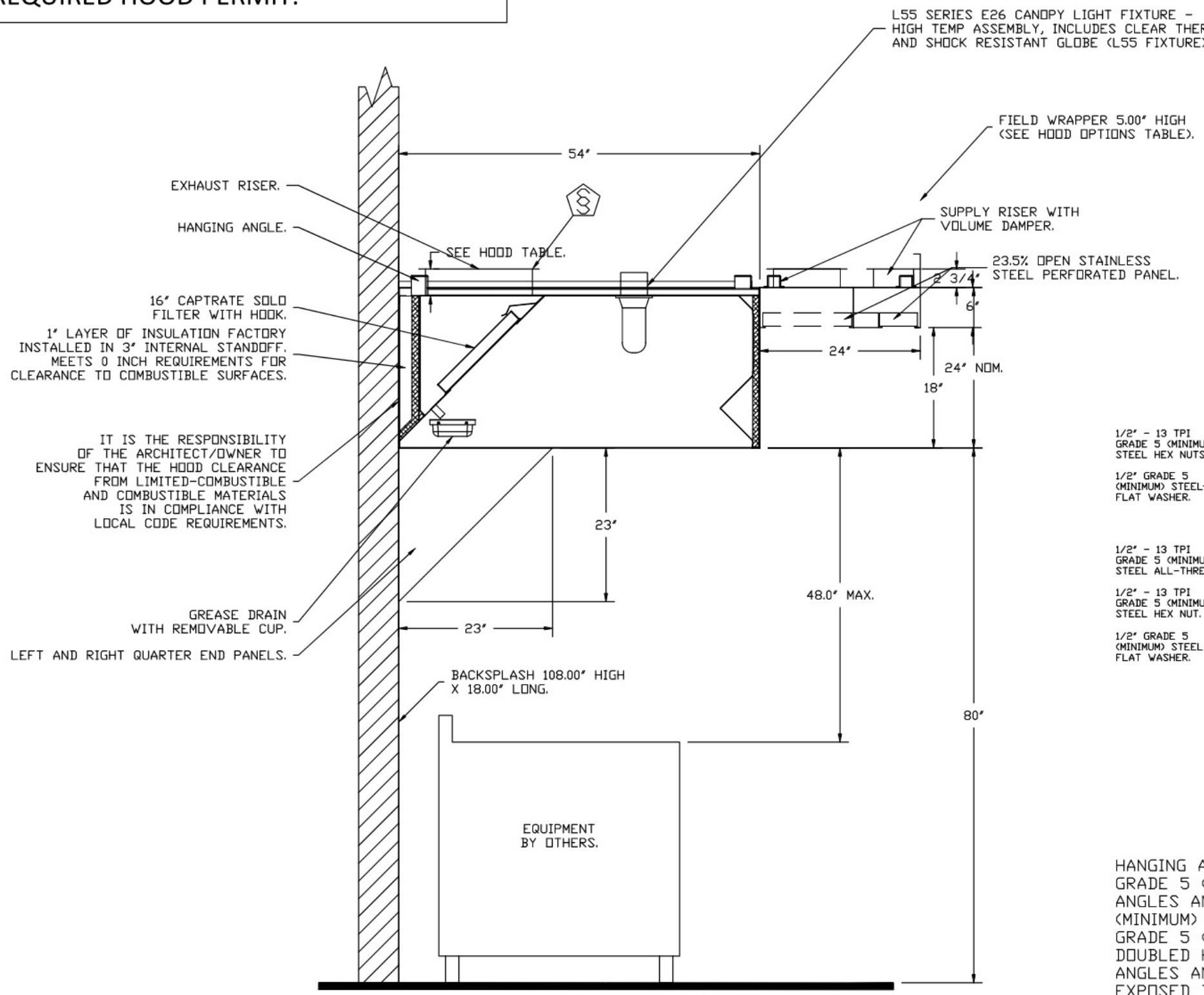
HOODS, FANS, CONTROLS, WALL STAINLESS, & FIRE SYSTEM SUPPLIED BY FOODSERVICE CONTRACTOR. MECHANICAL (HVAC) CONTRACTOR TO SUPPLY ALL DUCTWORK & INSTALL SYSTEM AS PROVIDED WITH ANY REQUIRED HOOD PERMIT.



SECTION VIEW - MODEL 3650BD-2  
 HOOD - #2 (HD2-Fry)



PLAN VIEW - HOOD #1 (HD1-Grill)  
 13' 8.00" LONG 5424ND-2-ACPSP-F  
 NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12" AND LONGER.  
 ACPSH SHIPS LOOSE FOR FIELD INSTALLATION



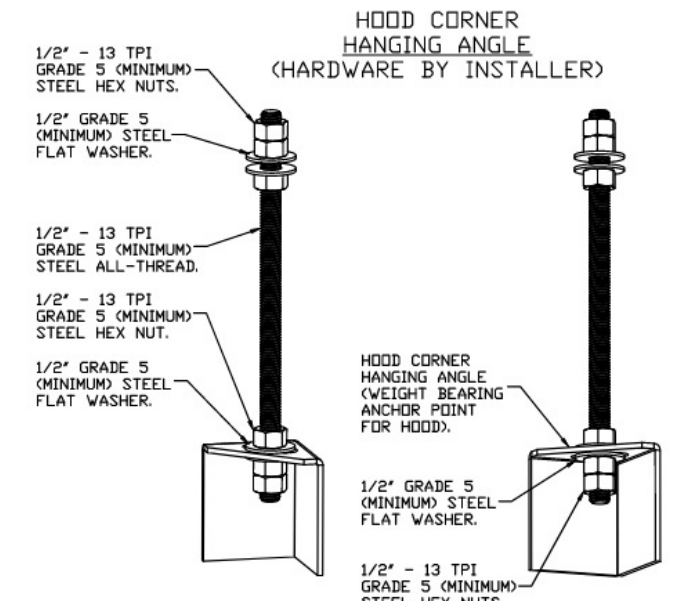
SECTION VIEW - MODEL 5424ND-2-ACPSP-F  
 HOOD - #1 (HD1-Grill)

L55 SERIES E26 CANOPY LIGHT FIXTURE - HIGH TEMP ASSEMBLY, INCLUDES CLEAR THERMAL AND SHOCK RESISTANT GLOBE (L55 FIXTURE).

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH UL 710 AND NFPA 96 AND ARE RECOGNIZED BY ONE OR MORE OF THE FOLLOWING:

ETL SANITATION LISTED  
 ETL LISTED FILE# 3054804-001

HOOD SYSTEM IS FABRICATED & DESIGNED PER UL-710 STANDARDS



**ASSEMBLY INSTRUCTIONS**

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD, SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

**REVISIONS**

DESCRIPTION	DATE

# CAPTIVEAIRE

Air Solutions  
 1329 East Kemper Rd., Ste. 4210, Cincinnati, OH, 45246 PHONE: (513) 860-5555 EMAIL: reg.120@captiveaire.com

DATE: 8/11/2022  
 DWG.#: 5320775  
 DRAWN BY: Jcjrlli  
 SCALE: 3/4" = 1'-0"  
 MASTER DRAWING  
 SHEET NO. 1

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Revisions:

Mark	Date	By	Description
	06/07/22		
	BID/PERMIT		
△	8/16/2022		
	Hood Updates		
△			
△			

# Roy Rogers

CLEVELS, OH  
 151 COOPER RD.  
 CLEVELS, OH 45002

PROJECT # 24035.00  
 DATE ISSUED 06.07.2022

MECHANICAL  
 DETAILS

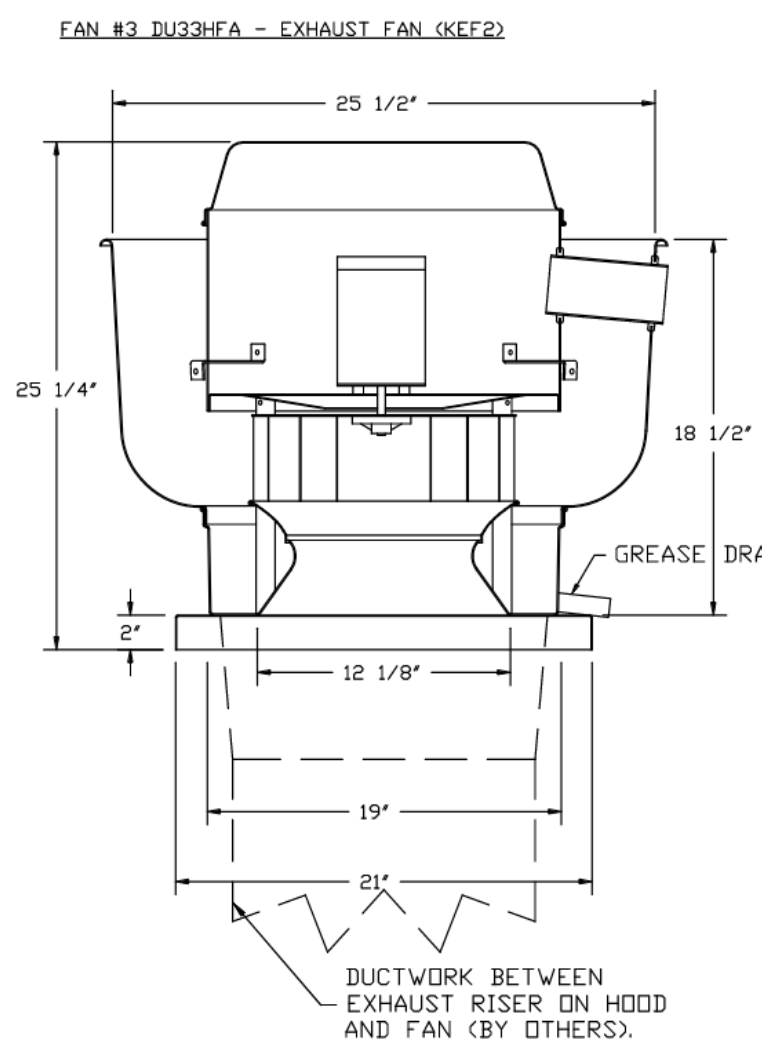
M105

**EXHAUST FAN INFORMATION - JOB#5320775**

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF 2	1	DJ180HFA	CAPTIVEAIRE	2733	1.350	1229	DDP, PREMIUM	2.000	1.2880	3	208	8.3	631 FPM	200	17.5378319227391
3	KEF2	1	DJ33HFA	CAPTIVEAIRE	575	1.000	1584	TEAD-ECM	0.333	0.2400	1	115	4.3	285 FPM	75	17.4166191586207

**FAN OPTIONS**

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF 2	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	EXHAUST FAN HEAT BAFFLE
		1	UNIT MOUNTED VFD FOR USE WITH ECPM03
		1	VFD MOUNTING BRACKET FOR DU/DR 180 - 200
2	KMUA	1	2 YEAR PARTS WARRANTY
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	LOW FIRE START
		1	MOTORIZED BACKDRAFT DAMPER FOR AI-D HOUSING - MEETS AMCA CLASS 1A RATING
3	KEF2	1	5 TON 2 CIRCUIT (2.5/2.5) MODULAR PACKAGED COOLING OPTION FOR SIZE 1 DF/EH MUA (1,800 TO 3,000 CFM), 208V/230V, 3 PHASE. COOLING THERMOSTAT OR PROGRAMMABLE STAT REQUIRED FOR PROPER OPERATION
		1	DOWNTURN PLENUM FOR SIZE 1 DX COIL MODULE
		1	SIZE 1 COOLING COIL MOISTURE ELIMINATOR OPTION - ALLOWS COOLING COIL FACE VELOCITY TO INCREASE TO 650 FPM - INCREASES COOLING COIL MAX CFM TO 3650 CFM
		1	UNIT MOUNTED VFD FOR USE WITH ECPM03
		1	2 YEAR PARTS WARRANTY



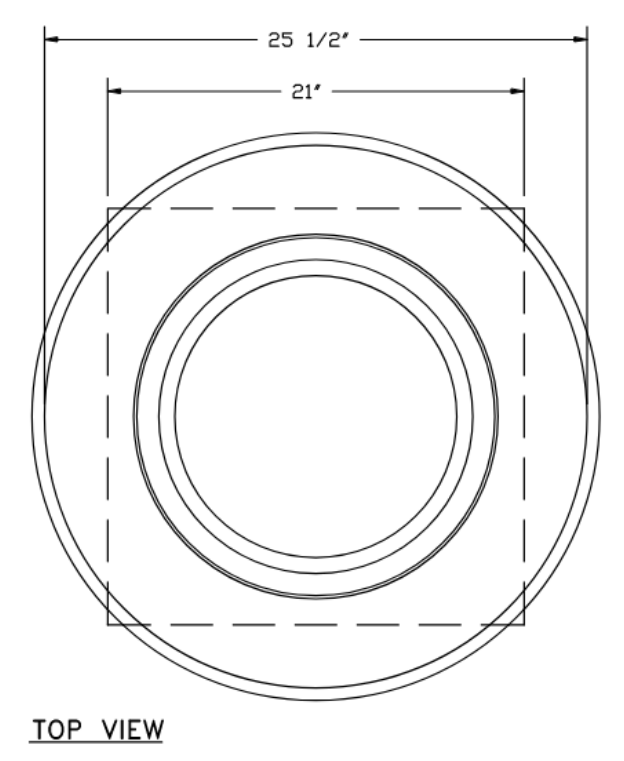
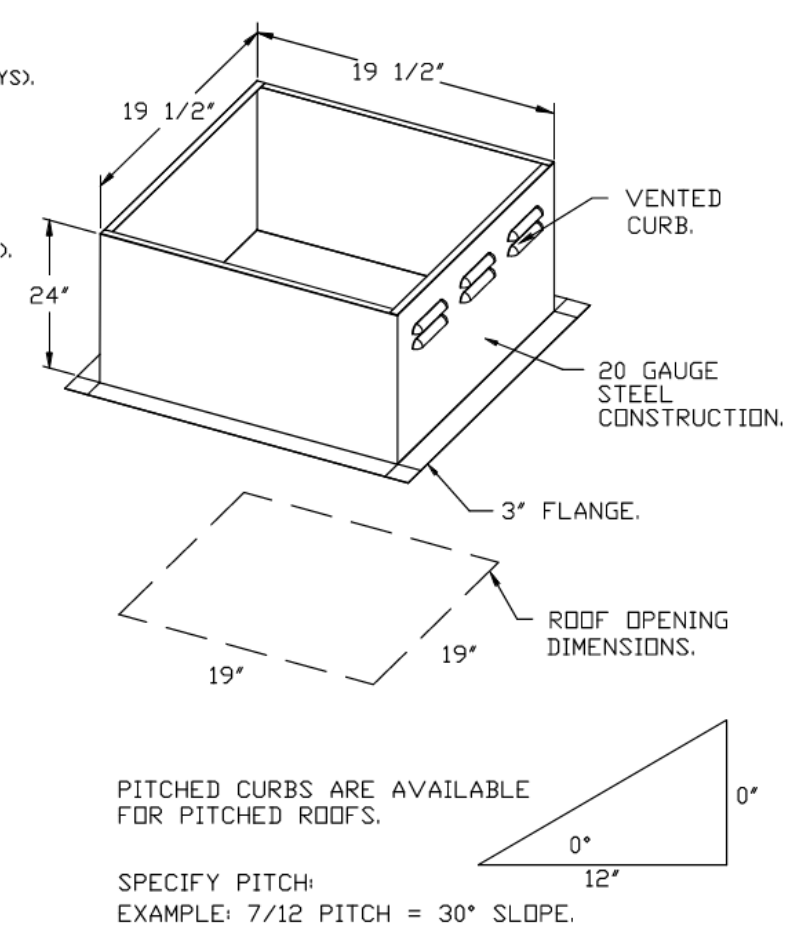
**FEATURES:**

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-5645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

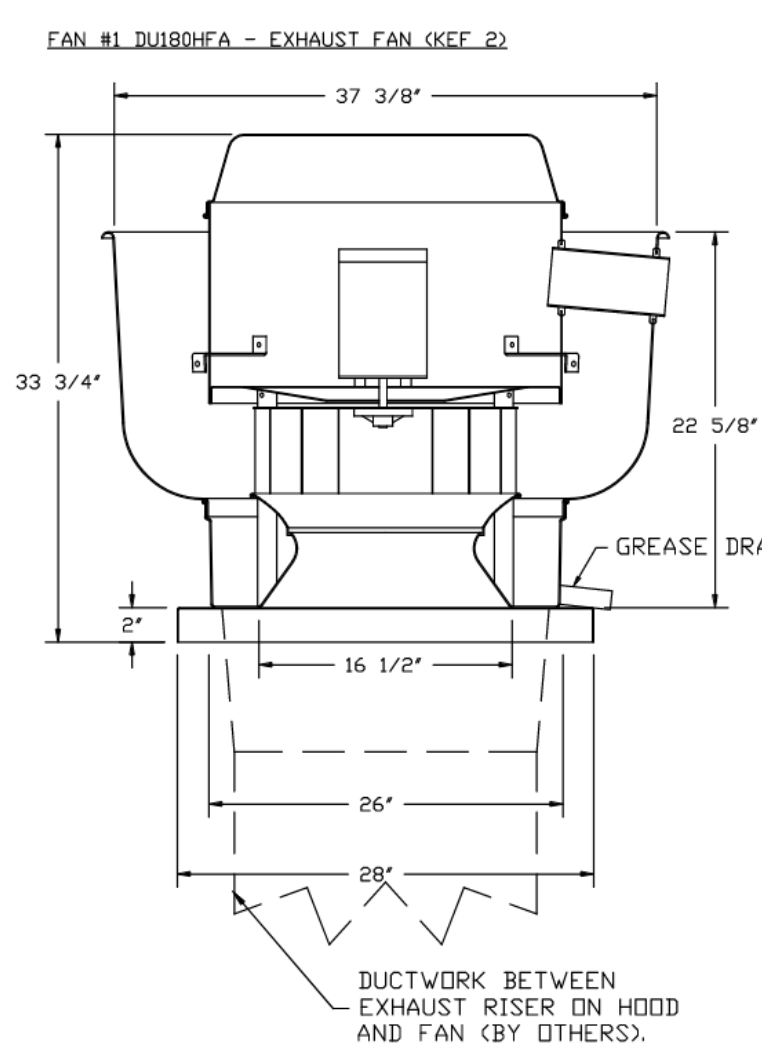
**NORMAL TEMPERATURE TEST**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

**ABNORMAL FLARE-UP TEST**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

**OPTIONS**  
 GREASE BOX.  
 UPBLAST FAN WHEEL ACCESS PORT.  
 FAN BASE CERAMIC SEAL - INSTALLED AT PLANT - FOR GREASE DUCTS.  
 ECM WIRING PACKAGE - PWM SIGNAL FROM ECPM03 PREWIRE (TELCO MOTOR), CCW ROTATION.  
 2 YEAR PARTS WARRANTY.



HOODS, FANS, CONTROLS, WALL STAINLESS, & FIRE SYSTEM SUPPLIED BY FOODSERVICE CONTRACTOR. MECHANICAL (HVAC) CONTRACTOR TO SUPPLY ALL DUCTWORK & INSTALL SYSTEM AS PROVIDED WITH ANY REQUIRED HOOD PERMIT.



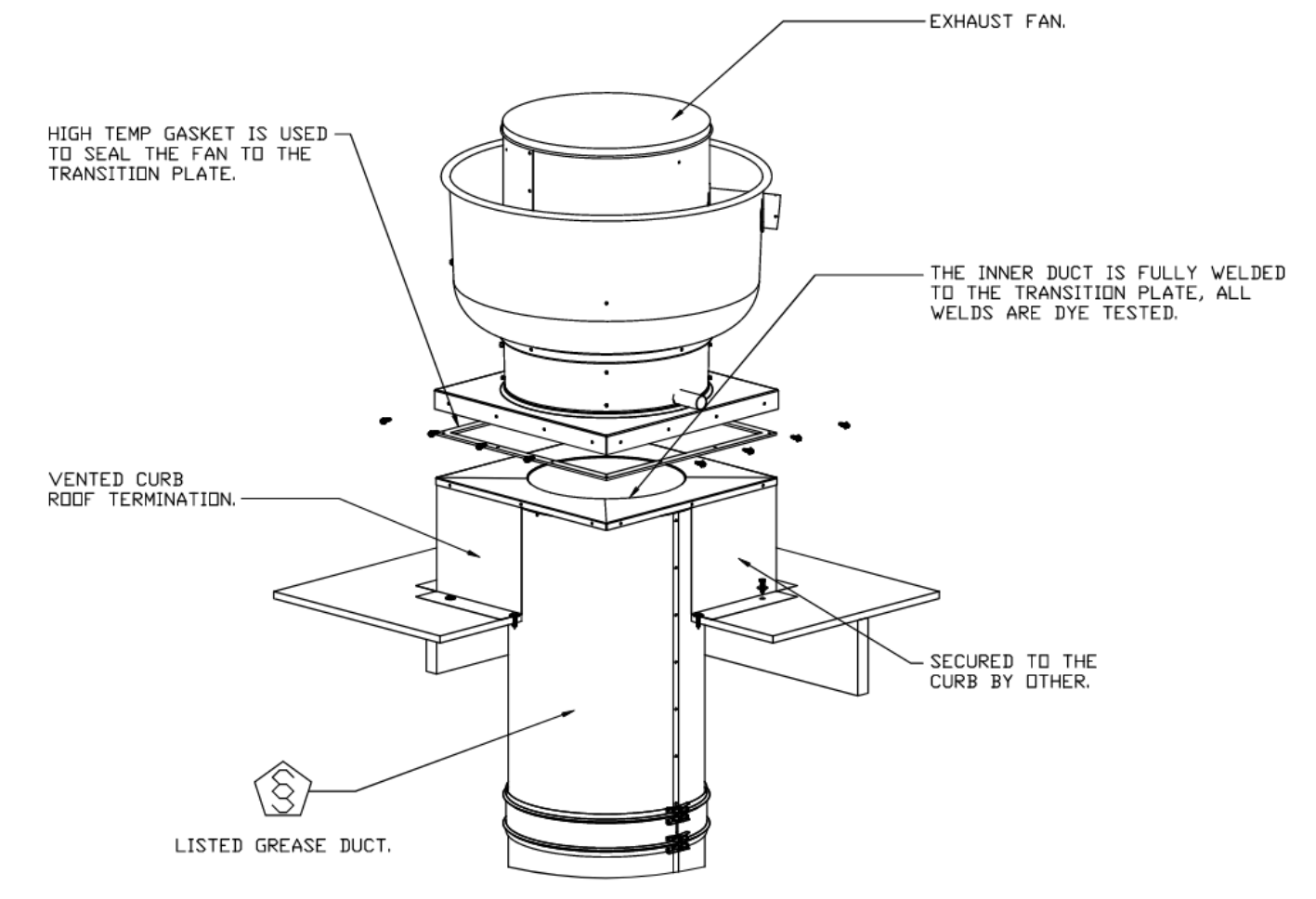
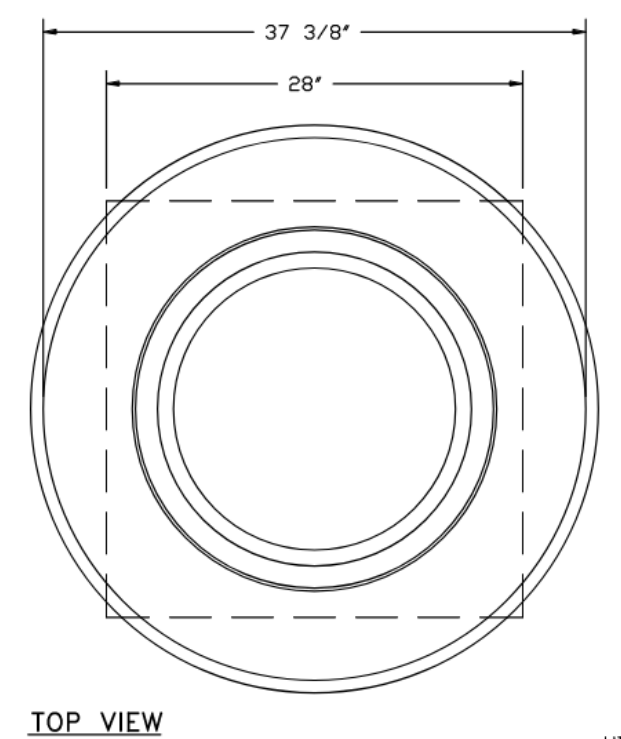
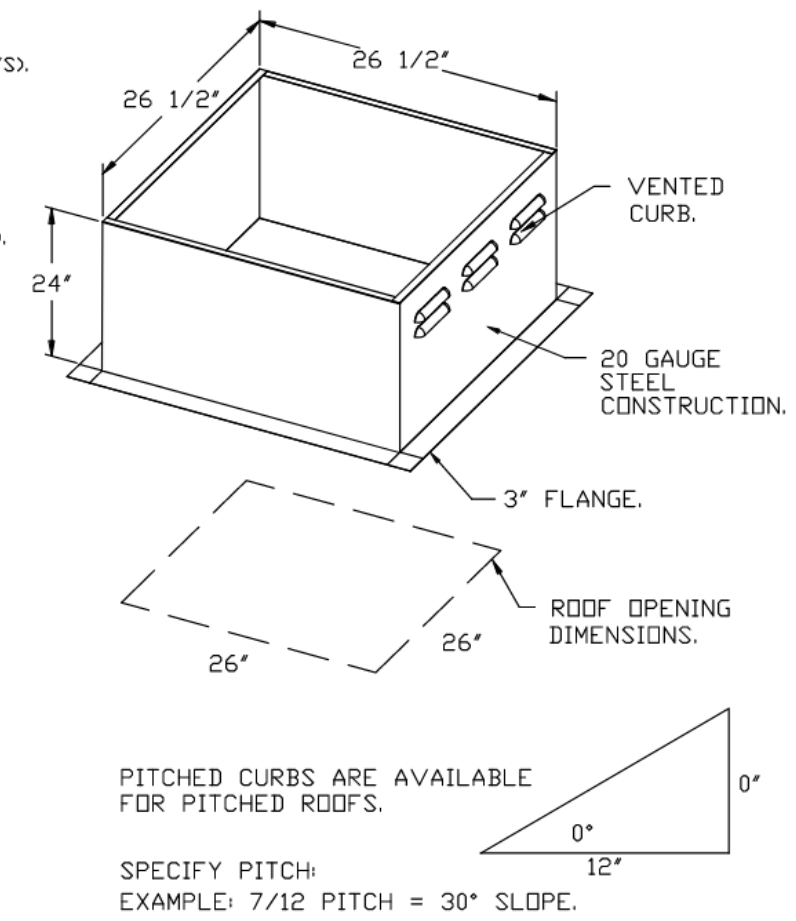
**FEATURES:**

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-5645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

**NORMAL TEMPERATURE TEST**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

**ABNORMAL FLARE-UP TEST**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

**OPTIONS**  
 GREASE BOX.  
 FAN BASE CERAMIC SEAL - INSTALLED AT PLANT - FOR GREASE DUCTS.  
 EXHAUST FAN HEAT BAFFLE.  
 UNIT MOUNTED VFD FOR USE WITH ECPM03.  
 VFD MOUNTING BRACKET FOR DU/DR 180 - 200.  
 2 YEAR PARTS WARRANTY.



**FAN ACCESSORIES**

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF 2	YES						
2	KMUA						YES	
3	KEF2	YES						

**CURB ASSEMBLIES**

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF 2	38 LBS	CURB	26.500"W X 26.500"L X 24.000"H ALONG LENGTH, RIGHT VENTED HINGED.
2	# 2		83 LBS	RAIL	6.000"W X 21.000"L X 16.000"H RIGHT.
2	# 2	KMUA	83 LBS	CURB	21.000"W X 71.000"L X 16.000"H ALONG WIDTH, RIGHT INSULATED.
3	# 3	KEF2	30 LBS	CURB	19.500"W X 19.500"L X 24.000"H ALONG LENGTH, RIGHT VENTED.

**REVISIONS**

NO	DESCRIPTION	DATE
1		
2		
3		
4		
5		

# CAPTIVEAIRE

Roy Rogers r1 (Clevel,OH)  
 CLEVELS, OH, 45002

DATE: 8/11/2022  
 DWG.#: 5320775  
 DRAWN BY: Jcirilli  
 SCALE: 3/4" = 1'-0"  
 MASTER DRAWING

SHEET NO.  
 2

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Revisions:

Mark	Date	By	Description
	06/07/22		
BID/PERMIT			
△	8/16/2022		
△			
△			

# Roy Rogers

CLEVELS, OH  
 151 COOPER RD.  
 CLEVELS, OH 45002

PROJECT # 24035.00  
 DATE ISSUED 06-07-2022

MECHANICAL  
 DETAILS

M106

**CONDENSER DETAILS**

FAN UNIT NO	TAG	FAN UNIT MODEL #	CONDENSER NO	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX FUSE SIZE	MIN WIRE SIZE	SEER
2	KMUA	A1-D.500-1SD-MPU	1	2.5	208-230	3 PHASE	60 HZ	11.2 AMPS	9.07 AMPS	20 AMPS	14 AWG	14
			2	2.5	208-230	3 PHASE	60 HZ	11.2 AMPS	9.07 AMPS	20 AMPS	14 AWG	14

**MUA FAN INFORMATION - JOB#5320775**

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL.	HP	BHP	PHASE	VOLT	FLA	MCA	MDCP	WEIGHT (LBS)	SONES
2	KMUA	1	A1-D.500-1SD-MPU	ISMF-1-MDD	A1-D.500	1800	2022	0.500	2295	ODP, PREMIUM	3.000	1.8350	3	208	8.6	12A	20A	1174	25.1537308541508

**COILS - JOB#5320775**

FAN UNIT NO	TAG	COIL TYPE	DESIGN CFM	COOLING																
				ENTERING DB TEMP	ENTERING WB TEMP	LEAVING DB TEMP	LEAVING WB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	TOTAL CAPACITY	SENSIBLE CAPACITY	LATENT CAPACITY						
2	KMUA	DX	2022	89.0°F	74.0°F	72.7°F	66.6°F	---	---	---	---	---	---	---	---	---	---	---	---	---

**HEATING**

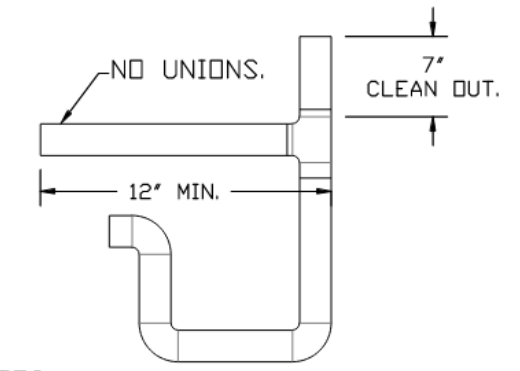
ENTERING DB TEMP	LEAVING DB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	STEAM PRESSURE	TOTAL CAPACITY	SENSIBLE CAPACITY
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**GAS FIRED MAKE-UP AIR UNIT(S)**

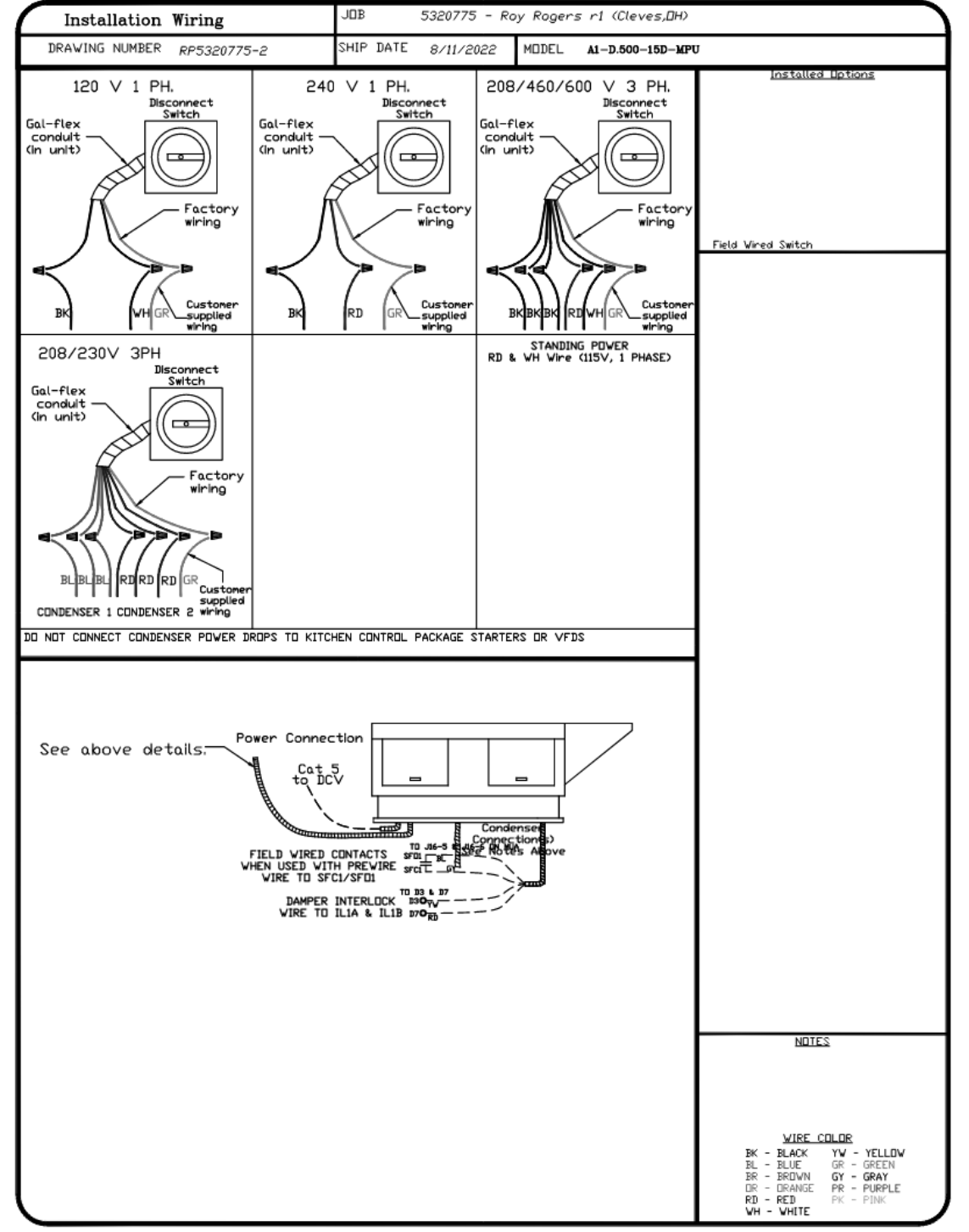
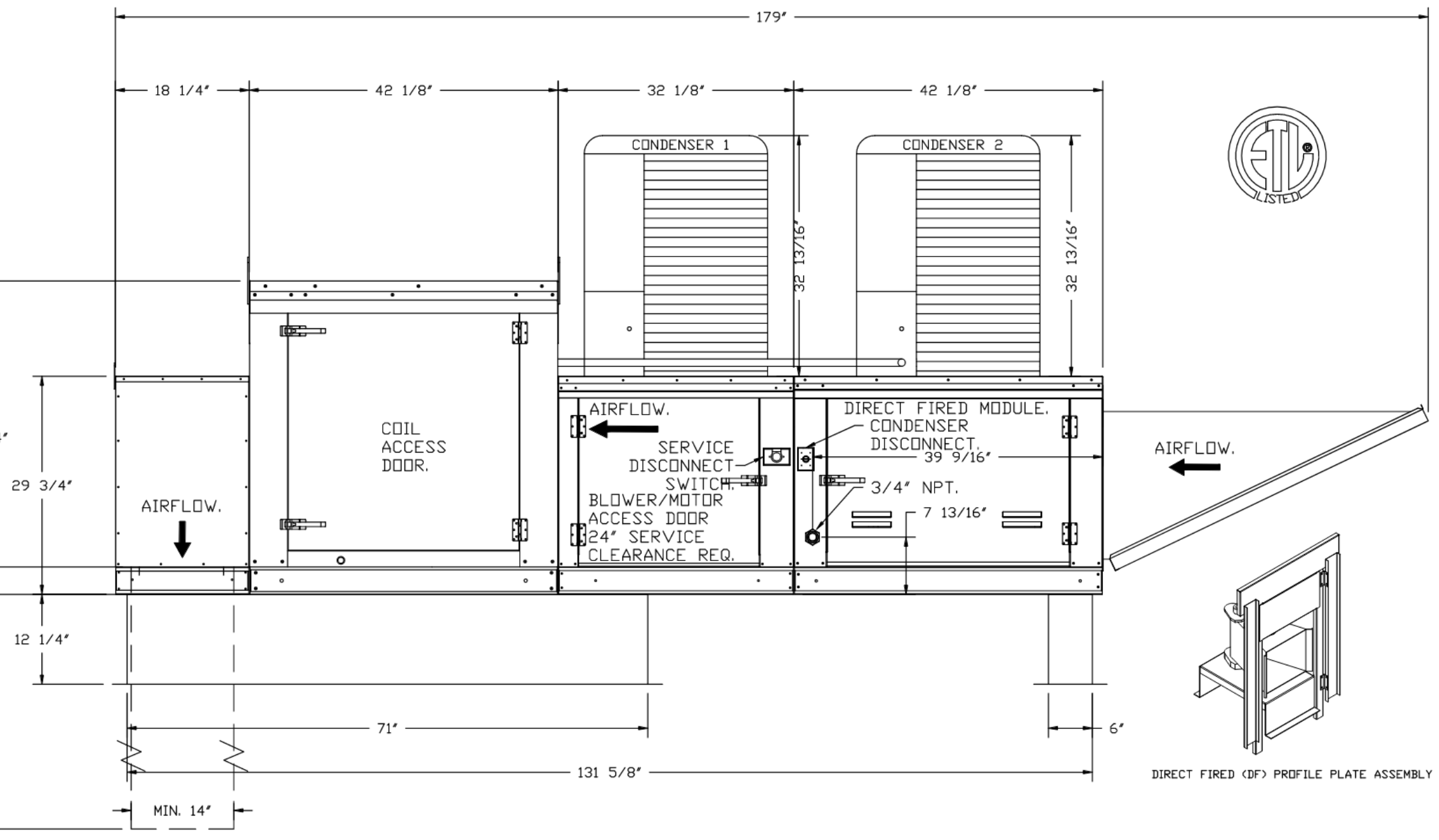
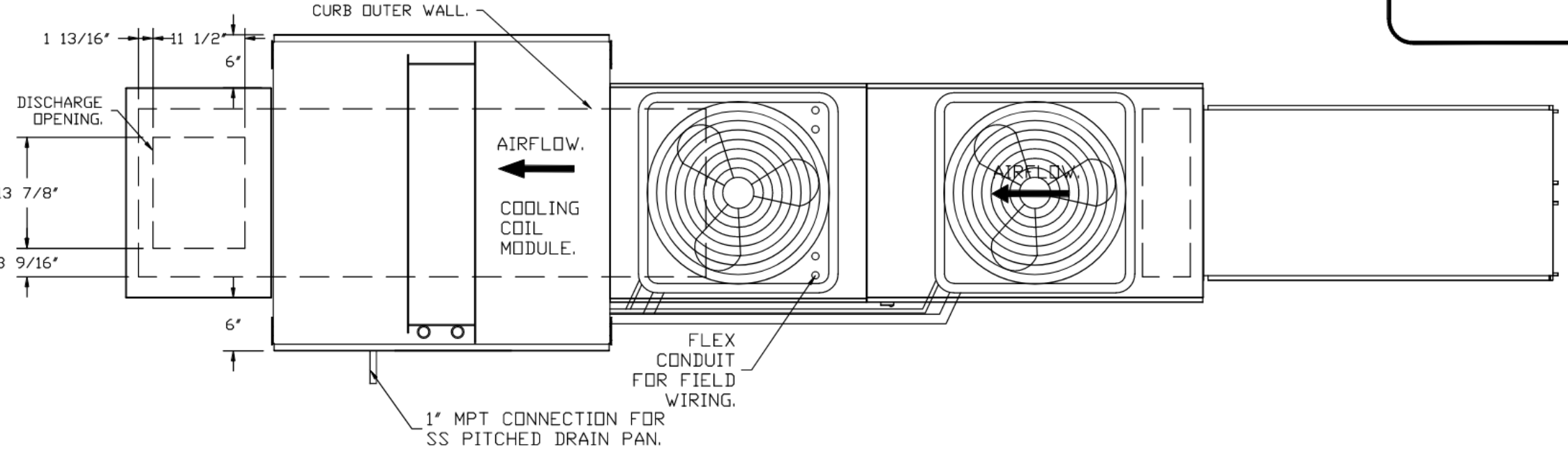
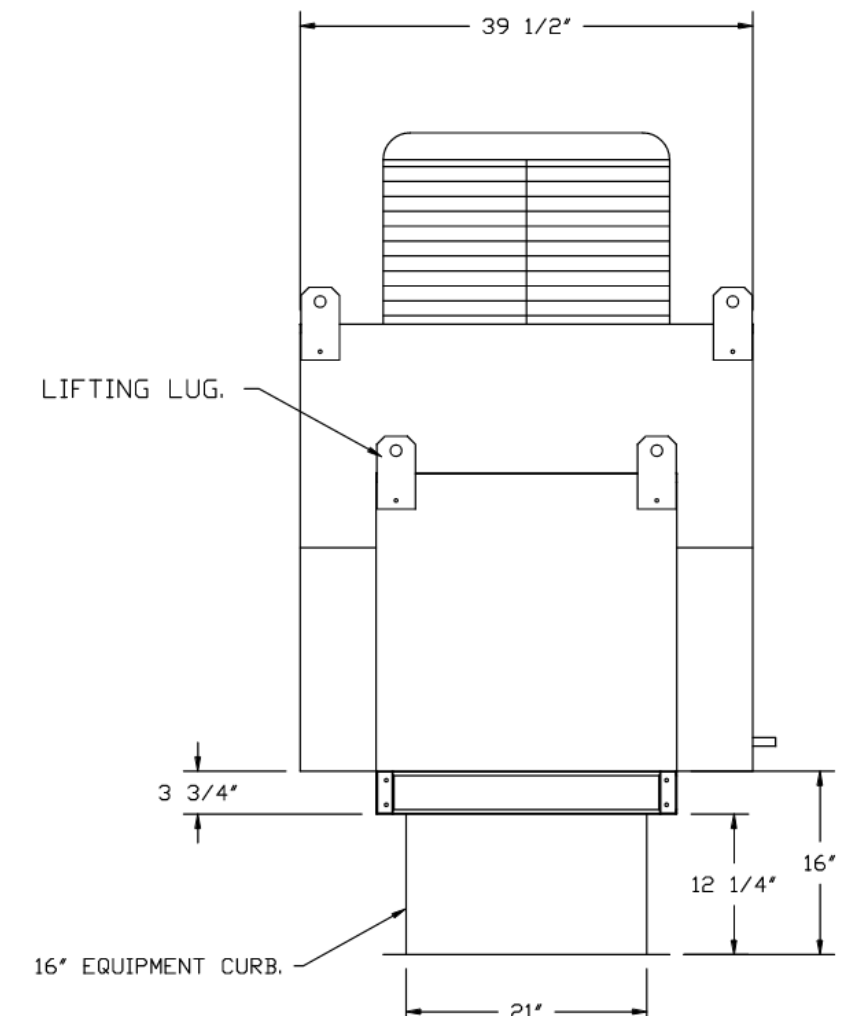
FAN UNIT NO	TAG	INPUT BTUS	OUTPUT BTUS	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2	KMUA	148255	136395	65°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

HOODS, FANS, CONTROLS, WALL STAINLESS, & FIRE SYSTEM SUPPLIED BY FOODSERVICE CONTRACTOR. MECHANICAL (HVAC) CONTRACTOR TO SUPPLY ALL DUCTWORK & INSTALL SYSTEM AS PROVIDED WITH ANY REQUIRED HOOD PERMIT.

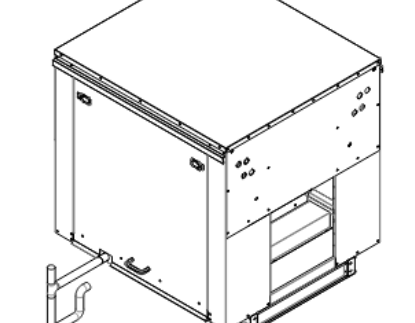
**SUPPLY SIDE HEATER INFORMATION**  
 WINTER TEMPERATURE = 10°F, TEMP. RISE = 65°F.  
 BTUS CALCULATED OFF ACTUAL AIR DENSITY.  
 OUTPUT BTUS AT ALTITUDE OF 0.0 FT. = 140412.  
 INPUT BTUS AT ALTITUDE OF 0.0 FT. = 152622.  
 OUTPUT BTUS AT ALTITUDE OF 801 FT. = 126295.  
 INPUT BTUS AT ALTITUDE OF 801 FT. = 148255.  
**RECOMMENDED COOLING COIL DRAIN TRAP CONFIGURATION.**



**NOTES:**  
 1) 1" DIAMETER PVC PIPE ONLY.  
 2) USE ONLY LOW PROFILE COUPLINGS.  
 3) ADD CLEAN OUT AS SHOWN.



TYPICAL DRAIN TRAP INSTALL



- FAN #2 A1-D.500-1SD-MPU - HEATER (KMUA)
- DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN.
  - INTAKE HOOD WITH E2 FILTERS.
  - DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
  - GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
  - GAS PRESSURE GAUGE, -S TO +15 INCHES VC, 2.5" DIAMETER, 1/4" THREAD SIZE.
  - LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
  - MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHIRT. STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, TFB20S ACTUATOR INCLUDED.
  - 5 TON, DUAL CIRCUIT (2S/2S) MODULAR PACKAGED COOLING OPTION FOR SIZE 1 DF/EH MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, RA10R REFRIGERANT, AND REFRIGERANT PIPING (1800 TO 3,000 CFM) WHEN ORDERED WITH OPPOSITE AIRFLOW CONDENSERS ACCESS AND COIL PIPING WILL REMAIN IN STANDARD POSITION. DRAIN AND SLEDS WILL MOVE TO THE OPPOSITE SIDE. ANY OTHER CHANGE WILL REQUIRE CLL CONDENSERS REQUIRE SEPARATE 208V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION. COIL = 2Z209090E.
  - DOWNTURN PLENUM FOR SIZE 1 COOLING COIL MODULE - REQUIRED FOR DOWN DISCHARGE COOLING COIL APPLICATIONS.
  - SIZE 1 MOISTURE ELIMINATOR OPTION FOR DX COILS, MIPUS AND CHILLED WATER COILS - ALLOWS COOLING COIL FACE VELOCITY TO INCREASE TO 650 FPM. INCREASES COOLING COIL MAX CFM TO 3650 CFM.
  - UNIT MOUNTED VFD FOR USE WITH ECPM03.
  - HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/MPU SECTION).
  - 2 YEAR PARTS WARRANTY.
- NOTES:** SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 14" X 14".

**REVISIONS**

DESCRIPTION	DATE

**CAPTIVE**  
 Air Solutions  
 1529 East Kemper Rd., Ste. 4210, Cincinnati, OH 45246 PHONE: (513) 860-5655 EMAIL: reg.20@captiveair.com  
 www.captiveair.com

Roy Rogers r1 (ClevelS.OH)  
 CLEVELS, OH, 45002

DATE: 8/11/2022  
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