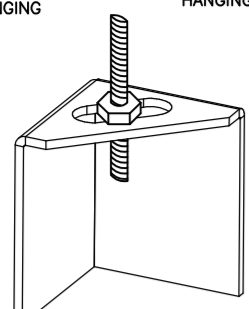


ND-2 HANGING ANGLE DETAIL

1/2" DIA. ALL THREAD ROD CONNECTED TO ROOF JOIST THROUGH ANOTHER HANGING ANGLE



*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR HANGING ANGLE IS PRE-FINISHED AT FACTORY

HANGING ANGLE LOCATIONS

HOOD STYLE	DIM FROM REAR	DIM FROM FRONT (24" H)	DIM FROM FRONT (30" H)
CANOPY ND2	4.166"	2.246"	2.246"
ND2-PSP-F	4.166"	2.246"	2.246"
BACKSHELF BD-2	4.166"	2.246"	-
VHB/VHB-G	36"x36"	42"x42"	48"x48"
FRONT/BACK DIMS BY SIZE	2.246"	2.246"	2.246"

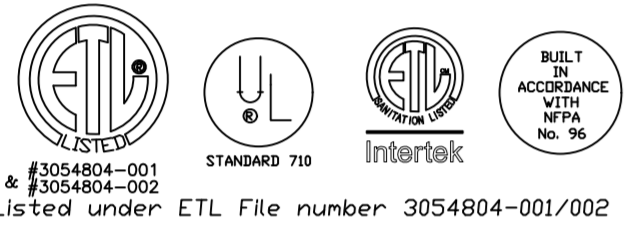
CALCULATIONS UTILIZED

EXHAUST CFM=LENGTH OF HOOD X CFM/LIN.FT. (LOAD)
 SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED
 TOTAL DUCT AREA=144 X CFM / FPM
 DUCT LENGTH= TOTAL DUCT AREA / DUCT DEPTH

*CAPTIVE-AIRE DUCT CONNECTION SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 300-400 FPM

BUILDING CODES

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:



CLEARANCE TO COMBUSTIBLES

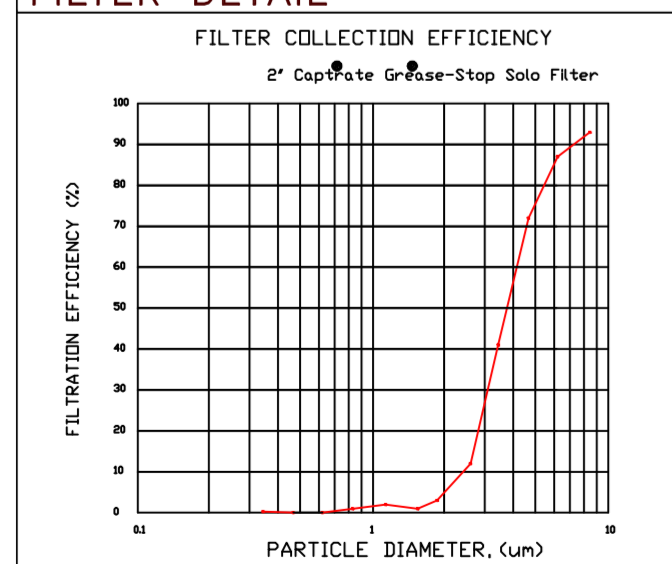
CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

GENERAL NOTES

- INSTALLATION**
- ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
 - ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
 - HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
 - ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTOR'S PLANS.
 - COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
 - EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
 - ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
 - LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
 - SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
 - INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DRAWINGS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.
- BALANCE**
- KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
 - KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DRINK AREA.
 - RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.
- ADDITIONAL**
- WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
 - SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

FILTER DETAIL



HOOD INFORMATION - JOB#5145064

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST FLENUM (RISERS)					HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW	
										WIDTH	LENG	HEIGHT	DIA	CFM				VEL
1	H-1A	4824 ND-2	CAPTIVEAIRE	6' 10"	450 DEG	I	MEDIUM	189	1292	10"	12"	4"	1292	1550	-0.730"	430 SS WHERE EXPOSED	ALDNE	FRONT
2	H-1B	4824 ND-2	CAPTIVEAIRE	6' 10"	450 DEG	I	MEDIUM	189	1292	10"	12"	4"	1292	1550	-0.548"	430 SS WHERE EXPOSED	ALDNE	BACK
3	H2	5424 ND-2	CAPTIVEAIRE	5' 0"	450 DEG	I	MEDIUM	155	775	9"	8"	4"	775	1550	-0.470"	430 SS WHERE EXPOSED	ALDNE	ALDNE
4	H-3	4224 VHB-G	CAPTIVEAIRE	3' 6"	700 DEG	II	N/A	150	525	4"	10"	525	963	-0.069"	304 SS 100%	ALDNE	ALDNE	

PATENT NUMBERS
 EXHAUST HOODS ND-2/BD-2/SND-2 (CANADA) - CA PATENT 2520435 C.

HOOD INFORMATION

HOOD NO	TAG	TYPE	FILTER(S)		EFFICIENCY @ 7 MICRONS		LIGHT(S)		UTILITY CABINET(S)			FIRE SYSTEM/HANGING PIPING	HOOD WEIGHT		
			QTY	HEIGHT	LENGTH	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE			SIZE	ELECTRICAL MODEL #
1	H-1A	CAPTRATE SOLID FILTER	5	16"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO			NO	338 LBS		
2	H-1B	CAPTRATE SOLID FILTER	5	20"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO			NO	339 LBS		
3	H2	CAPTRATE SOLID FILTER	3	16"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO	LEFT	12"x54"x24"	DCV-2011	1 LIGHT 1 FAN	NO	427 LBS
4	H-3						0						NO	163 LBS	

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	H-1A	FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
2	H-1B	FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
3	H2	RIGHT END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 38" HIGH 430 SS. LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
4	H-3	FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLID FILTER

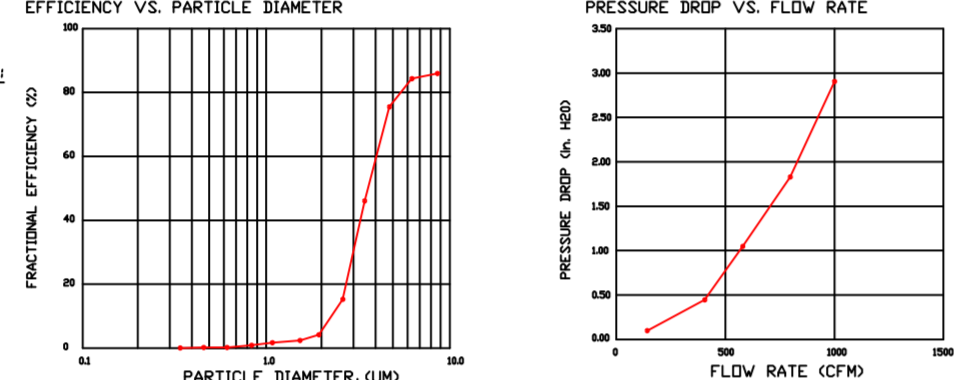
THE CAPTRATE GREASE-STOP SOLID FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-Baffle DESIGN IN CONJUNCTION WITH A SLITTED REAR Baffle DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

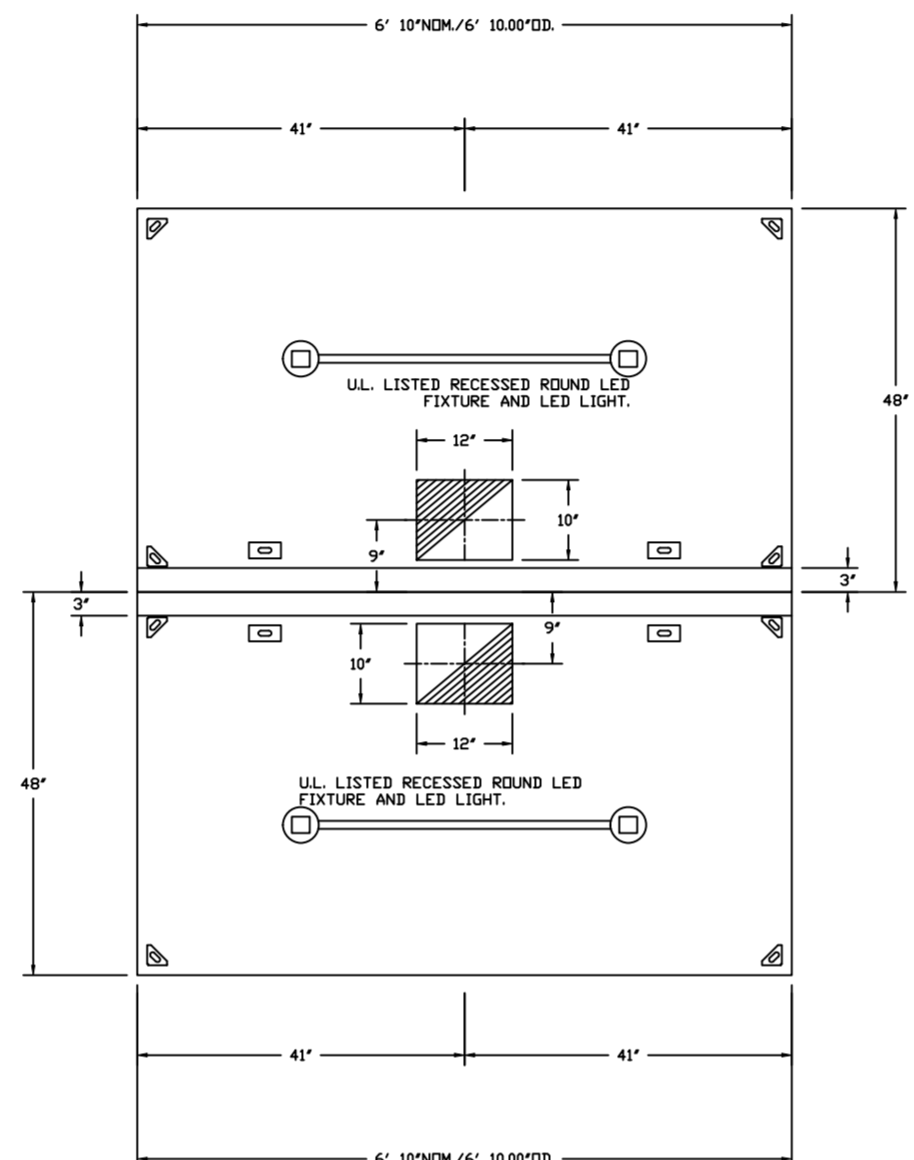
UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 95% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 10 INCHES OF WATER GAUGE.

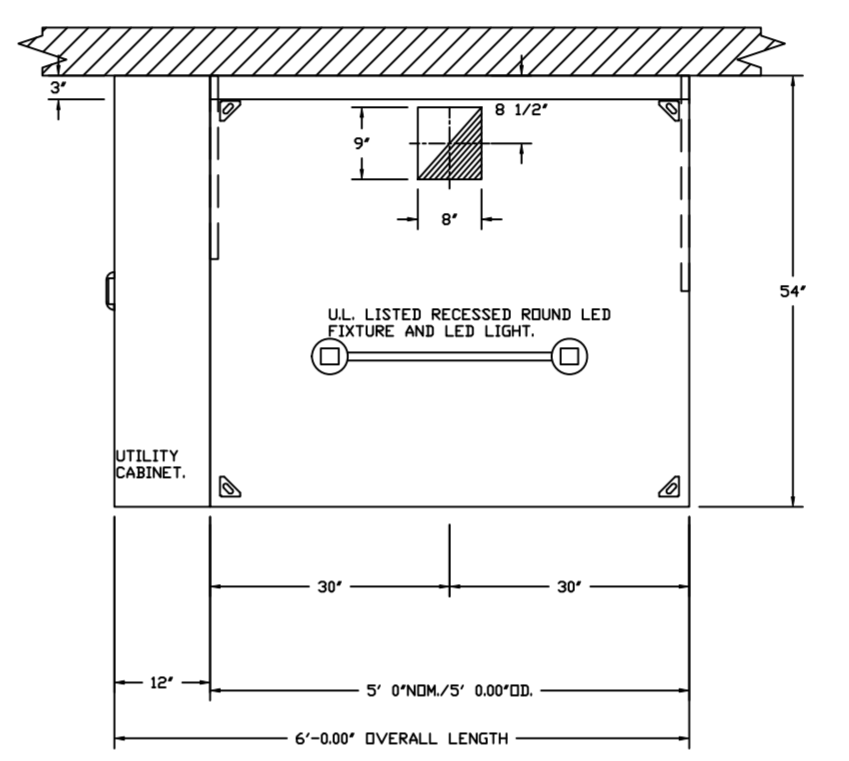
THE CAPTRATE GREASE-STOP SOLID WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.



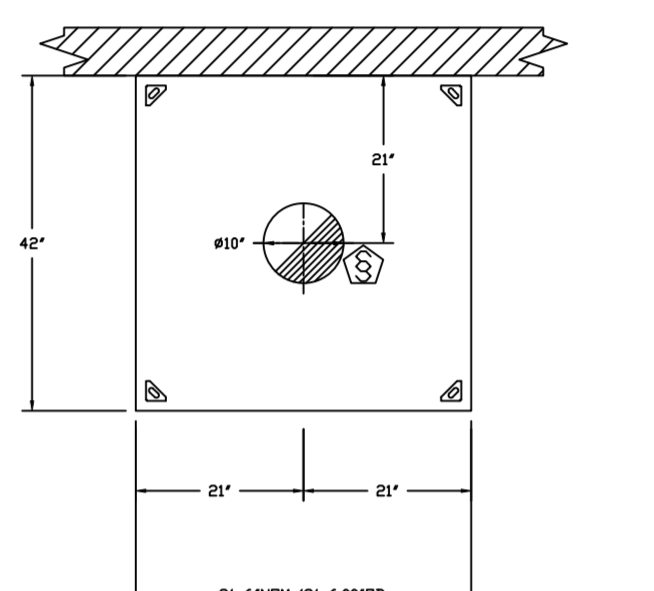
CAPTIVE FILTERS ARE BUILT IN COMPLIANCE WITH:
 NFPA #96
 NSF STANDARD #2
 UL STANDARD #1046
 INT. MECH. CODE (IMC)
 ULC-S649.



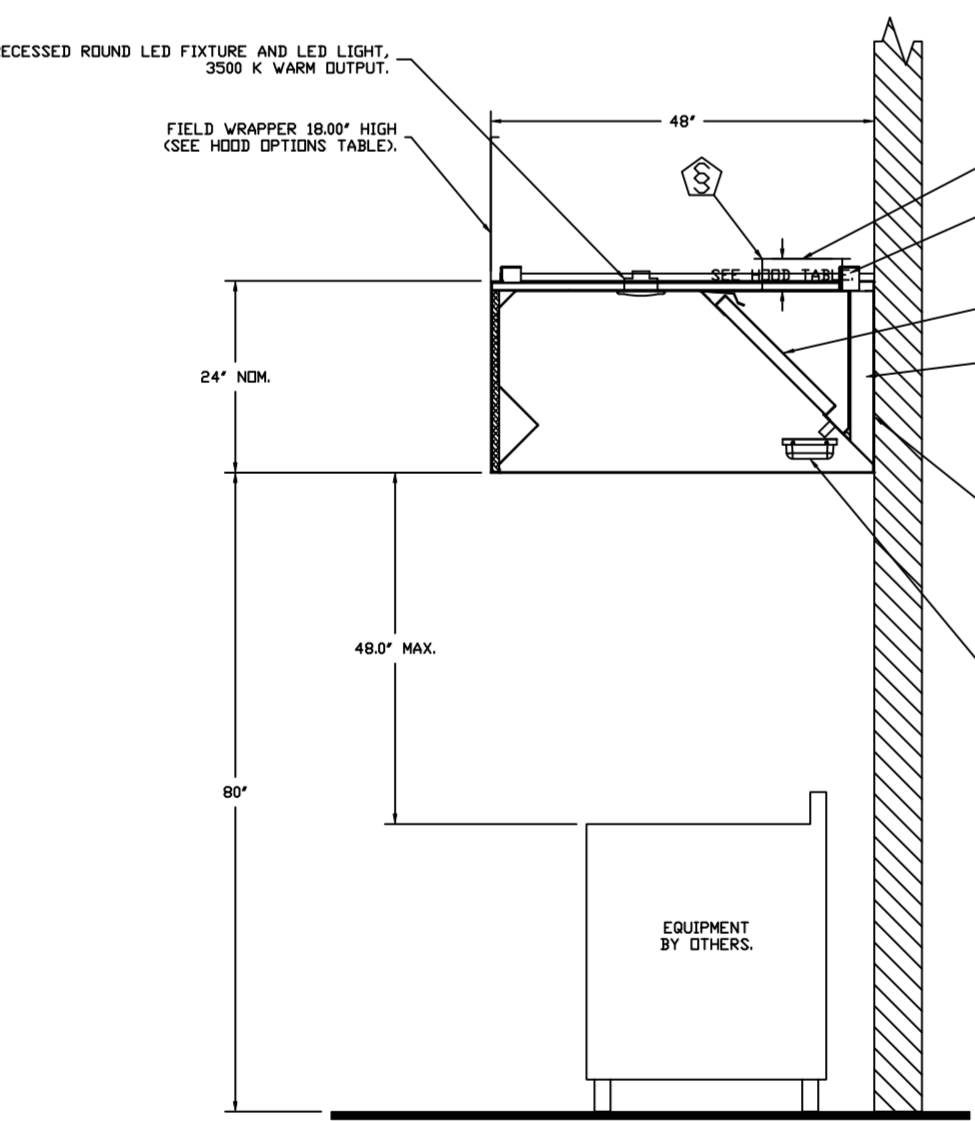
PLAN VIEW - HOOD #1 (H-1A)
 6' 10.00" LONG 4824ND-2



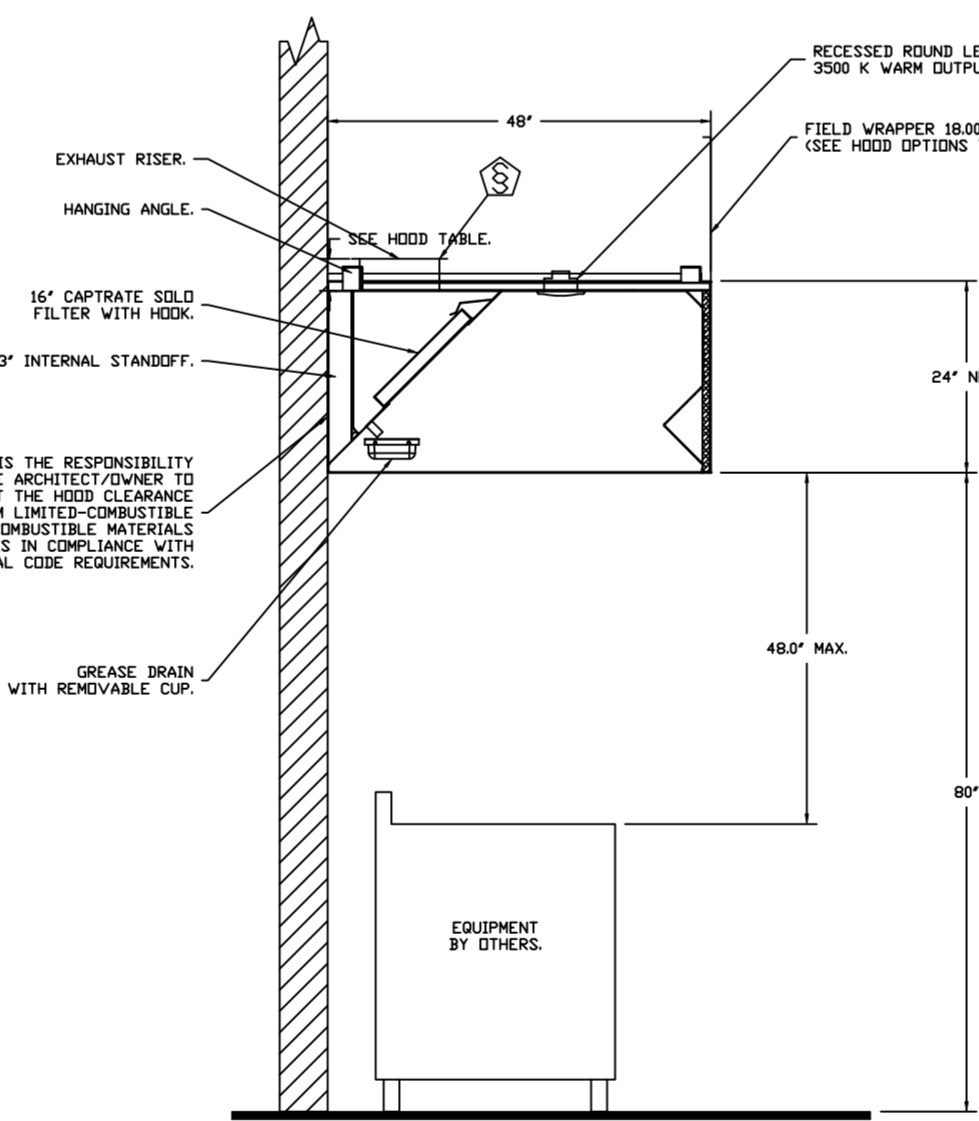
PLAN VIEW - HOOD #3 (H2)
 5' 0.00" LONG 5424ND-2



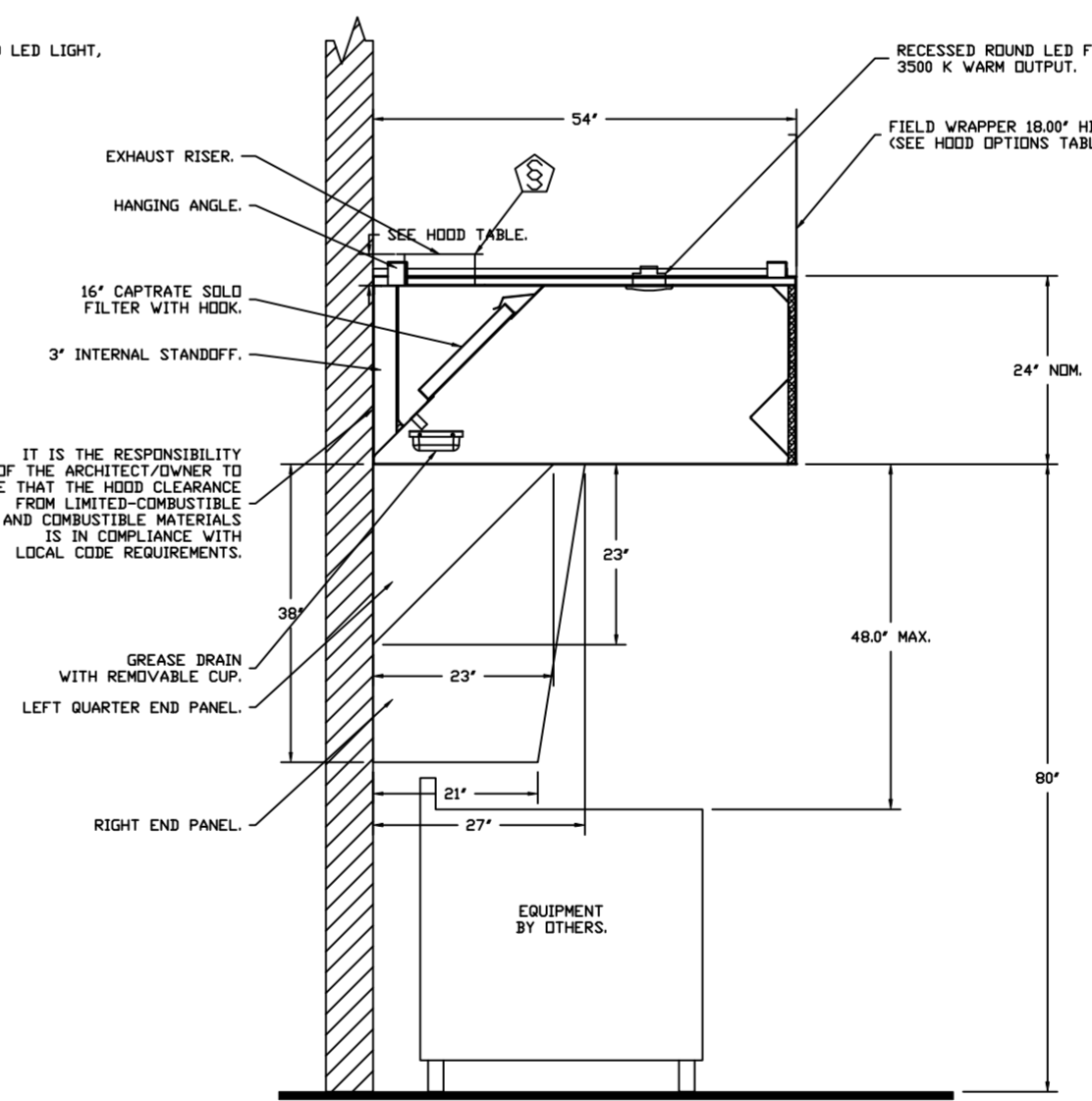
PLAN VIEW - HOOD #4 (H-3)
 3' 6.00" LONG 4224VHB-G



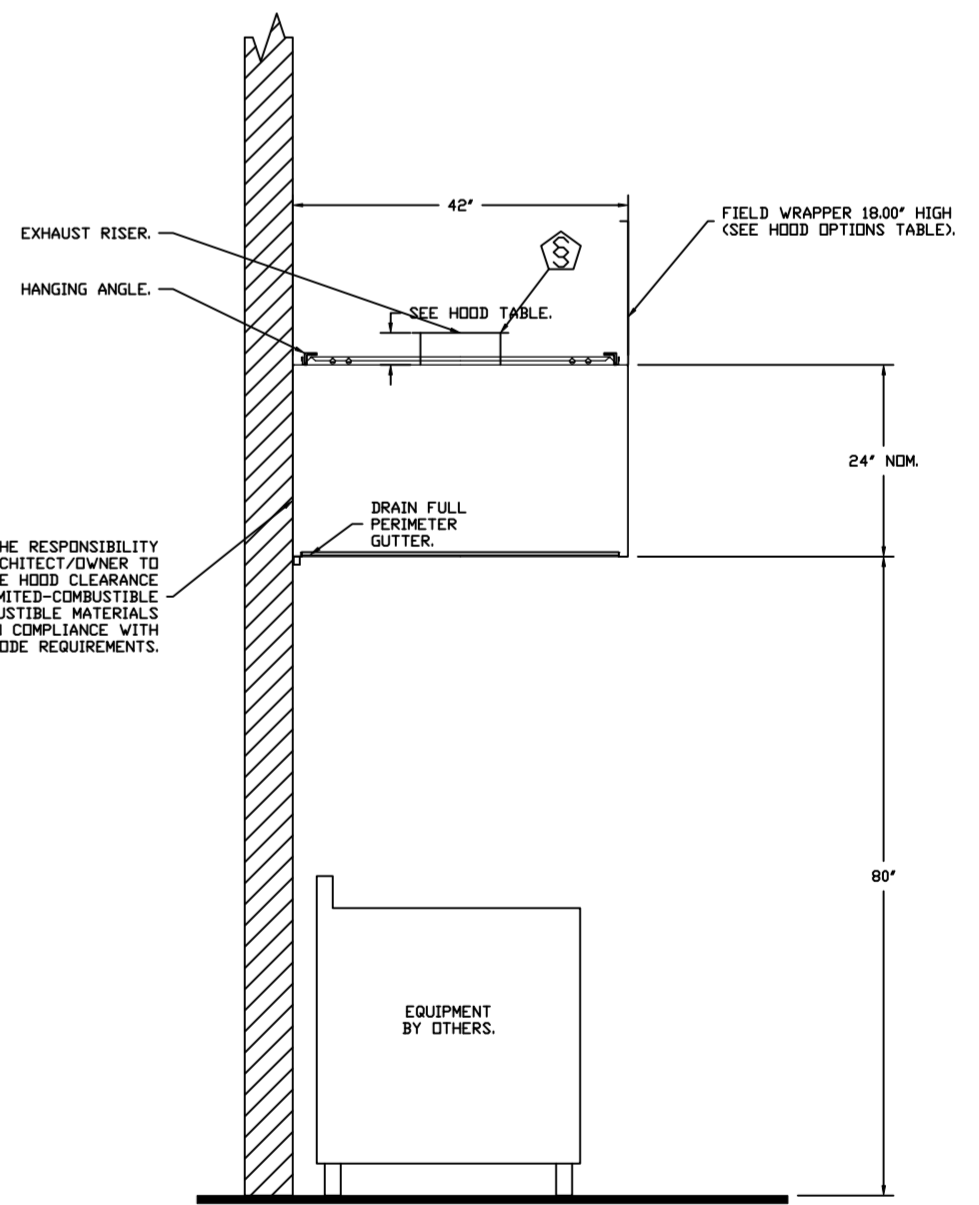
SECTION VIEW - MODEL 4824ND-2
 HOOD - #2 (H-1B)



SECTION VIEW - MODEL 4824ND-2
 HOOD - #1 (H-1A)



SECTION VIEW - MODEL 5424ND-2
 HOOD - #3 (H2)



SECTION VIEW - MODEL 4224VHB-G
 HOOD - #4 (H-3)

FOR QUESTIONS, CALL THE:
 KANSAS CITY REGIONAL OFFICE
 1126 SWIFT STREET, KANSAS CITY, MO 64116
 PHONE: (816) 221-8575
 FAX: (816) 221-8311

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted
 Approved with NO Exception Taken
 Revise and Resubmit
 SIGNATURE _____
 Your Title _____ Date _____

***** NOTE *****
 ALL WALLS AND STRUCTURES THAT COME WITHIN 18" OF HOOD MUST BE METAL STUDS AND SHEETROCK. WOOD STUDS OR ANY OTHER COMBUSTIBLE MATERIAL WITHIN 18" OF HOOD NO ALLOWED.

***** NOTE *****
 HOOD MANUFACTURER RECOMMENDS NO RETURNS OR 4-WAY DIFFUSERS WITHIN 10 FEET OF HOOD IN ALL DIRECTION.

***** NOTE *****
 MAKEUP AIR SHALL BE DELIVERED INTO SPACE IN MANNER THAT WILL NOT DISRUPT HOODS ABILITY TO CAPTURE AND CONTAIN.

REVISIONS

DESCRIPTION	DATE:

CAPTIVEAIRE

HBT Foodservice

104 W 8th St Suite 204, Kansas City, MO, 64105 PHONE: (816) 221-8575 FAX: (816) 221-8311 EMAIL: reg9@captivaire.com

Freddy's - Bossier City, LA
 BOSSIER CITY, LA, 71113

DATE: 10/20/2021

DWG.#:
 5145064

DRAWN BY: michael.co

SCALE:
 1/2" = 1'-0"

MASTER DRAWING

SHEET NO.
 1

EXHAUST FAN INFORMATION - JOB#5145064

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDNES
1	EF-1	1	DUB0HFA	CAPTIVEAIRE	2584	1.500	1247	ODI-PREMIUM	2.000	1.0030	3	208	6.1	597 FPM	186	16
2	EF-2	1	DUS0HFA	CAPTIVEAIRE	775	1.000	1292	TEAD-ECM	0.500	0.2390	1	115	6.3	295 FPM	100	13.5
4	EF-3	1	DU33HFA	CAPTIVEAIRE	525	0.800	1479	TEAD-ECM	0.333	0.1990	1	115	4.3	260 FPM	67	14.4

DDAS/RTU FAN SCHEDULE - JOB#5145064

FAN UNIT NO	TAG	QTY	DDAS/RTU MODEL #	MANUFACTURER	BLDWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	ESP	HP	BHP	PHASE	VOLT	MCA	MDCP	WEIGHT (LBS)
3	DDAS-1	1	CASRTU3-1400-15-20T-DDAS	CAPTIVEAIRE	15P-3	0	3300	3300	0.500	3.000	2.2790	3	208	80.6A	90A	2574

DDAS/RTU COOLING SCHEDULE

FAN UNIT NO	TAG	COMPRESSOR	OUTDOOR FAN	INDOOR COIL	OUTSIDE AIR DB TEMP	OUTSIDE AIR WB TEMP	MIXED AIR DB TEMP	MIXED AIR WB TEMP	LEAVING DB TEMP	LEAVING WB TEMP	LEAVING DP TEMP	TOTAL CAPACITY	SENSIBLE CAPACITY	LATENT CAPACITY	REHEAT LEAVING DB TEMP	REHEAT LEAVING WB TEMP	DESIGD REHEAT CAPACITY	MAX REHEAT CAPACITY	REHEAT LEAVING RELATIVE HUMIDITY	MOISTURE REMOVAL RATE	IEER							
3	DDAS-1	20	190-240	3	200-240	3	60	3	7	11.9	SDFT	83.4°F	78.3°F	83.4°F	78.3°F	56.8°F	55.1°F	54.0°F	264.0 MBH	92.8 MBH	171.2 MBH	72.0°F	60.9°F	55 MBH	129.6 MBH	53	154.1 LBS/HR	18.2

DDAS/RTU HEATING SCHEDULE

FAN UNIT NO	TAG	INPUT BTUS	OUTPUT BTUS	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
3	DDAS-1	375000	300000	78°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	80

FAN OPTIONS

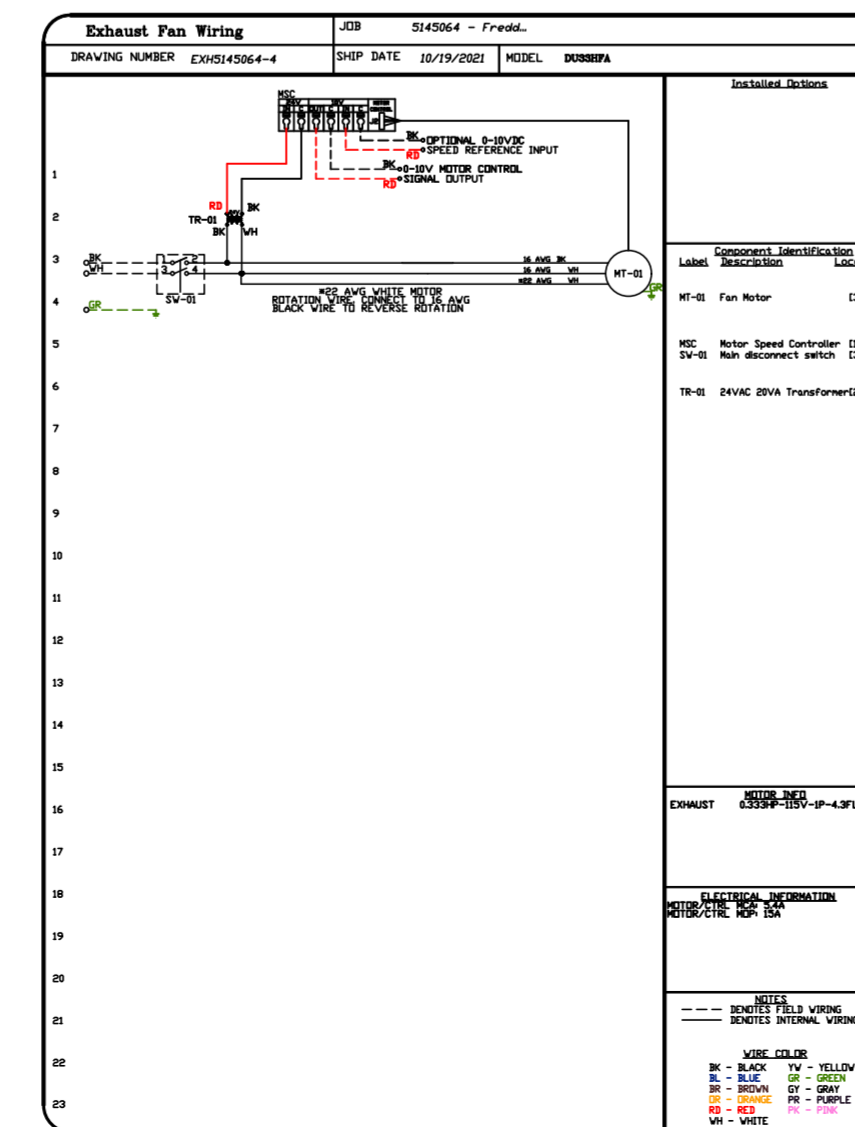
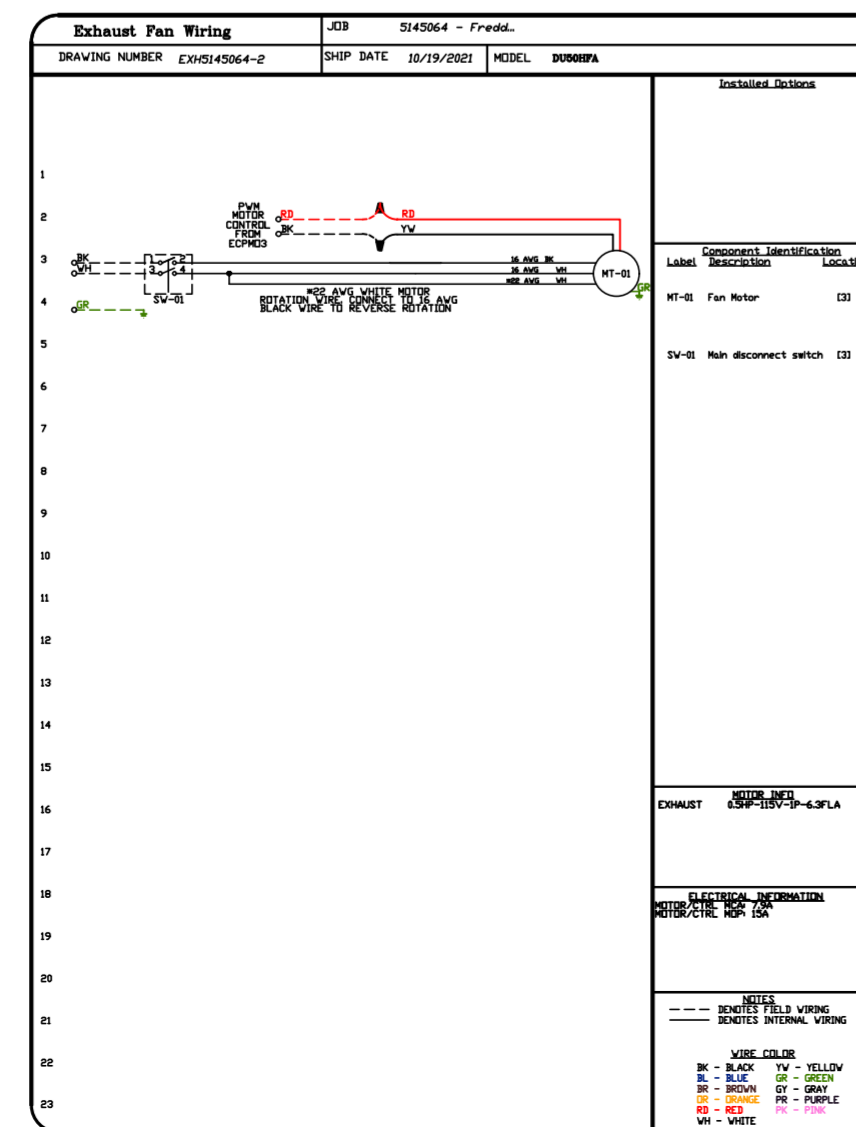
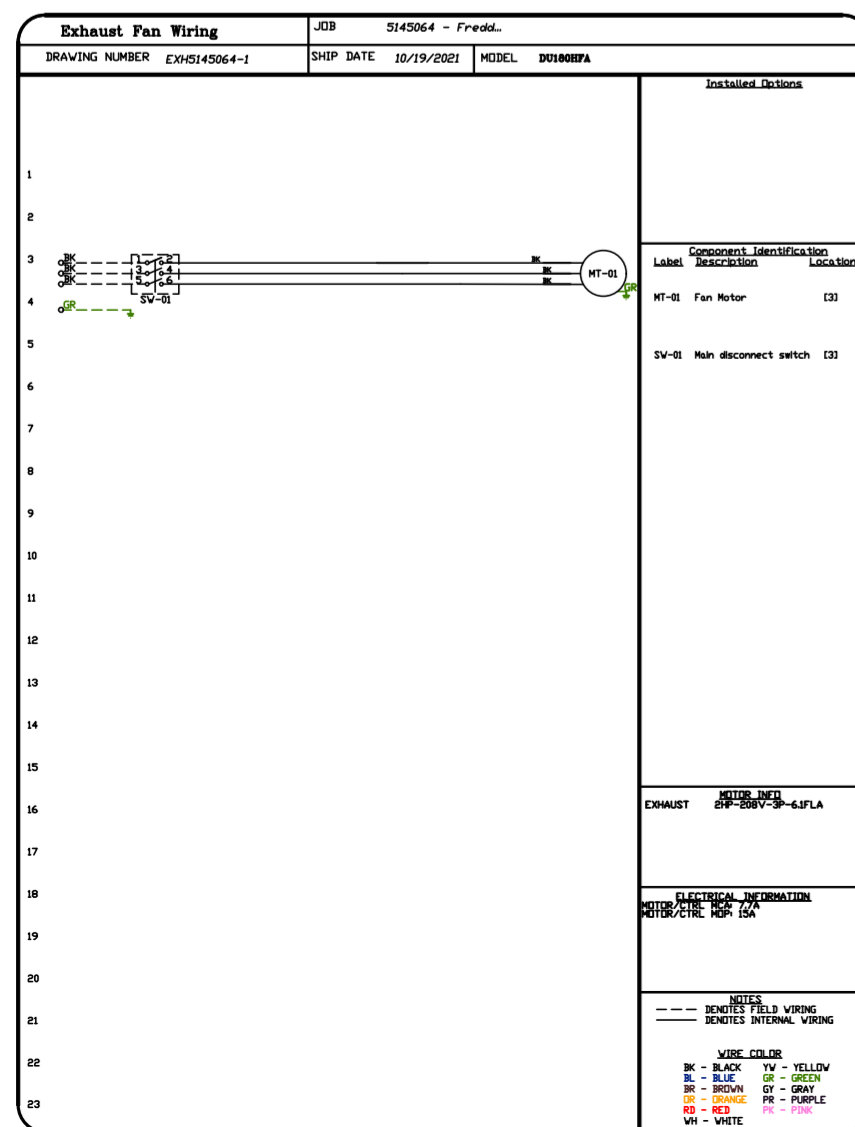
FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF-1	1	GREASE BOX.
		1	UPBLAST FAN WHEEL ACCESS PORT.
2	EF-2	1	24" TALL STRAIGHT WIND BAND EXTENSION 18/20 (SHIPS LOOSE).
		1	2 YEAR PARTS WARRANTY.
3	DDAS-1	1	GREASE BOX.
		1	UPBLAST FAN WHEEL ACCESS PORT.
		1	ECM WIRING PACKAGE - PWM SIGNAL FROM ECPM03 PREWIRE (TELCD MOTOR), CCV ROTATION.
		1	56" TALL STRAIGHT WIND BAND EXTENSION 13 (SHIPS LOOSE).
		1	2 YEAR PARTS WARRANTY.
		1	RTU3 DOWN DISCHARGE.
		1	2" MERV 13 FILTERS FOR RTU3 (QTY. 4).
		1	2" MERV 8 FILTERS FOR RTU3 (QTY. 4).
		1	OVERHEAT STAT.
		1	INLET PRESSURE GAUGE, 0-25".
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" W.C., 1 FURNACE.
		1	OCCUPIED SCHEDULING.
1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS.		
1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI.		
1	RTU3 HAIL GUARD.		
1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE.		
1	VAV PACKAGE V/ 0-10VDC INPUT CONTROL (S71 VFD INCLUDED).		
1	RTU TOTAL CFM MONITORING.		
1	RTU INTAKE/RETURN DAMPER - SCHEDULED DA PERCENTAGE CONTROL.		
1	RTU3 DOWN RETURN.		
1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED.		
1	RTU3 CURB DUCT HANGER.		
1	20 TON MODULATING COOLING OPTION, 208/230V. R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS.		
1	20 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL.		
1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS).		
4	EF-3	1	ECM WIRING PACKAGE - EXHAUST - MANUAL DR 0-10VDC REFERENCE SPEED CONTROL -MSC-TELCD, CCV ROTATION.
		1	SCR-11 BIRD SCREEN.
		1	1 1/2" BDD DAMPER.
1	2 YEAR PARTS WARRANTY.		

FAN ACCESSORIES

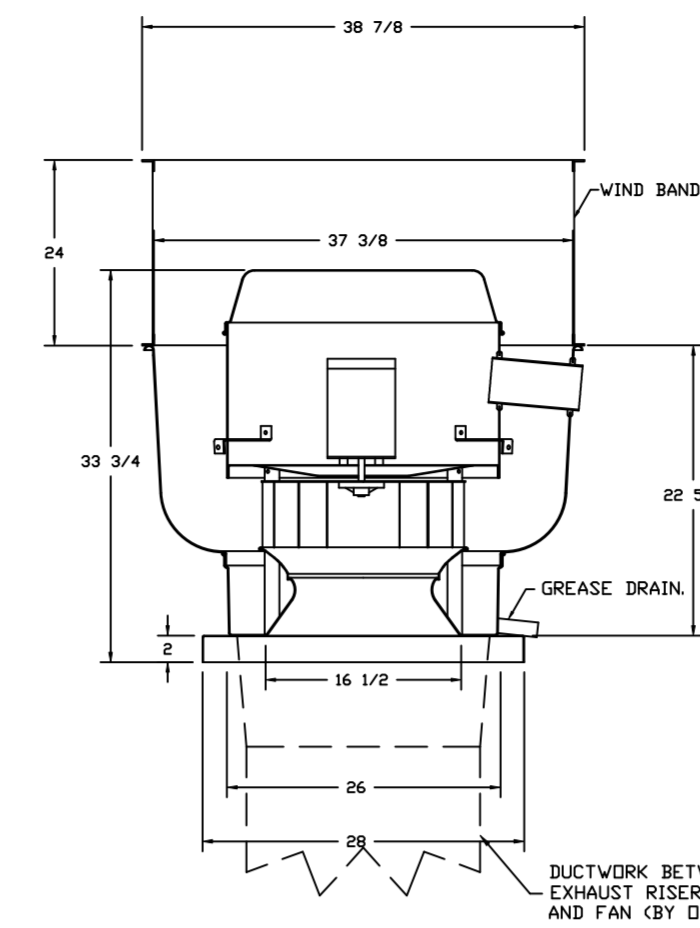
FAN UNIT NO	TAG	EXHAUST	SUPPLY					
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	EF-1	YES						
2	EF-2	YES						
4	EF-3	YES						

CURB ASSEMBLIES

NO	IN FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	EF-1	38 LBS	CURB	26.500"W X 26.500"L X 24.000"H ALONG LENGTH, RIGHT VENTED HINGED.
2	# 2	EF-2	34 LBS	CURB	19.500"W X 19.500"L X 24.000"H ALONG LENGTH, RIGHT VENTED HINGED.
3	# 3	DDAS-1	78 LBS	CURB	59.500"W X 91.000"L X 14.000"H ALONG WIDTH, RIGHT INSULATED.
4	# 4	EF-3	30 LBS	CURB	19.500"W X 19.500"L X 24.000"H ALONG LENGTH, RIGHT VENTED.



FAN #1 SUBREQA - EXHAUST FAN (EF-1)



FEATURES:

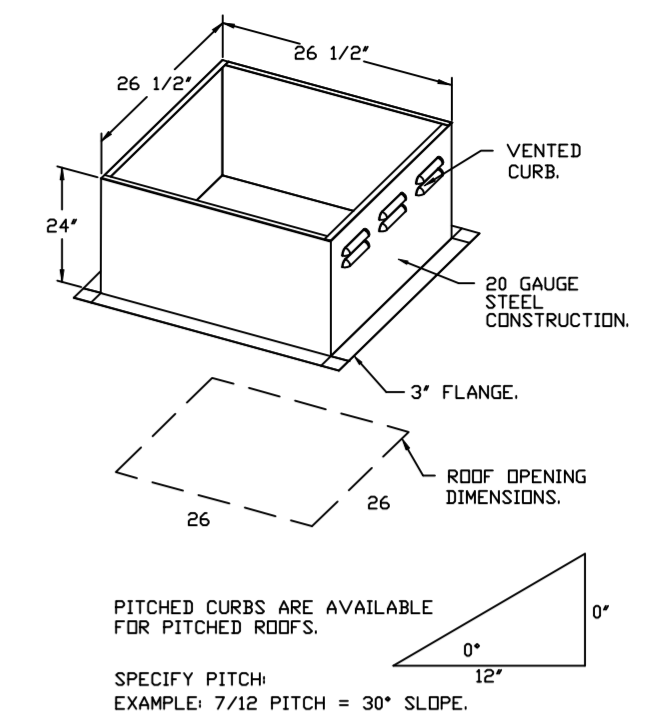
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL768 AND ULC-5645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING 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 OPERATION.

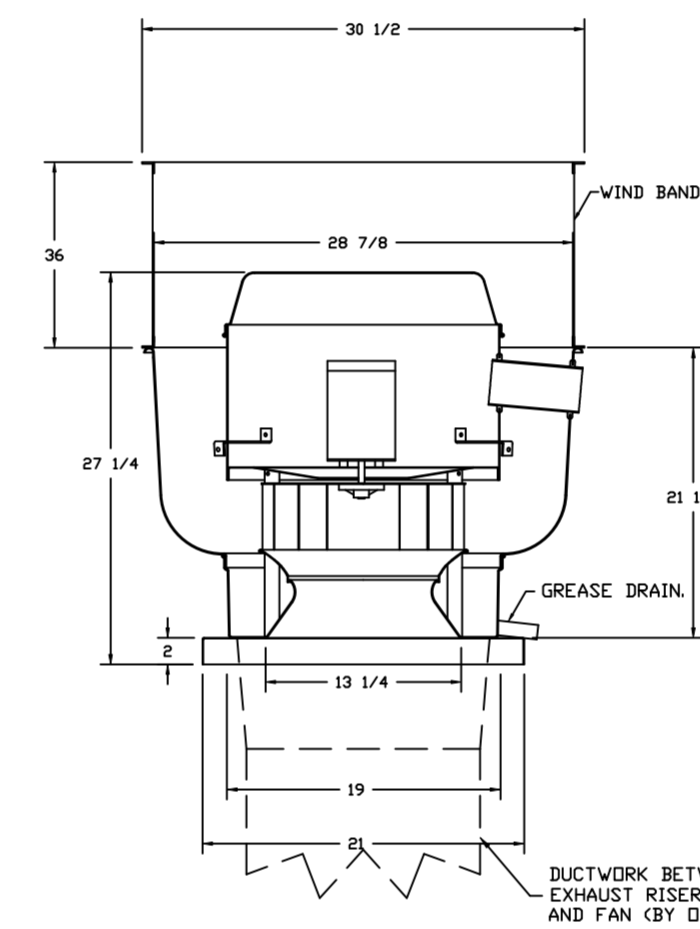
ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE OPERATION.

OPTIONS

- GREASE BOX.
- UPBLAST FAN WHEEL ACCESS PORT.
- 56" TALL STRAIGHT WIND BAND EXTENSION 18/20 (SHIPS LOOSE).
- 2 YEAR PARTS WARRANTY.



FAN #2 SUBREQA - EXHAUST FAN (EF-2)



FEATURES:

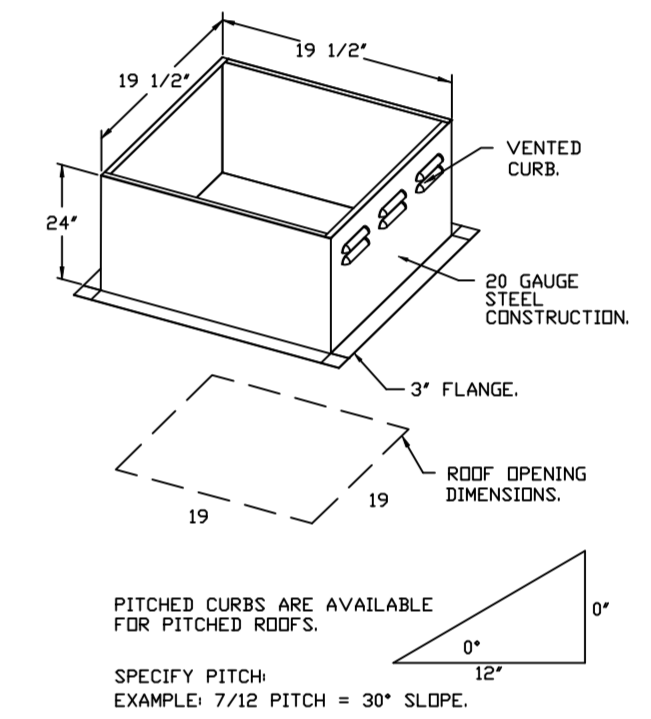
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL768 AND ULC-5645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING 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 OPERATION.

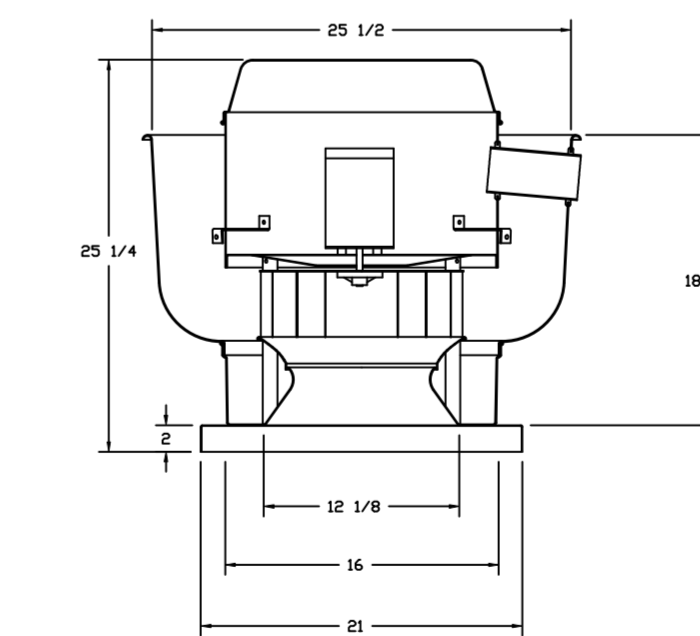
ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE OPERATION.

OPTIONS

- GREASE BOX.
- UPBLAST FAN WHEEL ACCESS PORT.
- ECM WIRING PACKAGE - PWM SIGNAL FROM ECPM03 PREWIRE (TELCD MOTOR), CCV ROTATION.
- 56" TALL STRAIGHT WIND BAND EXTENSION 13 (SHIPS LOOSE).
- 2 YEAR PARTS WARRANTY.



FAN #4 SUBREQA - EXHAUST FAN (EF-3)

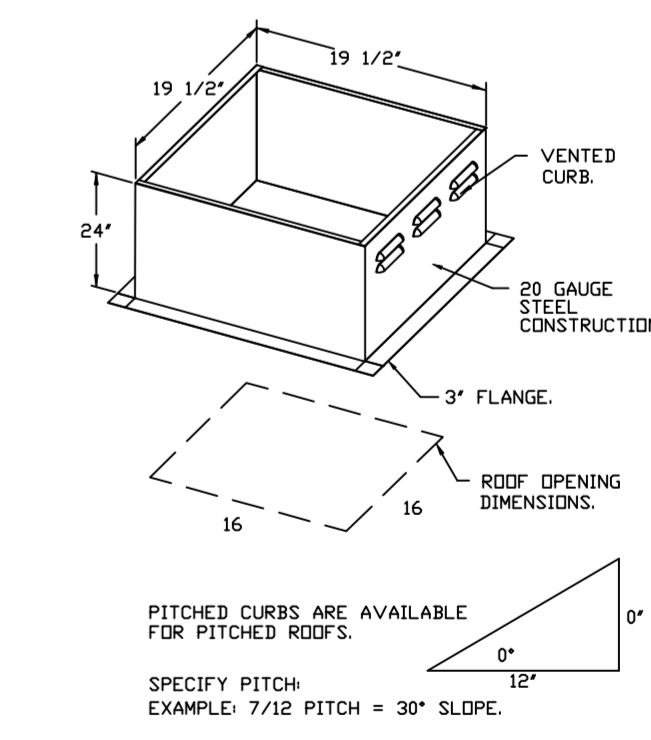


FEATURES:

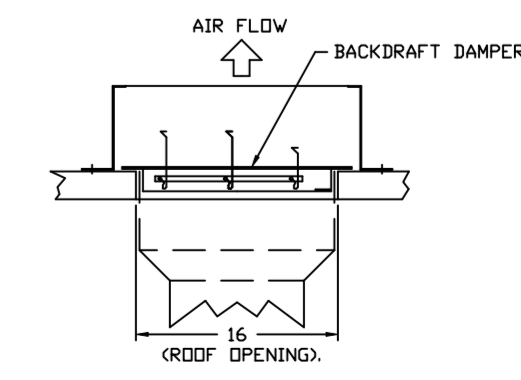
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- UL705.
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- NEMA 3R SAFETY DISCONNECT SWITCH.

OPTIONS

- ECM WIRING PACKAGE - EXHAUST - MANUAL DR 0-10VDC REFERENCE SPEED CONTROL -MSC-TELCD, CCV ROTATION.
- SCR-11 BIRD SCREEN.
- 1 1/2" BDD DAMPER.
- 2 YEAR PARTS WARRANTY.

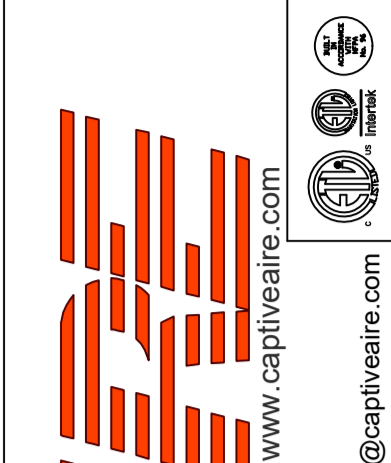


BACKDRAFT DAMPER INSTALLATION



REVISIONS

DESCRIPTION	DATE:



CAPTIVE AIR
www.captiveair.com
www.captiveair.com
HBT Foodservice
104 W 8th St Suite 204, Kansas City, MO. 64105 PHONE: (816) 221-8575 FAX: (816) 221-8311 EMAIL: reg9@captveair.com

Freddy's - Bossier City, LA
BOSSIER CITY, LA, 71113

DATE: 10/20/2021

DWG.#: 5145064

DRAWN BY: michael.co

SCALE: 1/2" = 1'-0"

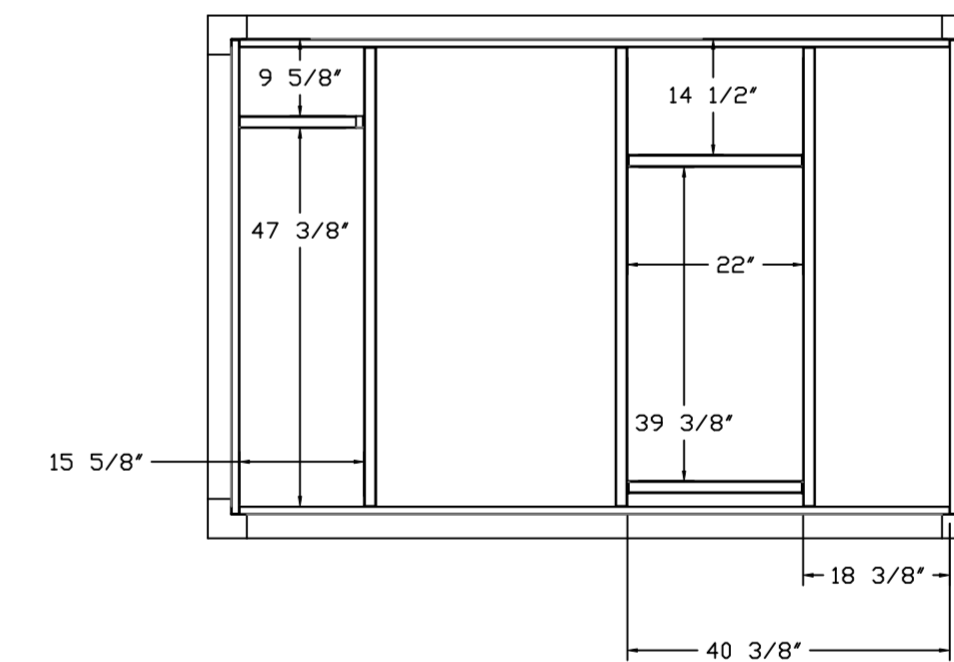
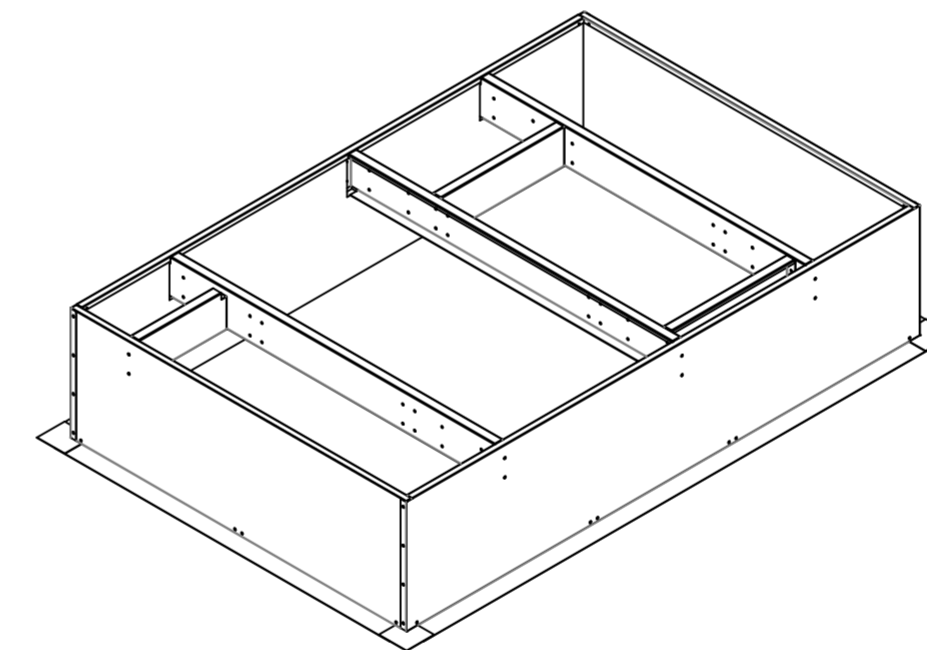
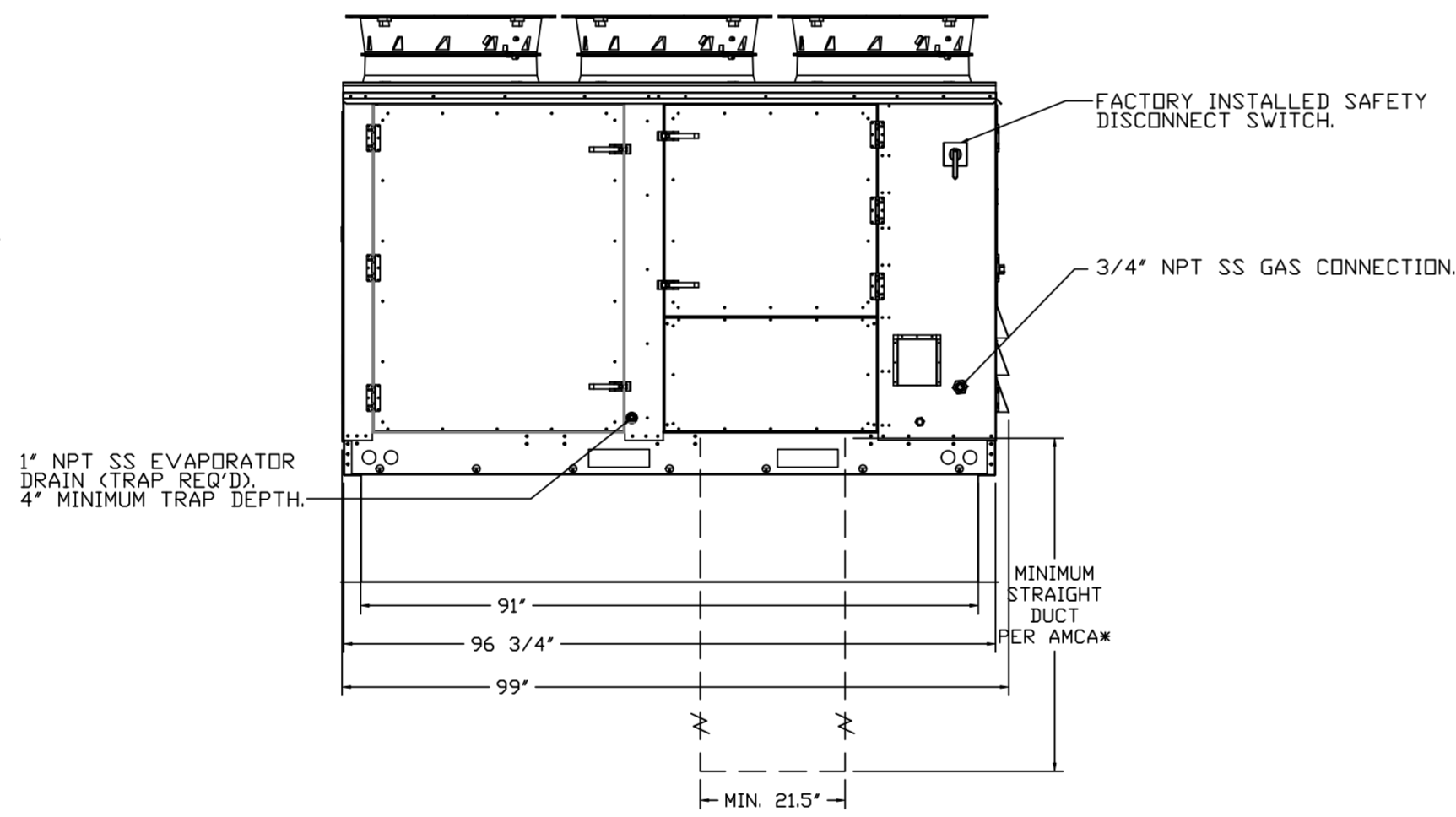
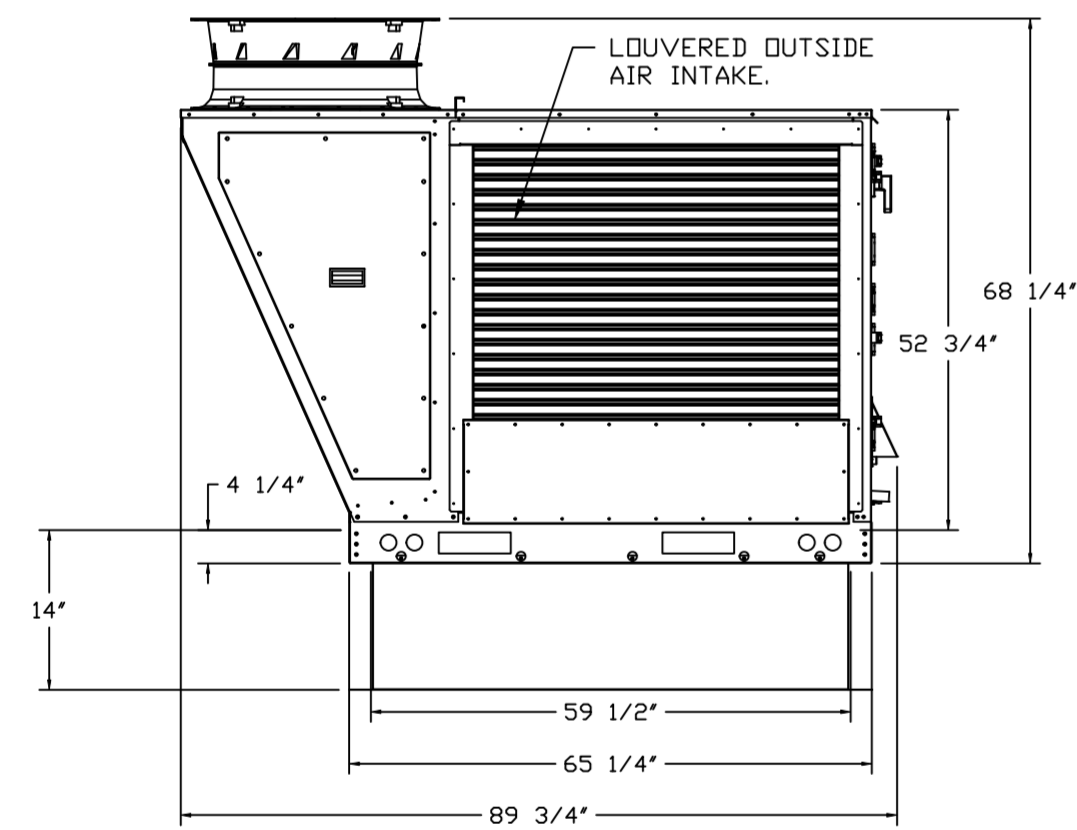
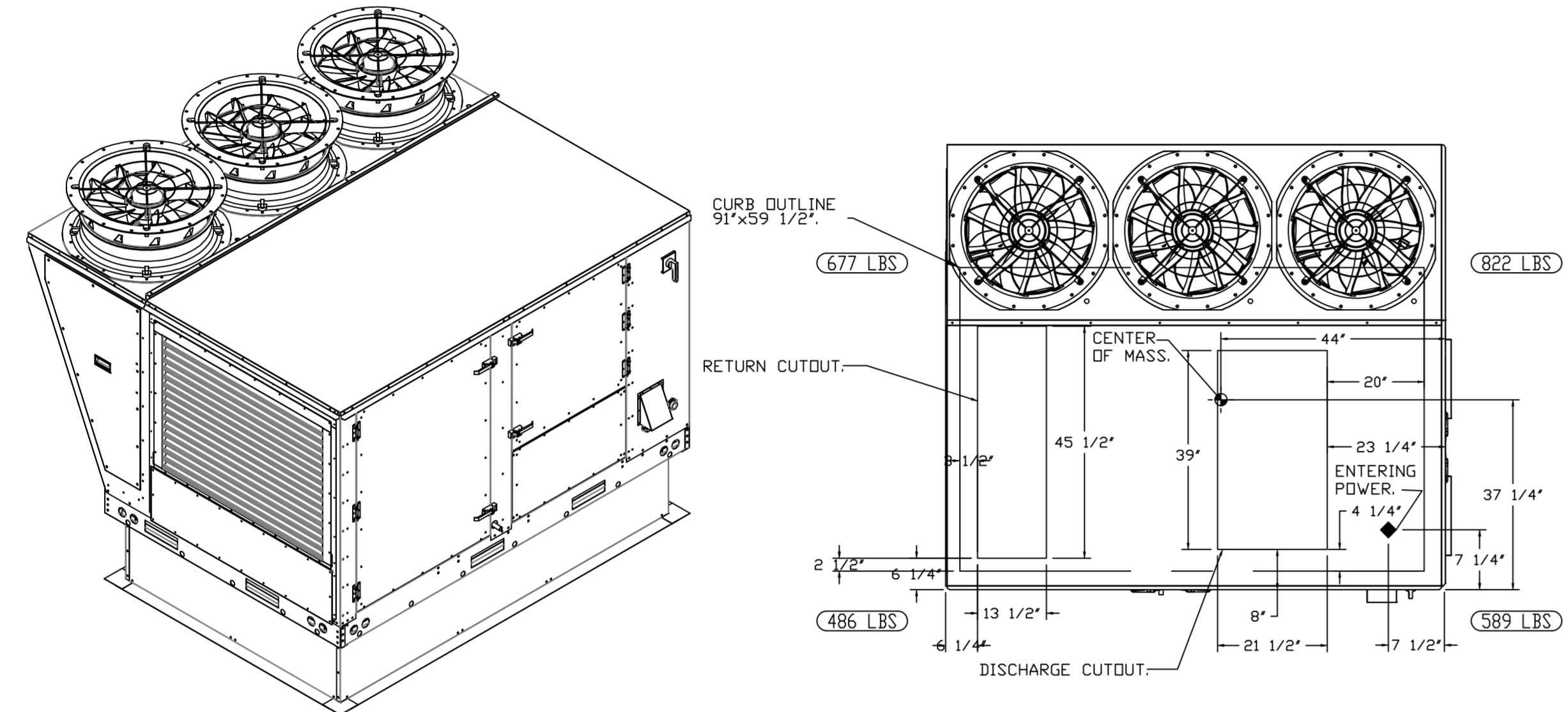
MASTER DRAWING

SHEET NO. 2

NOTES:

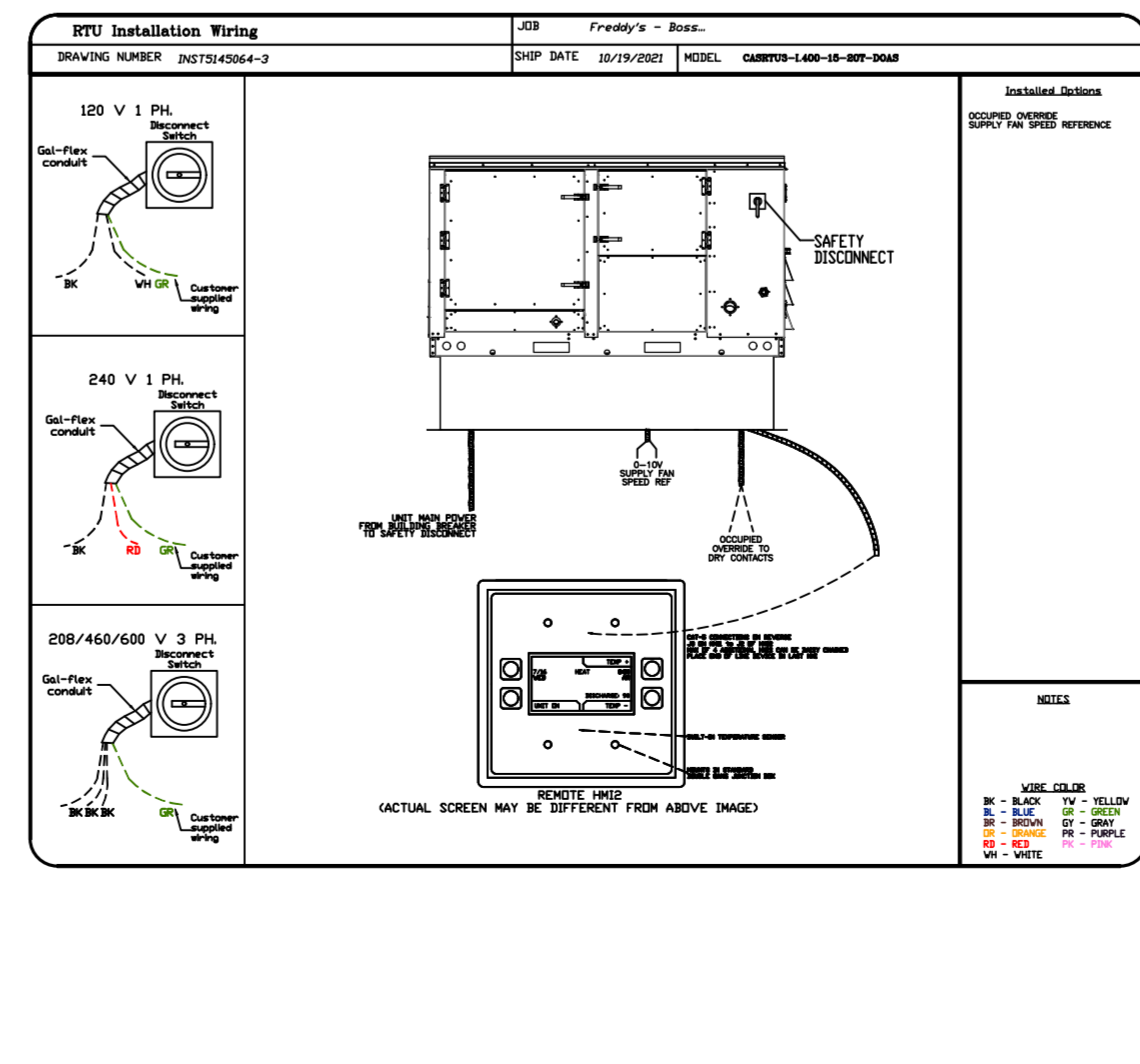
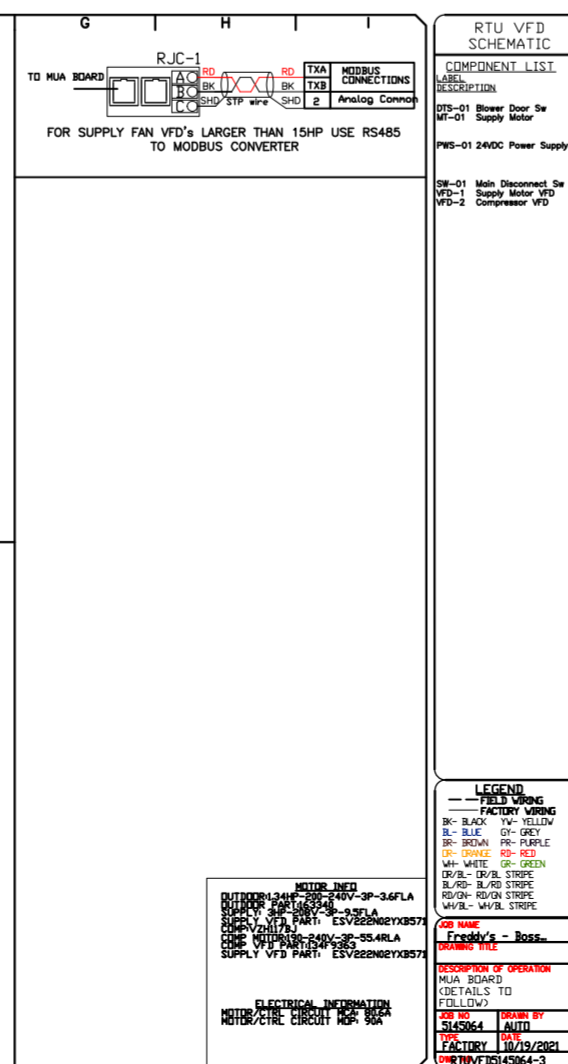
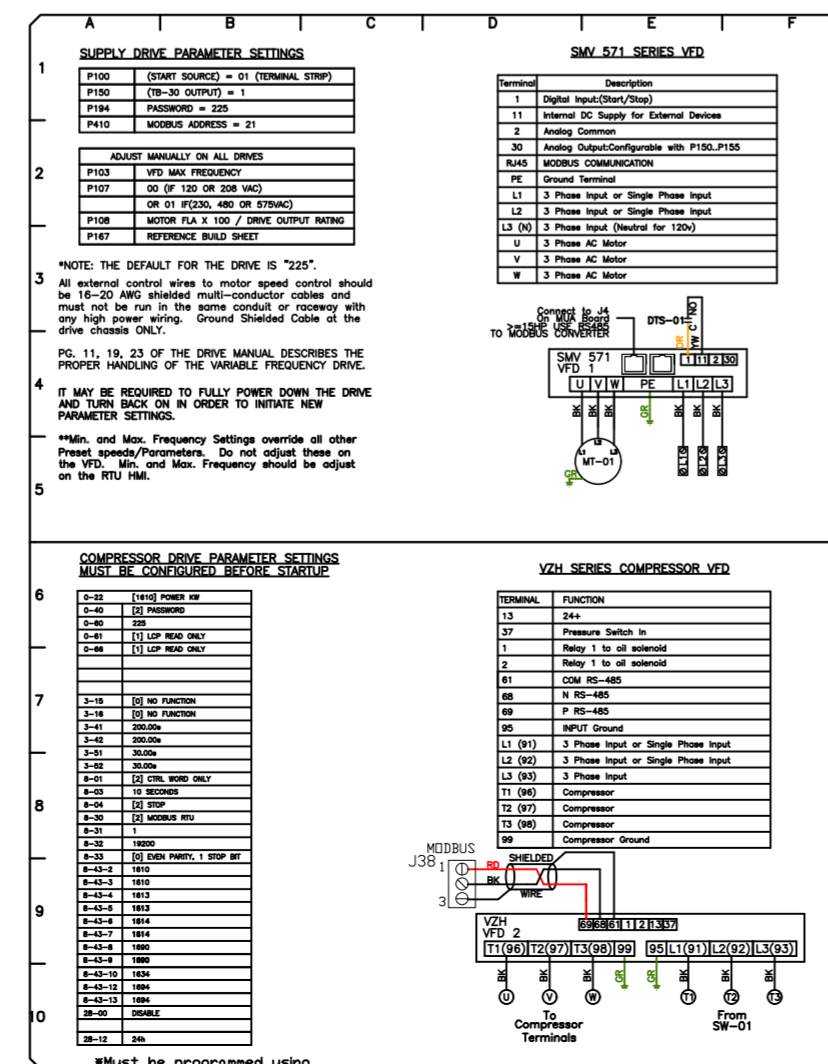
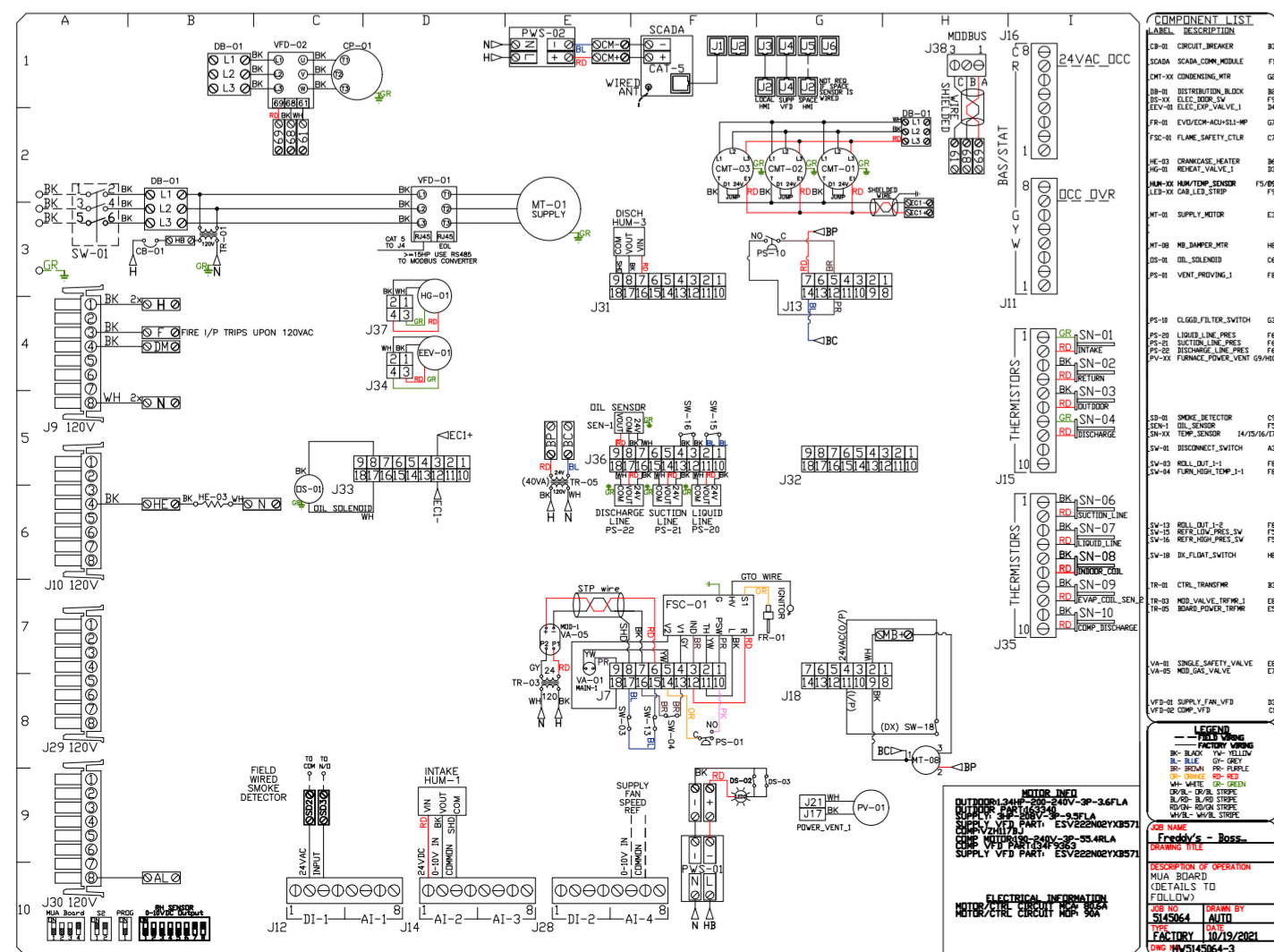
- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
- () DENOTES CORNER WEIGHT.
- ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.

*NOTE: 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 21.5" x 39".



OPTIONS

- RTU3 DOWN DISCHARGE.
- 2" MERV 13 FILTERS FOR RTU3 (QTY. 4).
- 2" MERV 8 FILTERS FOR RTU3 (QTY. 4).
- OVERHEAT STAT.
- INLET PRESSURE GAUGE, 0-35".
- MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE.
- OCCUPIED SCHEDULING.
- COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS.
- CLOGGED FILTER SWITCH - NOTIFICATION ON HMI.
- RTU3 HAIL GUARD.
- VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE.
- VAV PACKAGE W/ 0-10VDC INPUT CONTROL (571 VFD INCLUDED).
- RTU TOTAL CFM MONITORING.
- RTU INTAKE/RETURN DAMPER - SCHEDULED DA PERCENTAGE CONTROL.
- RTU3 DOWN RETURN.
- CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED.
- RTU3 CURB DUCT HANGER.
- 20 TON MODULATING COOLING OPTION, 208/230V. R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS.
- 20 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL.
- 5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS).



REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

www.captiveaire.com

HBT Foodservice

104 W 8th St Suite 204, Kansas City, MO, 64105 PHONE: (816) 221-8575 FAX: (816) 221-8311 EMAIL: reg9@captivair.com

Freddy's - Bossier City, LA

BOSSIER CITY, LA, 71113

DATE: 10/20/2021

DWG.#: 5145064

DRAWN BY: michael.co

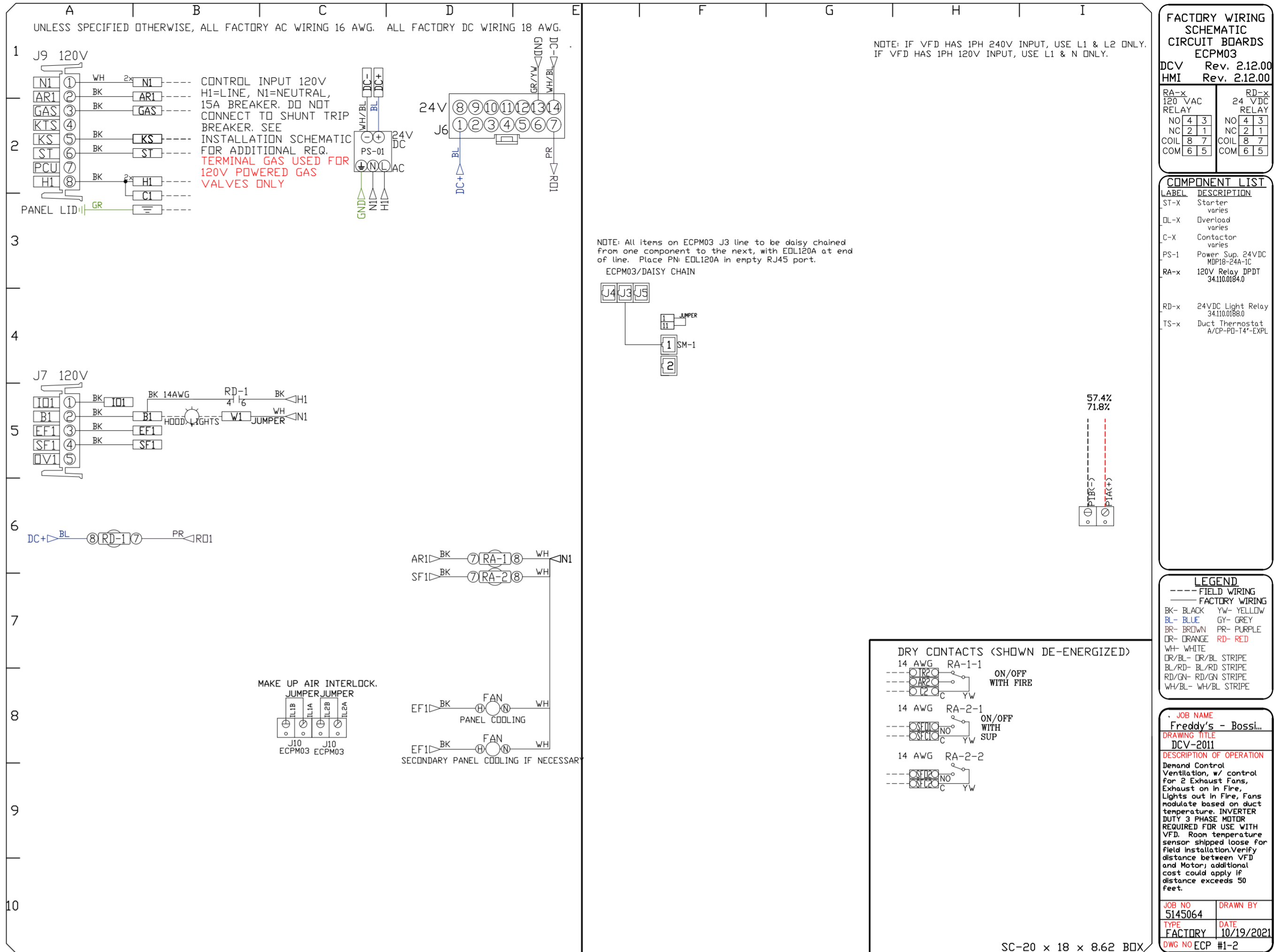
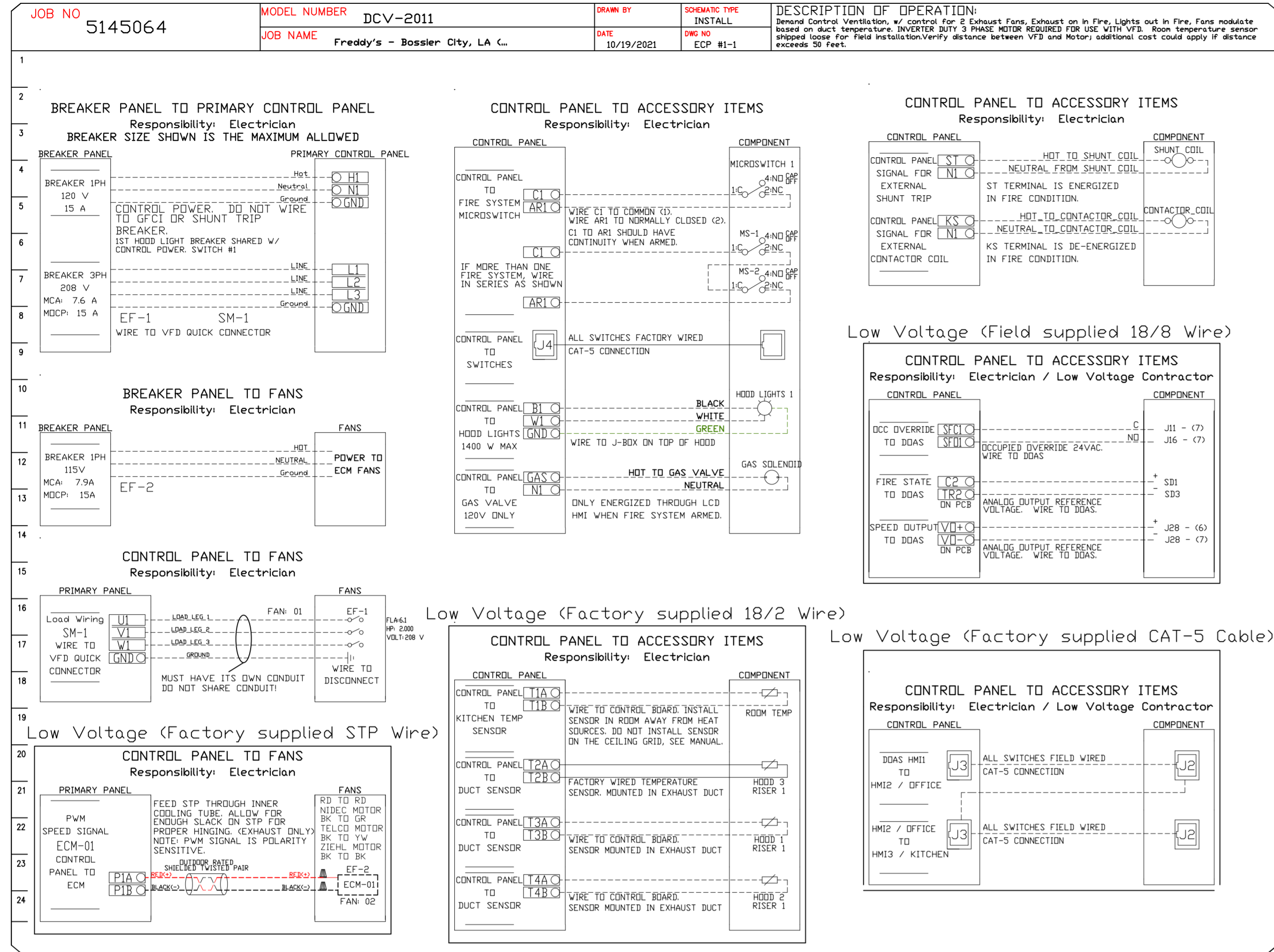
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MASTER DRAWING

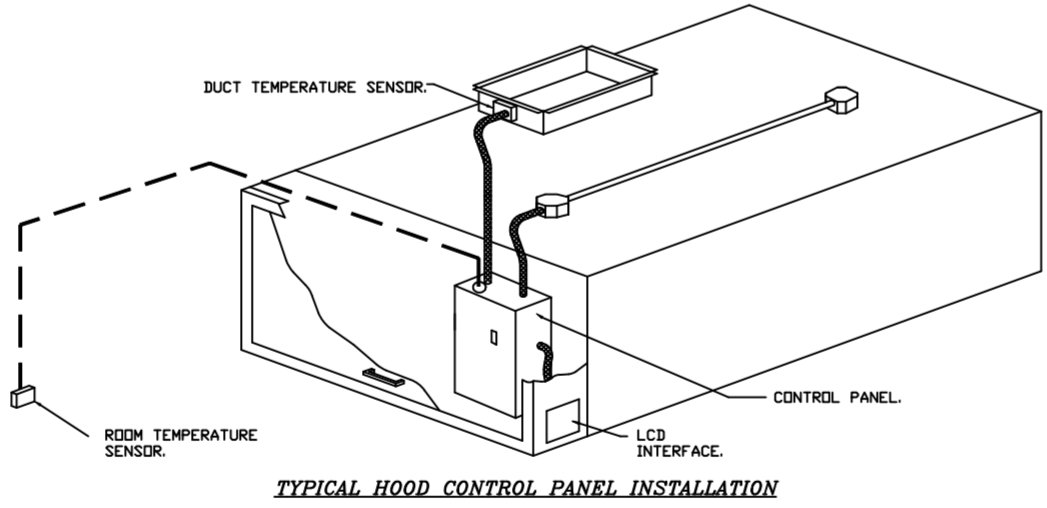
SHEET NO. 3

ELECTRICAL PACKAGE - JOB#5145064

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	HP	VOLTS	FLA	
1	ECV-1	DCV-2011	UTILITY CABINET LEFT CABINET LEFT HOOD # 3	1 LIGHT	1 FAN	SMART CONTROLS DCV	EF-1	EXHAUST	3	2000	208	6.1
							EF-2	EXHAUST	1	1500	115	6.3



- DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:**
- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.2.6 (2015).
 - THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
 - TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
 - A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
 - A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
 - A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
 - VARIABLE FREQUENCY DRIVES (VFDs) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDs BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
 - THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
 - AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
 - THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
 - A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FANS; ACTIVATE THE EXHAUST FANS; ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
 - A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
 - AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES AND RESET RELAY REQUIRED.
C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
F. A SINGLE LDM VOLTAGE CAT-5 R4/5 WIRING CONNECTION.
G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDs.



- SEQUENCE OF OPERATIONS:**
THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME.
- **AUTOMATIC:** THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS 'DYNAMIC', THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS 'STATIC', FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.2.8.
 - **MANUAL:** THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
 - **SCHEDULE:** A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
 - **OTHER:** THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
 - **FIRE:** UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO RUN. THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICAL FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

REVISIONS

NO.	DESCRIPTION	DATE

FACTORY WIRING SCHEMATIC CIRCUIT BOARDS ECPM03
DCV Rev. 2.12.00
HMI Rev. 2.12.00

COMPONENT LIST:
L- Label
S1-X Starter
C-X Contactor
PS-1 Power Sup. 24VDC
PS-2 Power Sup. 24VDC
RA-X 180V Relay 3PDT
RD-X 24VDC Light Relay
IS-X Duct Temperature Sensor
A/O-PS-TP-EXL

Legend:
--- FIELD WIRING
--- FACTORY WIRING
BK- BLACK W- YELLOW
BL- BLUE GY- GREY
BR- BROWN PR- PURPLE
DR- DRINK RD- RED
WH- WHITE
DR/BL- DR/BL STRIPE
BL/BR- BL/BR STRIPE
RD/WH- RD/WH STRIPE
WH/BL- WH/BL STRIPE

Legend:
--- FIELD WIRING
--- FACTORY WIRING
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DR/BL- DR/BL STRIPE
BL/BR- BL/BR STRIPE
RD/WH- RD/WH STRIPE
WH/BL- WH/BL STRIPE

JOB NAME: Freddy's - Bossier City, LA
MODEL NUMBER: DCV-2011
DESCRIPTION OF OPERATION:
Demand Control Ventilation, w/ control for 2 Exhaust Fans, Exhaust on in Fire, Lights out in Fire, Fans modulate based on duct temperature, inverter duty 3 phase motor required for use with VFD. Room temperature sensor shipped loose for field installation. Verify distance between VFD and Motor; additional cost could apply if distance exceeds 50 feet.
DRAWN BY: michael.c
DATE: 10/19/2021
DWG NO: ECP #1-2

DATE: 10/20/2021
DWG.#: 5145064
DRAWN BY: michael.c
SCALE: 1/2" = 1'-0"
MASTER DRAWING

SHEET NO.
4

www.captiveair.com
HBT Foodservice
104 W 8th St Suite 204, Kansas City, MO. 64105 PHONE: (816) 221-8575 FAX: (816) 221-8311 EMAIL: reg9@captivaire.com

Freddy's - Bossier City, LA
BOSSIER CITY, LA, 71113