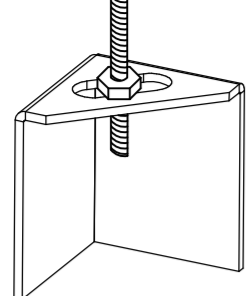


ND-2 HANGING ANGLE DETAIL

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

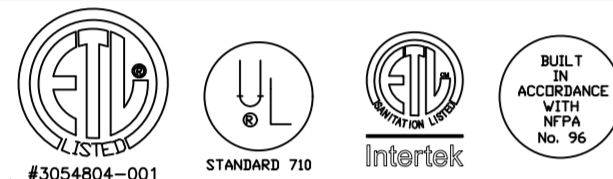
HOOD STYLE	DIM FROM REAR	DIM FROM FRONT (24" H)	DIM FROM FRONT (30" H)
CANOPY ND2	4.166"	2.246"	2.246"
ND2-PSP-F	4.166"	2.246"	2.246"
BACKSHELF BD-2	4.166"	2.246"	-
VHB/VHB-G	36"x36"	42"x42"	48"x48"
FRONT/BACK DIMS BY SIZE	2.246"	2.246"	2.246"

CALCULATIONS UTILIZED

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

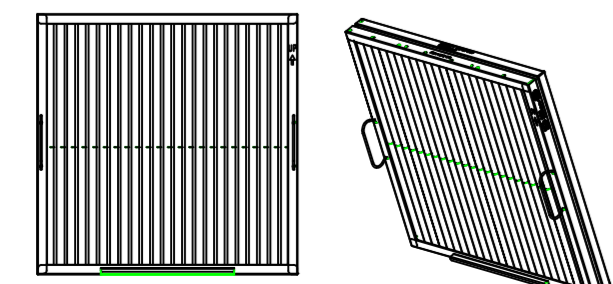
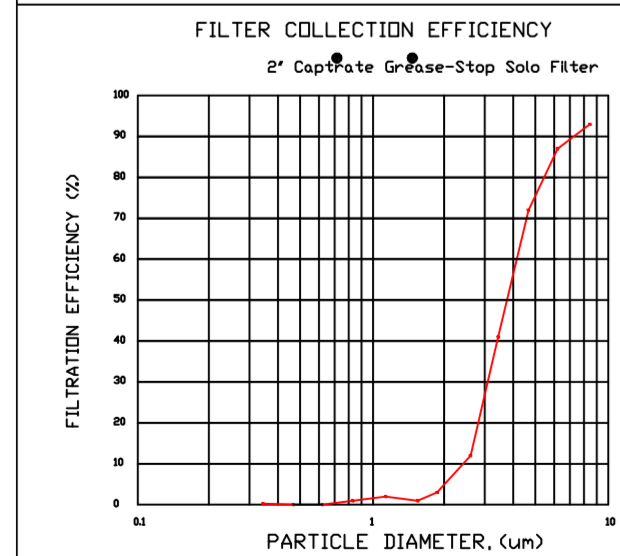
CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

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

GENERAL NOTES

- INSTALLATION**
1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
 2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
 3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
 4. ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTORS' PLANS.
 5. COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
 6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
 7. ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
 8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
 9. SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
 10. 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**
11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
 12. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.
- ADDITIONAL**
14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
 15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

FILTER DETAIL



CaptiveAire Captrate Solo Filter
 ETL Listed Grease Extracting Filter
 Made From 430 Stainless Steel

HOOD INFORMATION - JOB#5516907

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	EXHAUST PLENUM RISER(S) LENG	EXHAUST PLENUM RISER(S) HEIGHT	EXHAUST PLENUM RISER(S) DIA	EXHAUST PLENUM RISER(S) VEL	EXHAUST PLENUM RISER(S) SP	MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD END TO END	HOOD ROW
1	GRIDDLE HD	5424	ND-2-ACPS-P	8' 0"	450 DEG	I	MEDIUM	200	1600	4"	14"	1600	1497	-0.734"	1280	505	430 SS	WHERE EXPOSED	ALONE	FRONT
2	FRY HD	5424	ND-2-ACPS-P	5' 0"	450 DEG	I	MEDIUM	175	875	4"	10"	875	1604	-0.556"	700	276	430 SS	WHERE EXPOSED	ALONE	ALONE
3	DISH HD	4224	VHB-G	3' 6"	700 DEG	II	N/A	150	525	4"	10"	525	963	-0.069"	0	0	304 SS	100%	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	VIRE GUARD	LOCATION	SIZE	FIRE SYSTEM		ELECTRICAL		SWITCHES		FIRE HOOD SYSTEM HANGING PIPING WEIGHT	
												TYPE	SIZE	MODEL #	QUANTITY	QUANTITY	QUANTITY		
1	GRIDDLE HD	CAPTRATE SOLO FILTER	5	16"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO	LEFT	12"x54"x24"			DCV-2111	1 LIGHT	1 FAN		NO	660 LBS
2	FRY HD	CAPTRATE SOLO FILTER	3	16"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO									NO	421 LBS
3	DISH HD						0											NO	161 LBS

HOOD OPTIONS

HOOD NO	TAG	FIELD WRAPPER	18.00" HIGH	FRONT, LEFT, RIGHT.
1	GRIDDLE HD	LEFT QUARTER END PANEL	23" TOP WIDTH, 0" BOTTOM WIDTH,	23" HIGH 430 SS.
		RIGHT QUARTER END PANEL	23" TOP WIDTH, 0" BOTTOM WIDTH,	23" HIGH 430 SS.
		FIELD WRAPPER	18.00" HIGH	FRONT, LEFT, RIGHT.
2	FRY HD	RIGHT END PANEL	54" TOP WIDTH, 54" BOTTOM WIDTH,	45" HIGH 430 SS.
		LEFT QUARTER END PANEL	23" TOP WIDTH, 0" BOTTOM WIDTH,	23" HIGH 430 SS.
		RISE RISE	SENSOR INSTALL	6IN PLEN.
3	DISH HD	FIELD WRAPPER	18.00" HIGH	FRONT, LEFT, RIGHT.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)			
							WIDTH	LENG	DIA	
1	GRIDDLE HD	Front	108"	24"	6"	MUA	12"	256	0.084"	
							MUA	12"	256	0.084"
							MUA	12"	256	0.084"
							MUA	12"	256	0.084"
							AC	8"	101	0.033"
							AC	8"	101	0.033"
							AC	8"	101	0.033"
							AC	8"	101	0.033"
							MUA	12"	233	0.070"
							MUA	12"	233	0.070"
2	FRY HD	Front	60"	24"	6"	MUA	12"	233	0.070"	
							AC	8"	92	0.028"
							AC	8"	92	0.028"
							AC	8"	92	0.028"
							AC	8"	92	0.028"
							AC	8"	92	0.028"

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

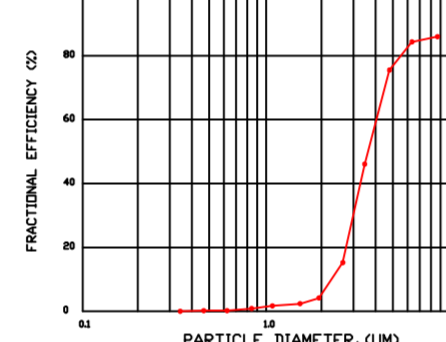
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNELS.

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

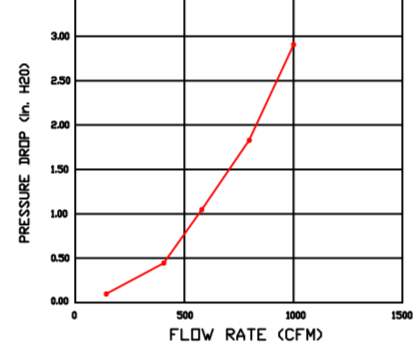
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES" OF WATER GAUGE.

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

EFFICIENCY VS. PARTICLE DIAMETER



PRESSURE DROP VS. FLOW RATE

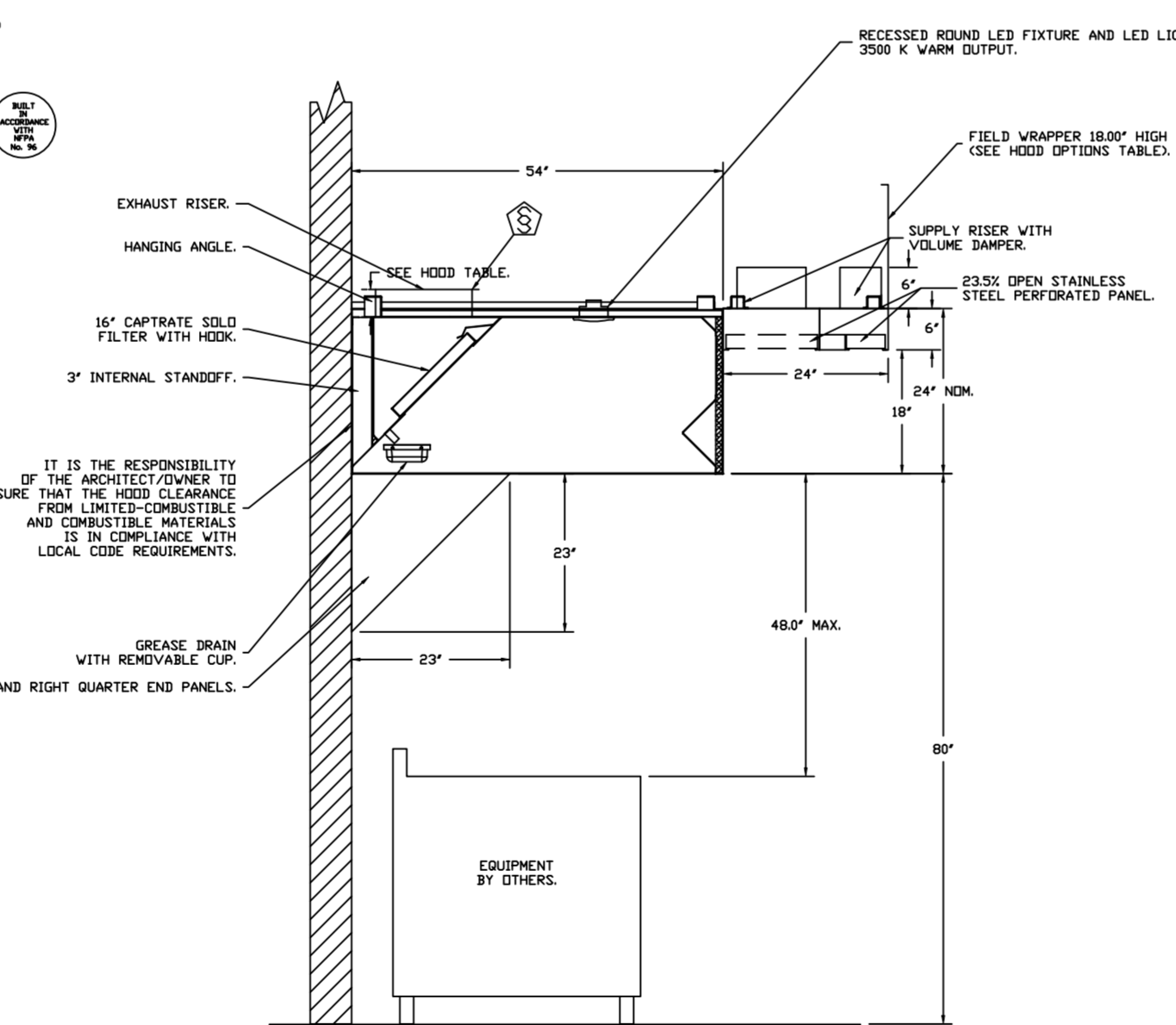


CAPTIVE FILTERS ARE BUILT IN COMPLIANCE WITH:

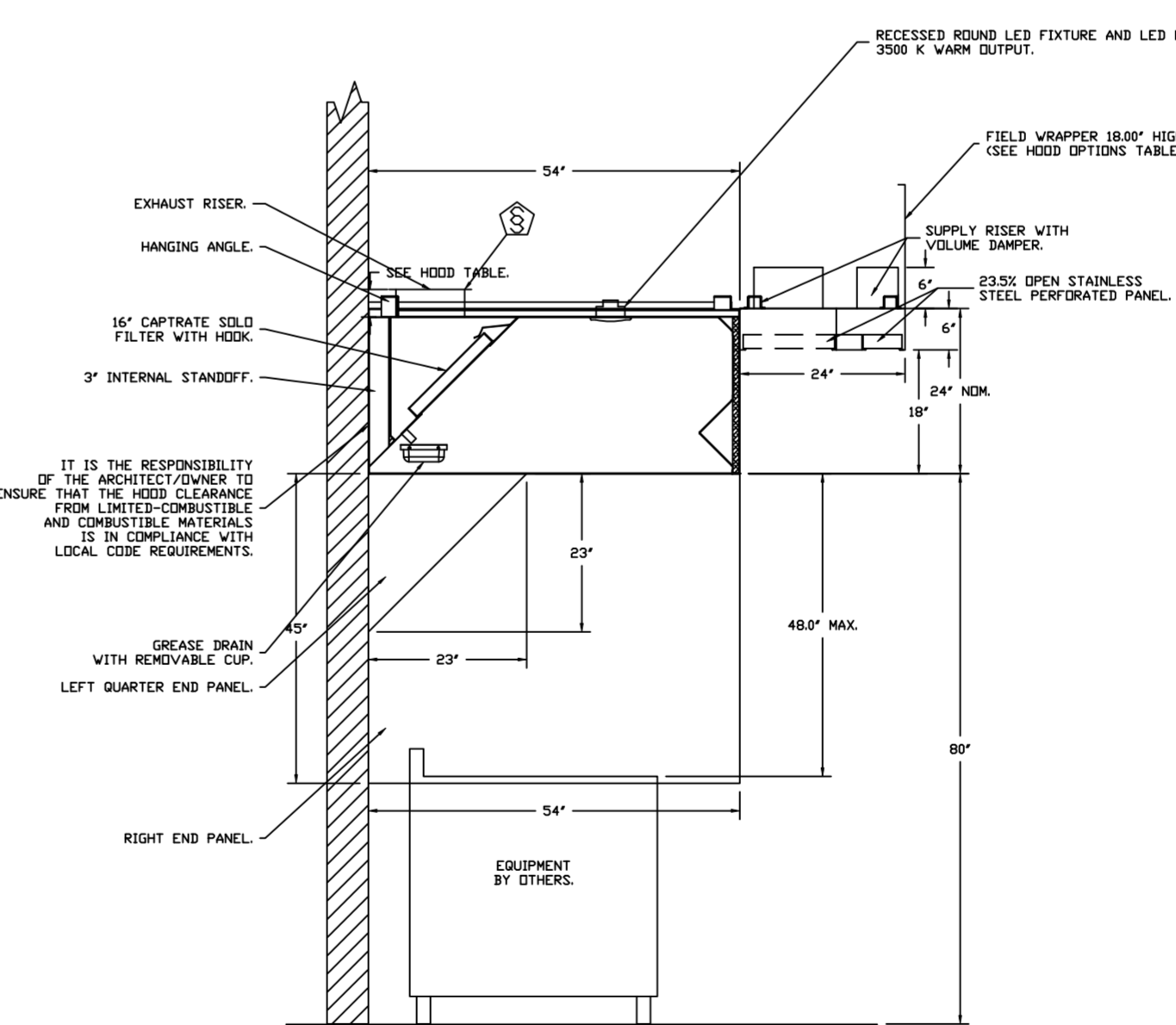
- NFPA #96.
- NSF STANDARD #2.
- UL STANDARD #1046.
- INT. MECH. CODE (IMC).
- ULC-S649.



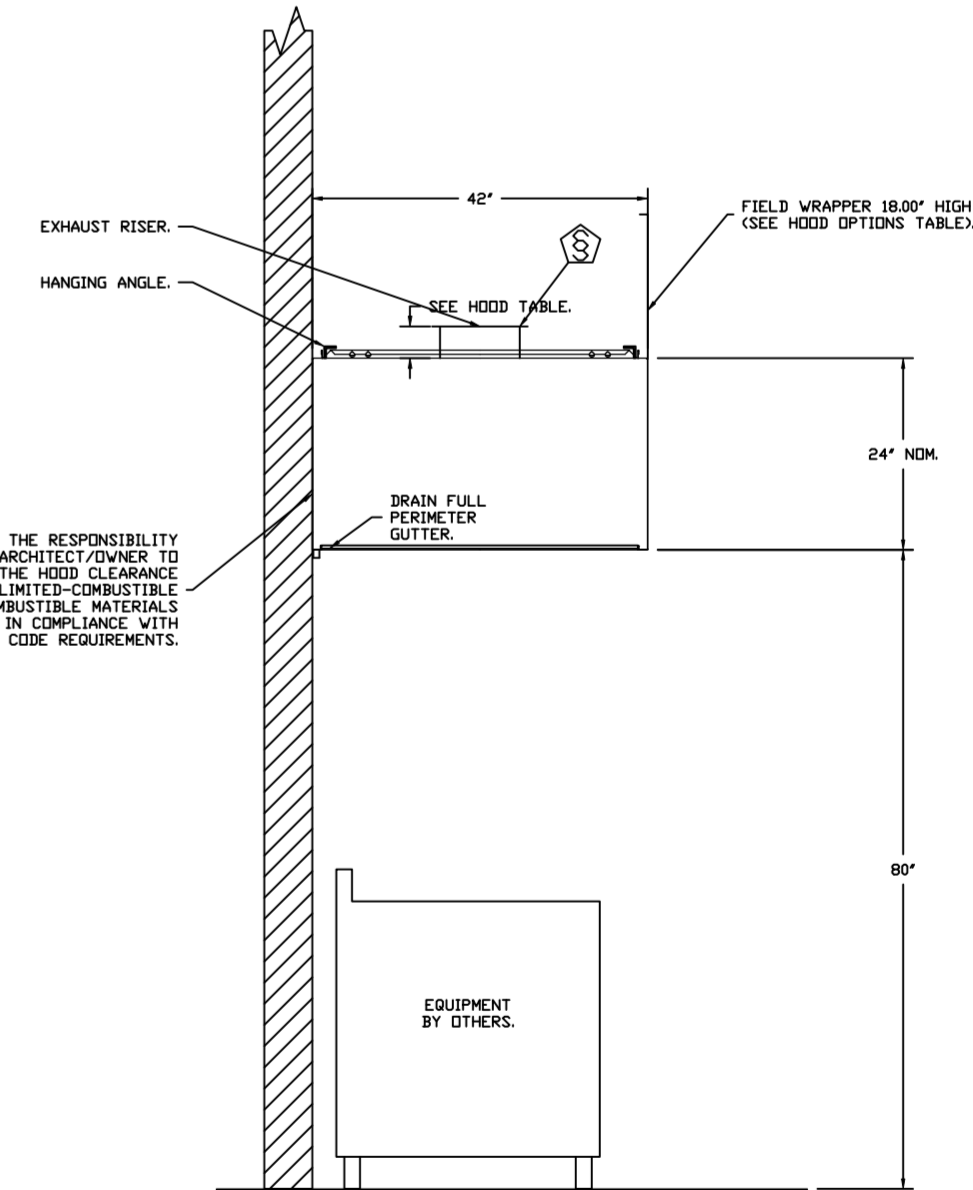
IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.



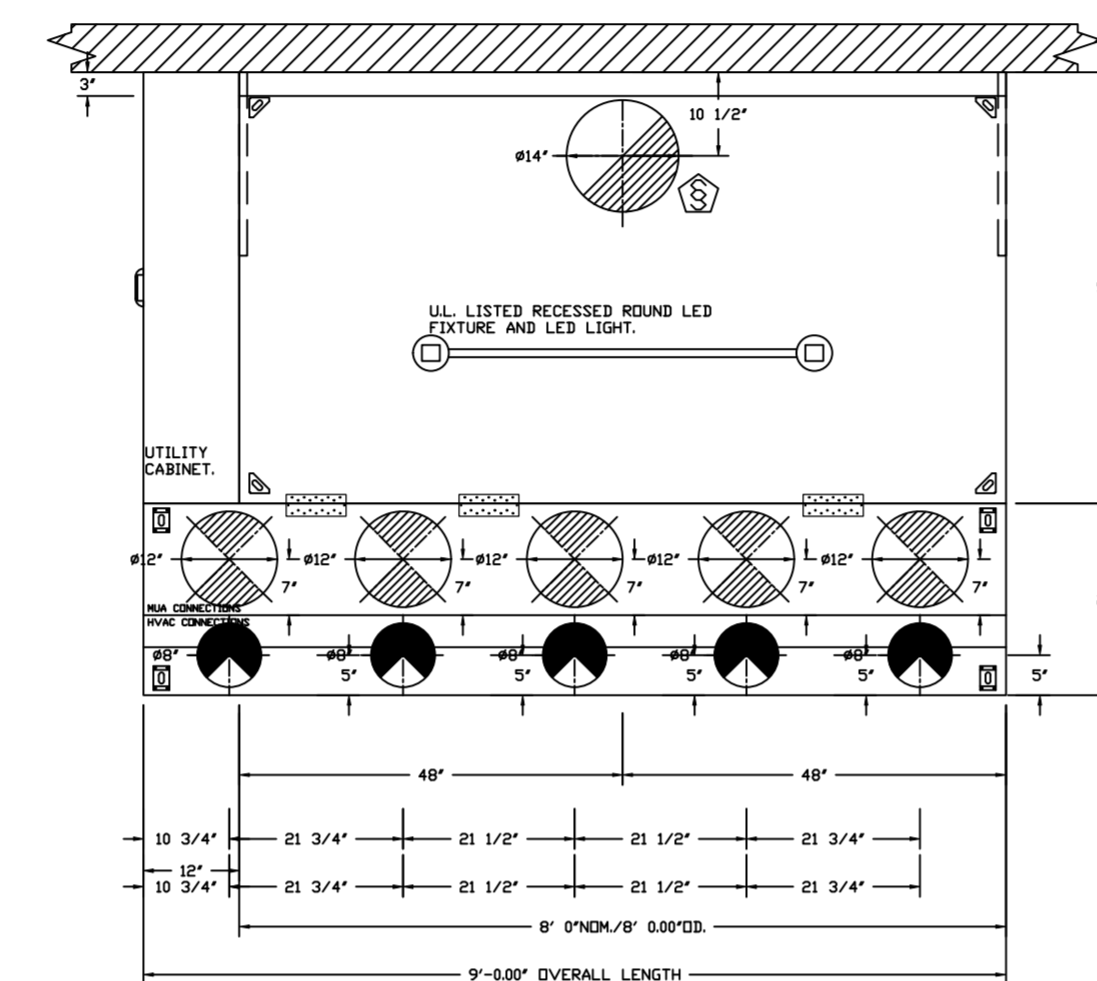
SECTION VIEW - MODEL 5424ND-2-ACPS-P HOOD - #1 (GRIDDLE HD)



SECTION VIEW - MODEL 5424ND-2-ACPS-P HOOD - #2 (FRY HD)

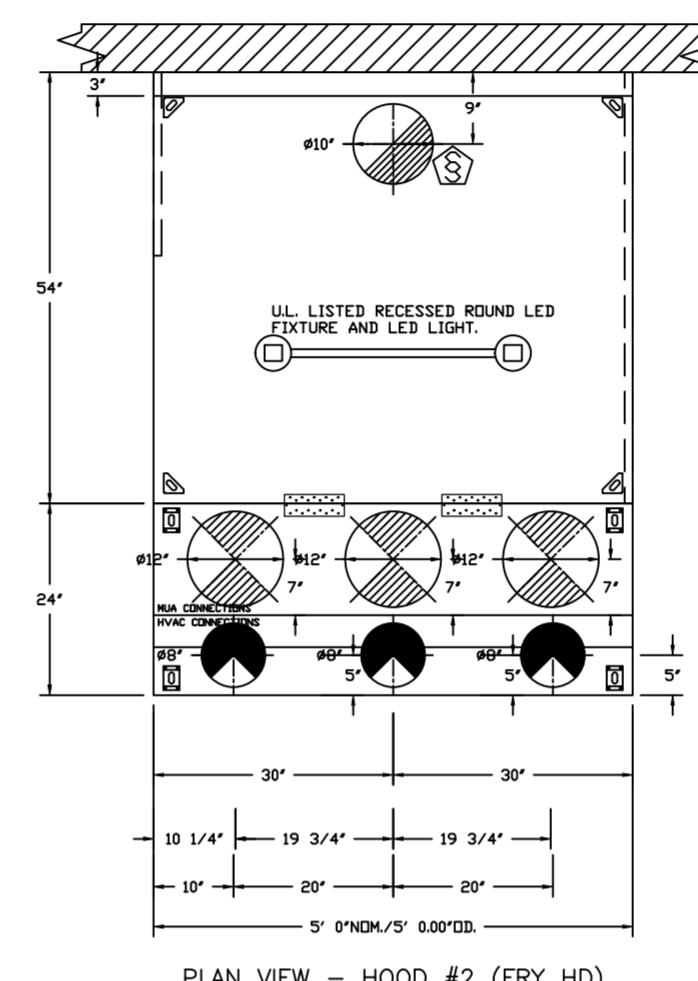


SECTION VIEW - MODEL 4224VHB-G HOOD - #3 (DISH HD)



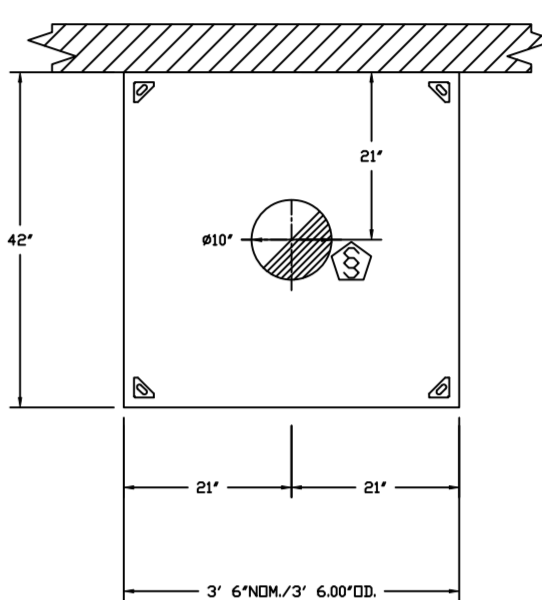
PLAN VIEW - HOOD #1 (GRIDDLE HD) 8' 0.00" LONG 5424ND-2-ACPS-P

ACPS-P SHIPS LOOSE FOR FIELD INSTALLATION



PLAN VIEW - HOOD #2 (FRY HD) 5' 0.00" LONG 5424ND-2-ACPS-P

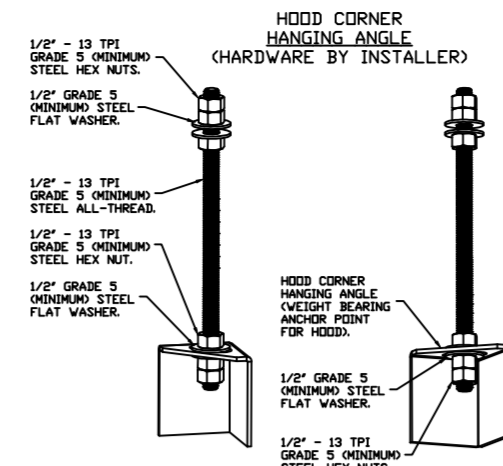
ACPS-P SHIPS LOOSE FOR FIELD INSTALLATION



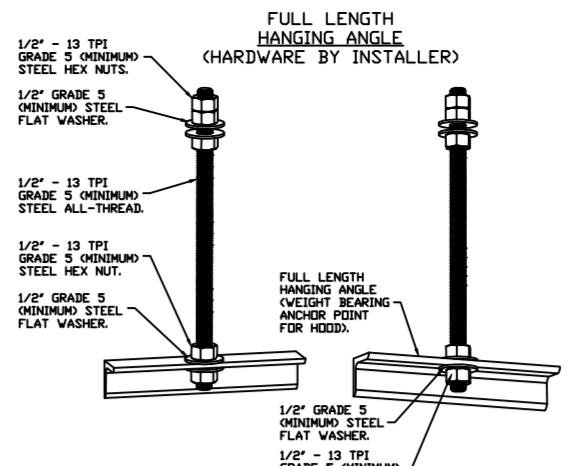
PLAN VIEW - HOOD #3 (DISH HD) 3' 6.00" LONG 4224VHB-G

PATENT NUMBERS

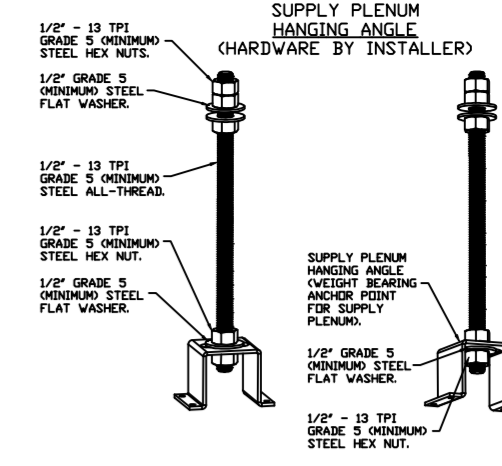
AC-PSP (UNITED STATES) - US PATENT 7963930 B2.
 AC-PSP WALL (CANADA) - CA PATENT 2820509.
 AC-PSP ISLAND (CANADA) - CA PATENT 2520330.



ASSEMBLY INSTRUCTIONS



ASSEMBLY INSTRUCTIONS



ASSEMBLY INSTRUCTIONS

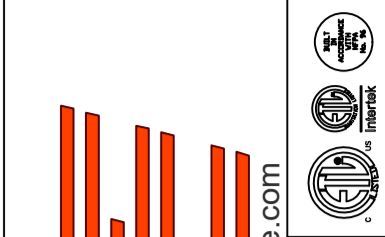
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD, SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND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

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 ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLE. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

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 ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

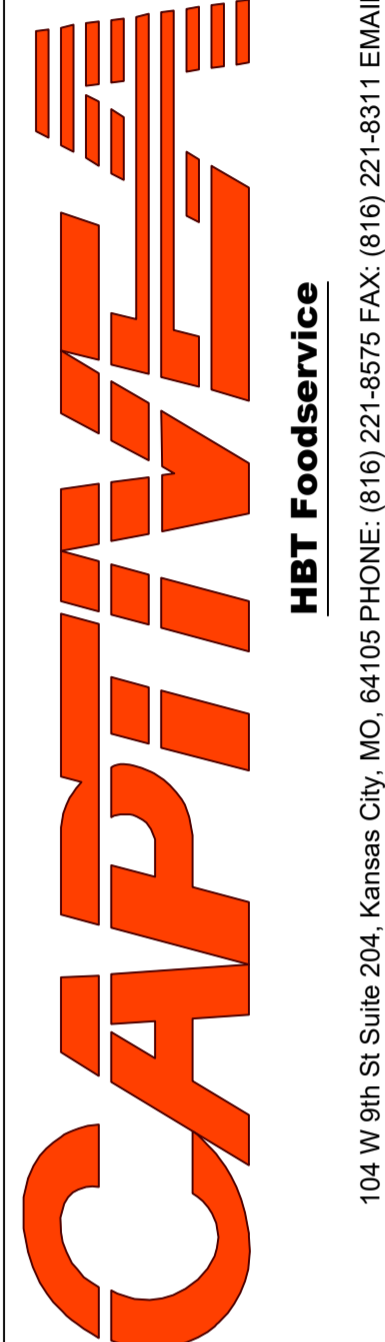
REVISIONS

NO.	DESCRIPTION	DATE



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Freddy's - Fort Oglethorpe, GA
 RINGGOLD, GA, 30736

DATE: 6/15/2022

DWG.#: 5516907

DRAWN BY: michael.co

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

MASTER DRAWING

SHEET NO. 1

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 _____ Date _____
 Your Title _____

*** 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.

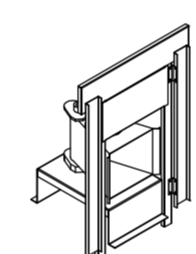
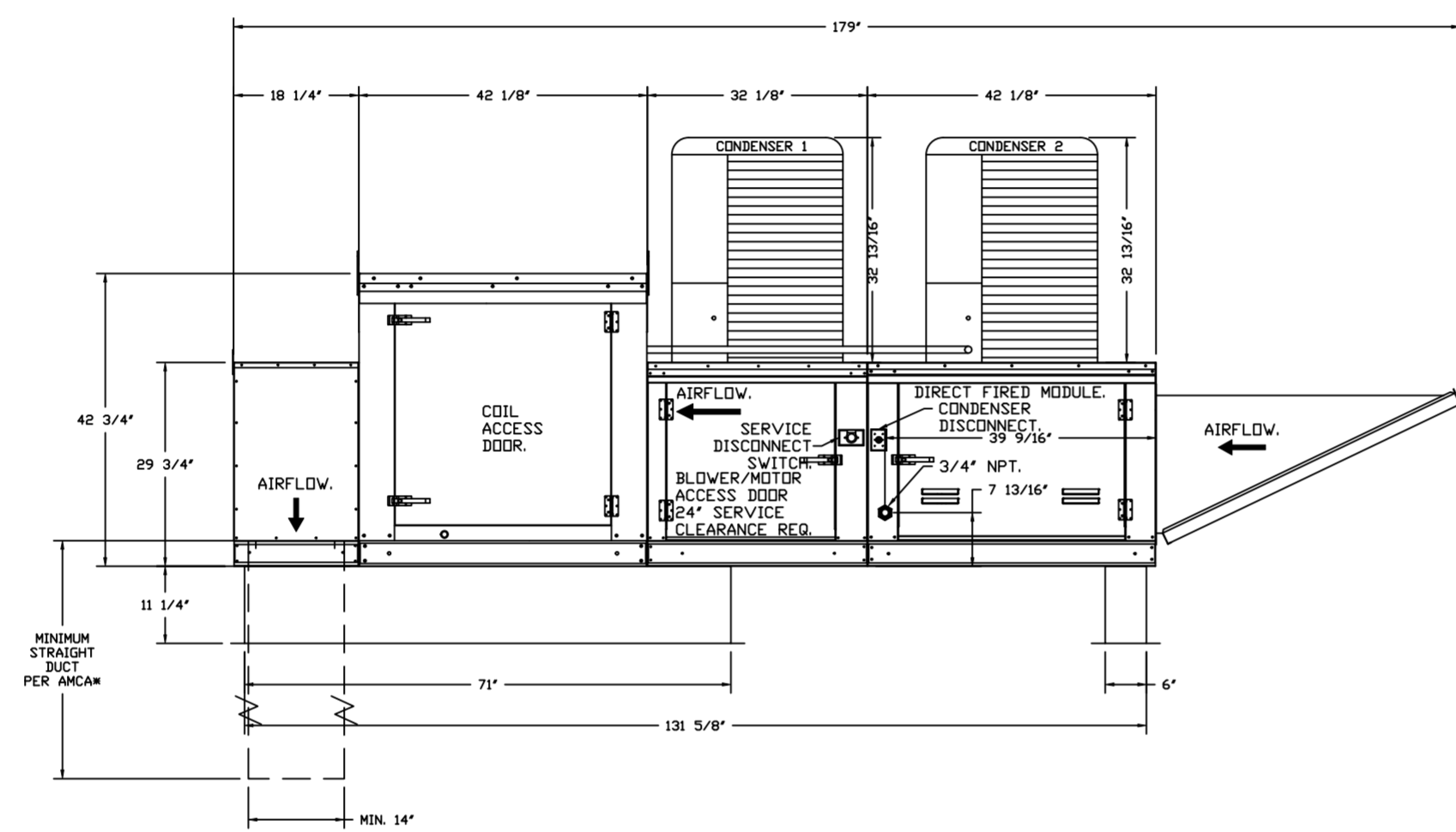
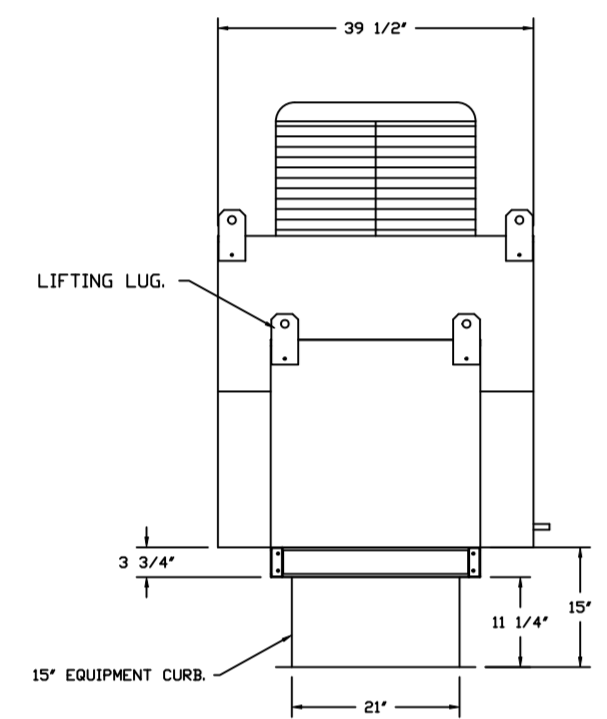
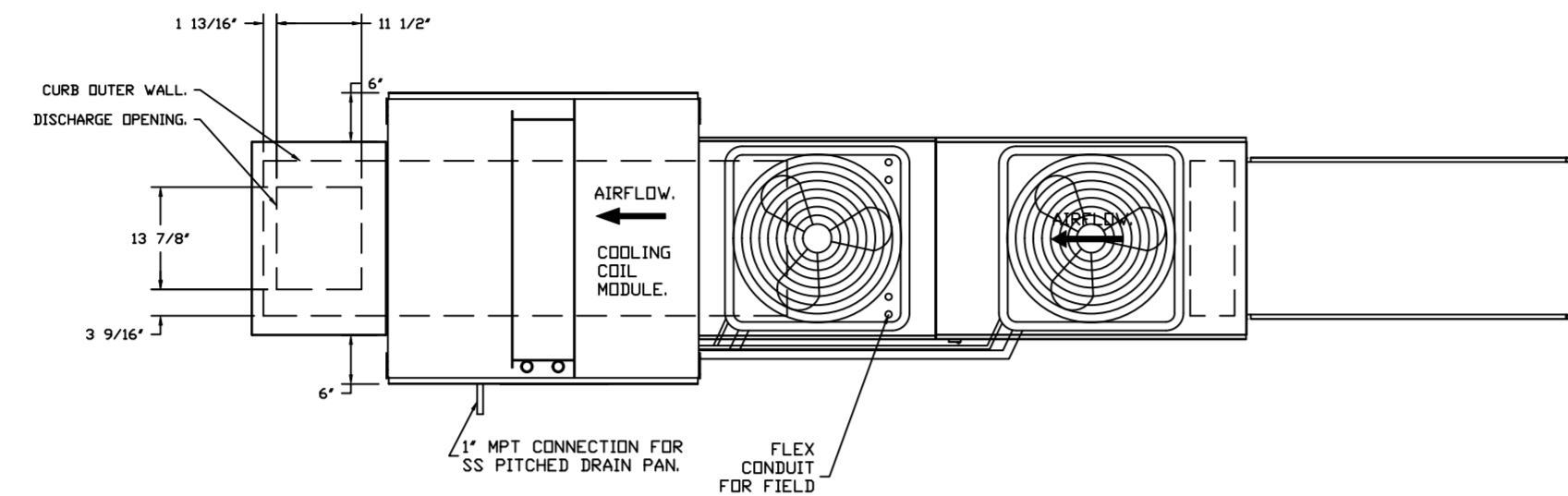
*** NOTE ***
 MAKEUP AIR SHALL BE DELIVERED INTO SPACE IN MANNER THAT WILL NOT DISRUPT HOODS ABILITY TO CAPTURE AND CONTAIN.

- FAN #3 AI-D250-150-MPU - HEATER ITEM 74.3
- DIRECT GAS FIRER HEATED MAKE UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN
 - INTAKE HOOD WITH EZ FILTERS
 - DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
 - GAS PRESSURE GAUGE - 0-30", 2 1/2" DIAMETER, 1/4" THREAD SIZE
 - GAS PRESSURE GAUGE - 0-15 INCHES WC, 2 1/2" DIAMETER, 1/4" THREAD SIZE
 - LOW FIRE START - ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION
 - COOLING INTERLOCK RELAY, 24VAC COIL, 120V CONTACTS - LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED
 - MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, TFBSS ACTUATOR INCLUDED
 - DX COILING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT - SET POINT FOR THERMOSTAT SHOULD BE 80°F
 - 5 TON, R410A, CIRCUIT (250/250) MODULAR PACKAGED COILING OPTION FOR SIZE 1 1/2 TON MODULAR PACKAGED UNIT INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING (CLASS 2) TO 3000 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 OLI CONDENSERS REQUIRE SEPARATE DRYS, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION COIL = SEZOPHORE
 - SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREVIEW PANEL OR WITH 30V PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MAIN SWITCH
 - DOWNFLOW PLENUM FOR SIZE 1 COILING COIL MODULE - REQUIRED FOR DOWN DISCHARGE COILING COIL APPLICATIONS
 - HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/MPU SECTION)
 - 2 YEAR PARTS WARRANTY

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 801. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/GROOVE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL PRACTICALLY 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"

SUPPLY SIDE HEATER INFORMATION

WINTER TEMPERATURE = 20°F, TEMP. RISE = 55°F, BTUS CALCULATED OFF ACTUAL AIR DENSITY. OUTPUT BTUS AT ALTITUDE OF 0.0 FT. = 1163482 INPUT BTUS AT ALTITUDE OF 0.0 FT. = 1184529 OUTPUT BTUS AT ALTITUDE OF 1076 FT. = 111889 INPUT BTUS AT ALTITUDE OF 1076 FT. = 116169



DIRECT FIRED (DP) PROFILE PLATE ASSEMBLY

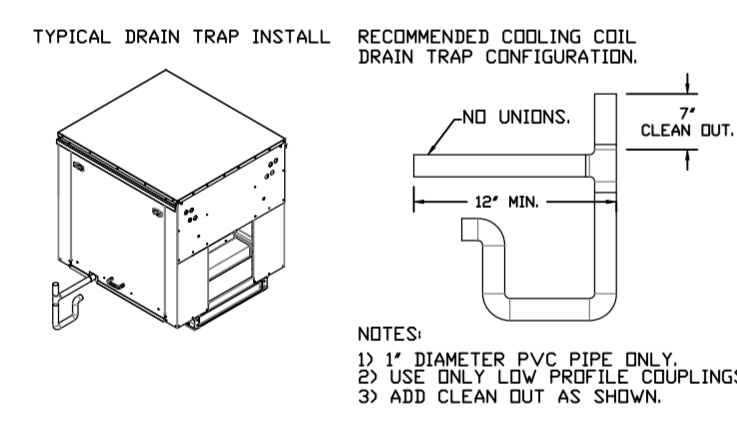
DIRECT FIRED (DP) PROFILE PLATE SPECIFICATIONS:

DESCRIPTION:
DIRECT FIRED BURNERS SHALL HAVE PATENTED GAS PATENT NO. US6400000, SELF-ADJUSTING PROFILE PLATES DESIGNED TO MAINTAIN PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 30% OF CARBON MONOXIDE (CO), AND 50% OF UNBURNED HYDROCARBON (HC) LEVELS. UNIT SHALL BE CONSIDERED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THE ASSEMBLY SHALL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.

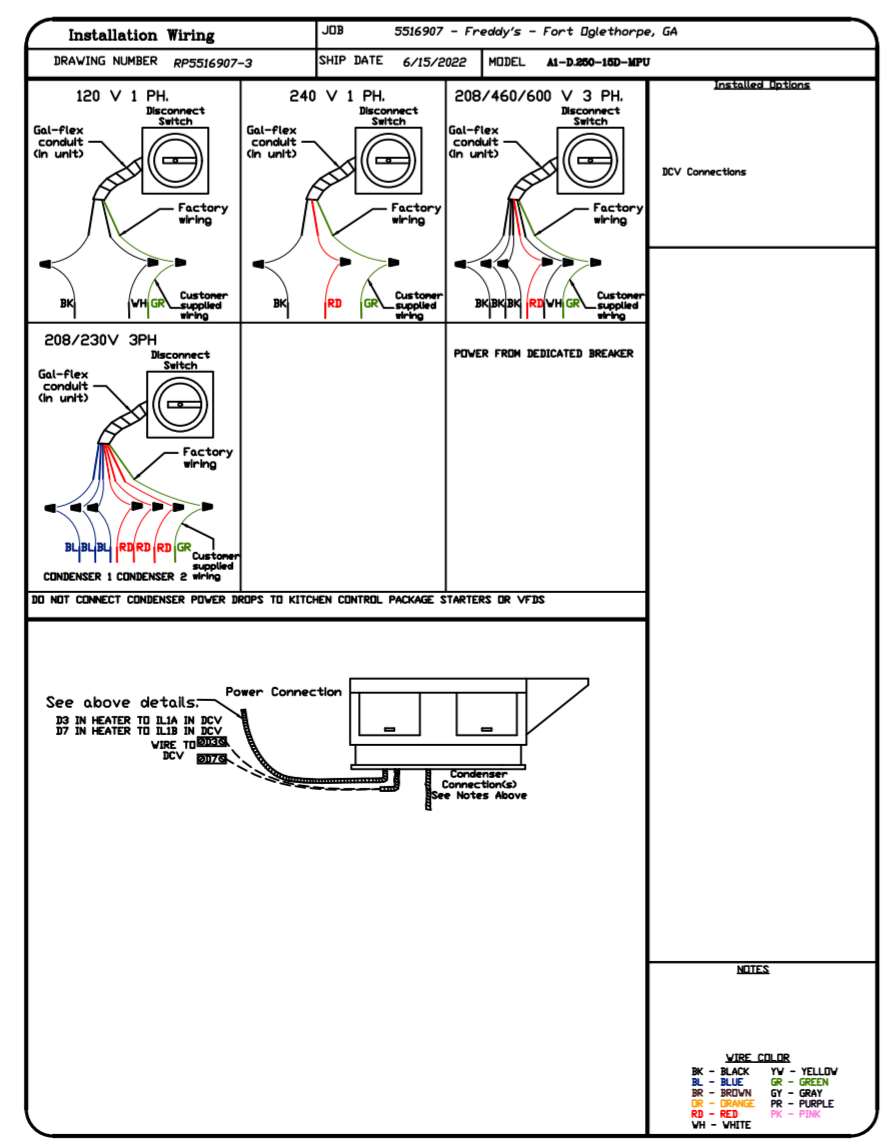
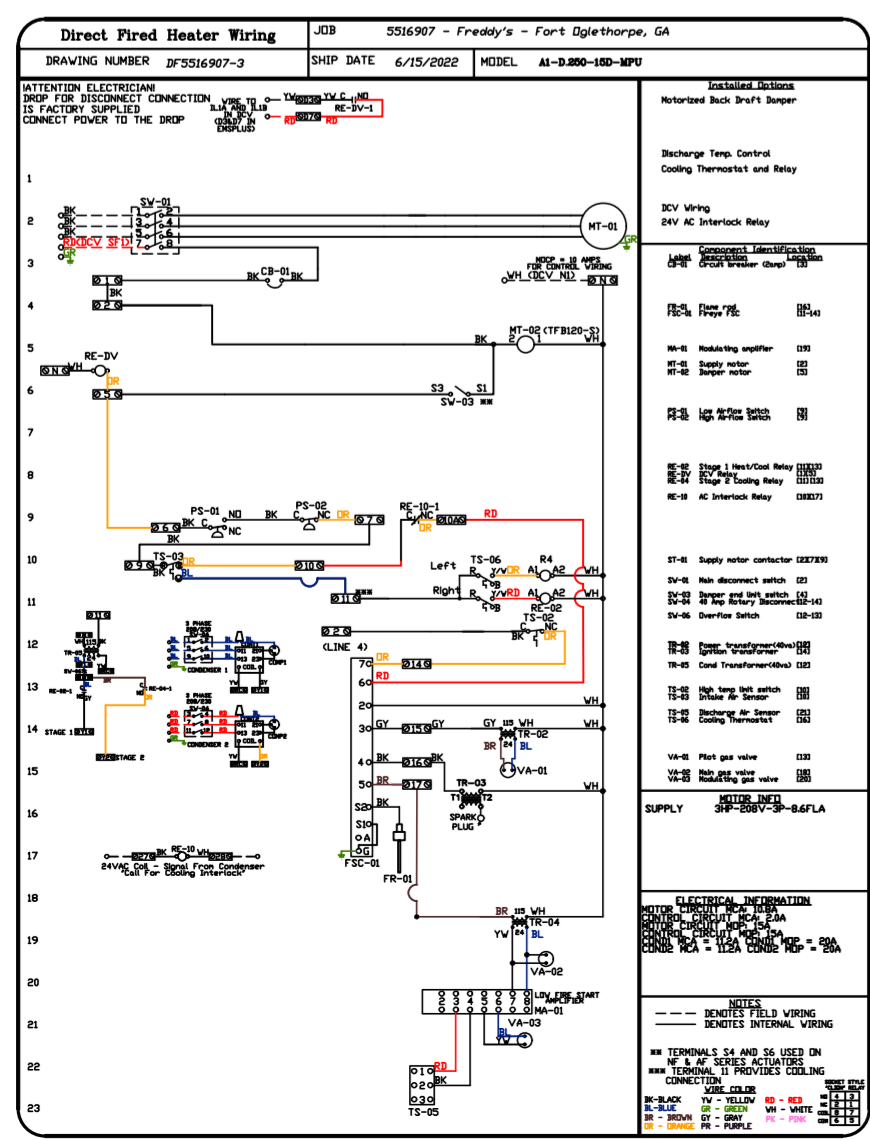
INSTALLATION:
DIRECT FIRED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE WEIGHT OF A FRESH LAYER OF BURNER PROFILE PLATES. PROFILE PLATES SHALL BE INSTALLED TO THE WEIGHT OF 4.5 LBS PER SQUARE FOOT. ALL 1/2\"/>

GENERAL CONSTRUCTION:

- PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
- PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
- PROFILE PLATES SHALL BE PERMANENTLY MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
- SPRINGS SHALL BE PERMANENTLY MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
- SPRING HINGES SHALL BE MADE FROM PLATED STEEL.



- NOTES:
- 1" DIAMETER PVC PIPE ONLY
 - USE ONLY LOW PROFILE COUPLINGS.
 - ADD CLEAN OUT AS SHOWN.



REVISIONS	
DESCRIPTION	DATE:

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Freddy's - Fort Oglethorpe, RINGGOLD, GA, 30736

DATE: 6/15/2022

DWG.#: 5516907

DRAWN BY: michael.co

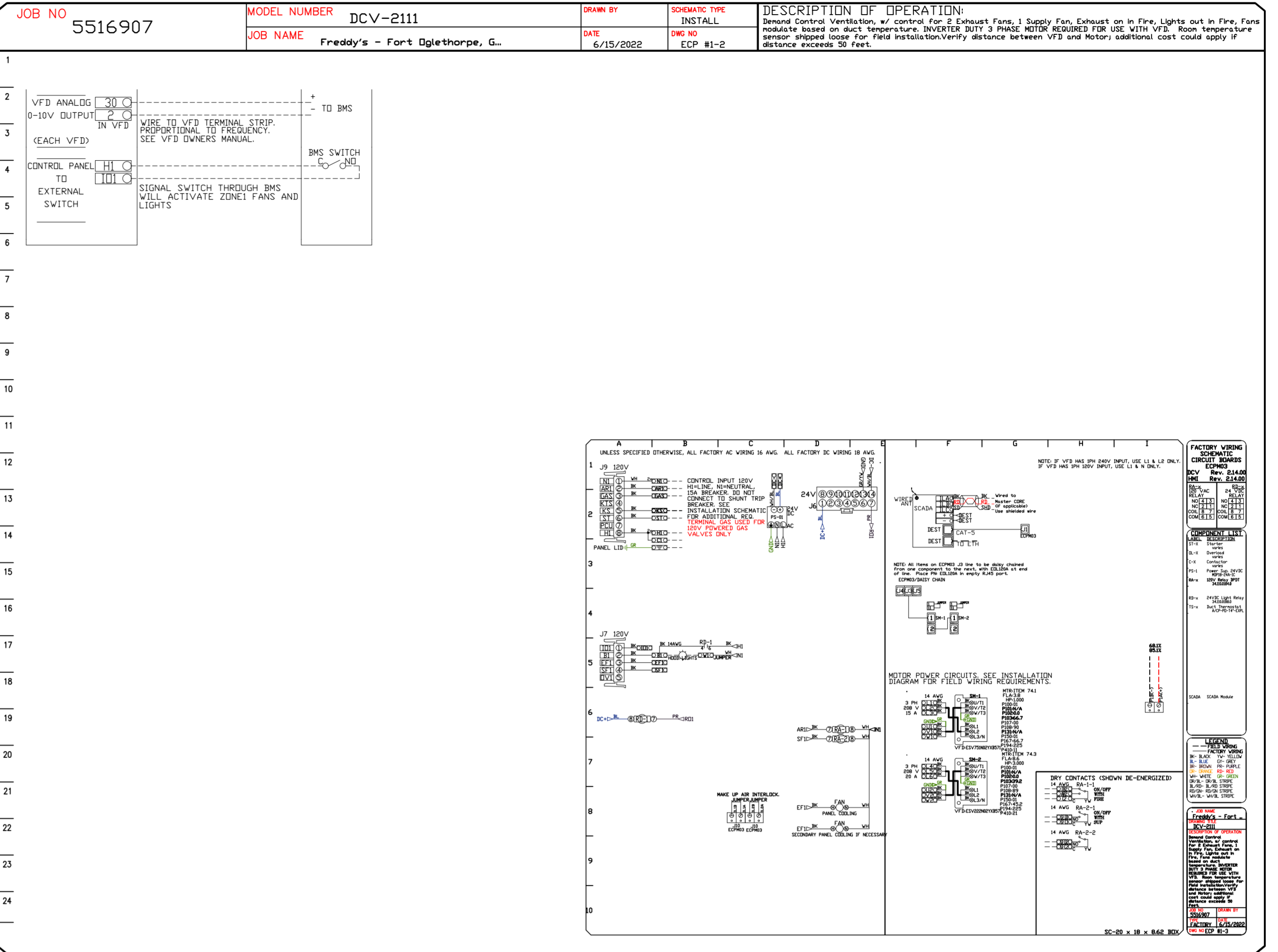
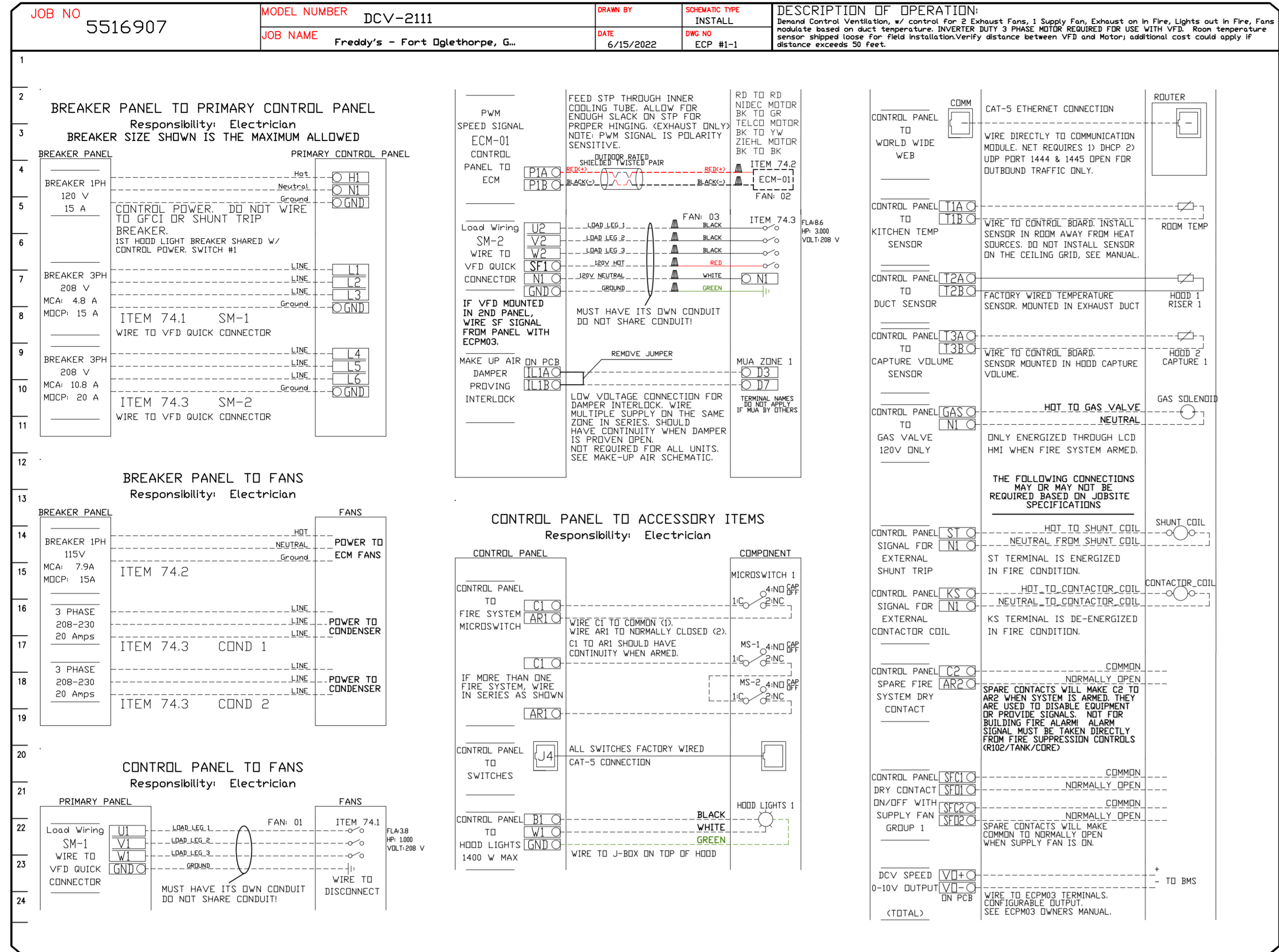
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MASTER DRAWING

SHEET NO. 3

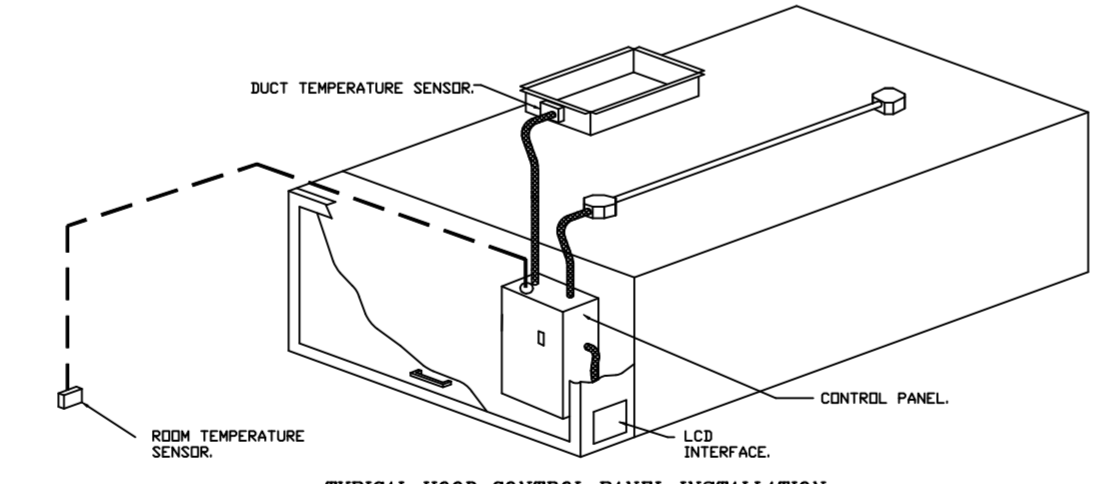
ELECTRICAL PACKAGE - JOB#5516907

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	HP	VOLTS	FLA	
1	DCV-1	DCV-2111	UTILITY CABINET LEFT	DCV-2111	1 LIGHT	SMART CONTROLS DCV	ITEM 74.1	EXHAUST	3	1000	208	3.8
				HOOD # 1	1 FAN		ITEM 74.2	EXHAUST	1	8000	208	6.3
							ITEM 74.3	SUPPLY	3	3000	208	8.6



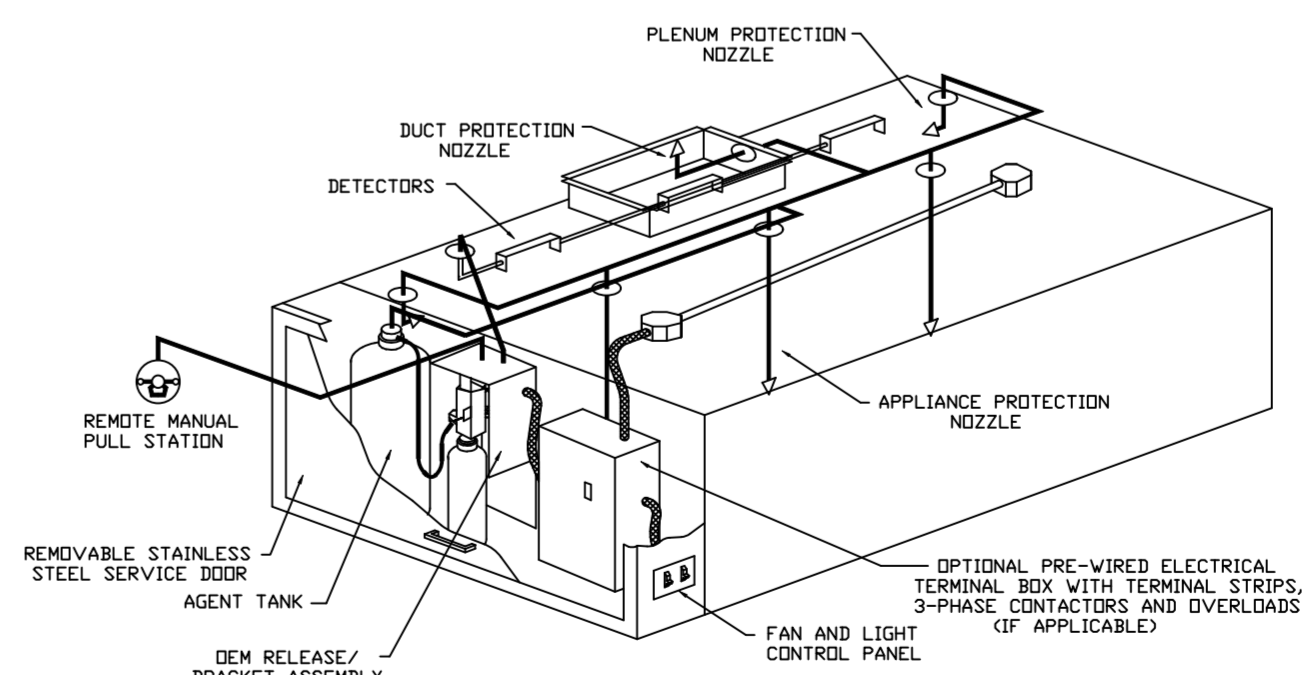
DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.2.8 (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. 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 (VFD'S) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFD'S 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 FAN(S), ACTIVATE THE EXHAUST FAN(S), 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 (NO 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 LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
 - G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFD'S.



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 (DC, 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 FIRE SUPPRESSION. 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.



SPECIFICATIONS

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL)

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS.

THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE-BASED FORMULATION DESIGNED FOR FLAME KNOCKDOWN AND SECUREMENT WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING SYSTEM. THE FUSIBLE LINK SHALL BE SUPPORTED BY A DETECTOR BRACKET/LINKAGE ASSEMBLY.

REVISIONS

NO.	DESCRIPTION	DATE

www.captiveair.com

HBT Foodservice

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Freddy's - Fort Oglethorpe, GA

RINGOLD, GA, 30736

DATE: 6/15/2022

DWG.#: 5516907

DRAWN BY: michael.co

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

MASTER DRAWING

SHEET NO. 4