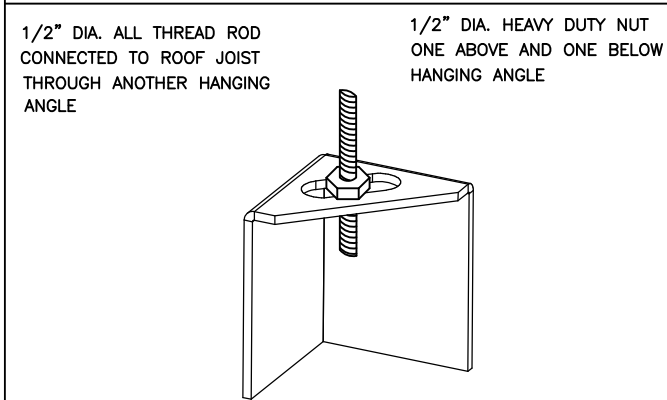


ND-2 HANGING ANGLE DETAIL



\*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR  
HANGING ANGLE IS PRE-PUNCHED 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"

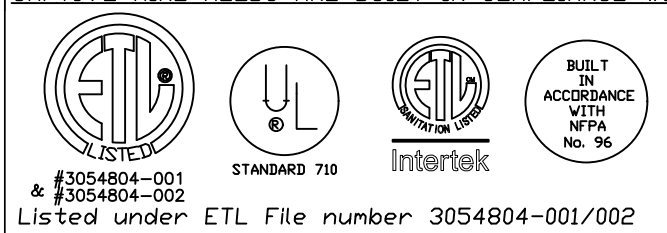
CALCULATIONS UTILIZED

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

- 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 RESISTANTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
- INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

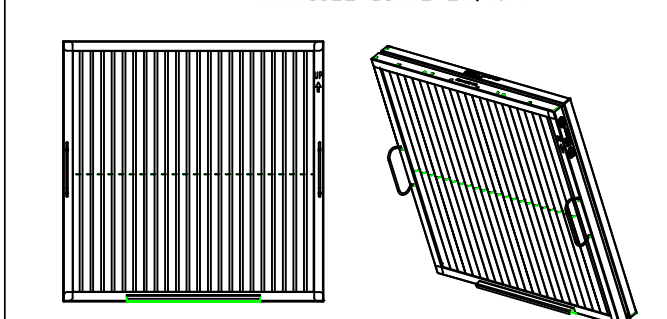
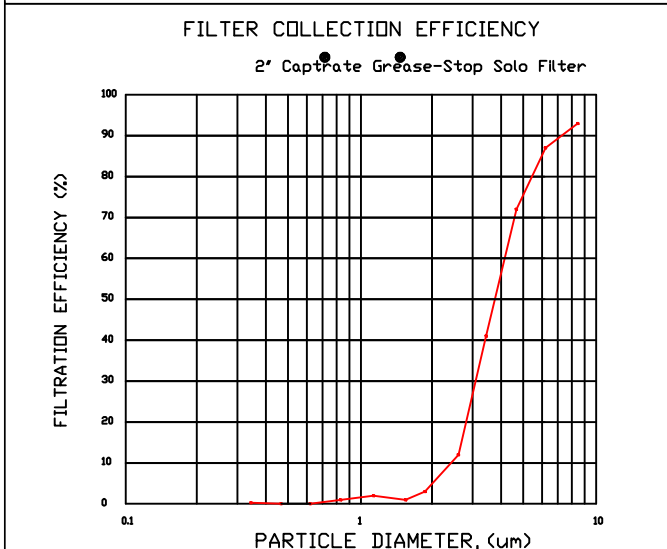
BALANCE

- KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
- KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING 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



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

HOOD INFORMATION - JOB#5100636

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG
1	H1	5430 ND-2-PSP-F	CAPTIVEAIRE	10' 6"	600 DEG	I	HEAVY	214	2250	WIDTH 10' LENG 22' HEIGHT 4' DIA 2250 CFM VEL 1473 SP -0.683'	1800	430 SS WHERE EXPOSED	ALONE ALONE

HOOD INFORMATION

HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM	ELECTRICAL	SWITCHES	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1	H1	CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	4	RECESSED ROUND	NO	LEFT	12"x54"x30"	TANK FS	4.0/4.0			1099 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	H1	RIGHT END PANEL 42" TOP WIDTH, 36" BOTTOM WIDTH, 45" HIGH 430 SS. LEFT END PANEL 42" TOP WIDTH, 36" BOTTOM WIDTH, 45" HIGH 430 SS. WRAPPER CHANNEL - FRONT, LEFT, RIGHT. INSULATION FOR TOP OF HOOD. INSULATION FOR BACK OF HOOD. RISER SENSOR INSTALL 6IN PLEN.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	WIDTH	LENG	DIA	CFM	SP
1	H1	Front	138"	14"	6"	MUA	12"	28"		600	0.139"
						MUA	12"	28"		600	0.139"
						MUA	12"	28"		600	0.139"

SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

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.

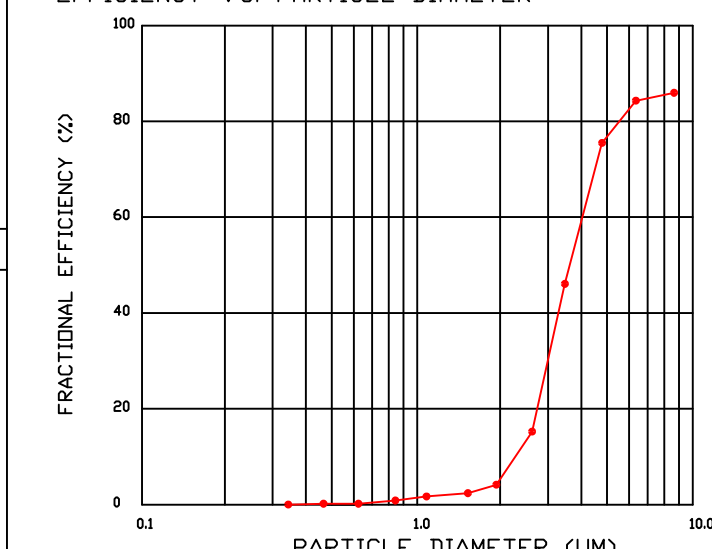
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

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

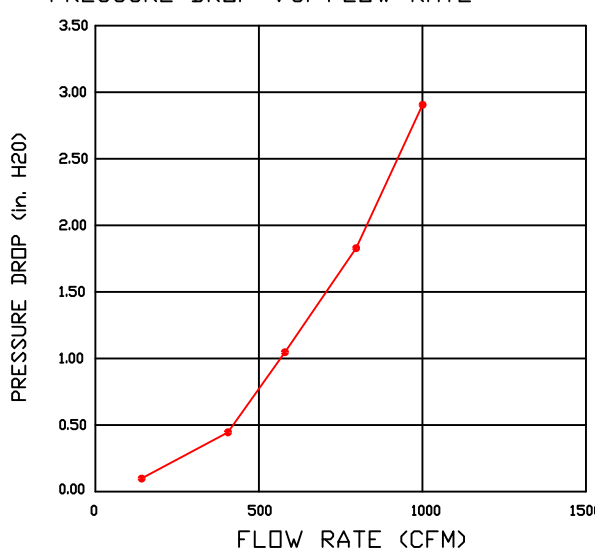
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

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



CAPTIVEAIRE FILTERS ARE BUILT IN COMPLIANCE WITH:

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

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:

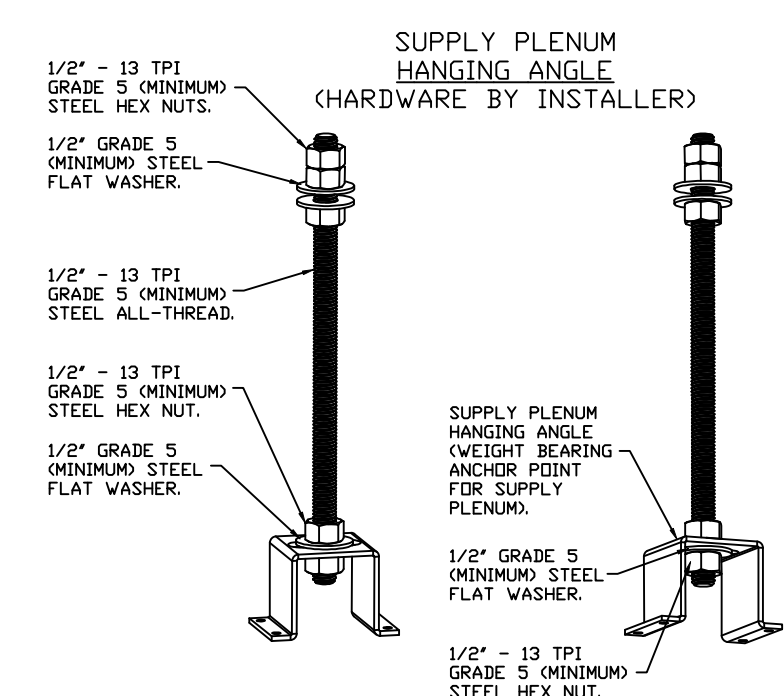
Approved as Noted ☐  
Approved with ND Exception Taken ☐  
Revise and Resubmit ☐  
SIGNATURE \_\_\_\_\_ Date \_\_\_\_\_  
Your Title \_\_\_\_\_

\*\*\* NOTE \*\*\*  
ALL WALLS AND STRUCTURES THAT COME WITHIN 18" OF HOOD MUST BE METAL STUDS AND SHEETROCK. HOOD 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.

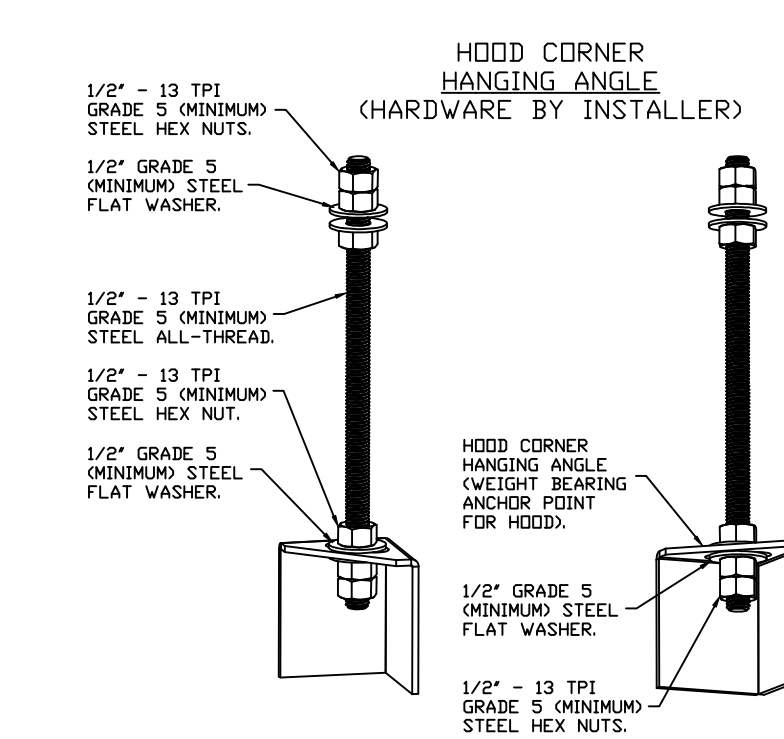
\*\*\* NOTE \*\*\*  
MAKEUP AIR SHALL BE DELIVERED INTO SPACE IN MANNER THAT WILL NOT DISRUPT HOODS ABILITY TO CAPTURE AND CONTAIN.

FOR QUESTIONS, CALL THE  
HBT Foodservice  
REGION 98  
PHONE: (816) 221-8575  
EMAIL: reg98@captiveaire.com



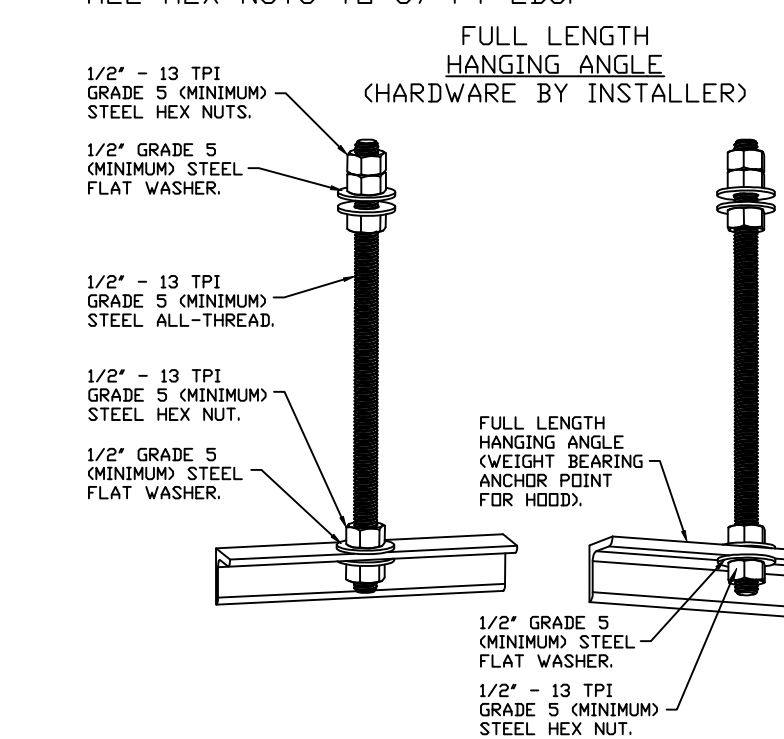
ASSEMBLY INSTRUCTIONS

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 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.



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REVISIONS

DESCRIPTION	DATE:
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Twisted Fresh - Summit at Pryor

LEES SUMMIT, MD, 64081

DATE: 10/11/2021

DWG.#: 5100636

DRAWN BY: dan.herten

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 1

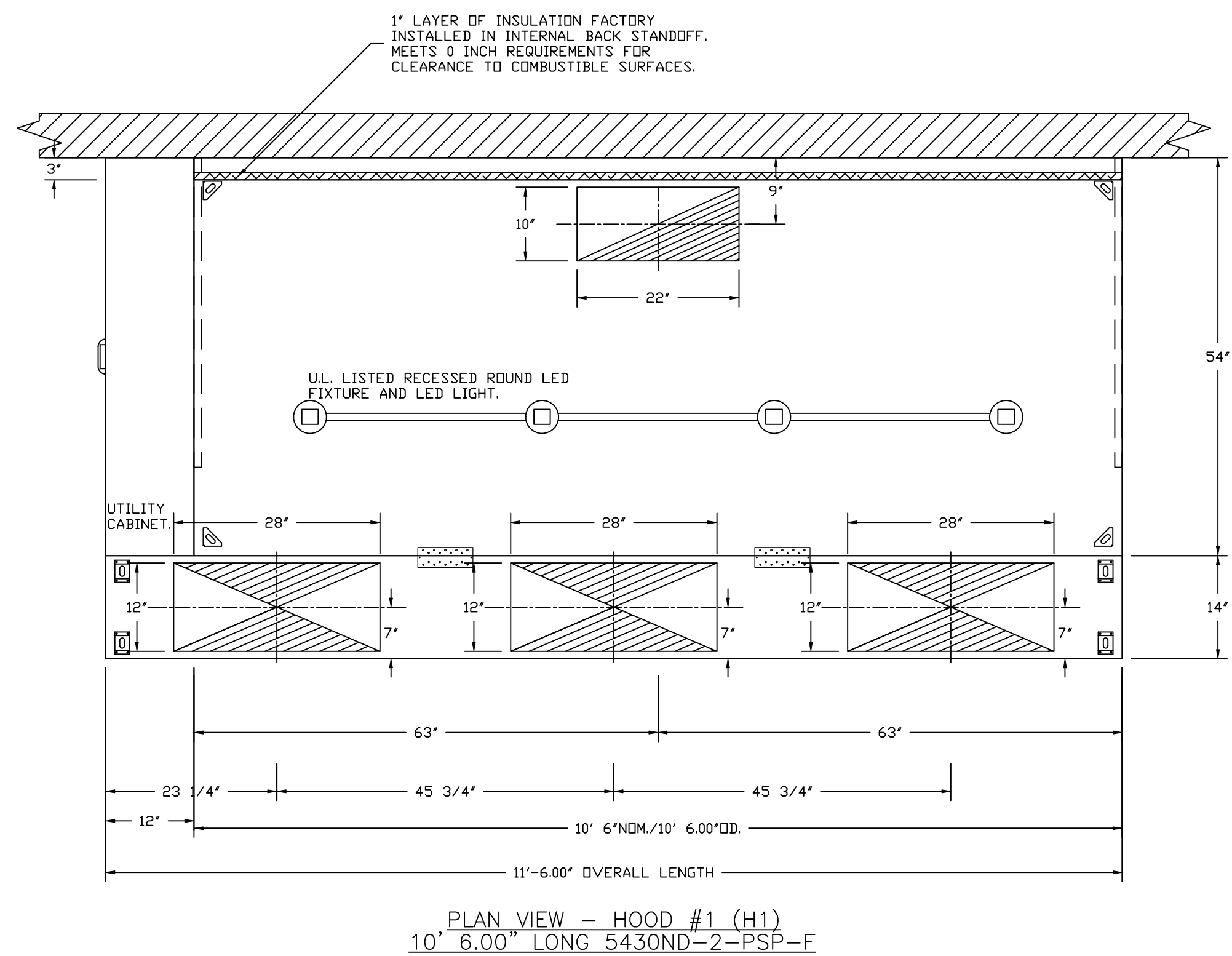
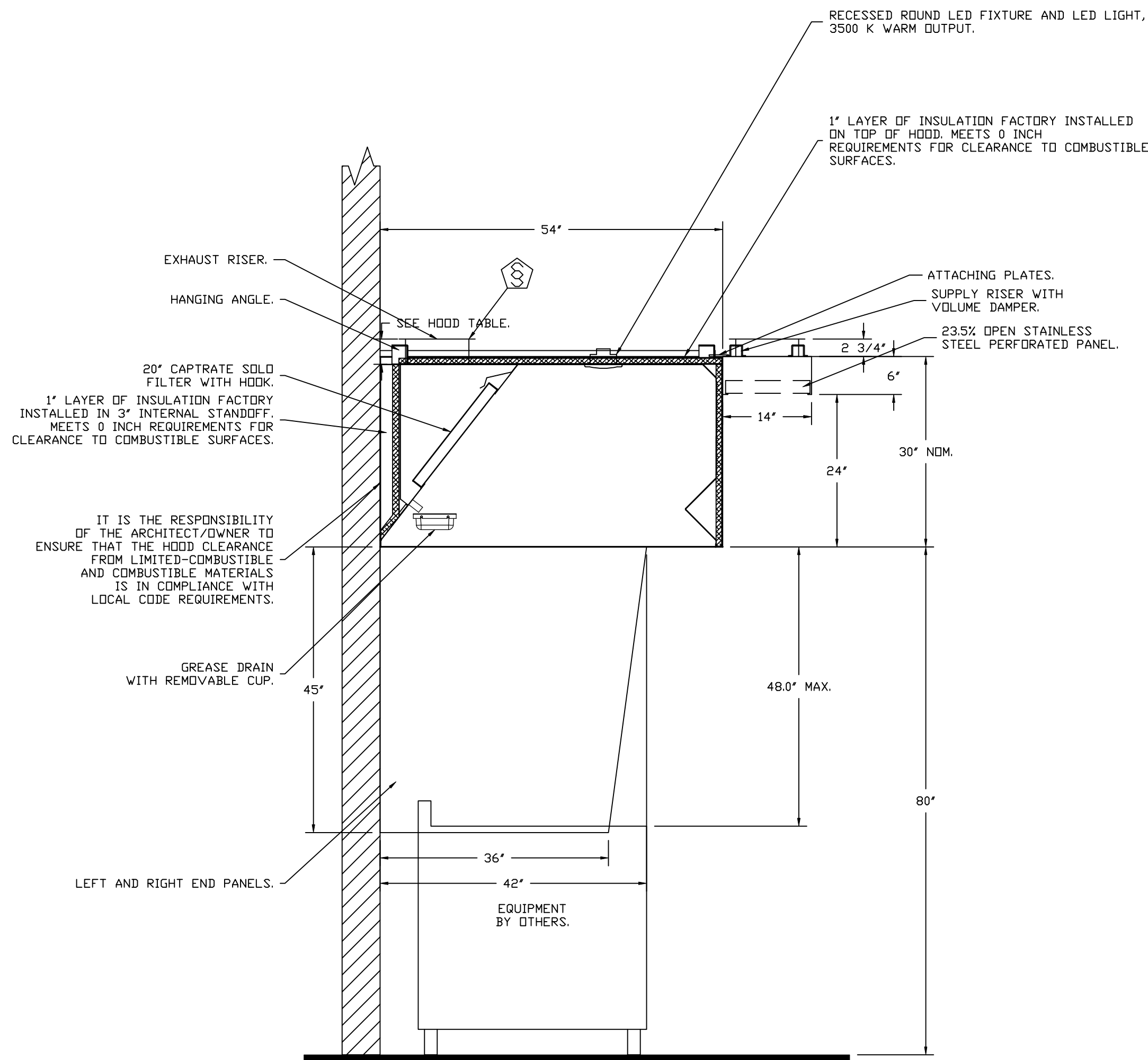
CAPTIVEAIRE

HBT Foodservice

www.captiveaire.com

reg98@captiveaire.com

104 W 9th St Suite 204, Kansas City, MO, 64105 PHONE: (816) 221-8575 FAX: (816) 221-8311



REVISIONS

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reg90@captiveire.com

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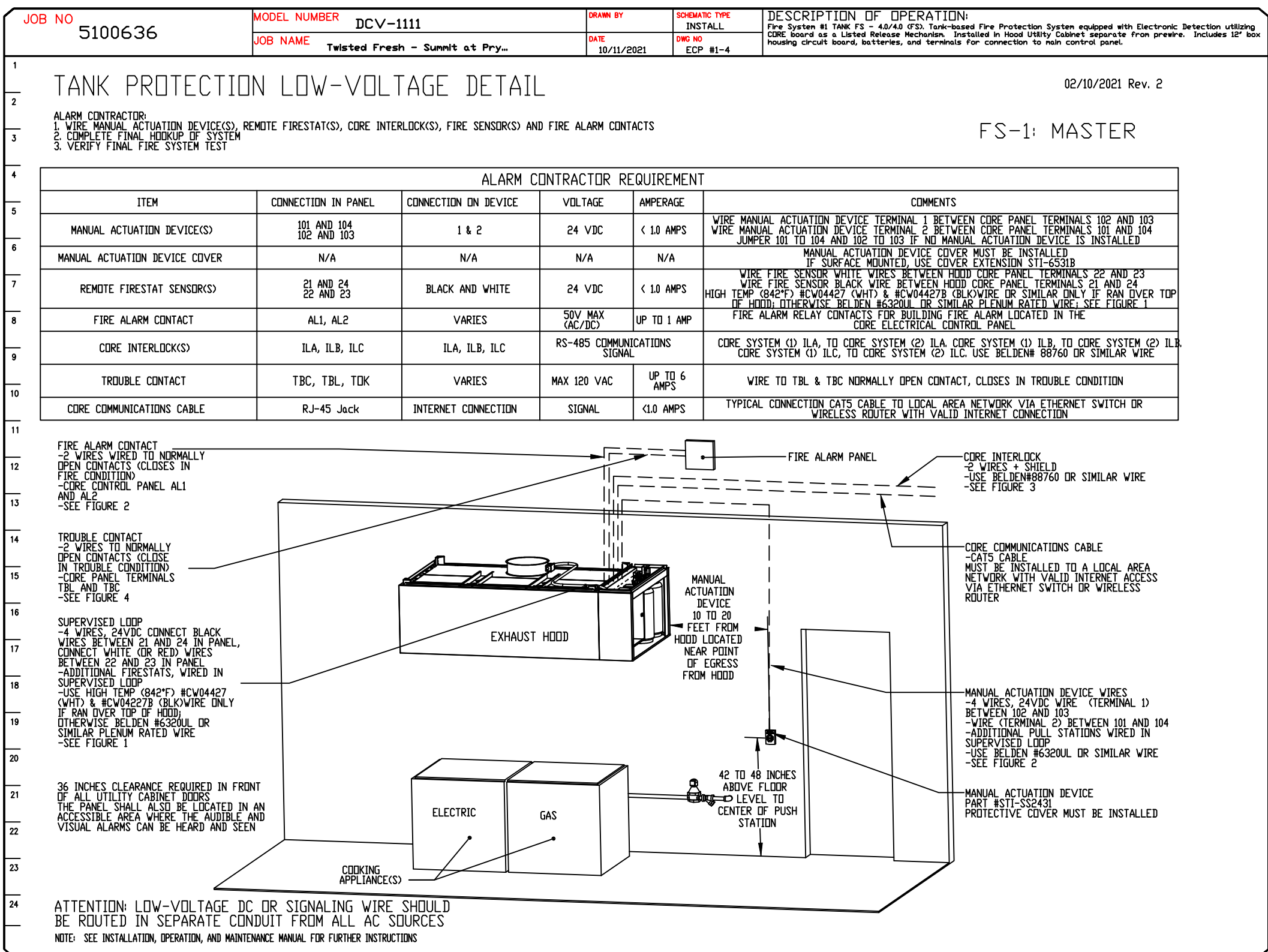
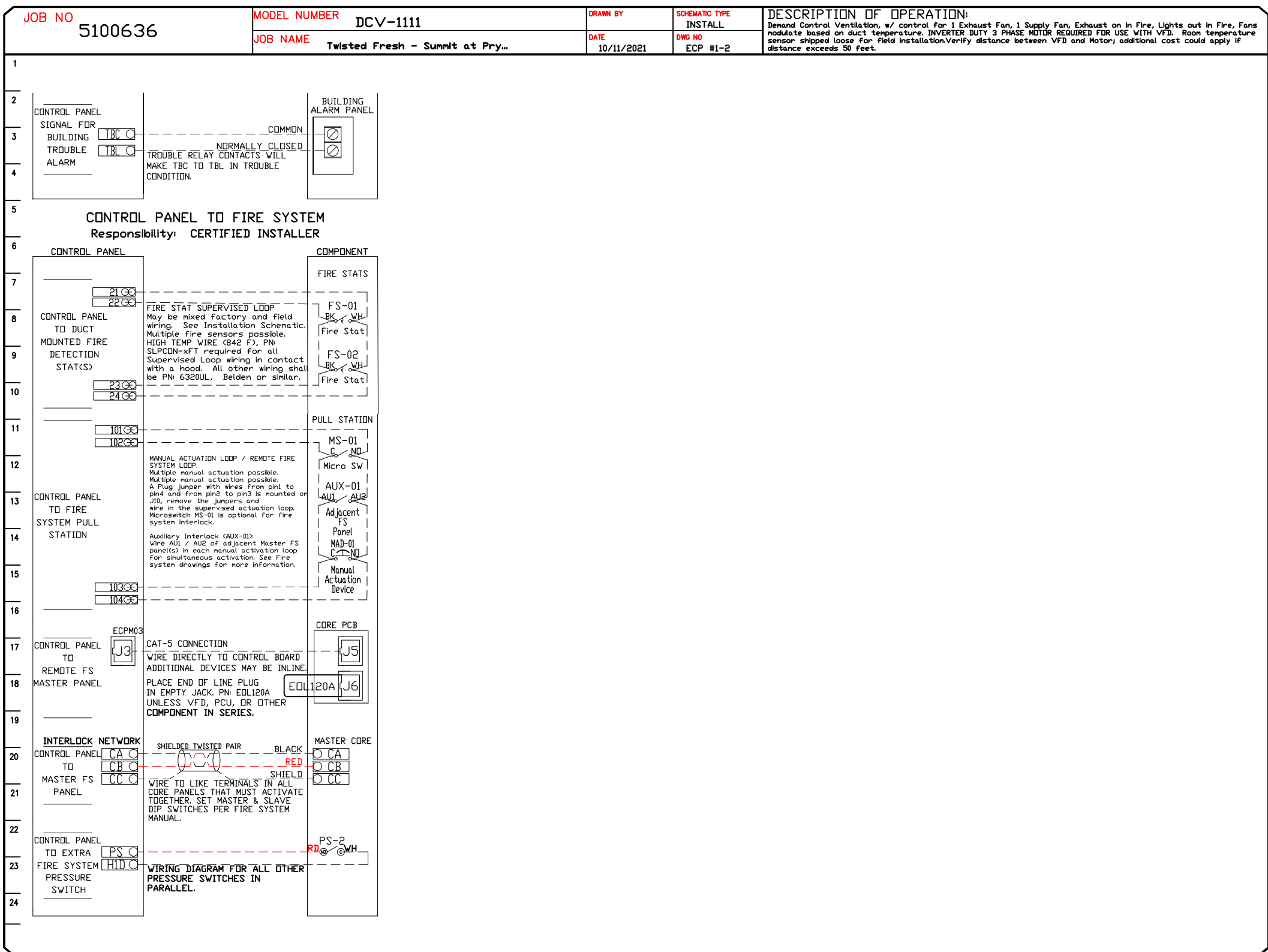
SHEET NO.  
2

104 W 8th St Suite 204, Kansas City, MO, 64105  
PHONE: (816) 221-8575  
FAX: (816) 221-8311  
EMAIL: reg90@captiveire.com

HBT Foodservice



ELECTRICAL PACKAGE - JOB#5100636												
NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	Φ	HP	VOLT	FLA
1	EC1	DCV-1111	WALL MOUNT IN SS BOX	05 ~ SS WALL MOUNT BOX	1 LIGHT 1 FAN	SMART CONTROLS DCV	KEF1	EXHAUST	3	3.000	208	9.5
							MAU-1	SUPPLY	3	2.500	208	5.7



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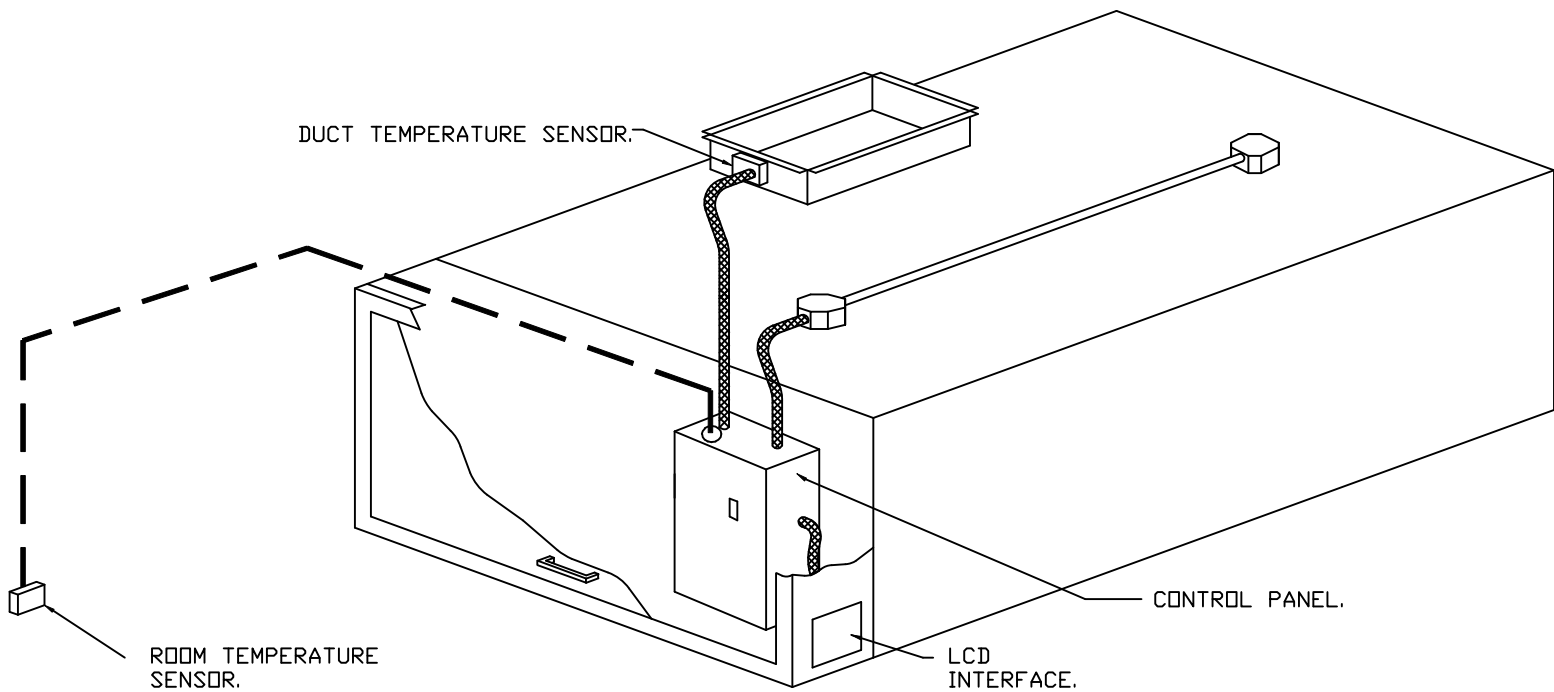
Twisted Fresh - Summit at Pryor LEES SUMMIT, MO, 64081	
<b>DATE:</b>	10/11/2021
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<b>DRAWN BY:</b>	dan.herten
<b>SCALE:</b>	3/4" = 1'-0"
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Twisted Fresh - Summit at Pryor LEES SUMMIT, MO, 64081	
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<b>MASTER DRAWING</b>	
<b>SHEET NO.</b>	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 403.2.8 (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 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 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 VFDs.



TYPICAL HOOD CONTROL PANEL INSTALLATION

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 TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

Twisted Fresh - Summit at Pryor  
LEES SUMMIT, MO, 64081

DATE: 10/11/2021

DWG.#:  
5100636

DRAWN BY: dan.herten

SCALE:  
3/4" = 1'-0"

MASTER DRAWING

SHEET NO.  
4

REVISIONS

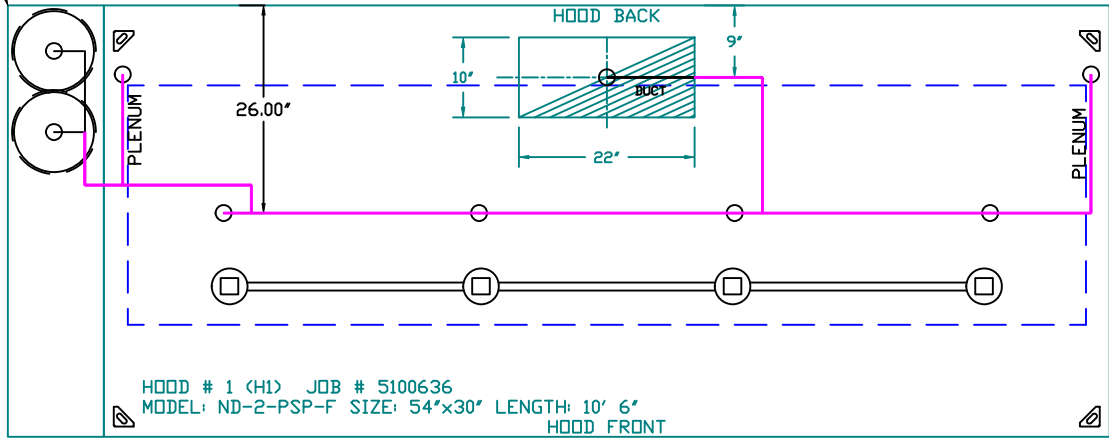
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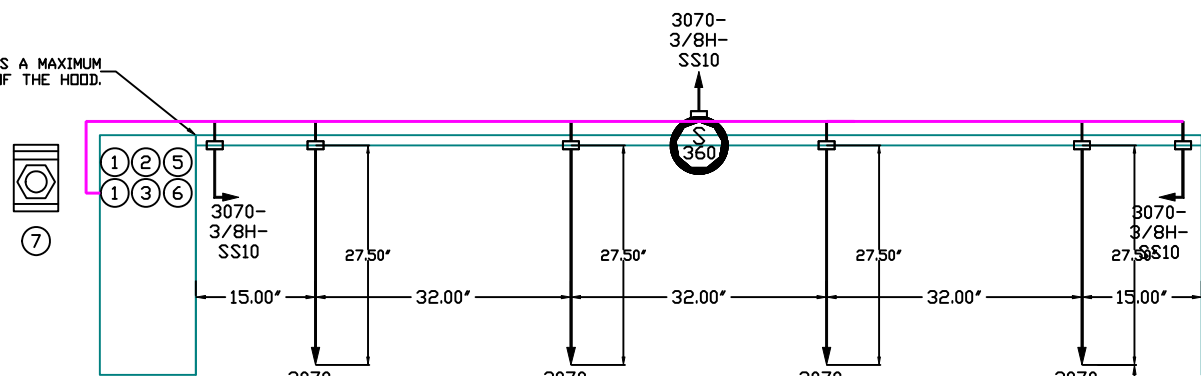
HBTHBT Foodservice

104 W 9th St Suite 204, Kansas City, MO 64105 PHONE: (816) 221-4575 FAX: (816) 221-8311 EMAIL: reg90@captiveair.com

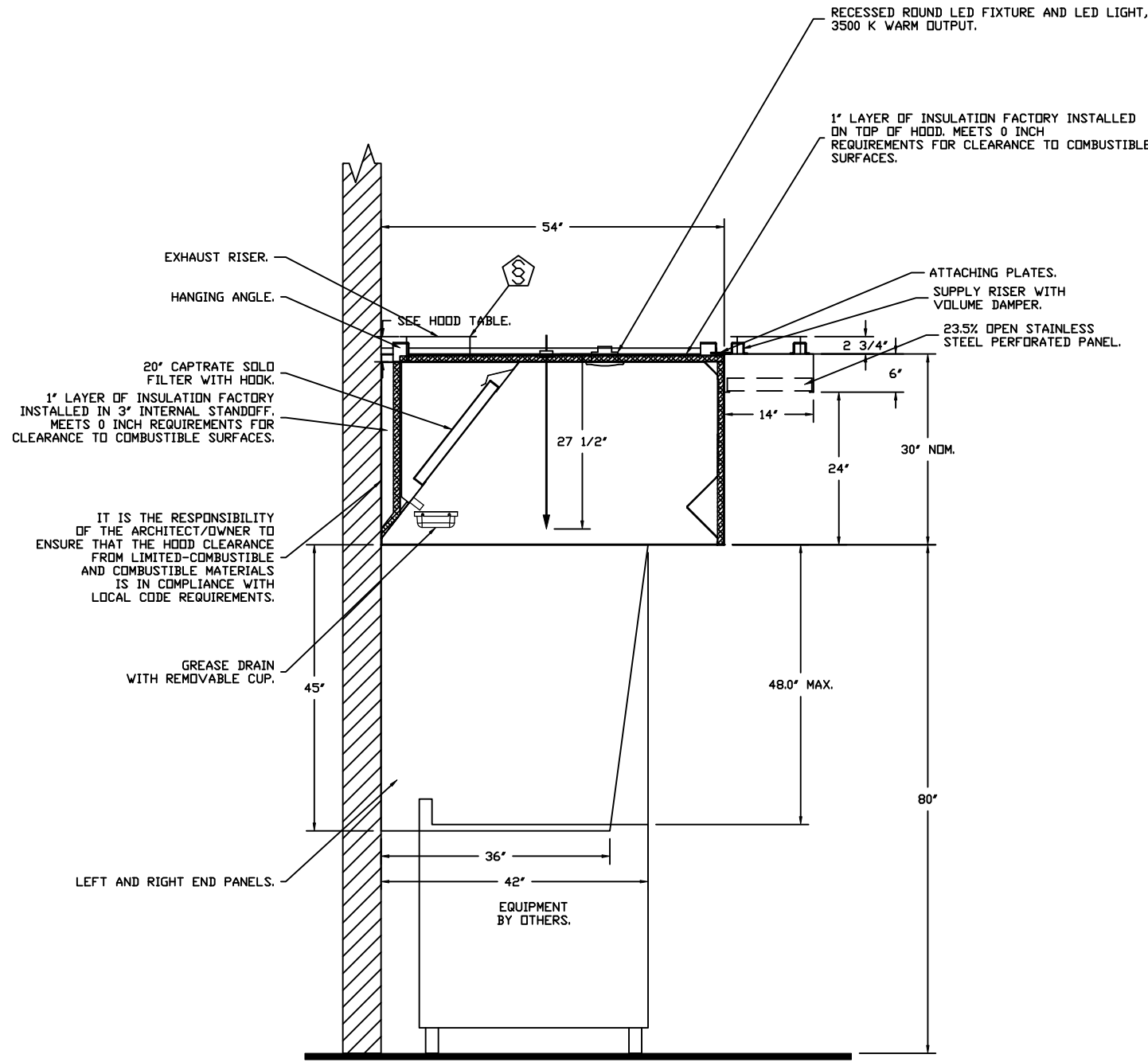
SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 1.5 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS.



FACTORY PIPING EXTENDS A MAXIMUM OF 6' ABOVE THE TOP OF THE HOOD.



TANK OVERLAPPING PROTECTIVE COVER, 36\"/>



SECTION VIEW - MODEL 5430ND-2-PSP-F HOOD - #1

#### NOTES

- FIELD PIPE DROPS AS SHOWN
- PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY GAS.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVEING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6' ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.
- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

JOB #: 5100636.  
JOB NAME: TWISTED FRESH - SUMMIT AT PRYOR.

SYSTEM SIZE: TANK-SP-2 TOTAL FP REQUIRED: 28.  
HOOD # 1 10' 6.00' LONG x 54' WIDE x 30' HIGH.  
RISER # 1 SIZE: 10' x 22'.  
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

#### LEGEND - FIRE CABINET TANK SYSTEM

- 4 GALLON TANK.
- PRIMARY ACTUATOR RELEASE.
- SECONDARY ACTUATOR RELEASE.
- PRESSURE SUPERVISION SWITCH.
- PRIMARY HOSE ASSEMBLY.
- SECONDARY HOSE ASSEMBLY.
- REMOTE MANUAL ACTUATION DEVICE.

INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE. TWO SITE VISITS ONLY ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST; ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES. ONE MECHANICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2". PERMIT, AND SYSTEM TEST. EXCLUDES UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE). GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

JOB #: 5100636.  
JOB NAME: TWISTED FRESH - SUMMIT AT PRYOR.  
SYSTEM SIZE: TANK-SP-2 TOTAL FP REQUIRED: 28.  
HOOD # 1 10' 6.00' LONG x 54' WIDE x 30' HIGH.  
RISER # 1 SIZE: 10' x 22'.

#### NOTES

- FIELD PIPE DROPS AS SHOWN
- SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY GAS.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVEING, SALAMANDERS, ETC.
- MAXIMUM 9 ELBOWS IN SUPPLY LINE.
- MINIMUM 7/2 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE COVERING A RANGE, FRYER, OR WOK TO REFLECT GENERAL PIPING REQUIREMENTS.
- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6' ABOVE THE TOP OF THE HOOD.
- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

#### FIRE SYSTEM INFORMATION - JOB#5100636

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1	FS	TANK FS	4.0/4.0	28	FIRE CABINET LEFT	LEFT, HOOD 1

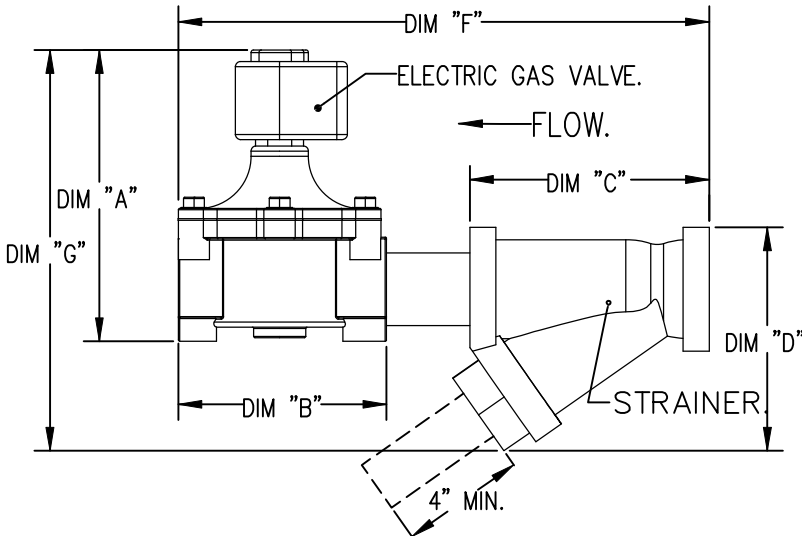
#### GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1	FS	SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS

#### FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1	FS	0 - 0 - 12-F28021-32144-0T-360 BUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. ND, CLOSE ON TEMP RISE AT 360°F.	1	0
		0 - 0 - 87-18004E-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-12004S-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5' BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-30001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300033-001 DIN CONNECTOR, CANFIELD PART #5J560-201-EUDA, TANK FIRE SUPPRESSION, SUBMINATURE SOLENOID CONNECTION (C/D VENDOR 30377).	1	0
		0 - 0 - 87-30015E-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 90545SPC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW L.D.	7	0
		0 - 0 - 9097200PC PRO PRESS PCE11 1/2 PRESS TEE L.D.	6	0
		0 - 0 - 98694A11S HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A003433E JUNCTION BOX FOR MANUAL PULL STATION 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - B1145 3/8" BLACK IRON 90 ELL.	3	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - SLPCDN-15FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 14" GAP OR BACK TO BACK HOODS. KIT CONTAINS 17 FEET OF BLACK MG WIRE, 17 FEET OF TAN MG WIRE, 15 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-15TANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 3070-3/8H-10-SS NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, AND CHROME-PLATED PIPE) - 4 FLOW POINTS.	7	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	7	0
		26 - 26 - DSA-3/8 BUTK SEAL - 3/8" (UL).	7	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0

GAS VALVES AND STRAINERS													
GAS VALVE SIZING					GAS VALVE DIMENSIONS						INSTALLATION		
TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "G"	DIM "G"
ELECTRICAL	2"	120 VAC	0 PSI (0 IN.W.C.)	5 PSI (138 IN.W.C.)	2,940,500 BTU/HR	1,908,048 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13-16"	15-5/8"	13-15/16"	HORIZONTAL/VERTICAL
ALL GAS VALVES/STRAINERS											PART NUMBERS		
PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER. CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.											GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT (GSD)VAL
CALCULATIONS											B214280	4417K68	



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HTB Foodservice

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Twisted Fresh - Summit at Pryor

LEES SUMMIT, MD, 64081

DATE: 10/11/2021

DWG.#: 5100636

DRAWN BY: dan.herten

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

MASTER DRAWING

SHEET NO.

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EXHAUST FAN INFORMATION – JOB#5100636

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	KEF1	1	USB118DD-RM	CAPTIVEAIRE	2250	3.000	1546	DDP,PREMIUM	3.000	1.9160	3	208	9.5	1153 FPM	423	25

MUA FAN INFORMATION – JOB#5100636

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCp	WEIGHT (LBS)	SONES
2	MAU-1	1	A1-E.362-16Z	16Z-1-MDD	A1-E.362	1000	1800	0.500	1931	DDP-ECM	2.500	0.8530	3	208	5.7	116.6A	125A	925	18.9

COILS – JOB#5100636

FAN UNIT NO	TAG	COIL TYPE	DESIGN CFM	COOLING										HEATING									
				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	ENTERING DB TEMP	LEAVING DB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	STEAM PRESSURE	TOTAL CAPACITY	SENSIBLE CAPACITY
2	MAU-1	DX	1800	93.0°F	76.0°F	70.7°F	66.9°F	---	---	---	---	60.0 MBH	40.8 MBH	19.2 MBH	---	---	---	---	---	---	---	---	---

ELECTRIC MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	DSGN KW'S	MAX KW'S	PHASE	VOLTS	AMPERAGE	TEMP RISE	OUTPUT BTUs
2	MAU-1	35	36	3	240	86.6	65 °F	122868

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF1	1	BI18 – INLET SERVICE DUCT CONNECTION. USED TO CONNECT TO STANDARD 20" GREASE DUCT OR FIELD WELDED DUCT. INCLUDES (2) 7" RISERS BOLTED TO STANDARD INLET RISER.
		1	UTILITY SET GREASE CUP.
		1	BI18 – 24" DISCHARGE EXTENSION.
		1	BI – DISCHARGE ORIENTATION VERTICAL UPPER LEFT – CW INLET SIDE.
		1	BI18 – INLET CONNECTION STANDARD 20" FLANGED GREASE DUCT.
		1	UTILITY SET – SPRING VIBRATION ISOLATORS – BI18 / EQUIVALENT SIZED UTILITY SET – INDOOR/OUTDOOR USE.
2	MAU-1	1	2 YEAR PARTS WARRANTY.
		1	AC INTERLOCK RELAY – 24VAC COIL.
		1	MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING. MEETS AMCA CLASS 1A RATING.
		1	INSULATION OPTION FOR VBANK FILTER SECTION.
		1	COOLING THERMOSTAT AND RELAY (NOT REQ FOR EVAP).
		1	SINGLE POINT CONNECTION – ELECTRIC HEATER – THREE PHASE – BLOWER & HEATER MUST BE THE SAME VOLTAGE & PHASE. IF A NON-DCV PREWIRE IS USED ON THE EH, #28, #47, MA OR E2 OPTION PREWIRE MUST BE SELECTED. DO NOT PROVIDE SUPPLY STARTER IN PREWIRE.
		1	CLOGGED FILTER SWITCH DRY CONTACT.
		1	DX COIL MODULE -1,000 TO 3,250 CFM (5 TON 1 CIRCUIT COIL).
		1	SIZE 1 ELECTRIC HEATER INDOOR HANGING OPTION. INCLUDES 2 HSA125 HANGING SPRING ISOLATORS PER UNI-STRUT.
		1	DXM 1-2 REFRIGERATION PARTS KIT – R410A.
		1	ECM WIRING PACKAGE-SUPPLY – PWM SIGNAL FROM ECPMD3 PREWIRE (3 – PHASE ZIEHL MOTOR).
		1	2 YEAR PARTS WARRANTY.

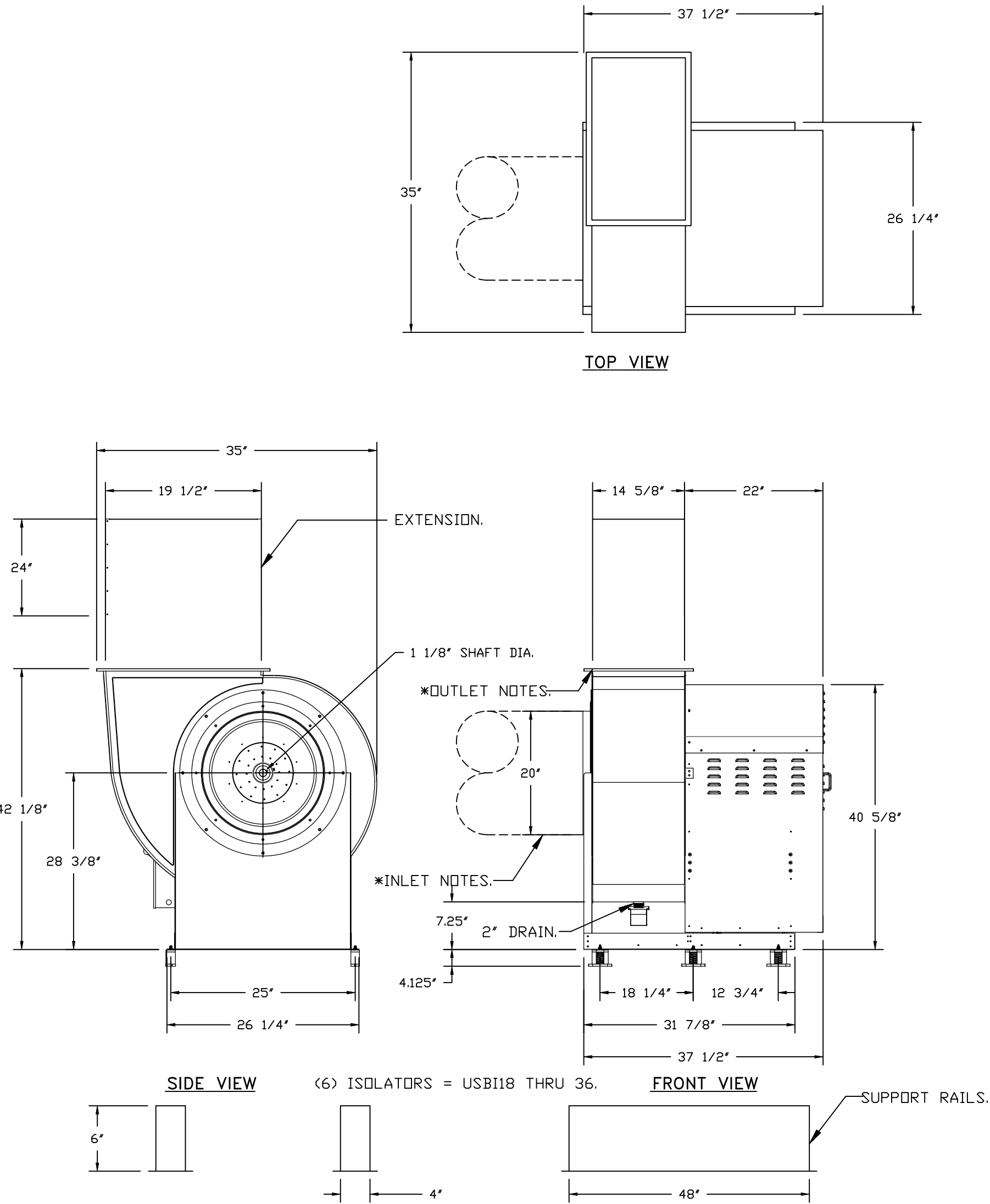
FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF1	YES						
2	MAU-1				YES		YES	

CURB ASSEMBLIES

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF1	25 LBS	RAIL	4.000"W X 48.000"L X 6.000"H ALONG WIDTH, RIGHT COMES AS A SET OF 2.

FAN #1 USB118DD-RM – EXHAUST FAN (KEF1)



FEATURES:

- ROOF MOUNTED FANS.
- UL705.
- UL762 AND ULC-S645 (RESTAURANT MODEL).
- HIGH HEAT OPERATION DIRECT DRIVE 350°F (176°C).
- HEAT SLINGER.
- NEMA 3R SAFETY DISCONNECT SWITCH.
- GREASE CLASSIFICATION TESTING.
- 2" DRAIN.
- MOTOR WEATHER COVER.
- FULLY SEALED SCROLL HOUSING.
- SCROLL ACCESS DDOR.
- FLANGE 1 1/4".

OPTIONS

- BI18 – INLET SERVICE DUCT CONNECTION. USED TO CONNECT TO STANDARD 20" GREASE DUCT OR FIELD WELDED DUCT. INCLUDES (2) 7" RISERS BOLTED TO STANDARD INLET RISER.
- UTILITY SET GREASE CUP.
- BI18 – 24" DISCHARGE EXTENSION.
- BI – DISCHARGE ORIENTATION VERTICAL UPPER LEFT – CW INLET SIDE.
- BI18 – INLET CONNECTION STANDARD 20" FLANGED GREASE DUCT.
- UTILITY SET – SPRING VIBRATION ISOLATORS – BI18 / EQUIVALENT SIZED UTILITY SET – INDOOR/OUTDOOR USE.
- 2 YEAR PARTS WARRANTY.

\* INLET/OUTLET NOTES:  
LENGTH OF THE STRAIGHT DUCT ON THE INLET AND OUTLET TO BE 3 TIMES  
THE EQUIVALENT DUCT DIAMETER BEFORE CONNECTING TO ANY  
FITTINGS SUCH AS ELBOWS TO AVOID SYSTEM EFFECT.

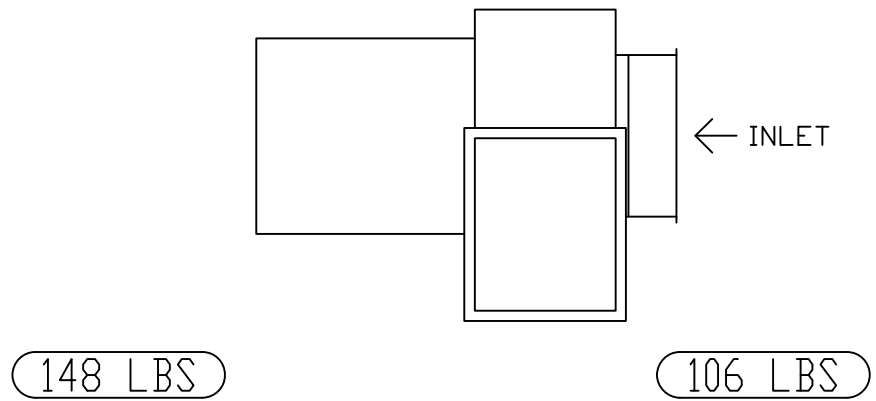
NORMAL TEMPERATURE TEST DIRECT DRIVE  
EXHAUST FAN MUST OPERATE CONTINUOUSLY  
WHILE EXHAUSTING AIR AT 350°F (176°C)  
UNTIL ALL FAN PARTS HAVE REACHED  
THERMAL EQUILIBRIUM, AND WITHOUT ANY  
DETERIORATING EFFECTS TO THE FAN WHICH  
WOULD CAUSE UNSAFE OPERATION.

UNIT PLAN VIEW CORNER WEIGHTS:

93 LBS

76 LBS

CORNER WEIGHTS ARE CALCULATED BASED ON VERTICAL DISCHARGE.  
SUPPORT DUCT PROPERLY BEFORE FAN TO ENSURE CORNER WEIGHTS  
ARE NOT AFFECTED.



REVISIONS

DESCRIPTION	DATE:
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Twisted Fresh – Summit at Pryor

LEES SUMMIT, MD, 64081

DATE: 10/11/2021

DWG.#: 5100636

DRAWN BY: dan.herten

SCALE: 3/4" = 1'-0"

MASTER DRAWING

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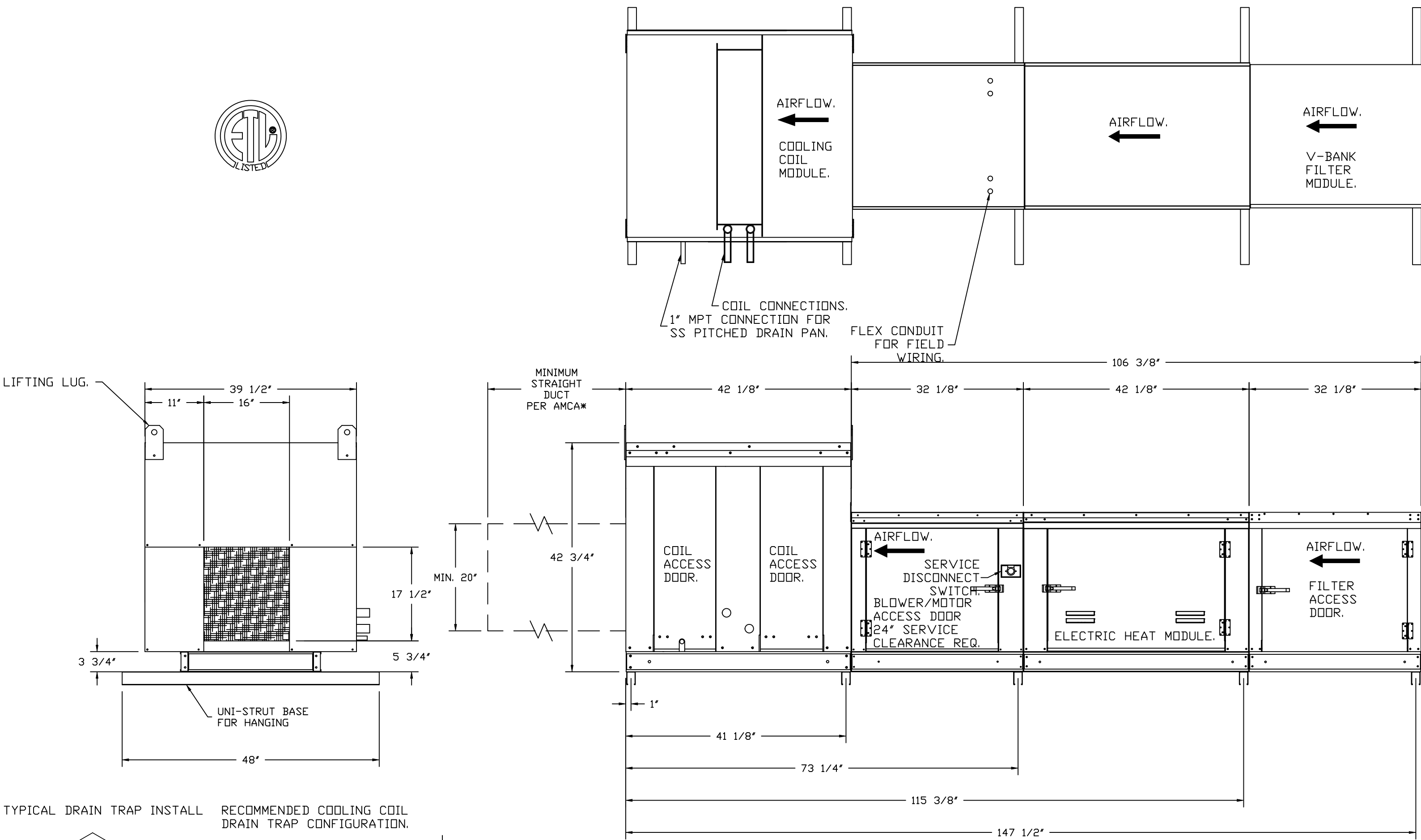
104 W 9th St Suite 204, Kansas City, MO. 64105 PHONE: (816) 221-8575 FAX: (816) 221-8311 EMAIL: reg9@captveaire.com

- FAN #2 A1-E-362-16Z - HEATER (MAU-1)  
1. ELECTRIC HEATED MAKE UP AIR UNIT WITH 16" DIRECT DRIVE FAN AND A 3 STAGES TOTAL, 1 MODULATING, 36KW 240 - 3 COIL.  
2. V-BANK EZ FILTERS - INDOOR.  
3. SIDE DISCHARGE - AIR FLOW RIGHT -> LEFT.  
4. COOLING INTERLOCK RELAY. 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.  
5. 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, TFB120S ACTUATOR INCLUDED.  
6. "INSULATION" FOR V-BANK INTAKE OPTION.  
7. DX COOLING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT - SET POINT FOR THERMOSTAT SHOULD BE 85°F.  
8. SINGLE POINT CONNECTION FOR THREE PHASE ELECTRIC HEATERS - NOT USED WITH MULTIPLE HEAT MODULES.  
9. CLOGGED FILTER SWITCH.  
10. DX COIL MODULE FOR SIZE 1 MODULAR FANS - 1,000 THRU 3,250 CFM (5 TON - 1 CIRCUIT DX COIL, 4E20802H-31.5X27.0) NOT BUILT WITH OPP SIDE CONTROLS. DXM1-2  
CONDENSER AND CONDENSER DISCONNECT (UNLESS PROVIDED ON QUOTE) WILL BE INSTALLED, STARTED AND WARRANTED BY OTHERS. R410A REFRIGERANT AND PIPING BY OTHERS. ENSURE DX-KIT IS ORDERED FOR FILTER DRIER, SIGHT GLASS, THERMAL EXPANSION VALVE. (OLD HEATCRAFT COIL # 5EN0903B-31.5X27.0).  
11. INDOOR HANGING CRADLE FOR THE SIZE 1 ELECTRIC HEATER. 2 HS4125 HANGING ISOLATORS PER UNI-STRUT INCLUDED.  
12. DX 1-2 KIT R410A. SINGLE CIRCUIT 5 TON. INCLUDES FILTER DRIER, SIGHT GLASS, AND THERMAL EXPANSION VALVE FOR DX UNITS. INSTALLATION BY OTHERS. INCLUDES R410A TXV.  
13. ECM WIRING PACKAGE FOR ZIEHL SUPPLY MOTORS WITH PWM SIGNAL FROM ECPM03 PREWIRE.  
14. 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 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 20" x 20".

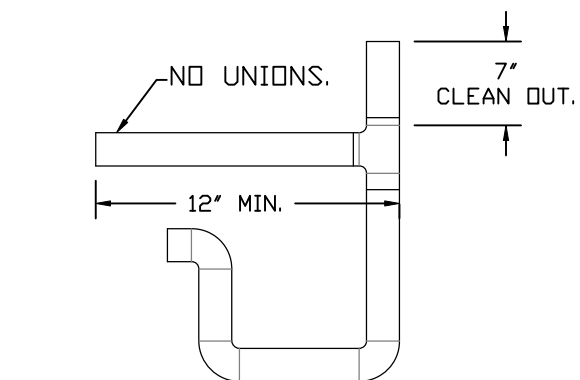
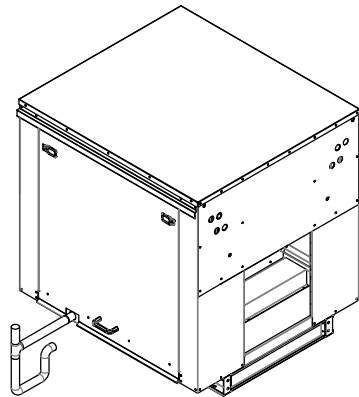
SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 10°F. TEMP. RISE = 65°F.  
KW's CALCULATED OFF ACTUAL AIR DENSITY.  
KW's AT ALTITUDE OF 0.0 FT. = 37.  
KW's AT ALTITUDE OF 973 FT. = 35.

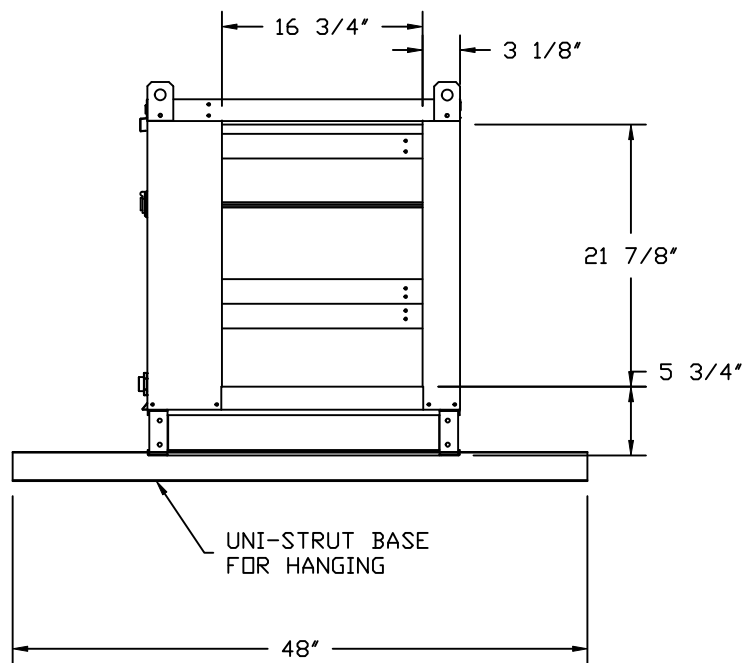


TYPICAL DRAIN TRAP INSTALL

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.



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DESCRIPTION	DATE:
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