

FOR QUESTIONS, CALL THE
Arkansas Mechanical
REGION 146
PHONE: (501) 500 - 5450
EMAIL: reg146@captiveaire.com

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

HOOD INFORMATION – JOB#7175260

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)							HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP		END TO END	ROW
1	KH-FRONT	5424 ND-2	CAPTIVEAIRE	12' 0"	600 DEG	I	HEAVY	170	2040			4'	14"	2040	1908	-1.066'	430 SS WHERE EXPOSED	ALONE	FRONT
2	KH-BACK	5424 ND-2	CAPTIVEAIRE	12' 0"	600 DEG	I	HEAVY	170	2040			4'	14"	2040	1908	-1.066'	430 SS WHERE EXPOSED	ALONE	BACK
3	DH-1	4224 VHB-G	CAPTIVEAIRE	3' 6"	700 DEG	II	N/A	129	450			4'	8"	450	1289	-0.077'	430 SS 100%	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)					LIGHT(S)			UTILITY CABINET(S)					FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	
1	KH-FRONT	CAPTRATE SOLO FILTER	9	16”	16”	85% SEE FILTER SPEC	3	RECESSED ROUND	NO	LEFT	12”x54”x24”			SC-321110MA	1 LIGHT 1 FAN	835 LBS
2	KH-BACK	CAPTRATE SOLO FILTER	9	16”	16”	85% SEE FILTER SPEC	3	RECESSED ROUND	NO	RIGHT	12”x54”x24”	TANK FS	4.0/4.0/4.0/4.0			1203 LBS
3	DH-1						0									159 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	KH-FRONT	FIELD WRAPPER 17.00’ HIGH FRONT, LEFT.
		RIGHT SIDESPLASH 122.00’ HIGH X 72.00’ LONG 430 SS VERTICAL.
		RIGHT END STANDOFF (FINISHED) 1’ WIDE 54” LONG INSULATED.
		INSULATION FOR TOP OF HOOD.
		STRUCTURAL FRONT PANEL.
		LEFT VERTICAL END PANEL 27” TOP WIDTH, 21” BOTTOM WIDTH, 80” HIGH INSULATED 430 SS.
2	KH-BACK	RIGHT WALL AS END PANEL.
		FIELD WRAPPER 17.00’ HIGH FRONT, RIGHT.
		LEFT SIDESPLASH 122.00’ HIGH X 72.00’ LONG 430 SS VERTICAL.
		LEFT END STANDOFF (FINISHED) 3” WIDE 54” LONG INSULATED.
		INSULATION FOR TOP OF HOOD.
		STRUCTURAL FRONT PANEL.
3	DH-1	RIGHT VERTICAL END PANEL 27” TOP WIDTH, 21” BOTTOM WIDTH, 80” HIGH INSULATED 430 SS.
		LEFT WALL AS END PANEL.
		FIELD WRAPPER 17.00’ HIGH FRONT, LEFT, RIGHT.

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL “DW” ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL “DW” IS LISTED TO UL-1978 AND IS INSTALLED USING “V” CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL “DW” DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12’ ON CENTER. PER MANUFACTURES LISTING MODEL “DW” HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16” PER 12”, HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16” PER 12”. DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL “DW- 2R, 2R TYPE HT, 3R, OR 3Z” ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

VERIFY CEILING HEIGHT

___' - ___"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED	☐
APPROVED WITH NO EXCEPTION TAKEN	☐
REVISE AND RESUBMIT	☐
SIGNATURE _____	
YOUR TITLE _____	DATE _____

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).

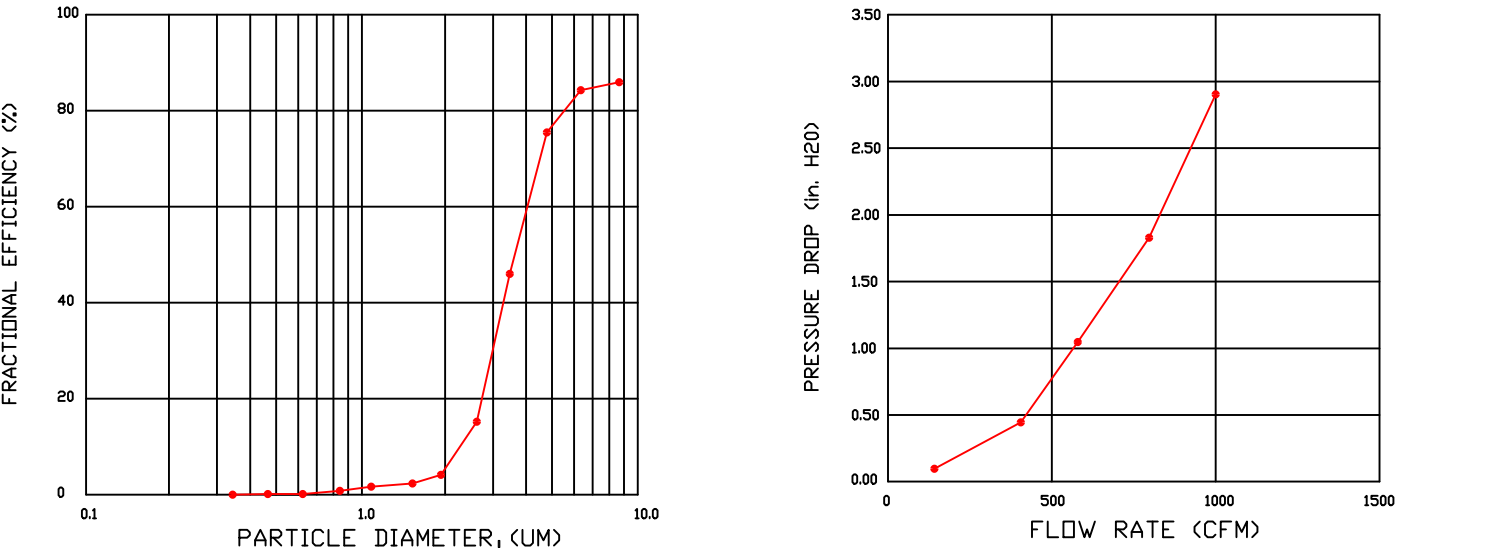
UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

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

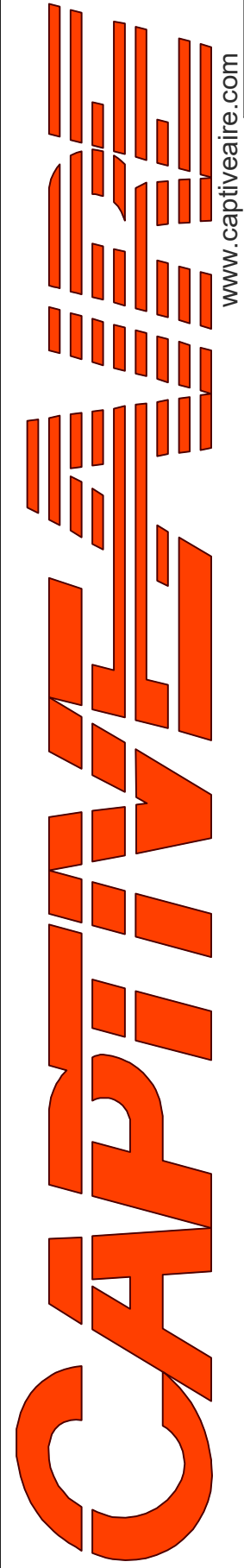


CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.



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DESCRIPTION	DATE:
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DWG.#: 7175260

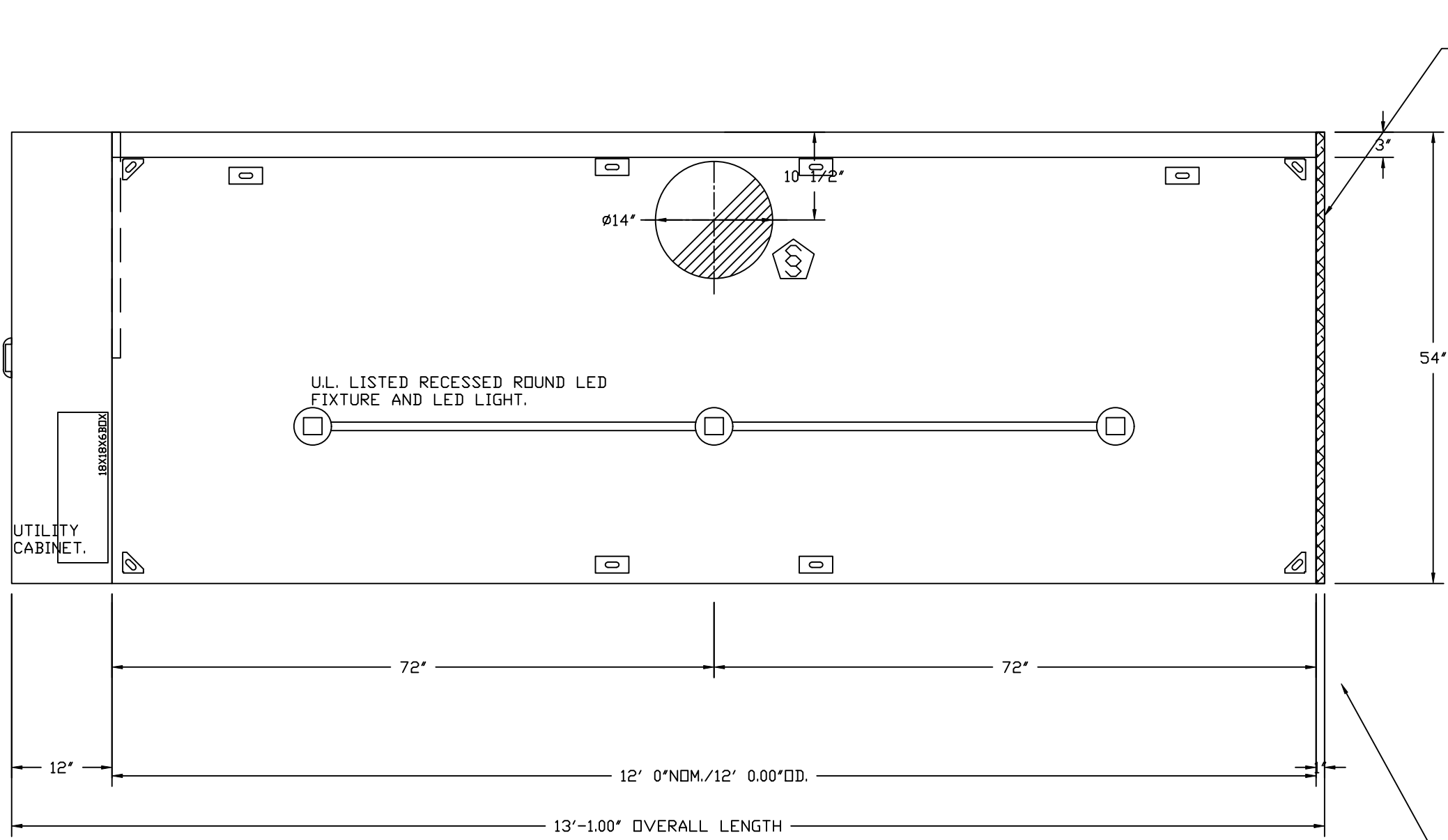
DRAWN BY: Josh I 146

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

MASTER DRAWING

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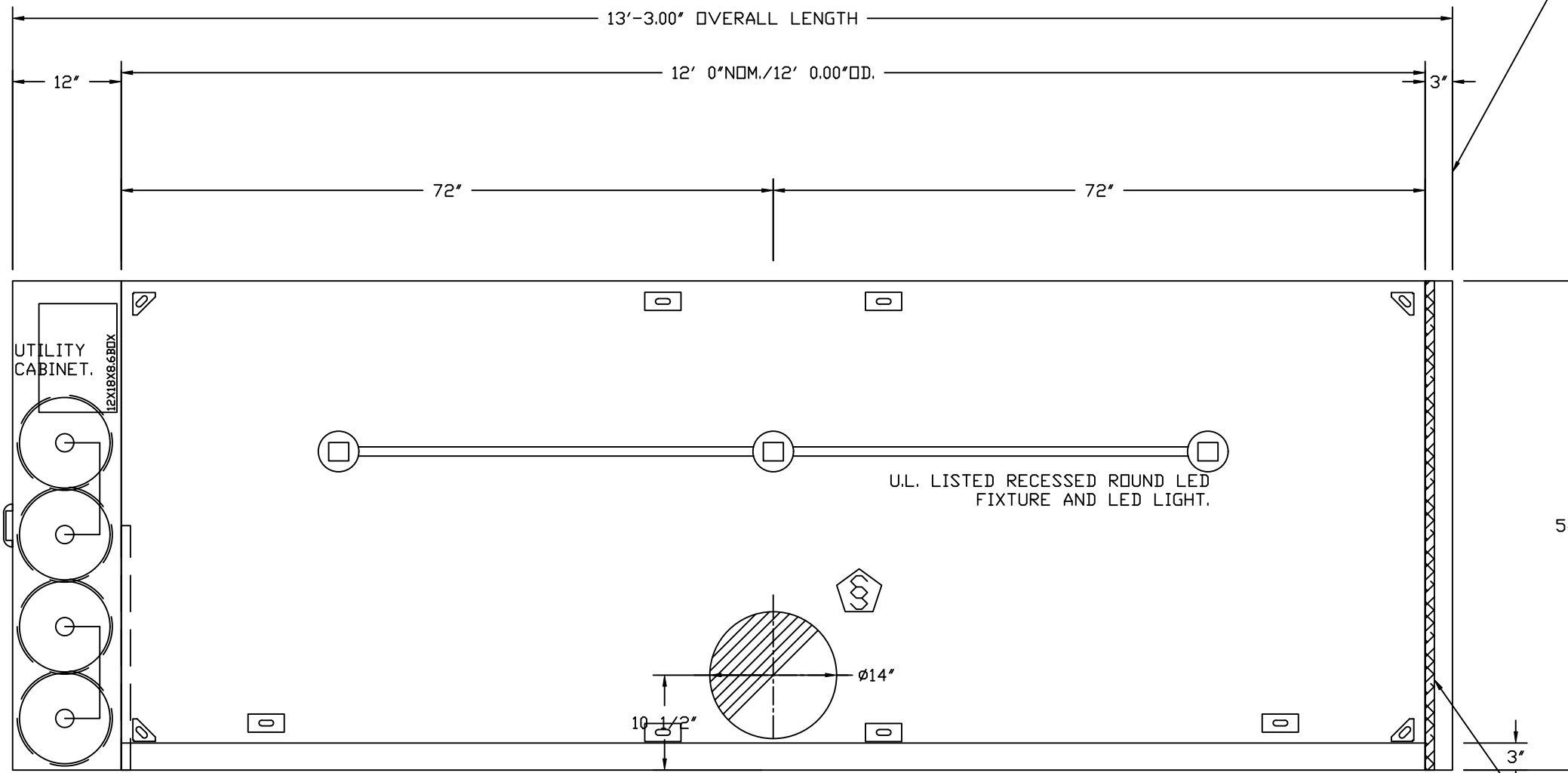


PLAN VIEW - HOOD #1 (KH-FRONT)
12' 0.00" LONG 5424ND-2

NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

PLAN VIEW - HOOD #2 (KH-BACK)
12' 0.00" LONG 5424ND-2



CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1,2	TOP	0'
	FRONT	0'
	BACK	18"
	LEFT	0'
	RIGHT	0'

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.

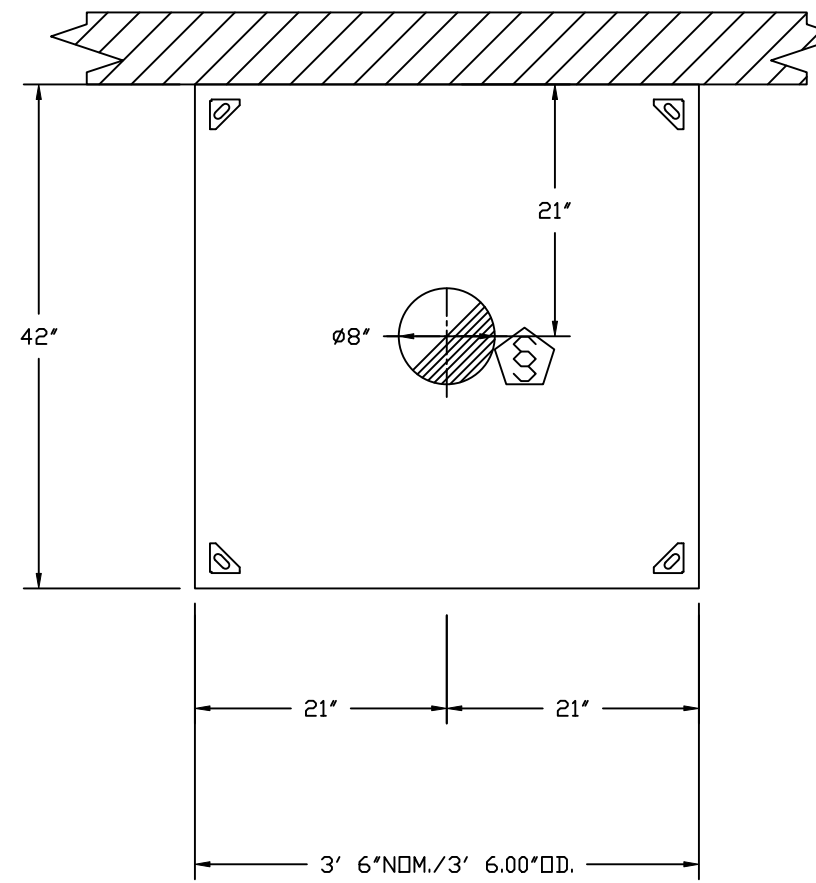
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.

1" LAYER OF INSULATION
FACTORY INSTALLED IN
3.00' END STANDOFF MEETS
0" REQUIREMENTS CLEARANCE
TO COMBUSTIBLE SURFACES.

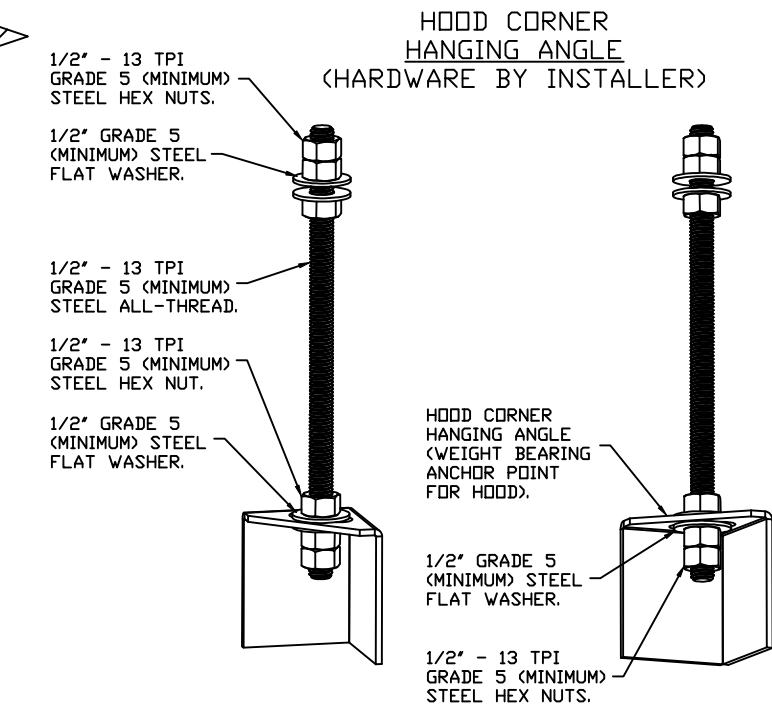
INSTALLER MUST CONFIRM HOOD IS INSTALLED SUCH
THAT THE SPECIFIED WALL, ACTING AS AN END PANEL,
IS MATED TIGHT TO THE CORRECT END OF HOOD TO
ACHIEVE A REDUCED MINIMUM EXHAUST CFM LISTING.
NON-COMPLIANCE WILL NULLIFY THE ETL LISTING,
VOID THE MANUFACTURER'S WARRANTY, AND HOLD THE
CONTRACTOR LIABLE FOR ANY AND ALL LOSSES, COSTS,
AND EXPENSES RELATED TO THE NON-COMFORMANCE OF
THE MANUFACTURER'S SPECIFIED INSTRUCTION. THE
WALL ACTING AS AN END PANEL MUST EXTEND NO LESS
THAN 20" FROM THE INTERSECTING WALL ON WHICH HOOD
IS MOUNTED AND MUST EXTEND NO LESS THAN 20" UNDER
BOTTOM OF HOOD TO BE ELIGIBLE FOR REDUCED
MINIMUM EXHAUST CFM LISTING.

INSTALLER MUST CONFIRM HOOD IS INSTALLED SUCH
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MINIMUM EXHAUST CFM LISTING.

1" LAYER OF INSULATION
FACTORY INSTALLED IN
3.00' END STANDOFF MEETS
0" REQUIREMENTS CLEARANCE
TO COMBUSTIBLE SURFACES.

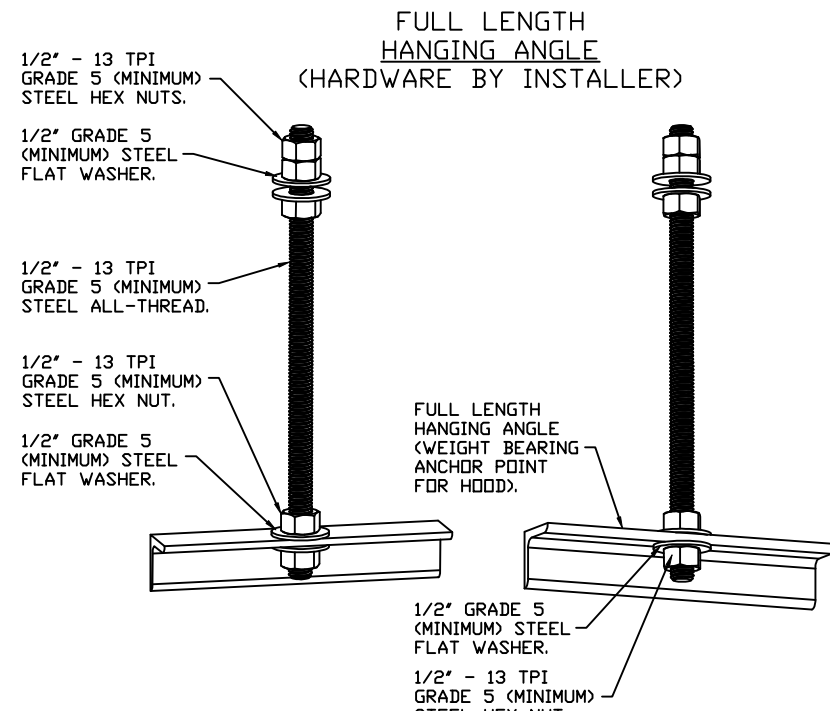


PLAN VIEW - HOOD #3 (DH-1)
3' 6.00" LONG 4224VHB-G



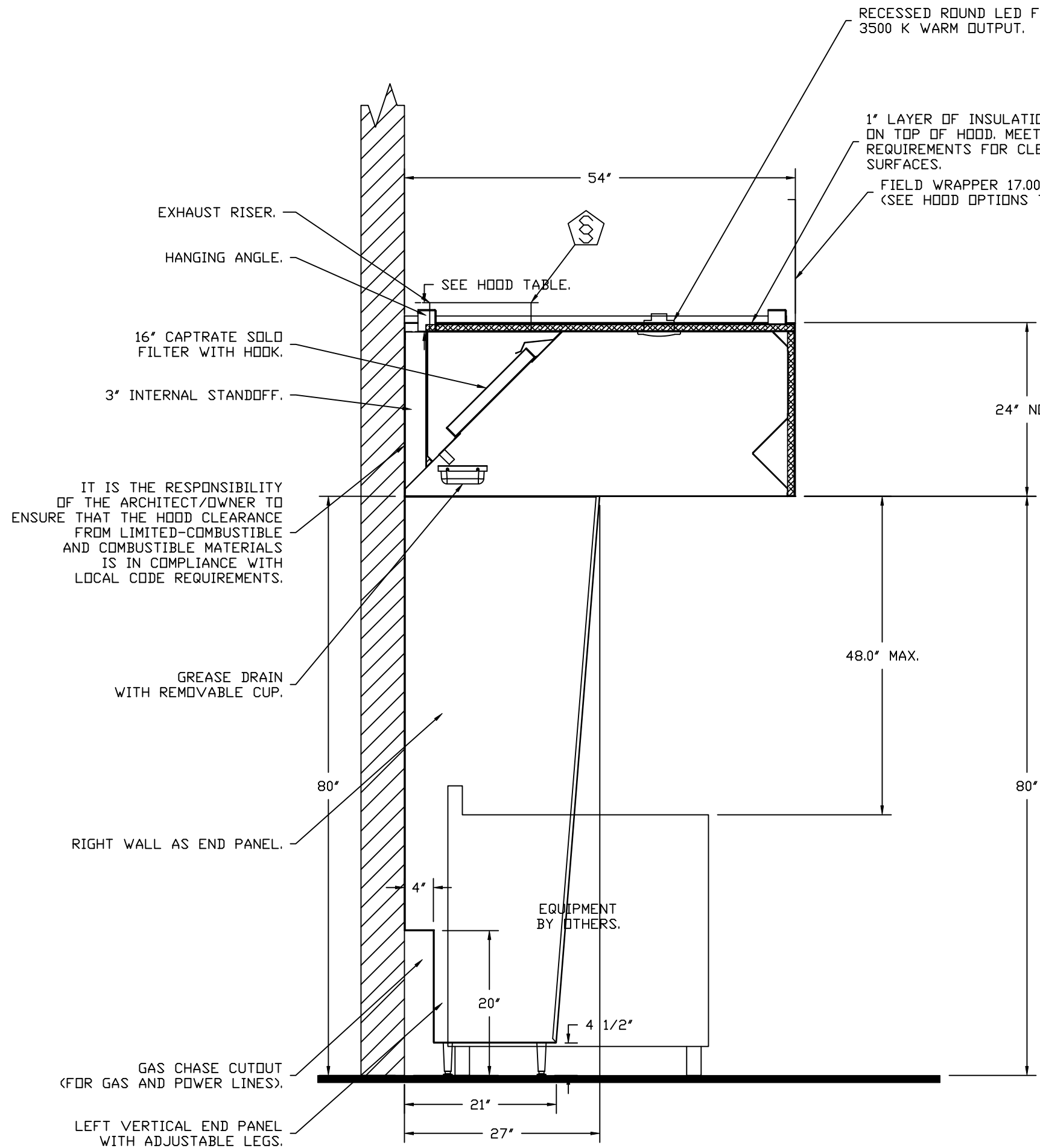
ASSEMBLY INSTRUCTIONS

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.



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 FULL LENGTH HANGING ANGLES.
MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM
HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



SECTION VIEW - MODEL 5424ND-2
HOOD - #1 (KH-FRONT)

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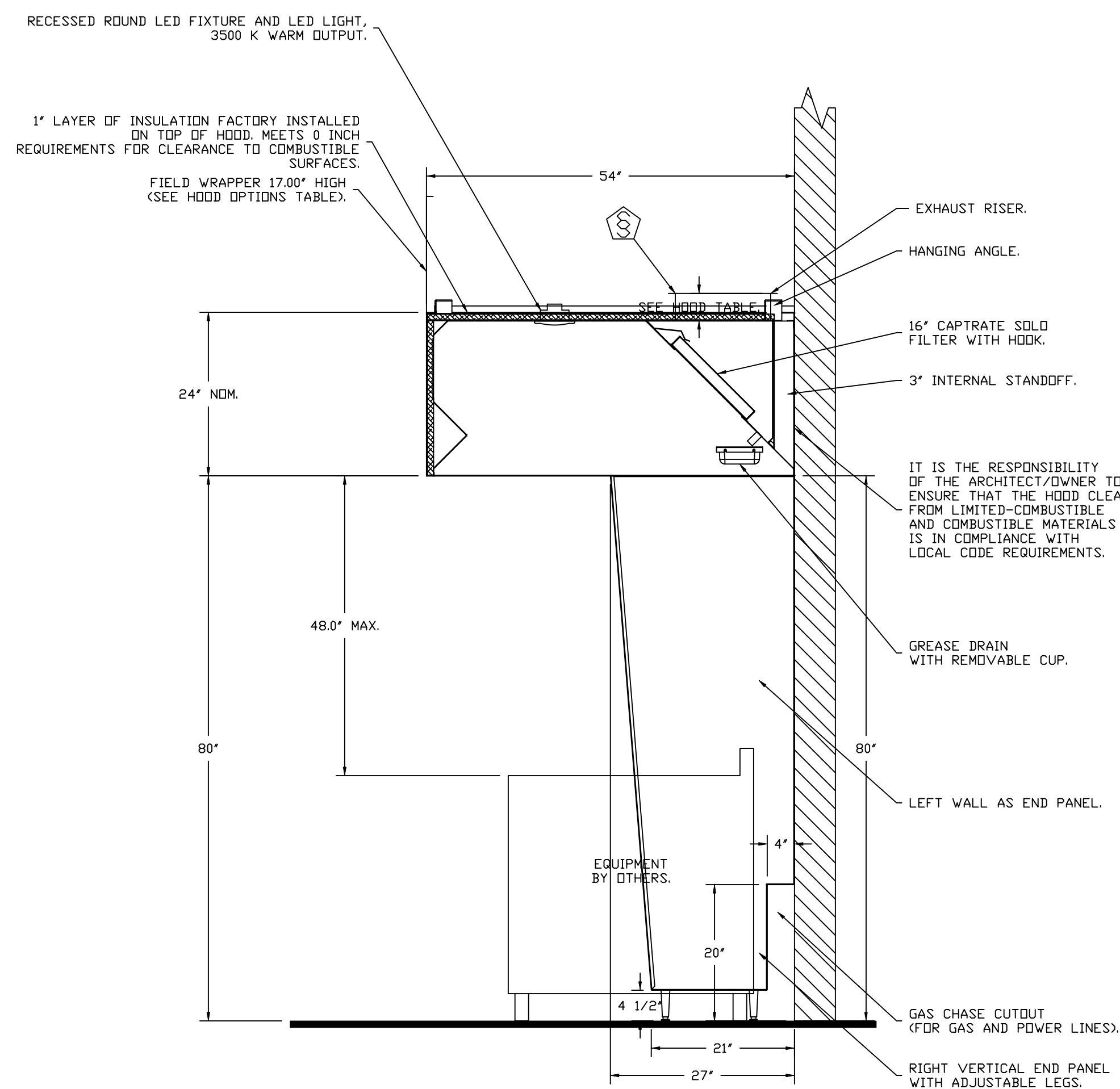
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BY: Josh I 146
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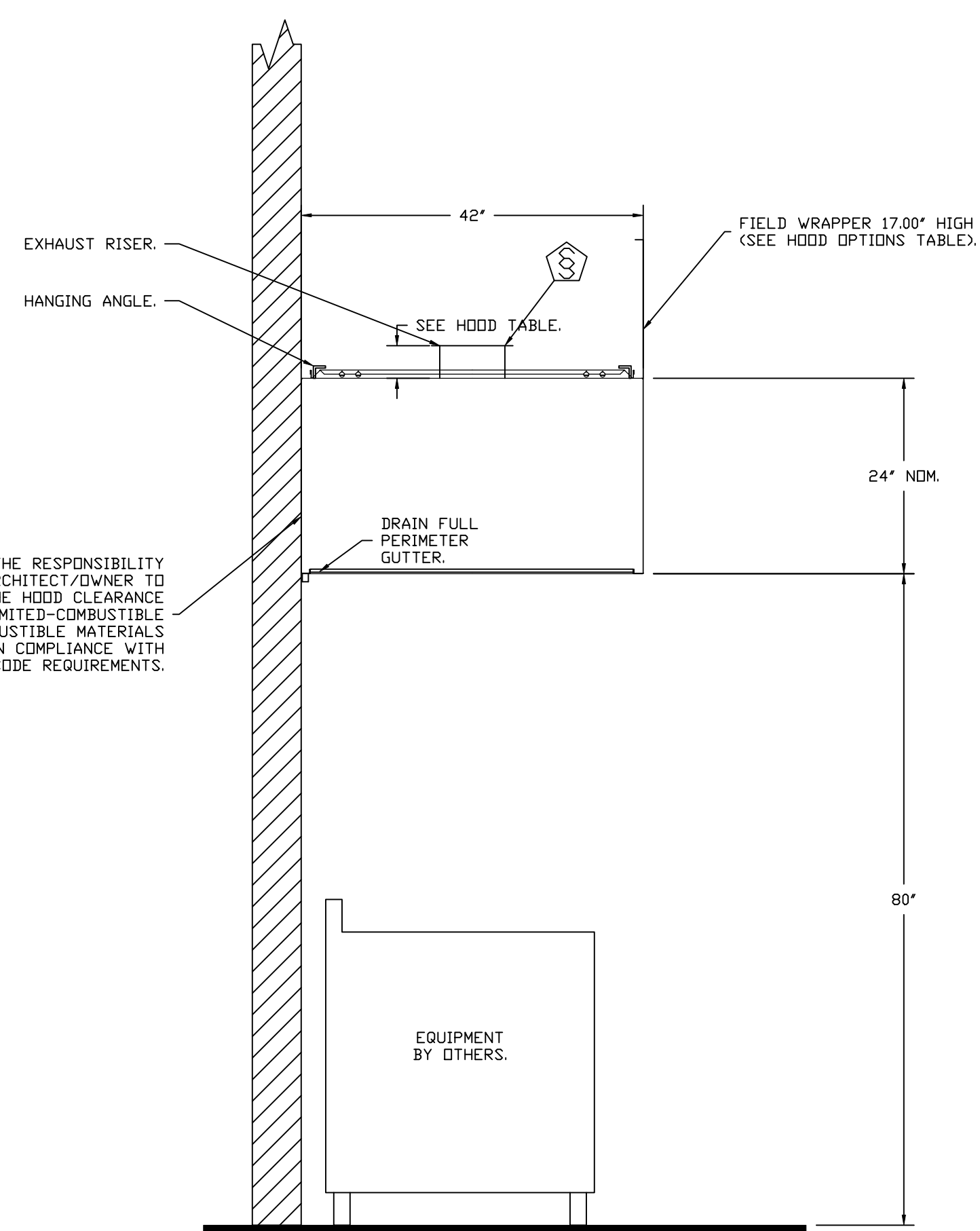
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SECTION VIEW - MODEL 5424ND-2
HOOD - #2 (KH-BACK)



SECTION VIEW - MODEL 4224VHB-G
HOOD - #3 (DH-1)

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FIRE SYSTEM INFORMATION – JOB#7175260

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0/4.0/4.0	80	74	FIRE CABINET RIGHT	RIGHT, HOOD 2

GAS VALVE(S)

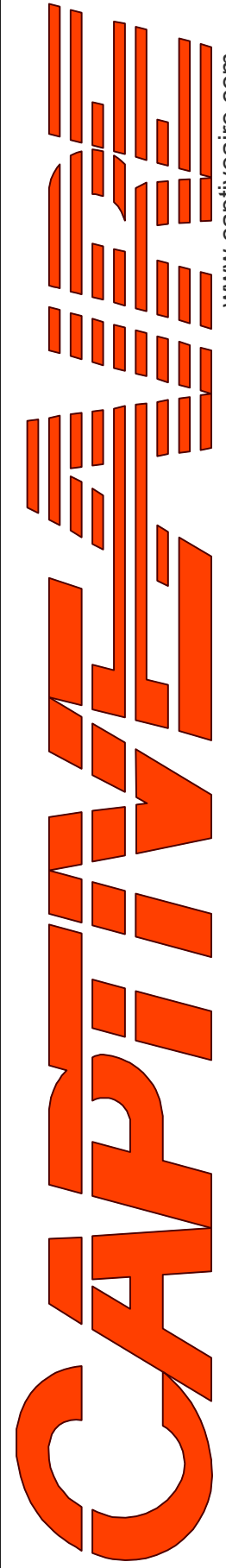
FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER – PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1		0 – 0 – TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 – 0 – TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 – 0 – 12-F28021-32144-DT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F. (A0034310).	2	0
		0 – 0 – 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	4	0
		0 – 0 – 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	2	0
		0 – 0 – 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
		0 – 0 – 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	4	0
		0 – 0 – 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) – SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	3	0
		0 – 0 – 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	3	0
		0 – 0 – 87-300001-001 TANK – PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	4	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 – 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	16	0
		0 – 0 – 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	8	0
		0 – 0 – A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 – 0 – A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	2	0
		0 – 0 – DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	4	0
		0 – 0 – SLPCDN-03FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 2' GAP. KIT CONTAINS 5 FEET OF BLACK MG WIRE, 5 FEET OF TAN MG WIRE, 3 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	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.	2	0
		0 – 0 – TANK STRAP TANK STRAP – USED FOR TANK FIRE SUPPRESSION.	12	0
		0 – 0 – TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	4	0
		0 – 0 – WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	4	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

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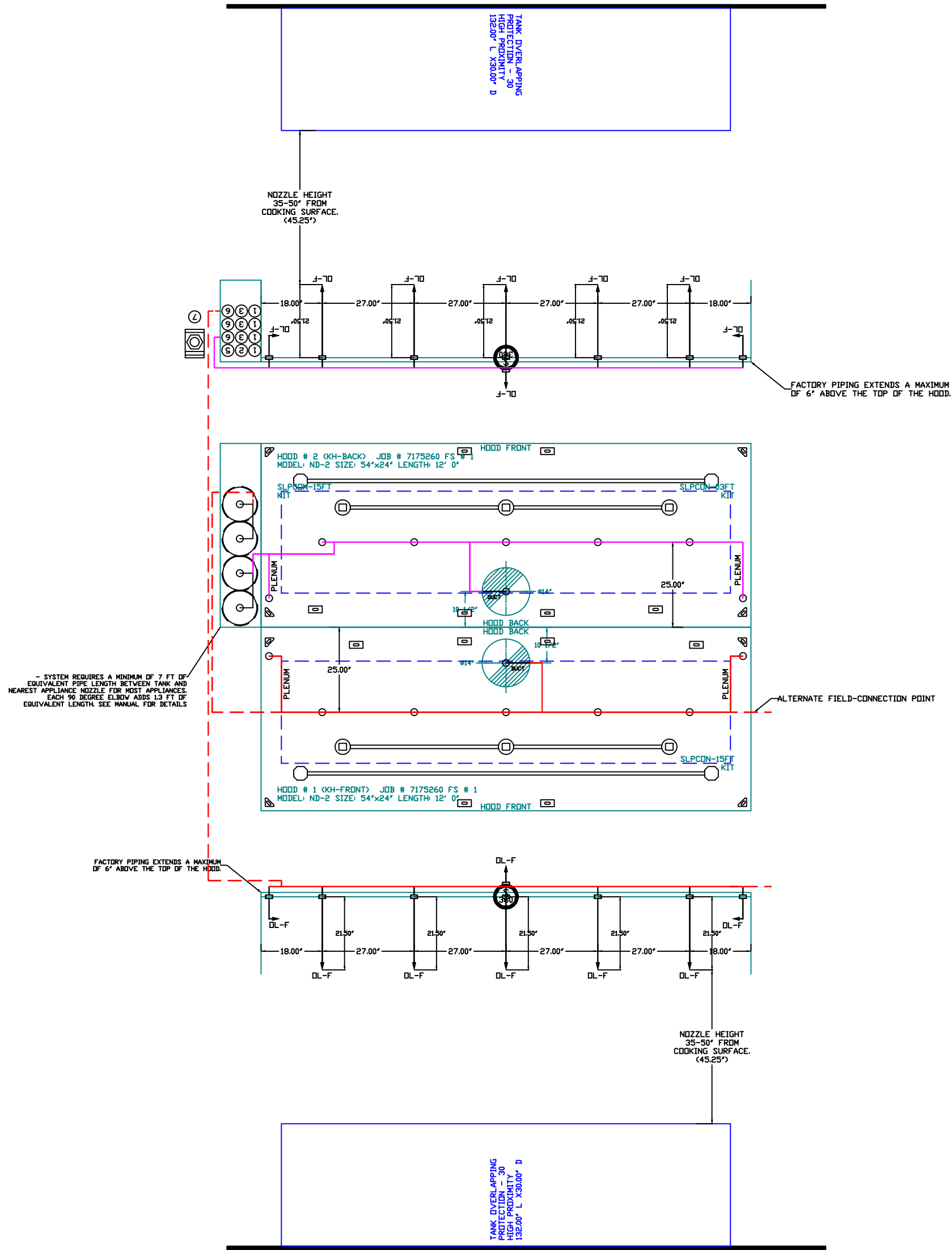
DRAWN BY: Josh I 146

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

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- NOTES
- FIELD PIPE DROPS AS SHOWN
 - PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS
 - FIELD INSTALLED DROP FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLER
 - SHIP LOOSE DROP FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLER
 - 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 UL 300 REQUIREMENTS.
 - DL-F NOZZLE PART NUMBER REPLACES 3070-3/BH-10-SS
- JOB #: 7175260.
JOB NAME: ENGLISH PUB - FARS.
- SYSTEM SIZE: TANK-SP-4 DESIGN FPI: 74, MAXIMUM FPI: 80.
HOOD # 1 12' 0.00' LONG x 54" WIDE x 24" HIGH.
RISER # 1 SIZE: 14" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.
HOOD # 2 12' 0.00' LONG x 54" WIDE x 24" HIGH.
RISER # 1 SIZE: 14" DIA.
HOOD # 2 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 6' IN LENGTH.
 - MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

AGENT DISTRIBUTION PIPING LIMITATIONS		
PIPE SECTION		MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE		42
OVERLAPPING NOZZLE APPLIANCE BRANCH		10
DEDICATED NOZZLE APPLIANCE BRANCH		10

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 HULL STATION & SYSTEM HEADQUARTER AND ONE VISIT FOR ONE TEST. ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES. USE MECHANICAL OR ELECTRICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 1" PER INCH AND SYSTEM TEST. EXCLUDED: UNION LABOR & PREVAILING WAGE GLASSER & WAGES WILL BE ADDED IF APPLICABLE. GAS VALVE INSTALLATION, ELECTRICAL, HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHERS, ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

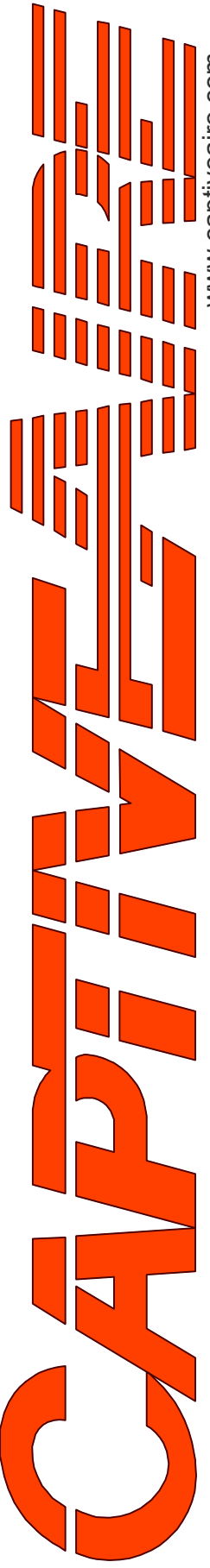
GAS VALVES AND STRAINERS												
GAS VALVE SIZING						GAS VALVE DIMENSIONS						
TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DM "A"	DM "B"	DM "C"	DM "D"	DM "E"	INSTALLATION
ELECTRICAL	2"	120 VAC	0 IN.W.C.	15 PSI (130 IN.W.C.)	2,940,000 BTU/HR	1,900,000 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13/16"	15-5/8"	MOUNTING ORIENTATION
												HORIZONTAL
					GAS VALVE PART NUMBER			STRAINER PART NUMBER			GAS VALVE/STRAINER KIT	
					8214280			4417668			SCJGVAH2	

EXHAUST FAN INFORMATION – JOB#7175260

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	KEF-1	1	DU85HFA	CAPTIVEAIRE	2040	1.250	1543	TEAD-ECM	1.000	0.6580	1	115	11.6	646 FPM	94	15.7
2	KEF-2	1	DU85HFA	CAPTIVEAIRE	2040	1.250	1543	TEAD-ECM	1.000	0.6580	1	115	11.6	646 FPM	94	15.7
3	DEF-1	1	DUI2HFA	CAPTIVEAIRE	450	0.200	1495	DDP	0.180	0.0930	1	115	1.9	319 FPM	57	8.8

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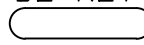
DRAWN BY: Josh I 146

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

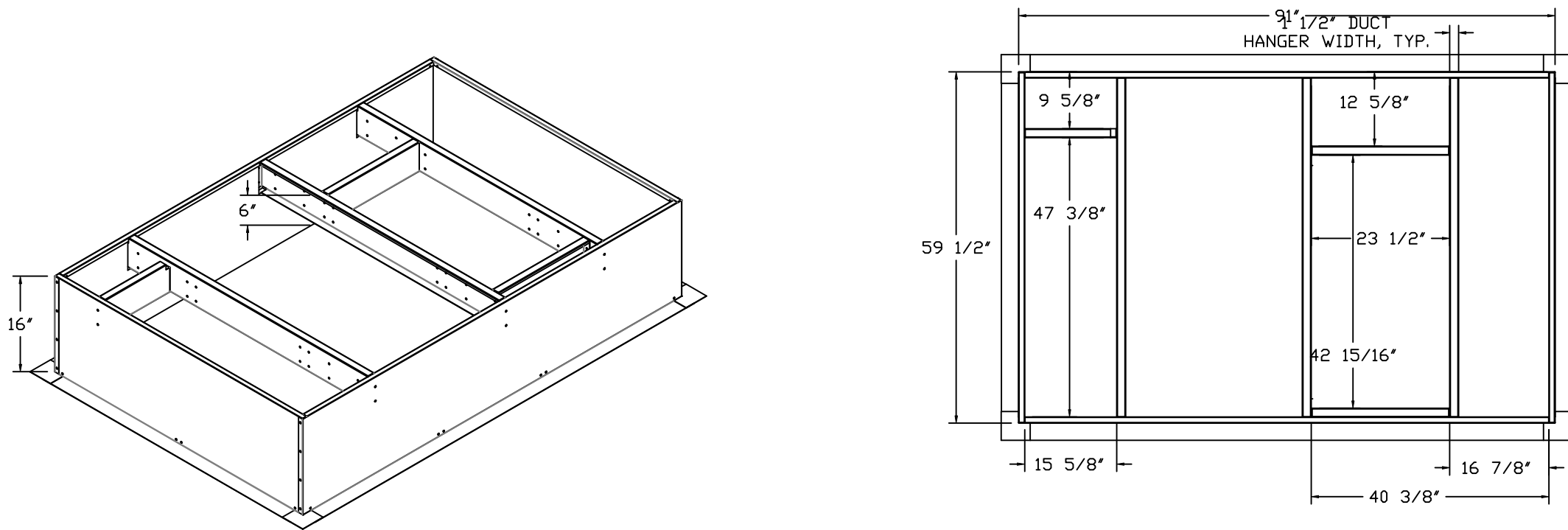
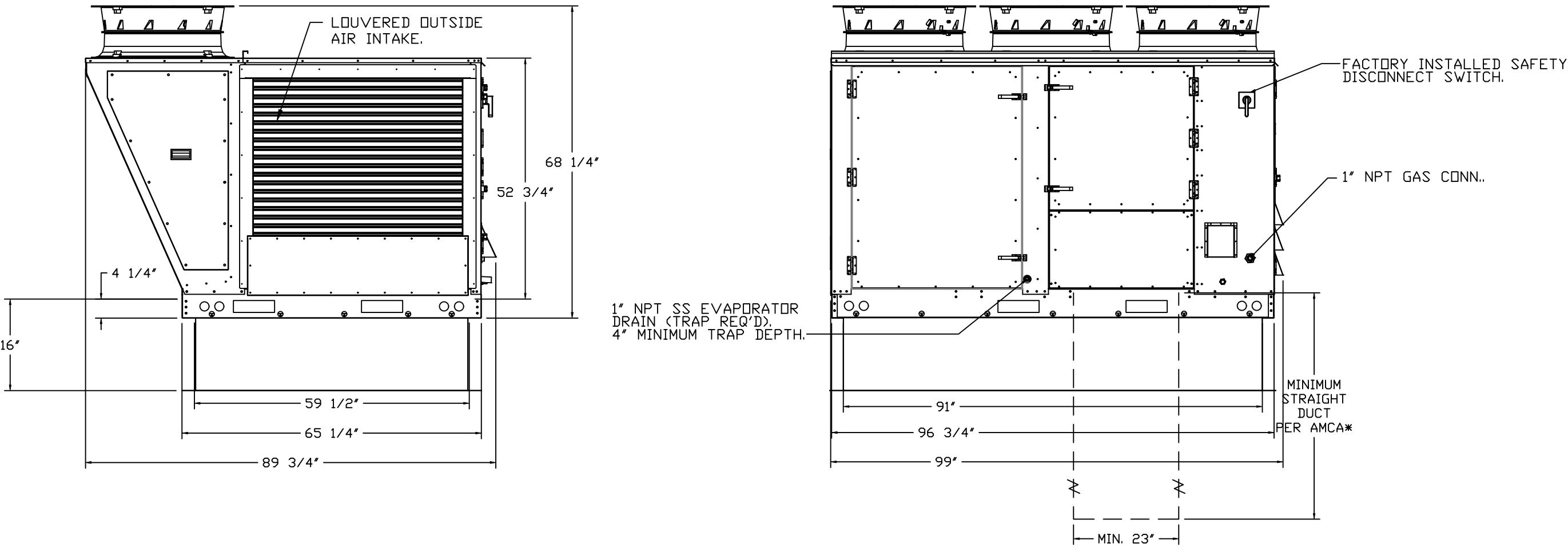
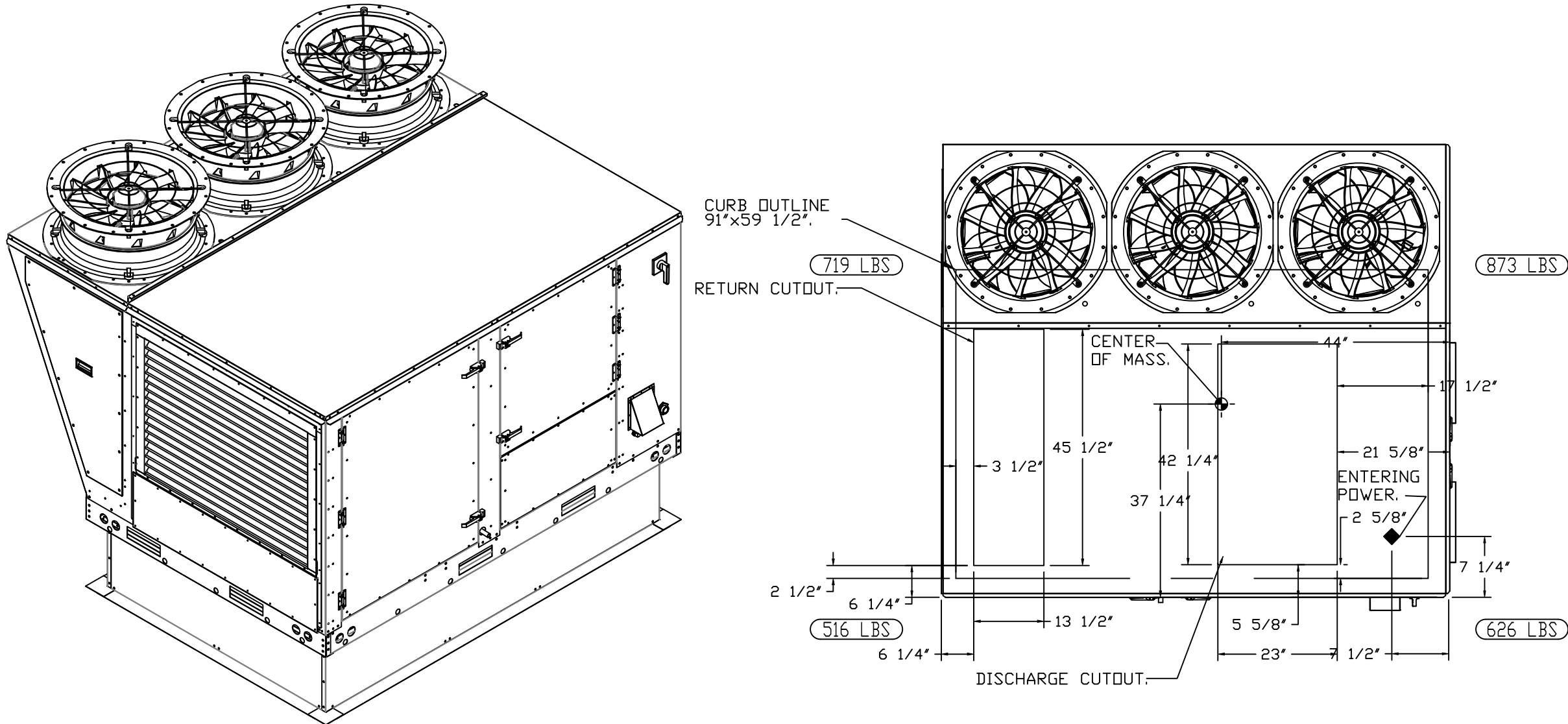
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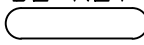
FAN #4 CAS-HVAC3-I.300-20-20T - HEATER (RTU-1 (KITCHEN))

- 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.
 - CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.
 - EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.

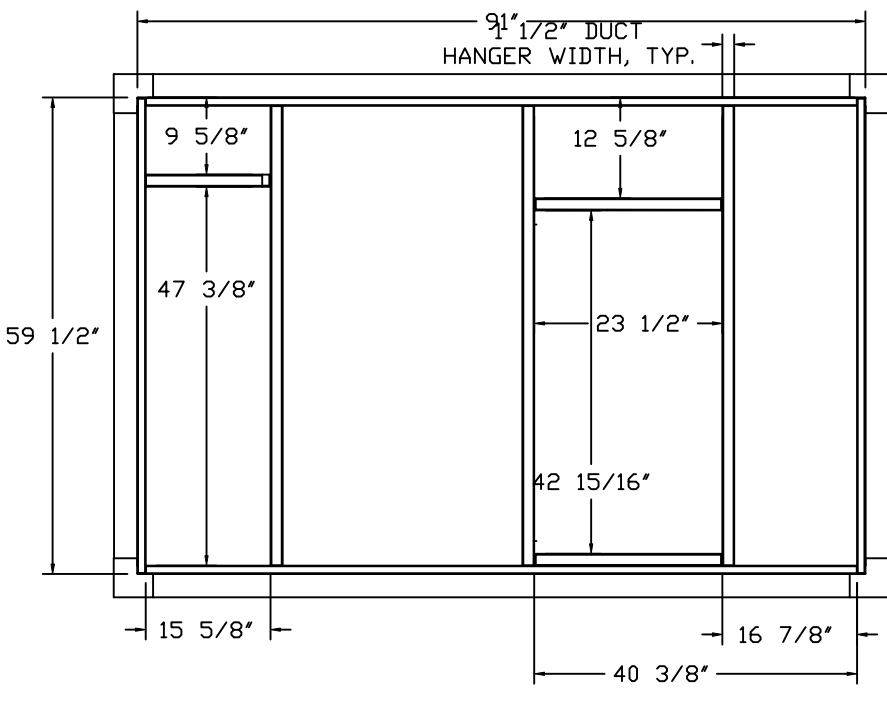
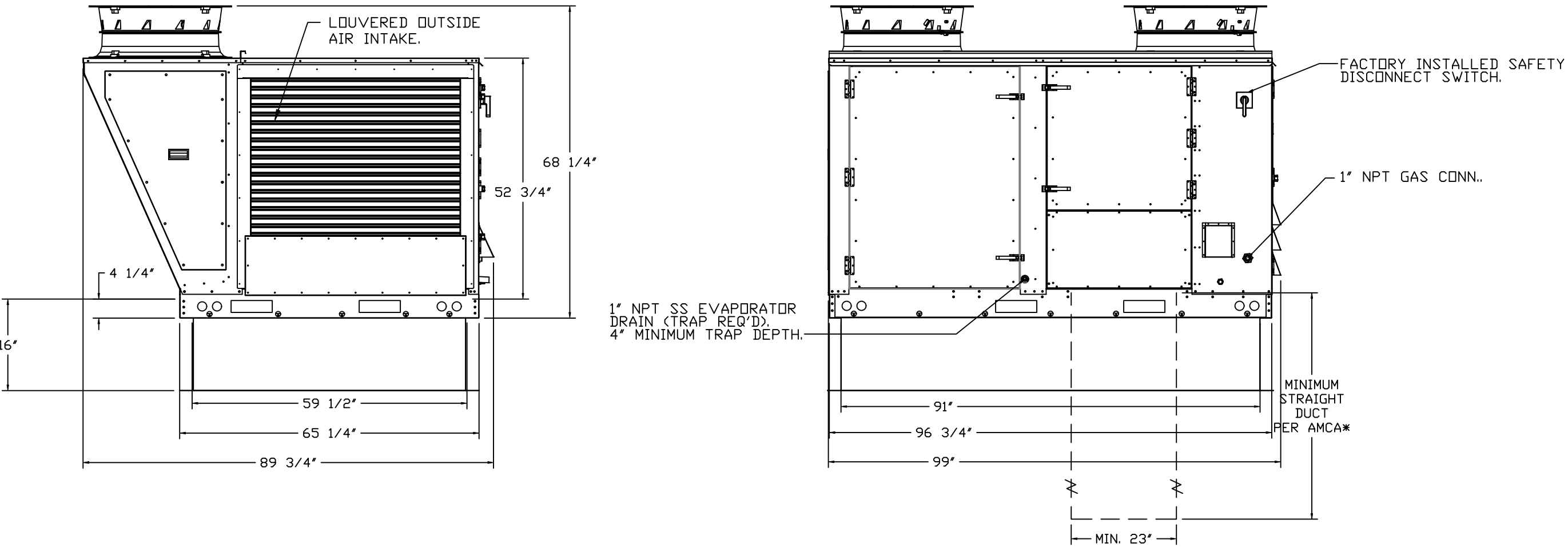
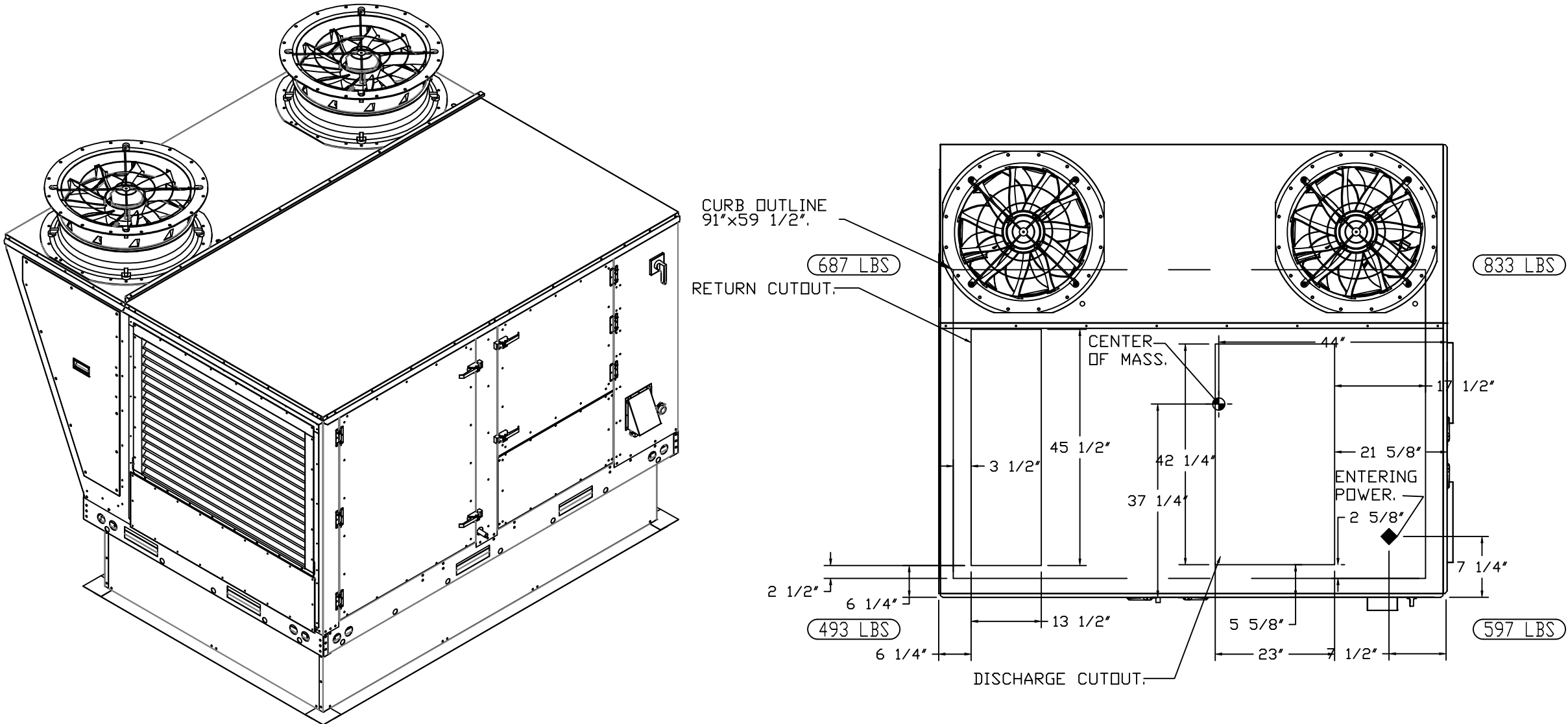
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE 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 23" x 39".



FAN #5 (RTU-2 (1ST FLOOR)), #6 (RTU-3 (2ND FLOOR)) - CAS-HVAC3-I.300-20-15T HEATER

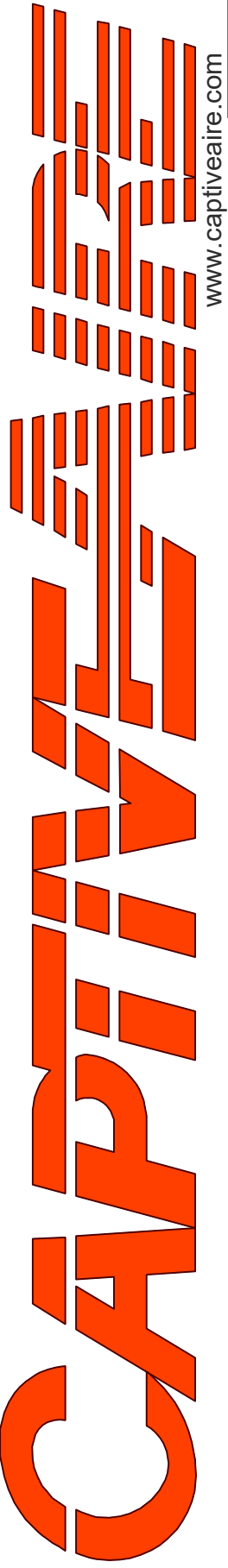
- NOTES:
- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
 -  DENOTES CORNER WEIGHT.
 - ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.
 - CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.
 - EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.

*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 23" x 39".



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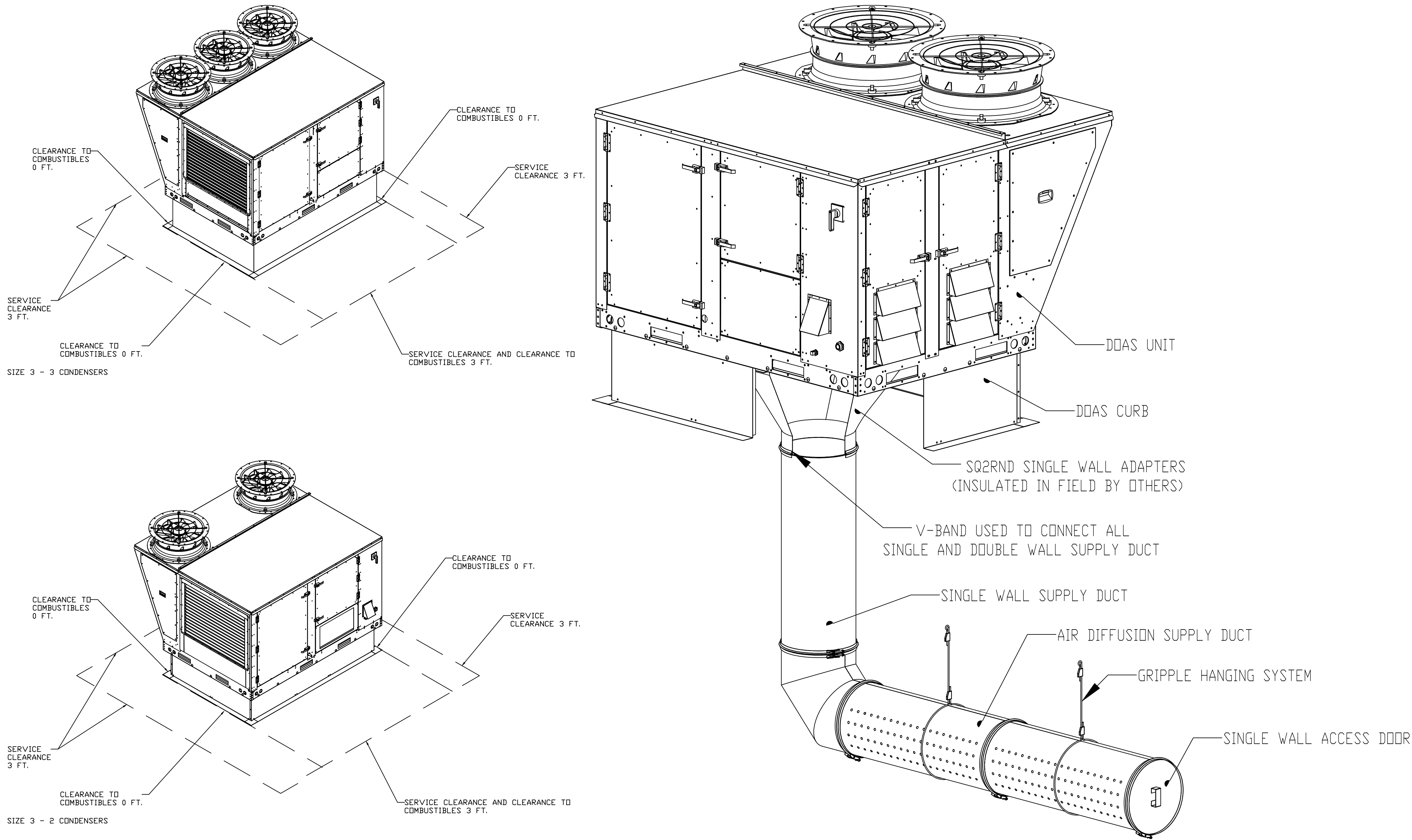
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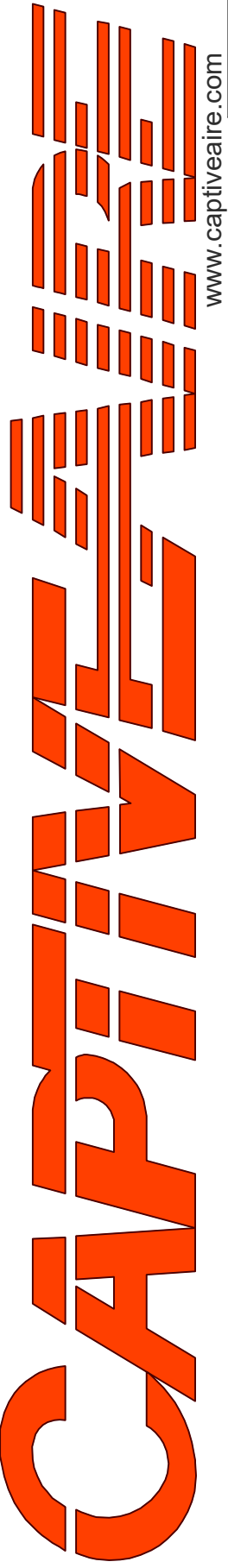
SCALE:
1/2" = 1'-0"

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8



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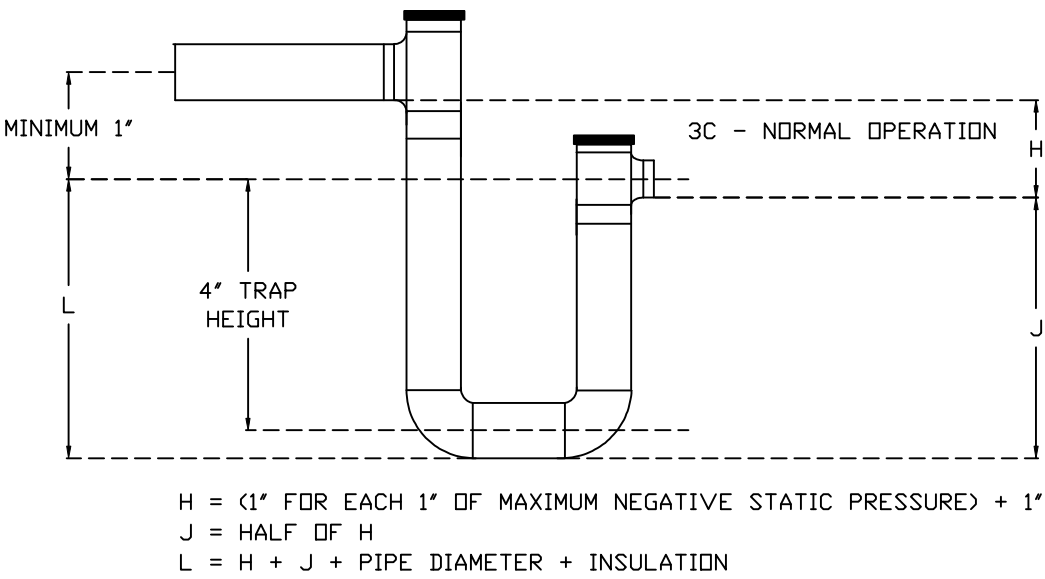
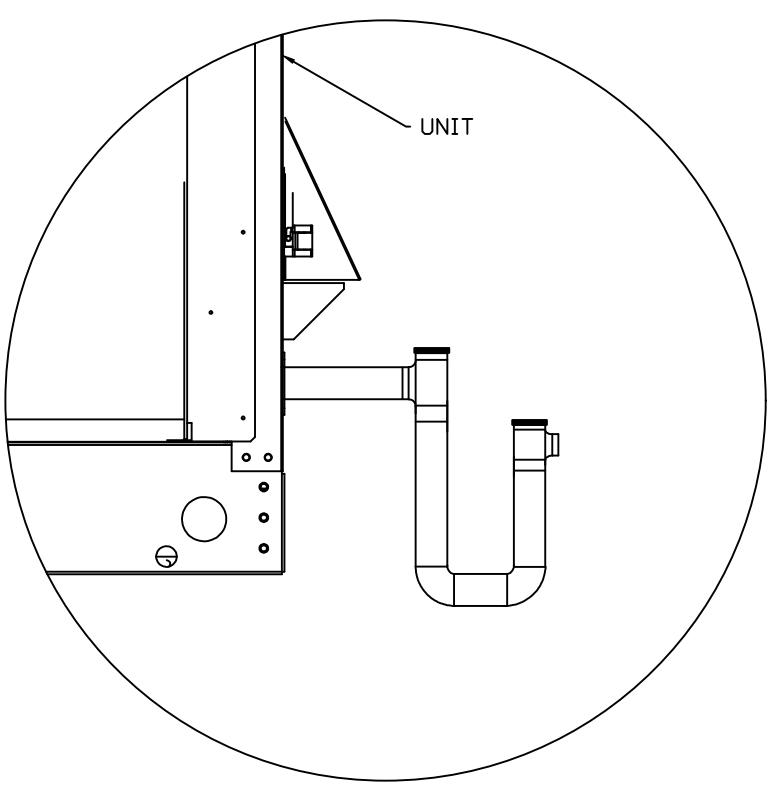


AIR DIFFUSION SUPPLY DUCT SPECIFICATIONS:
PROVIDE AIR DIFFUSION SUPPLY DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL DW-S0(HC), DW-S90(HC), & DW-S180(HC).
THREE DISTINCT HOLE PATTERN OPTIONS TO COVER A VARIETY OF CEILING HEIGHTS.
NO ADDITIONAL DIFFUSERS REQUIRED, AS THE DUCT ITSELF PROVIDES AIR DIFFUSION.
MADE OF HIGH QUALITY STAINLESS STEEL DESIGNED TO LAST 20+ YEARS.
HIGH INDUCTION SUPPLY DUCT IS CONSTRUCTED USING 24 GAUGE, 430 SS - 5" THRU 24".
HIGH INDUCTION SUPPLY DUCT IS CONSTRUCTED USING 20 GAUGE, 430 SS - 26" THRU 36".
QUICK ONSITE ASSEMBLY USING EPDM GASKETS & UNIVERSAL V-BANDS.
DOUBLE WALL SUPPLY DUCT AVAILABLE FOR INTERIOR AND EXTERIOR SPACES, EITHER CONDITIONED OR UNCONDITIONED.
DOUBLE WALL SUPPLY DUCT AVAILABLE IN DW-1S, DW-2S, & DW-3S TO MEET SPECIFIC REGIONAL "R" VALUE REQUIREMENTS.

Insulation R-Value Recommendations		
Supply Duct Type	Minimum R-value	Space Type
Single Wall - S & -HC	N/A	Conditioned Space Only
Double Wall - 1S	R-4	Unconditioned Interior Space Only
Double Wall - 2S	R-8	Unconditioned Space Climate Zones 1-4
Double Wall - 3S	R-12	Unconditioned Space Climate Zones 5-8

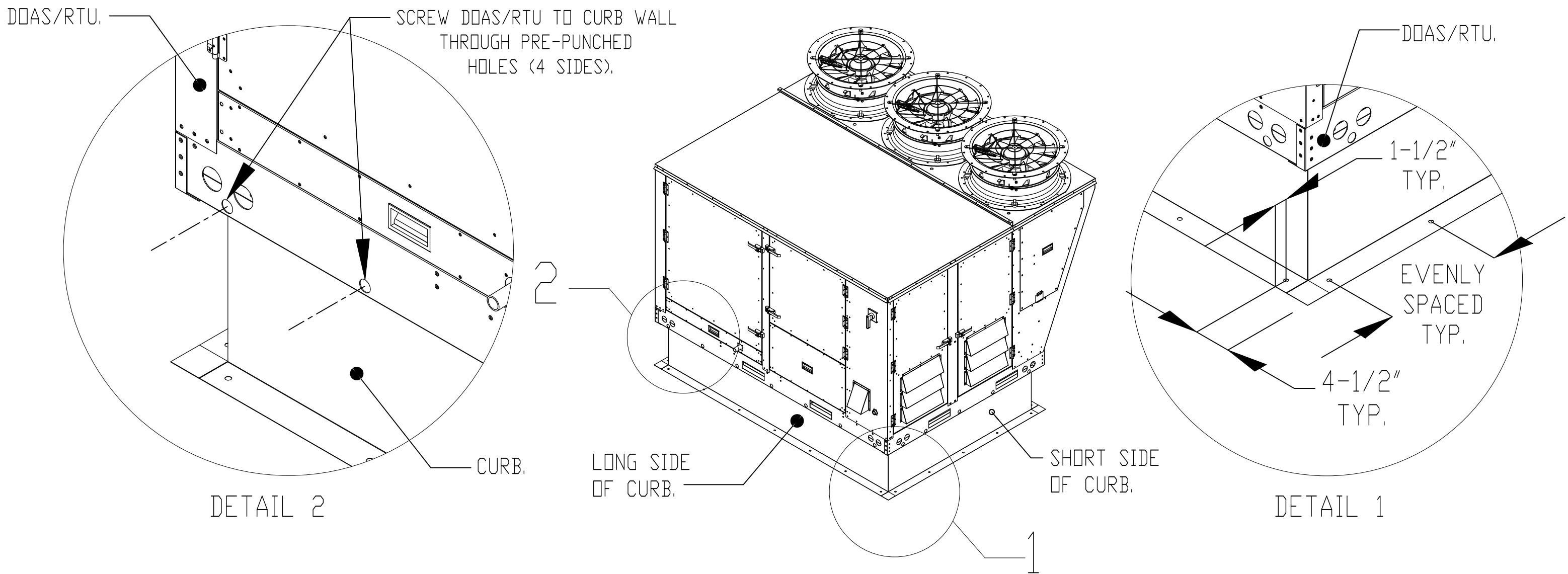
DOUBLE WALL SUPPLY DUCT IS INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.
AIR DIFFUSION SUPPLY DUCT COMPLIES WITH SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS) BEST PRACTICES.
POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTION TO DISCHARGE, SEE NFPA 13, TABLE 8.12.5.1.1.

RTU CONDENSATE DRAIN TRAP DETAIL



TYPICAL DOAS/RTU ROOF MOUNTING INSTALLATION INSTRUCTIONS

1. SECURE THE CURB TO THE ROOF FRAMING MEMBERS BY DRILLING 1/4" PILOT HOLES IN THE CURB FLANGES AT LOCATIONS SHOWN IN THE DIAGRAM BELOW. USING 3/8" X 2" ZINC PLATED STEEL LAG BOLTS, AND ZINC PLATED WASHERS, SCREW THROUGH THE CURB FLANGES AND INTO THE ROOF FRAMING MEMBERS. A MINIMUM OF (5) LAG BOLTS ON EACH SHORT SIDE, AND (7) LAG BOLTS ON EACH LONG SIDE IS REQUIRED.
2. SECURE THE UNIT BASE TO THE SIDE WALLS OF THE CURB USING (24) 1/4"-14 X 2" SELF-DRILLING, STEEL ZINC PLATED SCREWS. PRE-PUNCHED HOLES HAVE BEEN PROVIDED FOR EACH SCREW LOCATION.



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CAPTIVEAIRE

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8 GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW"
ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW"
IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING
CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW"
DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER
THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER.
PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE
SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".
DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE
ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE
UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY
EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE
430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED

APPROVED WITH NO EXCEPTION TAKEN

REVISE AND RESUBMIT

SIGNATURE

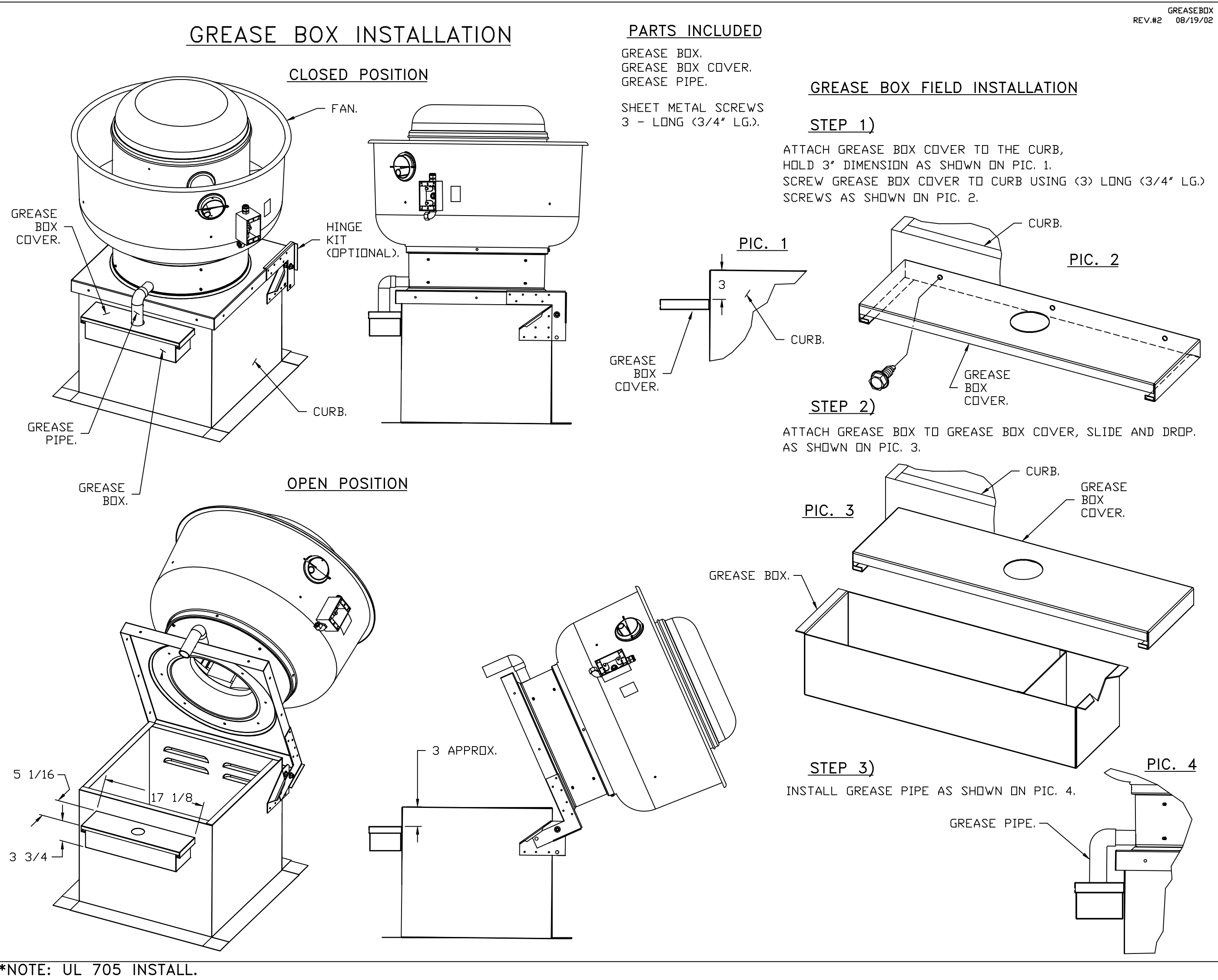
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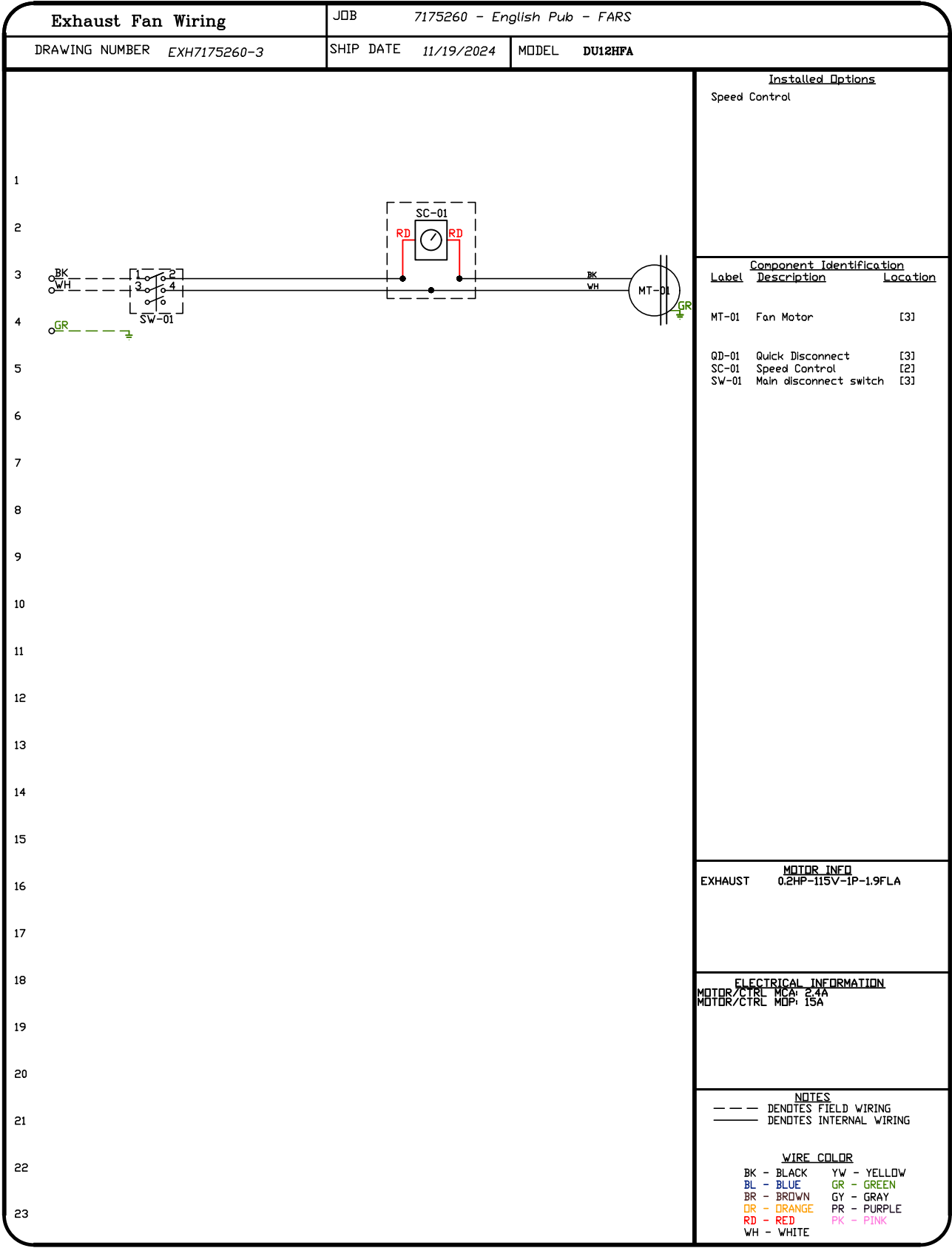
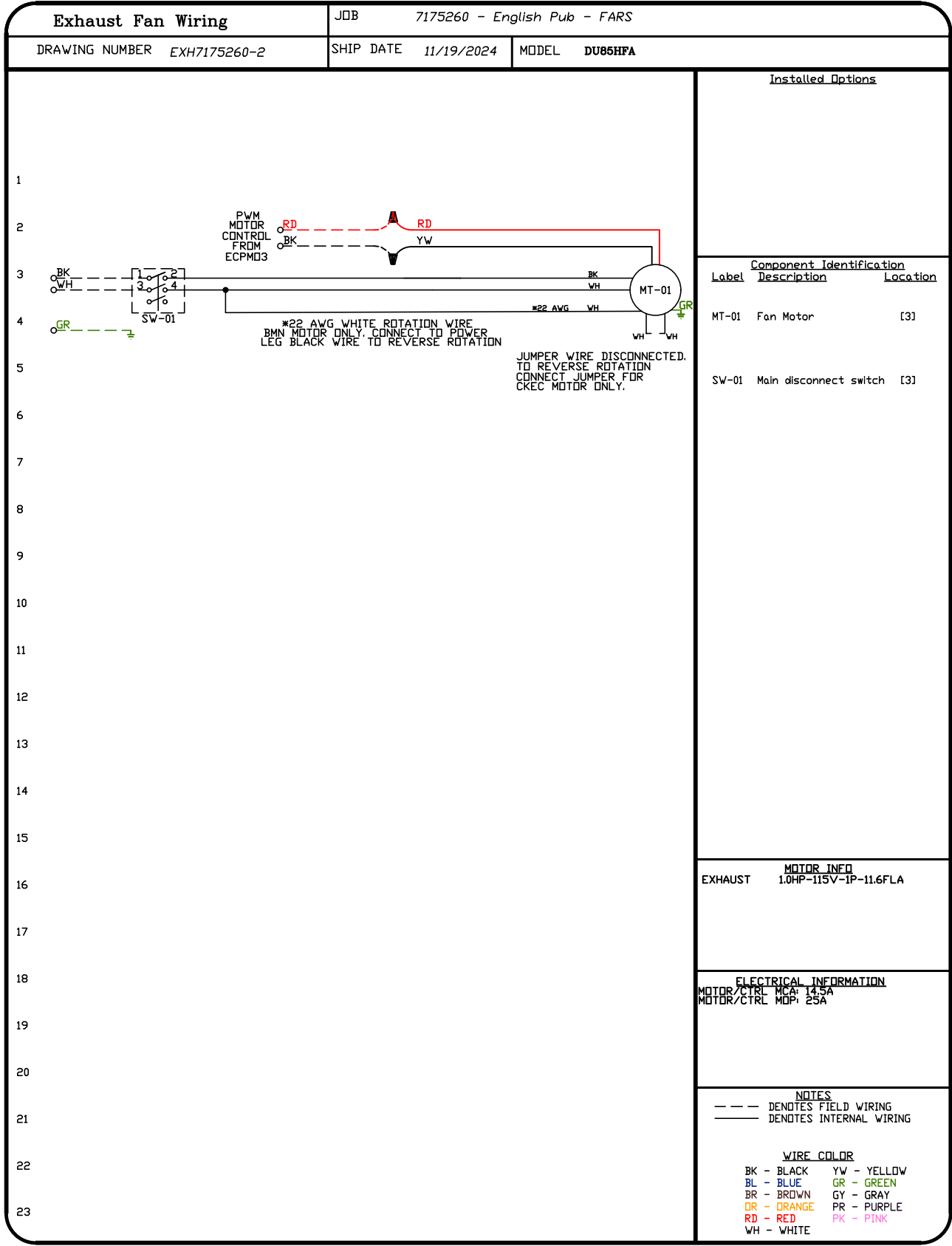
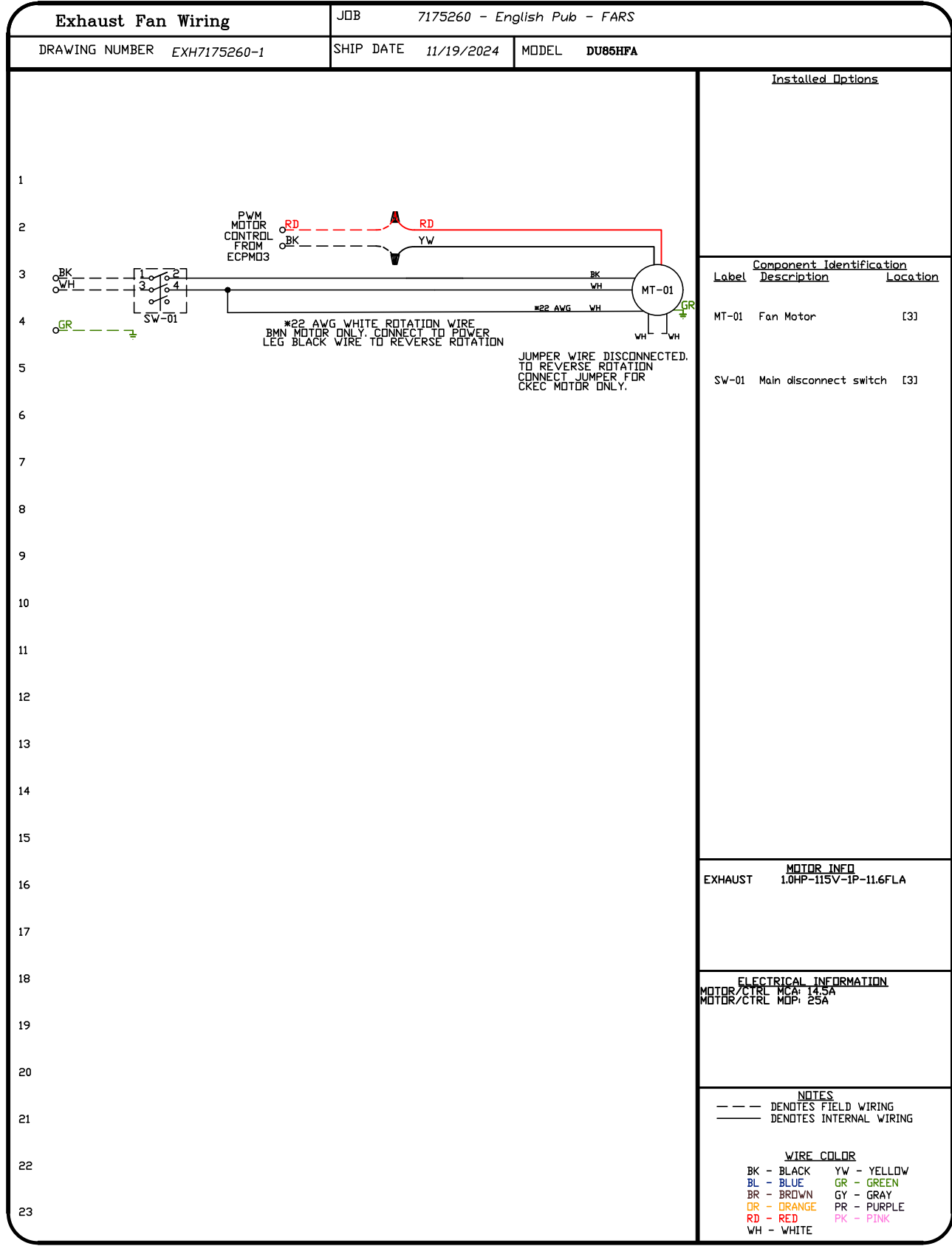
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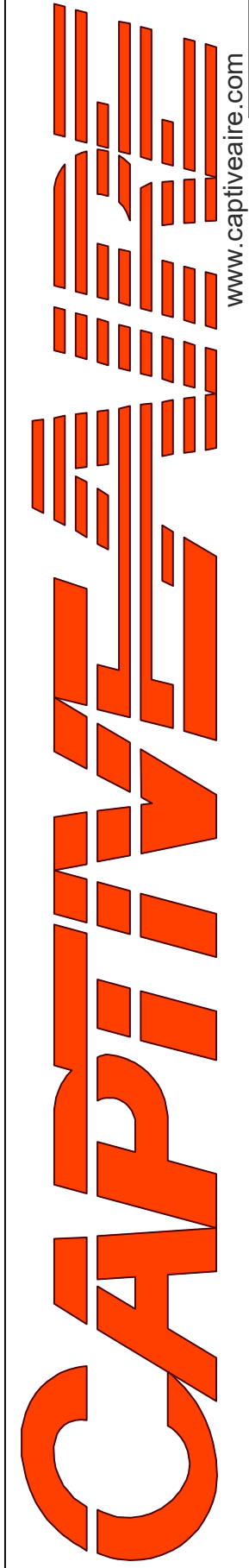
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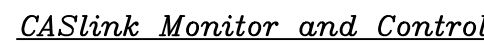
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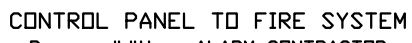
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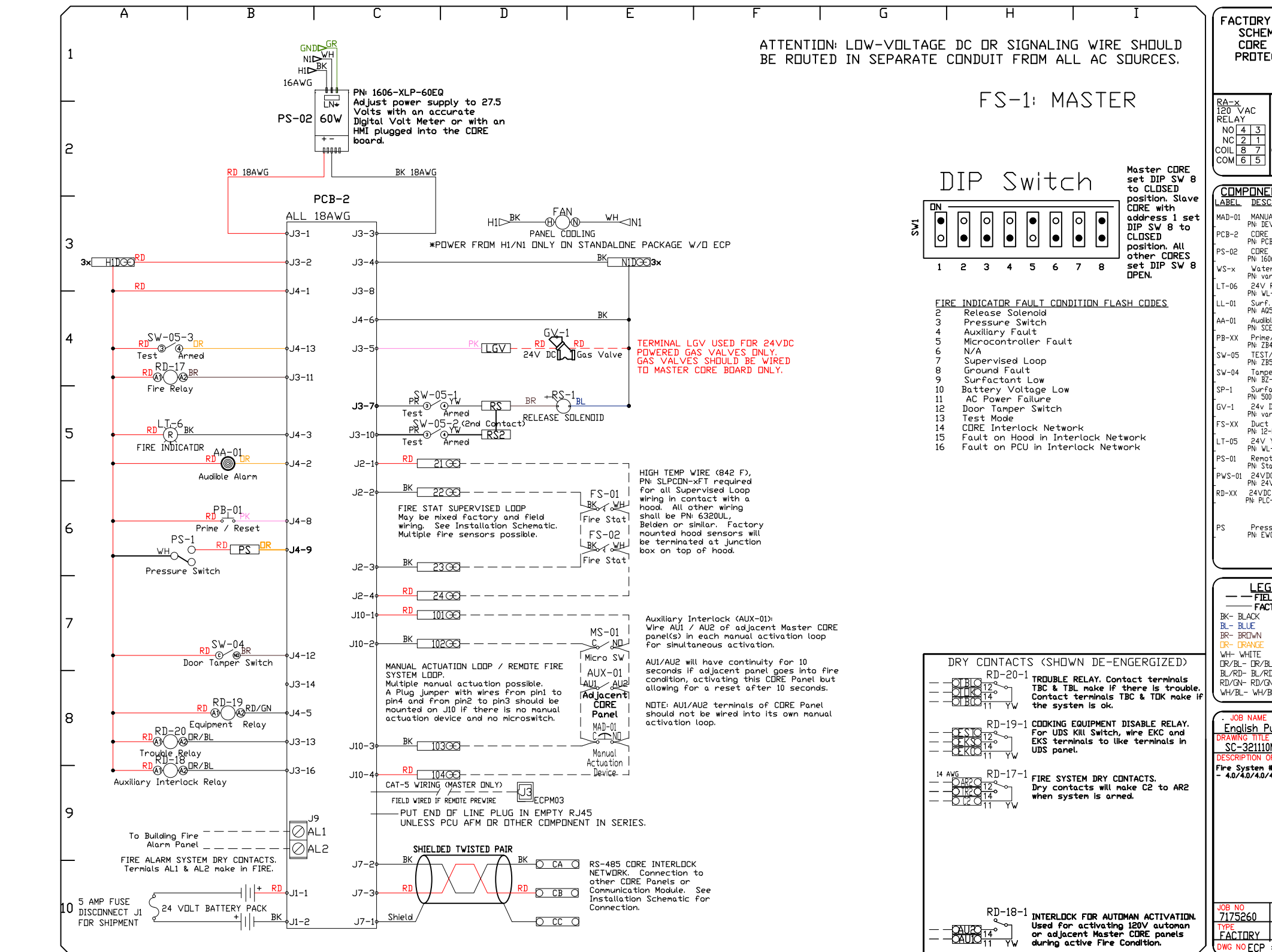
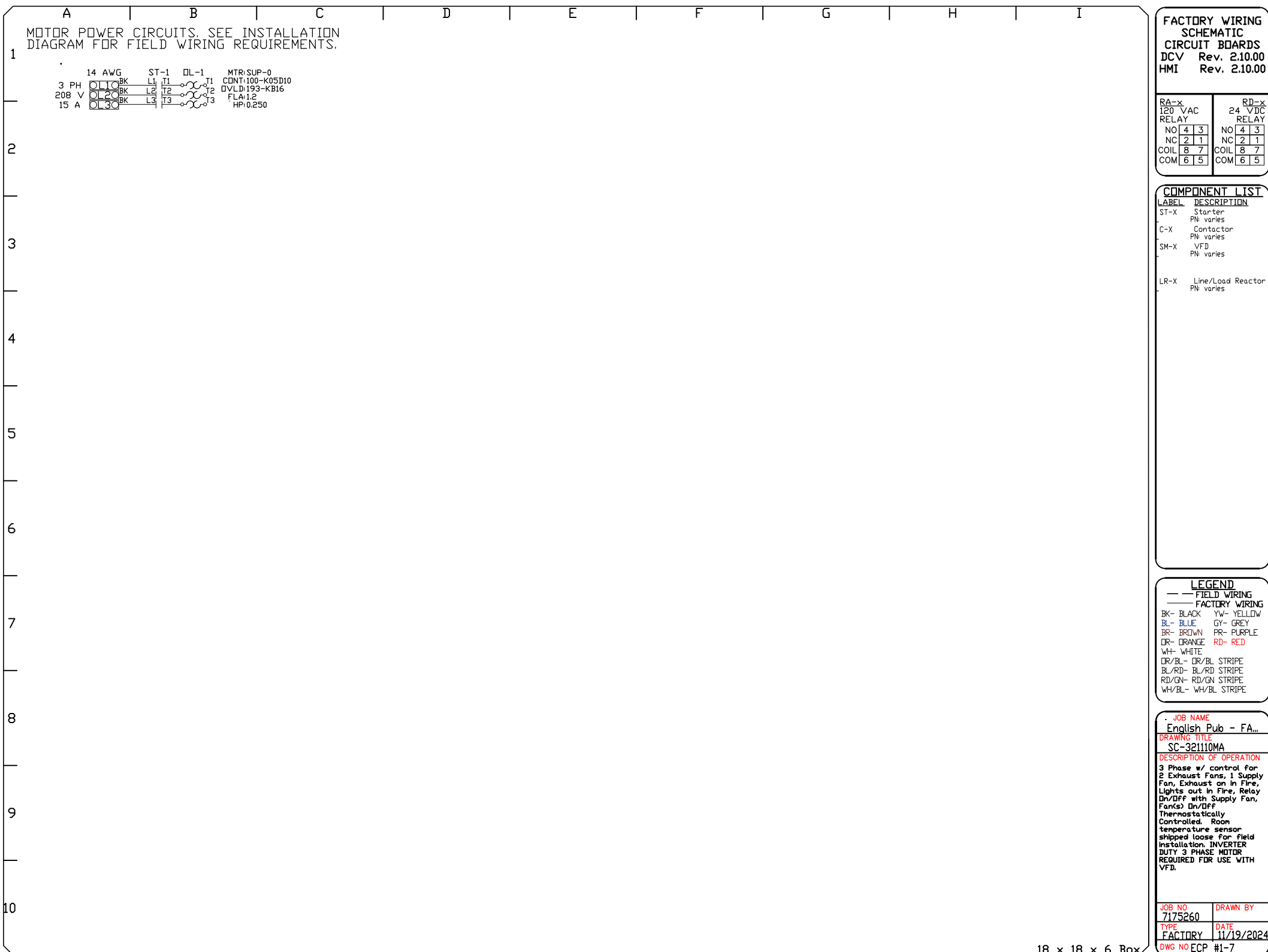
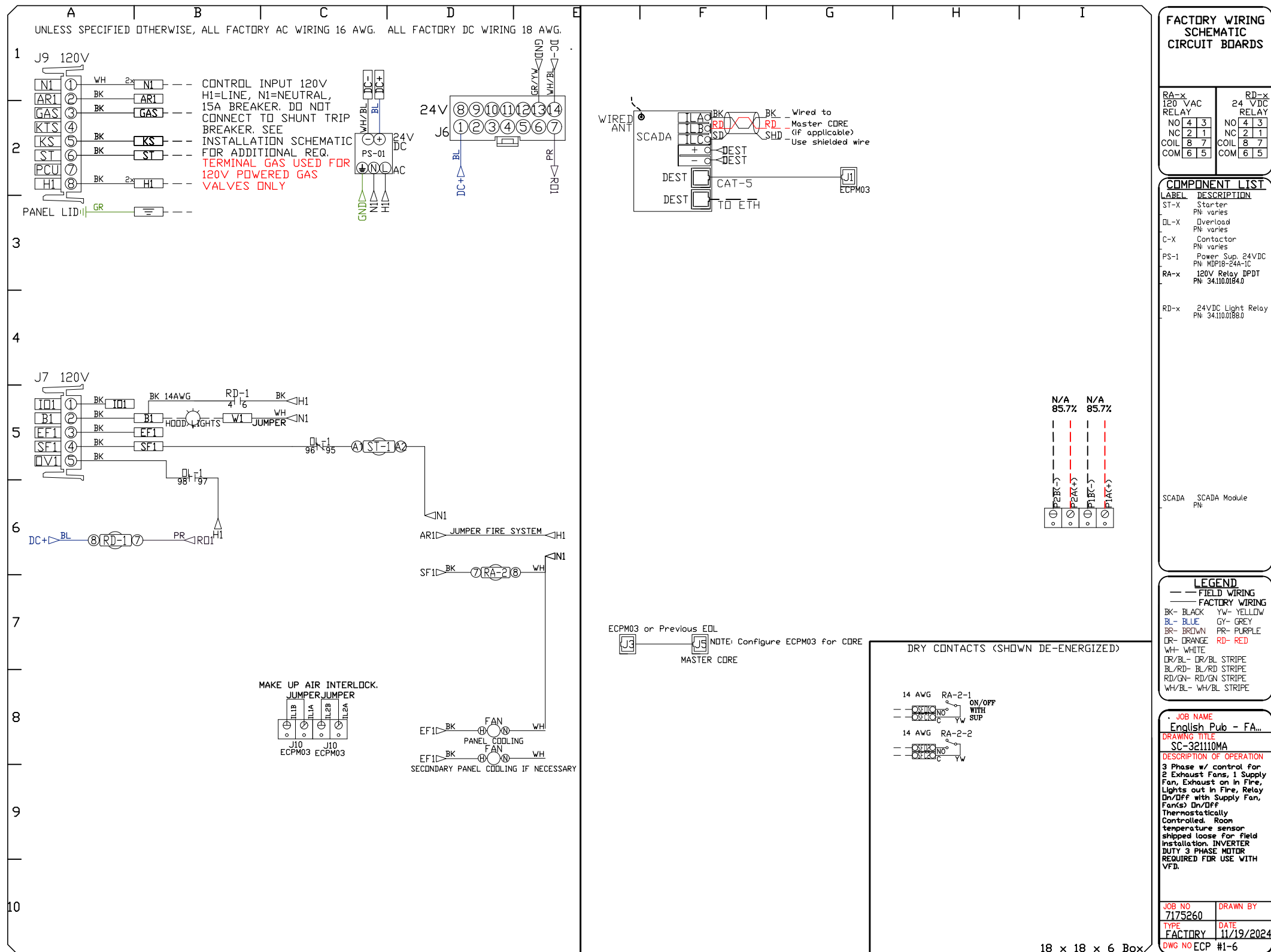
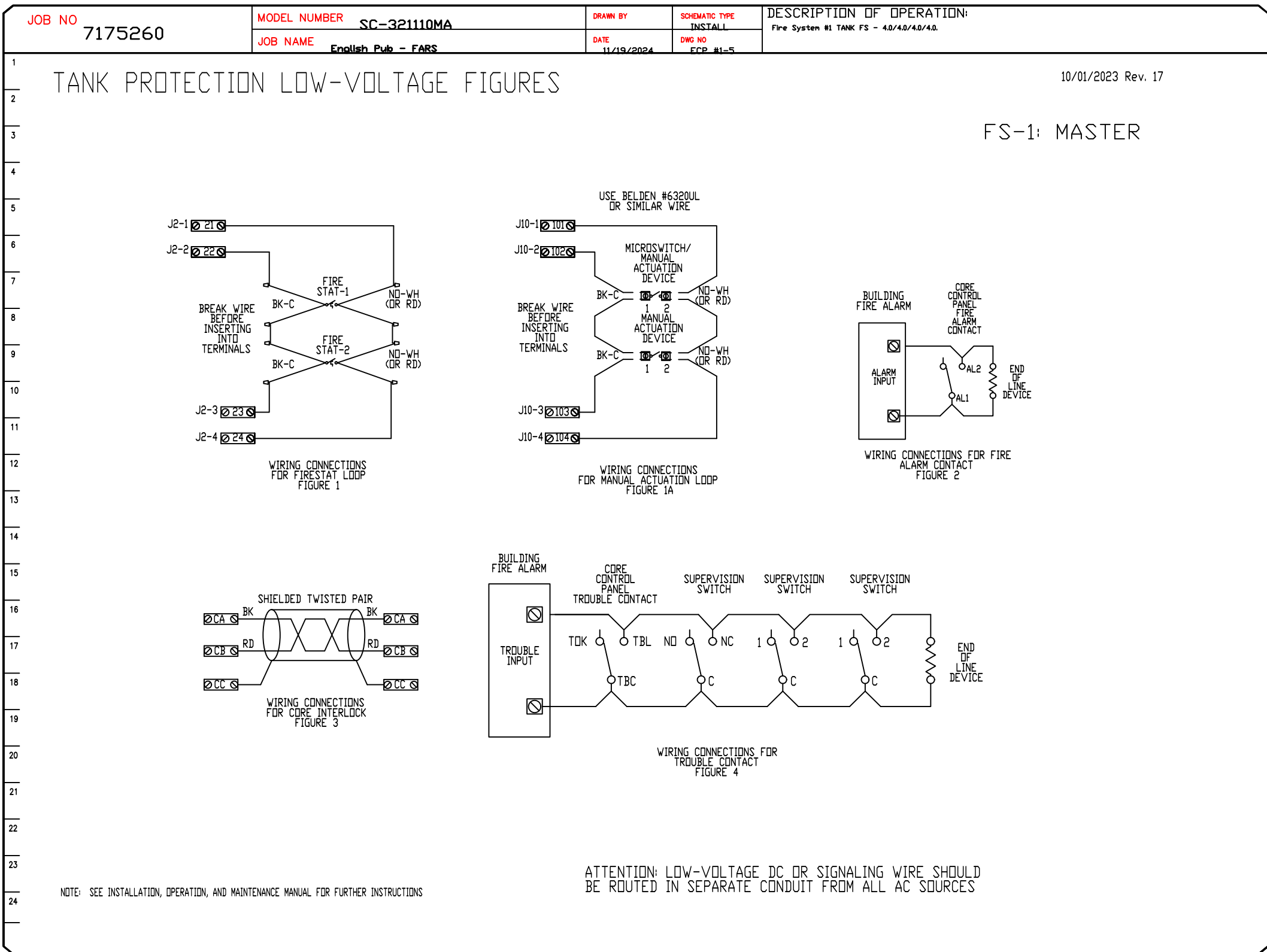
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				LOCATION	QUANTITY		FAN TAG	TYPE	Ø	HP	VOLT	FLA
1		SC-321110MA	UTILITY CABINET LEFT	UTILITY CABINET LEFT	1 LIGHT	SMART CONTROLS THERMOSTATIC CONTROL W/ RELAY ON/OFF WITH SUPPLY	KEF-1	EXHAUST	1	1.000	115	11.6
				HOOD # 1	1 FAN		KEF-2	EXHAUST	1	1.000	115	11.6
								SUPPLY	3	0.250	208	1.2



- Hood control panel to support communications to cloud-based Building Management System.
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
- Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.
- Hood Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

DCV Packages	Function	SC Packages	Function
Room Temperature	MONITOR	Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR	Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR	MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR	Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR	Controller Faults	MONITOR
Fan Amperage	MONITOR	Fan Faults	MONITOR
Fan Power	MONITOR	Fan Status	MONITOR
VFD Faults	MONITOR	PCU Faults	MONITOR
Controller Faults	MONITOR	PCU Filter Clog Percentages	MONITOR
Fan Faults	MONITOR	Fire Condition	MONITOR
Fan Status	MONITOR	CORE Fire System	MONITOR
PCU Faults	MONITOR	Building Pressure	MONITOR
PCU Filter Clog Percentages	MONITOR	Fans Button(s)	MONITOR & CONTROL
Fire Condition	MONITOR	Lights Button(s)	MONITOR & CONTROL
CORE Fire System	MONITOR	Wash Button	MONITOR & CONTROL
Building Pressure	MONITOR		
Prep Time Button	MONITOR & CONTROL		
Fans Button	MONITOR & CONTROL		
Lights Button	MONITOR & CONTROL		
Wash Button	MONITOR & CONTROL		





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SYSTEM DESIGN VERIFICATION (SDV)

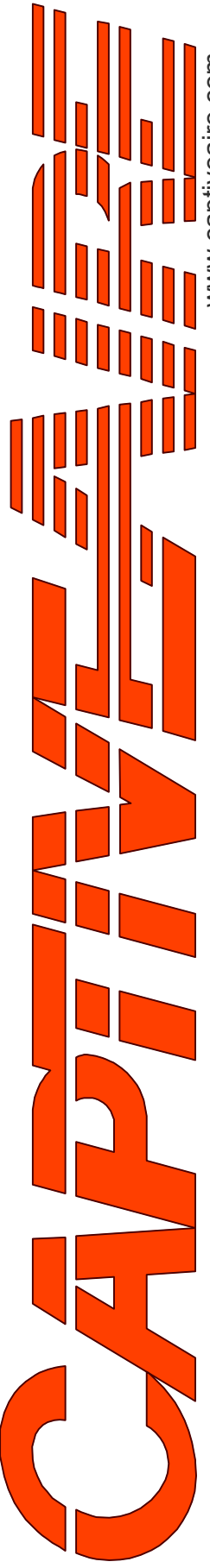
IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

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.

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