

FOR QUESTIONS, CALL THE
Highwoods Group
REGION 40
PHONE: (919) 875-0420
EMAIL: reg40@captivaire.com

PATENT NUMBERS

AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION - JOB#5787205

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)						MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG		
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL				SP	END TO END	RDW
1		5424 ND-2-ACPSP-F	CAPTIVEAIRE	12' 3"	600 DEG	I	HEAVY	229	2800	10'	26'	4'		2800	1551	-1.080'	1650	798	430 SS WHERE EXPOSED	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	FIRE SYSTEM TYPE			SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY
1		CAPTRATE SOLID FILTER	9	16"	16"	85% SEE FILTER SPEC	8	L55 SERIES E26	NO	LEFT	12"x54"x24"	ANSUL R-102	3.0/3.0	SC-311110MA	1 LIGHT 1 FAN	YES	992 LBS

HOOD OPTIONS

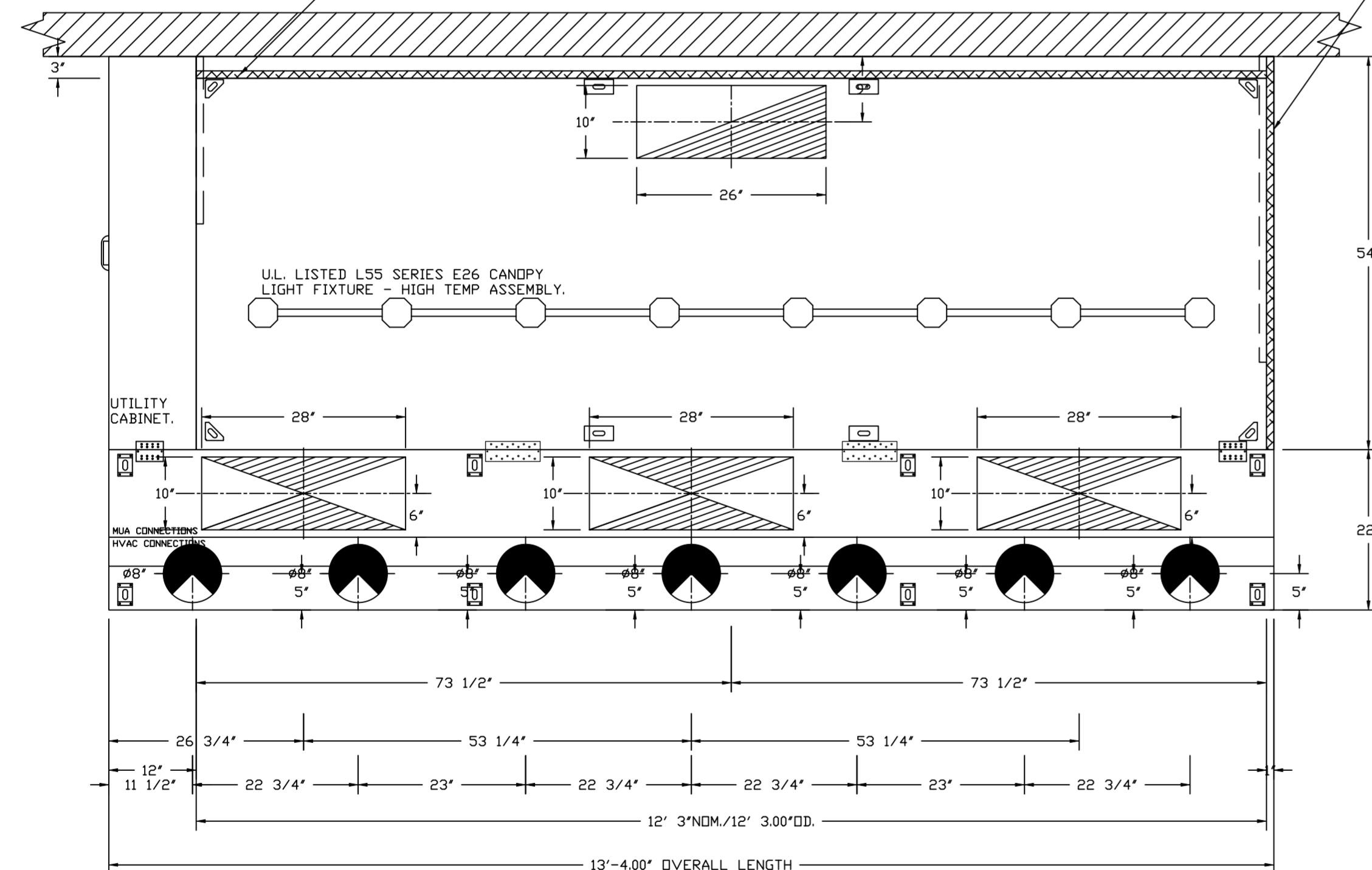
HOOD NO	TAG	OPTION
1		RIGHT END STANDOFF (FINISHED) 1' WIDE 54' LONG INSULATED. LEFT QUARTER END PANEL 23' TOP WIDTH, 0' BOTTOM WIDTH, 23' HIGH 430 SS. INSULATION FOR BACK OF HOOD. RISER SENSOR INSTALL 6IN PLEN. RIGHT WIDE VERTICAL END PANEL 42' TOP WIDTH, 36' BOTTOM WIDTH, 80' HIGH INSULATED 430 SS.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	PDS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1		Front	160'	22'	6'	MUA	10"	28'		550	0.141'
						MUA	10"	28'		550	0.141'
						MUA	10"	28'		550	0.141'
						AC		8"	114	0.041'	
						AC		8"	114	0.041'	
						AC		8"	114	0.041'	
						AC		8"	114	0.041'	
						AC		8"	114	0.041'	

1' LAYER OF INSULATION FACTORY INSTALLED IN INTERNAL BACK STANDOFF. MEETS 0 INCH REQUIREMENTS FOR CLEARANCE TO COMBUSTIBLE SURFACES.

1' LAYER OF INSULATION FACTORY INSTALLED IN 1.00' END STANDOFF MEETS 0" REQUIREMENTS CLEARANCE TO COMBUSTIBLE SURFACES.



PLAN VIEW - HOOD #1
12' 3.00" LONG 5424ND-2-ACPSP-F
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

ACPSP SHIPS LOOSE FOR FIELD INSTALLATION

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 SLOTTED REAR Baffle DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

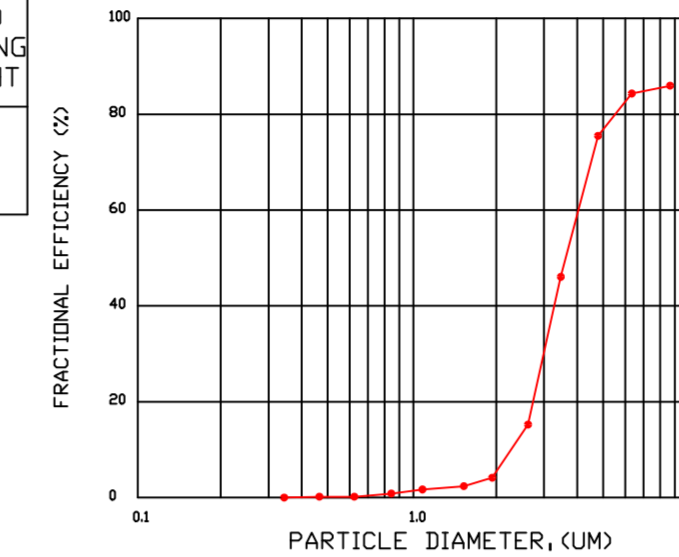
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

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

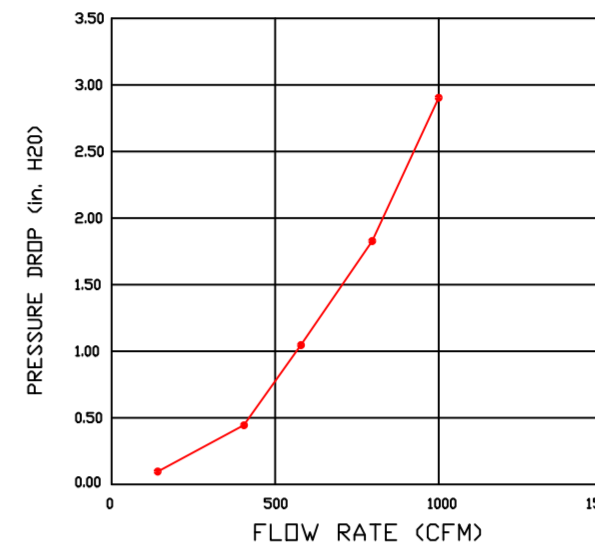
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

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

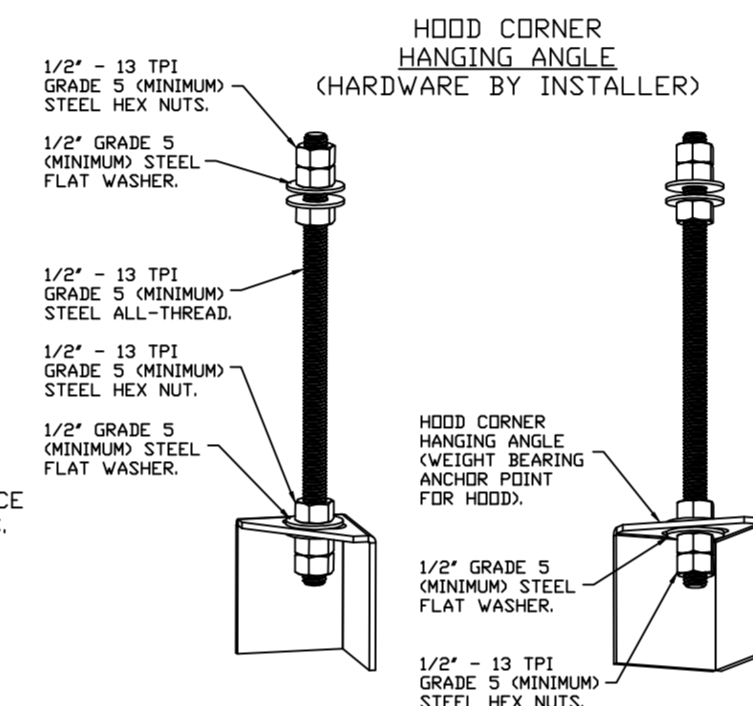
EFFICIENCY VS. PARTICLE DIAMETER



PRESSURE DROP VS. FLOW RATE

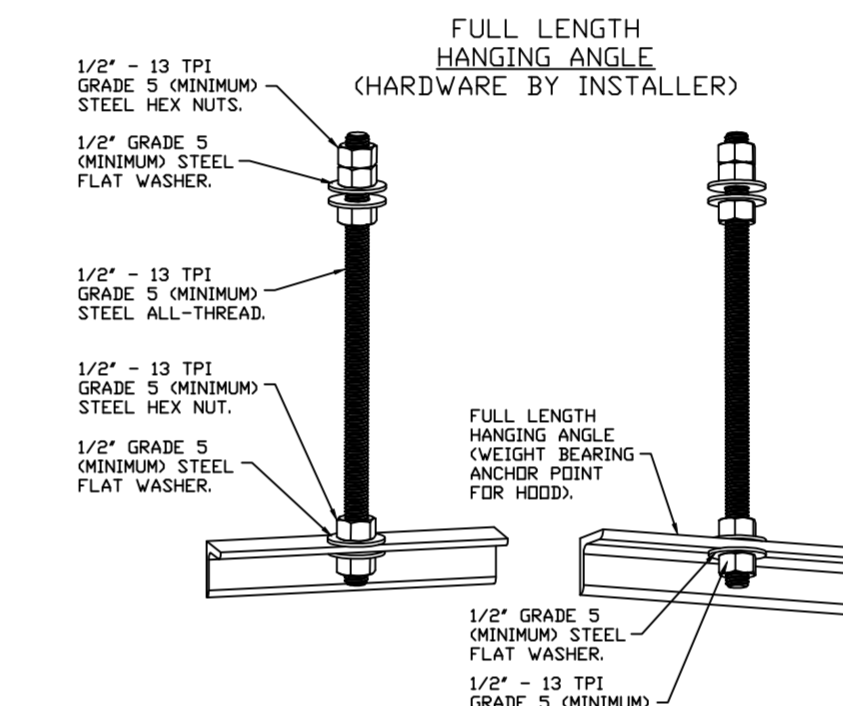


CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96.
UL STANDARD #2.
INT. MECH. CODE (IMC).
ULC-S649.



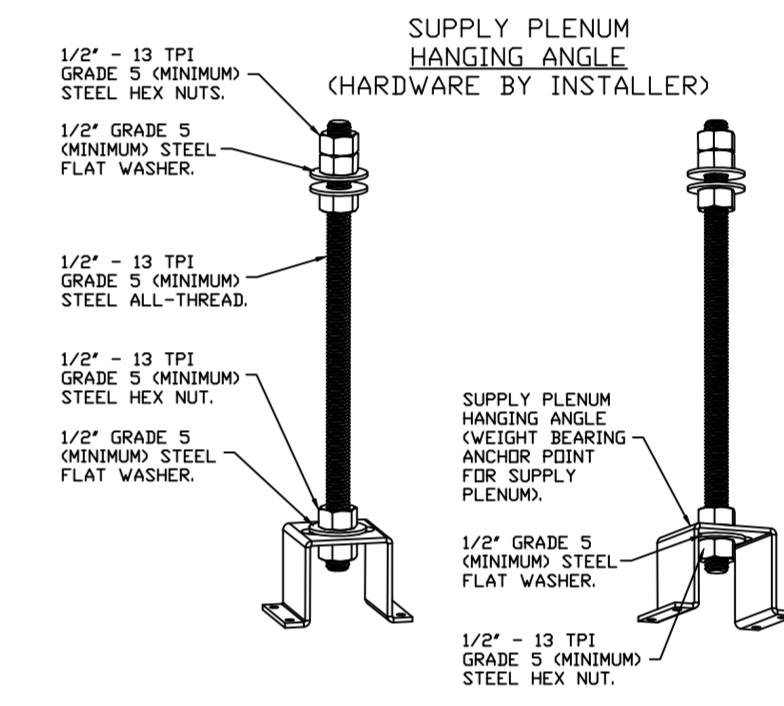
ASSEMBLY INSTRUCTIONS

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.



ASSEMBLY INSTRUCTIONS

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REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

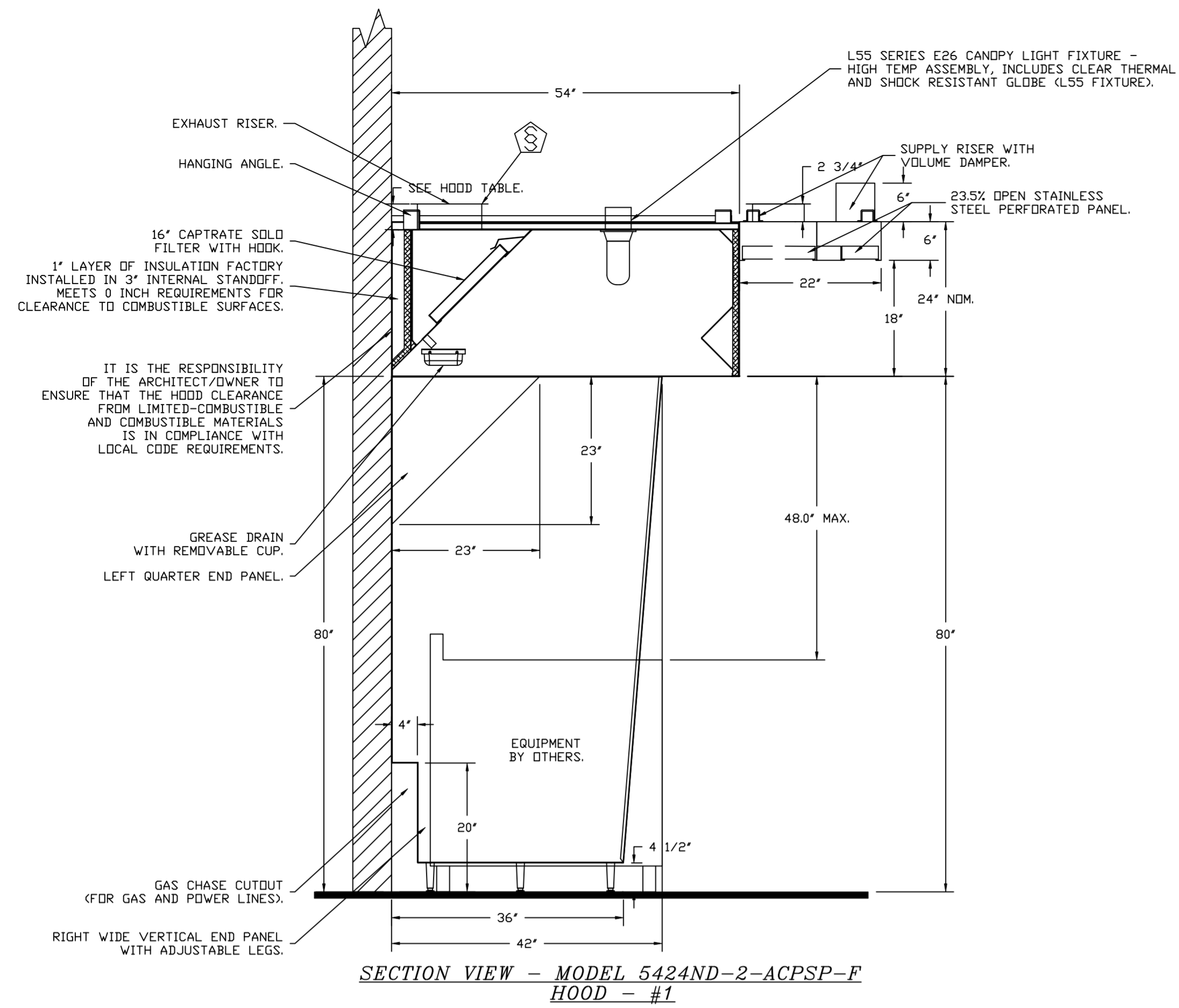
Highwoods Group
www.captiveaire.com

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CHIPOTLE REDWOOD SHORES #4679
REDWOOD CITY, CA, 94065

DATE: 2/10/2023
DWG.#: 5787205
DRAWN BY: JMB-40
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
1



FIRE SYSTEM INFORMATION - JOB#5787205

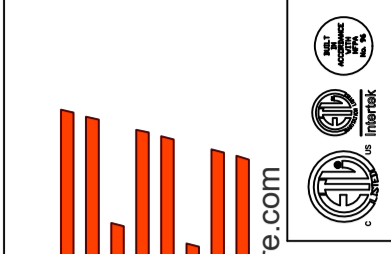
FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		ANSUL R102	3.0/3.0	4	FIRE CABINET LEFT	LEFT, HOOD 1

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		MECHANICAL	1.250	CAPTIVEAIRE SYSTEMS

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CAPTIVE AIR
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EXHAUST FAN INFORMATION – JOB#5787205

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	EF-1	1	DUI80HFA	CAPTIVEAIRE	2800	1.500	1272	DDP,PREMIUM	2.000	1.4640	3	208	8.3	647 FPM	183	18.3
2	EF-2	1	DR10HFA	CAPTIVEAIRE	75	0.600	1500	TEAD-ECM	0.166	0.0670	1	115	1.9		49	5.5

MUA FAN INFORMATION – JOB#5787205

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
3	MAU-1	1	A1-D.500-15D	15MF-1-MDD	A1-D.500	1000	1650	0.500	1803	DDP,PREMIUM	1.500	0.9270	3	208	4.4	5.5A	15A	487	16.1

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
3	MAU-1	65132	59921	34°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF-1	1	GREASE BOX
		1	2 YEAR PARTS WARRANTY
2	EF-2	1	ECM WIRING PACKAGE – EXHAUST – MANUAL DR 0-10VDC REFERENCE SPEED CONTROL –MSC- (TELCD), CCW ROTATION
		1	1 12-BDD DAMPER
3	MAU-1	1	2 YEAR PARTS WARRANTY
		1	SIZE 1 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING – MEETS AMCA CLASS 1A RATING
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV DR PREWIRE WITH VFD) – THREE PHASE ONLY
1	2 YEAR PARTS WARRANTY		

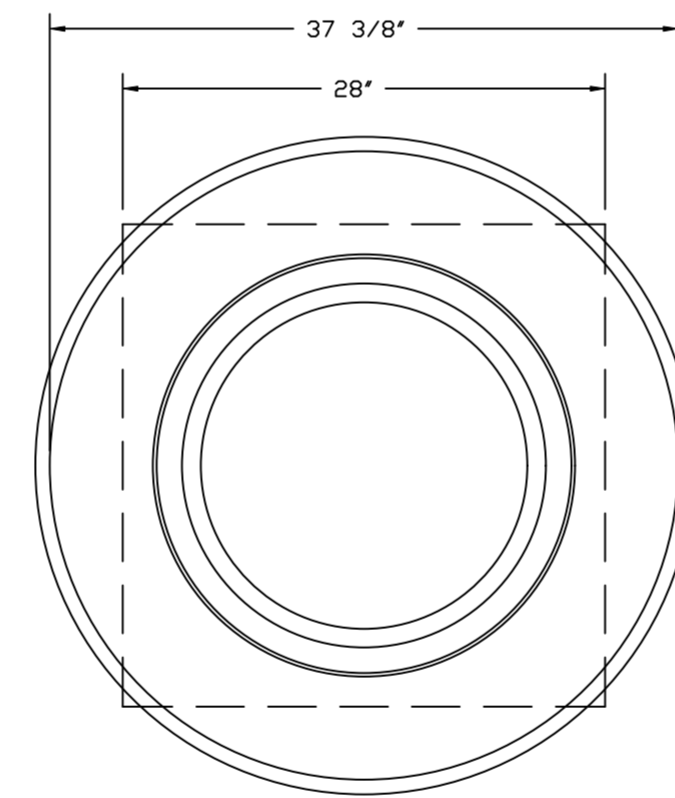
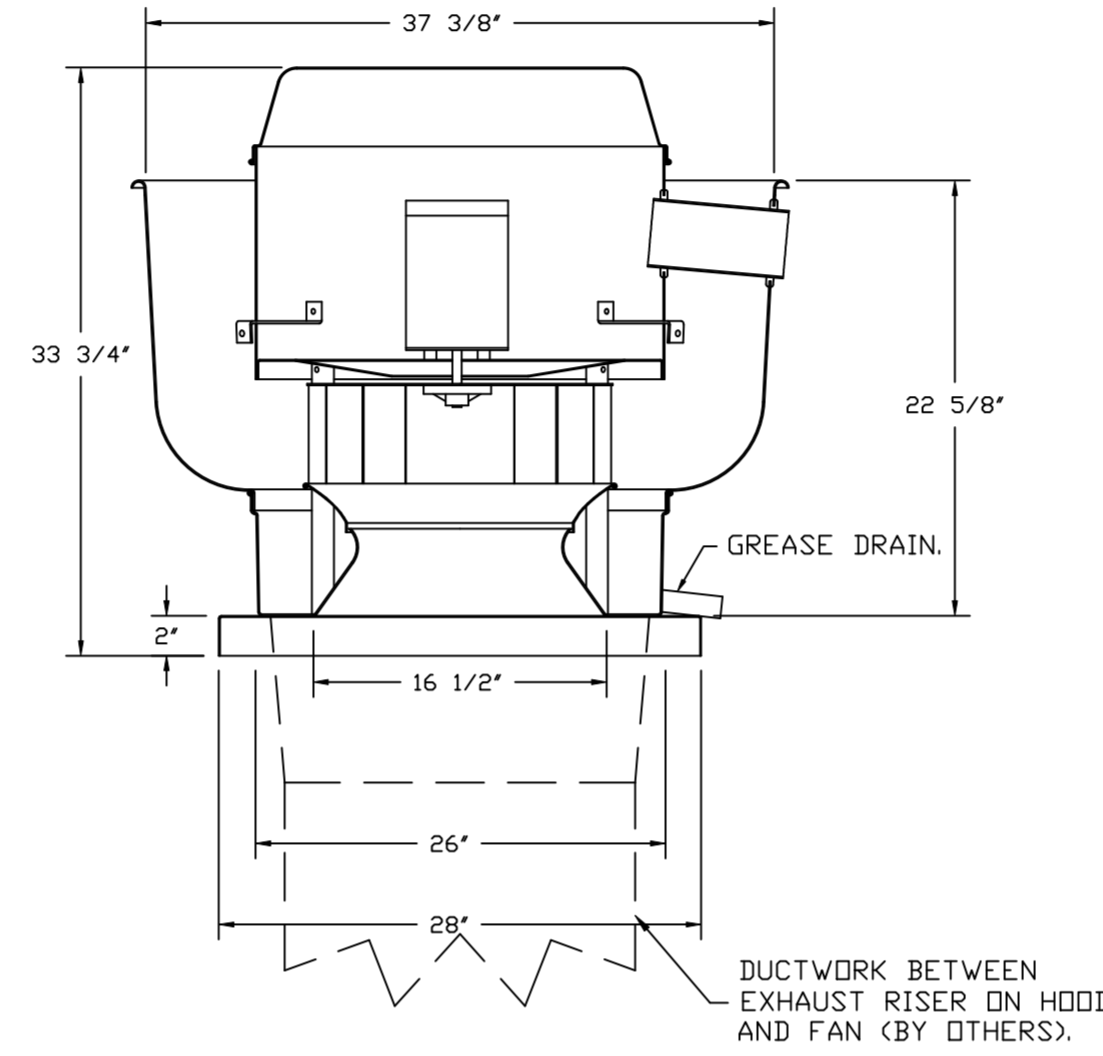
FAN ACCESSORIES

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					
3	MAU-1						YES	

CURB ASSEMBLIES

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	EF-1	37 LBS	CURB	26.500"W X 26.500"L X 20.000"H ALONG LENGTH, RIGHT VENTED.
2	# 2	EF-2	31 LBS	CURB	17.500"W X 17.500"L X 26.000"H ALONG LENGTH, RIGHT.
3	# 3	MAU-1	65 LBS	CURB	21.000"W X 71.000"L X 20.000"H ALONG WIDTH, RIGHT INSULATED.

FAN #1 DUI80HFA – EXHAUST FAN (EF-1)



TOP VIEW

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST

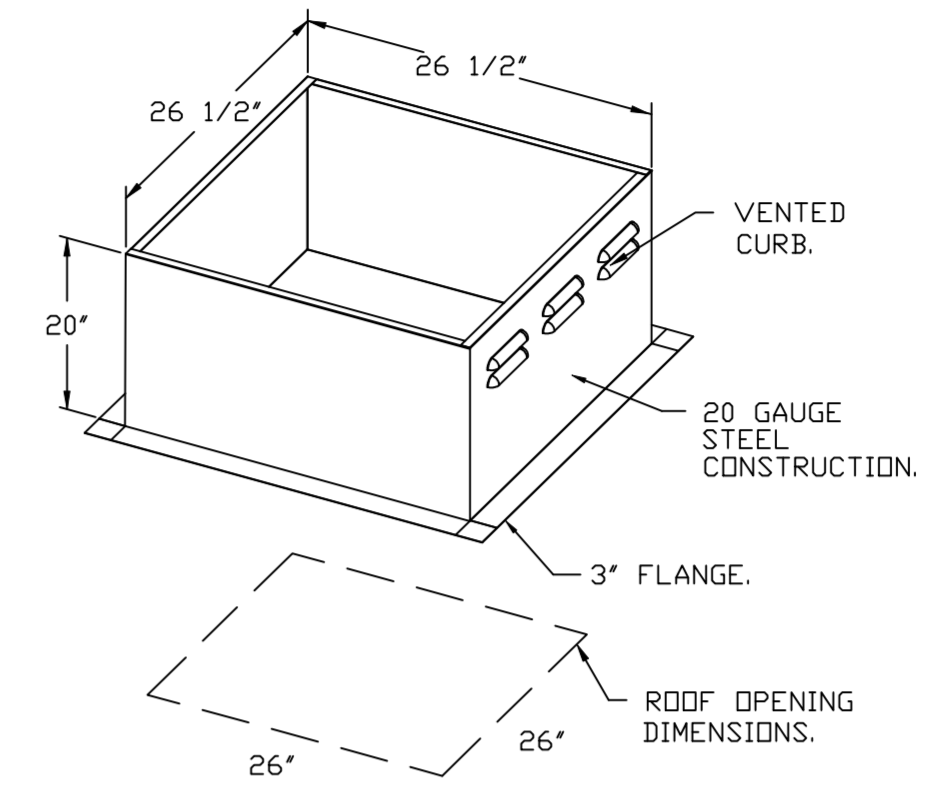
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST

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

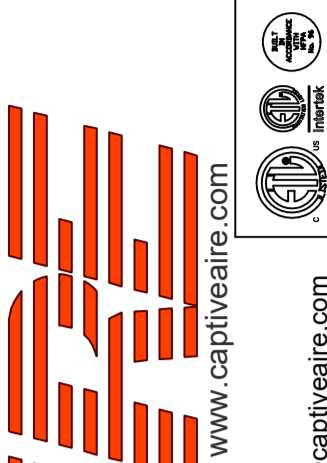
OPTIONS

- GREASE BOX.
- 2 YEAR PARTS WARRANTY.



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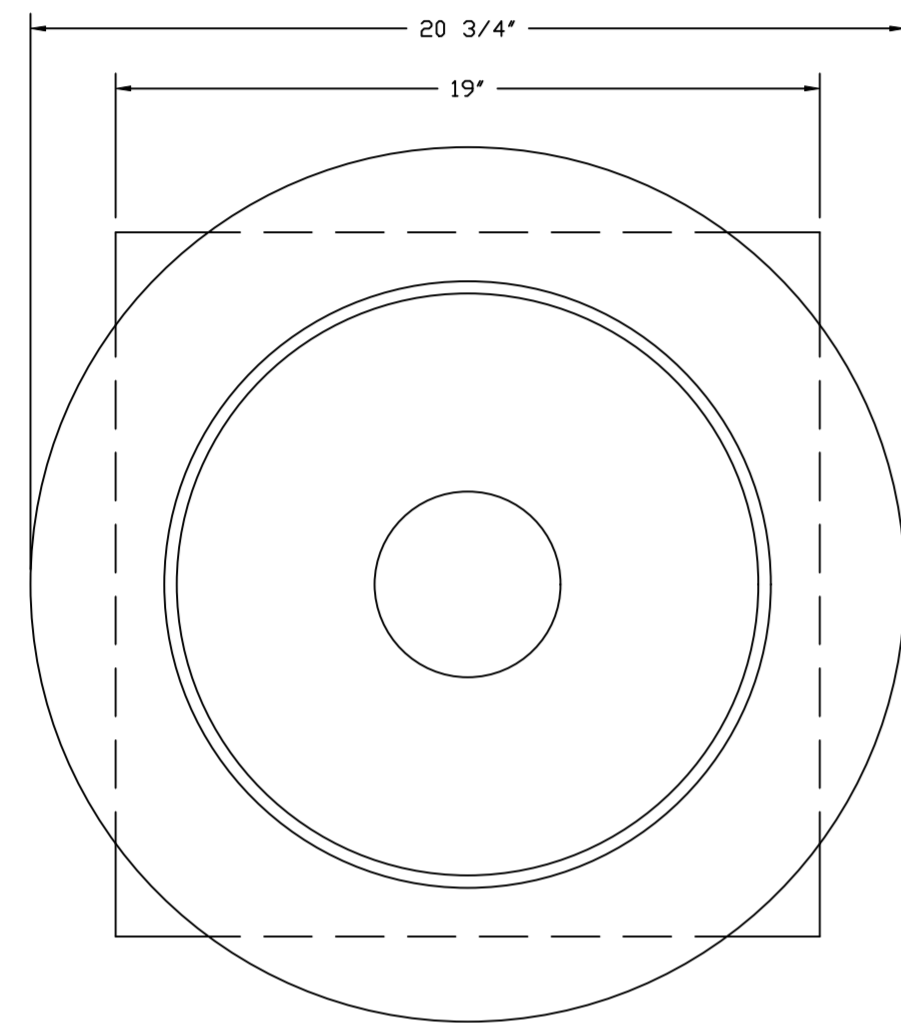
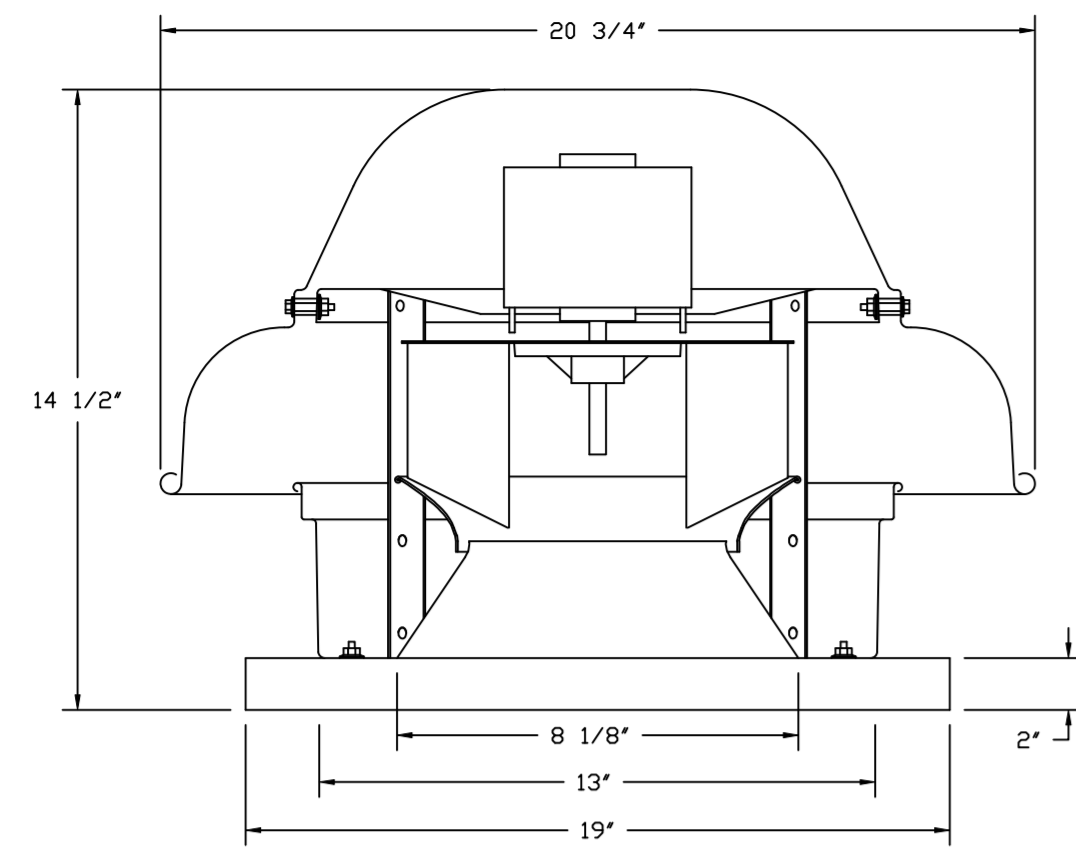
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3

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FAN #2_DR10HFA - EXHAUST FAN (CF-2)



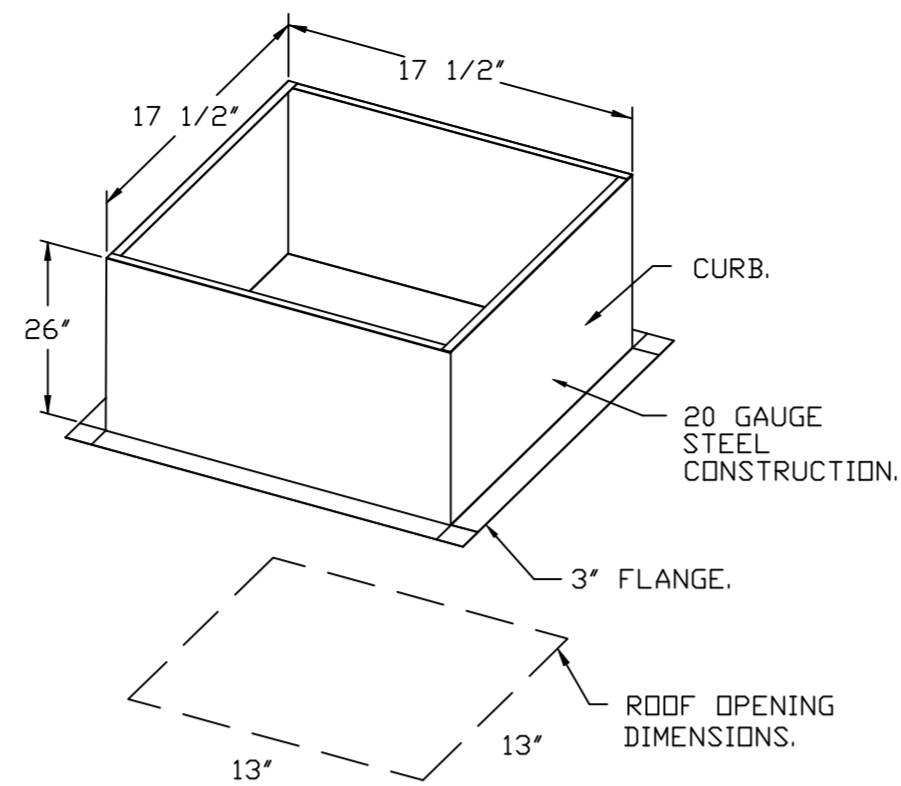
TOP VIEW

FEATURES:

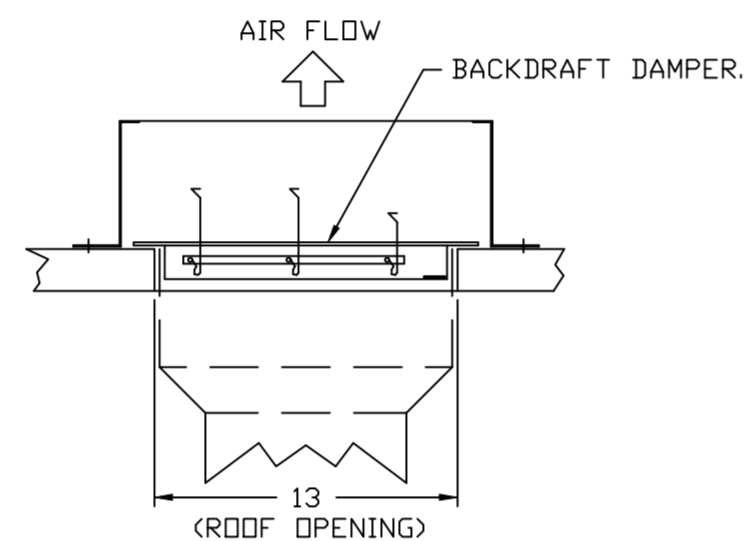
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- UL705.
- SAFETY DISCONNECT.
- STANDARD BIRD SCREEN.
- SPEED CONTROL.

OPTIONS

- ECM WIRING PACKAGE - EXHAUST - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -MSC- (TELCD), CCW ROTATION.
- 1 12"-BDD DAMPER.
- 2 YEAR PARTS WARRANTY.

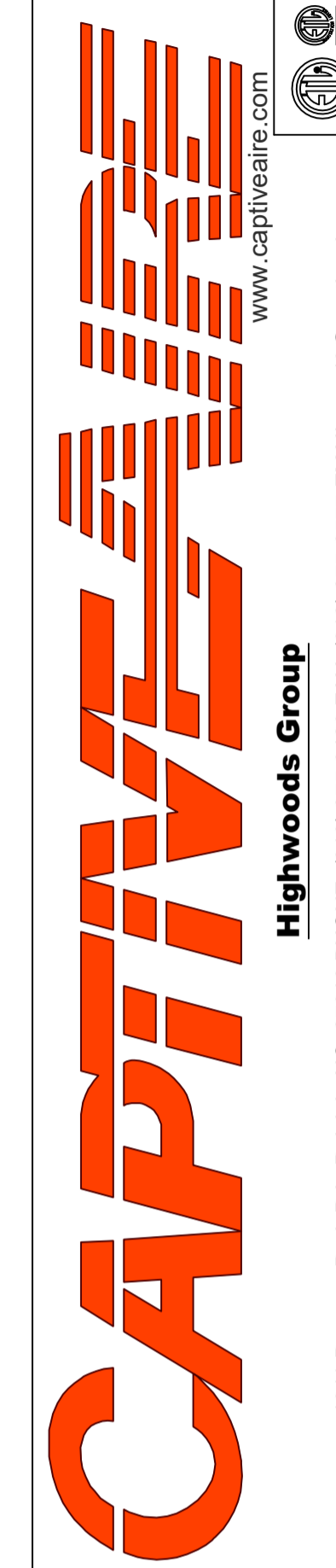
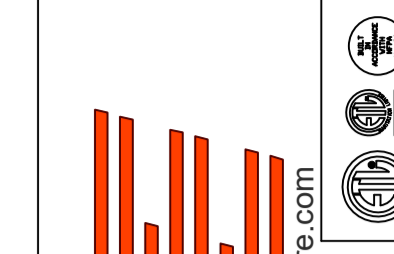


BACKDRAFT DAMPER INSTALLATION



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SHEET NO.
4

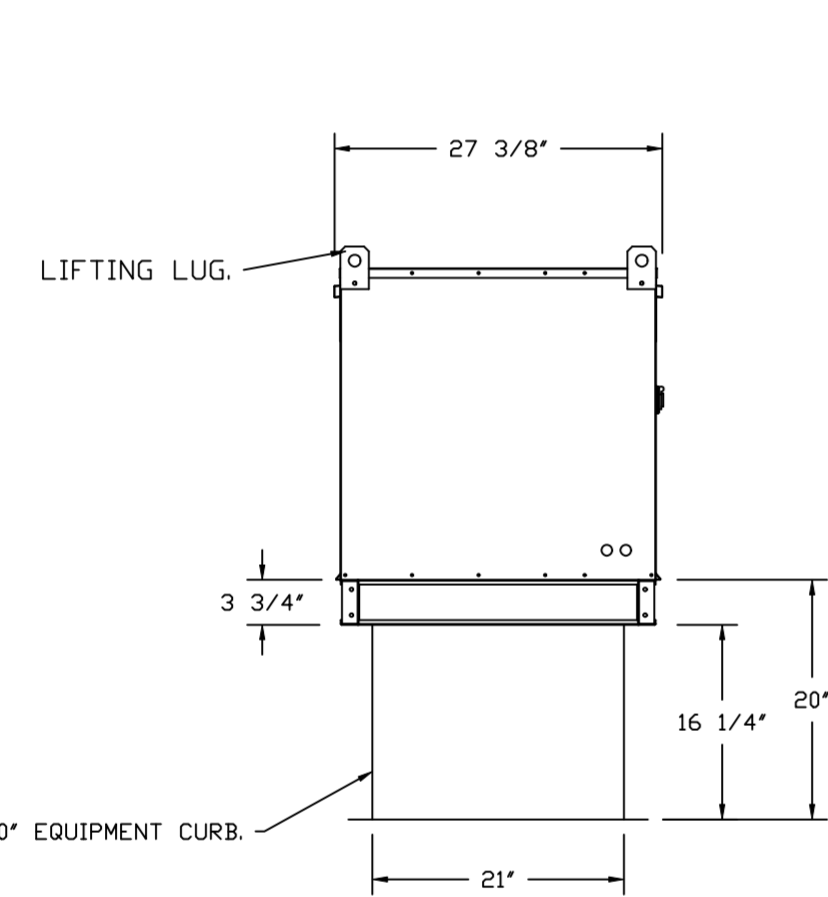
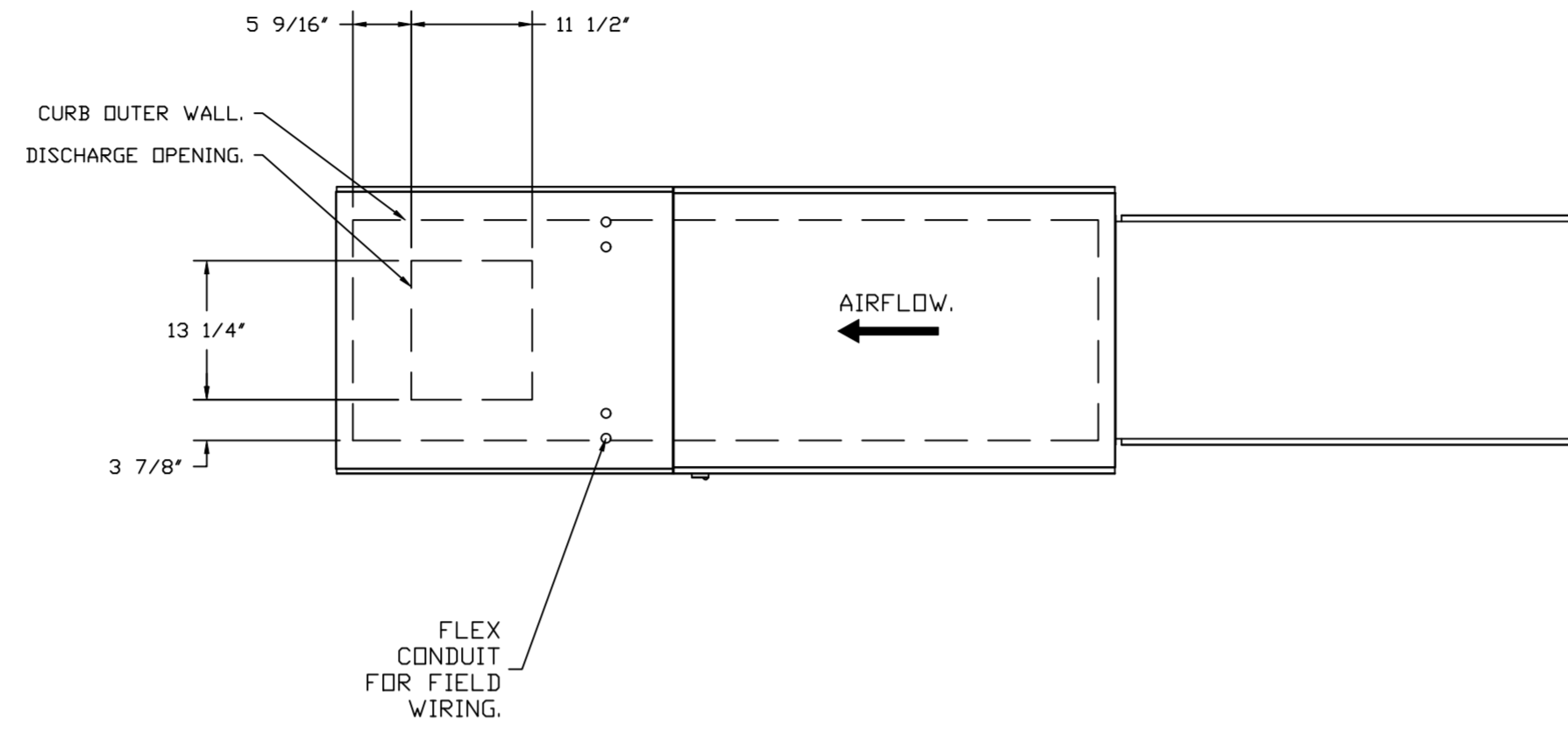
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- FAN #3 AI-D500-1SD - HEATER (MAU-1)
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15' MIXED FLOW DIRECT DRIVE FAN.
 2. INTAKE HOOD WITH EZ FILTERS.
 3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
 4. DOWN DISCHARGE CONSTRUCTION FOR SIZE 1 DIRECT DRIVE AHUS.
 5. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
 6. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE.
 7. SHIP LOOSE GAS STRAINER, TO BE INSTALLED UPSTREAM OF UNIT CONNECTION, 3/4" CONNECTION.
 8. 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, TFB220S ACTUATOR INCLUDED.
 9. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
 10. HINGED DOUBLE WALL INSULATED DDDR ASSEMBLY (BURNER/BLOWER SECTION).
 11. 2 YEAR PARTS WARRANTY

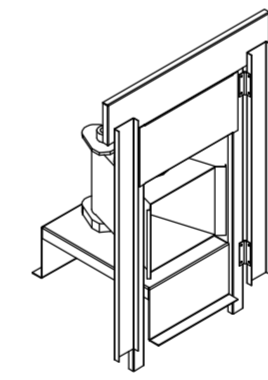
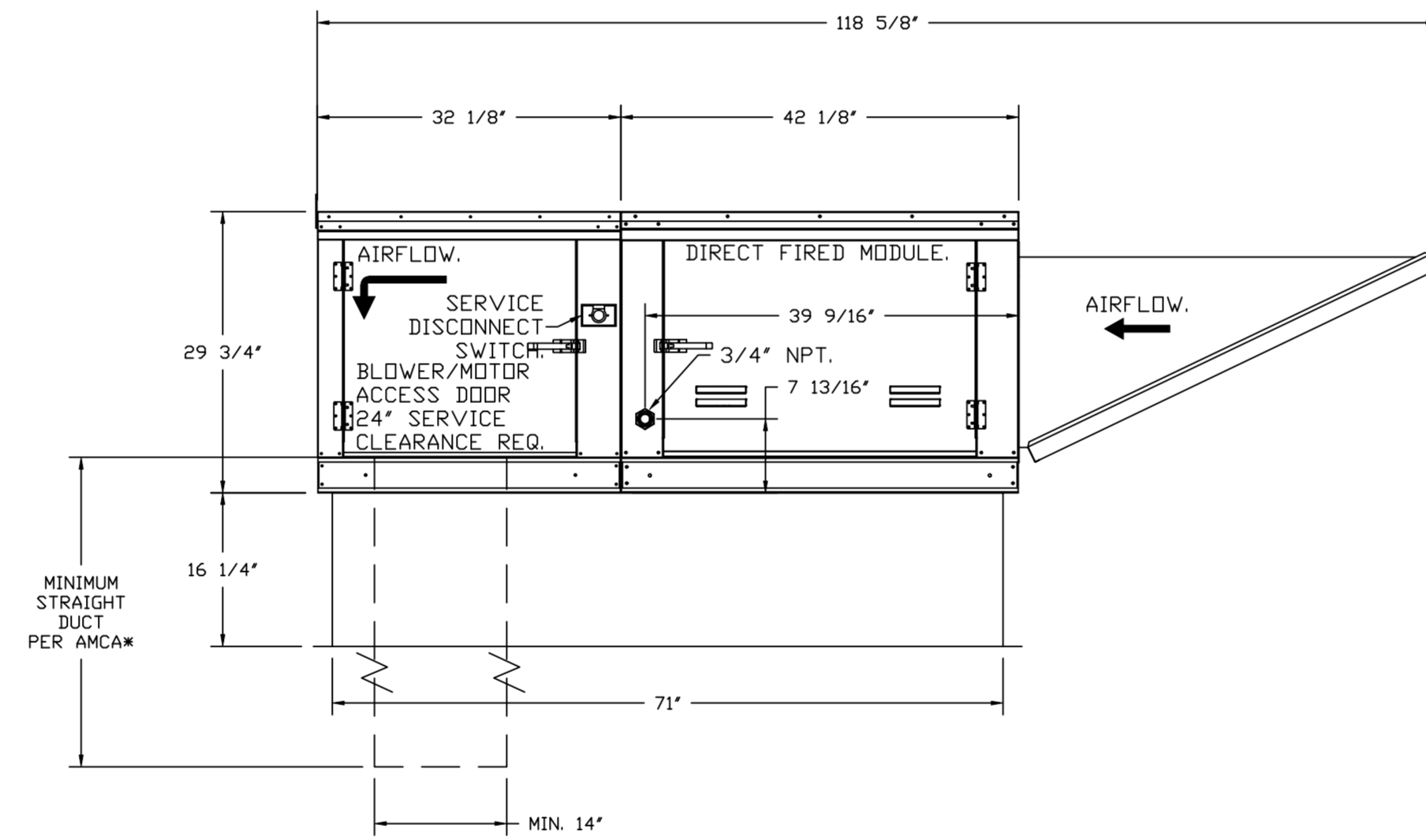
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE 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 14" x 14".

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 41°F. TEMP. RISE = 34°F.
 BTUs CALCULATED OFF ACTUAL AIR DENSITY.
 OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 59934.
 INPUT BTUs AT ALTITUDE OF 0.0 FT. = 65146.
 OUTPUT BTUs AT ALTITUDE OF 6 FT. = 59921.
 INPUT BTUs AT ALTITUDE OF 6 FT. = 65131.



ROOF OPENING 2" SMALLER THAN CURB DIMENSION.



DIRECT FIRED (DF) PROFILE PLATE ASSEMBLY

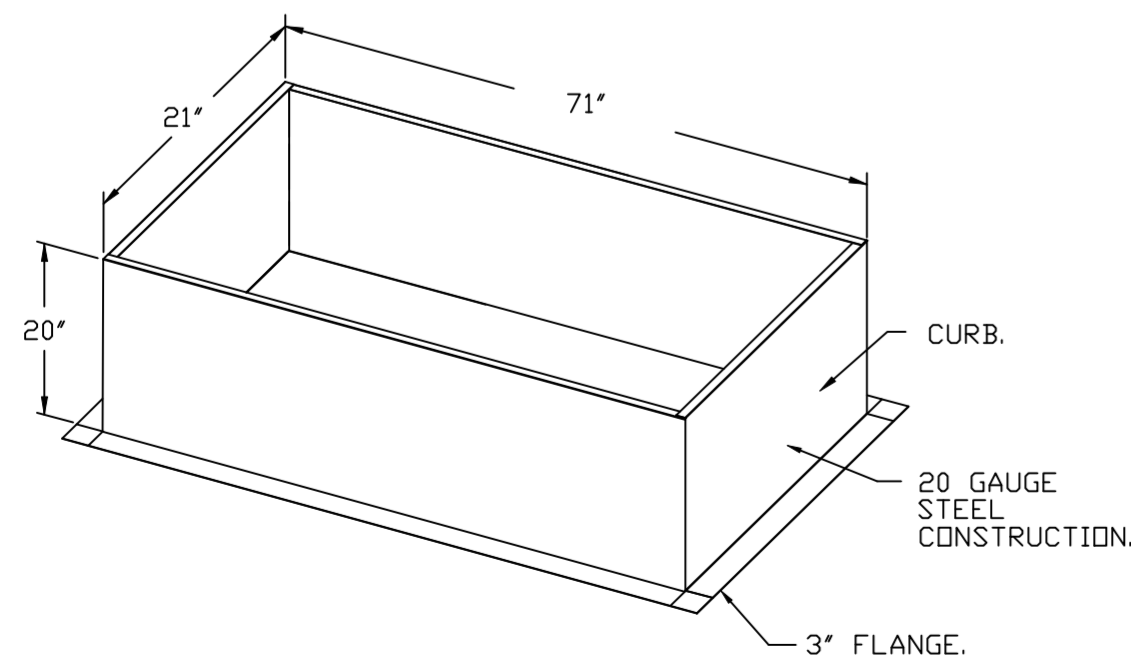
DIRECT FIRED PROFILE PLATE SPECIFICATIONS:

DESCRIPTION:
 DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO. US6699508B0), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE 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 0.01% OF CARBON MONOXIDE (CO), AND 0.01% OF NITROGEN DIOXIDE (NO2). DIRECT FIRED UNITS SHALL BE CONFIGURED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.

APPLICATION:
 SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

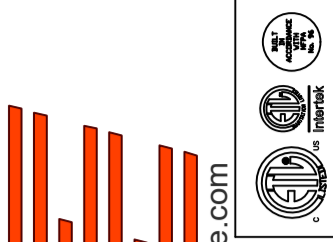
CERTIFICATIONS:
 ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY WITH COMBINED SAFETY STANDARDS ANSI Z89.4 AND CSA 3.7 (NON-RECIRCULATING DF HEATERS) AND ANSI Z83.8 (RECIRCULATING DF HEATERS).

GENERAL CONSTRUCTION:
 -PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
 -PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
 -PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
 -DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
 -SPRING HINGES SHALL BE MADE FROM PLATED STEEL.



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