

**HOOD INFORMATION -- JOB#4945847**

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		
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL			SP	END TO END	ROW
1	HD1 LEFT	5424 ND-2-PSP-F	CAPTIVEAIRE	13' 6"	600 DEG	I	HEAVY	200	2700			4"	12"	1350	1719	-0.850"	2160	430 SS 100%	LEFT	ALONE
2	HD2 RIGHT	5424 ND-2-PSP-F	CAPTIVEAIRE	13' 6"	600 DEG	I	HEAVY	200	2700			4"	12"	1350	1719	-0.850"	2241	430 SS 100%	RIGHT	ALONE
3	HD3 DISH	4824 VHB-G	CAPTIVEAIRE	7' 0"	700 DEG	II	N/A	140	980			4"	12"	490	624	-0.044"	0	304 SS 100%	ALONE	ALONE

**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**

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				ELECTRICAL	SWITCHES		
1	HD1 LEFT	CAPTRATE SOLD FILTER	10	16"	16"	85% SEE FILTER SPEC	5	L55 SERIES E26	NO									YES	730 LBS
2	HD2 RIGHT	CAPTRATE SOLD FILTER	10	16"	16"	85% SEE FILTER SPEC	5	L55 SERIES E26	NO	RIGHT	20"x54"x24"	CORE PROTECTION	0	DCV-1111	1 LIGHT 1 FAN			YES	946 LBS
3	HD3 DISH						0											NO	228 LBS

**HOOD OPTIONS**

HOOD NO	TAG	OPTION
1	HD1 LEFT	FIELD WRAPPER 7.00" HIGH FRONT.
		BACKSPASH 80.00" HIGH X 344.00" LONG 430 SS VERTICAL.
		LEFT SIDESPLASH 80.00" HIGH X 54.00" LONG 430 SS VERTICAL.
		LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
		WC-CORE PROTECTION. SENSOR-CV.
2	HD2 RIGHT	FIELD WRAPPER 7.00" HIGH FRONT, RIGHT.
		RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
		WC-CORE PROTECTION. SENSOR-CV.
3	HD3 DISH	FIELD WRAPPER 7.00" HIGH FRONT, LEFT, RIGHT, BACK.

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH UL 710 AND NFPA 96 AND ARE RECOGNIZED BY ONE OR MORE OF THE FOLLOWING:  
  
ETL SANITATION LISTED  
ETL LISTED FILE# 3054804-001

**PERFORATED SUPPLY PLENUM(S)**

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1	HD1 LEFT	Front	162"	14"	6"	MUA	10"	28"		720	0.202"
						MUA	10"	28"		720	0.202"
						MUA	10"	28"		720	0.202"
2	HD2 RIGHT	Front	182"	14"	6"	MUA	10"	28"		747	0.217"
						MUA	10"	28"		747	0.217"
						MUA	10"	28"		747	0.217"

**SPECIFICATION: CAPTRATE® GREASE-STOP® SOLD FILTER**

THE CAPTRATE GREASE-STOP SOLD 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.

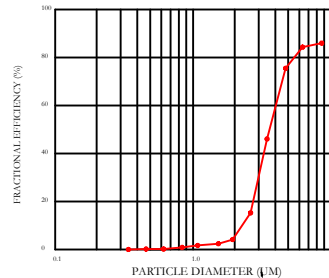
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

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

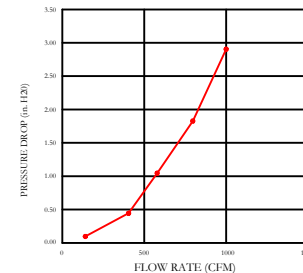
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

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

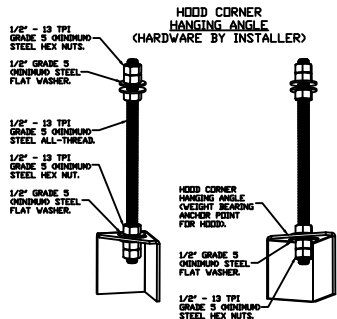
EFFICIENCY VS. PARTICLE DIAMETER



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.



**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.

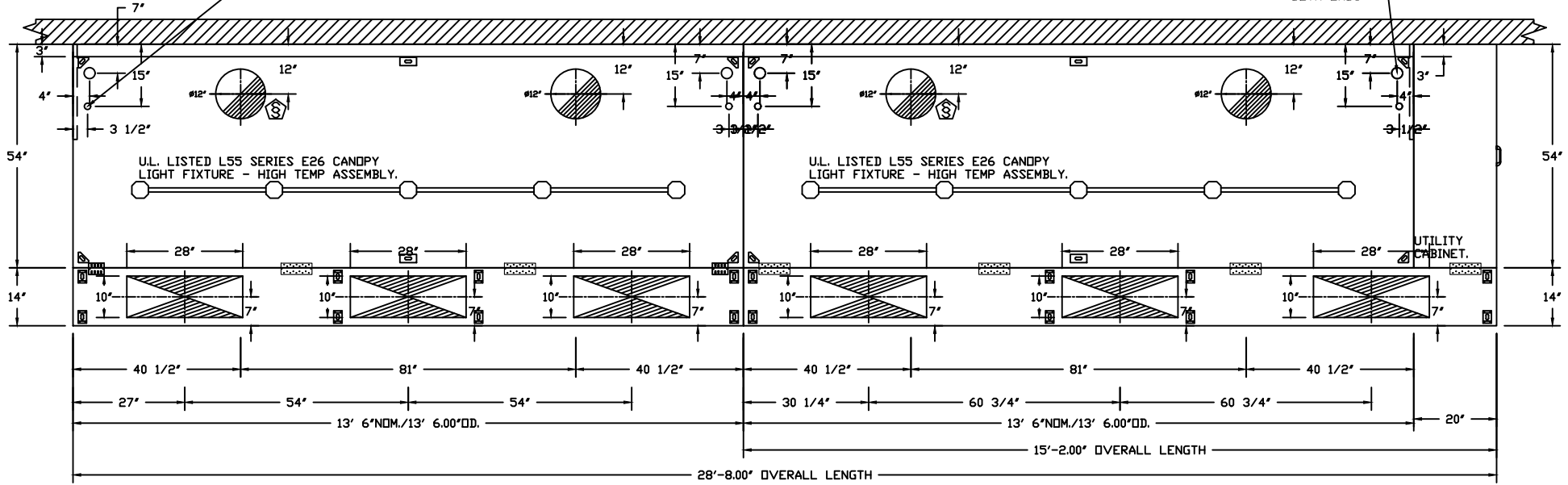


JOB WRG LLC (Bellvue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 1	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

1.5" I.P.S. DRAIN DROP  
 ENGINEER IS RESPONSIBLE FOR DRAIN LINE DESIGN BEYOND THE HOOD.  
 DRAIN LINE MUST BE INSTALLED PER LOCAL CODES, DRAIN LINE MUST  
 BE SLOPED (MINIMUM 1/8" INCH PER FOOT), AVOID ANY UNNECESSARY 90  
 DEGREE TURNS, IF COMBINED WITH OTHER DRAIN LINES, THEN PIPE SIZE  
 SHOULD BE INCREASED ACCORDINGLY. P-TRAPS SHOULD NOT BE USED IN  
 THE GREASE DRAIN LINE AND HEAT TAPE MUST BE USED WHERE DRAIN  
 LINE IS RUN IN ENVIRONMENTS THAT WOULD SOLIDIFY GREASE.

SIZE BUILDING GREASE INTERCEPTOR ACCORDINGLY,  
 BOTH ENDS

3/4" I.P.S. (N.P.T.) HOT WATER  
 CONNECTION STUBS ARE PREFIT  
 BY FACTORY,  
 BOTH ENDS



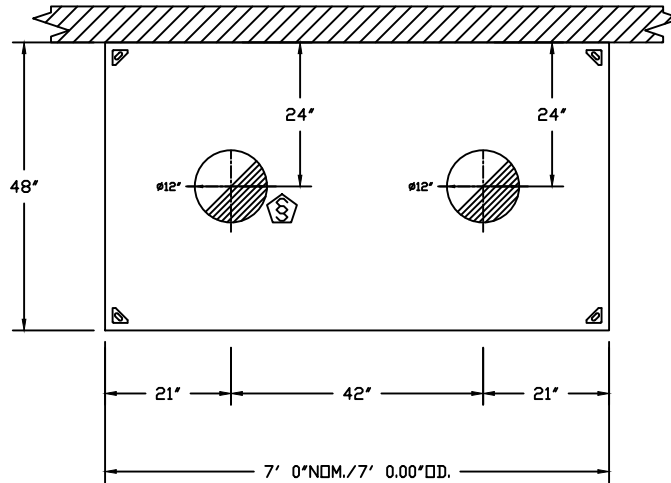
PLAN VIEW - HOOD #1 (HD1 LEFT)  
 13' 6.00" LONG 5424ND-2-PSP-F  
 NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

PLAN VIEW - HOOD #2 (HD2 RIGHT)  
 13' 6.00" LONG 5424ND-2-PSP-F  
 NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.



**CAPTIVEAIRE**

JOB WRG LLC (Bellvue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 2	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

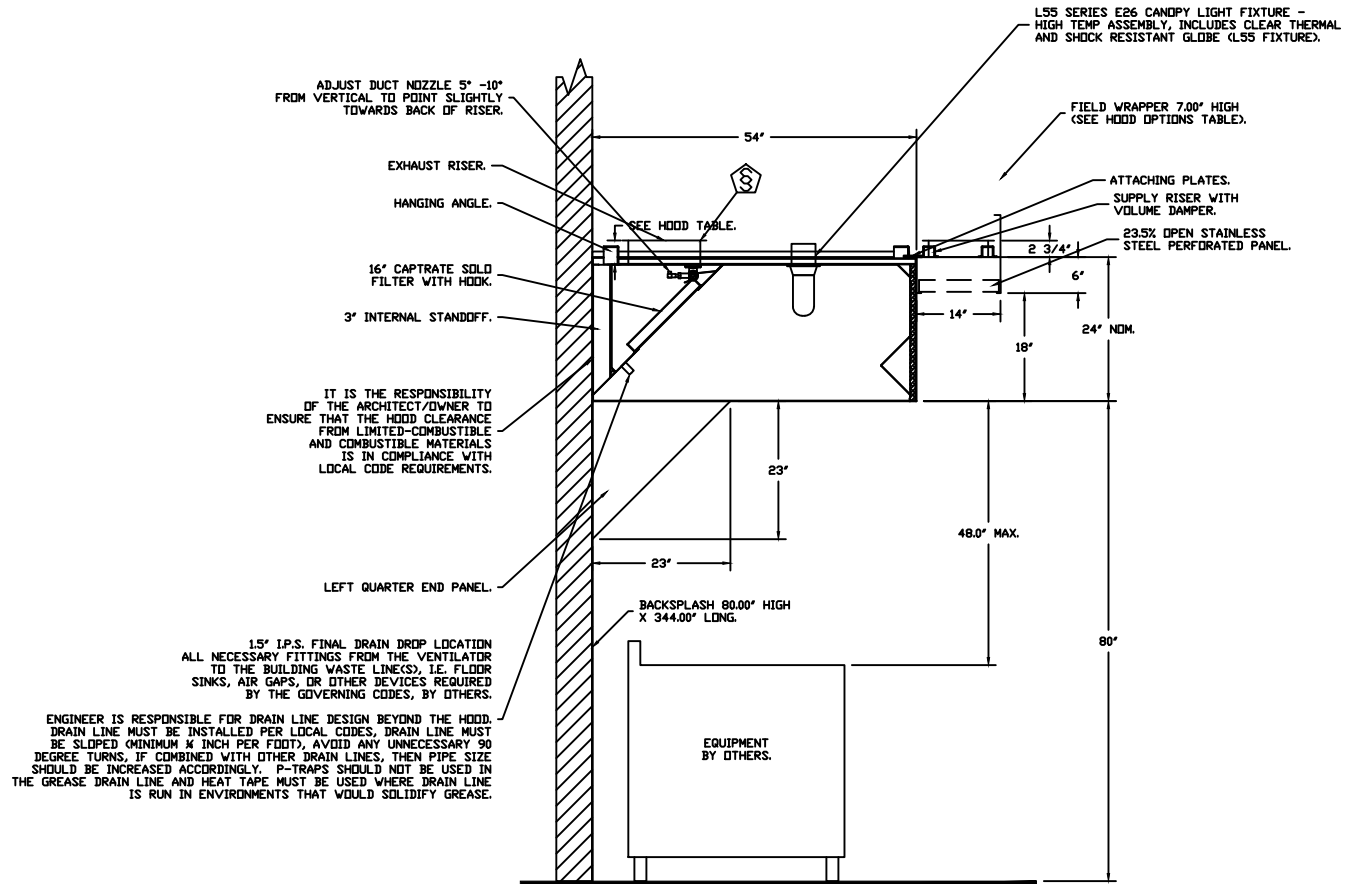


PLAN VIEW — HOOD #3 (HD3 DISH)  
 7' 0.00" LONG 4824VHB-G



**CAPTIVEAIRE**

JOB WRG LLC (Bellvue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 3	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

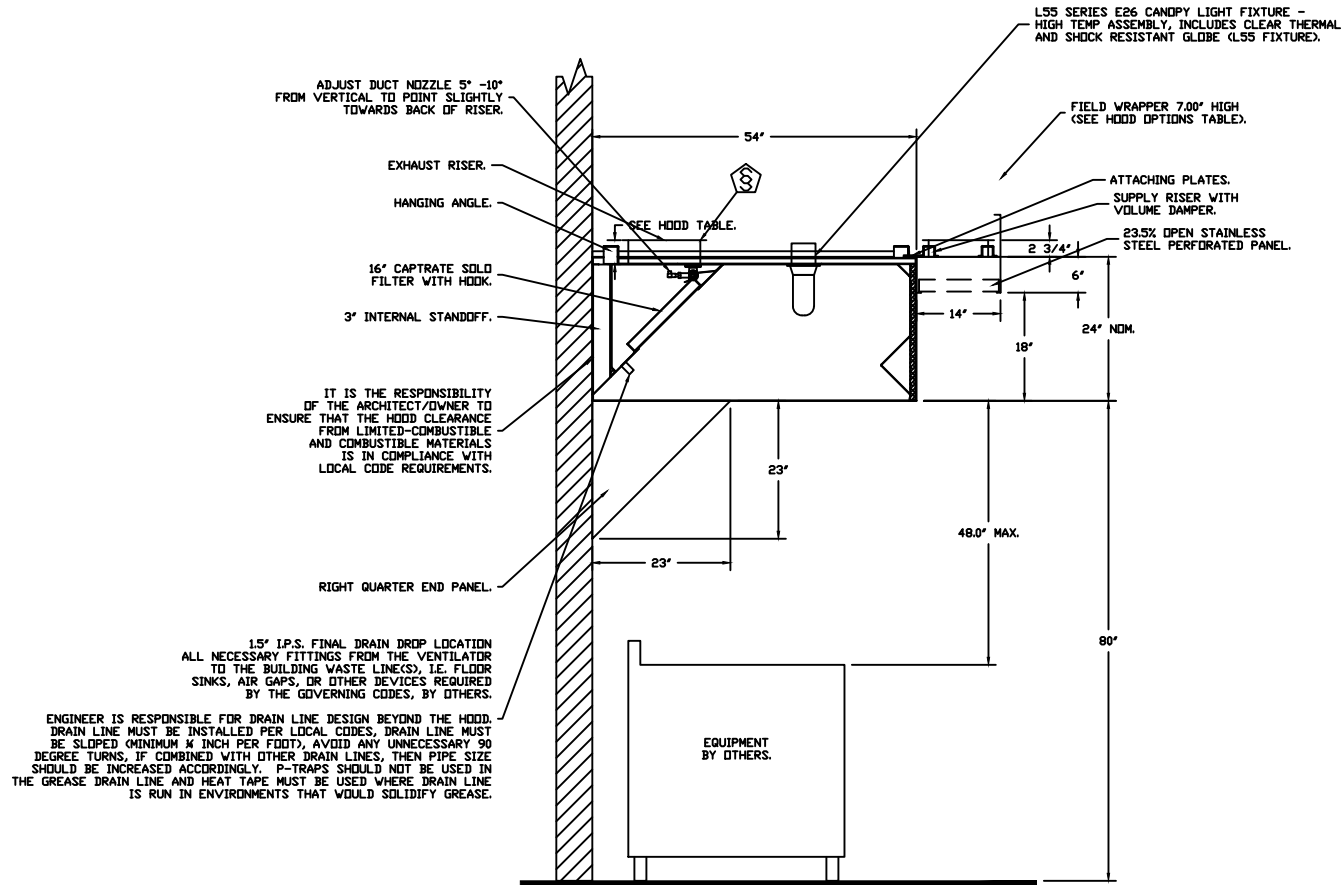


**SECTION VIEW - MODEL 5424ND-2-PSP-F  
HOOD - #1 (HD1 LEFT)**



**CAPTIVEAIR**

JOB WRG LLC (Bellvue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 4	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

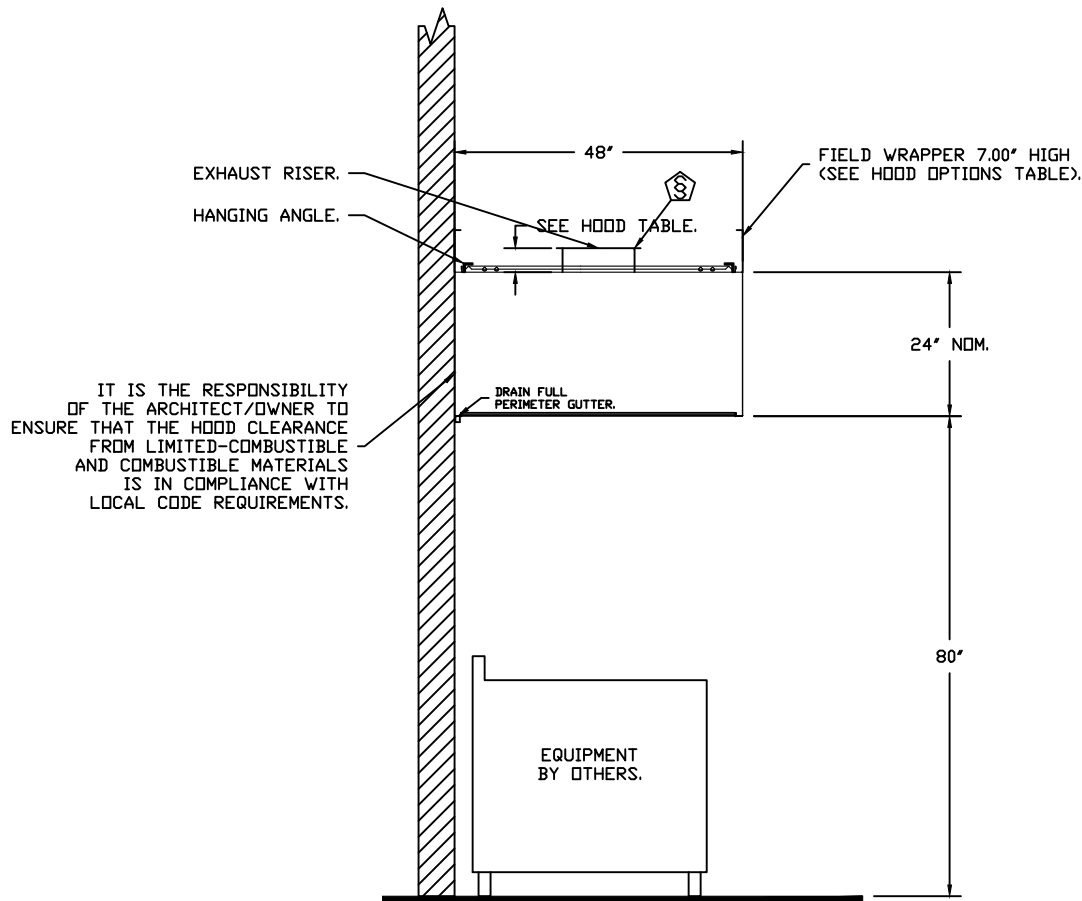


**SECTION VIEW - MODEL 5424ND-2-PSP-F  
HOOD - #2 (HD2 RIGHT)**



**CAPTIVEAIR**

JOB WRG LLC (Bellvue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 5	DRAWN BY jcirilli
REV.	SCALE 3/8' = 1'-0'



SECTION VIEW - MODEL 4824VHB-G  
HOOD - #3 (HD3 DISH)



**CAPTIVEAIR**

JOB WRG LLC (Bellvue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 6	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

**EXHAUST FAN INFORMATION - JOB#4945847**

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	KEF1	1	USBI30DD-RM	CAPTIVEAIRE	5400	2.150	918	TEFC,PREMIUM	5.000	3.3890	3	460	7.0	1262 FPM	1036	28
3	KEF2-DISH	1	DU33HFA	CAPTIVEAIRE	980	0.420	1519	TEAD-ECM	0.333	0.2140	1	115	4.3	485 FPM	63	15.1

**CONDENSER DETAILS**

FAN UNIT NO	TAG	FAN UNIT MODEL #	CONDENSER NO	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX FUSE SIZE	MIN WIRE SIZE	SEER
2	KMUA1	A2-D.500-20D-MPU	1	3	460	3 PHASE	60 HZ	7.7 AMPS	6.3 AMPS	15 AMPS	14 AWG	14
			2	5	460	3 PHASE	60 HZ	10.5 AMPS	8.5 AMPS	15 AMPS	14 AWG	14

**MUA FAN INFORMATION - JOB#4945847**

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOC	WEIGHT (LBS)	SDNES
2	KMUA1	1	A2-D.500-20D-MPU	20MF-2-MDD	A2-D.500	2900	4401	0.350	1778	DDP,PREMIUM	5.000	3.1720	3	460	6.8	9.1A	15A	1543	19.4

**COILS - JOB#4945847**

FAN UNIT NO	TAG	COIL TYPE	DESIGN CFM	COOLING										
				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
2	KMUA1	DX	4401	90.0°F	74.0°F	75.1°F	68.6°F	---	---	---	---	86.8 MBH	68.1 MBH	18.7 MBH

HEATING									
ENTERING DB TEMP	LEAVING DB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	STEAM PRESSURE	TOTAL CAPACITY	SENSIBLE CAPACITY	---
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**CURB ASSEMBLIES**

NO	DN FAN	TAG	WEIGHT	ITEM	SIZE	GAS FIRED MAKE-UP AIR UNIT(S)									
1	# 1	KEF1	47 LBS	RAIL	4.000"W X 60.000"L X 14.000"H ALONG WIDTH, RIGHT COMES AS A SET OFF FAN	UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)		
2	# 2	KMUA1	96 LBS	CURB	31.000"W X 79.000"L X 16.000"H ALONG WIDTH, RIGHT INSULATED.	2	KMUA1	315587	290340	63°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92		
3	# 3	KEF2-DISH	27 LBS	CURB	19.500"W X 19.500"L X 20.000"H ALONG LENGTH, RIGHT.	2	KMUA1	315587	290340	63°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92		

**FAN OPTIONS**

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF1	1	BI30 - INLET SERVICE DUCT CONNECTION. USED TO CONNECT TO STANDARD 24" GREASE DUCT OR FIELD WELDED DUCT. INCLUDES (2) 7" RISERS BOLTED TO STANDARD INLET RISER
		1	UTILITY SET GREASE CUP
		1	BI30 - 24" DISCHARGE EXTENSION
		1	BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE
		1	BI30 - INLET CONNECTION STANDARD 24" FLANGED GREASE DUCT
		1	UTILITY SET - SPRING VIBRATION ISOLATORS - BI24 THRU BI30 / EQUIVALENT SIZED UTILITY SET / SIF 24-30 + FILTER BANK - INDOOR/OUTDOOR USE
		1	LOAD REACTOR MOUNTED IN FAN
		1	BI24-36-S HIGH TEMPERATURE HEAT & SMOKE OPTION
		1	2 YEAR PARTS WARRANTY
		2	KMUA1
1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC		
1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING - MEETS AMCA CLASS 1A RATING		
1	8 TON 2 CIRCUIT (3/5) MODULAR PACKAGED COOLING OPTION FOR SIZE 2 DF/EH MUA (2,900 TO 4,800 CFM), 460V, 3 PHASE. COOLING THERMOSTAT OR PROGRAMMABLE STAT REQUIRED FOR PROPER OPERATION		
1	DOWNTURN PLENUM FOR SIZE 2 DX COIL MODULE		
1	LOW FIRE START		
1	LOAD REACTOR MOUNTED IN FAN		
1	UNIT MOUNTED VFD FOR USE WITH ECPM03		
1	2 YEAR PARTS WARRANTY		
3	KEF2-DISH		
		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	KMUA1						YES	
3	KEF2-DISH							



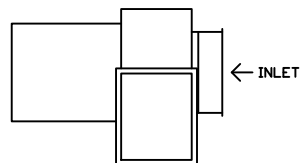
JOB WRG LLC (Bellvue,KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 7	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

FAN #1 USBI30DD-RM-S - EXHAUST FAN (KEF1)

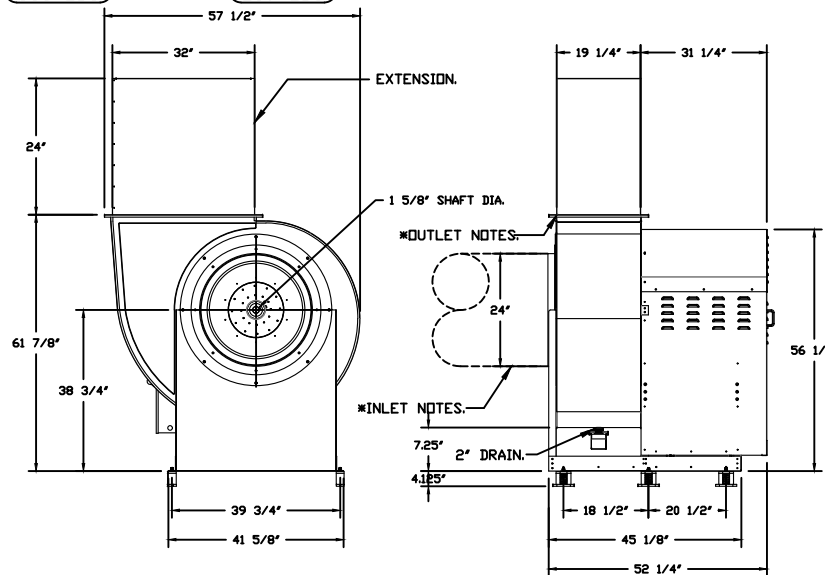
CORNER WEIGHTS ARE CALCULATED BASED ON VERTICAL DISCHARGE. SUPPORT DUCT PROPERLY BEFORE FAN TO ENSURE CORNER WEIGHTS ARE NOT AFFECTED.

UNIT PLAN VIEW CORNER WEIGHTS:

(228 LBS) (186 LBS)



(363 LBS) (259 LBS)

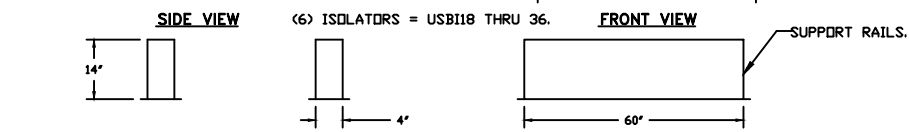


**FEATURES:**

- 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 DOOR.
- FLANGE 2".

**OPTIONS**

- BI30 - INLET SERVICE DUCT CONNECTION. USED TO CONNECT TO STANDARD 24" GREASE DUCT OR FIELD WELDED DUCT. INCLUDES (2) 7' RISERS BOLTED TO STANDARD INLET RISER. UTILITY SET GREASE CUP.
- BI30 - 24" DISCHARGE EXTENSION.
- BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE.
- BI30 - INLET CONNECTION STANDARD 24" FLANGED GREASE DUCT.
- UTILITY SET - SPRING VIBRATION ISOLATORS - BI24 THRU BI30 / EQUIVALENT SIZED UTILITY SET / SIF 24-30 + FILTER BANK - INDOOR/OUTDOOR USE.
- LOAD REACTOR MOUNTED IN FAN. BI24-36-S HIGH TEMPERATURE HEAT & SMOKE OPTION. - 572°F CONTINUOUS.
- 2 YEAR PARTS WARRANTY.



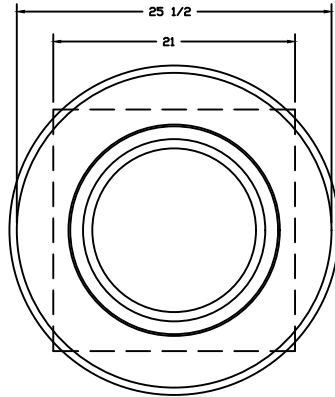
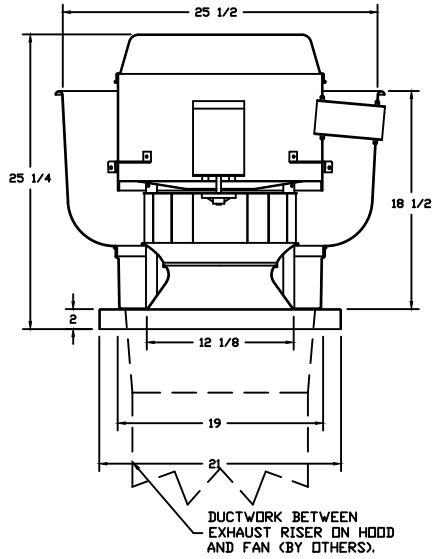
\* INLET/OUTLET NOTES:  
LENGTH OF THE STRAIGHT DUCT ON THE INLET AND OUTLET TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER BEFORE CONNECTING TO ANY FITTINGS SUCH AS ELBOWS TO AVOID SYSTEM EFFECT.

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.



JOB WRG LLC (Bellvue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 8	DRAWN BY jcrilli
REV.	SCALE 3/8" = 1'-0"

FAN #3 DU33HFA - EXHAUST FAN (KEF2-DISH)



TOP VIEW

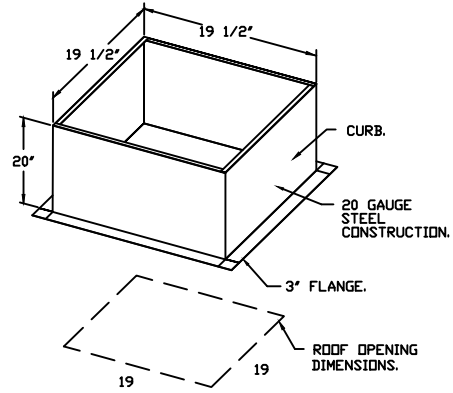
FEATURES:

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

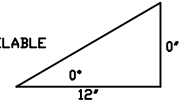
**NORMAL TEMPERATURE TEST**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

OPTIONS

ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO MOTOR), CCW ROTATION.  
 2 YEAR PARTS WARRANTY.



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.  
 SPECIFY PITCH:  
 EXAMPLE: 7/12 PITCH = 30° SLOPE.



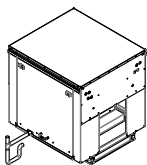
**CAPTIVEAIRE**

JOB WRG LLC (Bellvue,KY)	
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DWG # 9	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

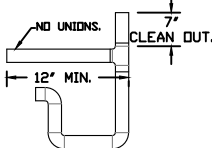
**SUPPLY SIDE HEATER INFORMATION:**

WINTER TEMPERATURE = 12°F. TEMP. RISE = 63°F.  
 BTUs CALCULATED OFF ACTUAL AIR DENSITY.  
 OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 296211.  
 INPUT BTUs AT ALTITUDE OF 0.0 FT. = 321969.  
 OUTPUT BTUs AT ALTITUDE OF 553 FT. = 290340.  
 INPUT BTUs AT ALTITUDE OF 553 FT. = 315586.

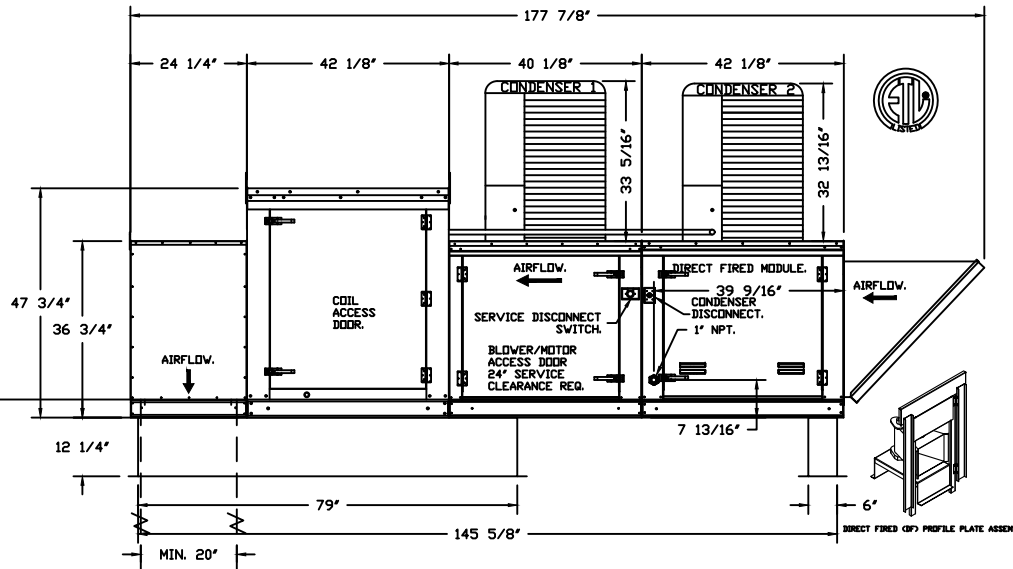
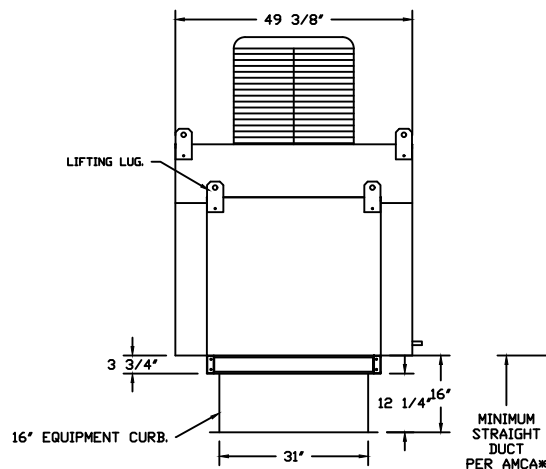
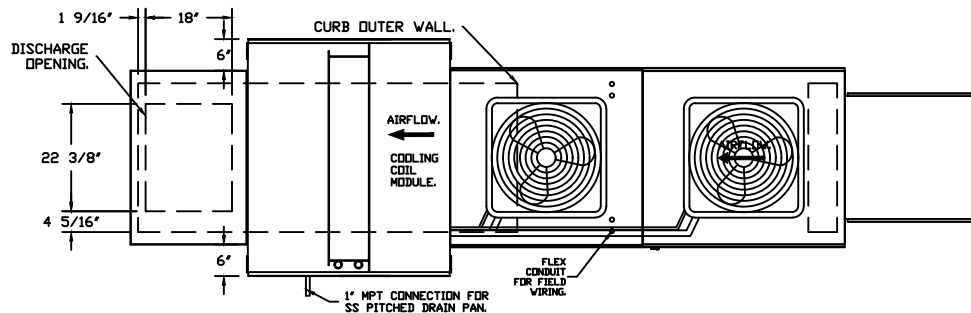
**TYPICAL DRAIN TRAP INSTALL**



**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.



- FAN #2 A2-D500-20D-MPU - HEATER (KMAU1)  
 1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20' MIXED FLOW DIRECT DRIVE FAN.  
 2. INTAKE HOOD WITH EZ FILTERS-LOW CFM.  
 3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.  
 4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.  
 5. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE.  
 6. MOTORIZED BACK DRAFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, LF120S ACTUATOR INCLUDED.  
 7. 8 TON, DUAL CIRCUIT (3/5) MODULAR PACKAGED COOLING OPTION FOR SIZE 2 DF/EH MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (2,900 TO 4,800 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 CLI. CONDENSERS REQUIRE SEPARATE 460V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION. COIL = 3E21101D.  
 8. DOWNTURN PLENUM FOR SIZE 2 COOLING COIL MODULE - REQUIRED FOR DOWN DISCHARGE COOLING COIL APPLICATIONS.  
 9. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.  
 10. MOUNT LOAD REACTOR IN FAN.  
 11. UNIT MOUNTED VFD FOR USE WITH ECPM03.  
 12. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/MPU SECTION).  
 13. 2 YEAR PARTS WARRANTY

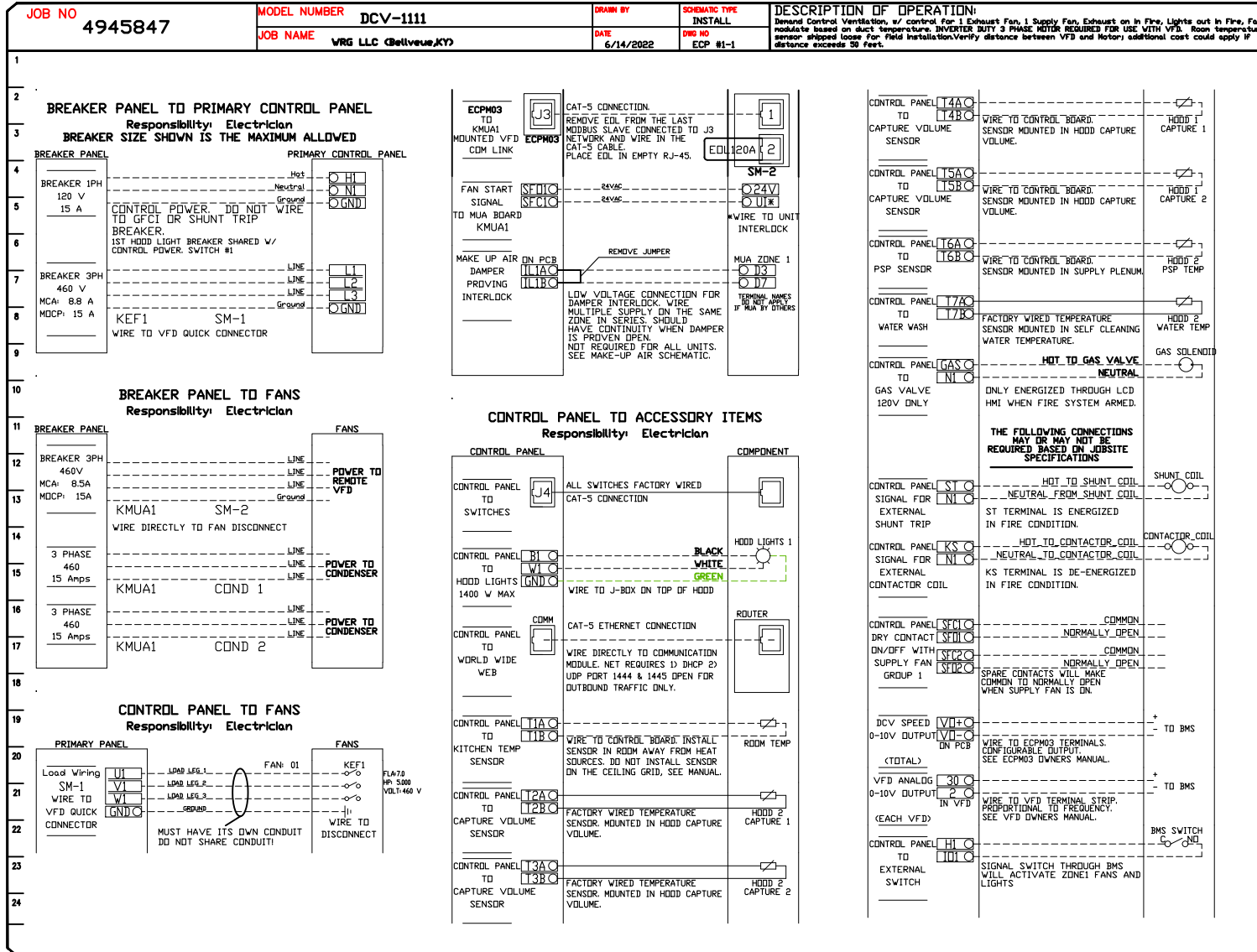
\*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE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



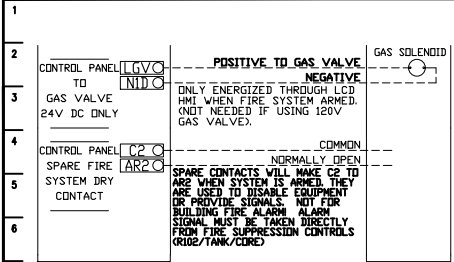
JOB WRG LLC (Bellvue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 10	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

**ELECTRICAL PACKAGE - JOB#4945847**

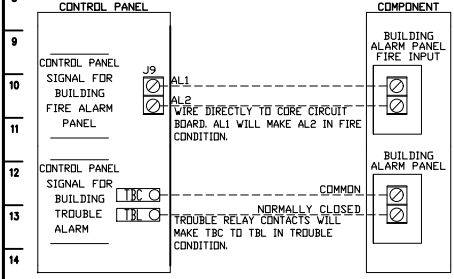
NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	Φ	HP	VOLT	FLA
				04 - UTILITY CABINET RIGHT	1 LIGHT		KEF1	EXHAUST	3	5,000	460	7.0
1	ECP 1	DCV-1111	UTILITY CABINET RIGHT	HOOD # 2	1 FAN	SMART CONTROLS DCV	KMUA1	SUPPLY	3	5,000	460	6.8



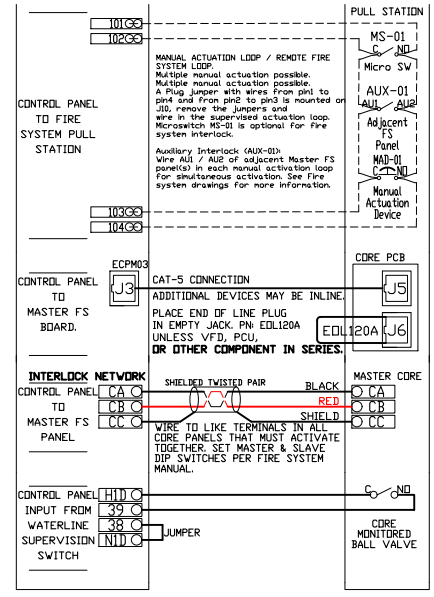
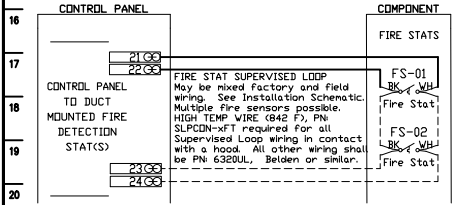
<b>JOB NO</b> 4945847	<b>MODEL NUMBER</b> DCV-1111	<b>DRAWN BY</b> INSTALL	<b>SCHEMATIC TYPE</b> INSTALL	<b>DESCRIPTION OF OPERATION:</b> Beyond Control Ventilation, w/ control Fan 1 Exhaust Fan, 1 Supply Fan, Exhaust on in Fire, Lights out in Fire, Fans modulate based on duct temperature, INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD. Room temperature sensor shipped loose for field installation. Verify distance between VFD and Motor; additional cost could apply if distance exceeds 50 feet.
<b>JOB NAME</b> WRG LLC (Bellvue,KY)	<b>DATE</b> 6/14/2022	<b>DWG NO</b> ECP #1-2		



**CONTROL PANEL TO FIRE SYSTEM**  
Responsibility: ALARM CONTRACTOR



**CONTROL PANEL TO FIRE SYSTEM**  
Responsibility: CERTIFIED INSTALLER



JOB WRG LLC (Bellvue,KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 12	DRAWN BY jcrilli
REV.	SCALE 3/8" = 1'-0"

JOB NO  
**4945847**

MODEL NUMBER  
**DCV-1111**

DRAWN BY  
**INSTALL**

DATE  
**6/14/2022**

DESCRIPTION OF OPERATION:  
Fire System w/ CORE PROTECTION (FSD). If CORE Appliance Nonfold Package with Self Cleaning. Installed in Hood Utility Cabinet's with Integral hood grease panel.

JOB NAME  
**WRG LLC (Bellvue,KY)**

DWG NO  
**ECP #1-3**

04/14/2014 Rev. 10

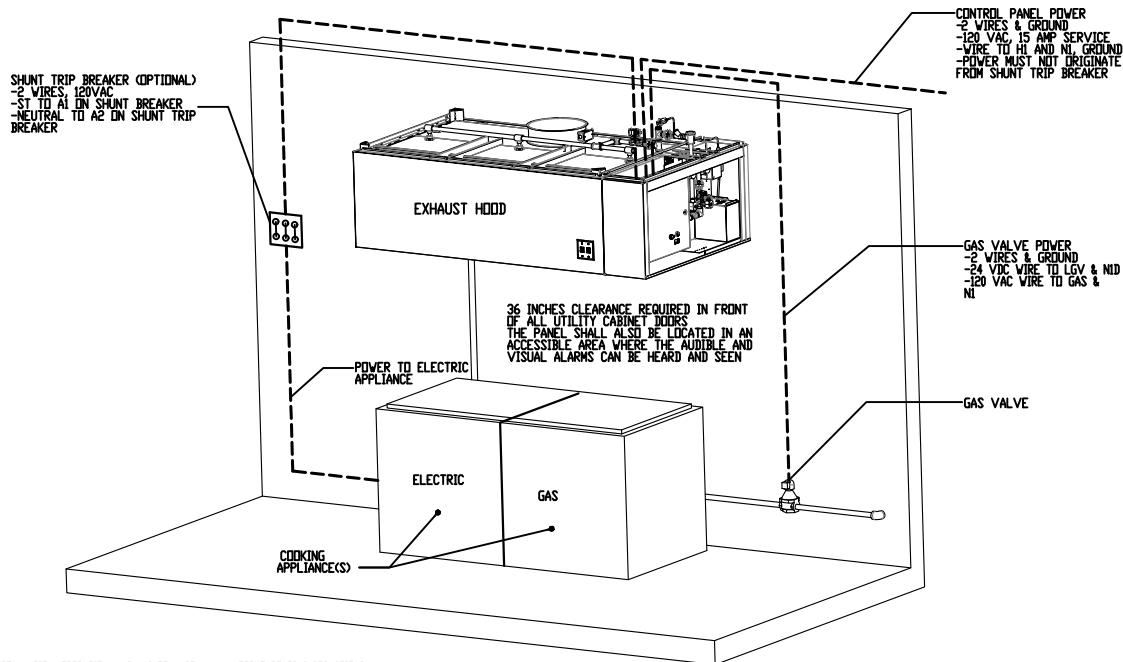
# CORE TOTAL FLOOD PROTECTION ELECTRICAL DETAIL

FS-1: MASTER

- ELECTRICIAN:  
 1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC  
 2. WIRE ALL FANS PER INCLUDED SCHEMATIC  
 3. WIRE SHUNT TRIP BREAKER (OPTIONAL)  
 4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)  
 5. WIRE GAS VALVE

## ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & NI	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	EST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & NI + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & NI	KTS & NI	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	LGV & NID (IF 24 VDC) GAS & NI (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, NID TO RED, LGV TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, NI TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES.



**CAPTIVEAIR**

JOB WRG LLC (Bellvue,KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 13	DRAWN BY jcirilli
REV.	SCALE 3/8" = 1'-0"

<b>JOB NO</b> 4945847	<b>MODEL NUMBER</b> DCV-1111	<b>DRAWN BY</b> VWG	<b>SCHEMATIC TYPE</b> INSTALL	<b>DESCRIPTION OF OPERATION:</b> Fire System #1 CORE PROTECTION (FS# 1) CORE Appliance Multifid Package with Self Clearing, Installed in Hood Utility Cabinet with Integral hood pressure panel.
	<b>JOB NAME</b> VRG LLC (Bellvue,KY)	<b>DATE</b> 6/14/2022	<b>DWG NO</b> ECP-81-4	

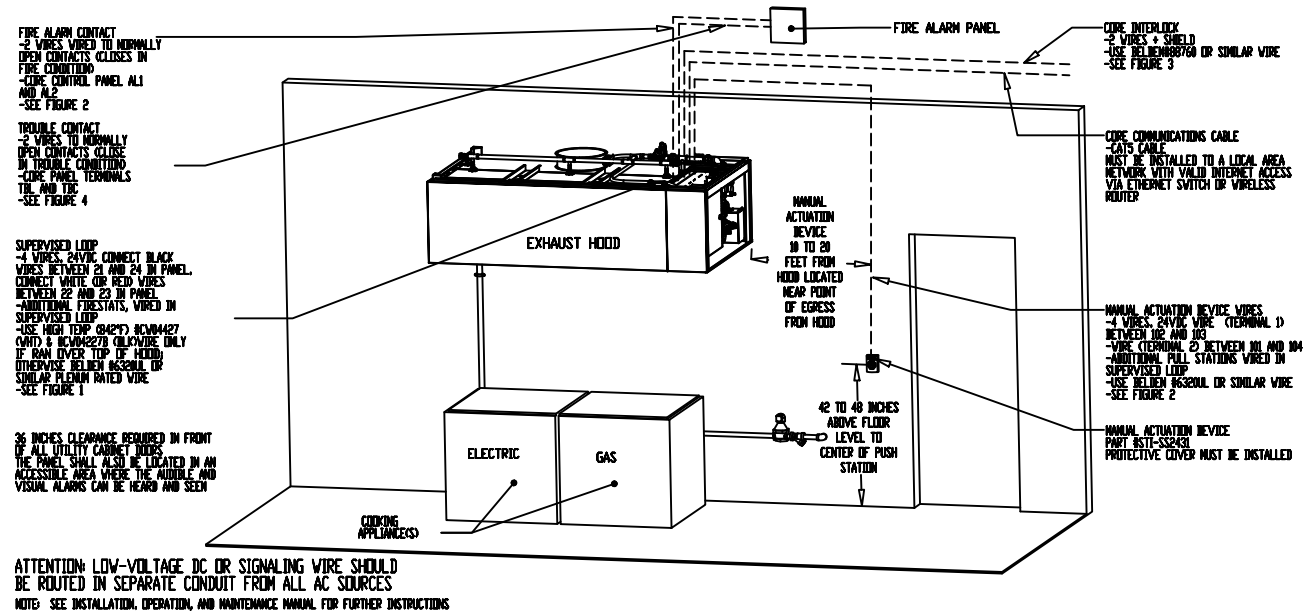
# CORE TOTAL FLOOD PROTECTION LOW-VOLTAGE DETAIL

03/06/2017 Rev. 12

- ALARM CONTRACTOR:**  
 1. WIRE MANUAL ACTUATION DEVICES, REMOTE FIRESTATS, CORE INTERLOCKS, FIRE SENSORS AND FIRE ALARM CONTACTS  
 2. COMPLETE FINAL HOOKUP OF SYSTEM  
 3. PERFORM FINAL FIRE SYSTEM TEST  
 4. FILL SURFACTANT TANK

FS-1: MASTER

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICES	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION ST1-6500
REMOTE FIRESTAT SENSORS	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (842°F) RCVM4427 (WTD) & RCVM4427B (OLKWIRE) OR SIMILAR ONLY IF RAIN COVER TOP IF HOOD OTHERWISE BELDEN B8320L OR SIMILAR PLUMEN RATED WIRE, SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	SVV MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCKS	11A, 11B, 11C	11A, 11B, 11C	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) 11A TO CORE SYSTEM (2) 11A, CORE SYSTEM (1) 11B TO CORE SYSTEM (2) 11B, CORE SYSTEM (1) 11C TO CORE SYSTEM (2) 11C, USE BELDEN B8760 OR SIMILAR WIRE
TROUBLE CONTACT	T1C, T1L, T1K	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO T1L & T1C NORMALLY OPEN CONTACT, CLOSSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



JOB VRG LLC (Bellvue,KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 14	DRAWN BY jcrilli
REV.	SCALE 3/8" = 1'-0"

<b>JOB NO</b> 4945847	<b>MODEL NUMBER</b> DCV-1111	<b>DRAWN BY</b> JCR	<b>SCHEMATIC TYPE</b> INSTALL	<b>DESCRIPTION OF OPERATION</b> Fire System w/ CORE PROTECTION (FSO). 1" CORE Appliance NonFold Package with Self-Cleaning. Installed in Hood Utility Cabinet with Integral hood pressure panel.
	<b>JOB NAME</b> WRG LLC Bellevue, KY	<b>DATE</b> 6/14/2022	<b>FIG NO</b> ECP-01-6	

# CORE TOTAL FLOOD PROTECTION PLUMBING DETAIL

09/21/2021 Rev. 16

1. CONNECT HOT WATER LINE: #PVC, COPPER, STAINLESS STEEL PIPE OR LISTED BRAIDED HOSE ONLY  
 2. CONNECT HOOD DRAINS: STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY  
 3. CONNECT ALL END-TO-END AND BACK-TO-BACK HOOD WATER LINE CONNECTIONS (PLUMBING IS FIELD SUPPLIED FOR THIS FIELD PLUMBING MUST NOT EXCEED HEIGHT OF VACUUM BREAKER IN MAIN UTILITY CABINET  
 4. REMOVE PLUG FROM MAIN HOOD SPRAY BAR AND CONNECT TO HOOD. STAINLESS STEEL, COPPER, STEEL PIPE OR LISTED BRAIDED HOSE ONLY  
 5. INSTALL FLOOR DRAIN  
 6. INSTALL BACKFLOW PREVENTER IF CODE REQUIRES

FS-1: MASTER

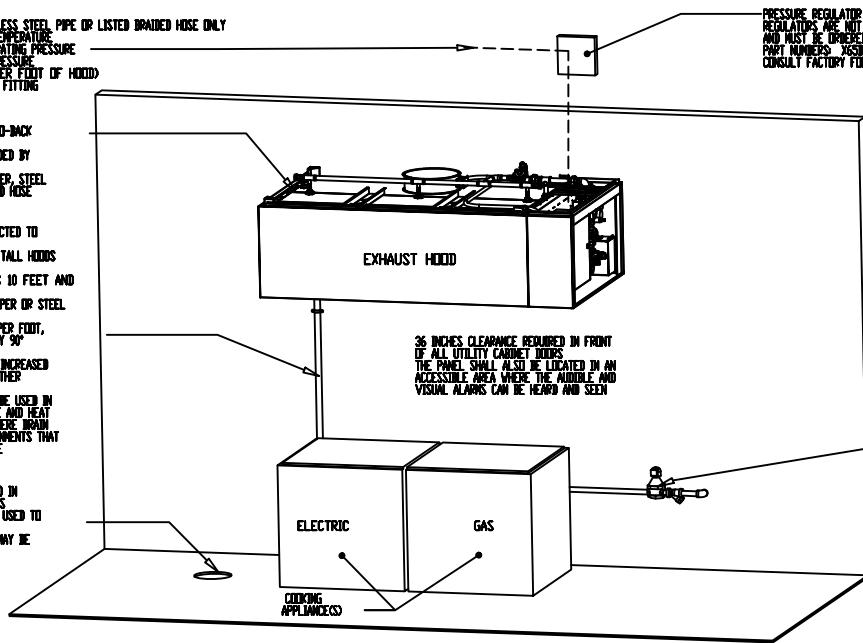
PLUMBING CONTRACTOR REQUIREMENT					
ITEM	CONNECTION	TEMPERATURE	PRESSURE	FLOW RATE	COMMENTS
HOT WATER LINE	1.5 INCH NPT	140 to 170°F	31 PSI TO 70 PSI	18.9 GPM	INSULATE HOT WATER PIPE. MINIMUM PRESSURE DEPENDENT ON LENGTH AND CONFIGURATION OF HOOD SYSTEM
HOOD DRAINS	1-1/2 INCH NPT	N/A	GRAVITY DRAIN	SEE ABOVE	2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH TALL FILTERS AND HOODS 10 FEET AND LONGER
END-TO-END CORE CONNECTION	VARIES	N/A	N/A	N/A	CONNECT WITH NPT PIPE. SEAL ALL THREADS. HOOD CONNECTION PROVIDED
BACK-TO-BACK CORE CONNECTION	VARIES	N/A	N/A	N/A	CONNECT WITH NPT PIPE. SEAL ALL THREADS. HOOD CONNECTION PROVIDED
GAS VALVE	VARIES	N/A	SEE TABLE	N/A	UP TO 2 INCHES NPT WITH 24V CONTROLS. 2-1/2 AND 3 INCH USE 120V CONTROL
FLOOR DRAINS	1-1/2 INCH	N/A	GRAVITY DRAIN	N/A	USED TO HELP CLEAN UP FIRE SYSTEM DISCHARGE. GREASE INTERCEPTOR MAY BE REQUIRED
BACKFLOW PREVENTER (RAIN LINE OPTIONAL)	INLET/OUTLET DRAIN	N/A	VARIES	N/A	INSTALLED WHEN PACKAGE HAS A BACKFLOW PREVENTER VALVE. SEE BACKFLOW PREVENTER VALVE MANUAL FOR DETAILS

- HOT WATER LINE**  
 -#PVC, COPPER, STAINLESS STEEL PIPE OR LISTED BRAIDED HOSE ONLY  
 -140-170°F OPERATING TEMPERATURE  
 -31 PSI TO 70 PSI OPERATING PRESSURE  
 -15 PSI MAX STATIC PRESSURE  
 -18.9 GPM @ 7 PSI PER FOOT OF HOOD  
 -1.5 INCH NPT HOOD NPT FITTING INSULATED

PRESSURE REGULATOR VALVE REGULATORS ARE NOT INCLUDED TO MEET REQUIRED PRESSURE AND MUST BE ORDERED SEPARATELY. PART NUMBERS: XSSBCK-1/2, XSSBCK1, OR XSSBCK1-1/2? CONSULT FACTORY FOR SIZING

- END-TO-END OR BACK-TO-BACK CONNECTION**  
 -INSTALLED AND PROVIDED BY PLUMBER  
 -STAINLESS STEEL, COPPER, STEEL PIPE OR LISTED BRAIDED HOSE ONLY  
**HOOD DRAINS**  
 -1-1/2 INCH NPT CONNECTED TO MAIN HOOD GREASE TRAP  
 -2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH FILTERS  
 -2 DRAINS ON HOODS 10 FEET AND LONGER  
 -STAINLESS STEEL, COPPER OR STEEL PIPE ONLY  
 -SLOPED MINIMUM 1/4" PER FOOT, AVOID ANY UNNECESSARY 90° TURNS  
 -PIPE SIZE SHOULD BE INCREASED WHEN COMBINED WITH OTHER DRAINS  
 -TRAPS SHOULD NOT BE USED IN THE GREASE DRAIN LINE AND HEAT TAPE MUST BE USED WHERE DRAIN LINE IS RUN IN ENVIRONMENTS THAT WOULD SOLIDIFY GREASE

- FLOOR DRAIN**  
 -1-1/2" DRAIN INSTALLED IN FLOOR, NEAR APPLIANCES  
 -FLOOR DRAINS MAY BE USED TO DRAIN INTO  
 -GREASE INTERCEPTOR MAY BE REQUIRED



LENGTH OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR HOT WATER (PSI)	DISCHARGE COEFFICIENT (K-FACTOR)
4	28	86
8	28	13
12	28	19
16	28	25
20	28	31
24	28	38
28	31	43
32	33	49
36	35	53
40	42	54
44	43	59
48	45	63

TOTAL FLOWRATE = K FACTOR x PRESSURE <sup>644</sup>

- GAS VALVE**  
 -THREADED NPT CONNECTION  
 -SEE TABLE BELOW FOR MAX PRESSURE  
 -STRAINER INSTALLED UPSTREAM OF VALVE

SIZE	MAX INLET PRESSURE (PSI)	VOLTAGE	BTU/HR
3/4"	5	24VDC	593,200
1"		24VDC	1,132,300
1-1/4"		24VDC	1,925,800
1-1/2"		24VDC	2,486,000
2"		24VDC	2,940,500
2-1/2"		120VAC	5,607,800
3"	120VAC	5,661,700	

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

#PVC PIPING CANNOT BE WITHIN 10 FT OF HOOD. CONNECTIONS TO THE MANIFOLD MUST BE HARD PIPED WITH COPPER, OR STAINLESS STEEL.



**CAPTIVEAIRE**

JOB WRG LLC (Bellevue, KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 15	DRAWN BY jcrilli
REV.	SCALE 3/8" = 1'-0"

**JOB NO**  
4945847

**MODEL NUMBER**  
DCV-1111

**DRAWN BY**  
JCR

**SCHEMATIC TYPE**  
INSTALL

**DESCRIPTION OF OPERATION:**  
Fire System #1 CORE PROTECTION (PSD). F CORE Appliance Manifold Package with Self-Cleaning. Installed in Hood Utility Cabinet with integral hood pressure panel.

**JOB NAME**  
WRG LLC (Bellvue,KY)

**DATE**  
6/14/2022

**DWG NO**  
ECP #1-7

# CORE TOTAL FLOOD PROTECTION SPRINKLER DETAIL

09/21/2021 Rev. 14

FS-1: MASTER

**BUILDING SPRINKLER CONTRACTOR:**  
CONNECT CORE WATER LINE TO BUILDING WET SPRINKLER SYSTEM. STAINLESS STEEL, COPPER, STEEL PIPE OR LISTED BRAIDED HOSE ONLY

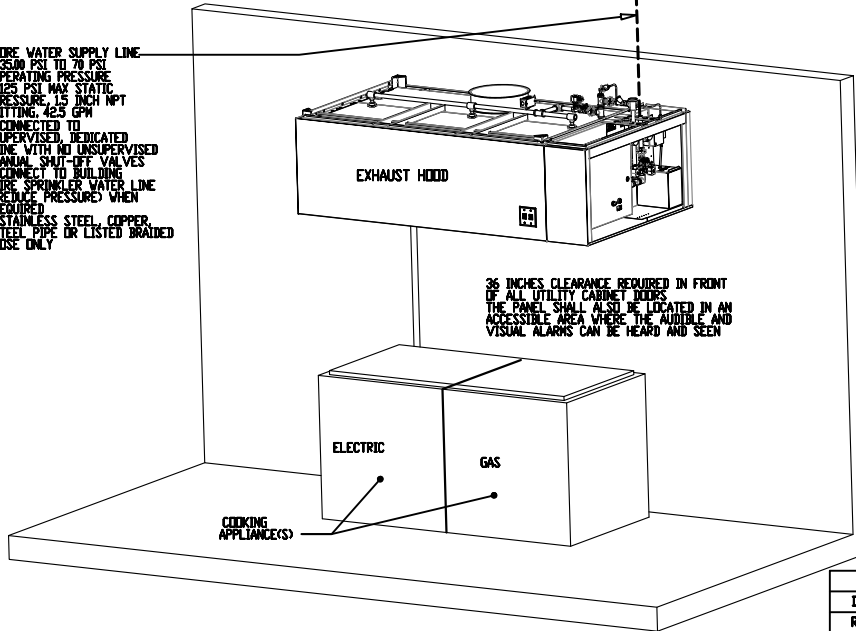
SPRINKLER CONTRACTOR REQUIREMENT					
ITEM	CONNECTION	OPERATING PRESSURE	K-FACTOR	FLOW RATE	COMMENTS
CORE WATER SUPPLY LINE	1.5 INCH NPT	35.00 PSI TO 70 PSI	8.9	42.5 GPM	WATER LINE MUST BE SUPERVISED AND HAVE NO UNSUPERVISED MANUAL SHUT-OFF VALVES MINIMUM PRESSURE AND FLOWRATE DEPENDENT ON LENGTH OF HOOD SYSTEM

MINIMUM OPERATING PRESSURE REQUIREMENTS			
LENGTH OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR HOT WATER (PSI)	MINIMUM INLET WATER PRESSURE FOR CORE PROTECTION (PSI)	DISCHARGE COEFFICIENTS (K-FACTOR)
4	30	30	1.3
8	30	30	2.6
12	30	30	4.0
16	30	30	5.4
20	30	30	6.7
24	32	36	8.1
28	31	33	9.0
32	33	35	10.0
36	35	45	10.1
40	42	50	10.7
44	43	55	11.3
48	45	60	11.9

TOTAL FLOWRATE = K FACTOR x PRESSURE<sup>0.44</sup>

**PRESSURE REGULATOR VALVE (PRV)**  
-PRV NOT INCLUDED AND MUST BE PROVIDED, INSTALLED, AND ADJUSTED BY THE SPRINKLER CONTRACTOR TO MEET INCINGING PRESSURE REQUIREMENTS  
-A REGULATOR SUCH AS THE ELKHART BRASS MODEL NUMBER URFA-20S-2.5" OR THE UR-20 SERIES PARTS KITS SHOULD BE UTILIZED  
-MUST BE CONFIRMED WITH THE FIRE MARSHAL OR LOCAL AUTHORITY HAVING JURISDICTION (AHD)

**CORE WATER SUPPLY LINE**  
-35.00 PSI TO 70 PSI OPERATING PRESSURE  
-125 PSI MAX STATIC PRESSURE  
-1.5 INCH NPT FITTING, 42.5 GPM  
-CONNECTED TO SUPERVISED, DEDICATED LINE WITH NO UNSUPERVISED MANUAL SHUT-OFF VALVES  
-CONNECT TO BUILDING FIRE SPRINKLER WATER LINE (SEE PRESSURE) WHEN REQUIRED  
-STAINLESS STEEL, COPPER, STEEL PIPE OR LISTED BRAIDED HOSE ONLY



NOZZLE HEIGHTS ABOVE HAZARD		
NOZZLE PART NUMBER	NOZZLE ABOVE HAZARD	
	MIN	MAX
DL-F	30"	55"

NOZZLES FOR CORE PROTECTION			
DESCRIPTION	PART NUMBER	MACOLA	FLOW RATE
RISER NOZZLE	CR-M	A0002784	2.6 GPM @ 30 PSI
SPRAY BAR NOZZLE	CPL-M	A0025166	0.7 GPM @ 30 PSI

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS



**CAPTIVE AIRE**

JOB WRG LLC (Bellvue,KY)	
LOCATION Bellevue, KY, 41073	
DATE 6/14/2022	JOB # 4945847
DWG # 16	DRAWN BY jcrilli
REV.	SCALE 3/8" = 1'-0"