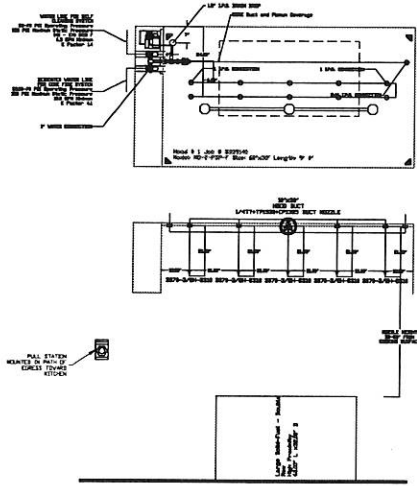


TOTAL SYSTEM BUILT REQUIREMENTS	
Item	Quantity
1. Hood #1	1
2. Hood #2	1
3. Hood #3	1
4. Hood #4	1
5. Hood #5	1
6. Hood #6	1
7. Hood #7	1
8. Hood #8	1
9. Hood #9	1
10. Hood #10	1
11. Hood #11	1
12. Hood #12	1
13. Hood #13	1
14. Hood #14	1
15. Hood #15	1
16. Hood #16	1
17. Hood #17	1
18. Hood #18	1
19. Hood #19	1
20. Hood #20	1
21. Hood #21	1
22. Hood #22	1
23. Hood #23	1
24. Hood #24	1
25. Hood #25	1
26. Hood #26	1
27. Hood #27	1
28. Hood #28	1
29. Hood #29	1
30. Hood #30	1
31. Hood #31	1
32. Hood #32	1
33. Hood #33	1
34. Hood #34	1
35. Hood #35	1
36. Hood #36	1
37. Hood #37	1
38. Hood #38	1
39. Hood #39	1
40. Hood #40	1
41. Hood #41	1
42. Hood #42	1
43. Hood #43	1
44. Hood #44	1
45. Hood #45	1
46. Hood #46	1
47. Hood #47	1
48. Hood #48	1
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93. Hood #93	1
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97. Hood #97	1
98. Hood #98	1
99. Hood #99	1
100. Hood #100	1

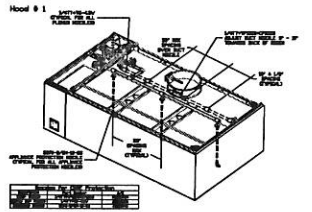


Job #: 3339140
 Job Name: Ellsworth DE r4
 System Size: COOK, Total FT: 1000
 Hood # 1: 60" Long x 60" Wide x 20" High
 Hood # 2: 60" Long x 60" Wide x 20" High

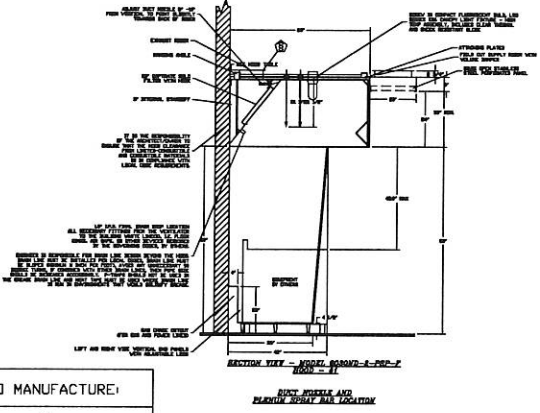


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 Permitting and Inspections Department
 Approved with Conditions
 04/26/2018

- NOTES
- FIELD PIPE DROPS AS SHOWN
 - ELECTRICAL AND NOZZLES SUPPLIED BY GAS
 - SALAMANDER TEST IF FLOW PATTERNS IS BLOCKED BY SHELVING
 - FACTORY TESTING 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
 - CORE / SELF SENSING EXTINGUISHERS - US Patent 6788282 B2
 - CORE / SELF SENSING EXTINGUISHERS - EP Patent 2274029 A1
 - CORE Supervision - US Patent 6078024 B1
 - CORE Electrical - US Patent 6182625 B2
- Job #: 3339140
 Job Name: Ellsworth DE r4
 System Size: COOK
 Hood # 1: 60" Long x 60" Wide x 20" High
 Hood # 2: 60" Long x 60" Wide x 20" High
 Hood # 3: 60" Long x 60" Wide x 20" High
- ADDITIONAL FIRESTAT REQUIRED AT END OF DUCT NEAR EXHAUST FAN IF DUCT IS MORE THAN 10' LONG OR THERE IS HORIZONTAL DUCT.



INDICATED VALVES ARE FOR GRAPHICAL REPRESENTATION OF TYPICAL NOZZLE PLACEMENTS AND TYPE, QUANTITIES OF NOZZLES WILL VARY.



PROPER CORE AND HOT WATER PRESSURES ARE CRITICAL TO SYSTEM PERFORMANCE. PLEASE CONTACT SALES OFFICE IF THERE ARE ANY CONCERNS OR QUESTIONS REGARDING REQUIRED PRESSURES.

NOTE: CATS ETHERNET CABLE MUST BE RUN TO THE CORE HOOD FOR CONNECTING CASLINK MONITORING SYSTEM. ADDITIONAL CHARGES WILL APPLY IF THIS CATS ETHERNET CONNECTION IS NOT PROVIDED IN THE FIELD. THESE CHARGES WILL BE INVOICED AFTER THE FACTORY COMMISSIONING OF SYSTEM IF THE CATS CONNECTION IS NOT PRESENT AT TIME OF COMMISSIONING.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE: _____

Your Title: _____ Date: _____



CAPTIVEAIR

JOB# Ellsworth #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 7	DRAWN BY BFC-21
REV:	SCALE 3/16" = 1'-0"

HOOD INFORMATION - Job#3339140

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S)						TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG.		
						WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.			S.P.	END TO END	ROW
1		6030 ND-2-PSP-F	9' 0"	700 Deg.	4050	10'	38'	4'		4050	1535	-1.349'	2673	430 SS 100%	ALONE	ALONE
2		6030 ND-2-PSP-F	6' 0"	600 Deg.	1200	10'	11'	4'		1200	1571	-0.518'	1080	430 SS Where Exposed	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



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S)						LIGHT(S)			UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WGT	
		TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY.	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM		ELECTRICAL			SWITCHES
												TYPE	SIZE	MODEL #			QUANTITY
1		Captrate Solo Filter	6	20"	16'	85% See Filter Spec.	3	Screw In Compact	NO	Left	12"x60"x30"	CORE Protection	0	SC-311110FP	1 Light 1 Fan	YES	886 LBS
2		Captrate Solo Filter	4	20"	16'	85% See Filter Spec.	2	Screw In Compact	NO							NO	412 LBS

HOOD OPTIONS

HOOD NO.	TAG	OPTION
1		RISER SENSOR INSTALL 6IN PLEN
		WC-CORE PROTECTION
		LEFT WIDE VERTICAL END PANEL 42' Top Width, 36' Bottom Width, 80' High Insulated 430 SS
2		RIGHT WIDE VERTICAL END PANEL 42' Top Width, 36' Bottom Width, 80' High Insulated 430 SS
		LEFT QUARTER END PANEL 23' Top Width, 0' Bottom Width, 23' High 430 SS
		RIGHT QUARTER END PANEL 23' Top Width, 0' Bottom Width, 23' High 430 SS
		RISER SENSOR INSTALL 6IN PLEN

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.

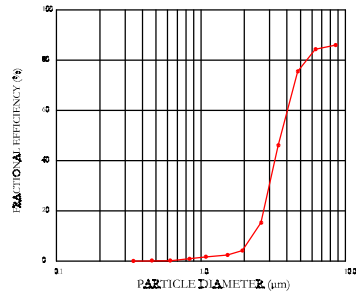
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.

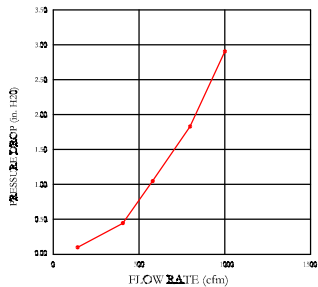
PERFORATED SUPPLY PLENUM(S)

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG.	DIA.	CFM	S.P.
1		Front	120'	20"	6'	MUA	12"	20"		667	0.237'
							12"	20"		667	0.237'
							12"	20"		667	0.237'
							12"	20"		667	0.237'
2		Front	72'	20"	6'	MUA	12"	20"		540	0.159'
							12"	20"		540	0.159'

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



CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 1	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"



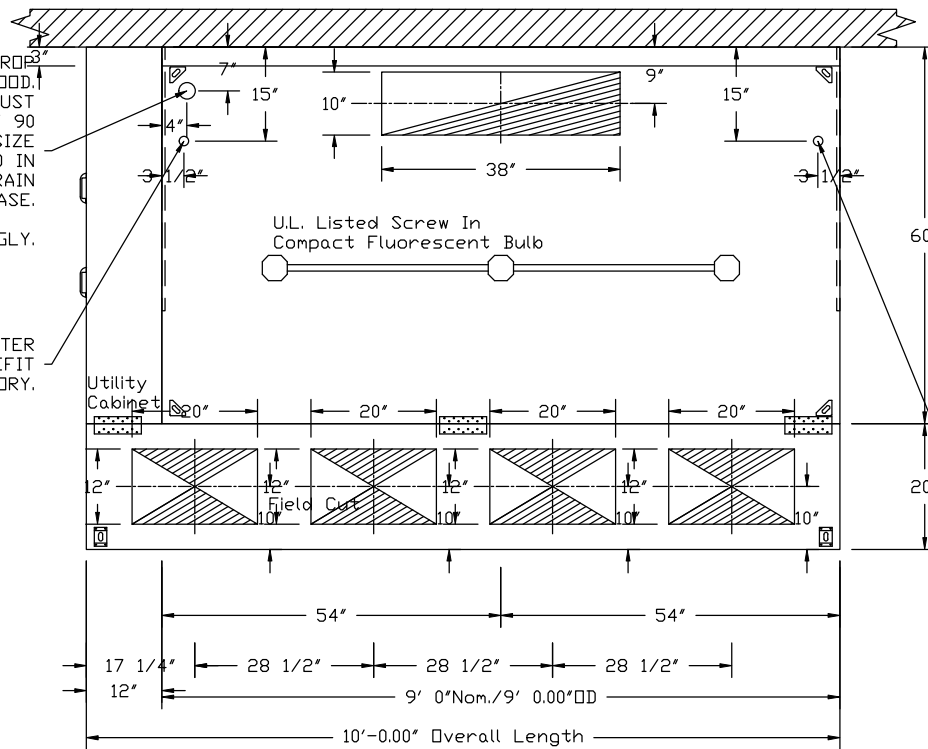
Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

ENGINEER IS RESPONSIBLE FOR DRAIN LINE DESIGN BEYOND THE HOOD. DRAIN LINE MUST BE INSTALLED PER LOCAL CODES, DRAIN LINE MUST BE SLOPED (MINIMUM 1/4 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.

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



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

PLAN VIEW - Hood #1
 9' 0.00" LONG 6030ND-2-PSP-F

24" MINIMUM OVERHANG IS RECOMMENDED FOR THE FRONT AND BOTH ENDS OF SOLID FUEL COOKING APPLIANCES.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____

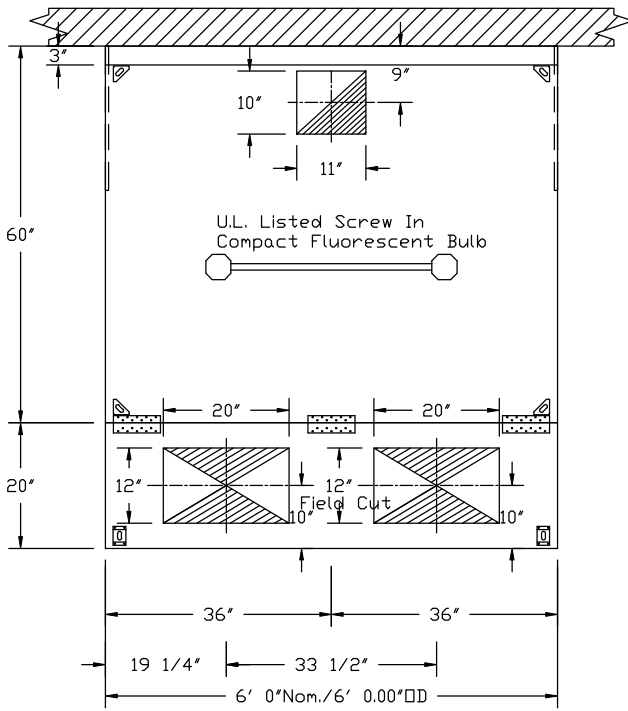


JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 2	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

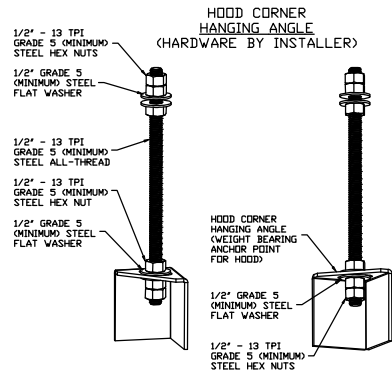


Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

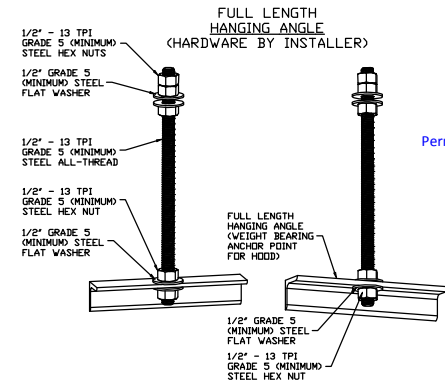


PLAN VIEW - Hood #2
 6' 0.00" LONG 6030ND-2-PSP-F



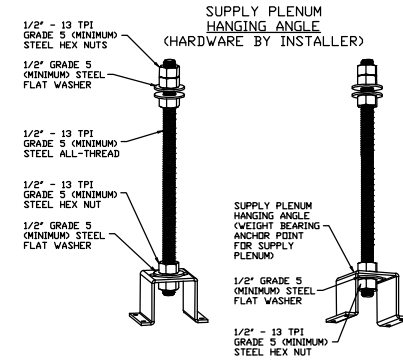
ASSEMBLY INSTRUCTIONS

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

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.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



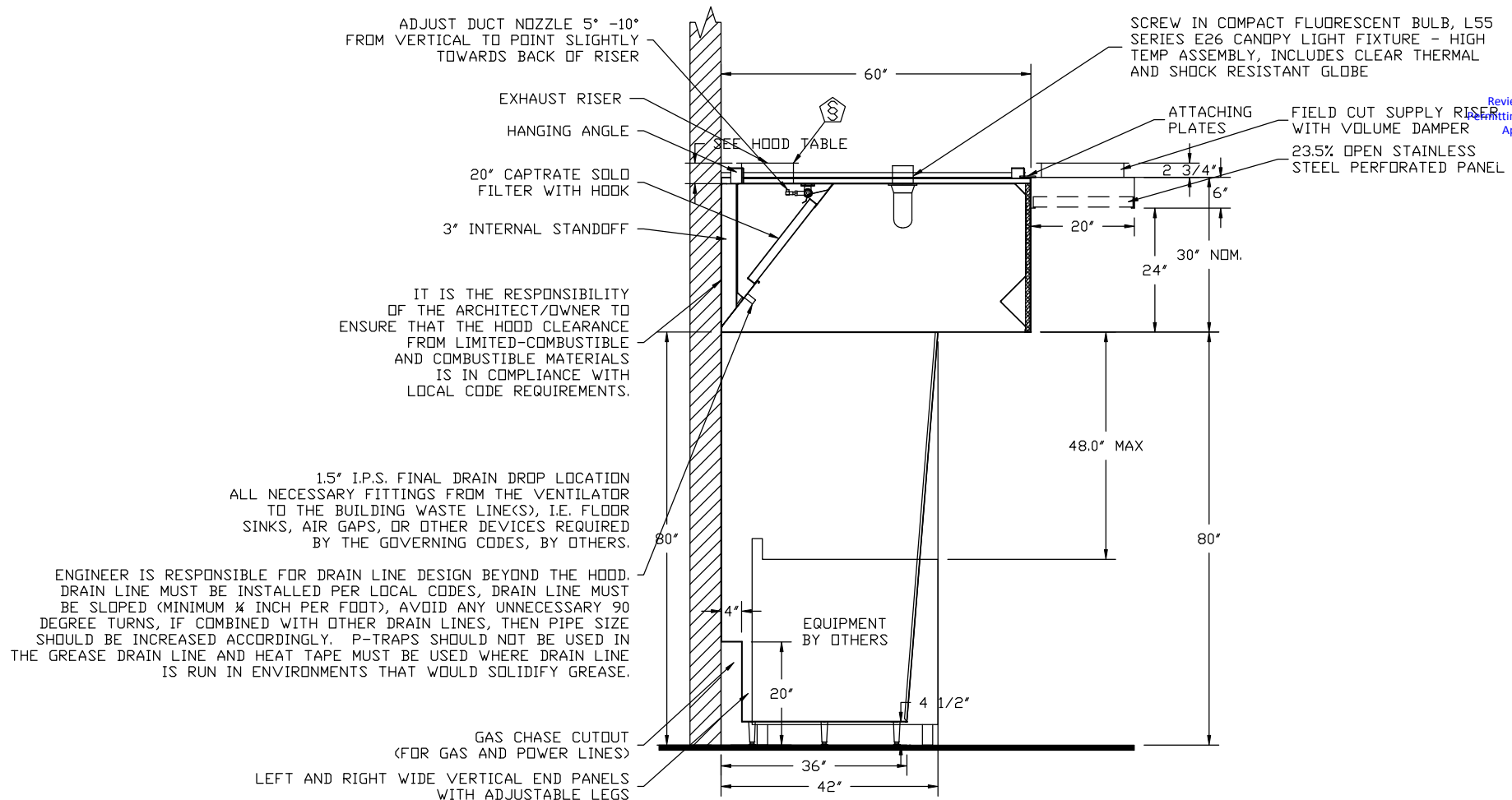
CAPTIVEAIR

JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 3	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"



Reviewed for Code Compliance
 Submitting and Inspections Department
 Approved with Conditions

04/26/2018



**SECTION VIEW - MODEL 6030ND-2-PSP-F
 HOOD - #1**

WARNING; FILTER NOISE MAY BE HIGHER THAN NORMAL DUE TO THE CFM REQUIREMENT OF THE APPLIANCE BEING USED AND TYPE OF FILTERS THAT ARE REQUIRED.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted	<input type="checkbox"/>
Approved with NO Exception Taken	<input type="checkbox"/>
Revise and Resubmit	<input type="checkbox"/>
SIGNATURE _____	_____
Your Title _____	Date _____

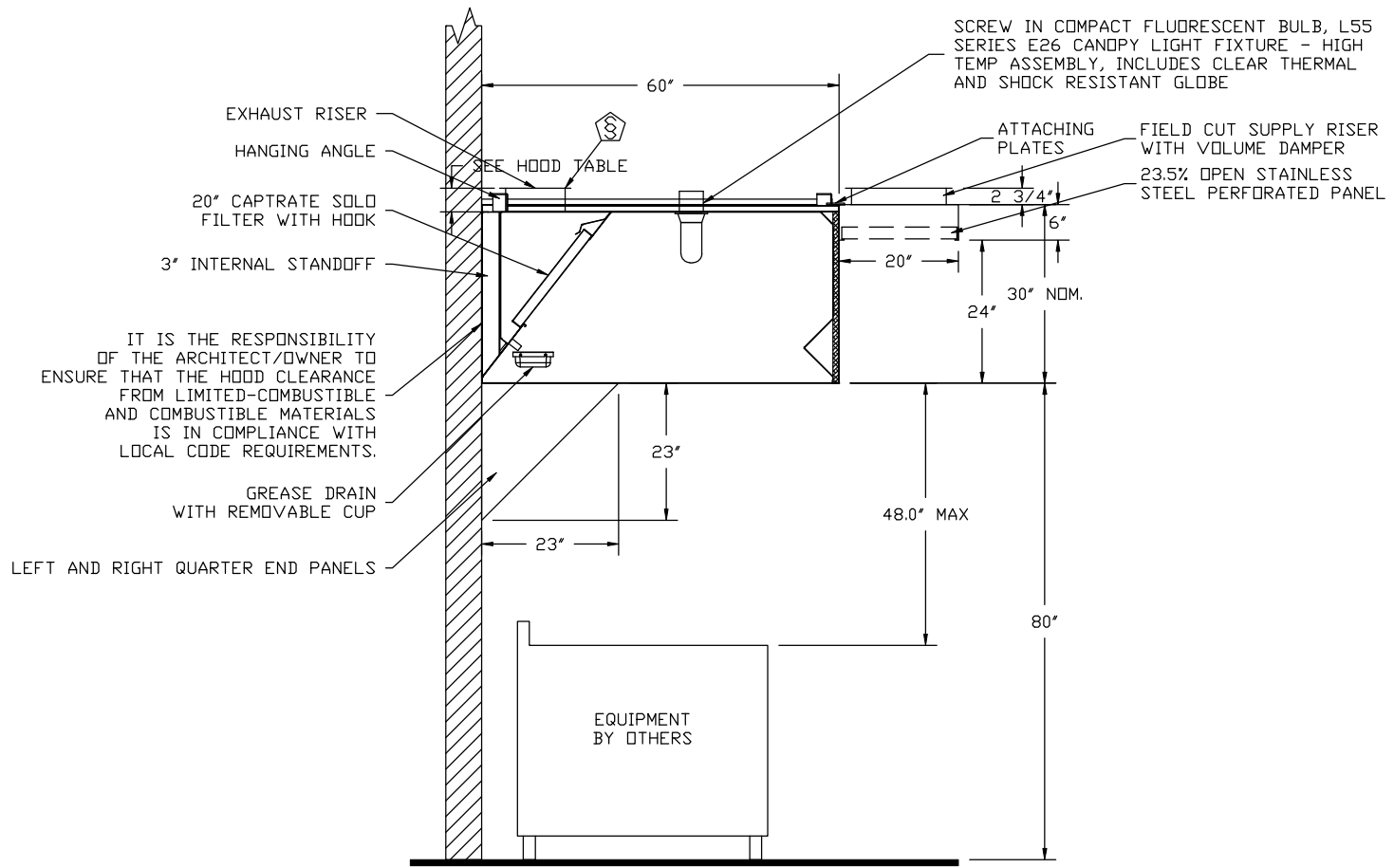


JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 4	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018



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

SECTION VIEW - MODEL 6030ND-2-PSP-F
HOOD - #2

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____






JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 5	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

Fire System Information - Job#3339140

FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		CORE Protection	0	0	Fire Cabinet Left	Left



Reviewed for Code Compliance
Permitting and Inspections Department
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04/26/2018

Fire System Parts List Key

FIRE SYSTEM NO.	TAG	KEY NUMBER - PART DESCRIPTION	QTY. BY FACTORY	QTY. BY DIST.
1		34 - 34 - A0019852 24VDC or 120VAC Single Action Manual Actuation Device (Push/Pull Station) With Protective Cover, One (1) Normally Open Contact	1	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL)	10	0
		16 - 16 - 3070-3/8H-10-SS NOZZLE - CORE Protection Appliance Coverage Nozzle (Includes Metal Blow Off Cap, Lanyard, and Chrome-plated pipe)	10	0
		0 - 0 - A0029078 Junction Box for CORE Protection Manual Pull Station. 1.5" Deep Back Box, Blue	1	0
		0 - 0 - 59361-1/2 2x4 Extension Ring	1	0
		0 - 0 - 12-G28021-005500 Duct Fire Thermostat. NO, Close on temp rise at 500°F.	2	0
		0 - 0 - 100-BW 2x4 Blank Plate for J-Box	1	0

NOTE: EXHAUST DUCTWORK NEEDS TO BE LIQUID TIGHT AND PROPERLY SLOPED BACK TOWARDS HOOD PER CODE. LEAKY DUCTWORK AND DUCTWORK WITH IMPROPER SLOPE WILL NEED TO BE CORRECTED - THIS WILL RESULT IN EXTRA JOBSITE VISITS AND ADDITIONAL CHARGES FOR CORE PRE-TESTS AND TESTS. THE USE OF CAPTIVE-AIRE ETL LISTED GREASE DUCT IS RECOMMENDED.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____

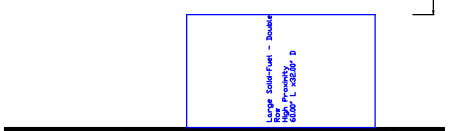
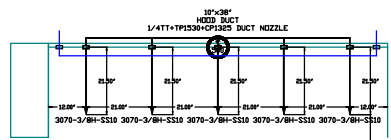
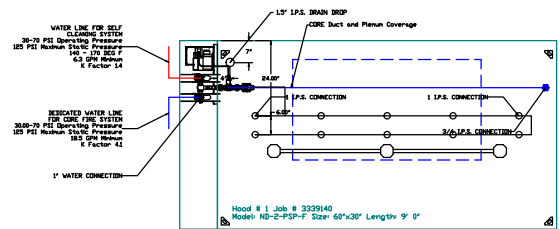


JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 6	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

TOTAL SYSTEM INLET REQUIREMENTS		
	Minimum Flow Rate (GPM)	Minimum Pressure (PSI)
Total COE Start Requirements	185	300
Total Self-Cleaning Start Requirements	63	30

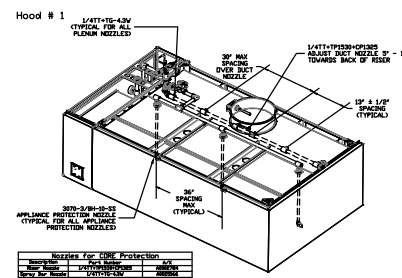
30-70 PSI Operating Pressure
 185 PSI Minimum Static Pressure
 140 GPM Minimum
 6.3 GPM Minimum
 6 Factor 14

Operating pressure range at COE Panel Gauge is 30.0 to 70 PSI
 Minimum Static Pressure is 185 PSI
 Operating pressure range at Self-Cleaning Panel Gauge is 30 to 70 PSI
 Minimum Static Pressure is 185 PSI
 Hot Water Temperature Range for Self-Cleaning 140-190°F.



NOTES
 - FIELD PIPE DROPS AS SHOWN
 - ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS
 - RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
 - 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
 - COE / Self-Cleaning (United States) - US Patent 7963282 B2
 COE / Self-Cleaning (Europe) - EP Patent 2274069 A1
 COE Supervision - US Patent 6378834 B1
 COE Electrical - US Patent 8610601 B2

Job #: 3339140
 Job Name: Ellsmere #2 r4
 Drawn By:
 System Size: COE
 Hood # 1 9' 000\"/>



NOZZLES FOR COE PROTECTION			
NOZZLE TYPE	QUANTITY	TYPE	NOTE
30\"/>			

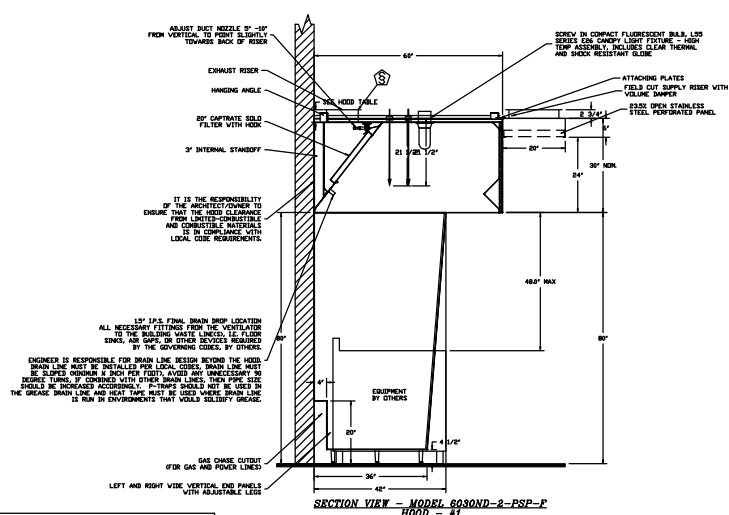
ISOMETRIC VIEWS ARE FOR GRAPHICAL REPRESENTATION OF TYPICAL NOZZLE PLACEMENTS AND TYPE. QUANTITIES OF NOZZLES WILL VARY.

Job #: 3339140
 Job Name: Ellsmere #2 r4
 Drawn By:
 System Size: COE Total FP required 0
 Hood # 1 9' 000\"/>



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018



PROPER CORE AND HOT WATER PRESSURES ARE CRITICAL TO SYSTEM PERFORMANCE. PLEASE CONTACT SALES OFFICE IF THERE ARE ANY CONCERNS OR QUESTIONS REGARDING REQUIRED PRESSURES.

NOTE: CAT5 ETHERNET CABLE MUST BE RUN TO THE CORE HOOD FOR CONNECTING CASLINK MONITORING SYSTEM. ADDITIONAL CHARGES WILL APPLY IF THIS CAT5 ETHERNET CONNECTION IS NOT PROVIDED IN THE FIELD. THESE CHARGES WILL BE INVOICED AFTER THE FACTORY COMMISSIONING OF SYSTEM IF THE CAT5 CONNECTION IS NOT PRESENT AT TIME OF COMMISSIONING.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted
 Approved with NO Exception Taken
 Revise and Resubmit
 SIGNATURE _____
 Your Title _____ Date _____

DUCT NOZZLE AND
 PLENUM SPRAY BAR LOCATION



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 7	DRAWN BY BFC-21
REV.	SCALE 3/16" = 1'-0"



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

EXHAUST FAN INFORMATION - Job#3339140

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SDNES
1	12ft	DU180HFA	3000	1.500	1313	3.000	1.2100	3	230	8.6	693 FPM	226	19.1
2	6ft	DU85HFA	1200	0.650	995	0.750	0.1950	1	230	5.2	380 FPM	132	9.1
3	9ft	CASRE24DD	4050	1.750	1142	5.000	3.0110	3	230	14.3	1375 FPM	559	27

MUA FAN INFORMATION - Job#3339140

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)	SDNES	BURNER EFFICIENCY(%)
4	12ft & 6ft	A2-20D	20MF-2-MDD	A2	-	3480	0.500	1230	2.000	1.0770	3	230	5.5	442	14	
5	9ft	A2-D.250-20D	20MF-2-MDD	A2-D.250	2000	2673	0.500	1136	2.000	0.8310	3	230	5.5	908	9.4	92

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
5	9ft	220185	202570	71 deg F	7 in. w.c. - 14 in. w.c.	Natural

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	12ft	1 - Grease Box
		1 - Full Crating For Exhaust Fans
		1 - 3 Year Extended Motor Warranty
		1 - Fan Base Ceramic Seal - Ship Loose - For Grease Ducts
		1 - Hinge Kit - Ships Loose for Curb Supplied by Others
2	6ft	1 - Grease Box
		1 - Full Crating For Exhaust Fans
		1 - 3 Year Extended Motor Warranty
		1 - Fan Base Ceramic Seal - Ship Loose - For Grease Ducts
		1 - ECM Wiring Package-Exhaust - PWM Signal from ECPM03 Prewire (NIDEC Motor)
3	9ft	1 - Full Crating For Exhaust Fans
		1 - Utility Set Grease Cup
		1 - 3 Year Extended Motor Warranty
		1 - Fan Base Ceramic Seal - Ship Loose - For Grease Ducts
		1 - RE24DD - High Temperature Heat & Smoke Option. 1 - RE24 - Discharge Extension Assembly With Hardware.
4	12ft & 6ft	1 - Full Crating For Untempered Fans
		1 - 3 Year Extended Motor Warranty
		1 - Gravity Backdraft Damper for Size 2 Housing
5	9ft	1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only
		1 - AC Interlock Relay - 24VAC Coil
		1 - Motorized Backdraft Damper for A2-D Housing
		1 - Full Crating For Commercial Heater
		1 - Low Fire Start
		1 - Inlet Pressure Gauge, 0-35"
		1 - Manifold Pressure Gauge, -5 to 15" wc
		1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only
1 - 3 Year Extended Motor Warranty		

FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	12ft	YES						
2	6ft	YES						
3	9ft	YES						
4	12ft & 6ft					YES		
5	9ft						YES	

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted
 Approved with NO Exception Taken
 Revise and Resubmit
 SIGNATURE _____
 Your Title _____ Date _____



JOB Ellsmere #2 r4
 LOCATION PORTLAND, ME, 04103
 DATE 3/27/2018 JOB # 3339140
 DWG # 8 DRAWN BY BFC-21
 REV. SCALE 3/8" = 1'-0"

CURB ASSEMBLIES

NO.	DN FAN	TAG	WEIGHT	ITEM	SIZE
2	# 2	6ft	41 LBS	Curb	23.000"W x 23.000"L x 24.000"H 4.000:12.000 Pitch Vented Hinged
3	# 3	9ft	43 LBS	Curb	31.500"W x 31.500"L x 24.000"H 4.000:12.000 Pitch Vented
5	# 5	9ft	88 LBS	Curb	31.000"W x 79.000"L x 24.000"H 4.000:12.000 Pitch Along Width, Right Insulated

FAN SOUND INFORMATION

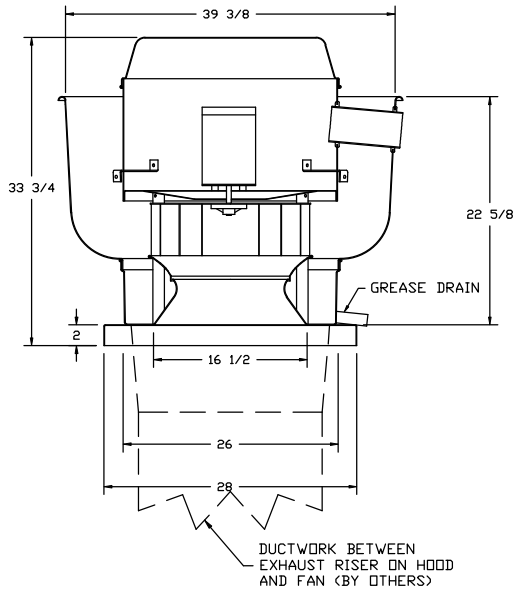
FAN UNIT NO.	MOTOR	RPM	LWA	SONES	DBA	DISTANCE FT	OCTAVE 1	OCTAVE 2	OCTAVE 3	OCTAVE 4	OCTAVE 5	OCTAVE 6	OCTAVE 7	OCTAVE 8
1	Exhaust	1313	83	19.1	71.5	5	77	82.1	88.6	79.6	72.3	69.8	63.7	57.7
2	Exhaust	995	69.8	9.1	58.3	5	69.7	73.9	70.6	65.3	63	62.8	58	51
3	Exhaust	1142	88.1	27	76.6	5	87.4	88.8	88.2	83.7	82.9	80.7	76.1	71.1
4	Supply	1230	77	14	65.5	5	74	81.7	76.2	74.5	70.8	68	64.8	60.9
5	Supply	1136	70.8	9.4	59.3	5	67.8	75.5	70.4	67.9	64.4	62	58.9	55.3



Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions

04/26/2018

FAN #1 DU180HFA - EXHAUST FAN (12FT)



FEATURES:

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

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
- FULL CRATING FOR EXHAUST FANS
- 3 YEAR EXTENDED MOTOR WARRANTY
- FAN BASE CERAMIC SEAL - SHIP LOOSE - FOR GREASE DUCTS
- HINGE KIT - SHIPS LOOSE FOR CURB SUPPLIED BY OTHERS

CUSTOMER APPROVAL TO MANUFACTURE:

- Approved as Noted
- Approved with NO Exception Taken
- Revise and Resubmit

SIGNATURE _____
Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 9	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

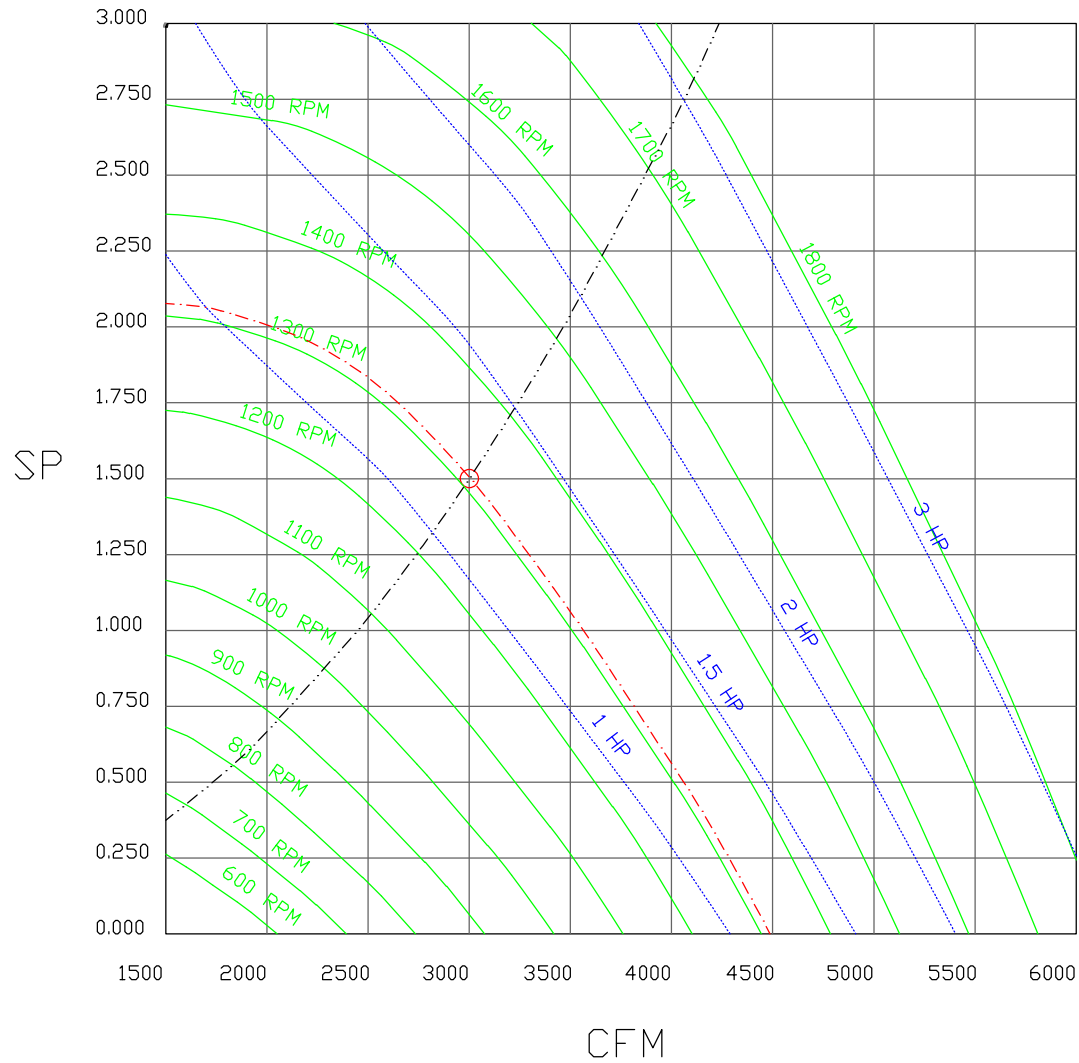
FAN#1 (12ft) - EXHAUST PERFORMANCE CURVES.



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

3000 CFM, 1.5 SP @ 1313 RPM and 1.21 BHP at 86 feet and 70 deg F
 * Please note that these curves were adjusted for job specific temperature and altitude.



CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



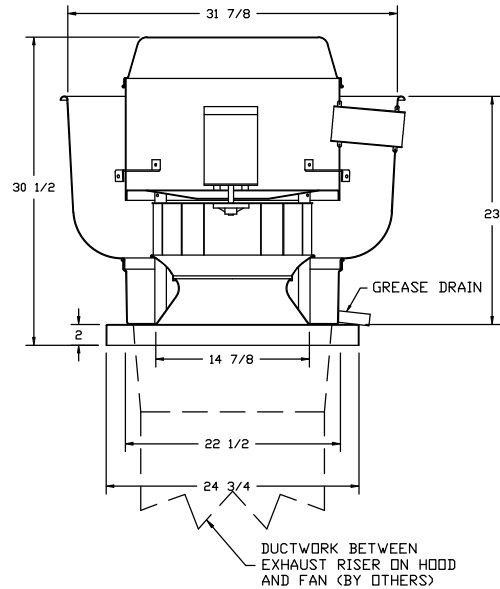
JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 10	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"



Reviewed for Code Compliance
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 Approved with Conditions

04/26/2018

FAN #2 DU85HFA - EXHAUST FAN (6FT)



FEATURES:

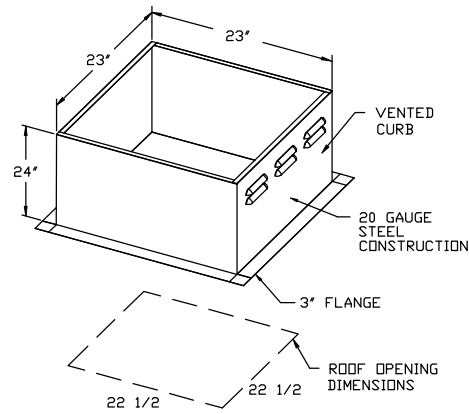
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

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.

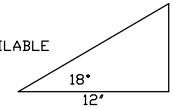
OPTIONS

- GREASE BOX
- FULL CRATING FOR EXHAUST FANS
- 3 YEAR EXTENDED MOTOR WARRANTY
- FAN BASE CERAMIC SEAL - SHIP LOOSE - FOR GREASE DUCTS
- ECM WIRING PACKAGE-EXHAUST - PWM SIGNAL FROM ECPM03 PREWIRE (NIDEC MOTOR)



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH:
 EXAMPLE: 7/12 PITCH = 30° SLOPE



CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 11	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

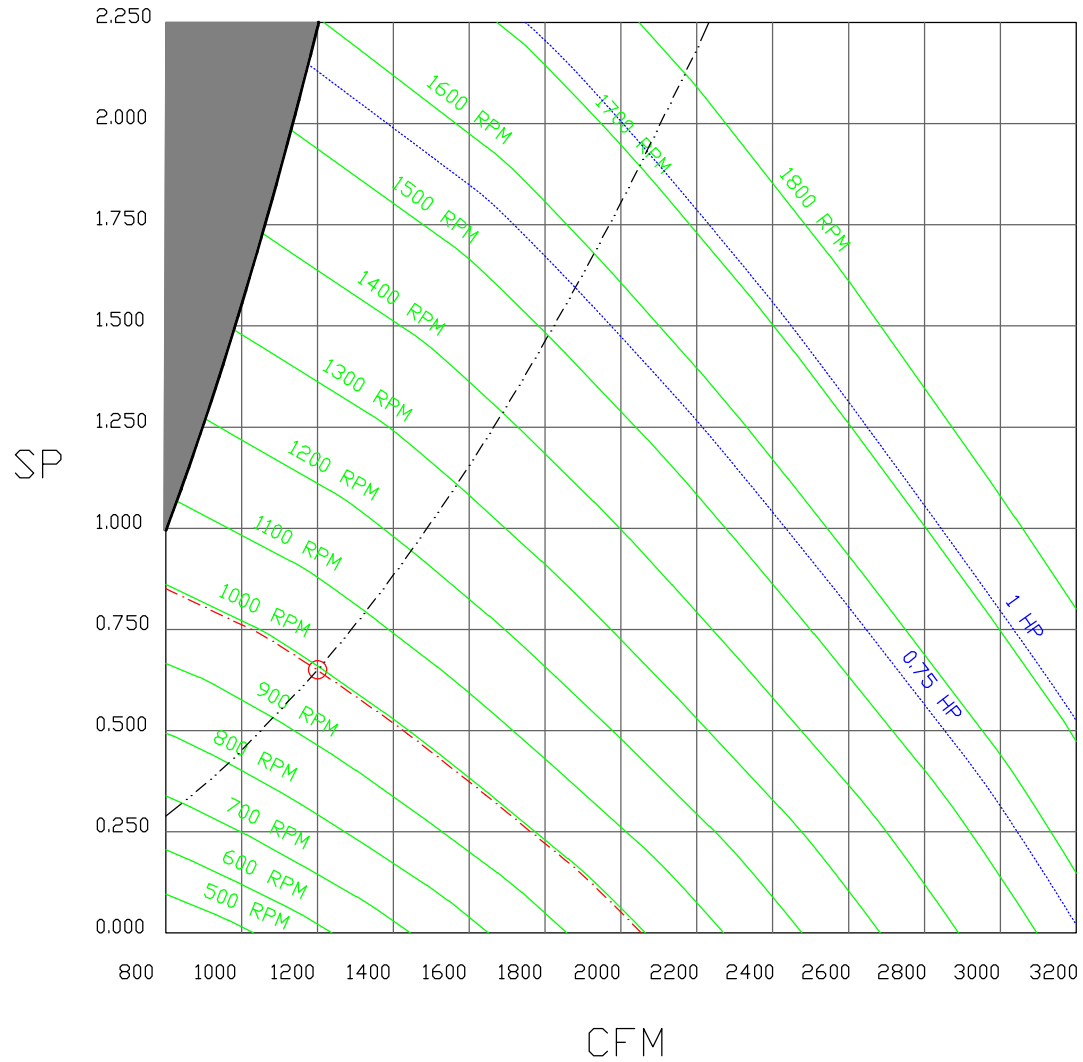
FAN#2 (6ft) - EXHAUST PERFORMANCE CURVES.



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

1200 CFM, 0.65 SP @ 995 RPM and 0.195 BHP at 86 feet and 70 deg F
 * Please note that these curves were adjusted for job specific temperature and altitude.



CUSTOMER APPROVAL TO MANUFACTURE:

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- Revise and Resubmit

SIGNATURE _____
 Your Title _____ Date _____

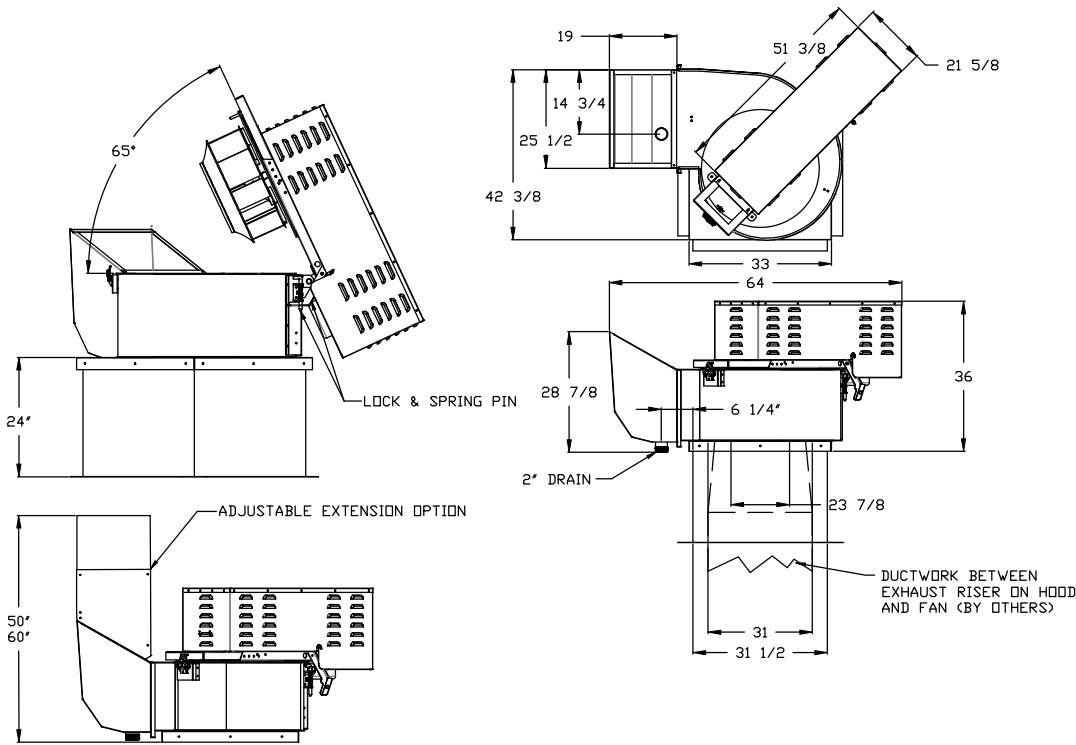


JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 12	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"



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Permitting and Inspections Department
Approved with Conditions

04/26/2018



FEATURES:

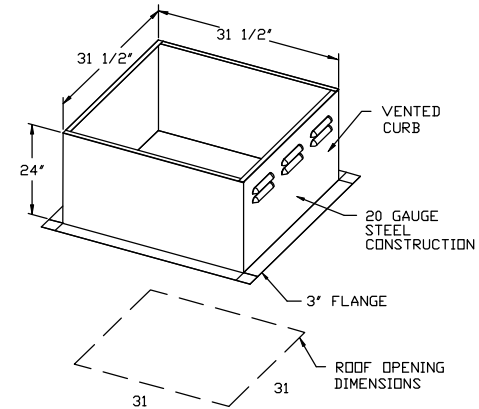
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL762 AND ULC-S645
- HIGH HEAT OPERATION DIRECT DRIVE 300°F (149°C)
- HIGH HEAT OPERATION BELT DRIVE 500°F (260°C)
- HEAT SLINGER
- GREASE CLASSIFICATION TESTING
- TILT OUT WHEEL
- LOCKING PIN FOR POWER PACK
- MOTOR WEATHER COVER
- INTERLOCKED DISCONNECT SWITCH

NORMAL TEMPERATURE TEST DIRECT DRIVE
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.

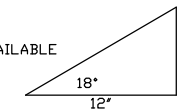
ABNORMAL FLARE-UP TEST BELT & DIRECT DRIVE
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- FULL CRATING FOR EXHAUST FANS
- UTILITY SET GREASE CUP
- 3 YEAR EXTENDED MOTOR WARRANTY
- FAN BASE CERAMIC SEAL - SHIP LOOSE - FOR GREASE DUCTS
- RE24DD - HIGH TEMPERATURE HEAT & SMOKE OPTION.
- RE24 - DISCHARGE EXTENSION ASSEMBLY WITH HARDWARE.



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.



SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 13	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

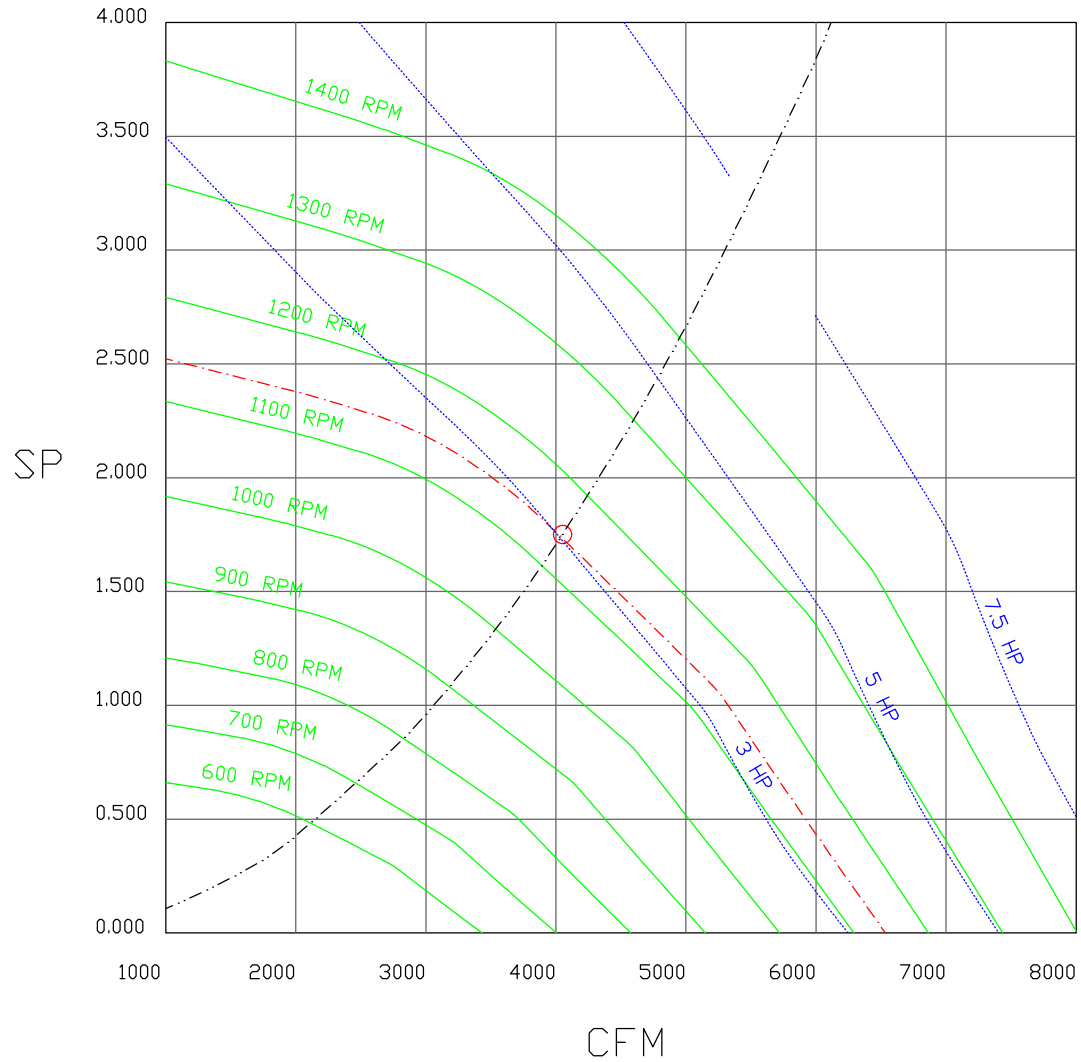
FAN#3 (9ft) - EXHAUST PERFORMANCE CURVES.



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

4050 CFM, 1.75 SP @ 1142 RPM and 3.011 BHP at 86 feet and 70 deg F
 * Please note that these curves were adjusted for job specific temperature and altitude.



CUSTOMER APPROVAL TO MANUFACTURE:

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- Approved with NO Exception Taken
- Revise and Resubmit

SIGNATURE _____
 Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 14	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"



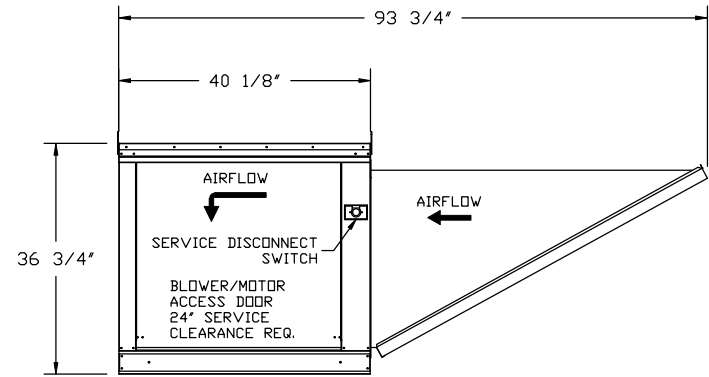
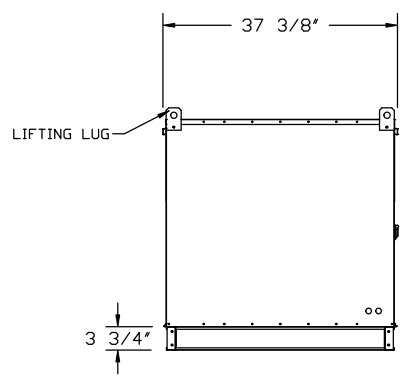
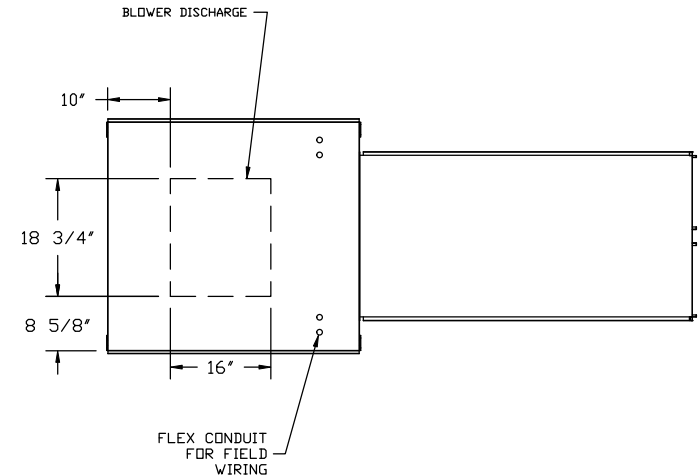
Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

FAN #4 A2-20D - SUPPLY FAN (12FT & 6FT)

1. UNTEMPERED SUPPLY UNIT WITH 20" DIRECT DRIVE FAN IN SIZE #2 HOUSING
2. INTAKE HOOD WITH EZ FILTERS
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
4. FULL CRATING FOR UNTEMPERED FANS FOR SHIPPING.
5. 3 YEAR EXTENDED WARRANTY FOR FAN MOTOR. PARTS ONLY; DOES NOT INCLUDE LABOR.
6. GRAVITY BACK DRAFT DAMPER 22" X 24" , STANDARD GALVANIZED CONSTRUCTION, 1 1/4" REAR FLANGE, FOR SIZE 2 UNTEMPERED FAN HOUSING (5182)
7. 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.

NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH EQUAL TO THREE TIMES THE SUPPLY DUCT EQUIVALENT DIAMETER MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE UNLESS OTHERWISE SPECIFIED. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY.



CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted	<input type="checkbox"/>
Approved with NO Exception Taken	<input type="checkbox"/>
Revise and Resubmit	<input type="checkbox"/>
SIGNATURE _____	
Your Title _____	Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 15	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

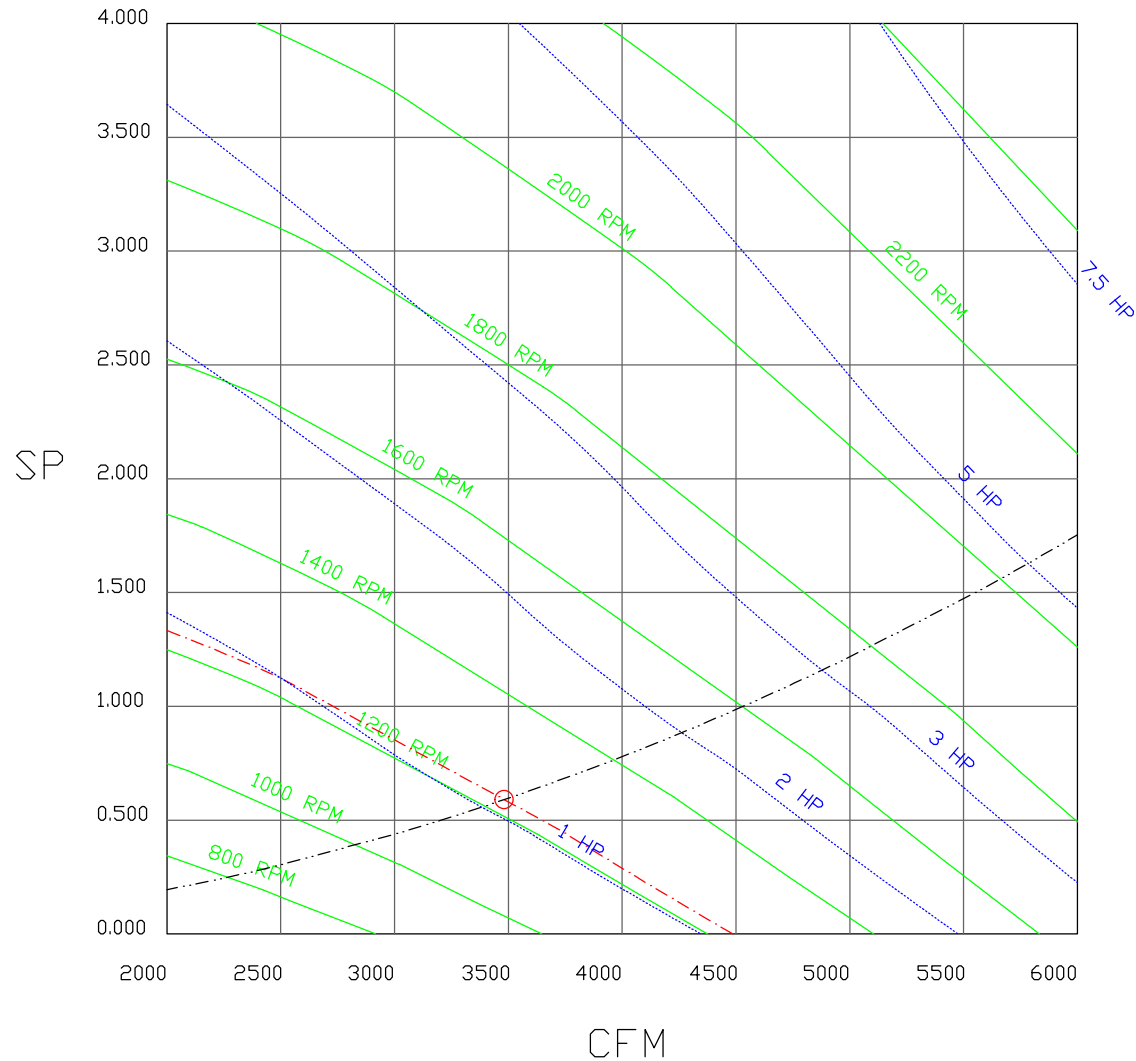
FAN#4 (12ft & 6ft) - SUPPLY PERFORMANCE CURVES.



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

3480 CFM, 0.59 SP @ 1230 RPM and 1.077 BHP at 25 feet and 84 deg F
 * Please note that these curves were adjusted for job specific temperature and altitude.



CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 16	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

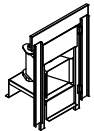
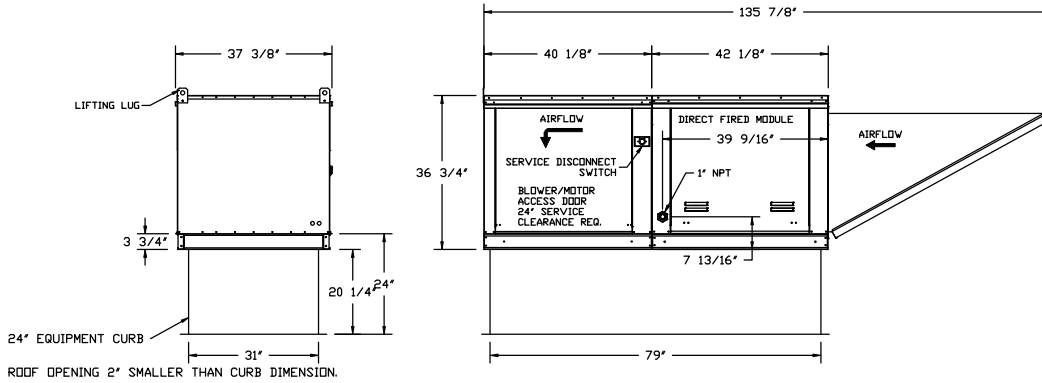
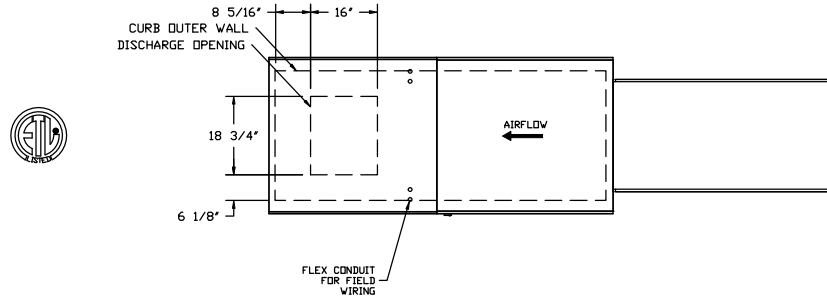
04/26/2018

- FAN #5 A2-D250-20D - HEATER (9FT)
 1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20' DIRECT DRIVE FAN
 2. INTAKE HOOD WITH EZ FILTERS
 3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
 4. COOLING INTERLOCK RELAY, 24VAC CDIL, 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
 5. 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, LF120S ACTUATOR INCLUDED
 6. FULL CRATING FOR COMMERCIAL HEATERS FOR SHIPPING.
 7. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
 8. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
 9. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE
 10. 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.
 11. 3 YEAR EXTENDED WARRANTY FOR FAN MOTOR. PARTS ONLY; DOES NOT INCLUDE LABOR.

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 4°F. TEMP. RISE = 71°F.
 BTUs CALCULATED OFF ACTUAL AIR DENSITY
 OUTPUT BTUs AT ALTITUDE OF 0.0 Ft. = 202753
 INPUT BTUs AT ALTITUDE OF 0.0 Ft. = 220383
 OUTPUT BTUs AT ALTITUDE OF 25 Ft. = 202570
 INPUT BTUs AT ALTITUDE OF 25 Ft. = 220184

NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH EQUAL TO THREE TIMES THE SUPPLY DUCT EQUIVALENT DIAMETER MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE UNLESS OTHERWISE SPECIFIED. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY.



Direct Fired QP Profile Plate Assembly

Direct Fired QP Profile Plate Specifications:

- Description:**
 Direct fired burners shall have patented GS Patent No. US6499238B2, self-adjusting profile plates designed to ensure proper air velocity and pressure drop across the burner. Profile plates shall close burners to achieve clean combustion by limiting air velocity to a maximum of 500 ft/min nominal (CD) and 5000 ft/min nominal (OD).
- Application:**
 Self-adjusting burner profile plates are engineered to automatically react to the demands of varying air flows, air flows that may vary, or air flows that may be manually adjusted. With this feature, all QP units are designed for manual control ventilation (MCV) requirements.
- Installation:**
 All profile plate assemblies shall be installed in the 30" square ETL listing and comply with combined safety standards ANSI Z83.4 and CSA 27 (non-recirculating of heaters) and ANSI Z83.8 (recirculating of heaters).
- General Construction:**
 -Profile plates shall be formed from G90 galvanized steel.
 -Profile plates shall have a 1/8" gap with the burner.
 -Profile plates shall be furnished with the use of clips as the discharge of the burner.
 -Design shall incorporate properly torqued, permanently mounted spring hinges.
 -Spring hinges shall be made from plated steel.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted	<input type="checkbox"/>
Approved with ND Exception Taken	<input type="checkbox"/>
Revise and Resubmit	<input type="checkbox"/>
SIGNATURE _____	
Your Title _____	Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 17	DRAWN BY BFC-21
REV.	SCALE 1/4" = 1'-0"

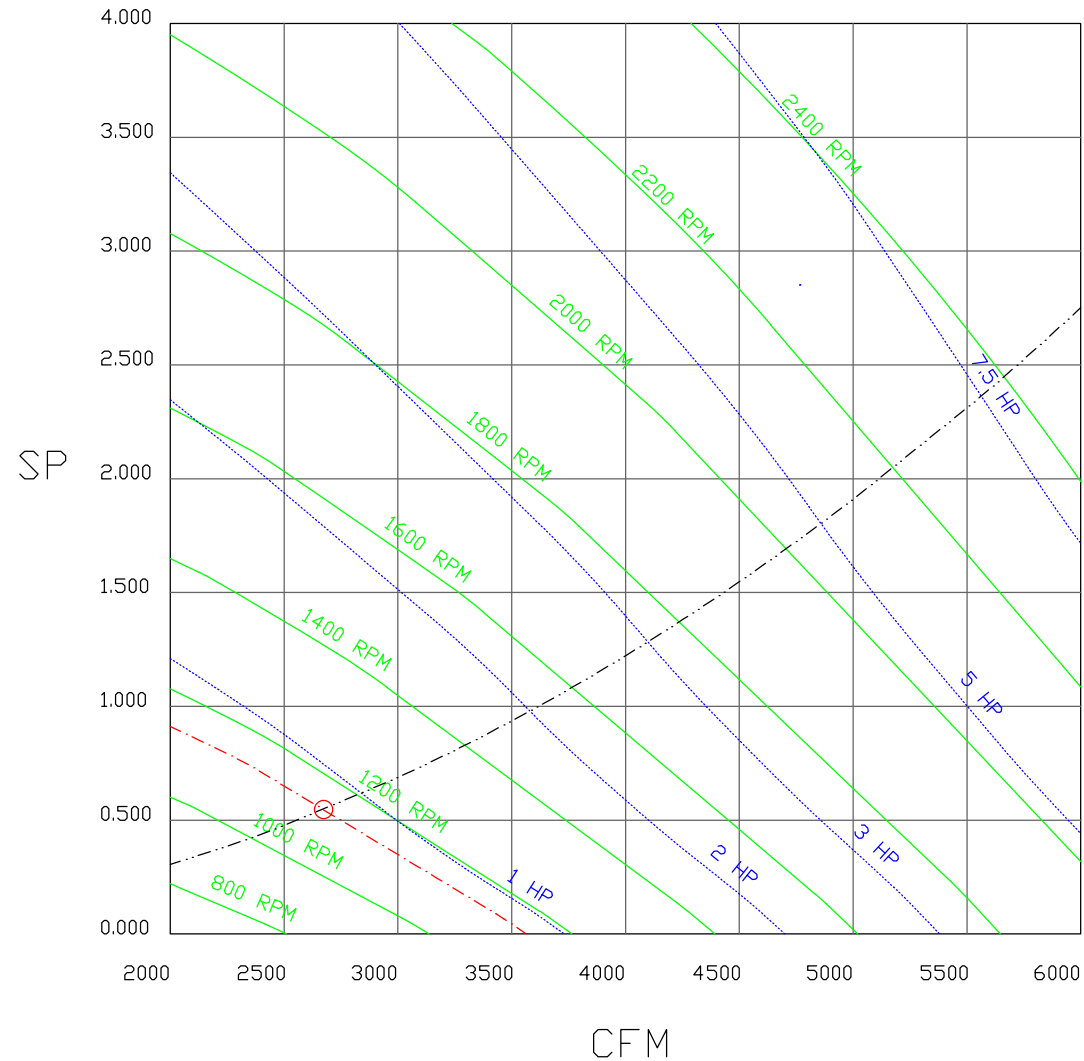
FAN#5 (9ft) - HEATER PERFORMANCE CURVES.



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

2673 CFM, 0.546 SP @ 1136 RPM and 0.831 BHP at 25 feet and 75 deg F
 * Please note that these curves were adjusted for job specific temperature and altitude.



CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 18	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018



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:

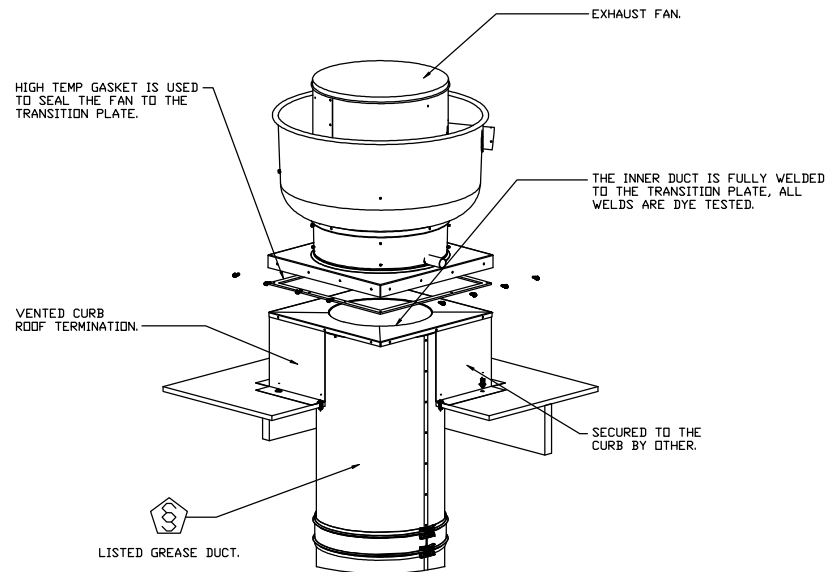
Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 19	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

Exhaust Fan Wiring

JOB 3339140 - Ellsmere #2 r4

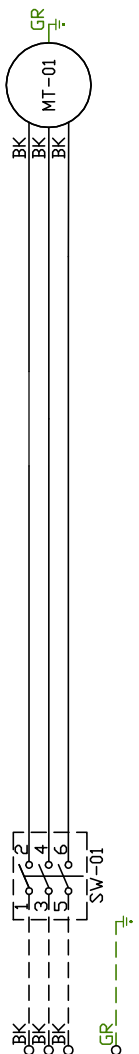
DRAWING NUMBER EXH3339140-1

SHIP DATE 3/27/2018

MODEL DU180HFA

Installed Options

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23



Label	Description	Location
MT-01	Fan Motor	[2]
SW-01	Main disconnect switch	[2]

EXHAUST MOTOR_INF0
3HP-230V-3P-8.6FLA

ELECTRICAL INFORMATION
MOTOR/CTRL MCA: 10.8A
MOTOR/CTRL MOP: 15A

NOTES
 --- DENOTES FIELD WIRING
 --- DENOTES INTERNAL WIRING

WIRE COLOR
 BK - BLACK YW - YELLOW
 BL - BLUE GR - GREEN
 BR - BROWN GY - GRAY
 OR - ORANGE PR - PURPLE
 RD - RED PK - PINK
 WH - WHITE



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions
 04/26/2018

Exhaust Fan Wiring

JOB 3339140 - Ellsmere #2 r4

DRAWING NUMBER EXH3339140-2

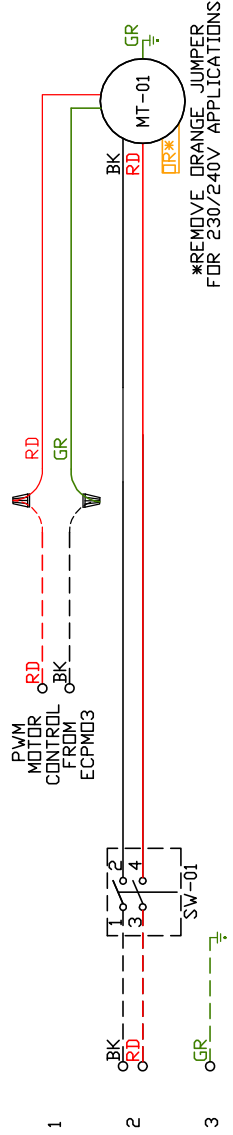
SHIP DATE 3/27/2018

MODEL DU85HFA

Installed Options

Component Identification Location

- MT-01 Fan Motor [2]
- SW-01 Main disconnect switch [2]



MOTOR INFO
EXHAUST 0.75HP-230V-1P-5&FLA

ELECTRICAL INFORMATION
MOTOR/CTRL MCA: 6.5A
MOTOR/CTRL MOP: 15A

NOTES
--- DENOTES FIELD WIRING
___ DENOTES INTERNAL WIRING

WIRE COLOR

- BK - BLACK
- BL - BLUE
- BR - BROWN
- OR - ORANGE
- RD - RED
- WH - WHITE
- YW - YELLOW
- GR - GREEN
- GY - GRAY
- PR - PURPLE
- PK - PINK



Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions

04/26/2018

Exhaust Fan Wiring

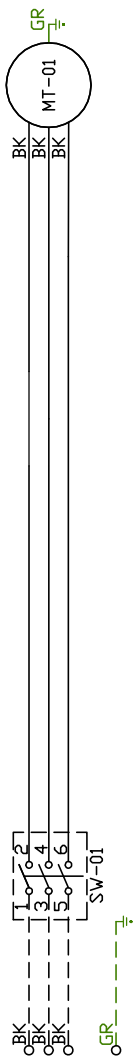
JOB 3339140 - Ellsmere #2 r4

DRAWING NUMBER EXH3339140-3

SHIP DATE 3/27/2018

MODEL CASRE24DD

1
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14
15
16
17
18
19
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21
22
23



Installed Options

Component Identification Location
Label Description Location

MT-01 Fan Motor [2]
SW-01 Main disconnect switch [2]

EXHAUST MOTOR_INFO SHP-230V-3P-14.3FLA

ELECTRICAL INFORMATION
MOTOR/CTRL MCA: 17.9A
MOTOR/CTRL MDP: 30A

NOTES
--- DENOTES FIELD WIRING
--- DENOTES INTERNAL WIRING

WIRE COLOR
BK - BLACK YW - YELLOW
BL - BLUE GR - GREEN
BR - BROWN GY - GRAY
OR - ORANGE PR - PURPLE
RD - RED PK - PINK
WH - WHITE



Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions
04/26/2018

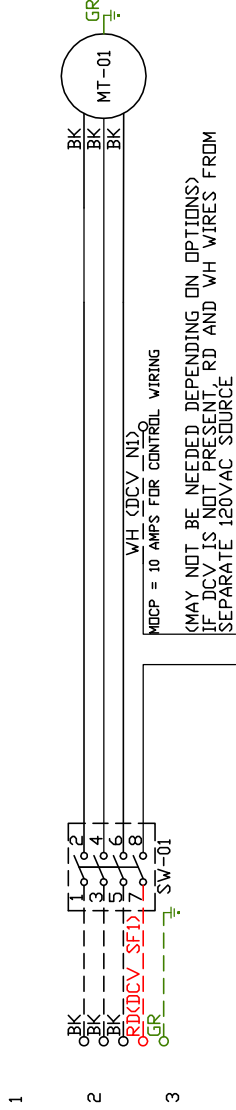
JOB 3339140 - Ellsmere #2 r4

SHIP DATE 3/27/2018 MODEL A2-80D

AirHandler Wiring

DRAWING NUMBER A3339140-4

ATTENTION ELECTRICIAN!
DROP FOR DISCONNECT CONNECTION
IS FACTORY SUPPLIED
CONNECT POWER TO THE DROP



Installed Options

DCV/VFD Wiring

Label	Description	Location
MT-01	Supply motor	[2]
SW-01	Main disconnect switch	[2]

SUPPLY	MOTOR INFO
2HP-230V-3P-5.5FLA	

ELECTRICAL INFORMATION
 MOTOR CIRCUIT MCA: 6.9A
 CONTROL CIRCUIT MCA: 1.0A
 MOTOR CIRCUIT MOP: 15A
 CONTROL CIRCUIT MOP: 15A

Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions
04/26/2018



NOTES
 --- DENOTES FIELD WIRING
 - - - DENOTES INTERNAL WIRING

WIRE COLOR
 BK - BLACK YW - YELLOW
 BL - BLUE GR - GREEN
 BR - BROWN GY - GRAY
 OR - ORANGE PR - PURPLE
 RD - RED PK - PINK
 WH - WHITE

Direct Fired Heater Wiring

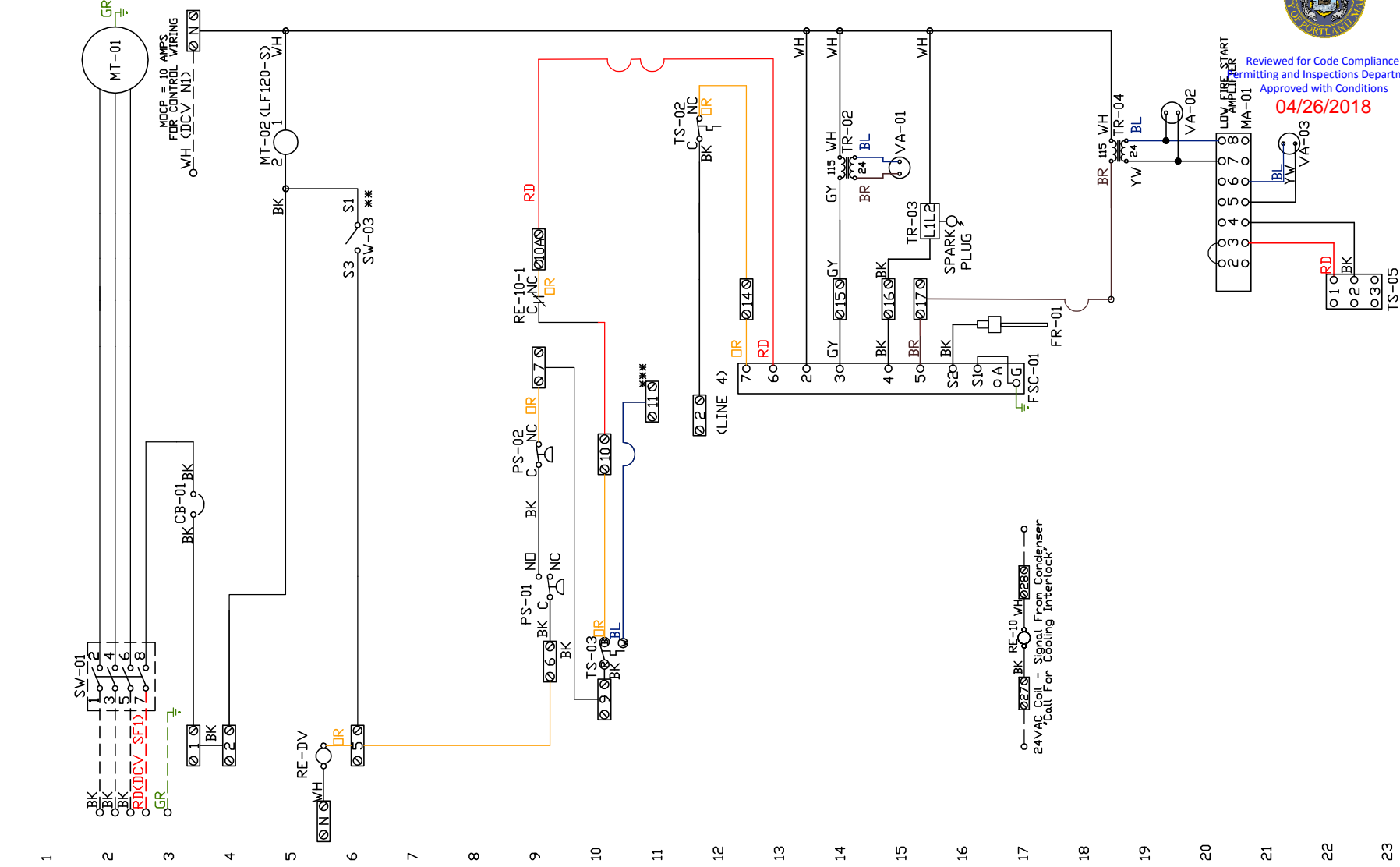
JOB 3339140 - Ellsmere #2 r4

DRAWING NUMBER DF3339140-5

SHIP DATE 3/27/2018

MODEL A2-D.250-20D

ATTENTION ELECTRICIAN!
 DROP FOR DISCONNECT CONNECTION WIRE TO 0-YW 023S YW C-1 NO
 1L1A AND 1L1B RE-DV-1
 IS FACTORY SUPPLIED
 CONNECT POWER TO THE DROP
 (D3&D7 IN
 EMSPLUS)



0-027S BK 0-023S 0
 24V AC Coil - Signal From Condenser
 Coil For Cooling Interlock

Installed Options

- Motorized Back Draft Damper
- Discharge Temp. Control
- DCV Wiring
- 24V AC Interlock Relay

Label	Description	Location
CB-01	Circuit breaker (Camp)	[3]
FR-01	Flame rod	[16]
FSC-01	Fireye FSC	[11-14]
MA-01	Modulating amplifier	[19]
MT-01	Supply motor	[2]
MT-02	Damper motor	[5]
PS-01	Low Airflow Switch	[9]
PS-02	High Airflow Switch	[9]

RE-DV	DCV Relay	[11S]
RE-10	AC Interlock Relay	[100I17]
SW-01	Main disconnect switch	[2]
SV-03	Damper end limit switch	[4]

TR-01	Power transformer(200V)	[2]
TR-03	Lighting transformer	[20]
TR-04	Power transformer(20V)	[14]
TS-02	High temp light switch	[10]
TS-03	Intake Air Sensor	[10]
TS-05	Discharge Air Sensor	[21]

VA-01	Pilot gas valve	[13]
VA-02	Main gas valve	[18]
VA-03	Modulating gas valve	[20]

SUPPLY MOTOR INFO
 2HP-230V-3P-5.5FLA

ELECTRICAL INFORMATION
 MOTOR CIRCUIT MCA: 16.7A
 CONTROL CIRCUIT MCA: 2.0A
 MOTOR CIRCUIT MDP: 25A
 CONTROL CIRCUIT MDP: 15A

NOTES
 --- DENOTES FIELD WIRING
 --- DENOTES INTERNAL WIRING

** TERMINALS S4 AND S6 USED ON NF & AF SERIES ACTUATORS
 ** TERMINAL 11 PROVIDES COOLING CONNECTION

WIRE COLOR
 BK-BLACK YW - YELLOW RD - RED
 BL-BLUE GR - GREEN WH - WHITE
 BR - BROWN GR - GRAY PK - PINK
 OR - ORANGE PR - PURPLE

SOCKET STYLE	CLIMB RELAY
NO 4	1
NC 2	1
COM 8	7
COM 6	15



Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

Installation Wiring

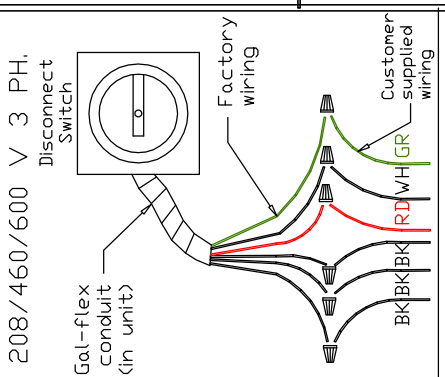
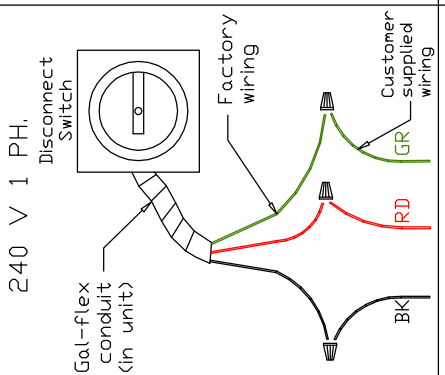
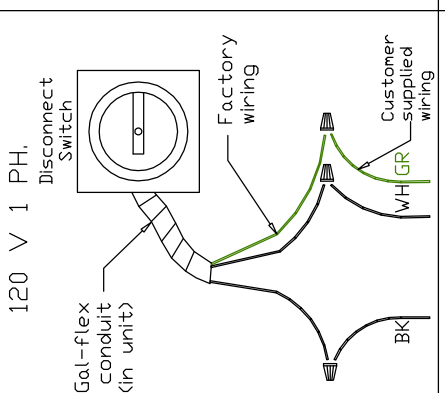
JOB 3339140 - Ellsmere #2 r4

DRAWING NUMBER RP3339140-5

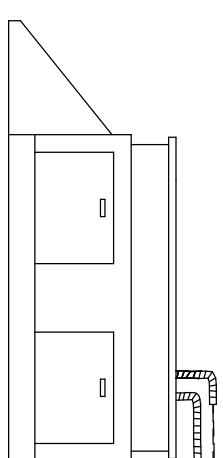
SHIP DATE 3/27/2018

MODEL A2-D.250-20D

Installed Options
DCV Connections




POWER FROM DEDICATED BREAKER



See above details:
D3 IN HEATER TO IL1A IN DCV
D7 IN HEATER TO IL1B IN DCV
WIRE TO D3 D7
DCV

NOTES

Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions
04/26/2018



- WIRE COLOR
- BK - BLACK
 - BL - BLUE
 - BR - BROWN
 - OR - ORANGE
 - RD - RED
 - WH - WHITE
 - YW - YELLOW
 - GR - GREEN
 - GY - GRAY
 - PR - PURPLE
 - PK - PINK

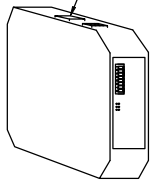


Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	φ	H.P.	VOLT	FLA
1	12ft & 6ft	SC-321110FP	Wall Mount In SS Box	05 - SS Wall Mount Box	1 Light 1 Fan	Smart Controls Thermostatic Control	12ft	Exhaust	3	3.000	230	8.6
							6ft	Exhaust	1	0.750	230	5.2
							12ft & 6ft	Supply	3	2.000	230	5.5
2	9ft	SC-311110FP	Utility Cabinet Left	03 - Utility Cabinet Left	1 Light 1 Fan	Smart Controls Thermostatic Control	9ft	Exhaust	3	5.000	230	14.3
				Hood # 1			9ft	Supply	3	2.000	230	5.5

Field Connection to Router or Ethernet Switch
 OR Factory Wired Connection to Cellular Kit



CASlink Monitor and Control

- 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 remote changes to system setting such as: VFD Frequencies, ECM speeds, temperature set points, fan and wash schedules, etc.

MONITORING AND CONTROL POINTS LIST

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	CDRE Fire System	MONITOR
PCU Faults	MONITOR	Building Pressures	MONITOR
PCU Filter Clog Percentages	MONITOR	Fans Button(s)	MONITOR & CONTROL
Fire Condition	MONITOR	Lights Button(s)	MONITOR & CONTROL
CDRE Fire System	MONITOR	Wash Button	MONITOR & CONTROL
Building Pressures	MONITOR		
Prep Time Button	MONITOR & CONTROL		
Fans Button	MONITOR & CONTROL		
Lights Button	MONITOR & CONTROL		
Wash Button	MONITOR & CONTROL		

NOTE: CAT5 ETHERNET CABLE MUST BE RUN TO THE CORE HOOD FOR CONNECTING CASLINK MONITORING SYSTEM. ADDITIONAL CHARGES WILL APPLY IF THIS CAT5 ETHERNET CONNECTION IS NOT PROVIDED IN THE FIELD. THESE CHARGES WILL BE INVOICED AFTER THE FACTORY COMMISSIONING OF SYSTEM IF THE CAT5 CONNECTION IS NOT PRESENT AT TIME OF COMMISSIONING.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB Ellsmere #2 r4	
LOCATION PORTLAND, ME, 04103	
DATE 3/27/2018	JOB # 3339140
DWG # 26	DRAWN BY BFC-21
REV.	SCALE 3/8" = 1'-0"

JOB NO
3339140

MODEL NUMBER SC-321110FP
JOB NAME Ellsner #2 r4

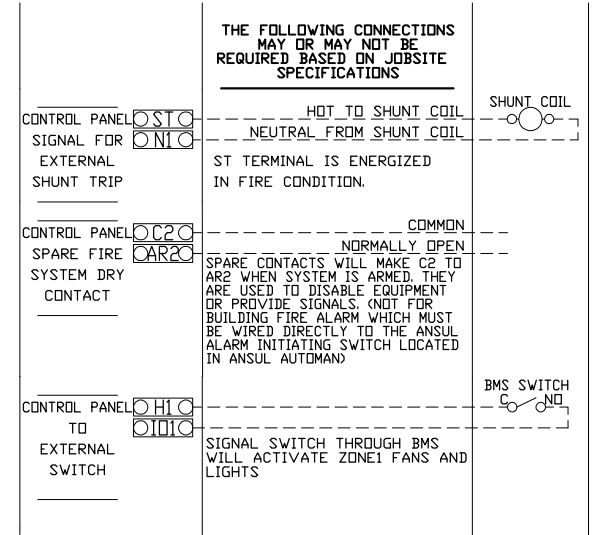
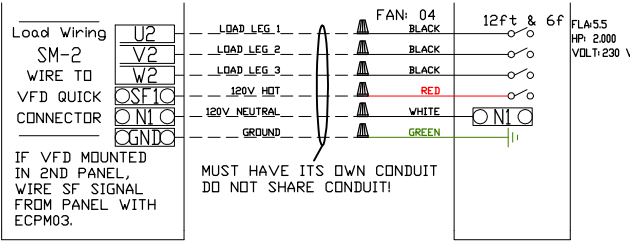
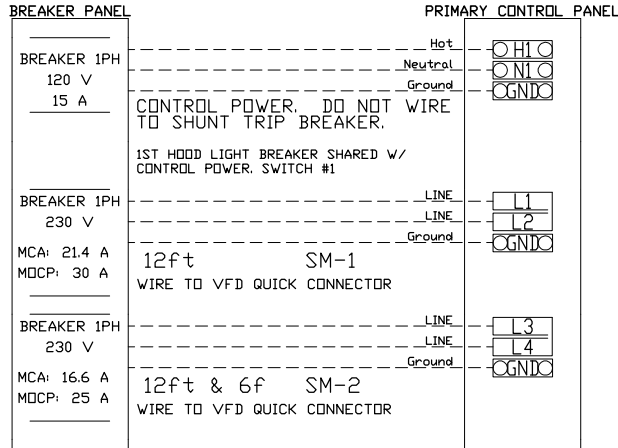
DRAWN BY INSTALL
DATE 3/27/2018 DWS NO ECP #1-1

DESCRIPTION OF OPERATION:
3 Phase w/ control for 2 Exhaust Fans, 1 Supply Fan, Exhaust on in Fire, Lights out in Fire, Fan(s) On/Off Thermostatically Controlled. Room temperature sensor shipped loose for field installation. INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD.

BREAKER PANEL TO PRIMARY CONTROL PANEL

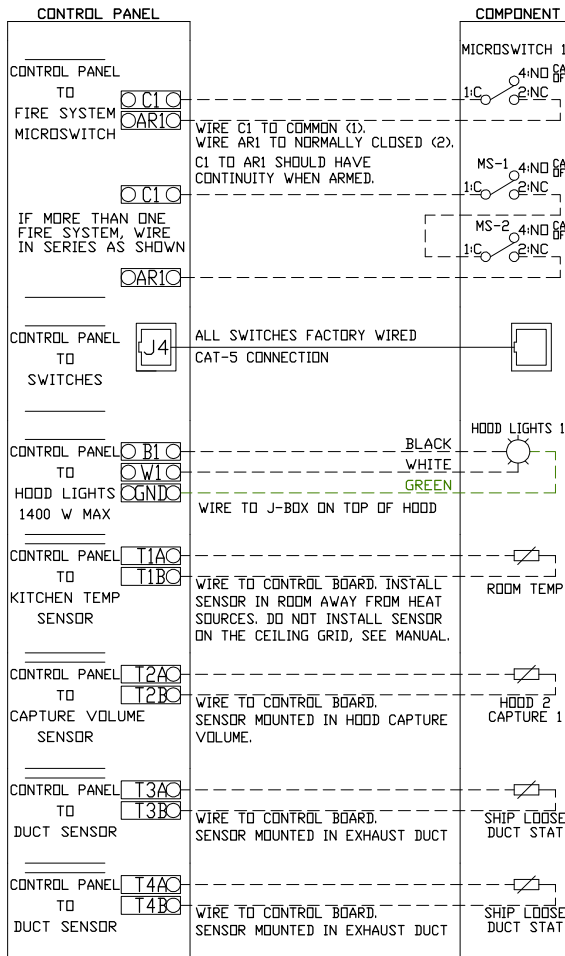
Responsibility: Electrician

BREAKER SIZE SHOWN IS THE MAXIMUM ALLOWED



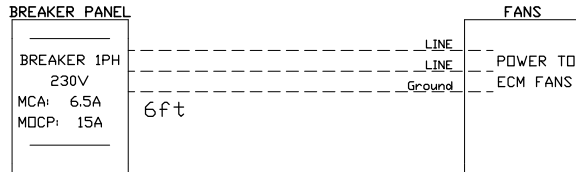
CONTROL PANEL TO ACCESSORY ITEMS

Responsibility: Electrician



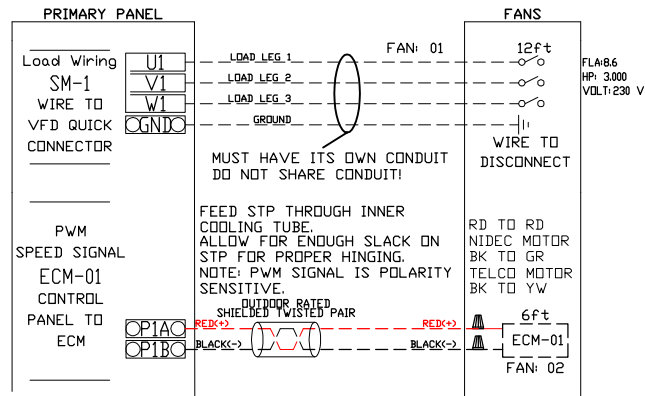
BREAKER PANEL TO FANS

Responsibility: Electrician



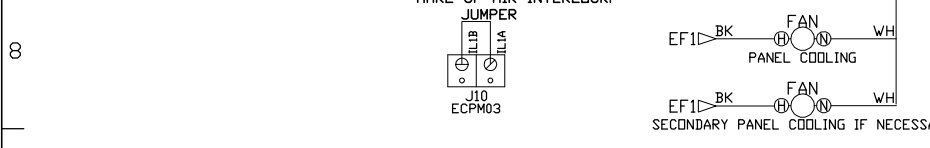
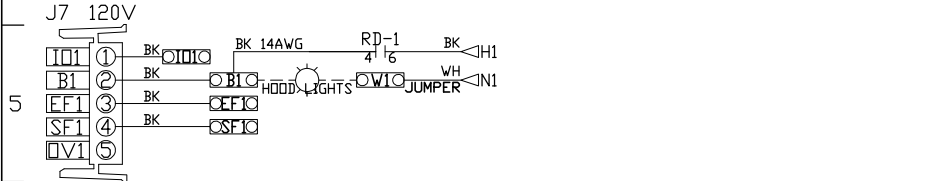
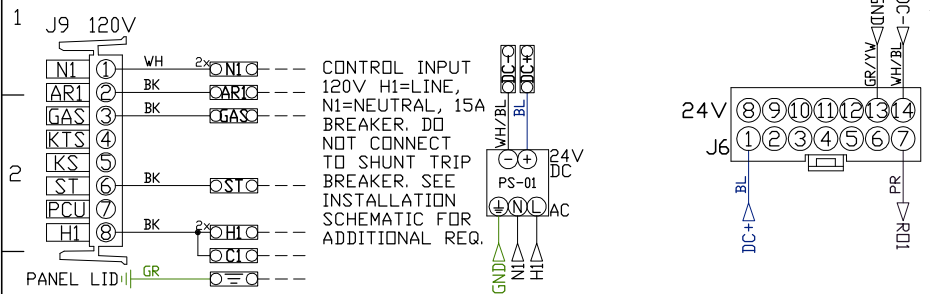
CONTROL PANEL TO FANS

Responsibility: Electrician

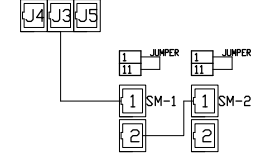


Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions
04/26/2018

UNLESS SPECIFIED OTHERWISE, ALL FACTORY AC WIRING 16 AWG. ALL FACTORY DC WIRING 18 AWG.



NOTE: All items on ECPM03 J3 line to be daisy chained from one component to the next, with EOL120A at end of line. Place PN: EOL120A in empty RJ45 port.
ECPM03/DAISY CHAIN



Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions
04/26/2018

FACTORY WIRING SCHEMATIC CIRCUIT BOARDS
DCV Rev. 2.08.00
HMI Rev. 2.08.00

RA-x 120 VAC RELAY	RD-x 24 VDC RELAY
NO 4 3	NO 4 3
NC 2 1	NC 2 1
COIL 8 7	COIL 8 7
COM 6 5	COM 6 5

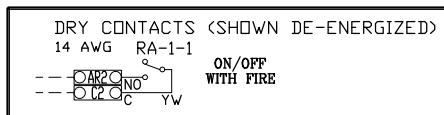
COMPONENT LIST

LABEL	DESCRIPTION
ST-X	Starter PN-varies
OL-X	Overload PN-varies
C-X	Contactors PN-varies
PS-1	Power Sup. 24VDC PN:MDP18-24A-1C
RA-x	120V Relay DPDT PN:34.110.0184.0
RD-x	24VDC Light Relay PN:34.110.0188.0

N/A
55.3%

LEGEND

--- FIELD WIRING
--- FACTORY WIRING
BK- BLACK YW- YELLOW
BL- BLUE GY- GREY
BR- BROWN PR- PURPLE
OR- ORANGE RD- RED
WH- WHITE GR- GREEN
DR/BL- DR/BL STRIPE
BL/RD- BL/RD STRIPE
RD/GN- RD/GN STRIPE
WH/BL- WH/BL STRIPE



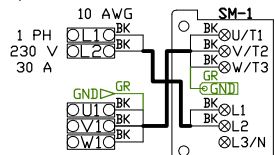
JOB NAME
Elsmere #2 r4

DRAWING TITLE
SC-32110FP

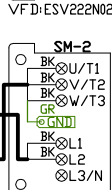
DESCRIPTION OF OPERATION
3 Phase w/ control for
2 Exhaust Fans, 1 Supply
Fan, Exhaust on in Fire,
Lights out in Fire, Fan(s)
On/Off Thermostatically
Controlled. Room
temperature sensor
shipped loose for field
installation. INVERTER
DUTY 3 PHASE MOTOR
REQUIRED FOR USE WITH
VFD.

JOB NO 3339140	DRAWN BY
TYPE FACTORY	DATE 3/27/2018
DWG NO ECP #1-2	

MOTOR POWER CIRCUITS. SEE INSTALLATION DIAGRAM FOR FIELD WIRING REQUIREMENTS.



MTR:12ft
FLA:8.6
HP:3.000
P100:01
P101:N/A
P102:0.0
P103:61.5
P107:01
P108:89
P131:N/A
P150:01
P167:60.8
P194:225
P410:11



MTR:12ft & 6ft
FLA:5.5
HP:2.000
P100:01
P101:N/A
P102:0.0
P103:80.0
P107:01
P108:78
P131:N/A
P150:01
P167:52.1
P194:225
P410:21



Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions

04/26/2018

**FACTORY WIRING
SCHEMATIC
CIRCUIT BOARDS**
DCV Rev. 2.08.00
HMI Rev. 2.08.00

RA-x 120 VAC RELAY	RD-x 24 VDC RELAY
NO 4 3 NC 2 1 COIL 8 7 COM 6 5	NO 4 3 NC 2 1 COIL 8 7 COM 6 5

COMPONENT LIST

LABEL	DESCRIPTION
ST-X	Starter PN-varies
C-X	Contactor PN-varies
SM-X	VFD PN-varies
LR-X	Line/Load Reactor PN-varies

LEGEND

---	FIELD WIRING
---	FACTORY WIRING
BK-	BLACK
BL-	BLUE
BR-	BROWN
CR-	ORANGE
WH-	WHITE
GR/BL-	GR/BL STRIPE
BL/RD-	BL/RD STRIPE
RD/GN-	RD/GN STRIPE
WH/BL-	WH/BL STRIPE
YW-	YELLOW
GY-	GREY
PR-	PURPLE
RD-	RED
GR-	GREEN

JOB NAME
Ellsmere #2 r4

DRAWING TITLE
SC-32110FP

DESCRIPTION OF OPERATION
3 Phase w/ control for
2 Exhaust Fans, 1 Supply
Fan, Exhaust on in Fire,
Lights out in Fire, Fan(s)
On/Dff Thermostatically
Controlled. Room
temperature sensor
shipped loose for field
installation. INVERTER
DUTY 3 PHASE MOTOR
REQUIRED FOR USE WITH
VFD.

JOB NO 3339140	DRAWN BY
TYPE FACTORY	DATE 3/27/2018
DWG NO ECP #1-3	

JOB NO
3339140

MODEL NUMBER
SC-31110FP

DRAWN BY
INSTALL

SCHEMATIC TYPE
INSTALL

DESCRIPTION OF OPERATION:

3 Phase w/ control for 1 Exhaust Fan, 1 Supply Fan, Exhaust on in Fire, Lights out in Fire, Fan(s) On/Off Thermostatically Controlled. Room temperature sensor shipped loose for field installation. INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD.

JOB NAME
Ellsner #2 r4

DATE
3/27/2018

DWG NO
ECP #2-1

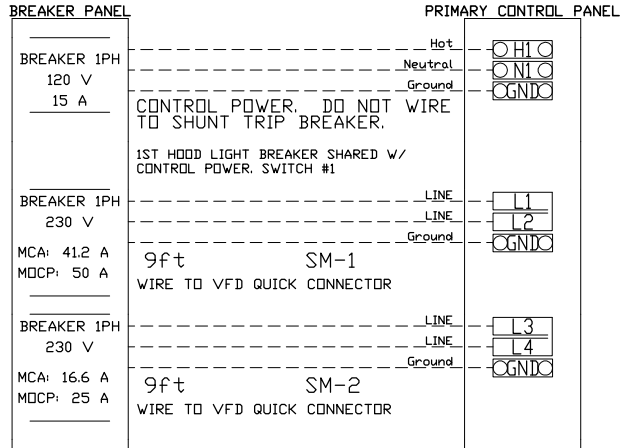


Reviewed for Code Compliance
Permitting and Inspections
Department
04/26/2018

BREAKER PANEL TO PRIMARY CONTROL PANEL

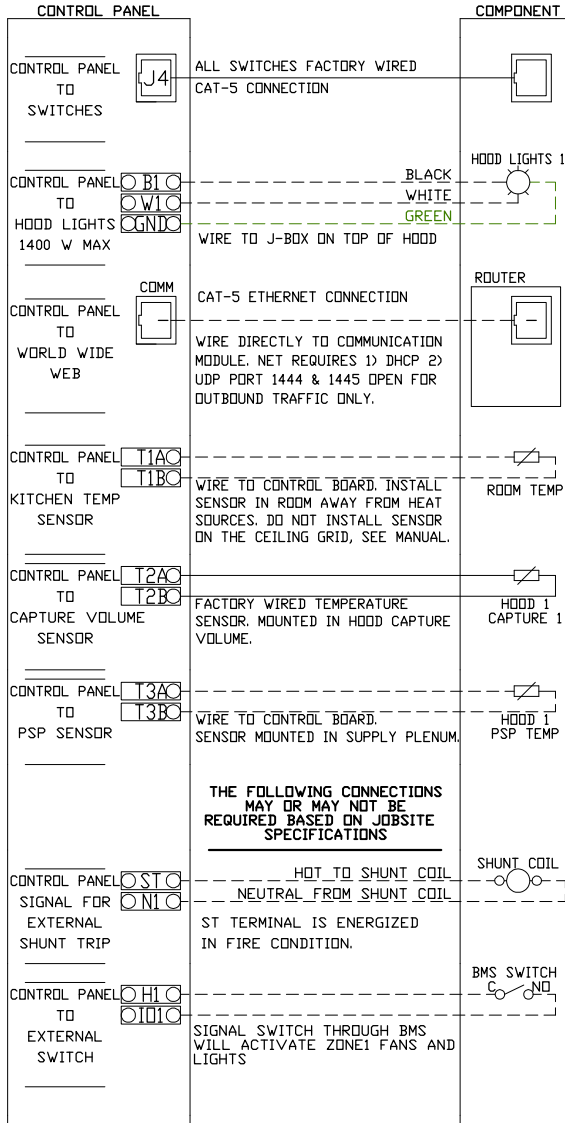
Responsibility: Electrician

BREAKER SIZE SHOWN IS THE MAXIMUM ALLOWED



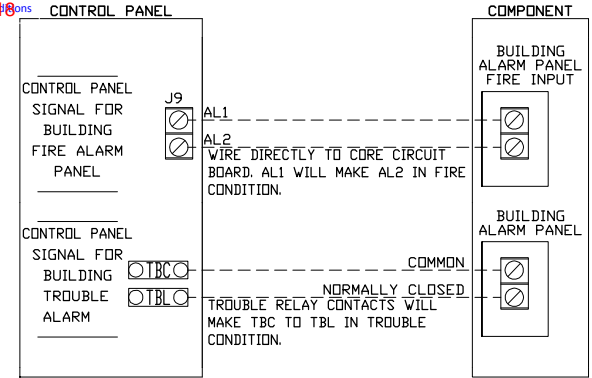
CONTROL PANEL TO ACCESSORY ITEMS

Responsibility: Electrician



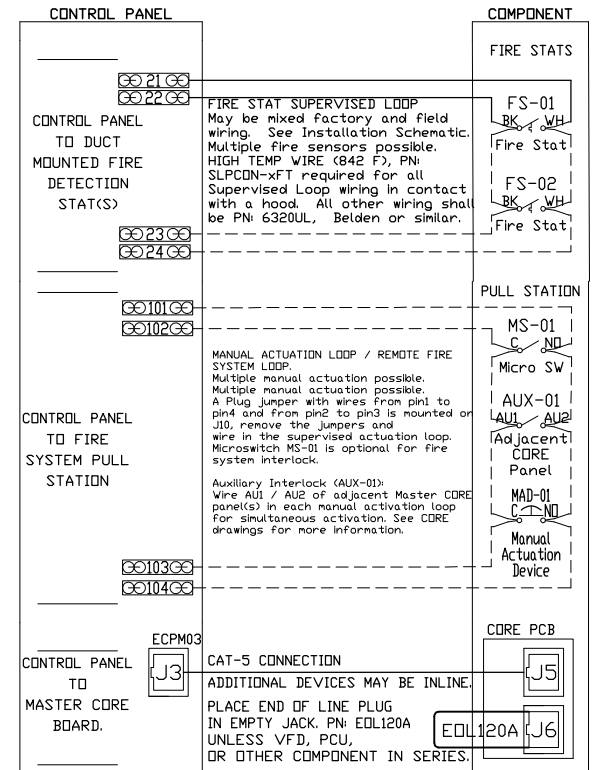
CONTROL PANEL TO CORE SYSTEM

Responsibility: ALARM CONTACTOR



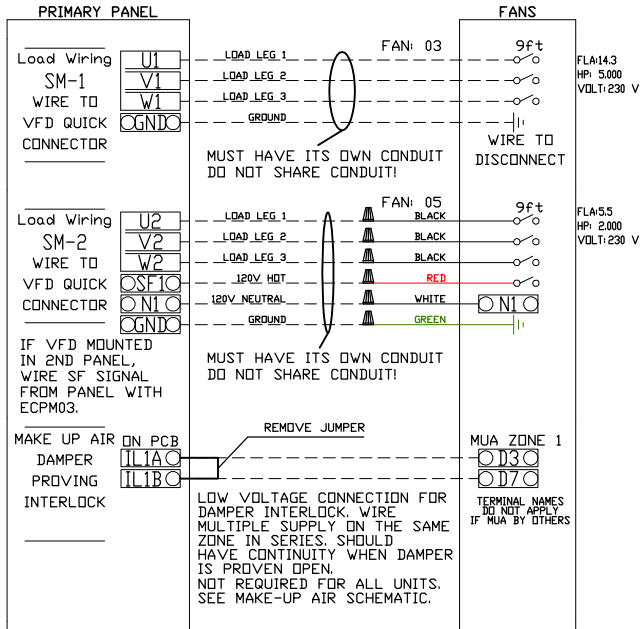
CONTROL PANEL TO CORE SYSTEM

Responsibility: CORE CERTIFIED INSTALLER



CONTROL PANEL TO FANS

Responsibility: Electrician



JOB NO
3339140

MODEL NUMBER
SC-31110FP

DRAWN BY

SCHEMATIC TYPE

DESCRIPTION OF OPERATION:

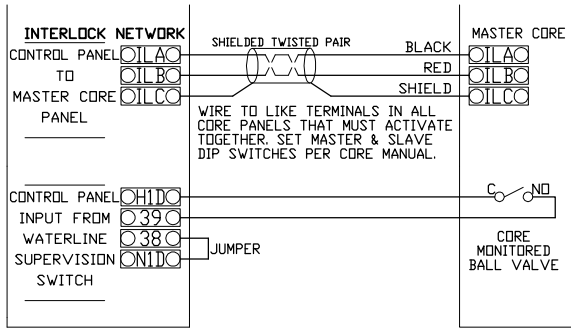
JOB NAME
Ellsner #2 r4

DATE
3/27/2018

DWG NO
ECP #2-2

3 Phase w/ control for 1 Exhaust Fan, 1 Supply Fan, Exhaust on in Fire, Lights out in Fire, Fan(s) On/Off
Thermostatically Controlled. Room temperature sensor shipped loose for field installation. INVERTER DUTY 3 PHASE
MOTOR REQUIRED FOR USE WITH VFD.

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Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions

04/26/2018

JOB NO
3339140

MODEL NUMBER
SC-31110FP

DRAWN BY
INSTALL

SCHEMATIC TYPE
INSTALL

DESCRIPTION OF OPERATION:
Fire System #1 CORE Protection. 1" CORE Appliance Manifold Package with Self Cleaning. Installed in Hood Utility Cabinet with integral hood prewire panel.

JOB NAME
Ellsner #2 r4

DATE
3/27/2018

DWG NO
ECP #2-3



03/06/2017 Rev. 12

CORE TOTAL FLOOD PROTECTION ELECTRICAL DETAIL

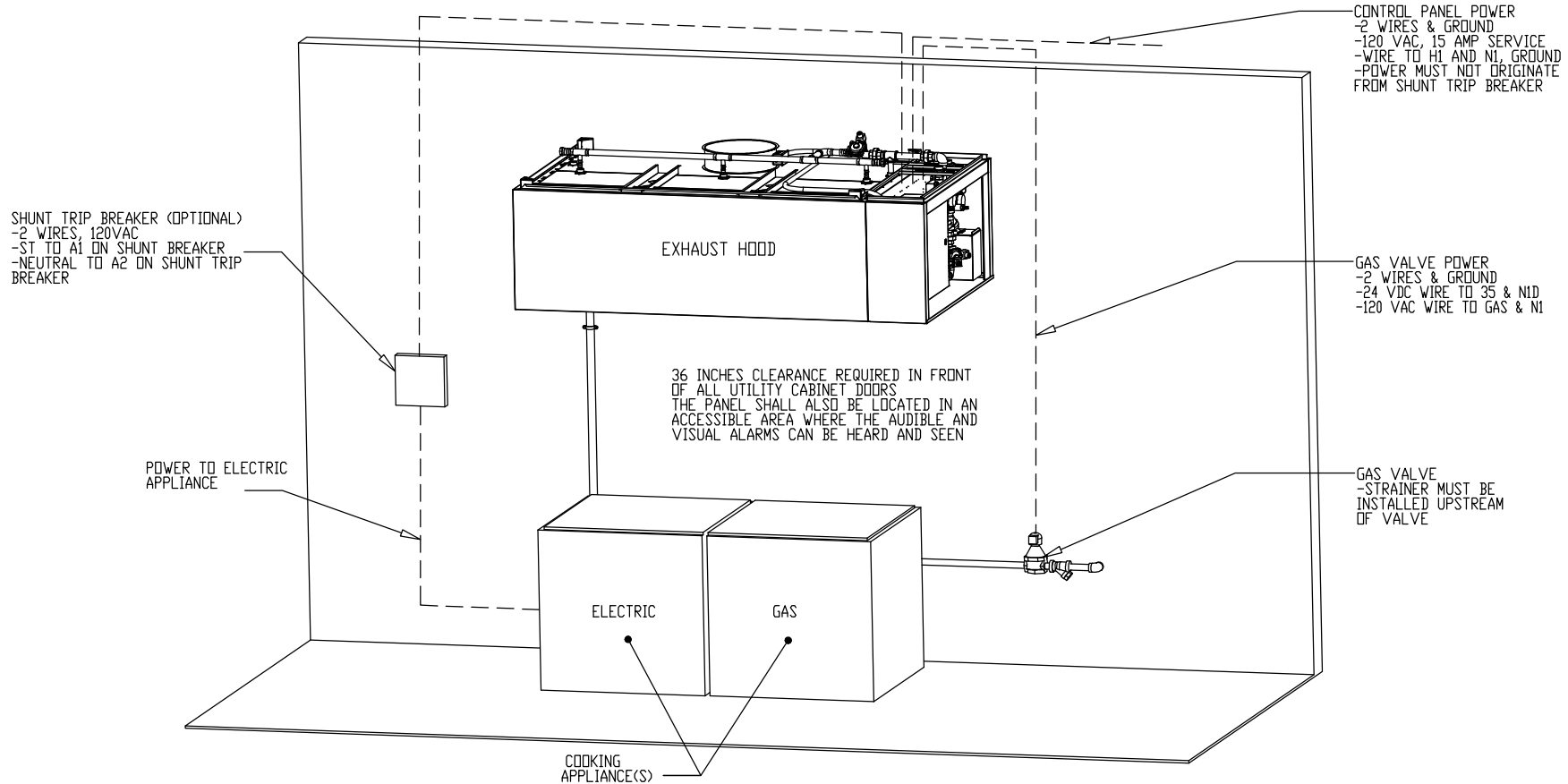
- ELECTRICIAN:
 1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
 2. WIRE ALL FANS PER INCLUDED SCHEMATIC
 3. WIRE SHUNT TRIP BREAKER (OPTIONAL)
 4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
 5. WIRE GAS VALVE

Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions
 04/26/2018

FS-1: MASTER

ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	35 & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, 35 TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



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

JOB NO
3339140

MODEL NUMBER
SC-31110FP

DRAWN BY
INSTALL

SCHEMATIC TYPE
INSTALL

DESCRIPTION OF OPERATION:
Fire System #1 CORE Protection. 1" CORE Appliance Manifold Package with Self Cleaning. Installed in Hood Utility Cabinet with integral hood prewire panel.

JOB NAME
Ellsner #2 r4

DATE
3/27/2018

DWG NO
ECP #2-4



03/06/2017 Rev. 12

CORE TOTAL FLOOD PROTECTION LOW-VOLTAGE DETAIL

- ALARM CONTRACTOR:
 1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
 2. COMPLETE FINAL HOOKUP OF SYSTEM
 3. PERFORM FINAL FIRE SYSTEM TEST
 4. FILL SURFACTANT TANK

Reviewed for Code Compliance
 Permitting and Inspections Department
 Approved with Conditions

04/26/2018

FS-1: MASTER

ALARM CONTRACTOR REQUIREMENT

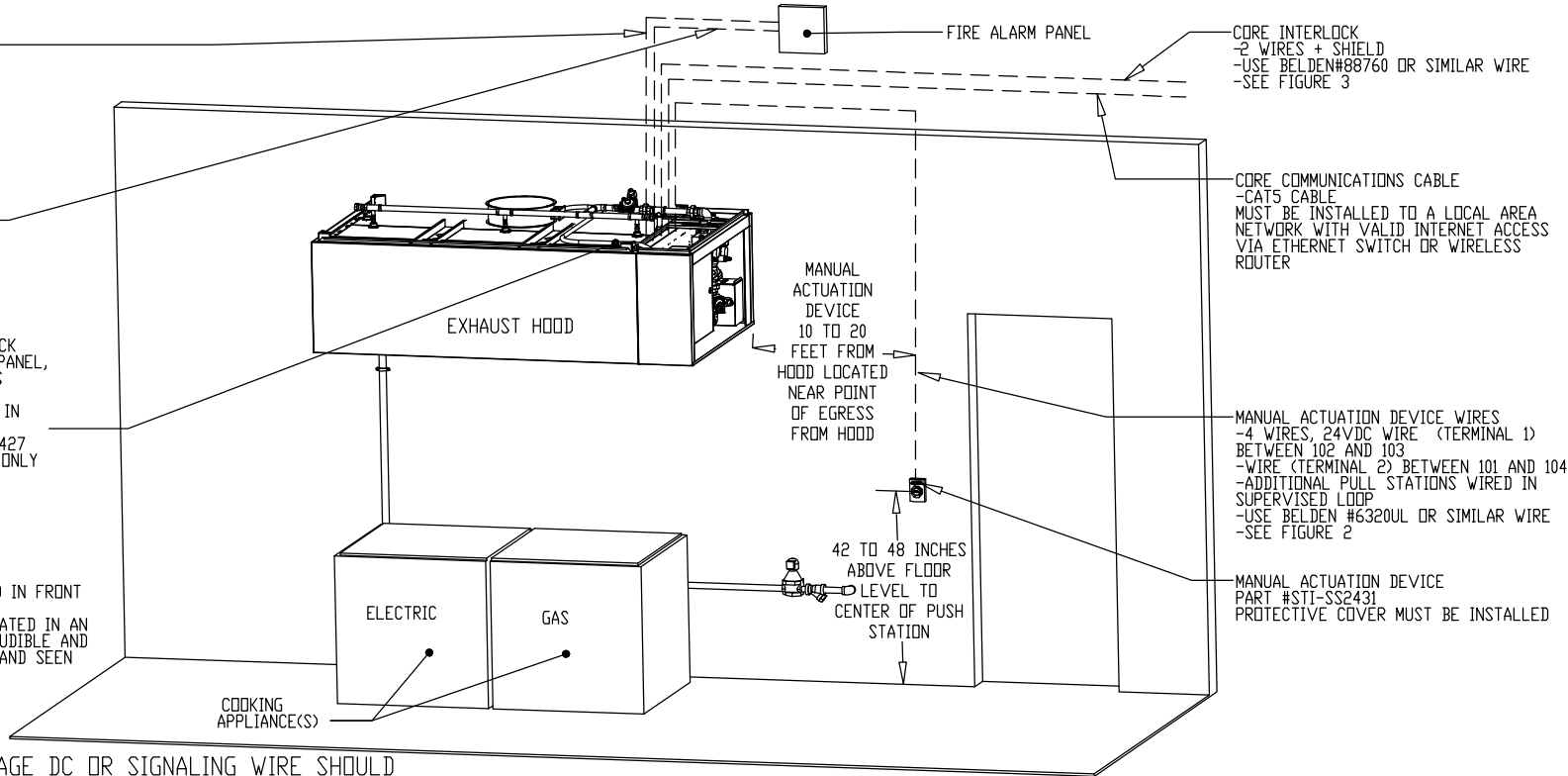
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 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 STI-6531B
REMOTE FIRESTAT SENSOR(S)	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) #CW04427 (WHT) & #CW04427B (BLK) WIRE OR SIMILAR ONLY IF RAN OVER TOP OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE; SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) ILA, TO CORE SYSTEM (2) ILA. CORE SYSTEM (1) ILB, TO CORE SYSTEM (2) ILB. CORE SYSTEM (1) ILC, TO CORE SYSTEM (2) ILC. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSURES 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

FIRE ALARM CONTACT
 -2 WIRES WIRED TO NORMALLY
 OPEN CONTACTS (CLOSES IN
 FIRE CONDITION)
 -CORE CONTROL PANEL AL1
 AND AL2
 -SEE FIGURE 2

TROUBLE CONTACT
 -2 WIRES TO NORMALLY
 OPEN CONTACTS (CLOSE
 IN TROUBLE CONDITION)
 -CORE PANEL TERMINALS
 TBL AND TBC
 -SEE FIGURE 4

SUPERVISED LOOP
 -4 WIRES, 24VDC CONNECT BLACK
 WIRES BETWEEN 21 AND 24 IN PANEL,
 CONNECT WHITE (OR RED) WIRES
 BETWEEN 22 AND 23 IN PANEL
 -ADDITIONAL FIRESTATS, WIRED IN
 SUPERVISED LOOP
 -USE HIGH TEMP (842°F) #CW04427
 (WHT) & #CW04427B (BLK) WIRE ONLY
 IF RAN OVER TOP OF HOOD;
 OTHERWISE BELDEN #6320UL OR
 SIMILAR PLENUM RATED WIRE
 -SEE FIGURE 1

36 INCHES CLEARANCE REQUIRED IN FRONT
 OF ALL UTILITY CABINET DOORS
 THE PANEL SHALL ALSO BE LOCATED IN AN
 ACCESSIBLE AREA WHERE THE AUDIBLE AND
 VISUAL ALARMS CAN BE HEARD AND SEEN



FIRE ALARM PANEL

CORE INTERLOCK
 2 WIRES + SHIELD
 -USE BELDEN#88760 OR SIMILAR WIRE
 -SEE FIGURE 3

CORE COMMUNICATIONS CABLE
 -CAT5 CABLE
 MUST BE INSTALLED TO A LOCAL AREA
 NETWORK WITH VALID INTERNET ACCESS
 VIA ETHERNET SWITCH OR WIRELESS
 ROUTER

MANUAL
 ACTUATION
 DEVICE
 10 TO 20
 FEET FROM
 HOOD LOCATED
 NEAR POINT
 OF EGRESS
 FROM HOOD

MANUAL ACTUATION DEVICE WIRES
 -4 WIRES, 24VDC WIRE (TERMINAL 1)
 BETWEEN 102 AND 103
 -WIRE (TERMINAL 2) BETWEEN 101 AND 104
 -ADDITIONAL PULL STATIONS WIRED IN
 SUPERVISED LOOP
 -USE BELDEN #6320UL OR SIMILAR WIRE
 -SEE FIGURE 2

MANUAL ACTUATION DEVICE
 PART #STI-SS2431
 PROTECTIVE COVER MUST BE INSTALLED

42 TO 48 INCHES
 ABOVE FLOOR
 LEVEL TO
 CENTER OF PUSH
 STATION

COOKING
 APPLIANCE(S)

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

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

JOB NO
3339140

MODEL NUMBER
SC-31110FP

JOB NAME
Ellsner #2 r4

DRAWN BY
INSTALL

DATE
3/27/2018

SCHEMATIC TYPE
DWG NO
ECP #2-5

DESCRIPTION OF OPERATION:
Fire System #1 CORE Protection. 1" CORE Appliance Manifold Package with Self Cleaning. Installed in Hood Utility Cabinet with integral hood prewire panel.

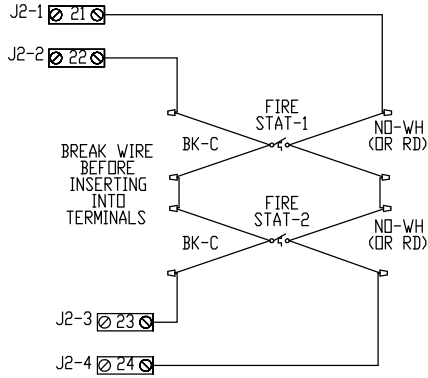
02/05/2015 Rev. 16

CORE TOTAL FLOOD PROTECTION LOW-VOLTAGE FIGURES

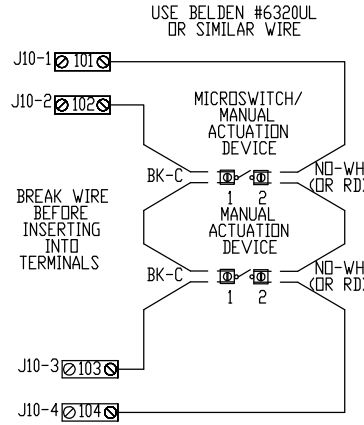


Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions
04/26/2018

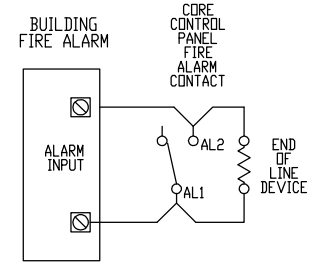
FS-1: MASTER



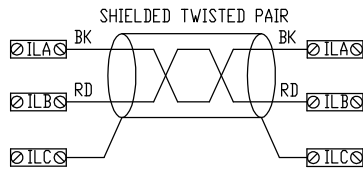
WIRING CONNECTIONS FOR FIRESTAT LOOP
FIGURE 1



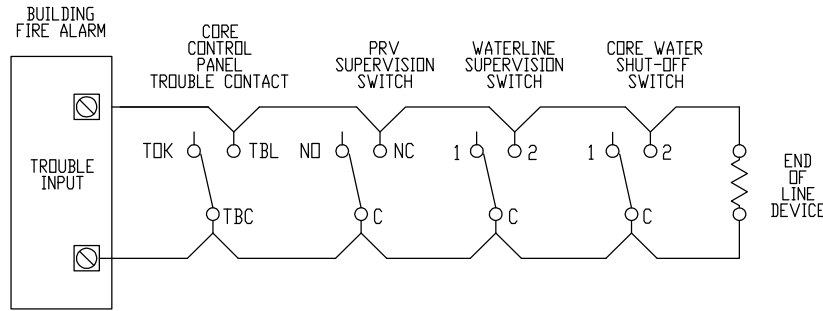
WIRING CONNECTIONS FOR MANUAL ACTUATION LOOP
FIGURE 1A



WIRING CONNECTIONS FOR FIRE ALARM CONTACT
FIGURE 2



WIRING CONNECTIONS FOR CORE INTERLOCK
FIGURE 3



WIRING CONNECTIONS FOR TROUBLE CONTACT
FIGURE 4

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

JOB NO
3339140

MODEL NUMBER
SC-31110FP

DRAWN BY
INSTALL

DESCRIPTION OF OPERATION:
Fire System #1 CORE Protection. 1" CORE Appliance Manifold Package with Self Cleaning. Installed in Hood Utility Cabinet with integral hood prewire panel.

JOB NAME
Ellsner #2 r4

DATE
3/27/2018

DWG NO
ECP #2-6

03/06/2017 Rev



CORE TOTAL FLOOD PROTECTION PLUMBING DETAIL

FSU1 MASTER

Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions
04/26/2018

- PLUMBER:
1. CONNECT HOT WATER LINE; PVC, COPPER OR STAINLESS STEEL PIPE ONLY
 2. CONNECT HOOD DRAIN(S) 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 NEXT HOOD STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
 5. PLUMB GAS VALVE, STRAINER MUST BE INSTALLED UPSTREAM OF VALVE
 6. INSTALL FLOOR DRAIN
 7. INSTALL BACKFLOW PREVENTER IF CODE REQUIRES

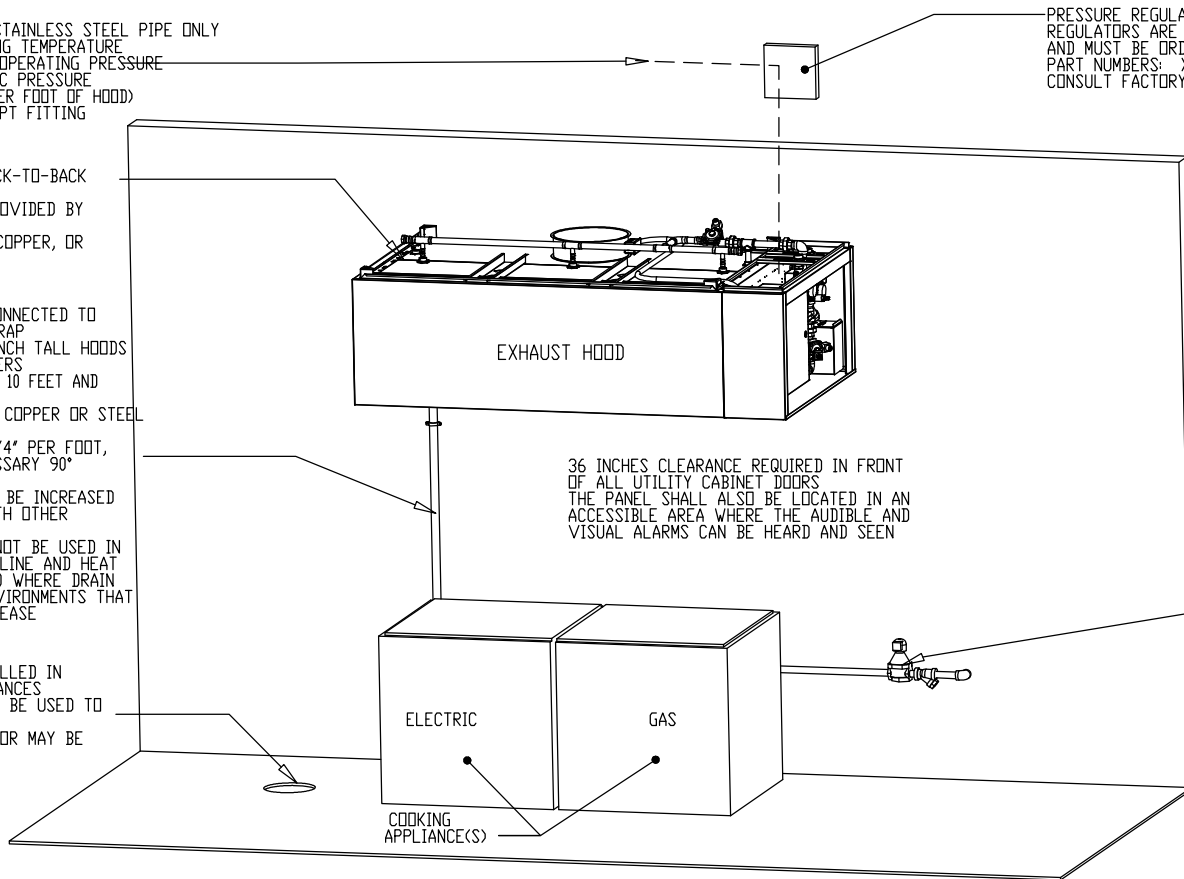
PLUMBING CONTRACTOR REQUIREMENT					
ITEM	CONNECTION	TEMPERATURE	PRESSURE	FLOW RATE	COMMENTS
HOT WATER LINE	1 INCH NPT	140 to 170°F	30 PSI TO 70 PSI	6.30 GPM	INSULATE HOT WATER PIPE, MINIMUM PRESSURE DEPENDENT ON LENGTH AND CONFIGURATION OF HOOD SYSTEM
HOOD DRAIN(S)	1-1/2 INCH NPT	N/A	GRAVITY DRAIN	SEE ABOVE	2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH TALL FILTERS AND HOODS 10 FEET AND LONGER
END-TO-END CORE CONNECTION	VARIABLES	N/A	N/A	N/A	CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED
BACK-TO-BACK CORE CONNECTION	VARIABLES	N/A	N/A	N/A	CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED
GAS VALVE	VARIABLES	N/A	SEE TABLE	N/A	UP TO 2 INCHES NPT WITH 24V CONTROLS, 2-1/2 AND 3 INCH USE 120V CONTROL
FLOOR DRAIN(S)	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 DRAIN LINE (OPTIONAL)	INLET/OUTLET DRAIN	N/A	VARIABLES	N/A	INSTALLED WHEN PACKAGE HAS A BACKFLOW PREVENTER VALVE, SEE BACKFLOW PREVENTER VALVE MANUAL FOR DETAILS

HOT WATER LINE
-PVC, COPPER, OR STAINLESS STEEL PIPE ONLY
-140-170°F OPERATING TEMPERATURE
-30 PSI TO 70 PSI OPERATING PRESSURE
-125 PSI MAX STATIC PRESSURE
-6.30 GPM (0.7 GPM PER FOOT OF HOOD)
-1 INCH NPT INCH NPT FITTING
INSULATED

END-TO-END OR BACK-TO-BACK CONNECTION
-INSTALLED AND PROVIDED BY PLUMBER
STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

HOOD DRAIN(S)
-1-1/2 INCH NPT CONNECTED TO BUILDING 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
-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

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



PRESSURE REGULATOR VALVE REGULATORS ARE NOT INCLUDED TO MEET REQUIRED PRESSURE AND MUST BE ORDERED SEPARATELY
PART NUMBERS: X65BU(3/4"), X65BU(1"), OR X65BU(1-1/2")
CONSULT FACTORY FOR SIZING

1" MANIFOLD MINIMUM OPERATING PRESSURE REQUIREMENTS

LENGTH OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR HOT WATER (PSI)	DISCHARGE COEFFICIENTS (K-FACTOR)
4	30	0.6
8	30	1.3
12	30	1.9
16	30	2.5
20	30	3.1
24	30	3.8
28	31	4.3
32	33	4.8
36	35	5.3
40	42	5.4
44	43	5.9
48	45	6.3

TOTAL FLOWRATE = K FACTOR x PRESSURE^{0.44}

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	1,925,000
1-1/2"		24VDC	2,406,000
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

JOB NO
3339140

MODEL NUMBER
SC-31110FP

DRAWN BY
INSTALL

SCHEMATIC TYPE
INSTALL

DESCRIPTION OF OPERATION:

Fire System #1 CORE Protection. 1" CORE Appliance Manifold Package with Self Cleaning. Installed in Utility Cabinet with integral hood prewire panel.

JOB NAME
Elsmere #2 r4

DATE
3/27/2018

DWG NO
ECP #2-7



03/06/2017 Rev.

CORE TOTAL FLOOD PROTECTION SPRINKLER DETAIL

Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions

FS-1: MASTER 04/26/2018

BUILDING SPRINKLER CONTRACTOR:
1. CONNECT CORE WATER LINE TO BUILDING WET SPRINKLER SYSTEM. STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

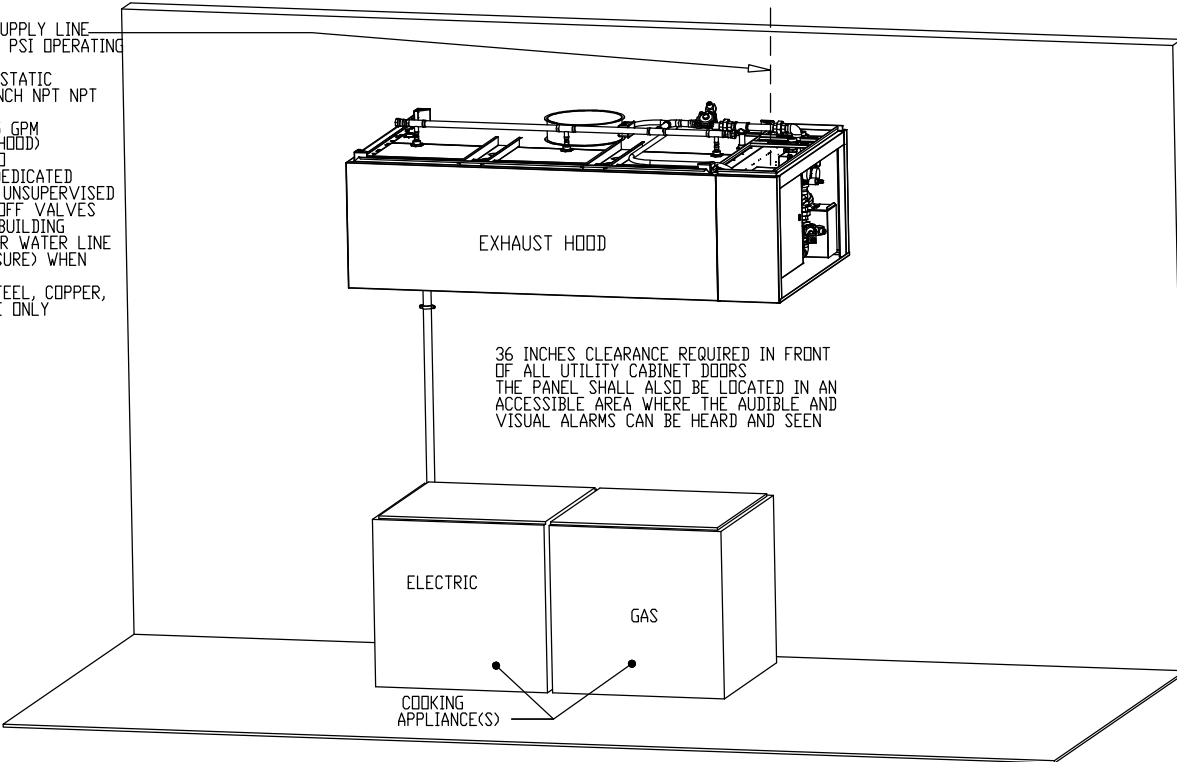
SPRINKLER CONTRACTOR REQUIREMENT

ITEM	CONNECTION	OPERATING PRESSURE	K-FACTOR	FLOW RATE	COMMENTS
CORE WATER SUPPLY LINE	1 INCH NPT	30 PSI TO 70 PSI	3.0	13.50 GPM	WATER LINE MUST BE SUPERVISED AND HAVE NO UNSUPERVISED MANUAL SHUT-OFF VALVES MINIMUM PRESSURE AND FLOWRATE DEPENDENT ON LENGTH OF HOOD SYSTEM

PRESSURE REGULATOR VALVE (PRV)
-PRV NOT INCLUDED AND MUST BE PROVIDED, INSTALLED, AND ADJUSTED BY THE SPRINKLER CONTRACTOR TO MEET INCOMING 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 (AHJ)



CORE WATER SUPPLY LINE
-30 PSI TO 70 PSI OPERATING PRESSURE
-125 PSI MAX STATIC PRESSURE, 1 INCH NPT NPT FITTING
-13.50 GPM (1.5 GPM PER FOOT OF HOOD)
-CONNECTED TO SUPERVISED, DEDICATED LINE WITH NO UNSUPERVISED MANUAL SHUT-OFF VALVES
-CONNECT TO BUILDING FIRE SPRINKLER WATER LINE (REDUCE PRESSURE) WHEN REQUIRED
-STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY



1" MANIFOLD 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	2.7
12	30	30	4.0
16	30	30	5.4
20	30	30	6.7
24	30	30	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

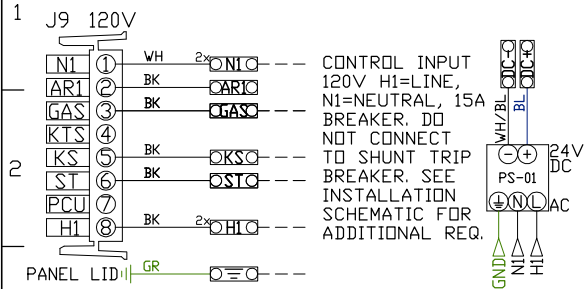
TOTAL FLOWRATE = K FACTOR x PRESSURE^{0.44}

NOZZLE HEIGHTS ABOVE HAZARD		
NOZZLE PART NUMBER	NOZZLE ABOVE HAZARD	
	MIN	MAX
3070-3/8H-SS10	30'	55'

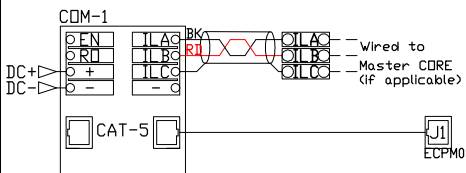
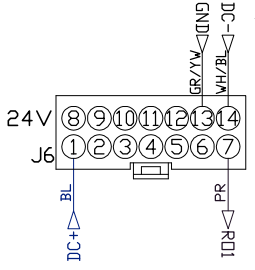
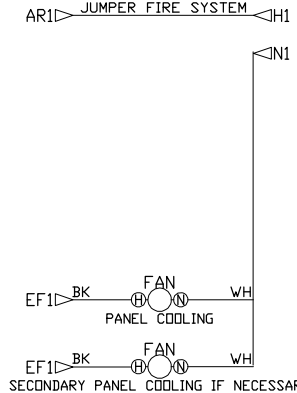
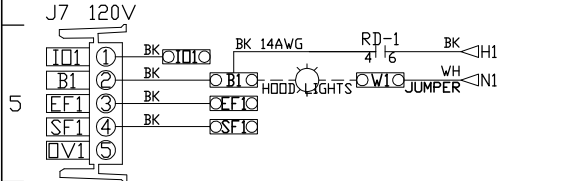
NOZZLES FOR CORE PROTECTION			
DESCRIPTION	PART NUMBER	MACOLA	FLOW RATE
RISER NOZZLE	1/4TT+TP1530+CP1325	A0002784	2.6 GPM @ 30 PSI
SPRAY BAR NOZZLE	1/4TT+TG-4.3W	A0025166	0.7 GPM @ 30 PSI

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

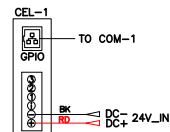
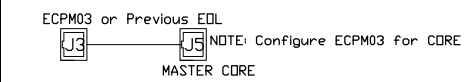
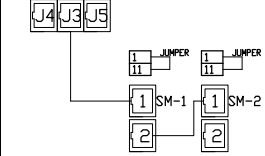
UNLESS SPECIFIED OTHERWISE, ALL FACTORY AC WIRING 16 AWG. ALL FACTORY DC WIRING 18 AWG.



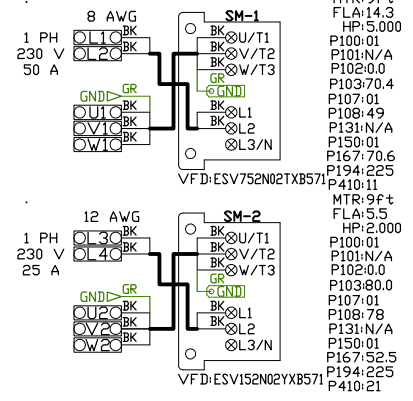
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NOTE: All items on ECPM03 J3 line to be daisy chained from one component to the next, with EOL120A at end of line. Place PN: EOL120A in empty RJ45 port.
ECPM03/DAISY CHAIN



MOTOR POWER CIRCUIT



- MTR:9Ft
- FLA:14.3
- HP:5.000
- P100:01
- P101:N/A
- P102:0.0
- P103:70.4
- P107:01
- P108:49
- P131:N/A
- P150:01
- P167:70.6
- P194:225
- P410:11
- MTR:9Ft
- FLA:5.5
- HP:2.000
- P100:01
- P101:N/A
- P102:0.0
- P103:80.0
- P107:01
- P108:78
- P131:N/A
- P150:01
- P167:52.5
- P194:225
- P410:21



Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions
04/26/2018

FACTORY WIRING SCHEMATIC CIRCUIT BOARDS
DCV Rev. 2.08.00
HMI Rev. 2.08.00

RA-x	RD-x
120 VAC RELAY	24 VDC RELAY
NO 4 3	NO 4 3
NC 2 1	NC 2 1
COIL 8 7	COIL 8 7
COM 6 5	COM 6 5

COMPONENT LIST

LABEL	DESCRIPTION
ST-X	Starter PN-varies
DL-X	Overload PN-varies
C-X	Contactors PN-varies
PS-1	Power Sup. 24VDC PN:MDP18-24A-1C
RA-x	120V Relay DPDT PN:34.110.0184.0
RD-x	24VDC Light Relay PN:34.110.0188.0
TS-x	Duct Thermostat PN:A/CP-PD-14'-EXPL
RJC-x	RJ45 to Twist Pair PNR:J45_MDBUS_CONV
CDM-1	CASLink MODULE PN:CDM01
CEL-1	Cellular Module PN:NWL-25/NTC-6200

LEGEND

---	FIELD WIRING
---	FACTORY WIRING
BK-	BLACK
BL-	BLUE
BR-	BROWN
DR-	DRAINAGE
WH-	WHITE
DR/BL-	DR/BL STRIPE
BL/RD-	BL/RD STRIPE
RD/GN-	RD/GN STRIPE
WH/BL-	WH/BL STRIPE
YW-	YELLOW
GY-	GREY
PR-	PURPLE
RD-	RED
GR-	GREEN

JOB NAME
Elsmere #2 r4

DRAWING TITLE
SC-311110FP

DESCRIPTION OF OPERATION
3 Phase w/ control for 1 Exhaust Fan, 1 Supply Fan, Exhaust on in Fire, Lights out in Fire, Fan(s) On/Off Thermostatically Controlled. Room temperature sensor shipped loose for field installation. INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD.

JOB NO 3339140	DRAWN BY
TYPE FACTORY	DATE 3/27/2018
DWG NO ECP #2-8	

CORE APPLIANCE REV 1.8

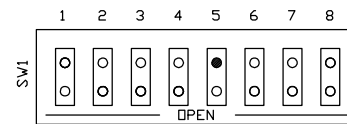
ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES.



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FS-1: MASTER

DIP Switch



Master CORE set DIP SW 8 to CLOSED. Slave CORE with address 1 set DIP SW 8 to CLOSED. All other CORES set DIP SW 8 OPEN.

FIRE INDICATOR FAULT CONDITION FLASH CODES

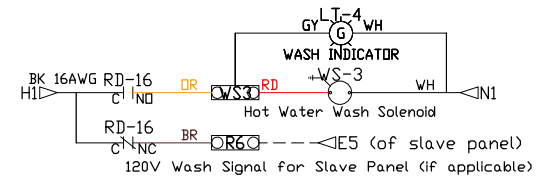
- 2 CORE Plenum Water Solenoid
- 3 CORE Appliance Water Solenoid
- 4 Auxiliary Fault
- 5 Microcontroller Fault
- 6 CORE Surfactant Pump
- 7 Supervised Loop
- 8 Ground Fault
- 9 Surfactant Low
- 10 Battery Voltage Low
- 11 AC Power Failure
- 12 Door Tamper Switch
- 13 Test mode
- 14 CORE Interlock Network
- 15 Fault on Hood in Interlock Network
- 16 Fault on PCU in Interlock Network

FACTORY WIRING SCHEMATIC CORE FIRE PROTECTION

RA-x 120 VAC RELAY	RD-x 24 VDC RELAY
NO 4 3	NO 4 3
NC 2 1	NC 2 1
COIL 8 7	COIL 8 7
COM 6 5	COM 6 5

COMPONENT LIST

LABEL	DESCRIPTION
PCB-2	CORE PCB PNP/PCORE-APP
PSM-2	CORE POWER SUPPLY PN1606-XLP-50E
WS-x	Water Solenoid P/Nvaries
LT-06	24V Red Ind. Light P/NPNL-1163-00R
LL-01	Surf. Level Sensor PNA05510
AA-01	Audible Alarm PNSCE120A3FP1B
PB-01	Prime/Reset Switch PND7-F2X11
SW-05	TEST/ARM Switch PNZB5AD2
SW-04	Tamper Switch PNBZ-2R01-A2
SP-1	Surfactant Pump PWS000-805
GV-1	24V DC Gas Valve P/Nvaries
FS-XX	Duct Fire Sensor PN12-F28021-000360
LT-05	24V YLW Ind. Light P/NPNL-1163-00Y
PS-01	Remote Pull Station PNSTI-SS2431
RD-XX	24VDC Phoenix Relay PNP-PLC-RPT-24DC/21



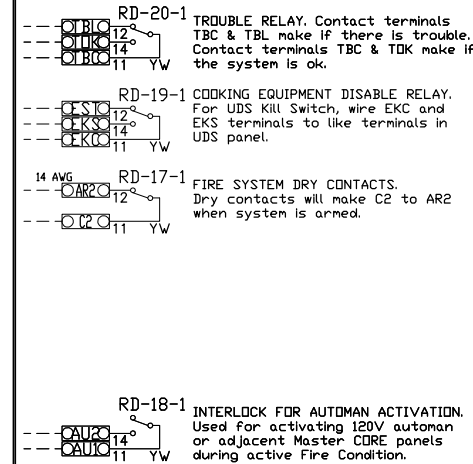
HIGH TEMP WIRE (842 F), PN: SLPCDN-xFT required for all Supervised Loop wiring in contact with a hood. All other wiring shall be PN: 6320UL, Belden or similar. Factory mounted hood sensors will be terminated at Junction box on top of hood.

Auxiliary Interlock (AUX-01): Wire AU1 / AU2 of adjacent Master CORE panel(s) in each manual activation loop for simultaneous activation.

AU1/AU2 will have continuity for 10 seconds if adjacent panel goes into fire condition, activating this CORE Panel but allowing for a reset after 10 seconds.

NOTE: AU1/AU2 terminals of CORE Panel should not be wired into its own manual activation loop.

DRY CONTACTS (SHOWN DE-ENERGIZED)



LEGEND

- FIELD WIRING
- FACTORY WIRING
- BK- BLACK YW- YELLOW
- BL- BLUE GY- GREY
- BR- BROWN PR- PURPLE
- DR- ORANGE RD- RED
- WH- WHITE GR- GREEN
- DR/BL- DR/BL STRIPE
- BL/RD- BL/RD STRIPE
- RD/GN- RD/GN STRIPE
- WH/BL- WH/BL STRIPE

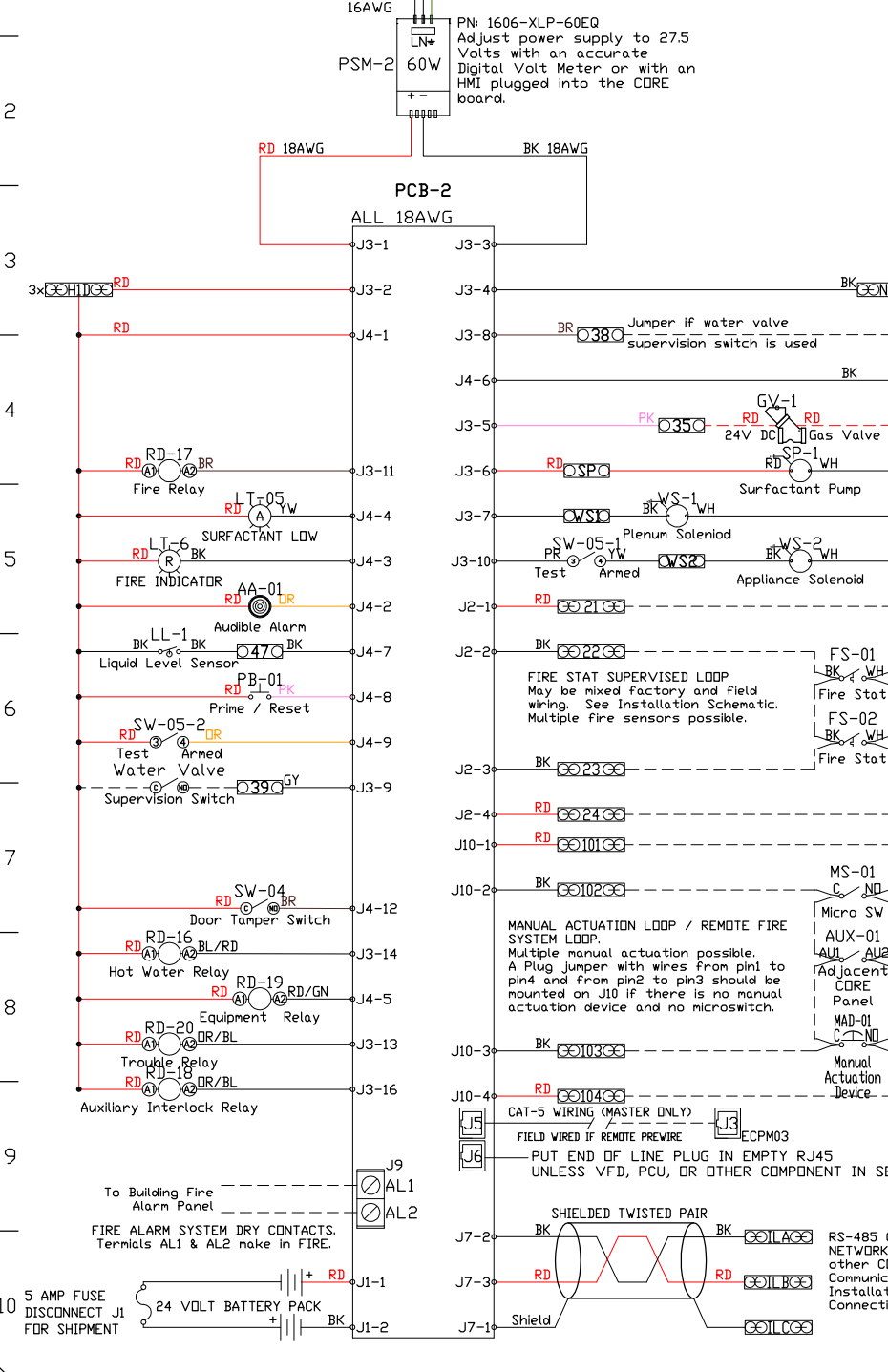
JOB NAME

Ellsner #2 r4
DRAWING TITLE
SC-31110FP

DESCRIPTION OF OPERATION

Fire System #1 CORE Protection. If CORE Appliance Manifold Package with Self Cleaning. Installed in Hood Utility Cabinet with integral hood prewire panel.

JOB NO 3339140	DRAWN BY
TYPE FACTORY	DATE 3/27/2018
DWG NO/ECIP #2-9	

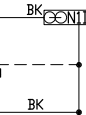
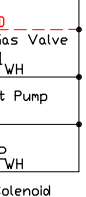
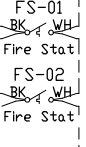
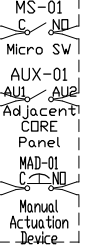


RS-485 CORE INTERLOCK NETWORK. Connection to other CORE Panels or Communication Module. See Installation Schematic for Connection.

MANUAL ACTUATION LOOP / REMOTE FIRE SYSTEM LOOP. Multiple manual actuation possible. A Plug Jumper with wires from pin1 to pin4 and from pin2 to pin3 should be mounted on J10 if there is no manual actuation device and no microswitch.

FIRE STAT SUPERVISED LOOP. May be mixed factory and field wiring. See Installation Schematic. Multiple fire sensors possible.

CAT-5 WIRING (MASTER ONLY). FIELD WIRED IF REMOTE PREWIRE. PUT END OF LINE PLUG IN EMPTY RJ45 UNLESS VFD, PCU, OR OTHER COMPONENT IN SERIES.



5 AMP FUSE DISCONNECT J1 FOR SHIPMENT

FIRE ALARM SYSTEM DRY CONTACTS. Terminals AL1 & AL2 make in FIRE.

Door Tamper Switch (SW-04)

Test Armed Water Valve Supervision Switch (SW-05-2)

FIRE INDICATOR (LT-06)

Surfactant Low (LT-05)

PCB-2

PSM-2 60W

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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04/26/2018

CUSTOMER APPROVAL TO MANUFACTURE:	
Approved as Noted	<input type="checkbox"/>
Approved with NO Exception Taken	<input type="checkbox"/>
Revise and Resubmit	<input type="checkbox"/>
SIGNATURE _____	
Your Title _____	Date _____



<i>JOB</i> Ellsmere #2 r4	
<i>LOCATION</i> PORTLAND, ME, 04103	
<i>DATE</i> 3/27/2018	<i>JOB #</i> 3339140
<i>DWG #</i> 39	<i>DRAWN BY</i> BFC-21
<i>REV.</i>	<i>SCALE</i> 3/8" = 1'-0"