



18076069

REVIEWED FOR COMPLIANCE

Performance of this review does not relieve the applicant from full responsibility to comply with all applicable codes, ordinances and regulations.

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JOHNSON-LANCASTER AND ASSOCIATES, INC.
FOOD SERVICE EQUIPMENT SPECIALIST
13031 US Highway 19 N Clearwater, FL 33764 (727) 796-5622

EXHAUST FAN INFORMATION - Job#3265879

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	φ	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1	PCU EF	USR130DD-4M	9500	3.000	754	15.000	6.5760	3	460	19.2	1232 FPM	1308	28

MUA FAN INFORMATION - Job#3265879

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	φ	VOLT	FLA	COOLING COIL ENTERING DB TEMP.	COOLING COIL ENTERING WB TEMP.	COOLING COIL LEAVING DB TEMP.	COOLING COIL LEAVING WB TEMP.	COOLING COIL TOTAL CAPACITY	COOLING COIL SENSIBLE CAPACITY	COOLING COIL LATENT CAPACITY	WEIGHT (LBS.)	SONES	BURNER EFFICIENCY(%)
2	MUA	A4-D-1000-30D	30MF-4-MOD	A4-D-1000	6000	8800	1.250	1188	10.000	5.3610	3	460	12.9	100.0°F	78.0°F	79.9°F	71.3°F	240.0 MBH	191.3 MBH	48.7 MBH	2362	21	92

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INHVT GAS PRESSURE	GAS TYPE
2	MUA	402887	370656	39 deg F	7 in. w.c. - 14 in. w.c.	Natural

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	PCU EF	1 - B136 - 24" Discharge Extension. 1 - B1 - Discharge Orientation Vertical Upper Left - CV Inlet Side. 1 - B136 - Inlet Connection Standard 24" Flanged Grease Duct. 1 - Utility Set Grease Cup 1 - Utility Set - Spring Vibration Isolators - B133 Thru B136 / Equivalent Sized Utility Set - Indoor/Outdoor use. 1 - AC Interlock Relay - 24VAC Coil 1 - Motorized Backdraft Damper for A4-D Housing 1 - Low Fire Start 1 - Inlet Pressure Gauge, 0-35" 1 - Manifold Pressure Gauge, -5 to 15" w.c. 1 - DV Coil Module - 5,000 to 9,650 CFM (20 Ton 2 Circuit Coil) 1 - 20 Ton, 2 Circuit, 400/460V 3 Phase Condenser Kit, 6-7 Week Lead Time. 1 - DDM 4-1 Refrigeration Parts Kit - R410A 1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only
2	MUA	

FAN ACCESSORIES

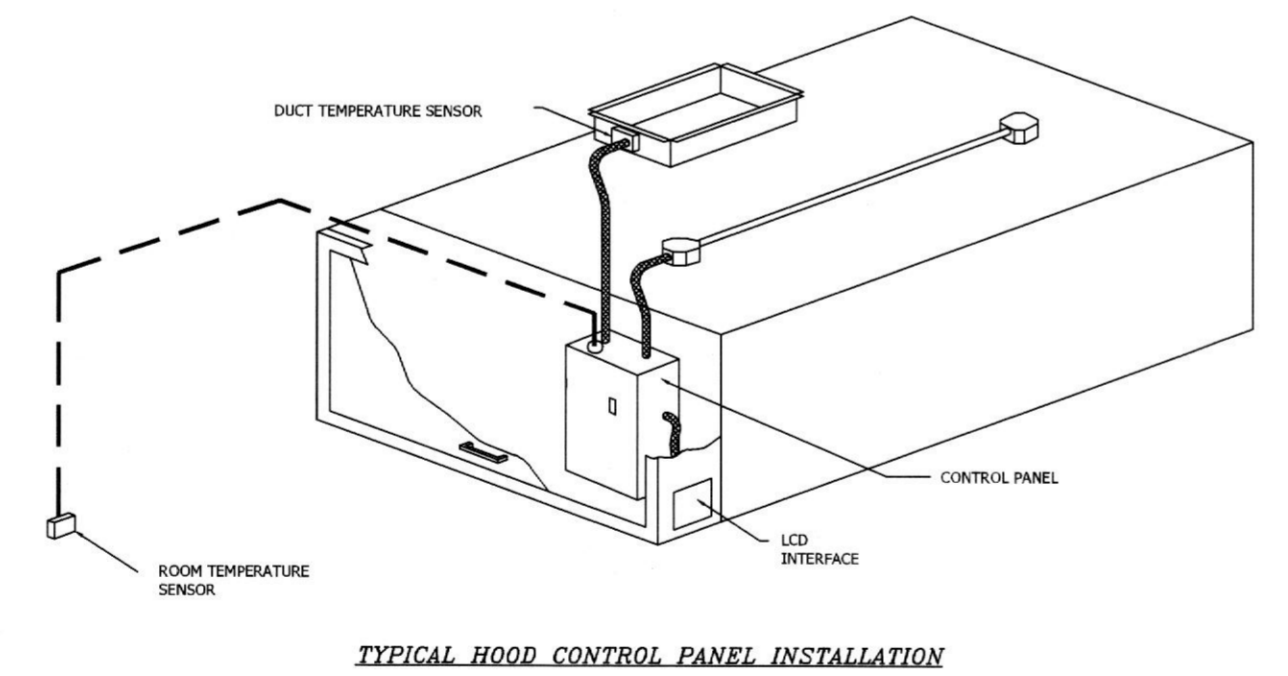
FAN UNIT NO.	TAG	EXHAUST				SUPPLY		
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	PCU EF	YES			YES			
2	MUA					YES		

CURB ASSEMBLIES

NO.	IN FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	PCU EF	70 LBS	Rail	4,000"W x 69,000"L x 20,000"H Comes as a set of 2.
2	# 2	MUA	58 LBS	Curb	42,000"W x 42,000"L x 14,000"H Insulated
	# 2			Rail	6,000"W x 42,000"L x 14,000"H
	# 2			Rail	6,000"W x 42,000"L x 14,000"H

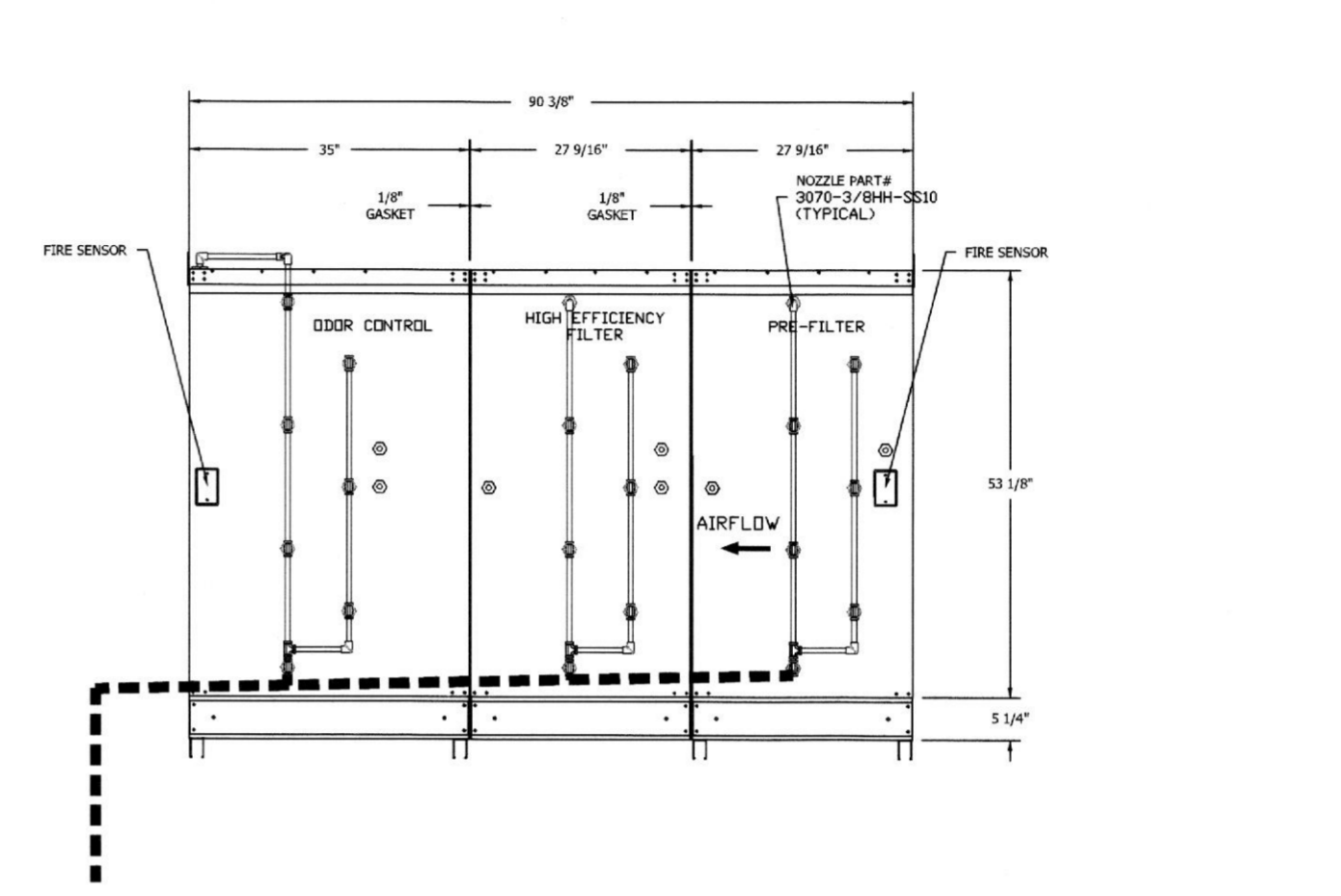
Demand Control Ventilation Hood Control Panel Specifications:

- Controls shall be listed by ETL (UL 508A) and shall comply with demand ventilation system turn-down requirements outlined in IECC 403.2.8 (2015).
- The control enclosure shall be NEMA 1 rated and listed for installation inside of the exhaust hood utility cabinet. The control enclosure may be constructed of stainless steel or painted steel.
- Temperature probe(s) located in the exhaust duct riser(s) shall be constructed of stainless steel.
- A digital controller shall be provided to activate the hood exhaust fans dynamically based on a fixed differential between the ambient and duct temperatures sensors. This function shall meet the requirements of IMC 5.7.1.1.
- A digital controller shall provide adjustable hysteresis settings to prevent cycling of the fans after the cooking appliances have been turned off and/or the heat in the exhaust system is reduced.
- A digital controller shall provide an adjustable minimum fan run-time setting to prevent fan cycling.
- Variable Frequency Drives (VFDs) shall be provided for fans as required. The digital controller shall modulate the VFDs between a minimum setpoint and a maximum setpoint on demand. The duct temperature sensor input(s) to the digital controller shall be used to calculate the speed reference signal.
- The VFD speed range of operation shall be from 0% to 100% for the system, with the actual minimum speed set as required to meet minimum ventilation requirements.
- An internal algorithm to the digital controller shall modulate supply fan VFD speed proportional to all exhaust fans that are located in the same fan group as the supply fan.
- The system shall operate in PREP MODE during light cooking load or COOL DOWN MODE when sufficient heat remains underneath the hood system after cooking operations have completed. Operation during either of these periods will disable the supply fans and provide an exhaust fan speed that is equal to the minimum ventilation requirement.
- A digital controller shall disable the supply fan(s), activate the exhaust fan(s), activate the appliance shunt trip, and disable an electric gas valve automatically when fire condition is detected on a covered hood.
- A digital controller shall allow for external BMS fan control via Dry Contact (external control shall not override fan operation logic as required by code).
- An LCD interface shall be provided with the following features:
 - On/Off push button fan & light switch activation
 - Integrated gas valve reset for electronic gas valves (no reset relay required)
 - VFD Fault display with audible & visual alarm notification
 - Duct temperature sensor failure detection with audible & visual alarm notification
 - Mis-wired duct temperature sensor detection with audible & visual alarm notification
 - A single low voltage Cat-5 RJ45 wiring connection
 - An energy savings indicator that utilizes measured kWh from the VFDs

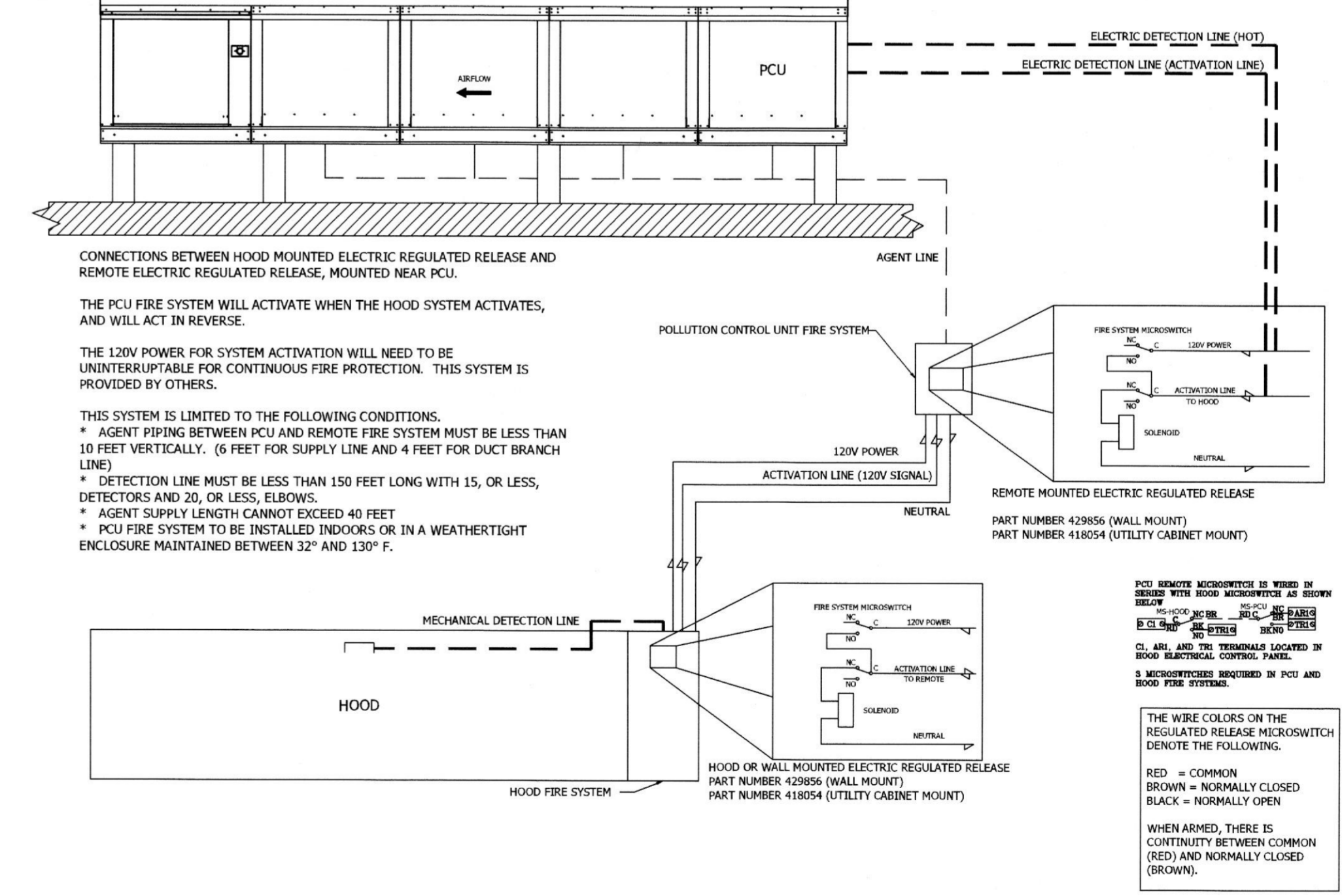


- Sequence of Operations:**
The hood control panel is capable of operating in one or more of the following states at any given time:
- Automatic:** The system operates based on the differential between room temperature and the temperature at the hood cavity or exhaust duct collar. Fans activate at a configurable temperature differential threshold. Depending on the job configuration each fan zone can be configured as static or dynamic. These terms refer to whether a variable motor (such as EC Motors or VFD driven motors) modulate with temperature. If the panel is equipped with variable speed fans and the zone is defined as "dynamic", these will modulate within a user-defined range based on the temperature differential. Panels equipped with variable speed fans and a fan zone defined as "static", fans will run at a set speed calculated for the drive. Demand control ventilation systems are capable of modulating exhaust and make up air fan speeds per the requirements outlined in IECC 403.2.8.
 - Manual:** The system operates based on human input from an HMI.
 - Schedule:** A weekly schedule can be set to run fans for a specified period throughout the day. There are three occupied times per day to allow for the user to set up a time that is suitable to their needs. Any time that is within the defined occupied time, the system will run at modulation mode and follow the fan procedure algorithm based on temperature during this time. During unoccupied time, the system will have an extra offset to prevent unintended activation of the system during a time where the system is not being occupied.
 - Other:** The system operates based on the input from an external source (DDC, BMS or hard-wired interlock)

POLLUTION CONTROL UNIT FIRE SYSTEM



CONNECTIONS FOR HOOD MECHANICAL FIRE SYSTEM TO PCU ELECTRICAL FIRE SYSTEM (ELECTRICALLY REVERSABLE INTERLOCK)



Ouzo Bay and Loch Bar
HOUSTON, TX, 77002

DATE: 5/17/2018
DWG.#: 3265879
DRAWN BY: JR
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 2

NUMBER	DATE	DESCRIPTION
1	10/19/18	PER HEALTH DEPARTMENT COMMENTS
2	10/24/18	PER HEALTH DEPARTMENT COMMENTS

OUZO RESTAURANT & LOCH BAR
HOUSTON, TEXAS

DATE:	06/28/2017
SCALE:	1/4" = 1'-0"
DRAWN BY:	JR
DESIGNED BY:	JR
PAPER SIZE:	24x36
SLAB PENETRATION PLAN	
SHEET:	FS-7.2