

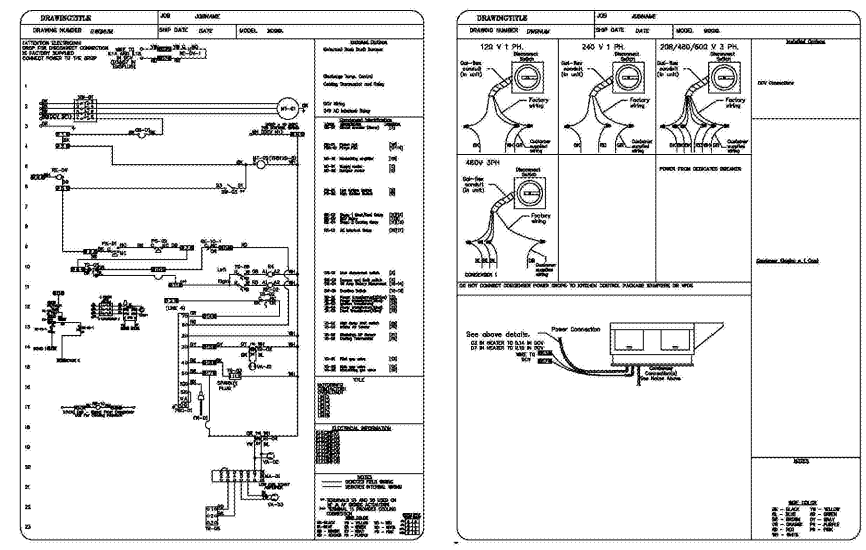
REVISIONS:

No.	Description	Date

PROJECT: 9202-169779  
 DATE: 12/18  
 DRAWN BY: CCO  
 CHECKED BY: JCC

**KITCHEN HOODS AND FANS**

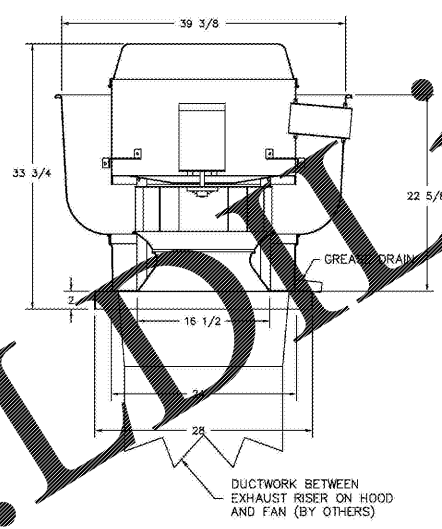
**M-408**



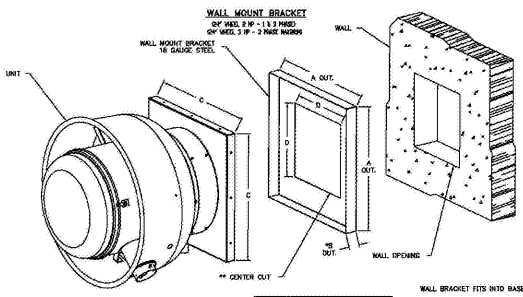
- FAN #4 A1-D.250-G10-MPU - HEATER (#221 MUA)
- DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 10" BLOWER
  - INTAKE HOOD WITH E2 FILTERS
  - SIDE DISCHARGE - AIR FLOW RIGHT -> LEFT
  - COOLING INTERLOCK RELAY, 24VAC COIL, 120V CONTACTS, LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
  - MOTORIZED BACK DRAFT DAMPER 18" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER AND UNTEMPERED UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, IFB120S ACTUATOR INCLUDED
  - LOW FIRE START, ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
  - GAS PRESSURE GAUGE, 0-30", 2.5" DIAMETER, 1/4" THREAD SIZE
  - GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE
  - DX COOLING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT - SET POINT FOR THERMOSTAT SHOULD BE 80°F.
  - 3 TON, SINGLE CIRCUIT MODULAR PACKAGED COOLING OPTION FOR SIZE 1 MODULAR PACKAGED UNIT, INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (1,100 TO 1,800 CFM) NOT BUILT WITH OPPOSITE SIDE CONTROLS OR OPPOSITE AIRFLOW DIRECTION. CONDENSERS REQUIRE SEPARATE 460V, 3 PHASE POWER SUPPLY. COIL = 2E21001H
  - FULL GRATING FOR COMMERCIAL HEATERS FOR SHIPPING.
  - SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREMISE 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.

SUPPLY SIDE HEATER INFORMATION:  
 WINTER TEMPERATURE = 23°F. TEMP. RISE = 52°F.  
 BTU<sub>s</sub> CALCULATED OFF STANDARD AIR DENSITY  
 OUTPUT BTU<sub>s</sub> AT ALTITUDE OF 0.0 ft. = 101088  
 INPUT BTU<sub>s</sub> AT ALTITUDE OF 0.0 ft. = 109978

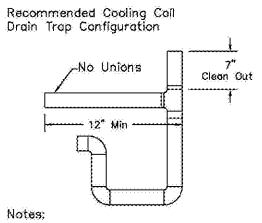
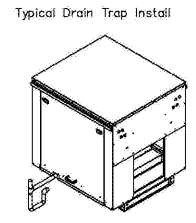
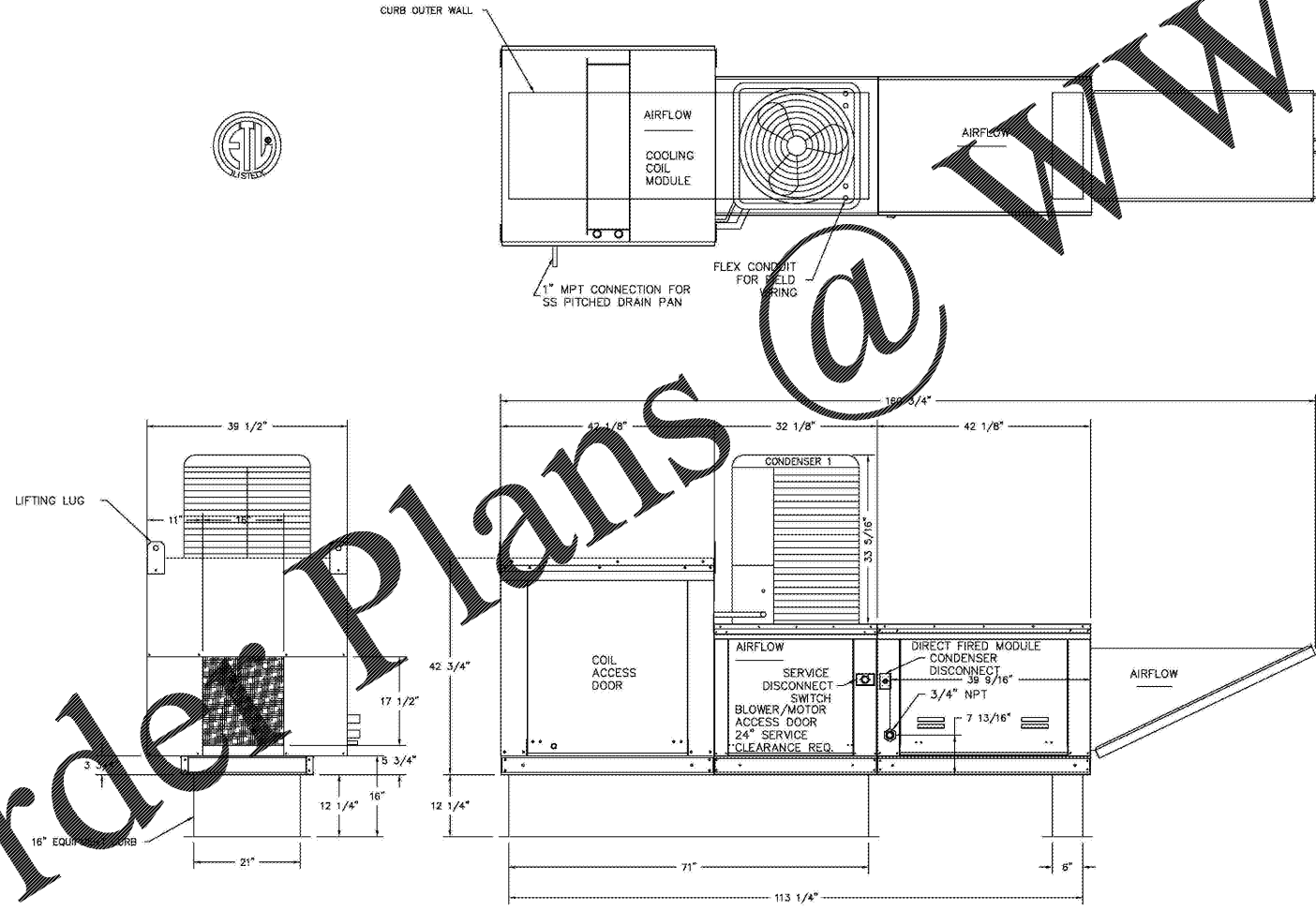
FAN #3 DU180HFA - EXHAUST FAN (#221 EF)



- FEATURES:
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
  - ROOF MOUNTED FAN
  - RESTAURANT MODEL
  - UL705 AND UL706
  - VARIABLE SPEED CONTROL
  - INTERLOCKING
  - WATHERPROOF DISC
  - THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
  - HEAT RESISTANT 300°F (149°C)
  - GREEN 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 DETRIMENTARY 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



A OUT	B OUT	C	D
16 1/2	2	18	15
20 1/2	2	22	18
21 1/2	2	22	18
24 1/4	2	24 3/4	20
28 1/2	2	28	20
27 1/2	2	28	24
32 1/2	2	32	28



- Notes:
- 1" diameter PVC Pipe only
  - Use only low profile couplings
  - Add clean out as shown

NOTE: MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL DUCTWORK, U.L. LISTED FIRE BLANKETS, EXHAUST FANS AND MAKEUP AIR UNITS. KITCHEN HOODS SHALL BE PROVIDED BY FOOD SERVICE EQUIPMENT CONTRACTOR.

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