

SUPPORT FOR UNIT COOLER

NTS



Department of
Veterans Affairs

DETAIL TITLE / SUPPORT FOR UNIT COOLER

SCALE :NONE

DATE ISSUED : DECEMBER 2008

CADD DETAIL NO. : SD114121-01.DWG

NOTES FOR AIR COOLED REFRIGERATION SYSTEM

1. UNIT COOLER FAN(S) SHALL RUN CONTINUOUSLY, EXCEPT WHEN IT IS TURNED "OFF" BY A SWITCH MOUNTED ON THE UNIT COOLER. THIS SAME SWITCH SHALL ALSO DE-ENERGIZE THE LIQUID-LINE SOLENOID VALVE WHEN THE UNIT IS IN THE "OFF" POSITION..
2. ROOM THERMOSTAT FOR WALK-IN REFRIGERATOR OR FREEZER SHALL AUTOMATICALLY CONTROL THE LIQUID-LINE SOLENOID VALVE.
3. COMPRESSOR OPERATION SHALL BE CONTROLLED BY THE LOW PRESSURE SWITCH: HIGH PRESSURE CUTOUT SWITCH SHALL PREVENT THE COMPRESSOR FROM OPERATING UNDER EXCESSIVELY HIGH HEAD PRESSURE.
4. AIR COOLED CONDENSER SHALL BE INSTALLED WITH AN APPROVED METHOD OF MAINTAINING SUFFICIENT CONDENSING PRESSURE TO ASSURE SATISFACTORY OPERATION AT _____ DEGREES. F. [_____ DEGREES. C] AMBIENT TEMPERATURE.
5. WHEN EQUIPMENT SCHEDULE INDICATES ELECTRIC DEFROST, THE FOLLOWING CONTROLS SHALL ALSO BE PROVIDED:
 - A. DEFROST TYPE UNIT COOLER WITH HEATING ELEMENTS FOR EVAPORATOR COIL, DRAIN PAN AND DRAIN PIPING WITHIN THE LOW TEMPERATURE ROOM. DEFROST CYCLE SHALL BE AUTOMATICALLY CONTROLLED BY AN ELECTRIC CLOCK AND SHALL INCLUDE A SAFETY THERMOSTAT IN THE CONTROL CIRCUIT TO PREVENT OVERHEATING THE EVAPORATOR COIL.
 - B. THE AUTOMATIC TIMER FOR ELECTRIC DEFROST SHALL ALSO DE-ENERGIZE THE SOLENOID VALVE IN THE LIQUID REFRIGERANT LINE SERVING THE UNIT COOLER AND SHALL STOP THE UNIT COOLER FAN(S) DURING THE DEFROST CYCLE.
6. PROVIDE ADDITIONAL TEMPERATURE TRANSMITTER THAT SENDS HIGH TEMPERATURE ALARM INDICATION TO ECC.



Department of
Veterans Affairs

DETAIL TITLE / NOTES FOR AIR COOLED
REFRIGERATION SYSTEM

SCALE :NONE

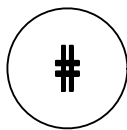
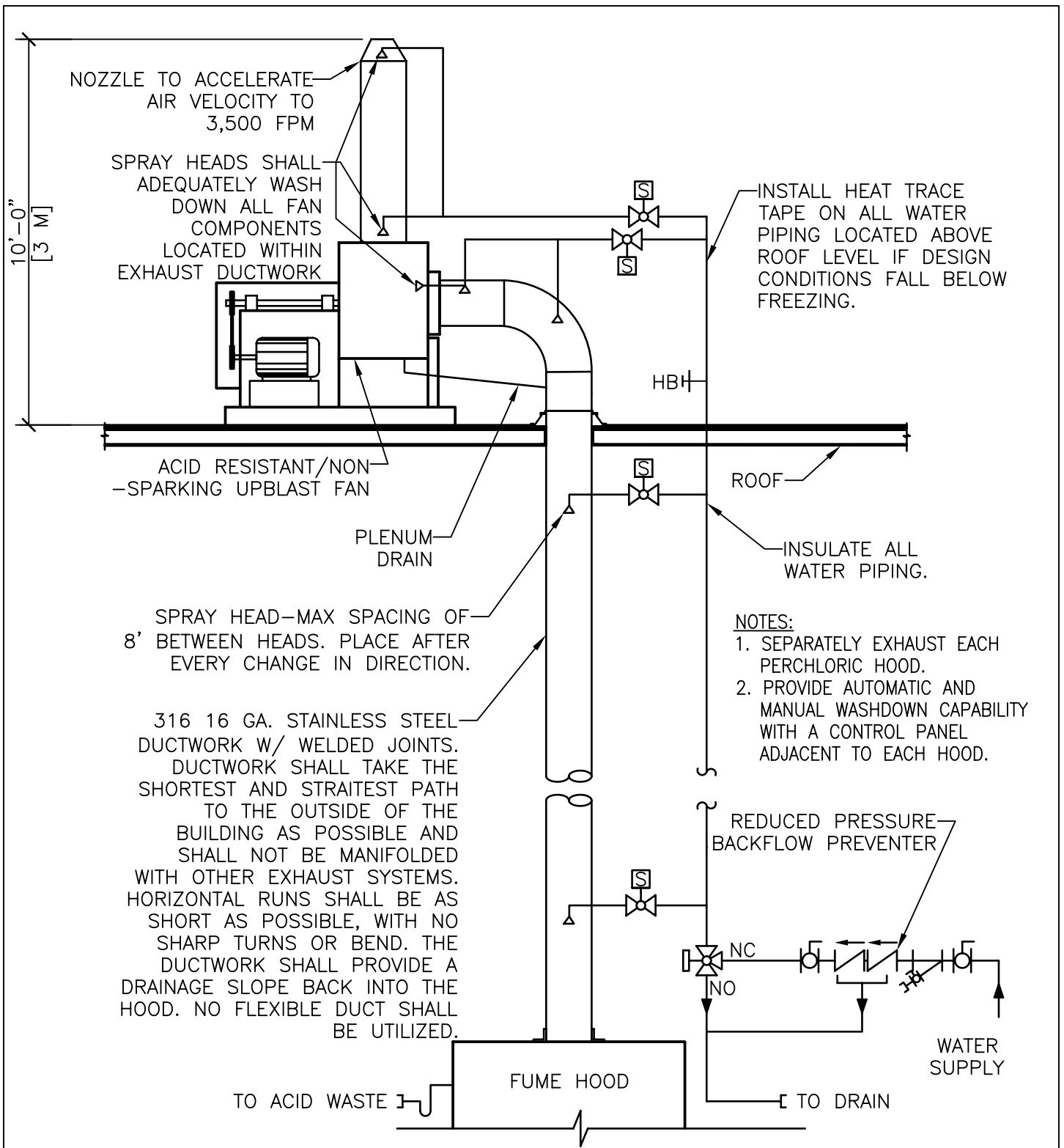
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NOTES FOR WATER COOLED REFRIGERATION SYSTEM

1. UNIT COOLER FAN(S) SHALL RUN CONTINUOUSLY, EXCEPT WHEN IT IS TURNED "OFF" BY A SWITCH MOUNTED ON THE UNIT COOLER. THIS SAME SWITCH SHALL ALSO DE-ENERGIZE THE LIQUID-LINE SOLENOID VALVE WHEN THE UNIT IS IN THE "OFF" POSITION.
2. ROOM THERMOSTAT FOR WALK-IN REFRIGERATOR OR FREEZER SHALL AUTOMATICALLY CONTROL THE LIQUID-LINE SOLENOID VALVE.
3. COMPRESSOR OPERATION SHALL BE CONTROLLED BY THE LOW PRESSURE SWITCH: HIGH PRESSURE CUTOUT SWITCH SHALL PREVENT THE COMPRESSOR FROM OPERATING UNDER EXCESSIVELY HIGH HEAD PRESSURE.
4. FLOW OF WATER THROUGH CONDENSER SHALL BE CONTROLLED BY WATER REGULATING VALVE INSTALLED IN THE CONDENSER DISCHARGE LINE AND SHALL MODULATE IN RESPONSE TO REFRIGERANT CONDENSING PRESSURE.
5. WHEN EQUIPMENT SCHEDULE INDICATES ELECTRIC DEFROST, THE FOLLOWING CONTROLS SHALL ALSO BE PROVIDED:
 - A. DEFROST TYPE UNIT COOLER WITH HEATING ELEMENTS FOR EVAPORATOR COIL, DRAIN PAN AND DRAIN PIPING WITHIN THE LOW TEMPERATURE ROOM. DEFROST CYCLE SHALL BE AUTOMATICALLY CONTROLLED BY AN ELECTRIC CLOCK AND SHALL INCLUDE A SAFETY THERMOSTAT IN THE CONTROL CIRCUIT TO PREVENT OVERHEATING THE EVAPORATOR COIL.
 - B. THE AUTOMATIC TIMER FOR ELECTRIC DEFROST SHALL ALSO DE-ENERGIZE THE SOLENOID VALVE IN THE LIQUID REFRIGERANT LINE SERVING THE UNIT COOLER AND SHALL STOP THE UNIT COOLER FAN(S) DURING THE DEFROST CYCLE.
6. PROVIDE ADDITIONAL TEMPERATURE TRANSMITTER THAT SENDS HIGH TEMPERATURE ALARM INDICATION TO ECC.





PERCHLORIC ACID HOOD EXHAUST SYSTEM

NTS



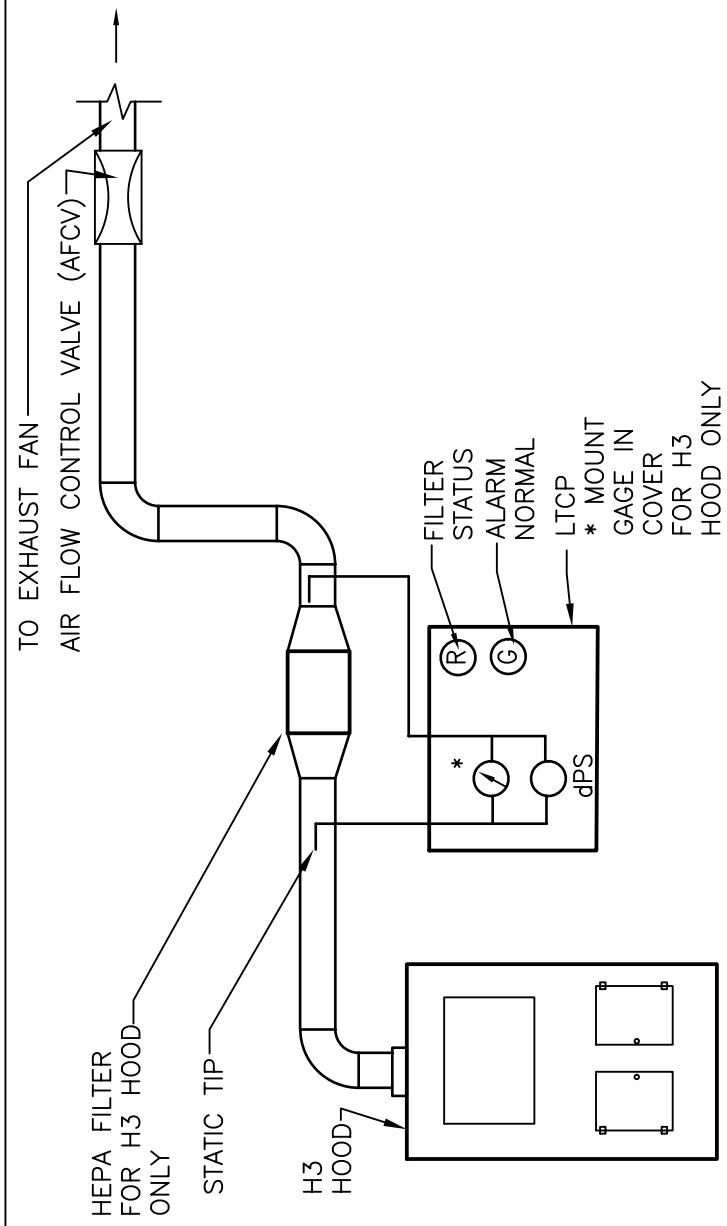
Department of
Veterans Affairs

DETAIL TITLE / PERCHLORIC ACID HOOD EXHAUST SYSTEM

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LEGEND



MAGNEHELIC GAGE

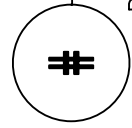
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DIFFERENTIAL PRESSURE SWITCH

NOTES:

- 1. HOOD EQUIPPED WITH INTEGRAL BYPASS, IE CONSTANT VOLUME
- 2. SEE STACK DETAIL

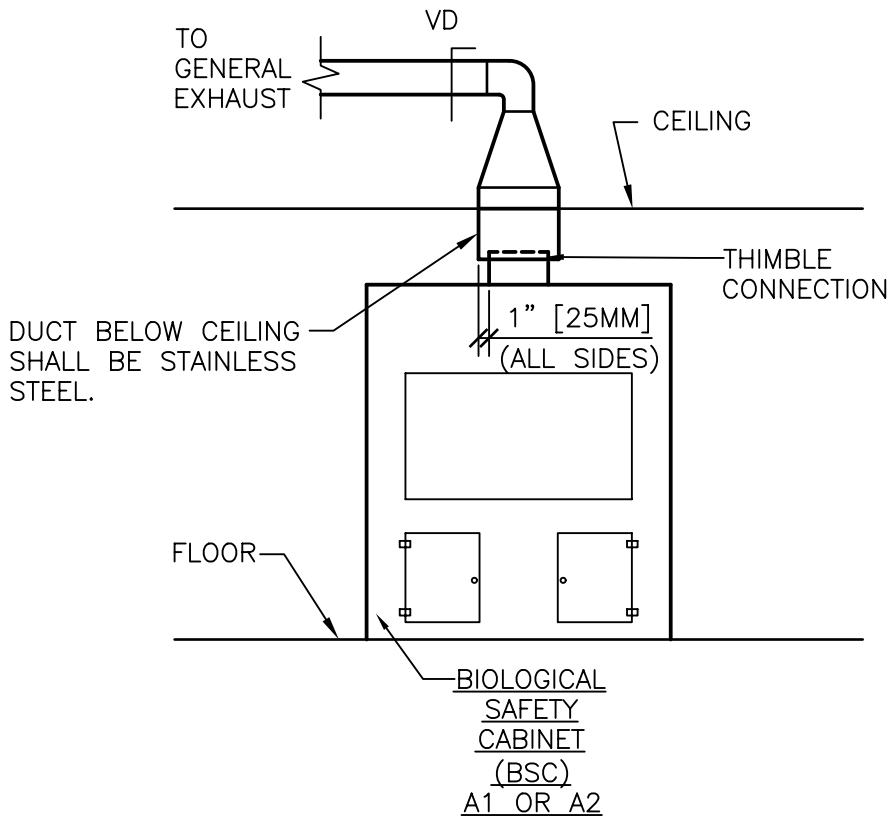
H-3 AND H-7 HOOD EXHAUST SYSTEM



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DESIGNERS NOTES:

- 1. SEE HVAC DESIGN MANUAL FOR ADDITIONAL REQUIREMENTS.
- 2. H-3 HOODS CAN BE GROUPED INTO A SINGLE EXHAUST FAN
- 3. H-7 HOODS CAN BE GROUPED INTO A SINGLE EXHAUST FAN



BIOLOGICAL SAFETY CABINET EXHAUST SYSTEM (CLASS II TYPE A1 OR A2)

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NTS

DESIGNER'S NOTES:

1. COORDINATE SIZE AND TYPE OF BIOLOGICAL SAFETY CABINET (BSC) WITH THE ARCHITECTURAL EQUIPMENT DRAWINGS.
2. ESTABLISH EXHAUST REQUIREMENTS AND CHARACTERISTICS OF THE BSC BASED ON PROJECT PROGRAM AND VA HVAC DESIGN MANUAL.



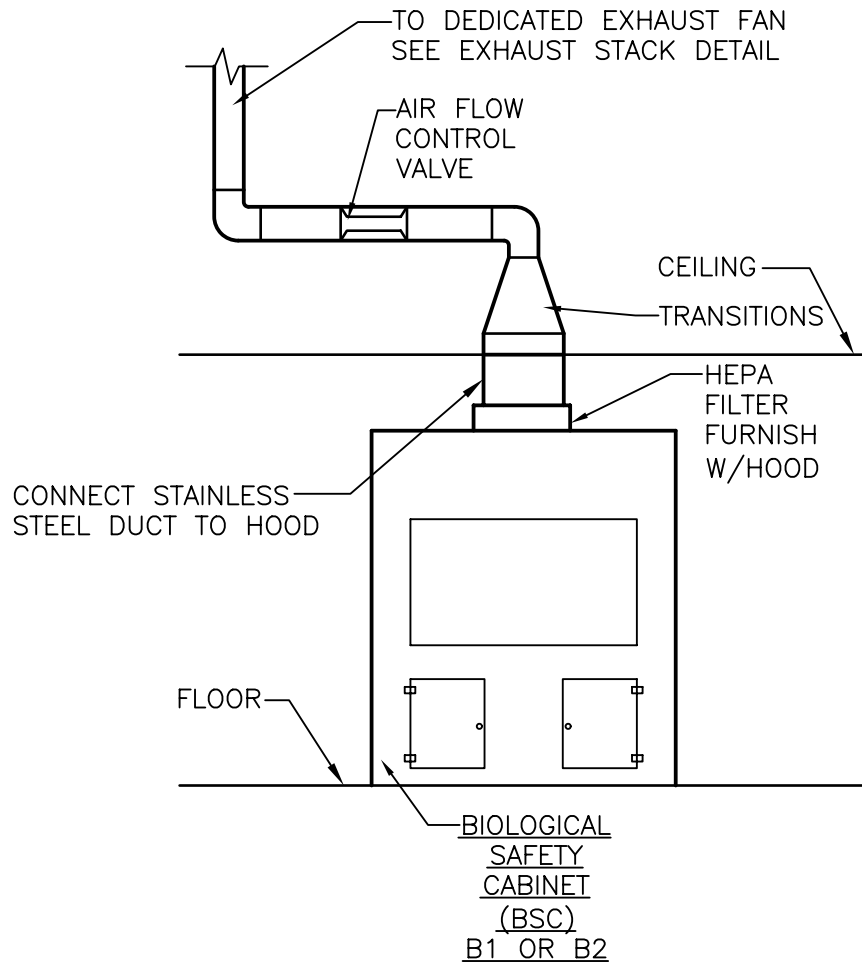
Department of
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DETAIL TITLE / BIOLOGICAL SAFETY CABINET EXHAUST SYSTEM

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BIOLOGICAL SAFETY CABINET EXHAUST SYSTEM (CLASS II TYPE B1 OR B2)

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NTS

DESIGNER'S NOTES:

1. COORDINATE SIZE AND TYPE OF BIOLOGICAL SAFETY CABINET (BSC) WITH THE ARCHITECTURAL EQUIPMENT DRAWINGS.
2. ESTABLISH EXHAUST REQUIREMENTS AND CHARACTERISTICS OF THE BSC BASED ON PROJECT PROGRAM AND VA HVAC DESIGN MANUAL.



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