

- 6.14 DWH: UL CERTIFIED ELECTRIC DOMESTIC WATER HEATER IS TO BE SIZED, SUPPLIED AND INSTALLED BY THIS CONTRACTOR. UNIT(S) SHALL BE EQUIPPED WITH ASME RATED TEMPERATURE AND PRESSURE RELIEF VALVES, VACUUM RELIEF VALVES, EXPANSION TANK AND DRAIN PAN PER THE AUTHORITY HAVING JURISDICTION. UNITS(S) SHALL BE SIZED TO ACCOMMODATE DOMESTIC HOT WATER USE PLUS PROVIDE 15 MINUTES OF UNINTERRUPTED TEMPERED WATER (60°F) AT A FLOWRATE OF 20 GPM FOR EACH EMERGENCY SHOWER. DOMESTIC HOT WATER LINES THAT EXCEED 30 FT. FROM THE TANK TO A FIXTURE WILL REQUIRE A RECIRCULATION SYSTEM. ALL WATER PIPING IN UNHEATED SPACES IS TO BE INSULATED AND HEAT TRACED.
- 6.13 DISINFECT ALL POTABLE WATER LINES PRIOR TO USE AS PER LOCAL, STATE AND FEDERAL REQUIREMENTS.
- 7.0 HEATING, VENTILATING AND AIR CONDITIONING
- 7.1 PROVIDE HVAC IN THE BUILDING TO MAINTAIN SPACES AT THE FOLLOWING CONDITIONS WHILE TAKING INTO CONSIDERATION INTERNAL GAINS FROM EQUIPMENT:
  - OFFICE/LAB - WINTER 72°F @ JANUARY 1% DESIGN TEMPERATURE.
  - SUMMER 75°F @ JULY 2% DESIGN TEMPERATURE.
  - ELECTRICAL ROOM - WINTER 72°F @ JANUARY 1% DESIGN TEMPERATURE.
  - SUMMER 80°F @ JULY 2% DESIGN TEMPERATURE.
  - PROCESS ROOM - WINTER 60°F @ JANUARY 1% DESIGN TEMPERATURE.
  - SUMMER NOT TO EXCEED THE JULY 2% DESIGN TEMPERATURE BY 10°F.
- 7.2 ELECTRICAL WIRING BETWEEN DEVICES AND ELECTRICAL PANEL WILL BE INSTALLED BY OTHERS. INSTALLATION WIRING DRAWINGS TO BE PROVIDED BY THE BUILDING CONTRACTOR FOR THE DEVICES TO BE WIRED BY OTHERS. THE FOLLOWING VOLTAGES ARE TO BE USED FOR EQUIPMENT SELECTION: 480 VAC, THREE PHASE (FOR MOTORS 1/2 HP AND LARGER); 208 VAC, SINGLE OR THREE PHASE; 120 VAC SINGLE PHASE.
- 7.3 OFFICE/LAB AND WASHROOM SHALL BE HEATED WITH ELECTRIC HEATERS WITH BUILT-IN THERMOSTATS SIZED, SUPPLIED AND INSTALLED BY THIS CONTRACTOR. THESE ROOMS ARE TO BE VENTILATED TO REQUIREMENTS OF LOCAL CODE WITH A HEAT RECOVERY VENTILATOR (HRV) LOCATED IN THE ADJACENT STORAGE ROOM. THE HRV IS TO PLUG INTO A 15A, 120V RECEPTACLE PROVIDED BY OTHERS. THE DUCTWORK SHALL BE RUN ABOVE SUSPENDED CEILING. COORDINATE LOCATIONS OF HEATERS WITH THE CABINETRY. PROVIDE AND INSTALL FUME HOOD AS PER MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED INCLUDING VENTILATION AND PLUMBING CONNECTIONS; WIRING BY OTHERS.
- 7.4 ELECTRICAL ROOM SHALL BE HEATED WITH AN ELECTRIC UNIT HEATER WITH BUILT-IN THERMOSTATS SIZED, SUPPLIED AND INSTALLED BY THIS TRADE. COORDINATE LOCATIONS OF HEATER WITH ADI.
- 7.5 OFFICE/LAB AND ELECTRICAL ROOM SHALL BE COOLED WITH A SPLIT SYSTEM AIR CONDITIONING SYSTEM WITH OUTDOOR CONDENSING UNIT (CU-1) AND INDOOR EVAPORATORS (AC-1 AND AC-2) C/W REMOTE CONTROLS. COORDINATE LOCATIONS OF AC UNITS WITH ADI.
- 7.6 PROCESS ROOM HEATING SHALL BE BY ELECTRIC UNIT HEATER(S) WITH BUILT-IN THERMOSTATS SIZED, SUPPLIED AND INSTALLED BY THIS TRADE. THIS TRADE SHALL SUPPLY AND INSTALL DEVICES AS REQUIRED FOR THE OPERATION OF ALL HEATING AND VENTILATION EQUIPMENT INCLUDING CONTROLS. THE PROCESS ROOM WILL HAVE TWO VENTILATION SYSTEMS INDICATED ON THE FLOOR PLAN AND AS FOLLOWS:
  - 1) A DEDICATED VENTILATION EXHAUST FAN (EF-1) TO EXHAUST 4 CONTINUOUS AIR CHANGES OF AIR FROM PROCESS ROOM. AN EQUAL AMOUNT OF AIR IS TO BE ALLOWED TO ENTER THROUGH A WALL LOUVER WITH INSULATED MOTORIZED DAMPER.
  - 2) THE ROOM REQUIRES COOLING FROM INTERNAL HEAT GAINS FROM THE MOTORS. THIS IS TO BE ACCOMPLISHED WITH A WALL MOUNTED PROPELLER TYPE FAN (SF-1) WITH AN INTAKE LOUVER AND INSULATED DAMPER. AIR IS TO BE RELIEVED THROUGH A LOUVER MOUNTED IN THE EXTERIOR WALL EQUIPPED WITH AN INSULATED MOTORIZED DAMPER. SUPPLY AND INSTALL A ROOM THERMOSTAT TO START THE FAN AND OPEN THE DAMPERS ON A CALL FOR COOLING. PROCESS ROOM HEAT GAINS INCLUDE THE FOLLOWING MOTORS RUNNING CONCURRENTLY: 2 X 1/4 HP, 3 X 5 HP, 2 X 10 HP, 2 X 30 HP, AND 2 X 100 HP.
- 7.7 FH-1: LABCONCO BASIC 47 # 2247300 COUNTER TOP MOUNTED LABORATORY HOOD, 53" HIGH X 47" WIDE X 25" DEEP WITH BUILT-IN 1/3 HP BLOWER RATED AT 720 CFM 0.25" E.S.P., VAPOUR-PROOF INCANDESCENT LIGHT FIXTURE AND INTERIOR REAR-MOUNTED RECEPTACLE WIRED TO HOOD JUNCTION BOX, 10" DUCT CONNECTION, INLET AIR FOIL, VERTICAL RISING TEMPERED SAFETY GLASS SASH, EPOXY COATED 16 GA. STEEL LINER BLOWER AND LIGHT SWITCHES MOUNTED ON FRONT OF CABINET. UNIT TO COME COMPLETE WITH 3" X 6" POLYPROPYLENE CUP SINK AND CHROME TURRET.

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