

DATE  
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TITLE  
REFRIGERATION SCHEDULE AND CONTROL NOTES

DEFENSE COMMISSARY AGENCY  
DIRECTORATE OF ENGINEERING  
FORT LEE, VIRGINIA - LACKLAND AFB, TEXAS

DESIGN  
STANDARD  
239000-21

REF.  
REV.

REFRIGERATION EQUIPMENT & PIPING SCHEDULE

| SYSTEM NO. | REGS. NO. | COOLING EQUIPMENT SERIALIZED | RECORD REFRIG. CAPACITY | REFRIGERATION LINE SIZES | ELECT. DEFERST | FANS      | LIGHTS       | TEMPERATURE CONTROL | DEFERST CONTROL | CONCRETE MAIN     | CONCRETE MARK NO. | REMARKS |
|------------|-----------|------------------------------|-------------------------|--------------------------|----------------|-----------|--------------|---------------------|-----------------|-------------------|-------------------|---------|
| NO.        | TYPE      | DESCRIPTION                  | TONS                    | LIQUID SUCT. LINE        | VOLTPHASE      | VOLTPHASE | AMPS AT 120V | TEMPERATURE CONTROL | DEFERST CONTROL | CONCRETE MARK NO. | CONCRETE MARK NO. | REMARKS |
| 1          | 1         | 1                            | 1                       | 1                        | 1              | 1         | 1            | 1                   | 1               | 1                 | 1                 | 1       |

- TEMPERATURE CONTROL NOTES:
- TEMPERATURE CONTROLLED BY INERT VALVE. HIGH/LOW TEMPERATURE SAFETY STATUIM.
  - TEMPERATURE CONTROLLED BY COMPRESSOR STEEL SUCTION PRESSURE. RISE SAFETY SUCTION PRESSURE BY CYCLING COMPRESSORS. RISE/LOW TEMPERATURE SAFETY SUCTION.
  - TEMPERATURE CONTROLLED BY RAILS ZONE SENSORS UNLIMITED COOLING.
  - TEMPERATURE CONTROLLED BY CONVENTIONAL THERMOSTAT (WORKS) UNLIMITED COOLING.
  - TEMPERATURE CONTROLLED BY CONVENTIONAL SUCTION PRESSURE CONTROL (WORKS).

- DEFERST CONTROL NOTES:
- RACK CONTROLLED OFF CYCLE DEFERST. DURING DEFERST THE RACK SHALL CLOSE THE VALVE AND LEAD THE VALVE EACH LOCATED AT THE COMPRESSORS SYSTEM. DEFERST SHALL BE IDENTIFIED AND TIME TERMINATED. FAILURE OF RACKS SHALL RESULT IN REPERATION OF AND REPORT.
  - RACKS CONTROLLED BY FRESH SERVICES. DURING DEFERST THE RACKS SHALL CLOSE THE VALVE AND LEAD THE VALVE EACH LOCATED AT THE COMPRESSORS SYSTEM. DEFERST SHALL BE IDENTIFIED AND REPERATION TERMINATED WITH TIME FAILURE TERMINATION. FAILURE OF RACKS SHALL RESULT IN REPERATION OF AND REPORT.
  - TIME CLOCK CONTROLLED (NON RACKS). OFF CYCLE DEFERST. DURING DEFERST THE SUCTION VALVE AND LEAD THE VALVE EACH LOCATED AT THE COMPRESSORS SYSTEM SHALL CLOSE. DEFERST SHALL BE IDENTIFIED AND TIME TERMINATED.
  - TIME CLOCK CONTROLLED (NON RACKS). ELECTRIC DEFERST. DURING DEFERST THE SUCTION VALVE AND LEAD THE VALVE EACH LOCATED AT THE COMPRESSORS SYSTEM SHALL CLOSE. DEFERST SHALL BE IDENTIFIED AND REPERATION TERMINATED WITH TIME FAILURE TERMINATION.

GENERAL DEFERST NOTES:

1 FRESH HEAT CASES: MAXIMUM 20 MINUTES PER DAY. PROVIDE ELECTRIC DEFERST AS NECESSARY.

COMPRESSOR SCHEDULE

| SPEED NO. | TOTAL CAPACITY (1000 BTU/H) | COND. TEMP. | NOMINAL HEAT REJECTION (1000 BTU/H) | NOMINAL COMPRESSOR | REF. TYPE | VOLUME | HEAT RECLAIM | REMARKS |
|-----------|-----------------------------|-------------|-------------------------------------|--------------------|-----------|--------|--------------|---------|
| NO.       | BTU/H                       | F           | BTU/H                               | MARK NO.           | TYPE      | TONS   | MARK NO.     | TONS    |
| 1         | 1                           | 1           | 1                                   | 1                  | 1         | 1      | 1            | 1       |

COMPRESSOR SCHEDULE NOTES:

1 NOMINAL COMPRESSOR CAPACITY AND HEAT REJECTION ARE REFLECTS THE MINIMUM ALLOWABLE NUMBER OF CAPACITY SYSTEMS. DISPLAY CASE MANUFACTURER SHALL SUBMIT ACTUAL NUMBER OF CAPACITY SYSTEMS. DISPLAY MANUFACTURER TO MAINTAIN A MINIMUM OF ONE CYCLE PER DAY AND A MINIMUM OF 100 CYCLES PER DAY ON EACH COMPRESSOR.

HEAT RECLAIM SCHEDULE

| MARK NO. | HEAT RECLAIM | HEAT RECLAIM | REMARKS |
|----------|--------------|--------------|---------|
| NO.      | MARK NO.     | TONS         | TONS    |
| 1        | 1            | 1            | 1       |

HEAT RECLAIM SCHEDULE NOTES:

1 CAPACITY OF HEAT RECLAIM SHALL BE AS SPECIFIED BY MANUFACTURER.

2 COLLECTOR CAPACITY SHALL BE AS SPECIFIED BY MANUFACTURER.

3 HEAT OF REJECTION SHALL BE AS SPECIFIED BY MANUFACTURER.

UNIT COOLER SCHEDULE

| MARK NO. | CAPACITY (1000 BTU/H) | COND. TEMP. | NOMINAL HEAT REJECTION (1000 BTU/H) | NOMINAL COMPRESSOR | REF. TYPE | VOLUME | HEAT RECLAIM | REMARKS |
|----------|-----------------------|-------------|-------------------------------------|--------------------|-----------|--------|--------------|---------|
| NO.      | BTU/H                 | F           | BTU/H                               | MARK NO.           | TYPE      | TONS   | MARK NO.     | TONS    |
| 1        | 1                     | 1           | 1                                   | 1                  | 1         | 1      | 1            | 1       |

UNIT COOLER SCHEDULE NOTES:

1 CAPACITY EACH UNIT COOLER AT TEMPERATURES PROVIDED INCLUDES DEDUCTION FOR HEAT FROM UNIT COOLERS.

2 ELECTRICAL DATA IS FOR EACH UNIT COOLER.

3 AIR FLOW TYPE: F: LOW AIR FLOW; D: HIGH AIR FLOW; T: THROUGHPUT COOLERS.

REFRIGERATION AIR COOLED CONDENSER SCHEDULE

| MARK NO. | CAPACITY (1000 BTU/H) | COND. TEMP. | NOMINAL HEAT REJECTION (1000 BTU/H) | NOMINAL COMPRESSOR | REF. TYPE | VOLUME | HEAT RECLAIM | REMARKS |
|----------|-----------------------|-------------|-------------------------------------|--------------------|-----------|--------|--------------|---------|
| NO.      | BTU/H                 | F           | BTU/H                               | MARK NO.           | TYPE      | TONS   | MARK NO.     | TONS    |
| 1        | 1                     | 1           | 1                                   | 1                  | 1         | 1      | 1            | 1       |

REFRIGERATION AIR COOLED CONDENSER SCHEDULE NOTES:

1 CONDENSER CAPACITY SHALL EQUAL OR EXCEED COMPRESSOR NOMINAL HEAT REJECTION @ CONDENSER CONDITIONS PROVIDED.

- GENERAL NOTES:
- ALL EQUIPMENT INDICATED IN NEW CONTRACTOR SHALL BE AS SPECIFIED BY MANUFACTURER. OTHERWISE, OTHERWISE.
  - THE DISPLAY CASE MANUFACTURER SHALL PROVIDE INSPECTION OF THE DISPLAY CASE 24 HOURS BEFORE THE DISPLAY CASE IS TO BE INSTALLED. AFTER EACH INSPECTION THE DISPLAY CASE MANUFACTURER SHALL SUBMIT AN INSPECTION REPORT TO THE GOVERNMENT. THE INSPECTION REPORT SHALL INCLUDE THE FOLLOWING INFORMATION:
    - PHOTOGRAPHS OF EACH INSPECTION.
    - THE DISPLAY CASE MANUFACTURER SHALL HAVE CONDUCTED A FINAL INSPECTION AND REPORT TO THE GOVERNMENT. THE ENTIRE REFRIGERATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER AND WITH MANUFACTURER'S RECOMMENDATIONS.

LEGEND:

|      |                               |
|------|-------------------------------|
| A/C  | AIR COOLED CONDENSER          |
| EPR  | EVAPORATOR PRESSURE REGULATOR |
| HRC  | HEAT RECLAIM                  |
| SST  | SATURATED SUCTION TEMPERATURE |
| T    | TEMPERATURE DIFFERENCE        |
| U/C  | UNIT COOLER                   |
| RACK | REFRIGERATION RACK            |
| F    | FRESH HEAT TEMPERATURE        |
| T    | TEMPERATURE                   |