**This Prefunctional Checklist should be completed as part of startup and initial checkout of the equipment in preparation for Functional Performance testing.**

|  |  |
| --- | --- |
| PC: | **23 09 00** |
| **ITEM:** | **Unit Coolers** |
| **ID:** |  |
| **AREA SERVED:** |  |

Form Filled Out By:

|  |  |  |
| --- | --- | --- |
|  | Name & Company | Date |
| GC |  |  |
| MC |  |  |
| EC |  |  |
| BC |  |  |
| CC |  |  |
| OR |  |  |
| A/E |  |  |
| CA |  |  |

GC = General Contractor; MC = Mechanical Contractor; EC = Electrical Contractor; RMCS = Refrigerant Management Control System Contractor, OR = Owner Representative; A/E = Architect/Engineer; CA = Commissioning Agent

XX = No Initials Required

# DOCUMENTATION VERIFICATION

Check if OK. Enter note number if deficient.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | **GC** | **MC** | **EC** | **RMCS** | **OR** | **A/E** | **CA** |
| Product information submitted |  |  |  |  |  |  |  |
| Shop drawings submitted |  |  |  |  |  |  |  |
| Manufacturer’s installation instructions submitted |  |  |  |  |  |  |  |

# MODEL VERIFICATION

Fill in requested information.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Specified | **Submitted** | **Installed** |
| Brand |  |  |  |
| Model Number |  |  |  |
| Mark No |  |  |  |
| System No |  |  |  |
| Refrigerant Type |  |  |  |
| Capacity |  |  |  |
| Fan Motor Data – HP/RPM |  |  |  |
| Fan Motor Data – Volts |  |  |  |
| Fan Motor Data - FLA |  |  |  |

# INSTALLATION VERIFICATION

This checklist does not take the place of the manufacturer’s recommended checkout and startup procedures or report**.**

Check if OK. Enter Outstanding Item Note number if deficient.

| **No** | **Checks** | **GC** | **MC** | **EC** | **RMCS** | **OR** | **A/E** | **CA** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Unit is in good condition with no damage present |  |  |  |  |  |  |  |
| 2 | Unit is delivered to site with pressurized nitrogen gas holding charge. Confirm unit is still pressurized |  |  |  |  |  |  |  |
| 3 | Unit is installed level in all directions to ensure proper drainage of the condensation. |  |  |  |  |  |  |  |
| 4 | Unit is suspended with 3/8” diameter hanger rods with double nuts on the top and bottom to adequately support the weight of the unit |  |  |  |  |  |  |  |
| 5 | Air circulation is good to all area of the cooler. Even airflow on both sides of the coil. |  |  |  |  |  |  |  |
| 6 | Confirm air filters are in place and clean |  |  |  |  |  |  |  |
| 7 | Confirm light fixtures, shelving and product boxes do not block the air intake or air discharge from the unit cooler. |  |  |  |  |  |  |  |
| 8 | Confirm the coil face is located a minimum of 12” from walls |  |  |  |  |  |  |  |
| 9 | Drain line is short and steeply pitched with a minimum of ¼” drop per running foot. |  |  |  |  |  |  |  |
| 10 | A drain line trap is installed to prevent warm moist air from migrating through the drain line |  |  |  |  |  |  |  |
| 11 | Refrigerant piping is properly supported at proper intervals |  |  |  |  |  |  |  |
| 12 | (Field Piping) Confirm nitrogen is used to purge air from the connecting tubing during brazing in order to prevent copper oxide formations |  |  |  |  |  |  |  |
| 13 | Confirm horizontal suction line slopes away from the unit cooler towards the compressor. |  |  |  |  |  |  |  |
| 14 | Confirm the expansion valve bulb is located on a horizontal length of suction line as close to the suction header as possible. |  |  |  |  |  |  |  |
| 15 | Verify the position of the expansion valve bulb is located in the 2, 4, 8, or 9 o’clock position (bulb should not be positioned on the bottom side of the pipe) |  |  |  |  |  |  |  |
| 16 | Confirm the expansion bulb is flush and tightly clamped against the pipe and is insulated. |  |  |  |  |  |  |  |
| 17 | Pressure testing of the refrigerant pipe has been completed after all field piping has been completed and before any refrigerant charging is done. |  |  |  |  |  |  |  |
| 18 | Field and factory joints have been leak tested using an electronic type leak tester before charging the system |  |  |  |  |  |  |  |
| 19 | Confirm electrical termination are correct to fan motor(s) and disconnects |  |  |  |  |  |  |  |
| 20 | Confirm wiring terminations are securely fastened and supported |  |  |  |  |  |  |  |
| 21 | Confirm fuses are properly sized an in place before operating fan motors |  |  |  |  |  |  |  |
| 22 | Confirm super heat is set correct for design temperature difference |  |  |  |  |  |  |  |

# OUTSTANDING ITEMS

Note outstanding items in table below. Use numbers referenced above.

|  |  |  |
| --- | --- | --- |
| Resolved (Initial / Date) | **Note** | Description |
|  | **1.** |  |
|  | **2.** |  |
|  | **3.** |  |
|  | **4.** |  |
|  | **5.** |  |
|  | **6.** |  |
|  | **7.** |  |
|  | **8.** |  |
|  | **9.** |  |
|  | **10.** |  |

# FIELD NOTES

Fill in as appropriate.

|  |
| --- |
|  |
|  |
|  |
|  |
|  |

# SIGN OFF

System / Equipment have been installed in accordance with the Contract Documents and is ready for Functional Testing.

|  |  |  |
| --- | --- | --- |
|  | **Signature** | **Date** |
| **Contractor’s Representative** |  |  |
| **A /E Representative** |  |  |
| **Commissioning Agent** |  |  |
| **Owner’s Representative** |  |  |

##### END OF CHECKLIST