Method Statement for Installation of Air Handling Unit AHU & FAHU

Below is the brief **method of statement for the installation** and testing of air handling units i.e. AHU & FAHU.

Required Tools for AHU Installation

- Grinding/Cutting Machine
- Mechanical Toolkit
- Drill machine
- Crane / Chain Block
- Supports, anti-vibration rubber pads
- Nuts, bolt, gaskets, bolts
- Valves

Preparation & AHU Pre Installation Requirements

- Equipment schedule must be checked for correct location and reference for the Air Handling Unit.
- Check the Air Handling Unit foundation and ensure itis as per approved drawings.
- Check the area around the foundation and ensure access to the AHUs/FAHUs from all sides as applicable.
- Ensure availability of sufficient slope to the drain pipe, for easy draining of condensate drain.
- Place the anti-vibration ribbed rubber pads of correct thickness as per approved drawings / submittals.
- In case of multiple rubber pads the pads shall be placed one above the other, with the ribs at right angle to each other.
- Prior to the commencement of any works access and installation areas will be inspected to confirm they are in a suitable condition for installation works.
- “Housekeeping” pads or pertinent structure are complete and leveled.
- Temporary protection must be provided to protect the openings during installation and until the final connections are made to the Air Handling Units.

Installation of Air Handling Units AHU & FAHU

- Shift the AHUs/FAHUs to the place of installation in safe manner using fork lift and crane as applicable.
- Ensure that the correct AHU is shifted to the place of installation.
- Air inlet, outlet, fresh air connection and chilled water connection orientation are as per approved drawings.
- If the Air Handling Units are shipped in multiple sections, the AHUs will be assembled strictly as per the manufacturer's instructions, and also consider:
- The AHUs/FAHUs are placed correctly on foundation with vibration isolator rubber pads at right location.
- Identify the correct sections that are to be bolted together.
- Position fan section on housekeeping pad.
- Install gaskets at all bolted joints that are required to be joined.
- Position the next section, to be joined, carefully on housekeeping pad, align the two sections.
- Jointing brackets will then be used to externally join the sections together.
- Air Handling Unit shall be inspected again for any damage during hoisting/shifting.
- Upon satisfactory positioning of AHUs/FAHUs any open air /water outlets of AHUs/FAHUs shall be closed properly and area shall be cleaned, complete protection in areas where other trades are working.
- Units will be carefully plumbed and aligned by use of blocks and shims, then fully bolted and securely anchored to "Housekeeping" pad.
- After alignment is completed supervisor in charge will ensure that vibration isolators are of the correct deflection. Final calibration will be made at pre-commissioning stage.

Air, Chilled water, Electrical and Condensate Drain Connections

- Ducting connection shall be done as per approved shop drawings.
- Provide flexible duct connections as applicable/as approved submittal.
- Provide proper supports as per approved drawings.
- Chilled water connections shall be made as per approved drawings.

- Ensure supply and return connection is made properly.
- Provide pipe flexible connection and other piping accessories as per approved drawings and submittals.
- The piping shall be free of any strain and shall not exert any load on AHUs/FAHUs.
- Install the control valves, strainer, commissioning set correctly as per direction of flow as per approved drawings and project technical specification.
- Ensure proper operation of valve handles and sufficient space for valve installation.
- Electrical power connections shall be done as per approved drawings
- Condensate drain piping shall be terminated at the nearest floor drain.
- Provide the `U' trap in the condensate drain piping and provision for cleaning of `U' traps, also ensure proper slope to enable easy drainage of condensate water.
- The piping connections to AHUs/FAHUs shall be pressure tested to 1.5 times the working pressures. Coils not included in test.
- Strainer shall be cleaned after pressure testing and initial flushing of chilled water piping system.
- Flow test of the AHUs drain tray should be done for condensate drain pipe and ensure water is drained out completely.

Inspection of Air Handling Unit AHU Installation

- All construction/inspection/testing works shall be carried out in accordance with specifications. Work shall be carried out by the site MEP staff under the guidance of respective engineer and shall further be checked and approved by quality engineer.
- An inspection request for the AHUs/FAHUs installation shall be submitted at least 1-2 days prior to the client/consultant or as agreed.
- Heat recovery testing will be done to ensure smooth operation
- Check the unit model number and relevant accessories are available. Unit name plate as per order.
- Verify the construction of the house keeping base is as per the specification & drawing for floor mounted AHU.

- Verify the presence of approved vibration isolators, installed before the installation of AHU. Check anti-vibration mountings are located correctly.
- Service space around the unit as per manufacturer requirement.
- Check the duct is connected to **AHU** with proper flexible connections
- Check fan moves freely.
- Check the level of the AHU and verify the minimum slope as per drawing in the direction of condensate pipe. Check the drain connection with U trap.
- Check filters are provided as per specification.
- Verify the electrical connection of AHU with control panel as per construction drawing.
- Check and verify all Installation as per approved drawings
- After installation inspect the AHU for physical internal and external damages.
- Verify the absence of any vibration in AHU and its inner like fan, motor and coils etc.
- Verify the process pipe connection with AHU along with valves, accessories and flow switch etc.
- Confirm the additional adequate support for all fittings and valves near AHU as per construction drawings.
- Verify the installation of 2-way modulating & gate valve of approved brand and quality as per approved material submittals.
- Verify the presence of identification labels, safety and warning signs at their positions as per approved materials.