INDUCTION UNIT FLOOR-MOUNTED MODELS
INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

DESCRIPTION

FMLBY floor mounted induction units are designed for under-sill installation with vertical air discharge with the room air entering the unit through the front of the unit.

![Diagram of induction unit](image)

1. Primary air plenum
2. Primary nozzles
3. Primary air inlet
4. Balancing Damper
5. Air Vent
6. Heat exchanger coil
7. Condensate drip tray
8. Water connections
9. Lint screen
10. Mounting brackets
11. Commissioning Tube

UNIT CONSTRUCTION

Each induction unit consists of:
- Primary air inlet connection.
- Primary air plenum with primary air nozzles and integral primary air balancing damper.
- 2 mounting brackets.
- Mixing chamber.
- 2 or 4-pipe secondary water coil.
- Lint screen.

INSTALLER TO PROVIDE

The installer is to provide the following:
- A mounting system or frame. This frame should elevate the unit above the floor such that the unit’s air discharge meets the bottom of the supply air grille without any significant gaps, as well as allow for piping of the condensate drip tray to drain condensate from the unit (when required).
- All secondary water piping and valves including isolation valves on the supply and return, balancing valves, flow control zone valve and other valves/controls as specified.
- All mounting hardware (threaded rods, nuts, etc.) and primary air flexible ducting.
- Condensate drainage from the drip tray outlet, where required.
INSTALLATION

- Check the unit labeling to ensure that the proper unit is being installed at each location.
- Determine the orientation of the air and water connections in relation to the site plan.
- Check to ensure there is adequate space within the room enclosure for the installation of the unit and to make the piping and duct connections.
- Check the installation space for the unit to ensure adequate clearance to remove the lint screen during maintenance.
- Ensure the return air path to the unit is clear and does not restrict airflow to the unit.
- Position the unit in the enclosure and fix it to the supporting frame by the mounting brackets. Ensure that the unit’s air discharge meets the bottom of the supply air grille without any significant gaps.

WATER CONNECTIONS

- Position all isolation, control and balancing valves according to the design drawings.

NOTE: Install all valves and make all connections per industry approved plumbing practices and local codes.

- Connect the secondary water coils inlet(s) and outlet(s) to the chilled water (and hot water on 4-pipe units) system noting the labeling on the unit indicating the supply and return piping connections for the chilled water and hot water.

Note: For 4-pipe coils, ensure that the chilled water connection is made to the chilled water circuit and the hot water connections be made to the hot water circuit.

NOTE: It is recommended that the unit be connected with readily removable pipe lengths and unions or flexible hoses to permit disconnection and removal of the unit should this be required.

- In preparing to make the secondary water (SCHW) piping connections to the coil, ensure that the piping is aligned with the coil connections. If threaded NPT coil connections are provided, use the correct tools to grip the flare nut and union and apply only sufficient force to make the joint.

NOTE: Take care during this jointing process to ensure that the coil-piping alignment is maintained.

NOTE: Do not apply excessive force in tightening water connection fittings. The use of excessive force could result in fracturing of the water pipes or their solder connections.

- Connect the condensate drain from the unit drip tray outlet to the condensate drainage system (if required).

Note: Should the system design not require condensate drainage, leave the sealing cap of the condensate outlet in place.
PRIMARY AIR DUCT CONNECTION

- Connect the flexible duct to the primary air inlet connection and seal airtight.
- Primary air flexible duct should be a minimum of 900mm straight or gradual radius between the primary air duct and the primary air connection of the unit.

NOTE: Avoid sharp bends in the primary air duct connection.

NOTE: Install all ductwork and make all connections per industry approved practices and local codes.

- A primary air volume control balancing damper for adjusting the primary air flow during commissioning is integral to the induction unit.

- All units are shipped with air inlet connections as per the schedule agreed in the submittal process. If the units are to be installed in series, air inlet connections will be installed on both the left and right hand side of the units.

NOTE: Check that all duct connections are properly sealed to ensure no air leakage.

- Insulate the primary air duct and air inlet connection, make a vapor tight seal with approved tape at the duct and air inlet connection.

COMMISSIONING

Secondary Water Commissioning

- For secondary water flow commissioning, a suitable balancing valve should be installed in order to measure and adjust the secondary water flow to the designed/specification value. Adjust the balancing valve in order to achieve the specified water flow rate per unit, according to the unit schedule.

- For 2-Pipe Heating or Cooling systems, balance the water flow to the chilled water flow rate as specified.

- Use the air vent (if provided) to bleed air from the pipe system during the commissioning stage. A flat head screwdriver can be used to loosen the vent screw.

Air Side Commissioning

- To accurately commission the primary air flow to the unit, measure the static pressure in the primary air plenum through the commissioning sampling tube located at position 11 on the unit. To achieve this, remove the sealing plug from the commissioning sampling tube and connect the pressure-sensing instrument (Digital Manometer) to the commissioning sampling tube.

NOTE: Do not attempt to measure the static pressure in the flexible duct connection. Measure only at the provided commissioning sampling tube for commissioning purposes.

- To obtain the designed primary air and total air flow rate, adjust the primary air volume balancing damper integral to the unit as necessary to obtain the primary air plenum pressure to achieve the specified/design primary air flow using the plenum pressure versus primary air flow curve supplied for each unit. To adjust the damper push or pull the handle located at position 4.

- Replace the plug to seal the primary air commissioning sampling tube on completion.
MAINTENANCE

In normal operating conditions the minimum required maintenance involves the secondary water coil, nozzles (and lint screen if provided), and consists of:

- Visual inspection of the secondary water coil and nozzles. If cleaning is required vacuum as required.
- Clean or replace the lint screen as necessary
Government, Institutional & Defense Buildings

Hospital & Healthcare

Schools & Universities

Commercial Offices

Green Renovations

Laboratories

Hotels