INSTALLATION, OPERATION & MAINTENANCE MANUAL

FLOOR-MOUNTED INDUCTION UNITS

DADANCO

feel the difference™

BUILT ON INNOVATION

INDUCTION UNITS- FMFBY/ FMLBY/ FMTBY

FLOOR-MOUNTED INDUCTION UNITS FMFBY, FMLBY, & FMTBY ARE DESIGNED FOR UNDER-SILL INSTALLATION WITH VERTICAL AIR DISCHARGE WITH THE ROOM AIR ENTERING THROUGH THE FRONT OF THE UNIT.

PRE-INSTALLATION

The installer is to provide the following:

- Required secondary water piping and valves including isolation valves, balancing valves, flow control zone valves and other valves/controls as specified.
- Primary air volume control balancing damper.
- Low resistance supply and return air grilles.
- Condensate drainage from the unit drain pan if specified. (Unit supplied with removable capped drain connection)
- All mounting hardware (threaded rods, nuts, etc.) and primary air flexible ducting.
- Any other items necessary to complete the installation.

NOTE: Dadanco provides several accessories to complement your installation. Please reference the Accessories brochure or contact Dadanco for available accessories.

UNIT CONSTRUCTION

Each concealed ceiling plenum-mounted active chilled beam unit consists of:

- Primary air plenum with primary air nozzles
- Round or Oval primary air inlet connection (See Handings Configuration Key for available sizes) 1
- Supply air discharge slot 2
- Condensate tray 3
- Secondary water coil
- 2 mounting brackets with 2 mounting holes each 4
- Mixing chamber
- 2 or 4-pipe secondary water coil connection (Connection can be configured as supply or return based on on-site pipework) 5
- An identification label and commissioning chart

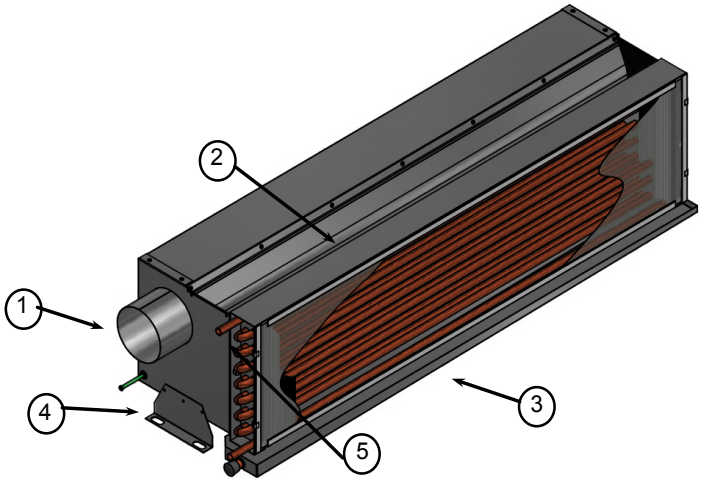
NOTES: The location of the air and coil connections on each beam is determined by on-site personnel using the Handings Configuration Key on pages 8-10 and returning a filled out Unit Configuration schedule provided in the submittal package.

The separate unit enclosure is normally provided by others.

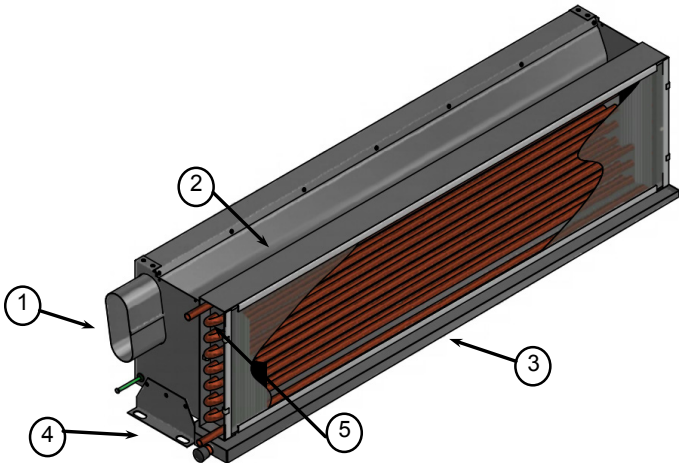
UNIT CONSTRUCTION

If units are not being installed immediately store in a well protected, dry, temperate location until they are ready for installation. Reference the beams drawing for the weight at each designed length. Please follow your on-site safety standards when lifting units and utilize caution when inserting the beams into the ceiling. When possible please use a cart to transport the beams. Remember to wear proper personal protection equipment.

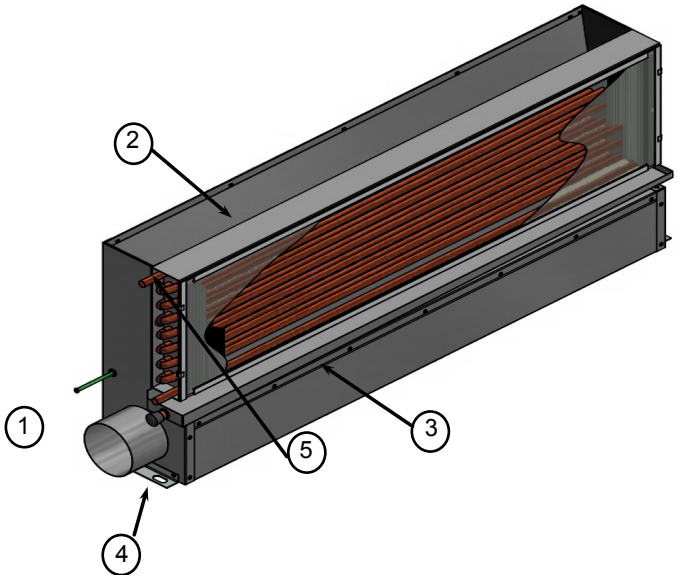
FMFBY



FMLBY

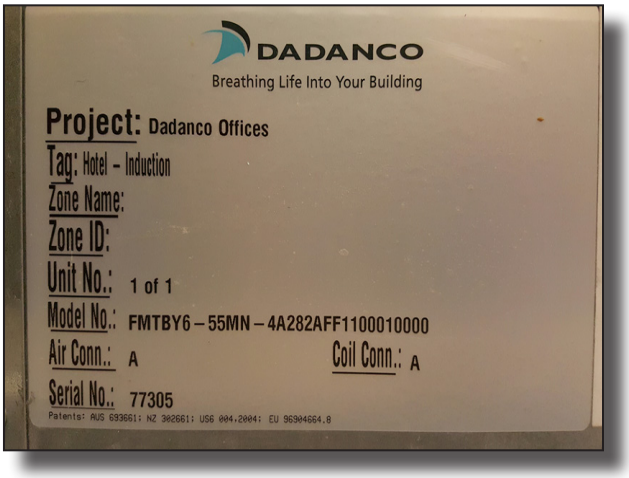


FMTBY



INSTALLATION

- Check the unit labeling to ensure that the proper unit is being installed at each location (pictured).
- Determine the orientation of the air and water connections in relation to the site plan.
- Check to ensure adequate space within the enclosure for the piping and duct connections.
- Check the installation space for the unit to ensure adequate clearance for removing 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. While doing this, ensure that the unit's air discharge meets the bottom of the supply air grille without any significant gaps.

FLOOR MOUNTING BRACKETS

FMTBY STANDARD

Once the induction unit is in position use (1) 3/8" screw and flat washer to screw into the floor through both mounting holes of each bracket.

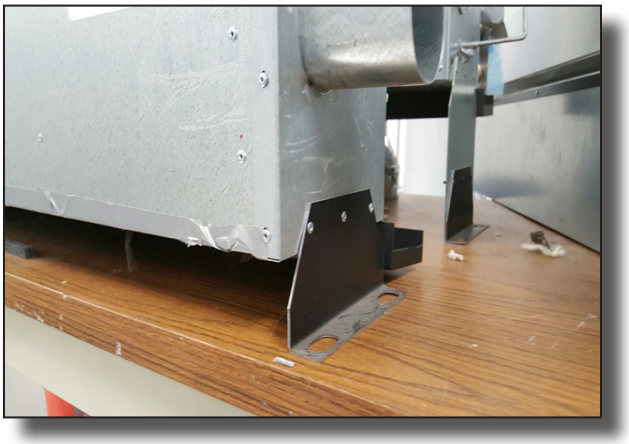
NOTE: The FMTBY has (1) mounting bracket on each side of the unit with (2) mounting holes each. Ensure that all mounting holes are utilized when securing the unit to the floor.

TALL MOUNTING BRACKETS

FMFBY/FMLBY STANDARD

Once the induction unit is in position use (1) 3/8" screw and flat washer to screw into the wall through both mounting holes of each bracket.

NOTE: The FMTBY has (1) mounting bracket on each side of the unit with (2) mounting holes each. Ensure that all mounting holes are utilized when securing the unit to the floor.



WALL MOUNTING BRACKETS

FMTBY OPTION

Once the induction unit is in position use (1) 3/8" screw and flat washer to screw into the floor through both mounting holes of each bracket.

NOTE: The induction unit has (2) mounting brackets on each side of the unit with (2) mounting holes each. Ensure that all mounting holes are utilized when securing the unit to the floor.

TELESCOPING LEGS

Loosen the (3) bolts on the telescoping legs to adjust the height of the induction unit. When the required height is met tighten the bolts to ensure the legs do not slide while standing up

Once the induction unit is in position use (1) 3/8" screw and flat washer to screw into the wall through both mounting holes of each bracket.

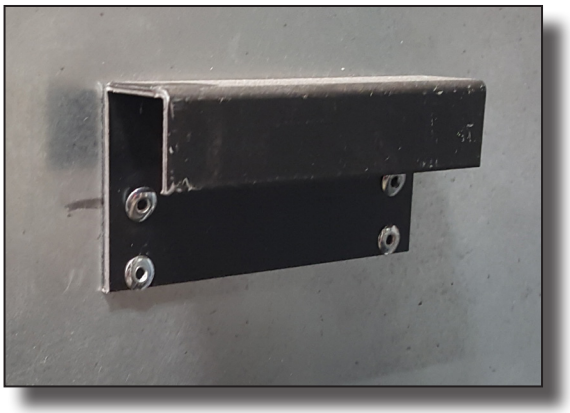
NOTE: The FMTBY will has (1) telescoping mounting bracket on each side of the unit with (2) mounting holes each. Ensure that all mounting holes are utilized when securing the unit to the floor.

FM HANGER BRACKETS

FMFBY/FMLBY/FMTBY OPTION

Install the wall hanging strip per manufacturers' installation instructions. Raise the unit until the hanging brackets are just above the slot of the wall strip then slowly lower the unit until both of the brackets have slid into the slot.

NOTE: The induction unit has (2) hanger brackets on side opposite the coil. Ensure that both mounting brackets are utilized when securing the unit to the floor.



LEVELING FEET

FMTBY OPTION

Adjust the height of the leveling feet by tightening or loosening the bolt on the threaded rod connected to the feet until the desired height is met.

NOTE: The FMTBY will has (2) leveling feet on each side of the unit. Ensure that all (4) feet are on a flat surface to prevent wobbling.

WATER CONNECTIONS

NOTE: All Dadanco induction units come with 1/2" OD connections regardless of the water flow rates; therefore 1/2" flexible hoses or piping should be used to connect to the beams. Otherwise, reducers are required. Install all valves and make all connections per industry approved plumbing practices and local codes.

- Once the unit has been successfully installed in the correct floor position, install 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 coil inlet (s) and outlet (s) to the correct secondary water pipes. Refer to submittal drawings and/or labeling on the units to determine which coil connections are supply and return for chilled water and/or hot water.

NOTE: For 4-pipe coils, ensure that the chilled water connections are made to the chilled water circuit and the hot water connections are made to the hot water circuit. 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. The use of excessive force could result in fracturing of the water pipes or their solder connections.

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

- Insulate flexible hoses or pipe connections as per project specifications. It is strongly recommended to insulate chilled water piping and hoses, especially on the supply-side, to prevent formation of condensate.

PRIMARY AIR DUCT CONNECTION

- Connect the air with either flexible or rigid duct to the primary air inlet connection and seal airtight.
- Primary air inter-connecting flexible duct should be a minimum of 3 feet straight or gradual radius between the primary air duct and the primary air connection of the unit.

NOTE: Install all ductwork and make all connections per industry approved practices and local codes. Avoid sharp bends in the primary air duct connection.

- A primary air volume control balancing damper for adjusting the primary air flow during commissioning must be installed at the take-off from the main primary air duct.

NOTE: Do not install the primary air volume control balancing damper directly to the unit primary air inlet connection.

- Insulate the primary air inlet up to the primary air duct connection.
- Check that all duct connections are properly sealed to ensure no air leakage.

COMMISSIONING

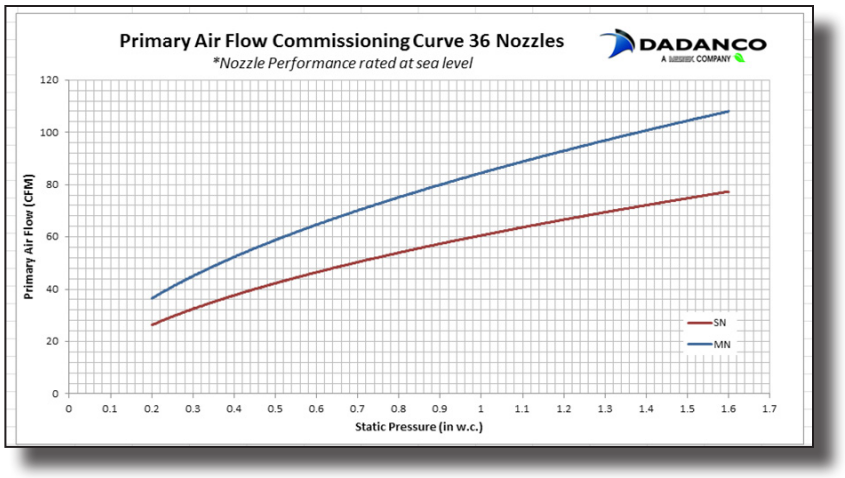
SECONDARY WATER COMMISSIONING

- 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/specified 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.

NOTE: Coils are rated at 500PSI.

PRIMARY AIR 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. To achieve this, remove the sealing plug from the commissioning sampling tube and connect the pressure-sensing instrument (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 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.
- Replace the plug to seal the primary air commissioning sampling tube on completion.

NOTE: Do not attempt to confirm total supply air quantities using a balancing hood measurement method. The airflow from the unit is a low velocity, low pressure air stream that is often below the accuracy range of restriction imposing measurement hoods. Resistance imposing balancing hoods are not recommended for validating total air quantity.

NOTE: Do not attempt to confirm the primary air flow quantity by conventional Pitot-traverse methods in the primary air ductwork. Low duct velocities and boundary layer measurement inaccuracies do not permit accurate measurements of duct velocities for primary air installations.

MAINTENANCE

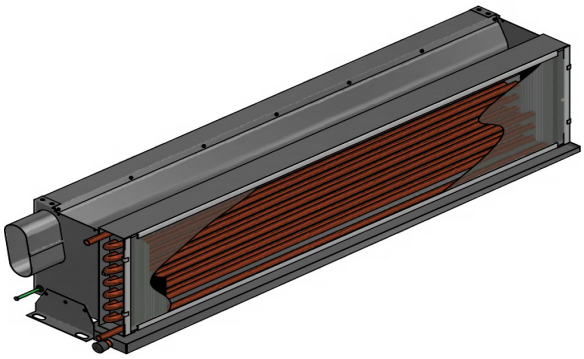
In normal operating conditions the minimum required maintenance involves the secondary water coil, nozzles (and lint screen if provided), and consists of:

- Visual inspection of the secondary water coil, nozzles and lint screen (if provided). Vacuum as required.
- To remove dust wipe the unit grille with a dry cloth.
- Clean or replace the lint screen as necessary.

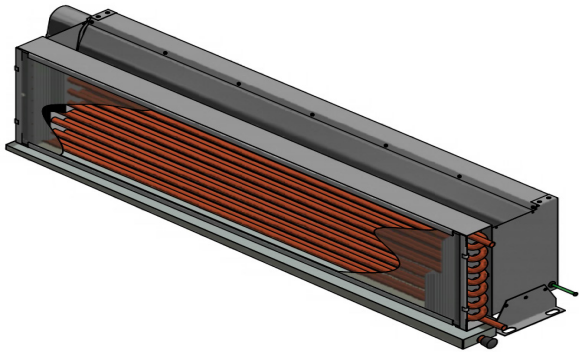
HANDINGS CONFIGURATION KEY
FMLBY

NOTE:

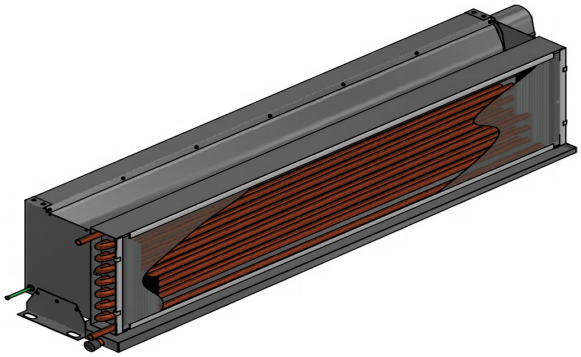
- **Air handing is represented by digit 13 in the model number**
- **Coil handing is represented by digit 17 in the model number**
- **Non-Standard configurations represented by "Z"**
- **Drain connections are on the same side as the coil connections**



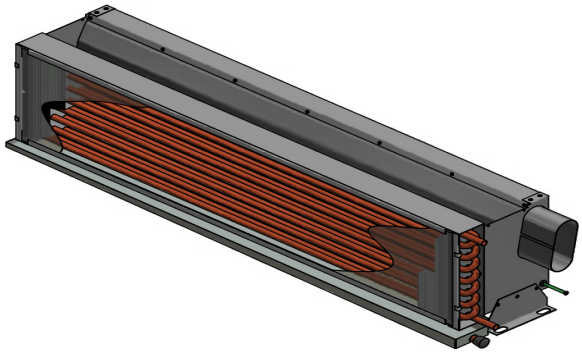
Air Handing: **A**
Coil Handing: **A**
Spigot Options: 4" Oval



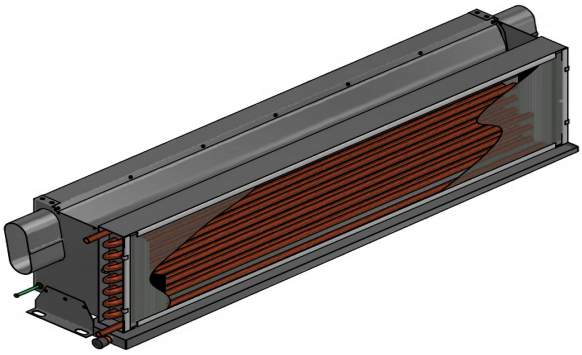
Air Handing: **A**
Coil Handing: **B**
Spigot Options: 4" Oval



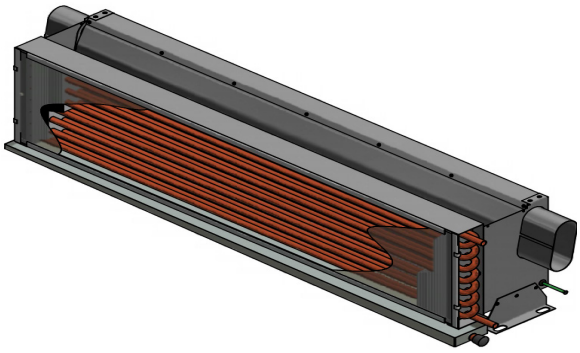
Air Handing: **B**
Coil Handing: **A**
Spigot Options: 4" Oval



Air Handing: **B**
Coil Handing: **B**
Spigot Options: 4" Oval



Air Handing: **C**
Coil Handing: **A**
Spigot Options: 4" Oval



Air Handing: **C**
Coil Handing: **B**
Spigot Options: 4" Oval

DADANCO WARRANTY

Seller warrants to the original Buyer only that the Products manufactured by Seller shall be free from defects in material or workmanship for a period of twelve (12) months measured from the date of shipment. The foregoing warranty will become void, and Seller will have no obligation whatsoever under this warranty, with respect to any of the following: (i) Products that are not used or maintained in a normal and proper manner, in accordance with any manuals and instructions that might be provided by Seller; (ii) Products that are modified, altered or repaired without the prior written approval of Seller; (iii) Buyer fails to make any payments when due under Section 3 or otherwise in the order or (iv) Products that are assigned, sold or transferred to an entity other than the Buyer. Seller will repair or replace at its option Products which upon Seller's inspection it finds to be defective, based on claims made in writing to Seller by Buyer within a reasonable time after discovery and within the warranty period. Products alleged to be defective must be returned to Seller for repair or replacement, freight prepaid, within thirty (30) days of Buyer's receipt of the return authorization number, obtained from Seller, which must be clearly marked on the outside of the return container Replacement components shall be shipped from Seller upon Buyer request and receipt of a valid purchase order number so the validity of the Warranty can be determined. Unless other-wise specified, replacement Products shall be Delivered to Buyer "Ex Works Seller's factory" (Incoterms 2000). Any labor or equipment rental costs incurred in the dismantling and reassembly of the equipment into which the Products are installed shall be at Buyer's sole expense. This warranty excludes Products furnished by the Seller but manufactured by another party. Such Products shall bear no warranties other than the warranties extended by and enforceable against the manufacturer thereof at the time of Delivery to Buyer (which warranties Seller will furnish on Buyer's written request), for the period stated in that warranty.

Notwithstanding the foregoing, to the extent that a Product or a component within a Product is deemed by Seller or, in the case of a component, the manufacturer of the component, to be obsolete, such Product or component shall bear no warranty.

THE WARRANTY STATED HEREIN IS PERSONAL TO BUYER AND SELLER MAKES NO OTHER WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE PRODUCTS FURNISHED HEREUNDER AND DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ABOVE WARRANTY SHALL CONSTITUTE BUYER'S EXCLUSIVE REMEDY WITH RESPECT TO THE PRODUCTS FURNISHED HEREUNDER.

If Buyer removes or permits anyone to remove any safety equipment or warning signs or fails to observe any condition in this Section 14, or if any injury or damage is caused, in whole or in Product, by the end-user's failure to comply with applicable federal, state or local safety requirements or Seller's instructions as provided in Section 11 above, Seller shall have no obligation to Buyer, and Buyer shall indemnify and hold Seller harmless against any claims, loss or expense for injury or damage arising from the improper use of the Products or the equipment into which the Products are installed. Seller specifically disclaims any and all liability arising out of the operating of the equipment other than the warranty liabilities to the original Buyer.

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