

Installation Guide for Dehumidification Product Unidirectional Flow Central Fresh Air Dehumidifier DOF Dyuan Series

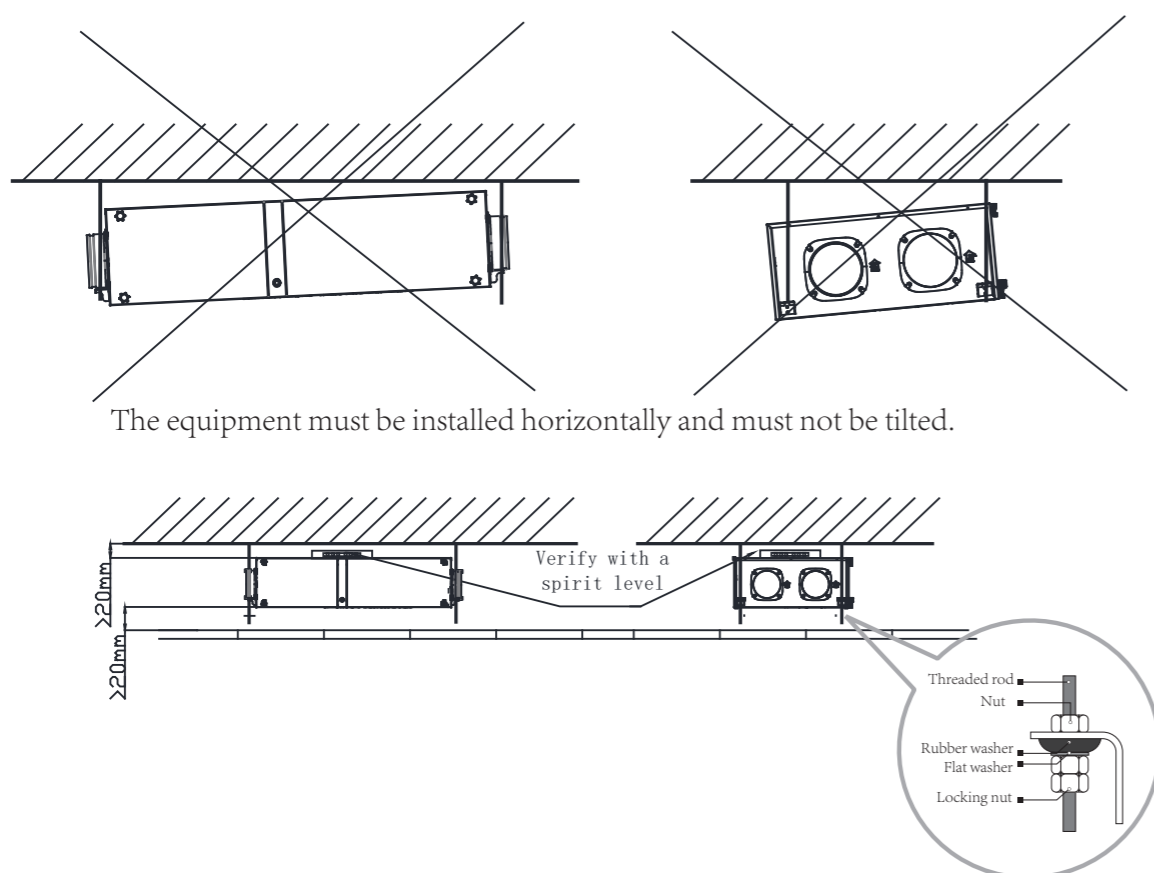
Please read the installation guide carefully before installing the equipment

Equipment Entry Requirements

1. During the entry of the equipment, transportation, handling, and placement processes, it must not be tilted, overturned, or reversed to ensure that the equipment remains in a level position.
2. Before hoisting the equipment, it must be powered on and tested on the ground. ① Inspect the basic appearance of the product and controller to ensure that there is no damage or abnormality. ② Activate the dehumidification function of the equipment to ensure that the compressor operates for more than 10 minutes (the dehumidification icon appears on the controller), ensuring that the equipment operates normally without alarms, abnormal vibrations, or abnormal noise (except for wind noise and compressor noise).
3. Before moving and hoisting the equipment, it is necessary to check and confirm that there is no condensation water in the water collection tray of the equipment to avoid overflow of condensation water during movement.

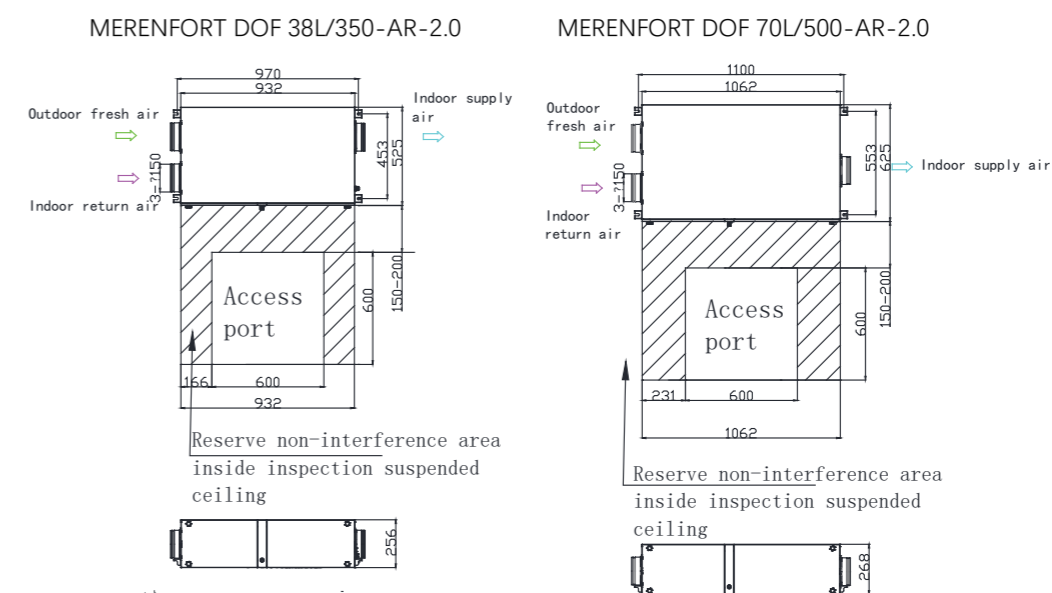
Equipment Hoisting Requirements

1. Ensure that the ceiling and suspension rods have sufficient strength to bear five times the weight of the equipment. It is recommended to use M10 threaded rods for hoisting.
2. The threaded rods need to have a certain length reserved for adjusting the height of the equipment and damping vibrations.
3. Rubber damping pads need to be installed between the nuts of the threaded rods and the equipment suspension feet.
4. The equipment must be installed horizontally, confirmed using a spirit level.
5. The equipment must not be installed flush against the ceiling or floor. There should be at least 2cm distance between the equipment and the ceiling and at least 2cm distance between the equipment and the bottom ceiling to avoid transmitting vibrations.



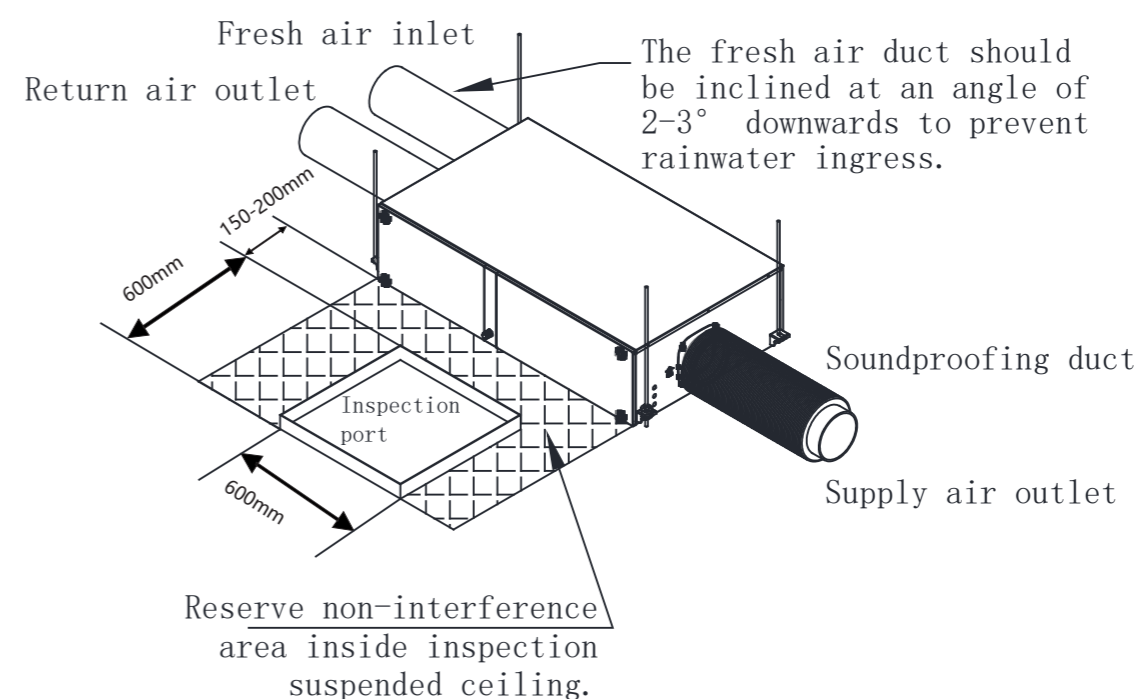
Main Unit Installation Dimensions:

1. Reserve a side square inspection port of 600 × 600mm or larger, located 150-200mm away from the equipment.
2. Reserve the shaded area in the legend as a non-interference zone in the suspended ceiling area (free from obstructions such as ducts).



Soundproofing Duct Requirements:

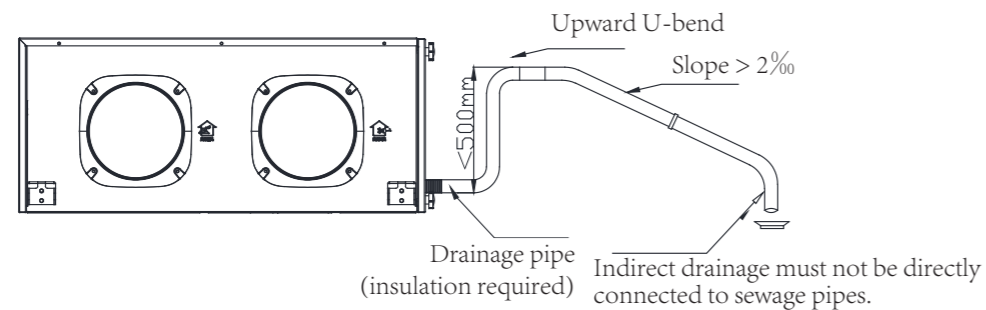
1. Soundproofing ducts must be installed at the indoor supply air outlet of the equipment main unit. The soundproofing ducts must be positioned close to the air outlet or directly connected to it.
2. Use soundproofing ducts with a thickness of at least 4cm and a length of at least 60cm, made of single-sided sound-absorbing cotton. Non-standard or other types of flexible ducts cannot be used as substitutes.
3. Soundproofing ducts for indoor return air outlets should be selected based on site conditions.
4. The outdoor air intake duct should be designed with a higher internal position than external position, sloping downwards by 2-3° to prevent rainwater ingress.



Equipment Drainage Requirements:

1. The equipment is equipped with an internal drainage pump (intermittent operation: pump operates for 3 minutes, then stops for 5 minutes, with an 8-minute cycle), providing a lift of 50cm.
2. The external drainage pipe should first be equipped with a U-trap. The drainage pipe should be arranged downwards with a slope not less than 2‰. The drainage end should discharge indirectly and should not be connected to the sewage pipe directly.
3. It is recommended to have a separate drainage for the external drainage pipe. When connected in parallel with other drainage systems, ensure that the dehumidification equipment is at a higher position in the drainage system to ensure normal drainage.
4. Ensure that the external drainage pipe is free from bends or flattening, ensuring smooth drainage.
5. The external drainage pipe must be insulated to prevent condensation on the outer surface of the pipe.
6. After installation, drainage testing must be conducted.
7. To prevent backflow in the drainage pipe, the equipment is equipped with an internal drainage check valve, and an external check valve is not required.

Condensate Drainage System Installation Diagram



Equipment Wiring:

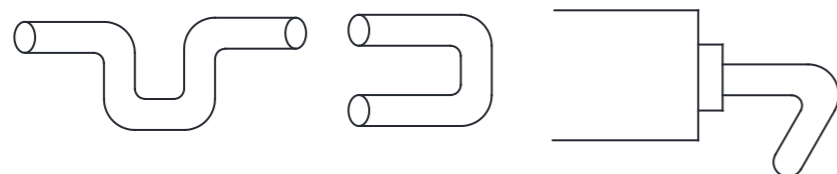
1. The power cord of the equipment should be $3 \times 2.5\text{mm}^2$ or above, complying with national standards.
2. The power cord must be effectively grounded and equipped with a 16A independent circuit breaker to meet the requirement of independent power on/off control for the equipment.
3. The controller connection line is a low-voltage 4-core signal cable, with a standard length of 10m. The total length of the communication line must not exceed 25m, and a shielded cable of $4 \times 0.25\text{mm}^2$ or above should be used.
4. The interface wires at both ends of the controller connection line must be connected strictly according to the label sequence. When extending the line, it must be connected strictly according to the wire sequence.
5. The controller needs to be installed before powering on the equipment. It is not allowed to plug or unplug the controller while the equipment is powered on.
6. The controller needs to be installed in a standard 86-type bottom box.
7. The equipment comes with RS485 communication function. The RS485 connection of the equipment has been pre-wired with a separate plug and equipped with AB wires, which can be used directly.

Air Duct Installation Considerations

1. Refer to the installation format of the fresh air duct system. Use a branch air box for indoor supply air.
2. The indoor return air outlet should be located away from air conditioning or fresh air supply outlets and should not be directly connected to kitchens or bathrooms.
3. The indoor supply air outlet should be located away from air conditioning return air outlets or fresh air return air outlets.
4. The airspeed at indoor supply and return air outlets should be controlled between 1.5-2.5m/s (equivalent to 80mm terminal fittings), to avoid noise from the outlets.
5. When the fan is at maximum speed, the air volume of the pipe system should not be lower than the required value in the table.

Model	MERENFORT DOF 38L/350-AR-2.0	MERENFORT DOF 70L/500-AR-2.0
Rated Air Volume (m ³ /h)	350	500
Minimum Supply Air Volume Requirement	75%	75%

6. Outdoor fresh air inlets should be installed in areas with smooth airflow and free from sources of pollution, heat, or strong winds. Fresh air intake should be prohibited in areas such as gas exhaust, oil fume exhaust, or air conditioner outdoor unit heat dissipation zones.
7. The main duct installation should avoid the following situations to prevent excessive duct resistance.



8. Recommended Dehumidifier Duct System:

Inlet Size (mm)	AcXY	AUB: G W G (V) Z) W (H) cb Zcf G d d mf F Y N F d fbaak	e) b) e) h) c) z) AUB: G W Zcf G d d mf F Y N F d fbaak	e) f) L) W) G W G (V) Z) W (H) cb Zcf G d d mfbaak	e) b) e) h) c) z) e) f) L) W) G W Zcf G d d mfbaak	e) b) e) h) c) z) e) f) L) W) G W Zcf F Y N F d fbaak	Return Air Outlet (Choose one)					
							Outlet Size (mm)	Quantity (pcs)	Outlet Size (mm)	Quantity (pcs)	Outlet Size (mm)	Quantity (pcs)
Blaufast Blue Pipe System	MERENFORT DOF 38L/350-AR-2.0	150	2-10	63或者75	10-15	6-10	ø80	6-8	ø80	6-8	ø100	3-5
	MERENFORT DOF 70L/500-AR-2.0	150	2-10	63或者75	10-18	6-10	ø80	8-12	ø80	8-12	ø100	5-8

Equipment Commissioning Considerations

After the equipment and pipes are installed, the dehumidification system must be commissioned. Commissioning includes:

1. Basic Equipment Operation:

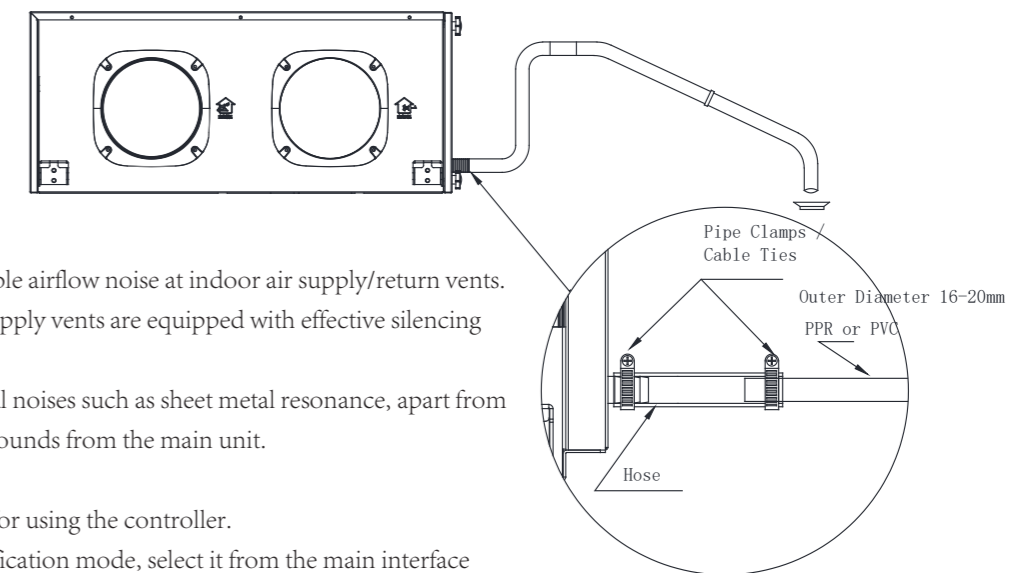
- Power on the equipment, activate the controller, and select the high-power dehumidification mode in the main interface.
- Ensure the dehumidification operation of the equipment, with the compressor running for at least 10 minutes without any abnormal alarms.

2. Air Volume Testing:

- Control the airspeed at indoor supply and return air outlets between 1.5-2.5m/s (calculated based on 80mm terminal fittings), avoiding excessive or insufficient airflow.
- Check for air leaks at pipe connections.

3. Drainage Testing:

- Ensure the water level in the drainage pan is neither too high nor too low. Excessive water may trigger high-water level alarms or lead to water leakage issues, while too little water may hinder proper operation.
- Pour an appropriate amount of water into the equipment's water collection tray (500-1000mL), start the dehumidification operation, and observe the drainage pipe or water collection tray to confirm normal drainage (the pump operates intermittently, running for 3 minutes and then stopping for 5 minutes). After running for 10 minutes and shutting down the equipment, check the water collection tray to ensure there is no backflow of water. If the water level is too low, it may be difficult to observe the drainage status.



4. Noise Confirmation

Confirm that there is no noticeable airflow noise at indoor air supply/return vents. Ensure that the main unit's air supply vents are equipped with effective silencing ducts to prevent excessive noise.

Verify that there are no abnormal noises such as sheet metal resonance, apart from air noise and compressor rotor sounds from the main unit.

5. Basic Controller Operation:

Refer to the instruction manual for using the controller.

To activate the strong dehumidification mode, select it from the main interface mode. The water drop icon in the top right corner of the controller should remain illuminated to indicate dehumidification operation.

During testing of the dehumidification function, adjust the humidity setpoint to the lowest setting of 40% to ensure the compressor can start properly. Upon system delivery, adjust the humidity setpoint to 50% to maintain a comfortable humidity level. The operating environment temperature range for dehumidification is 1-40 °C. Temperatures outside this range may prevent the compressor from starting.