GREENHOUSE DEHUMIDIFIERS

MANUAL

GWDD-225/335

Digital Controls

M-CoRR

Technology

Industry- Leading

Efficiency

Superior MERV-13 Air

Filtration Integrated Lift and

Hang Points

Sturm PROFI DEHU-225

Sturm PROFI DEHU-335

CONTENTS

SAFETY PRECAUTIONS

Read the installation, operation and maintenance instructions carefully before installing and operating this device. Proper adherence to these instructions is essential to obtain maximum benefit from you Dehumidifier.

READ AND SAVE THESE INSTRUCTIONS

» The device is designed to be installed INDOORS IN A SPACE THAT IS PROTECTED FROM RAIN AND FLOODING.

» Install the unit with space to access the back or side panels for maintenance and service. DO NOT INSTALL UNIT WITH THE SERVICE PANELS INACCESSIBLE.

» Avoid directing the discharge air at people, or over the water in pool areas.

» If used near a pool, spa or water; be certain there is NO chance the unit could fall into the water, be splashed and that it is plugged into an outlet that is a GROUND FAULT INTERRUPT protected circuit.

» DO NOT use the device as a bench or table.

» DO NOT place the device directly on structural members. Provide vibration isolation in order to minimize operational vibration and/or noise.

» A drain pan MUST be placed under the unit if installed above a living area or above an area where water leakage could cause damage

» Never operate a unit with a damaged power cord. If the power cord is damaged it must be replaced by the manufacturer, its service agent, or similarly qualified person in order to avoid a hazard.

» Maintain a minimum 1ft. (.3m) clearance to avoid obstructing the air return and supply.

» This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

» Not intended for use at altitudes over 6500 ft (2000M).

INTENDED APPLICATION

In order to efficiently control humidity levels, the area in which the dehumidifier is to be operated must be free of water intrusion or excessive fresh (outside) air infiltration. Before installing the dehumidifiers, water intrusion and air infiltration problems should be addressed or noted in calculations.

SP E C I F I C A T I ON S

Article No.	GWDD-225	GWDD-335	GWDD-506
Dehumidity capacity (80%RH, 30℃)	176L/day 370pints/D	276L/day 585pints/D	400L/day 850pints/D
Dehumidity capacity (60%RH, 27℃)	106L/day 225pints/D	166L/day 350pints/D	239L/day 506pints/D
Voltage/cycle	1150W	1565W	2700W
Power	AC220V/50-60Hz/1P	AC220V/50-60Hz/1P	AC220V/50-60Hz/1P
Energy factor	86 controller (remote control potional)	86 controller (remote control potional)	86 controller (remote control potional)
Filter	MERV-13 F7	MERV-13 F7	MERV-13 F7
Work temperture	5-45°C 41-113 ℉	5-45°C 41-113 ℉	5-45°C 41-113 ℉
Air Volume	1100m³/h 650CFM	1500m³/h 880CFM	2500m³/h 1470CFM
Refrigerant	R410A	R410A	R410A
Drainage	pipe 14mm (G1/2)	pipe 14mm (G1/2)	pipe 14mm (G1/2)
Dimension(mm)	770*600*530mm 30.3"L*23.6"W*20.9"H	925*625*600mm 36.4"L*24.6"W*23.6"H	1220*735*800mm 48.1"L*28.9"W*31.5"H
Installation	Mounted	Mounted	Mounted
N.W.(kg)	65	85	165

INSTALLATION

1. LOCATION

The Dehumidifier can be installed in a variety of locations to meet the owner's needs as listed below. In all cases keep the following cautions in mind:

- Place the Dehumidifier on supports that raise the base of the unit 152mm above the secondary drain pan so a P-trap can be installed.
- The Dehumidifier may be suspended with steel hanger, straps, or a suitable alternative from structural members, unit must be supported from underneath. Don't hang from sides or ends.
- If installing on ground, use included plugs to cover hanging locations on top of the machine.
- If hanging machine in air, use included plugs to cover holes in base pan for leveling feet.

2. ELECTRICAL REQUIREMENTS

The Dehumidifier plugs into NEMA rated receptacles. A ground fault interrupter protected circuit is required.

Install the remote hygrostat in a central area of the structure where it will sense the relative humidity of the structure accurately. Do not install the hygrostat where it may not accurately sense the relative humidity such as near HVAC supply registers, near exterior doors, or near a pool or spa. The installer must supply the wiring between the Dehumidifier and the hygrostat. Be sure to safely route the control wiring to prevent damage during installation. Be careful not to cross the wires when connecting the Dehumidifier and the remote hygrostat.

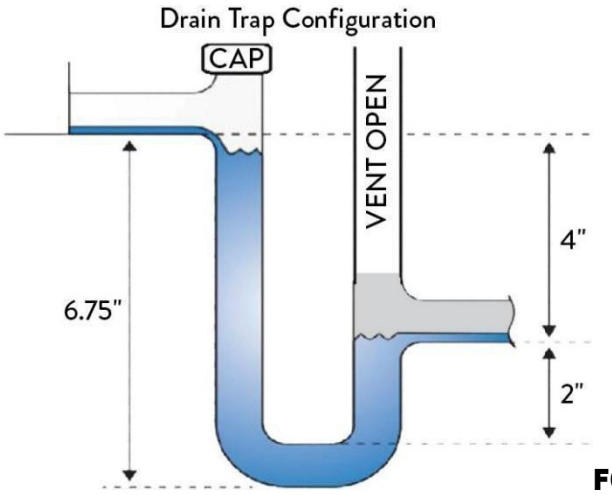
⚠ The remote controls of the Dehumidifier are powered by a low voltage circuit (24 VAC) and must NEVER contact or be connected to a high voltage circuit. The control terminals and remote control are labeled and numbered to prevent confusion. Be sure to consult the electrical schematic in this manual or inside the access panel of the Dehumidifier before making the control connections.

CAUTION! Always disconnect the dehumidifier from a power source when working with the high voltage control wires.

⚠ **CAUTION!** Forproper drainage, the unitmust bemountedsothedrain outlet is at least 171mm above the floor drain, and must be fully supported under the base.

3. CONDENSATE WATER REMOVAL

Condensate drains by gravity via the drain port. Use 3/4" male NPT PVC pipe. An optional condensate pump kit may be installed if a lift is required to dispose of the condensate. Optional parts list for information on the kit.



FOLLOW DIAGRAM:

H = 106mm

J = 51mm

L = 171mm

Vent:

» Place vent after the trap.

» Vent should be open.

» Height of vent should be higher than drain outlet.

Cap:

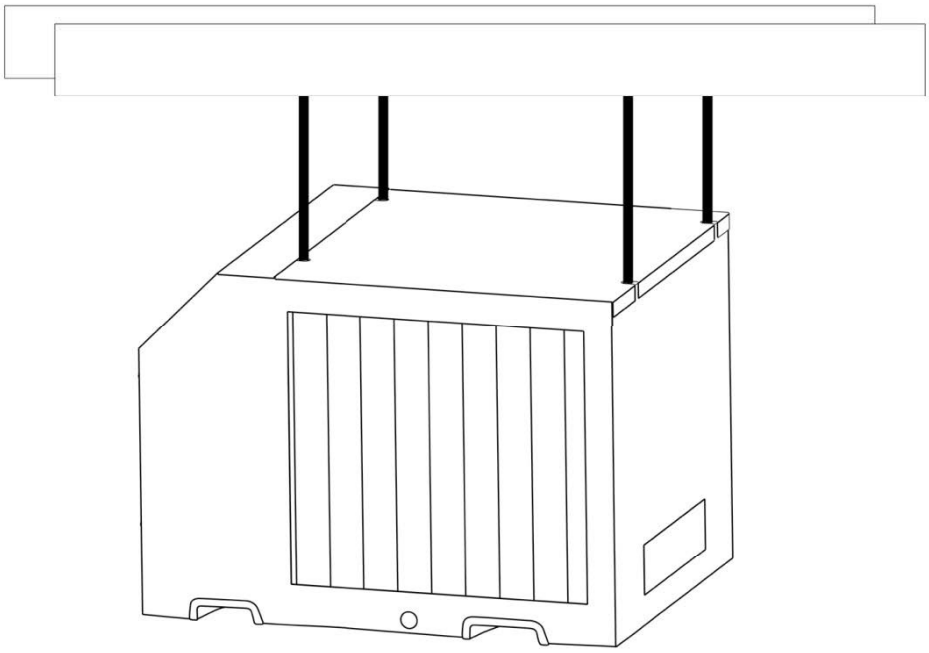
» A clean out can be placed before trap but must be sealed with a cap.

Drain Line:

» Drain line should go in a downward slope to the drain.

» 1/4" drop per foot.

4. **HANGING DIAGRAM**



Parts Needed: 4 PIECES 3/8" THREADED ROD (NOT INCLUDED)
4 - 3/8" THREADED JAM NUTS (NOT INCLUDED)

5. DUCTING

Return and supply duct collars are optional accessories for the dehumidifier and not included with the unit.

⚠ **CAUTION!** Do not connect with a static pressure greater than or equal to +1.0 WG.

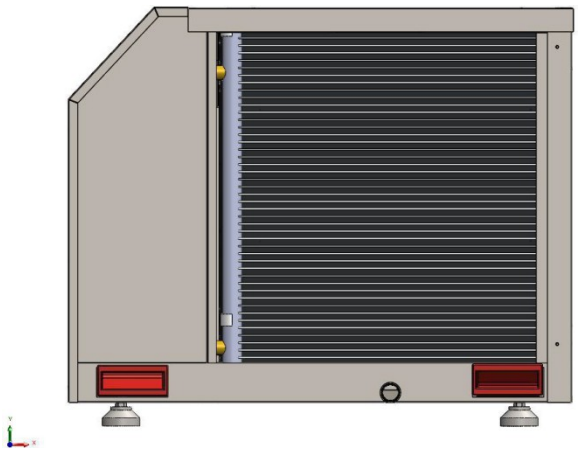
DUCTING CONSIDERATIONS:

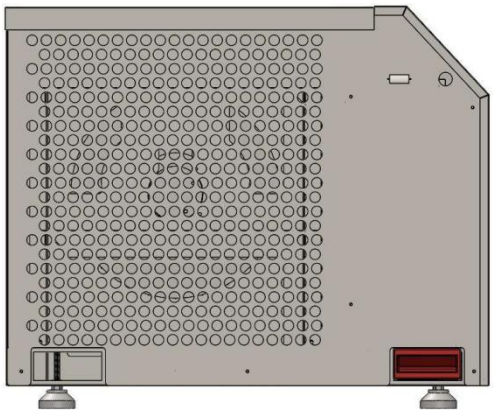
- A short piece of flexible ducting on all duct connections is recommended to reduce noise and vibration transmitted to rigid ductwork in the structure.
- Use a minimum 254mm diameter round or equivalent rectangular duct for total duct lengths of up to 25'.
- Grills or diffusers on the duct ends must not excessively restrict airflow.
- A length of 203mm or more of insulated flex duct or any other vibration isolating material on the outlet of the dehumidifier will reduce air noise from the blower.
- When ducting two or three areas, use 203mm or larger diameter branch ducting. When ducting to four or more areas, use 152mm or larger diameter branch ducting. Provisions must be made to provide airflow supply locations to the central return location. Proper air distribution is important to ensure even humidity control and heat distribution throughout the structure.

SUPPLY AND RETURN DUCT KIT

If factory duct kit accessory was purchased, follow instructions included with duct kit.

If owner chooses to have a licensed HVAC contractor fabricate a duct kit, please follow the drawing below for safe zones for self tapping screws.



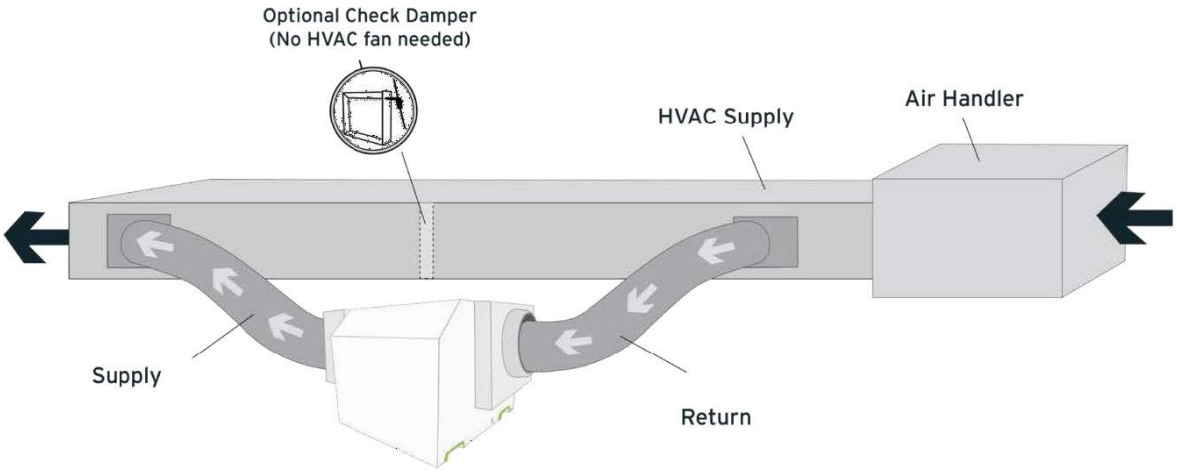


DUCTING TO HVAC OPTIONS

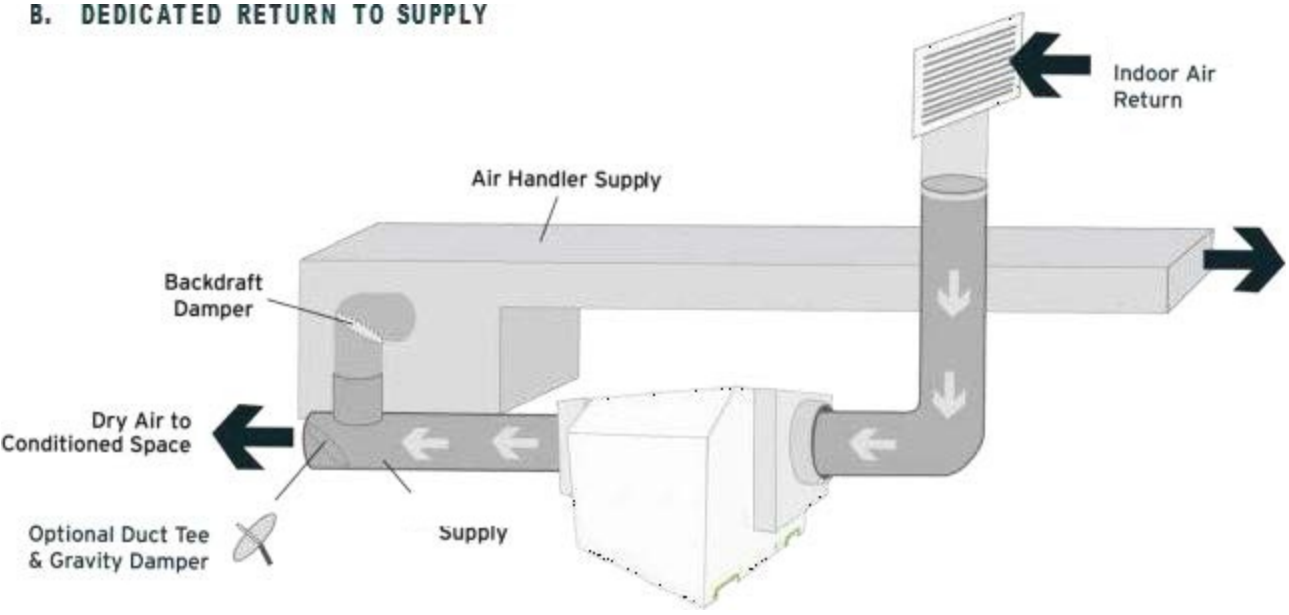
A. HVAC SUPPLY TO SUPPLY

CAUTION! To avoid the dehumidifier cycling in and out of DEFROST, itisrecommended that the leaving air temperature of the A/C coil is not below 13 ℃. Also, this install is not recommended for climates where the heating system will run during the spring and fall times of year, as this could diminish the water removal capability of the dehumidifier. If the Check Damper is not used, it is important to have the HVAC system fan ON when the dehumidifier is ON to prevent back flow of air.

WARNING! Due to pressure resistance it is not recommended to usethe optional outdoor air intake when installing the dehumidifier supply to supply.



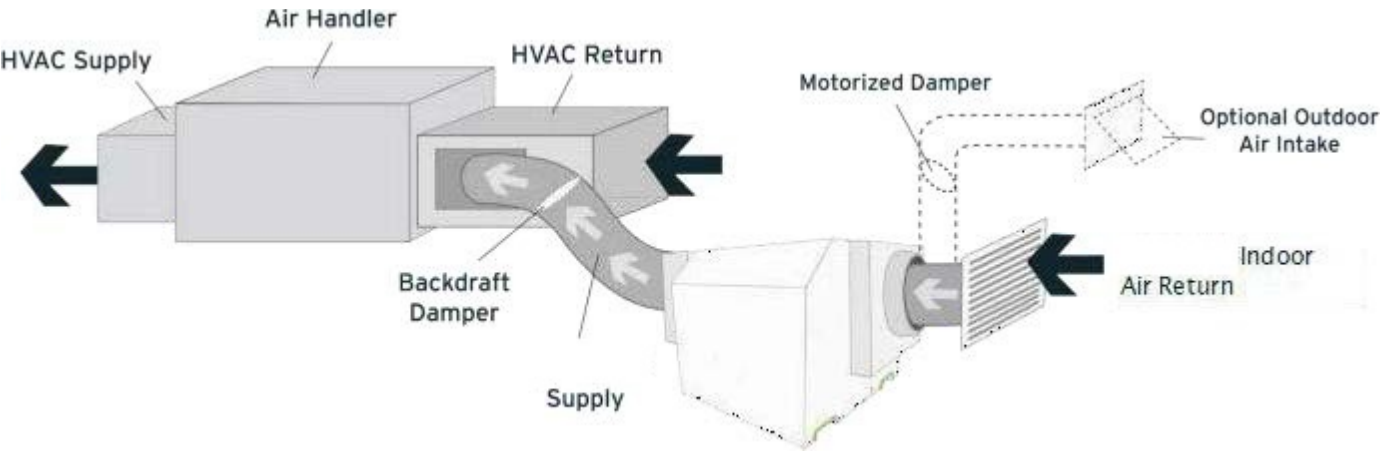
B. DEDICATED RETURN TO SUPPLY



CAUTION! PLEASE NOTE: Return to Return installs are to be considered last resort options and are not

recommended. The dehumidifier will heat the AC cooling coils which diminishes the amount of water the AC system will remove when operating. If this installation is chosen, the dehumidifier must activate the HVAC blower and AC calls need to lock out the dehumidifier from running. Please check your local codes prior to installing.

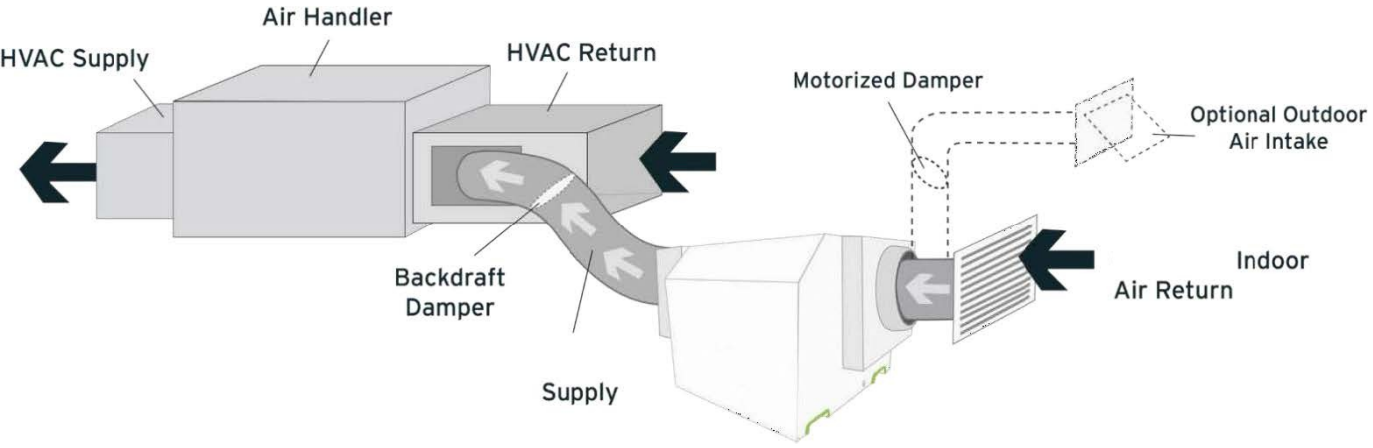
C. DEDICATED QUEST RETURN TO HVAC RETURN



Create a separate return for the Dehumidifier in a central area of the building.

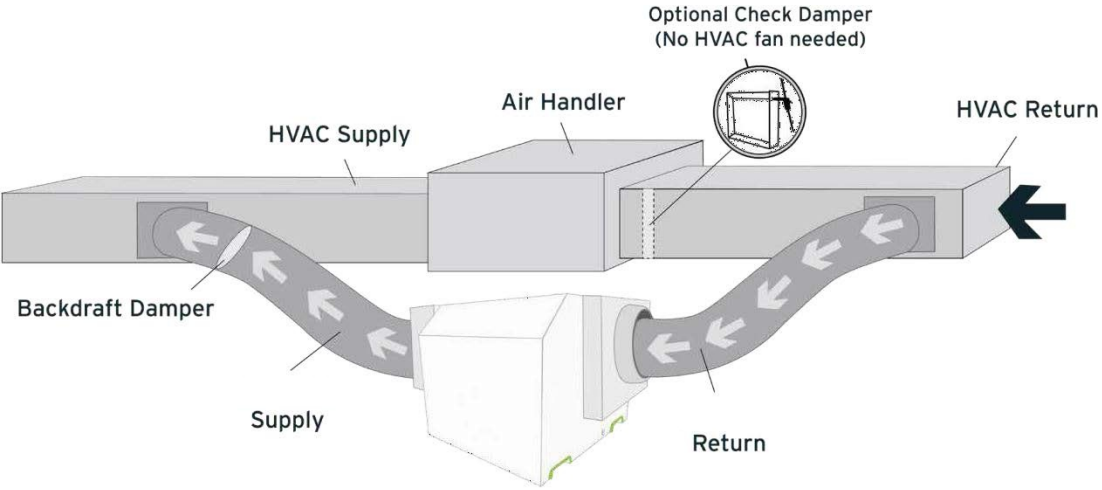
Installing the supply air from the Dehumidifier to the return of the HVAC system requires the HVAC fan to run when the Dehumidifier is operating.

D. HVAC RETURN TO HVAC RETURN



NOTE: If Check Damper is not in place, the HVAC fan must ON when the dehumidifier is in operation.

E. HVAC RETURN TO HVAC SUPPLY



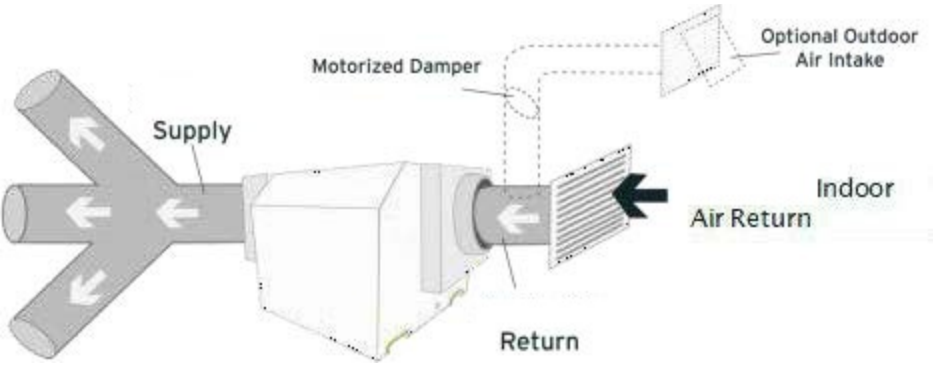
Check damper should be in place between the Return and Supply connections of the dehumidifier.
If the Check Damper is not in place, the HVAC fan must be ON when the dehumidifier is in operation.

Anything greater than 10mm of static requires HI fan setting. Anything greater than 18mm of static requires HI override (99). Anything greater than 23mm is not recommended

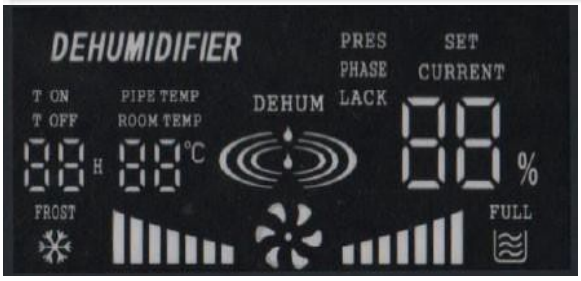
F. NO EXISTING DUCTWORK INSTALLATION

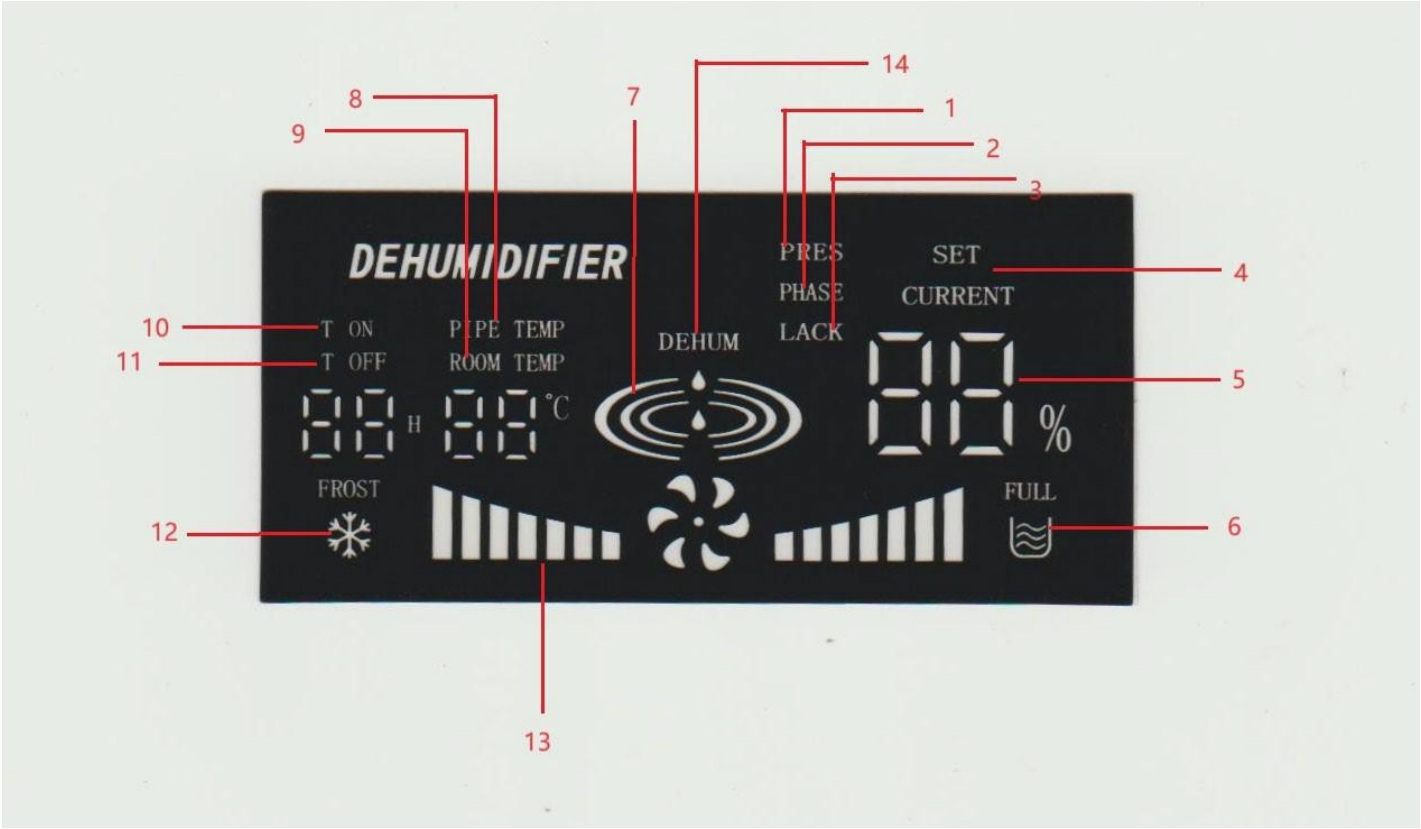
When installing the Dehumidifier in a structure that does not have a forced-air HVAC system, a single return for the dehumidifier should be installed in a central location. The supply air should be ducted back into the space you want to dry. Proper air distribution is important for optimal performance of the dehumidifier. Install a 152mm insulated duct from outside, teeing into the 355mm return duct of the Dehumidifier to provide outdoor air ventilation (optional).

An 14” diameter duct is recommended for branches to larger areas.



Controller and operating instructions





1. PRES Pressure protection(only show in 3 phase voltage)
2. PHASE Phase mistake(only show in 3 phase voltage)
3. LACK Lack phase(only show in 3 phase voltage)

4. SET CURRENT set humidity you want
5. Current humidity display
6. Water full alarm
7. If this cycle flashing that means the machine in dehumidification state

8. PIPE TEMP. The temperature for evaporator copper tube
9. ROOM TEMP. The current room temperature
10. T ON timer ON
11. T OFF timer OFF
12. FROST in defrost state
13. Fan speed
14. DEHUM if this flashing means in standby state have not dehumidifcation only fan working

Attention: The compressor will delay three minutes to start whenever starting the machine in order to protect the compressor.

How do the buttons work：

Ⅰ Key function:

(2)"ON/OFF" Key

Press this key to start, the buzzer rang twice into the start mode

Press this key to turn off, the buzzer is sounded, and enter the shutdown mode.

(3)"SET" key

Press this key for one time to set and operate humidity.

Press this key for two times to enter the timing boot/shutdown settings mode.(When shutdown,you can set boot time;When boot,you can set shutdown time,time setting range is 1~24hours)

(4)"+" key

Direct press this key to add to the set humidity operation, each time the buzzer sound, set the humidity increase 1%RH, press and hold continuously to continuously increase the humidity,when pressing the "set timer" button and then press the button to add the operation time (hours);

(5)"—" key

Direct press this key to reduce the set humidity operation, according to a buzzer sound, set the humidity minus 1%RH, press and hold continuously to continuously reduce the humidity,when pressing the "set timer" button and then press the button to reduce the operation time (hours);

Attention: The compressor will delay three minutes to start whenever starting the machine in order to protect the compressor.

How do the buttons work：

Key function:

1. "ON/OFF" Key

Press this key to start, the buzzer rang twice into the start mode

Press this key to turn off, the buzzer is sounded, and enter the shutdown mode.

2. "SETTING" key

Press this key for one time to set and operate humidity.

Press this key for two times to enter the timing boot/shutdown settings mode.(When shutdown,you can set boot time;When boot,you can set shutdown time,time setting range is 1~24hours)

3. "+" key

Direct press this key to add to the set humidity operation, each time the buzzer sound, set the humidity increase 1%RH, press and hold continuously to continuously increase the humidity,when pressing the "set

timer" button and then press the button to add the operation time (hours);

4. "—" key

Direct press this key to reduce the set humidity operation, according to a buzzer sound, set the humidity minus 1%RH, press and hold continuously to continuously reduce the humidity,when pressing the "set timer" button and then press the button to reduce the operation time (hours);

II. Power-off memory function:

This controller has a power-off memory function. When the system suddenly encounters a power-off during operation, the power plug does not plug tightly and slides down. The system can automatically store the current running state before power-off. At the next power-on, the system will automatically enter the operating state before the power-off,and continue to run.

Power-off memory parameters: switch state, humidity set value.

III. Display function:

1. LED full display after power-on;
2. When the system automatically detects the coil temperature sensor failure, the LED displays the fault code of coil temperature "E1".
3. When the system automatically detects the humidity sensor fault, the LED displays the humidity fault code "E2".
4. When the system automatically detects the ambient temperature sensor fault, the LED displays the ambient temperature fault code "E3".
5. When the system enters the set mode of humidity, the LED displays the current set humidity.
6. When the system enters the timing setting mode, the LED displays the current system set timing time setting value.
7. When the system automatically detects that the P3 port is disconnected, the LED displays the high voltage fault code “E4”, and the “pressure guarantee” signal is on.
8. When the system automatically detects that the P4 port is disconnected, the LED displays the low voltage fault code “E5”, and the “pressure guarantee” signal is on.
9. When the system automatically detects the phase sequence error, the LED displays “phase sequence” signal is on.
10. When the system automatically detects the lack of phase sequences, the LED displays “Lack of phase sequences” signal is on.

IV. Automatic detection of temperature / humidity sensor failure:

1. When the system detects that the coil temperature sensor is beyond its limited range, the system enters the temperature sensor failure mode. In this mode, the system is dehumidified running for 30 minutes,and defrosting running for 15 minutes to cycle operation.
2. When the system detects that the coil humidity sensor is beyond its limited range, the system enters the humidity sensor failure mode.In this mode,the system enters the continuous dehumidifying operation.
3. When the temperature/humidity sensor fault is eliminated, the system enters normal operation.

V. Defrosting:

1. Defrosting entry: default in the boot dehumidification state,after 30 minutes of continuous operation, the system enters the defrosting temperature. When the temperature reaches -1 degree, the system enters the “defrosting”mode. In this mode, the compressor stops and the fan continues to run, showing “defrosting signal and patterns”.

Defrosting exit: In the defrosting state, the coil temperature is detected to +4 degrees, the system exits the

"defrosting" mode after 10 minutes,and the compressor

2. is turned on. Defrosting after 15 minutes, the coil temperature is detected to less than +4 degrees, the system exit the "defrosting" mode, the compressor is turned on;

VI. Air compressor delay protection:

After the compressor is stopped, it must be delayed for 3 minutes before starting again,compressor2 will start after the compressor1 is turned on for 5 seconds.