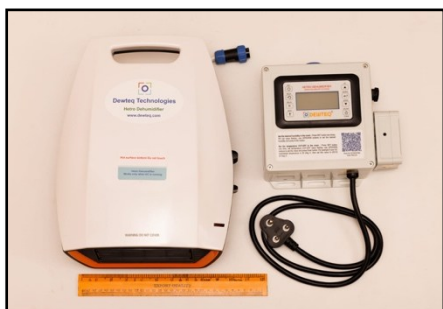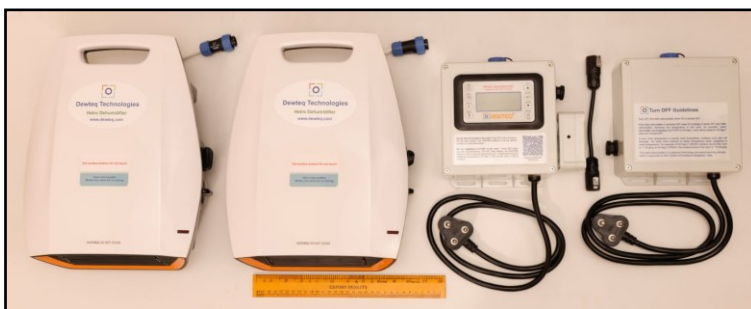# DEWTEQ

User manual and technical specifications
Hetro Dehumidifiers DT2K and DT4K
No water collection, wall mount installation

DT2K

DT4K

The principle of operation and concept

Hetro Dehumidifiers are heater-based dehumidifiers, which enables the room air-conditioner to remove excess moisture in the room. Hetro Dehumidifier works only when the air conditioner (cooling) is running in the room. It is developed in the design clinic scheme under the Ministry of MSME, the center of excellence at the Indian Institute of Sciences, Bengaluru.

Room temp	Possible room target humidity
15º C	70 to 80 %RH
16º C	67 to 80 %RH
17º C	63 to 80 %RH
18º C	60 to 80 %RH
19º C	58 to 80 %RH
20º C	55 to 80 %RH
21º C	53 to 80 %RH
22º C	51 to 80 %RH
23º C	48 to 80 %RH
24º C	46 to 80 %RH
25º C	44 to 80 %RH
26º C	42 to 80 %RH
27º C	39 to 80 %RH
28º C	37 to 80 %RH
29º C	35 to 80 %RH
30º C	32 to 80 %RH

PATENTED TECHNOLOGY
PATENT NO : 446232

DEWTEQ

Scan for user manual

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1. Safety Information - Please Read Before Using This Equipment

PLEASE READ ALL INSTRUCTIONS BEFORE OPERATING THIS EQUIPMENT

Electrical equipment, only a certified electrician / trained person is required for installation.

WARNING - This Hetro dehumidifier must be used only for dehumidification purposes in industrial and commercial applications. Any other use is not recommended by the manufacturer and may cause fire, electrical shocks, or injury to a person and/or property.

1. The Hetro Dehumidifier works only when the air-conditioning (cooling) is running.

2. The Hetro Dehumidifier shall be installed on the wall, do not operate it on the table.

3. Do not use the dehumidifier in a high ratio of dust in the room, or powdered environment.

4. Do not use this dehumidifier outdoors, and never operate or store the unit in direct sunlight.

5. Do not use this dehumidifier where accessible to children aged below 12 years.

6. Do not use this dehumidifier in condensing environments.

7. Do not use this dehumidifier without proper MCB electrical protection.

8. This is not a domestic product, for use in commercial and industrial purposes.

9. Do not use it in potentially explosive environments.

10. Keep Children Away: Do not allow children to play with or around this dehumidifier, which could result in an injury.

11. The Hetro Dehumidifier radiates heat, and the air outlet temperature of the Dehumidifier is hot, always maintain a safe distance.

12. Keep the Unit Grounded: Always operate the dehumidifier with a grounding plug and a grounded electrical outlet. A grounding plug is an essential safety feature that helps reduce the risk of shock. This is applicable for the metal body, for the plastic body is not applicable.

13. Protect Power Cord from Damage: Never operate a dehumidifier with a damaged power cord, as this may lead to electrical or fire hazards. If the power supply cord is damaged, it must be replaced by a new power cord of the same type and same ampere rating.

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14. Do not place other objects on the dehumidifier or near the dehumidifier

15. To protect against electrical shocks, do not immerse the dehumidifier in water or spray it with liquids. Do not run the power cord under carpets or cover it with rugs.

16. An electrical extension box must not be used. As they may overheat and cause a risk of fire.

17. Handle with Care: Do not drop or throw the dehumidifier. Rough handling can damage the components and wiring and create a hazardous condition.

18. Make sure the wall is strong enough to hold the weight of the dehumidifier. Use a certified electrician, Dewteq engineer, or Dewteq Dealer services for installing the equipment.

19. Keep Out of Water: Never operate the unit in pooled or standing water, as this may create a risk of injury from electrical shock. If electrical wiring or components become wet, thoroughly dry them before using the unit.

20. Always keep this user manual available to the user or operator. Operating this dehumidifier without understanding this user manual is not acceptable; this may cause fire, electrical shocks, or injury to a person and/or property.

21. Hetro Dehumidifiers are not lifesaving equipment. If you are using this dehumidifier in any critical areas like ICUs or OTs in Hospitals, we recommend keeping a spare dehumidifier as a standby for any sudden failures or going for redundancy installation.

22. Sealing the room: Do not seal the room completely; this may cause a reduction of oxygen and an increase of carbon dioxide in the room based on occupancy. Make sure to allow sufficient fresh air into the room.

23. Buyer needs to declare that there are no plumbing pipes, electrical wires, or any other substances concealed behind the dehumidifier install wall area, which might get damaged due to drilling activity required at the time of installation.

2. How the Hetro dehumidifier works

Hetro Dehumidifier is a patented technology. M/s Dewteq Technologies holds the IP rights, and the principle of operation is approved by the MSME Center of Excellence at the Indian Institute of Sciences, Bangalore.

The Hetro Dehumidifier works only when the room air-conditioner (cooling) is running. This dehumidifier is designed to reduce humidity from the air in a closed room when the air-conditioning is running. The purpose is to prevent issues associated with high humidity in the room.

This Hetro Dehumidifier enables the air-conditioner to reduce the excess humidity in the room. It works on heating and cooling techniques until the room humidity is reduced to the required level.

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3. Humidistat Control Panel Settings

- **ON-OFF Switch:** Press 3 seconds to turn ON or OFF.
- **UP Switch:** Used to increase the set value.
- **ENTER Switch:** Used to save the new value.
- **DOWN Switch:** Used to decrease the set value.
- **SET Switch:** Used to set the desired room temperature and Humidity.
- **BACK Switch:** Used to go back from the settings screen.
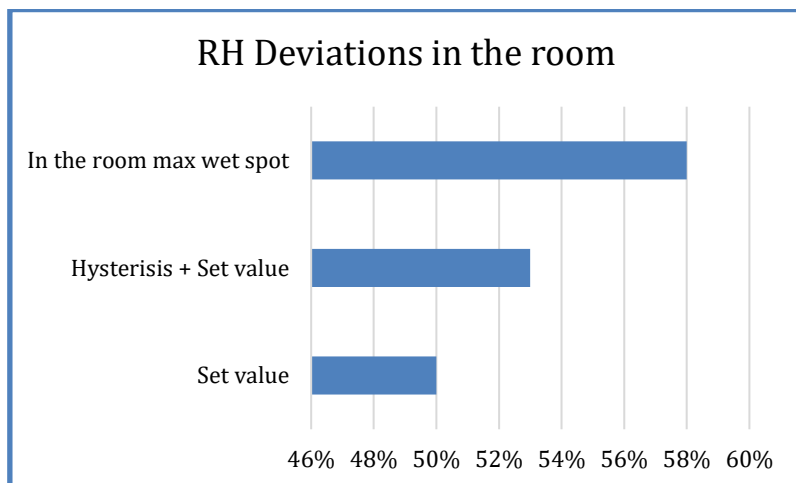- **RELAY and NEXT Switch:** Not in use.

4. Dehumidifier operation and setting the desired humidity

1) Start the Dehumidifier by pressing the "ON-OFF" switch for 3 seconds. The display shows the room temperature and room humidity along with the set CUT-OFF temperature and set humidity.

2) Press the "SET" switch, display blinks set temperature CUT-OFF value, set the value which is maintained by your AC + 2° C (for example 22° C is your room temperature maintained by your AC, then set it for 24° C) use "UP" and "DOWN" switches to change the set temperature CUT-OFF value and press "ENTER" switch.

3) Press the "SET" switch two times: The display blinks set humidity value, use the "UP" and "DOWN" switches to change the desired room Humidity, and press the "ENTER" switch.

4) Turn OFF the unit by pressing the "ON-OFF" switch for 3 seconds. To turn OFF the unit completely disconnect the power supply mains plug.

Turn OFF the Hetro dehumidifier when the AC (Cooling) is turned OFF. If the Hetro dehumidifier is not turned OFF when the AC is turned OFF, then the Hetro dehumidifier maintains the temperature in the room. For Example: Hetro dehumidifier set temperature (CUT OFF) is 25 Deg C, room is heated to 25 Deg C when the AC is turned OFF.

5. Hysteresis effect – dry and wet spots in the room

The factory set value for hysteresis is 3% RH, it can be re-programmed based on the room size and dry & wet spots in the room. For example: If we set a 50% RH target humidity in the room, and the hysteresis is 3% RH, we may observe a 58% RH wet spot in the room.

Like in an air-conditioned room, cold and hot spots are common; near the AC blower we observe cold spots, and away from the blower we observe hot spots. Similarly, we observe dry and wet spots in the room, this is common.

Reduce the target humidity if you observe more wet spots in the room. Please note that the lower the target humidity, the more power consumption we observe.

Below are parameters that cause the deviations of RH value in the room.
- Room size.
- Air circulation in the room.
- AC capacity in Tons Vs Hetro Dehumidifier capacity.
- No of door openings.
- Air leakages in the room.
- Amount of fresh air we pump into the room.
- No of persons in the room, etc.

6. Service Policy

We have made the service policy simple, we will replace the failed part instead of service at the site. We will send the replacement parts through courier, it will take around 1 to 2 weeks. If you are using this equipment in any critical areas like ICUs or OTs in hospitals, please keep the additional unit as a spare or go for double redundancy installation.

After receiving the replacement dehumidifier, please pack the failed part in the same box that you received for replacement. Dewteq will take the failed part back to our factory.

7. Equipment Calibration

We recommend calibration yearly once. Users can self-calibrate if they have calibrated temperature and humidity sensors to avoid the additional costs.

8. Maintenance and Preventive Maintenance

One of the advantages of Hetro dehumidifiers is low maintenance costs. Once every 6 months, visual observation is required at the air-inlet and air-outlets of the heaters. If dust is observed, cleaning is required.

If your room is a dusty environment, then frequent cleaning is required. If you observe any dust clogs inside the heater, we will take the heater to the Dewteq factory for cleaning at an additional cost.

Preventive maintenance is required once a year by a Dewteq engineer or Customer Engineer trained by Dewteq. Preventive maintenance single visit, which is free of cost during the first year of the installation.   After the warranty period, preventive maintenance is chargeable, and it is covered in the AMC annual maintenance contract.

9. Advantages of Hetro Dehumidifiers

1) No water collection.
2) Wall mount installation.
3) It saves floor space in the room.
4) Low noise.
5) Warms the room if the outside temperature is too low.
6) Average power consumption depends on the room's target humidity.
7) For powdered environments, no fan heaters are used.
8) Low maintenance costs.

10. Possible target humidity in the room at different room temperatures

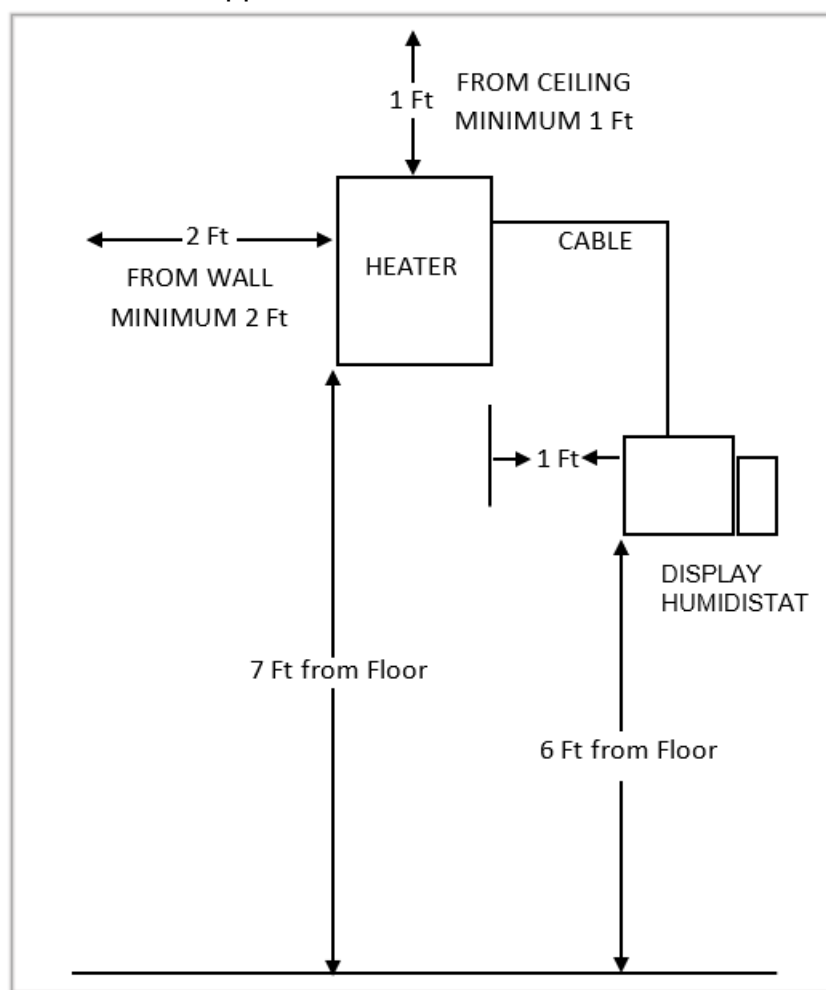Please refer to the table on page 1 for possible target humidity at different room temperatures.

For your information: Reaching target humidity in the room depends on several other factors, like infiltration load, occupancy, open holes, fresh air, moisture from production material, etc. Please contact Dewteq Technologies for specific moisture load calculations for your room.

11. Wall mount Installation guidelines for DT2K

After receiving the unit, unpack and check your dehumidifier for any transport damage. In case of damage, please contact us.

Identify a safe place for installation, away from children. For installation, please provide one 16A power socket, which is required along with MCB protection. Dewteq supplied wall mount screws and PVC rawal plugs.

* Do not install just below the air-conditioner.
* Do not install a heater where airflow directly blows on the person or other material.
* Dimensions below are approximate; based on site conditions, dimensions may vary.

DT2K installation guidelines

A certified electrician must approve electrical wiring from the customer's end before turning ON the Dehumidifier.

The buyer should declare that there are no plumbing pipes, electrical wires, or any other substances concealed behind the dehumidifier install wall area that might get damaged due to drilling activity required for dehumidifier installation.

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12. Wall mount Installation guidelines for DT4K

After receiving the unit, unpack and check your dehumidifier for any transport damage. In case of damage, please contact us.

Identify a safe place for installation, away from children. For installation, please provide two 16A power sockets, which are required along with MCB protection. Dewteq supplied wall mount screws and PVC rawal plugs.

- Do not install just below the air-conditioner.
- Do not install a heater where airflow directly blows on the person or other material.
- The dimensions below are approximate; based on site conditions, the dimensions may vary.

DT4K installation guidelines

A certified electrician must approve electrical wiring from the customer's end before turning ON the Dehumidifier.
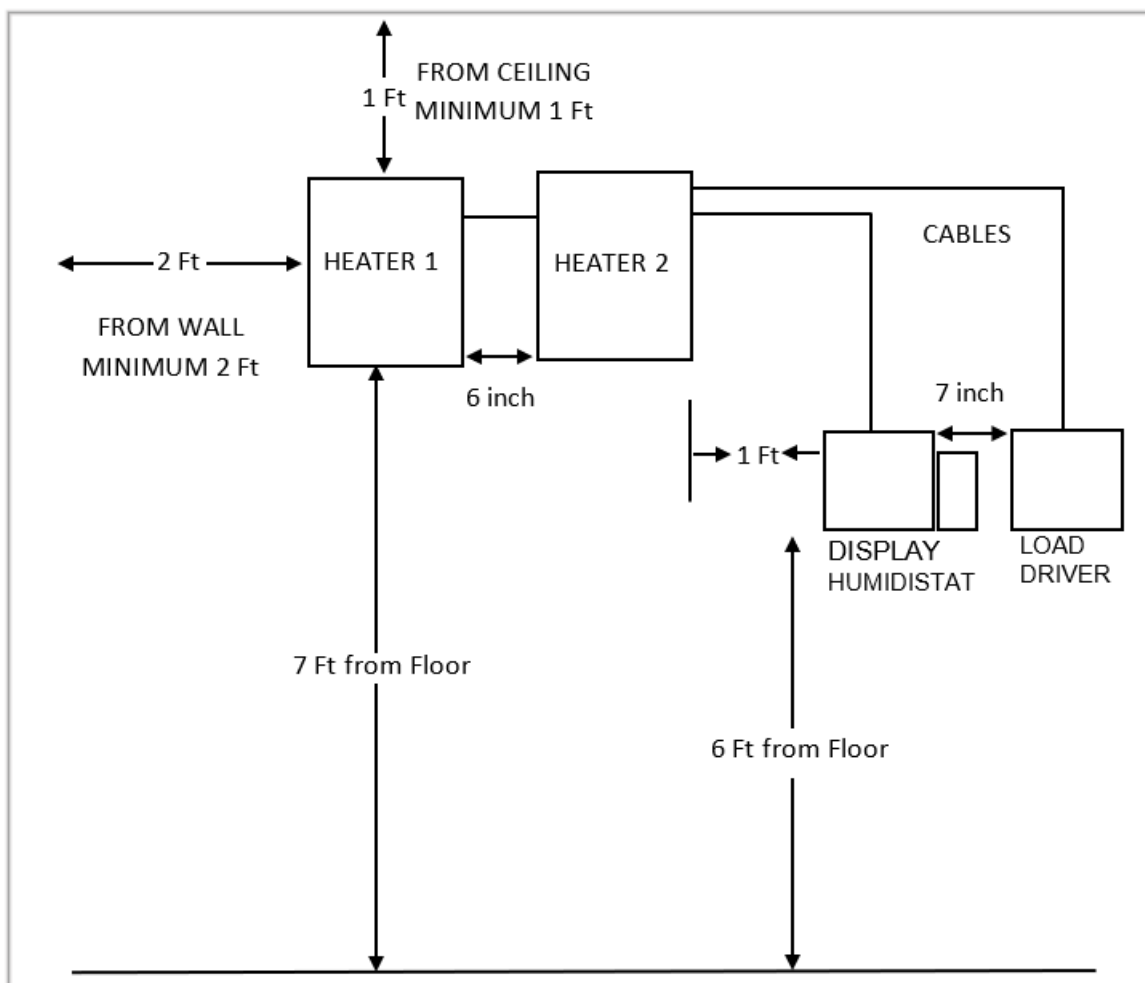
The buyer should declare that there are no plumbing pipes, electrical wires, or any other substances concealed behind the dehumidifier install wall area that might get damaged due to drilling activity required for dehumidifier installation.

13. Troubleshooting

Problem	Cause	Solution
The unit does not turn ON.	Power supply and/or heater connections.	Check the power supply and if the heater connector is inserted properly.
The device does not dehumidify.	The humidity setting may be wrong; check the target humidity setting.	Set the target humidity between 30% to 80% RH.
	The cut-off Temperature setting is wrong. Change it if required.	It shall be 2 Deg C above the AC setting. For example, if your room AC is set to 24 Deg C, then set the dehumidifier temperature to 26 Deg C.
	The AC water outlet is not collecting and draining the water.	Check and make sure the AC water drain pipe is properly installed and water is draining out from the AC.
	The room is not closed properly.	Check open windows and open doors for any other air leakages in the room.
	Room temperature is out of range.	Make sure the room is between +15 to +30 Deg C.
The dehumidifier works but reduces the relative humidity insufficiently.	Check that the Hetro dehumidifier capacity is sufficient for your room.	Contact Dewteq Technologies for capacity calculations.
	There is too much ventilation.	Reduce ventilation. (Example: Close windows and doors)
	The AC water outlet is not collecting and draining the water.	Check and make sure the AC water drain pipe is properly installed and water is draining out from the AC.
It cannot remove the water drops from my window or any other cool object in the room.	The surface temperature of the window or any object in the room is too low.	Reduce the target humidity in the room. If any objects in the room are below the dew point temperature, we cannot control condensation.
The dehumidifier is blowing out hot air.	This is normal for the Hetro Dehumidifier; it blows hot air when it is dehumidifying to enable the AC.	We raise the temperature by a maximum of 2 Deg C from your set temperature of AC; while the AC works you will not observe any excess temperature in the room.
The dehumidifier is noisy.	Something is blocking the FAN.	Contact Dewteq Technologies. Before that, TURN OFF the Dehumidifier and disconnect the mains plug.
The display shows Error codes or beeps or flashes continuously.	Humidistat internal problem.	Turn OFF the Dehumidifier, disconnect the power plug, and contact us for further support.

14. Warranty and Customer Support

The warranty for the dehumidifier from the date of purchase is one year. Manufacturing defects will be repaired/replaced free of cost. In case of your dehumidifier failure, we will collect it from your place for repair/replacement.

The following terms are applicable on warranty:

1. The warranty is not valid if the dehumidifier is not installed by a certified engineer.
2. The warranty is not valid if the dehumidifier is installed in high dust ratio or high concentration of solvents in the air or outdoors.
3. The warranty will expire if any alterations have been made or a third party has repaired the dehumidifier.
4. The warranty is only valid on presentation of the proof of purchase.
5. The warranty does not cover damage caused by actions that deviate from the points described in this user manual.
6. The warranty does not cover faults caused by high voltages, EFT, Surge, and thunder voltages; use a voltage stabilizer if you have voltage fluctuations.
7. The warranty does not cover accidental damage.
8. Compensation claims will not be covered for consequential damages.

Due to continuous improvement and customer feedback, this user manual will be updated from time to time. Please contact us for after-sales support.

If equipment is purchased through the dealer, please get in touch with the dealer for after-sales support.

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15. Technical Specifications and Operating Conditions

Hetro Dehumidifier Model	DT2K	DT4K
Suitable Room size	Contact us for room calculations.	Contact us for room calculations.
Set desired room humidity	30% to 80% RH	30% to 80% RH
Operating room temperature	+15 to +30°C	+15 to +30°C
Digital display	Yes	Yes
Supply Voltage	220 - 240 VAC / 50Hz	220 - 240 VAC / 50Hz
Normal Current	9 Amps	18 Amps - 9A+9A two plugs
Total connected load Electrical Power	2 KW	4 KW
Airflow	100 CMH	100 CMH X 2 Fans
Water collection tank Size	No tank - No water collection	No tank - No water collection
Sound Level	50 dB(A)	50 dB(A) x 2 Fans
Installation	Wall mount	Wall mount
Dehumidifier size L x W x H	Heater :30 x 16 x 40 cm Humidistat : 24 x 22 x 11 cm	Heater 1: 30 x 16 x 40 cm Heater 2: 30 x 16 x 40 cm Humidistat: 24 x 22 x 11 cm Load driver: 20 x 22 x 11 cm
Net Weight	4 Kgs	6 Kgs

For your information: The connected electrical load is not continuously ON, the average power consumption depends on the room's target humidity.

If the supplied dehumidifier is a custom-built model DT2KCB or DT4KCB, please refer to the user manual supplied along with the equipment for the target humidity table on the first page. CB models are custom-built units manufactured against specific requirements, for example, the pharma industry.