



General Characteristics of DH250 Desiccant Dehumidifier

The DH 250 Desiccant Dehumidifier is designed to be used in a wide range of applications where low dew points are required.

These desiccant dehumidifying units are capable of controlling the humidity in a space well below that which can be obtained with conventional refrigeration type dehumidifiers.

Able to drain 160 pints lbs per day with no drain pans needed.

To deliver ultralow dew points the DH 250 relies on its "state-of-the-art" desiccant wheel technology.

Designed with a solid construction as well as being compact, lightweight and portable.

The unit is available with optional wheels and handles for portability. Completely controlled from a remote humidistat.



Product Applications of DH250 Desiccant Dehumidifier

Recommended for areas where low dewpoint applications are needed such as storage rooms, vaults, small manufacturing, and industrial processing centers, museums, archives and restoration applications.

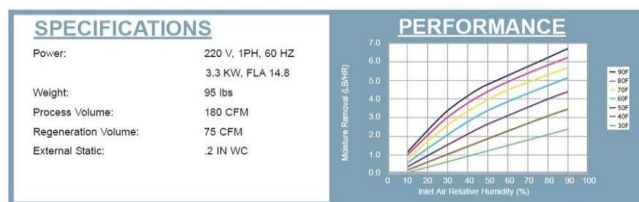
Warranty of DH250 Desiccant Dehumidifier

Includes Manufacturer's Limited Warranty: 1 Year

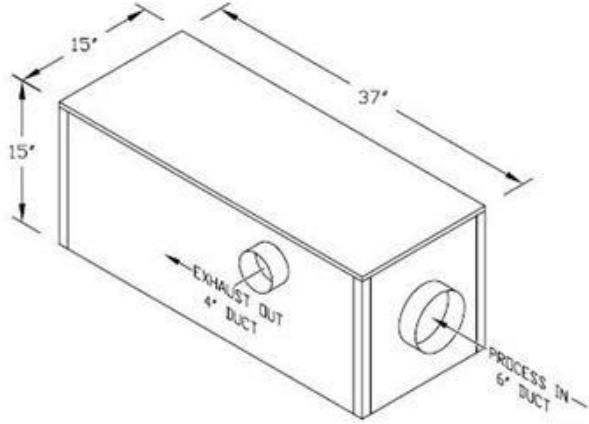
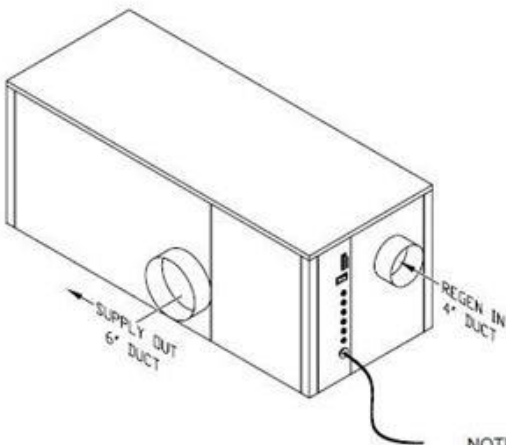


Specific Characteristics of DH250 Desiccant Dehumidifier

Item#	Manufacturing #	Water Removal Capacity Per 24Hrs PPD	Effective Volume (Dry Air)		Effective Volume (Wet Air)		Rotor Wheel Speed (rph)	Volts V	Amperes A	Phases Ph	Watts W	Decibels dbs	Shipping Weight and Dimensions with Packaging	
			CFM	m ³ /h	CFM	m ³ /h							Lbs.	L,W,H In.
USDHH-001	DH250 + 24VDC %RH Control	184	180	306	75	128	20	220	14.8	1	3300	67	95	15,37,15



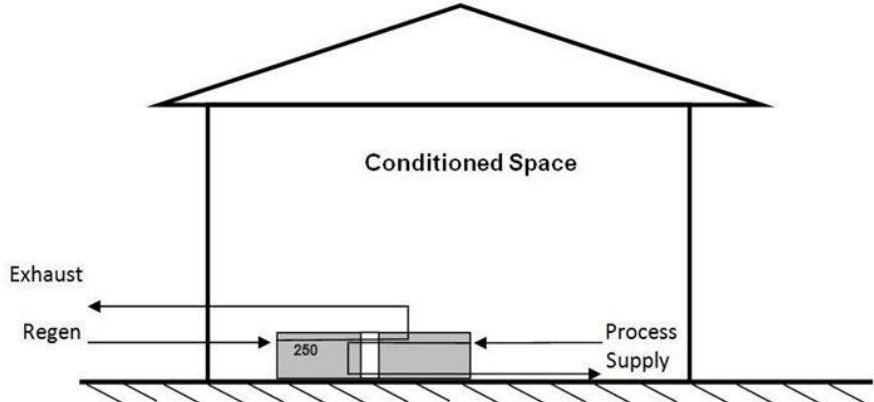
DIMENSIONS



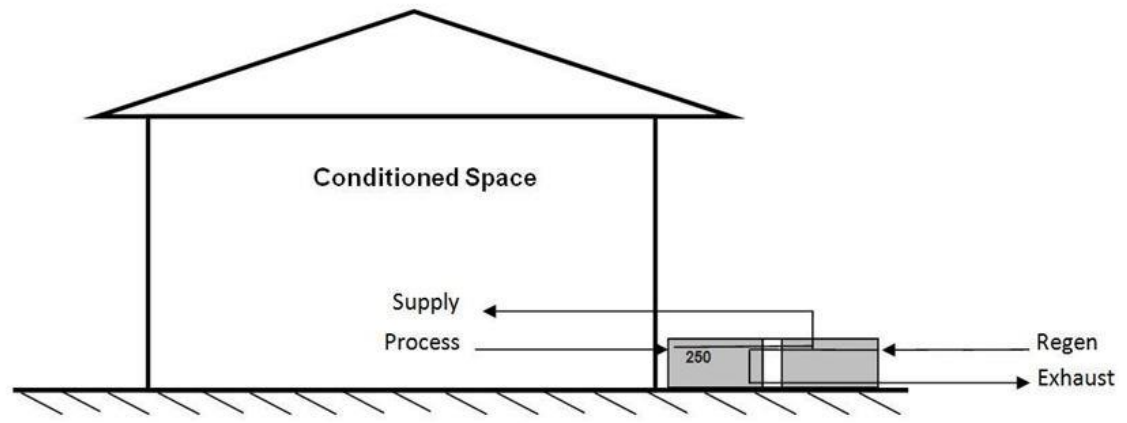
NOTE:
 Both regen and process inlet ducts can be either duct connections as shown or as a square grill inlet as shown in the photo on the front page. Both are provided.

Installation of DH 250 Desiccant Dehumidifier

Option 1.



Option 2.

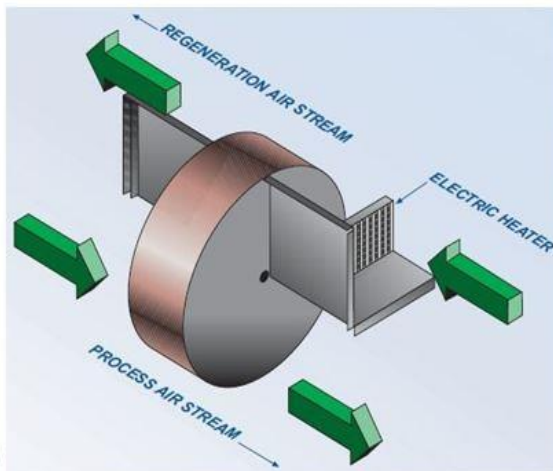




HOW IT WORKS

The Nauticus 250 unit effectively removes moisture at any temperature without the freeze up problems inherent with refrigerant dehumidifiers. The desiccant based process enables the unit to achieve and maintain lower relative humidities and lower dewpoints than conventional DX type dehumidifiers.

The heart of the unit is a rotating desiccant wheel. Return air from the conditioned space is drawn through the rotating desiccant wheel. The desiccant adsorbs moisture from the air stream and the bone dry supply air is returned to the conditioned space. The moisture containing portion of the wheel rotates into the regeneration section where the desiccant releases the adsorbed moisture into the heated regeneration air stream which is then exhausted to the outside.



BENEFITS

- Achieve ultra low dewpoints
- Controls from remote humidistat
- Compact size, lightweight and portable
- Solid construction



Accessories of DH250 Desiccant Dehumidifier

TCY-BH-T-U-W05 On/Off Humidistat (Dehumidifying)



Features:

- 2 on/off relay outputs.
- Save energy with economy/comfort, mode and set point limitations.
- Replaceable humidity elements.
- Selectable humidity sampling rate.
- Input for external temperature sensor.

Programmable User and Control Parameters:

- Set point range limitation.
- Control access for set points and mode change.
- Control access to clock and time programs.
- Select your display contents.
- Select status after return from power failure.

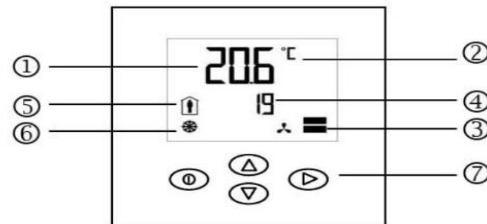
Deluxe Version (TCY-BH-T-U-D-W05):

- Clock and time schedule functions
- Blue backlight for LCD

Display and Operation

LCD display:

1. Current value, time, or set point.
2. Unit of displayed value, °C, °F, % or none
3. Dehumidifying active (running down to up).
4. Current value, time, or set point.
5. Operation modes: Comfort mode, Economy mode, **OFF** Energy Hold Off
6. Symbols:



Setback Active	Schedule Set	Fan Active	TSET

7. Operation buttons:

- POWER** button: Pressing the button less than 2 sec toggles Economy and comfort modes. Pressing the button for more than 2 seconds switches the unit off.
- UP** and **DOWN** buttons: change setpoints and parameters
- OPTION** button: display temperature if temperature setback is enabled and access advanced setup.

User and Controls Parameters

Parameters are set on the TCY-BH display terminal. There are two groups of password protected groups: User Parameters for display options and access to set points, mode and time changes; and Control Parameters for access to set point limitations, economy/comfort mode shift, fan control start and stop delays, outdoor temperature reset levels. Sample parameter:

CP 00	Minimum humidity set point	0...100% (range)	10% (factory default)
CP 01	Maximum humidity set point	0...100% (range)	90% (factory default)

Operation Modes

Comfort: The unit is in full operation mode. All the control functions are operating according to their set points. The unit displays occupied mode. **Economy:** The set point is shifted according to users parameter setting. The unit displays unoccupied Economy mode. **Off mode:** The unit is switched off; OFF and current time is displayed.

Sensor Calibration, Humidity Sampling Rate

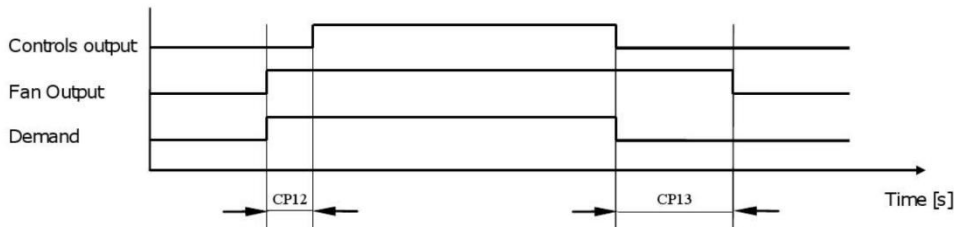
The humidity sensor is factory calibrated, however, it can be field recalibrated. The calibration routine can be accessed using the humidistat key pad. TCY-BH humidity sampling rate default is 10 seconds. This can be set anywhere for 1 to 100 seconds with parameters using the TCY-BH keypad.

Power Failure

Parameter settings and set points are memorized and don't need to be reentered after a power failure. The deluxe version includes a real time clock with a 48-hour backup battery powered through a super capacitor. The time does not need to be reentered after a power failure.

Fan Control Option

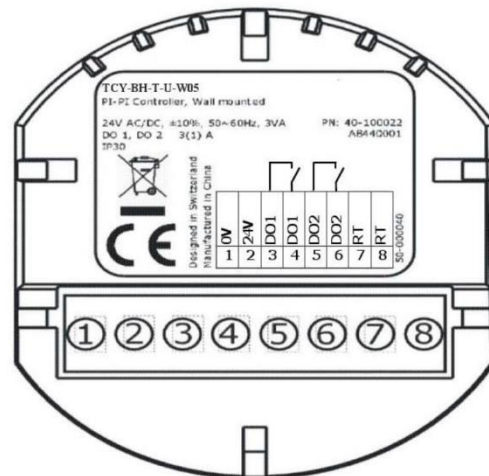
The fan output may be activated with parameter CP11. Once there is an output demand, the humidistat will first activate the fan, wait the required start delay time (CP12) and then activate the control output. This will ensure stable air for dehumidification. The control output will be switched off when the set point is reached. The fan keeps running until stop delay (CP13) has expired. This will ensure that no left over humidity remains in the dehumidifier device or its ducts.



Specifications	TCY-BH-T-U-W05
Operating voltage	24 V AC/DC ± 10 %, 50...60 Hz
Clock backup	Min 48 hrs with full charge (after 24hrs)
Humidity input	Element is Polymer-Based Capacity (0-100 % rh). Accuracy is ± 5.0% at 10%-90% rh and ± 7.0 % at %0-10% and 90-100% rh
Temperature input	External NTC (SOB-Tn10 sensor): -40...158 °F)
Relays	DO1 and DO2, 2(1.2)A, 24VAC
Operating environment	To IEC 721-3-3class 3 K50°C ...50°C (32°F...122°F) <95% R.H. non-condensing
Mounting Standards	Flush wall-mount to 2"x4" single gang box According to EMC Standard 89/336/EEC, EMEI Standard 73/23/EEC
Degree of protection	IP30 to EN 60 529
Safety class	III (IEC 60536)
Materials	Cover: Fire proof ABS plastic (UL94 class V-0). Back plate: Galvanized Steel
Dimensions HxWxD	Front part: 112 x 73 x 15 mm (4.4" x 2.9" x 0.6"). Power case: ø 58 x 32 mm (ø 2.3" x 1.3")
Weight (w/package)	270g

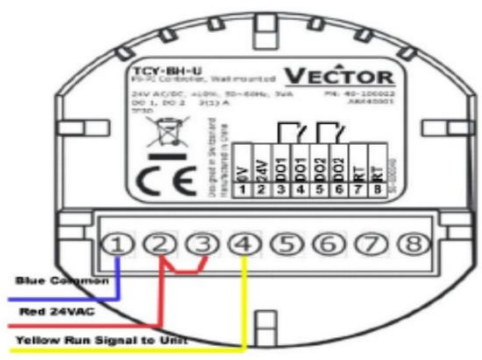
Terminal Connections

1. Power-supply common.
2. Power-supply (24 V AC/DC, ±10%)
3. DO 1 Relay contact dehumidify
4. DO 1 Relay contact dehumidify
5. DO 2 Relay contact fan
6. DO 2 Relay contact fan
7. RT temperature input
8. RT temperature input



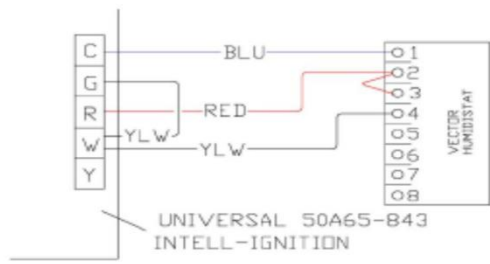
The Vector humidistat is wired as shown in the diagram below for all units. Blue is common and is wired to terminal 1. Red is 24VAC from the dehumidifier and wired to terminal 2 with a jumper to 3. Yellow is the run signal sent back to the dehumidifier and is wired to terminal 4.

Connection terminals



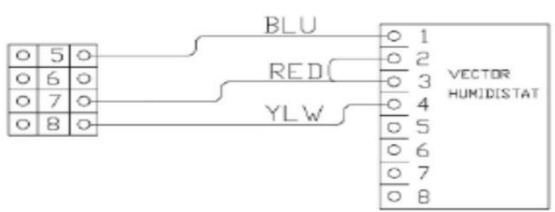
ComfortDry 400. The installer will have to install the red jumper wire from terminal 2 to terminal 3 in the Vector humidistat. The normal color code for wires is:

- Terminal C: Common Blue
- Terminal R: 24 VAC Red
- Terminal W: 24 VAC Run Yellow



The Vector humidistat is wired as shown in the diagram below for the **ComfortPlus 300 or 300 DES/DX**. The installer can elect to run only one red wire and jumper terminal 2 to terminal 3 in the Vector humidistat if desired. The normal color code for wires is:

- Terminal 1: Common Blue
- Terminal 2&3: 24VAC Red (2 Wires)
- Terminal 4: Run Yellow



The The Vector humidistat is wired as shown in the diagram below for the **Comfort Dry 250 or Nauticus 250**. The normal color code for wires is:

- Terminal 1: Common Blue
- Terminal 2: 24VAC Red
- Terminal 3: Run Yellow

