

# Manual DehuKing

## Model 2 Ton Remote DehuKing Dehumidifier RDU02T03CK069-552-1

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### **PLEASE READ THIS MANUAL BEFORE POWER UP**

**THANK YOU FOR YOUR PURCHASE.** DehuKing® Warranty info is on the last page. Dehumidifiers are very similar to air conditioning units except the same air is carried across the condenser and the evaporator. This process removes moisture from the atmosphere that is collected in a stainless steel pan. The water is then routed to a collection point of your choosing.



**PLEASE READ.** It is important that you read the information within about nutrients and condensed water.

# Choosing a location for your DehuKing Dehumidifier

## Clearance around unit

It's important, if possible, to locate the dehumidifier in the most humid area of the structure. Open space is the next most important thing when choosing a location. This stainless steel cabinet can be mounted flush against the wall of the structure without harm. It is important that the opposite side and both ends are exposed to free air. Intake needs 2' of clearance and discharge needs 5' of clearance. One side can be flush mounted to a wall; however, the other side must be open to the room with 8' of clearance.

## About Remote Dehumidifiers

This model RDU02T03CK069-552-1 will remove moisture and cool the environment. There is very little heat discharged because the condenser is located outside the greenhouse or building. This is situated very much like residential remote condenser AC systems. The condenser located outside will discharge all the refrigeration heat.

**SETUP: Inside unit.** The evaporator or inside unit is to be hung or mounted the same as the typical dehumidifier. The units are marked inside and outside.

**SETUP: Outside unit.** The condenser is the outside unit, it has the refrigeration lines coiled up and welded to the condenser. The condenser should be mounted on a concrete surface or AC pad. These are soft copper, both lines should be straightened at the same time. Do not step on or stand on the refrigeration lines as it will cause damage. Route the refrigeration lines through the building up to the inside unit, then attach the copper lines. These only fit one way.

**CAUTION! Dirt, gravel, and soil is the enemy of refrigeration lines and connectors. Cover the end of the copper lines with a plastic bag and towel or clean rag. This will protect your refrigeration lines from any harm.**

## Electrical For Remote Condenser

The outside unit will require an electrical circuit. Use a licensed electrician to install this service. The outside unit uses very little power, about 2 amps at 115v 1 phase. Service must be provided according to local codes.

## Service

The filters on the inside unit and the filter on the outside unit should be washed off and rinsed using a water hose. We recommend removing the filter and spraying it down with water to rinse dirt and debris free. Never spray directly on the condenser. If the filter is washed or rinsed every month your condenser should perform as designed.

The inside filter should also be rinsed every month. The filter can be reinstalled wet if necessary.

## Intake & Discharge

The intake end has a filter over the evaporator/HX\* and the discharge end has the large condenser with a black screen sheltering the fins. This unit intakes humid air on one end that is filtered before crossing through the evaporator/moisture removal HX, the dry cooled air is then drawn across the condenser before being discharged out the other end as warm dry air.

This unit operates similar to an air conditioner that uses a compressor. Because of this, there will be a slight temperature increase in the area of the DehuKing Dehumidifier. Room temperature air is drawn through the filter and across the refrigerant chilled evaporator/moisture removal HX. Dry cool air is then blown across the condenser before discharging out the end of the dehumidifier.

\*Heat exchanger

Discharge Grill



## Air Filter

This DehuKing Dehumidifier moves a high volume of air. The filter is designed for long-term use. Many websites estimate five years or more for the life of a replaceable 3M filter. It can be rinsed to remove dirt and shaken to remove loose moisture, then reused. The filter should be cleaned once a month at minimum. At times it may be necessary to rinse more often.

**TO CUT A NEW FILTER.** The models beginning with DU02T have a filter size of 26" x 11.25" x 1" thick. This is a 3M product, branded as Filtrete Basic Custom Fit Air Cleaning Filter, which can be purchased from your local hardware store and cut to size. **WEAR SAFETY EQUIPMENT! WEAR GLOVES AND SAFETY GLASSES.** After measuring, press down with a large straight edge along the measurement then cut with a sharp knife or shears.

If there is ever a question of the wear or condition of your filter, please contact DehuKing 512-303-3242. We can normally assist you in judging the condition of your filter. Texted photos may be necessary to grade your filter. We can also assist you in choosing a different type filter dependent upon your operation.

**NEVER OPERATE THE DEHUMIDIFIER WITHOUT A FILTER IN PLACE.**

Don't be tempted to operate without a filter. Just one day of use without a filter can cause severe damage to the internal workings of the dehumidifier. The fins and blades must be clean to condense moisture in the air. Condensed water is lacking minerals and metals. In using condensed water for crops you must add nutrients or minerals if used for machinery operation.



# Mounting

## Mounting/Hanging Tabs

This is a self-contained commercial dehumidifier. **INSTALL LEVEL.** There are optional stainless steel tabs for each long side of the dehumidifier at the bottom of each side. These are used for hanging the dehumidifier or special straps can be ordered for securing to a wall. This DehuKing dehumidifier can be hung from the ceiling using chain (not provided) or all thread bolts. It can be mounted to the wall or it can be placed on a shelf. Make sure mounting hardware can accommodate the weight of the dehumidifier. The chain is divided by four since there are four suspension points. **\*\*All thread can be substituted for chain.**



**\*\*All thread bolts can be used for hanging.** The tabs are pre bent at ninety degrees to support all thread washer and nuts. The tab is mounted to the dehumidifier near the bottom of the dehumidifier. Mount the tabs to the cover bolts then feed the all thread through and apply nut.



## Mounting (cont.)

### Weight Calculations for Hanging

HANG LEVEL: FRONT TO REAR, SIDE TO SIDE.

If the dehumidifier weighs 125 lbs, the chain should support  $125/4 = 31.25$  lbs + 20%. The chain should support 20% more weight than the weight of the dehumidifier. Each chain should support 37.5 lbs. minimum. The calculation is  $31.25 \times 1.20 = 37.5$  lbs. Each section of chain should support more than 37.5 lbs. in this example. This is not a claim of the dehumidifier's weight, nor intended to be the weight used for hanging your dehumidifier. Weight should come from the spec sheet for the model you intend to hang. Spec sheets are on the Chilling website under "specs" or on the dehumidifier's identification sticker affixed to the machine.

Identification Sticker



## Drain Removal of Condensed Water

The water that has been removed is very similar to distilled water. Water vapors are collected by cooling to bring about condensation. The condensed water runs down the evaporator/moisture removal HX and drips into a pan. It is then routed out the end of the dehumidifier through the drain outlet.

Use Backing Tool



## Plumbing the Drain

It is important to collect the condensed water and route it to either a collection point or drain to waste. The outlet from the DehuKing Dehumidifier is 3/4" female pipe thread. You must use a 3/4" male fitting with pipe compound or Teflon tape to begin your drain route. Use a backing tool when tightening the male fitting into the female fitting of the dehumidifier. We recommend PEX because long rolls can be purchased and used in long lengths. A male 3/4" PEX fitting is made to join to the dehumidifier. We prefer the PEX crimp rings as shown. PEX pipe is easily bent without any need for additional fittings. The water can be routed drain to waste or drain to collect.



## Electrical

**Electrical Knockout:** Due to the U.L. Codes and restrictions, electrical panels cannot have pre-drilled holes for electrical connections. Those must be drilled or punched by your local licensed electrician. The hole should be located near the electrical service bar inside the dehumidifier. The spec sheet by model designates where the electrical service panel is.

The 2 ton DehuKing Dehumidifiers and the 1 ton DehuKing Dehumidifiers come equipped and prewired with a LCDI/GFCI\* power cord. A standard receptacle to accommodate the voltage is the only thing necessary.

This cord provides the user with electrical shock protection. A ground fault circuit interrupter is built into the plug, with manual push button reset. These cords are built to resist moisture and to give you years of trouble-free service. We provide a cord rated for the voltage and amp-load of the dehumidifier. The 2 ton receives a 230v cord while the 1 ton receives a 115v cord. Rated voltage at plus or minus 10%.

Your cord will be this type or similar. To test press test, then press reset button.



## Dehumidifier Controls

The controls are very simple to operate. Simply set the controller for the desired humidity in the area of the dehumidifier. The manual for the controller on your dehumidifier is supplied with your purchase documents.



## Temperature Operating Range

Low ambient temperature operation. DehuKing units shut off at 33F and come back on at 38F.

## Control Options WiFi

Contact Biotherm Solutions™ for solutions on networking a number of dehumidifiers. Biotherm Solutions will also have options for WiFi and apps that give you additional options. Check progress or change settings from the comfort of your home.

## Performance

The model beginning with DU02T will produce a maximum of 552 pints with +90% RH at 90F. At lower temps with lower RH, it will produce 515 pints at 80F and 60% relative humidity. You must provide a drain that is capable of handling this much water.

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**IMPORTANT!** Please read this section titled “Recovered Water”.

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## **RECOVERED WATER**

### **Add Nutrients & Minerals as Needed**

Contact Biotherm Solutions for storage solutions. If the condensed water is collected and stored, we highly recommend plastic storage or stainless steel containers. Since the water has similar characteristics to distilled water, it is very low in minerals and metals. For that reason it can cause corrosion of the metals used in storage. If this water is used to water plants or for production, please mix minerals and nutrients into the water to match your crop or production needs.

### **Warranty information**

The warranty for the DehuKing dehumidifiers is 1 year on all parts, 5 years on compressor, 3 years on refrigeration circuit. The refrigeration circuit includes the evaporator/moisture collector, the condenser, and the copper tubing that carries the refrigerant liquids or gases. Three months for labor. Warranty begins three days after purchase date from Biotherm.

5 years-Compressor

3 years-Refrigeration circuit, condenser, evaporator, and filters

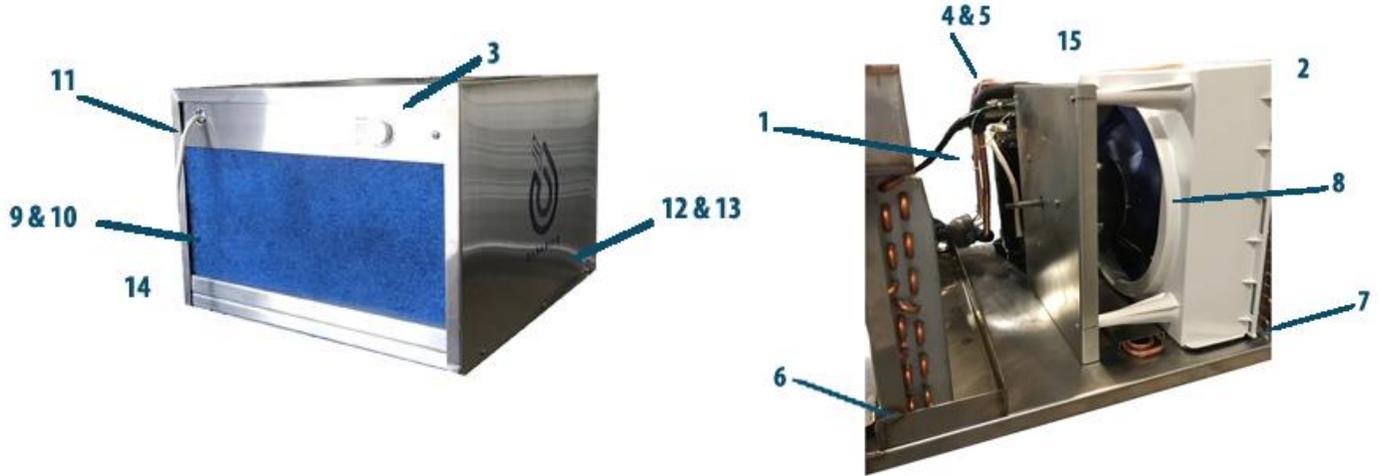
1 year-All parts

3 months-Labor

#### **Controller PDF with below information.**

H46 Humidity Controller

Humidity Controllers provide automatic control of dehumidifiers.



## Parts List

1. Compressor
2. 410a refrigerant
3. Humidity controller
4. Refrigerant liquid line filter
5. Suction filter
6. Evaporator/moisture collector
7. Condenser
8. Fan & motor
9. Air filter chassis
10. Air filter
11. Power cord LCDI/GFCI
12. Stainless steel cabinet
13. Stainless steel base
14. Stainless steel pan/with drain piece 3/4" female
15. Single phase only start capacitor



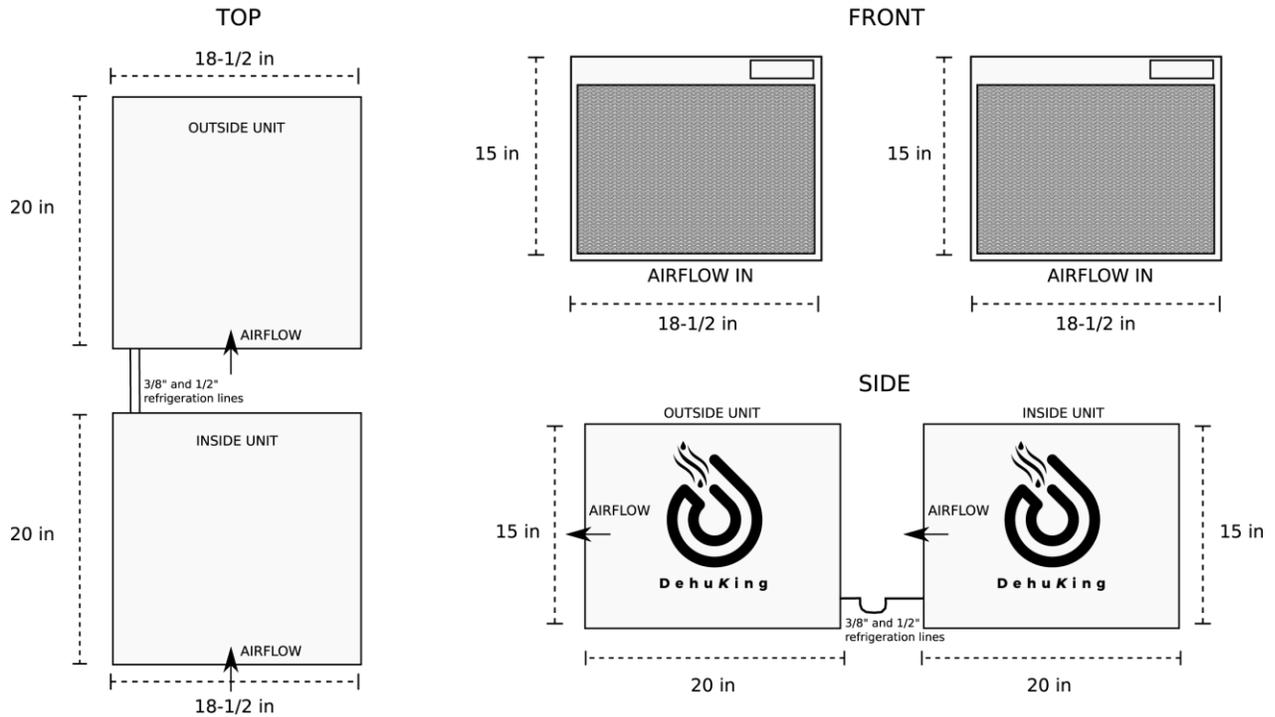
## MODEL RDU02T03CK069-552-1

### SPECIFICATIONS:

- 2 ton remote dehumidifier
- Performance: 515 pints at 80F and 60% relative humidity
- 3 gallons per hour, 69 gallons per day, 552 pints per day at maximum saturation
- 9.97 pints per KW
- Electrical: 208/230V, 60hz Single phase
- Min Circuit Ampacity: 9.7 Amps, Max Fuse Size 15 Amps
- R410a Refrigerant
- One 410a 24,000 BTU/HR compressor
- 25 feet of refrigeration lines included
- Dimensions: 18.5" wide, 20" long, 15" tall
- Weight: 165 pounds
- Decibels: 84

### REMOTE CONDENSER SPECIFICATIONS:

- Electrical: 208/230V, 60hz Single phase
- Amperage: 2 Amps
- Dimensions: 18.5" wide, 20" long, 15" tall
- Weight: 115 pounds



P.O. Box 1696 Bastrop, Texas 78602 Tel 512-303-1529

[www.chillking.com](http://www.chillking.com)