

# TRION<sup>®</sup>

## Indoor Air Quality



READ AND SAVE THESE INSTRUCTIONS

*UNITS NOT FOR COMMERCIAL USE*

**ComfortDry CD55 & CD90**  
Whole-House Central Dehumidifiers

## READ AND SAVE THESE INSTRUCTIONS

### TABLE OF CONTENTS

Introduction.....	2
Contents .....	2
Specifications .....	3
Operating Modes/Configurations.....	3
Unit Location.....	4
Installation .....	4
Wiring.....	7
Unit Controls.....	8
Configuration & Operation.....	9
Maintenance .....	10
Troubleshooting.....	11
Common Repair Parts List .....	12
Warranty.....	13

PLEASE COMPLETE THE FOLLOWING ON DAY OF  
INSTALLATION. HOMEOWNER TO RETAIN FOR FUTURE  
INFORMATIONAL PURPOSES.

Unit Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Installation Date \_\_\_\_\_

Installing Contractor Name \_\_\_\_\_

Installing Contractor Phone \_\_\_\_\_

## Introduction

### CAUTION

Read the entire manual carefully and completely before installing this product. Installation and maintenance should be completed by qualified personnel. Installation contrary to these guidelines may void warranty.

The benefits of a properly humidified environment are many. They include personal comfort as well as the preservation of furniture, draperies, carpets, wooden floors and cabinets, paintings, pianos, etc. Higher humidity levels can also increase the growth-rate of mold, bacteria, viruses, and even dust mites in the home. Your home can be more comfortable at a warmer temperature with drier air than without controlling humidity during the humid summer months. Since every degree of temperature change represents about 3% to 5% of the total cooling costs, each degree warmer you can set the thermostat can represent a significant annual savings.

During the cooling season, warm, moist air infiltrates the home and must be cooled. When cooled, this air can still be humid as air conditioners are designed to cool the air, not dehumidify the air. A small amount of dehumidification may be a benefit of air conditioners, but they actually work harder and longer to cool the air when the air is moist. Only by using a whole house dehumidifier to reduce the humidity in the entire home's air, can a balance between humidity levels, temperature, comfort, and energy costs be optimized.

## Contents

The following items are included with your TRION ComfortDry dehumidifier:

- ComfortDry CD55 or CD90 dehumidifier
- 20' standard AC cable
- 12" drain hose, which can be lengthened (see below)
- Installation/operation manual

If any items are not found, please contact TRION Customer Service at 800-884-0002.

The following are a list of items that may be required for a complete installation:

- 6-inch round flexible output air ducting and clamping, if not operating in standalone unit mode (length determined by installation location)
- For the CD55, 8-inch round flexible air ducting and clamping via accessory kit (Part No. 268708-001)
- For the CD90, a 12-inch round flexible input air ducting and clamping, if not operating in standalone unit mode (length determined by installation location)
- Remote humidistat and possibly a 24VAC control voltage source, if not operating in standalone unit mode
- Condensate pump (if not easy to reach gravity-fed drain)
- Air duct take-offs and conversions as necessary, if not operating in standalone mode
- ½" ID plastic or vinyl drain hose long enough to reach gravity-fed drain or condensate pump; connects to a ½" hose barb located at the bottom of dehumidifier
- 18-20 gauge thermostat wire for control wiring

## Specifications

Specification	ComfortDry CD55	ComfortDry CD90
Capacity (@ 80°F, 60% RH)	57 Pints per Day	90 Pints per Day
Operating Relative Humidity	35-95%	35-95%
Operating Temperature Range	33°-105°F	33°-105°F
Volts/Hertz	120VAC/60 Hz	120VAC/60 Hz
Full Load Current (@ 80°F, 60% RH)	3.6 Amps	5.5 Amps
Coefficient of Performance	2.53 L/kWh	2.80 L/kWh
Energy Star Rated	Yes	Yes
Refrigerant	R410A	R410A
Airflow @ 0.00" S.P.	250 CFM	370 CFM
Inlet Filter	Yes, Washable MERV 8 Cassette	Washable Pre-Filter and MERV 8 Cassette
Inlet Duct	Optional 8"	12"
Outlet Duct	6"	6"
Power Cord	20-ft Standard 3-Prong AC	20-ft Standard 3-Prong AC
Sound Level	52 dBA	58 dBA
Drain Pipe Connection	12-3/4" OD, 1/2" ID Vinyl Tubing	12-3/4" OD, 1/2" ID Vinyl Tubing
Digital Control for Standalone Operation	Yes	Yes
Dimensions L x W x H	18" x 12" x 12"	23.4" x 13.7" x 17"
Weight	40 Pounds	65 Pounds
ETL Listed	Yes	Yes

## Operating Modes/Configurations

The ComfortDry CD55 and CD90 support whole-house dehumidification and standalone unit dehumidification modes for crawlspace and basement applications.

### Standalone Unit Dehumidification

Standalone Unit Dehumidification (SUD) is typically used to dry basements and crawlspaces. For this application, the CD55 and CD90 are capable of operating in a complete standalone mode in a ductless configuration that does not require any extra ducting or control system hook-ups. In SUD mode, the CD55 and CD90 have an integrated humidistat and controller. The user just connects power, plumbs in the water drain, turns the CD55 or CD90 on, configures the unit control for SUD mode, then sets the desired humidity and leaves it alone. Thereafter, the CD55 or CD90 automatically senses the humidity level and turns on as needed to remove access moisture in the air.

### Whole-House Dehumidification

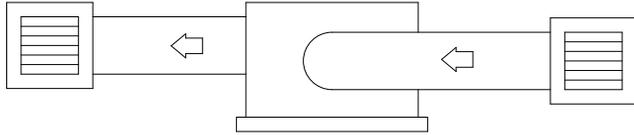
There are two whole-house dehumidification configurations that can be addressed with the CD55 and CD90. In the first of these configurations (see Figure 1, page 4), the dehumidifier serves the whole house but is not duct-integrated with the HVAC system. Secondly, the CD55 and CD90 share the return and supply ducting of the HVAC system and may even share a common integrated thermostat/humidistat (see Figure 2A and 2B, page 4).

#### Separate Duct Systems

Whole-house separated dehumidification systems have traditionally been utilized to support separate, more isolated rooms that require dehumidification. As of late, there is a growing trend towards mini-split HVAC systems that are implemented as heating and cooling systems. Separated dehumidification configurations are ideal solutions for mini-split based HVAC systems.

Separate duct systems operate independent of the HVAC system and are located in basements,

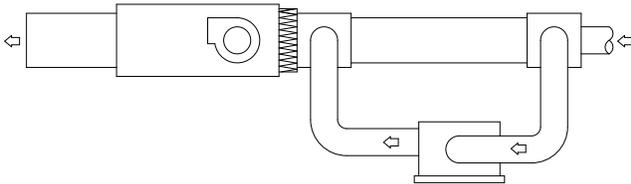
crawlspaces, or perhaps in a closet with ducting to and from the living area to be humidified.



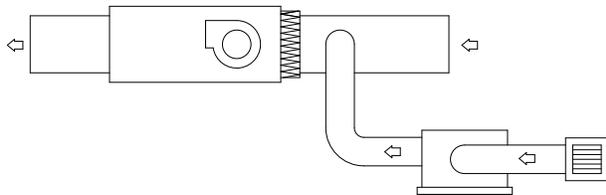
**Figure 1.** Whole-Home Separate Duct System

### HVAC Duct Systems

Whole-house HVAC duct systems are dehumidification configurations in which the CD55 and CD90 will be directly duct-interconnected with the home's central HVAC system and typically share control elements to ensure that the units properly functions with the ducted airflow. Below are the likely system example drawings of HVAC configurations.



**Figure 2A.** Whole-Home HVAC Duct System



**Figure 2B.** Whole-Home HVAC Duct System

## Unit Location

The ComfortDry 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:

1. The unit is designed to be installed indoors in a space that is protected from rain, flooding, and/or other forms of excess water. Unit is not designed to be exposed to chlorinated pool conditions or corrosive chemicals or conditions.
2. Install the unit with space to access the front panel for maintenance and service. Also, allow easy access to the filter cover panel.
3. Avoid discharging the air directly at people, over the water in pool areas, or other areas or objects where dehydration or evaporation of moisture is not desired.

4. If used near wet areas, be certain there is NO chance the unit could fall into the water or be splashed and that it is wired into a GROUND FAULT INTERRUPTER protected circuit.
5. A secondary drain pan **MUST** be placed under the unit if installed above a living area or above an area where water leakage could cause damage (see local codes for other requirements)
6. **DO NOT** position the ComfortDry directly on structural members where noise or vibration may be objectionable. The unit is equipped with adjustable support feet to raise and level the unit from the mounting surface; these adjustable feet should be utilized to provide improved drainage from the drain pan and should be adjusted to tilt slightly toward the drain utilized.
7. The ComfortDry should be located near the existing air handling system to minimize the required ductwork for connection of the ComfortDry to the existing HVAC air handling system. When the option is used, the control (humidistat) unit must be located in the space that is to be conditioned. The control (humidistat) **must** be low voltage (24V) and should be connected to the ComfortDry with code approved, low voltage thermostat cable.
8. When locating the ComfortDry in areas of extreme heat or high humidity, >120-degrees/90% humidity, additional external insulation may be required to prevent undesired condensation on the exterior of the unit.

## Installation

### Common Installation Instructions Across All Configurations

#### WARNING

Standalone Unit Dehumidification configurations, as noted, are typically used to dry basements and crawlspaces. To be properly dehumidified, the area to be controlled should be sealed with a vapor barrier. If the unit is to be installed in a crawlspace, all vents to the outdoors should be sealed. Do not install your humidifier in a corrosive environment. Some liquid barriers dry via "solvent evaporation". Always ensure the barrier is completely dry and area is thoroughly ventilated before installing dehumidifier.

## Step 1: Placement of the Dehumidifier Unit

**IMPORTANT:** If the dehumidifier unit is handled in such a manner that the compressor did not remain in the upright position, it is necessary to place on a level surface and wait a minimum of two hours before turning the unit on.

Additionally, ComfortDry dehumidifiers cannot sit directly on the floor unless the unit condensate drain output is feeding directly into a sump pump next to it.

When placing, the dehumidifier units are equipped with adjustable feet that can be used along with a leveling tool to make sure the dehumidifier rests in a completely “level” final state as needed for proper operation.

## Step 2: Set Up Drain Line

The condensate drain line should be routed to a suitable drain to carry the condensate water to the outside. The drain line must flow down without any loops, dips, or valleys to the final drain hole.

## Recommended Dehumidifier Drain Configuration Including a Transition to PVC Pipe



Drain Tube - 12 Inches Long, 12 MM OD

**Figure 3.** Drain Tube Drawing

1. Cut a piece of 3/4" OD PVC that is 6" minimum.
2. Insert PVC into a 3/4" elbow, then attach a 3/4" OD length of PVC to drain. Keep the length of the PVC drain pipe to a minimum and make sure it flows down.
3. Insert the open end of the dehumidifier condensate tubing into the 3/4" pipe so that it does not extend into the elbow fitting. For proper flow, a minimum downward slope of 1" per 10' run is required. **NOTE:** If a proper downward angle is not possible, then it is recommended to use an external condensate pump configuration. This will require expert installation.

4. Support the PVC tubing so that it maintains a smooth downward flow to drain.
5. Always test the drain before leaving the installation area.

## Step 3: Electrical Power Connections

The dehumidifiers are equipped with a 3-prong, standard 120VAC electrical plug. Given operation in damp and wet environments, and to put safety first, the required electrical outlet to be used to connect the dehumidifiers should have:

1. Ground Fault Circuit Interrupter (GFCI)
2. 15 Amp minimum circuit that cannot be shared with any other significant load

### WARNING

In all cases, local codes precede over installation and wiring recommendations. Do not plug the dehumidifiers into the outlet until all the control circuitry is properly connected.

120VAC may cause serious injury from electric shock. To ensure safety:

1. Disconnect electrical power before servicing.
2. Only plug unit into grounded electrical circuit.
3. Do not use extension cord.
4. Do not use a plug adapter.

## Step 4: General Ducting Points and Requirements

In all cases, sound duct design practices must be followed, such as those provided in ACCA manual “D” of ASHRAE’s *Fundamentals of Air System Design*.

For supply side air ducting (output from the dehumidifier), both the ComfortDry CD55 and CD90 have 6" round ducts.

For return side ducting, the dehumidifiers are equipped as follows:

- A 12" round collar for the CD90.
- The CD55 does not include a return duct, as it is preferred for standalone operation, which may not require ducting. However, an 8" round collar can be ordered separately from TRION and requires easy mounting (Part No. 268708-001).

For ducting material to use between existing ducts or new ducts with the ComfortDry dehumidifiers, it is advisable to select an acoustical flex duct material

on all dehumidifier duct connections to reduce noise and vibration transmitted to rigid ductwork in the structure. At the same time, flex ducting is very easy to use and eliminates the need for very detailed measurement, cutting, and duct forming.

## Ducting for Standalone Unit Configuration

For Standalone Unit Dehumidification, there is not a connection to existing HVAC ductwork. In the SUD case, when installing the dehumidifier inside a sealed crawlspace, a basement, or a sealed attic, the ducting requirements are recommended as follows:

1. If the area is open without partitions and the dehumidifier can be located near the center of the zone, then the return ducting is not absolutely necessary. Still, a minimum length of 5' supply duct will aid in overall air distribution. The short supply duct distance will support carrying the dehumidified air far enough away from the unit that it will not be quickly reprocessed again as returned air.
2. If the area being served is divided by walls or partitions, then the return duct should be routed to a second area/zone than the area where the humidifier is placed - and the supply duct should be routed to even a third area. These different areas will help push the air between the walls and/or partitions.
3. A similar but reverse strategy as #1 above, if the dehumidifier needs to be located along the perimeter in a more open zone, then a single return to the dehumidifier should be installed in the central open area of the structure to aid overall air distribution.

## Ducting for Whole-House Separate Room

Figure 1 on page 4 depicts an example system configuration that is in a residential living environment but is not interconnected with an existing HVAC system. The dehumidifier unit is separated given the living area is not in close proximity with the HVAC system, or the existing HVAC system could be a mini-split without any ductwork to connect with. In either case, the dehumidifier is to be installed with its own separate ducting, including both return and supply side. Note: The CD55 will require the duct accessory kit (Part No. 268708-001).

## Return Ducting for Whole-House Separate Room

The return duct length is not overly critical, and it is acceptable to provide more than a single return path to the dehumidifier to improve overall airflow from other far apart rooms. CAUTION: Be sure that grills and/or diffusers do not excessively restrict airflow.

## Supply Ducting for Whole-House Separate Room

For the supply output ducting (output air from the dehumidifier), the total duct length should be less than 10 feet total to reduce the back pressure on the dehumidifier blower. CAUTION: Be sure that grills and/or diffusers do not excessively restrict airflow.

## Ducting for Whole-House HVAC Configuration

For whole-house HVAC duct connections, please reference Figures 2A and 2B on page 4. In both of these configurations, the ComfortDry dehumidifiers are placed in the return path of the HVAC systems. Note: The CD55 will require the duct accessory kit (Part No. 268708-001).

For Figure 2A, the dehumidifier sources its return air connection from the HVAC return connection, and then the source air connection from the dehumidifier is fed back to the HVAC return air duct a few feet downstream. For whole-house HVAC, this is the most common, most effective, and easiest ducting implementation to use. It is best because it is dehumidifying the air ahead of the air conditioning coil system to eliminate the wettest air first ahead of the HVAC coils. This enhances the overall cooling system efficiency. Also, by inputting air from the HVAC return duct and returning the conditioned air to the same HVAC return duct, there is not an additional air pressure differential to overcome. In this configuration, keep the length of the dehumidifier return and source ducting at a minimum.

For the second whole-house HVAC configuration, please reference Figure 2B on page 4. The difference from Figure 2A is that the dehumidifier return path is independent from the HVAC return path. In this configuration, the ComfortDry dehumidifier has its own completely independent and dedicated ducting and return air grill. This configuration is ideal when there is a need to dry a specific conditioned or unconditioned area. An example would be to feed the separate room from the main living area, which would maximize the airflow from there, proving a living area that likely is more dry than the other living areas.

## Wiring

Discussed and illustrated here will be the basic control scenario for three classes of dehumidifier control:

1. Standalone unit dehumidification
2. Whole-house separated dehumidification
3. Whole-house using high integration consolidated thermostat and humidistat

### SUD Configurations

No extra control wiring is required for SUD configurations, as the ComfortDry dehumidifiers in this mode operate completely standalone, sampling humidity from the local air - and then using the settings made by the user interface to either switch-on or switch-off. Please reference the Operation section for details on how to configure and use the ComfortDry dehumidifier in standalone configurations.

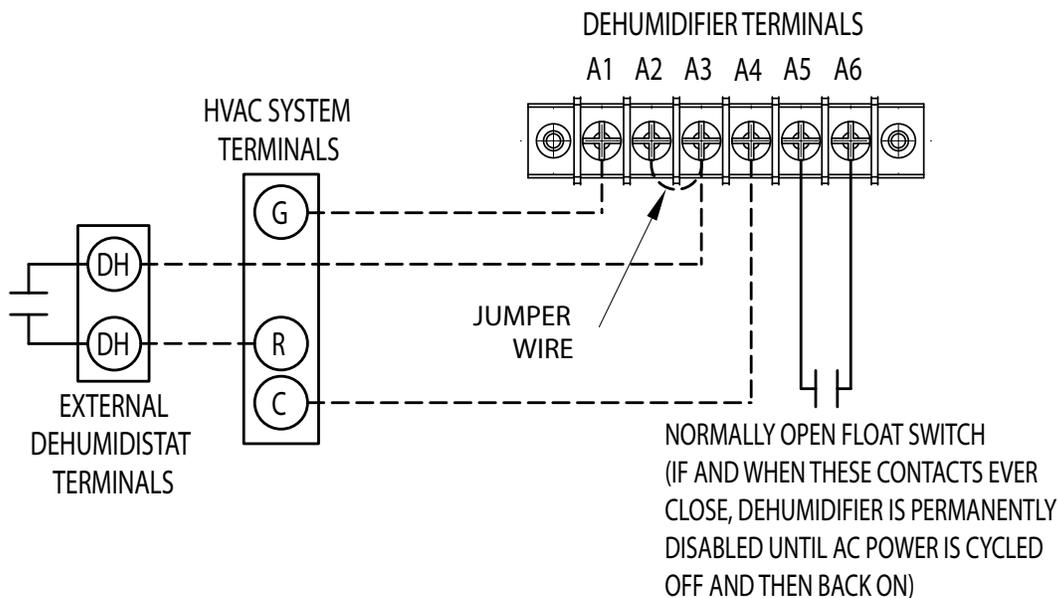
### Whole-House Separated Room Configurations

This type can be controlled with the addition of a single humidistat located in the living area that is to be served by the ComfortDry dehumidifier. See Figure 4 below to guide specific hook-ups. For external control, the dehumidifiers are connected to the control systems with the 6-position terminal strip as illustrated.

Terminals A3 and A4 need to be powered to switch the dehumidifier on, typically connecting A4 to the control voltage common signal (C) and switching the 24VAC control hot signal (R) through a set of normally open contacts typically integrated into the separate humidistat. When the humidity rises above the set-point, the humidistat contacts close, which then connects the dehumidifier pin A3 to 24VAC and switches the dehumidifier ON.

To implement a required interlock with the HVAC fan control, interconnect dehumidifier terminal strip connections A3 to A2 as illustrated below. Then, connect the dehumidifier terminal strip A1 back to the HVAC "green" connection, which typically turns the HVAC fan ON.

Also in the illustration below, please note the functionality associated with dehumidifier connections A5 and A6. A5 and A6 can be used to interlock the dehumidifier to the condensate drain system. If the water does not properly drain and the float switch closes, this will cause an error function to be triggered by the dehumidifier, which will cause the unit to permanently shut off. The error condition can only be reset by switching the dehumidifier breaker off, then back on or by unplugging power from the dehumidifier.



**Figure 4.** Wiring Diagram

\* If the dehumidifier is installed in an attic or another location requiring leak protection, the unit should be placed in a condensate pan with a normally open condensate overflow safety switch (float switch). Wire the float switch to Terminals A5 and A6 as shown.

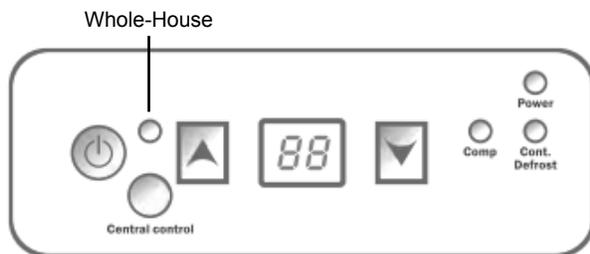
## Whole-House HVAC Configurations

An increasing number of systems are being implemented with combination thermostat/humidistats. In the same spirit of consolidated control, there are also high integration thermostats that include two different humidity control capabilities. The first provides separate control for a humidifier typically required during heating season, and the second provides separate control for a dehumidifier during the air conditioning season. At the same time, control systems have also become multi-speed controllers as required to interoperate with high efficiency heat-pump and forced air systems.

TRION dehumidifiers are equipped with the basic required interconnection as illustrated in Figure 4 on page 7. However, this manual does not provide interconnection diagrams for the multitude of integrated thermostat/humidistats currently available. The installation and control should be performed by an expert HVAC technician who will have the required knowledge to properly prescribe and interconnect a specific combination thermostat/humidistat. See the TRION website ([www.trioniaq.com](http://www.trioniaq.com)) for interconnection diagrams covering the most common control systems.

## Unit Controls

Operation of the dehumidifier is supported with both the unit control panel and optional humidistat for whole-house configurations. In either case, the dehumidifier configuration is set using the dehumidifier control panel shown below.



**Figure 5.** Dehumidifier Control Panel

### Button Functions

#### **1. Power Button ON/OFF**

Use this button to turn the dehumidifier ON and OFF. Press once to turn the machine ON. You

will hear a beep, and the power light will illuminate red. If in Unit/Standalone mode, press the button a second time, and you will hear one beep as the machine shuts down. Specially note that there is a one minute fan delay from button push to shutdown. In addition, the dehumidifier, once configured for operation, will automatically return to that mode during power glitch or outage.

If the dehumidifier is switched ON and then put into Remote/Whole-House Mode, the unit cannot be turned off with the switch. If in the Remote/Whole-House Mode and you want to turn the main power off, then switch the dehumidifier into Unit/Standalone Mode that re-arms the OFF switch (both mode indicator lamps off). Thereafter, the power switch can be used to switch OFF.

#### **2. Arrow Buttons ▲ Up and ▼ Down**

Use the Up and Down arrow buttons to set the humidity set point on the display screen, when using in SUD configuration. The set points can be any number between 35 to 99. Creating a set point means that when the indoor humidity is lower than the set point, the machine will stop automatically. Conversely, when the indoor humidity is higher than the set point, the button is pushed and the unit will switch ON to run.

#### **3. Central Control Configuration Button**

Press this button to switch the dehumidifier between Standalone Unit Configuration and Whole-House Configuration. Whole-House Configuration is selected when the green lamp is turned on above.

### Indicator Lights

#### **1. Humidity Display Screen**

The display screen has two functions. When the unit is powered ON, it shows the local humidity. While setting the desired humidity level, the screen will show the set point humidity level.

#### **2. Whole-House Indicator Light**

When the indicator light is green, it illustrates the unit is configured for Whole-House Configuration and not Standalone Mode. While in Whole-House Configuration, the dehumidifier is to be controlled by a separate humidistat.

### 3. Power Indicator Light

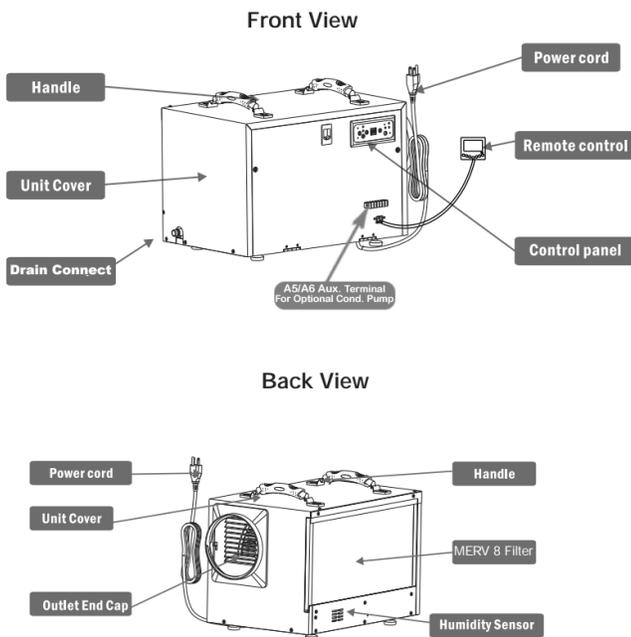
This light indicates that the unit is properly powered ON and ready to operate in Standalone Mode. In Remote/Whole-House Mode, the Power Indicator only illuminates when the unit is running. Always make sure this unit is OFF prior to performing any service.

### 4. Continuous Defrost Light

When this light illuminates green, it indicates that the dehumidifier is set to Continuous Operation Mode. When the light glows red, it means the unit is in Auto Defrost Mode and clearing the evaporator coil of any ice buildup.

### 5. Compressor Light

When the Compressor light glows red, it indicates that the compressor has been initiated to run but is currently warming up. Once the compressor light switches to green, it indicates that the compressor is in working status.



**Figure 6.** CD55 Operation Diagram

## Configuration & Operation

### Standalone Unit Configuration

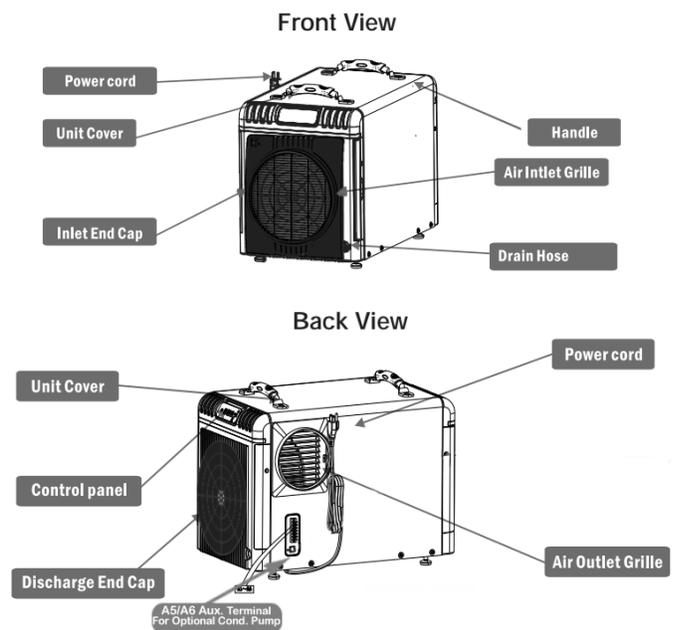
After the dehumidifier is properly installed, ducted, connected to AC power, and condensate drain plumbed, standard operation can be configured and initiated.

#### Step 1

Push the power switch to turn the dehumidifier ON. TEST MODE can be initiated by switching the dehumidifier into Standalone/Unit Mode then by pressing and holding down both arrow buttons. Press down both arrow buttons again to turn off TEST MODE (continual on function).

#### Step 2

Press the Central Control button until the Whole-House light turns OFF, which indicates the unit is configured for Standalone/Unit Mode of operation.



**Figure 7.** CD90 Operation Diagram

### Step 3

Next, see the Humidity Screen Display, which will indicate the current local humidity. Use the Up/Down arrow buttons to set the humidity set point for the dehumidifier. If the humidity rises above the set point, then the dehumidifier will switch ON and run continuously until the humidity set point is achieved. There may be a 1-2 minute delay when the unit starts a dehumidifier ON cycle before it actually begins dehumidifying, as there is a compressor warm-up cycle required and indicated by a red Compressor light. Likewise, if powering OFF, there may be a short one minute delay required for the unit to cycle down and shut off.

### Step 4

From there, the unit will run and only needs to be switched OFF for cleaning and maintenance if necessary.

### Whole-House Configuration

After the dehumidifier is properly installed, ducted, humidistat control wired, connected to AC power, and condensate drain plumbed, standard operation can be configured and initiated.

### Step 1

Be sure to turn OFF the Dehumidifier Mode on the external humidistat controller before switching on the dehumidifier. Also, if an external float switch is being used for the condensate drain circuitry, be sure the condensate tank is empty or near empty and the associated float switch is open.

### Step 2

Push the power switch to turn the dehumidifier ON.

### Step 3

Press the Central Control button until the Whole-House light turns on, which indicates the unit is configured for Whole House Mode of operation. After a very brief delay, the dehumidifier will switch into the Whole-House Mode.

### Step 4

After setting the unit for Whole-House Mode in Step 3 above and from this point forward, the dehumidifier is exclusively controlled by the dehumidistat. At this time, the humidistat controller can be turned on and the humidity setting adjusted accordingly. When the humidistat signals the need for dehumidification, there may be a 1-2 minute delay when the unit starts a dehumidifier ON

cycle before it really begins dehumidifying, as there is a compressor warm-up cycle required and indicated by a red Compressor light. Likewise, if powering OFF, there may be a short one minute delay required for the unit to cycle down and shut off.

From here on, the unit will run and only needs to be switched off for cleaning and maintenance if necessary.

## Maintenance

### ComfortDry CD55

#### **Cleaning the Machine Body**

Use a damp cloth to clean exterior of unit. Do not use any soap or solvents.

#### **WARNING**

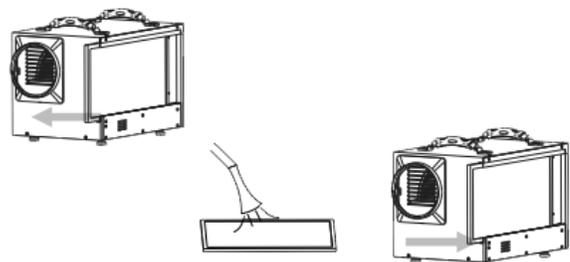
Always unplug the unit before performing any maintenance.

#### **Cleaning the Filter (See Figure 8)**

1. Unplug the unit.
2. If your unit has a supply duct adapter, loosen the duct adapter.
3. Slide out the filter.
4. Clean the filter mesh by vacuuming or washing with warm water (no soap or solvents).
5. Reinsert filter. If applicable, retighten supply duct adapter.
6. Ensure filter is completely dry before restarting unit.

#### **Coil Maintenance**

Once per year, clean the coils with an approved coil cleaner. Coil cleaner should be a self-rinsing, foaming cleaner such as WEB® Coil Cleaner.



**Figure 8.** CD55 Maintenance Diagram

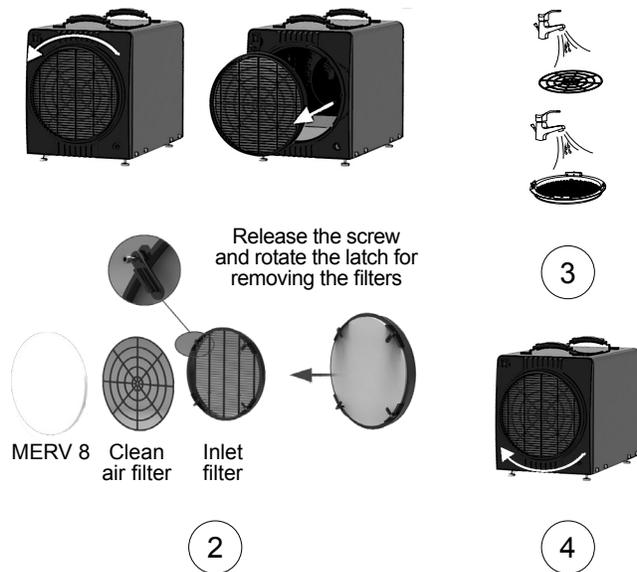
## ComfortDry CD90

### Cleaning the Machine Body

Use a soft damp cloth to clean exterior of unit. Do not use any soap or solvents.

### Cleaning the Filter (See Figure 9)

1. Unplug the unit.
2. Rotate the air inlet grille counterclockwise to remove.
3. Clean the filter mesh by vacuuming or washing with warm water (no soap or solvents).
4. Reinsert the air inlet grille by rotating it clockwise onto the unit.
5. Be sure filter is completely dry before restarting unit.



### Coil Maintenance

Once per year, clean the coils with an approved coil cleaner. Coil cleaner should be a self-rinsing, foaming cleaner such as WEB® Coil Cleaner.

**Figure 9.** CD90 Maintenance Diagram

## Troubleshooting

Symptom	Cause	Solution
Machine won't run	Power supply	Verify that there is power to the outlet and that the plug is properly installed in the outlet.
	Room temperature over 105° F (display HI) or below 33° F (display LO)	The unit is outside the operating temperature range. Modify the room conditions so that the temperature is between 33° and 105° F and operation will commence.
Low air flow	Air filter is clogged	Clean the filter mesh according to instructions listed in manual.
	Air inlet or outlet is blocked	Clear the blockage from inlet or outlet.
Loud noise	Machine is not level	Move the dehumidifier to flat, firm ground.
	Filter mesh is blocked	Clean the filter mesh according to instructions listed in manual.
Trouble code E1	E1 = Humidity sensor issues or bad communication between main board and sensor	Check to ensure that wire is connected at both ends. If no issues are visible, the sensor may be faulty and need replacement.
Trouble code E4	E4 = Pump maintenance is required	If pump safety switch is hooked up to terminals A5 and A6, then this code typically indicates the condensate pump is not working or the float is stuck. After fixing condensate pump issue, the error can only be reset by disconnecting and reconnecting power to unit.
Trouble code HI or LO	Room temperature over 105° F (display HI) or below 33° F (display LO)	The unit is outside the operating temperature range. Modify the room conditions so that the temperature is between 33° and 105° F and operation will commence. If room conditions are within temperature range, replace defective sensor.

Parts List

Common Repair Parts

TRION Part No.	Description
268512-901	CD90 Return Duct & Filter Mounting Hardware
268512-902	CD Main Control Board
268512-903	CD Main Display Board
268512-904	CD Humidity Sensor
268512-905	CD Snap-In Supply Collar
268512-906	CD55 Fan Motor
268512-907	CD55 Complete Fan Assembly
268512-908	CD55 Fan Capacitor
268512-909	CD55 Compressor Capacitor
268512-910	CD55 Humidity Sensor Cable
268512-911	CD55 Display Cable
268512-912	CD55 Adjustable Foot
268512-913	CD55 MERV 8 Filter
268512-914	CD90 Fan Motor
268512-915	CD90 Fan Capacitor
268512-916	CD90 Compressor Capacitor
268512-917	CD90 Display Cable
268512-918	CD90 Adjustable Foot
268512-919	CD90 Round Prefilter
268512-920	CD90 MERV 8 Filter
268512-921	CD90 Humidity Sensor Cover
268708-001	CD55 Duct Mount Kit

## Warranty

### Dehumidifier Limited Warranty

Applies in U.S.A. and Canada Only

FAILURE TO MAINTAIN YOUR EQUIPMENT WILL VOID THIS WARRANTY. The following TRION Product equipment is covered by the Limited Warranty: Whole-House Dehumidifiers ComfortDry CD55 & CD90.

TRION warrants the ComfortDry CD90 or CD55 dehumidifier ("Product") will be free of material defects in workmanship or materials for a period of two years following the date of initial purchase of such Product by an original customer purchasing from a TRION or an authorized TRION reseller; and the Product's condenser, evaporator, and compressor will be free of material defects in workmanship or materials for a period of five years following the date of initial purchase of such Product by a Customer from TRION or an authorized TRION reseller.

**Limitation of Remedies:** CUSTOMER'S SOLE AND EXCLUSIVE REMEDY UNDER THE ABOVE LIMITED WARRANTY AND TRION'S ENTIRE LIABILITY THEREUNDER, SHALL BE, AT THE SOLE OPTION OF TRION, REPLACEMENT OR REPAIR OF SUCH PRODUCT OR ITS COMPONENTS ("COMPONENTS") BY TRION OR TRION'S AGENTS ONLY. REFRIGERANT, PIPING, SUPPLIES, TRANSPORTATION COSTS, OR LABOR COSTS INCURRED IN REPAIR OR REPLACEMENT OF SUCH COMPONENTS ARE NOT INCLUDED. THIS DISCLAIMER AND EXCLUSION SHALL APPLY EVEN IF THE EXPRESS WARRANTY AND LIMITED REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE. CUSTOMER ACKNOWLEDGES THAT NO REPRESENTATIVE OF TRION OR OF ITS AFFILIATES OR RESELLERS IS AUTHORIZED TO MAKE ANY REPRESENTATION OR WARRANTY ON BEHALF OF TRION OR ANY OF ITS AFFILIATES OR RESELLERS THAT IS NOT IN THIS AGREEMENT. Notwithstanding the above, during the term of the Two-Year Warranty only, TRION will provide, free of charge to Customer, all Components and labor (except costs related to removal and installation of Product) required to fulfill its obligations under such Two-Year Warranty.

**Disclaimer of Warranties:** EXCEPT FOR ABOVE LIMITED WARRANTY, WHICH IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED WITH RESPECT TO THE PRODUCT AND ITS COMPONENTS, TRION HEREBY DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**Warranty Limitations:** The foregoing limited warranty extends only to a Customer and shall be null and void upon attempted assignment or transfer. A "defect" under the terms of the limited warranty shall not include problems resulting from Customer's or Customer's employees', agents', invitees', or a third party's misuse, improper installation, improper design of any system in which the Product is included, abuse, lack of normal care, failure to follow written instructions, tampering, improper repair, or freezing, corrosion, acts of nature, or other causes not arising out of defects in TRION's workmanship or material. If a Product or Component is replaced while under warranty, the applicable limited warranty period shall not be extended beyond the original warranty time period. The limited warranty does not cover any costs related to changes to a Product or Component that may be required by any codes, laws, or regulations that may become effective after initial purchase of the Product by Customer.

**Customer Responsibilities:** As a further condition to obtaining warranty coverage hereunder, the Customer must send a valid warranty claim to TRION such that TRION receives such claim prior to the end of the applicable warranty period. TRION shall have no obligation hereunder with respect to any claim received by TRION after the expiration of the applicable warranty period. As a further condition to obtaining warranty coverage hereunder, the Customer must present forms of invoices evidencing proof of purchase of a Product. If such invoices do not clearly indicate the date of initial purchase by a Customer, the applicable Product's date of manufacture will be used instead of the date of initial purchase for the purpose of calculating the commencement of the applicable warranty period. Warranty service must be performed by TRION or a servicer authorized by TRION. In order to obtain warranty service, the Customer should call TRION at 1-800-884-0002 and ask for the TRION

Product Customer Service Department, which will then provide shipping information and/or arrange for applicable warranty services. Warranty service will be performed during customary, daytime working hours. If the Product must be shipped for service, Customer shall be solely responsible for properly packaging the Product, for all freight charges, and for all risk of loss associated with shipment.

**Limitation of Liability:** IN NO EVENT SHALL TRION, IN CONNECTION WITH THE DESIGN, SALE, INSTALLATION, USE, REPAIR, REPLACEMENT, OR PERFORMANCE OF ANY PRODUCT, COMPONENT, PART THEREOF, OR WRITTEN MATERIAL PROVIDED THEREWITH, BE LIABLE, TO THE EXTENT ALLOWED UNDER APPLICABLE LAW, UNDER ANY LEGAL THEORY FOR ANY SPECIAL, DIRECT, INDIRECT, COLLATERAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, THE SOLE AND EXCLUSIVE LIABILITY OF TRION, REGARDLESS OF THE NATURE OR THEORY OF THE CLAIM, SHALL UNDER NO CIRCUMSTANCES EXCEED THE PURCHASE PRICE OF THE PRODUCT, COMPONENT OR PART UPON WHICH THE CLAIM IS PREMISED.

**Applicable Law and Venue:** ANY ARBITRATION, ENFORCEMENT OF AN ARBITRATION, OR LITIGATION RELATED TO THE PRODUCT WILL BE BROUGHT EXCLUSIVELY IN MILWAUKEE COUNTY, WISCONSIN, AND CUSTOMER CONSENTS TO THE JURISDICTION OF THE FEDERAL AND STATE COURTS LOCATED THEREIN, SUBMITS TO THE JURISDICTION THEREOF AND WAIVES THE RIGHT TO CHANGE VENUE. CUSTOMER FURTHER CONSENTS TO THE EXERCISE OF PERSONAL JURISDICTION BY ANY SUCH COURT WITH RESPECT TO ANY SUCH PROCEEDING.

**Miscellaneous:** If any term or condition of this Limited Warranty is found by a court of competent jurisdiction to be invalid, illegal, or otherwise unenforceable, the same shall not affect the other terms or conditions hereof or thereof or the whole of this Limited Warranty. Any delay or failure by TRION to exercise any right or remedy will not constitute a waiver of TRION to thereafter enforce such rights.



---

TRION®

101 McNeill Rd. | Sanford, NC 27330

P: 800.884.0002 | F: 800.458.2379 | [www.trioniaq.com](http://www.trioniaq.com) | [customerservice@trioniaq.com](mailto:customerservice@trioniaq.com)

---