

allergic reaction to mold?  
dustmites?  
musty odors?  
feeling clammy?

# Create a Comfortable and Healthy Home!



- **Energy Star efficient.**
- **High capacity effective dehumidification: up to 90 pints of water a day.**
- **MERV-11 filtration standard. MERV-14 optional.**
- **Insulated cabinet for quiet operation.**
- **Sized for 2200 sq. ft. home.**

Moisture in the home has many sources: people, pets, plants, cooking, washing, ground water, and infiltration of outside air. Too much moisture in the home can create musty odors and can also stimulate the growth of mold, mildew, bacteria, and other biological allergens.

## WHOLE HOUSE VENTILATING DEHUMIDIFIERS

To avoid the problems caused by moisture, and create a comfortable environment, a dehumidifier is necessary to maintain relative humidity between 45-50% throughout the home. Only supplemental dehumidification provides indoor humidity control regardless of air conditioner operation or outside moisture conditions.

The highly efficient Ultra-Aire 90H utilizes refrigeration and internal air circulation to cool the incoming air stream below its dew point. This cooled and drier air is used to pre-cool the incoming air stream resulting in a significant increase in overall efficiency.

After helping to cool the incoming air, the processed air is reheated by passing through the condenser coil. The heat removed by the evaporator coil is returned to the air stream, resulting in an overall temperature increase to the processed air.

The Ultra-Aire 90H is controlled by a variety of 24 volt remote wired controls, suitable to various applications.

## FRESH AIR VENTILATION

Optional fresh outdoor air may be ducted to the unit via a six inch round duct. This provides fresh air to dilute pollutants and maintain a normal oxygen content in the air. The amount of fresh air ventilation can be regulated by a variety of dampers and controls.

## AIR FILTRATION

The Ultra-Aire 90H includes air filtration to improve indoor air quality. A MERV-11 media filter is standard. A separate, optional filter housing is available which provides additional filtration up to MERV-14 efficiency.

# 90H

# Specifications and Installation

<b>Part Number:</b>	4025700	
<b>Blower:</b>	240 CFM @ 0.0" WG 220 CFM @ 0.4" WG	
<b>Supply Voltage:</b>	110 -120 Volt – 60 Hz.	
<b>Amps:</b>	6.3	
<b>Energy Factor:</b>	2.5	
<b>Operating Temp.:</b>	56°F Min, 100°F Max	
<b>Sized For:</b>	2200 Square Foot Typical	
<b>Minimum Performance at Set Conditions:</b>		
Intake Air:	80°F, 60% RH	
Capacity:	90 Pints/Day @ 80°F/60% RH	
Pints/kWh:	5.3	
<b>UA-90H Duct Connections:</b>		
6" Round Inlet		
10" Round Inlet		
10" Round Outlet		
<b>Filter Efficiency:</b>	Standard MERV-11 (65% ASHRAE Dust Spot) Optional MERV-14, (95% ASHRAE Dust Spot)	
<b>Power Cord:</b>	7.5', 115V With Ground	
<b>Drain Connection:</b>	3/4" Threaded MPT	
<b>UA-90H Dimensions:</b>		
	<b>Unit</b>	<b>Shipping</b>
Width:	15 3/4"	20 1/2"
Height:	20 7/8"	25 7/8"
Length:	34 1/2" without collars 40 1/2" with collars	42"
Weight:	92 lbs	99 lbs

## OPTIONAL ACCESSORIES

4025845	Condensate Pump Kit
4028539	DEH 3000 Digital Humidity Controller
4022486	Timer, 7-Day, 24 Vac, Programmable
4025287	Filter Box
4026161	Merv 11 Standard Filter 14" x 14"x 1"
4024370	Merv 14 95% Efficient Filter 20" x 24" x 4"

### Optional Filter Box Dimensions:

Length:	24"
Height:	19 15/16"
Width:	14 1/4" with collars; 7 3/4" without collars
Weight:	19 lbs

### Optional Filter Box Duct Connections:

6" Round Inlet
10" Round Inlet
10" Round Outlet
Optional MERV-14 (95% ASHRAE Dust Spot)

## INSTALLATION MATERIALS

Control Options	Part Number
DEH 3000 - Digital Control	4028539
DEH 3000R - Digital Control	4028407

### Ducting Options

6", 2 wire 24 volt Electric Air Damper	4023672
10" Backdraft Damper	4024375
10" Starting Collar (Included w/ Unit)	N/A
6" Outside Air Intake Vent (Not Provided)	N/A
Duct Tape (Not Provided)	N/A
Large Cable Ties (Not Provided)	N/A
Insulated 6" Air Duct (Flex) - 25 ft.	4020128
Insulated 10" Air Duct (Flex) - 25 ft.	4022126

### Plumbing - Not Provided By Therma-Stor

3/4" PVC Pipe
3/4" PVC Threaded Nipple
3/4" PVC Elbow
PVC Primer and Glue

### Electrical - Not Provided By Therma-Stor

12-2 Non-Metallic Sheeted NM-B (Romex) Wire
20 AMP 120 Volt Single Pole Breaker
20 AMP 120 Volt Rated (3) Prong Outlet
Thermostat Wire (5Conductor, 18 AWG)
Wire Staples
Outlet Cover
Outlet Box

Preferred installation is to draw air from a separate intake duct located in the central part of the home. Duct the outlet air into the supply duct for distribution throughout the home. A backdraft damper prevents air from the supply duct from being pushed backward through the UA-90H when central (A/C) fan is on and the Ultra-Aire fan is off.

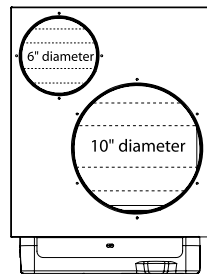
**Therma-Stor does not recommend drawing air from the return ducting system and discharging into the supply for two reasons:**

**Central Fan On:** The UA-90H is pulling against a negative pressure (intake side) and discharging against a positive pressure (outlet side), which results in lower airflow and reduced capacity.

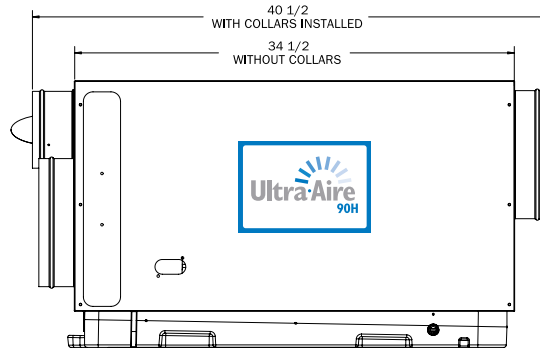
**Central Fan Off:** Discharge air may counter-flow from the supply duct directly to the return duct and not be distributed throughout the home effectively.

# 90H

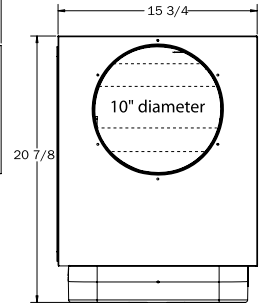
# Ultra-Aire 90H



FRONT VIEW



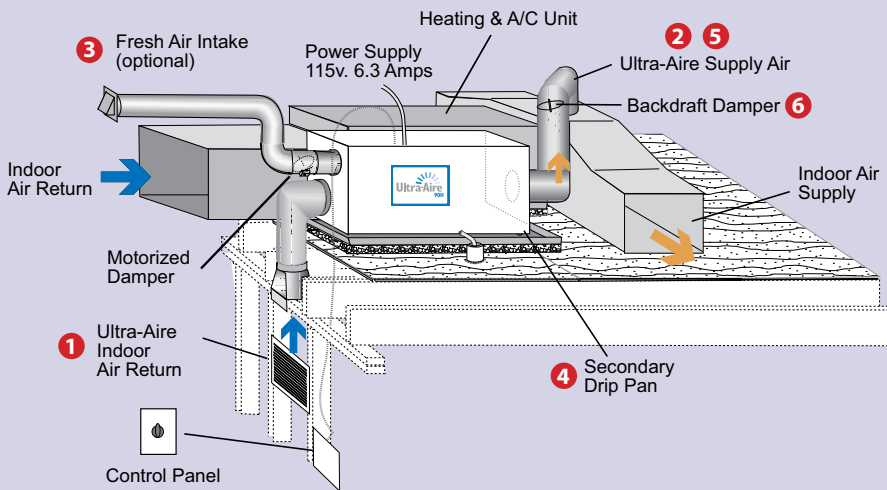
SIDE VIEW



REAR VIEW

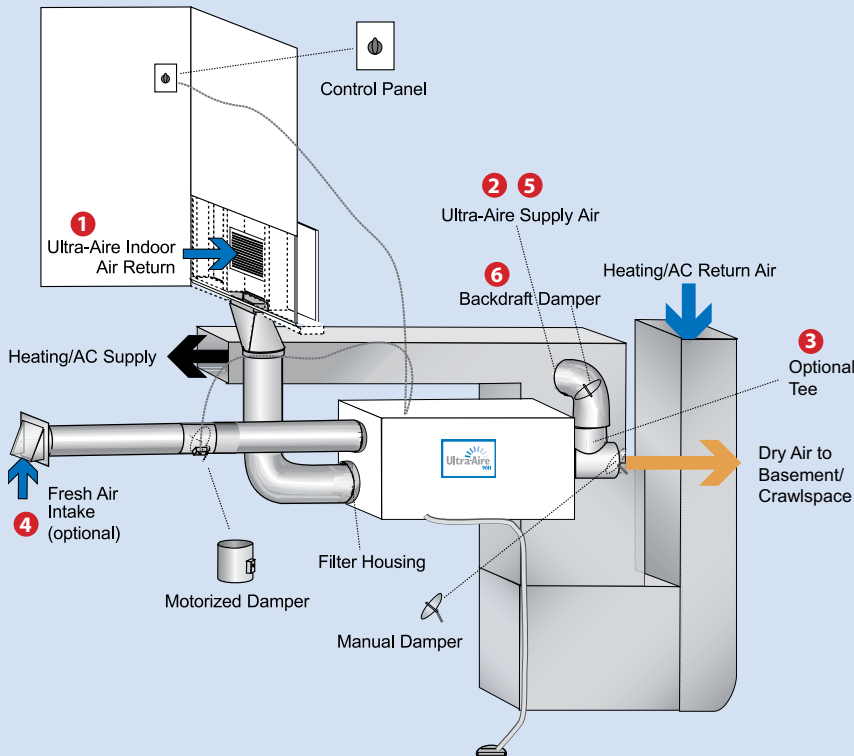
# installation

## ULTRA-AIRE 90H ATTIC INSTALLATION



1. Indoor air return should come from an open area of the first or second floor.
2. The Ultra-Aire supply should be ducted into the forced air system past the air conditioning coil. The duct connection should be perpendicular to the air flow.
3. The optional six inch fresh air intake should be located at least six feet away from any exhaust ports, such as, dryer, range hood, or combustion device exhaust. Intake location must be consistent with local codes.
4. If placed over a finished area, use of a secondary drip pan is recommended.
5. A section of flex duct or vibration absorbing duct should be located between the connections of the Ultra-Aire ductwork and the forced air system ductwork.
6. The backdraft damper prevents counter-flow of the A/C supply air through the UA-90H.

## ULTRA-AIRE 90H BASEMENT OR CRAWLSPACE INSTALLATION



1. Indoor air return should come from an open area of the first or second floor.
2. The Ultra-Aire supply should be ducted into the forced air system supply beyond the air conditioning coil. The duct connection should be perpendicular to the air flow.
3. An optional ten inch tee fitting with an adjustable blade damper on the straight run may be attached at the Ultra-Aire supply. This allows for increased air flow to the basement/crawlspace during the summer months.
4. The optional six inch fresh air intake should be located at least six feet away from any exhaust ports, such as, dryer, range hood, or combustion device exhaust. Intake location must be consistent with local codes.
5. A section of flex duct or vibration absorbing duct should be located between the connections of the Ultra-Aire ductwork and the forced air system ductwork.
6. The backdraft damper prevents counter-flow of the A/C supply air through the UA-90H.

# Additional Ultra-Aire Accessories



4026208

## Do you know the relative humidity levels in your home?

The Humidity Alert™ was designed to discriminate between occasional periods of high humidity and the prolonged periods that create a risk of unhealthy biological activity. It's a simple, inexpensive device that monitors temperature and relative humidity conditions and records data that is known to contribute to **wood rot, mold growth, musty odors and increased pest activity.**

### Easy to use:

1. Place the meter in the desired space.
2. Collect the necessary humidity data.



4028539

## Ultra-Aire Digital Controller

You will enjoy the comfort that comes with precise regulation of your indoor environment with our new **DEH 3000 Digital Control.** This control will allow you the ability to monitor and control relative humidity levels in your home. The DEH 3000 is designed to accommodate your personal comfort level.

This unit replaces the DEH 2000 Digital Control. To be used with the Ultra-Aire Whole House Ventilating Dehumidifiers.