

# AprilAire®

## Humidifier

### SPECIFICATION SHEET

## 400 Series

Whole-House Evaporative Humidifier

### FEATURES

- Uses 100% of the water that goes into it
- Ideal for customers with septic systems
- Best choice on jobs when water conservation is ideal
- Fast and easy installation for every application
- Safety features eliminate overflows



#### MODELS:

**400:** Automatic Whole-House Humidification

**400M:** Manual Whole-House Humidification

### SPECIFICATIONS

Capacity	0.7 gph 17 gpd
Electrical Data	24 V - 60 Hz - 0.5 amp
Dimensions	15 3/8" W x 15 3/4" H x 10 1/4" D
Weight	10 lbs. (Unit Weight) 12 lbs. (Shipping Weight)
Bypass Connection	6" round
Plenum Opening	9" W x 12" H

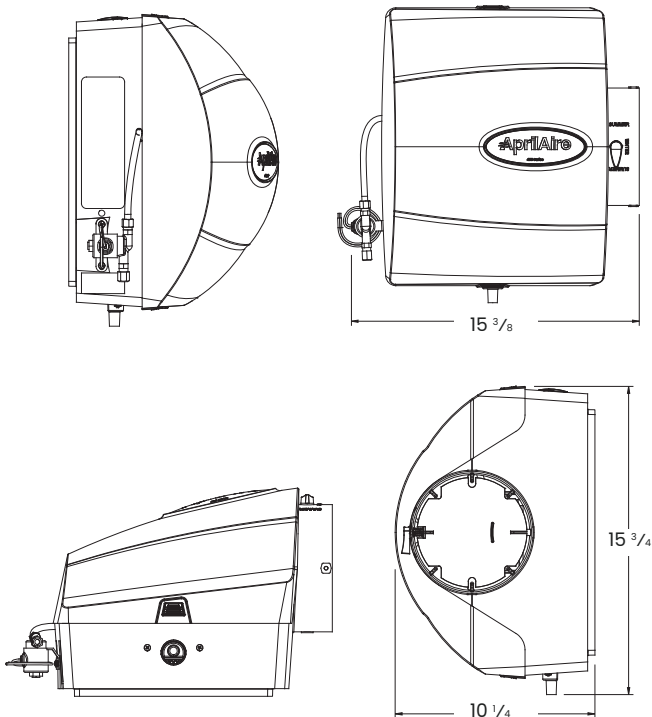
### PRINCIPLE OF OPERATION

The AprilAire Model 400 Evaporative Humidifier operates in conjunction with the heating, ventilating, air conditioning equipment (HVAC) blower. When the AprilAire Humidifier Control calls for humidity and the blower motor is operating, water flows to the distribution tray located at the top of the humidifier. The water is uniformly distributed across the width of the tray and through a scientifically designed system of outlets, it flows by gravity over the Water Panel® evaporator, the heart of the humidifier. Dry, hot air is moved through the moisture-laden Water Panel® evaporator where natural evaporation takes place. The now-humidified air carrying moisture in vapor form (nature's own way) is circulated throughout the home.

The left float chamber operates as a safety back-up to the right float. In the unlikely event the right float failed and water continued to fill the chamber, the water would spill into the left float chamber and shut off power to the solenoid valve. This chamber is isolated from the wicking action of the water panel and the air coming through the humidifier.

During the heating season, water in the isolated back-up chamber will evaporate over approximately two days. If the left chamber dries out, the safety float would engage the solenoid valve, but the system would again shut down. This design eliminates overflows.

If both floats were to fail, water would flow out of the left-hand float chamber and into the center of the scale control insert, which would direct the water to the safety overflow connection at the bottom of the humidifier.



# ANNUAL OPERATION & MAINTENANCE



## Fall Startup:

- Turn humidistat to desired set point
- Set damper knob to WINTER (located next to AprilAire logo)
- Confirm water supply is on

## Twice Per Season:

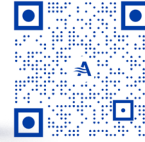
- Remove cover and replace water panel. Clean the water panel housing, floats, and reservoirs. Use Genuine AprilAire Model 45.



## Spring Shutdown:

- Turn humidistat to OFF\*
- Set damper knob to SUMMER

\*Digital humidifier control in automatic mode, no adjustment necessary



Scan QR code for full humidifier maintenance tutorial

## HUMIDIFIER SIZING GUIDELINES GPD NEEDED PER SQUARE FOOT<sup>1</sup> BASED ON BUILDING STRUCTURE TIGHTNESS

STRUCTURE TIGHTNESS	VOLUME OF BUILDING (FT <sup>3</sup> )						
	8000	12000	16000	20000	24000	32000	40000
	BUILDING FLOOR AREA (FT <sup>2</sup> ) WITH 8 FT CEILINGS						
	1000 Ft <sup>2</sup>	1500 Ft <sup>2</sup>	2000 Ft <sup>2</sup>	2500 Ft <sup>2</sup>	3000 Ft <sup>2</sup>	4000 Ft <sup>2</sup>	5000 Ft <sup>2</sup>
<b>Tight</b>	3.3 GPD	5.0 GPD	6.7 GPD	8.3 GPD	10.0 GPD	13.4 GPD	16.7 GPD
<b>Average</b>	6.7 GPD	10.0 GPD	13.4 GPD	16.7 GPD	20.0 GPD	26.7 GPD	33.4 GPD
<b>Loose</b>	10.0 GPD	15.0 GPD	20.0 GPD	25.0 GPD	30.1 GPD	40.1 GPD	50.1 GPD

<sup>1</sup>GPD = Gallons Per Day, as recommended by AHRI (Air Conditioning, Heating and Refrigeration Institute), Guideline F

A family of 4 will add 2 gallons of humidity per day through everyday activities like breathing, cooking, bathing and washing. Evaporative capacities assume blower is active 100% of the time, plenum temperature is at 120° F and water is cold.

## INCLUDED WALL-MOUNT CONTROL



### Model 60 (400) Automatic Humidistat

- RH adjustment knob
- Backlit LCD displays RH & setting when adjusting
- Change water panel and service needed indicator lights
- Blower Activation mode can extend humidifier run time

### Model 4655 (400M) Manual Humidistat

- RH adjustment knob
- Wall-mounted for easy access
- Humidity guide lets the user pre-adjust RH based on expected outdoor temperature changes
- Simple wiring

## MAINTENANCE KIT



### Model 4788 Maintenance Kit

Keep humidifier performance optimal with a new water panel, water panel assembly with floats, and water distribution parts.

	Model 60	Model 4655
<b>Dimensions (W" x H" x D")</b>	6 x 4 1/4 x 1 1/2	5 1/8 x 3 3/8 x 1 15/16
<b>AC Power</b>	24 VAC (18-30 VAC) at 60 HZ	N/A
<b>Power Consumption</b>	0.08A @ 24 VAC	N/A
<b>RH Setting Range</b>	10%-45%, Off (45%: max humidity)	15%-45%, Off (45%: max humidity)
<b>Humidity</b>	Control Accuracy: ±3% RH Control Range: 0% to 45% RH Differential: 3.0% RH	Control Accuracy: ± 5%, Control Range: 0 to 45, Differential: 5%
<b>Control Options</b>	System Setting: Auto or Manual Blower Activation: Off or On	N/A