AprilAire

Humidifier

SPECIFICATION

400 Series

Whole-House Evaporative Humidifier

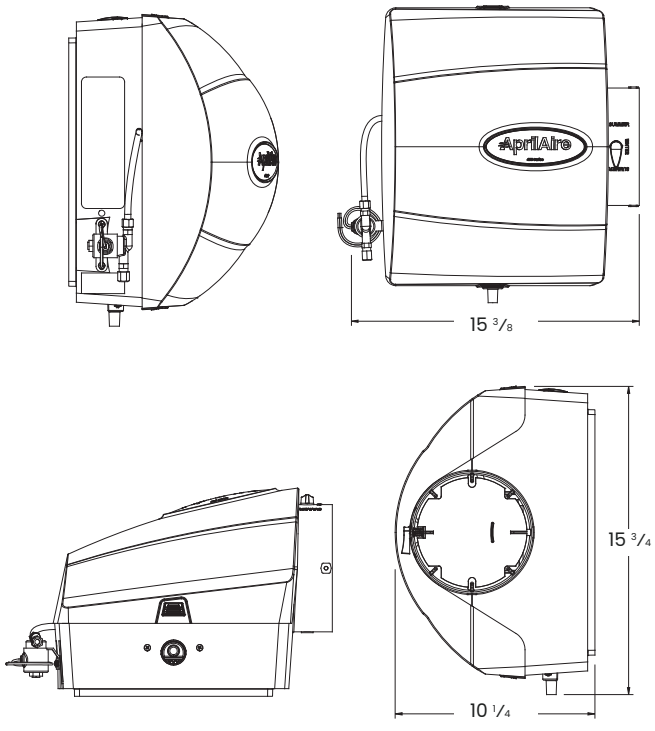


MODELS:
400: Automatic Whole-House Humidification
400M: Manual Whole-House Humidification

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

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.

HUMIDIFIER SIZING GUIDELINES GPD NEEDED PER SQUARE FOOT‡ BASED ON BUILDING STRUCTURE TIGHTNESS							
STRUCTURE TIGHTNESS	VOLUME OF BUILDING (FT^3)						
	8000	12000	16000	20000	24000	32000	40000
	BUILDING FLOOR AREA (FT^2) WITH 8 FT CEILINGS						
	1000 Ft^2	1500 Ft^2	2000 Ft^2	2500 Ft^2	3000 Ft^2	4000 Ft^2	5000 Ft^2
Tight	3.3 GPD	5.0 GPD	6.7 GPD	8.3 GPD	10.0 GPD	13.4 GPD	16.7 GPD
Average	6.7 GPD	10.0 GPD	13.4 GPD	16.7 GPD	20.0 GPD	26.7 GPD	33.4 GPD
Loose	10.0 GPD	15.0 GPD	20.0 GPD	25.0 GPD	30.1 GPD	40.1 GPD	50.1 GPD

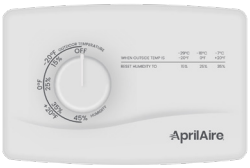
‡**GPD = Gallons Per Day, as recommended by AHRI (Air Conditioning, Heating and Refrigeration Institute), Guideline F**
A family of 4 will add 2 gallons of humidity per day through everyday activities like breathing, cooking, bathing and washing. Evaporative capacities assume blower is active 100% of 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

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

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



Spring Shutdown:

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

*Digital humidifier control in automatic mode, no adjustment necessary

Twice Per Season:

Water Panel Only: Remove cover and replace water panel. Clean the water panel assembly, floats, and reservoirs. Use Genuine AprilAire Model 45.

Water Panel EZKit: Simply remove the water panel and assembly. Keep the floats and float cover from the assembly and clean if needed. Then place them into the Water Panel EZKit Model H445EZ1A.



Scan QR code for full humidifier maintenance tutorial



Model 4788
Maintenance Kit

Includes parts for any maintenance need: Water Panel Assembly, Floats, Feed Tube and Owner's Manual.

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