

AprilAire® Humidifier

Regional Applications

AprilAire humidifiers can be installed on many different types of HVAC equipment. This application guide is to assist in the selection of the appropriate AprilAire product based upon geography and heating equipment.

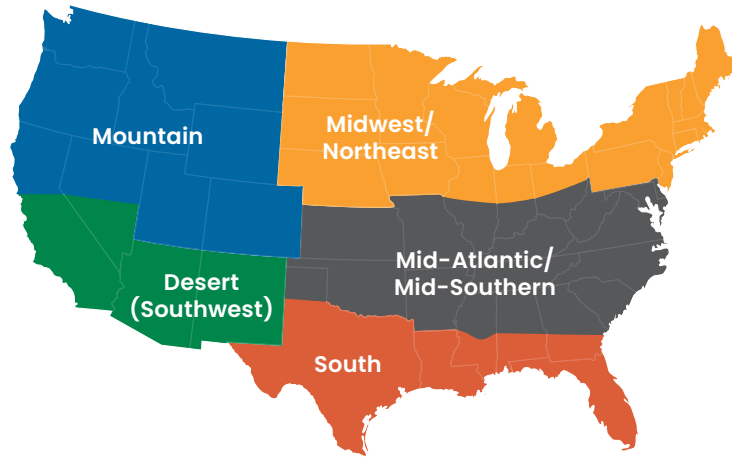
It's important to consider the plenum temperature, air flow (fan speed) and run time (heat call primary, fan only call secondary) when selecting products.

Automatic humidity controls have an integrated blower

activation feature, which is factory set to 'ON'. It will turn on the humidifier and the HVAC blower for humidification without a heat call. It will increase the run time and effectiveness of the humidifier.

Installations with a manual humidifier control can increase capacity by turning the thermostat fan to "ON".

When installing evaporative humidifiers, it's recommended they are plumbed to hot water.










CLIMATE ZONE/RECOMMENDED APRILAIRE HUMIDIFIER SOLUTION BY MODEL

EQUIPMENT	MIDWEST/ NORTHEAST	MID-ATLANTIC/ MID-SOUTHERN	MOUNTAIN	SOUTH	DESERT (SOUTHWEST)
Gas/Oil Furnace-Single Stage or Multi Stage*	400/500/600/700/800	400/500/600/700/800	400/500/600/700/800	500/600/700/800	800
Gas/Oil Modulating Furnace**	700/800	700/800	700/800	700/800	800
Heat Pump/Geo-Single Stage or Multi Stage*	400†/500/600/700/800	400†/500/600/700/800	400†/500/600/700/800	500/600/700/800	800
Heat Pump/Geo-Modulating**	700/800	700/800	700/800	700/800	800
Boiler With AHU (No Heat Source)	800	800	800	800	800
Boiler With AHU and Hot Water Coil/ Hydro Air Unit	700/800	700/800	800	800	800
Boiler	300/865	300/865	300/865	300/865	300/865
Electric Baseboard Heating	300/865	300/865	300/865	300/865	300/865
Humidifying with A/C Unit	800	800	800	800	800

*PSC, constant torque ECM

**Variable speed ECM

†Evaporative performance of bypass humidifiers decreases with lower airflow volume and lower air temperature. Bypass models can be used in these applications if the HVAC system pressure differential between supply and return ducts is at least 0.08 in. wg and air temperature, hot water and continuous fan in the supply duct is at least 100°F.

HUMIDIFIERS		TYPE OF HUMIDIFICATION	UNIT SIZE WIDTH X HEIGHT X DEPTH	PLENUM OPENING	CAPACITY GPD=GALLONS PER DAY	ELECTRICAL DATA	WATER PANEL/ CANISTER
800 Series	 <p>#800*†† #801***</p>	Steam For larger homes and applications when evaporative units are less practical (attics, crawl spaces, closets, milder winter climates, non-forced air-heating source).	10 1/8" x 20 7/8" x 7 1/8"	-	11.5 GPD	120VAC 60HZ 11.5A	80††
					16.0 GPD	120VAC 60HZ 16.0A	
800 Series	 <p>#865** #866***</p>	Ductless Steam Includes the Model 800, Fan Pack, Model 65 Control and Model 4028 Drain Trap. For homes without forced-air heating systems.	Fan Pack: 14" x 6 29/32" x 3 15/16" Finished Grille: 16 3/16" x 9" x 1 3/32"	-	20.5 GPD	208VAC 60HZ 11.5A	
					30.0 GPD	208VAC 60HZ 16.0A	
					23.3 GPD	240VAC 60HZ 11.5A	
34.6 GPD	240VAC 60HZ 16.0A						
700 Series	 <p>#700* #700M**</p>	Fan Powered Evaporative Built-in fan that pulls heated air directly from the furnace.	15 29/32" x 18" x 10 11/32"	W: 14 3/4" H: 14 31/100"	18 GPD	120VAC 60HZ 0.8A	35
600 Series	 <p>#600* #600M**</p>	Large Bypass Evaporative Uses the furnace blower to move air through a Water Panel®.	15 3/8" x 15 3/4" x 10 1/4" 6" dia. round opening	W: 10" H: 12 3/4"	17 GPD	24VAC 60HZ 0.5A	35
500 Series	 <p>#500* #500M**</p>	Small Bypass Evaporative Designed for smaller homes	15 5/8" x 13" x 10 1/4" 6" dia. round opening	W: 9 1/2" H: 9 1/2"	12 GPD	24VAC 60HZ 0.5A	10
400 Series	 <p>#400* #400M**</p>	Water Saver Bypass Evaporative Uses 100% of water and evaporative technology that eliminates the need for a drain. Conserves Water.	15 3/8" x 15 3/4" x 10 1/4"* 6" dia. round opening See note on heat pumps†	W: 10" H: 12 3/4"	17 GPD	24VAC 60HZ 0.5A	45
300 Series	 <p>#300</p>	Self-Contained Evaporative For boilers, mini-splits, radiant heat and ductless systems.	14 3/8" x 12 1/2" x 22 3/32"	-	13 GPD	120V 60HZ 0.7 AMP	35

HUMIDIFIER SIZING GUIDELINES GPD Needed Per Square Foot† Based on Building Structure Tightness							
Structure Tightness	VOLUME OF BUILDING (FT³)						
	8000	12000	16000	20000	24000	32000	40000
	BUILDING FLOOR AREA (FT²) WITH 8 FT CEILINGS						
	1000 Ft²	1500 Ft²	2000 Ft²	2500 Ft²	3000 Ft²	4000 Ft²	5000 Ft²
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

*Automatic Digital Control (shown)

**Manual Control – For those rare occurrences where an automatic control is not practical, AprilAire offers the same great humidifiers with a manual control.

***801 & 866 Modulating Steam Humidifier – For precise RH control. Controls are sold separately.

†Heat Pumps – Model 400 can be installed in heat pump applications. However, due to the fact that heat pumps deliver lower temperature air to the home than gas furnaces, evaporation will be approximately 60% of rated capacity. (With other AprilAire models, hot water can be used instead of cold to maximize evaporation. However, due to the nature of the wicking water panel in the Model 400, hot water provides limited benefit). As such, your dealer will need to take the size and age of your home into consideration to ensure the Model 400 will provide satisfactory comfort and protection through adequate humidification.

††Model 800LC available with 80LC canister for less conductive water 75-300µS/cm and 120VAC applications.

‡ 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 12° F and water is cold.

Bypass Humidifiers – Can be installed on the supply or return plenum.

Water Usage Rate – Model 300 is 6 gph (gph=gallons per hour); Models 500, 600 and 700 are 3 gph; Model 400 is 0.7 gph; Model 800 is 0.6 to 1.8 gph depending on voltage, amp draw and water quality.