

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.

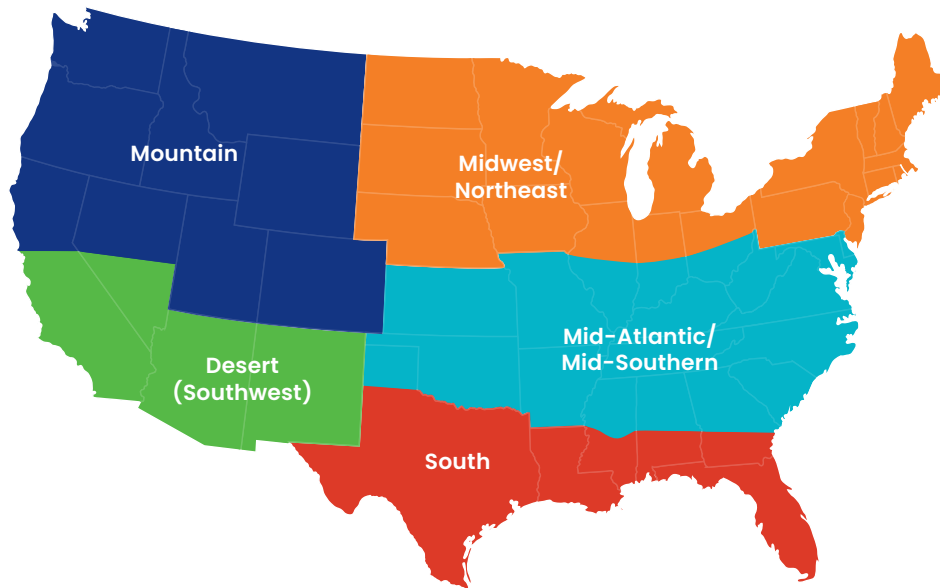
Automatic humidity controls have an integrated blower activation feature, which is factory set to ON. It will turn on the humidifier and the HVAC blower for humidification

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, best practice is plumbing to hot, soft, or softened water. Humidifiers will perform with hard or soft water, but hard water can increase scale buildup and require additional maintenance, similar to other home appliances.

An inline scale reducing filter can also be installed in hard water applications.









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*	400/500/600/700/720/800	400/500/600/700/720/800	400/500/600/700/720/800	500/600/700/720/800	800
Gas/Oil Modulating Furnace**	720/800	720/800	720/800	720/800	800
Heat Pump/Geo—Single Stage or Multi Stage*	400†/500/600/700/720/800	400†/500/600/700/720/800	400†/500/600/700/720/800	500/600/700/720/800	800
Heat Pump/Geo—Modulating**	720/800	720/800	720/800	720/800	800
Boiler With AHU (No Heat Source)	800	800	800	800	800
Boiler With AHU and Hot Water Coil/ Hydro Air Unit	720/800	720/800	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* #801***	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	120 VAC 60HZ 11.5A	80††
				16.0 GPD	120 VAC 60HZ 16.0A	
				20.5 GPD	208 VAC 60HZ 11.5A	
 #865** #866***	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"	-	30.0 GPD	208 VAC 60HZ 16.0A	
				23.3 GPD	240 VAC 60HZ 11.5A	
				34.6 GPD	240 VAC 60HZ 16.0A	
 #720A* #720M**	Fan Powered Evaporative Uses hybrid fan and water recirculation valve to increase output while reducing wastewater by 60% compared to model 700.	16 1/2" x 18" x 10 1/2"	W: 14 1/4" H: 14 1/4"	21 GPD	120 VAC 60HZ 1.25A	HydroCore Model L
 #700* #700M**	Fan Powered Evaporative Built-in fan that pulls heated air directly from the furnace.	15 15/16" x 18" x 10 3/8"	W: 14 3/4" H: 14 5/16"	18 GPD	120 VAC 60HZ 0.8A	35
 #600* #600M**	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	24 VAC 60HZ 0.5A	35
 #500* #500M**	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	24 VAC 60HZ 0.5A	10
 #400* #400M**	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	24 VAC 60HZ 0.5A	45
 #300	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	120 VAC 60HZ 0.7A	35

NEW!

HUMIDIFIER SIZING GUIDELINES GPD NEEDED PER SQUARE FOOT† BASED ON BUILDING STRUCTURE TIGHTNESS

STRUCTURE TIGHTNESS	TOTAL TREATED VOLUME OF BUILDING (FT ³)								
	8000	12000	16000	20000	24000	32000	40000	48000	56000
	TOTAL TREATED 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	6000 Ft ²	7000 Ft ²
Tight	3.3 GPD	5.0 GPD	6.7 GPD	8.3 GPD	10.0 GPD	13.4 GPD	16.7 GPD	20.1 GPD	23.4 GPD
Average	6.7 GPD	10.0 GPD	13.4 GPD	16.7 GPD	20.0 GPD	26.7 GPD	33.4 GPD	40.1 GPD	46.7 GPD
Loose	10.0 GPD	15.0 GPD	20.0 GPD	25.0 GPD	30.1 GPD	40.1 GPD	50.1 GPD	60.1 GPD	70.2 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 Model 400, hot water provides less benefits). 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 120° 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.

Water Supply - Best practice is to install evaporative humidifiers on soft water or with an inline scale removing filter. This will help prevent excessive scale buildup and provide best performance and service life.