

Reznor Model RPB with an Evaporative Cooling Module and Optional Downturn Plenum Cabinet



Evaporative Cooling Module Inlet View



DESCRIPTION

The Reznor evaporative cooling module is available as an option with Reznor direct-fired and indirect-fired, packaged makeup air systems. It is available as a factory-installed option on heating/makeup air Model Series RGB, RPB, ADF/ADFH300/500 and blower cabinet Model RBA. On larger capacity, packaged heating/makeup air Model Series RGLB, RPBL, SSCBL, PGBL, ADF/ADFH700/1200 and blower cabinet Model RBL, the evaporative cooling module is shipped separately for field installation. With both the factory- and field-installed module, the makeup air/evaporative cooling package is a unified system requiring only one electrical supply connection. When compared to expensive mechanical cooling, evaporative cooling provides excellent comfort cooling at lower equipment, installation, operation and maintenance costs.

This type of evaporative cooling works on the principles that water in direct contact with a moving airstream will eventually evaporate if the droplets have long enough exposure and that evaporation will lower the air temperature. To increase the droplet exposure to the moving airstream, wetted rigid cellulose media is used in Reznor evaporative cooling modules to retain the water. Reznor evaporative coolers are also available with 12" rigid cellulose media; 6" or 12" rigid glass fiber media.

The addition of an optional moisture elimination pad allows for use of the evaporative cooling module at higher air velocities.

The thermally protected water pump features a heavy duty, fan-cooled motor with moistureproof windings along with a corrosion resistant one-piece motor shaft. The snapout base allows for simple access to the impeller for easy cleaning. The pump is wired to allow for a manual switch to cooling or an automatic thermostat cooling operation.

Standard equipment includes an electrically activated, pump-protector, float switch to ensure that an adequate amount of water is in the reservoir prior to the pump being energized. An automatic float and constant bleed line maintains the proper reservoir level while allowing the appropriate bleed-off to prevent accumulation of scale deposits including calcium and magnesium salts. The optional Aqua Saver® water metering system is designed to decrease water usage by automatically regulating water flow by time and temperature and to decrease maintenance requirements by eliminating the pump and float switches.

STANDARD FEATURES

- Easily accessible, self-cleaning, high-efficiency evaporative media
- Thermally protected water pump
- Electrical motor-protection float switch with stainless steel arm
- Float valve and bleed line
- Voltage compatible to the packaged blower motor
- Terminal block wiring
- Overflow and drain connections in cabinet bottom (1/2" pipe or standard hose thread)
- 300 Series Grade stainless steel water reservoir
- Weatherized cabinet with mesh intake screen

OPTIONAL FEATURES

- 12" rigid cellulose; 6" or 12" glass fiber media
- Moisture elimination pad
- Automatic fill and drain kit
- Aqua Saver® water metering system
- Water Hammer Arrestor

Models	RGB, RPB ^① and RBA ^②										RGLB, RPBL ^③ , SSCBL, PGBL and RBL ^④							
Size of Heater	75	100	125	150	175	200	225	250	300	350	400	400	500	600	700	800	1050	1200
Evaporative Efficiency ^⑤	Options AS3 or AS5 with 6" media		68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
	Options AS4 or AS8 with 12" media		90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Maximum Cooling CFM	2,645	3,000	3,800	4,700	5,000	5,100	5,150	5,800	6,300	6,800	7,100	14,000	12,000	12,500	13,500	13,500	13,500	
Maximum Face Velocity ^⑥ (Optional moisture elimination pad required above 600 FPM)	611	693	878	882	938	827	835	773	840	800	761	750	643	670	723	723	723	
Pump Horsepower	1/70	1/70	1/70	1/70	1/70	1/70	1/70	1/70	1/70	1/70	1/70	1/50	1/50	1/50	1/50	1/50	1/50	
Amps @ 115V/1 phase	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.1	1.1	1.1	1.1	1.1	1.1	
Watts	85	85	85	85	85	85	85	85	85	85	85	80	80	80	80	80	80	
Media Face Size - Media pads are in sections	Dimensions		24" x 36"		24" x 32"		24" x 37"		24" x 45"		24" x 51"		24" x 56"		48" x 56"			
	Square Feet		4.33		5.33		6.17		7.50		9.33		18.67					

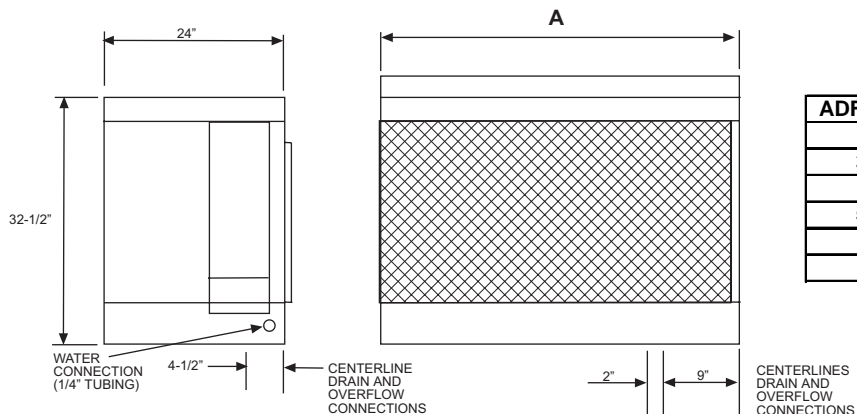
① Also applies to Models RGB/RPB with prefix "H", "C" and "CH".
 ② Technical data for **Model RBA** is the same as size **150**.
 ③ Also applies to Model RGLB with prefix "C."
 ④ Technical data for **Model RBL** is the same as size **400**.
 ⑤ The cooling efficiency was determined at the **maximum allowable CFM without the moisture elimination pad** and with an inlet dry bulb temperature of 95°F and an inlet wet bulb temperature of 65°F. Evaporative cooling efficiency is a function of inlet temperature (wet and dry bulbs) and of face velocity through the pads. The stated cooling efficiency will **rise** with the decrease of velocity and the increase of inlet temperature.
 ⑥ Velocity (FPM) = CFM ÷ Media face size (sq. ft.)

Models	ADF/ADFH							
Size of Heater	300	500	700	1200				
Evaporative Efficiency ^⑤	Options AS3 or AS5 with 6" media		68%	68%	68%	68%		
	Options AS4 or AS8 with 12" media		90%	90%	90%	90%		
Maximum Cooling CFM	5,060	7,125	10,000	15,500				
Maximum Face Velocity ^⑥ (Optional moisture elimination pad required above 600 FPM)	949	950	536	830				
Pump Horsepower	1/70	1/70	1/50	1/50				
Amps @ 115V/1 phase	0.92	0.92	1.1	1.1				
Watts	85	85	80	80				
Media Face Size - Media pads are in sections	Dimensions		24" x 32"		24" x 45"		48" x 56"	
	Square Feet		5.33		7.50		18.67	

⑦ Maximum CFM for ADF300 is 5,000 and Model ADF500 is 5,500. Maximums on table are for Model ADFH.

DIMENSIONAL DATA (ACCURATE TO WITHIN PLUS OR MINUS 1/8")

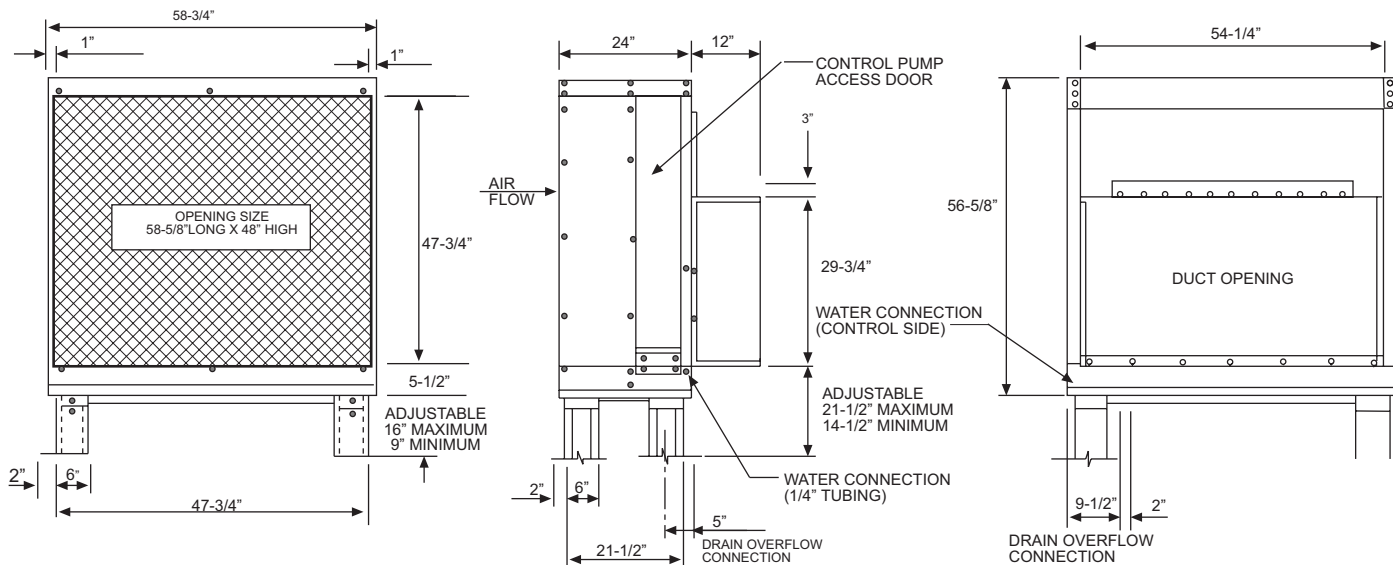
OPTIONAL EVAPORATIVE COOLING MODULE FOR INDIRECT-FIRED MODEL SERIES RGB, RPB, BLOWER CABINET MODEL RBA, and DIRECT-FIRED MODEL ADF/ADFH 300/500 (Cooling module is factory installed)



ADF/ADFH	RGB/RPB		A
	75, 100, 125		28-1/2
300	150, 175	RBA	34
	200, 225		39-1/2
500	250, 300		47-3/4
	350		53-1/4
	400		58-3/4

Weights (lbs.) - Optional Evaporative Cooling Module							
For Model RBA		RBA					
For Model ADF/ADFH - Size		300		500			
For Models RGB and RPB - Size		75, 100, 125	150, 175	200, 225	250, 300	350	400
Ship Weight (includes weight of heater crate addition)	AS3 with 6" cellulose media	158	168	182	212	224	239
	AS4 with 12" cellulose media	163	174	189	221	234	249
	AS5 with 6" glass media	162	173	188	220	232	248
	AS8 with 12" glass media	172	185	202	237	252	269
Net Weight with wet media and a Full Reservoir	AS3 with 6" cellulose media	173	197	218	249	271	292
	AS4 with 12" cellulose media	184	212	237	270	295	318
	AS5 with 6" glass media	181	206	230	262	285	308
	AS8 with 12" glass media	201	230	261	296	305	350

OPTIONAL EVAPORATIVE COOLING MODULE FOR INDIRECT-FIRED MODEL SERIES RGLB, RPBL, PGLB, SSCBL, BLOWER CABINET MODEL RBL and DIRECT-FIRED MODEL ADF/ADFH 700/1200



- Includes cooling module, base with adjustable legs and transition duct.
- Cooling module is factory assembled.
- Base and transition duct require field assembly.
- Complete instructions are included for required field installation.

NOTE: Evaporative cooling module for indoor installations must be mounted on a platform; the cooling module cannot be suspended. Refer to REC (page 2) and evaluate to determine most suitable method of ordering cooling module for an indoor installation.

Weights (lbs.) - Optional Evaporative Cooling Module for Models RGLB, RPBL, SSCBL, PGLB and RBL		
Ship Weight (Shipped Separately)	AS3 with 6" cellulose media	313
	AS4 with 12" cellulose media	335
	AS5 with 6" glass media	332
	AS8 with 12" glass media	374
Net Weight with wet media and a Full Reservoir	AS3 with 6" cellulose media	379
	AS4 with 12" cellulose media	431
	AS5 with 6" glass media	420
	AS8 with 12" glass media	514