

# REZNOR®

HIGH EFFICIENCY RTU



## HIGH EFFICIENCY, PACKAGED SPACE CONDITIONING

- » DX SYSTEM IEER > 13.2
- » GAS HEAT EFFICIENCY > 92%



### Capacities



10 - 25

Tons



100 - 400

MBH



30 - 120

kW



3,000 - 11,550

CFM

[www.ReznorHVAC.com](http://www.ReznorHVAC.com)

# Comfort



**Comfort is determined by many factors.**

- Air flow
- Temperature
- Activity
- Internal load
- External load
- Desired conditions

**Comfort also comes at an operational cost.**



**There is a solution...Reznor HVAC equipment.**

## Unit Selection

The online performance calculator lets you tailor the unit to your needs. This moves your design away from “canned” equipment to custom specified for your job. The future in web enabled software used by Reznor Agents gives you these custom selections

Design Conditions		Cooling Library		Heating Library			
Estimate	Rating	Outside	Indoor	Outdoor	Indoor		
1000	3000	3000	0	60-70	50-60	40-60	70-80

Unit	Brand	Model	Capacity	Efficiency	Price
YDPA-120-121.0-1000	YDPA-120-124.0-1000	YDPA-120-121.0-1000	YDPA-120-127.0-1000		
LAT 36.2 / 36.2	LAT 36.2 / 36.2	LAT 36.2 / 36.2	LAT 36.2 / 36.2		

Brand	Model	Capacity	Efficiency	Price
YDPA-120-121.0-1000	YDPA-120-124.0-1000	YDPA-120-121.0-1000	YDPA-120-127.0-1000	
300,000 (P200)	300,000 (P200)	300,000 (P200)	300,000 (P200)	2220 to 4400
325,000 (S225)	325,000 (S225)	325,000 (S225)	325,000 (S225)	2300 to 4400
350,000 (P350)	350,000 (P350)	350,000 (P350)	350,000 (P350)	2300 to 4700
375,000 (P375)	375,000 (P375)	375,000 (P375)	375,000 (P375)	2300 to 4700

# Best in Class



## Platform 125

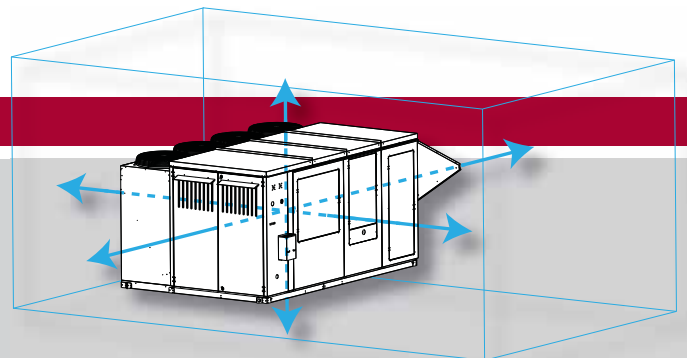
Designed for what you need.

- Performance
- Economy
- Reliability

- 90% Condensing Gas Heat
- High Efficiency DX System
- High Efficiency Supply Fan
- Factory Installed VFD
- Integrated Energy Recovery

## Revit® Models

Design teams are increasingly utilizing 3D tools to better layout building systems. Reznor brand products support this effort with REVIT drawings. The models have been specifically implemented to make the design professional work easier, faster and more accurate.



# The Reznor Model YDSA



## Heating

When it comes to heating efficiency and reliability, Reznor leads the world. The Platform 125 products carry the fourth generation of condensing 90+% heat sections and fifth generation of standard efficiency 80+% heat sections. And don't forget, for many climates, heating (versus cooling) is where the savings potential really exists.

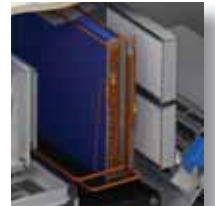


### Features:

- 5:1 or 10:1 gas modulation
- 2 or 4 stage gas & electric control
- 92% & 80% gas heating efficiency
- Constant gas heating thermal efficiency
- 409 stainless steel heat exchangers
- SCR electric heat modulation
- ANSI Z83.3 certified
- Condensate neutralizer

## Cooling

High efficiency DX system - up to 13.3 IEER. This efficiency simply translates into lower operational costs.

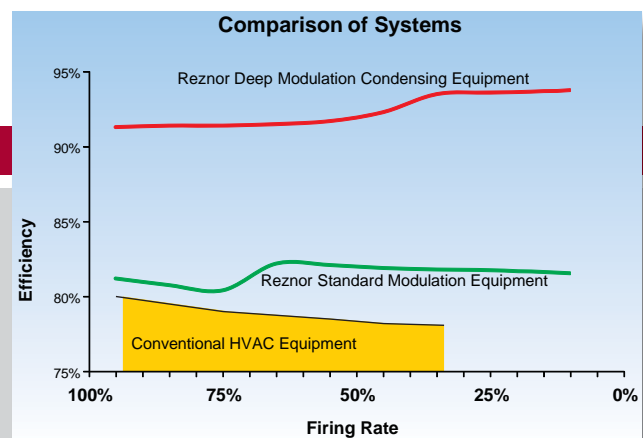


### Features:

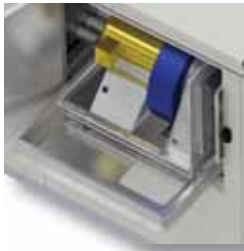
- Energy efficient compressors
- 10%-100% capacity control
- ECM condenser fans
- Low ambient operation
- Corrosion-proof, double sloped drain pan
- Sound blankets
- Coil coating - 6,048 hours salt spray effectiveness
- Ozone friendly R410A
- Froststat, high and low pressure switches

## Gas Modulation Efficiency

Total cost of ownership is the truest measure of value for your HVAC investment. The ability to modulate input allows greater control over constantly changing load conditions. Most heating systems lose over 6.25% of their thermal efficiency when modulating. Reznor models start with high efficiency and maintain that efficiency throughout the modulation range to maximize your HVAC investment dollars.



# Features & Benefits



## Supply Fan

The supply fan is the heart of the system and the one component in a package unit that impacts all other mechanical functions. Platform 125 units exhibit state of the art fan technology and system design.

### Features:

- Direct drive plenum fan
- Slide-out servicing & inspection
- ABB® VFD control (standard)
  - » Duct pressure control
  - » Building pressure control
  - » Adjustable constant volume
- Phase loss protection
- Direct CFM measurement
- High & low filtration hoods
- 11 intake damper configurations
- MERV 8 & 13 filters
- Reheat
  - » Independent DX circuit
  - » 15 - 17°F temperature rise
  - » Modulated capacity
  - » COP > 20
  - » Low ambient operation



## Construction

It all has to come together. The units are designed to withstand the rigors of weather conditions around the world and operate at the highest efficiency with the least amount of cabinet thermal loss.

### Features

- Foam panel double wall construction
- R13 insulation value
- Renewable/organic insulation material
- Safe bottom lifting
- Pre-painted G90 galvanized steel to meet ASTM B-117 for 1,000 hours salt spray
- Hinged doors
- Lockable doors
- Easy access to components



## Energy Recovery

Energy recovery systems recover exhaust air energy and re-introduce it into the conditioned space. Model YDSA, with the total enthalpy energy recovery module, integrates this savings allowing greater application flexibility.

### Features:

- Integrated power, controls, and mechanical
- ARI rated internal enthalpy wheel
- Minimal cross contamination (less than 5%)
- Slide out servicing
- Optional low ambient control kit for temperatures below 10°F
- Electric preheat
- Standard barometric relief exhaust damper

## More Capacity Combinations

The YDSA allows for more combinations of heating and cooling than traditional units. This gives the building designer more application flexibility, allowing a better match of heat/cool capacities to various building loads.

Gas Heat Input (MBH)		DX Capacity Size (Tons)			
80%	92%	10	12.5	15	17.5
100	--	✓			
125	--	✓	✓		
150	--	✓	✓	✓	
--	150	✓	✓	✓	✓
175	--	✓	✓	✓	✓
200	225	✓	✓	✓	✓
300	300	✓	✓	✓	✓
--	375		✓	✓	✓
400		✓	✓	✓	✓
--	450			✓	✓
500	--			✓	✓
600	--				✓

# Operation Saving

## How does the unit provide operational savings compared to standard package units?

### Heating

Condensing Gas Heat (92%)

= 10% to 18% reduction in associated fuel costs.



### Cooling

High Efficiency DX (13.3 IEER)

= 19% reduction in associated electrical costs.



### Supply Fan VFD

Lower than ASHRAE Standard 90.1 fan horse power usage targets

= 10% to 15% reduction in associated electrical costs (at full load).

### Integrated Energy Recovery

Extends the range of free cooling and free heating by completely eliminating the need for mechanical heating and cooling during mild days.

On peak load days the energy recovery can reduce mechanical capacity usage by up to 30%



## Continuous Conditioning Technology

The unit shall operate to maintain space temperature control through use of thermostat. When there is a call for cooling, the unit will operate to maintain user adjustable 52° to 55°F discharge air temperature. When there is a call for space heating the unit will maintain an adjustable sliding discharge air temperature from 90 to 110°F based upon outdoor conditions. When the thermostat does not require cooling or heating the supply fan will drop to a user define low setting; otherwise the supply fan operates to maintain design CFM values.



Option CL23

# Why High Efficiency Heating?

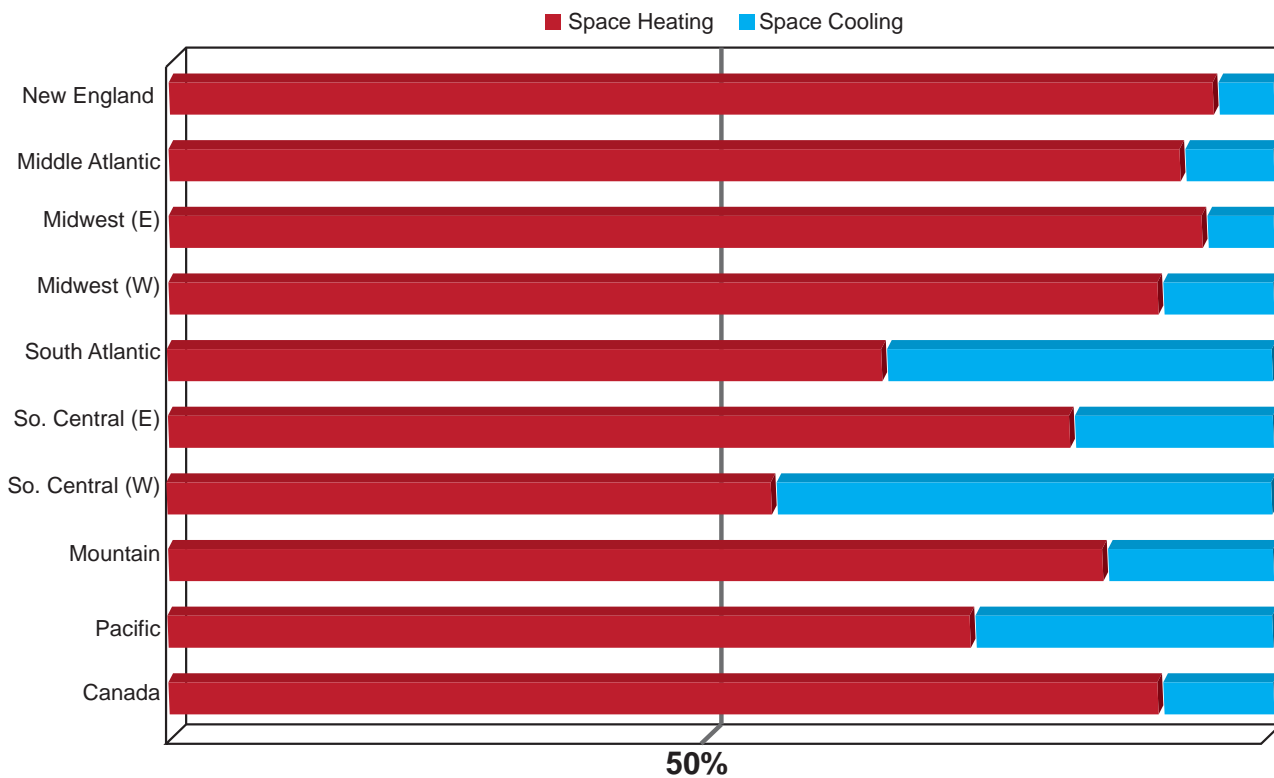
There are typically more heating hours than cooling hours.

High efficiency heating will provide the greatest energy saving potential - much more than cooling.

The Reznor Platform125 series provides best-in-class high efficiency heating AND high efficiency cooling for commercial buildings

*IEER - 13.3  
92% Gas Heating Efficiency*

## Regional Percentage Heating vs. Cooling Energy Usage U.S. and Canada



Average of all building types.

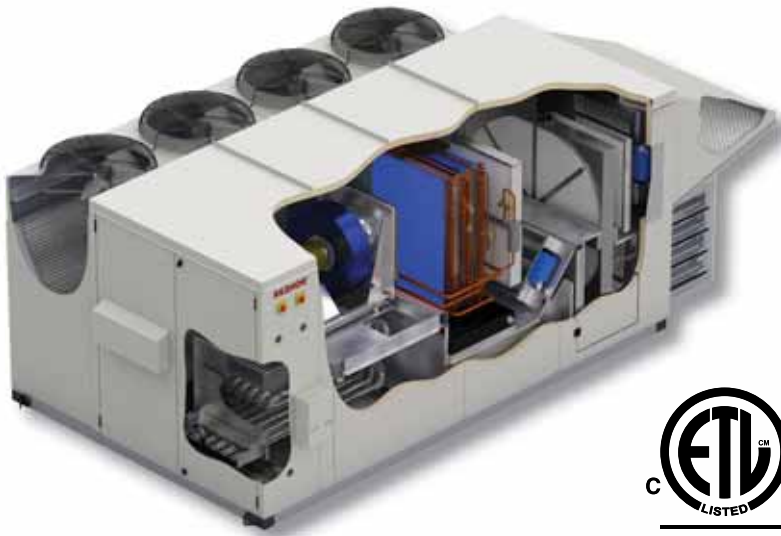
Sources: U.S. Dept. of Energy CBECS Studies & NRCAN Energy Data Handbook 2010

## Real Savings

Building Owners and Managers Association (BOMA) reports the typical office building has utilities costs of \$2.32 per square foot (ft<sup>2</sup>) for a typical 14,000 ft<sup>2</sup> property. For new LEED construction, the utility target is set for \$1.80 ft<sup>2</sup>. This is an operational saving of \$7,280 annually. To reach this target, the building must reduce 22% of its power usage. The YDSA reduces heating energy usage up to 18%, and 19% for cooling with Fan & ERV providing an additional economizer (free cooling and heating) range for the building. Standard equipment can't do this. The YDSA is the ideal choice for LEED & Retrofit applications!



Model YDSA		-120	-150	-180 <sup>A</sup>	-210 <sup>A</sup>
Nominal Cooling Capacity	BTU	120,000	150,000	180,000	210,000
	Tons	10	12.5	15	17.5
	kW	35.2	44.0	52.8	61.5
Nominal Airflow	scfm	3500-5000	4375-5500	5250-7500	6125-8750
	M <sup>3</sup> /hr	5946-8495	7433-9344	8919-12742	10406-14866
IEER @ AHRI 340/350		13.3	12.4	> 12.5	> 12.5
Compressor Quantity		2	2	2	2
Gas Heat Size <sup>B</sup>	High Efficiency	H100-H400			
	Very High Efficiency	G150-G372			
Electric Heat Size (kW)		30, 60, 90		30, 60, 90, 120	
Power <sup>C</sup>		208/3, 230/3, 460/3, & 575/3 60Hz   380/3 50Hz			



Natural Gas or Propane Heating	Option Code	MBH		kW		
		Input	Output	Input	Output	
High Efficiency (80%)	H100	100	80	29	23	
	H102 <sup>D</sup>	100	80	29	23	
	H125 <sup>A</sup>	125	100	37	29	
	H150 <sup>D</sup>	150	120	44	35	
	H175	175	140	51	41	
	H200	200	160	59	47	
	H202 <sup>D</sup>	200	160	59	47	
	H300	300	240	88	70	
	H400	400	320	117	94	
	H402 <sup>D</sup>	400	320	117	94	
	H502 <sup>D</sup>	500	400	147	117	
	H602 <sup>D</sup>	600	480	176	141	
	Very High Efficiency (92%)	G150	150	138	44	40
		G225	225	207	66	61
G300		300	276	88	81	
G302 <sup>D</sup>		300	276	88	81	
G372 <sup>D</sup>		370	340	108	99	
G452 <sup>D</sup>		450	414	132	121	

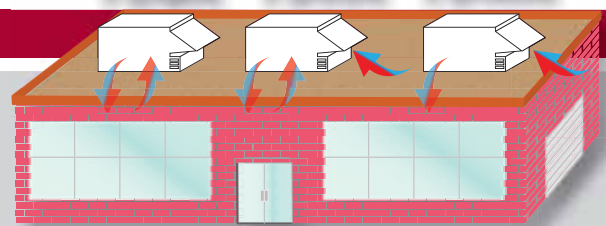
<sup>A</sup> These sizes available in the fourth quarter of 2013.

<sup>B</sup> See gas heating table for sizes, heating input and output values. High efficiency gas heating section is 80%ncv/88%gcv. Very high efficiency heating systems are 92%ncv/105%gcv. (Efficiency in North America are measured in ncv. Efficiency in Europe is measured in gcv.)

<sup>C</sup> Size -060 also available in 230/1/60 power voltage.

<sup>D</sup> Dual heat sections for better modulation control.

## YDSA YDHA YDMA



The complete line of Reznor rooftop units can provide comfort for a wide variety of conditions. Select the one right for your specific application.

- ▶ YDSA - Space Conditioning
- ▶ YDHA - High Outside Air Volume
- ▶ YDMA - Dedicated Outdoor Air

For complete catalog information including submittals, energy calculations, dimension drawings, and more go to [www.ReznorHVAC.com](http://www.ReznorHVAC.com) or call 800-695-1901.

*Note: In keeping with our policy of continuous product improvement, we reserve the right to alter, at any time, the design, construction, dimensions, weights, etc., of equipment information shown here.*

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