

# REZNOR®

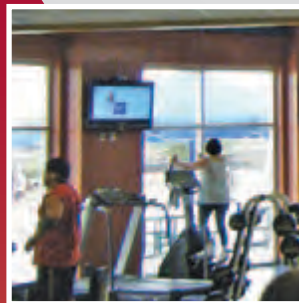


## APPLICATIONS

Cooling, heating

- >> HALLS
- >> SUPERMARKETS
- >> OFFICES
- >> RESTAURANTS
- >> FACTORIES

# YNRA heat pump



[www.reznor.eu](http://www.reznor.eu)

### Introduction

Reznor was founded in 1888 and has since then maintained a steady reputation for high efficiency gas heating and ventilation. Always attentive to the needs of the market, Reznor extended its range with air conditioning and heat pump technology.

This combined experience resulted in the Reznor YNRA series of self-contained air to air rooftop heat pumps that give you cooling, ventilation, heating and optional high efficient gas fired heating in just one unit.

The Reznor hybrid packaged rooftop range has been designed as an efficient, reliable and easily installable solution for conditioning medium to large commercial and industrial premises such as halls, supermarkets, offices, restaurants and factories. The YNRA makes use of the most advanced technologies available today, which is why its sound pressure is among the lowest on the market, and its COP among the highest.

The only necessary connections are electrical and ducting. The conditioned air is sent to the climatized areas via a suitable system of ducting and panels or nozzles. This allows for easy addition of fresh air or free cooling/heating solutions without supplementary equipment.

Since the system does not use intermediary media it is highly efficient as well.

The YNRA can be installed as a purely electrical heat pump (cooling/heating) or including a Reznor high efficiency gas fired heating coil for more heating capacity and higher efficiency at low ambient temperatures.

Some of the many other advantages this product has to offer are perfect load matching by use of digital scroll technology, low noise, an advanced controller and several options for high air quality and environmental comfort (free cooling/heating, fresh air, CO<sub>2</sub> detection).

The YNRA runs on a refrigerant system which uses the environmentally friendly R410A HFC refrigerant and which is controlled by an electronic expansion valve and an advanced controller.

Moreover both the axial and plug fans are already high efficient ERP 2015 compliant.

The Reznor YNRA fully complies to ECA and A-label.



## Features

- R410A as an ozone friendly refrigerant
- Controlled by the innovative yet proven Carel™ pCO5
- High efficiency scroll compressors with:
  - oil sight glass
  - internal overheat protection
  - crank case heater
- Digital Copeland™ scroll technology
- Evaporator and condenser with copper tubing and aluminium finned coil
- Self-supporting galvanized steel casing with epoxy powder finish
- Standard class G4 air filters
- Electronic expansion valve
- High efficiency, low maintenance intake plug-fan with curved blades, with electronic speed control to match the system's current requirements

## Specifications

YNRA			60		
Cooling <sup>1</sup>	Gross cooling capacity <sup>1</sup>	kW	58,19		
	Net cooling capacity <sup>1</sup>	kW	55,53		
	Absorbed power	kW	18,45		
	EER <sup>4</sup>		3,01		
	Energy efficiency class		A		
Heating <sup>1</sup>	Net heating capacity <sup>1</sup>	kW	52,11		
	Absorbed power	kW	14,54		
	COP <sup>5</sup>		3,58		
	Energy efficiency class		A		
Air treatment section	Nominal air flow	m³/h	11 500		
	Minimum air flow	m³/h	8 500		
	Maximum air flow	m³/h	12 500		
	Max. ext. static pressure <sup>2</sup>	Pa	250		
	Fans	n°	1		
	Fan type		plug fan		
	Nominal power input	kW	2,53		
	Filters	class	G4		
Condensing section	Air flow	m³/h	20 000		
	Fans	n°	2		
	Fan type		axial		
	Nominal power input	kW	1,2		
Refrigerant section	Compressors	n°	2		
	Type		scroll		
	Refrigerant circuits	n°	1		
Electrical	Power supply	V/Ph/Hz	400/3/50		
	Full load amps <sup>1</sup>	A	53,24		
	Maximum starting current	A	118		
	Maximum fuse	A	63		
Sound level <sup>1,3</sup>	Outdoor	dBA	77		
	Indoor outlet	dBA	81		
Dimensions		mm	3 065 x 2 700 x 1 913		
Construction	Casing material		precoated galvanised steel		
	Colour		Ivory white		
	Weight <sup>6</sup>	kg	1 215		
Refrigerant	R410A	kg	16,5		
Refrigerant oil	POE	l	2 x 3,30		
Operating range	Cooling	outdoor	°C DB <sup>7</sup>	20	43
		indoor	°C WB <sup>8</sup>	15	24
	Heating	outdoor	°C WB <sup>8</sup>	-10	15
		indoor	°C DB <sup>7</sup>	15	24

1 Evaporator inlet air temperature 27 °C DB 19 °C WB; Ambient air temperature 35 °C;  
Condensator inlet air temperature 20 °C; Ambient air temperature 7 °C DB, 6 °C WB

2 At nominal airflow rate.

3 Sound level measured according to ISO 9614-2 at 100 Pa

4 EER: Energy efficiency ratio

5 COP: Coefficient of performance

6 Weight of standard version without options

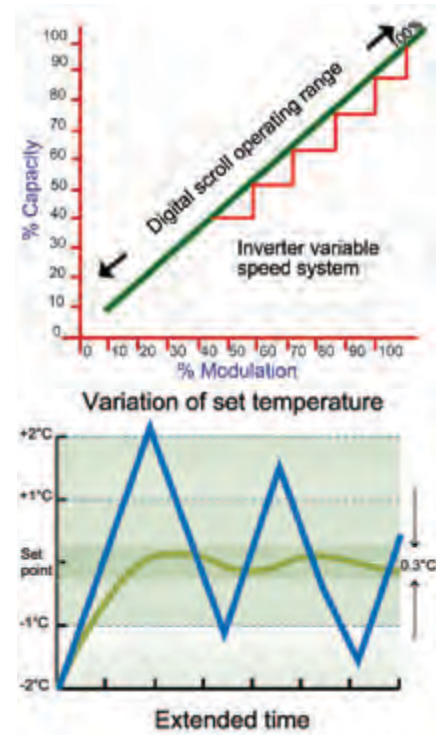
7 Dry bulb temperature

8 Wet bulb temperature



### Digital + fixed compressor tandem

- Unmatched seamless linear output, enabling close control over room temperature.
- Can go as low as 10 % capacity, where inverter compressors do not go below 40 %.
- Reduced number of start-stops thanks to better matching of demand and output. Increases longevity and reduces energy loss.
- Faster reaction to system demands: ideal for populated buildings with large daily temperature variations.
- Highest EER and seasonal energy efficiency of all compressor configurations.
- Excellent oil return in comparison to inverter compressors.
- Creates no electromagnetic interference, a major issue for inverter compressors.
- Uncomplicated electronics: higher reliability.
- No refrigerant bypass required since the Digital Scroll can produce output as low as 10 % capacity: Simpler system and higher cost savings.



### Carel pCO5 controller

- The most advanced Carel programmable controller to date.
- Compatible with different protocols including BMS, Modbus, LonWorks and BACnet.
- Equipped with extensive controller with LCD display.



### Electronic expansion valve

- Bi-directional
- High precision control at low flow rates
- Lower system energy consumption thanks to improved efficiency of the refrigeration cycle
- Easy set up of superheat control
- Faster response to temperature changes

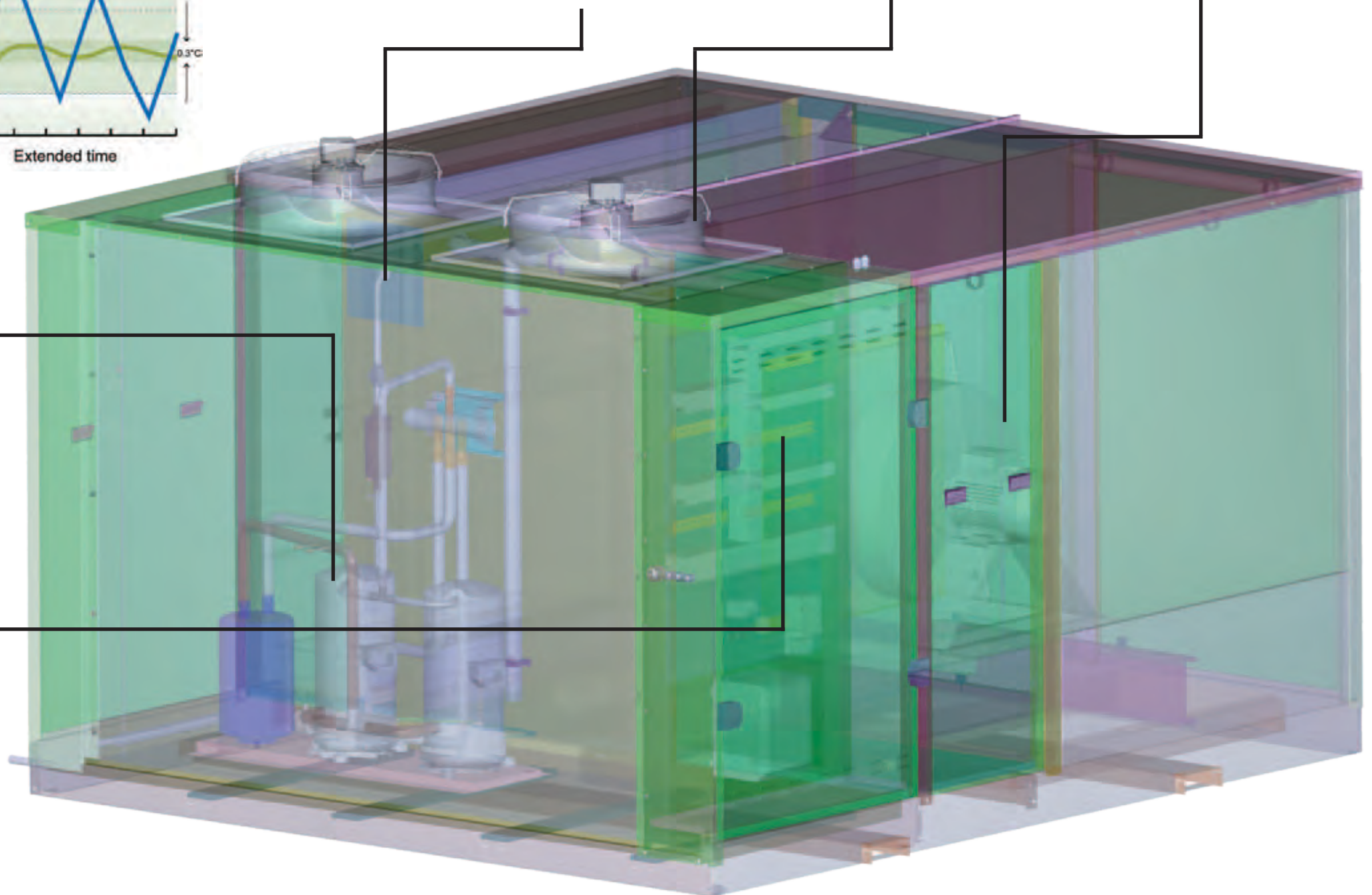
### Axial fan

Aerodynamic curved fan tips:

- Low noise
- Improved air flow
- Higher efficiency

### Plug fan

- Higher efficiency than belt driven fans
- More compact and lighter design
- No belt: reduced maintenance, higher reliability and no carbon generation within unit
- Inverter driven allows full speed control to match the system's requirements
- Higher static performance up to 75%
- Silent operation



### RHC gas fired heating section

Reznor gas fired heating coils extend the possibilities of Reznor HVAC solutions. They are designed for inclusion in an air handling unit to provide a gas fired heating section or for installation in ductwork systems.

RHC sections are now available as an option for the YNRA rooftop heatpump.

- The RHC for YNRA is available in 3 heating outputs:
  - RHC 8060: 61 kW
  - RHC 8075: 75 kW: standard for YNRA with RHC
  - RHC 8090: 90 kW
- Natural gas G20 and G25 or propane G31 models available
- Units with 91% efficiency at full capacity that qualify for Enhanced Capital Allowances in the UK
- Longer life: the heat exchanger tubes are expanded into a collection box, eliminating welds.

The YNRA is also available with an empty provisional heating section that enables later on-site installation of an RHC unit.



RHC 8075

#### RHC 8000 Gas Fired Heating Coils

Model		8060.12	8075.15	8090.18
Nominal heat output	kW	61	75	90
Natural gas consumption <sup>1</sup>	m³/h	7,12	8,72	10,48
Propane consumption <sup>1</sup>	kg/h	5,33	6,43	7,72
Gas connection <sup>2</sup>	Rc	3/4		
Flue diameter (RJL)	mm	100	130	
Electrical consumption (230V 1Ph 50Hz)	kW	0,153		
Net weight	kg	120	140	160

<sup>1</sup> Natural gas G20 - calorific value Hi: 34,02 MJ/m³, 15 °C, 1013 mbar  
Propane G31 - calorific value Hi: 88,00 MJ/m³, 15 °C, 1013 mbar

<sup>2</sup> Not Ø supply size line

## OPTIONS

### Air inlet

- Intake hood with water separator
- Recirculation section: intake on bottom or rear
- Mixing section for fresh air / recirculation air with precision air inlet dampers
- Manual damper control
- Free cooling, includes:
  - fresh air intake
  - dampers
  - steering motors



### Inlet air filtration

- Panel filters, filtration grade G4 to F7

### Air distribution

- Dampers and duct flanges for bottom or rear



### Miscellaneous

- Low noise: compressor sound insulation mantles
- Drain heating element: keeps drains frost free
- Cabinet heater: avoids too low temperatures in switch box
- Fire proof M0 insulation

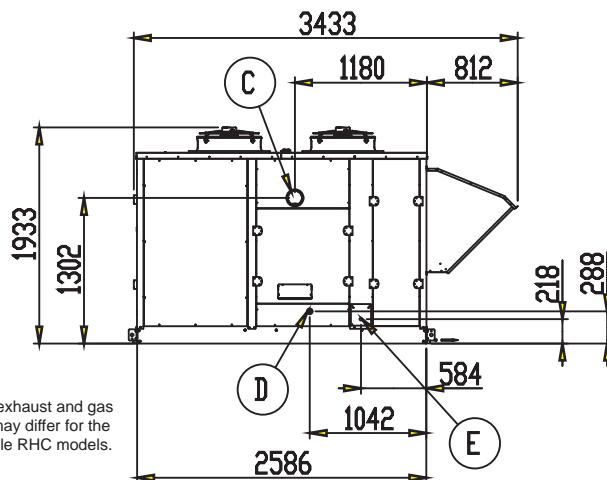
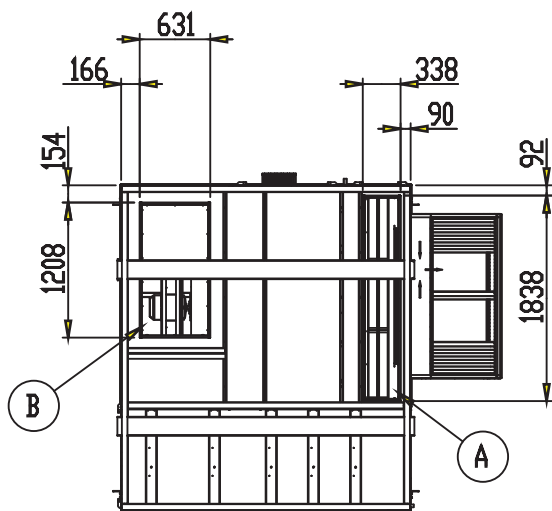
### Control equipment

- Main switch
- Main fan speed control: allows the system to self-regulate towards the set air flow
- Room thermostat
- Outdoor temperature sensor
- Room temperature & humidity sensor
- Room air quality sensor
- Duct thermostats
- Remote control
- Dirty filter signalisation

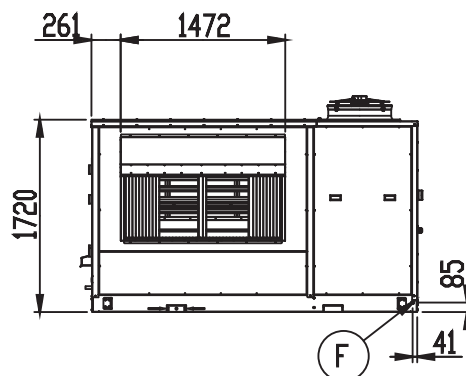
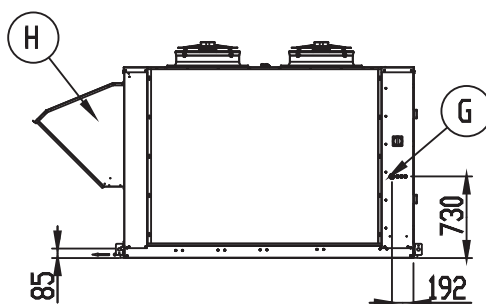
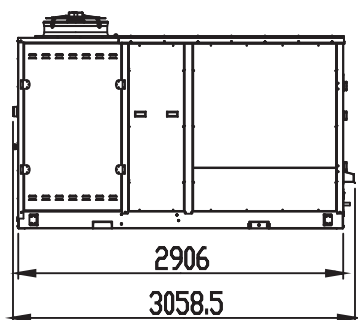




## Dimensions

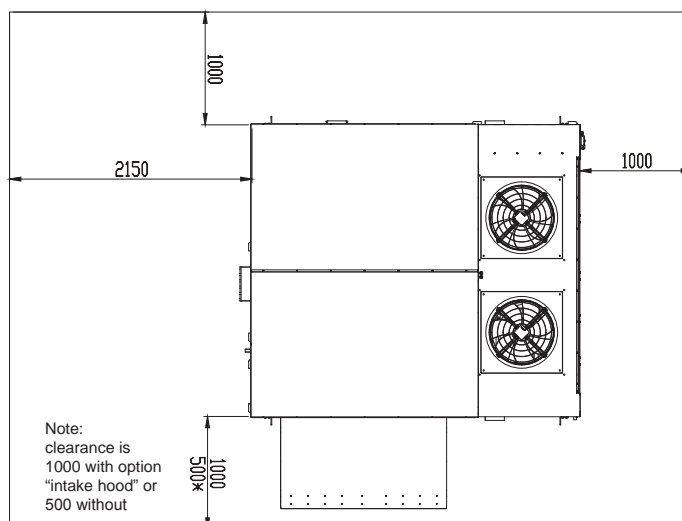


Note:  
Positions of exhaust and gas  
connection may differ for the  
three available RHC models.



## Clearances

- A** Return air opening
- B** Discharge air opening
- C** Gas burner exhaust, optional
- D** Gas connection, optional
- E** Evaporator drain
- F** Condenser drain
- G** Power supply intake
- H** Fresh air intake hood, optional



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### Company Standards and Services:

All Reznor products are tested and approved to CE standards. Reznor Europe nv is assessed to ISO 9001 Quality Assurance. Reznor offers a service to its customers; including budget schemes, on site technical support and a comprehensive after-sales package. Reznor reserves the right to change specifications without prior notice.

**ISO 9001**



**Thomas & Betts**