March 2021

REZNOR®

Trusted Heating Solutions

PREEVA NEOS

Gas Fired Heating, Ventilation & Cooling Units

NORTEK™
GLOBAL HVAC

PREEVA NEOS

Gas Fired Heating, Ventilation & Cooling Units

PREEVA NEOS is the latest generation of packaged gas fired air heater units providing combined heating and ventilation with optional cooling.

The design combines high thermal efficiency, quality components and ease of maintenance for enhanced life expectancy and reduced life cycle costs.

The PREEVA NEOS range incorporates an EC plug fan which provides a wide range of air duties and external static pressures up to 400 Pa. The addition of an optional mixing box enables air filtration.

PREEVA NEOS units are available as internal models and external weatherproof models, which are suitable for rooftop or low level installation.

The units are available with a wide range of heat outputs and cooling capacities.

The range comprises six models with heat outputs from 26 to 99 kW, air volumes from 2,000 to 14,000 m^3/hr and optional cooling duties from 19 to 63 kW (CHW or DX).

Features & Benefits

- PREEVA NEOS gas-fired units incorporate 4-pass heat exchanger technology for optimum efficiency and enhanced life expectancy
- Single burner with multi-try ignition provides enhanced reliability
- A fully pre-mixed blown gas modulating burner is fitted as standard. Requires a 0 to 10v DC signal to operate
- Plug fan with integral EC control suits a wide range of air volumes and external static pressures
- An optional mixing box provides air filtration and variable fresh air input
- All models are suitable for control via an optional Smartcom3 controller or a 0-10V signal from a BMS
- External units are weatherproof complete with integral gutters and integrated flue terminal. An optional weather hood can be provided
- Direct expansion (DX) and chilled water (CHW) cooling coils are available as an option

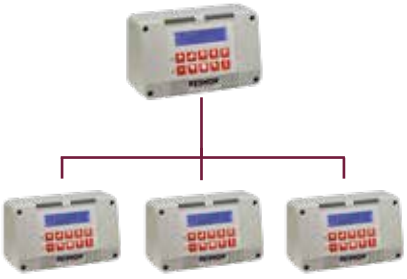
Intelligent Control

Environmental issues dictate that buildings need to operate as effectively and efficiently as possible. Initiatives such as the Ecodesign regulation (EU) 2015/1188 which includes environmental performance criteria for energy-related products (ErP), together with upgrading Part L of the building Regulations, have resulted in consulting engineers, contractors and end users becoming increasingly energy conscious.

SmartCom3, the intelligent energy management controller satisfies the growing need for higher efficiencies and to complement the development of energy efficient heating systems.

Simple to program and operate, SmartCom3 provides cost-effective energy management for small single heater installations through to large multi-zone applications requiring centralised control.

Smartcom3 is available as an option for all Preeva Neos units.



SmartCom MZ allows up to 16 panels to be linked for centralised control

Supply Air Fan

The units are ideal for ducted installations with a choice of air volumes and external static pressures up to 400pa (dependent on the options fitted). A plug fan with inbuilt EC controller enables Reznor to build the heater to your preferred air duty. Small adjustments can be made at the unit via a fitted potentiomoter to enable on site airflow adjustment for final balancing.

The units can also be used for free-blowing applications with a choice of optional outlet louvres, 30 or 60 degree downflow heads and induction nozzles (as described below).

Construction

All units are supplied factory assembled on a galvanised frame.

Internal units are supplied with powder coat finish RAL 9001 (cream white). Other colours may be available on request.

External units are supplied fully weatherproof complete with integral gutters and integrated flue terminal and are as standard supplied with zinc plated single skin insulated pre-painted panels with a finish to RAL7032 (Pebble Grey). An optional external weather louvre can be provided for the external version.

All units are fitted with thermal and accoustic insulation as standard.

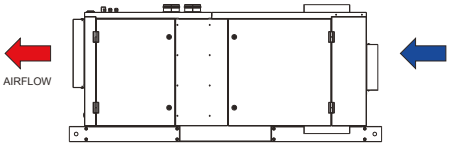
All service access panels are hinged for ease of access with lift off hinges allowing for access where space is restricted.

Mixing Section

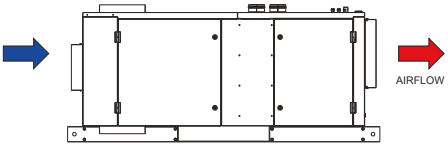
The optional mixing section enhances and expands the range of applications in which the unit can be used. Fresh and recirculation air dampers can be provided to allow fresh air modulation and free cooling. Additionally, various configurations and grades of filtration can be provided.

Unit Handing

All motor and burner controls are accessed from a single side. As standard, units are supplied with access on the left hand side in the direction of airflow, however units can be supplied with the controls access on either the right hand or left hand side; this must be clearly specified at order stage and cannot be changed once the units are manufactured.



Left Hand Access



Right Hand Access

Air induction nozzles

For large open areas, air induction nozzles provide even air distribution with automatic high level air recirculation.

The nozzles are capable of an air throw of up to 60 metres and the high volume turnover induced eleminates the requirement to install additional high level recirculation fans.

Nozzles may be grouped on a distribution plenum to provide controlled terminal velocities in both heating and coling modes or may be supplied complete with mounting plates for fitting to conventional grille shoes.

The rubber nozzles provide excellent acoustic reduction at high outlet velocities and may be adjusted through 60° for controlled air direction.

The Preeva Neos can be used in conjunction with Reznor AirMix distribution ductwork

Heat exchanger

The heat exchanger is stainless steel in construction with a 4-pass configuration which provides a high thermal efficiency combined with a long-life expectancy. An integral condensate drain eliminates the risk of condensate build-up.

Burner

The burner is of the fully pre-mixed blown gas modulating type. A microprocessor controller provides full operational and safety control of the burner.

Air Handling

Each unit is fitted with brushless external rotor EC motor. A range of motor sizes and drives has been selected to suit external static pressures up to a maximum of 400 pascals (N/m^2).

Flue

The unit has a fan assisted flue with venter fan mounted on top of a stainless steel collection chamber.

With PRN-I units, balanced flue operation eliminates the requirement for additional plant room ventilation.

Use of the (optional) concentric roof terminal provides both flue outlet and combustion air inlet connections and requires only a single building penetration. Concentric wall terminals are also available.

The unit range is CE certified for fan assisted flue installations where combustion air is drawn from within the heated space or ventilated plant room.

Optional Cooling

Optional DX or chilled water cooling coils can be added where comfort cooling is required.

Controls

Units are supplied fully wired complete with motor controls. An optional external isolator can also be fitted. The unit is designed for an electrical protection rating of IP20.

Air Distribution

The units are ideal for ducted installations with a choice of motor size and drives to provide external static pressures up to 400 pascals (dependent on the options fitted).

The units can be used for free-blowing applications with a choice of optional outlet louvres, induction nozzles and 30 or 60 degree downflow heads.

Units can be supplied with a purpose designed Reznor Air Mix high induction air distribution system.

Optional Filter / Mixing Box

An optional mixing section is available having aluminium aerofoil section dampers complete with edge seals for precise control of fresh air and recirculation air.

A comprehensive range of damper actuators can be factory fitted and wired to provide occupancy ventilation or fresh air free cooling.

A range of panel and bag filters are available with optional filter manometer or pressure switch to provide dirty filter indication.

Service Access

Motors and burners are accessed from a single side. Units can be supplied with the controls access on either the left hand side as standard or optionally on the right hand side. This must be clearly specified at order stage and cannot be changed once the units are manufactured.

The Preeva Neos can be utilised to provide ventilation for commercial kitchens

PRN70-I Internal unit with optional filter/mixing section

PRN70-E External unit with optional filter/mixing section and weather hood

Flue Installation

For internal applications, the balanced flue terminal provides both the combustion air inlet and flue outlet from a single building penetration, being suitable for flue types B23 / B53 / C13 / C33 / C53.

The terminals are ordered separately from the heaters to suit either a wall outlet or roof outlet. Additional flue and combustion air pipes may be added, up to a maximum of nine metres of flue pipe, plus nine metres (7.5m on model 100) of combustion air pipe. (This reduces by 1.5 metres for every 90° bend fitted).

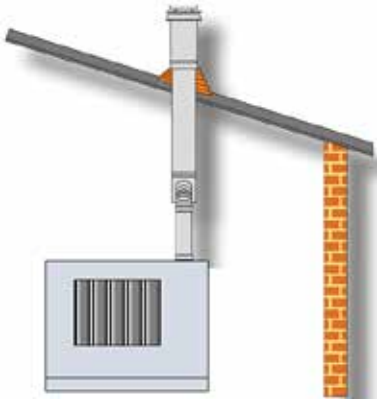
A differential pressure switch shuts down the unit in the event of inadequate combustion air, blocked flue or flue fan failure.

To comply with CE approvals, balanced flue appliances must be used with the manufacturer's balanced flue system.

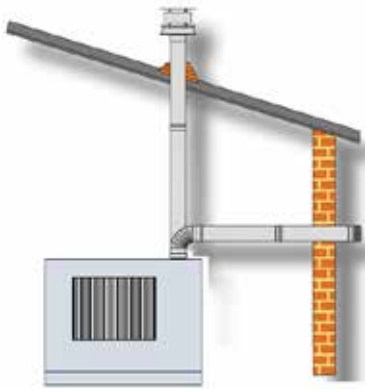
The units are also certified for fan assisted flue installations, where the combustion air is to be drawn from inside the building; an alternative wall or roof terminal is required for this application. Maximum flue length 14 metres (12 metres on model 100).

Heater positions and flue arrangements are indicative.
For heater and flue clearances please refer to installation manual.

Balanced flue wall outlet (type C13) eliminates expensive roof opening and flashing



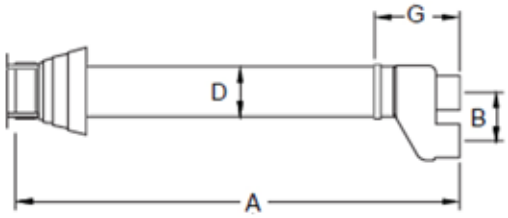
Balanced flue roof outlet (type C33)



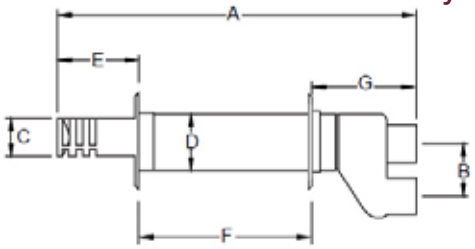
Combustion air through wall, flue outlet through the roof (C53)

Separate combustion air and flue pipes (type C13) for applications where wall thickness exceeds maximum length shown in flue dimension table

Vertical Terminal Assembly



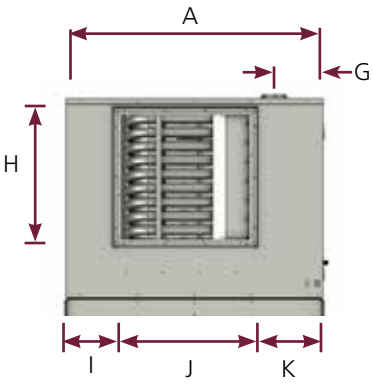
Horizontal Terminal Assembly



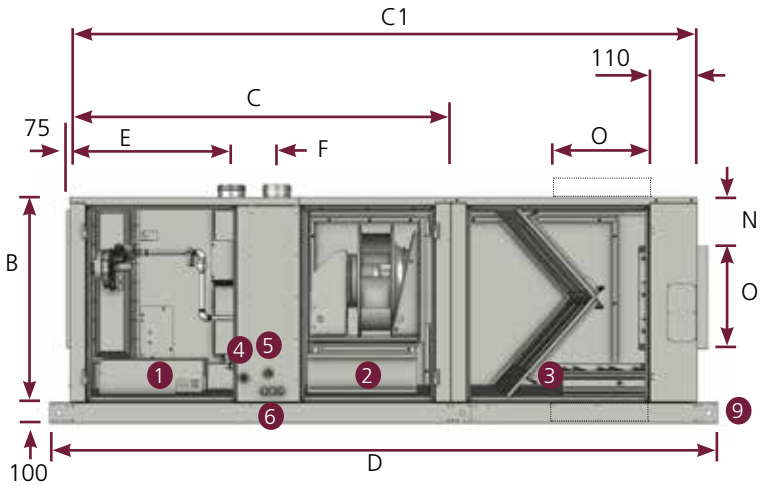
Concentric Flue Terminal Dimensions (mm)

Model	Vertical concentric flue terminal		Horizontal concentric flue terminal	
	Ø100mm	Ø130mm	Ø100mm	Ø130mm
A	1361	1973	775	940
B	140	225	140	225
C	n/a	n/a	100	130
D	150	200	150	200
E	n/a	n/a	170	180
F (maximum wall thickness)	n/a	n/a	370	370
G	253	355	225	355

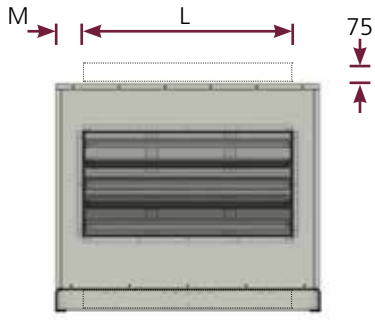
PRN-I Internal Model (Standard Handing)



Front View

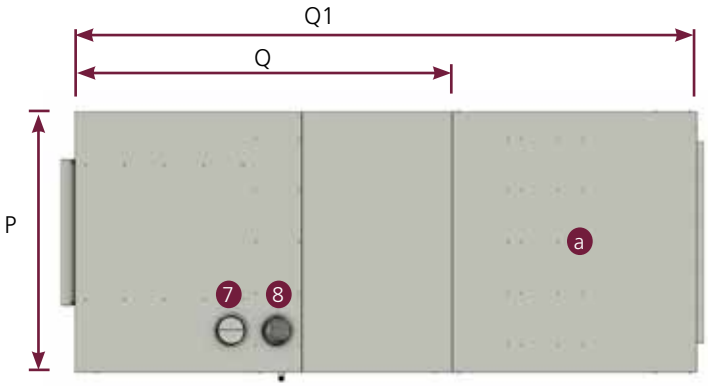


Side View



Rear View

1. Heater Section Access
2. Fan Section Access
3. Filter/Mixing Section Access
4. Condensate Drain Connection
5. Gas Connection
6. Electrical Connections
7. Combustion Air Inlet
8. Flue Outlet
9. Lifting Points
a. Optional Filter / Mixing Section



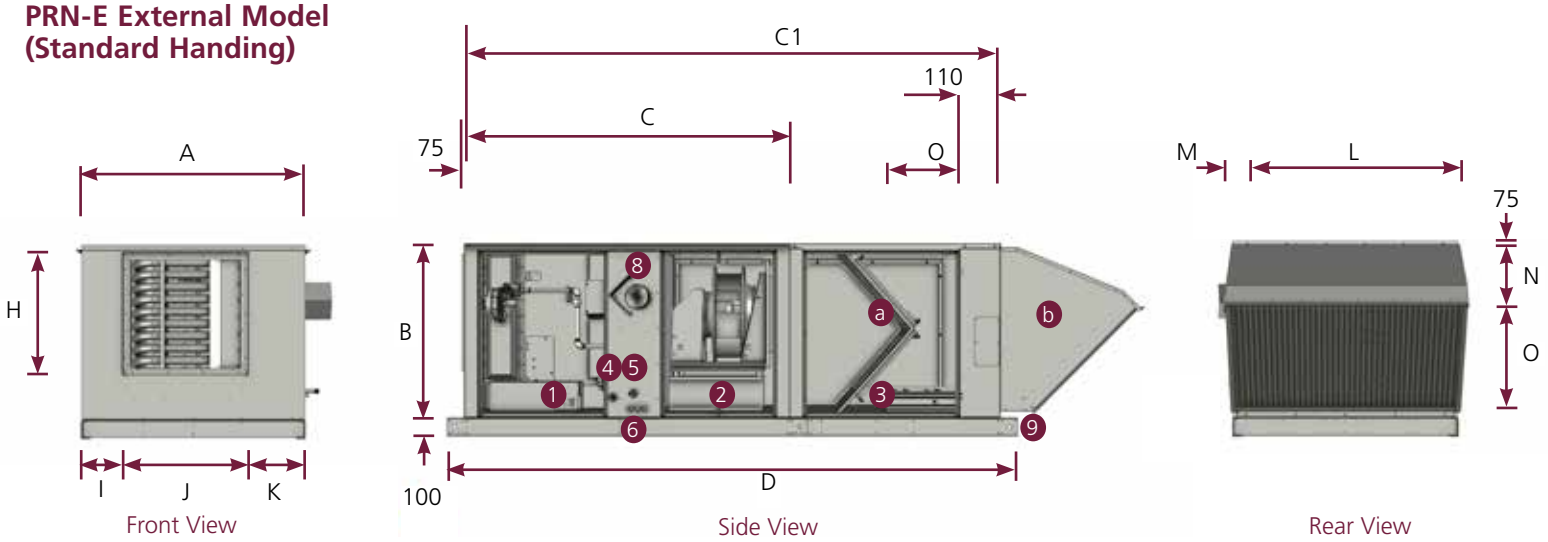
Plan View

Please contact technical sales for dimensional data for units fitted with cooling coil or additional cabinets.

Dimensions							
Model		PRN025-I	PRN035-I	PRN045-I	PRN055-I	PRN070-I	PRN100-I
A	mm	1094	1094	1094	1268	1268	1468
B	mm	753	753	753	988	988	988
C	mm	1684	1684	1684	1842	1842	2412
C1	mm	2704	2704	2704	3034	3034	3604
D	mm	2904	2904	2904	3245	3245	3804
E	mm	726	726	726	765	765	1180
F	mm	187	187	187	224	224	225
G	mm	110	110	110	205	205	210
H (Outlet Opening Spigot)	mm	451	451	451	686	686	686
I	mm	68	68	68	274	274	275
J (Outlet Opening Spigot)	mm	837	837	837	710	710	901
K	mm	270	270	270	365	365	373
L	mm	702	702	702	1002	1002	1202
M	mm	196	196	196	133	133	133
N	mm	212	212	212	229	229	229
O	mm	302	302	302	502	502	502
P (Lifting centres)	mm	1060	1060	1060	1234	1234	1434
Q (Lifting centres without filter cabinet)	mm	1584	1584	1584	1972	1972	2106
Q1 (Lifting centres with filter cabinet)	mm	2604	2604	2604	3164	3164	3298
Flue & Combustion Air Spigots	mm	100	100	100	130	130	130

For alternative configurations please consult technical sales. Unit shown with left hand access, right hand is available but must be specified at time of ordering as this cannot be changed once unit is built.
All Dimensions have a tolerance of +/- 3mm.

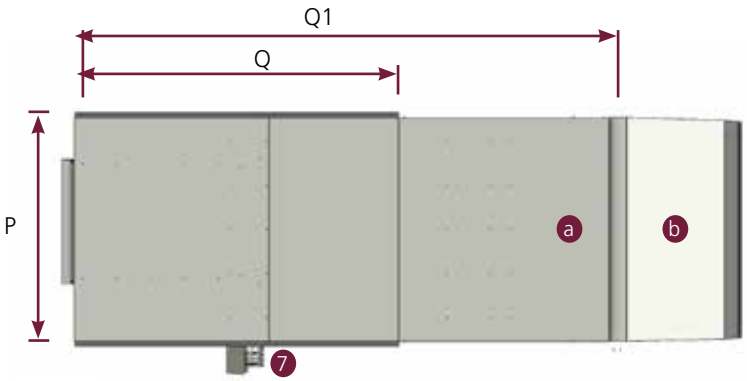
PRN-E External Model (Standard Handing)



Front View | Side View | Rear View

1. Heater Section Access
2. Fan Section Access
3. Filter/Mixing Section Access
4. Condensate Drain Connection
5. Gas Connection
6. Electrical Connections
7. Combustion Air Inlet
8. Flue Outlet
9. Lifting Points

a. Optional Filter / Mixing Section
b. Optional Fresh Air Intake Hood



Plan View

Please contact technical sales for dimensional data for units fitted with cooling coil or additional cabinets.

Dimensions							
Model		PRN025-E	PRN035-E	PRN045-E	PRN055-E	PRN070-E	PRN100-E
A	mm	1094	1094	1094	1268	1268	1468
B	mm	753	753	753	988	988	988
C	mm	1684	1684	1684	1842	1842	2412
C1	mm	2704	2704	2704	3034	3034	3604
D	mm	2904	2904	2904	3245	3245	3804
H (Outlet Opening)	mm	380	380	380	615	615	615
Optional Spigot for Outlet Opening	mm	451	451	451	686	686	686
I	mm	68	68	68	274	274	275
J	mm	837	837	837	710	710	901
K	mm	270	270	270	365	365	373
L	mm	702	702	702	1002	1002	1202
M	mm	196	196	196	133	133	133
N	mm	212	212	212	229	229	229
O	mm	302	302	302	502	502	502
P (Lifting centres)	mm	1060	1060	1060	1234	1234	1434
Q (Lifting centres without filter cabinet)	mm	1584	1584	1584	1972	1972	2106
Q1 (Lifting centres with filter cabinet)	mm	2604	2604	2604	3164	3164	3298
R	mm	649	649	649	816	816	816

For alternative configurations please consult technical sales. Unit shown with left hand access, right hand is available but must be specified at time of ordering as this cannot be changed once unit is built.
All Dimensions have a tolerance of +/- 3mm.

PRN-I and PRN-E Technical Data

Model	Internal (-I) / External (-E)	PRN025	PRN035	PRN045	PRN055	PRN070	PRN100
Combustion Air and Flue Type	Internal	B23 / B53 / C13 / C33 / C53					
	External	Rooftop					
Heat Input High Fire (HS) [1]	kW	32.40	41.00	51.60	64.80	86.00	119.00
Heat Input Low Fire (HS) [1]	kW	11.00	14.35	18.06	22.68	30.10	44.40
Heat Input High Fire (HI) [2]	kW	29.19	36.94	46.49	58.38	77.48	107.21
Heat Input Low Fire (HI) [2]	kW	9.91	12.93	16.27	20.43	27.12	40.00
Heat Output High Fire [1]	kW	26.61	34.41	42.53	53.56	70.66	99.12
Heat Output Low Fire [1]	kW	10.03	12.69	15.89	19.92	26.42	39.14
CO2 at High Fire (Throttle) G20 [3]	%	8.61	8.52	8.47	8.59	8.79	8.58
CO2 at Low Fire (Offset) G20 [3]	%	7.95	7.78	7.58	7.81	7.65	7.88
CO2 at High Fire (Throttle) G25 [3]	%	8.03	8.74	8.27	8.81	8.51	8.09
CO2 at Low Fire (Offset) G25 [3]	%	7.53	8.00	7.36	7.60	7.45	7.48
CO2 at High Fire (Throttle) G25.3 [3]	%	8.46	8.51	8.60	8.47	8.63	8.21
CO2 at Low Fire (Offset) G25.3 [3]	%	7.59	7.89	7.45	7.59	7.61	7.85
Gas Consumption High Fire (HS) G20 [4]	m^3/h	3.09	3.90	4.91	6.17	8.19	11.33
Gas Consumption Low Fire (HS) G20 [4]	m^3/h	1.05	1.37	1.72	2.16	2.97	4.23
Gas Consumption High Fire (HS) G25 [4]	m^3/h	3.59	4.54	5.71	7.18	9.52	13.18
Gas Consumption Low Fire (HS) G25 [4]	m^3/h	1.22	1.59	2.00	2.51	3.33	4.92
Gas Consumption High Fire (HS) G25.3 [4]	m^3/h	3.50	4.44	5.64	7.20	9.32	12.90
Gas Consumption Low Fire (HS) G25.3 [4]	m^3/h	1.19	1.56	1.96	2.46	3.26	4.81
Gas Connection	BSP	½"	¾"				
Flue and Combustion Air Connection Collars (Internal)	Ø mm	100			130		
Maximum Flue Length	m	9.5					
Condensate Connection / Outlet	Ø mm	22					
Minimum Airflow at 15°C [5]	m^3/h	2000	2530	3060	3980	5300	8060
Temperature Rise at Minimum Airflow	K	40	40	41	40		37
Maximum Airflow at 15°C [5]	m^3/h	3500	5080	6100	7000	10500	14000 [7]
Temperature Rise at Maximum Airflow	K	23	21	21	20		21
Maximum external static pressure	Pa	400					
Sound Level Maximum Airflow [6]	dBA	51.3	54.0	58.0	57.0	64.0	64.9
Sound Level Minimum Airflow [6]	dBA	47.2	47.2	47.0	48.3	49.6	53.2
Output cooling capacity Maximum with DX Coil Maximum with chilled water coil	 kW kW	 19 19	 28 28	 30 30	 30 30	 51 51	 63 63
Electrical Connections and Fan Motor Rating	Single Phase	1.35 kW: 230V 50HZ	1.35 kW: 230V 50HZ	Not Applicable			
	Three Phase	3.0 kW: 380-415V 50Hz	2.4 kW: 380-415V 50Hz	3.3 kW: 380-415V 50Hz	3.6 kW: 380-415V 50Hz	5.4 kW: 380-415V 50Hz	6.0 kW: 380-415V 50Hz
Total Electrical Rating	Single Phase	1.450	1.329	Not Applicable			
	Three Phase	3.060	2.480	3.390	3.670	5.530	6.190
Protection Grade	IP	IP20 Internal / IPX4D External					
Net weight without filter cabinet	Kg	225	240	260	340	360	470
with filter cabinet	Kg	340	355	375	490	510	640

[1] Refers to gross calorific value of fuel
[2] Refers to net calorific value of fuel
[3] All CO_2 measurements with casing panels fitted and service doors open
[4] Natural gas: G20 Hs 37.78 MJ/m³, G25 Hs 32.49 MJ/m³, G25.3 Hs 33.2 MJ/m³ @ 15°C and 1013.25 mbar
[5] Maximum temperature rise 40K. Please contact manufacturer for more details on different airflow / static pressure requirements
[6] Measured without filter cabinet
[7] Maximum airflow measurement for PRN100 unit is without any optional extras i.e. filter cabinet, cooling coil, weather hood - please contact manufacturer for details of maximum airflow / external static pressure with the options available for the unit.

Notes

Notes

Other products in the Reznor range:

- Warm air heaters
- Radiant heating
- Destratification fans
- Air curtains
- Packaged rooftop units
- Air induction systems
- Gas fired heater modules
- Evaporative cooling

GB/REZ/PREN/001/0321

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