# REZNOR

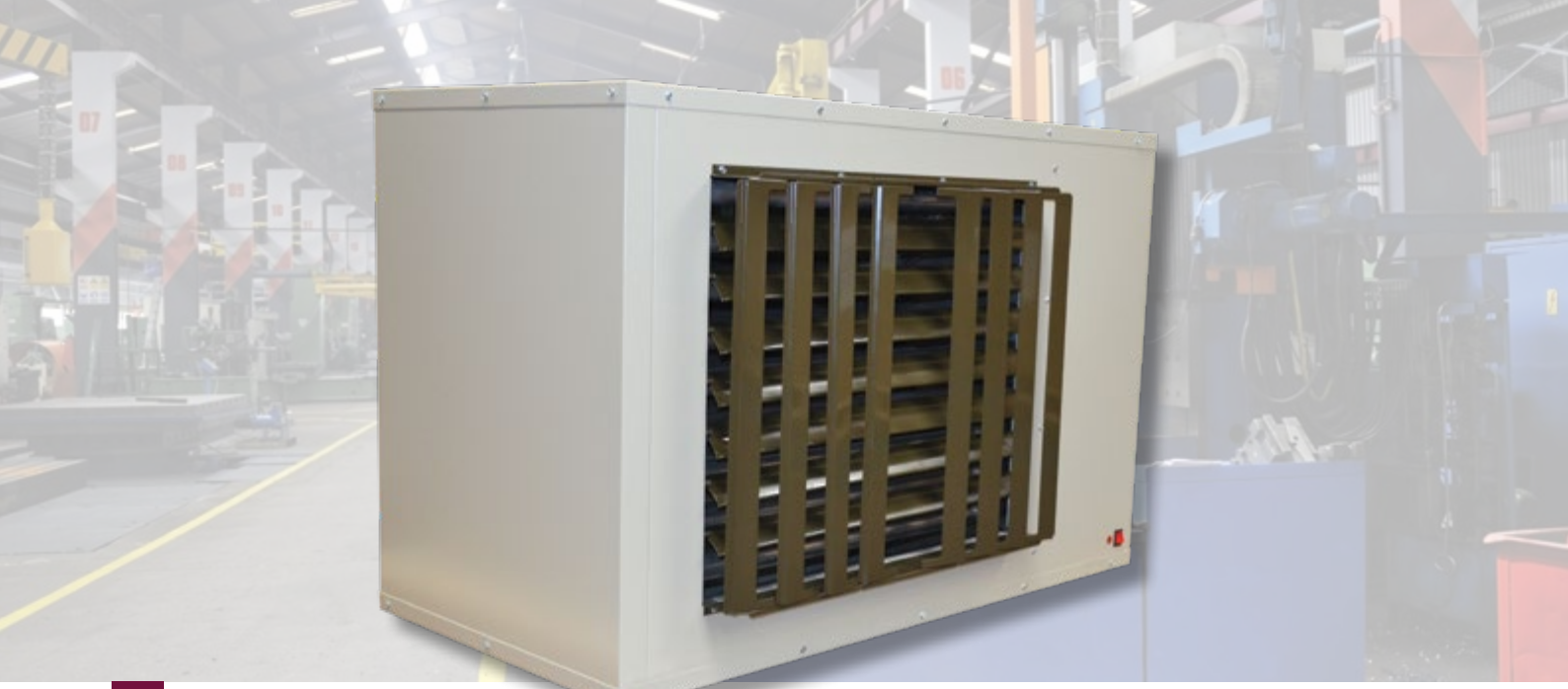
## Variante-4E

Gas Fired Unit Heaters

ErP 2018

ErP Lot 21
Seasonal Efficiency
compliant

NORTEK™
GLOBAL HVAC



# Variante$^{4E}$

## Gas Fired Unit Heaters

**The new Variante$^{4E}$ builds on the technical excellence of the previous range to provide cost effective and robust heating for industrial and commercial buildings.**

**Using wall or roof mountings, the heaters are available for either room sealed or conventional power flue applications.**

### Model Range

There are 2 Variante ranges:

> VRA axial fan

> VRC centrifugal

The Variante gas fired units are available with eleven heat outputs for use on natural gas (G20) as standard, but alternatively can be specified for use on propane (G31).

VRA heaters are fitted with axial fans and discharge warm air through a front outlet fitted with both horizontal and vertical louvers. Units can be turned through $90^0$ and blow vertically downwards when using the rear mounted suspension points (not 120 & 145 models).

VRC heaters are fitted with direct drive centrifugal fans and discharge warm air via a duct spigot on the outlet (optional louvers are available for free-blowing applications).

For applications requiring a ducted connection on the inlet, an optional blower cabinet is available which can also be fitted with filters with filters and a single inlet damper if required.

**All Variante models are fitted with a modulating burner as standard, which requires a 0 to 10v DC signal to operate.**

# Specification

**Cabinet**

Formed from electro-zinc plated sheet steel and painted epoxy pebble grey (RAL 7032) to give a robust and durable finish. Louvres painted yellow olive (RAL 6014) (VRA Only)

**Heat Exchanger**

Tubular four-pass serpentine arrangement manufactured as standard from alumised steel with stainless steel option.

**Burner**

In-shot burner type with automatic spark ignition and full safety flame proving. Modulating control is supplied as standard .

**Power Venter Flue Fan**

Variante$^{4E}$ are fitted with a powerful venter fan that enables exhaust & combustion air to be run up to a maximum of 9m each.

## Options

> Top flue outlet (VRA)
> Stainless steel heat exchanger
> 30deg or 60deg downflow heads
> Wall brackets (VRA)
> Destratification thermostat
> Blower cabinet*
> Filters*

*VRC models only

VRA



VRC complete with duct spigot outlet

VRC complete with optional blower cabinet

**Electric Motors**
All electric motors are ErP compliant where necessary.

**Efficiency**
Each heater within the Variante range has been designed and developed with fuel efficiency in mind with efficiencies exceeding the mandatory requirements of building regulations.

**Fuel**
Heaters are supplied for use with natural gas (G20) as standard, however propane (G31) is available upon request.

**Sealed Combustion Circuit**
Variante heaters are factory fitted with a power flue venter that enables the heater to be operated in either room sealed or fan assisted flue mode. The flue fan is safety interlocked with the burner control system via a pressure differential sensor.

A single phase electrical supply is required to each unit except the VRC60 which is three phase. This supply should not be switched off except for maintenance

## Versatile Flue Installation

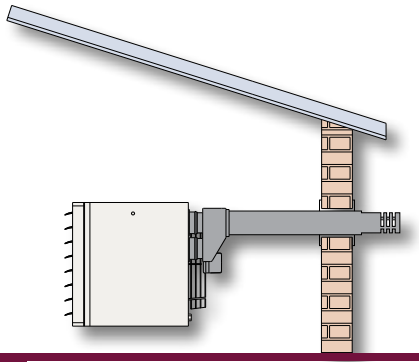
The balanced flue terminal provides both the combustion air inlet and flue outlet from a single building penetration. The terminals are ordered separately from the heaters to suit either a wall outlet or roof outlet. Additional flue and combustion air pipes may be added, up to a maximum of nine metres of flue pipe, plus nine metres of combustion air pipe. (This reduces by 1.5 metres for every 90° bend fitted).

## Installation

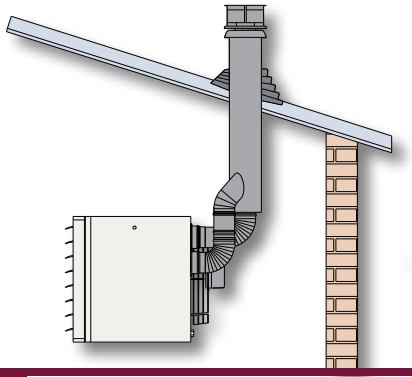
Units may be suspended or alternatively mounted on a suitable non-combustible support. Integral suspension points complete with an M10 female thread are provided to each heater.

A single phase electrical supply is required to each unit except the VRC60 which is three phase. This supply should not be switched off except for maintenance.

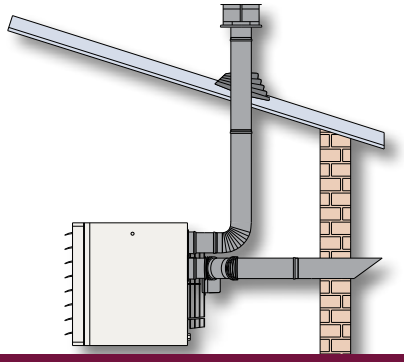
Units must not be installed in atmospheres containing flammable or explosive vapours, combustible dust, halogenated hydrocarbons or chlorinated vapours. They are also unsuitable for areas where contaminants may affect electrical motors or connections.



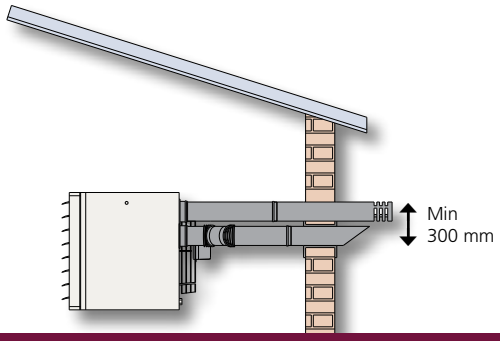
Balanced flue wall outlet (type C12) eliminates expensive roof opening and flashing



Balanced flue roof outlet (type C32)



Combustion air through wall, flue outlet through the roof (C52)



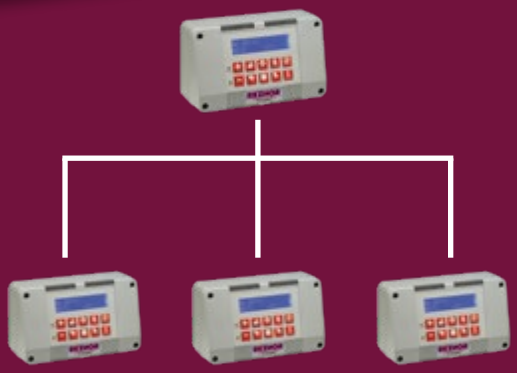

Separate combustion air and flue pipes (type C12) for applications where wall thickness exceeds maximum length shown in flue dimension table

Heater positions and flue arrangements illustrate VRA models and are indicative only. For heater and flue clearances please refer to the appliance installation and maintenance instructions.


# Optimised Control

To complement the Variante units the versatile SmartCom MZ control panel is available

- > Self adapting optimum start and stop
- > Simple user friendly programming
- > Individual seven day programming
- > Day, night and frost (5°C) temperature settings
- > Three on/off periods per day
- > Easy set overtime and holiday periods Remote burner reset facility
- > Password protection to prevent unauthorised adjustment
- > Hours run and service data logging
- > Battery back up in the event of mains failure
- > Modulating burner control



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

# VRA

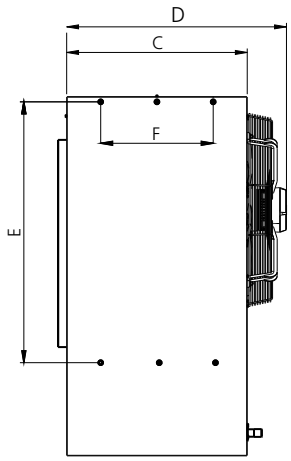
## VRA Technical Data

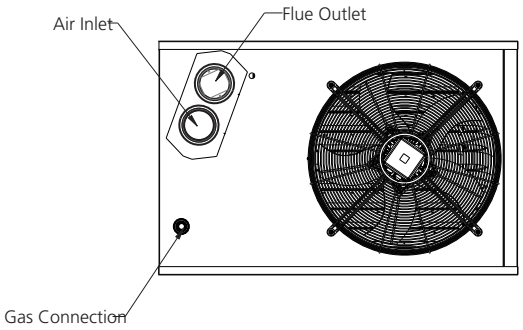
| | | Model | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12 | 20 | 30 | 35 | 45 | 50 | 60 | 75 | 100 | 120 | 145 |
| Nominal heat output | kW | 12 | 22 | 26 | 36 | 45 | 51 | 61 | 73 | 95 | 119 | 137 |
| Airflow | $m^3/h$ | 1,100 | 2,000 | 2,300 | 3,200 | 4,300 | 5,000 | 5,200 | 7,300 | 8,000 | 10,800 | 11,400 |
| Temperature rise | K | 30 | 31 | 33 | 33 | 31 | 30 | 34 | 29 | 29 | 32 | 35 |
| Throw | m | 9.5 | 13 | 17 | 24 | 25 | 27 | 30 | 32 | 31 | 38 | 39 |
| **Gas Consumption** | | | | | | | | | | | | |
| Natural gas G20 | $m^3/h$ | 1.27 | 2.52 | 3.02 | 4.19 | 5.19 | 5.82 | 6.98 | 8.38 | 10.95 | 13.80 | 15.77 |
| Propane G31 | kg/h | NA | 1.86 | 2.22 | 3.09 | 3.82 | 4.29 | 5.15 | 6.17 | 8.24 | 10.17 | 11.62 |
| Gas Connection | Rc | 1/2'' | | | 3/4'' | | | | | | | |
| Electrical Supply | V/ph/hz | 230/240V 1N ~ 50Hz | | | | | | | | | | |
| Total Electrical Rating | W | 530 | 360 | 250 | 370 | 370 | 540 | 760 | 760 | 850 | 1730 | 1730 |
| Mounting height(s) | m | 2.5 | 3.0 | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 |
| Maximum Flue Run | | 9 Metres | | | | | | | | | | |
| Noise level (1) | dB(A) | 43 | 49 | 44 | 53 | 52 | 52 | 54 | 55 | 59 | 61 | 63 |
| Net weight | kg | 59 | 59 | 64 | 94 | 99 | 114 | 114 | 126 | 184 | 242 | 279 |

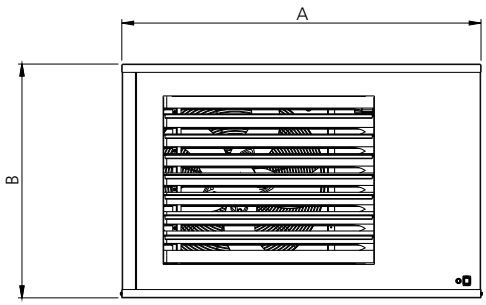
Gas consumption & outputs based upon natural gas G20 having a calorific value of 10.5kWh/m3 GCV & Propane G31 14.0kWh/kg GCV

Minimum gas inlet pressure is 17.5mbar for natural gas & 37mbar for Propane. Maximum inlet pressure is 50mbar.

(1) Sound pressure level measured at 5m from the unit with A=160m2 and Q=2'




## VRA Dimensions

| | | Model Ref | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12 | 20 | 30 | 35 | 45 | 50 | 60 | 75 | 100 | 120 | 145 |
| Unit Width | A | 965 | 965 | 965 | 965 | 965 | 1298 | 1298 | 1298 | 1298 | 1750 | 1750 |
| Unit Height | B | 567 | 567 | 567 | 845 | 845 | 845 | 845 | 845 | 954 | 980 | 1150 |
| Unit Depth | C | 652 | 652 | 652 | 652 | 652 | 652 | 652 | 652 | 807 | 846 | 846 |
| Overall Depth | D | 782 | 785 | 821 | 824 | 824 | 838 | 824 | 824 | 1022 | 1057 | 1057 |
| Suspension Points | | M10 Female | | | | | | | | | | |
| Suspension Centres | E | 611 | 611 | 611 | 611 | 611 | 942 | 942 | 942 | 942 | 1365 | 1365 |
| | F | 406 | 406 | 406 | 406 | 406 | 406 | 406 | 406 | 550 | 770 | 770 |
| Flue Outlet & Air Inlet | dia | 80 | 100 | 100 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 |
| Gas connection | Rc | 1/2" | 1/2" | 1/2" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" |
| Clearances (minimum) | | | | | | | | | | | | |
| Top | | 150 | | | | | | | | | | |
| Rear of Fan | | 450 | | | | | | | | | | |
| Bottom | | 150 | | | | | | | | | | |
| Non Access Side | | 150 | | | | | | | | | | |
| Access Side | | 800 | | | | | | | | | | |

# VRC

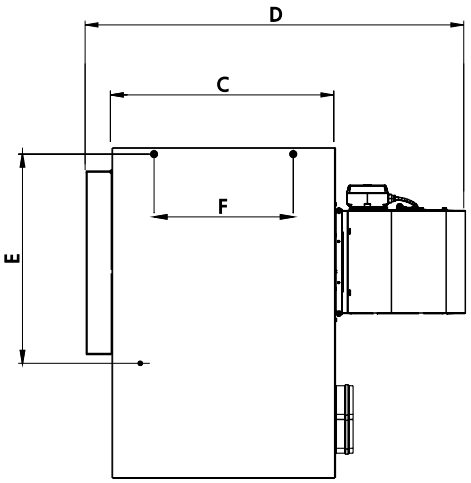
## VRC Technical Data

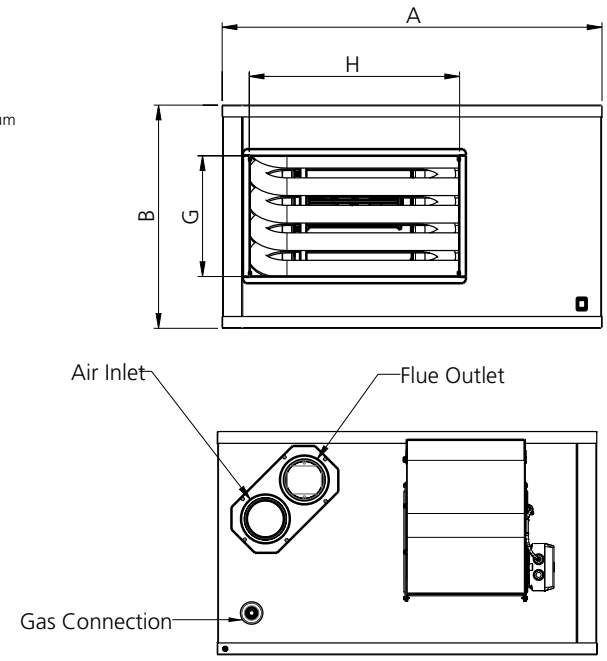
| | | Model | | | | | |
|---|---|---|---|---|---|---|---|
| | | 20 | 30 | 45 | 60 | 75 | 100 |
| Nominal Heat Output | kW | 22 | 26 | 45 | 61 | 73 | 95 |
| Airflow @ min static | $M^3/h$ | 2500 | 4200 | 5400 | | | |
| Airflow @ max static | $M^3/h$ | 2250 | 2700 | 4000 | | | |
| Min static pressure | Pa | 50 | 50 | 50 | | | |
| Max static pressure | Pa | 200 | 300 | 200 | 250 | 350 | 300 |
| **Gas Consumption** | | | | | | | |
| Natural Gas G20 | $M^3/h$ | 2.52 | 3.02 | 5.19 | 6.98 | 8.38 | 11.19 |
| Propane G31 | kg/h | 1.86 | 2.22 | 3.82 | 5.15 | 6.17 | 8.24 |
| Electrical Supply | V/ph/Hz | 230/240V 1N ~ 50Hz | | | 400/415V 3P ~ 50Hz | 230/240V 1N ~ 50Hz | |
| Blower Electrical Rating | W | 300 | 600 | 1000 | 550 | 1800 | 1800 |
| Total Electrical Rating | W | 453 | 753 | 1153 | 703 | 1953 | 1953 |
| Noise level | dB(A) | | | | | | |
| Net Weight | kg | 59 | 59 | 64 | 94 | 99 | 114 |

Min & max static pressure refers to external static pressure of ductwork (by others)

Gas consumption & outputs based upon natural gas G20 having a calorific value of 10.5kWh/m3 GCV & Propane G31 14.0kWh/kg GCV

Minimum gas inlet pressure is 17.5mbar for natural gas & 37mbar for Propane. Maximum inlet pressure is 50mbar.




## VRC Dimensions

| | | Model | | | | | |
|---|---|---|---|---|---|---|---|
| | | 20 | 30 | 45 | 60 | 75 | 100 |
| Unit Width | A | 965 | 965 | 965 | 1298 | 1298 | 1298 |
| Unit Height | B | 567 | 567 | 845 | 845 | 845 | 954 |
| Unit Depth | C | 652 | 652 | 652 | 652 | 652 | 807 |
| Overall Depth | D | 1105 | 1105 | 1215 | 1215 | 1300 | 1455 |
| Suspension Points | | M10 Female | | | | | |
| Suspension Centres | E | 611 | 611 | 611 | 942 | 942 | 942 |
| | F | 406 | 406 | 406 | 406 | 406 | 550 |
| Flue Outlet & Air Inlet | dia | 100 | 100 | 130 | 130 | 130 | 130 |
| Gas Connection | Rc | 1/2" | 1/2" | 3/4" | 3/4" | 3/4" | 3/4" |
| Duct Outlet Spigot | G | 307 | 372 | 607 | 515 | 607 | 810 |
| | H | 533 | 533 | 533 | 761 | 761 | 761 |
| Clearances (minimum) | | | | | | | |
| Top | | 150 | | | | | |
| Rear of Fan | | 250 | | | | | |
| Bottom | | 150 | | | | | |
| Non Access Side | | 150 | | | | | |
| Access Side | | 500 | | | | | |

# VRC with Cabinet

## VRC with Cabinet Technical Data

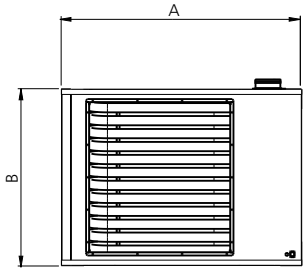
| | | Model | | | | | |
|---|---|---|---|---|---|---|---|
| | | 20 | 30 | 45 | 60 | 75 | 100 |
| Nominal Heat Output | kW | 22 | 26 | 45 | 61 | 73 | 95 |
| Airflow @ min static | $M^3/h$ | 3100 | 3900 | 6200 | 6500 | 9600 | 10500 |
| Airflow @ max static | $M^3/h$ | 2100 | 2300 | 5200 | 5700 | 7500 | 8500 |
| Max static pressure | Pa | 250 | 300 | 150 | 150 | 250 | 200 |
| **Gas Consumption** | | | | | | | |
| Natural Gas G20 | $M^3/h$ | 2.52 | 3.02 | 5.19 | 6.98 | 8.38 | 11.19 |
| Propane G31 | kg/h | 1.86 | 2.22 | 3.82 | 5.15 | 6.17 | 8.24 |
| Electrical Supply | V/ph/Hz | 230/240V 1N ~ 50Hz | | | 400/415V 3P ~ 50Hz | 230/240V 1N ~ 50Hz | |
| Blower Electrical Rating | W | 300 | 600 | 1000 | 550 | 1800 | 1800 |
| Total Electrical Rating | W | 453 | 753 | 1153 | 703 | 1953 | 1953 |
| Net Weight | kg | 59 | 59 | 64 | 94 | 99 | 114 |

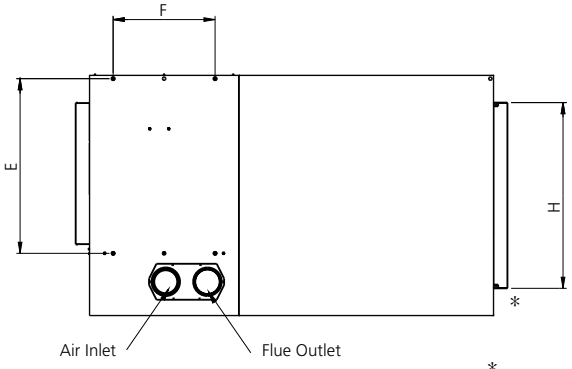
Min & max static pressure refers to external static pressure of ductwork (by others)

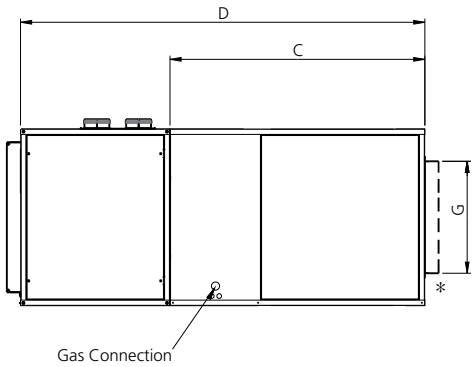
Airflows & max static pressure quoted, exclude the use of optional filters and/or mixing dampers

Gas consumption & outputs based upon natural gas G20 having a calorific value of 10.5kWh/m3 GCV & Propane G31 14.0kWh/kg GCV

Minimum gas inlet pressure is 17.5mbar for natural gas & 37mbar for Propane. Maximum inlet pressure is 50mbar.




* Optional inlet air damper

## VRC with Cabinet Dimensions

| | | Model | | | | | |
|---|---|---|---|---|---|---|---|
| | | 20 | 30 | 45 | 60 | 75 | 100 |
| Unit Width | A | 965 | 965 | 965 | 1298 | 1298 | 1298 |
| Unit Height | B | 567 | 567 | 845 | 845 | 845 | 954 |
| Cabinet Depth | C | 1025 | 1025 | 1190 | 1375 | 1375 | 1375 |
| Overall Depth | D | 1677 | 1677 | 1842 | 2027 | 2027 | 2182 |
| Suspension Points | | M10 Female | | | | | |
| Suspension Centres | E | 611 | 611 | 611 | 942 | 942 | 942 |
| | F | 406 | 406 | 406 | 406 | 406 | 550 |
| Flue Outlet & Air Inlet | dia | 100 | 100 | 130 | 130 | 130 | 130 |
| Gas Connection | Rc | 1/2" | 1/2" | 3/4" | 3/4" | 3/4" | 3/4" |
| Duct Outlet Spigot | G | 404 | 404 | 504 | 604 | 604 | 604 |
| | H | 502 | 502 | 802 | 1002 | 1002 | 1002 |
| Clearances (minimum) | | | | | | | |
| Top | | 150 | | | | | |
| Rear of Fan | | 250 | | | | | |
| Bottom | | 150 | | | | | |
| Non Access Side | | 150 | | | | | |
| Access Side | | 500 | | | | | |

GB/BENVRA/007/1017

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