



BENSON

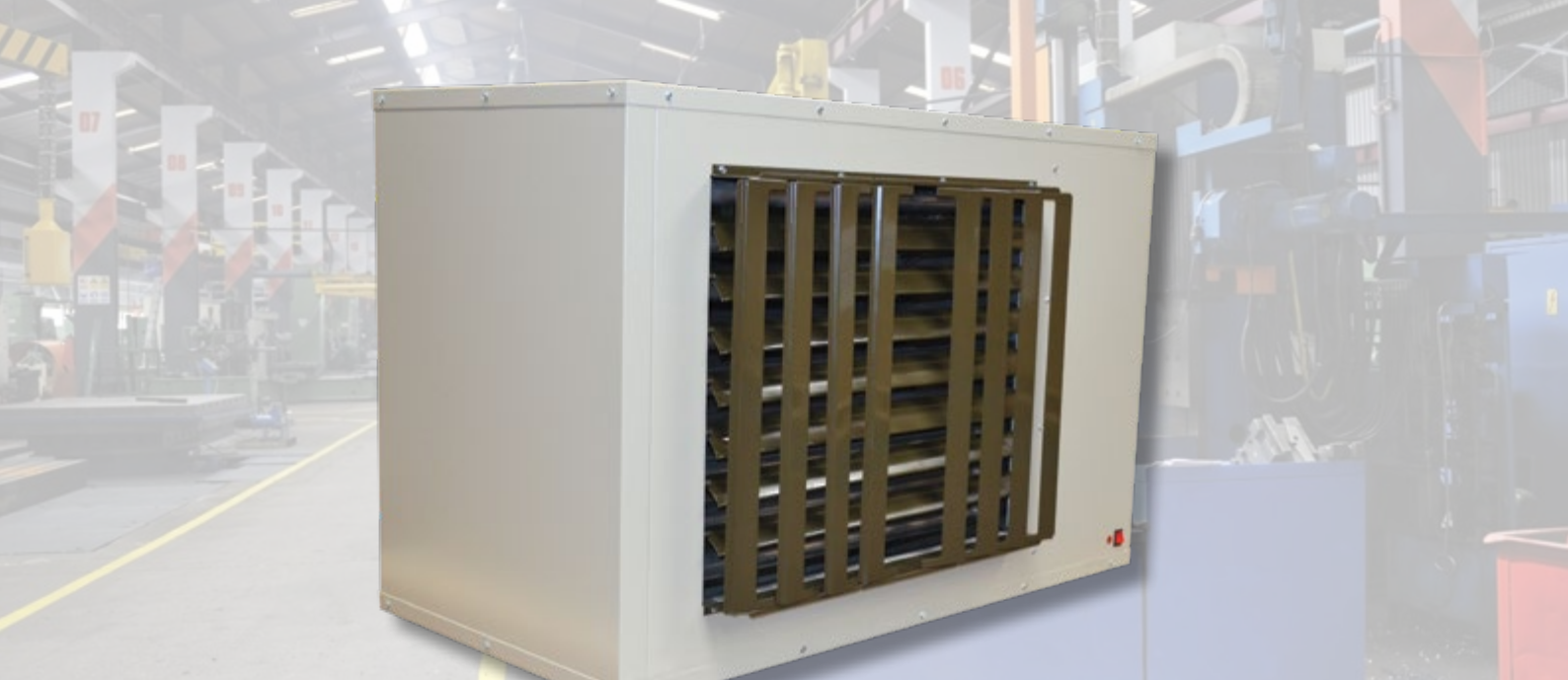
Variante^{-4E}

Gas Fired Unit Heaters

**ErP
2018** ErP Lot 21
Seasonal Efficiency
compliant

 **NORTEK**TM
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° 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. Louvers painted yellow olive (RAL 6014) (VRA Only)

Heat Exchanger

Tubular four-pass serpentine arrangement manufactured as standard from aluminised 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

Variante⁴ 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

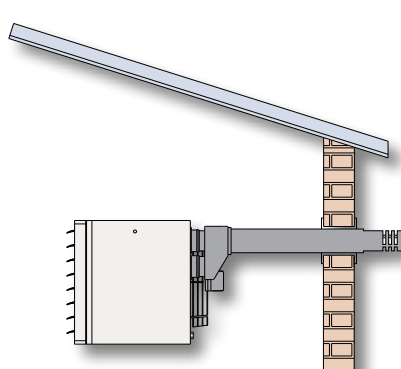
The balanced flue terminal provides both the combustion air inlet and flue outlet from a single building penetration. The terminals are ordered separately from the heaters to suit either a wall outlet or roof outlet. Additional flue and combustion air pipes may be added, up to a maximum of nine metres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

Installation

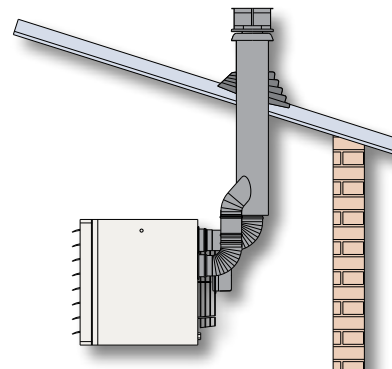
Units may be suspended or alternatively mounted on a suitable non-combustible support. Integral suspension points complete with an M10 female thread are provided to each heater.

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.

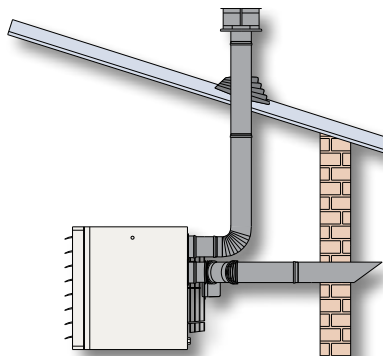
Units must not be installed in atmospheres containing flammable or explosive vapours, combustible dust, halogenated hydrocarbons or chlorinated vapours. They are also unsuitable for areas where contaminants may affect electrical motors or connections.



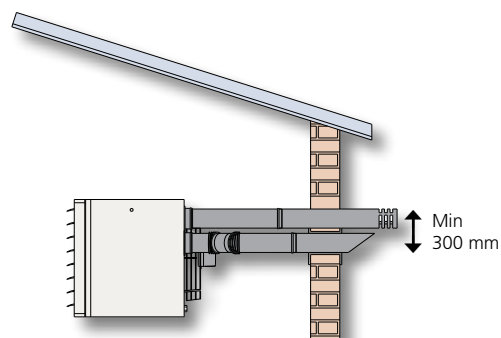
Balanced flue wall outlet (type C12) eliminates expensive roof opening and flashing



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 Technical Data

		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

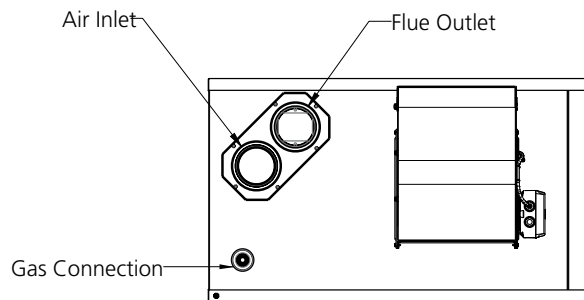
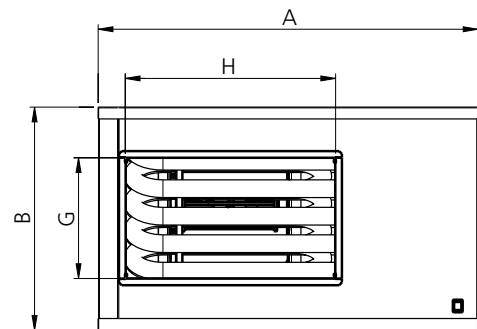
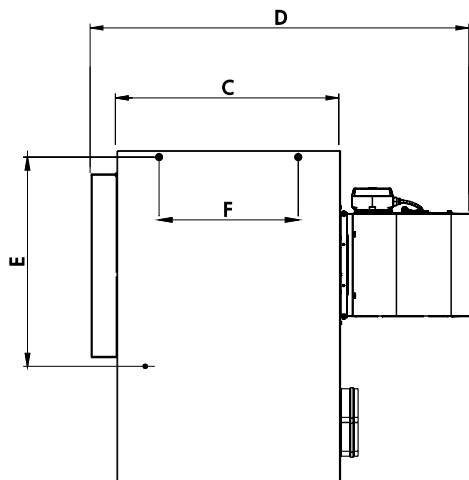
VRC Technical Data

		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

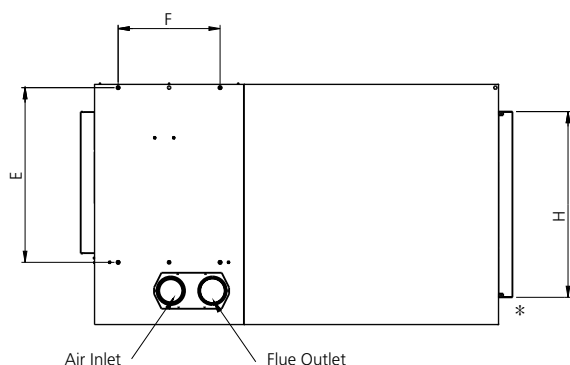
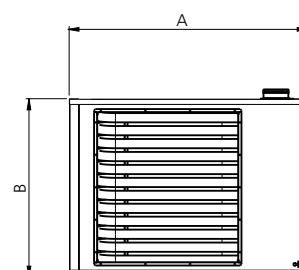
		Model					
		20	30	45	60	75	100
Nominal Heat Output	kW	22	26	45	61	73	95
Airflow @ min static	M ³ /h	3100	3900	6200	6500	9600	10500
Airflow @ max static	M ³ /h	2100	2300	5200	5700	7500	8500
Max static pressure	Pa	250	300	150	150	250	200
Gas Consumption							
Natural Gas G20	M ³ /h	2.52	3.02	5.19	6.98	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

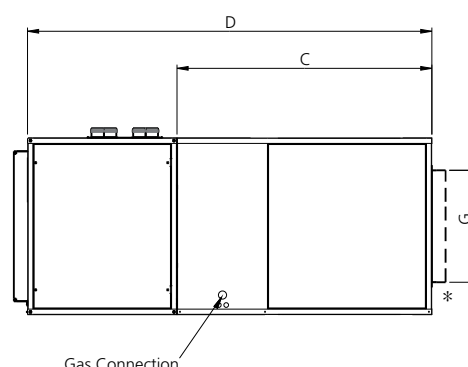
Gas consumption & outputs based upon natural gas G20 having a calorific value of 10.5kWh/m³ GCV & Propane G31 14.0kWh/kg GCV

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



Air Inlet Flue Outlet

* Optional inlet air damper



Gas Connection

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					



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