

External Variante

 **BENSON
HEATING**



External/Rooftop Gas Unit
Heaters

EVRC Centrifugal Fan

EVRD Duct Module

External Variante

Introduction

The compact highly efficient Benson external Variante heaters provide cost effective heating for most commercial and industrial buildings.

EVRC/D units are weatherproof units suitable for rooftop or other outdoor locations.

Options

- High/Low gas burner
- Modulating gas burner
- Mixing box complete with dampers
- Stainless steel heat exchanger
- Air re-circulation thermostat
- Fresh air intake louvre

Model Range

The external Variante gas fired units are available with heat outputs ranging from 12kW-144kW for use on natural gas (G20), units may also be specified for use on propane (G31).

EVRC Heaters are supplied with a centrifugal fan and outlet duct connection spigot. Optional fan drives can be specified for updated pressures of 250 and 500 pascals.

EVRD units are a heat exchanger module without fan for installation where air movement fans are provided by others.

Testing, Approvals and Certification

Benson Heating is accredited with ISO 9001 quality assurance certification. All gas fired heaters have been type tested and approved to CE standards by an independent notified body. Each heater is tested and fired prior to despatch.





Specification

Cabinet

Formed from electro-zinc plated steel the heater cabinet is IP44 rated epoxy powder coated with a durable Kestrel Grey paint finish.

Access to the burner and controls compartment is via a full width side hinged door.

The units are complete with a sloped roof section with rain channels and are lined with a high specification closed cell insulation.

Units are supplied mounted on a base frame.

Heat Exchanger

Formed from aluminised steel tube into a compact, highly efficient four pass assembly the Variante heat exchanger is capable of delivering efficiencies in excess of 91% nett.

Stainless steel heat exchanger tubes are available as an option and is recommended for applications using fresh air.

Burner

Variante heaters are fitted with a quiet multi-flame, in-shot burner complete with automatic electronic spark ignition and ionisation flame proving. On/off control is standard, optional high/low or modulation can be specified where required.

Electric Motors

All electric motors comply with EC motor directive 2005/32/EC.

Fuel

Heaters can be specified to operate on either natural gas (G20) or LPG (Propane G31).

Flue

Variante heaters are factory fitted with a power flue venter complete with flue outlet terminal. The flue fan is safely interlocked with the burner control system via a pressure differential sensor.

TECHNICAL DATA

| Model Ref | | 12 | 20 | 30 | 42 | 50 | 60 | 72 | 95 | 120 | 145 |
|------------------------------------|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Nominal heat output | kW | 12 | 20 | 29 | 39 | 49 | 59 | 72 | 96 | 120 | 144 |
| Temperature rise | °C | 32 | 30 | 31 | 36 | 34 | 32 | 32 | 35 | 32 | 32 |
| Airflow | | | | | | | | | | | |
| EVRC | m ³ /h | 0.31 | 0.55 | 0.79 | 0.96 | 1.21 | 1.54 | 1.90 | 2.26 | 3.08 | 3.78 |
| EVRD (minimum) | m ³ /h | 0.25 | 0.42 | 0.60 | 0.81 | 1.02 | 1.23 | 1.50 | 2.00 | 2.50 | 3.00 |
| EVRD (maximum) | m ³ /h | 0.50 | 0.83 | 1.21 | 1.63 | 2.04 | 2.46 | 3.00 | 4.00 | 5.00 | 6.00 |
| Static Pressure | | | | | | | | | | | |
| EVRC | Pa | 100 | 125 | 100 | 150 | 150 | 180 | 150 | 180 | 200 | 200 |
| EVRC-250 | Pa | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| EVRC-500 | Pa | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| Gas Consumption¹ | | | | | | | | | | | |
| Natural gas G20 | m ³ /h | 1.37 | 2.23 | 3.38 | 4.50 | 5.63 | 6.76 | 8.33 | 11.12 | 13.87 | 16.63 |
| Propane G31 | m ³ /h | 0.52 | 0.86 | 1.30 | 1.73 | 2.16 | 2.59 | 3.21 | 4.28 | 5.34 | 6.41 |
| Gas connection ² | Rc | ½" | ½" | ½" | ½" | ½" | ½" | ¾" | ¾" | ¾" | ¾" |
| Minimum Gas Inlet Pressure | | | | | | | | | | | |
| Natural gas G20 | mbar | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| Propane G31 | mbar | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 |
| Electric Supply | | | | | | | | | | | |
| EVRC & EVRC-250 | V/ph/hz | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 415/3/50 | 415/3/50 |
| EVRC-500 | V/ph/hz | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 415/3/50 | 415/3/50 | 415/3/50 | 415/3/50 | 415/3/50 | 415/3/50 |
| EVRD | V/ph/hz | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 |
| Flue diameter | mmØ | 80 | 80 | 100 | 100 | 100 | 100 | 130 | 130 | 130 | 130 |
| Combustion air diameter | mmØ | 80 | 80 | 100 | 100 | 100 | 100 | 130 | 130 | 130 | 130 |
| Noise level ³ | dB(A) | 48 | 50 | 52 | 53 | 55 | 39 | 55 | 58 | 60 | 60 |
| Nett weight | | | | | | | | | | | |
| EVRC | kg | 140 | 146 | 163 | 181 | 202 | 227 | 294 | 324 | 370 | 414 |
| EVRD | kg | 76 | 80 | 93 | 107 | 121 | 135 | 184 | 204 | 243 | 276 |
| Net weight | | | | | | | | | | | |
| EVRC | kg | 140 | 146 | 163 | 181 | 202 | 227 | 294 | 324 | 370 | 414 |
| EVRD | kg | 76 | 80 | 96 | 107 | 121 | 135 | 184 | 204 | 243 | 276 |

1 Fuel consumption and output figures based upon gross calorific values as -

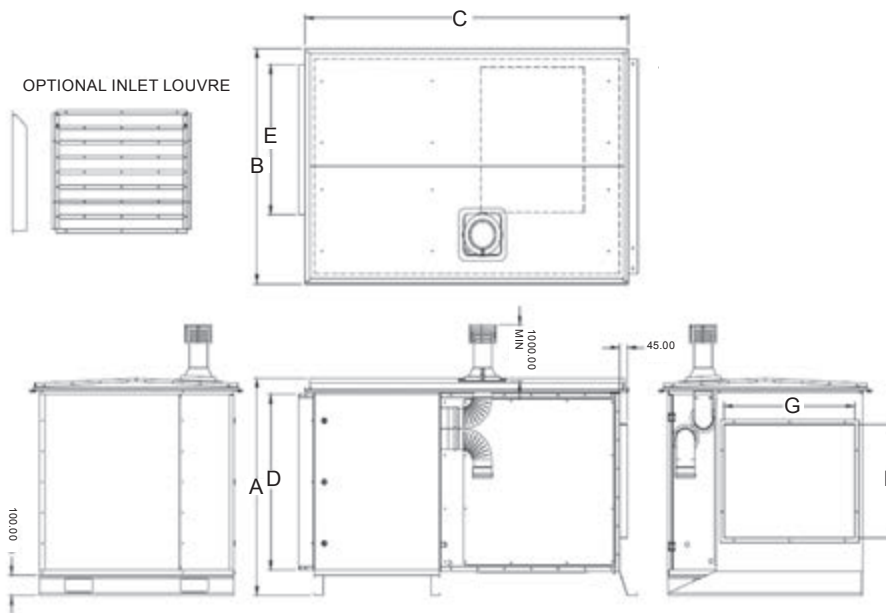
Natural gas (G20) @ 37.78 MJ/m³

Lpg propane (G31) @ 95.65 MJ/m³

2 Gas lines must be adequately sized and reduced at appliance as required

3 Noise levels measured 3m from appliance for standard EVRC model. For EVRC 250/500 models please consult Benson.

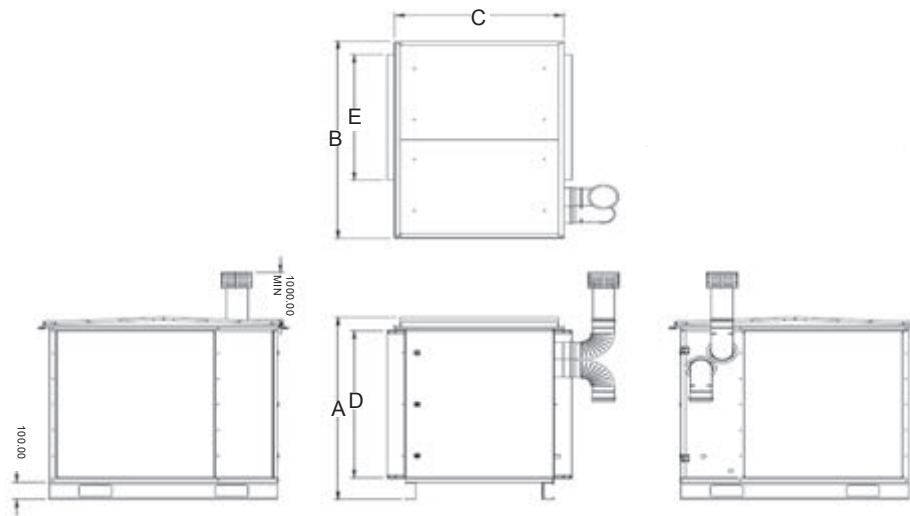
EVRC



DIMENSIONS

| Model Ref | | | 12 | 20 | 30 | 42 | 50 | 60 | 72 | 95 | 120 | 145 |
|-----------|-----|----|------|------|------|------|------|------|------|------|------|------|
| A | All | mm | 595 | 595 | 700 | 805 | 935 | 1065 | 805 | 955 | 1135 | 1305 |
| B | All | mm | 1150 | 1150 | 1150 | 1150 | 1150 | 1150 | 1850 | 1850 | 1850 | 1850 |
| C | All | mm | 1575 | 1575 | 1575 | 1575 | 1750 | 1750 | 1805 | 1875 | 1875 | 1875 |
| D | All | mm | 390 | 390 | 495 | 600 | 730 | 860 | 600 | 750 | 930 | 1100 |
| E | All | mm | 729 | 729 | 729 | 729 | 729 | 729 | 1339 | 1339 | 1339 | 1339 |
| F | All | mm | 276 | 276 | 381 | 486 | 558 | 558 | 668 | 668 | 748 | 828 |
| G | All | mm | 708 | 708 | 708 | 708 | 708 | 708 | 1318 | 1318 | 1318 | 1318 |

EVRD



DIMENSIONS

| Model Ref | | | 12 | 20 | 30 | 42 | 50 | 60 | 72 | 95 | 120 | 145 |
|-----------|-----|----|------|------|------|------|------|------|------|------|------|------|
| A | All | mm | 595 | 595 | 700 | 805 | 935 | 1065 | 805 | 955 | 1135 | 1305 |
| B | All | mm | 1150 | 1150 | 1150 | 1150 | 1150 | 1150 | 1850 | 1850 | 1850 | 1850 |
| C | All | mm | 780 | 780 | 780 | 780 | 780 | 780 | 910 | 910 | 910 | 910 |
| D | All | mm | 390 | 390 | 495 | 600 | 730 | 860 | 600 | 750 | 930 | 1100 |
| E | All | mm | 729 | 729 | 729 | 729 | 729 | 729 | 1339 | 1339 | 1339 | 1339 |

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