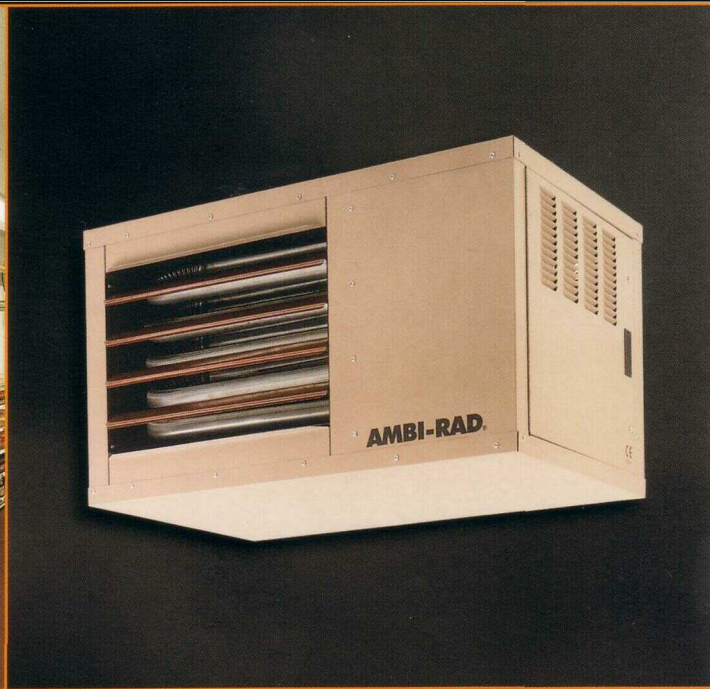


# AMBI-RAD

ENERGY EFFICIENT HEATING SYSTEMS



**ENVIROAIR**

SCA ROOM SEALED  
GAS FIRED UNIT HEATERS

Ambi-Rad EnviroAir SCA gas fired heaters are room sealed fan assisted balanced flue units designed for industrial and commercial applications.

The units are extremely versatile and due to their compact low profile design they require minimal headroom making them eminently suitable for applications where space is limited.

An integral venter fan exhausts the flue gasses and also induces a precise amount of fresh outdoor air for combustion thereby separating the combustion process from the heated space. This separated combustion technology eliminates the requirement for combustion air grilles to be fitted in the external walls of the building and makes the heaters ideally suited for installation in areas where draughts, dust or other non corrosive contaminants may be present.

### Benefits

The unique design of the SCA heater provides significant benefits at the most competitive cost.

- n Lower running costs
  - o Higher thermal efficiency - 91 % on net calorific value
  - o Higher seasonal efficiency - unnecessary loss of heat from the building via a conventional flue is eliminated
  - o Higher airflow - minimal heat stratification
- n Lower installed costs
  - o Simple balanced flue - eliminates the need for roof penetrations
  - o Smaller flue sizes
- n Lower maintenance costs
  - o room sealed units prevent dirt or dust entering the combustion zone

A combined flue outlet/air inlet terminal reduces the number of building penetrations required. Expensive roof flashings can be eliminated by the use of the wall terminal. These combined savings allow the additional cost of the higher specification units to be recovered in the first year of operation.

### Specification

#### Heat exchanger

The heat exchanger provides optimum efficiency with low exhaust gas emissions.

Heat exchanger elements are designed to provide a large surface area to maximise efficiency and eliminate localised hot spots. The elimination of welded joints considerably reduces thermal and mechanical stress enhancing heat exchanger life expectancy.

#### Air distribution

A high capacity axial flow fan is fitted to all units for improved air distribution and to minimise the effects of heat stratification.

An optional 'economy thermostat' may be fitted to heaters installed at high level to recirculate warm air down to working level during periods when the burners are switched off.

Downturn nozzles are available to deflect the airflow and are recommended for units fitted above the minimum mounting height.

Horizontal discharge louvres are fitted as standard. Additional vertical louvres may be fitted as an option.

The fan operation is controlled by an integral controller which delays fan start up until the heat exchanger has reached operating temperature and continues to run the fan after the burner has switched off until all the useful heat has been dissipated.

#### Safety

To ensure safe automatic operation each unit is fitted with comprehensive safety controls. Ignition is controlled and monitored from an electronic sequence controller and multi-functional gas safety valve. A differential pressure switch shuts off the burners if either the flue or combustion air supply are obstructed or the flue exhaust fan fails. A limit thermostat protects the unit from overheating and a second higher limit thermostat is fitted to provide dual safety control.

#### Controls

Remote control panels are available to simplify on-site wiring and provide optimum fuel economy. The panels are complete with digital time control, day and night temperature settings, a remote lockout reset facility and a 'fan only' switch to provide summer air movement.



## Installation

Units may be suspended or base mounted on a suitable non combustible support.

A concentric balanced flue terminal compatible with the heater must be used to comply with CE approvals, these are available for either roof or wall outlet and are ordered separately from the heater.

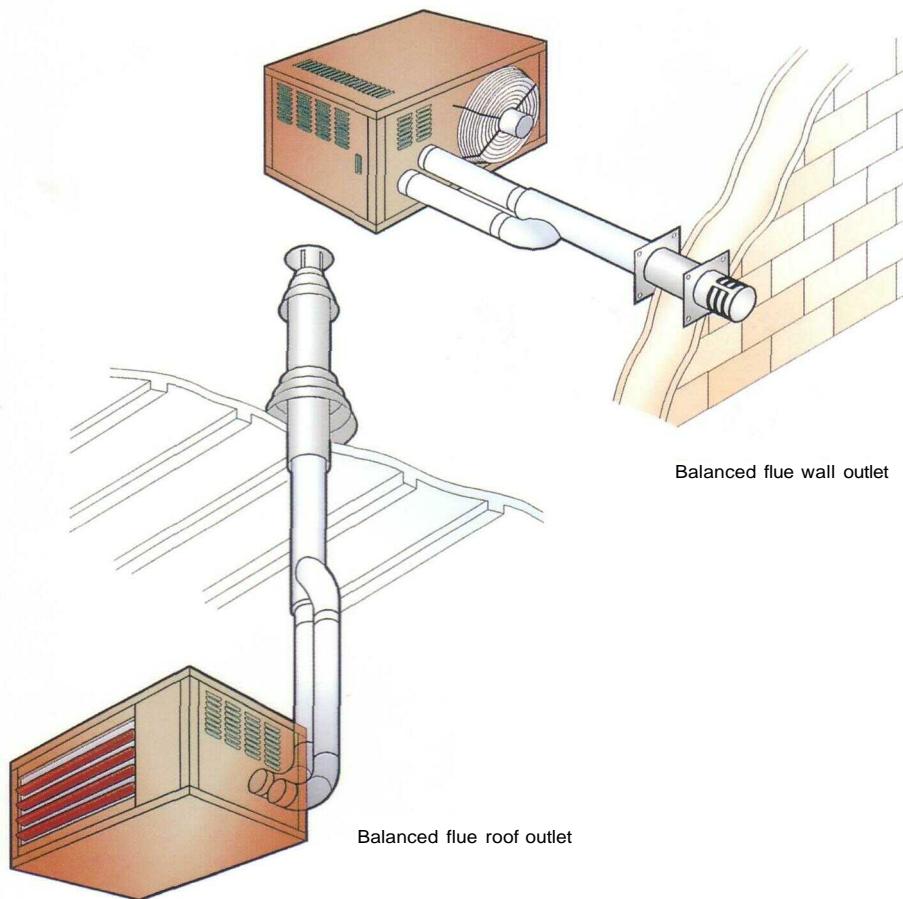
Four integral suspension points with M10 female threads are provided on each heater. Installation must be carried out by an appropriately registered CORGI installer.

*Units must not be installed in atmospheres containing highly flammable or explosive vapours, combustible dusts, halogenated hydrocarbons or chlorinated vapours.*

### Electrical

A permanent single phase supply is required to each unit, this supply should not be switched off except for maintenance.

Units must be wired in accordance with the wiring diagrams provided and current electrical standards.



## Specification and technical data

Model		45	75	100	125	150	200	250	300
Nominal heat output	kW	10.8	18.0	24.0	29.8	35.8	46.4	60.0	72.0
Gas consumption									
Natural gas G20	m <sup>3</sup> /h	1.26	2.10	2.79	3.49	4.20	5.40	6.70	8.39
Propane	kg/h	0.94	1.57	2.10	2.61	3.14	4.04	5.23	6.28
Gas connection†	Rc	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Air volume at 15°C	m <sup>3</sup> /h	1000	2350	3050	3900	4500	5050	7775	7625
Throw	m	7	15	26	27	30	31	32	34
Flue diameter	mm	80	100	100	100	130	130	130	130
Combustion air inlet	mm	80	100	100	100	130	130	130	130
Wall opening	mm	125	140	140	140	185	185	185	185
Roof opening	mm	125	150	150	150	200	200	200	200
Maximum flue length*	m	9	9	9	9	9	9	9	9
Balanced flue wall outlet									
Overall length	mm	680	760	760	760	930	930	930	930
External length	mm	148	220	220	220	195	195	195	195
Maximum wall thickness	mm	325	325	325	325	500	500	500	500
Balanced flue roof outlet									
Overall length	mm	1255	1360	1360	1360	2005	2005	2005	2005
Approximate external length	mm	650	600	600	600	1200	1200	1200	1200
Mounting height*	m	2.5-3.0	2.5-3.0	2.5-4.0	2.5-4.0	2.5-4.0	2.5-4.0	2.5-5.0	2.5-5.0
Total electrical rating	kW	0.16	0.32	0.45	0.49	0.42	0.45	0.73	0.76
Net weight	kg	33	45	70	72.5	102	108	128	140

† Not supply line size.

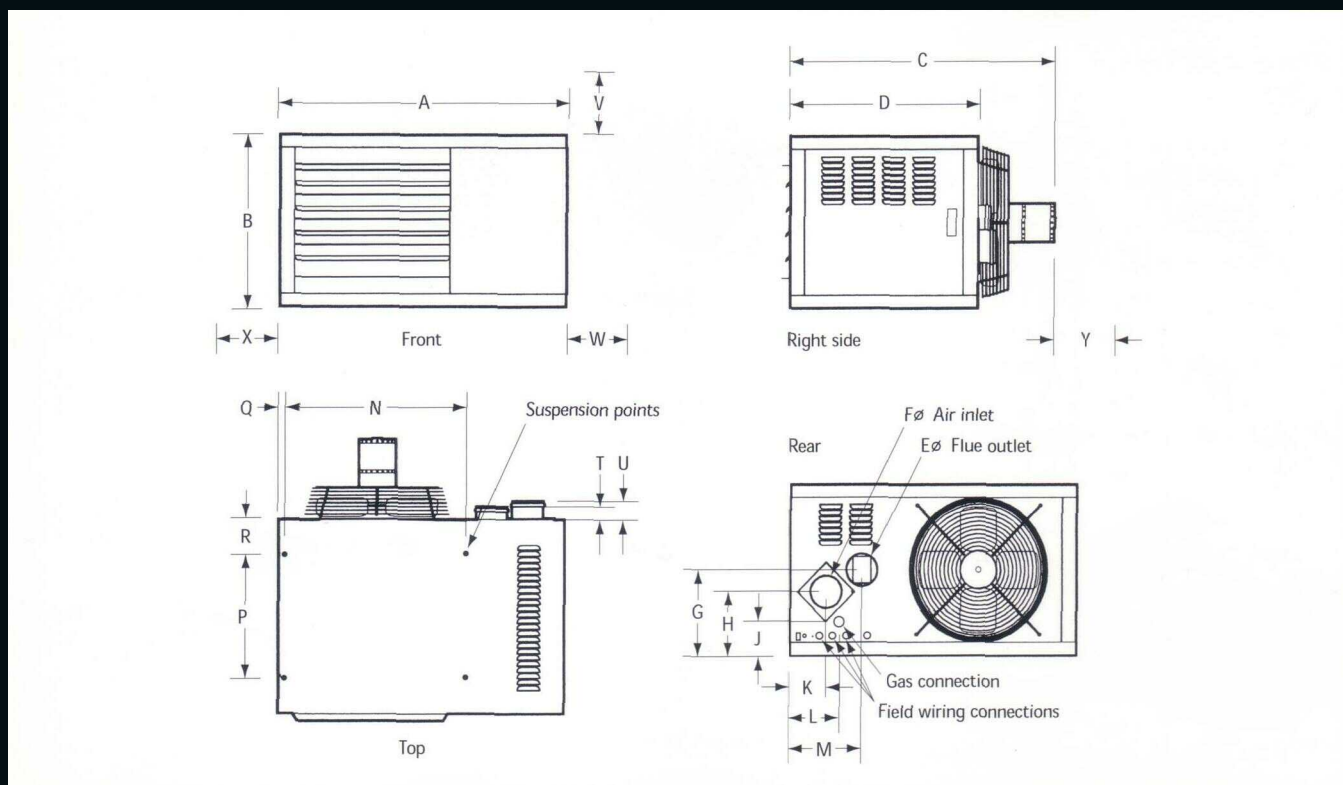
\* Upto 9 metres of additional pipe can be added to both flue and combustion air inlet, reduce by 1.5 metres for each 90° elbow.

• To underside of heater.

## Specification and technical data *continued*

### Dimensions

Please check with Ambi-Rad technical sales department for availability of later model versions after March 2000.



Model	45	75	100	125	150	200	250	300
A Width	753	753	967	967	967	967	1300	1300
B Height	308	460	560	560	840	840	840	840
C Overall length	685	849	915	915	877	877	874	874
D Cabinet length	540	591	645	645	645	645	645	645
E Flue outlet diameter	80	100	100	100	130	130	130	130
F Air inlet diameter	80	100	100	100	130	130	130	130
G Base to flue outlet	148	268	279	279	552	552	547	559
H Base to air inlet	111	200	204	204	366	366	336	346
J Base to gas inlet	42	108	110	110	182	182	182	182
K Side to air inlet	79	82	123	123	106	106	152	152
L Side to gas inlet	98	98	164	164	164	164	160	160
M Side to flue outlet	193	204	242	242	234	234	234	234
N Suspension centres	456	456	616	616	616	616	745	745
P Suspension centres	406	406	406	406	406	406	406	406
Q Side to suspension point	14	14	14	14	14	14	218	218
R Back to suspension point	22	22	119	119	119	119	119	119
T Flue outlet spigot	43	41	44	44	44	44	32	32
U Air inlet spigot	65	64	64	64	63	63	65	65
V Top clearance	50	50	150	150	150	150	150	150
W Access side clearance	500	500	600	600	600	600	600	600
X Side clearance	50	50	150	150	150	150	150	150
Y Rear clearance	250	250	350	350	350	350	500	500

Bottom clearance - all units require 50mm clearance to combustibles.

All dimensions are in millimetres.



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