

# AMBIRAD

ENERGY EFFICIENT HEATING SYSTEMS



## CENTURION

GAS & OIL FIRED  
CABINET HEATERS

The Ambi-Rad free standing range of cabinet warm air heaters combine innovative design techniques and proven heat exchanger technology, to produce units that are cost effective, efficient and aesthetically pleasing.

Ten model sizes cover heat outputs from 31kW to 289kW and are available as free standing vertical units or, alternatively, as horizontal units.



### Features

- Natural gas, propane or oil fired.
- Four pass heat transfer for improved thermal efficiency.
- Heat exchanger tubes are expanded into collection boxes, eliminating possibility of weld failure.
- Combustion chamber/heat exchanger assembly is flexibly mounted to allow for thermal expansion.
- Double skin pentapost construction incorporating air cooled heat shield.
- Time switch and thermostats are pre-wired on vertical models to reduce installation costs.
- Freeblowing or ducted air distribution.

### Options

- Inlet duct connections
- Combustion air adaptors
- Stainless steel heat exchangers
- Increased fan duty
- Flat-on air inlet filters
- High/low burners



VCH with optional flat-on air inlet filters

## Specification

### Heat exchanger construction

The combustion chamber, manufactured from high quality heat resisting stainless steel, has a large surface area and volume to avoid localised hot spots ensuring long life. A tubular cross flow heat exchanger provides excellent fuel economy and the heat exchanger tubes are expanded into the collection boxes thereby eliminating the possibility of weld failure.

The complete assembly is mounted to allow for expansion counteracting the effect of thermal stress.

### Air handling

Double inlet high efficiency centrifugal fans circulate air across all the heated surfaces to give low surface temperatures and maximise efficiency. Fans on models 100 to 300 are direct driven using a single phase motor. All other models are driven by a heavy duty three phase motor and v-belt system. Air discharge is via nozzle outlets or a four way louvred head. Alternatively units may be installed with a fully ducted distribution system.

### Cabinets

The cabinets are constructed using a full pentapost frame and double skinned panels with an inner galvanised steel skin. All panels are easily removed for servicing.

Units are finished in a durable two tone powder paint. Four mounting feet are incorporated into the cabinet, to ease on site handling. After location these feet may be removed or left in position to raise the air inlet away from the floor to minimise ingress of dust.

### Fuel

Heaters are available to operate on either natural gas (G20), propane (G31), 28 or 35 sec oil.

Gas fired units are fitted with a fully automatic forced draught burner complete with full safety controls. The heaters are tested and approved to the relevant CE standards.

Oil fired models are supplied complete with a fully automatic forced draught pressure jet oil burner complete with safety controls and matched to each heater for optimum flame shape and efficiency.

### Controls

A combined fan and limit thermostat is fitted on all heaters which delays fan start until the heat exchanger has reached operating temperature and continues to run the fan after the burner switches off until the remaining heat is dissipated. In the event of overheating the unit would automatically be shut down by the limit thermostat.

On vertical models time and temperature controls comprising digital time switch, room thermostat and frost thermostat are pre-wired to the heater to simplify installation. Horizontal models are supplied with remote panels. Remote panels may also be supplied as an optional alternative on vertical models.

## Specification and technical data

### Vertical and horizontal cabinet heaters

Model VCH/HCH*		100	150	200	300	400	500	600	700	800	1000
Nominal output	kW	31	44	61	88	119	149	178	205	234	289
Natural gas G20	m <sup>3</sup> /h	3.6	5.5	7.3	10.9	14.5	18.2	21.8	25.4	29.0	35.8
Propane G31	kg/h	2.7	4.1	5.4	8.2	10.9	13.6	16.3	19.0	21.7	26.8
Minimum inlet pressure natural gas	mbar	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Gas connection size <sup>1</sup>	Rc	½	½	¾	¾	¾	¾	¾	1¼	1¼	1¼
Oil consumption	l/h	3.5	5.2	6.9	10.4	13.8	17.3	20.8	24.2	27.6	34.5
Oil connection size <sup>1</sup>	Rc	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
Air flow @ 15°C	m <sup>3</sup> /h	2500	2500	5180	5180	7140	8750	10500	12500	14100	17330
Temperature rise	°C	36	52	34	50	49	50	50	47	49	49
Approximate throw	m	18	18	21	21	20	25	25	30	25	30
Number of nozzles		2	2	3	3	4	4	4	4	4	4
Available static pressure <sup>2</sup>	Pa	95	95	130	130	125	150	200	95	160	250
Electrical supply		230/240 volt 1 phase 50Hz				400/415 volts 3 phase 50Hz					
Main fan motor	kW	0.55	0.55	0.74	0.74	1.50	2.20	3.00	4.00	4.00	5.50
Burner motor	W	70	70	70	70	90	90	90	250	250	250
Absorbed electric power	kW	0.91	0.91	1.60	1.60	2.41	2.76	4.60	5.80	5.47	8.39
Running current	amps	3.4	3.4	6.6	6.6	2.3	3.7	5.5	8.3	7.0	12.0
Noise level @ 5 metres <sup>3</sup>	dB (A)	52	52	53	53	59	61	61	65	63	67
Approximate weight <sup>4</sup>	kg	190	190	225	225	280	292	300	320	360	380
Flue diameter	mm	125	125	150	178	178	178	178	223	223	223
Minimum flue height	m	2	2	2	2	2	2	2	2	2	2
Maximum mounting height (horizontal units) <sup>5</sup>	m	3	3	4	4	5	5	5	5	5	5

\*VCH for vertical cabinet heaters. HCH for horizontal cabinet heaters. Add suffix 'N' for natural gas, '-O' for oil fired, 'P' for propane and 'ND, PD or -OD' for ducted outlet.

<sup>1</sup> Not supply line size.

<sup>2</sup> For alternative airflows or static pressure consult Ambi-Rad.

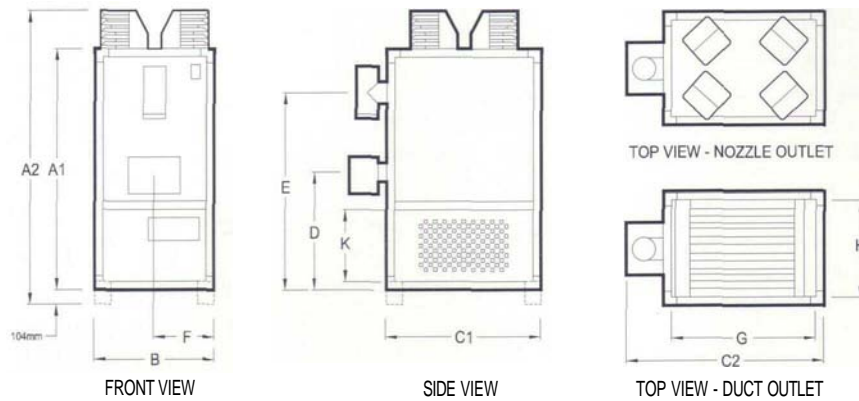
<sup>3</sup> Typical factory application. Q=2 A=160

<sup>4</sup> Unit weight including burner.

<sup>5</sup> Consult Ambi-Rad for higher mounting applications.

Specification and technical data continued

Dimensions - VCH



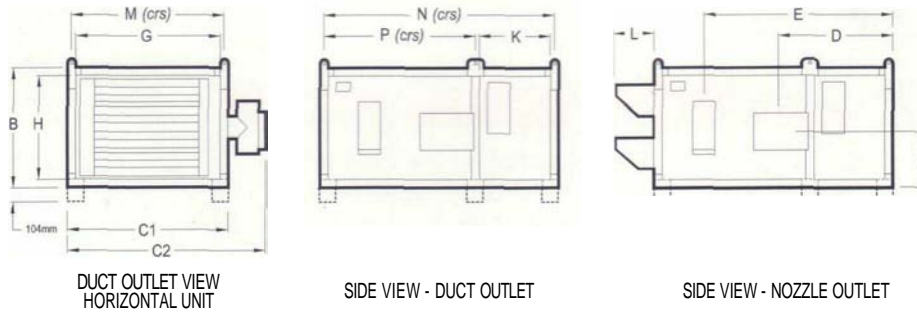
Models 100-150  
c/w 2 nozzles

Models 200-300  
c/w 3 nozzles

Models 400-1000  
c/w 4 nozzles

Model	100/150	200/300	400/500	600/700	800/1000
A1 Cabinet height	1804	1804	2012	2073	2012
A2 Overall height	2088	2168	2376	2477	2466
B Overall width	865	865	795	1186	1186
C1 Cabinet depth	613	859	1158	1305	1504
C2 Overall depth	908	1207	1547	1915	2114
D Bottom to burner centre	1007	1019	1041	1184	1112
E Bottom to flue centre	1441	1465	1637	1750	1678
F Side to burner centre	433	433	398	593	593
G Duct outlet depth/side duct inlet depth	513	759	1058	1205	1404
H Duct outlet width/rear duct inlet width	765	765	695	1086	1086
K Duct inlet height	445	516	600	711	600

Dimensions - HCH



Model	100/150	200/300	400/500	600/700	800/1000
A1 Cabinet width	1804	1804	2012	2073	2012
B Overall height	865	865	795	1186	1186
C1 Cabinet depth	613	859	1158	1305	1504
C2 Overall depth	908	1207	1547	1915	2114
D Side to burner centre	1007	1019	1041	1184	1112
E Side to flue centre	1441	1465	1637	1750	1678
F Bottom to burner centre	433	433	398	593	593
G Duct outlet depth/top duct inlet depth	513	759	1058	1205	1404
H Duct outlet height/rear duct inlet height	765	765	695	1086	1086
K Top duct inlet width	445	516	600	711	600
L Horizontal nozzle outlet width	315	315	315	370	370
M Hanger point depth	560	806	1105	1252	1451
N Hanger point width	1751	1751	1959	2020	1959
P Hanger point side to middle	1258	1187	1311	1261	1311



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