

# FREE STANDING GAS & OIL FIRED CABINET HEATERS



# Reznor®

THE NAME FOR WARM AIR

# FREE STANDING GAS AND OIL FIRED CABINET HEATERS

## Cabinet Heaters

The Reznor range of cabinet heaters combines innovative design techniques and proven heat exchanger technology, to produce units that are cost effective, efficient and aesthetically pleasing.

The range comprises of both standard efficiency and high efficiency models.

## Standard Efficiency Cabinet Heaters

10 model sizes cover heat outputs from 31kW to 269kW.

## High Efficiency Cabinet Heaters

High efficiency models achieve thermal efficiencies of 92% and are listed on the governments energy technology list. (End users who purchase any products on this list are eligible to claim 100% Enhanced Capital Allowances within the 1st year.)

11 model sizes cover heat outputs from 30kW to 230kW.



## Benefits

- Increased airflows reduce stratification in the roof space (High efficiency models)
- Proven reliability - heat exchanger tubes are expanded into collection boxes, eliminating the possibility of weld failure
- Comfortable temperatures can be maintained in larger areas - all models have effective air throws thereby enabling improved distribution of heat
- Reduced installation costs - a Caledonian control panel including programmable time switch and sensor are installed on vertical models
- Eligible for Enhanced Capital Allowances (High efficiency models only)

## Features

- All models are available as either free standing vertical units or alternatively as horizontal units
- Gas or oil fired
- Free blowing or ducted air distribution
- Four pass heat transfer for improved thermal efficiency
- Combustion chamber/heat exchanger assembly is flexibly mounted to allow for thermal expansion
- Double skin pentapost construction incorporating air cooled heat shield

## Options

- Inlet duct spigots
- Combustion air adaptors
- Stainless steel heat exchangers
- Increased fan duty
- Flat on air filters
- High/low burners
- Four way louvred head
- Constant run fan relay
- V bank filters
- Factory fitted fire valve and oil filter



## Specification

### Heat Exchanger

The combustion chamber is manufactured from high quality heat resisting stainless steel and has a large surface area and volume to avoid localised hot spots and to ensure 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 to counteract 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 29-1 to 88-1 and 30 and 70 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 vertical cabinets, 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. Horizontal cabinets are supplied with six mounting feet and six suspension points to allow plant room or suspended installation.

### 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 and 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.

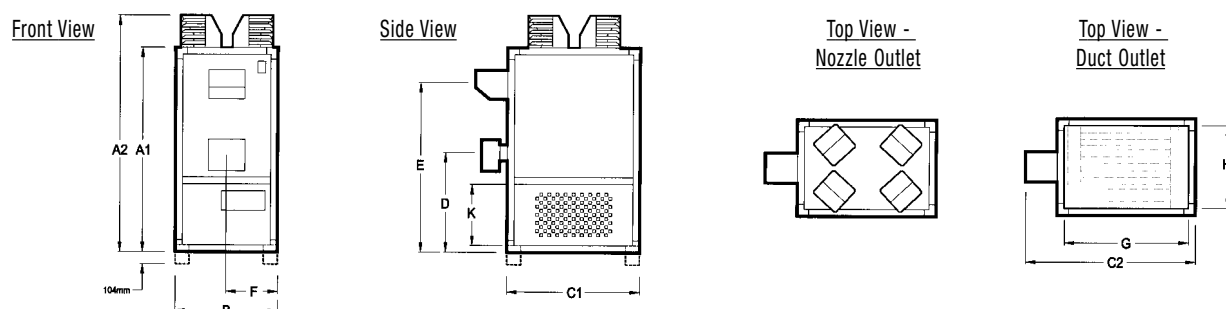
### Controls

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 a Caledonian control panel including programmable time switch and sensor are installed onto the heater to simplify installation. Horizontal models are supplied with a separate remote panel. Remote panels may also be supplied as an optional alternative on vertical models.

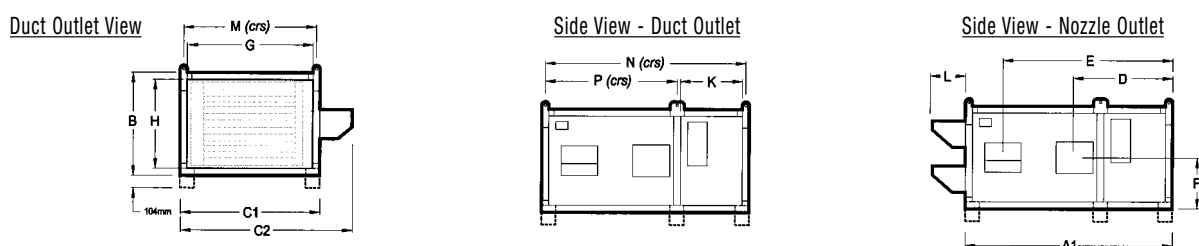
# DIMENSIONS

## Vertical Cabinet Heaters



MODELS		29-1/44-1	60-1/88-1	117-3/150-3	175-3/205-3	235-3/293-3
		30/40	50/60/75	90/120	140/180	215/230
Cabinet height	A1	1804	1804	2012	2073	2012
Overall height	A2	2088	2168	2376	2477	2466
Overall width	B	865	865	795	1186	1186
Cabinet depth	C1	613	859	1158	1305	1504
Overall depth	C2	908	1207	1547	1915	2114
Bottom to burner centre	D	1007	1019	1041	1184	1112
Bottom to flue centre	E	1441	1465	1637	1750	1678
Side to burner centre	F	433	433	398	593	593
Duct outlet depth/Side duct inlet depth <sup>1</sup>	G	513	759	1058	1205	1404
Duct outlet width/Rear duct inlet width <sup>1</sup>	H	765	765	695	1086	1086
Duct inlet height <sup>1</sup>	K	445	516	600	711	600

## Horizontal Cabinet Heaters



MODELS		29-1/44-1	60-1/88-1	117-3/150-3	175-3/205-3	235-3/293-3
		30/40	50/60/75	90/120	140/180	215/230
Cabinet length	A1	1804	1804	2012	2073	2012
Overall height	B	865	865	795	1186	1186
Cabinet depth	C1	613	859	1158	1305	1504
Overall depth	C2	908	1207	1547	1915	2114
Side to burner centre	D	1007	1019	1041	1184	1112
Side to flue centre	E	1441	1465	1637	1750	1678
Bottom to burner centre	F	433	433	398	593	593
Duct outlet depth/Top duct inlet depth <sup>1</sup>	G	513	759	1058	1205	1404
Duct outlet height/Rear duct inlet height <sup>1</sup>	H	765	765	695	1086	1086
Top duct inlet width <sup>1</sup>	K	445	516	600	711	600
Horizontal nozzle outlet length <sup>1</sup>	L	315	315	315	370	370
Hanger point depth	M	560	806	1105	1252	1451
Hanger point width	N	1751	1751	1959	2020	1959
Hanger point side to centre	P	1258	1187	1311	1261	1311

**Note:** 1. Nominal dimensions. For specific ductwork connection drawings please consult Reznor.

# Reznor®

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### Company Standards and Services:

All Reznor products are tested and approved to CE standards. Reznor UK Ltd. is assessed to BS EN ISO 9002: 1994 Quality Assurance. Reznor offers a design service to its customers; including budget schemes, on site technical support and a comprehensive after-sales service package. Reznor reserves the right to change specifications without prior notice.



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Anbi-Rad Group company

# TECHNICAL SPECIFICATION

## Standard Efficiency Vertical and Horizontal Cabinet Heaters

MODEL FSG/FSO*		29-1	44-1	60-1	88-1	117-3	150-3	175-3	205-3	235-3	293-3	
Nominal output	kW	31	44	61	88	119	149	178	205	234	269	
Gas rate	Natural gas G20	m <sup>3</sup> /h	3.6	5.5	7.3	10.9	14.5	18.2	21.8	25.4	29.1	33.3
	Propane G31	Kg/h	2.7	4.1	5.4	8.2	10.9	13.6	16.3	19.0	21.7	24.9
Minimum inlet pressure	Natural gas	mbar	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	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1 1/4	1 1/4	1 1/4	
Oil consumption	l/h	3.5	5.2	6.9	10.4	13.8	17.3	20.8	24.2	27.6	32.2	
Oil connection size <sup>1</sup>	Rc	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	
Air flow @ 15°C	m <sup>3</sup> /h	2500	2500	5180	5180	7140	8750	10500	12800	14100	17330	
Temperature rise	C	36	52	34	50	49	50	50	47	49	45	
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	230/240V/1Ph~/50Hz					400/415V/3Ph~/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	
Total electrical rating	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	ø"	5	5	6	7	7	7	7	9	9	9	
Minimum flue height	m	2	2	2	2	2	2	2	2	2	2	

**Note:** \*FSG for Gas fired, FSO for Oil fired. Add suffix D for ducted models. 1. Not supply line size. 2. For alternative airflows or static pressure consult Reznor. 3. Typical factory application. 4. Includes unit and nozzles. **N.B.** For maximum mounting heights on horizontal units consult Reznor.

## High Efficiency Vertical and Horizontal Cabinet Heaters

MODEL FSVEG/FSVEO		30	40	50	60	75	90	120	140	180	215	250
Nominal output	kW	30	42	52	60	75	89	119	140	178	217	230
Efficiency on net C.V.	%	92.1	91	92	91.4	91.4	91.3	91.1	91.6	91.8	91.7	92.3
Gas rate	Natural gas G20	m <sup>3</sup> /h	3.49	4.98	5.94	6.95	8.69	10.36	13.86	16.19	20.55	28.51
	Propane G31	Kg/h	2.61	3.73	4.44	5.21	6.51	7.76	10.38	12.12	15.39	21.34
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	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1 1/4"	1 1/4"
Oil consumption	l/h	3.31	4.72	5.63	6.77	8.27	9.86	13.18	15.36	19.50	23.73	27.09
Oil connection size		3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Air flow @ 15°C	m <sup>3</sup> /h	2500	2500	5180	5180	5180	7140	8750	10500	12800	14100	17330
Temperature rise	°C	36	50	29	34	42	37	40	39	41	45	42
Approximate throw	m	18	18	21	21	21	21	25	25	30	26	31
Number of nozzles		2	2	3	3	3	4	4	4	4	4	4
Available outlet press ducted	Pa	95	95	130	130	130	125	150	200	95	160	250
Electrical supply	230/240V/1Ph~/50Hz					400/415V/3Ph~/50Hz						
Main fan motor	kW	0.55	0.55	0.74	0.74	0.74	1.5	2.2	3.0	4.0	4.0	5.5
Burner motor	W	70	70	70	70	70	90	90	90	90	250	250
Absorbed electric power	kW	0.91	0.91	1.6	1.6	1.6	2.41	2.76	4.6	5.8	5.47	8.39
Running current	Amps	3.4	3.4	6.6	6.6	6.6	2.3	3.7	5.5	8.3	7	12
Noise level @ 5 metres <sup>2</sup>	dB(A)	52	52	53	53	53	59	61	61	65	63	67
High air flow option*	m <sup>3</sup> /h	N/A	N/A	N/A	N/A	N/A	8750	N/A	12800	N/A	17330	N/A
Static pressure with high air flow	Pa	N/A	N/A	N/A	N/A	N/A	150	N/A	95	N/A	250	N/A
Temperature rise with high air flow	°C	N/A	N/A	N/A	N/A	N/A	30	N/A	32	N/A	37	N/A
Air flow	m <sup>3</sup> /h	N/A	N/A	N/A	N/A	N/A	7140	N/A	10500	N/A	14100	N/A
Increased static pressure*	Pa	N/A	N/A	N/A	N/A	N/A	205	N/A	350	N/A	330	N/A
Temperature rise with increased static pressure	°K	N/A	N/A	N/A	N/A	N/A	37	N/A	39	N/A	45	N/A
Approximate weight <sup>3</sup>	kg	190	190	225	225	225	280	292	300	320	360	380
Flue diameter	ø"	5	5	6	6	7	7	7	7	9	9	9
Minimum flue height	m	2	2	2	2	2	2	2	2	2	2	2
Maximum mounting heights												
Horizontal units <sup>4</sup>	m	3	3	5	5	5	6	6	6	6	6	6

**Note:** \*Increased static pressure is NOT available with high air flow option. FSVEG for Gas fired, FSVEO for oil fired. Add suffix D for ducted models. 1. Not supply line size. 2. Typical factory application. 3. Unit weight including burner. 4. Consult Reznor for higher mounting applications.