

# Combat<sup>®</sup> Cabinet Heaters

**Over 91.5% NET  
Efficient!**



- Ideal for industrial and commercial applications
- Large range of heat outputs and burner options
- Easy installation with a factory fitted bolt-on burner
- Durable long life stainless steel combustion chamber
- Design flexibility - floor standing, horizontal mounting or external site installation options
- Energy saving optimising control provided as standard
- All models meet ECA efficiency requirements

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*Quality in Any Language™*



Authorised User No. 00184



0063

## Technical Data PGP ECA (Power Gas) & POP ECA (Pressure Jet Oil) Ranges

### Natural Gas (G20) & LPG Propane (G31) Data

Model		15	20	30	40	50	60	70	80	100
Maximum Heater Input-Gross	[kW]	55.5	73.3	93.2	129.9	162.0	208.0	242.0	275.2	348.5
	[Btu/h] x [1000]	189.4	250.1	318.0	443.2	552.7	709.7	825.7	939.0	1189.1
Maximum Heat Output	[kW]	47.4	61.2	78.4	110.2	134.5	177.7	205.3	230.4	293.4
	[Btu/h] x [1000]	161.7	208.8	267.5	376.0	458.9	606.3	700.5	786.1	1001.1
Reduced Gross Input*	[kW]	38.9	51.3	65.2	90.9	113.4	145.6	169.4	192.6	244.0
	[Btu/h] x [1000]	132.7	175.0	222.5	310.2	386.9	496.8	578.0	657.2	832.5
Reduced Output*	[kW]	33	43	55	77	94	124	144	161	205
	[Btu/h] x [1000]	113	147	188	263	321	423	491	549	699
Maximum Gas Rate Natural (G20)	[m <sup>3</sup> /h]	5.3	7.0	8.9	12.4	15.4	19.8	23.1	26.2	33.2
	[ft <sup>3</sup> /h]	187	247	314	438	544	699	816	925	1172
Minimum Gas Rate Natural (G20)	[m <sup>3</sup> /h]	3.8	5.0	6.3	8.8	11.0	14.2	16.5	18.7	23.7
	[ft <sup>3</sup> /h]	134	177	222	311	388	501	583	660	837
Maximum Gas Rate LPG Propane (G31)	[m <sup>3</sup> /h]	2.09	2.76	3.51	4.89	6.10	7.83	9.11	10.36	13.12
	[kg/h]**	3.87	5.11	6.49	9.05	11.29	14.49	16.86	19.18	24.29
Minimum Gas Rate LPG Propane (G31)	[m <sup>3</sup> /h]	1.46	1.93	2.46	3.42	4.27	5.48	6.38	7.25	9.18
	[kg/h]**	2.71	3.58	4.55	6.34	7.90	10.15	11.80	13.42	17.00
Inlet Pressure Natural Gas (G20)	[mbar]	20	20	20	20	20	20	20	20	20
		(Minimum: 17; Maximum: 25)								
Inlet Pressure LPG Propane Gas (G31)	[mbar]	37	37	37	37	37	37	37	37	37
		(Minimum: 25; Maximum: 45)								
Gas Connection	[ISO 7-R]	¾	¾	¾	¾	1 ¼	1 ¼	1 ¼	1 ¼	1 ¼

\*High/Low and Modulating Burners Only.

\*\* For litres per hour, multiply: [kg/h] x 1.97

### Oil Data [Class D Fuel Oil (Gas Oil)] - [Class C2 fuel oil (Kerosene) version available as option]

Model		15	20	30	40	50	60	70	80	100
Heat Input	[kW]	55.5	73.3	93.2	129.9	162.0	208.0	242.0	275.2	348.5
	[Btu/h] x [1000]	189.4	250.1	318.0	443.2	552.7	709.7	825.7	939.0	1189.1
Heat Output	[kW]	47.4	61.2	78.4	110.2	134.5	177.7	205.3	230.4	293.4
	[Btu/h] x [1000]	161.7	208.8	267.5	376.0	458.9	606.3	700.5	786.1	1001.1
Consumption	[L/h]	5.47	7.23	9.19	12.81	15.98	20.52	23.87	27.14	34.37
	UK[gal/h]	1.20	1.59	2.02	2.82	3.51	4.51	5.25	5.97	7.56
Oil Pump Connections	[ISO 7-Rc]	¾	¾	¾	¾	¾	¾	¾	¾	¾

### General Data

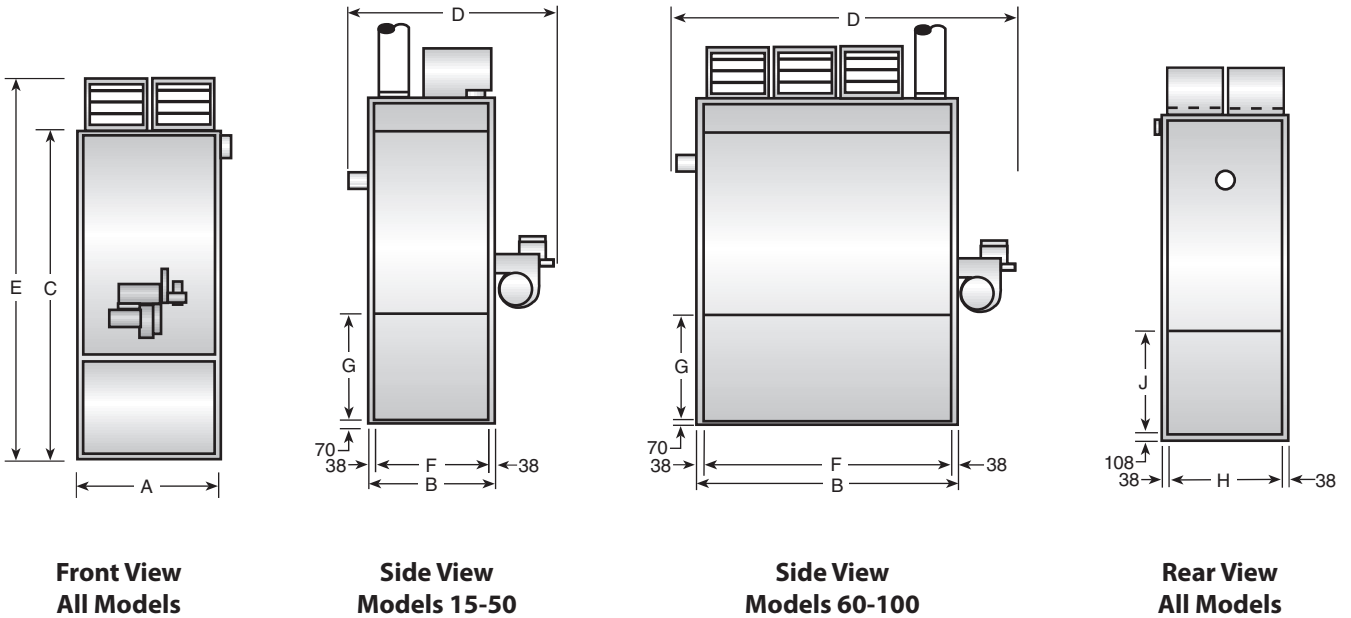
Model		15	20	30	40	50	60	70	80	100
Electrical Supply*		230 V/50 Hz/1 Ø				400 V/50 Hz/3 Ø				
Main Fan Motor Type		DD	DD	DD	DD	DD	BD	BD	BD	BD
Motor Size	[kW]	0.75	0.75	0.75	2.2	2.2	1.5	2.2	2.2	4.0
Start Current	[A]	24	24	28	21	21	10.2	30	30	35
Run Current	[A]	5.3	5.3	6.3	6.2	6.2	3.5	5.1	5.1	9.6
Airflow-Free Blowing	[m <sup>3</sup> /h]	3400	3400	5100	6800	8500	11050	12450	12450	17330
	[ft <sup>3</sup> /min]	2000	2000	3000	4000	5000	6500	7500	7500	10200

DD = Direct Drive      BD = Belt Drive

\*Models 40 & 50 are available with 230 V, 1 Ø electrical supply as an extra cost option.

### Dimension Data PGP ECA & POP ECA

All dimensions shown in mm.



Model		15/20	30	40	50	60/70/80	100
'A' Width	[mm]	724	724	857	857	1016	1016
'B' Depth Cabinet Only	[mm]	857	857	857	1016	1676	1994
'C' Height Cabinet Only	[mm]	1740	1740	1930	1930	1930	1930
'D' Depth Overall	[mm]	1306	1306	1348	1507	2388	2706
'E' Height Incl. Heads	[mm]	1988	2058	2235	2235	2235	2235
'F' Left/Right Hand Air Inlet Spigot - Depth	[mm]	781	781	781	940	1600	1918
'G' Left/Right Hand Air Inlet Spigot - Height	[mm]	457	457	560	560	560	560
'H' Rear Air Inlet Spigot - Depth	[mm]	648	648	781	781	n/d	n/d
'J' Rear Air Inlet Spigot - Height	[mm]	361	361	446	446	n/d	n/d
Weight	[kg]	200	200	245	270	440	530
Flue Diameter*	[mm]	178	178	178	178	229	229

### Heater Clearances to Combustibles (mm)

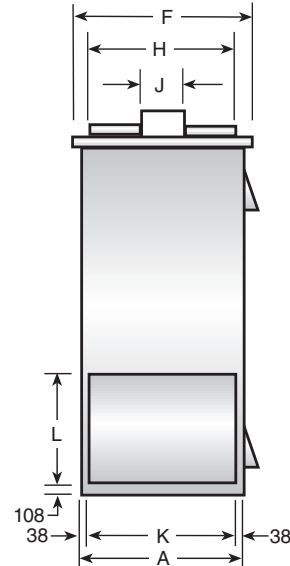
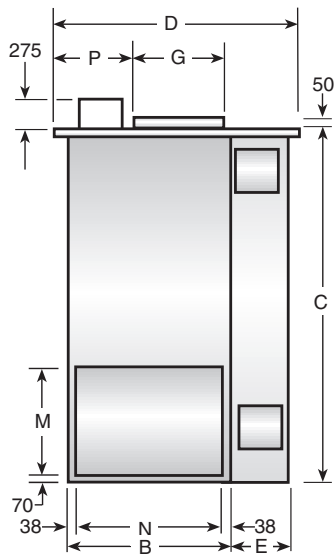
To Side of Heater	To Rear of Heater	To Front of Heater	For Air Distribution
600	600	2000	4000

**Note:** Horizontal cabinet heaters are designed to lie on their left hand side, as standard.

\*All heaters must be connected to a suitable flue system.

### Dimension Data - External Heaters

All dimensions shown in mm.



Model		15/20/30	40	50	60/70/80	100
'A' Width	[mm]	724	857	857	1016	1016
'B' Depth Cabinet Only	[mm]	857	857	1016	1676	1994
'C' Height Cabinet Only	[mm]	1740	1930	1930	1930	1930
'D' Depth Overall	[mm]	1396	1498	1657	2483	2800
'E' External Heater Housing	[mm]	373	474	474	639	639
'F' Width Overall	[mm]	840	973	973	1132	1132
'G' Air Outlet Spigot Depth	[mm]	476	476	610	1238	1524
'H' Air Outlet Spigot Width	[mm]	648	781	781	940	940
'J' Flue Diameter	[mm]	178	178	178	229	229
'K' Rear Return/ Fresh Air Inlet - Width	[mm]	648	781	781	n/d	n/d
'L' Rear Return/ Fresh Air Inlet - Height	[mm]	369	469	469	n/d	n/d
'M' Left/Right Hand Return Fresh Air Inlet - Height	[mm]	457	560	560	560	560
'N' Left/Right Hand Return Fresh Air Inlet - Width	[mm]	781	781	940	1600	1918
'P' Rear of Heater To Air Outlet Spigot*	[mm]	401	401	426	96	96

\*For Models 60 - 100, the circular flue spigot is at the front of the heater with the rectangular air outlet spigot at the rear.

**NOTE:** External cabinet heaters are designed to be sited externally, with heat ducted into the building. These models are fitted with a special metal rain drip cover and all cabinet joints are silicone sealed to ensure that the heaters are weatherproof.

## Controls

Each heater is supplied with the ROBERTS GORDON® NRG Control. This will require on-site wiring.

## Burner Options

COMBAT® cabinet heaters are fitted with on/off burners as standard. High/Low burners are available as an option on all models, and a fully modulating burner is available as an option on all Natural Gas and LPG fired models. Oil models use class D fuel oil (gas oil) as standard. Burner can be set to operate on other oils such as class C2 fuel oil (kerosene) upon request.

## Inlet & Outlet Ducts

Where there is a need for the heater to be connected to fresh air or air from an adjacent area for its intake of distribution air, inlet duct connections can be provided.

**Note:** When employing an inlet duct arrangement, there must be adequate provision for the supply of combustion air. Please contact Roberts-Gordon for advice. As standard, each heater is supplied with the specified number of discharge heads for warm air distribution. If a heater is to be attached to ducting for warm air distribution, then an outlet duct spigot can be provided. In these instances, advice should be sought to ensure that proposed duct systems are compatible with the heater.

## Oil Connection Kit

For all oil fired heaters, an oil line connection kit comprising of a gate valve, spring operated fire valve, oil filter and connecting nipples are supplied for installation on site.



COMBAT® Cabinet Heaters are high efficiency heaters and are listed on the Enhanced Capital Allowance Scheme 'Energy Technology Product List'. The ETL symbol is a UK registered certification mark of the carbon trust.

## Important Notice

**The equipment described in this Data Sheet is suitable for most commercial and industrial heating applications. However, in certain environments, particularly where there is a chlorinated atmosphere (e.g. near degreasing plant or other solvent processes), or a particularly dusty atmosphere, specialist advice should be sought at the design stage. Please consult Roberts-Gordon.**

**Roberts-Gordon reserves the right to alter product specification details without notice.**

## Installation Code and Annual Inspections:

All installations and service of ROBERTS GORDON® equipment must be performed by a contractor qualified in the installation and service of equipment sold and supplied by Roberts-Gordon and conform to all requirements set forth in the ROBERTS GORDON® manuals and all applicable governmental authorities pertaining to the installation, service and operation of the equipment. To help facilitate optimum performance and safety, Roberts-Gordon recommends that a qualified contractor conduct, at a minimum, annual inspections of your ROBERTS GORDON® equipment and perform service where necessary, using only replacement parts sold and supplied by Roberts-Gordon.

**Further Information:** Applications, engineering and detailed guidance on systems design, installation and equipment performance is available through ROBERTS GORDON® representatives. Please contact us for any further information you may require, including the Installation, Operation and Service Manual.

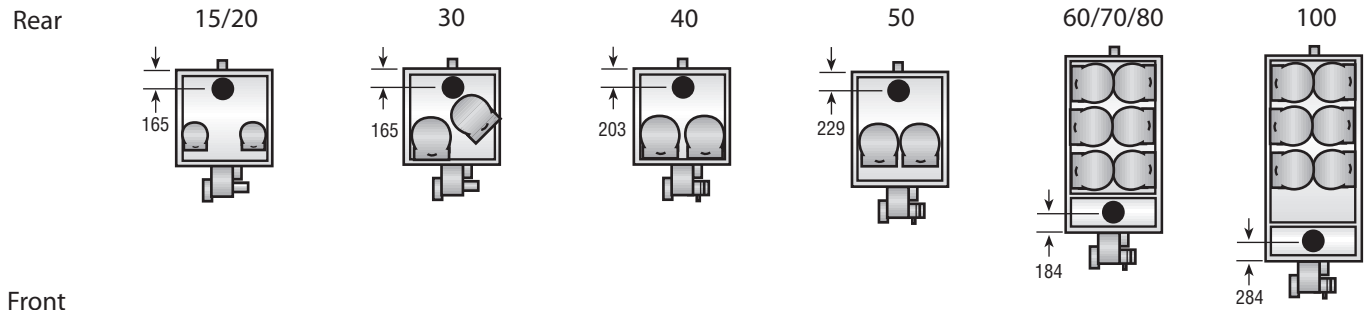
**This product is not for residential use.**

**This document is intended to assist licensed professionals in the exercise of their professional judgement.**

### Air Outlet & Flue Arrangements

All dimensions shown in mm.

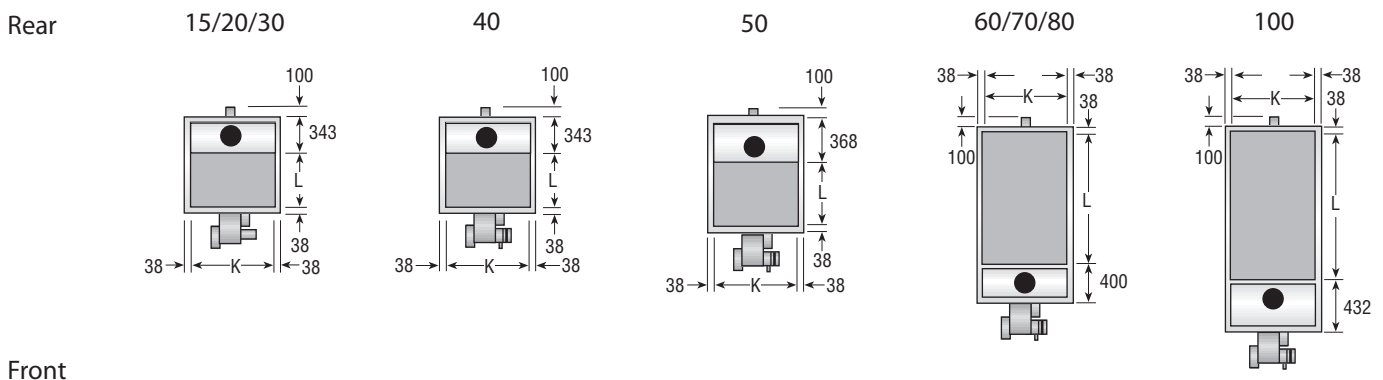
#### Vertical and Horizontal Heaters - Free Blowing



**Note:** Models 15 and 20 are fitted with 9 inch (228.6 mm) diameter discharge heads as standard.  
Models 30 to 100 are fitted with 14 inch (355.6 mm) diameter discharge heads as standard.

#### Vertical and Horizontal Heaters - Air Outlet Spigots

All dimensions shown in mm.



#### Outlet Spigot Dimensions

Model		15/20/30	40	50	60/70/80	100
K – Spigot Width	[mm]	648	781	781	940	940
L – Spigot Depth	[mm]	476	476	610	1238	1524

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