

# Trade Data

## CP

CP Upright / CP Horizontal / CP Counterflow / CP EA External Heaters  
Gas and Oil Fired Warm Air Heaters  
Heat Outputs from 26kW - 586kW



Issue 1.02 Print 2 May 2011



Authorised User No. 00175

# Product Overview

## Benefits

### Installer Friendly

- Extended Heads
- Plain Side Panels - Provides Greater Flexibility In Location
- Riello Burners
- Factory Fitted Controls (Upright Models)
- Factory Fitted Fire Valve And Oil Filter(Oil Models)
- External Models available

### Caring For The Environment

- High Efficiency ECA Approved Models
- Biofuel Options

### Peace Of Mind

- More Than Fifty Years Experience In Warm Air
- Two Year Parts And One Year Labour Guarantee
- Ten Year Combustion Chamber/Heat Exchanger Warranty



CP EA External Heater

**Configuration** Powrmatic CP cabinet heaters can be specified in upright, horizontal or counterflow configuration. Dependent upon model heaters can be specified to provide on/off, high/low or modulated heat outputs.

**Cabinet** Frame and panel construction, complete with integral heat shields and finished with a hardwearing epoxy powder coat stove baked paint.

**Combustion Chamber** The drum type chamber is fabricated from high grade stainless steel close coupled to a high efficiency plate heat exchanger. Both elements have been life-cycle tested and consequently covered by an extended warranty.

**Burners** Powrmatic heaters are specification matched to Riello pressure jet oil and forced draught gas burners. Oil fired heaters are arranged, as standard, for operation on Class D light distillate 35 second gas oil whilst gas fired heaters are supplied ready for use with natural gas (G20).

Alternative kerosene (28 sec), lpg propane (G31) or liquid biofuel firing available to order.

Oil fired heaters have the benefit of factory fitted fire safety valve and filter.

**Air Movement** Via dynamically balanced and resiliently mounted centrifugal fan sets with either direct or belt driven motors. Free-blowing heaters are equipped with heads providing rotational and lateral jet direction and, where applicable, are of extended height. Heaters arranged for ducted applications are provided with an outlet spigot for the onward connection of ductwork.

**Controls** Heaters are supplied ready for automatic operation and are complete with safety and comfort controls. As standard heaters will be provided with high temperature limit protection as well as a digital time switch, mechanical day temperature and night set-back thermostats.

Alternatively heaters may be specified with a tamperproof digital control that features optimised start and stop (mandatory for ECA , high/low and modulating applications) which includes a digital time switch, electronic day thermostat and frost protection thermostat. Remote temperature sensor option available.

For installer convenience upright heaters controls are factory fitted whilst horizontal and counterflow heaters are supplied with controls housed within a remote console (inter-connecting wiring by others).

All heaters have the ability to provide 'fan only' summer air movement.

**Approvals** All Powrmatic heaters are type tested to meet the stringent requirements of both the Gas Directive and CE accreditation.

Model			100	150 Oil	150 Gas	200	300	400	500	600	700	800	1000	1250	1500	2000	
<b>Output</b>	Standard	kW	29	44	44	59	88	117	147	176	205	235	293	366	440	586	
	ECA	kW	26	36	36	48	71	96	119	141	154	196	245	311	396	n/a	
	Volume	m³/s	0.52	0.78	0.78	1.04	1.56	2.08	2.97	3.40	3.96	4.51	5.19	6.49	7.79	10.38	
<b>Airflow</b>	Heads	Upright	No.	2	2	3	3	3	4	4	4	4	4	4	8	8	
		Horizontal	No.	2	2	3	4	4	4	4	4	4	4	4	4	8	8
	Throw	Upright	m	11	16	14	14	18	18	26	25	26	30	35	43	26	35
		Horizontal	m	11	16	14	14	18	18	26	25	26	30	35	43	26	35
	Fan Static	Standard	Pa	150	160	290	210	250	150	210	190	100	100	150	270	200	155
		Uprated	Pa	n/a	n/a	n/a	n/a	n/a	n/a	280	300	200	150	250	n/a	250	250
<b>Supply</b>	Standard	v/ph/hz	230/1/50						415/3/50								
	Optional	v/ph/hz	415/3/50				230/1/50			n/a							
<b>Electrics</b>	Standard Fan	Motor	kW	0.34	0.55	0.55	0.56	1.50	2.20	2.20	3.30	4.00	3.30	5.50	11.00	2 x 5.5	2 x 7.5
		Run	amp	2.6	5.7	6.1	4.5	8.1	6.0	5.4	7.2	8.9	6.8	12.8	19.0	2 x 13	2 x 16
		Start	amp	5.0	8.5	8.5	10.0	12.0	14.0	24.0	30.0	35.0	25.0	35.0	33.0	2 x 33	2 x 46
	Uprated Fan	Motor	kW	n/a	n/a	n/a	n/a	n/a	n/a	3.3	5.5	5.5	5.5	7.5	n/a	2 x 7.5	2 x 11
		Run	amp	n/a	n/a	n/a	n/a	n/a	n/a	7.2	11.5	11.8	11.6	14.2	n/a	2 x 16	2 x 22
		Start	amp	n/a	n/a	n/a	n/a	n/a	n/a	25.0	35.0	35.0	35.01	32.0	n/a	2 x 48	2 x 70
<b>Connection</b>	Oil	BSP/Rc	¼	¼	n/a	¼	¼	¼	¼	¼	¼	¾	¾	¾	¾	¾	
	Gas	BSP/Rc	½	n/a	½	¾	¾	¾	¾	¾	1¼	1¼	1¼	1½	1½	1½	
<b>Fuel</b>	Minimum Inlet Pressure	Nat Gas	mbar	17.5													
		LPG	mbar	37.0													
<b>Consumption</b>	Standard Outputs	Oil	l/h	3.3	5.0	n/a	6.6	10.4	13.6	16.4	20.1	23.9	25.9	33.0	42.2	52.9	67.6
		Nat Gas	m³/h	3.4	n/a	5.1	7.1	10.9	14.1	17.9	21.4	25.2	28.2	35.3	43.8	54.0	71.8
		LPG	m³/h	1.3	n/a	2.0	2.8	4.3	5.6	7.1	8.5	10.0	11.2	14.0	17.4	21.0	28.0
	ECA Outputs	Oil	l/h	2.9	4.0	n/a	5.2	8.1	10.8	12.9	15.6	17.4	21.0	26.8	34.8	46.2	n/a
		Nat Gas	m³/h	3.0	n/a	4.0	5.6	8.5	11.2	14.1	16.6	18.4	22.8	28.6	36.1	46.2	n/a
		LPG	m³/h	1.1	n/a	1.6	2.2	3.4	4.5	5.8	6.6	7.3	9.1	11.4	14.3	18.3	n/a
<b>Overall Dimensions</b>	UF Upright Freeblowing	Height	mm	1948	1948	2306	2306	2746	3123	3123	3239	3326	3326	3326	3326	3663	3891
		Width	mm	600	600	626	626	728	904	904	904	904	1158	1158	1158	1391	1695
		Depth	mm	728	728	804	804	855	1058	1058	1362	1362	1362	1362	1667	2432	2737
		Front	mm	700	700	800	800	800	1000	1000	1300	1300	1300	1300	1600	1000	2500
<b>Installation Clearances</b>	UF Upright Freeblowing	Side	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
		Blank Side	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	
		Rear	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	2500	1000
<b>Flue Diameter (See Note Below)</b>			mm ø	125	125	125	125	150	150	175	175	175	200	200	200	300	300
<b>Combustion Air Spigot</b>			mm ø	125	125	125	125	150	150	150	150	150	150	150	150	150	150
<b>Noise Level (See Note Below)</b>			dB(A)	56	61	61	61	63	70	62	73	74	75	77	79	81	83
<b>Nett Weight (See Note Below)</b>			kg	126	137	163	163	204	330	355	435	530	550	556	670	1397	1930

Notes –

Fuel consumption and output figures based upon nett calorific values as follows

Class D light distillate fuel oil nett CV 36.28 MJ/l

Natural gas (G20) nett CV 34.02 MJ/m³

Propane (G31) nett CV 95.65 MJ/m³

Heaters have efficiency levels which meet with the minimum efficiency requirements of UK Part L2B Building Regulations

Air handling data is assessed at room ambient conditions

Throw figures provide the distance to the point where the terminal velocity degrades to 0.25 m/s

Overall vertical heater height include heads or extended heads where appropriate

Standard height heads can be specified where site height is restricted

Model CP500ECA flue diameter is 150mm

Blank and louvred lower side panels are interchangeable

Dimensions in table above refer to upright heaters only - for horizontal and counterflow heater dimensions refer to dimensions page

Noise levels are applicable to standard UF models and are measured 5m from appliance and in free field conditions

Motor kW, run and start amps apply to standard electrical supply as stated. For optional data contact sales office

Installer guidance notes on rear page

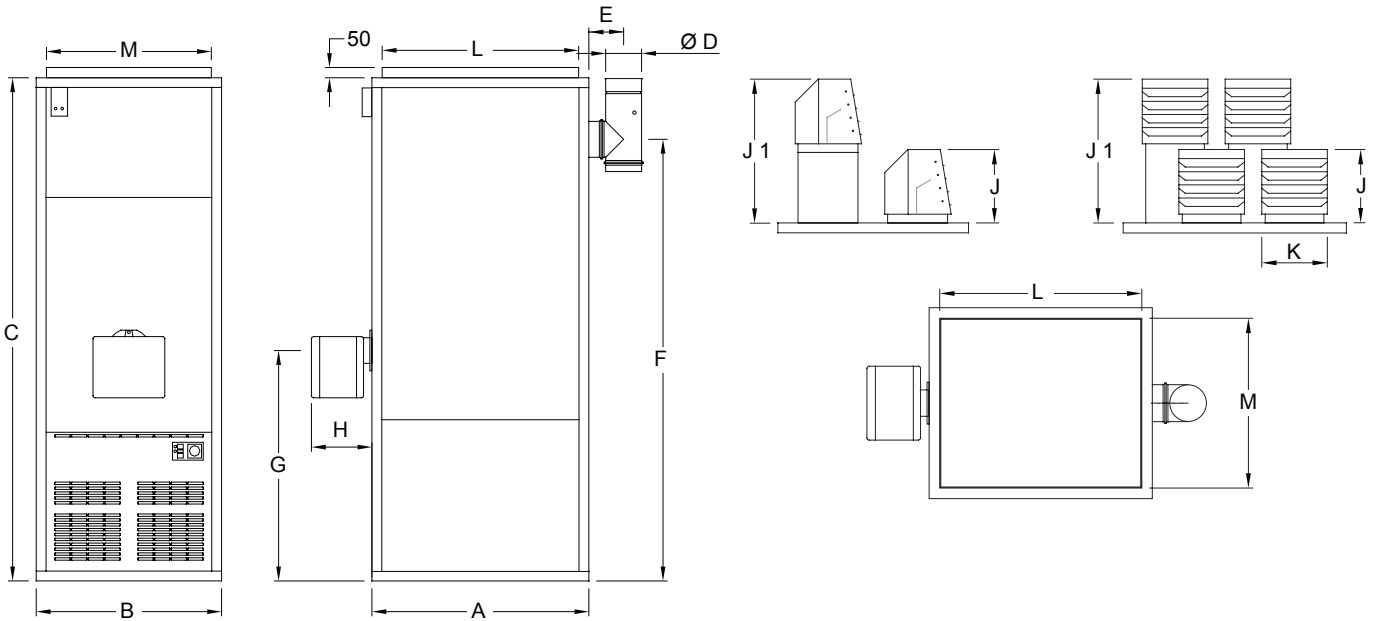
Nett weight figures apply to standard CP Heaters only

Powrmatic recommend selecting the Uprated Fan version of the CP1000 if the unit is to be connected to ducting

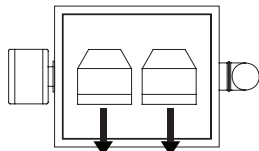
It is the responsibility of the installing contractor to ensure that ductwork is correctly sized and balanced when installing ducted units

# Dimensions

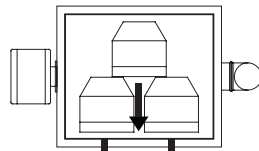
## CP UD/UF Upright Free Blowing Upright Ducted



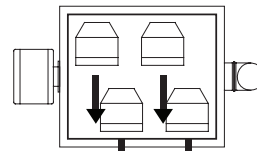
Model			100	150 Oil	150 ECA	150 Gas	200	300	400	500	500 ECA	600	700	800	1000	1250	1500	2000
<b>A</b>	All	mm	728	728	728	804	804	855	1058	1058	1058	1362	1362	1362	1362	1667	2432	2737
<b>B</b>	All	mm	600	600	600	626	626	728	904	904	904	904	904	1158	1158	1158	1391	1695
<b>C</b>	All	mm	1644	1644	1644	1822	1822	2074	2451	2451	2451	2451	2451	2451	2451	2451	2788	3016
<b>D</b>	All	mm ø	125	125	125	125	125	150	150	175	150	175	175	200	200	200	300	300
<b>E</b>	All	mm	150	150	150	150	150	150	150	170	150	170	170	182	182	182	275	275
<b>F</b>	All	mm	1385	1385	1385	1553	1553	1815	2152	2152	2152	2152	2152	2045	2045	2045	2420	2616
<b>G</b>	All	mm	776	776	776	934	934	1065	1122	1122	1122	1122	1122	1307	1307	1307	1295	1524
<b>H</b>	Gas	mm	295	295	295	295	295	347	389	389	389	389	389	610	610	610	580	840
	Oil	mm	236	236	236	270	270	270	295	295	295	295	473	473	473	468	468	468
<b>J</b>	All	mm	304	304	304	255	255	340	340	340	340	400	442	442	442	442	442	442
<b>J1</b>	All	mm	n/a	n/a	n/a	484	484	672	672	672	672	788	875	875	875	875	875	875
<b>K</b>	All	mm	256	256	256	256	256	308	308	308	308	358	408	408	408	408	408	408
<b>L</b>	All	mm	628	628	628	704	704	755	958	958	958	1262	1262	1262	1262	1262	2332	2637
<b>M</b>	All	mm	500	500	500	526	526	628	804	804	804	804	804	1058	1058	1567	1291	1595
<b>Head Plan</b>			1	1	1	2	2	2	3	3	3	3	3	4	4	3	5	5



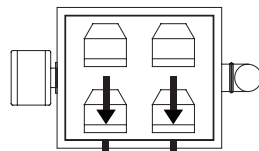
HEAD PLAN 1



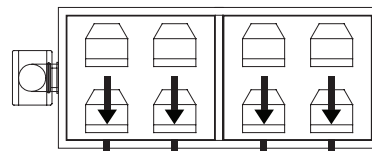
HEAD PLAN 2



HEAD PLAN 3

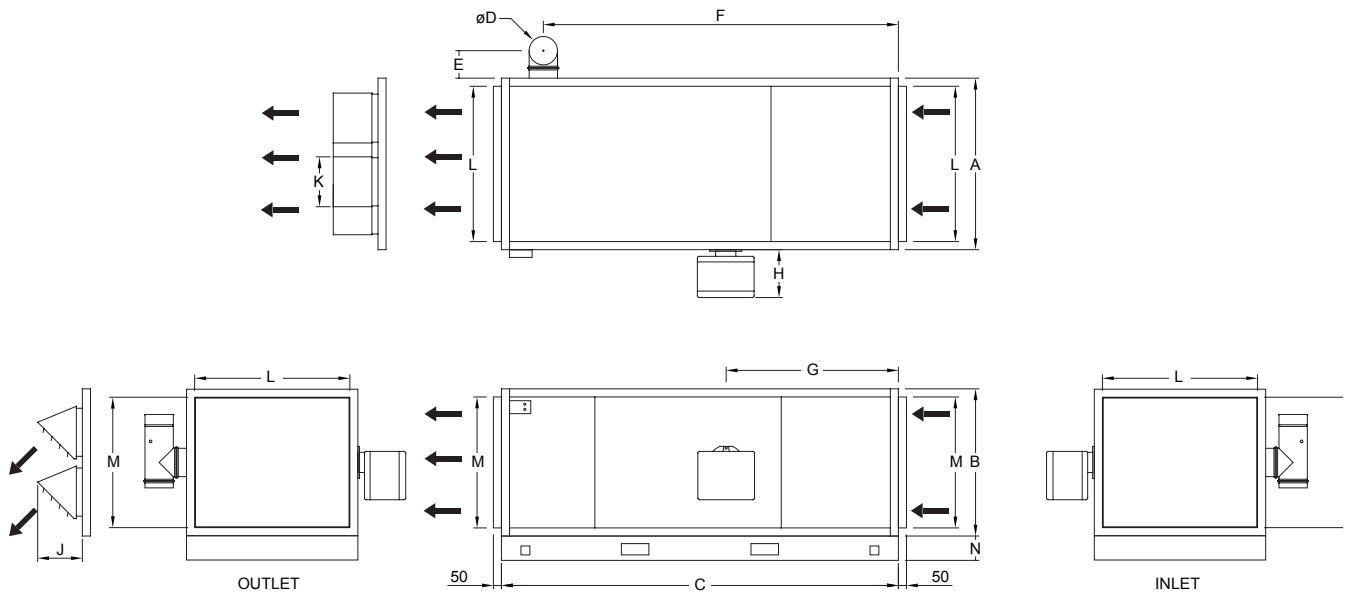


HEAD PLAN 4

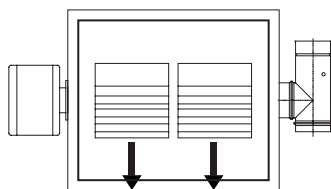


HEAD PLAN 5

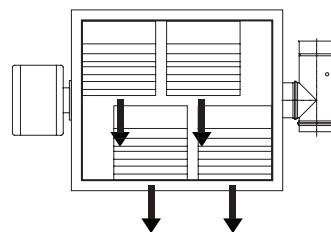
## CP HF/HD Horizontal Free Blowing Horizontal Ducted



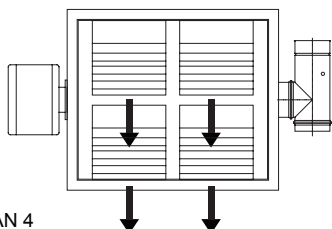
Model			100	150 Oil	150 ECA	150 Gas	200	300	400	500	500 ECA	600	700	800	1000	1250	1500	2000	
<b>A</b>	All	mm	728	728	728	804	804	855	1058	1058	1058	1362	1362	1362	1362	1667	2432	2737	
<b>B</b>	All	mm	600	600	600	626	626	728	904	904	904	904	904	1158	1158	1158	1391	1695	
<b>C</b>	All	mm	1644	1644	1644	1822	1822	2074	2451	2451	2451	2451	2451	2451	2451	2451	2788	3016	
<b>D</b>	All	mm ø	125	125	125	125	125	150	150	175	150	175	175	200	200	200	300	300	
<b>E</b>	All	mm	150	150	150	150	150	150	150	170	150	170	170	182	182	182	275	275	
<b>F</b>	All	mm	1385	1385	1385	1553	1553	1815	2152	2152	2152	2152	2152	2045	2045	2045	2420	2616	
<b>G</b>	All	mm	776	776	776	934	934	1065	1122	1122	1122	1122	1122	1307	1307	1307	1295	1524	
<b>H</b>	Gas	mm	295	295	295	295	295	347	389	389	389	389	389	610	610	610	580	580	840
	Oil	mm	236	236	236	270	270	270	295	295	295	295	295	473	473	473	468	468	468
<b>J</b>	All	mm	227	237	237	190	190	190	276	276	276	276	276	586	286	333	333	333	
<b>K</b>	All	mm	256	256	256	205	205	205	308	308	308	358	408	408	408	408	408	408	
<b>L</b>	All	mm	628	628	628	704	704	755	958	958	958	1262	1262	1262	1262	1262	2332	2637	
<b>M</b>	All	mm	500	500	500	526	526	628	804	804	804	804	804	1058	1058	1567	1291	1595	
<b>N</b>	All	mm	125	125	125	125	125	125	150	150	150	150	150	150	150	150	200	200	
<b>Head Plan</b>			1	1	1	3	3	3	3	3	3	3	3	4	4	3	5	5	



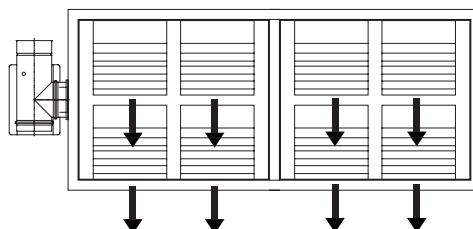
HEAD PLAN 1



HEAD PLAN 3



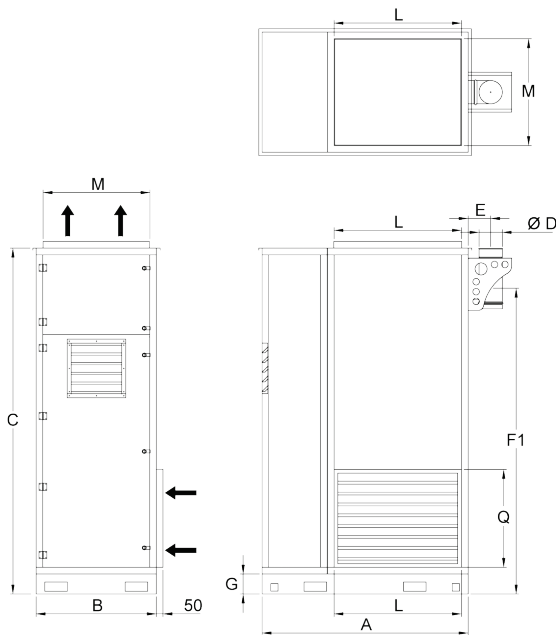
HEAD PLAN 4



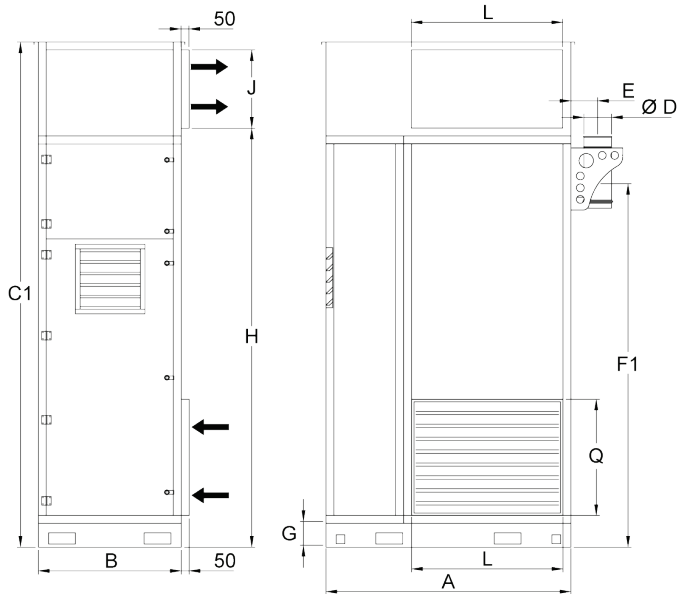
HEAD PLAN 5

# Dimensions

## CP-EA External Cabinet Heaters



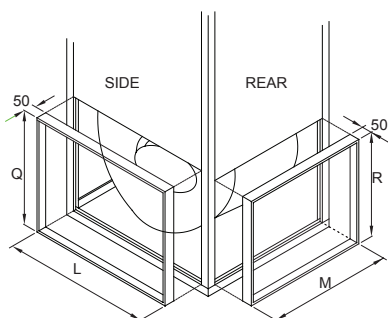
**UPRIGHT DUCTED**



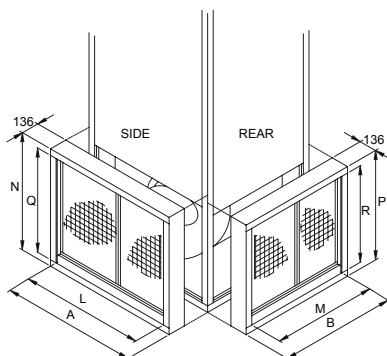
**SIDE DUCTED**

Model		100	150 OIL	150 GAS		200	300	400	500	500	600	700	800	1000	1250
				ECA	Std										
A	mm	1130	1130	1130	1255	1255	1307	1550	1550	1550	1854	2044	2044	2044	2348
B	mm	600	600	600	626	626	728	904	904	904	904	904	1158	1158	1158
B1	mm	725	725	725	751	751	853	1054	1054	1054	1054	1054	1308	1308	1308
C	mm	1644	1644	1644	1822	1822	2074	2451	2451	2451	2451	2451	2451	2451	2451
C1	mm	2143	2143	2143	2397	2397	2625	3196	3196	3196	3196	3196	3281	3281	3281
C2	mm	1202	1202	1202	1289	1289	1500	1776	1776	1776	1776	1776	1776	1776	1776
D	mm ø	125	125	125	125	125	150	150	175	150	175	175	200	200	200
E	mm	150	150	150	150	150	150	150	170	150	170	170	182	182	182
F	mm	1385	1385	1385	1553	1553	1815	2152	2152	2152	2152	2152	2045	2045	2045
F1	mm	1510	1510	1510	1678	1678	1940	2302	2302	2302	2302	2302	2195	2195	2195
F2	mm	943	943	943	1020	1020	1241	1477	1477	1477	1477	1477	1370	1370	1370
G	mm	125	125	125	125	125	125	150	150	150	150	150	150	150	150
H	mm	1694	1694	1694	1872	1872	2124	2501	2501	2501	2501	2501	2501	2501	2501
J	mm	300	300	300	350	350	350	495	495	495	495	495	580	580	580
K1	mm	548	548	548	624	624	675	878	878	878	1182	1182	1182	1182	1488
K2	mm	442	442	442	541	541	597	658	658	658	658	658	658	658	658
L	mm	628	628	628	704	704	755	958	958	958	1262	1262	1262	1262	1262
M	mm	500	500	500	526	526	628	804	804	804	804	804	1058	1058	1567
Q	mm	482	482	482	581	581	637	738	738	738	738	738	738	738	738

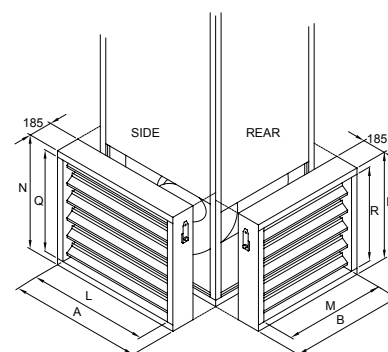
## Side/Rear Inlet Spigots



## Filters



## Dampers



Model	100	150 Oil	150 ECA	150 Gas	200	300	400	500	500 ECA	600	700	800	1000	1250	1500	2000
A	728	728	804	728	804	855	1058	1058	1058	1362	1362	1362	1362	1667	2432	2737
B	600	600	626	600	626	728	904	904	904	904	904	1158	1158	1158	1391	1695
L	628	6287	704	628	755	958	958	958	1262	1262	1262	1262	1262	1262	2332	2637
M	500	500	526	500	526	628	804	804	804	804	804	1058	1058	1567	1291	1595
N	582	582	681	582	681	737	838	838	838	838	838	838	838	838	756	756
P	517	517	616	517	616	677	778	778	778	778	778	778	778	778	756	756
Q	482	482	581	482	581	637	738	738	738	738	738	738	738	738	656	656
R	417	417	516	417	516	577	678	678	678	678	678	678	678	678	656	656

### Notes -

- All dimensions are outside dimensions
- Standard filter specification is 10ppi
- Higher specification filters available on request - contact our sales team for more information
- Standard dampers are manual operation - motorised options available
- Flue support kits available
- Installer guidance notes on rear page



**CP HD Heater**

# Installer Guide

**General** The following notes are provided as a help, however installers and operators should fully acquaint themselves with the more detailed guidance provided in the relevant installation manual. For copies of such manuals please consult our technical department or visit our website - [www.powrmatic.co.uk](http://www.powrmatic.co.uk)

**Standards** All Powrmatic CP heaters must be installed, commissioned and operated with due regard to appropriate regulations including but not limited to BS 6230 2005, BS5410 1998, relevant Codes of Practice, the possible requirements of Local Authorities, Fire Officers and insurers as well as Powrmatic's installation manual.

**Position & Location** Upright and horizontal heaters should be installed on a level non-combustible base. Horizontal and counterflow heaters can be suspended. It is important that all supporting structures or methods of suspension have due regard to the relevant weight loadings.

Consideration should also be given to flue routes and points of exit, gas, oil, electrical and where applicable control connections, the throw characteristics of the heater, issues of public access and in the instance of remote temperature sensors the position need to be representative of the zone temperature to which they refer.

Heaters should not be installed in hazardous areas or areas where there is a foreseeable risk of flammable or corrosion inducing particles, gases or vapours being drawn into the combustion air or main fan circuits

Areas where special consideration or advice may be required could include but is not limited to -

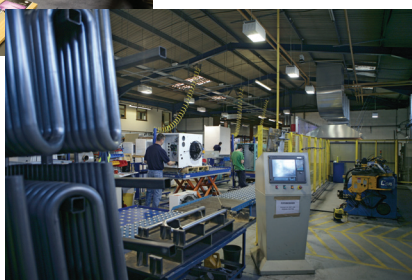
- where de-greasing solvents are present, even in minute concentrations
- where paint spraying is carried out
- where styrenes or other laminating products are used
- where airborne silicone is present
- where petrol engine vehicles are stored or maintained
- where dust is present (ie wood working or joinery shops)
- where high levels of extract persist

Installation in such areas may be possible under specific conditions. Please consult our technical department for further information.



Hort Bridge  
Ilminster  
Somerset  
TA19 9PS  
United Kingdom

Tel: +44(0) 1460 53535  
Fax: +44(0) 1460 52341  
web: [www.powrmatic.co.uk](http://www.powrmatic.co.uk)  
e-mail: [info@powrmatic.co.uk](mailto:info@powrmatic.co.uk)



**Plant Room or Enclosure Locations** Specific requirements exist where heaters are to be installed within plant rooms or enclosures. Such requirements cover the provision of positive ductwork connections as well as ventilation for combustion air and general plant room or enclosure ventilation. It is recommended that you consult with our technical department or the installation manual prior to installation.

**Combustion Air & General Ventilation** Within the United Kingdom mandatory regulations apply concerning the provision of combustion air and general heater ventilation. Where a heater is installed within the heated space and where that heated space has a natural ventilation rate greater than 0.5 air changes per hour then combustion air and general heater ventilation is probably not required. If the heated space has a natural ventilation rate of less than 0.5 air changes per hour then either natural ventilator openings or mechanical ventilation will be required. Please consult the installation manual for further details.

**Installation Clearances** Particular clearances may be necessary for the correct and safe function of the heater as well as for maintenance purposes. Such clearances are confirmed in the relevant installation manual.

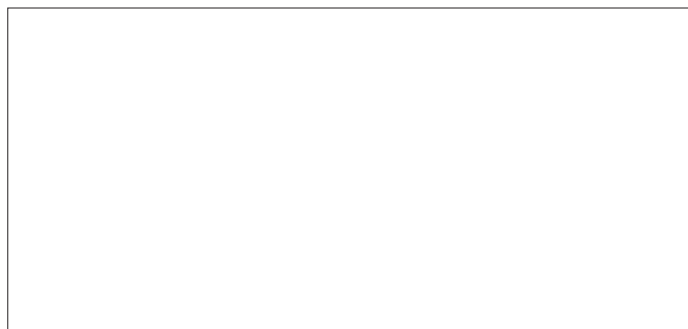
**Flue** Each heater requires a separate flue system of the appropriate size. The flue should essentially be installed in the vertical plane and the number of bends kept to a minimum.

The flue must be adequately supported and terminated with a suitable cowl, with due regard to the point of exit and its proximity to any windows, doors or ventilation intakes etc.

**Pipework** Care should be taken when sizing pipework to ensure that minimum gas and maximum oil inlet pressures are not compromised under dynamic load conditions. Isolating valves and service unions should be provided for each heater and pipework installed with due regard for relevant standards and Codes of Practice.

## Guarantee

Powrmatic heaters are provided with a comprehensive guarantee covering both the heater and the heat exchanger. For United Kingdom sales the heater has the benefit of a two year parts and one year labour guarantee whilst the heat exchanger assembly has a **ten year** time related warranty. All guarantees are subject to terms and conditions.



Powrmatic pursues a policy of continuous improvement in both design and performance of its products and therefore reserves the right to change, amend or vary specifications without notice. Whilst the details contained herein are believed to be correct they do not form the basis of any contract and interested parties should contact the Company to confirm whether any material alterations have been made since publication of this brochure.

