

Delivering complete climate control solutions worldwide

Our most versatile cabinet type heater, combining form, function and ErP compliance **The Powrmatic CPx.**

CPX Warm Air Cabinet Heater Range Natural Gas / LPG / Oil Fired Options



CPx Warm Air Cabinet Heater



As from September 2018 the scope of the current Ecodesign regulation (EU) 2015/1188, Directive 2009/125/EC - Lot 21 Tier 1 (ErP) regulation is widened to embrace maximum levels of Nitrous Oxide (NOx) emissions.

All warm air heaters used to provide comfort for the occupants of a heated space and fuelled by either natural or LPG (Propane) must emit NOx levels less than 100 mg/kWh and oil fired heaters less than 180 mg/kWh.

Compliance to the standard remains mandatory. est laborum



Product Benefits



ECHNOLOG



RANGE OF kW OUTPUTS



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EASY SERVICE



FACTORY FITTED

Powrmatic's new ErP compliant CPx range of cabinet type heaters combine installation versatility with a range of Kw outputs to match the most stringent applications. The range can be installed in the heated space, be sited in plant rooms and specified for either vertical or horizontal installation. The CPx EA range can also be specified for external applications.

The CPx is fitted with high-low, low NOx burners as standard. Free blowing heaters are equipped with fully adjustable air distribution nozzle heads to give the ability to direct warmed air within the heated space. Duct outlet CPx can be specified with different external static pressures to give maximum versatility for air handling type installations.

Models Available Heading

- CPx UF Upright Freeblowing
- CPx UD Upright Ducted
- CPx HF Horizontal Freeblowing
- CPx HD Horizontal Ducted
- CPx EA External

Power Versatility Compliance



Product Features

Extensive kW Output Range

With thirteen outputs ranging from 30kW through to 590kW in both vertical and horizontal arrangement. internal and external design and free blowing or ducted supply air, most customers requirements are covered.

Adjustable heat distribution

Horizontal and upright free blowing cabinet heaters are supplied with fully adjustable air distribution nozzle heads with variable louvers giving the ability to direct the heated air where its needed.

Horizontal Models

CPx versatility is enhanced with the availability of horizontal types for applications where space and air direction is specific.



Reduced NOx Emissions

The latest ErP regulations demand reduced NOx and increased seasonal efficiency, CPx meets these standards by utilising state of the art burners, air movement and control technology whilst maintaining the temperature rises required in cabinet heater installations.

External Weatherproof Models

CPx is available as an external (EA) version. Where the recirculated supply air is contaminated or there is a fresh air requirement as is often the case in garage and heavy industrial these types can be installed outside and ducted into the area to be served.

Burner Technology

Powrmatic working alongside market leading burner manufacturer Riello now utilise a pre-fitted and tested low NOx, high-low control " Gulliver " burner as standard. When specified the heater can be fuelled by Natural Gas, LPG or Oil.



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All CPx are supplied with a fitted and tested burner. MC200V3 optimum start and stop fuel saver controls will be either pre fitted or supplied remote according to the model specified, other control options and strategies are available to suit particular applications. MC200 fuel saver controls are fitted as standard to internal upright cabinets, horizontal and external models.

Approvals CE

CPx heaters are type tested and CE approved. In addition CPx heaters heaters made available to the market from September 2018 onwards comply with the requirements of the Directive 2009/125/EC - Lot 21 Tier 1.

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Technical Specification СРх

	Mod	el		30	45	60	90(gas)	90(oil)	120	150	175	200	250	300	360	440	590	
Output			kW	30	45	60	90	90	120	150	175	200	250	290	366	440	586	
		G20 Gas	kW	32.6	48.9	65.2	97.8	n/a	130.4	163.0	190.2	217.4	271.7					
Input (nett C\	/)	35sec Oil	kW	31.9	48.7	64.3	n/a	97.7	130.5						470.8	627		
Old Powrmat	tic Reference		CP	100	150	200	300	300	400	500	600	700	800	1000	1250	1500	2000	
Thermal Effic	ciencies (Nett C\	/)	%							Min 9	91.5%		1					
	Vol	ume	m³/s	0.97	0.86	1.01	2.11	1.50	2.30	3.15	3.36	3.84	4.49	5.76	6.49	7.88	10.5	
		UF/HF	No.	2	2	3	3	3	4	4	4	4	4	4	4	8	8	
0 :El	Heads	Size	mm	203	254	254	305	305	305/358	305/358	358	406	457	457	457	457	457	
Airflow	Throw	UF / HF	m	15	21	19	24	24	24	29	29	29	41	48	48	30	40	
	For Chatia	Standard	Pa	188	222	270	250	200	180	185	290	250	140	150	300	300	300	
	Fan Static	Up-rated	Pa	250	250	400	500	450	350	400	500	500	450	500	600	600	600	
	Cumplu	Standard	V/ph/Hz			230/1/5	0						400/3/50)				
	Supply	Optional	V/ph/Hz			400/3/5	0		230/	/1/50				n/a			-	
		Motor	kW	0.55	0.55	1.1	1.5	1.4	1.4	3.0	4.0	4.0	4.0	7.5	11.0	11.0	15.0	
Electrice.	Standard Fan	Run	amp	4.3	5.7	5.3	10.0	9.6	6.4	6.7	7.1	8.6	8.4	14.5	21.3	21.3	28.9	
Electrics		Start	amp	8.1	17.1	16.1	25.5	28.1	12.4	23.45	23.0	19.7	28.2	50.1	127.2	127.2	182.4	
		Motor	kW	0.75	0.75	2.2	2.2	1.5	3.0	4.0	5.5	5.5	5.5	11.0	15.0	15.0	18.5	
	Uprated Fan (L.H.P.)	Run	amp	5.3	5.3	12.6	12.6	9.2	6.3	8.3	11.0	11.0	11.0	21.6	28.9	28.0	35.0	
		Start	amp	15.9	15.9	37.8	37.8	27.6	22.05	29.05	38.5	38.5	38.5	75.6	182.4	182.4	221.2	
	Connection	Oil	BSP/Rc	3⁄8″	3⁄8″	3⁄8″	n/a	3⁄8″	3⁄8″	3⁄8″	3⁄8″	3⁄8″	3⁄8″	3⁄8″	3⁄8″	3⁄8″	1/2"	
	CONTRECTOR	Gas	BSP/Rc	1/2"	1/2"	3/"	3/,"	n/a	3⁄4″	1″	1″	1″	1¼"	1¼"	1½"	470.8 1500 7.88 8 457 300 300 600 0 0 0 0 11.0 21.3 127.2 15.0 28.0 182.4	1½"	
	Minimum Inlet	Nat Gas	mbar		17	7.5		n/a					17.5					
Fuel	Pressure	LPG	mbar		37	7.0		n/a					37.0					
	Consumption	Oil	l/h	3.16	4.83	6.38	n/a	9.70	12.95	15.90	18.89	21.17	26.73	31.36	38.82	47.45	63.62	
	Standard	Nat Gas	m³/h	3.45	5.17	6.89	10.34	n/a	13.79	17.23	20.11	22.99	28.73	33.33	41.41	50.61	67.86	
	Outputs	LPG	m³/h	1.34	1.98	2.64	4.01	n/a	5.31	6.64	7.72	8.84	11.00	12.84	16.00	19.56	26.23	
		Height	mm	2024	2072	2494	2585	2585	2821	2821	3054	3174	3307	3307	3657	4107	4407	
Overall	UF Upright	Width	mm	669	669	744	744	744	904	904	904	904	1104	1104	1260	1330	1330	
Dimensions	Freeblowing	Depth (Excludes burner)	mm	732	732	927	927	927	1200	1200	1399	1399	1599	1599	1915	2165	2715	
		Front	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Installation	UF Upright	Side	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Clearances	Freeblowing	Blank Side	mm	150	150	150	150	150	150	150	150	150	150	150	n/a	n/a	n/a	
		Rear	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Flue Diameter mm ø			mm ø	125	125	150	150	150	150	175	175	175	200	200	250	300	300	
Combustion	Air Spigot		mm ø	150	150	150	150	150	150	150	150	150	150	150	150	175	175	
Maximum Co	mbustion Duct	Length *	m	34	34	21	21	21	12	8	6	4	3	2	3	2	2	
Noise Level (See Note Belov	J)	dB(A)	56	61	61	63	63	70	62	73	74	75	77	78	80	82	
Nett Weight	(See Note Belov	~)	kg	168	173	231	241	241	341	386	530	530	556	556	1012	1380	1720	
	Mod	el		30	45	60	90(gas)	90(oil)	120	150	175	200	250	300	360	440	590	

Notes:

Fuel Consumption and input figures based upon nett calorific values as follows: -

- Natural Gas (G20) nett CV 34.02 MJ/m³ Propane (G31) nett CV 88.00 MJ/m³
 Heaters have efficiency levels which meet with the minimum heater efficiency requirements of UK Part L Building Regulations.
- LNVx heaters comply with the seasonal efficiency and NOx limits requirements of the Ecodesign regulation (EU) 2015/1188, Directive 2009/125/EC Lot 21 Tier 1 Standard heaters configured as High/Low. Optional modulation available. .

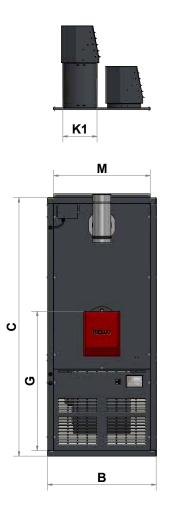
- Air handling data is assessed at room ambient conditions Throw figures provide the distance to the point where the terminal velocity degrades •

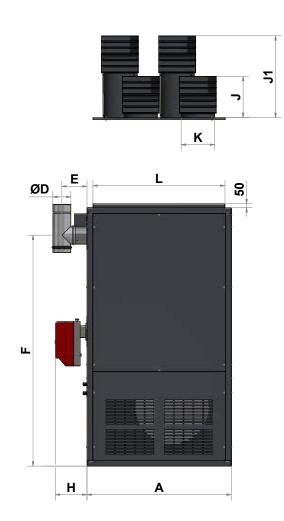
Dimensions, weights and clearance data in the table above refer to LNVx F units • only - for all other model data refer to the dimensions page and/or the installation

- Noise levels are applicable to standard LNVx F and LNVx V models and are measured 5m from appliance in a free field. •
- Motor kW, run and start amps apply to standard electrical supply as stated. For optional data contact sales office ٠

• Optional 3 phase direct drive centrifugal blowers shown in italics within brackets()

Connection of combustion air duct is not required for 'flue only' applications It is the responsibility of the installing contractor to ensure that ductwork is correctly sized and balanced when installing LNVx centrifugal units. ٠



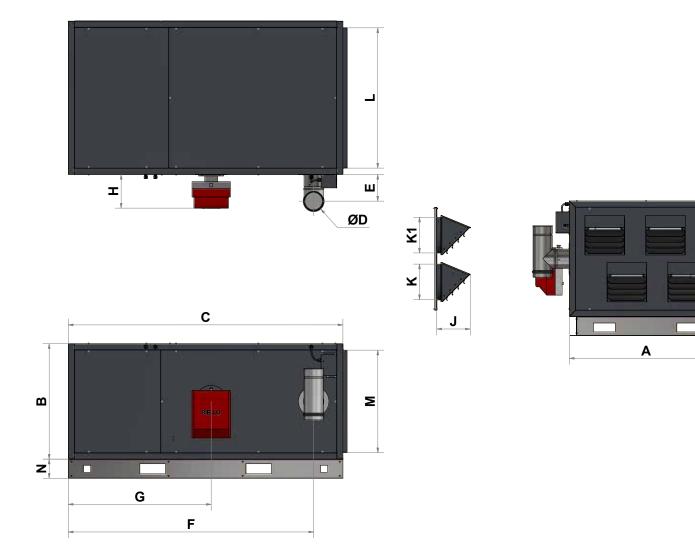


	Model		30	45	60	90	120	150	175	200	250	300
A	All	mm	732	732	927	927	1200	1200	1399	1399	1599	1599
В	All	mm	669	669	744	744	904	904	904	904	1104	1104
С	All	mm	1767	1767	1895	1895	2149	2149	2265	2265	2265	2265
D	All	mm ø	125	125	150	150	150	175	175	175	200	200
E	All	mm	150	150	150	150	150	200	200	200	240	240
F	All	mm	1535	1535	1661	1661	1923	1923	2021	2021	2021	2021
G	All	mm	864	864	944	944	1122	1122	1122	1122	1122	1122
Н	Gas	mm	276	276	252	280	280	280	300	300	300	508
н	Oil	mm	196	202	202	228	228	228	228	247	247	508
J	All	mm	238	286	286	340	340	340	400	442	558	558
J1	All	mm	N/A	N/A	581	672	672	672	788	875	1007	1007
К	All	mm	180	234	234	287	287	287	333	381	431	431
K1	All	mm	N/A	N/A	N/A	N/A	333	333	N/A	N/A	N/A	N/A
L	Duct	mm	632	632	824	824	1100	1100	1299	1299	1499	1499
М	Spigot	mm	568	569	644	644	804	804	804	804	1004	1004
		Head Plan	1	1	2	2	Зa	Зa	Зb	Зb	Зb	Зb

- Notes -Flue tee provided as standard.

Dimensions

CPx HF/HD Horizontal Free Blowing Horizontal Ducted (30-300)



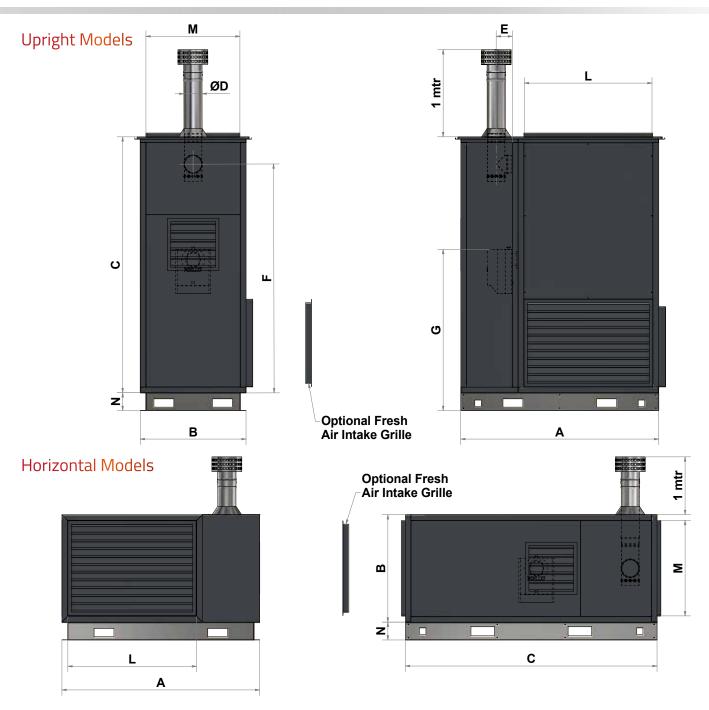
	Model		30	45	60	90	120	150	175	200	250	300
A	All	mm	732	732	927	927	1200	1200	1399	1399	1599	1599
В	All	mm	669	669	744	744	904	904	904	904	1104	1104
C	All	mm	1767	1767	1895	1895	2151	2151	2265	2265	2265	2265
D	All	mm ø	125	125	150	150	150	175	175	175	200	200
E	All	mm	150	150	150	150	150	200	200	200	240	240
F	All	mm	1535	1535	1661	1661	1923	1923	2021	2021	2021	2021
G	All	mm	864	864	944	944	1122	1122	1122	1122	1122	1122
Н	Gas	mm	276	276	252	280	280	280	300	300	300	508
Н	Oil	mm	196	202	202	228	228	228	228	247	247	508
J	All	mm	227	227	260	260	260	260	297	297	367	367
К	All	mm	180	234	234	287	287	287	333	381	431	431
K1	All	mm	N/A	N/A	N/A	N/A	333	333	N/A	N/A	N/A	N/A
L	Duct	mm	632	632	824	824	1100	1100	1299	1299	1499	1499
Μ	Spigot	mm	569	569	644	644	804	804	804	804	1004	1004
N	All	mm	125	125	125	125	150	150	150	150	150	150
		Head Plan	1	1	2	2	Зa	Зa	Зb	Зb	Зb	Зb

Notes:

. Flue tee provided as standard. Screened air intake (SAI) fitted as standard on HF models. Duct spigot option available. Direction of airflow to be specified at time of order. Left to Right (L-R when looking at the burner) airflow shown above.

Dimensions

CPx -EA External Cabinet Heaters (30-300)

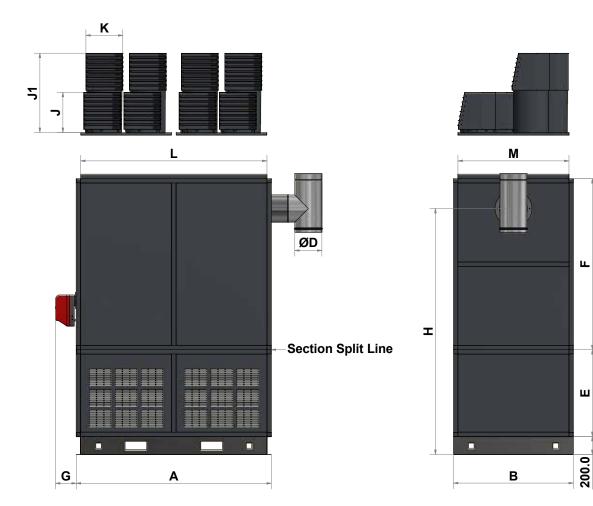


	Model		30	45	60	90	120	150	175	200	250	300
A	All	mm	1184	1184	1379	1379	1692	1692	1891	1891	2280	2280
В	All	mm	669	669	744	744	904	904	904	904	1104	1104
C	All	mm	1767	1767	1895	1895	2149	2149	2265	2265	2265	2265
D	All	mm ø	125	125	150	150	150	175	175	175	200	200
E	All	mm	150	150	150	150	150	200	200	200	240	240
F	All	mm	1535	1535	1661	1661	1923	1923	2021	2021	2021	2021
G	All	mm	864	864	944	944	1122	1122	1122	1122	1122	1122
L	Duct	mm	632	632	824	824	1100	1100	1299	1299	1499	1499
Μ	Spigot	mm	569	569	644	644	804	804	804	804	1004	1004
N	All	mm	125	125	125	125	150	150	150	150	150	150

Notes:

Direction of airflow for horizontal heaters to be specified at time of order. Left to right (when looking at burner) airflow shown above. Inlet and Outlet duct spigots have the same dimensions (Horizontal units only). Primary flue length, cowl and flashing provided as standard. .

Dimensions CPx UD/UF Upright Free Blowing and Ducted (360-590)



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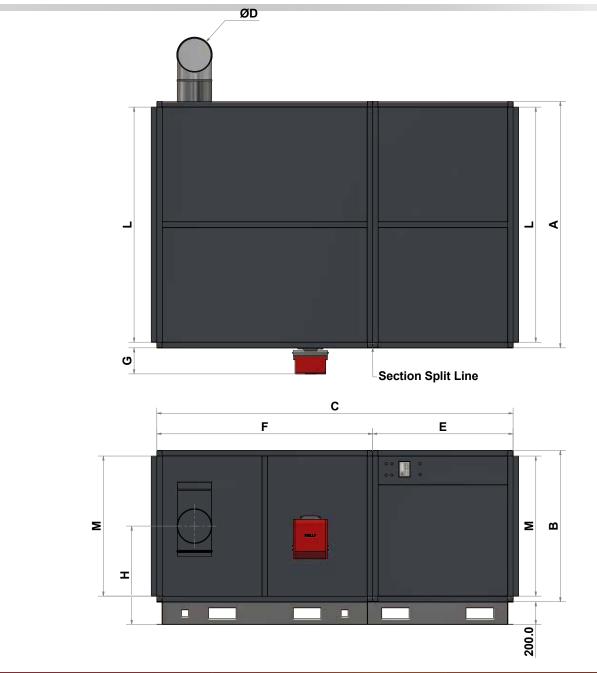
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	Model		360	440	590
А	All	mm	1915	2165	2715
В	All	mm	1260	1330	1330
С	All	mm	2615	3065	3365
D	All	mm ø	250	300	300
E	All	mm	865	965	1265
F	All	mm	1550	1900	1900
G	Gas	mm	508	580	840
G	Oil	mm	508	468	680
Н	All	mm	2152	2537	2837
J	All	mm	558	558	558
J1	All	mm	1007	1007	1007
К	All	mm	431	431	431
L	Duct Spigot	mm	1815	2065	2615
М		mm	1160	1230	1230
	Head Plan		Зb	4	4

Notes:

- The Heat Exchanger and Fan Section can be split on the 'Section Split Line'. Flue tee provided as standard.

Dimensions CPx HF/HD Horizontal Free Blowing and Ducted (360-590)

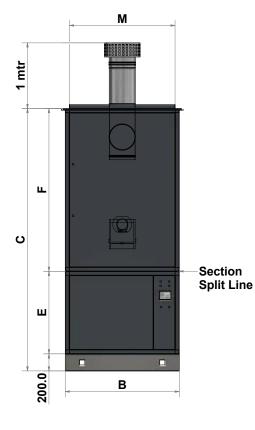


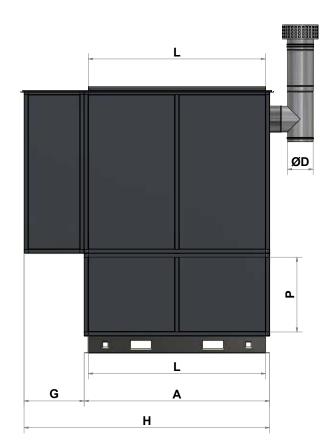
	Model		360	440	590
A	All	mm	1915	2165	2715
В	All	mm	1260	1330	1330
С	All	mm	2800	3250	3600
D	All	mm ø	250	300	300
E	All	mm	1250	1350	1700
F	All	mm	1550	1900	1900
G	Gas	mm	580	580	840
G	Oil	mm	468	468	680
Н	All	mm	830	865	865
L	Duct Spigot	mm	1815	2065	2615
М	Duct Shigor	mm	1160	1230	1230
	Head Plan		Зb	4	4

Notes:

. Flue tee provided as standard. Direction of airflow to be specified at time of order. Left to Right (L-R when looking at the burner) airflow shown above.

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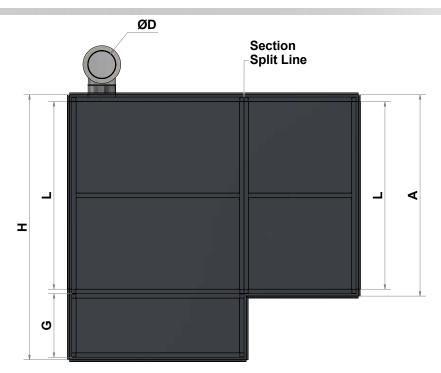


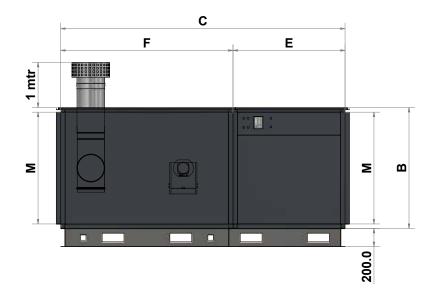
	Model		360	440	590
A	All	mm	1915	2165	2715
В	All	mm	1260	1330	1330
С	All	mm	2615	3065	3365
D	All	mm ø	250	300	300
E	All	mm	865	965	1265
F	All	mm	1550	1900	1900
G	All	mm	650	650	950
Н	All	mm	2565	2815	3665
L	Duct Crigat	mm	1815	2065	2615
М	Duct Spigot	mm	1160	1230	1230
Р	All	mm	760	860	1160

Notes:

- The Heat Exchanger and Fan Section can be split on the 'Section Split Line'. Return air via inlet duct spigot is standard. Optional fresh air grille is available. Primary flue and cowl provided as standard. .
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- .

Dimensions CPx-EA Horizontal External Cabinet Heaters (360-590)





	Model		360	440	590
A	All	mm	1915	2165	2715
В	All	mm	1260	1330	1330
С	All	mm	2800	3250	3600
D	All	mm ø	250	300	300
E	All	mm	1250	1350	1700
F	All	mm	1550	1900	1900
G	All	mm	650	650	950
Н	All	mm	2565	2815	3665
L	Duct Epigot	mm	1815	2065	2615
М	Duct Spigot	mm	1160	1230	1230

Notes:

The Heat Exchanger and Fan Section can be split on the 'Section Split Line' Direction of airflow for horizontal heaters to be specified at time of order. Left to right (when looking at burner) airflow shown above Primary flue section, cowl and flashing provided as standard

Accessories CPx

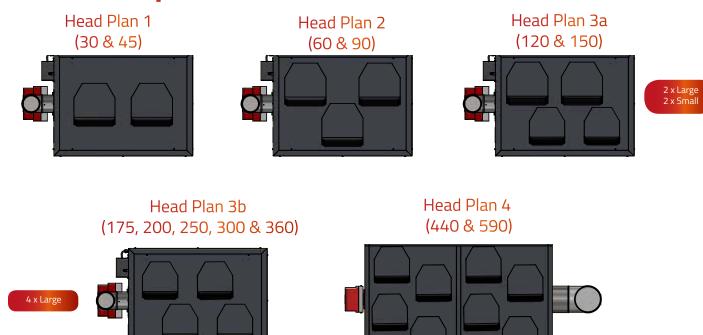


	Model		30	45	60	90	120	150	175	200	250	300	360	440	590
А	All	mm	732	732	927	927	1200	1200	1399	1399	1599	1599	1915	2165	2715
В	All	mm	669	669	744	744	904	904	904	904	1105	1105	n/a	n/a	n/a
С	All	mm	630	630	825	825	1098	1098	1300	1300	1500	1500	1815	2065	2615
D	All	mm	567	567	642	642	802	802	802	802	1003	1003	n/a	n/a	n/a
E	All	mm	685	685	738	738	838	838	838	838	838	838	865	965	1265
F	All	mm	627	627	677	677	775	775	775	775	775	775	n/a	n/a	n/a
G	All	mm	585	585	640	640	738	738	738	738	738	738	765	865	1165
Н	All	mm	527	527	577	577	675	675	675	675	675	675	n/a	n/a	n/a
J	All	mm	136	136	136	136	136	136	136	136	136	136	250	250	250

Notes:

- All spigot dimensions are outside dimensions Vertical units shown for horizontal units please contact our sales office EU1 Standard filter specification is 10ppi (parts per inch) Higher specification filters available on request contact our Technical Support team for more information Standard dampers are manual operation motorised options available
- Installer guidance notes on rear page

Head Plan Options



Your Installer Guide

General

The following notes are provided as a guide, however installers and users should fully acquaint themselves with the more detailed guidance provided in the relevant Installation, Operation and Maintenance Manual. For copies of manuals please consult our technical department or visit our website – www.powrmatic.co.uk

Standards

CPx and CPx EA 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 the Installation, Operation and Maintenance Manuals.

Position & Location

CPx Heaters should be installed on a level non-combustible base. Horizontal heaters can be suspended. It is important that all supporting structures or methods of suspension have due regard to the relevant weight Loadings.

External heaters are specifically designed for outside locations and should not be installed within partially enclosed areas or under canopies which may restrict the operation of the heater or evacuation of flue gases. If an external heater is to be located in any area which is partially or fully enclosed then it is recommended that you consult our technical department.

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 necessary 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 foam products are moulded, cut or fabricated
- Where airborne silicone is present
- Where petrol engined 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 or your local sales manager for further information.

Plant Room or Enclosure Locations

Specific requirements exist where heaters are to be installed in a plant room or enclosure. Such requirements include the provision of positive ductwork connections as well as ventilation for combustion air and general ventilation. It is recommended that you consult with our technical department or your local area sales manager for further guidance.

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, Operation and Maintenance Manual for further details

External heaters located in unrestricted outside areas will generally source combustion air from the surroundings and as such no additional requirements should be necessary.

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, Operation and Maintenance Manual

Flue

CPx heaters are supplied with a 90° flue tee that has a flue gas analysis sample point. For internally located heaters 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 it's proximity to any windows, doors or ventilation intakes.

External heaters are supplied complete with a primary flue section and cowl which provides the direct discharge of flue gases directly to atmosphere. Care should be taken to ensure that the flue discharge is not in anyway restricted or the exit point such that flue gases can enter a building.

If the application requires it may be possible to extend the flue of external heaters to enable the point of discharge to be repositioned. However should this be necessary then the diameter of flue must not be less than stated in the data sections of this brochure.

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.

Ductwork

CPx heaters can be fitted with distribution ductwork and/or inlet or return air duct connections. Installers must ensure that the combined duct resistances, including grilles, filters, dampers or other ductwork components are balanced to closely match the static pressure as shown on page 4 of this brochure. Insufficient or excessive duct resistance will compromise the performance of the heater. Please consult or technical department or your local area sales manager for further guidance.

Guarantee

Powrmatic CPx 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.



About Us

Powrmatic design, develop and deliver HVAC solutions worldwide across a wide range of commercial and industrial applications creating comfortable and safe environments, differentiated through innovation, integrity, compliance and service.

Our specialised HVAC divisions:

Heating

Industrial and commercial warm air and radiant space heating solutions manufactured to achieve efficient performance, compliance and reliability for every application in partnership with the HVAC trade.

Ventilation

Custom designed highly efficient, cost-effective smoke, natural and powered ventilators manufactured to meet project requirements of building operators, architects, specifiers and contractors.

Air Conditioning

Worldwide distributors of innovative wall mounted heat pumps air conditioner technology providing efficient comfort cooling and heating all year round.

Engineered Products

Bespoke heating and ventilation solutions designed to serve individual customers specific project requirements. In addition our OEM products provide partner AHU manufacturers with high quality energy efficient gas fired heat exchangers.

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Powrmatic pursues a policy of continues 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.

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