NVxEA External Gas Unit Heater

Industrial & Commercial Heating Systems

powrmatic

ErP READY
2018 POWRMATIC PRODUCT

www.powrmatic.co.uk

+44 (0) 1460 53535
info@powrmatic.co.uk

Powrmatic NVxEA

The NVxEA range of 'roof top' gas fired warm air external heaters from Powrmatic provide efficient and cost effective heating solutions for a wide variety of industrial, commercial and retail buildings.

The range comprises of 11 models with outputs ranging from 15 to 140 kW and heaters are supplied ready configured for ducted applications with each heater having outlet and return air spigot connections, optional fresh air inlet grill and a direct drive centrifugal fan set.

Energy efficiency is a key consideration and to comply with the stringent requirements of ErP legislation heaters as standard are arranged with high/low heat outputs with modulation an option.

GAS NATURAL GAS (G20)

LPG PROPANE (G31)

ErP READY
2018 POWRMATIC PRODUCT

Efficiency and ErP Compliance

From 1st January 2018 all warm air heaters used to provide comfort for the occupants of a heated space are required to meet minimum standards of 'seasonal' efficiency as determined by the Ecodesign regulation (EU) 2015/1188, Directive 2009/125/EC - Lot 21 Tier 1. Compliance to the standard is mandatory.

The calculation for seasonal efficiency takes into account air flow, temperature rise across the heat exchanger, electrical power consumption as well as the usual thermal efficiencies.

NVxEA gas fired suspended unit heaters placed on the market after 1st January 2018 comply with the requirements of the standard.

Installers and customers will note that in pursuit of increased efficiency when ErP legislation is implemented NVxEA heaters will no longer be available in on/off configuration other than for non-personnel heating applications. For most space heating applications high/low heat output will be standard with modulation as an option.

Models Available

- NVxEA - Centrifugal Fan

Installation Benefits

- External/Rooftop applications
- IP44 Weatherproofed design
- Durable, galvanised and epoxy powder coated painted outer casing

Peace Of Mind

- More than sixty years experience in warm air
- Two year parts and one year labour guarantee
- Ten-year time related heat exchanger warranty
- Full technical support

Working With The HVAC Trade

Powrmatic philosophy is to work in partnership with our customers establishing a long-term commitment to a relationship based on understanding the expectations of customers and a dedicated common goal.

By working with our customers we can deliver solutions that enable them to meet technical and regulatory challenges they face, fulfil their clients needs effectively and economically, and gain a competitive edge.

TYPICAL ROOFTOP APPLICATIONS

- Warehouses
- Factories
- Garage Workshops
- Distribution / Logistic Centres
- Horticultural & Garden Centres
- Showrooms
- Retail Outlets

Construction

The heater unit is of unitary construction and built on a galvanised steel sub-frame. A full width door provides access to the heater function controls, gas valve and burner assembly.

The centrifugal fan set is within a weatherproof plenum providing access for return air via an inlet spigot or fresh air via a suitable weather grille. A one piece roof canopy provides further weather protection.

Relevant parts of the heater are IP44 weather protected.

Heat Exchanger

Four pass tubular assembly manufactured from aluminised steel formed, swaged and expanded without recourse to stress inducing welding. 409 and 316 grade stainless steel options available.

Burners

Multi in-shot burners matched to each tube assembly and manifolded to a common gas valve and ignition system, itself complete with flame monitoring and safety controls and supplied ready for use with natural gas (G20). Alternative LPG propane (G31) firing available to order.

Air Movement

Each heater is matched to a suitable sized directly driven centrifugal fan set. Air is discharged via front mounted outlet spigot whilst return options include a return air inlet spigot or a weather louvre for fresh air.

Controls

As standard NVxEA heaters are supplied with approved safety controls including high limit protection, flame monitoring and multiple try ignition.

For comfort and fuel efficiency connection terminals are provided for independent time, temperature and 'fan only' control. Alternatively we recommend that heaters be connected to compatible Powrmatic digital control systems -

- MC200 (control of single units)
- MC300 Multi (control of multiple units)

Note: Interconnecting wiring for all controls is the responsibility of the installer.

Approvals

NVxEA heaters are type tested and CE approved. In addition heaters placed on the market subsequent to 1st January 2018 meet the seasonal efficiency requirements of ErP Lot 21 Tier 1.

CUSTOMER BENEFITS

Energy efficient •
Range of sizes and configurations •
Space saving roof top location •
Colour (RAL) options •
Manufactured in the United Kingdom •

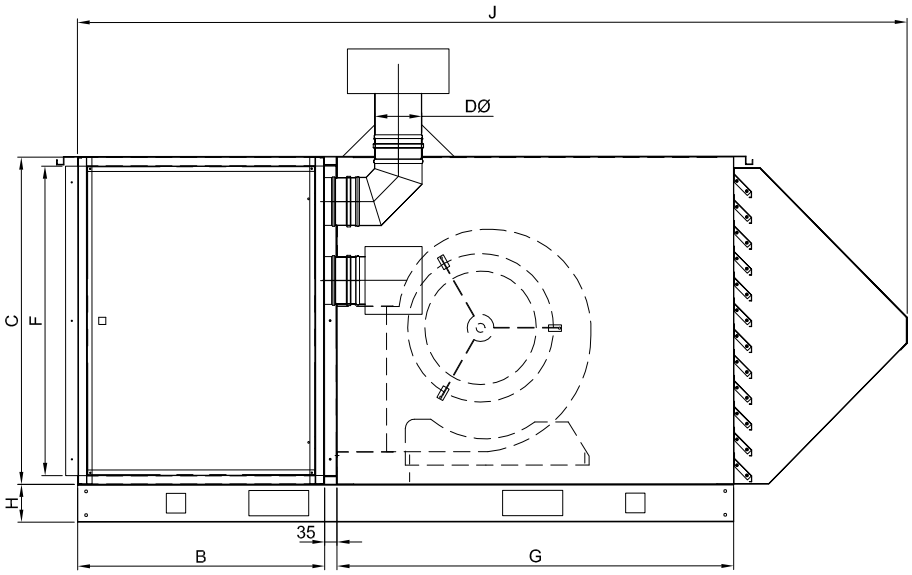
CE
APPROVED PRODUCT

Technical Specification

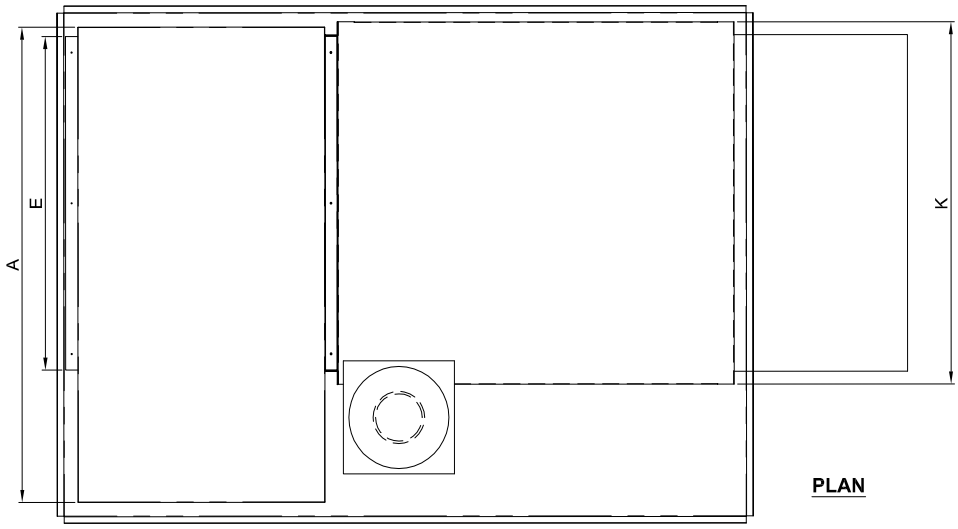
Model				15	20	25	30	40	50	60	75	90	120	140
Output (nominal)	High Fire (Max)		kW	15	20	25	30	40	50	60	75	90	120	140
	Low Fire (Min)		kW	11	14	18	21	28	35	42	53	63	84	98
Airflow	Volume		m^3/s	0.42	0.56	0.78	1.06	1.18	1.51	1.86	2.56	2.81	3.56	3.75
	Static Pressure		Pa	220	320	220	220	150	250	250	250	180	290	250
Electrics	Standard	Supply	V/ph/Hz	230/1/50										
		Start Current	amp	5.0	8.5	13.3	13.3	18.0	26.3	29	N/A	31.0	40	44
		Run Current	amp	2.0	3.1	4.2	4.3	5.8	7.6	10	N/A	12.8	17	20
	Optional	Supply	V/ph/Hz	400/3/50 (Centrifugal units only)										
		Start Current	amp	N/A						16.5	18.0	N/A	14.9	16.8
		Run Current	amp	N/A						4.8	5.3	N/A	4.6	4.9
Fuel	Connection		BSP/Rc	¾"										
	Minimum Inlet Pressure	Nat Gas	mbar	20.0										
		LPG	mbar	37.0										
	Consumption	Nat Gas	m^3/h	1.75	2.33	2.91	3.49	4.66	5.71	6.93	8.52	10.32	13.60	15.77
		LPG	m^3/h	0.65	0.90	1.13	1.33	1.78	2.21	2.68	3.33	4.01	5.44	6.20
Overall Dimensions	Length		mm	2060	2060	2060	2170	2170	2370	2295	2370	2205	2405	2655
	Width		mm	1060	1060	1060	1060	1060	1060	1385	1385	2010	2010	2010
	Height		mm	645	645	645	865	865	1017	865	1017	936	1080	1245
Install Clearance	Top		mm	N/A										
	LH Side		mm	200										
	RH Side		mm	1000										
Flue Diameter			mm Ø	80	80	80	100	100	100	130	130	130	130	130
Noise Levels			dB(A)	50	50	52	55	55	58	59	55	59	60	60
Nett Weight			kg	145			180		200	225	295	354	370.0	415

Notes:

- Fuel Consumption and output figures based upon nett calorific values as follows:
  - Natural Gas (G20) nett CV 34.02 MJ/m^3
  - LPG Propane (G31) nett CV 88.00 MJ/m^3
- NVxEA heaters have efficiency levels which comply with the requirements of United Kingdom Part L Building Regulations and the seasonal efficiency requirements of the Ecodesign regulation (EU) 2015/1188, Directive 2009/125/EC – Lot 21 Tier 1 (Known as ErP and mandatory as from 1st January 2018)
- Air handling data is assessed at room ambient conditions
- Dimensions and clearance data excludes primary flue section.
- Noise levels are for the appliance only and measured 5m from appliance in a typical installation situation. Noise levels may be impacted by environmental conditions as well as inlet and return ductwork.
- Motor, run and start amps apply to standard electrical supply as stated.
- For Installer guidance notes see page 7.



R/H SIDE VIEW

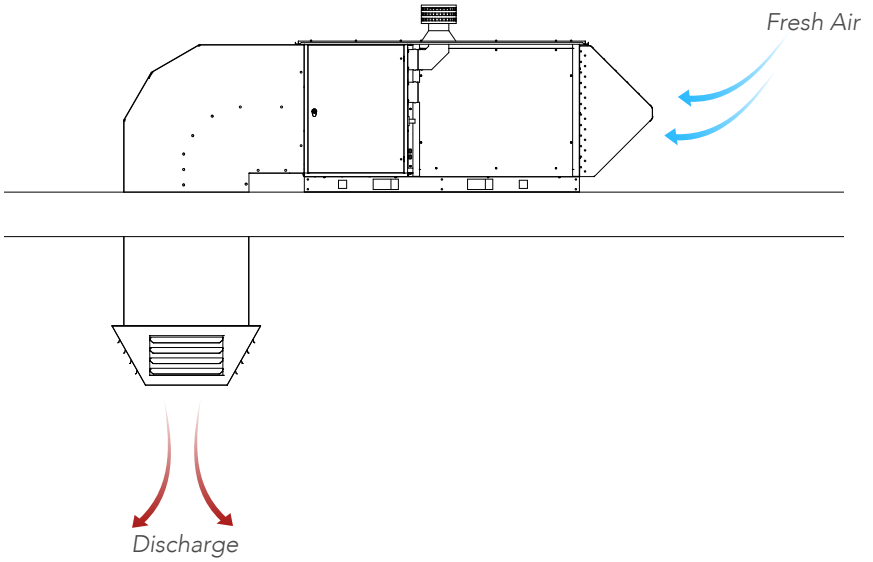


PLAN

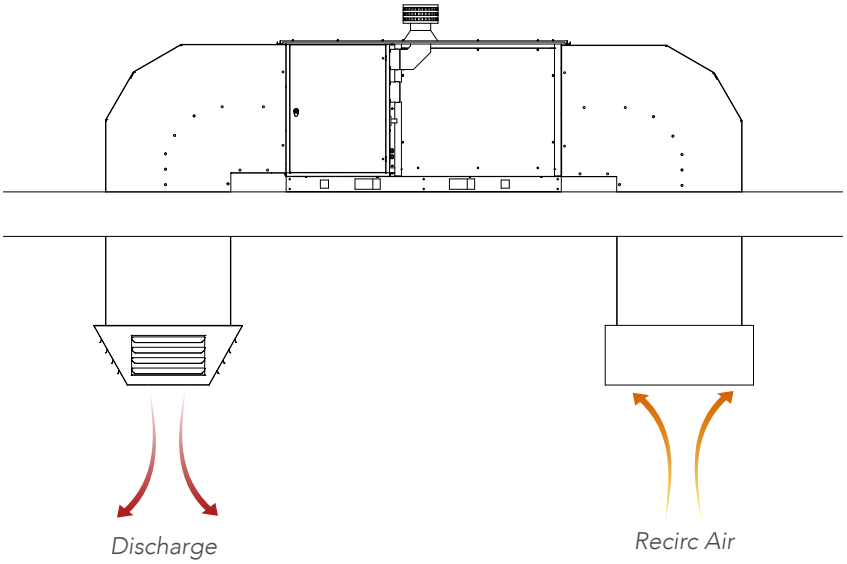
Model		15	20	25	30	40	50	60	75	90	120	140
A	mm	1000	1000	1000	1000	1000	1000	1325	1325	1950	1950	1950
B	mm	700	700	700	700	700	700	700	700	700	700	700
C	mm	540	540	540	760	760	912	760	912	831	975	1140
DØ	mm	80	80	80	100	100	100	130	130	130	130	130
E	mm	637	637	637	637	637	637	932	932	1557	1557	1557
F	mm	492	492	492	712	712	864	712	864	783	927	1092
G	mm	1000	1000	1000	1000	1000	1125	1125	1125	1000	1125	1295
H	mm	105	105	105	105	105	105	105	105	105	105	105
J	mm	2040	2040	2040	2150	2150	2275	2275	2350	2185	2385	2635
K	mm	715	715	715	715	715	1010	1010	1010	1635	1635	1635

Typical Applications

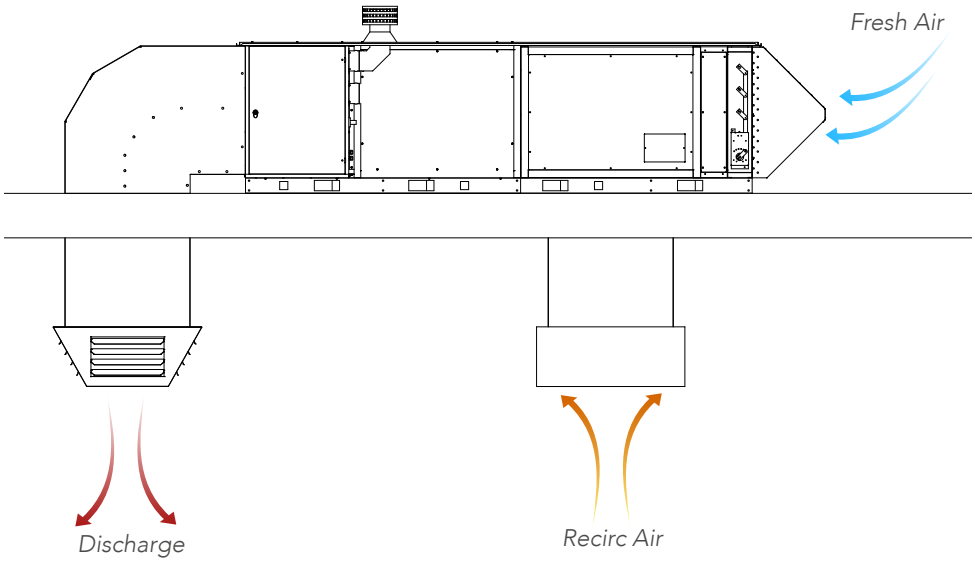
100% Make Up Air



100% Recirculation



80/20% Fresh Air /Recirculation



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 such manuals please consult our technical department or visit our website - www.powrmatic.co.uk

Standards
NVxEA heaters must be installed, commissioned and operated with due regard to appropriate regulations including but not limited to BS6230:2011, relevant Codes of Practice, the possible requirements of Local Authorities, Fire Officers and insurers as the relevant Installation, Operation and Maintenance Manual.

Position & Location
Powrmatic NVxEA heaters are specifically designed for external or rooftop application. It is important that all supporting structures are sufficient for the relevant weight loadings.

Consideration should also be given to necessary maintenance access and clearances as well as the provision of flow and return air ductwork, gas, electrical and control wiring.

The NVxEA heater is supplied with an inbuilt flue discharge system. The location selected for the heater should be such that flue gases are not discharged in the vicinity of windows, doors or building overhangs. Should the heater location be such that the flue discharge may be in the vicinity of a window, door or building overhang then it may be possible to extend the flueing arrangement to enable discharge to take place at a safe point. In such circumstances it is recommended that you consult Powrmatic's technical department

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.

Combustion Air & General Ventilation
The NVxEA heater range is specifically designed for external location and is complete with the necessary combustion air intake.

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

Ductwork
NVxEA heaters are specifically designed to be installed with ductwork. Installers must pay due regard to the maximum static pressure of the heater and the combined design duct resistance of the duct system, including dampers, grilles, weather louvres, mixing boxes etc, must be complimentary to the stated static pressure available. Too little or too much duct resistance may be detrimental to the heater and impact on reliability.

Guarantee
Powrmatic NVxEA 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.

2 YEAR PARTS WARRANTY

1 YEAR LABOUR WARRANTY

10 YEAR TIME RELATED HEAT EXCHANGER WARRANTY

Powrmatic are a leading British manufacturer of industrial and commercial heating equipment. With over 60 years of experience in the HVAC industry, our products are built with integrity, and characterised by high quality and energy-saving designs, delivering exceptional performance and facilitating compliance with energy and emission regulations.

Powrmatic are also a specialist British manufacturer of natural, powered and smoke ventilation products working closely with a wide range of architects and consultants whilst also a supplier of a range of air conditioning and evaporative cooling equipment.

We provide a full product application advice service for architects, mechanical engineers, installers and end users to ensure the best products are selected to meet the required budget, design and regulatory requirements. Our heating and ventilation engineers are also supported by distribution partners and a network of installers who are knowledgeable in the supply, installation and maintenance of all of our equipment.

Get in touch

United Kingdom Office

Powrmatic Limited
Hort Bridge
Ilminster
Somerset
TA19 9PS

tel: +44 (0) 1460 53535
fax: +44 (0) 1460 52341
e-mail: info@powrmatic.co.uk
web: www.powrmatic.co.uk

Ireland Office

Powrmatic Ireland
45 Broomhill Close
Tallaght
Dublin 24

tel: +353 (0) 1452 1533
fax: +353 (0) 1452 1764
e-mail: info@powrmatic.ie
web: www.powrmatic.ie

FOR THE LATEST NEWS, CASE STUDIES, AND TECHNICAL SUPPORT FOLLOW US ON

#keepingthenationwarm

Issue 6.0 ErP January2018