

REZNOR®

January 2023

Trusted Heating Solutions

COMET+

Gas and Oil Fired Cabinet Heaters



NGH
NORTEK GLOBAL HVAC™



COMET+

Gas and Oil Fired Cabinet Heaters

The COMET+ range incorporates the latest generation of heat exchanger technology to become an industry benchmark for design and performance.

High efficiency condensing versions are available for all natural gas fired models giving 101% efficiency and significant fuel savings.

Vertical freestanding models are available from 45kW to 300kW. Cabinets suitable for external use are available as an option. Units can be provided in flat pack format upon request. Contact Reznor for larger outputs and alternative options.

Gas fired cabinet heaters are suitable for use with Natural Gas (G20). Units can also be specified for use with Propane (G31). A high efficiency condensing version (natural gas models only) is available.

Oil fired cabinet heaters are suitable for use with Class D gas oil (35 sec) or Class C2 kerosene (28 sec). Oil fired models are supplied complete with a fire valve and oil filter as loose components.

EC plug fan(s) circulate large air volumes evenly across the full heat exchanger surface for enhanced life expectancy.

The heaters can be supplied with loose long throw discharge nozzles for mounting on the top of the unit, complete with horizontal louvres which can be rotated through 360°. The rear nozzles are raised to assist with air circulation.

Alternatively, the heaters can be supplied for a ducted discharge - suitably sized ductwork can be fitted directly to the top of the heater.

All heaters are suitable for a ducted inlet - suitably sized ductwork can be fitted directly to the unit air inlet opening on the front of the casing.

Specification

Cabinet

Cabinets are constructed from a sheet metal frame with galvanised powder coated panels to form a rigid and durable casework. Panels for the heating section are provided with internal insulation along with inner heat shields manufactured from aluminised steel. A cabinet suitable for external use is available as an option.

Fans and Motors

Plug fans with EC motors are used to provide a good overall electrical efficiency and a consistent airflow across the heat exchanger to improve the heat exchanger efficiency.

Heat Exchanger

An inversion combustion chamber with four pass heat exchanger assembly provides improved thermal efficiency with extended life expectancy. The condensing version gives even greater thermal efficiencies and significant fuel savings.

The 304 stainless steel combustion chamber is combined with a high efficiency flat tube heat exchanger to achieve combustion efficiencies of up to 94% (ncv).

The complete heat exchanger assembly is mounted to allow for thermal expansion, thereby avoiding undue thermal stress and premature failure.

Burner

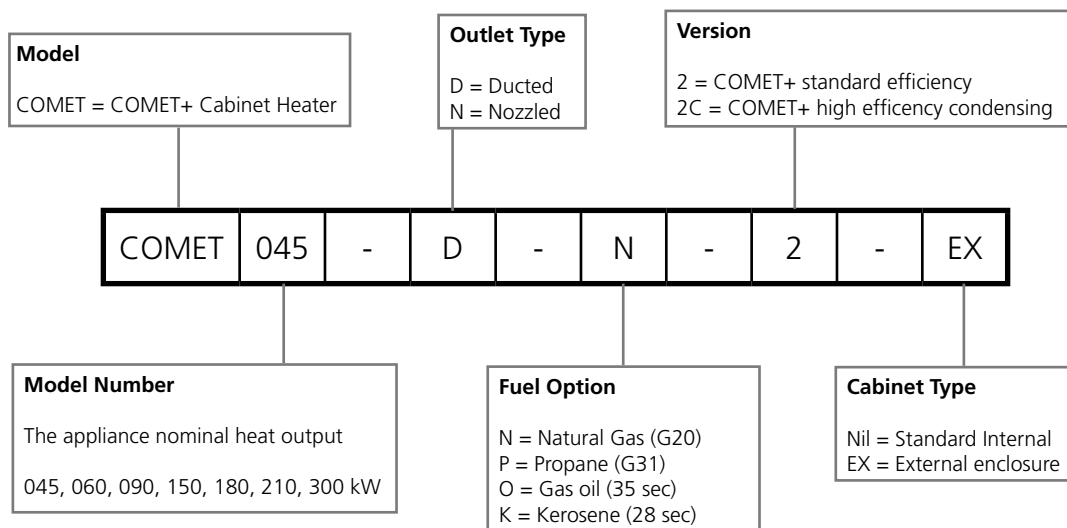
Gas fired units are supplied with a fitted high / low fully automatic forced draught burner complete with full safety controls to EN676. Heaters are CE certified and UKCA approved.

Oil fired units are supplied with a fitted high / low fully automatic burner including safety controls. A fire valve and oil filter are supplied as loose components. An additional external fire valve may be required in accordance with BS 5410:Part2:2018.

Controls

Units are controlled via a standard SmartCom controller supplied loose.

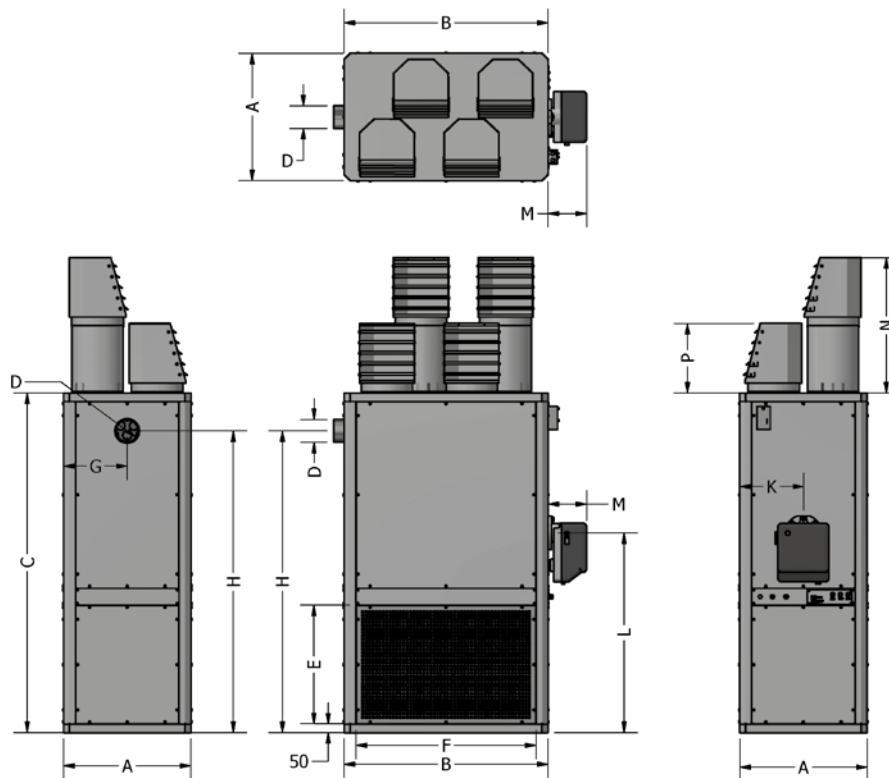
COMET+ cabinet heaters are available in a number of different sizes and variants:-



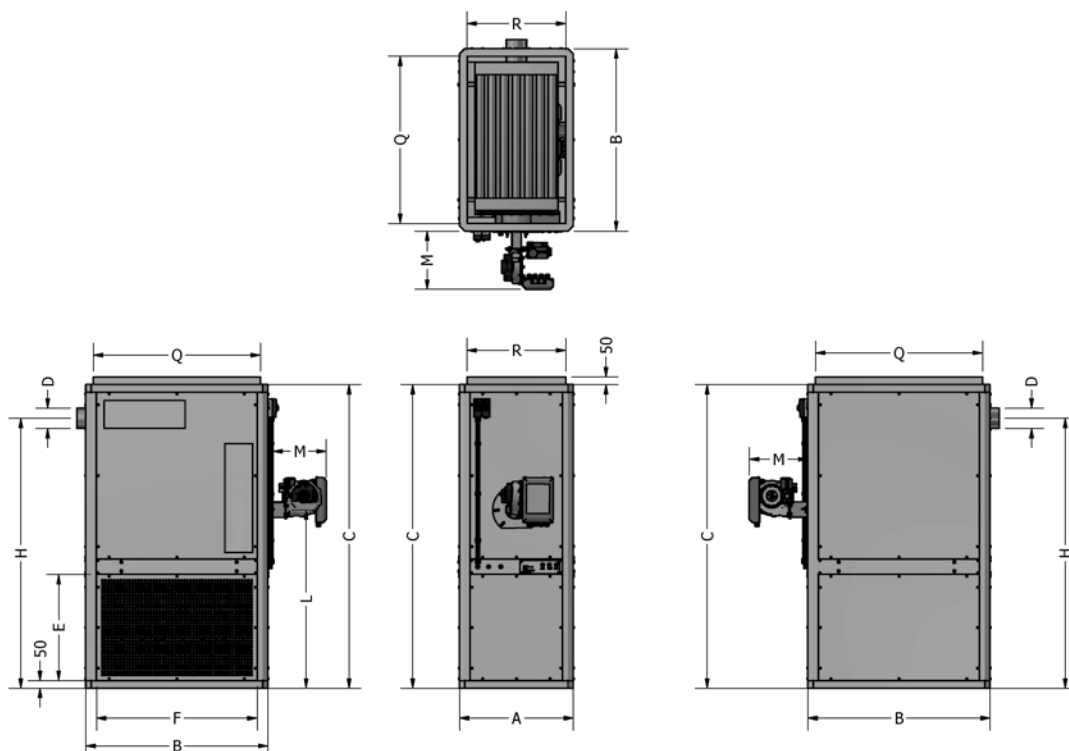
Technical Data							
COMET	045	060	090	150	180	210	300
Heating Data							
Nominal Heat Output (kW)	45	60	90	150	180	210	300
Heat Input (kW)	48	64	96	160	193	225	321
Temperature Rise (°C)	41	41	41	41	41	41	41
Thermal Efficiencies (Nett CV %)	Minimum 93.5%						
NOx Seasonal (mg/kW)	58.2	62.3	65.3	65.9	61	63.5	66.2
Gas Fired							
Gas Consumption Natural Gas (G20) (m³/hr)	4.50	6.00	9.00	14.99	17.99	20.99	29.99
Gas Consumption Propane Gas (G31) (m³/hr)	1.86	2.48	3.72	6.20	7.44	8.67	12.39
Minimum Dynamic Inlet Pressure Nat Gas (G20)	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Minimum Dynamic Inlet Pressure Propane (G31)	37	37	37	37	37	37	37
Gas Connection (Rc)	¾"	¾"	¾"	¾"	1¼"	1¼"	1½"
Oil Fired							
Oil Consumption (Class D gas oil 35 sec)	4.44	5.91	8.87	14.79	17.74	20.70	29.57
Oil Consumption (Class C2 kerosene 28 sec)	TBA	TBA	TBA	TBA	TBA	TBA	TBA
Oil Connection (Rc)	⅜"	⅜"	⅜"	⅜"	⅜"	⅜"	⅜"
Air Handling Data							
Airflow (m³/hr)	3276	4392	6552	10944	13104	15264	21816
Airflow (m³/sec)	0.91	1.22	1.82	3.04	3.64	4.24	6.06
Number of Nozzles	4	4	4	4	4	4	4
Nozzle Throw (m)	26	26	29	38	44	46	48
External Static Pressure (Ducted) (Pa)	250	250	250	250	250	250	250
Fan (kW)	0.65	0.80	1.20	2.50	3.00	3.50	7.50
Full Load Current (A)	1.2	2.3	3.9	4.5	4.8	5.5	11.5
General Data							
Electrical Supply	415 V / 3 Ph / 50 Hz						
Nominal Flue Diameter (mm)	130	130	130	130	200	250	250
Noise Level @ 5m dB(A)	58	62	72	75	76	77	79
Net Weight (kg)	338	343	354	458	497	543	598

Dimension (mm)							
COMET	045	060	090	150	180	210	300
A - Unit Width	800	800	800	800	950	950	1100
B - Unit Depth	950	950	950	1200	1400	1400	1520
C - Unit Height	2000	2000	2000	2000	2250	2250	2250
D - Flue Diameter	130	130	130	130	200	250	250
E - Intake Duct	650	650	650	650	650	650	650
F - Intake Duct	850	850	850	1100	1300	1300	1420
G - Flue Centre	375	375	375	375	475	475	575
H - Flue Height	1777	1777	1777	1777	1970	1970	1970
K - Burner Centre	375	375	375	375	475	475	575
L - Burner Height	1176	1176	1176	1176	1250	1250	1250
M - Burner Protrusion	230	230	230	230	560	560	560
N - Ext Nozzle Height	798	798	798	798	949	949	949
P - Nozzle Height	409	409	409	409	547	547	547
Q - Duct Outlet	850	850	850	1100	1300	1300	1420
R - Duct Outlet	700	700	700	700	850	850	1000
S - Condensate Size (if fitted)	1"	1"	1"	1"	1"	1"	1"

Models with nozzled outlet



Models with ducted outlet



Installation Guidelines

General

The following notes are provided as general guidance for designers and specifiers. Installers and users MUST refer to the detailed instructions given in the COMET+ installation manual supplied with the heater and also available from the literature library at www.literature.reznor.eu or the Reznor technical department.

Standards

COMET+ heaters are CE and UKCA certified and compliant with BS EN 17082 for use in non domestic installations. They must be installed, commissioned and operated in accordance with all applicable local and national regulations and codes of practice. The manufacturer recommends the installer contact a local Building Inspector, Fire Officer and Insurance Company for additional guidance.

Siting and Location

COMET+ heaters must be installed on a flat and level surface made from non-combustible material, which is sufficiently robust to withstand the weight of the heater and any ancillary equipment.

Due consideration must be given to flue routes and fuel, electrical and control connections and also to providing good and safe working access.

Heaters must not be located in hazardous areas, however, it is permissible for the heater to supply air to such areas. The heater must not be installed within an environment where there is a high concentration of chlorides, fluorides, salts or other aggressive or volatile chemicals / compounds. Nor should the heater be positioned where the burner could be adversely affected by high winds or draughts.

Installation Clearances

Clearances for the safe and correct operation and maintenance of the heater are given in the installation manual. In general, sufficient space must be provided to maintain and withdraw the burner and heat exchanger with a 1 metre clearance provided above and to the remaining sides of the heater.

Plant Rooms and Enclosures

Specific requirements are in place where heaters are to be installed in a plant room or enclosure including the provision of ventilation for combustion air and general ventilation. Consult our technical department for further guidance.

Combustion Air and General Ventilation

Within the United Kingdom mandatory regulations apply concerning the provision of combustion air and general heater ventilation. Sufficient ventilation for combustion air purposes needs to be provided to the room in which the heater is sited. A full and unobstructed air path to the heater air inlet must be provided. Where the heater is installed in a plant room, combustion air should be provided via permanent air vents connecting directly with the outside air at high level and low level within the room. 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. Full details are given in the installation manual.

Flue Installation

COMET+ heaters are designated as a Type B23 forced draught appliance where the combustion air is taken from the room space the heater is installed in and requires only a flue pipe exhausting the products of combustion to outdoors.

The heaters are designed to operate safely and efficiently with a vertical flue system or for models up to size 150 a horizontal flue system (see diagram opposite).

Gasket sealed single wall seamless aluminium or stainless steel flue pipes are required. All joints must be sealed to prevent the products of combustion from leaking into the building.

Pipework

Fuel pipework must be sized to ensure that the minimum gas or maximum oil inlet pressures are not compromised under operational load conditions. Isolating valves and pipe unions should be provided for each heater and pipework must be installed with due regard for relevant local and national standards and Codes of Practice.

Nozzles

Nozzles are supplied loose and should be pushed home on to the spigots on the heater and positioned to provide the desired airflow. When in the correct position they should be fixed in place with drill screws.

Ductwork

COMET+ heaters can be installed 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 do not exceed the external static pressure given on page 3 of this brochure. Insufficient or excessive duct resistance will compromise the performance of the heater. Please consult our technical department for further guidance.

Electrical and Controls

COMET+ heaters are designed for a 415V 3 phase 50 Hz electrical supply and are compatible for interfacing with building management systems. A 0-10V DC control signal is required for the modulating burner.

Options

COMET+ heaters are available with the following options upon request:-

- Front flue connection (rear connection as standard)
- External weatherproof casing
- Right hand side grille (left hand side as standard)
- Flat pack format to aid with installation in areas with restricted access.

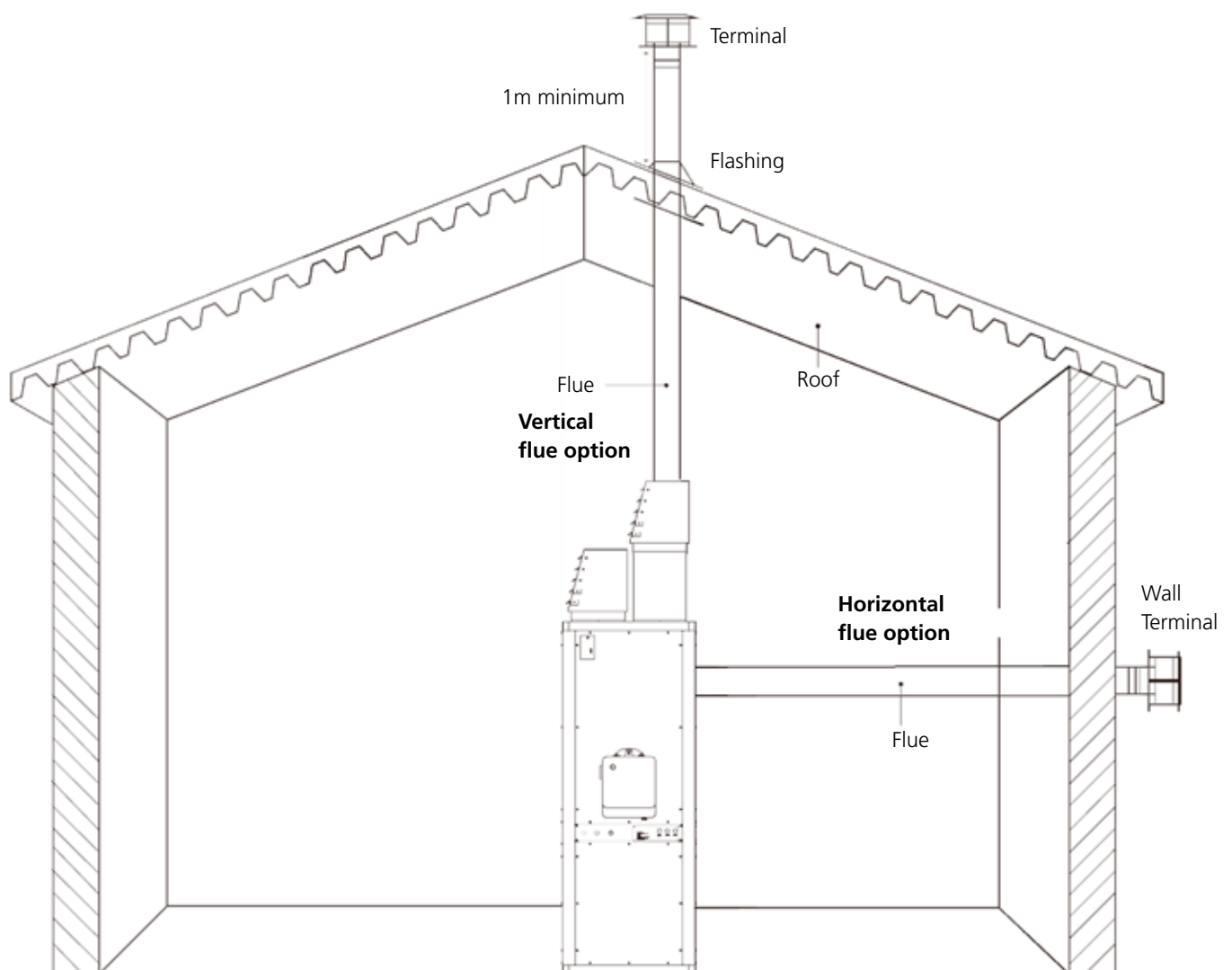
Guarantee

COMET+ heaters are supplied with a comprehensive 1 year parts and labour warranty and a further year on all parts excluding consumables. The warranty commences from the date of dispatch from the manufacturer and is subject to the terms detailed within the Manufacturers 'conditions of business' unless otherwise agreed at the time of order.

Flue Arrangement

All models are suitable for a vertical flue installation. Alternatively, for models up to size 150 a horizontal flue system can be used. The diagram below shows details. A Ø130mm horizontal flue termination (wall terminal) option is available up to model 150.

The flue connection is located at the rear of the unit as standard. A front flue connection can be provided as an option which must be specified at the time of ordering.



A horizontal flue installation allows for a reduced flue run as there is no requirement to install the flue to the top of the building as with normal conventional flue systems, saving on time and flue materials for the installing contractor.

For further information please see the heater installation manual.

About Us

We are Reznor: We deliver sustainable HVAC products and solutions that improve the environment in which we live and work. We offer the widest and most complete range of HVAC products in the market. Our extensive product range and wealth of knowledge allows us to work with our customers to design the most efficient HVAC solutions to meet their unique requirements.

What does it mean to choose Reznor? With our forward-thinking approach, we're dedicated to fulfilling our customers' needs in the best way possible. We not only design and engineer, we are always ready to support you and truly listen.

Our Products

Unit Heaters	Radiant Heaters	Air Curtains	Controls
Suspended gas fired unit heaters with a technically advanced range designed to deliver outstanding energy efficiency and performance for reduced operating and life cycle costs.	Continuous radiant tube heating systems are created specifically for the application to provide uniform heat coverage over the entire floor area with the ability for the system to cater for distinct zones.	Air curtains are designed for recessed or surface mounting in the doorways of retail commercial premises creating comfortable conditions by providing a powerful downflow of heated ambient air.	Integrated controls designed to improve heating performance and satisfy the growing need for higher efficiencies, in turn aiding the development of more efficient heating systems.

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We know it's more important than ever to have reliable access to HVAC products and parts. At Reznor, we've listened to our customers needs and now provide an efficient, speedy way of purchasing with a purpose built e-commerce system. Empress is like no other on the market, with the option to order core range heater units from site as well as a comprehensive range of spare parts.

Contact Us



NORTEK GLOBAL HVAC (UK) LIMITED
Fens Pool Avenue
Brierley Hill
West Midlands
DY5 1QA
United Kingdom

Tel: +44 (0)1384 489 700
Fax: +44 (0)1384 489 707

reznorsales@nortek.com
www.reznor.eu