

Combat®

Compact Tubular Unit Heaters

*Over 91.5%
Efficient*



- Compact size - ideal when space is at a premium
- For room sealed or open flued installation
- Automatic ignition burners with remote lockout and reset
- Horizontal and vertical air distribution
- Light to indicate lockout
- Long life provided by aluminised steel heat exchangers
- Suspended or shelf mounted installation frees valuable workspace and provides flexibility
- Remote fan operation for summer air circulation
- Vertical louvres available
- Smaller size - easier to handle and less expensive to ship
- Easy to install, maintain and operate with rear or top air and flue spigots

Combat® HVAC
L I M I T E D



Technical Data - Standard CTCU Range

| Model | | 11 | 15 | 22 | 27 | 32 |
|-------------------------------|----------------------|-------------------|------------------------|------------------------|--------|--------|
| Heat Input - Gross | [kW] | 13.4 | 18.3 | 27.5 | 33 | 38.5 |
| | [Btu/h] x [1000] | 46 | 62 | 94 | 113 | 131 |
| Heat Input - Net | [kW] | 12.1 | 16.5 | 24.8 | 29.7 | 34.7 |
| | [Btu/h] x [1000] | 41 | 56 | 85 | 101 | 118 |
| Heat Output | [kW] | 11.1 | 15.1 | 23 | 27.2 | 31.7 |
| | [Btu/h] x [1000] | 38 | 52 | 78 | 93 | 108 |
| Gas Rate Natural (G20) | [m ³ /h] | 1.3 | 1.7 | 2.6 | 3.1 | 3.6 |
| | [ft ³ /h] | 45 | 62 | 93 | 110 | 127 |
| Gas Rate Natural (G25) | [m ³ /h] | 1.5 | 2.0 | 3.0 | 3.6 | 4.2 |
| | [ft ³ /h] | 52 | 72 | 108 | 127 | 148 |
| Gas Rate LPG Propane (G31) | [m ³ /h] | 0.5 | 0.7 | 1.0 | 1.2 | 1.4 |
| | [kg/h]* | 0.93 | 1.27 | 1.91 | 2.3 | 2.68 |
| Gas Rate LPG Butane (G30) | [m ³ /h] | 0.4 | 0.5 | 0.8 | .9 | 1.1 |
| | [kg/h]* | 0.93 | 1.28 | 1.93 | 2.31 | 2.7 |
| Gas Connection | | R - ½" | R - ½" | R - ½" | R - ½" | R - ½" |
| Number of Burners | | 3 | 4 | 5 | 6 | 7 |
| Inlet Pressure | [mbar] | | | | | |
| | Natural Gas [G25] | | | 17 Minimum, 25 Maximum | | |
| | LPG Butane [G30] | | | 25 Minimum, 45 Maximum | | |
| LPG Propane [G31] | | | 20 Minimum, 35 Maximum | | | |
| Electrical Supply | | 230 V, 50 Hz, 1 Ø | | | | |

* For litres per hour, multiply: (kg/h) x 1.97

Air Handling Data - CTCUA Range

CTCUA heaters are fitted with axial fan systems, consisting of a low noise fan(s) powered by a direct drive motor located on the rear of the unit. CTCUA heaters should be used for free blowing applications only.

| Model | | 11 | 15 | 22 | 27/32 |
|--|---------------------|---------|---------|---------|---------|
| Air Flow | [m ³ /h] | 1220 | 2710 | 2750 | 4474 |
| Air Throw | [m] | 12 | 14 | 16 | 21 |
| Running Current | [A] | 1.3 | 1.3 | 1.3 | 1.78 |
| Start Current | [A] | 1.23 | 1.23 | 1.23 | 3.13 |
| Total Electrical Load | [W] | 274 | 336 | 384 | 345 |
| Noise @ 3 m (determined by EN ISO 3746 parallel piped measurement surface) | | | | | |
| Sound Pressure Level @ 3 m | dB(A) [NR] | 41 [35] | 45 [39] | 48 [42] | 48 [42] |

Technical Flue Data - Standard CTCU Range

CTCU heaters must be fitted with a flue system. Straight lengths and bends can be added, if required. For every additional 90° bend added to the flue, the maximum flue length must be reduced by 1 m [0.5 m for CTCU 11].

NOTE: The flue terminal must not be positioned under a window or anywhere that could draw combustion products back into the building.

Each joint in the flue must be made using the manufactured female joint with the special seal.

Open Flue and Room Sealed Arrangements

| Model | | 11 | 15 | 22 | 27/32 |
|------------------------|------|----|----|----|-------|
| Maximum Length | [m] | 4 | 5 | 5 | 5 |
| Flue and Intake Size Ø | [mm] | 80 | 80 | 80 | 100 |

Dimension Data - CTCUA Range (All Models)

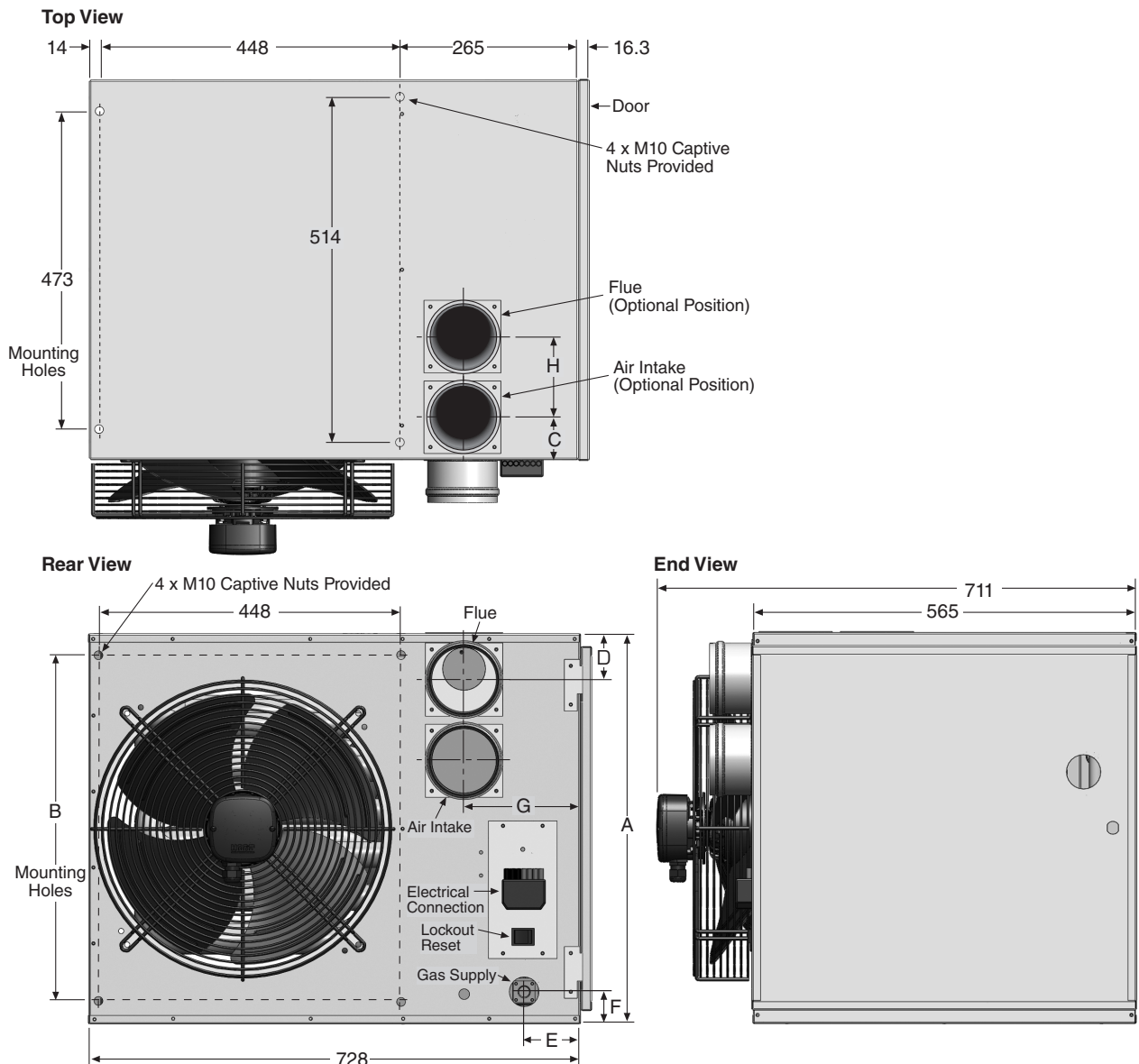
| Model | | 11 | 15 | 22 | 27/32 |
|---------------------------------------|------|--|-------|-------|-------|
| 'A' Height | [mm] | 450.0 | 450.0 | 450.0 | 576.0 |
| 'B' Mounting Hole Spacing | [mm] | 385.2 | 385.2 | 385.2 | 510.5 |
| 'C' Centre of Air Intake [Top Option] | [mm] | 190.3 | 190.3 | 190.3 | 183.1 |
| 'D' Centre of Flue [Vert] | [mm] | 69.9 | 69.9 | 69.9 | 67.8 |
| 'E' Centre of Gas Inlet [Horz] | [mm] | 83.2 | 83.2 | 83.2 | 83.4 |
| 'F' Centre of Gas Inlet [Vert] | [mm] | 47.6 | 47.6 | 47.6 | 47.7 |
| 'G' Centre of Flue/Air Intake [Horz] | [mm] | 172.2 | 172.2 | 172.2 | 172.2 |
| 'H' Flue to Air Intake | [mm] | 120.0 | 120.0 | 120.0 | 140.0 |
| Weight | [kg] | 30.5 | 38.5 | 41.0 | 52.3 |
| Mounting Height to Heater Base | [m] | Minimum 1.8 Heaters may be mounted at a higher level if destratification fans and/or turn down nozzles are installed. Maximum Recommended 3.5 | | | |

Heater Clearances to Combustibles (mm)

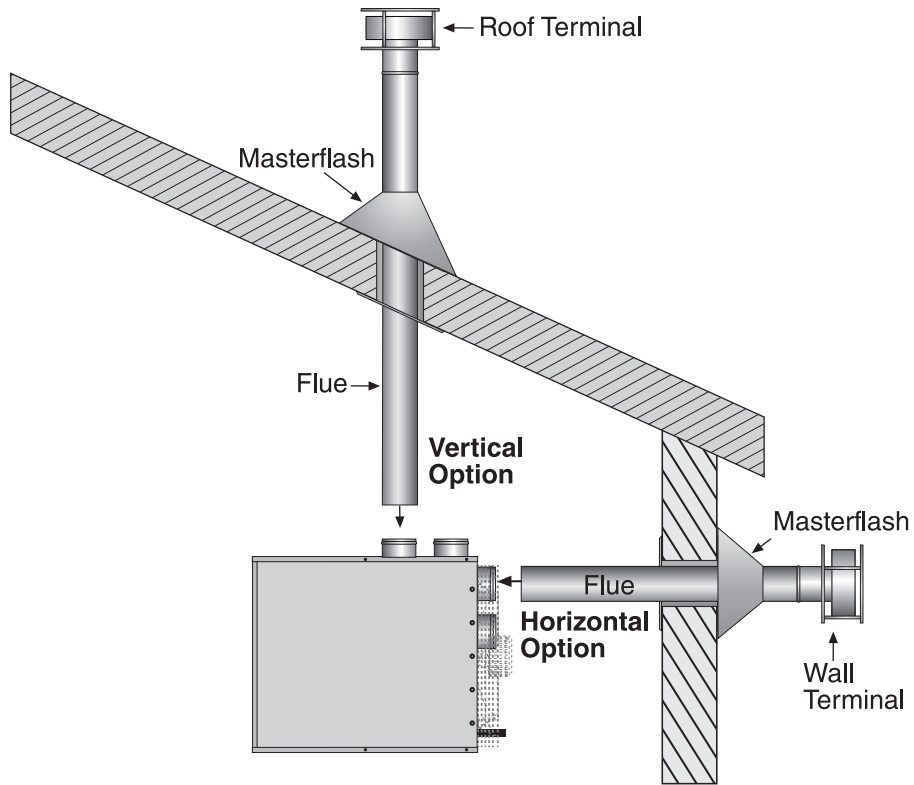
| Above Heater | Below Heater | To Side of Heater | To Rear of Heater | To Front of Heater | To Flue |
|--------------|--------------|-------------------|-------------------|--------------------|---------|
| 150 | 300 | 100 | 250 | 3000 | 50 |

CTCUA Specifications - (All Models)

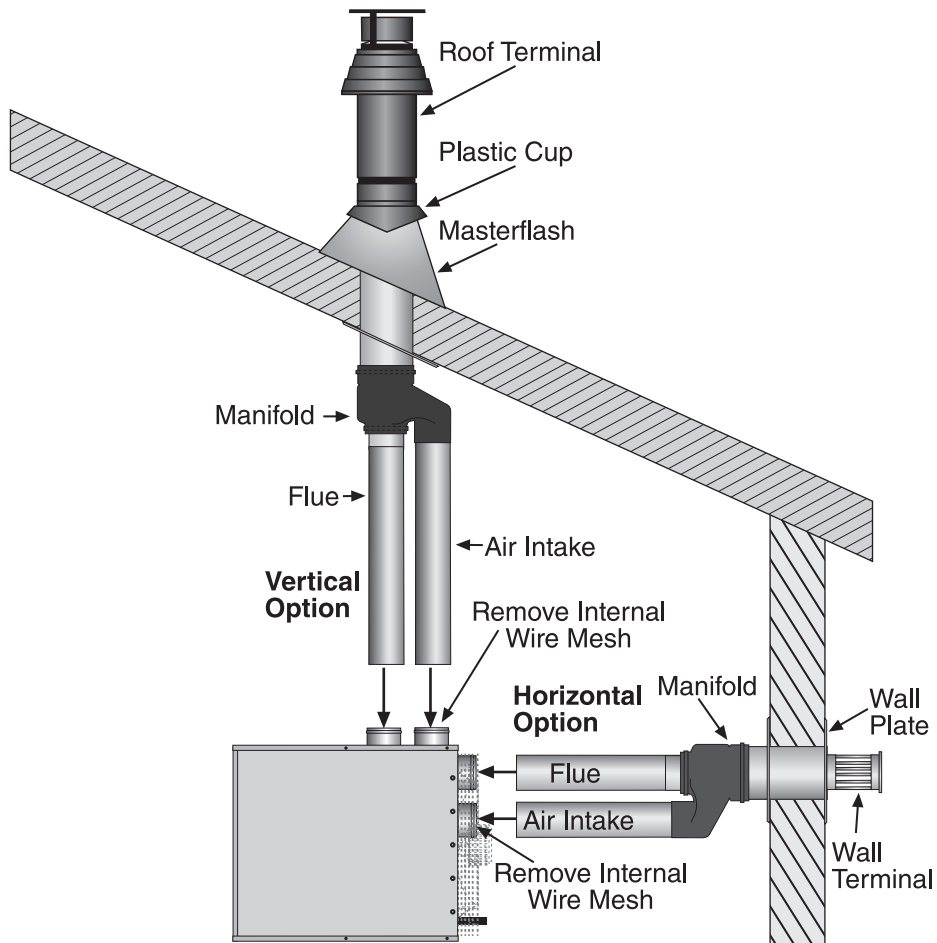
All dimensions shown in mm.



Specifications - Open Flue Arrangement (All Models)



Specifications - Room Sealed Flue Arrangement (All Models)



Ignition Systems

CTCU heaters are automatic ignition burners.

Burner Options

CTCU heaters are fitted with On/Off burners as standard.

Air Outlets

CTCU heaters are fitted with adjustable horizontal louvres as standard. Optional vertical air discharge is available. For additional information, please consult the CTCU heater price list or the Installation, Commissioning, Operation and Service Manual.

Advice should be sought from Combat HVAC to ensure that proposed ducting systems are compatible with the heater.

Contact Your Local Sales Representative

| Regional Sales Manager Coverage | Contact Name | Contact Telephone | Email |
|---------------------------------|----------------|-------------------|----------------------------|
| Scotland and Northern Ireland | Roddy Morrison | 07900 915 439 | roddym@combat.co.uk |
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| West of the U.K | David Mayman | 07831 415 350 | david.mayman@combat.co.uk |

Contact our Dedicated Sales and Customer Service Team

| Department | Contact Name | Contact Telephone | Email |
|---------------------|--------------------|-------------------|---------------------------|
| Technical Enquiries | Keith Archer | 0121 506 7724 | keith.archer@combat.co.uk |
| Design/Quotations | Paul Morgan | 0121 506 7744 | paulm@combat.co.uk |
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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 Combat HVAC Limited.

Combat HVAC Limited reserves the right to alter product specification details without notice.

Installation Code and Annual Inspections:

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

Further Information: Applications, engineering and detailed guidance on systems design, installation and equipment performance is available through Combat[®] representatives. Please contact us for any further information you may require, including the Installation, Commissioning, 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 judgment.

Other Products from the Combat HVAC Limited Range Include.....

Combat[®] Cabinet Heaters



Combat[®] Tubular Unit Heaters



Combat[®] Condensing Heaters



Blackheat[®] Unitary Linear and
Double Linear Radiant Heaters



Blackheat[®] U-Tube
Radiant Heaters



Blackheat[®] Multiburner
Heaters



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