

Combat®

Tubular Unit Heaters

Models 40, 50, 60

Over 91.5% Net
Efficient



- For room sealed or open flued installation
- Automatic ignition burners with remote lockout and reset facilities
- Easy to install, maintain and operate with rear flue spigot
- Long life provided by aluminised steel heat exchangers (stainless steel option available)
- Suspended or shelf mounted installation frees valuable workspace and provides flexibility

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Combat® HVAC
L I M I T E D

CE
0558

Model		40	50	60
Maximum Heat Input - Gross	[kW]	47.9	61.5	70
	[Btu/h] x [1000]	163	210	239
Maximum Heat Input - Net	[kW]	43	55	63
	[Btu/h] x [1000]	147	189	215
Maximum Heat Output	[kW]	40	51	58
	[Btu/h] x [1000]	135	173	197
Maximum Gas Rate Natural (G20)	[m ³ /h]	4.5	5.8	6.6
	[ft ³ /h]	160	206	234
Maximum Gas Rate Natural (G25)	[m ³ /h]	4.78	6.14	6.98
Maximum Gas Rate LPG Butane (G31)	[m ³ /h]	1.77	2.27	2.58
	(kg/h)	3.27	4.41	4.79
Maximum Gas Rate LPG Butane (G30)	[m ³ /h]	1.34	1.72	1.95
	(kg/h)	3.26	4.19	4.77
Gas Connection		R 1/2"	R-1/2"	
Number of Burners		7	9	11
Inlet Pressure	[mbar]	Nat. Gas G20 (Min.17, Max. 25, Nat. Gas G25 (Min 20, Max 30) Propane G31 (Min. 25, Max 45), Butane G30 (Min 20 Max.35)		
Electrical Supply		230 V, n50Hz,		

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

Air Handling Data CTUA (All Models)

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

Model		40	50	60
Air Flow	[m ³ /h]			
Running Current	[A]	1.9	3.5	3.5
Start Current	[A]	3.3	5.3	5.3
Total Electrical Load	[W]	415	765	765
Noise @ 3m (determined by ENISO3746 parallel piped measurement surface)				
dB[A]	[NR]	56 (51)	57.1 (52.1)	57.3 (52.3)

Air Handling Data CTUB, CTUC (All Models)

CTUB/C are fitted with centrifugalfan systems, consisting of low noise fan(s) powered by a direct drive motor located on the rear of the unit. CTUB heaters should be used for free blowing applications. CTUC heaters are equipped with enclosed blowers as well as inlet and outlet spigots. CTUD Heaters should be used for ducted applications.

Model		40	50	60
Air Flow	[m ³ /h]	3,330	5,500	5,550
Normal Speed Running Current	[A]	5.8	10.8	10.8
Normal Speed Start Current	[A]	8.7	16.2	16.2
High Speed Run Current	[A]	7.0	13.4	13.4
High Speed Start Current	[A]	10.5	20.0	20.0
Total Electrical Load	[W]	1530	2920	2920
Noise @3 m (determined by EN ISO 3746 parallel piped measurement surface)				
dB[A]	[NR]		63.1 (62)	69.6 (67)

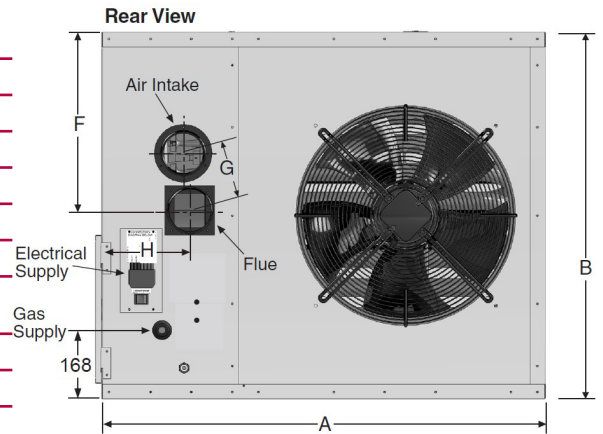
Air Handling Data CTUD (All Models)

CTUD heaters are supplied without a fan and are designed to be incorporated into ducted systems with separate fans. CTUD heaters should be used for ducted applications

Model		40	50	60
Minimum Air Flow	[m ³ /h]	3,300	5,500	5,500
Heat Exchanger Pressure Drop		30	30	30

Dimension Data - CTUA (All Models)

Model		40	50	60
'A' Width	[mm]	1075	1075	1075
'B' Height	[mm]	680	895	895
'C' Support Spacing	[mm]	450	450	450
'D' Support Spacing	[mm]	312	312	312
'E' Support Spacing	[mm]	315	315 <td 315	
'F' Centre of Flue	(mm)	240	430	430
'G' Flue Centre to Air Intake Centre	[mm]	140	140	140
'H' Position of Flue	[mm]	218	211	211
'J' Gas Inlet Position	[mm]	150	150	150
Weight	[kg]	92	115	122
'Z' Length	[mm]	756	806	806



Mounting Height to Heater Base (m)

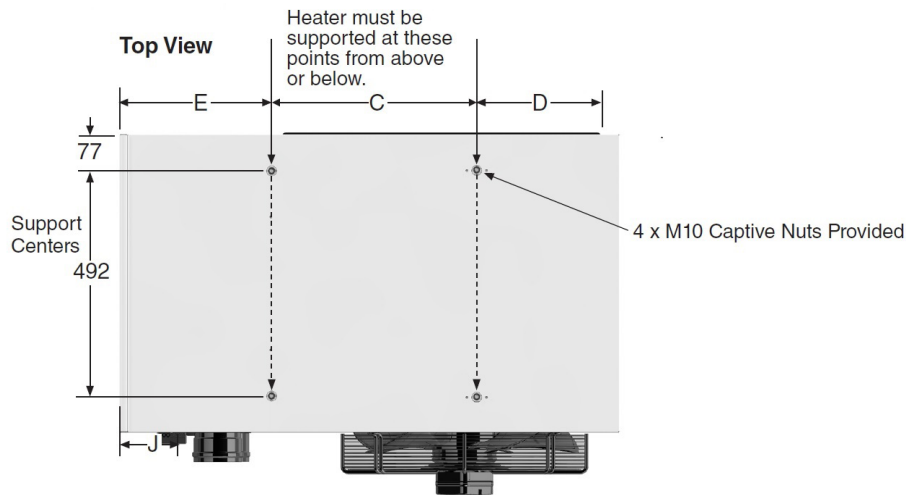
Min. Recommended 2.5
Max. Recommended 3.5

Heaters may be mounted at a higher level if destratification fans and/or turn down nozzles are installed

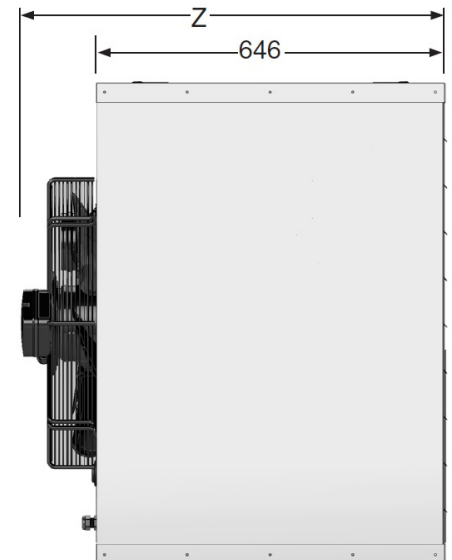
Heater Clearances to Combustibles (mm)

Above Heater	Below Heater	To Side of Heater	To Rear of Heater	To Front of Heater	To Flue
150	300	500	600	3000	50

Specifications - CTUA (All Models)



End View



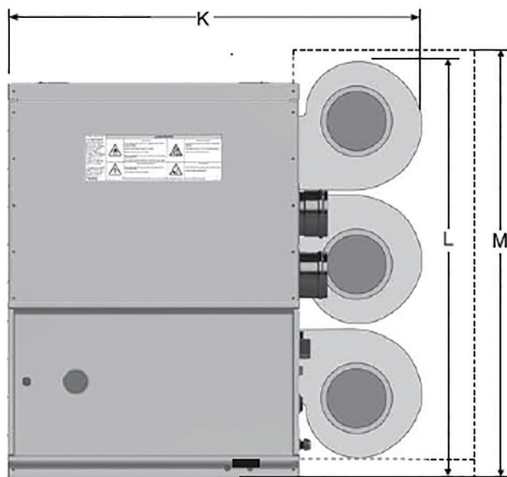
Dimension Data - CTUB, CTUC, CTUD (All Models)

Model		40	50	60
'K' CTUB Depth	[mm]	1,026	1,026	1,026
'L' CTUB Height	[mm]	680	895	895
'M' CTUC Height	[mm]	610	895	895
'N' Inlet and Outlet Duct Spigot Height	[mm]	534	817	817
		(21)	(32)	(32)
'P' Inlet and Outlet Duct Spigot Width	[mm]	709	707	707
		(27.9)	(27.8)	(27.8)
Weight CTUB	[kg]	104	139	146
Weight CTUC	[kg]	117	157	163
Weight CTUD	[kg]	101	124	121
Mounting Height to Heater Base	[m]	Min Recommended 2.5 Max Recommended 3.5		
		Heaters may be mounted at a higher level if destratification fans and/or turn down nozzles are installed		

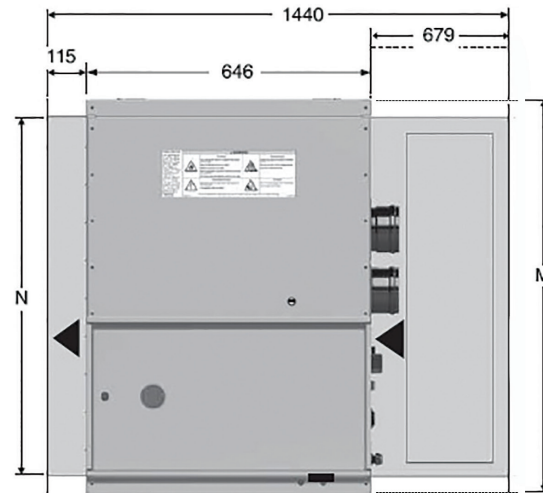
Heater Clearances to Combustibles [mm]

Above Heater	Below Heater	To Side of Heater	To Rear of Heater	To Front of Heater	To Flue
150	300	500	600	3,000	50

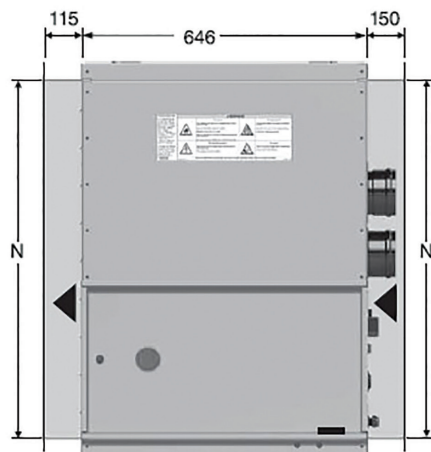
Specifications - CTUB, CTUC, CTUD (All Models)



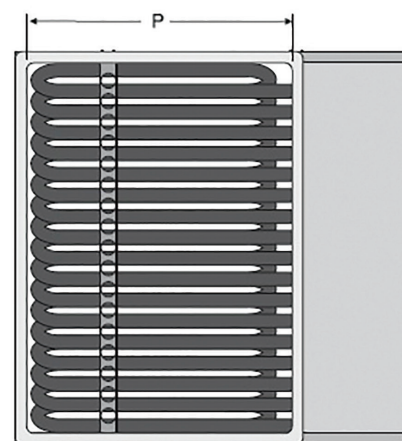
End View
CTUB/C (all models)



End View
CTUC (all models)



End View
CTUD (all models)



Front View
CTUD (and other models fitted with air outlet spigots)

Technical Flue Data - (All Models)

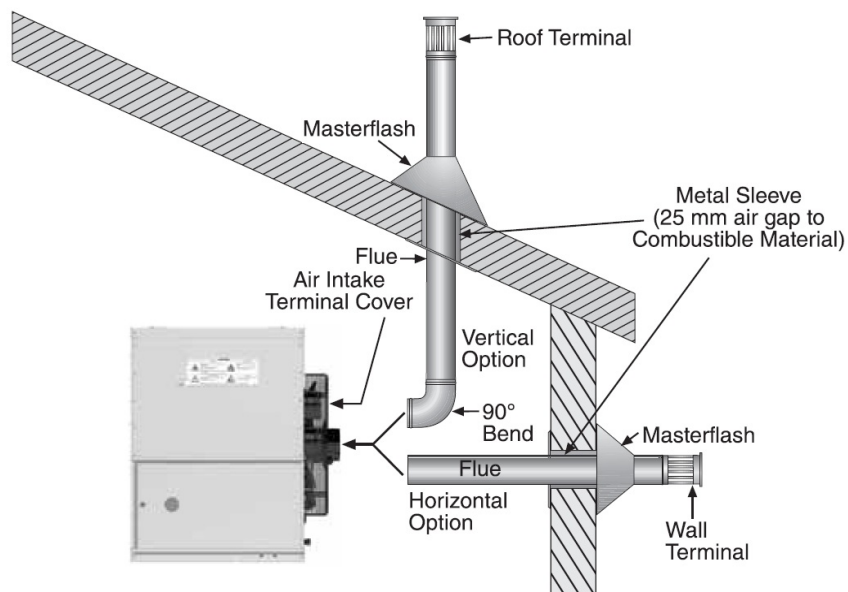
CTU heaters must be fitted with a flue system. Straight lengths and bends can be added, if required. For every additional 90° bend added to the flue, the maximum flue length must be reduced by 1m. For overall length of the flue, please refer to dimension A (horizontal) or B (vertical).

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.

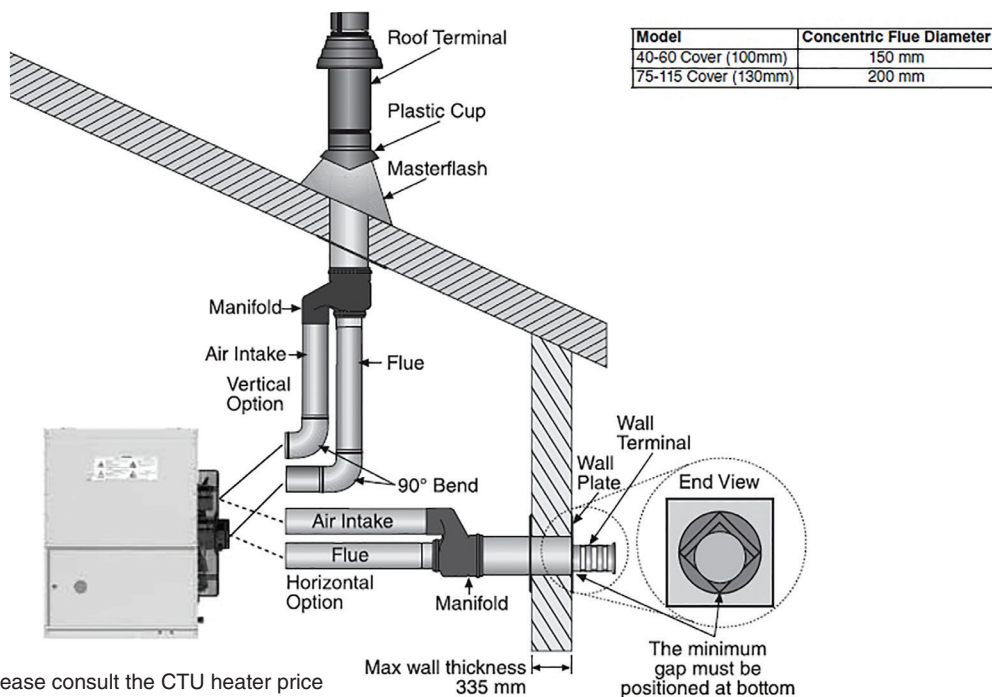
Open Flue and Room Sealed Arrangements (All)

Model		40	50	60
Maximum length 'A' Horizontal	[m]	10	13	15
Maximum Length 'B' Vertical	[m]	9	12	14
Flue and Air Intake Diameter	[mm]	100	100	100

Specifications - Open Flue Arrangement (All Models)



Specifications - Room Sealed Flue Arrangement (All Models)



For additional information, please consult the CTU heater price list or installation, commissioning, operation and service manual

Ignition Systems

CTU heaters are automatic ignition burners

Burner Options

CTU Heaters are fitted with On/Off burners as standard.

Air Outlets

CTUA, CTUB and CTUC heaters are fitted with adjustable horizontal outlet louvres as standard. CTUB and CTUC available with optional spigot. For ducted CTUB, CTUC or CTUD, ductwork would need to be designed to adhere to the characteristics of the heater against resistance. Fan curves are available upon request from Combat HVAC Limited.

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

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 used to assist licensed professionals in the exercise of their professional judgement

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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.

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