REZNOR®

BTWIN BTLHE LINEAR RADIANT TUBE HEATER

INSTALLATION, COMMISSIONING AND SERVICING MANUAL

CE

These appliances meet the following directives:
Gas Appliances (Product Safety and Metrology etc (Amendment etc) (EU Exit) Regulations 2019)
The Eco design for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2020
Electromagnetic Compatibility Regulations 2016
Electrical Equipment (Safety) Regulations 2016
Supply of Machinery (Safety) Regulations 2008
Supply of Machinery (Safety) Regulations (A) 2011

Please read this document carefully before commencing installation, commissioning and/or servicing.
Leave it with the end user/site agent to be placed in their premises technical file after installation.

WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.
All work must be carried out by appropriately qualified persons.
The manufacturer does not take any responsibility in the event of non-observance of the regulations concerning the connection of the apparatus causing a dangerous operation possibly resulting in damage to the apparatus and/or environment in which the unit is installed.

MANUAL PART NO. D301789 ISS 0

NGH
NORTEK GLOBAL HVAC

Contents

General Information (G)

BTLHE range 3
Using this manual 3
Important notice to installers 3
Health and safety 4
Uncrating / preparation 5

Technical Data (TD)

Gas category / supply pressures.....6
Technical data BTLHE20 7
Technical data BTLHE35 8
Technical data BTLHE45 9
Dimension Diagrams BTLHE20 10
Dimension Diagrams BTLHE35 10
Dimension Diagrams BTH45.....11
Clearances.....12
Minimum clearances.....12
Recommended mounting height.....12

Installation (I)

Appliance assembly BTLHE20 14
Appliance assembly BTLHE35 18
Appliance assembly BTLHE45 22
Suspension / fixing.....26
Heater location 28
Combustion air supply / flue arrangement...28
Type A appliances 28
Type B appliances.....29
Gas and electrical connections 32
Gas connection.....33
Electrical supply and connections 34
Temperature control.....34

Commissioning and Operation (C)

Pre-start checks.....35
Programming.....35
Start up 35
Operation 36

Maintenance and Servicing (MS)

Maintenance schedule 37
Changing gas type.....38

Fault Finding (FF)

Wiring diagram.....40
Fault finding 41

Spare Parts (SP)

Spare parts. 42

Information required for Ecodesign (ErP) Regulation 2024/2281

BTLHE20.....44
BTLHE35.....45
BTLHE45.....46

Disposal and recycling

Disposal and recycling.....47

BTLHE Range

General product information

BTLHE is a range of high efficiency overhead gas fired linear radiant tube heaters, CE certified for use in non domestic installations.

All models and sizes are available for use with natural gas (G20, G25) or propane (G31). The type of gas, the input rate and the electrical supply requirement is shown on the radiant heater rating plate. Check the rating plate to determine if the heater is appropriate for the intended installation.

This installation manual is shipped with the heater. Verify that the literature is correct for the model being installed. If the manual is incorrect for the heater, contact the supplier before beginning installation.

The instructions in this manual apply only to the models listed.

Installation should be carried out by a suitably qualified installer in accordance with these instructions and the current rules and regulations in force. The installer is responsible for the safe installation of the heater.

Using this manual

The symbols for 'Caution' and 'Warning' are used to highlight certain points throughout this manual.

Caution is used when failure to follow or implement the instruction(s) can lead to premature failure or damage to the heater or its component parts.

Warning is used when failure to heed or implement the instruction(s) can lead to not only component damage, but also to a hazardous situation being created where there is a risk of personal injury.

Important notice to installers

Before installation, carefully read these instructions and follow the processes explained by the manufacturer. These instructions are only valid for appliances designed to operate in the UK.

Installing, commissioning, testing, programming and maintenance of these products must only be carried out by suitably qualified and trained technicians and in full compliance with all applicable regulations and current best practices.

Check if the appliance as described on the packaging label is in accordance with the correct type and model as specified on the data plate and complies with your customer order.

The appliance must be powered with a voltage corresponding to the value shown on the rating plate.

These units must be installed in accordance with the rules in force and local regulations / legislation as appropriate plus all local building codes. Installers should satisfy themselves that the gas pipework installation is carried out in accordance with all current legislation, Codes of Practice and recommendations.

Additionally it may be necessary to protect the gas valves which form part of the radiant heater or burner assembly from potential pipe contamination particularly, but not exclusively, where copper gas pipework is used.

In instances where copper pipework is to be used for all or part of a gas pipework installation, including short length final connections then we advise that installers consult with the gas supplier or provider and satisfy themselves what additional precautions may be necessary.

Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

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Gas-fired appliances are not designed for use in hazardous atmospheres containing flammable vapours or combustible dust, in atmospheres containing chlorinated or halogenated hydrocarbons or in applications with airborne silicone substances.

Any reference made to Laws, Standards, Directives, Codes of Practice or other recommendations governing the application and installation of heating appliances and which may be referred to in Brochures, Specifications, Quotations, and Installation, Operation and Maintenance manuals is done so for information and guidance purposes only and should only be considered valid at the time of the publication.

The manufacturer cannot be held responsible from any matters arising from the revision to or introduction of new Laws, Standards, Directives, Codes of Practice or other recommendations.

BTLHE radiant tube heaters conform to the following standards:-

EN416 - gas fired overhead radiant tube heaters and radiant tube heater systems for non-domestic use - safety and energy efficiency

EN60335-1 - safety if household and similar electrical appliances general requirements

EN60335-2-102 - household and similar electrical appliances. Safety. Particular requirements for gas, oil and solid fuel burning appliances having electrical connections

EN55014-1 - electromagnetic compatibility. Requirements for household appliances, electric tool and similar apparatus. Emission

EN55014-2 - electromagnetic compatibility. Requirements for household appliances, electric tool and similar apparatus. Immunity

Note: Neither asbestos nor soft soldered joints are used in the construction or manufacture of the BTLHE radiant tube heaters. The materials selected for use can withstand the mechanical, chemical and thermal stresses they will be subject to during foreseen normal use when installed in accordance with the manufacturers recommendations.

Health and safety

Ensure that anchoring points are suitable for the weight and loading of the product and if required, add suitable reinforcement to the anchoring points area.

Due consideration should be taken for workplace safety, risk assessments and waste disposal.

Any modification of the product may be hazardous and the manufacturer is not liable for any damage or injury caused by improper use.

Do not use this appliance if any part has been immersed in water. Immediately call a qualified service technician to inspect the appliance and replace any gas control that has been immersed in water.

This appliance is not intended for use by persons (including children) with reduced sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Should overheating occur or the gas supply fails to shut off, shut off the manual gas valve to the appliance before shutting off the electrical supply.

Gas-fired appliances are not designed for use in hazardous atmospheres containing flammable vapours or combustible dust, in atmospheres containing chlorinated or halogenated hydrocarbons or in applications with airborne silicone substances.

This manual should be kept in a safe place for future reference.

For your safety, if you smell gas:

- **Do not try to light any appliance**
- **Do not touch any electrical switch, do not use any phone in your building**
- **Evacuate all personnel**
- **Contact your gas supplier immediately**

Do not store or use petrol or other flammable vapours and liquids in the vicinity of the appliance.

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.

Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.

Installation, assembly, commissioning, service and maintenance procedures must be carried out only by suitably competent qualified persons.

Unauthorised modifications to the appliance, or departure from the manufacturer's guidance on intended use, or installation contrary to the manufacturer's recommendations may constitute a hazard.

Use only factory authorised parts and spares when replacement is required.

In case of persistent problems, contact your distributor.

The radiant tube temperature can reach 150°C or greater; this should be borne in mind for the type of installation. The heater MUST be allowed to cool prior to carrying out any maintenance.

Uncrating / preparation

G

Prior to crating and shipping, this unit was test operated and inspected at the factory and left in full operating condition. If the unit has incurred damage in shipment, document the damage with the transport company and contact your supplier.

After unpacking the appliance leave it in the packaging until just before siting to prevent damage to the unit.

Read this booklet and become familiar with the installation requirements of your unit.

Check if the local distribution conditions of electricity supply, type of gas and pressure of the appliance are compatible with the data plate.

The appliance must be installed in accordance with the current rules in force and any local or national regulations.

The requirements of the "Local Building Standards office", the premises "Insurance" undertaking and the "Fire Office" must also be observed.

Before commencing installation, ensure all necessary supplies, tools and manpower are available.

Technical Data

TD

Gas categories / supply pressures

Country	Approved Gas Category
Natural gas	
AT, BG, CH, CY, CZ, DK, EE, ES, FI, GB, GR, HR, IE, IT, LT, LV, NO, PT, RO, SE, SI, SK, TR	I2H
LU, PL, RO	I2E
BE	I2E(R)B
FR	I2Er
DE	I2ELL
Propane	
BE, CH, CZ, ES, FR, GB, GR, HR, IE, IT, LU, PL, PT, SI	I3P (37)
AT, BE, CH, CZ, DE, ES, FR, GB, NL	I3P (50)

Gas Category	Gas Type	Nominal Pressure (mbar)	Max Supply Pressure (mbar)	Min Supply Pressure (mbar)
I2H/I2E	Nat Gas (G20)	20	25	17.5
I2E(R)B/I2Er	Nat Gas (G20/25)	20/25	25/30	17.5/20
I2ELL	Nat Gas (G20/25)	20/20	25/30	17.5/18
I3P (37)	Propane Gas (G31)	37	45	25
I3P (50)	Propane Gas (G31)	50	57.5	42.5

Technical Data

TD

Model	Units	BTLHE20	
Gas type	-	Natural gas (G20)	Propane (G31)
Nominal net heat input	kW PCI	17.9	17.9
Nominal gross heat input	kW PCS	19.9	19.5
Combustion efficiency	% PCI	>90	>90
Radiation factor	-	>61	>60
NOx class EN416	-	3	2
Electrical connection	-	230V / 50 Hz / single phase	
Fuse protection	Amps	1 x 5A	
Start current	A	0.93	
Run current	A	0.23	
Absorbed power	W	39	
Combustion air / flue	-	A2, B22, B52	
Combustion air inlet type A and B	mm	Ø33	
Flue gas outlet type A and B	mm	None	
Air pressure switch adjustment	Pa	64	
Extract fan discharge	mm	Ø120	
Flue connection	mm	Ø100	
Gas connection	-	G ¾" ISO228	
Weight	kg	111	
* In line with the ErP Regulations 2024/1103 and gas directive 2009/125/CE			

Distributed Gas		Natural gas		Propane	
Gas reference		G20	G25	G31	
Heat input (Hi) of gas reference		34.02 MJ/m³	29.25 MJ/m³	46.34 MJ/kg	46.34 MJ/kg
Heat input (Hs) of gas reference		37.78 MJ/m³	32.49 MJ/m³	50.37 MJ/kg	50.37 MJ/kg
Nominal inlet pressure (mbar)		20	20/25	37	50
BTLHE20	Ø injector mm x 100	390	390	240	240
	Injector pressure mbar	7.7	12.1	28.3	28.3
	Gas flow at 15°C, 1013 mbar	1.89 m³/h	2.20 m³/h	1.39 kg/h	1.39 kg/h

Technical Data

TD

Model	Units	BTLHE35	
Gas type	-	Natural gas (G20)	Propane (G31)
Nominal net heat input	kW PCI	35.0	35.0
Nominal gross heat input	kW PCS	38.9	38.2
Combustion efficiency	% PCI	>90	>89
Radiation factor	-	>63	>61
NOx class EN416	-	3	2
Electrical connection	-	230V / 50 Hz / single phase	
Fuse protection	Amps	1 x 5A	
Start current	A	1.00	
Run current	A	0.25	
Absorbed power	W	45	
Combustion air / flue	-	A2, B22, B52	
Combustion air inlet type A and B	mm	Ø47	
Flue gas outlet type A and B	mm	None	
Air pressure switch adjustment	Pa	74	
Extract fan discharge	mm	Ø133	
Flue connection	mm	Ø100	
Gas connection	-	G ¾" ISO228	
Weight	kg	155	
* In line with the ErP Regulations 2024/1103 and gas directive 2009/125/CE			

Distributed Gas		Natural gas		Propane	
Gas reference		G20	G25	G31	
Heat input (Hi) of gas reference		34.02 MJ/m³	29.25 MJ/m³	46.34 MJ/kg	46.34 MJ/kg
Heat input (Hs) of gas reference		37.78 MJ/m³	32.49 MJ/m³	50.37 MJ/kg	50.37 MJ/kg
Nominal inlet pressure (mbar)		20	20/25	37	50
BTLHE35	Ø injector mm x 100	530	530	310	310
	Injector pressure mbar	8.7	13.5	35.5	35.5
	Gas flow at 15°C, 1013 mbar	3.79 m³/h	4.31 m³/h	2.73 kg/h	2.73 kg/h

Technical Data

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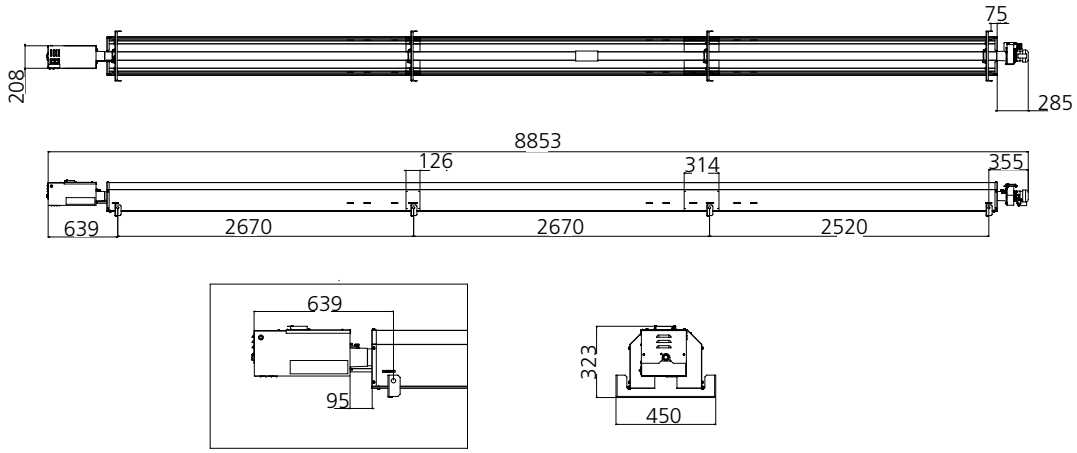
Model	Units	BTLHE45	
Gas type	-	Natural gas (G20)	Propane (G31)
Nominal net heat input	kW PCI	45.0	44.0
Nominal gross heat input	kW PCS	50.0	48.0
Combustion efficiency	% PCI	>89	>89
Radiation factor	-	>63	>62
NOx class EN416	-	3	2
Electrical connection	-	230V / 50 Hz / single phase	
Fuse protection	Amps	1 x 5A	
Start current	A	1.00	
Run current	A	0.25	
Absorbed power	W	47	
Combustion air / flue	-	A2, B22, B52	
Combustion air inlet type A and B	mm	56 x 49	
Flue gas outlet type A and B	mm	None	
Air pressure switch adjustment	Pa	69	
Extract fan discharge	mm	Ø133	
Flue connection	mm	Ø100	
Gas connection	-	G ¾" ISO228	
Weight	kg	215	
* In line with the ErP Regulations 2024/1103 and gas directive 2009/125/CE			

Distributed Gas		Natural gas		Propane	
Gas reference		G20	G25	G31	
Heat input (Hi) of gas reference		34.02 MJ/m³	29.25 MJ/m³	46.34 MJ/kg	46.34 MJ/kg
Heat input (Hs) of gas reference		37.78 MJ/m³	32.49 MJ/m³	50.37 MJ/kg	50.37 MJ/kg
Nominal inlet pressure (mbar)		20	20/25	37	50
BTLHE45	Ø injector mm x 100	600	600	343	343
	Injector pressure mbar	8.5	14.0	34.9	34.9
	Gas flow at 15°C, 1013 mbar	4.78 m³/h	5.54 m³/h	3.43 kg/h	3.43 kg/h

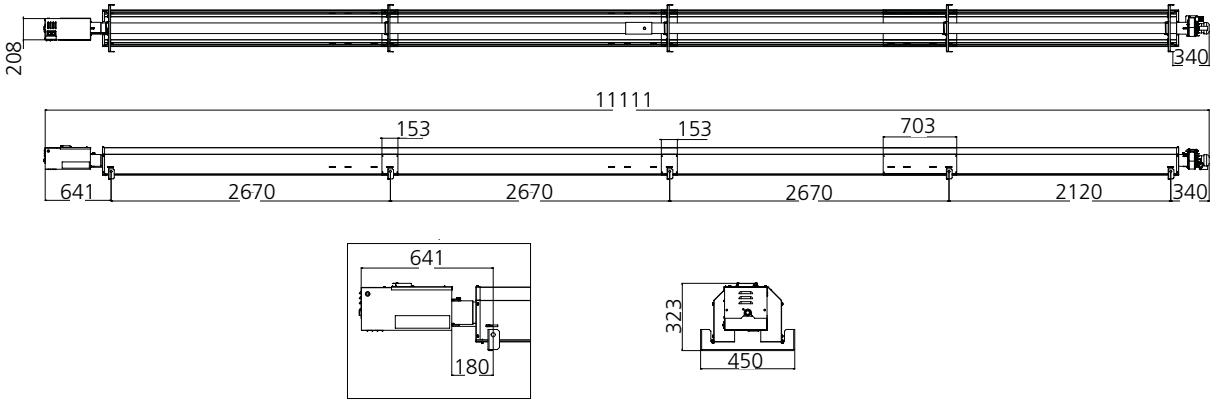
Dimension Diagrams

TD

BTLHE20

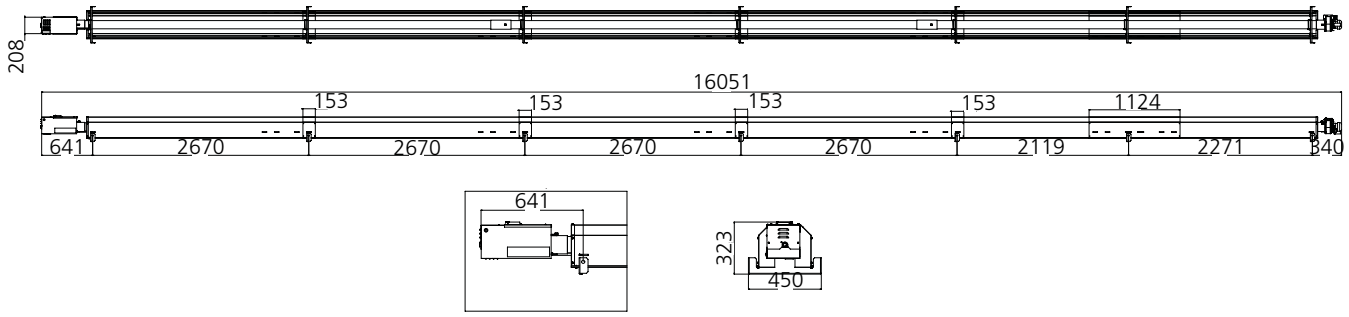


BTLHE35



Dimension Diagrams

BTLHE45



Clearances

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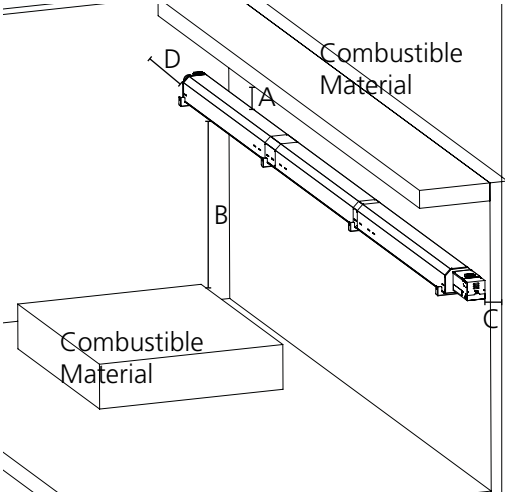
Minimum clearances

Units must be installed so that the minimum clearances shown below are maintained. Thermal insulation must be installed between the hanging support of the appliance and the material to which it is fixed if this material is of a flammable nature.



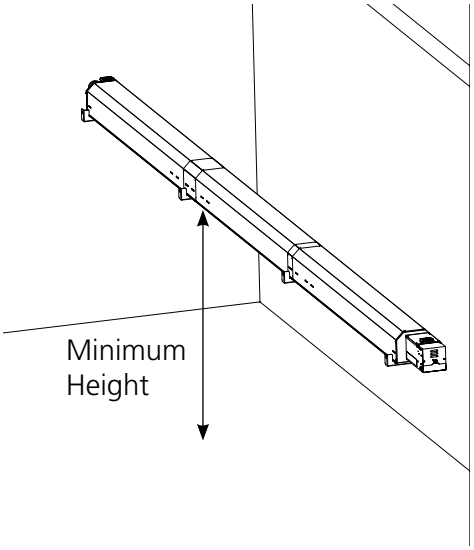
Model	A	B	C	D
BTLHE20	0.2m	1.9m	0.7m	0.7m
BTLHE35	0.4m	2.4m	1.0m	1.0m
BTLHE45	0.4m	2.4m	1.0m	1.0m

During the installation of an appliance above an overhead crane, provide protection for the crane motor and electrical equipment using an insulating screen if necessary.

Avoid the installation of radiant tubes above bulky machines or stores which could prevent the diffusion of radiation towards the workers or users.

Where there are lifting ramps (e.g. vehicle repair workshops) care should be taken not to fit the radiant tubes directly above them. This could cause damage to vehicle bodywork or tarpaulin covers when the ramp is in the raised position.

In the case of a workshop with pits or concealed areas, the same conditions of comfort as in the rest of premises cannot be guaranteed.



Recommended mounting height

The minimum recommended mounting height in relation to the floor in the case of total heating of an enclosed building is:-

Model	Horizontal Hanging	Wall Hanging
BTLHE20	3.90m	3.30m
BTLHE35	4.50m	3.50m
BTLHE45	5.50m	4.50m

The positioning and hanging height of the equipment depends on the structure of the building and the design heat loss calculation requirements.

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Installation

Appliance assembly BTLHE20

Package contents:-

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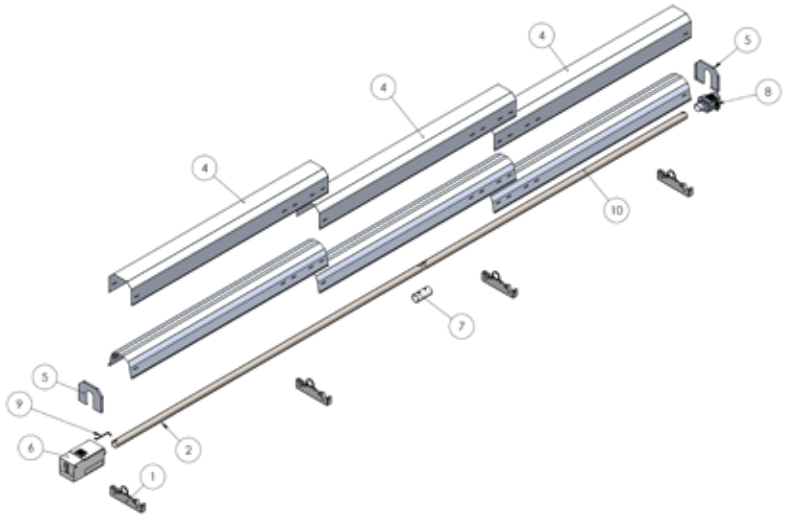
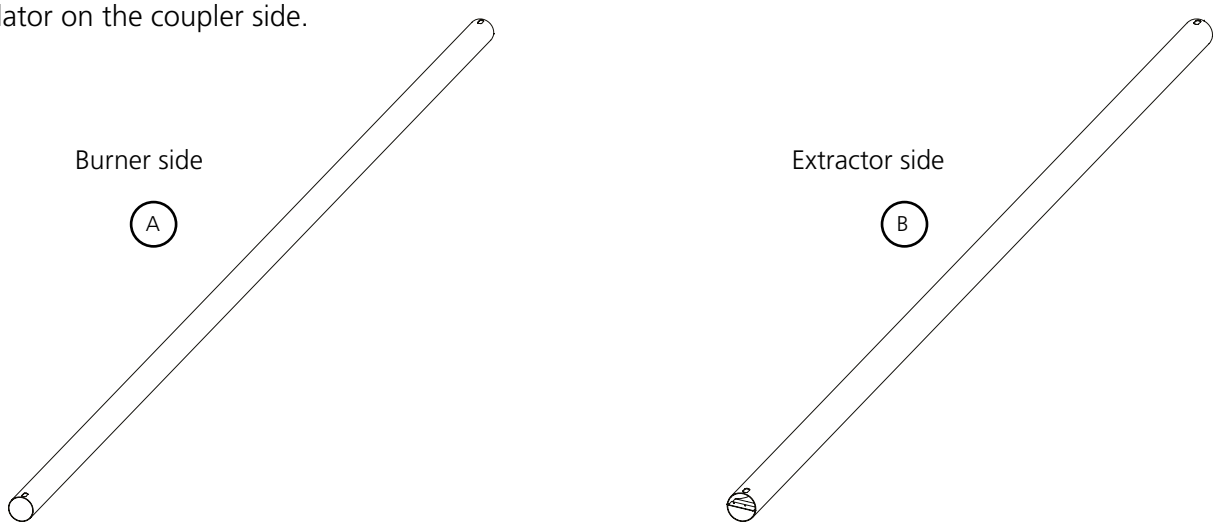
Item	Qty	Description	Part No
6	1	Burner box	BTLHE20
8	1	GMV extract fan	0612061
2	1	Tube Ø76.1 length : 4400mm	10.30.001
10	1	Tube Ø76.1 length : 3750mm	10.30.212-GAZ
-	2	Turbulator tube Ø76.1 – length : 1000mm	1003450
-	1	Turbulator tube Ø76.1 – length : 2000mm	1003110
7	1	Coupler	11.01.004
3	3	BTLHE Reflector	1038866
1	4	Reflector support bracket assembly	1038960
5	2	End cap	1038959
9	1	Anti rotation bracket	10.03.501
4	3	Canopy	1038868

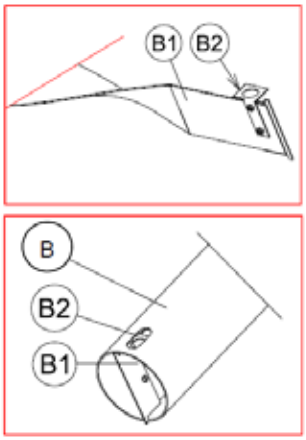


Tube preparation

The short extractor side tube (B) is equipped with a 2 metre long turbulator on the extractor side and a 1 metre long turbulator on the coupler side. The long burner side tube (A) is equipped with a 1 metre long turbulator on the coupler side.



Detail of the position of the turbulator (B1) inside the tube (B) on the extractor side

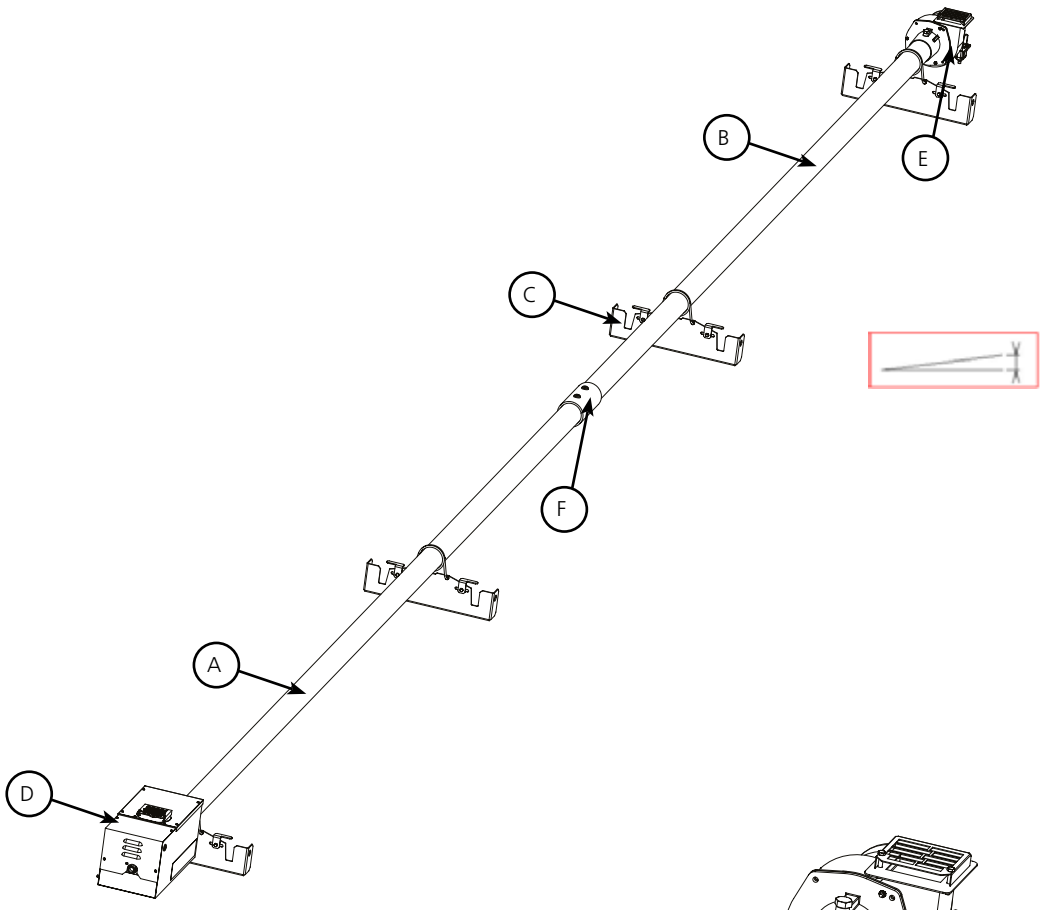


Ref	Item
B	Short extractor side tube
B1	Turbulator
B2	Fixing opening for the 2 metre long turbulator (extractor side)

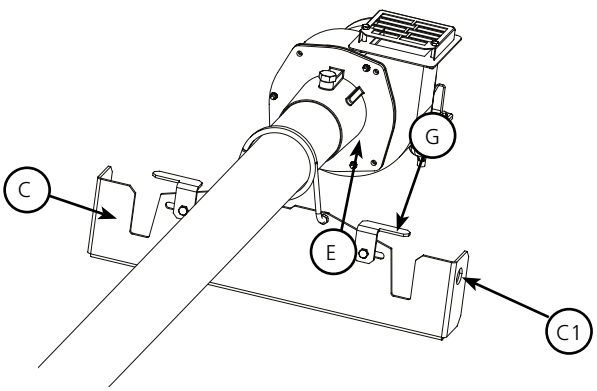
I

Appliance assembly

The section on suspension / fixing and safety instructions following details the hanging points under the roof. The total incline should be between 0 and 100mm maximum; the burner should be lower than the extractor. The long tube (A) is mounted on the burner side (D), the short tube (B) on the extractor side (E). The central coupler (F) is used for the connection of the 2 tubes.



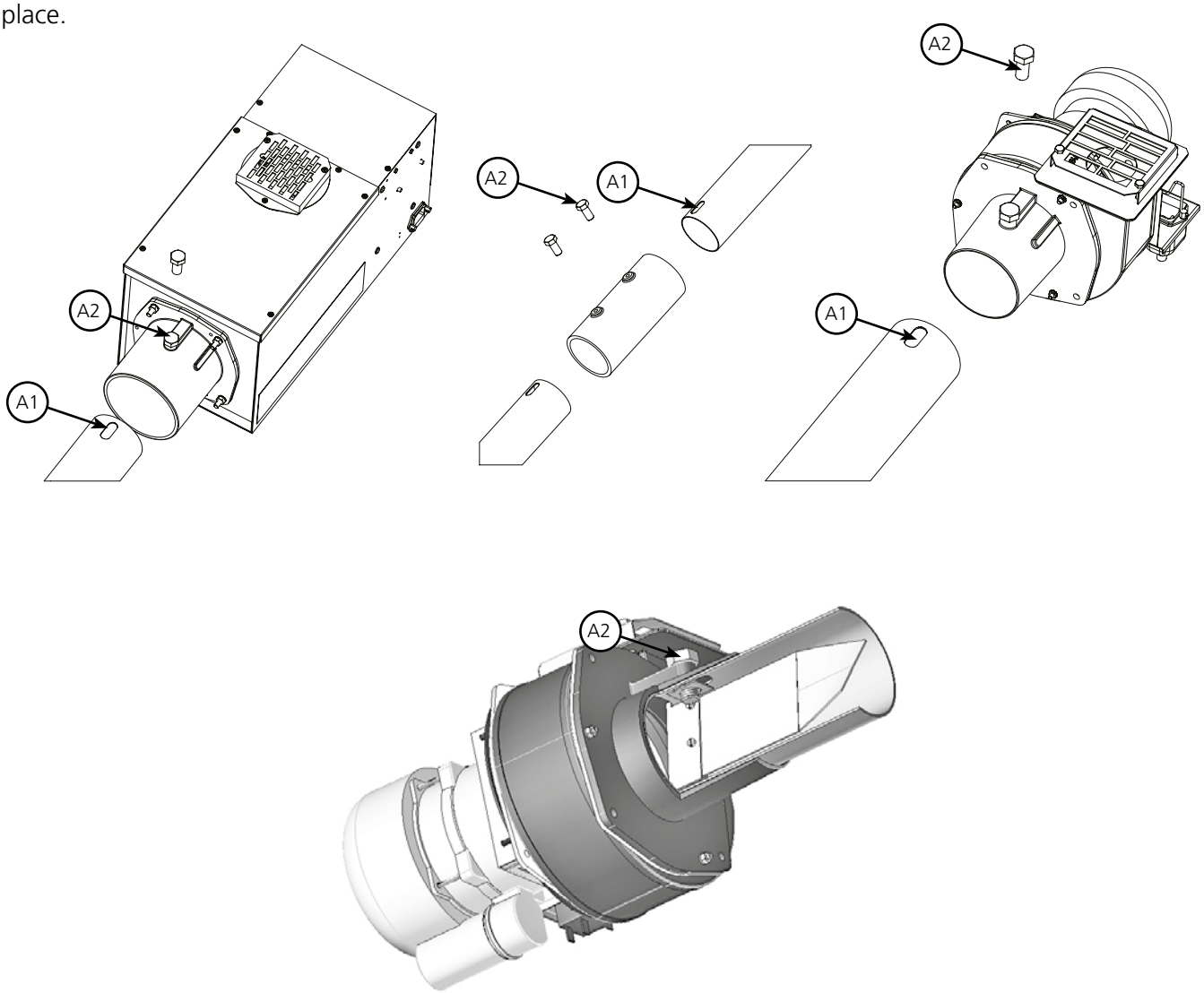
The tubes are fixed on reflector support bracket assemblies (C) with fixing rings. Attention must be paid to the position of the brackets (C). The brackets are designed so that the hanging holes (C1) must always be in the direction of the extractor (E).



I

Burner, extractor and connector assembly

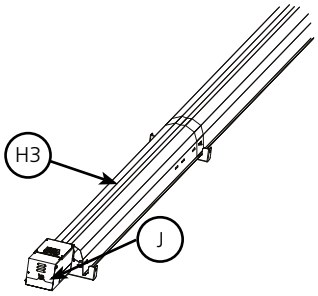
Ensure that the screw (A2) goes through the slot (A1) ensuring that the burner and tube are held firmly in place.



Reflector assembly

Caution: remove the plastic protection from the reflectors (H) before installation. Note that all 3 reflectors are the same.

Open the reflector fixing brackets (G). Position the reflector (H) in the grooves of the brackets.



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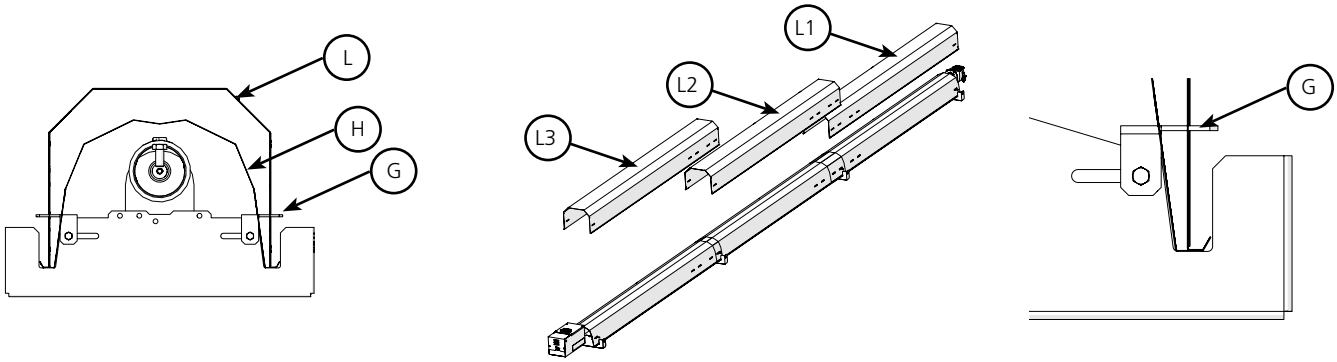
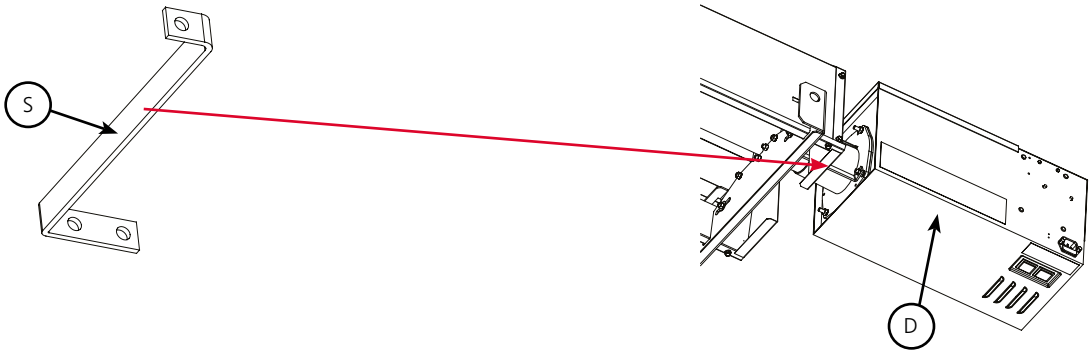
Canopy assembly

Lay the canopies (L) over the reflectors (H) in the manner shown below. Ensure the canopies are lined up exactly with the reflectors. Once the canopies are correctly positioned, slide the lugs on the brackets (G) to the maximum extent of the slot, then tighten the bolts to secure them in place using a torque wrench set to 10.25 newton-metres (Nm). Slide the reflector end caps into place at the burner (J) and extractor (K) end and screw to the canopies.

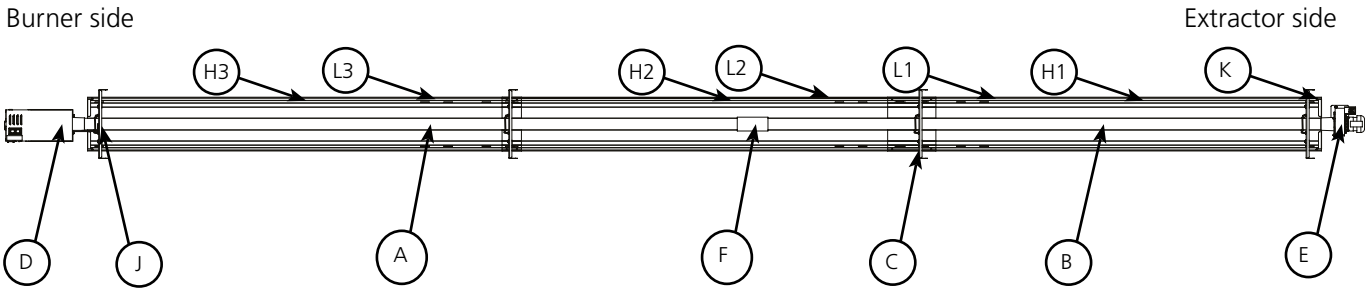


Fixing anti-rotation strip

Attach the anti-rotation strip (S) to the burner (D) using the supplied nuts and bolts.



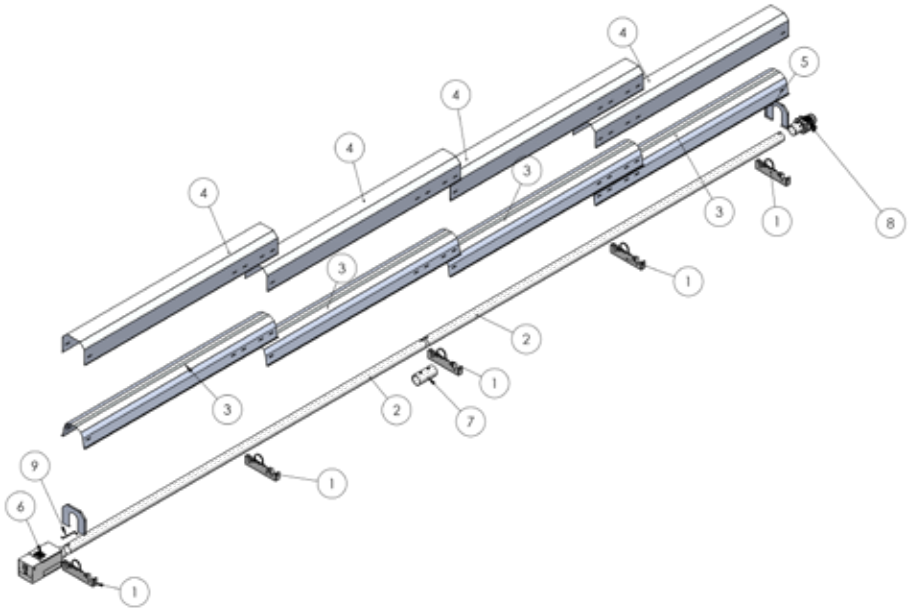
Plan view



Appliance assembly BTLHE35

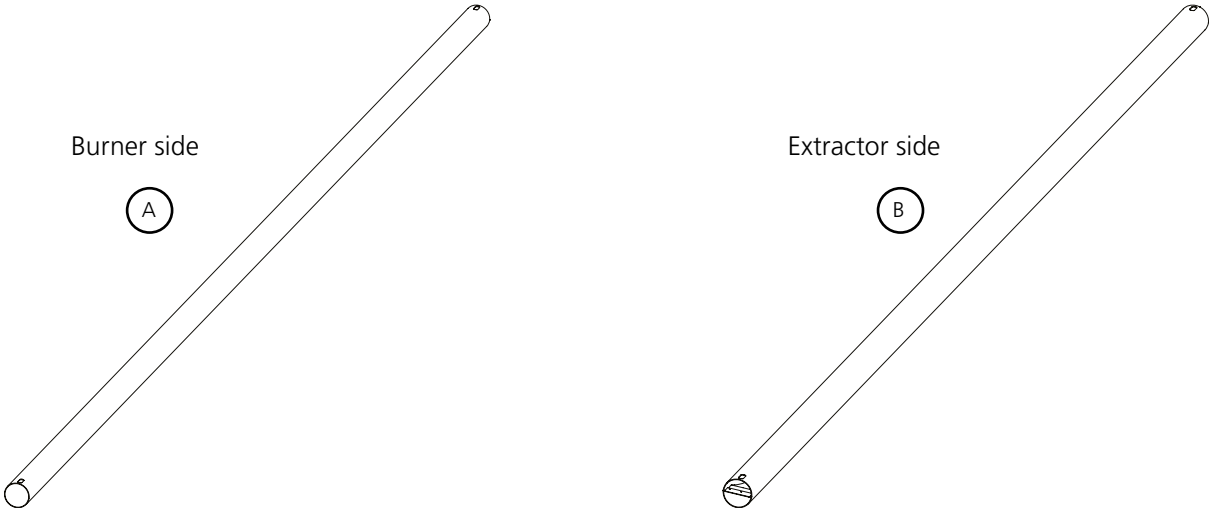
Package contents:-

Item	Qty	Description	Part No
6	1	Burner box	BTLHE35
8	1	Extract fan	06.12.043
2	2	Tube Ø102 length : 5200mm	10.30.116-GAZ
-	2	Turbulator tube Ø102 – length : 2500mm	1003244
7	1	Coupler	12.01.005-GAZ
3	4	BTLHE Reflector	1038866
1	5	Reflector support bracket assembly	1038960
5	2	End cap	1038957
9	1	Anti rotation bracket	10.03.501
4	4	Canopy	1038868

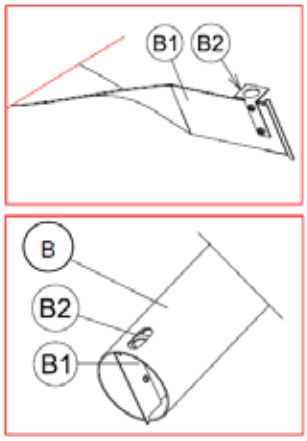


Tube preparation

The burner tube (A) and the extractor tube (B) are identical and can be fixed in either direction. Insert a turbulator (M) into both ends of the extractor tube (B).



Detail of the position of the turbulators (B1) inside the tube (B) on the extractor side

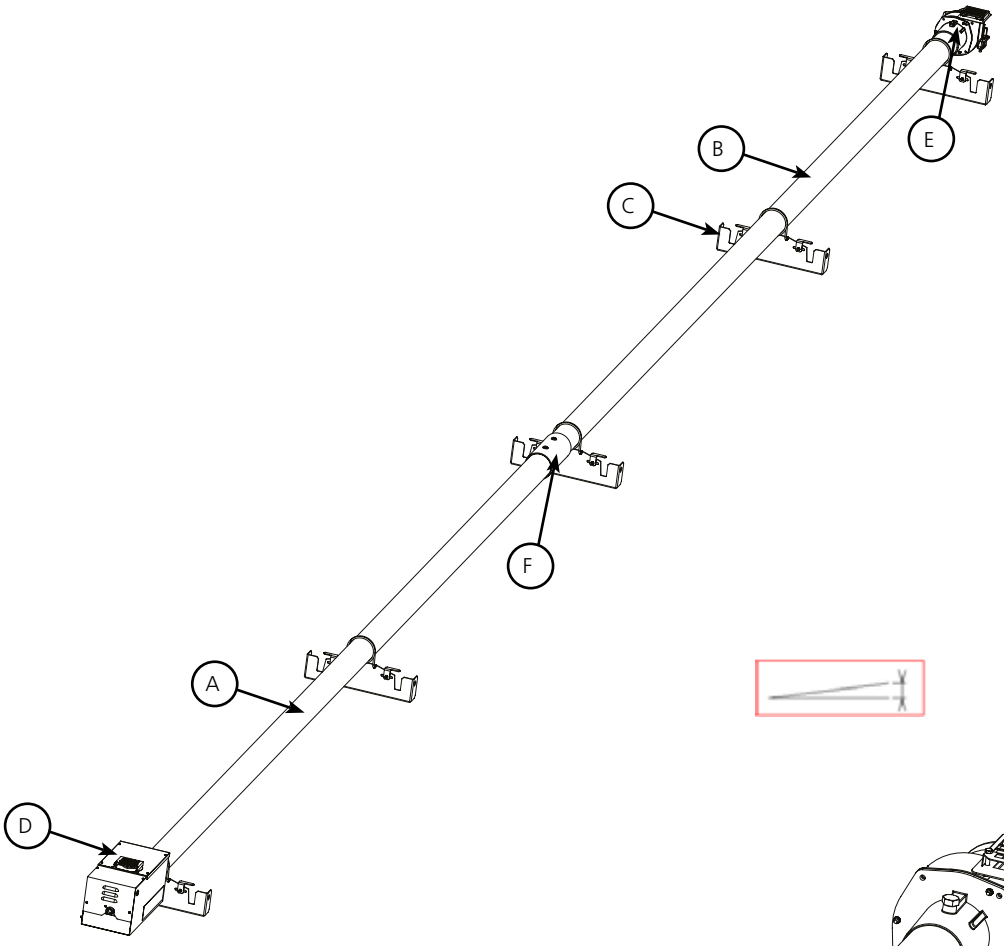


Ref	Item
B	Extractor side tube
B1	Turbulator
B2	Fixing opening for the turbulator (both ends of the extractor side tube)

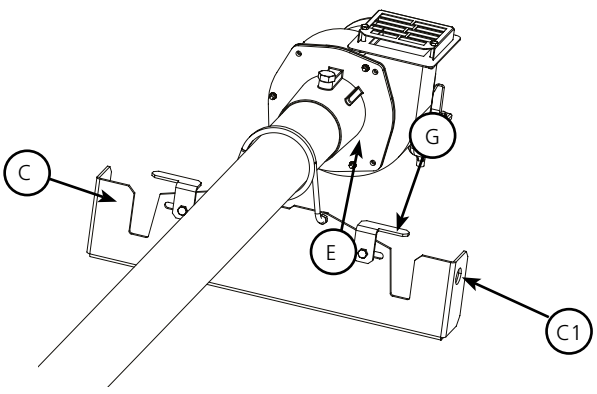
I

Appliance assembly

The section on suspension / fixing and safety instructions following details the hanging points under the roof. The total incline should be between 0 and 100mm maximum; the burner should be lower than the extractor. The burner tube (A) is mounted on the burner side (D), the extractor tube (B) on the extractor side (E). The central coupler (F) is used for the connection of the 2 tubes.



The tubes are fixed on reflector support bracket assemblies (C) with fixing rings. Attention must be paid to the position of the brackets (C). The brackets are designed so that the hanging holes (C1) must always be in the direction of the extractor (E).



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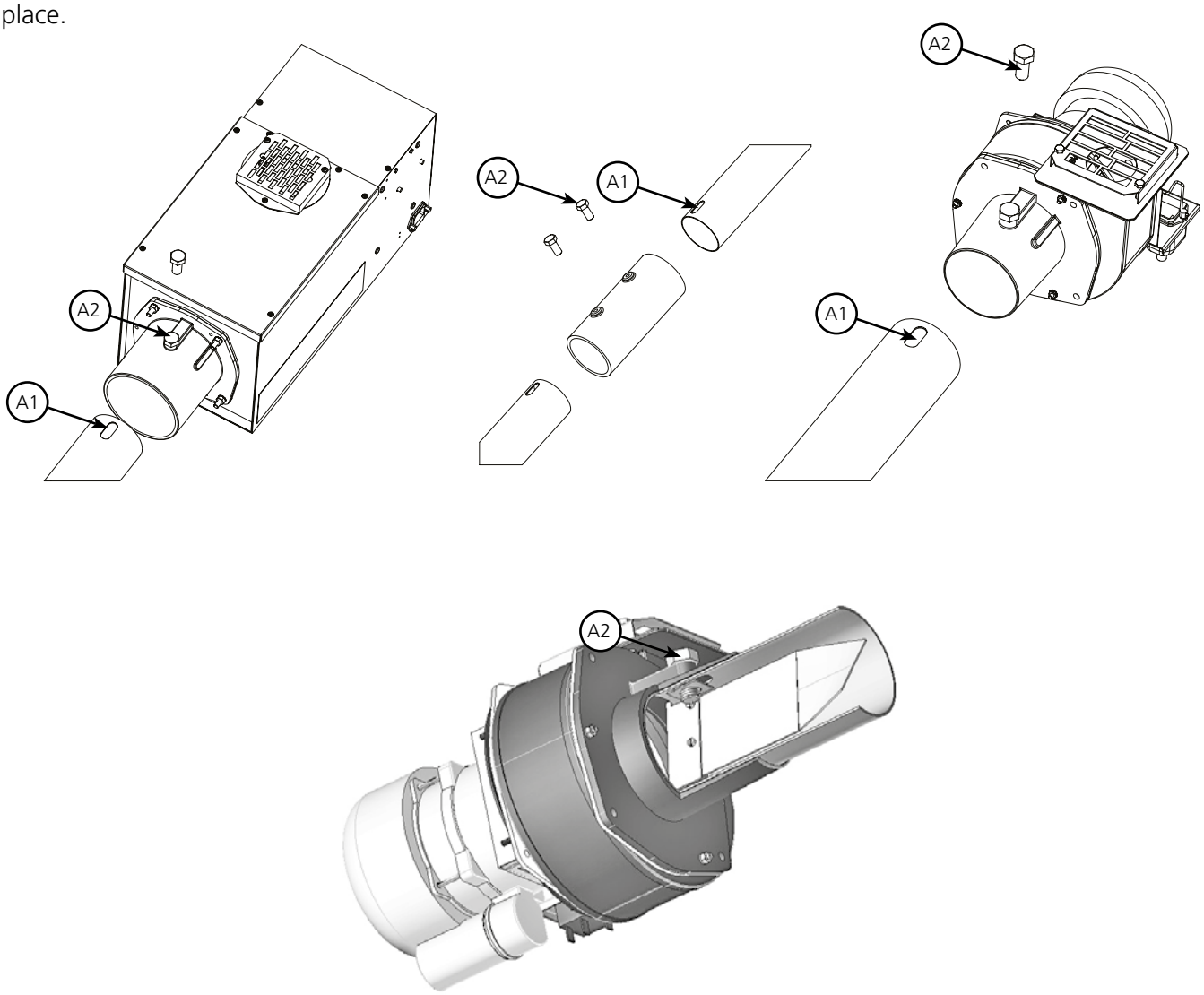
Burner, extractor and connector assembly

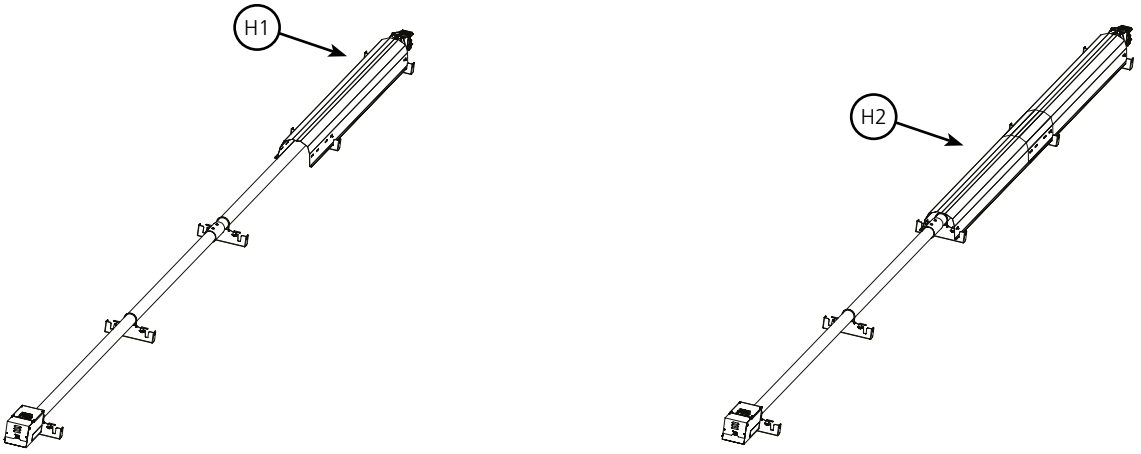
Ensure that the screw (A2) goes through the slot (A1) ensuring that the burner and tube are held firmly in place.

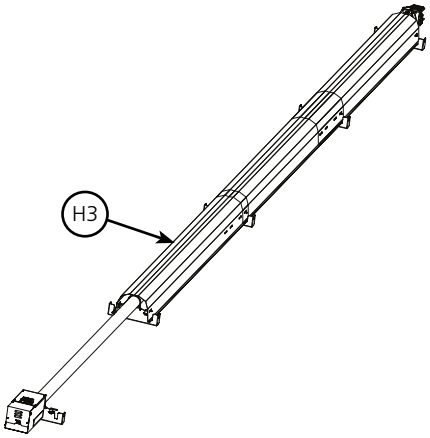


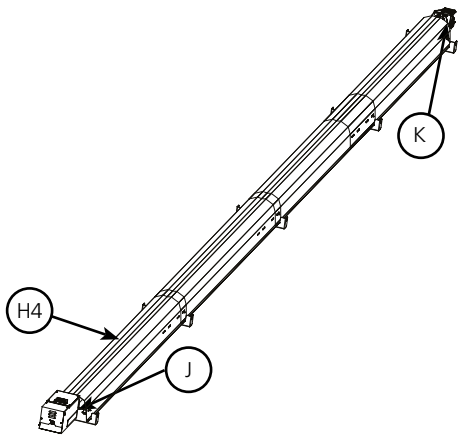
Reflector assembly

Caution: remove the plastic protection from the reflectors (H) before installation. Note that all 4 reflectors are the same.

Open the reflector fixing brackets (G). Position the reflector (H) in the grooves of the brackets.







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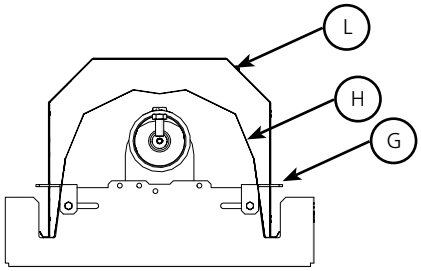
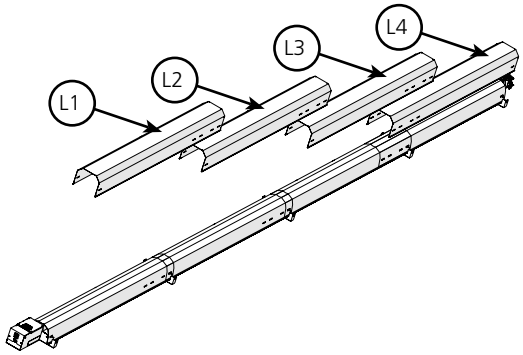
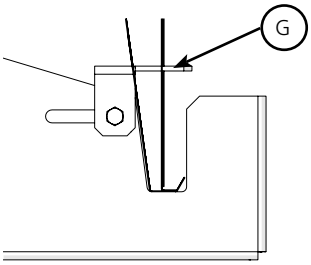
Canopy assembly

Lay the canopies (L) over the reflectors (H) in the manner shown below. Ensure the canopies are lined up exactly with the reflectors. Once the canopies are correctly positioned, slide the lugs on the brackets (G) to the maximum extent of the slot, then tighten the bolts to secure them in place using a torque wrench set to 10.25 newton-metres (Nm). Slide the reflector end caps into place at the burner (J) and extractor (K) end and screw to the canopies.

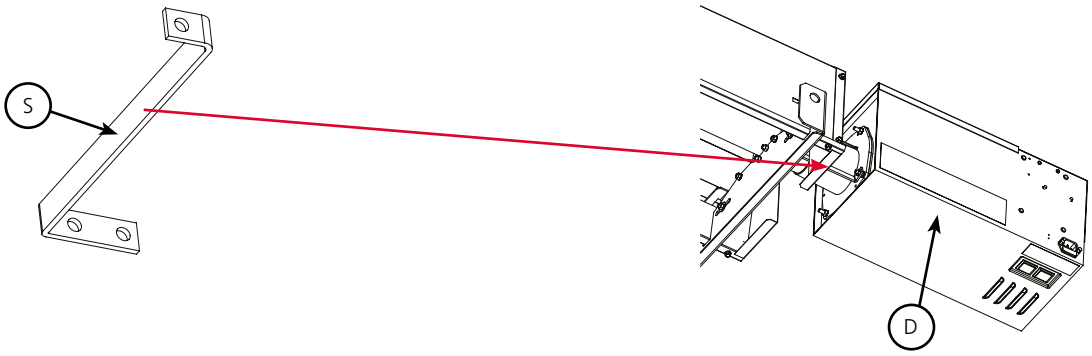




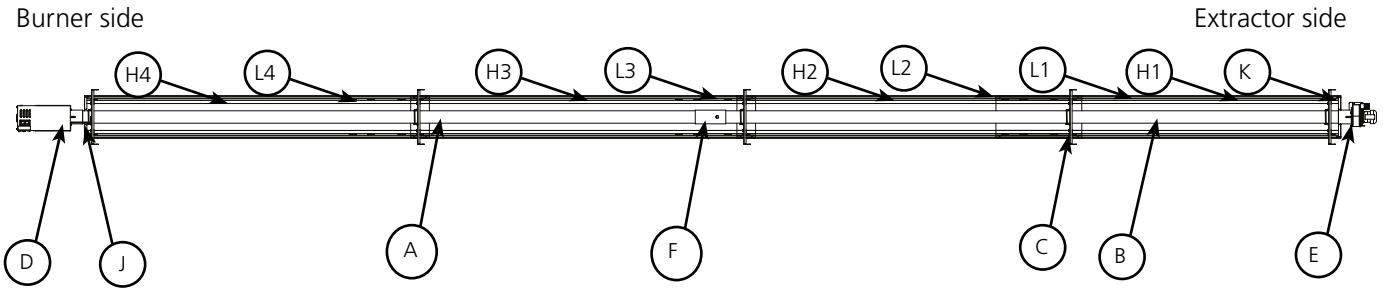


Fixing anti-rotation strip

Attach the anti-rotation strip (S) to the burner (D) using the supplied nuts and bolts.



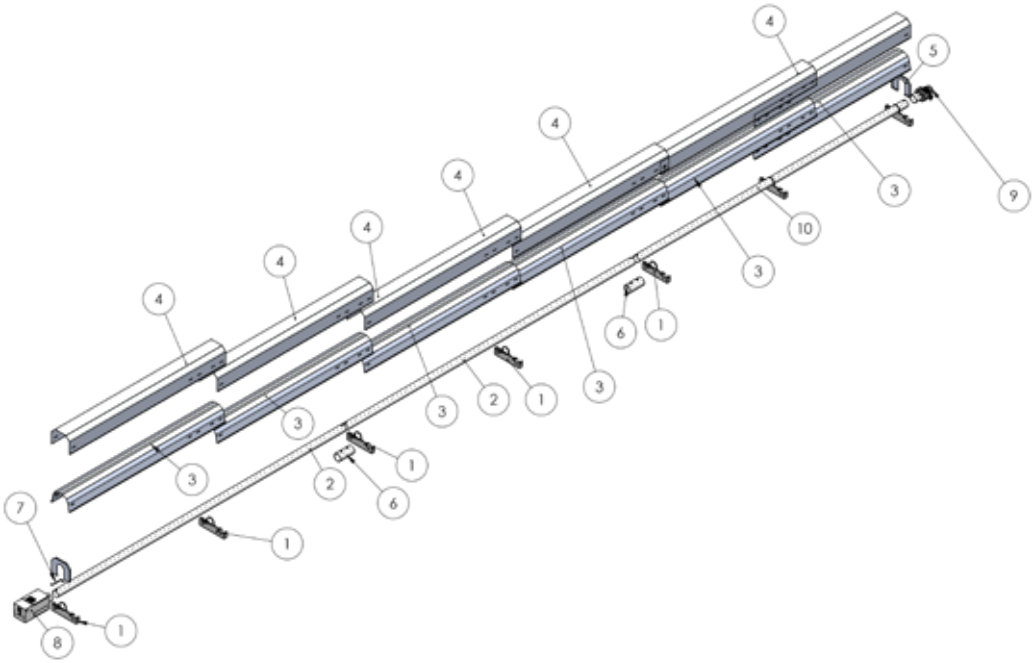
Plan view



Appliance assembly BTLHE45

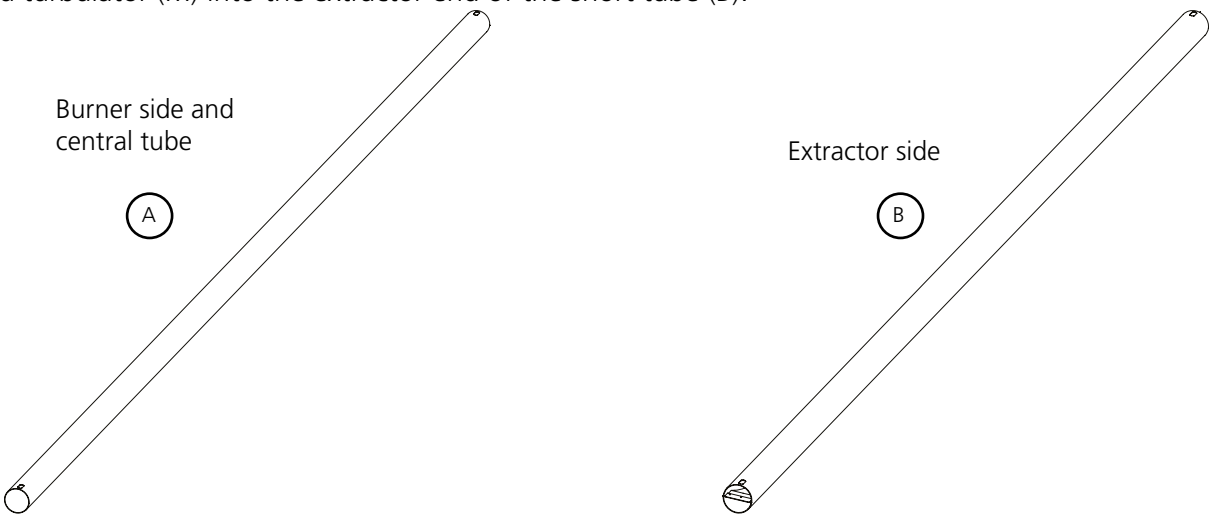
Package contents:-

Item	Qty	Description	Part No
8	1	Burner box	BTLHE45
9	1	Extract fan	06.12.043
10	1	Tube Ø102 length : 4870mm	1030211-GAZ
2	1	Tube Ø102 length : 5200mm	10.30.116-GAZ
-	1	Turbulator tube Ø102 – length : 2500mm	1003244
6	2	Coupler	1201005-GAZ
3	3	BTLHE Reflector	1038866
1	7	Reflector support bracket assembly	1038960
5	2	End cap	1038957
7	1	Anti rotation bracket	10.03.501
4	6	Canopy	1038868

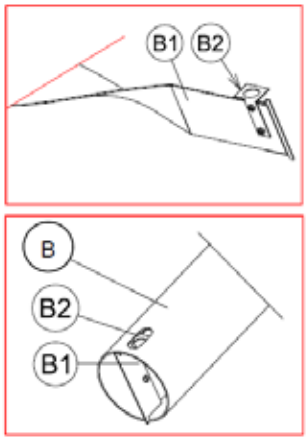


Tube preparation

The two long tubes (A) for the burner side and central tube are identical and can be fixed in either direction. Insert a turbulator (M) into the extractor end of the short tube (B).



Detail of the position of the turbulator (B1) inside the tube (B) on the extractor side

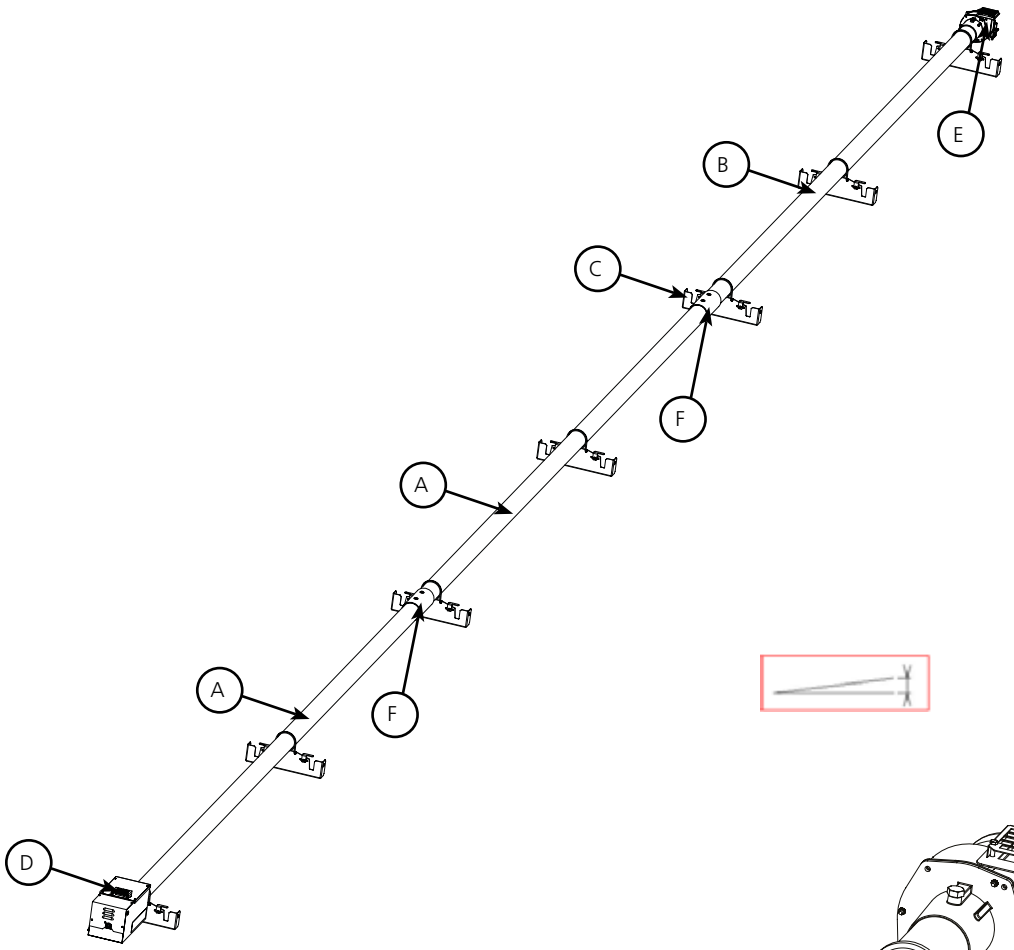


Ref	Item
B	Extractor side tube
B1	Turbulator
B2	Fixing opening for the turbulator (extractor side)

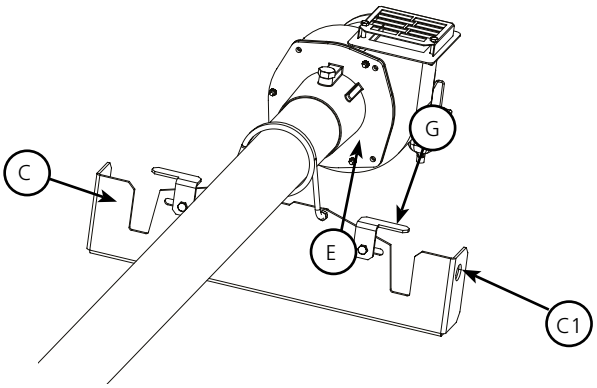
I

Appliance assembly

The section on suspension / fixing and safety instructions following details the hanging points under the roof. The total incline should be between 0 and 100mm maximum; the burner should be lower than the extractor. The burner tube (A) is mounted on the burner side (D), the extractor tube (B) on the extractor side (E). The central couplers (F) are used for the connection of the three tubes.



The tubes are fixed on reflector support bracket assemblies (C) with fixing rings. Attention must be paid to the position of the brackets (C). The brackets are designed so that the hanging holes (C1) must always be in the direction of the extractor (E).



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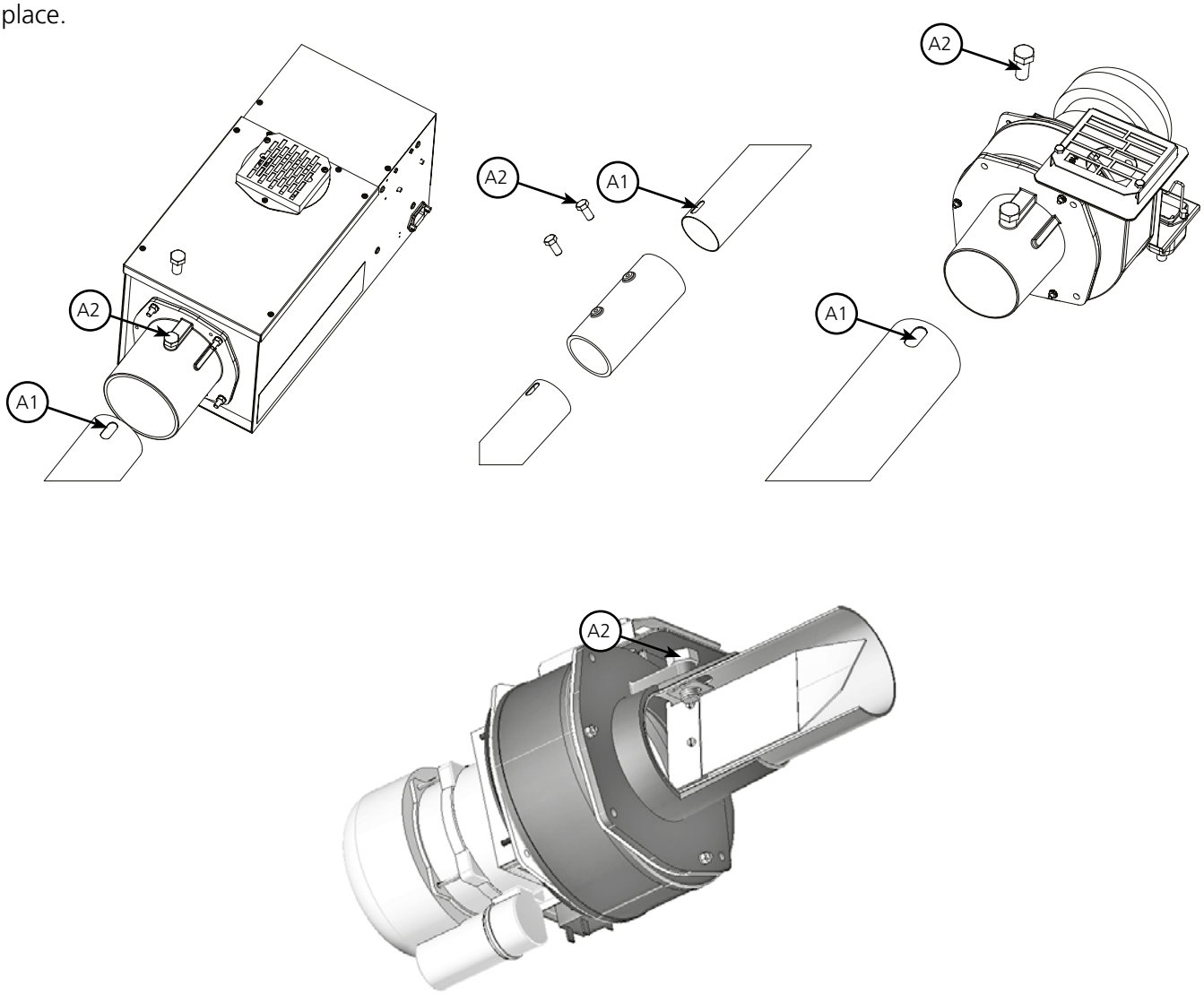
Burner, extractor and connector assembly

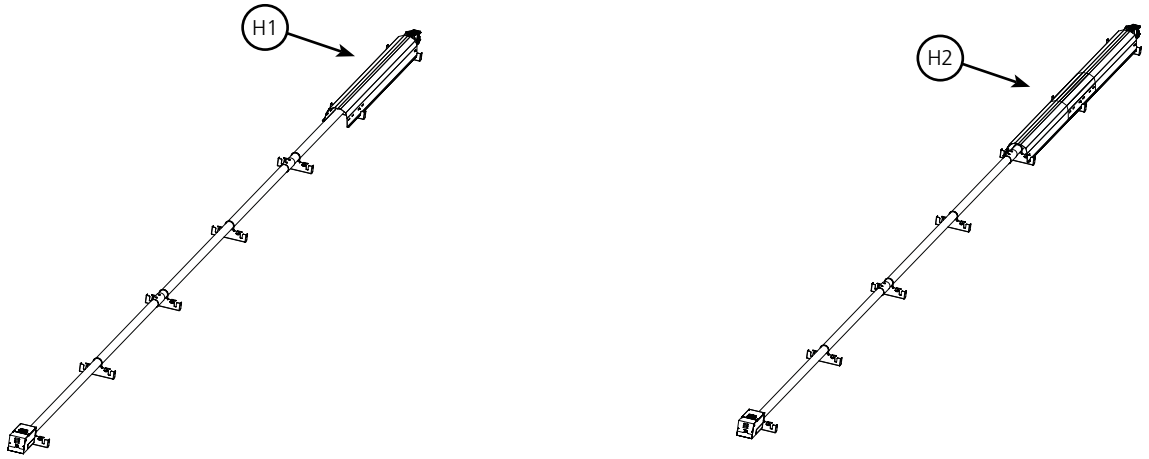
Ensure that the screw (A2) goes through the slot (A1) ensuring that the burner and tube are held firmly in place.

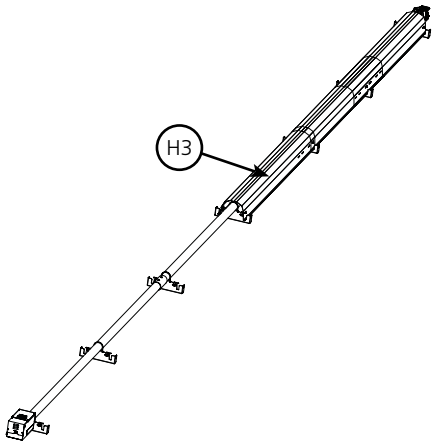


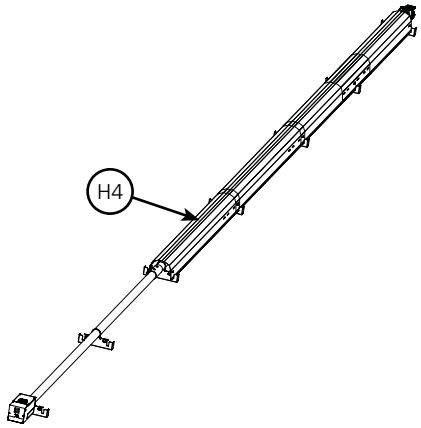
Reflector assembly

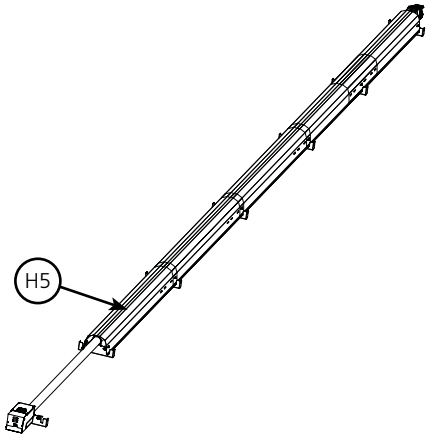
Caution: remove the plastic protection from the reflectors (H) before installation. Note that all 6 reflectors are the same.

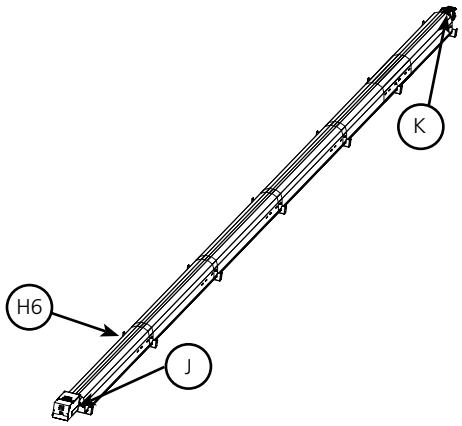
Open the reflector fixing brackets (G). Position the reflector (H) in the grooves of the brackets.





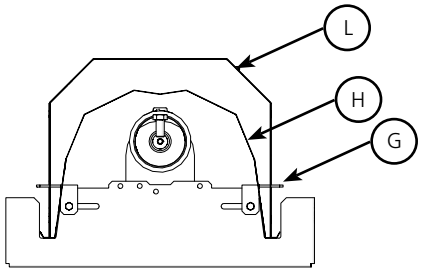


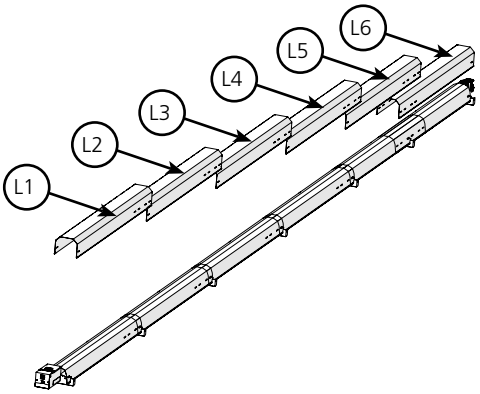


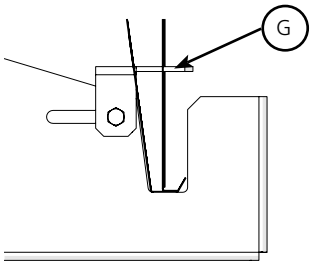


Canopy assembly

Lay the canopies (L) over the reflectors (H) in the manner shown below. Ensure the canopies are lined up exactly with the reflectors. Once the canopies are correctly positioned, slide the lugs on the brackets (G) to the maximum extent of the slot, then tighten the bolts to secure them in place using a torque wrench set to 10.25 newton-metres (Nm). Slide the reflector end caps into place at the burner (J) and extractor (K) end and screw to the canopies.

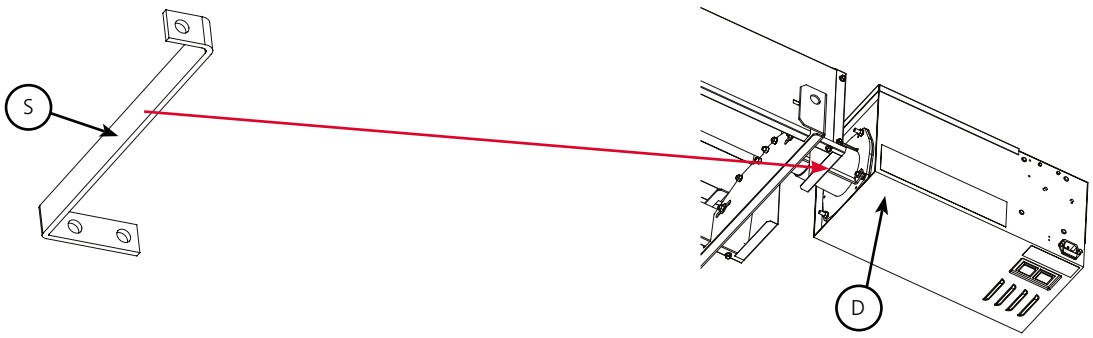






Fixing anti-rotation strip

Attach the anti-rotation strip (S) to the burner (D) using the supplied nuts and bolts.



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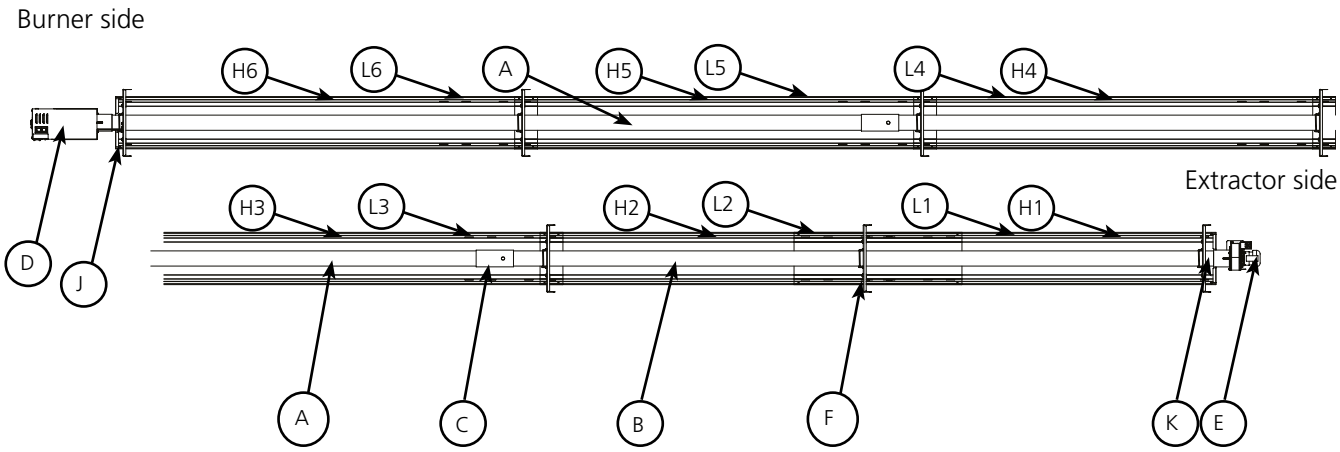
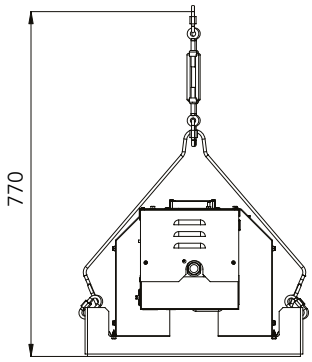
Plan view

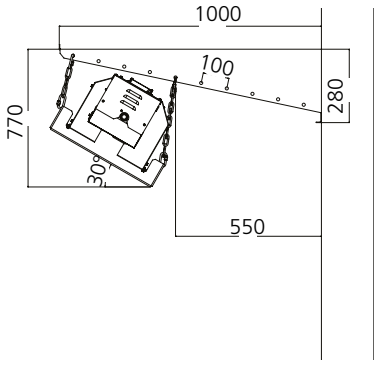


Suspension / fixing

Suspend the radiant tubes by means of chains or cables of adequate length fixed to framework, under shores or portals, between pillars or against a wall. Optional fixing parts can be supplied.



Horizontal hanging



Wall hanging

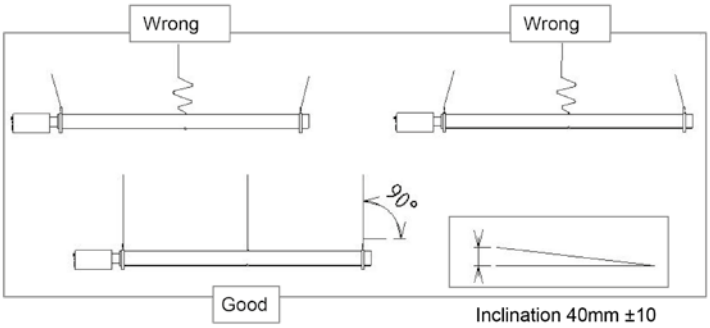
ATTENTION: For good system efficiency, do not incline the unit more than 30°

Kit composition:

Model	Horizontal Hanging Kit Reference	Wall Hanging Kit Reference
BTLHE20	0340132	0340125
BTLHE35	0340133	0340126
BTLHE45	0340136	0340127

Safety instructions

Care must be taken to install the anchor points perpendicular to the end supports.



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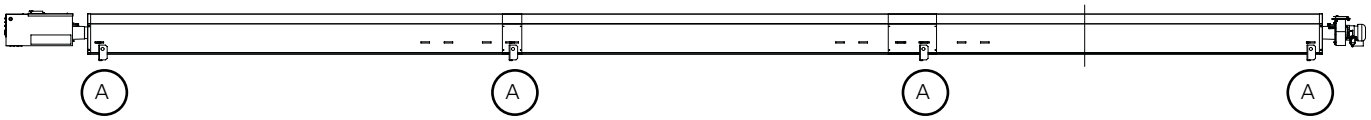
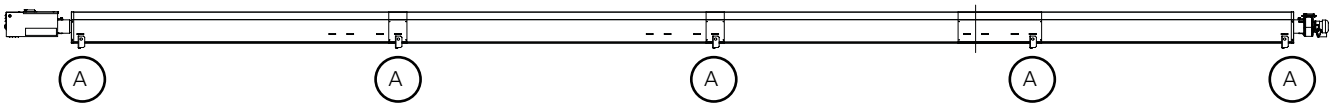
Very important:

Make use of a flexible suspension system which allows the expansion of the emitter tubes but avoids extreme oscillations. Wall supports, supplied on request, take this into account

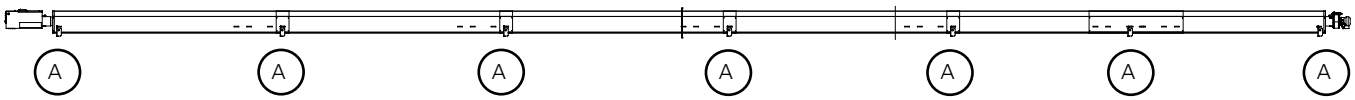
Model BTLHE20 has 4 anchor points



Model BTLHE35 has 5 anchor points



Model BTLHE45 has 7 anchor points



(A) designates required anchor points

Heater location

Flue requirements may affect the location of the heater. Refer to the "Combustion air supply / flue arrangement" section before making a final determination. The flue pipe and accessible heater surfaces will be hot under normal operation and will cause burns if touched. Suspend the heater such that these components cannot be touched.

I Do not locate the heater where it may be exposed to water or where the ambient temperature exceeds 40°C.

Ensure that the structural elements, which will be used to suspend or support the appliance, are adequate to carry the weight of the appliance and its ancillary components i.e. the flue system.

Unit weights are given in the technical data section previously.

Sufficient space must be provided around the heater for servicing and clearances for safety.

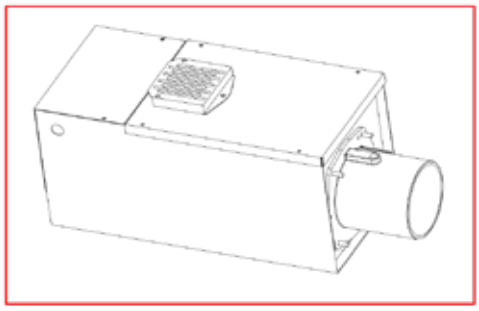
Combustion air supply / flue arrangement

BTwin BTLHE tube heaters can be operated as flued or un-flued appliances in accordance with the relevant national requirements in the country of the installation.

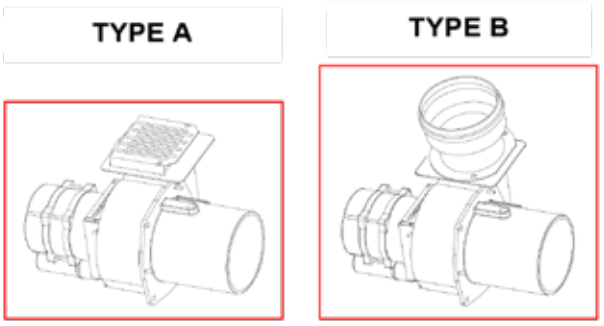
Type A - un-flued, discharging the combustion products directly into the surrounding atmosphere

Type B - Individual flueing of each unit to outdoors (type B22 or B52 only).

Type B - Appliances connected to a common manifold system



Burner block



Extractor block

Flue gas properties

Model		Air flow (m^3/h)	Flue gas temperature (°C)	Flue gas volume flow (m^3/h)	Flue gas mass flow (kg/h)
BTLHE20	G20	30.3	178	32.2	26.6
	G25	37.9	176	40.1	33.4
	G31	35.5	176	36.3	29.8
BTLHE35	G20	30.9	212	34.6	28.0
	G25	36.8	214	41.1	33.6
	G31	53.7	216	55.1	42.4
BTLHE45	G20	50.7	221	55.5	43.2
	G25	65.3	218	70.8	55.8
	G31	89.2	216	91.0	68.7

Type A appliances

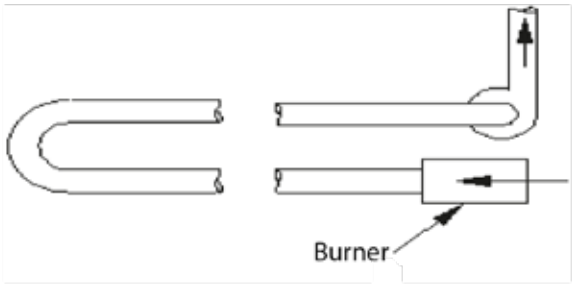
When operating radiant tube heaters as un-flued appliances, the concentration of Carbon Dioxide (CO2) at positions where the air will be inhaled must not exceed 0.28%. EN13410 is a guide to achieving this requirement. If the building air change rate exceeds 1.5 per hour or if the heat input is less than 5W/m^3, no additional ventilation is required. In addition to the ventilation requirements, consideration needs to be given to the possibility of condensation forming on cold surfaces. It should be noted that the clearance distance around the burner increases when the unit is operated un-flued. It should be ensured that the combustion gases do not impinge on any combustible materials.

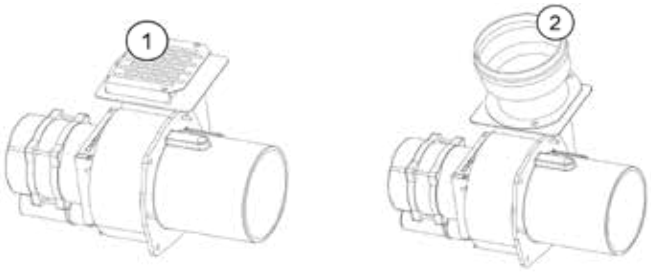
Mechanical ventilation must be rated at the minimum 10m^3/h per kW input using approximately sized fans and interlocked with heaters. EN 13410: should be used to size air vents to provide adequate ventilation, an example of this calculation is given below:

• Site Details: 20°C internal operating temperature , 0°C Outside Air Temperature, 5m between high and low level vents

Following the sizing procedure in EN 13410, gives an air exit velocity of 1.6m/s. This equates to a free area vent at both high level and low level of 17.36cm^2/kW free area.

Type B appliances





Type B 22/52 flue

- Remove the combustion product outlet grille (1).
- Fit the Ø100 connection piece (2) for Ø97.
- The grille must not be used to protect the end of a flue pipe.
- The air intakes in the room must be sufficient to allow a good supply of combustion air to the burners
- Plan for an external air flow of at least 1.75 m^3/h per installed kW.

If the heater is to be installed as a Type B appliance, air for combustion will be taken from within the space where the heater is installed. 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. If the flue passes through a combustible element of the building it must be enclosed in a sleeve of non-combustible material and separated from the sleeve by a minimum of 25 mm air break. The temperature of any combustible material near to the flue must not exceed 65°C when the heater is in operation. The flue must be at least 150 mm away from any combustible material.

Single wall flue pipe exposed to cold air or run through unheated areas should be insulated. Where condensation is unavoidable, provision must be made for the condensation to flow freely to a point to which it can be released, i.e. a drain or gully. The condensation drain from the flue must be constructed from non-corrodible material not less than 20 mm diameter. Copper or copper based alloys must not be used for condensation drains. Alternatively, insulated flue pipe should be considered. Horizontal flue runs should be installed with a slight gradient of approximately 5° towards the terminal. Due consideration should be given to the possibility of condensation from the flue freezing on any footpaths that pass below the terminal.

It is important to ensure that there is an adequate air supply at all times for both combustion and heating requirements. When these units are installed in Type B applications, air for combustion is taken from the space in which it is installed. Do not restrict the combustion air intake. Ensure that an adequate clean air supply for combustion and ventilation is provided within the building in accordance with the relevant rules and regulations in force.

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All products of combustion must be flued to outdoor atmosphere. The heaters are designed to operate safely and efficiently with either a horizontal or vertical flue system when installed according to the specific requirements and instructions. If the heater is replacing an existing heater, be sure that the flue is of the correct size and that the existing flue is in good condition. A correctly sized flue system is required for safe operation of the heater. Follow the flue pipe manufacturer's installation instructions for making joints, including connections to the heater, for passing through building element and for support requirements.

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.

A full range of flue components is available directly from Reznor. Contact the customer services team for help.

The products of combustion from the radiant heater must be flued to the outside of the building. A properly sized flue system is required for safe operation of the heater. An improperly sized flue system can cause unsafe conditions and/or create condensation. Failure to provide proper flueing arrangements could result in death, serious injury and/or damage to property.

It is important to ensure that there is an adequate air supply at all times for both combustion and heating requirements. Modern buildings involve greater use of insulation, improved vapour barriers and weather proofing. These practices mean that buildings are sealed much tighter than in the past.

The flue MUST be installed in accordance with national and local regulations.

SAFETY INSTRUCTIONS FOR THE INDIVIDUAL FLUE :

- No reduction in diameter is permitted after the flue outlet.
- The flue must be made of stainless steel or aluminium, with a smooth, rigid flue.
- The flue must be installed in accordance with the standards in force in each country concerned.
- The maximum length of flue pipe must not exceed 8 metres straight + 3 x 90° elbows + 1 rain screen terminal (see table of equivalent lengths below).
- The flue must not have any low points.
- Do not use any plastic or PVC accessories.

Model	Flue pressure minimum resistance (pa)	Flue pressure minimum resistance (pa)	Extracted flow dilution included (m^3/h)
BTLHE20	-9	-5	179
BTLHE35	-10	-3	350
BTLHE45	-15	-13	500

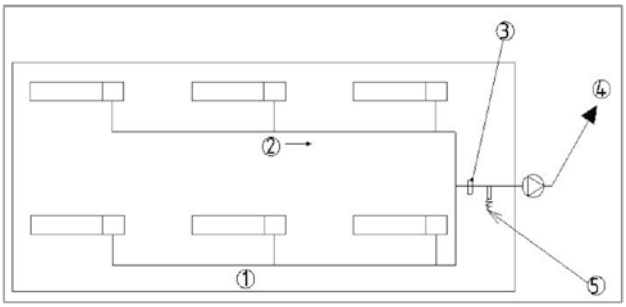
Flue system equivalent lengths

Item	Equivalent Length
Elbow 90°	2m
Elbow 45°	1m
Standard rain cap	2m
Rigid hose 1m	1m

Type B appliances connected to a common manifold system

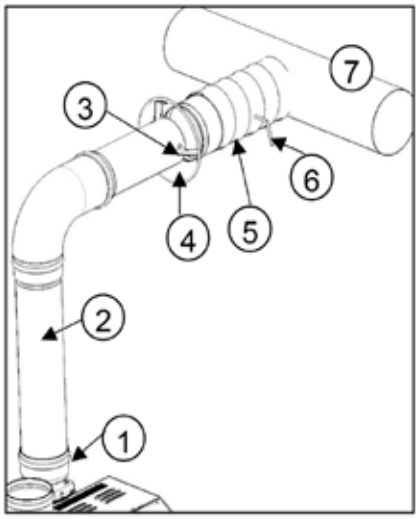
Schematic diagram

Item	Description
1	Collector flue
2	Slope 4mm per m
3	Safety pressure switch
4	Extract fan
5	Condensate collector



Connection to the collector flue

Item	Description
1	BTLHE connector
2	Discharge pipe Ø100
3	Fixings at 120° (3)
4	Dilution piece Ø120 (option supplied on request
5	Nozzle Ø125 inside the manifold
6	Diaphragm or balancing damper (if network to be balanced)
7	Collector pipe connected to an extraction fan



Model	Extract flow rate including dilution (m^3/h)
BTLHE20	179
BTLHE35	350
BTLHE45	500

Air inlets must be provided to match the total airflow (10m^3/h per kW)

Gas and electrical connections

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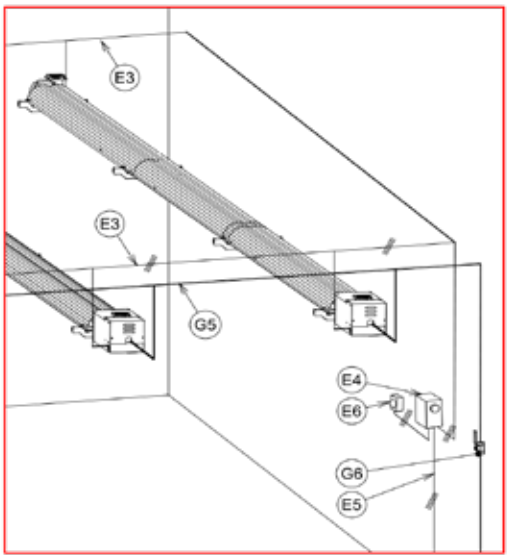

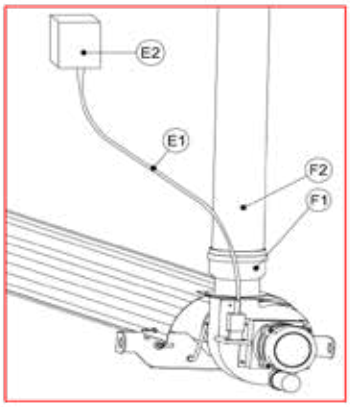

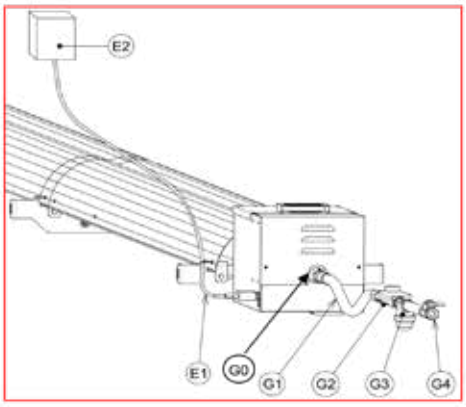

Electrical connections

Ref	Description
E1	Power cable (supplied with unit) length = 1m (3 x 0.75 mm²)
E2	Junction box
E3	Power supply unit
E4	Power box (Reznor accessory)
E5	Power supply 230V 50Hz Live neutral earth
E6	Room Space sensor (Reznor accessory)

CAUTION: Under no circumstances should the electrical wiring be routed over the reflectors or the burner

Flue system

F1	Ø100 flue outlet (Reznor accessory)
F2	Ø97 rigid flue pipe (Reznor accessory)

Gas connections

G0	Appliance gas connection - G ¾" gas male (use brass fitting as supplied - see opposite)
G1	Flexible pipe (available direct from Reznor) Ensure pipe is not liable to pressure load.
G2	Pressure relief valve (installed upstream of each unit dependant on the gas supply pressure)
G3	Gas filter
G4	¼ turn shut off / isolating valve at each unit
G5	Gas pipe
G6	Main shut off / isolating valve

Gas connection

A competent and/or qualified engineer is required to either install a new gas meter to the service pipe or to check that the existing meter is adequate to deal with the rate of gas supply required. Installation pipes should be fitted in accordance with national standards so that the supply pressure, as stated in the technical data section will be achieved.

It is the responsibility of the competent engineer to ensure that other relevant standards and codes of practice are complied with in the country of installation. Pipes of smaller size than the heater inlet gas connection must not be used. The complete installation must be tested for soundness as described in the country of installation. Support gas piping with pipe hangers, metal strapping, or other suitable material.

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Do not rely on the unit to support the gas pipework installation.

Before installation, check that the local distribution conditions, nature of gas and pressure, and adjustment of the appliance are compatible.

This appliance is designed for a maximum gas supply pressure of 50mbar. When pressure testing the supply piping with test pressures above 50mbar, disconnect the heater and manual valve from the gas supply line that is to be tested. Cap or plug the supply line.

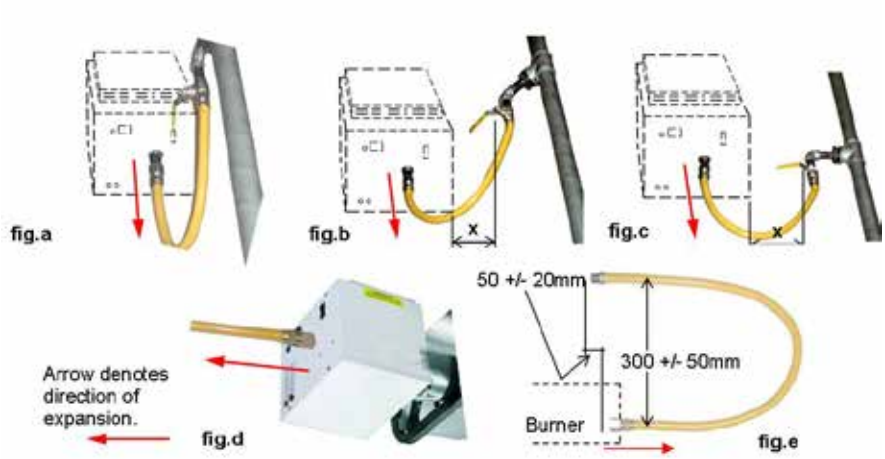
All sealing products must be resistant to the action of liquefied petroleum gas or any other chemical constituents of the gas being supplied. Install a ground joint union and manual shut-off gas cock upstream of the unit control system.

Check that the gas category is in accordance with the data described on the radiant heater. This appliance is equipped for a maximum gas supply pressure of 50mbar. Ensure that the gas supply line includes a filter and has been tested and purged in accordance with prescribed practice prior to commissioning and taking the air heater into service.

Never use a flame to test for gas soundness.

BTwin BTLHE radiant heaters are designed to operate on natural gas (G20 / G25) or propane (G31). Check that the gas supply, gas category and gas inlet pressure is in accordance with the information given on the unit data plate. To let the unit function at maximal heat output, the gas supply pipe MUST be correctly sized. A gas tap with coupling must be mounted close to the heater for servicing (see below).

The whole of the gas service installation including the meter must be inspected, tested for soundness and purged in accordance with appropriate requirements by a qualified person.



Electrical supply and connections

The electrical installation may only be carried out by an appropriately qualified person in accordance with the current Rules and Regulations in force.
This appliance must be earthed.

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Check that the electrical specification is in accordance with the specified data on the radiant heater. Connections must be in accordance with the terminal markings and the wiring diagram affixed to the unit.

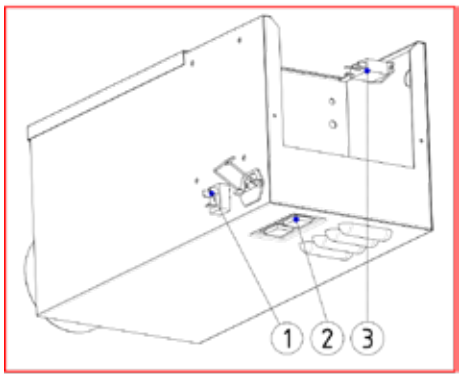
The supply line to the heater should include a mains switch / isolator adjacent to the appliance. The minimum clearance distance between the contacts must be more than 3 mm.

Check that the heater is well earthed and that an earth leakage test is carried out.

Fault signal option

This option allows the "fault" signal to be sent individually or by group of devices to a control panel or to a BMS system. To ensure complete safety, this fault signal is transmitted via a contact controlled by a relay a relay installed inside the device (3). To avoid any accidental triggering, each time the unit is switched on, it is advisable to delay the fault signal from the cabinet or the BMS by 30s.

The device is supplied as standard with a "Normally closed" fault contact. Please specify 'normally open' when ordering if required.

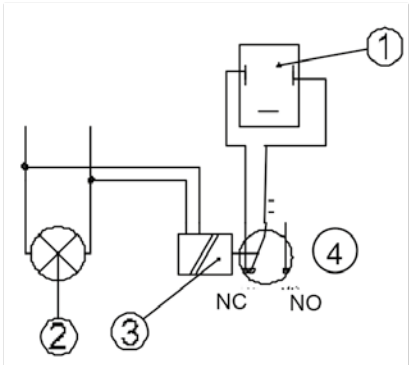


(1) Lockout relay plug

(2) Red light (default)

(3) Lockout relay

(4) Fault contact



Temperature control

It is recommended the heater or group of heaters is/are controlled by thermostats, a time switch, and, if required, manual control switches and a frost thermostat.

We recommend the use of Nortek Global HVAC (UK) Limited approved controls. Please refer to the controls manual for location and installation details. If alternative controls are used, please refer to the relevant instructions for siting and installation details.

Commissioning and operation

BTwin BTLHE heaters must be commissioned before putting into service.

Pre-start checks

Prior to starting up the unit, carry out the following checks:-

- Do not use this appliance if any part has been subjected to water ingress. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control.
- Check unit suspension. The unit must be secure.
- Verify that no other parts are fitted which are not individually supported and secured.
- Check gas pipework for leaks and correct gas line pressure.
- Purge gas lines of trapped air.
- Check electrical wiring and ensure that wiring conforms to the wiring diagram. Be sure that all cables are correctly sized to meet the requirements of the units.
- Verify that the appliance is earthed by conducting an earth continuity test.
- Ensure that fuses are of the correct rating and fuse value.
- Check polarity. Verify that line voltage exists between the live terminal L1 and earth ground.
- Check that no combustibles are near to the unit. The applicable requirements are in the location and installation section of this manual.
- Check vent system to be sure that it is installed according to the combustion air supply instructions given in the installation section of this manual.

Programming

The timer should be set so that start-up is triggered approximately 30 minutes before the room is occupied. This delay should be modified according to the inertia of the building and the outside temperature. If the outside temperature is very low, it is advisable not to switch the system off during unoccupied hours, but simply to lower it if necessary. It is not advisable to switch off the system for short interruptions in the use of the premises.

Start up

For your safety, follow the instructions exactly otherwise damage or injury could occur!

During start up all gas services (up to the gas meter) must be checked again for gas soundness to ensure no leaks are present.

After the gas line has been pressure tested:-

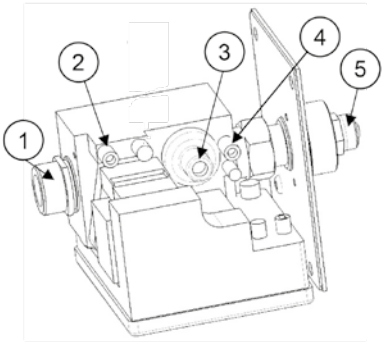
- Purge the gas line
- Check that the electrical supply is correctly installed and available
- Check that the flue installation is correctly installed

OPERATING CYCLE :

- All burners need commissioning prior to operation. Ensure the gas supply and injector pressure are correct. Operations to be carried out in the order given below:
- Check the inlet pressure to the appliance during operation using a manometer connected to the pressure tapping (2)
- Check the injector pressure at the injector pressure tapping (4) (see values in the technical data table).
- Adjust the pressure at the injector using the adjusting screw (3) (see values in technical data table).
- Fix appropriate gas type label to the burner casing

C

Ref	Description
1	Solenoid valve inlet
2	Inlet pressure tapping. Undo the screw to measure the pressure
3	Pressure regulator (remove cover to access the regulator screw)
4	Injector pressure tapping. Undo the screw to measure the pressure
5	Brass injector (engraved in mm x 100)



- With a gas and electrical supply to the appliance, the orange LED light comes on and the sequence begins with a pre-purge of 30 seconds after the air pressure switch is switched on.
- The ignition sequence is started and the gas solenoid valve opens.
- When the probe detects the flame, the ignition sequence stops and the appliance operates as long as the appliance is supplied with gas and electricity.
- If for any reason the flame is no longer detected, the solenoid valve closes and the appliance will make a second ignition attempt and start a new cycle.
- After three ignition cycles, the appliance goes into lockout mode and the red LED lights up.
- The ignition sequence can only be resumed by disconnecting and reconnecting the power supply only after a few seconds.
- During operation, only the orange LED light remains on, with continuous monitoring of the vacuum and flame.
- In the event of a fault, refer to the Troubleshooting section later in this document.

Maintenance and servicing

Maintenance schedule

Before commencing, turn off the main gas supply and switch off the main electricity supply.

Always consult your distributor at the slightest doubt.

The heater will operate with a minimum of maintenance. It is recommended that maintenance is carried out at least once a year by a suitably qualified person. More frequent servicing may be required dependent upon the environmental circumstances where the unit is installed. Regular inspection is necessary, especially in dirty areas, to assess the servicing frequency.

MS

The following procedures should be carried out at least once each year:

General

- Check condition and security of flue and combustion air system.
- Check for security and worthiness of the suspension or mounting system.
- Check the burner for evidence of physical damage.
- Check the burner for scale, dust, or lint accumulation. Clean if required.
- Check the vent or vent/combustion air system for soundness. Replace any parts that do not appear sound.
- Check the wiring for any damage. Replace damaged wiring.

Heat emitter tubes

- Using a wire brush, dust the outside of the tubes and inspect the inside by removing the burner.
- The tubes should be cleaned internally if there is an appreciable layer of dust. Use an appropriate diameter swab and an industrial hoover.

Reflector

- Inspect the condition of the reflector and, if necessary, clean it with a soft cloth and diluted detergent.

Extraction fan

- Check that the fan rotates freely and remove any deposits from the blades using a brush. Also remove any dust from the fan casing.

Motor and motor shaft cooling fan

- Remove dust using compressed air and clean the fan blades and motor vents.

Ignition and control box

- Dust if necessary.
- Check that the control contacts are working correctly.

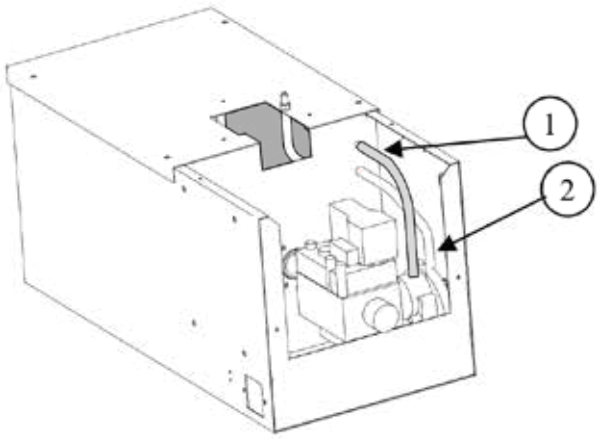
Gas train

- Disconnect the solenoid valve wires.
- Remove the gas line.
- Clean the injector, burner and burner head. Remove the lid over the burner head to gain access.
- Clean the solenoid valve filter, the expansion valve filter and the cartridge filter (where applicable).
- Disconnect the electrode, inspect it, brush it and replace it if necessary. Check the gap (should be 4 mm).

Pressure switch

MS

Ref	Description
1	Burner pressure plug (green pipe)
2	Pressure plug on air inlet



Open the top cover, disconnect the wires from the microswitch (marking them) and unclip the cover, removing the pressure switch from its support

Flues

Check and clean flues in accordance with current regulations

Electrode

Remove the lid over the burner head to gain access. Remove the gas line; replace the electrode if necessary. The distance between the electrode and the earth electrode must be 3 to 4 mm.

Burner and injector

Remove the lid over the burner head to gain access. Remove the gas line. Unscrew the burner, unscrew the injector and change it if necessary. If the injector is removed, the gasket must be replaced.

Ignition and control box

To dismantle, remove the fixing screw on the housing cover that holds the housing to the solenoid valve. Disconnect the connectors and the HT ignition lead.

Motor / fan assembly

Unscrew the 4 nuts holding the motor. The fan / motor assembly can now be removed easily. To remove the fan blades, use an Allen key to unscrew the hexagonal socket head cap screw on the flat of the motor shaft.

Changing gas type

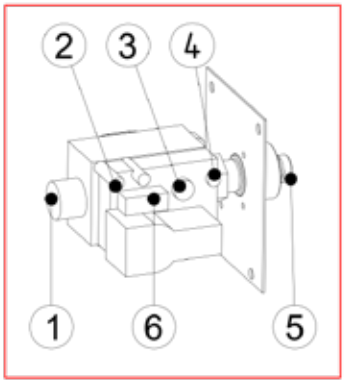
- The appliance must be converted by a qualified operator.
- The injector (5) is the only part that needs to be changed to switch from one gas to another.
- The technical data table earlier gives the different injector diameters that must be used.
- The technical table indicates the pressure setting value at the injector that must be used as well as the supply pressure range.

NOTE: A conversion kit is available on request (see our spare parts price list). It includes: the injector, the gasket and the gas type label (this must be stuck on the old label).

Operations to be carried out in the order given below:

- Check the inlet pressure to the appliance during operation using a manometer connected to the pressure tapping (2)
- Check the injector pressure at the injector pressure tapping (4) (see values in the technical data table).
- Adjust the pressure at the injector using the adjusting screw (3) (see values in technical data table).
- Fix appropriate gas type label to the burner casing

Ref	Description
1	Solenoid valve inlet
2	Inlet pressure tapping. Undo the screw to measure the pressure
3	Pressure regulator (remove cover to access the regulator screw)
4	Injector pressure tapping. Undo the screw to measure the pressure
5	Brass injector (engraved in mm x 100)
6	Power supply



MS

Wiring diagrams

Ref	Description
1	Supply plug 230V+Fuse
2	Relay
3	Orange lamp « Operating »
4	Red lamp « Defect »
5	Extractor fan earth
6	Pressure Switch
7	Housing earth
8	Valve earth
9	230V connector
10	NTC Wiring

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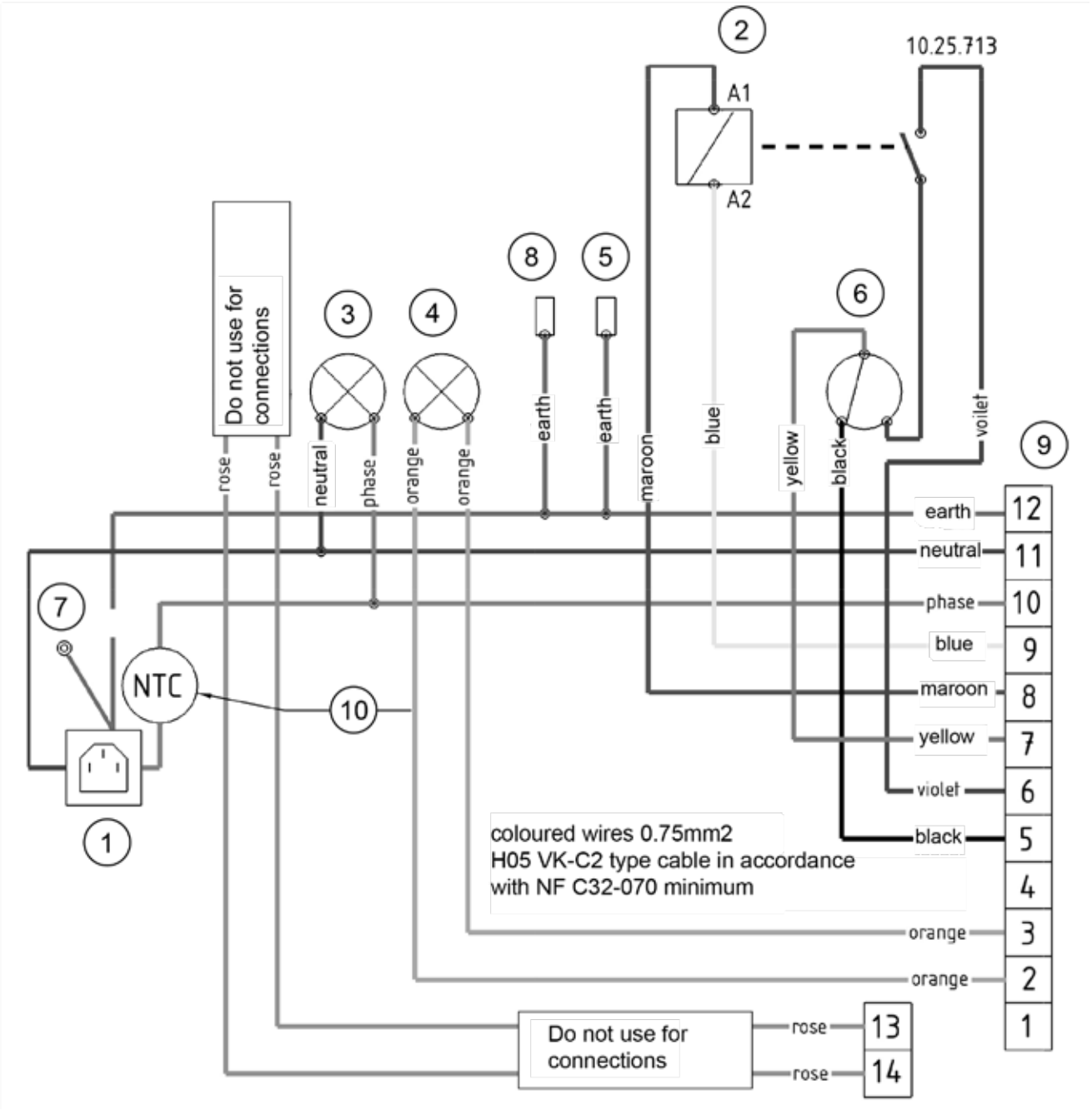


Fault Finding

Before replacing any components internal to the appliances, check that:

1) The electrical supply of appliances is correct.

2) The gas is correctly supplied until the gas inlet of one or several appliances (gas filter cleaned).

Fault	Possible cause	Remedy
The motor does not run (red and orange indicator lamps on)	Impeller jammed Motor seized up or failed Blown fuse	Clean the fan casing Unseize and/or change Replace the fuse
The motor runs but the appliance does not ignite (red and orange indicator lamps on)	Blocked flue Faulty motor Bent or disconnected pressure switch pipes Faulty ignition box Dirty impeller	Check - Clear Inspect, clean or change Ensure that the pipes are correctly fitted and not blocked Inspect and change To be cleaned (compressed air)
The pressure switch works correctly but there are no ignition sparks	Cracked electrode Ignition electrode gap too great Faulty control box	Inspect and change Inspect and adjust (4 mm ± 1 mm) Inspect and change
Sparks occur but the burner does not ignite (orange light on, red light off)	Faulty solenoid valve Ignition and control box problem Electrode out of position No gas supply	Inspect and change Inspect and change Reposition accordingly Check and reinstate
Ignition occurs but the appliance stops afterwards	Faulty flame control Faulty ignition box	Check the ionization sensor and electrical connections To be changed
Abnormal noise. Ignition problems	Faulty burner. Friction at fan Motor bearing defect Coupling of emitter tubes	Check operation Adjust as necessary Change motor Correct and verify

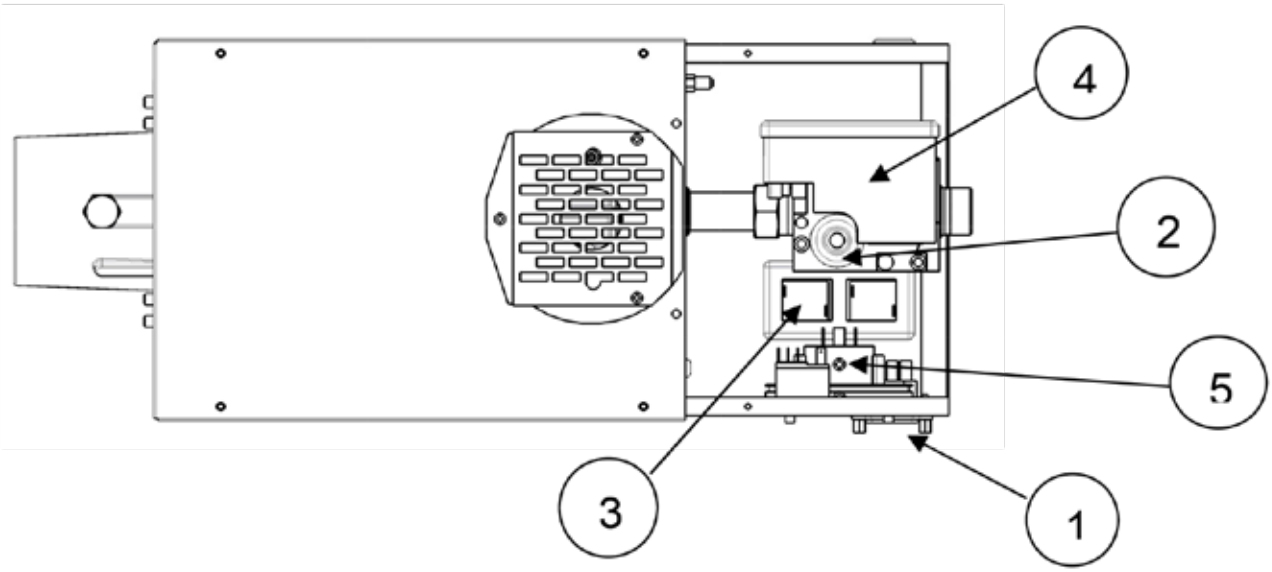
FF

Spares

Options available on request

Item	Part number
Fault relay: Normally Closed	0240016
Protective grille for BTLHE20	0340144
Protective grille for BTLHE35	0340145
Protective grille for BTLHE45	0340146

Parts



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Ref	Item	Image	BTLHE20	BTLHE35	BTLHE45
2	Gas valve		10.21.210		
1	Plug and socket kit		02.80.217		
4	Electronic control unit		80.21.101		
-	Single electrode assembly		10.30.016		
3	Orange indicator light		10.25.243		
3	Red indicator light		10.25.244		
6	Fan / motor assembly		06.12.061	06.12.043	
5	Pressure sensor		10.21.208-64	10.21.208-74	10.21.208-69
-	Natural gas burner and fan assembly	-	0912993-N	0912994-N	0912995-N
	Propane burner and fan assembly	-	0912993-P	0912994-P	0912995-P

SP

Information required for Ecodesign (ErP) Regulation 2024/1103 - BTLHE20

Gas type		**Natural gas**	**Propane**
Seasonal energy efficiency	ns >=80.0%	81.3%	82.2%
Nox emissions (*)	mg/kWh input (PCS) <=180	120	157
Thermal power			
Nominal thermal output Pnom	kW	16.4	16.4
Minimum thermal output Pmin	kW	N/A	N/A
Radiation factor			
Radiation factor at rated thermal output RFnom	-	0.6	0.6
Radiation factor at minimum thermal output RFmin	-	N/A	N/A
Useful efficiency (HCV) - Radiant tube heating			
Useful efficiency at rated thermal output nth,nom	%	82.5	84.3
Useful efficiency at minimum thermal output nth,min	%	N/A	N/A
Envelope losses			
Envelope insulation class U	$W/(m^2K)$	N/A	N/A
Envelope loss coefficient Fenv	%	0.0	0.0
Heat generator to be installed outside the heated area	-	No	No
Auxiliary electricity consumption			
At rated thermal output elmax	kW	0.0039	0.0039
At the minimum thermal output elmin	kW	N/A	N/A
In standby mode elsb	kW	N/A	N/A
Type of heat output control (select one type only)			
1 stage	-	Yes	Yes
2 stage	-	No	No
Modulating	-	No	No
Electrical power required by the permanent pilot light			
Electrical power required by permanent pilot (if applicable) Ppilot	kW	N/A	N/A
(*) NOx = nitrogen oxides			
Contact details	NORTEK GLOBAL HVAC (UK) LIMITED Fens Pool Avenue Brierley Hill West Midlands DY5 1QA United Kingdom Tél +44 (0)1384 489700 Fax +44 (0)1384 489707 reznorsales@nortek.com www.reznor.co.uk		

Information required for Ecodesign (ErP) Regulation 2024/1103 - BTLHE35

Gas type		**Natural gas**	**Propane**
Seasonal energy efficiency	ns >=80.0%	81.4%	81.5%
Nox emissions (*)	mg/kWh input (PCS) <=180	115	171
Thermal power			
Nominal thermal output Pnom	kW	31.7	31.5
Minimum thermal output Pmin	kW	N/A	N/A
Radiation factor			
Radiation factor at rated thermal output RFnom	-	0.6	0.6
Radiation factor at minimum thermal output RFmin	-	N/A	N/A
Useful efficiency (HCV) - Radiant tube heating			
Useful efficiency at rated thermal output nth,nom	%	81.5	82.7
Useful efficiency at minimum thermal output nth,min	%	N/A	N/A
Envelope losses			
Envelope insulation class U	$W/(m^2K)$	N/A	N/A
Envelope loss coefficient Fenv	%	0.0	0.0
Heat generator to be installed outside the heated area	-	No	No
Auxiliary electricity consumption			
At rated thermal output elmax	kW	0.045	0.045
At the minimum thermal output elmin	kW	N/A	N/A
In standby mode elsb	kW	N/A	N/A
Type of heat output control (select one type only)			
1 stage	-	Yes	Yes
2 stage	-	No	No
Modulating	-	No	No
Electrical power required by the permanent pilot light			
Electrical power required by permanent pilot (if applicable) Ppilot	kW	N/A	N/A
(*) NOx = nitrogen oxides			
Contact details	NORTEK GLOBAL HVAC (UK) LIMITED Fens Pool Avenue Brierley Hill West Midlands DY5 1QA United Kingdom Tél +44 (0)1384 489700 Fax +44 (0)1384 489707 reznorsales@nortek.com www.reznor.co.uk		

ErP

Information required for Ecodesign (ErP) Regulation 2024/1103 - BTLHE45

Gas type		**Natural gas**	**Propane**
Seasonal energy efficiency	ns >=80.0%	80.6%	81.6%
Nox emissions (*)	mg/kWh input (PCS) <=180	114	158
Thermal power			
Nominal thermal output Pnom	kW	40.5	39.6
Minimum thermal output Pmin	kW	N/A	N/A
Radiation factor			
Radiation factor at rated thermal output RFnom	-	0.6	0.6
Radiation factor at minimum thermal output RFmin	-	N/A	N/A
Useful efficiency (HCV) - Radiant tube heating			
Useful efficiency at rated thermal output nth,nom	%	80.9	82.5
Useful efficiency at minimum thermal output nth,min	%	N/A	N/A
Envelope losses			
Envelope insulation class U	$W/(m^2K)$	N/A	N/A
Envelope loss coefficient Fenv	%	0.0	0.0
Heat generator to be installed outside the heated area	-	No	No
Auxiliary electricity consumption			
At rated thermal output elmax	kW	0.047	0.047
At the minimum thermal output elmin	kW	N/A	N/A
In standby mode elsb	kW	N/A	N/A
Type of heat output control (select one type only)			
1 stage	-	Yes	Yes
2 stage	-	No	No
Modulating	-	No	No
Electrical power required by the permanent pilot light			
Electrical power required by permanent pilot (if applicable) Ppilot	kW	N/A	N/A
(*) NOx = nitrogen oxides			
Contact details	NORTEK GLOBAL HVAC (UK) LIMITED Fens Pool Avenue Brierley Hill West Midlands DY5 1QA United Kingdom Tél +44 (0)1384 489700 Fax +44 (0)1384 489707 reznorsales@nortek.com www.reznor.co.uk		

Disposal and recycling

When the product reaches the end of its useful life, the person in charge of dismantling or disposing of the product shall do so in accordance with Waste Electrical and Electronic Equipment (WEEE) Regulations.

Follow the rules in force for the relevant country.

Dispose of equipment at applicable recycling facilities for electrical and electronic equipment waste.

Components such as radiant tubes, turbulators, reflectors and hanging brackets are metal and can be recycled accordingly.

By disposing of this equipment through appropriate means, it will help prevent potential hazards to the environment and to human health, which could otherwise be caused by unsuitable waste handling.

Recycling material from this product will help reduce environmental impact.

Do not dispose old electrical and electronic equipment through household waste collection.

Current full Part No. D301789 **Reznor,** BTLHE, Installation Manual, EN 2025-08, Iss 0

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