

Installation manual Metaloterm[®] AT

Installation instructions **United Kingdom**

130 - 400mm Internal Diameter

Twin Wall Insulated Chimney System for wood burning
stoves and open fire places

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APPROVAL

Metaloterm® AT is CE Certified to EN1856-1 MPA 0432-CPR-113090037310 with designations:

Twin walled stainless steel system with insulation

EN 1856-1 T400 N1 D V3 L50040 G50*

EN 1856-1 T600 N1 D V3 L50040 G50*

BS EN 1856-1 T600 N1 D V3 L50040 G50*

EN 1856-2 T400 N1 D V3 L50040 G50*

EN 1856-2 T600 N1 D V3 L50040 G50*

* In free air

** In combustible shaft with ventilated fire stop

* For full information please see p.8 - Distance to Combustibles Section

- Manufactured under a Quality Management Scheme approved to ISO 9001
- 4 Hour Fire Rating to BS 476-20
- Certified for corrosion resistance on gas, oil and solid fuel by MPA and Tüv.

DESIGN GUIDE

Mandatory Requirements

Connection to an appliance which is not connected to the fuel supply, should be carried out by a competent person. We recommend the use of HETAS approved installers for solid fuel applications. If installation is carried out by a non HETAS registered installer, the installation must be certified by a local Building Control inspector. Connection to an appliance that is connected to the fuel supply must be carried out by a Gas Safe (Gas) or OFTEC (Oil) registered installer.

The design guide must be read in conjunction with the detailed component installation instructions. For full design and installation details the key referral documents are:

- **BS EN 1856-1:** Chimneys - System Chimney Products
- **BS EN 1856-2:** Connecting Flue Pipes
- **BS EN 1859:** Metal Chimneys - Testing Methods
- **BS EN 1443:** Chimneys - General Requirements
- **BS EN 15287-1:** Chimneys. Design, installation and commissioning of chimneys. Chimneys for non-room sealed heating appliances.
- **BS 5440-1:** Fluing and ventilation for gas appliances of rated input not exceeding 70kW net (1st, 2nd and 3rd family gases).
Specification for installation of gas appliances to chimneys and for maintenance of chimneys.
- **Approved Document J:** - Combustion appliances and fuel storage systems (England & Wales)
- **DFP Technical Booklet L:** - Combustion appliances and fuel storage systems (NI)
- **Technical Handbook (Domestic & Non Domestic), Section 3** - Environment (Scotland)
- **Appliance Installation Instructions** and related standards. Other standards covering specific applications will also be relevant and must be adhered to.

Planning permission may be required, and reference should be made to the local Building Control Department.

Ensure all chimney components are available and check them to ensure there has been no damage. Do not use damaged components. Build the chimney up through the previous designed route which should be as straight as possible.

PRIOR TO INSTALLATION

Ventilation

It is very important that sufficient air for combustion and ventilation is provided to the room containing the appliance, to enable correct and efficient working of the appliance and chimney system. Reference should be made to the appliance manufacturer's instructions and recommendations are also given in the Building Regulations Document J, CIBSE guidance notes and BS 5440.

Carbon Monoxide Alarms

The carbon monoxide alarms should comply with BS EN 50291

Where a new or replacement fixed solid fuel appliance is installed in a dwelling, a carbon monoxide alarm must be provided in the room where the appliance is located.

Please follow manufacturers instructions with regards to siting and fixing or alternatively :-

- a) On the ceiling at least 300mm from any wall or if it is located on a wall, as high up as possible (above any doors and windows), but not within 150mm of the ceiling and
- b) between 1m and 3m horizontally from the appliance.

N.B Provision of a carbon monoxide alarm should not be regarded as a substitute for correct installation and regular servicing.

Painting

If painting of any external sections is required, it is important to de-grease, dry and prime the exterior surface prior to the application of appropriate heat resistant paint.

Handling

It is advised that suitable PPE should be used when handling the products.

Delivery to Site and Storage

Components should be carefully transported and off loaded. They should be inspected to ensure they have not been damaged, and should be stored off the ground and under cover so that they are protected from accidental damage and the adverse effects of weather.

Pools/Coastal areas/etc.

The use of stainless steel systems in an enclosed space where there may be a high concentration of aggressive vapours and acid in the air (such as in swimming pools, launderettes, etc.) may cause a problem. This also applies to installation in the immediate vicinity of the sea and/or with a view of the sea.

CONNECTING FLUE PIPE

Appliance/Chimney Connection

Connection to the appliance can be made using approved single wall connecting flue pipes.

This must be done by using the appropriate appliance connector. When a single wall connecting flue pipe is used to connect an appliance to the chimney, the lower end of the chimney section must extend a minimum of 425mm below the ceiling. When connecting the appliance to the flue pipe all joints between the flue pipe/appliance outlet must be securely caulked and sealed with non asbestos rope (or suitable alternative) and fire cement on solid fuel appliances.

Any flue pipe connection to the chimney MUST be made in the same room as the appliance.

Connection to Draught Diverter

Where the appliance features a draught diverter the connection should rise vertically from it for at least 600mm before any change of direction (unless otherwise specified by the appliance manufacturer). This is in accordance with the recommendations contained in BS 5440 Part 1 section 6.1.4

Connecting Flue Pipe Diameter

Connecting Flue Pipe Diameter size should be as recommended by the appliance manufacturer. Under all circumstances the operational requirements of the appliance and the configuration of the flue must satisfy the flue sizing requirements of EN13384-1.

Distance to Combustibles

In accordance with building regulations, it is essential that the correct distance to combustible material is maintained on connecting flue pipes. On solid fuel applications, where there is a risk of soot fire, on unmeasured (NM) designated single wall product, this distance is $3 \times \text{Øint}$ of the pipe, e.g. for Ø125mm the distance is 375mm and for Ø150mm the distance is 450mm to combustibles on both painted and non painted variants. On measured (M) single wall or double wall products this distance will be as declared by the chimney manufacturer.

Connecting Flue Pipe Route

Single wall connecting flue pipes should only be used to connect appliances to a Chimney. They should not pass through any roof space, partition, internal wall or floor, except to pass directly into a chimney through a wall of the chimney.

Connecting flue pipes should be located as to avoid igniting combustible material.

On solid fuel appliances the maximum length of a connecting flue pipe is 2m. This distance is reduced to 1.5m if any of the acceptable alternative methods of connection are adopted as per BS EN15287-1. (See p.5-6 for full details.)

On appliances with a top outlet, it is recommended that a vertical run of at least 600mm should be allowed immediately above the appliance prior to any change of direction.

On appliances with a rear outlet, it is recommended that there is maximum of 150mm in the horizontal run however under certain conditions, as described in alternative methods in BS EN 15287-1, this may be increased to 450mm. (See p.5-6 for full details.)

Within a system (Chimney + Connecting Flue Pipe) there should be no more than 4 changes of direction of maximum 45°.

90° Factory made bends or tees within the system may be treated as being equal to two 45° bends (as per Document J of the Building Regulations issued October 2010).

Inspection

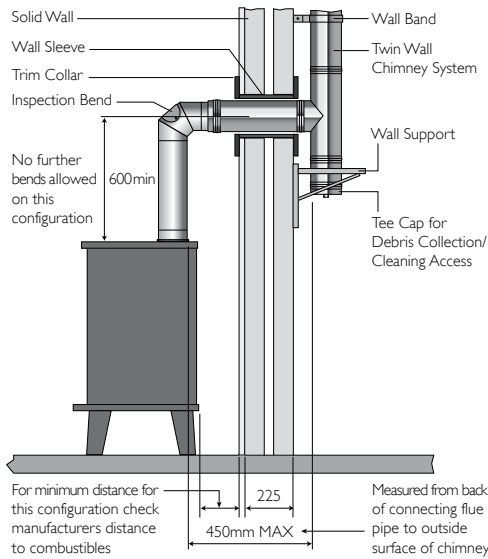
On solid fuel applications to conform to Building Regulations, provisions should be made to enable a chimney to be inspected and cleaned.

An inspection pipe, inspection elbow or a 45° or 90° Tee with tee cap can form a suitable inspection point (unless cleaning/inspection can be done through the appliance). To aid cleaning, sufficient distance should be left between changes of direction to permit the safe passage of cleaning brushes within the system. This is particularly important on solid fuel applications. It is recommended that chimneys serving solid fuel appliances be swept as frequently as necessary, but at least twice a year.

ACCEPTABLE ALTERNATIVE METHODS OF CONNECTION

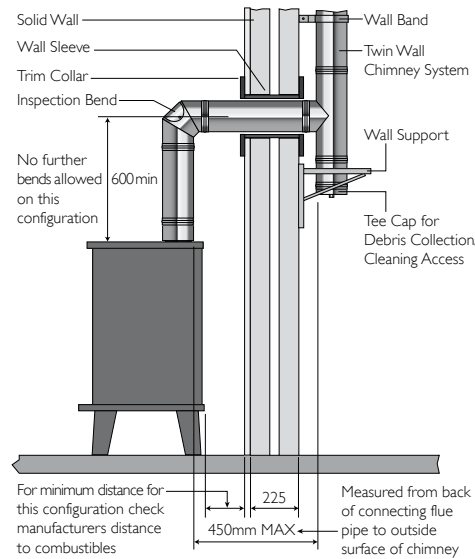
Where a horizontal connecting flue of more than 150mm is required to connect a solid fuel fired appliance to a chimney, an installation method as per the examples below may be used provided the following criteria is met:-

- a) The maximum length of horizontal connecting flue pipe does not exceed 450mm;
- b) A Defra exempt appliance or an appliance, which is limited to burning authorised smokeless fuel only, is installed;
- c) A calculation according to BS EN13384-1 has indicated safe operation of the proposed configuration, and the results of the calculation are left with the householder along with the appliance installation instructions;
- d) The appliance manufacturer agrees in writing to the proposed configuration;
- e) The chimney manufacturer agrees in writing to the proposed configuration;
- f) The total length of single wall connecting flue pipe is not more than 1.5m;
- g) The appropriate distances to combustible materials from both the appliance and the connecting flue pipe are maintained.

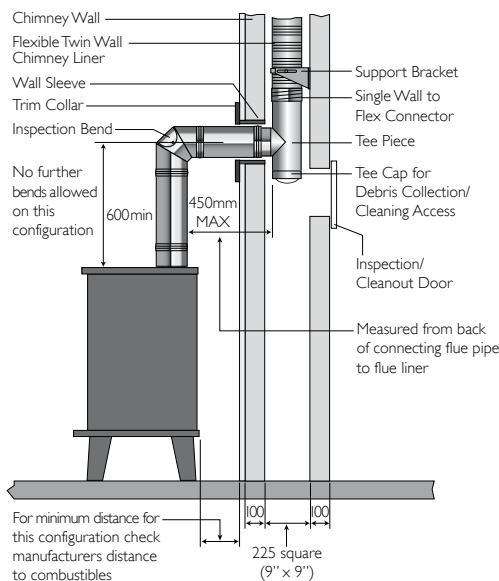


Top Outlet Single Wall Connecting Flue Pipe through Solid Wall into Twin Wall System Chimney

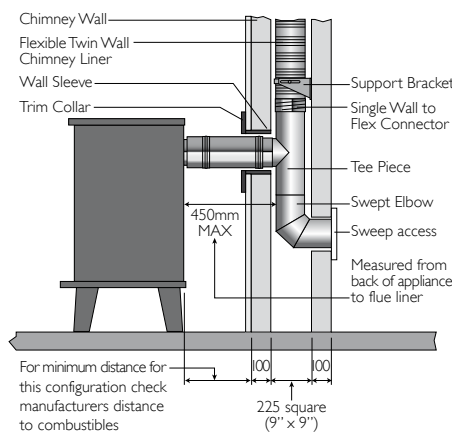
NB Where the connecting flue pipe from the appliance passes through any wall other than the existing chimney wall, the connecting flue pipe must be a System Chimney of twin wall insulated design.



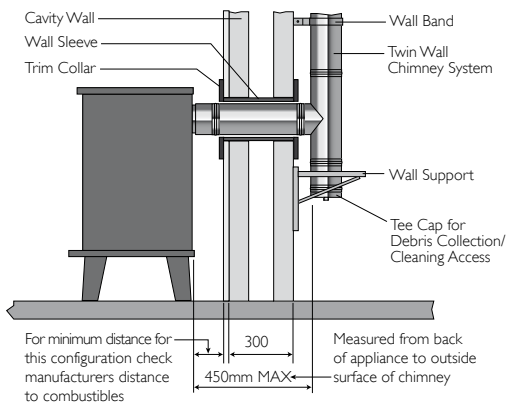
Top Outlet Twin Wall Connecting Flue Pipe through Solid Wall into Twin Wall System Chimney



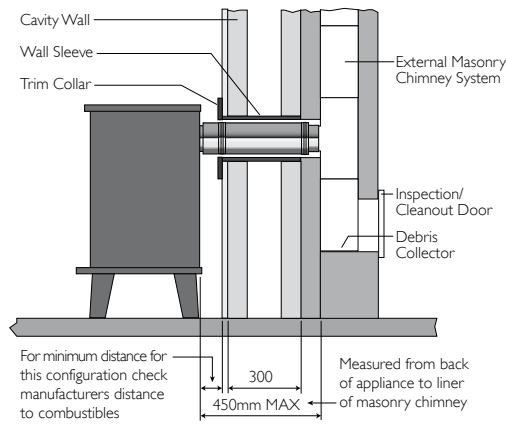
Top Outlet Twin Wall Connecting Flue Pipe into Re-lined Masonry Chimney



Rear Outlet Twin Wall Connecting Flue Pipe into Re-lined Masonry Chimney



Rear Outlet Twin Wall Connecting Flue Pipe Through Cavity Wall into Twin Wall System Chimney



Rear Outlet Twin Wall Connecting Flue Pipe into External Masonry Chimney through a Cavity Wall

SYSTEM CHIMNEY

Chimney Diameter

The chimney size should be as recommended by the appliance manufacturer. Where there is a requirement for a flue diameter smaller than the appliance spigot, then the operational requirements of the appliance and the configuration of the flue must satisfy the flue sizing requirements of EN13384-1 for single appliances, and EN13384-2 for multi appliances.

Chimney Route

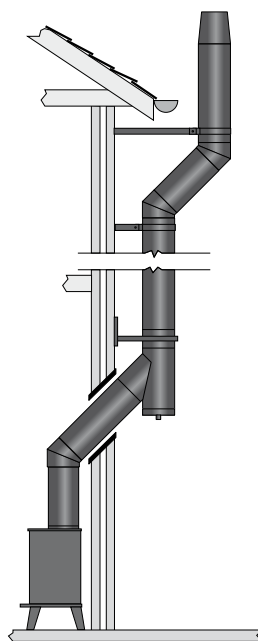
The chimney should remain as straight as possible through its vertical run to assist flow. Should it be necessary to offset a chimney run then the following guidelines should be adhered to: It is recommended that a vertical run of at least 600mm should be allowed immediately above the appliance prior to any change of direction. Within a system, on all fuels, there should be no more than 4 changes of direction of maximum 45°. Factory made 90° bends or tees within the system may be treated as being equal to two 45° bends (as per Document J of the Building Regulations issued October 2010).

Connection to Draught Diverter

Where the appliance features a draught diverter the connection should rise vertically from it for at least 600mm before any change of direction (unless otherwise specified by the appliance manufacturer). This is in accordance with the recommendations contained in BS 5440 Part 1 section 6.1.4

Direct Connection Appliance to System Chimney

When connecting from the appliance directly to a system chimney, the appropriate appliance connector must be used and the joint between the appliance spigot and the appliance connector must be securely caulked and sealed with non asbestos rope (or suitable alternative) and fire cement on solid fuel appliances.



direct connection from appliance

Distance to Combustibles

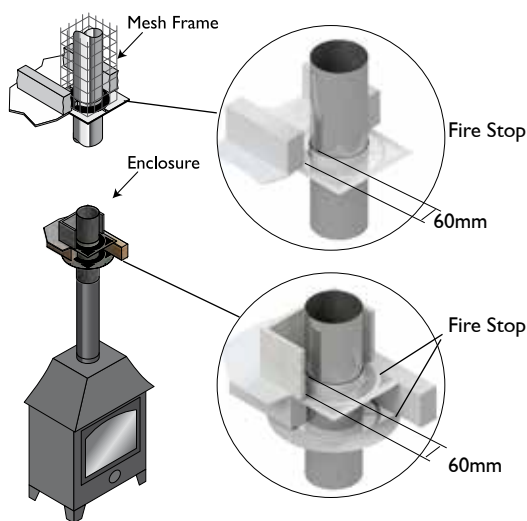
In accordance with building regulations, it is essential that the correct distance to combustible material is maintained. On solid fuel applications, where there is a risk of soot fire, a distance of 60 mm to combustibles must be maintained within a combustible floor and within a combustible shaft (see Fig.1 below). There is no need to line the area within the floor cavity with plasterboard; however the ventilated fire stop plate and ventilated support plate must be used.

On bungalow applications where the chimney runs through either a combustible or non-combustible ceiling, a ventilated fire stop can be used. The weight of the chimney should be supported using the roof support. Distance to combustibles must be respected within the ceiling space (see Fig. 2 below) and mesh frame should be used within the loft space, which must be ventilated (see Fig. 2 below).

Enclosure/Shafts

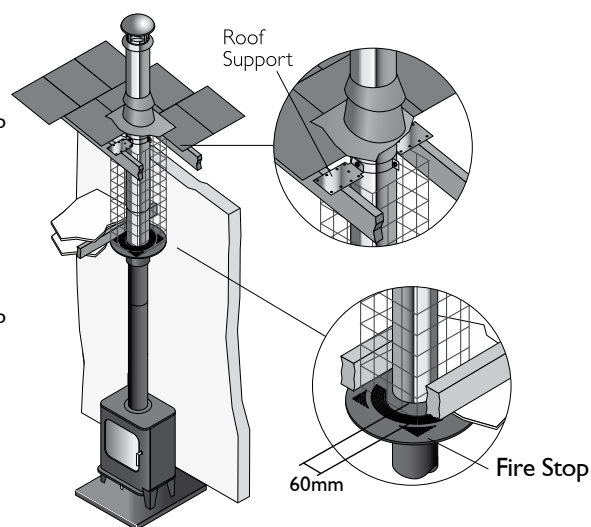
With the exception of the room containing the appliance, where the chimney passes through any part of the building, where there is a risk of accidental human contact, i.e a bedroom etc., or where there is a risk of contact with combustible materials stored in a cupboard or in the roof-space, the chimney must be enclosed in an appropriate way to meet Building Regulations. This can be achieved by boxing in the chimney in habitable rooms, or by the use of a protective wire mesh frame (minimum height of 1 mtr.) in roof spaces etc. In all cases the minimum distance to any combustible material, including loft insulation, must be respected according to the table on page 3, and any enclosure should be ventilated using the appropriate ventilated fire stops (see page 12).

Fig. 1



Internal House
Combustible Floors

Fig. 2



Internal Bungalow (Ventilated Loft Space)
Combustible and Non-Combustible Floors

Support Components

The weight of a chimney system is considerable and requires independent support. Minimal weight should be borne by the appliance. The weight of the chimney can be supported from floor level by using a base support plate, from the wall by using wall support or from first floor level by using a support plate and clamp fixed to the floor/ceiling joists.

Wall brackets are non load bearing and provide lateral support only. Refer to the load bearing tables on page 17 for full details of maximum loadings.

Where the flue is freestanding above the roof and its height exceeds 1.5m above the last support or above the roof, a height of up to 3m can be achieved unsupported using the extended locking bands at the joint immediately below the last support and on each pipe joint above the last support.

Alternatively guy wire brackets can be used at the 1.5m level and every 1.5m thereafter in conjunction with guy wires, or rigid stays (provided by others).

Chimney Termination

For full information regarding to chimney termination, please refer to Annex M of BS EN 15287-1. As a guide please refer to page 16 of these installation instructions.

Terminals

All terminals must be secured with the use of a locking band. On solid fuel appliances, an open termination is normally recommended. However in certain conditions, rain caps or storm cowl terminals may be used.

INSTALLATION INSTRUCTIONS

Jointing System

All joints in the chimney range, which require a locking band, are made by means of a jointing method. This is achieved by pushing together the male and female connections on each and of the main chimney components. In all cases joints should be held securely in place using the locking band, which is supplied with all components. The sealing ring in the inner wall must remain in its position and must not be damaged during connection of the elements. Make sure the welded seams of the connecting sections are in line.

Note: Joints must NOT occur within floor or ceiling spaces.

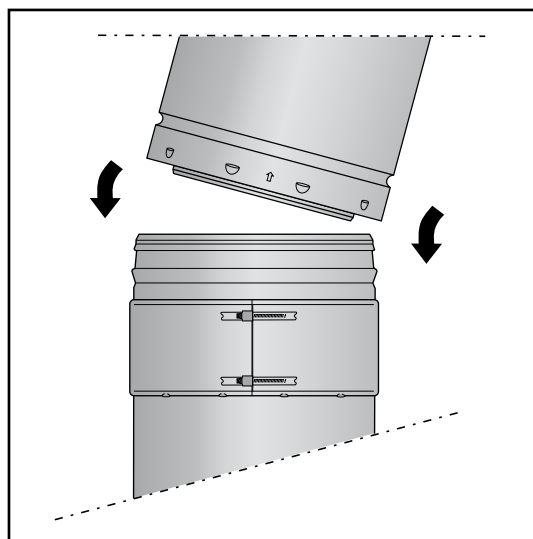


Fig. 1

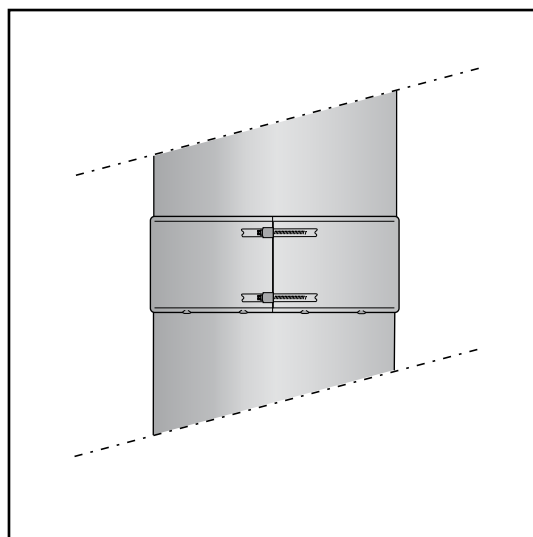


Fig. 2

Reinforced Locking Band

The reinforced locking band, which is purchased separately, is used instead of a standard locking band in a situation where extra structural support is required, for instance where the chimney height is >1.5m above the last support or above the roof. It is also used to provide extra support in long horizontal runs. A maximum of 3m unsupported height can be achieved by fitting the reinforced locking band on the joint immediately below and on every joint above the last support. Please see diagram on page 17.

Appliance Connector

1. The protruding liner of these components should be pushed into the appliance spigot with the male collar pointing upwards. The liner can be trimmed to suit the depth of the appliance spigot.
2. On solid fuel appliances the appliance connector should be sealed to the appliance with fire rope and fire cement or high temperature sealant to provide a gas tight joint.

Adaptors from single wall to AT

These components are used to convert from a single wall connecting flue pipe to the system chimney. The protruding liner should be pushed down inside the female socket of the connecting flue pipe, with the male collar pointing upwards.

Increaser

This component is used to increase from one diameter to the next diameter (e.g.) 130mm to 150mm. The component is fitted in the same way as a standard pipe length and should be secured with the locking band provided.

Adjustable Pipes

They are used with standard components to achieve an exact length on site and avoid on-site cutting of components.

1. Calculate the length required.
2. Remove insulation as required to achieve the correct length.
3. Fix the adjusted section to standard components using the locking band provided.

Please note that the adjustable pipe is non load bearing.

Inspection Pipe

The inspection length is a component providing the facility for flue inspection and cleaning. It is installed as per a standard pipe section. The removable inspection door must be parallel with the front of the stove, or at least 3 x the internal diameter from any combustible material (125mm I/D door must be at least 450mm from combustible material).

90° Tee

This component may be used to connect from a connecting flue pipe to the vertical system chimney at 90° or the branch may be used to locate a draft stabiliser. It is installed as per a standard pipe section. Please note that there are no barbs on the female collar in order to allow for the tee to be positioned at the correct angle.

45° Tee

This component may be used in combination with a 45° elbow to connect from a connecting flue pipe to the vertical system chimney. It is installed as per a standard pipe section and provides the least resistance to the flow of the flue gases. Please note that there are no barbs on the female collar in order to allow for the tee to be positioned at the correct angle.



Elbows

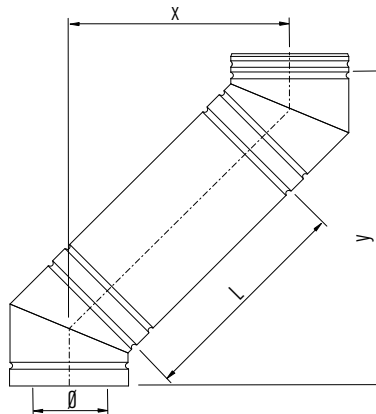
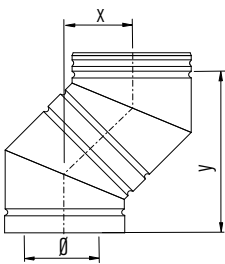
For offset information on standard elbows, please refer below.

In cases of top mounted stoves, a minimum vertical height of 600mm from the appliance is recommended prior to any change of direction in the flue pipe.



In all cases the joints should be held securely in place using the locking band.

OFFSET DIMENSIONS



15°		
Ø	X	Y
130	57	433
150	57	433
180	57	433
200	57	433
250	57	433
300	57	433
350	57	433
400	57	433

30°		
Ø	X	Y
130	110	411
150	110	411
180	110	411
200	110	411
250	110	411
300	110	411
350	110	411
400	110	411

45°		
Ø	X	Y
130	156	376
150	156	376
180	170	410
200	170	410
250	191	461
300	205	495
350	219	529
400	233	563

Ø	L= 200 mm		L= 300 mm		L= 400 mm		L= 500 mm		L= 1000 mm(965)	
	X	Y	X	Y	X	Y	X	Y	X	Y
130	109	626	135	722	160	819	186	915	307	1365
150	109	626	135	722	160	819	186	915	307	1365
180	109	626	135	722	160	819	186	915	307	1365
200	109	626	135	722	160	819	186	915	307	1365
250	109	626	135	722	160	819	186	915	307	1365
300	109*	626*	135	722	160*	819*	186	915	307	1365
350	109*	626*	135	722	160*	819*	186	915	307	1365
400	109*	626*	135	722	160*	819*	186	915	307	1365

Ø	L= 200 mm		L= 300 mm		L= 400 mm		L= 500 mm		L= 1000 mm(965)	
	X	Y	X	Y	X	Y	X	Y	X	Y
130	210	584	260	670	310	757	360	844	592	1246
150	210	584	260	670	310	757	360	844	592	1246
180	210	584	260	670	310	757	360	844	592	1246
200	210	584	260	670	310	757	360	844	592	1246
250	210	584	260	670	310	757	360	844	592	1246
300	210*	584*	260	670	310*	757*	360	844	592	1246
350	210*	584*	260	670	310*	757*	360	844	592	1246
400	210*	584*	260	670	310*	757*	360	844	592	1246

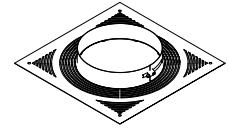
Ø	L= 200 mm		L= 300 mm		L= 400 mm		L= 500 mm		L= 1000 mm(965)	
	X	Y	X	Y	X	Y	X	Y	X	Y
130	297	517	368	588	438	658	509	729	838	1058
150	297	517	368	588	438	658	509	729	838	1058
180	311	551	382	622	453	693	523	763	852	1092
200	311	551	382	622	453	693	523	763	852	1092
250	332	602	403	673	474	744	544	814	873	1143
300	346*	636*	417	707	488*	778*	559	849	887	1177
350	361*	671*	431	741	502*	812*	573	883	902	1212
400	375*	705*	445	775	516*	846*	587	917	916	1246

* No standard length available

FIRESTOP COMPONENTS

Ventilated Support Plate

The support plate is used where the chimney passes through a combustible floor, and the weight of the chimney has to be taken at floor level. The support plate must be firmly fixed by using bolts or screws. For load bearing data refer to page 17.



1. Frame a four sided level square opening within the joists using timber stringers where necessary to allow for the correct distance to combustibles from the outer wall of the chimney. This distance must be a minimum of 60 mm for solid fuel applications.
2. Lower the chimney section through the opening in the floor, and secure to the next section of pipe.
3. Locate the two halves of the support plates around the chimney section, and secure to the joists using screws or bolts.
4. Remove the self-drilling screws which are fastened to the clamp band. Then fasten clamp band around the chimney section and position on top of the plate. Tighten using the nuts and bolts provided.
5. Using the holes in the clamp band as a guide, fasten the three self-drilling screws to the outer case of the system.

Note: Joints must NOT occur within the floor or ceiling joists.

Fig. 1

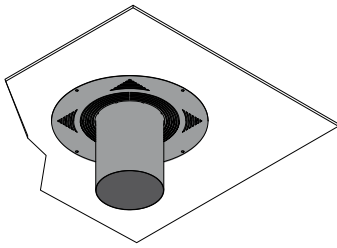
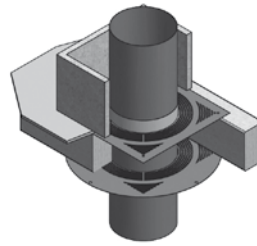


Fig. 2



Ventilated Firestop Plate (1 & 2-Piece Round and 2-Piece Rectangular)

The ventilated fire stop plates are used in combination with standard pipes where the chimney passes through a combustible floor or ceiling. The outermost circle of ventilation slots gives a distance to combustibles of 60 mm. This measures the required distance for solid fuel applications. The fire stop plate should be positioned around the chimney and fastened to the pre-cut plasterboard or to the timber frame with nails or screws using the location holes provided (see Fig. 2 above).



Wall Band (50-90mm)

Internal and External Application

The wall band is supplied in two parts, a stainless steel bands which fits tightly around the outside of the chimney and a stainless steel back bracket.

1. Once the position of the support has been determined, secure the back bracket to the wall with a method of fixing to ensure adequate attachment and support.
2. The stainless steel band is then positioned around the chimney section and secured with the nut and bolt provided to the bracket.
3. The wall bracket provides lateral stability only, it is NOT load bearing and is to be positioned at 2 metre centres.



Adjustable Back Bracket (90-200/190-300/290-400mm)

Internal and External Application

The adjustable wall bracket is supplied in two parts, two stainless steel adjustable legs, and a frame which fits tightly around the outside of the chimney.

1. Once the position of the support has been determined, secure the legs to the wall with a method of fixing to ensure adequate attachment and support.
2. Determine the amount of extension required and secure the back bracket of the wall band in place onto the adjustable section.
3. Fasten the strengthening back frame in place using the bolts provided.
4. With the back frame in place, locate the rear portion of the band onto the back bracket, the outer part of the band is then positioned around the chimney section and secure with the nuts and bolts provided.
- 5 The adjustable wall band provides lateral stability only, it is NOT load bearing and is to be positioned at 2 metre centres.



Adjustable Plate/band

The wall support is designed to be used internally or externally to provide either initial or intermediate support for the vertical chimney. It is used in combination with wall brackets. The female socket on the pipe attached to the underside of the plate should be pushed down onto the preceding pipe and the joint secured using the locking band provided. The top plate is then attached to the wall brackets using the bolts provided through the fixing slots in the top plate. The bolts should then be tightened firmly.

For maximum height of chimney see load bearing details, please refer to tables and diagrams on page 17.



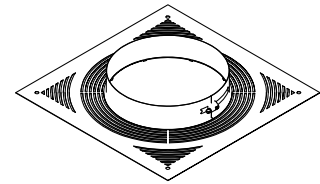
Wall Brackets

Once the position of the support has been established in relation to the chimney route, secure wall brackets to the wall using expansion bolts to ensure adequate attachment and support.

Ceiling Joist Support

Where the chimney passes through a combustible ceiling into the roof space, and the weight of the chimney has to be taken at floor level. The ceiling joist support must be firmly fixed by using bolts or screws. For load bearing Data refer to page 17.

1. Frame a four sided level square opening within the joists using timber stringers where necessary to allow for the correct distance to combustibles from the outer wall of the chimney. This distance must be a minimum of 60 mm for solid fuel applications (see Fig. 3 alongside - distance x).
2. Lower the chimney section through the opening in the floor, and secure to the next section of pipe.
3. Locate the two halves of the support plates around the chimney section, and secure to the joists using screws or bolts.
4. Remove the self-drilling screws which are fastened to the clamp band. Then fasten clamp band around the chimney section and position on top of the plate. Tighten using the nuts and bolts provided.
5. Using the holes in the clamp band as a guide, fasten the three self-drilling screws to the system.



Note: Joints must NOT occur within the floor or ceiling joists

Roof Support

The roof support is supplied as a kit complete with two side plates for fixing to the roof trusses, a band to give lateral support to the chimney as it passes through the roof, and 3 self tapping screws, which are secured to the chimney through the band to give a load bearing capacity. When the plates are installed above the roof trusses as in Fig.1 the maximum number of pipes, which may be suspended from the roof support is 6 x 1m pipes. When the plates are attached below the trusses as in Fig.2 the maximum number of pipes, which may be suspended is 4 x 1m pipes.

1. The band should be lowered down over the top of the pipe, and positioned so that the side plates are resting on top of the roof trusses as in Fig.1 or below the roof trusses in the case of Fig. 2. The recommended position is always as per Fig.1 where circumstances allow this solution.
2. The band should then be tightened using the nut and bolt provided.
3. Using the holes pre-drilled in the roof support band, drill 3mm holes in the outer case of the chimney section (drill bit should be set for a depth no greater than 10mm to avoid any damage to the liner of the chimney)
4. Use the self tapping screws provided to secure the clamp band to the outer casing of the chimney section.

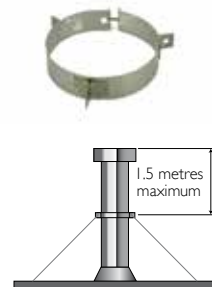
Please note: It is the responsibility of the installer to ensure that the trusses to which the roof support is being attached are load bearing and capable of withstanding the weight of the system being installed.



Guy Wire Bracket

This component should be used to secure unsupported chimney sections above roof level. Guy wires or preferably rigid stays (supplied by others) must be fixed to the bracket and secured to suitable anchorage points to ensure that the chimney sections are stable.

A maximum chimney height of 1.5 metres from the last support, or from the roof is permitted. Additional height requirements MUST be supported at 1.5 metre intervals using the guy wire bracket as specified above.

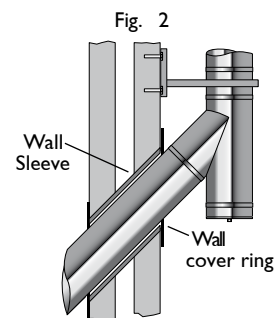


Wall sleeve

Wall sleeves must be used to protect the building where the chimney passes through a wall (see Fig. 2). The sleeve should be cut down to the correct length on site to fit flush with the wall (see Fig. 2). The sleeve should be adequately weatherproofed, using a good quality building mastic and rope fibre.

Wall cover ring

The wall cover ring fitted around the pipe where it protrudes through both the inside and the outside of the wall (see Fig. 2). They should be fastened to the wall using an adequate method of fixing. The wall cover ring should be adequately weatherproofed back to the wall and around the chimney, using a good quality building mastic or equivalent.



Angled Flashing

Manufactured in stainless steel for use on pitched roofs. This item is used in conjunction with the Metaloterm storm collar, which is purchased separately. The storm collar should be positioned immediately above the cone of the flashing, leaving a gap large enough to allow for ventilation, whilst ensuring that the cone is protected from rain ingress. The joint between the storm collar and the outer case of the flue should then be sealed with a mastic sealant, which is purchased separately.



Flat Flashing

Manufactured in stainless steel for use on flat roofs the base of the flashing should be covered by the roofing felt and then sealed. This item is used in conjunction with the Metaloterm storm collar, which is purchased separately. The storm collar should be positioned immediately above the cone of the flashing, leaving a gap large enough to allow for ventilation, whilst ensuring that the cone is protected from rain ingress. The joint between the storm collar and the outer case of the flue should then be sealed with a mastic sealant, which is purchased separately.



Storm Collar

This item is used in conjunction with the Metaloterm range of flashings and is purchased separately. The storm collar should be positioned immediately above the cone of the flashing, leaving a gap large enough to allow for ventilation, whilst ensuring that the cone is protected from rain ingress. The joint between the storm collar and the outer case of the flue should then be sealed with a mastic sealant, which is purchased separately.



Terminals

Terminals are supplied complete with a locking band. Once the terminal has been pushed into place, the adjustment bolt on the locking band clip should be tightened to ensure that the terminal is properly secured to the previous pipe.



Top stub



All weather cap



All weather cap with inspection

OUTLET SITING

Flue terminations for solid fuel & oil are subject to EN15287-1. Figures A and B illustrate recommendations for the most commonly encountered outlet terminations. Flue terminations for gas in domestic situations are governed by the BS5440-1 Section 4.2. Figure C illustrates recommendations for the most common siting situations encountered. Adjacent taller structures may require increased height. The minimum flue projection through the roof is 600mm to the underside of the terminal.

Outlet siting for Oil Appliances (<45kW)

Location of outlet		Pressure Jet Burner	Vapourising Burner
M	Above the highest point of an intersection with the roof	600mm	1000mm
N	From a structure to the side of the terminal	750mm	2300mm
O	Above a vertical structure which is less than 750mm (pressure jet burner) or 2300mm (vapourising burner) horizontally from the side of the terminal	600mm	1000mm
P	From a ridge terminal to a vertical structure on the roof	1500mm	Should not be used

Fig. A
Outlet siting for Oil Appliances (<45kW)

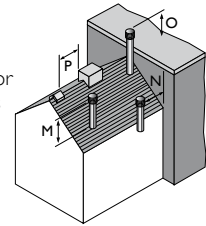


Fig. B
Outlet siting for Solid Fuel Appliances (<50kW)

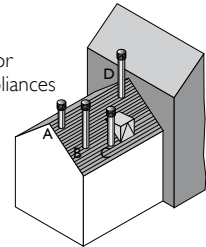
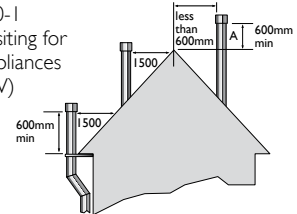
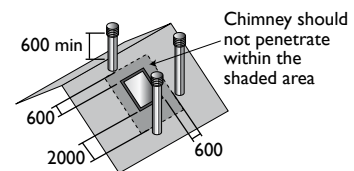


Fig. C
BS 5440-1
Outlet siting for Gas Appliances (<70kW)



Outlet siting for Solid Fuel Appliances (<50kW)

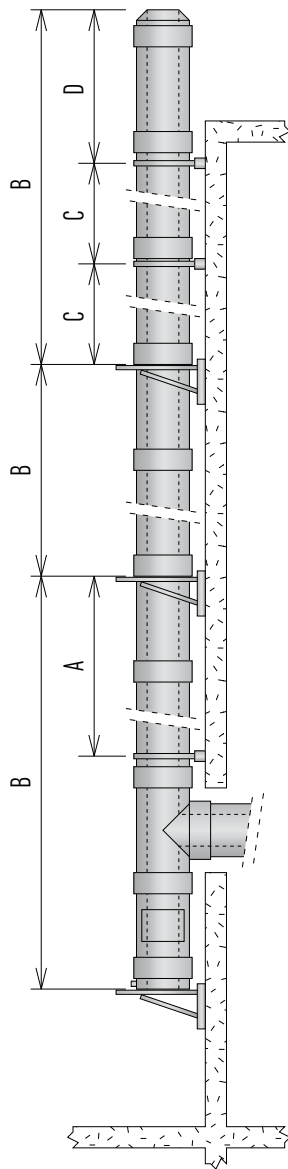
Point where flue passes through weather surface (Notes 1, 2)	Clearance to flue outlet	
A	At or within 600mm of the ridge	At or within 600mm above the ridge
B	Elsewhere on the roof (whether pitched or flat)	At least 2300mm horizontally from the nearest point on the weather surface and: a) at least 1000mm above the highest point of intersection of the chimney and the weather surface; or b) at least as high as the ridge
C	Below (on a pitched roof) or within 2300mm horizontally to an openable rooflight, dormer window or other opening (Note 3)	At least 1000mm above the top of the opening
D	Within 2300mm of an adjoining or adjacent building, whether or not beyond the boundary (Note 3)	At least 600mm above any part of the adjacent building within 2300mm



1. The weather surface is the building external surface, such as its roof, tiles or external walls.
2. A flat roof has a pitch less than 10°.
3. The clearance for A or B, as appropriate, will also apply.
4. A vertical flue fixed to an outside wall should be treated as equivalent to an inside flue emerging at the nearest edge of the roof.

TYPICAL INSTALLATIONS & LOAD BEARING

Mounting heights and distances



Ø(mm)		130	150	180	200	250	300	350*	400*
A (m)	ATT 45	20	20	20	20	15	10	10	9
	ATT 90	20	20	20	20	15	15	15	11
	ATTR	20	20	20	20	15	15	15	11
B (m)	ATOL 1 / 2	10	10	10	10	10	-	-	-
	ATMO	10	10	10	10	10	-	-	-
	ATOH 2 / 4	30	30	25	20	20	17	15	14
	ATAPU	30	30	25	20	20	17	15	14
	ATAPO	30	30	25	20	20	17	15	14
	ATSA	5	5	5	5	5	5	5	5
	ATN	5	5	5	5	5	5	5	5
	ATDQ	5	5	5	5	5	5	5	5
	ATIBDQ	3	3	3	3	3	-	-	-
	ATVQ / ATIBVQ / ATIBVQL	5	5	5	5	5	5	5	5
C (m)	ATMB 1/2/3	4	4	4	4	4	4	4	4
	ATMBV 2/3/4	4	4	4	4	4	4	4	4
	ATMBAH 1/2/3	3	3	3	3	3	3	3	3
	ATDQ	4	4	4	4	4	4	4	4
	ATVQ / ATIBVQ / ATIBVQL	4	4	4	4	4	4	4	4
	ATMB 1/2/3	2	2	2	2	2	2	2	2
D (m)	ATMB 1/2/3 + ATSK **	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5
	ATMBV 2/3/4	2	2	2	2	2	2	2	2
	ATMBV 2/3/4 + ATSK **	3	3	3	3	3	3	3	3
	ATDQ	2	2	2	2	2	2	2	2
	ATDQ + ATSK **	3	3	3	3	3	3	3	3
	ATIBDQ	1	1	1	1	1	-	-	-
	ATBT ***	3	3	3	3	3	3	3	3

* On request only

** Provided that the joints above and below the last connection point are reinforced with an ATSK.

*** The construction height B becomes 30% lower, when making use of a ATBT. Guy-wires are to be fixed at an angle of 45 degrees, at 2/3 of the freestanding height. All joints above the last connection point and the joint directly below the last connection point have to be reinforced with an ATSK.

A Maximum supportable height above Tee piece when chimney is supported by wall support at base.

B Maximum supportable height that can be borne by wall support.

C Maximum distance between lateral supports i.e. wall bands and wall supports.

D Maximum allowable free standing height above last support.

- For non-vertical parts of flue system the maximum distance between two wall bands i.e. brackets is 3,5 m

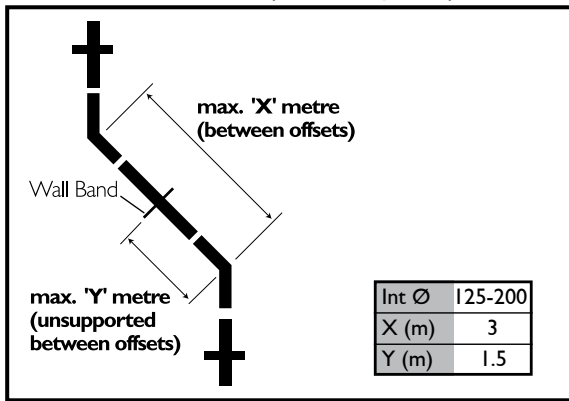
- The maximum angle of offset is 45° (measured from the vertical axis)

Important: the product with the lowest load bearing capacity determines the maximum supported height.

The clearance to combustible materials, as indicated in the CE-designation, applies to flues with a nominal diameter up to and including 300 mm. Regarding flues with a larger nominal diameter, the clearance must be multiplied by a factor: $\varnothing 350 - \varnothing 400 \times 1.5$.

OFFSET INSTALLATION

Max Offset Info (in same plane)



HEALTH & SAFETY

<p>Protection measures are required when cutting and drilling. Wet-cutting or dust extraction should be used.</p>		<p>HEALTH & SAFETY INSTRUCTION</p> <p>Many building products, including chimney elements are manufactured using natural raw materials which contain proportions of crystalline quartz.</p> <p>During the mechanical processing of products, such as cutting and drilling, quartz dust is released which can get into the lungs.</p> <p>With higher levels of exposure over longer periods this may result in damage to the lungs (silicosis) and as a consequence of the silicosis disease, to an increased risk of lung cancer.</p> <p>THE FOLLOWING PROTECTIVE MEASURES ARE TO BE TAKEN</p> <ul style="list-style-type: none"> • When cutting and drilling, a P3/FFP3 respiratory protection mask is to be worn. • In addition, wet-cutting equipment or equipment with dust extraction should be used.
<p>Eye Protection</p>	<p>P3/FFP3 Respiratory Protection Mask</p>	
<p>Ear Protection</p>		

HAZARDS FOR PEOPLE AND THE ENVIRONMENT

Mineral wool insulation materials in this group of products can release fine fibres which may have carcinogenic effects in the lungs. If inhaled, fibres can get into the body and cause damage to health. Larger fibres or fragments of fibres can cause irritation (itching) of the skin, the upper airways and the eyes!

PROTECTION MEASURES AND SAFE PRACTICE

Avoid contact with the skin!
After finishing work, rinse off dust with water and change your clothes. wash exposed areas of skin thoroughly with soap and if necessary use a skin care product!

- Eye Protection:** When working overhead and where large amounts of dust are produced, wear goggles with side protection.
- Hand Protection:** Protective gloves, e.g. in leather or nitrile-coated cotton.
- Breathing:** For low-level activities (exposure category E1/E2) the use of half or quarter masks with P2 filters (white) or FFP2 particle filtering half masks is recommended.

HEALTH AND SAFETY PRECAUTIONS

Special care must be taken when installing the chimney system such that the requirements of the Health and Safety at Work Act are met.

Handling

Adequate facilities must be available for loading, unloading and site handling.

Fire Cement

Some types of fire cement are caustic and should not be allowed to come into contact with the skin. In case of contact wash immediately with plenty of water.

Asbestos

This chimney product contains no asbestos. If there is a possibility of disturbing any asbestos in the course of installation then please seek specialist guidance and use appropriate protective equipment.

AFTER INSTALLATION

Testing and Commissioning prior to first use

This is carried out using a flue flow test as described in BS EN 15287 Parts 1 & 2, with reference to the appropriate appliance type.

Appliance Operation

Appliance slumbering must be avoided, and if the appliance has been run on low fire conditions for an extended period, then it is advisable to run the appliance at controlled high fire condition for a minimum period of at least 30 minutes afterwards. Prolonged slumbering of the appliance at all times is a contributing factor to a system chimney failure. It is important to maintain sufficiently high flue gas temperatures in order to avoid condensate and acid corrosion problems, and to ensure complete combustion of the fuel at all times. If corrosion occurs due to slumbering, then the guarantee will be invalidated on the system.

Multi-Fuel Applications

Multi-Fuel refers to an appliance which may be used to burn either seasoned wood, or approved solid fuels. These fuels should not be mixed, as this increases the risk of deposits being built up in the liner.

Maintenance

Each chimney must be designed to allow for easy inspection; sweeping should be carried out by competent persons. On solid fuel applications a list of HETAS registered sweeps can be found at www.hetas.co.uk. Chimney flue cleaning and inspection require the use of appropriate tooling – under no circumstances should chemical cleaners or mild steel tools be used to sweep stainless steel chimneys. Cleaning/inspection of any chimney system should be carried out at least once a year, along with maintenance of the appliance, but it is recommended that chimneys serving solid fuel appliances be swept at least twice a year, at the end of the heating season to remove any deposits, which may have built up during the season, and prior to the start of the next heating season to ensure that the flue way is clear of any blockages such as birds nests etc. We would advise that monthly checks are carried out to ensure that there is no build up of any deposits in the flue way of the connecting flue pipe or system chimney.

Fuel Storage and Usage

Where solid fuels are being used, correct storage is critical and fuels must be kept dry. Wood must be seasoned prior to use, with a maximum moisture content of 20%. Only approved fuels should be used. Refer to HETAS list for details on www.hetas.co.uk. The fuel used must be suitable for the appliance – please refer to manufacturer's instructions.

CHIMNEY PLATE

The Notice plate should be marked up in indelible ink and securely fixed in an unobtrusive but obvious position within the building such as:

- Next to the electricity consumer unit.
- Next to the chimney installation described.
- Next to the water supply stop-cock.

See example alongside:

System Metaloterm

Section reserved to the installer

Designation according to EN 1856 (please tick)

Nominal diameter Ø: _____ mm

Minimum distance to combustible material: _____ mm

Date of installation: _____

Installer: _____

WARNING ! Don't remove or modify this plate

PRODUCT GUARANTEE

Under normal operating conditions and providing the system is installed correctly, it should last the lifetime of the appliance, which normally is 10 years. AT carries a 30 year conditional guarantee. The conditions are that the system is:-

- Correctly sized and installed in accordance with the manufacturer's instructions, current Building Regulations and relevant British and European standards.
- Maintained correctly by a qualified and competent person and maintenance records kept updated for both appliance and system chimney.
- Used in combination with an appliance burning only approved fuels in accordance with Schiedel Metaloterm and the appliance manufacturer's instructions.
- The product registration form must have been filled in by an appropriately qualified installer (see p.3 for details), and returned to Schiedel Metaloterm.

For recommended fuels listings, please refer to the HETAS Guide www.hetas.co.uk

In the event of a fault developing in the product due to defective materials or faulty manufacture Schiedel Metaloterm undertake to replace the product only.

Schiedel Metaloterm cannot accept liability nor take any responsibility for the installation, building or redecorating costs or any other consequential losses arising.

If any complaint is found to be a result of faulty installation, non-compliance with or abuse contrary to these conditions, the cost of site investigation is chargeable.

www.metaloterm.com