



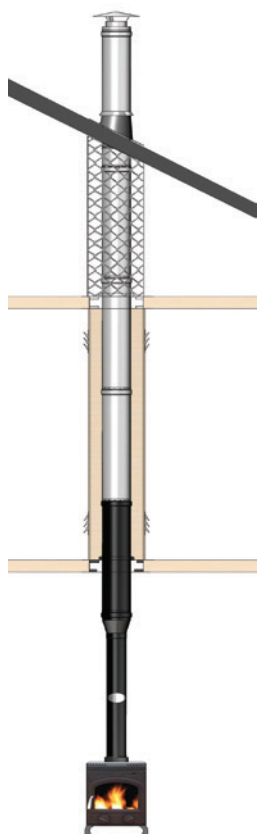
# SYSTEM 2 SYSTEM 21

## SYSTEM 2

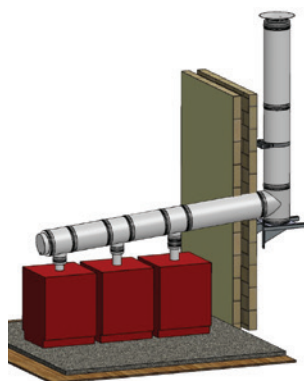
**Twin Wall Insulated  
Multi Fuel Chimney System**

## SYSTEM 21

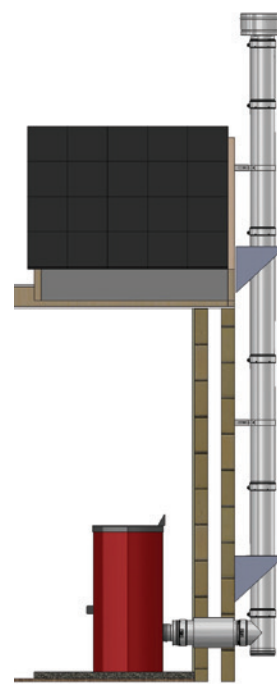
**Twin Wall Insulated Chimney  
System suitable for Condensing  
Oil and Condensing Gas Applications**



Domestic  
Solid Fuel Installation



Commercial  
Boiler Installation



Palazzetti Pellet Stove  
Installation

C E 0120



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Twin Wall Insulated Multifuel Chimney System**

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Twin Wall Insulated Multifuel Chimney System  
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Condensing Oil and Condensing Gas Applications**

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## Introduction

Mi-Flues System 2 is a factory made twin wall insulated stainless steel chimney system. It is suitable for use on Solid Fuel, Pellet / Biomass, Non Condensing Oil and Non Condensing Gas applications. Mi-Flues System 2 can be connected directly to a Non Condensing Oil boiler, Non Condensing Gas boiler, or Biomass / Pellet appliance, with a nominal working flue gas temperature of less than or equal to 300°C when recommended by the appliance manufacturer. In all other solid fuel applications it must be connected to a suitable connecting flue pipe, and not to the appliance itself. Mi-Flues System 2 should be installed in accordance with Building Regulations.

## Product Description

Mi-Flues System 2 is manufactured from three distinct materials. The combination of the three, yields a product with a high thermal resistance due to the materials used.

The design, having almost no thermal bridging between the chimney liner and body, ensures a quick stabilization of flue gas temperatures and the existence of a strong draught. It is constructed from concentric cylinders commonly referred to as the chimney liner and body.

The liner of the flue is made from 316L grade stainless steel and is designed to automatically cope with the thermal elongation due to changes in temperature.

It also offers excellent resistance against corrosion due to its molybdenum alloy content.

The body is made from 304 grade stainless steel which carries the structural load. It has a bright polished finish and is weather proof due to its high quality continuously seam welded finish.

The chimney is insulated with a densely packed insulation which results in a low heat conductivity to the outer wall of the chimney. System 2 is available in diameters 80mm - 500mm. System 2 is also available as standard in a black finish in 100mm, 125mm and 150mm diameters (larger diameters are available on request—please contact Mi-Flues for details).

## Approvals

Mi-Flues System 2 is manufactured and conforms to EN1856-1, EN1856-2 and is tested to the requirements of EN1859 to the performance designation below:

EN1856-1 T450 N1 D Vm L50040 G60 (I.D 80-200mm)  
 EN1856-1 T450 N1 D Vm L50050 G60 (I.D 250-500mm)  
 EN1856-2 T450 N1 D Vm L50040 G60 (I.D 80-200mm)  
 EN1856-2 T450 N1 D Vm L50050 G60 (I.D 250-500mm)  
 (I.D above refers to Internal Diameter of the Chimney)

\*EN 1856-2 T450 N1 D Vm L50050 G60

\*EN 1856-2 T450 N1 D Vm L50040 G60

\*System 2 can only be used as a connecting flue pipe on suitable non condensing oil and non condensing gas applications, or on a Biomass/Pellet appliance with a nominal working flue gas temperature of less than or equal to 300 °C when recommended by the appliance manufacturer.

Four hour Fire Rated (Integrity).

## Components

Mi-Flues offers a wide range of prefabricated components allowing complete flexibility to meet today's demanding applications.

The system comprises of adaptors, straight lengths, adjustable lengths, bends, tees and a wide range of accessories.

Assembly instructions for all components which are supplied unassembled are available in this brochure, on our packaging labels and/or through our website.

\*Where 'I.D' is shown throughout in tables this refers to the Internal Diameter of the chimney.

\*Where 'Ex.D' is shown throughout in tables this refers to the External Diameter of the chimney.

## Application

Mi-Flues System 2 is ideal for installation in Residential, Commercial or Industrial heating Applications. It is quick and easy to install. System 2 listed products can be installed internally or externally as an independent chimney system (see page 20 for illustrations). Installation should always be in accordance with all Building Regulations, with particular emphasis to Documents J, and Building Regulations Document B.

**System 2 is not suitable for use on condensing applications.**

## Joint Assembly

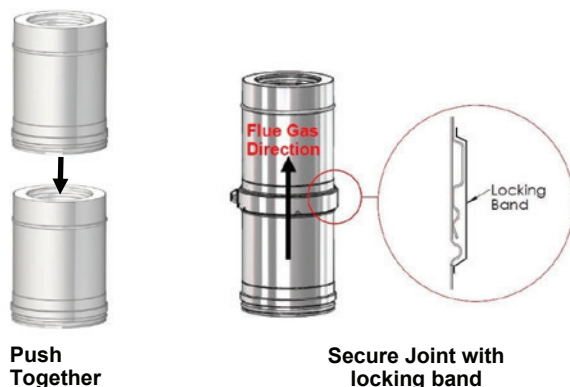
Mi-Flues System 2 chimney products incorporate a unique jointing system. To join System 2 components simply push the components in question firmly together ensuring the product label flue gas directional arrow points upwards.

To secure, tighten the nut and bolt on the locking band, taking care to note the directional arrow on it and drain off holds are located on the bottom, as shown on the illustration below. Each component comes with a locking band where required.

The cutting of elements is prohibited as it will remove the unique jointing system.

## Locking Band

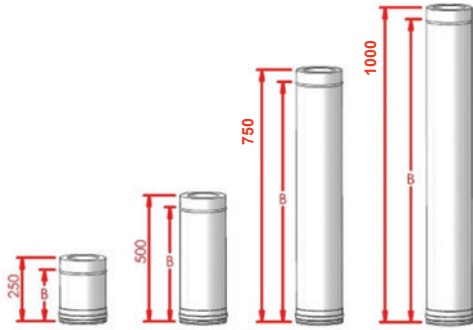
The unique jointing system, along with the locking band system, both strengthen the joints and ensures the excellent gas tight properties of the chimney. Care must be taken to install the locking band as per its flue gas directional arrow which points upwards.



# Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

## Lengths

**Product Code: 2-D-Length**  
**Product Code: 2-D-Length-B (for Black)**  
 Replace 'D' above with required Internal diameter and specify length: 1000mm, 750mm, 500mm or 250mm.



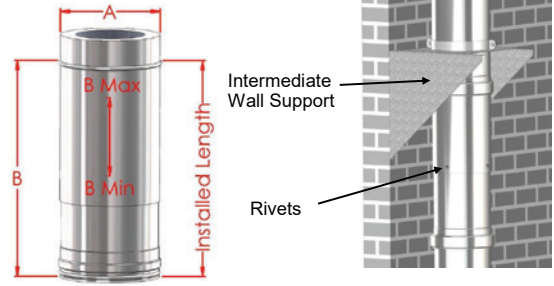
Lengths come in diameters from 80mm to 500mm. To confirm the working length please refer to the chart below. Always install the chimney as pointed out by the directional arrows attached to the main chimney body. The 750mm length is designed to facilitate an uninterrupted run through a standard cavity wall at 45°.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B 1000</b>	946	946	946	946	946	946	946	946	946	946	946	946
<b>B 750</b>	-	-	696	696	-	-	-	-	-	-	-	-
<b>B 500</b>	446	446	446	446	446	446	446	446	446	446	446	446
<b>B 250</b>	196	196	196	196	196	196	196	196	196	446	446	196

**Adjustable Length**  
**Product Code: 2-D-ADJ**  
**Product Code: 2-D-ADJ-B (for Black)**  
 Replace 'D' above with required Internal Diameter

This component is designed to provide onsite adjustment and is used where accurate linear movements are required. This is a non load bearing telescopic pipe and at its full extension must have a telescopic overlap of at least 80mm. A wall support must be used on the component directly above the adjustable length to support the chimney run. Four by equidistant holes must be drilled on the telescopic body to allow for fitting 5mm stainless steel rivets/ self tappers (rivets and self tappers not supplied by Mi-Flues.).

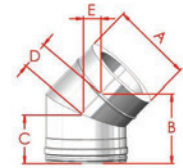


I.D	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B Max</b>	490	490	490	490	490	490	490	490	490	490	490	490
<b>B Min</b>	340	340	340	340	340	340	340	340	340	340	340	340

## Bends

**45° Bend**  
**Product Code: 2-D-45**  
**Product Code: 2-D-45-B (for Black)**  
 Replace 'D' above with required Internal Diameter

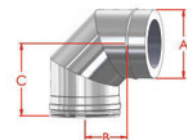
A 45° bend is used to create a change in direction in a flue run. This component is developed in two segments. They are usually used in pairs, the first to create the offset and the second to turn the chimney to its original vertical position. Two by 45° bends can be used to create a 90° bend.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B</b>	138	142	155	162	182	191	199	215	232	250	270	285
<b>C</b>	100	109	115	115	126	131	135	145	156	166	172	187
<b>D</b>	57	60	67	75	78	84	88	98	108	119	129	139
<b>E</b>	42	43	45	54	55	59	62	69	76	84	91	98

**90° Bend**  
**Product Code: 2-D-90**  
**Product Code: 2-D-90-B (in Black)**  
 Replace 'D' above with required Internal Diameter

A 90° bend is used to create a change in direction in a flue run and is developed in three segments. It may be taken as being equal to two 45° bends. Two 45° bends may be used to achieve a 90° bend in diameters greater than 150mm.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B</b>	110	115	140	148	-	-	-	-	-	-	-	-
<b>C</b>	150	164	187	205	-	-	-	-	-	-	-	-

## Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

### Tee's / bends with cleaning access

#### 90° Bend c/w Cleaning/Access

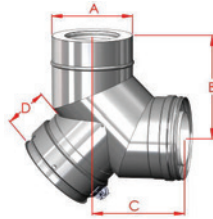
**Product Code: 2-D-90-CA**

**Product Code: 2-D-90-CA-B (in Black)**

Replace 'D' above with required Internal diameter

A 90° Bend complete with access is used to create a bend in a flue run. It is used to change a chimney run from a horizontal run to a vertical run.

This component comes complete with a removable inspection cap which makes it suitable for biomass appliances with low level exhaust spigots and horizontal runs through the external wall to provide accessible cleaning / inspection access (Refer to Page 16 for information on connecting to Palazzetti Pellet Stoves).



Int. Dia	100	125	150
Ext. Dia	150	180	200
A	150	180	200
B	183	201	214
C	172	190	203
D	83	83	83

#### 45° Tee

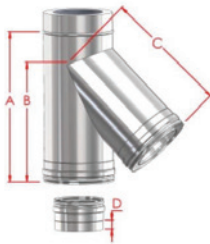
**Product Code: 2-D-45T**

**Product Code: 2-D-45T-B (for Black)**

Replace 'D' above with required Internal diameter

A 45° Tee is used to create a bend in a flue run. This component minimises the resistance to flow because of the angle created with the vertical axis. This component comes complete with a removable inspection cap in diameters up to 200mm.

For larger diameters a tee cap/tee cap with drain must be ordered separately when required (refer to Tee Cap Section).



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	312	320	380	391	440	452	535	608	678	749	820	891
B	227	260	312	329	362	375	443	503	563	624	684	745
C	236	268	310	339	364	389	448	511	570	631	691	752
D	20	20	20	20	20	20	-	-	-	-	-	-

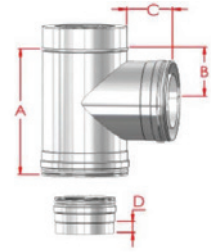
#### 90° Tee

**Product Code: 2-D-90T**

**Product Code: 2-D-90T-B (for Black)**

Replace 'D' above with required Internal diameter

A 90° Tee is used to create a bend in a flue run. It is used to change a chimney run from a horizontal run to a vertical run. This component comes complete with a removable inspection cap in diameters up to 200mm. For larger diameters a Tee Cap/tee cap with drain must be ordered separately when required (refer to Tee Cap Section).



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	260	262	287	307	347	363	387	447	497	563	613	663
B	108	107	121	130	154	159	170	199	225	258	286	308
C	93	84	75	86	85	94	84	81	89	87	87	87
D	20	20	20	20	20	20	-	-	-	-	-	-

### Tee Caps

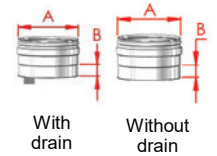
#### Tee Cap with drain or without drain

**Product Code: 2-D-TCD (with drain)**

**Product Code: 2-D-TC (without drain)**

Replace 'D' above with required Internal diameter

A Tee cap is used to provide access for inspection and cleaning. A Tee cap with a drain (stainless steel three quarter inch) is used to facilitate condensate drainage from the system.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	-	-	-	-	-	-	-	-	-	-	-	-
A	80	100	125	150	180	200	250	300	350	400	450	500
B	20	20	20	20	20	20	20	20	20	20	20	20

#### Double Wall Insulated Tee Cap

#### Double Wall Tee Cap with Drain

**Product Code: 2-D-TCD-I (with drain)**

**Product Code: 2-D-TC-I (without drain)**

Replace 'D' above with required Internal diameter

A double wall insulated tee cap provides access for inspection and cleaning. This product allows the tee cap/tee cap with drain to be held in position with a locking band (product comes complete with locking band). A double wall insulated tee cap with a drain is used to facilitate condensate drainage from the chimney.

**Note**, a base wall support plate cannot be used with a double wall insulated tee cap. An intermediate wall support should be used on the length directly above the tee.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	-	-	-	-	-	-	300	350	400	450	500	550
A	-	-	-	-	-	-	300	350	400	450	500	550
B	-	-	-	-	-	-	20	20	20	20	20	20

## Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

### Draught Stabiliser

**Product Codes:**

**DRA-SS (Stainless Steel)**

**2-D-ADP-DS (Adaptor)**

Replace 'D' above with required Internal diameter

Draught stabilisers are intended to ensure proper draught conditions in chimneys where necessary. They work by pulling cool air from the room into the flue, which in turn aids in reducing the temperatures of the flue gases. Note, additional ventilation will be required when a draught stabiliser is included in a chimney installation (refer to local Building Regulations).

A Draught stabiliser can be connected into a System 7, System 2 and System 21 product run. The draught stabiliser should always be installed in the same room as the appliance. An adaptor is available to facilitate fitting of a draught stabiliser to System 2 / System 21 products.

To fit a draught stabiliser, a 90° Tee must be installed on the connecting flue pipe. The 90° Tee should be positioned above the appliance spigot and as near as possible to the appliance spigot. Once the 90° Tee has been installed the draught stabiliser can then be mounted to the branch of the Tee with the use of the relevant adaptor supplied by Mi-Flues.

Contact Mi-Flues for specific information on draught stabilisers.

### ADAPTORS

**It is important that the adaptor you choose is in accordance with the Mi-Flues literature, local Building Regulations and appliance manufactures instructions.**

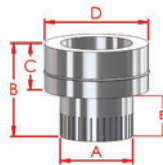
#### Start Off Adaptor

**Product Code: 2-D-ADP**

**Product Code: 2-D-ADP-B (for Black)**

Replace D above with required Internal diameter

An adaptor is used to join a single wall connecting flue pipe to a twin wall system.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A - Before crimp</b>	80	100	125	150	180	200	250	300	350	400	450	500
<b>B</b>	137	137	137	137	177	177	177	177	177	177	177	177
<b>C</b>	68	68	68	68	68	68	83	83	83	83	83	83
<b>D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>E</b>	69	69	69	69	59	59	59	59	59	59	59	59

#### Start Off Adaptor—Tapered

**Product Code: 2-D-ADPT**

**Product Code: 2-D-ADPT-B (for Black)**

Replace 'D' with required Internal diameter

A tapered adaptor is used to join a single wall connecting flue pipe to a twin wall system. It provides a more aesthetic finish due to the external tapered section below the ceiling level. The black adaptor comes with a 5mm gasket which must be used when joining to the connecting flue pipe.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	80	100	125	150	180	200	-	-	-	-	-	-
<b>B</b>	125	150	180	200	225	250	-	-	-	-	-	-
<b>C</b>	223	223	223	223	238	238	-	-	-	-	-	-

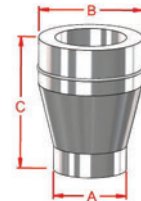
#### Start Off Adaptor—Tapered Reducing

**Product Code: 2-D-ADPRT (Reducing)**

**Product Code: 2-D-ADPRT-B (for Black)**

Replace 'D' with required Internal diameter

A reducing tapered adaptor is used to join a single wall connecting flue pipe to a twin wall system. It provides a more aesthetic finish due to the external tapered section below the ceiling level. Specific reducing adaptors are available on request. The black adaptor comes with a 5mm gasket which must be used when joining to the connecting flue pipe.



I.D	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	80	100	125	150	180	-	-	-	-	-	-
<b>B</b>	150	180	200	225	250	-	-	-	-	-	-
<b>C</b>	220	220	220	245	245	-	-	-	-	-	-

#### Start Off Reducing Adaptor (Pellet)

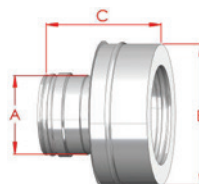
**Complete with Female End + Seal**

**Product Code: 2-D-ADP-R-F**

**Product Code: 2-D-ADP-R-F-B**

Replace D above with required Internal diameter

This adaptor is used to join an appropriate Pellet / Biomass boiler spigot to a System 2 chimney system. It comes complete with seal which fits over an 80mm/100mm outside diameter appliance outlet spigot (see illustration Page 21).



<b>Int Dia</b>	100	125
<b>Ext Dia</b>	150	180
<b>A</b>	80	100
<b>B</b>	150	180
<b>C</b>	150	150

# Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

## Terminals

### Cowl (Rain Cap)

Product Codes:

**2-D-CLC** (Standard cowl - Rain Cap)

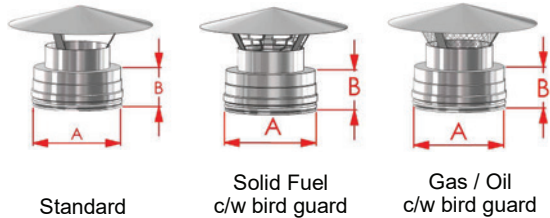
**2-D-CLC-B** (Standard cowl - Rain Cap Black)

**2-D-CLCBG-SF** (Cowl c/w Bird Guard for Solid Fuel)

**2-D-CLCBG-SF-B** (Cowl c/w Bird Guard S/F-Black)

**2-D-CLCBG-G** (Cowl c/w Bird Guard for Gas)

Replace 'D' above with required Internal diameter



A cowl is the top rain cap for a chimney. Its purpose is to stop the infiltration of rain or snow to the inside of the chimney. It is fitted onto the last length of the installation and secured with a locking band. (This cowl is also available for gas installations with the addition of an appropriate gas mesh, as shown above).

I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	125	150	180	200	225	250	300	35	400	450	500	550
B	67	67	67	67	82	82	82	82	82	82	82	82

### Finishing Cone

Product Code: **2-D-FC**

Product Code: **2-D-FC-B** (for Black)

Replace 'D' above with required Internal diameter



A Finishing Cone offers the least resistance to flue gases and is ideal for use on solid fuel appliances where there is drainage at the base of the chimney. The chimney remains open at the top but the cone ensures the insulation in the final flue length is sealed.

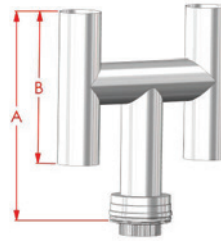
I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	80	100	125	150	180	200	250	300	350	400	450	500
B	125	150	180	200	225	250	300	350	400	450	500	550
C	228	228	228	228	125	125	125	125	125	125	125	125

### H Cowl

Product Code: **2-D-HCL**

Product Code: **2-D-HCL-B** (for Black)

Replace 'D' above with required Internal diameter



A H cowl is used to reduce the possibility of down draught problems occurring. It is fitted onto the last length of the installation and secured with a locking band.

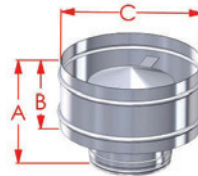
I.D	100	125	150	180	200	250	300	350	400	450	500
Ex.D	150	180	200	225	250	300	350	400	450	500	550
A	592	751	751	795	900	-	-	-	-	-	-
B	350	457	457	490	560	-	-	-	-	-	-

### Storm Cowl

Product Code: **2-D-SCL**

Product Code: **2-D-SCL-B** (for Black)

Replace 'D' above with required Internal diameter



A storm cowl is a rain cap which is used in exposed areas subject to high wind conditions. It reduces the possibility of the wind affecting the appliance. This cowl should be used on wood pellet/wood chip applications when recommended by appliance manufacturer.

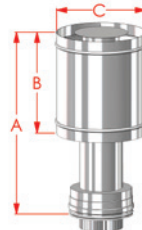
I.D	100	125	150	180	200	250	300	350	400	450	500
Ex.D	150	180	200	225	250	300	350	400	450	500	550
A	245	245	245	245	245	284	284	284	306	306	306
B	136	136	136	136	136	175	175	175	197	197	197
C	272	295	320	347	370	412	462	512	562	612	662

### Anti Downdraught Cowl

Product Code: **2-D-ADD**

Product Code: **2-D-ADD-B** (for Black)

Replace 'D' above with required Internal diameter



An Anti Down draught cowl is used to reduce the possibility of a down draught problem occurring. It is fitted onto the last length of the installation and secured with a locking band.

I.D	100	125	150	180	200	250	300	350	400	450	500
Ex.D	150	180	200	225	250	300	350	400	450	500	550
A	529	515	515	764	919	-	-	-	-	-	-
B	250	250	305	356	405	-	-	-	-	-	-
C	205	230	276	322	369	-	-	-	-	-	-

**Mi-Flues Twin Wall Insulated Chimney System Components (with assembly instructions)**  
 Suitable for System 2 and System 21 Applications

**Components**

**45° Rosette Plates (Black)**

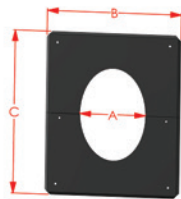
**Product Code: 2-D-RP45-S**

Replace 'D' above with internal diameter of pipe passing through it

The Rosette plate is used for aesthetic purposes to improve the finish of a flue as it penetrates a wall. They are available in a split format for retro fitting. Rosette plates are available to suit 45° angles. Each rosette plate comes individually packaged for ease of handling and storage.

The pack contains two half plates along with six wall plugs and six screws. These are used to secure the plates around the chimney; two at the top, two in the middle and two at the bottom.

Int Dia	125	150
Ext Dia	180	200
A	183	204
B	373	384
C	448	468



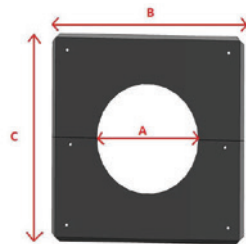
**90° Rosette Plates (Black)**

**Product Code: 2-D-RP90-S**

Replace 'D' above with internal diameter of pipe passing through it

The Rosette plate is used for aesthetic purposes to improve the finish of a flue as it penetrates a wall. They are available in a split format for retro fitting. Rosette plates are available to suit 90° angles. Each rosette plate comes individually packaged for ease of handling and storage. NOTE : Refer to manufacturers instructions / Building Regulations for horizontal chimney run Instructions prior to use of 90° rosette plates.

Int Dia	100	125
Ext Dia	150	180
A	153	183
B	342	372
C	342	372

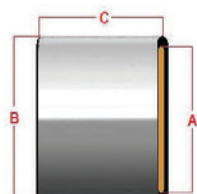


**90° Insulated Sleeve**

**Product Code: 2-D-IS90**

An insulated sleeve is used to pass a flue through an external wall thus providing a continuous uninterrupted run through a wall. It is designed to suit a maximum wall thickness of 300mm. NOTE : Refer to manufacturers instructions / building regulations for horizontal chimney runs instructions prior to use on 90° insulated sleeves.

Int. Dia	100	125
Ex. Dia	150	180
A	169	194
B	219	244
C (Wall Thickness)	300	300



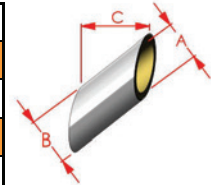
**45° Insulated Sleeve**

**Product Code: 2-D-IS45**

Replace 'D' above with internal diameter of pipe passing through it

An insulated sleeve is used to pass a flue through an external wall thus providing a continuous uninterrupted run through a wall. It is designed to suit a maximum wall thickness of 300mm.

Int. Dia	80	100	125	150	180	200
Ex. Dia	125	150	180	200	225	250
A	140	169	194	219	253	273
B	190	219	244	269	303	323
C (Wall Thickness)	300	300	300	300	300	300



**Support Components**

**Firestop**

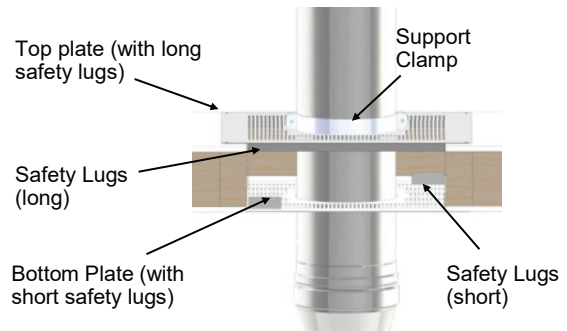
**Product Code: 2-D-FS (Square)**

**Product Code: 2-D-FS-B (for Black-Square)**

**Product Code: 2-D-FS-R (Round)**

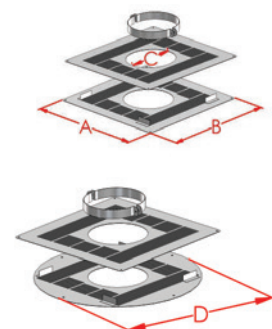
**Product Code: 2-D-FS-R-B (for Black-Round)**

Replace 'D' with required internal diameter



A Firestop is used where a chimney penetrates a ceiling or joist area. It provides resistance to fire spread between rooms or compartments. It consists of two stainless steel plates and a support clamp. The Firestop centralises the chimney and maintains a 60mm gap to combustible materials. It also acts as a load bearing support member due to its support clamp. A round shaped bottom plate is also available (as shown).

I.D	100	125	150	180	200
Ex.D	150	180	200	225	250
A	390	420	440	465	490
B	390	420	440	465	490
C	160	190	210	235	259
D	402	444	473	508	543





## Support Components

Each Firestop comes individually packaged complete with installation instructions shown on the packaging label. The contents of each box are as follows:

2x Firestop Plates, 1x Firestop Support Clamp

### Installation Instructions

Install Firestop **as per illustration on page 8** ensuring that no combustible material passes the safety lugs and the required 60mm clearance distance.

The bottom firestop plate, shown complete with short safety lugs, should be drilled and screwed to the ceiling joist (screws not included).

The top firestop plate, shown complete with long safety lugs, rests on the joist/floor and should be drilled and screwed to the floor. (Screws not included). When both firestop plates are in position the System 2 chimney components should be passed through the plates ensuring no joints occur within the joist/firestop plate area. Strap the firestop support clamp around the chimney body directly above the top firestop plate thereby transferring the weight to the top firestop plate.

## Firestop

**complete with Cover Plate (Black)**

**Product Code: 2-D-FS-CP-B**

Replace 'D' with required Internal diameter



To enhance the finish of our Firestop Mi-Flues have added the option of a Cover Plate. This provides a more aesthetic finish as a Twin Wall flue penetrates a ceiling, whilst still providing the required unrestricted access for ventilated air as per regulation.

The Cover Plate is attached to the bottom of the Firestop as shown in above illustration.

The Firestop with Cover Plate can only be used in the room in which the appliance is installed. The ventilation passage must not be restricted in any way. Please refer to firestop fitting instructions in section above.

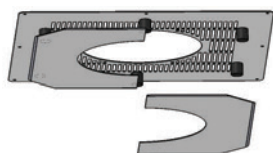
## Firestop

**complete with Cover Plate for Retrofit (Black)**

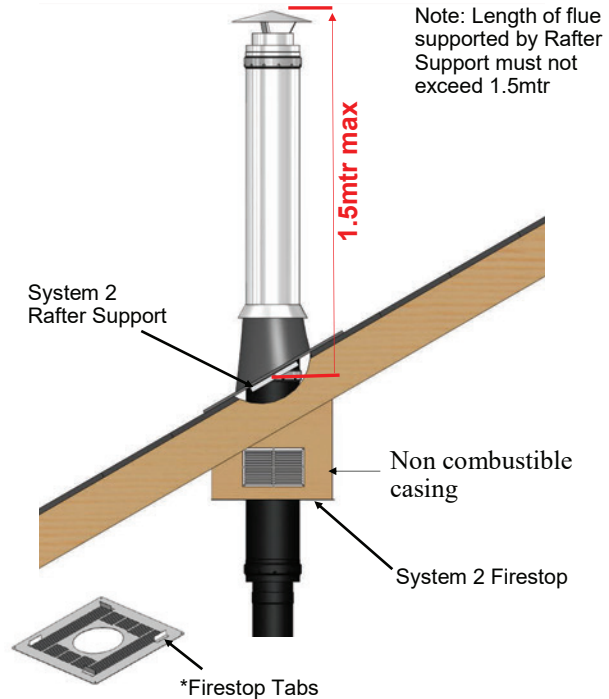
**Product Code: 2-D-FS-CPR-B**

Replace 'D' with required Internal diameter

The Retrofit version enables the Cover Plate to be fitted to an existing installed Firestop with the use of magnets (magnets and fitting instructions supplied with product).



## Pitched Roof Firestop Installation Instructions



Note: Length of flue supported by Rafter Support must not exceed 1.5mtr

Where a flue passes through a ceiling or roof of a sunroof as shown above, a firestop plate must be used to allow for ventilation to occur throughout the enclosed area and to ensure that the flue is centralised as it passes through the roof. The firestop plate is also used to maintain the 60mm clearance to combustible distance.

**Firestops are only suitable to be fixed in the horizontal plane position.**

In the case where the ceiling / roof is at a pitched angle, a casing should be constructed from a non-combustible material to allow for the sturdy fixing of the firestop plate to the horizontal position. The structure should be sized to allow for two adequately sized vents to be positioned opposite each other, while also maintaining the 60mm clearance from the surface of the flue as dictated by the firestop tabs. Two sufficient sized holes should be formed in two opposing faces of the casing to allow for the flow of cool air through out the enclosed area. These holes should be closed off using non-combustible fully opened vents as shown. Ensuring the four firestop tabs are positioned inside the casing, the firestop plate should be screwed to the casing with fixings adequate for the purpose.

The casing and firestop plate keep the flue run centralised but do not offer any load bearing support. The flue must be supported where appropriate below the casing. A rafter support must be screwed to the top side of the rafter prior to the fitting of the flashing. The rafter support uses the strength of the rafters to stabilise the flue while also acting as a load bearing support. The length of flue supported by the rafter support should not exceed 1.5mtr. Care must also be taken to ensure that no joint between flue sections are enclosed within the casing.

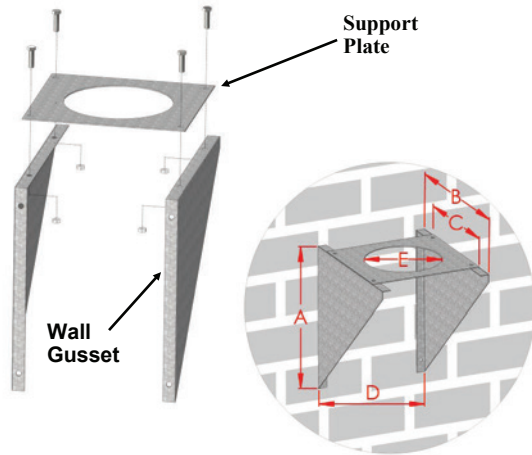
**Support Components**

**Base Wall Support**

Product Code: 2-D-BWS

Product Code: 2-D-BWS-B (for Black)

Replace 'D' with required internal diameter



I.D	80	100	125	150	180	200
Ex.D	-	-	180	200	225	250
A	-	-	347	347	347	347
B	-	-	347	347	347	347
C	-	-	222	222	322	322
D	-	-	272	272	322	322
E	-	-	137	162	195	222

**Base Wall Support**

A base wall support should be used to support a tee section on a vertical run of chimney. It is bolted to a main frame or wall face using fixings adequate for the purpose (fixings not included). The minimum distance from the chimney body to wall face is 60mm. For maximum run of flue on a base wall support see section marked Supports (page 19). A base wall support should be used with a 90° Tee or 45° Tee. If the Base Wall Support cannot be used then an Intermediate Wall Support must be used on the length directly above the Tee.

Each Base Wall Support comes individually packaged complete with fitting instructions on the packaging label.

Contents as follows:

2x Wall Gussets

1x Support Plate

4x M8 Nuts

4 x M8 x 30mm Bolts

To install Base Wall Support, attach support plate to wall gussets as per above illustration.

To fit System 2 / 21 tee section, allow inner liner to pass through the hole in the support plate until body of the tee section rests on the plate. (See Illustration of External Twin Wall Flue application on page 20).

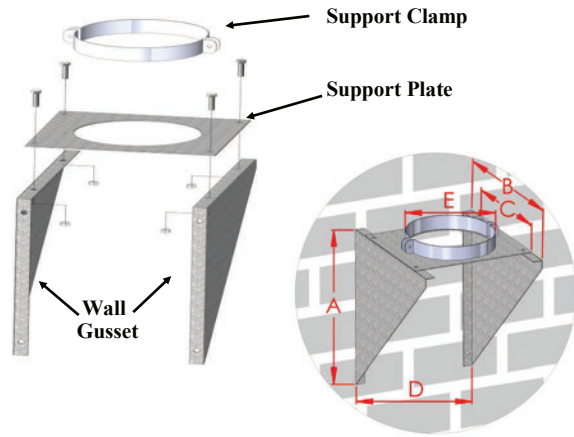
**Support Components**

**Intermediate Wall Support**

Product Code: 2-D-IWS

Product Code: 2-D-IWS-B (for Black)

Replace 'D' with required internal diameter



I.D	80	100	125	150	180	200
Ex.D	125	150	180	200	225	250
A	347	347	347	347	347	347
B	347	347	347	347	347	347
C	222	222	248	272	322	322
D	272	272	272	272	322	322
E	135	162	188	210	240	260

**Intermediate Wall Support**

An intermediate wall support is used as a weight support on a main run of chimney. It comes complete with a support clamp which is attached to the body of the chimney and is supported by the support plate. The Intermediate Wall Support is bolted to a main frame or wall face using fixings adequate for the purpose (fixings not included). The minimum distance from the chimney body to the wall face is 60mm. For maximum run of flue on an intermediate wall support see section marked 'Supports' (page 19).

Each Intermediate Wall Support comes individually packaged with installation instructions shown on the packaging label.

The contents are as follows:

2x Wall Gussets, 1x Support Plate

4x M8 x 30mm Bolt, 4 x M8 Nuts

1x Support Clamp

**Installation Instructions**

To install Intermediate Wall Support, attach support plate to wall gussets as per above illustration, using fixings supplied. To fit the System 2 / 21 component, tighten support clamp onto chimney body in desired location. Pass component section through hole in support plate until clamp on chimney body section rests on support plate.

**Mi-Flues Twin Wall Insulated Chimney System Components**  
Suitable for System 2 and System 21 Applications

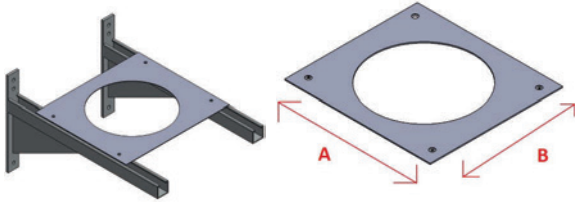
**Support Components**

**Base Wall Support Plate**

**Product Code: 2-D-BWP**

**Product Code: 2-D-BWP-B (for Black)**

Replace 'D' with required Internal diameter



Base Wall Support Plate fitted to Cantilever Arms

I.D	125	150	180	200	250	300	350	400	450	500
Ex.D	180	200	225	250	300	350	400	450	500	550
A	272	272	322	322	414	469	508	557	619	672
B	222	258	322	322	364	469	508	557	619	672

**Base Wall Plate**

A base wall support plate should be used to support a Tee section on a vertical run of chimney.

It should be purchased with two Cantilever Arms. \*Note, the Cantilever Arms pack contains the fittings to allow the Base Wall Plate to be attached. The Cantilever arms are bolted to a main frame or wall face using fixings adequate for the purpose (fixings not included).

The minimum distance from the body of the chimney to the wall face is 60mm.

Contents — 1 x Base Wall Plate

**Installation**

To install, attach the Base Wall Plate to the Cantilever Arms (purchased separately having selected correct Cantilever length). To fit System 2 / System 21 Tee section allow the inner Liner to pass through the Base Wall Plate hole opening until the Tee body section rests on the plate.

There must be a minimum distance of 60mm from the outer body of the chimney to any combustible material.

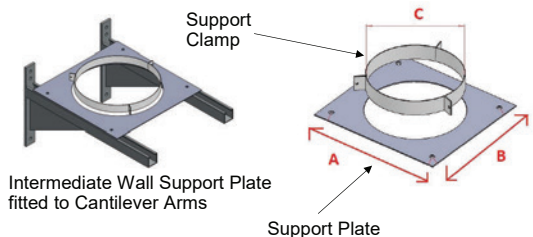
**Intermediate Wall Support Plate**

**Product Code: 2-D-IWP**

**Product Code: 2-D-IWP-B (for Black)**

Replace 'D' with required Internal diameter

I.D	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	180	200	225	250	300	350	400	450	500	550
A	272	285	306	336	358	414	469	508	557	664	672
B	222	249	272	322	322	414	469	508	557	664	672
C	125	180	200	225	250	300	350	400	450	500	550



Intermediate Wall Support Plate fitted to Cantilever Arms

Support Plate

**Support Components**

An Intermediate Wall Support Plate and Support Clamp should be used to support the weight from the main run of chimney.

It should be purchased with two Cantilever Arms. \*Note the Cantilever Arms pack contains the fittings to allow the Intermediate Wall Support Plate and half bracket to be attached.

The Cantilever arms are bolted to a main frame or wall face using fixings adequate for the purpose (fixings not included). The minimum distance from the body of the chimney to the wall face is 60mm.

Contents — 1 x Intermediate Support Plate and half bracket.

**Installation**

To install, attach Intermediate Support Plate to Cantilever Arms (purchased separately having selected correct cantilever length). To fit System 2/21 component tighten support clamp onto chimney body in desired location and pass component through hole in support plate until clamp on chimney body section rests on support plate.

There must be a minimum distance of 60mm from the outer body of the chimney to any combustible material.

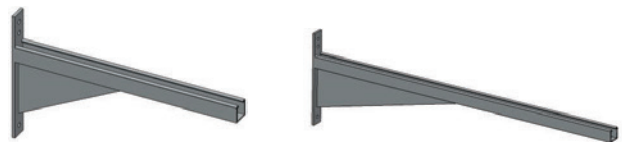
**Cantilever Arm**

**Product Code: 21-CA-620LONG**

**Product Code: 21-CA-750LONG**

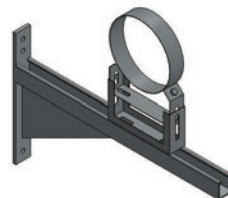
**Product Code: 21-CA-950LONG**

**Product Code: 21-CA-1200LONG**



Cantilever Arms are used with either Base Wall Support Plates or Intermediate Wall Support Plates (ordered separately) to support a chimney run at its base points or at additional points along its run.

Two Cantilever Arms should be used with Base and Intermediate Support Plates (as illustrated under individual headings on this page). One Cantilever arm can be used with a Wall Bracket to provide additional stabilisation of a chimney (as shown below).



**Contents:**

- 1 x Webbed Cantilever arm - 620mm, 750mm, 950mm, or 1200mm long as ordered
- 1 x Unistrut 40x40 plastic end cap—white
- 2 x M10 x 30 hex head bolt
- 2 x M10 long spring channel nut

There must be a minimum distance of 60mm from the outer body of the chimney to any combustible material.

**Mi-Flues Twin Wall Insulated Chimney System Components**  
Suitable for System 2 and System 21 Applications

**Support Components**

**Adjustable Wall Bracket**

**Product Code: 2-D-BRK**

**Product Code: 2-D-BRK-B (for Black)**

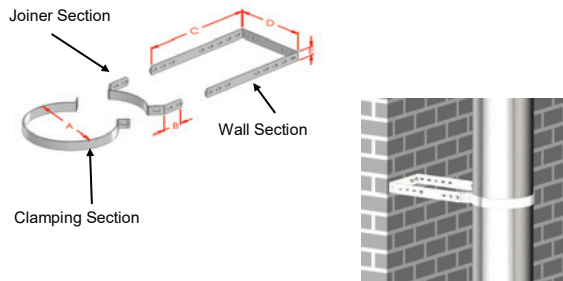
**Replace 'D' with required Internal diameter**

A wall bracket provides lateral support to a chimney run. It is not a load bearing support and should be used at 1.5 meter intervals. This component is adjustable between 60mm – 250mm of a wall face.

A wall bracket is bolted to a main frame or wall face as per illustration below, using fixings adequate for the purpose (fixings not Included).

Each bracket comes individually packaged with the following included:

- Wall Section x 1, Joiner Section x 1,
- Clamping Section x 1, M6x25mm Hex Head Bolt x 2
- M6x12mm Hex Head Bolt x 4, M6 Nut x 6



I.D	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	-	-	-	-	-	-
<b>B</b>	45	45	45	45	45	45	-	-	-	-	-	-
<b>C</b>	258	258	258	258	258	258	-	-	-	-	-	-
<b>D</b>	152	152	152	152	152	235	-	-	-	-	-	-
<b>E</b>	20	20	30	30	30	30	-	-	-	-	-	-

**Wall Bracket**

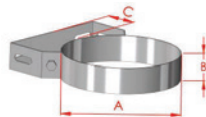
**Product Code: 2-D-BK**

**Product Code: 2-D-BK-B (for Black)**

**Replace 'D' with required Internal diameter**

A wall bracket provides lateral support for the chimney and must be used at intervals not exceeding 1.5mtrs beyond any load bearing support.

It provides a 60mm distance from the chimney to the wall face. A wall bracket is bolted to a main frame or wall face using fixings adequate for the purpose (fixings not Included).



I.D	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B</b>	40	40	40	40	40	40	40	40	40	40	40	40
<b>C</b>	60	60	60	60	60	60	60	60	60	60	60	60

**Support Components**

**Wall Bracket Extension**

**Product Code: 2-D-BK-EXT**

**Product Code: 2-D-BK-EXT-B (for Black)**

**Replace 'D' with required Internal diameter**

A wall bracket extension is used to provide additional extension from 60mm to 130mm when used with a System 2 wall bracket. It is bolted to the main frame or wall face using fixings adequate for the purpose (fixings not included).



**Structural Locking Band**

**Product Code: 2-D-SLCK**

**Product Code: 2-D-SLCK-B (for Black)**

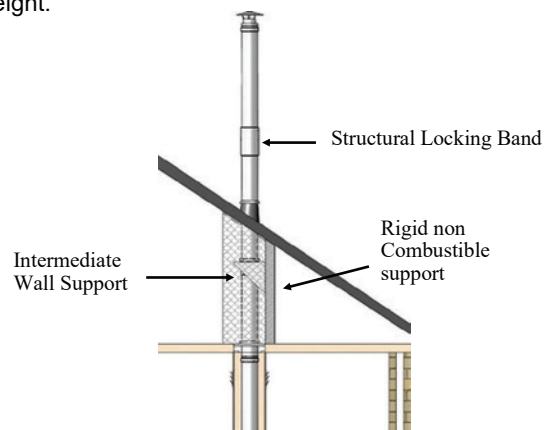
**Replace 'D' with required Internal diameter**

The Structural locking band is designed to strengthen the existing locking band system when the chimney installation demands additional height above the roof line, fascia and soffit which cannot be laterally supported by wall brackets. The structural locking band is not a load bearing component. The height of the Structural Locking band is 300mm. They are available in diameters from 80mm to 500mm.



**FITTING**—To fit the Structural Locking Band loosen nuts and bolts and slide it over the lengths to be supported. It should be attached to the current flue without removing the existing locking band. Position the structural locking band centrally over the existing locking band ensuring all standard and structural band bolt points are aligned. Secure the nuts and bolts on the structural locking band.

**An Intermediate Wall Support should be fitted below the structural locking band to support the weight of the additional chimney length as shown below.** The intermediate wall support will support up to 3.5mtrs of chimney lengths. No additional lengths should be added above this height.



**Typical Installation (as above)**

Attach the Intermediate Wall Support to the rigid non combustible support (not supplied by Mi-Flues). Ensure joists/rafters are structurally sound prior to fitting of rigid non combustible support and Intermediate Wall Support. The maximum chimney run from the Intermediate Wall Support is 3.5mtrs.

**Support Components**

**Roof Centering Plate**

**Product Code: 2-D-RCP**

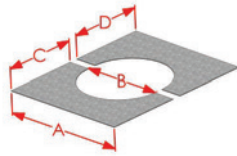
**Product Code: 2-D-RCP-B (for Black)**

Replace 'D' with required Internal diameter

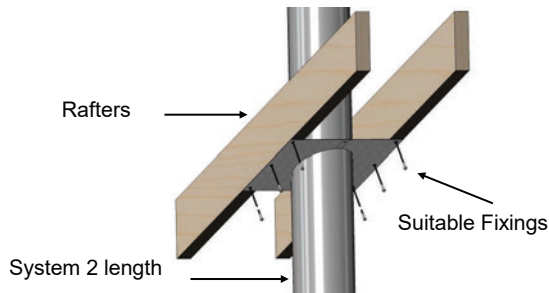
A roof centering plate is used to stabilise a chimney as it protrudes through a pitched roof. It provides lateral support only and is not a load bearing support.

**Installation Instructions:**

The Roof Centering Plate must be positioned around the chimney and screwed to the underside of the pitched roof rafters. Drill holes in the plate and secure with fixings adequate for the purpose (Fixings not included).



Roof Centering Plate installation through pitched roof



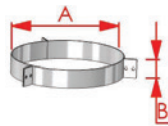
I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	406	406	457	457	457	455	510	560	610	660	710	760
B	130	156	182	210	230	255	310	360	410	460	510	560
C	203	203	240	240	227	268	280	305	330	355	380	405
D	203	203	240	240	227	268	280	305	330	355	380	405

**Guy Wire Bracket**

**Product Code: 2-D-GWB**

Replace 'D' with required Internal diameter

A guy wire bracket is used to brace a chimney when it protrudes more than 1.5 metres beyond its last support. It is clamped to the flue body and allows for the fixing of guy wires to rigid stays. The guy wires are located at 120° angles around the flue. It is recommended that at least 4mm diameter wire is used (wire and fixings not included).



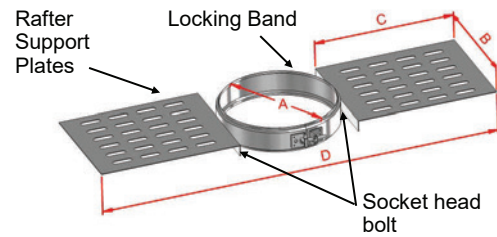
I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	125	150	180	200	225	250	300	350	400	450	500	550
B	30	30	30	30	30	30	30	30	30	30	30	30

**Support Components**

**Rafter Support**

**Product Code: 2-D-RS**

Replace 'D' with required Internal diameter



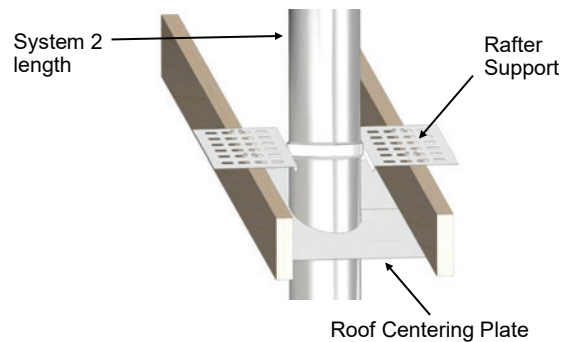
I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	125	150	180	200	225	250	300	350	400	450	500	550
B	150	150	150	150	150	150	150	150	150	150	150	150
C	200	200	200	200	200	200	200	200	200	200	200	200
D	535	560	590	610	635	660	710	760	810	860	910	960

Each Rafter Support comes with instructions. (Fixings are not supplied by Mi-Flues).

**Installation Instructions**

A rafter support is used to support the chimney as it passes through a roof. The rafter support plates must be bolted to the locking band using the socket head bolts provided. The locking band must then be fitted and tightened around the flue and the support plates secured to the top side of the rafters with fixings adequate for the purpose (fixings not included—refer to supports section page 19).

**Rafter Support Installation complete with roof centering plate**



**Mi-Flues Twin Wall Insulated Chimney System Components**  
 Suitable for System 2 and System 21 Applications

**WEATHERING AND FLASHINGS**

**Lead Flashing (0° - 38°)**

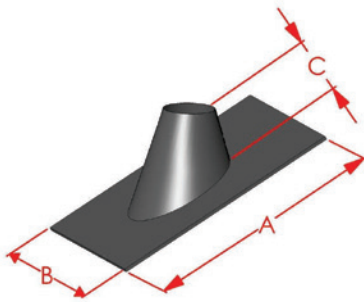
**Product Code: 2-125-150-FLA**

A lead flashing is used to seal an insulated chimney as it protrudes through a pitch roof. The adjustable lead flashing suits all pitches between 0° and 38°. This type of Flashing is also suitable for a flat roof (once an up-stand has been built.)

**Installation Instructions**

To install, work the base of the flashing into the roof structure to ensure a rain water run off situation is achieved. The top of the upstand section of the lead flashing in contact with the chimney should be adjusted to ensure it is tight to the outer body of the chimney. A storm collar must be used in conjunction with a lead flashing.

Patination oil should be applied to all lead flashings.



**Lead Flashing (45°)**

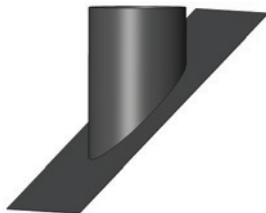
**Product Code: 2-D-FLA45**

**Replace 'D' with the flue diameter in use**

A lead flashing is used to seal an insulated chimney as it protrudes through a pitch roof. This flashing suits all pitches between 39° and 50°.

**Installation Instructions**

To install, work the base of the flashing into the roof structure to ensure a rain water run off situation is achieved. The top of the upstand section of the lead flashing in contact with the chimney should be adjusted to ensure it is tight to the outer body of the chimney. A storm collar must be used in conjunction with a lead flashing.



**Other available Lead Flashings**

<b>Int Dia</b>	80	100	125	150	180	200
<b>Ext Dia</b>	125	150	180	200	225	250
<b>Available in roof pitch</b>	0° 30° 45°	0° 30° 45°	0-38° 39°-50°	0-38° 39°-50°	0° 30° 45°	0° 30° 45°
<b>A</b>	450	450	710	710	710	710
<b>B</b>	450	450	600	600	600	600
<b>C</b>	150	150	150	150	150	150

**WEATHERING AND FLASHINGS**

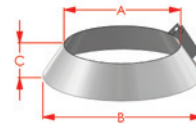
**Storm Collar**

**Product Code: 2-D-STR**

**Product Code: 2-D-STR-B (for Black)**

**Replace 'D' with the flue diameter in use**

A storm collar must be used in conjunction with a lead flashing. It is attached to the body of the chimney just above the flashing (see illustration below). It is used to direct rainwater away from the top of the flashing and should be sealed with high temperature sealant. (Sealant not supplied).



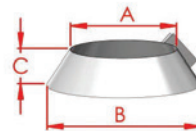
<b>I.D</b>	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B</b>	177	195	235	262	330	370	500	550	600	650	700	750
<b>C</b>	27	30	30	30	50	50	115	115	115	115	115	115

**Storm Collar (large)**

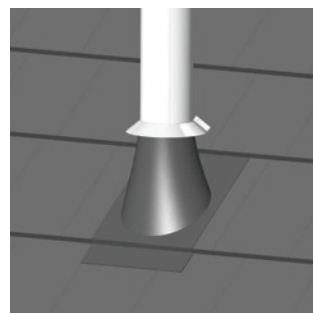
**Product Code: 2-D-STRL**

**Replace 'D' with the flue diameter in use**

A storm collar is also available with a larger coverage. It must be used in conjunction with a lead flashing. It is attached to the body of the chimney just above the lead flashing (see illustration below). It is used to direct rainwater away from the top of the lead flashing and should be sealed with high temperature sealant (Sealant not supplied).



<b>Int.Dia</b>	80	100	125	150
<b>Ext.Dia.</b>	125	150	180	200
<b>A</b>	125	150	180	200
<b>B</b>	230	245	260	300
<b>C</b>	55	55	60	60



**Mi-Flues Twin Wall Insulated Chimney System Components**  
Suitable for System 2 and System 21 Applications

**WEATHERING AND FLASHINGS**

**EPDM and Silicone rubber flashings**

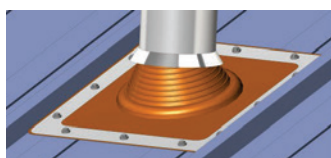
**Pipe Flashing Systems**

Mi-Flues can provide a complete one piece rubber flashing designed to provide a flexible, durable, weatherproof seal where a chimney passes through a plastic or cladded roof.


They are supplied ready to install.

The up-stand section of the flashing contains clearly marked diameter indications to aid size selection and accurate cutting of rubber up stand. The base of the flashing contains an aluminium support ring which provides reinforcement where self drilling screws fasten the flashing to the roof. A malleable grade of aluminium allows the base to be easily formed to the profile or contours of the roof sheet.

**Mi-Flues supply specially designed fixing kits for the rubber based type flashing. This fixing kit provides the necessary materials required to complete the installation. Mi-Flues also recommend the fitting of a storm collar (as shown below).**



Red Silicone—High Temperature Range -50°C to 200°C constantly or 250° intermittently Suitable for <b>Metal/Cladded Roof</b> —suitable for Solid fuel, Oil or Gas applications	Product Code
Dektite Premium <b>Red Silicone</b> 75-175mm	DFE204RE*
Dektite Premium <b>Red Silicone</b> 100-200mm	DFE205RE**
Dektite Premium <b>Red Silicone</b> 125-230mm	DFE206RE**
Dektite Premium <b>Red Silicone</b> 150-300mm	DFE207RE**
Dektite Premium <b>Red Silicone</b> 170-355mm	DFE208RE**
Dektite Premium <b>Red Silicone</b> 230-508mm	DFE209RE**
Aquarius Flashing <b>Red Silicone</b> 400-750mm	ADSR400-750**

Fixing Kit	Product Code
 <p>Fixing Kit—1 x 75ml low modulus silicone, 25 x self-drilling screws, 25 x colour caps (silver) *Suitable for corresponding flashings above</p>	DFK1
<p>Fixing Kit—3 x 75ml low modulus silicone, 75 x self-drilling screws, 75 x colour caps (silver) **Suitable for corresponding flashings above</p>	DFK2

When ordering EPDM and Silicone flashings always refer to the outside diameter of the flue pipe passing through it to ensure the correct size is ordered. For further information on these flashings please contact Mi-Flues.

**WEATHERING AND FLASHINGS**

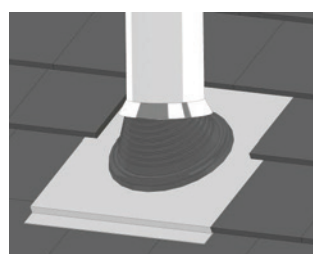
**EPDM and Silicone rubber flashings**

**Pipe Flashing Systems**

Mi-Flues rubber flashings are available with a lead or aluminium base. They are designed to provide a flexible, durable, weatherproof seal where chimneys pass through roof slates or tiles.

They are supplied ready to install and they eliminate any on site fabrication required with traditional lead slates. The up-stand section of the flashing contains clearly marked diameter indications to aid size selection and accurate cutting of rubber up stand. The rectangular lead/aluminium base is malleable and can be easily worked into the work structure to ensure a rain water run off situation is achieved.

**No Fixing Kit is needed to complete the installation of this type of flashing. Mi-Flues do however recommend the fitting of a storm collar (as shown below).**



Grey Silicone—High Temperature Range— -50°C to 200°C constantly or 250° intermittently Suitable for <b>Slate/Tiled Roof</b> Suitable for Solid fuel, Oil or Gas applications	Product Code
Seldek Aluminium Base, High Temperature	SDA202G
Seldek Aluminium Base, High Temperature	SDA203G

EPDM Black—Low Temperature Range— -50°C to 115°C constantly or 150°C intermittently Suitable for <b>Slate/Tiled Roof</b> Suitable for Oil and Gas applications	Product Code
Seldek Aluminium Base, EPDM, <b>Black</b> 12-70mm	SDA100
Seldek Aluminium Base, EPDM, <b>Black</b> 50-170mm	SDA101
Seldek Aluminium Base, EPDM, <b>Black</b> 110-200mm	SDA102
Seldek Aluminium Base, EPDM, <b>Black</b> 160-300mm	SDA103
Seldek Aluminium Base, EPDM, <b>Black</b> 300-450mm	SDA104

EPDM Black—Low Temperature Range— -50°C to 115°C constantly or 150°C intermittently Suitable for <b>Metal/Cladded Roof</b> Suitable for Oil and Gas applications	Product Code
Dektite Premium <b>Black</b> EPDM 75-175mm	DFE104B

\*DFK1 Fixing Kit required with this flashing

## Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

### Safety / Installation / Regulations

Chimney installation should only be carried out by competent persons and installed in accordance with the building regulations. The chimney components listed in this literature should not be modified unless specifically stated on the specific product information.

The information and illustrations shown in this literature are produced for standard domestic residential dwelling installations. Any commercial / industrial installations including installation within flat's , assembly / places of recreation must be carried out under the specific guidance of building regulations part B and J.

#### Chimney Diameter

The diameter of the System 2 insulated chimney used in an installation must be equal to or higher than the outlet of the appliance and in accordance with local Building Regulations / appliance manufactures literature. The table below is taken directly from document J.

Installation	Minimum flue size
Fireplace recess for an open fire or other open appliance with an opening up to 500 mm x 550 mm.	200 mm diameter or square section of equivalent area.
Fireplace recess with an opening in excess of 500 mm x 550 mm, or fireplace open on 2 or more sides, e.g. fireplace with canopy.	A free area of 15% of the area of the recess or fireplace openings.
Closed appliance up to 20 kW rated output burning bituminous coal, peat or seasoned timber.	150 mm diameter or square section of equivalent area.
Other closed appliance up to 20 kW rated output burning smokeless, low volatile fuel or wood pellets.	125 mm diameter or square section of equivalent area.
Closed appliance above 20 kW and up to 30 kW rated output.	150 mm diameter or square section of equivalent area.
Closed appliance above 30 kW and up to 50 kW rated output.	175 mm diameter or square section of equivalent area.
<b>Note:</b> All dimensions refer to internal measurement.	

#### Connection to Connecting Flue pipe (Mi-Flues System 1 and System 7)

The connection from the System 2 insulated chimney to the connecting flue pipe must be made using a System 2 start off adaptor. This should be sealed with Mi-Flues high temperature sealant or suitable alternative. This connection should be made in the same room as the appliance itself. The lower end of the twin wall insulated chimney must be extended below the ceiling level and joined to the connecting flue pipe as per distance recommended by the connecting flue pipe manufacturer / building regulations. If human contact is possible on this section of chimney it should be adequately protected using a non combustible barrier.

#### Connection to Palazzetti Pellet Stove

Mi-Flues and Palazzetti have worked in partnership to develop a unique flue and chimney solution.

**This unique solution can only be used when Palazzetti pellet stoves and Mi-Flues chimney systems are used in the installation.** Palazzetti Pellet appliances use the following connecting flue pipe solutions;

- Mi-Flues Vitreous Enamel System 8, with a diameter equal to that of the Palazzetti outlet spigot, typically 80mm or 100mm, depending on appliance chosen.
- When connecting from the System 8 connecting flue pipe to the chimney system the chimney diameter should be increased by one diameter as follows:

- Where the appliance outlet is 80mm, Mi-Flues System 2 100mm diameter chimney system should be used.

- Where the appliance outlet is 100mm, Mi-Flues System 2 125mm diameter chimney system should be used.

Horizontal runs from the Palazzetti outlet spigot can be extended to a maximum length of 600mm when using the Mi-Flues chimney solutions as illustrated on page 21 of this brochure provided adequate cleaning / inspection products are used on the installation. \*Note, all other offsets in the chimney run must use a maximum of 45° angles from the vertical axis. The maximum recommended chimney height on a Palazzetti chimney run is 10 meters and a Storm Cowl should be used to complete the chimney run.

#### Chimney support.

The heating appliance should not support the weight of the chimney except when the heating appliance manufacturer states it is suitable to do so. Therefore the weight of the chimney should be adequately supported by the use of suitable support components listed on page 19.

Where the building is to support the lateral and vertical load it should be inspected to ensure it is capable of doing so. Further information on the support products is given on page 19.

A base wall support should be used with a tee to support the initial 3.5 mtrs. An additional intermediate wall support must be used every 3.5mtrs beyond this point with a wall bracket situated centrally between both load bearing components. Firestops are used on internal runs to provide support at ceiling levels.

Note: Firestop will support 3mtrs.

A rafter support should be used to support a chimney as it passes through a roof. The maximum length unsupported shall not exceed 1.5mtrs. This distance however can be increased to 3mtrs with the use of structural locking bands. This increased distance should be supported with an Intermediate Wall Support. No chimney joints should be made within the joist and ceiling areas.



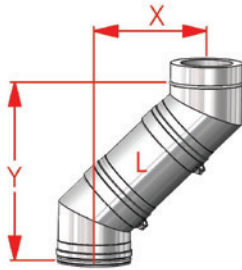
## Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

### OFFSET CHART

The offset chart opposite uses the recommended Mi-Flues System 2 45° bends.

Within system 2 on solid fuel applications there should be no more than two offsets which will consist of 4 x 45° angles.

**Y = Installed Height**  
**X = Installed Offset**  
**L = Length used**



Length (mm)	Offset	80	100	125	150	180	200	250	300	350	400	450	500
0	X	117	125	132	128	145	152	166	170	187	201	216	231
	Y	280	294	320	312	350	368	380	413	451	486	522	557
250	X	260	265	275	267	286	294	303	311	325	340	355	370
	Y	425	435	464	450	492	509	519	554	589	625	660	695
500	X	437	440	450	455	463	470	473	488	502	517	526	547
	Y	600	612	640	655	668	686	695	731	766	801	832	872
1000	X	790	792	800	797	817	824	826	841	856	870	885	900
	Y	955	965	990	983	1022	1040	1049	1085	1120	1155	1190	1226

Length (mm)	Offset	80	100	125	150	180	200	250	300	350	400	450	500
312ADJ	X min	357	364	369	378	381	392	398	411	427	442	454	469
	Y min	522	539	547	565	581	611	621	657	691	727	756	792
	X max	463	470	475	483	488	499	504	526	531	548	572	578
	Y max	628	645	656	675	687	716	727	762	795	833	868	904

#### Chimney route / offsets

The chimney route should be the most direct route possible between the connecting flue pipe and the chimney termination. Chimneys should be vertical wherever possible and where an offset is required the angle should not be more than 45° off the vertical. If an offset in the chimney run is necessary i.e. to avoid fascia and soffit, an additional wall bracket must be installed directly above the offset to provide extra lateral support. Long offsets should be avoided but if necessary all lengths installed between offset bends should be supported laterally by additional wall brackets located at 800mm intervals. It is recommended that the minimum chimney height is 5.5mtrs.

#### Distance to Combustibles / Installation

Mi-Flues System 2 chimney installations must have a minimum distance of 60mm from the outer body of the chimney to any combustible material. If the chimney passes through a joist or slab then clearance at floor and ceiling joist should be established by the use of a Firestop arrangement. No combustible material should protrude beyond the 60mm safety lugs of the firestop. In addition, the 60mm clearance should not contain any other non combustible material. This 60mm air gap must be maintained throughout the installation. A free flow of ventilation air must be provided to all areas of the chimney installation.

#### Shielding from Human Contact

If the chimney passes through a separate compartment area of the building it should be adequately protected by a non combustible casing material giving at least half the fire resistance of the compartment wall or floor (see Technical Guidance Document B – Fire Safety and in accordance with Building Regulation Part J). This non combustible enclosure must be spaced from the chimney to satisfy the minimum 60mm distance stated. This will ensure that accidental contact of any combustible material or human contact to the surface of the chimney will not occur and ensure compliance with the regulations. The chimney should not pass through a storage area, cupboard area or storage space unless it is surrounded by a non-combustible guard which is separated from the chimney by a distance of at least 60mm. Protection in the attic / roof space should also be provided by a non combustible guard / rigid mesh structure positioned at least 60mm from the chimney.

#### Chimney Termination

Chimneys should be high enough to ensure sufficient draught and to clear the products of combustion safely. Additional information in relation to appropriate chimney termination heights is provided on page 22.

#### Air Supply to appliance

Any room or space containing an appliance should have a ventilation opening. This opening should be in accordance with Building Regulations.

#### Passive / Airtight construction installations

Mi-Flues can offer a range of solutions for airtight construction solutions. Contact Mi-Flues Technical Department for further information in relation product solutions.

## Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

### Cleaning / Maintenance

Adequate provision should be made for inspecting and cleaning the full length of the chimney from the heating appliance. Access components are available in the product range (tee's, bends with access ) and should be installed to suit the installation, unless sweeping can be undertaken through the appliance. The chimney should be inspected regularly and cleaned at least twice a year, depending on usage and type of fuel used. This should be carried out with the use of a brush which should not be made from black steel.

**NOTE:** Where a chimney is to be cleaned from the top, a safe working environment should be available.

The chimney should be maintained to ensure that the construction remains in good condition. Any components showing signs of deterioration which may affect performance should be replaced under professional advice. Any evidence of leakage identified by smoke, staining should be rectified immediately. The appliance should not be used until the issue has been rectified.

It is essential that approved solid fuels are used which ensure the best performance from your appliance and chimney system. The recommended chimney temperature range on solid fuels is between 150°C - 450°C. It should be noted that burning unapproved fuels / misuse operation of the appliance, can produce low flue gas temperatures which cause condensation deposits to build up on the chimney liner resulting in corrosive soot deposits which will cause corrosion on your chimney. Excess soot build up can also result in chimney fires. It is important that well seasoned and dry wood / fuels are used. Unapproved fuels, improper, or misuse of your appliance, can cause abnormal high temperatures with corrosive agents. Household waste, including chemicals and plastics material , should never be burned in your appliance as this will result in potential harmful corrosive vapour's which can attack the chimney liner.

### Product Designation System 2

Mi-Flues twin wall insulated multi fuel chimney system products carry the following designation codes:

#### Mi-Flues System 2 chimney system

EN1856-1 T450 N1 D Vm L50040 G60 (I.D 80-200mm)  
 EN1856-1 T450 N1 D Vm L50050 G60 (I.D 250-500mm)  
 EN1856-2 T450 N1 D Vm L50040 G60 (I.D 80-200mm)  
 EN1856-2 T450 N1 D Vm L50050 G60 (I.D 250-500mm)  
**(I.D above refers to Internal Diameter of the Chimney)**

\*EN 1856-2 T450 N1 D Vm L50050 G60

\*EN 1856-2 T450 N1 D Vm L50040 G60

\*System 2 can only be used as a connecting flue pipe on suitable non condensing oil and non condensing gas applications or Biomass/Pellet appliance with a nominal working flue gas temperature of less than or equal to 300 °C when recommended by the appliance manufacturer.

Sys 2	EN1856-1	T450	N1	D	Vm	L50040	G60
Sys 2	EN1856-1	T450	N1	D	Vm	L50050	G60
Sys 2	EN1856-2*	T450	N1	D	Vm	L50040	G60
Sys 2	EN1856-2*	T450	N1	D	Vm	L50050	G60

Standard							
Temperature Level							
Pressure Level							
N, P or H							
Condensate Resistance							
W:Wet or D:Dry							
Corrosion Resistance (durability against corrosion)							
Flue Liner material specification							
Sootfire resistance and distance to combustibles							
G:Yes or O:No / distance to combustibles in mm							

### System 2 and System 21 Life Expectancy

#### Life Expectancy

Mi-Flues Systems 2 and 21 should provide many year's service.

They are provided with a 10 year life expectancy when used as follows:

Under normal operating conditions, and providing the systems are installed, maintained correctly, and used on a suitable application in line with their listed designations.

#### Chimney Plate:

##### Product Code : CP-1

On completion of installation a chimney plate should be completed. The chimney plate provides Information regarding the Manufacturer, designation, nominal size, distance to combustibles, Installer name, installation date, chimney location and thermal distance. It should be completed by the Installer and securely fixed in an unobtrusive but obvious position within the building such as next to the electricity or gas consumer unit, next to the chimney hearth or next to the water supply stop-cock.

### System 2 Technical Data

Fuel	Solid fuel, Non condensing Oil, Non condensing Gas and Biomass, Wood pellet
Liner Material	316L Stainless Steel
Body Material	304 Stainless Steel
Insulation Material	25mm High density blanket
Max. Distance between lateral supports	1.5mtr
Thermal Resistance	747.60 m <sup>2</sup> K/kW
Flow Resistance	.001 Mean roughness
Minimum distance to combustibles	60mm

## Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

### Carbon Monoxide

Carbon monoxide alarm should be installed in accordance with the Building Regulations.

### Handling and Storage

All System 2 components are individually boxed or packaged and labelled. They should be stored in a dry suitable storage location.

### Commissioning/handover

After finishing the chimney installation a physical and operational check should be carried out by the Installer to ensure that the installation has been correctly installed in line with the Building Regulations, appliance and chimney manufactures literature. On satisfactory completion of this check, relevant documentation and recommendations for inspection, correct use, cleaning and maintenance shall be handed over to the user. The User should ensure that all chimney cleaning and/or inspections are documented and stored.

## Supports

### Non load bearing supports

Wall Bracket (BRK)	1.5mtr intervals or centrally between base/intermediate wall supports
Wall Bracket (BK)	1.5mtr intervals or centrally between base/intermediate wall supports
Guy Wire Bracket	1.5mtr beyond last support
Roof Centering Plate	Attach to chimney to centralise/stabilise before passing through pitch roof
Structural Locking Band	Attach to current flue without removing the existing locking band. Intermediate Wall Support to be fitted below it.

### Load bearing components maximum supported lengths ( provide vertical, lateral and stabilising support )

Load Bearing Components	80 mm	100 mm	125 mm	150 mm	180 mm	200 mm	250 mm	300 mm	350 mm	400 mm	450 mm	500 mm
Base Wall Support	n/a	n/a	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr
Base Wall Plate with Cantilever arms (620/1220 long)	n/a	n/a	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr
Intermediate Wall Support	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr
Intermediate Wall Plate with Cantilever arms (620/1220 long)	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr
Firestop	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr
Rafter Support	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr

### MI-FLUES SYSTEM 2 COMPONENT WEIGHT CHART

Weight (KG) including locking band

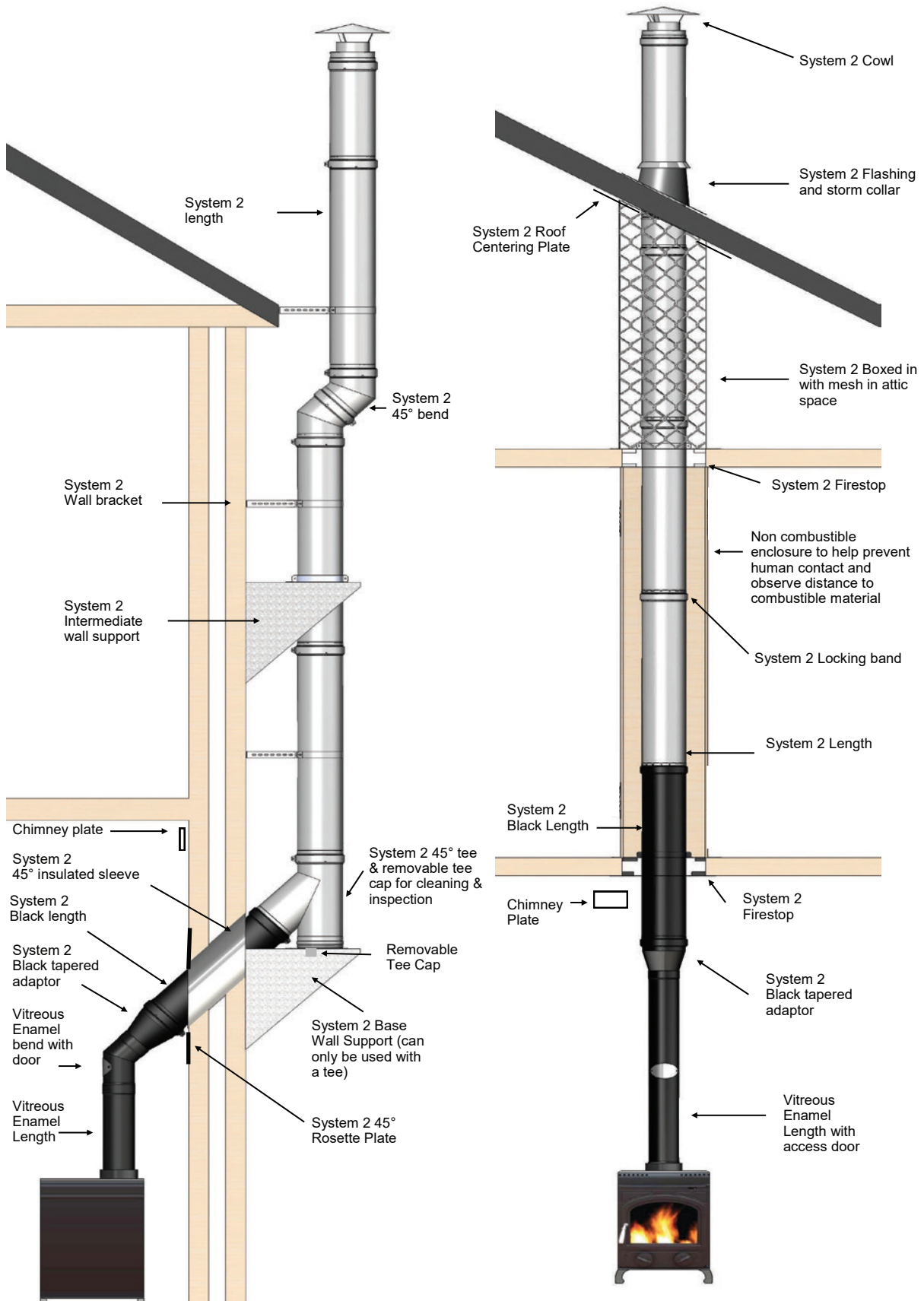
Component	100 mm	125 mm	150 mm	180 mm	200 mm	250 mm	300 mm	350 mm	400 mm	450 mm	500 mm
1000mm	3.6	4.6	4.9	5.8	6.7	9.0	10.5	12.5	12.9	15.5	17.0
500mm	1.9	2.3	2.5	2.9	3.2	5	5.5	6.3	6.6	8.0	8.15
250mm	1.0	1.4	1.5	1.7	1.9	2.5	3	3.3	3.4	4.0	4.4
312Adj Length	2.2	2.7	3.1	3.6	4.3	5.4	7.4	9.0	10.2	11.0	12.9
90° Bend	1.3	1.9	2.2	-	-	-	-	-	-	-	-
45° Bend	0.9	1.2	1.3	1.7	1.9	2.7	3.5	4.3	4.6	5.5	5.7
85° Bend	1.1	1.5	1.8	2.6	2.7	3.5	5.0	6.1	8.6	11.0	11.6
90° Tee	1.8	2.5	2.9	3.2	4.1	4.7	6.0	8.0	9.5	11.0	13.3
45° Tee	2.3	3.6	3.9	4.8	5.2	7.3	9.5	13.6	17.8	18	23.8
85° Tee	1.5	2.1	2.5	3.3	3.7	4.8	6.5	7.8	9.8	11.5	13.9
Start off adaptor	0.5	0.6	0.6	0.9	1.0	1.5	1.5	2.0	2.2	2.5	2.8

## Installation

The product is easy to handle, but care should be taken when holding, fitting or assembling any part of the system. Users are advised to use suitable precautions such as gloves, eye/face protection, protective clothing etc. to avoid injury. Installers should be aware of the Safety, Health and Welfare at Work Act 2005, Safety Health and Welfare at Work (General Application) Regulations 2007 and the Safety, Health & Welfare at Work (Construction) Regulations 2013. Installers should be aware of the possibility of disturbing asbestos when working in older properties. This should be dealt with in accordance with the strict guidance documents. Particular attention should be taken to ensure suitable PPE is used when applying certain fireclays which can be of a caustic nature, as well as when using any other substances which may be harmful.

## Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

The information and illustrations shown in this literature are produced for standard domestic residential dwelling installations. Any commercial / industrial installations including installation within flat's , assembly / places of recreation must be carried out under the specific guidance of building regulations part B and J.



External Twin Wall Flue Application

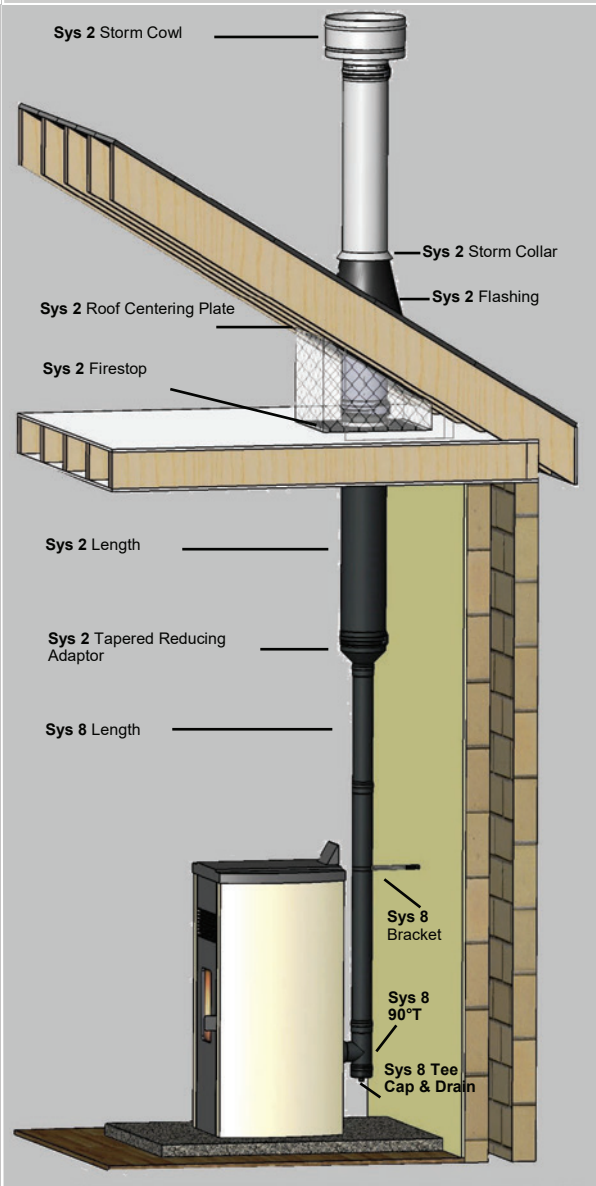
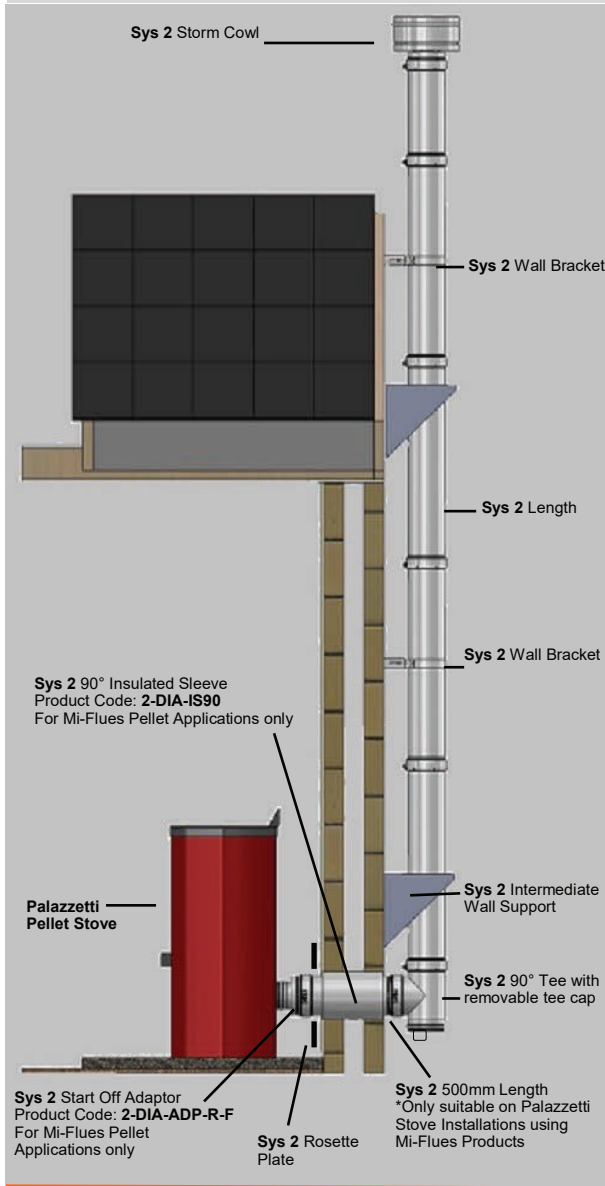
Internal Twin Wall Flue Application

# Mi-Flues System 2 Twin Wall Insulated Multi Fuel Chimney System

## Pellet Stove Installations from Mi-Flues

**System 2 Twin Wall Insulated Connecting Flue Pipe with System 2 Twin Wall Insulated Chimney System—Also available in Black**

**System 8 Connecting Flue Pipe for Pellet Stoves with System 2 Twin Wall Insulated Chimney System—Stainless/Black finish**

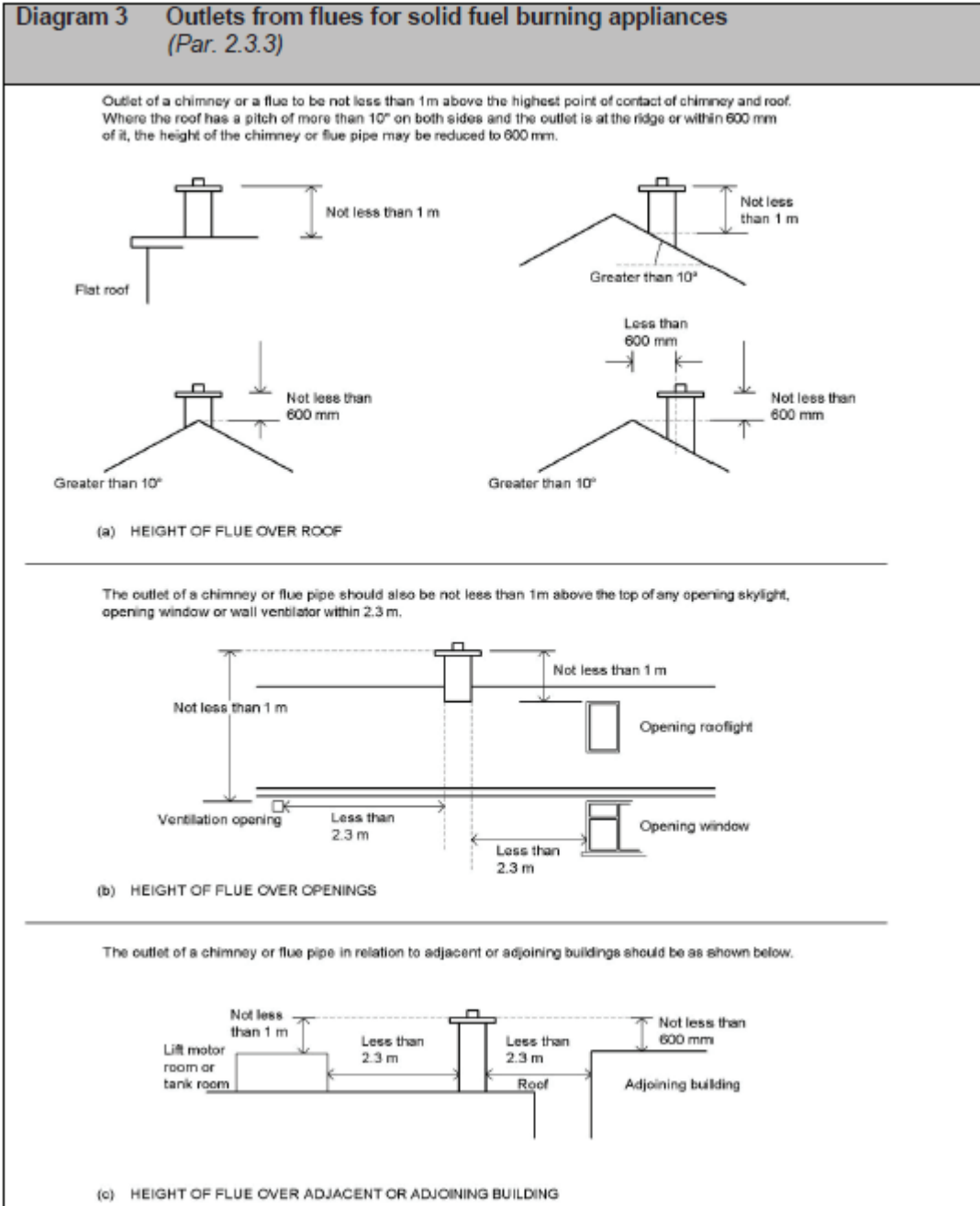


### Chimney Termination Heights

Chimneys should be sited to allow the products of combustion to disperse freely at all times. Chimney termination heights and positions are subject to current Building Regulations, Document J, published by the Department of Environment, Community and Local Government.

The diagram below is taken directly from this document. It refers to Solid Fuel Burning appliances. It does not refer to easy ignitable roofs. For all other appliances please contact the appliance manufacturer.

Document J available through (<http://www.environ.ie/en/Publications/DevelopmentandHousing/BuildingStandards>)



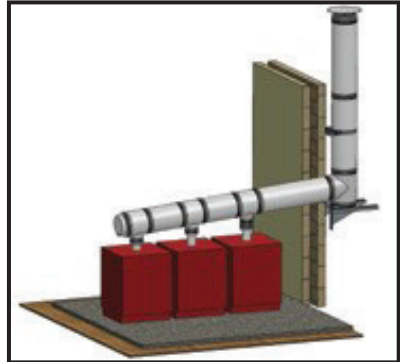
All flue systems must be installed according to current Building Regulations. Mi-Flues has adopted a policy of continuous product review, and in the interests of development and improvement the Company reserves the right to vary the appearance and performance of any of its products without prior notice. Correct at time of print (August 2018). For updates please check our website.



# System 21

**Twin Wall Insulated Chimney System  
suitable for Condensing Oil and  
Condensing Gas Applications**

**For accompanying components to complete the installation please  
see the System 2/21 Components section of this brochure  
on pages 8 to 15**



## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

### Introduction

Mi-Flues System 21 is a factory made twin wall insulated Stainless Steel Chimney/Connecting flue pipe system.  
It is suitable for use on Condensing Oil and Condensing Gas applications.  
For all appliances please refer to the Manufacturers installation instructions.

### Product Description

Mi-Flues System 21 is manufactured from three distinct materials. The combination of the three, yields a product with a high thermal resistance due to the materials used.

The design, having almost no thermal bridging between the chimney liner and body, ensures a quick stabilization of flue gas temperatures and the existence of a strong draught. It is constructed from concentric cylinders commonly referred to as the chimney liner and body.

The liner of the flue is made from 316L grade stainless steel and is designed to automatically cope with the thermal elongation due to changes in temperature.

The body is made from 304 grade stainless steel which carries the structural load. It has a bright polished finish and is weather proof due to its high quality continuously seam welded finish.  
System 21 is available in diameters 80mm to 500mm (larger diameters are available on request—please contact Mi-Flues for details). It also offers excellent resistance against corrosion due to its molybdenum alloy content. The chimney is insulated with a densely packed insulation which results in a low heat conductivity to the walls of the chimney.

### Approvals

Mi-Flues System 21 is manufactured and conforms to EN 1856-1, EN 1856-2 and is tested to the requirements of :

EN1859 to the performance designation below:

EN1856-1 T200 P2 W Vm L50050 O60  
EN1856-2 T200 P2 W Vm L50050 O60

4 Hour Fire Rated (Integrity)

### Components

The system comprises of straight lengths, adjustable lengths, bends, tees, cowls and adaptors.

Mi-Flues offers a wide range of prefabricated components (please see pages 8-15 of this brochure) allowing complete flexibility to meet today's demanding applications.  
Assembly instructions for all components which are supplied unassembled are available in this brochure, on our packaging labels and/or through our website.

\*Where 'I.D' is shown throughout in tables this refers to the Internal Diameter of the chimney.

\*Where 'Ex. D' is shown throughout in tables this refers to the External Diameter of the chimney.

### Application

Mi-Flues System 21 is ideal for installation in residential, commercial or industrial heating applications. It is quick and easy to install.  
System 21 listed products can be installed internally or externally as an independent chimney system.  
Installation should always be in accordance with Building Regulations, with particular emphasis to Documents J and Building Regulations Document B.

### Joint Assembly

Mi-Flues System 21 chimney products incorporate a unique jointing system which include the necessary seal on the liner's female end as illustrated below.

To join System 21 components simply lubricate the seal lips with a seal lubricate and ensure that the seal is positioned correctly within the seal locating groove and that the seal is free from dirt or grit.

Push the components required firmly together ensuring the seal is in position and product label flue gas directional arrow points upwards.

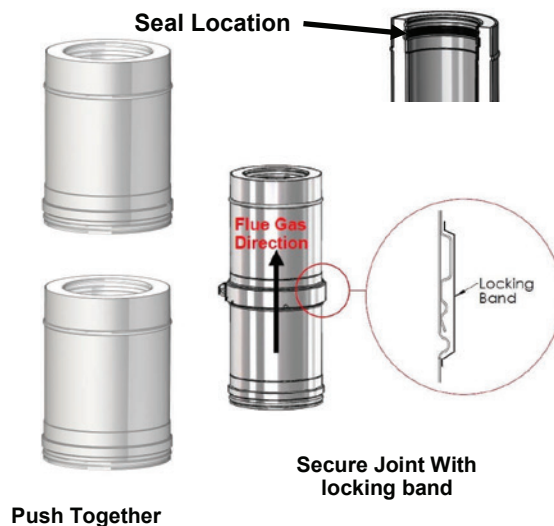
To secure, tighten the nut and bolt on the locking band (taking care to note the directional arrow on it) as shown on the illustration below.

Each component comes with a locking band where required.

The cutting of elements is prohibited as it will remove the products unique jointing system.

### Locking Band

The unique jointing system, along with the locking band system, both strengthen the joints and ensures the excellent gas tight properties of the chimney. Care must be taken to install the locking band as per its directional arrow.





## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

### Lengths

**Product Code:**

**21-D-250 (250mm Length)**

**21-D-500 (500mm Length)**

**21-D-1000 (1000mm Length)**

Replace 'D' above with required Internal diameter

Lengths come in diameters from 80mm to 500mm (larger diameters available on request). To confirm the working length please refer to the chart below. Always install the chimney as pointed out by the directional arrows attached to the main chimney body.



<b>I.D</b>	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B 1000</b>	946	946	946	946	946	946	946	946	946	946	946	946
<b>B 500</b>	446	446	446	446	446	446	446	446	446	446	446	446
<b>B 250</b>	196	196	196	196	196	196	196	196	196	196	196	196

### Probe Length (Internal use only)

**Product Code: 21-D-PL**

Replace 'D' above with required Internal diameter

A Probe length provides a factory made access point to allow a hassle free flue gas analyser reading point. It should be positioned as close as possible to the appliance to ensure the probe access point is clearly visible and fully accessible.

To access the probe point simply remove the screw and insert probe. Ensure the screw is repositioned once the reading has been taken.



<b>I.D</b>	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B</b>	91	91	91	91	91	91	91	91	91	91	91	91

### Adjustable Length

**Product Code: 21-D-250ADJ (260mm-365mm)**

**Product Code: 21-D-312ADJ (340mm-490mm)**

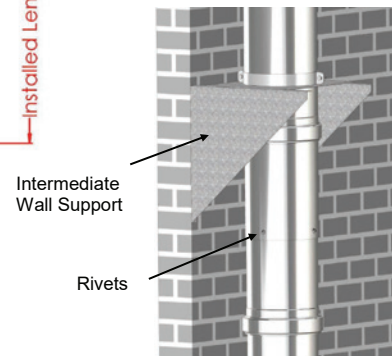
**Product Code: 21-D-500ADJ (510mm-865mm)**

Replace 'D' above with required Internal Diameter

This component is designed to provide onsite adjustment and is used where accurate linear movements are required.

This is a non load bearing telescopic pipe and at its full extension must have a telescopic overlap of at least 80mm. A wall support must be used on the component directly above the adjustable length to support the chimney run.

Four by equidistant holes must be drilled on the telescopic body to allow for fitting 5mm stainless steel rivets/ self tappers (rivets and self tappers not supplied by Mi-Flues.) An adjustable length comes complete with two seals fitted, the additional seal is used to seal the telescopic section.



### 21-D-250ADJ

<b>I.D</b>	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B Min</b>	260	260	260	260	260	260	260	260	260	260	260	260
<b>B Max</b>	365	365	365	365	365	365	365	365	365	365	365	365

### 21-D-312ADJ

<b>I.D</b>	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B Min</b>	340	340	340	340	340	340	340	340	340	340	340	340
<b>B Max</b>	490	490	490	490	490	490	490	490	490	490	490	490

### 21-D-500ADJ

<b>I.D</b>	80	100	125	150	180	200	250	300	350	400	450	500
<b>Ex.D</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>A</b>	125	150	180	200	225	250	300	350	400	450	500	550
<b>B Min</b>	510	510	510	510	510	510	510	510	510	510	510	510
<b>B Max</b>	865	865	865	865	865	865	865	865	865	865	865	865

## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

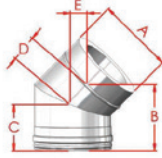
### System 21 Bends

#### 45° Bend

**Product Code: 21-D-45**

Replace 'D' above with required Internal diameter

A 45° bend is used to create a change in direction in a flue run. This component is developed in two segments. They are usually used in pairs, the first to create the offset and the second to turn the chimney to its original vertical position. Two by 45° bends can be used to create a 90° bend.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	125	150	180	200	225	250	300	350	400	450	500	550
B	138	142	155	162	182	191	199	215	232	250	270	285
C	100	109	115	115	126	131	135	145	156	166	172	187
D	57	60	67	75	78	84	88	98	108	119	129	139
E	42	43	45	54	55	59	62	69	76	84	91	98

#### 90° Bend

**Product Code: 21-D-90**

Replace 'D' above with required Internal diameter

A 90° bend is used to create a change in direction in a flue run and is developed in three segments. It may be taken as being equal to two 45° bends. Two 45° bends may be used to achieve a 90° bend in diameters greater than 150mm.



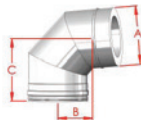
I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	125	150	180	200	-	-	-	-	-	-	-	-
B	110	115	140	148	-	-	-	-	-	-	-	-
C	150	164	187	205	-	-	-	-	-	-	-	-

#### 85° Bend

**Product Code: 21-D-85**

Replace 'D' above with required Internal diameter

An 85° bend is used to create a change in direction in a flue run. It is used in condensing applications where a 5° fall back to the horizontal is required for condensate drainage.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	125	150	180	200	225	250	300	350	400	450	500	550
B	105	117	135	145	153	164	187	217	274	297	331	343
C	162	174	193	204	217	229	251	284	348	372	408	422

### System 21 Tee's

#### 45° Tee

**Product Code: 21-D-45T**

Replace 'D' above with required Internal diameter

A 45° Tee is used to create a bend in a flue run. This component minimises the resistance to flow because of the angle created with the vertical axis. System 21 Tee Caps are not supplied with Tees. Mi-Flues can manufacture 45° Tee's complete with reducing branches to meet specific customer requirements which are typically used on cascade boiler layout requiring chimney headers.



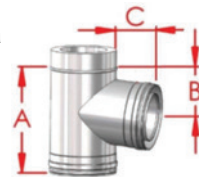
I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	-	320	380	391	440	452	535	608	678	749	820	891
B	-	268	310	339	364	389	448	511	570	631	691	752
C	-	268	310	339	364	389	448	511	570	631	691	752

#### 85° Tee

**Product Code: 21-D-85T**

Replace 'D' above with required Internal diameter

Used at the base of a vertical chimney this component allows for a 5° fall back on condensing systems to allow for condensate drainage. System 21 Tee Caps are not supplied with Tees. Mi-Flues can manufacture 85° Tees complete with reducing branches to meet specific customer requirements which are typically used on cascade boiler systems.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	-	258	287	307	347	364	407	451	497	558	608	659
B	-	113	127	138	152	167	190	209	235	264	289	314
C	-	94	92	100	97	109	96	96	106	104	106	108

#### 90° Tee

**Product Code: 21-D-90T**

Replace 'D' above with required Internal diameter

A 90° Tee is used to create a bend in a flue run. System 21 Tee Caps are not supplied with Tees. Mi-Flues can manufacture 90° Tees complete with reducing branches to meet specific customer requirements which are typically used on cascade boiler systems.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	-	262	287	307	347	363	387	447	497	563	613	663
B	-	107	121	130	154	159	170	199	225	258	286	308
C	-	84	75	86	85	94	84	81	89	87	87	87

## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

### Tee Cap with drain or without drain

**Product Code: 21-D-TCD (with drain)**

**Product Code: 21-D-TC (without drain)**

Replace 'D' above with required Internal diameter



With drain



Without drain

A Tee cap is used to close off a tee. It provides access for inspection and cleaning. A Tee cap with a drain (stainless steel three quarter inch) is used at the bottom of a vertical chimney / horizontal run with a 5° fall to facilitate condensate drainage (See images opposite).

I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	-	-	-	-	-	-	-	-	-	-	-	-
A	80	100	125	150	180	200	250	300	350	400	450	500
B	20	20	20	20	20	20	20	20	20	20	20	20

### Double Wall Insulated Tee Cap

#### Double Wall Tee Cap with Drain

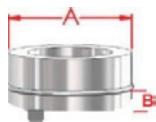
**Product Code: 21-D-TCD-I (with drain)**

**Product Code: 21-D-TC-I (without drain)**

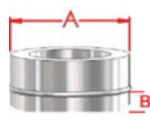
Replace 'D' above with required Internal diameter

A double wall insulated Tee Cap provides access for inspection and cleaning. This product allows the Tee Cap/Tee Cap with drain to be held in position with a locking band (product comes complete with locking band). A double wall insulated Tee Cap with a drain is used to facilitate condensate drainage from the chimney.

**Note,** a base wall support plate cannot be used with a double wall insulated tee cap. If a support is required an intermediate wall support should be used on the length directly above the tee.



With drain



Without drain

I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	-	-	-	-	-	-	300	350	400	450	500	550
A	-	-	-	-	-	-	300	350	400	450	500	550
B	-	-	-	-	-	-	20	20	20	20	20	20

### Draught Stabiliser

Draught stabilisers are intended to ensure proper draught conditions in chimneys where necessary. They work by pulling cool air from the room into the flue, which in turn aids in reducing the temperatures of the flue gases. Note, additional ventilation will be required when a draught stabiliser is included in a chimney installation (refer to local Building Regulations).

Draught stabilisers can be connected into any System 21 chimney system. The draught stabiliser should always be installed in the same room as the appliance. To fit a draught stabiliser a 90° Tee is required. The 90° Tee should be positioned above the appliance spigot and as near as possible to the appliance spigot. Once the 90° Tee has been installed the draught stabiliser can then be mounted to the branch of the Tee with the use of an adaptor. Contact Mi Flues for further information in relation to draught stabilisers and adaptors to suit your installation.



90° Tee c/w with Draught Stabiliser



Tee Cap with drain used to provide condensate drain location.



## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

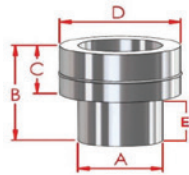
### ADAPTORS

#### Start Off Adaptor

**Product Code: 21-D-ADP**

Replace 'D' above with required Internal diameter

An adaptor is used to join a single wall connecting flue pipe / appliance to a twin wall chimney system.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	80	100	125	150	180	200	250	300	350	400	450	500
B	137	137	137	137	177	177	177	177	177	177	177	177
C	68	68	68	68	68	68	83	83	83	83	83	83
D	125	150	180	200	225	250	300	350	400	450	500	550
E	69	69	69	69	59	59	59	59	59	59	59	59

#### Start Off Adaptor—Tapered Reducing

**Product Code: 21-D-ADPRT (Reducing)**

Replace 'D' with required Internal diameter

A reducing tapered adaptor is used to join an appliance/ connecting flue pipe to a twin wall insulated chimney system.



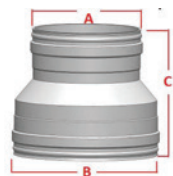
I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	-	-	-	-	-	-	-	-
A	-	80	100	125	-	-	-	-	-	-	-	-
B	-	150	180	200	-	-	-	-	-	-	-	-
C	-	230	230	230	-	-	-	-	-	-	-	-

#### Reverse Adaptor

**Product Code: 21-D-ADP-REV**

Replace 'D' with required Internal diameter

A Reverse Adaptor is used to close off the top of an insulated chimney system and provide a single wall female connection complete with seal to an alternative Mi Flues product system (e.g. System 35 Flexible flue liner or Mi-Flues rigid flue liner).



I.D	80	100	125	150	180	200	250	300	350	400	450	500
E.D	125	150	180	200	225	250	300	350	400	450	500	550
A	80	100	125	150	180	200	250	300	350	400	450	500
B	125	150	180	200	225	250	300	350	400	450	500	550
C	140	140	140	140	177	177	177	177	177	177	177	177

### Terminals

#### Finishing Cone

**Product Code: 21-D-FC**

Replace 'D' above with required

A Finishing Cone offers the least resistance to flue gases. It can be used on appliances where there is drainage at the base of the chimney. The chimney remains open at the top but the cone ensures the insulation in the final flue length is sealed.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	80	100	125	150	180	200	250	300	350	400	450	500
B	125	150	180	200	225	250	300	350	400	450	500	550
C	228	228	228	228	125	125	125	125	125	125	125	125

#### Cowl (Rain Cap)

**Product Codes:**

**21-D-CLC (Standard cowl - Rain Cap)**

**21-D-CLCBG-G (c/w Bird Guard for Gas)**

Replace 'D' above with required Internal diameter



A cowl is the top rain cap for a chimney. It's purpose is to stop the infiltration of rain or snow to the inside of the chimney. It does not impede the movement of the products of combustion. It is fitted onto the last length of the installation and secured with a locking band. (This cowl is also available with a bird guard for gas installations with the addition of an appropriate gas mesh, as shown above).

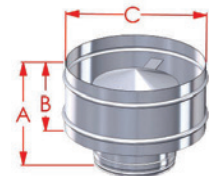
I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	125	150	180	200	225	250	300	350	400	450	500	550
A	125	150	180	200	225	250	300	350	400	450	500	550
B	67	67	67	67	82	82	82	82	82	82	82	82

#### Storm Cowl

**Product Code: 21-D-SCL**

Replace 'D' above with required Internal diameter

A storm cowl is a rain cap which is used in exposed areas subject to high wind conditions. It reduces the possibility of the wind affecting the appliance. This cowl is popular for use with wood pellet and wood chip applications.



I.D	80	100	125	150	180	200	250	300	350	400	450	500
Ex.D	-	-	-	-	-	-	300	350	400	450	500	550
A	-	-	-	-	-	-	284	284	284	306	306	306
B	-	-	-	-	-	-	175	175	175	197	197	197
C	-	-	-	-	-	-	412	462	512	562	612	662

## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

### Safety / Installation / Regulations

Chimney installation should only be carried out by competent persons and installed in accordance with the Building Regulations. The chimney components listed in this literature should not be modified unless specifically stated on the specific product information.

Commercial / industrial installations including installation within flat's, assembly / places of recreation must be carried out under the specific guidance of Building Regulations part B and J.

#### Chimney Diameter

The diameter of the System 21 insulated chimney used in an installation must be equal to or higher than the outlet of the appliance and in accordance with local Building Regulations / appliance manufactures literature.

#### Connection to Connecting Flue pipe (Mi-Flues System 1 and System 7)

The connection from the System 21 insulated chimney to the connecting flue pipe/appliance must be made using a System 21 start off adaptor.

#### Chimney support.

The heating appliance should not support the weight of the chimney except when the heating appliance manufacturer states it is suitable to do so. Therefore the weight of the chimney should be adequately supported by the use of suitable support components listed on page 32 of this brochure.

Where the building is to support the lateral and vertical load it should be inspected to ensure it is capable of doing so. If the chimney is installed internally it should be supported with the use of appropriate support products. Further information on the support products is given on page 32.

A Base Wall Support should be used with a Tee to provide the chimney support for the initial 3.5 mtrs.

An additional Intermediate Wall Support must be used every 3.5mtrs beyond this point with a wall bracket situated centrally between both load bearing components. Firestops are used to provide support at ceiling levels.

A Rafter sSupport should be used to support a chimney as it passes through a roof. The maximum length unsupported shall not exceed 1.5mtrs. This distance however can be increased to 3mtrs with the use of structural locking bands. This increased distance should be supported with an Intermediate Wall Support. No chimney joints should be made within the joist and ceiling areas.

#### Chimney route / offsets

The chimney route should be the most direct route possible between the connecting flue pipe and the chimney termination. Chimneys should be vertical wherever possible. If an offset in the chimney run is necessary i.e. to avoid fascia and soffit, an additional wall bracket must be installed directly above the offset to provide extra lateral support.

#### Wet operation (condensing boilers)

Mi-Flues System 21 Connecting flue pipe / Insulated chimney system is designated suitable for wet operating conditions. It should be installed with an incline to allow condensate to be drained from the system.

Mi-Flues System 21 85° bend and 85° Tee products allow for a 5° incline and should be used on wet designated installations. The Installation should include drain off points to ensure the condensate will drain from the chimney system. Mi-Flues Tee Caps with drain are provided to facilitate this drain off.

#### Distance to Combustibles / Installation

Mi-Flues System 21 chimney installations must have a minimum distance of 60mm from the outer body of the chimney to any combustible material. If the chimney passes through a joist or slab then clearance at floor and ceiling joist should be established by the use of a Firestop arrangement. No combustible material should protrude beyond the 60mm safety lugs of the firestop. In addition, the 60mm clearance should not contain any other non combustible material. This 60mm air gap must be maintained throughout the installation. A free flow of ventilation air must be provided to all areas of the chimney installation.

#### Shielding from Human Contact

If the chimney passes through a separate compartment area of the building it should be adequately protected, (see Technical Guidance Document B – Fire Safety and in accordance with Building Regulations Part J).

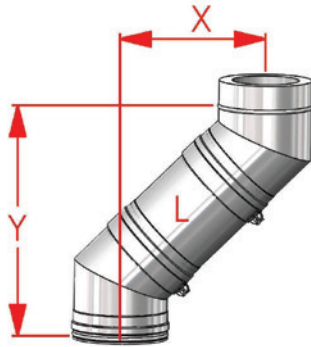
A non combustible enclosure must be spaced from the chimney to satisfy the minimum 60mm distance stated. This will ensure that accidental contact of any combustible material or human contact to the surface of the chimney will not occur and ensure compliance with the regulations. The chimney should not pass through a storage area, cupboard area or storage space unless it is surrounded by a non-combustible guard which is separated from the chimney by a distance of at least 60mm. Protection in the attic / roof space should also be provided by a non combustible guard / rigid mesh structure positioned at least 60mm from the chimney.

## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

### OFFSET CHART

The offset chart opposite is using Mi-Flues System 21 45° bends.

**Y = Installed Height**  
**X = Installed Offset**  
**L = Length used**



Length (mm)	Offset	80	100	125	150	180	200	250	300	350	400	450	500
0	X	117	125	132	128	145	152	166	170	187	201	216	231
	Y	280	294	320	312	350	368	380	413	451	486	522	557
250	X	260	265	275	267	286	294	303	311	325	340	355	370
	Y	425	435	464	450	492	509	519	554	589	625	660	695
500	X	437	440	450	455	463	470	473	488	502	517	526	547
	Y	600	612	640	655	668	686	695	731	766	801	832	872
1000	X	790	792	800	797	817	824	826	841	856	870	885	900
	Y	955	965	990	983	1022	1040	1049	1085	1120	1155	1190	1226

Length (mm)	Offset	80	100	125	150	180	200	250	300	350	400	450	500
250Adj	X min	-	306	311	319	324	335	340	355	370	384	399	414
	Y min	-	481	492	511	523	552	563	598	633	669	704	740
	X max	-	382	387	395	400	412	417	431	446	461	475	490
	Y max	-	557	568	587	600	628	639	674	710	745	780	816
312Adj	X min	357	364	369	378	381	392	398	411	427	442	454	469
	Y min	522	539	547	565	581	611	621	657	691	727	756	792
	X max	463	470	475	483	488	499	504	526	531	548	572	578
	Y max	628	645	656	675	687	716	727	762	795	833	868	904
500Adj	X min	-	483	488	496	501	509	514	532	544	561	574	591
	Y min	-	658	668	688	700	726	737	775	808	845	878	917
	X max	-	736	741	747	754	765	770	785	797	814	826	844
	Y max	-	911	921	943	953	981	993	1028	1061	1098	1131	1170

### Chimney Termination

Chimneys should be high enough to ensure sufficient draught and to clear the products of combustion safely.

### Chimney Plate: Product Code : CP-1

On completion of installation a chimney plate should be completed. The chimney plate provides information regarding the Manufacturer, designation, nominal size, distance to combustibles, Installer name, installation date, chimney location and thermal distance. It should be completed by the Installer and securely fixed in an unobtrusive but obvious position within the building such as next to the electricity or gas consumer unit, next to the chimney hearth or next to the water supply stop-cock.

### Cleaning / Maintenance

Adequate provision should be made for inspecting and cleaning the full length of the chimney from the heating appliance. Access components are available in the product range (Tee's ) and should be installed to suit the installation. The chimney should be inspected regularly and cleaned at least twice per year, depending on usage and type of fuel used. This should be carried out with the use of a brush which should not be made from black steel.

**NOTE:** Where a chimney is to be cleaned from the top a safe working environment should be available. The chimney should be maintained to ensure that the construction remains in good condition. Any components showing signs of deterioration which may affect performance should be replaced under professional advice. Any evidence of leakage identified by smoke staining should be rectified immediately. The appliance should not be used until the issue has been rectified.

### Life Expectancy

Mi-Flues Systems 2 and 21 should provide many year's service. They are provided with a 10 year life expectancy when used as follows:  
Under normal operating conditions, and providing the systems are installed, maintained correctly, and used on a suitable application in line with their listed designations.

## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

### System 21 Technical Data

Fuel	Condensing Oil and Condensing Gas
Liner Material	316L Stainless Steel
Body Material	304 Stainless Steel
Insulation Material	25mm High density blanket
Max. Distance between lateral supports	1.5m
Thermal Resistance	747.60 m <sup>2</sup> K/kW
Flow Resistance	.001 Mean roughness
Minimum distance to combustibles	60mm

### Handling and Storage

All System 21 components are individually boxed or packaged and labelled where appropriate. They should be stored in a dry suitable storage location.

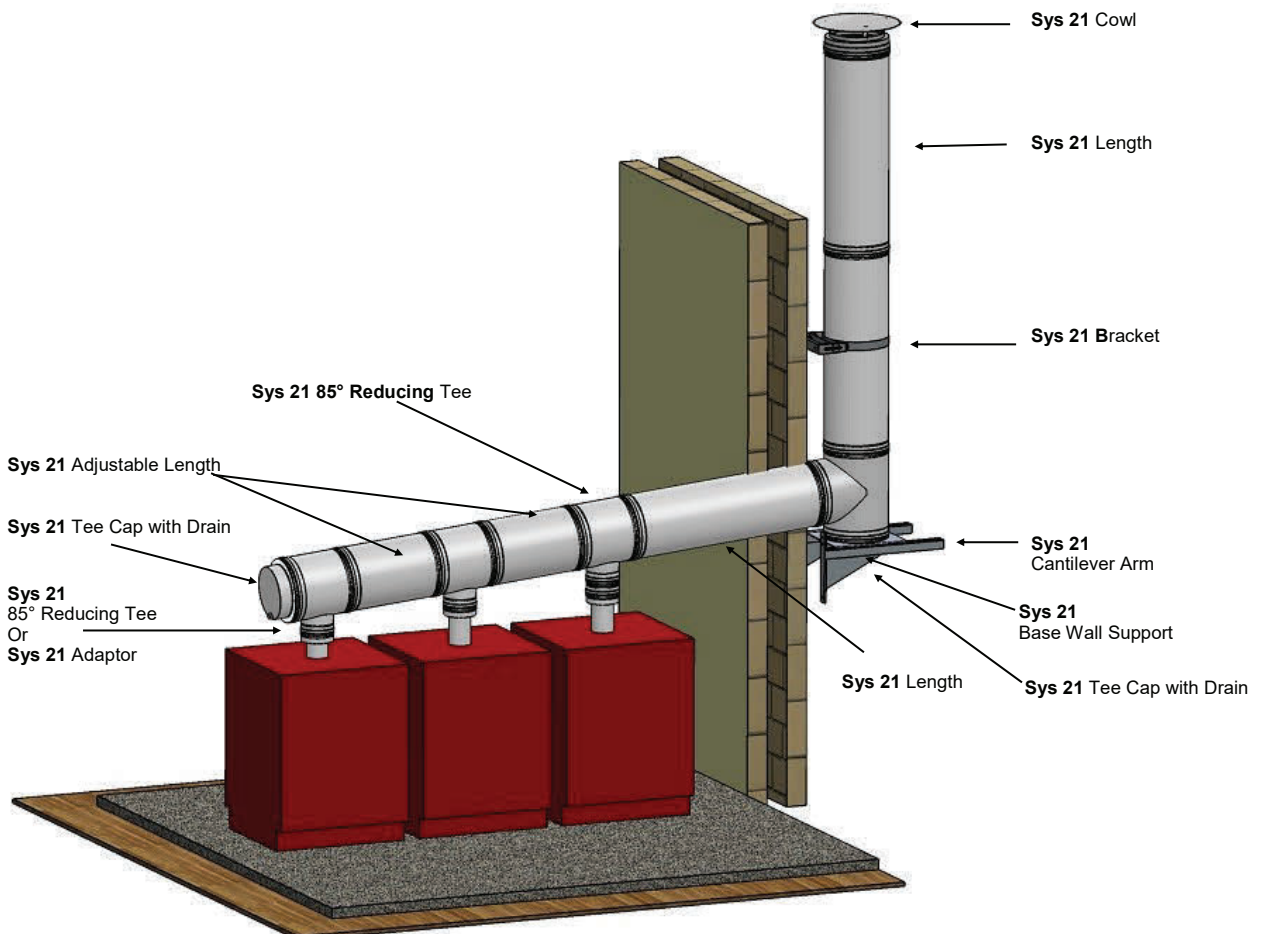
### Product Designation System 21

Mi-Flues System 21 twin wall insulated products for Condensing Oil and Condensing Gas applications carry the following designation codes:

**Mi-Flues System 21 chimney system**  
**EN1856-1 T200 P2 W Vm L50050 O60**  
**EN1856-2 T200 P2 W Vm L50050 O60**

Sys 21	EN1856-1	T200	P2	W	Vm	L50050	O60
Sys 21	EN1856-2	T200	P2	W	Vm	L50050	O60
Standard							
Temperature Level							
Pressure Level							
N, P or H							
Condensate Resistance							
W:Wet or D:Dry							
Corrosion Resistance (durability against corrosion)							
Flue Liner material specification							
Sootfire resistance and distance to combustibles							
G:Yes or O:No / distance to combustibles in mm							

### Installation



## Mi-Flues System 21 Twin Wall Insulated Chimney System suitable for Condensing Oil and Condensing Gas Applications

### Installation

The product is easy to handle, but care should be taken when holding, fitting or assembling any part of the system. Users are advised to use suitable precautions such as gloves, eye/face protection, protective clothing etc. to avoid injury.

Installers should be aware of the Safety, Health and Welfare at Work Act 2005, Safety Health and Welfare at Work (General Application) Regulations 2007 and the Safety, Health & Welfare at Work (Construction) Regulations 2013. Installers should be aware of the possibility of disturbing asbestos when working in older properties. This should be dealt with in accordance with the strict guidance documents.

### Non Load Bearing Components

Wall Bracket (BK)	1.5mtr intervals or centrally between base/intermediate wall supports
Guy Wire Bracket	1.5mtr beyond last support
Roof Centering Plate	Attach to chimney to centralise/stabilise before passing through pitch roof
Structural Locking Band	Attach to current flue without removing the existing locking band. Intermediate Wall Support to be fitted below it.

### Load bearing components maximum supported lengths ( provide vertical, lateral and stabilising support )

Load Bearing Components	80 mm	100 mm	125 mm	150 mm	180 mm	200 mm	250 mm	300 mm	350 mm	400 mm	450 mm	500 mm
Base Wall Support	n/a	n/a	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr
Base Wall Plate with Cantilever arms (620/1220 long)	n/a	n/a	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr
Intermediate Wall Support	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr
Intermediate Wall Plate with Cantilever arms (620/1220 long)	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr	3.5Mtr
Firestop	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr	3Mtr
Rafter Support	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr	1.5Mtr

### MI-FLUES SYSTEM 21 COMPONENT WEIGHT CHART

Weight (KG) including locking band

Component	100 mm	125 mm	150 mm	180 mm	200 mm	250 mm	300 mm	350 mm	400 mm	450 mm	500 mm
1000mm	3.6	4.6	4.9	5.8	6.7	9.0	10.5	12.5	12.9	15.5	17.0
500mm	1.9	2.3	2.5	2.9	3.2	5	5.5	6.3	6.6	8.0	8.15
250mm	1.0	1.4	1.5	1.7	1.9	2.5	3	3.3	3.4	4.0	4.4
312Adj Length	2.2	2.7	3.1	3.6	4.3	5.4	7.4	9.0	10.2	11.0	12.9
250Adj Length	1.8	2.2	2.4	3.1	3.5	4.5	5.1	5.8	7.9	7.5	9.8
500Adj Length	3.6	4.3	5.1	6.2	8.0	9.0	10.5	12.0	13.4	15.0	19.2
90° Bend	1.3	1.9	2.2	-	-	-	-	-	-	-	-
45° Bend	0.9	1.2	1.3	1.7	1.9	2.7	3.5	4.3	4.6	5.5	5.7
85° Bend	1.1	1.5	1.8	2.6	2.7	3.5	5.0	6.1	8.6	11.0	11.6
90° Tee	1.8	2.5	2.9	3.2	4.1	4.7	6.0	8.0	9.5	11.0	13.3
45° Tee	2.3	3.6	3.9	4.8	5.2	7.3	9.5	13.6	17.8	18	23.8
85° Tee	1.5	2.1	2.5	3.3	3.7	4.8	6.5	7.8	9.8	11.5	13.9
Start off adaptor	0.5	0.6	0.6	0.9	1.0	1.5	1.5	2.0	2.2	2.5	2.8
Reverse Adaptor	0.5	0.7	0.8	1.0	1.0	1.2	1.4	1.6	1.8	2.0	2.2