Mi-Flues

FLUE & CHIMNEY SYSTEMS

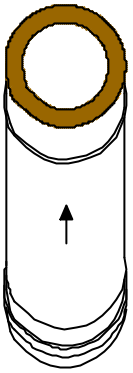
SYSTEM 2

Gas, Oil, Solid fuel

& Biomass Appliances

Mi-Flues System 2 Gas, Oil, Solid fuel & Biomass Appliances

MI-Flues System 2 is designed and manufactured to enable all types of gas, oil and solid fuel applications including woodchip and pellet appliances, to be connected to a twin wall insulated chimney with a diameter to suit that of the appliance selected.



The system comprises of straight lengths, adjustable lengths, bends, tees and a full range of accessories. MI-Flues can supply non standard adaptors to ensure this chimney system can be fitted to all types of applications

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 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. This enhances the performance of the appliance.

It is constructed from concentric cylinders commonly referred to as the chimney liner and body.

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

The liner of the flue is made from 316 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 chimney is insulated with a 25mm densely packed insulation which results in a low heat conductivity to the walls of the chimney.

MI-Flues System 2 chimney product has a unique jointing system, all components have specially developed male and female “clik clak” formed ends. Together with a uniquely developed locking band system both strengthen the joints and ensures the excellent gas tight properties of the chimney. To join chimney sections simply attach the locking band loosely around the chimney fittings ensuring the larger diameter engraved on the locking band is on top.

Push the male end of the chimney fitting firmly into the female end of the previous fitting and tighten bolts using an allen key or flat head screw driver ensuring the band fits comfortably over the round swage on the lower pipe and the large swage on the upper pipe.

All System 2 chimney components are individually boxed and labelled.

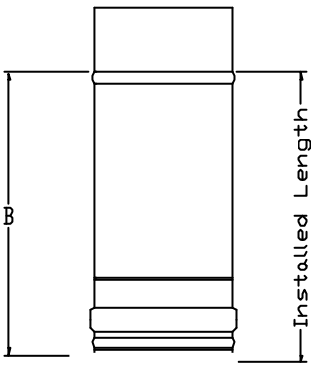
MI-Flues System 2 is available in four standard diameters 80mm, 100mm, 125mm and 150mm. Larger diameters are available. Contact MI-Flues directly.

APPLICATION

MI-Flues System 2 is ideal for installation in residential, commercial or industrial heating applications. It is quick and easy to install with the provision for a more complex route to be installed if required. Because of its physical dimensions it requires a lot less installation space. MI-Flues System 2 can be installed internally or externally as an independent chimney system.

LENGTH

Available in four standard lengths as shown below. The actual length of the straight component is 48mm longer that that conveyed in the dimensional chart below. Always install the chimney as pointed out by the directional arrows attached to the main body of chimney.

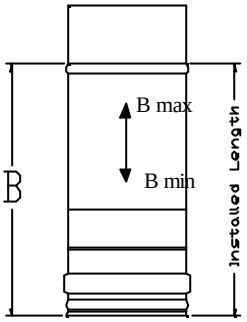


Int. Dia.	80	100	125	150
Ext. Dia.	125	150	180	200
Installed Lengths				
B 1250	1197	1197	1197	1197
B 1000	946	946	946	946
B 500	446	446	446	446
B 250	196	196	196	196

Mi-Flues System 2 Gas, Oil, Solid fuel & Biomass Appliances

ADJUSTABLE LENGTHS

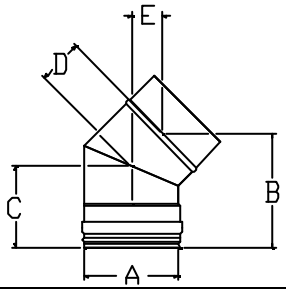
This component is designed to provide onsite adjustment and is used where accurate linear movements are required. This is a non load bearing telescopic pipe and at its full extension must have a telescopic overlap of at least 50mm. A wall support must be used on the component directly above the adjustable 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.



Int. Dia.	80	100	125	150
Ext.Dia.	125	150	180	200
Installed Lengths				
B Max.	510	510	510	510
B Min.	345	345	345	345

45° BEND

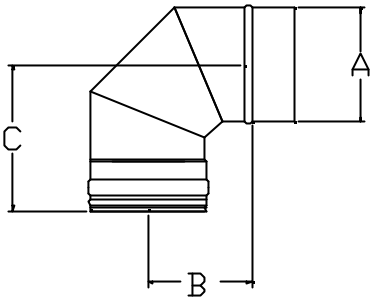
A 45° bend is used to create a change in direction in a flue run. This component is developed in two segments. They are usually used in pairs, the first to create the offset and the second to turn the chimney to its original vertical position. Two by 45° bend can be used to create a 90° bend.



Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	125	150	180	200
B	138	156	163	169
C	100	109	115	115
D	57	60	67	75
E	32	37	50	57

90° BEND

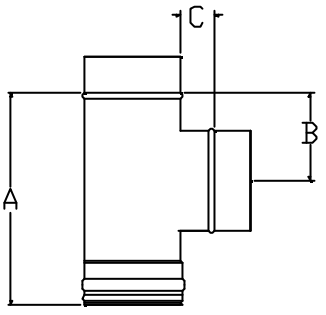
A 90° bend is used to create a change in direction in a flue run and is developed in three segments.



Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	125	150	180	200
B	110	115	133	148
C	150	164	187	197

90° TEE

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. A cleaning and inspection area is also provided in this component. It may also be used for the fitting of a draught stabilizer device. This component comes complete with a removable inspection cap which adds an extra 30mm to dimension (A). Mi flues can also provide a tee cap complete with drain off on request.

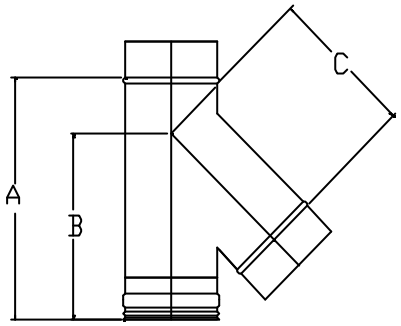


Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	260	260	290	309
B	108	107	121	131
C	44	32	44	44

Mi-Flues System 2 Gas, Oil, Solid fuel & Biomass Appliances

45° TEE

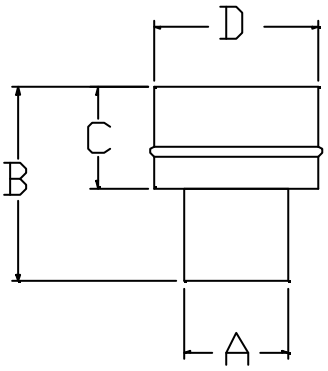
A 45° Tee is used to create a bend in a flue run. It can be used to change a chimney run from a horizontal to a vertical run when used with a 45° bend. This component minimises the resistance to flow because of the angle created with the vertical axis. This component comes complete with a removable inspection cap which adds and extra 30mm to dimension A. Mi flues can also provide a tee complete with drain off on request.



Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	312	320	380	391
B	227	260	312	329
C	181	213	255	284

ADAPTOR

An adaptor is used to join a single-wall flue pipe or appliance to a twin wall system. It can also be used to join two dissimilar chimney types. MI Flues can manufacture any size adaptor at customer's request.

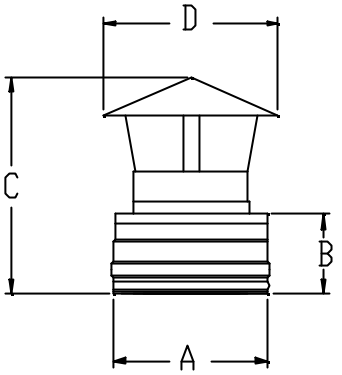


Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	80	100	125	150
B	157	157	157	157
C	82	82	82	82
D	125	150	180	200

TERMINAL

Chinaman Cowl

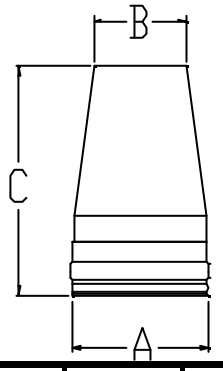
A chinaman cowl is the top rain cap for a chimney. Its purpose is to stop the infiltration of rain or snow to the inside of the chimney. It does not impede the movement of the products of combustion. MI Flues also provide a storm cowl which is used in exposed areas.



Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	125	150	180	200
B	86	86	86	86
C	220	220	220	220
D	228	228	228	228

Finishing Cone

A finishing cone is a vertical discharge terminal it is suitable for use on solid fuel and condensing applications.

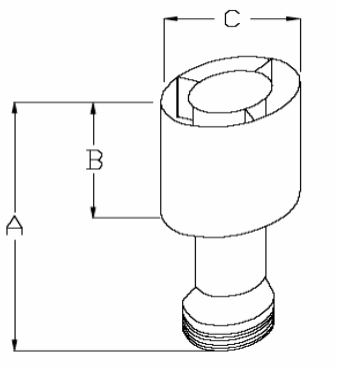


Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	125	150	180	200
B	80	100	125	150
C	233	233	233	233

TERMINAL

Vedette Cowl

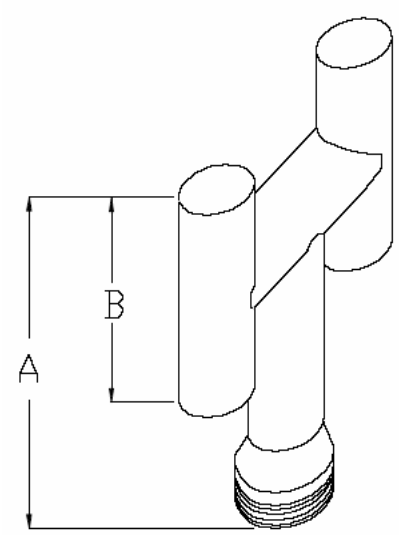
A vedette cowl is used to reduce the possibility of a down draught problem occurring



Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	529	529	529	564
B	250	250	250	305
C	185	205	228	276

H Cowl

A H cowl is used to reduce the possibility of down draught problems occurring.

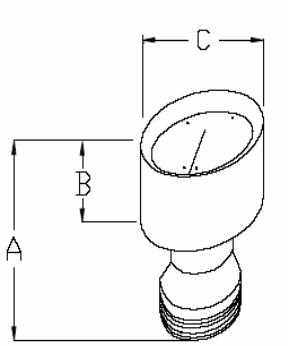


Int Dia	80	100	125	150
Ext Dia	125	150	180	200
A	685	750	785	850
B	457	457	457	457

TERMINAL

Storm Cowl

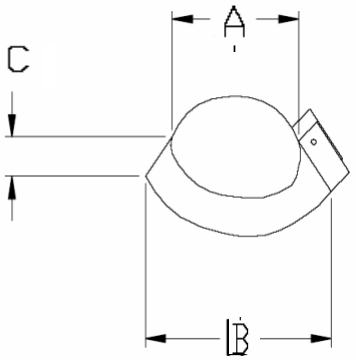
A storm cowl is a rain cap which is used in exposed areas subject to high wind conditions. It reduces the possibility of the wind affecting the appliance. This cowl is popular for use with wood pellet and chip applications.



Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	212	197	200	200
B	155	155	155	155
C	295	317	352	372

Storm Collar

A storm collar must be used in conjunction with a lead flashing. It is attached to the body of the chimney just above the lead flashing. It is used to direct rainwater away from the top of the lead flashing and should be sealed. See typical installations drawing.

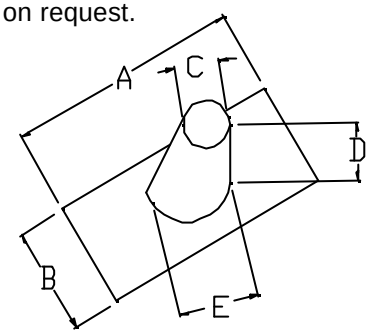


Int.Dia	80	100	125	150
Ext.Dia	125	150	180	200
A	125	150	180	200
B	177	195	235	262
C	27	30	30	30

ADJUSTABLE LEAD FLASHING (0 – 38°)

Lead Flashing

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°. MI Flues also stock a 45° pitch lead flashing. To install, work the base of the flashing into the roof structure to ensure a rain water run off situation is achieved. The up stand section of the lead flashing in contact with the chimney should be adequately sealed with the use of flash band mastic or denso tape. Flashings to suit ridge tile protrusions are also available on request.

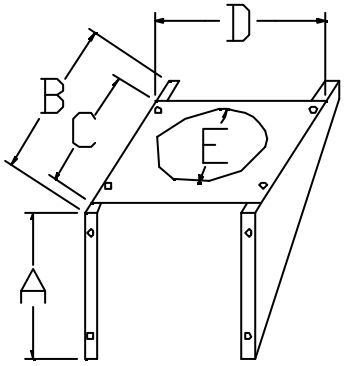


Int Dia	80	100	125	150
Ext Dia	125	150	180	200
A	450	450	720	720
B	450	450	595	595
C	135	135	120	120
D	230	230	150	150
E	230	230	325	325

SUPPORT COMPONENTS

Base Wall Support

A base wall support is used to support a tee section and vertical run of chimney. It is bolted to a main frame or wall face. The minimum distance from the chimney body to wall face is 80mm. For maximum run of flue on a base wall support see section marked safety & installation information. A base wall support can only be used on a Tee section.

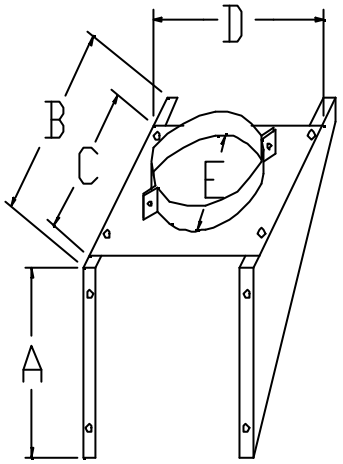


SUPPORT COMPONENTS CONTD.

Int Dia	80	100	125	150
Ext Dia	125	150	180	200
A	-	-	347	347
B	-	-	347	347
C	-	-	222	272
D	-	-	272	222
E	-	-	137	172

Intermediate Wall Support

An intermediate wall support is used as a weight support on a main run of chimney. It comes complete with a clamping collar which is attached to the body of the chimney and is supported by the intermediate plate. The support is bolted to a main frame or wall face. The minimum distance from the chimney body to the wall face is 80mm. For maximum run of flue on an intermediate wall support see section marked safety & installation information.

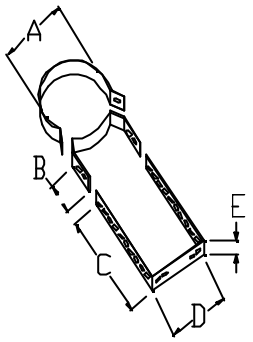


Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	-	-	347	347
B	-	-	347	347
C	-	-	248	272
D	-	-	272	272
E	-	-	188	210

SUPPORT COMPONENTS CONTD.

Wall Bracket

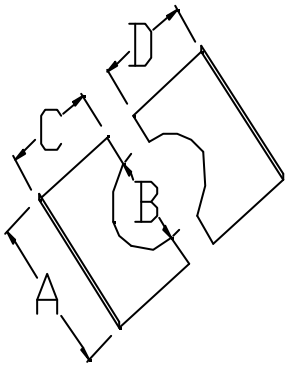
A wall bracket provides lateral support to a chimney run. It is not a load bearing support and should be used at 1.5 meter intervals. This component is adjustable between 80mm – 250mm of a wall face.



Int Dia	80	100	125	150
Ext Dia	125	150	180	200
A	125	150	180	200
B	45	45	45	45
C	258	258	258	258
D	152	152	152	152
E	20	20	30	30

Roof Centring Plate

A roof centring plate is a 0.8mm galvanised plate used to stabilise a chimney as it protrudes through a pitched roof. It is positioned around the chimney and screwed to the underside of the pitched roof. This component can be used with any roof pitch.

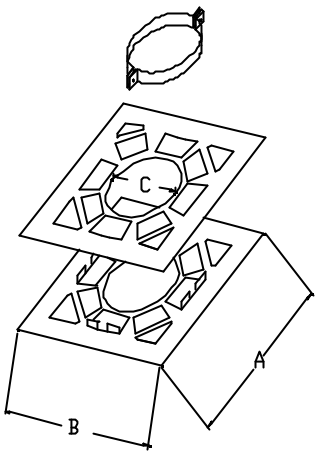


Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	407	407	455	455
B	130	155	182	210
C	188	188	225	226
D	188	188	225	226

SUPPORT COMPONENTS CONTD.

Firestop

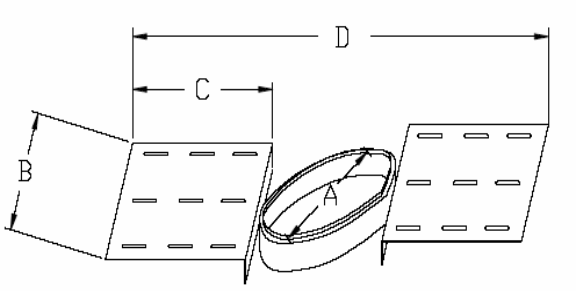
A firestop is used where a chimney penetrates a slab or joist area. It consists of two galvanised plates and a clamping collar. Its purpose is to centralise the chimney and maintain a 80mm gap to combustible materials. It also acts as a load bearing support member due to its clamping collar.



Int.Dia	80	100	125	150
Ext Dia	125	150	180	200
A	416	450	490	490
B	416	450	490	490
C	135	160	190	212

Rafter Support

A rafter support is used to support the chimney as it passes through a roof. For maximum run of flue on a rafter support see section marked technical information.

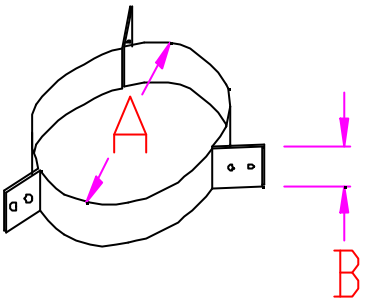


Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	125	150	180	200
B	150	150	150	150
C	200	200	200	200
D	545	570	600	620

Mi-Flues System 2 Gas, Oil, Solid fuel & Biomass Appliances

SUPPORT COMPONENTS CONTD.

Guy Wire Bracket
A guy wire bracket is used to brace a chimney when it protrudes more than 1.5 M. beyond its last support. It is clamped to the flue body and allows for the fixing of guy wires to ridge stays. The guy wires are located at 120° angles around the flue. It is recommended that at least 4mm diameter wire is used. Wire supplied by others.



Int. Dia	80	100	125	150
Ext. Dia	125	150	180	200
A	125	150	180	195
B	30	30	30	30

TECHNICAL INFORMATION

Product designation
Due to European harmonised standard implementation, it is now necessary for chimney products to carry a designation code to simplify the chimney system for installers and local authorities. This new chimney designation code has been developed to designate the various features of the particular chimney product.

MI Flues twin wall insulated products carry the following designation code:
MI Flues System 2 chimney system
EN 1856-1 T450 N1 D Vm L50040 G80

Mi-Flues	Product Description
EN1856-1	Standard number
T450	Temperature level
NI	Pressure level (N , P or H)
D	Condensate resistance (W : wet or D : dry)
VM	Corrosion Resistance (durability against corrosion)
L50040	Flue liner material specification
G80	Soot fire resistance (G : yes or O : no) and distance to combustible (in mm)

Safety & Installation

The above designation code specifies the chimney system to a nominal working temperature of T450 which carries an actual test temperature of 550°c. With a pressure rating of N1 40 Pascal. Suitable for dry operating conditions. The liner of the chimney is manufactured from a 316 grade stainless steel and the minimum distance to combustible materials is equal to 80mm.

As stated there must be a minimum distance of 80mm from the outer body of the chimney to any combustible material. However if the chimney passes through a joist or slab then clearance at floor and ceiling joist must be established by the use of a Firestop arrangement. No combustible material should protrude beyond the 80mm safety lugs attached.

If the chimney passes through a cupboard, attic or separate compartment area to the heating appliance it should be adequately protected by a non combustible casing material which must be spaced from the chimney to satisfy the minimum distance stated. This is to ensure that accidental contact of any combustible material or human contact to the surface of the chimney will not occur. Protection in the attic can also be provided by a rigid mesh structure positioned at the relevant distance to the chimney.

No joints in chimney sections should be made in the joist area.

When a chimney is joined to an appliance flue pipe the lower end of the twin wall insulated chimney must extend a minimum of 150mm below the ceiling level. This section of chimney will generally be out of human contact range, if however human contact is possible the chimney section should be adequately protected using a non combustible barrier. The connection to the flue pipe or appliance must be sealed using an adaptor. This can be sealed with fire cement or suitable alternative, and this connection should be made in the same room as the appliance itself.

The weight of the chimney should be adequately supported. Where the building is to support the lateral and vertical load it should be inspected to ensure it is capable of supporting the extra load. If the chimney is installed internally it should be supported with the use of wall brackets and firestops determined by the route chosen. Where a chimney protrudes 1.5M beyond its last support a guy wire bracket support system should be used.

SAFETY & INSTALLATION CONTD.

On completion of installation a chimney plate must be completed and positioned in an area close to the chimney base for future reference.

It is recommended that installers use gloves when working with MI Flues System 2 to provide a holding grip on the chimney.

Cleaning / Maintenance

The chimney should be inspected regularly and cleaned at least once a year. This should be carried out with the use of a brush which should not be made from black steel. For information on available tee's see section listed as PRODUCT DESCRIPTIONS and information. 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. For chimney information refer to chimney plate.

Chimney termination

As a chimney protrudes through a roof structure it must be sealed with a lead flashing to suit the specific roof pitch. The lead flashing base should be worked into the roof structure to ensure a rain water run off situation is achieved. The lead flashing up-stand section should then be trimmed back with a small amount of clearance to ensure the flue diameter being used passes through it snugly. The top of the lead flashing connected to the chimney body should be carefully sealed with a flash-band mastic or denso tape. A storm collar should then be fitted to the flue body directly over the top of the flashing unit. To fit the storm collar place it around the flue body and tighten the nut and bolt arrangement. It is recommended that a small amount of flash band mastic or high temperature silicone is used to seal the immediate area around the top of the storm collar. The cowl is the last component to be fitted to the flue installation. For full detail of chimney termination heights see Part J of the building regulations.

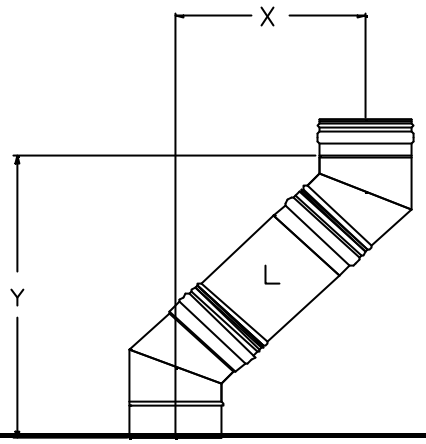
OFF SET CHARTS

The offset chart below is using the recommended MI Flues System 2 45° bends.

Y = Installed Height

X = Installed offset

L = Length used



DIAMETER					
(L)	**Off-set**	**80 mm**	**100 mm**	**125 mm**	**150 mm**
0	**X**	105	125	125	145
	Y	253	274	300	312
250 mm	**X**	265	260	265	274
	Y	395	415	380	446
500 mm	**X**	425	433	450	445
	Y	555	600	609	637
1000 mm	**X**	805	792	815	810
	Y	907	945	950	978
1250 mm	**X**	960	964	1018	1015
	Y	1070	1130	1115	1128
ADJUSTABLE					
	X Min.	330	366	380	395
	Y Min.	450	541	535	567
	X Max.	420	484	512	505
	Y Max.	524	658	638	700

Mi-Flues System 2 Gas, Oil, Solid fuel & Biomass Appliances

Safety & Installation Contd.

Supports

MI FLUES SYSTEM 2
COMPONENT WEIGHT CHART
Weight (KG) including locking band

Component	80 mm	100mm	125 mm	150 mm
1250mm	3.4	4.1	5.3	6.7
1000mm	2.9	3.7	4.6	4.9
500mm	1.6	1.9	2.3	2.5
250mm	0.8	0.9	1.4	1.5
90° Bend	0.9	1.3	1.9	2.2
45° Bend	0.6	0.9	1.2	1.3
90° Tee	1.4	1.8	2.5	2.9
45° Tee	1.9	2.4	3.6	3.9
Cowl – Chinaman	0.3	0.5	0.8	1.1
Finishing Cone	0.7	0.8	1.0	1.1
Start Off Adaptor	0.4	0.5	0.6	0.6

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

Load Bearing Components	80mm	100mm	125mm	150mm
Base Wall Support	n/a	n/a	3.5M	3.5M
Intermediate Wall Support	n/a	n/a	3.5M	3.5M
Firestop	3.5M	3.5M	3.5M	3.5M
Rafter Support	2.5M	2.5M	2.5M	2.5M

On long external chimney runs a base wall support should be installed to support the tee piece to a total installed height of 3.5M. An additional intermediate wall support must be used every 3.5M beyond this point with a wall bracket situated centrally between both load bearing members.
If an offset in a chimney run is necessary i.e. to avoid fascia and soffet, an additional wall bracket must be installed directly above the offset to provide extra lateral support. See typical installation drawings.

Safety & Installation Contd.

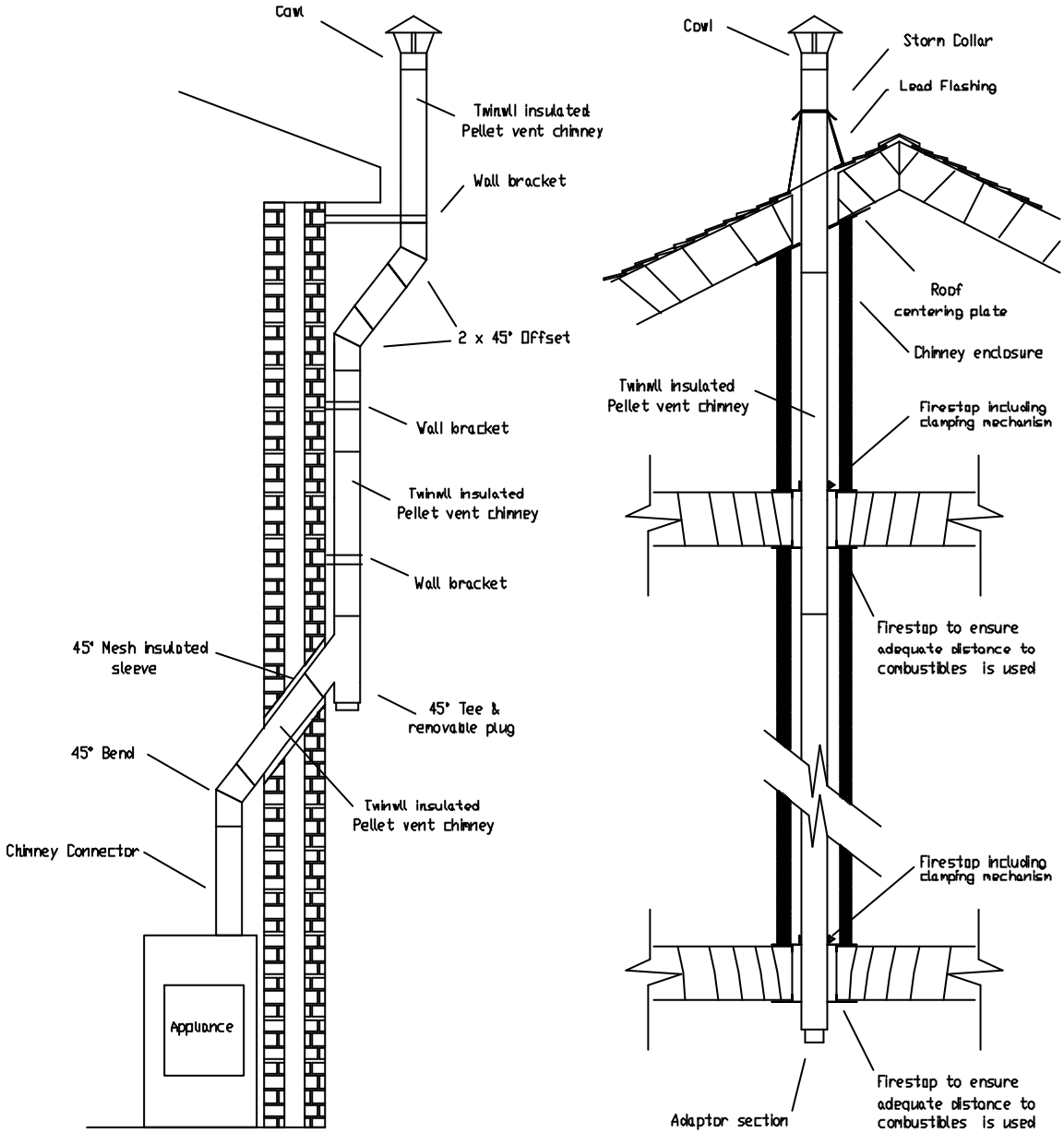
Long offset should be avoided but if necessary all lengths installed between offset bends should be supported laterally by additional wall brackets located at 800mm intervals.
On exposed regions the maximum length unsupported shall not exceed 1.5M.

Non load bearing components

Wall Bracket	1.5M intervals or centrally between base/intermediate wall supports for all diameters
Guy wire bracket	1.5M intervals beyond last support for all diameters.
Roof centring plate	Attached to chimney to centralise \ stabilise before passing through pitch roof for all diameters.

Start off adaptor

Typical Installations



Electric Cowl

Mi-Flues System 2 Gas, Oil, Solid fuel & Biomass Appliances

H Cowl

Storm / Vidette Cowl

Rafter support

Manufacturing Facility

Draught Stabilizer

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