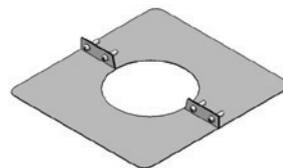
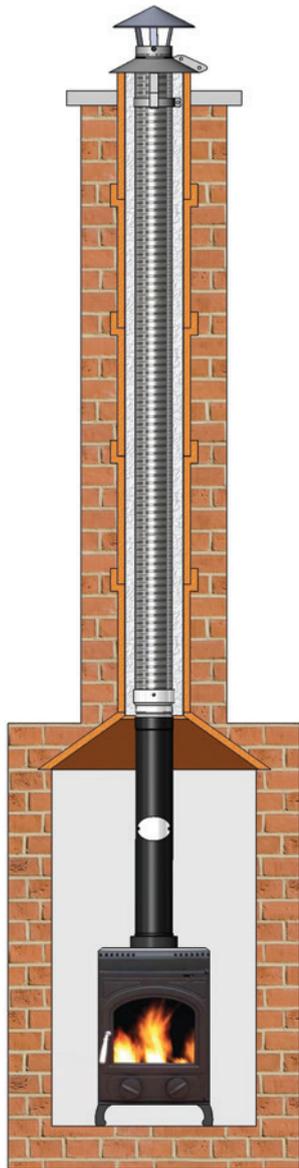




SYSTEM 35

**Multi Fuel Liners
Suitable for
Condensing
Applications**



C € 0120



MI-Flues System 35 Flexible Flue Liner

Introduction

Mi-Flues System 35 is a 316L grade stainless steel double skin flexible liner designed for relining masonry chimney applications with oil, gas and multi fuel appliances.

Mi-Flues can also supply a 904L grade stainless steel liner. The difference in the grades is in the chemical composition of the stainless steel layers within the steel.

System 35 is suitable for use in Condensing Applications.

Product Description

The 316L grade flexible liner is manufactured with a unique smooth internal surface which ensures an unrestricted condensate flow back to the appliance this ensures its suitability on condensing boiler applications. This smooth internal surface also reduces the possibility of build up of soot on multi fuel installations and assists in easier sweeping of the liner.

904L grade flexible flue is manufactured with a 904L grade inner surface which is in contact with the flue gases and a 316L grade outer layer.

316L grade is available in five standard diameters 100mm, 125mm, 150mm, 180mm and 200mm.

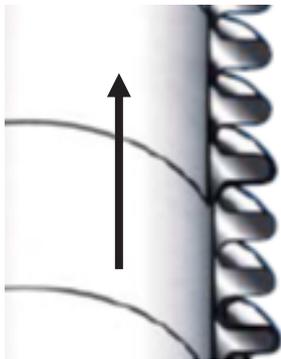
Larger diameters are available on request.

904L grade is available in 150mm diameter.

System 35 is manufactured from 2 layers of 0.12mm 316L grade stainless steel which offers an excellent corrosive resistance property. The product is joined with a unique double Stapling Fastening system which ensures a reliable highly durable flexible strength.



System 35 is marked at 1 meter intervals for cutting purposes. The markings indicate the product name and designation code. A directional arrow is also printed at 1 meter intervals indicating the flue gas flow direction and the metres remaining in the box. It is essential that the flexible liner is installed as per the directional arrow system.



Approvals

System 35 has been approved and tested to:
EN1856-2 T600 N1 W V2 L50012 G (316L grade)
EN1856-2 T600 N1 W V2 L70012 G (904L grade)

Installation

Building Regulations Document J requires that a flexible flue liner can only be installed completely enclosed inside a masonry chimney.

Mi-Flues System 35 cannot be connected directly off the appliance.

If changing an appliance the flexible flue should also be changed at the same time.

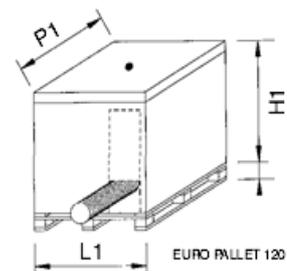
(Please note cowls shown in this brochure are not suitable for condensing applications).

Components

System 35 is available in pre-cut coils for diameters 100mm, 125mm, 150mm, 180mm and 200mm. Each pack contains a cut length of liner up to 12metres. These are wound and shrink wrapped.

Full coils of 30mtrs to 40mtrs are also available in 100mm, 125mm, 150mm, 180mm and 200mm diameters (as shown below). These boxes provide protection for the product against accidental damage and they are also easy to store. The product is easily accessible through the box and facilitates cutting of exact lengths.

904L Grade liner is available in 150mm diameter. Components used with 316L grade System 35 can be used with installations of 904L grade flexible liner. Components have been designed to be installed quickly, safely and simply. The system comprises of cut lengths, flexible flue kits, a range of adaptors, a range of cowls, clamp plates and nose cones.

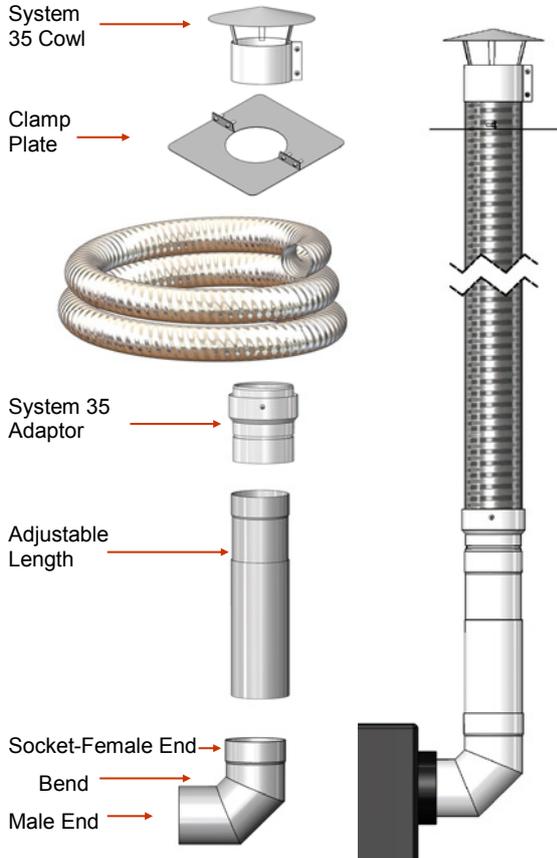


Dia.	(M)	H1 (cm)	L1 (CM)	P1 (CM)
100mm	40	120	100	130
125mm	40	130	120	130
150mm	30	130	120	130
180mm	30	130	120	130
200mm	30	150	120	150

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System 35 Kit

System 35 kits are available in 125mm and 150mm diameters. The Kit is made up a 90° bend (this can be assumed to be equal to 2x45° bends), an adjustable length, an start off adaptor, flexible flue in a 6mt or 9mt length, clamp plate and cowl.

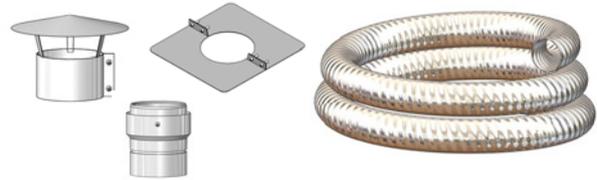


The flexible flue on the above illustration must be enclosed within a lined masonry chimney. A 90° bend (can be taken to be equal to 2x45° bends) can only be used when the chimney can be cleaned through the appliance.

Install the flexible flue as per Installation instructions on page 5 of this Brochure. To fit a System 35 kit insert the bend (male end) straight into the spigot of the appliance as shown. The female end should be installed upwards with the male end dropping into the socket. The joint must be sealed with Mi-Flues high temperature sealant (rated to 1000°C), or suitable fire cement should be applied. To install the adjustable length, adjust the telescopic component to the required length, keeping caution that the overlap between the two pipes must never be less than 80mm. Seal the joint using Mi-Flues high temperature sealant or a fire cement. The System 35 adaptor is inserted into the socket end of the adjustable length. By fitting the components together in this manner this ensures debris and moisture will run internally down the flue. The joint is sealed using Mi-Flues high temperature sealant. (Dimensions and fitting instructions for cowl, clamp plate and adaptor are shown as individual components in this brochure. Dimensions for 90° bend and adjustable length are as per our System 1 product range).

System 35 Mini Kit

System 35 Mini kits are available in 125mm and 150mm diameters. (Install as per instructions on page 5 of this brochure.) The Kit is made up of a an start off adaptor, flexible flue in a 6mt or 9mt length, clamp plate and cowl. Mi-Flues System 35 cannot be connected directly off the appliance. Dimensions and fitting instructions for kit components are shown as individual components in this brochure.



Adaptors—Start Off

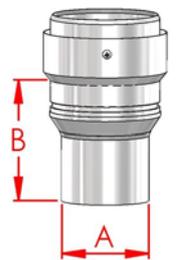
A System 35 Start Off adaptor is used to connect a single wall connecting flue pipe to a flexible liner. To make the connection to the flexible liner simply slide the flexible liner over the inner wall of the adaptor and tighten the three self tappers to join the components. To connect the adaptor to the connecting flue pipe slide the base of the adaptor inside the socket end of the connecting flue pipe component and seal with Mi-Flues high temperature sealant (rated to 1000°C) or fire cement.



Dia. (A)	(B)
100	85
125	85
150	85
180	85
200	85

Adaptors—Reducing Adaptor

A System 35 Reducing Adaptor is used to connect a single wall connecting flue pipe to a flexible liner with a 25mm larger diameter. To connect the flexible liner simply slide it over the inner wall of the adaptor and tighten the three self tappers to join the components. To connect the adaptor to the connecting flue pipe slide the base of the adaptor inside the socket end of the component and seal with Mi-Flues high temperature sealant (rated to 1000°C) or a fire cement.



Dia.	(A)	(B)
125	100	135
150	125	135
180	150	135
200	180	135

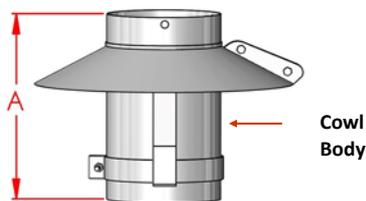
MI-Flues System 35 Flexible Flue Liner

Terminal—Pot Hanger

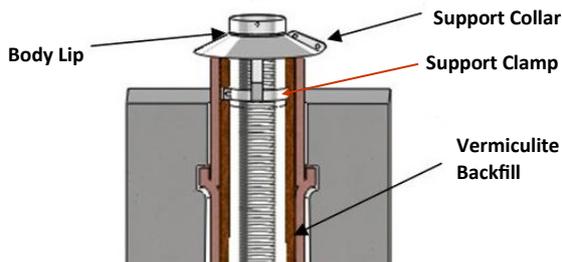
A Pot Hanger Cowl can be used to avoid the need to cut the top section of the clay pot during installation of the flexible liner. It clamps the flexible flue in place. It does not impede the movement of the products of combustion.

Fitting Instruction

Insert the pot hanger cowl body inside the flexible flue liner. Secure flexible flue liner using support clamp. Fix flexible liner into position prior to securing the support collar. Once flexible liner has been fixed into position backfill the cavity. Fit Support Collar to the body directly beneath body lip ensuring collar rests on the clay pot and seal between the support collar and pot using a Mi-Flues high temperature sealant (rated to 1000°C) or an alternative sealant suitable for the purpose.

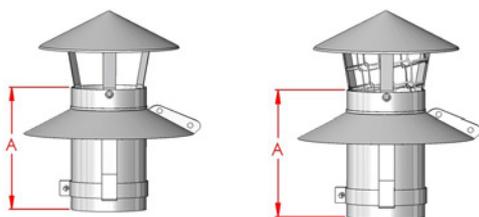


Dia.	(A)
100	240
125	240
150	240
180	240
200	240



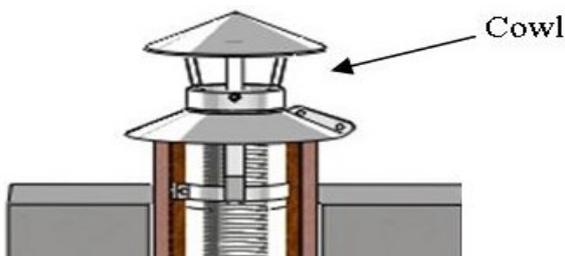
Terminal—Pot Hanger with Cowl Top

This cowl is also available with a solid fuel bird guard protection (dimensions as above).



Fitting Instruction

Fit as per above instructions for pot hanger. Once the chimney has been back filled and the storm collar has been secured to the body fit the cowl top onto the body using the hex head socket bolts supplied. Tighten the bolts with an allen key.

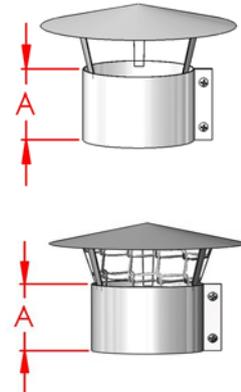


Terminal—Rain Cowl

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 does not impede the movement of the products of combustion.

This is also available with a bird guard as shown. It is fitted around the top of the flexible flue and the bolts should be tightened to secure it in place.

Dia.	(A)
100	100
125	100
150	100
180	100
200	100

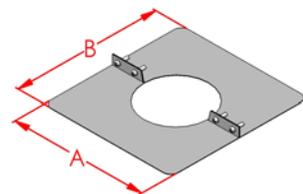


Clamp Plate

Flexible flue can be supported at the top of the chimney using a clamp plate.

Fitting Instructions : Refer to **Installation-Pot Removal** section on page 5.

Dia	(A)	(B)
100	344	350
125	344	350
150	344	350
180	344	350
200	344	350



Nose Cone

Mi-Flues nose cone can be used to temporarily attach to the bottom end of the flexible flue liner to assist with feeding the liner through the chimney.

Method

Attach a draw-cord to the nose cone. Use self-tapping screws or strong tape to secure the nose cone to the end of the liner. Lower it into the chimney from the top, if necessary, gently pulling from below using the draw-cord. When the lower end position has been determined remove the cone.

Dia.	(A)
100	120
125	120
150	120
180	120
200	120



MI-Flues System 35 Flexible Flue Liner

Preparation

Good working practices and statutory health and safety considerations should be followed. Safe working platforms or other means of access should be arranged to avoid accidents. Wear protective gloves, goggles and dust-masks, particularly when handling insulation, and dusty or sooty materials. There is a danger of cuts and abrasions from the liner and metal fittings.

Size of Lining

The diameter of the liner should not be smaller than the appliance outlet and should be in accordance with Building regulations and appliance manufacturer information.

Preparing the Chimney

The chimney must be inspected along with the external brickwork and capping/flaunching for deterioration and if necessary any remedial work should be carried out.

The walls of the chimney should be at least 100mm thick solid masonry. Ensure that the chimney is structurally sound, wind proof and watertight.

The chimney should be swept.

Remove any terminals or capping, which might effect installation of the liner.

Installation

Flexible flue should be installed in continuous lengths without joiners. Mi-Flues recommend two methods of installation at the top of the stack :

- **Pot Cutting to secure the liner with clamp plate.**
- **Pot Hanger or Pot Hanger Cowl is used - therefore cutting of the pot is not required.**

Installation—Pot Removal

It is essential that the liner is installed the right way up. The arrow on the outside of the liner indicates the direction of the flue gas flow and must point upwards. Great care should be taken to avoid over bending or kinking the liner on installation.

Cut the chimney pot and clear any cement and debris from the pot area.

Attach a draw-cord to the nose cone.

Use self-tapping screws OR strong tape to secure the nose cone to the end of the liner. Lower it into the chimney from the top, if necessary gently pulling from below using the draw-cord. When the lower end position has been determined remove the cone.

When the chimney liner is all the way through the flue, connect the base of the chimney liner to the appropriate Mi-Flues System 35 adaptor using stainless steel screws and seal to the connecting flue pipe (System 1 and 7) with high temperature sealant or fire cement (as shown opposite).

The liner should be backfilled at this point.

Cut the liner to the desired length leaving enough for the clamp and cowl to be secured. Place the clamp around the liner and secure by tightening the bolts.

Flaunch the clamp and surrounding area with a suitable mortar and re-fit the chimney pot and cowl.

Installation—Non Removal of Pot

Attach a draw-cord to the nose cone.

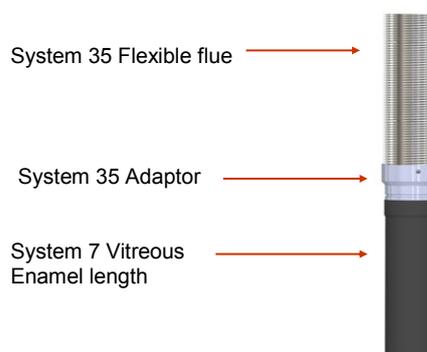
Use self-tapping screws or strong tape to secure the nose cone to the end of the liner. Lower it into the chimney from the top, if necessary gently pulling from below using the draw-cord. When the lower end position has been determined remove the cone.

When the chimney liner is all the way through the flue, connect the base of the chimney liner to the appropriate adaptor using stainless steel screws and seal with high temperature sealant or fire cement.

Fit a Pot Hanger or Pot Hanger with Cowl Top (as per instructions on Page 4 of this brochure) to secure the liner in place. There is no need to cut the chimney pot.

Lining to Appliance Connection

System 35 should not be connected directly on to the appliance. Mi-Flues recommend using a minimum of 500mm length of connecting flue pipe before connecting on to the appliance. The Liner should be at least the same diameter as the outlet from the appliance. At the bottom of the chimney, secure the liner into the connecting flue pipe using an appropriate adaptor (as shown below). Seal using Mi-Flues high temperature sealant (rated to 1000°C) or fire cement.



Insulation

Mi-Flues recommend insulation or back filling on most chimneys. This is not required when used for condensing applications. An insulated flue should ensure maximum performance and minimize condensation in the lining.

To insulate the chimney use a loose fill granular insulating material such as vermiculite with a 6:1 vermiculite to cement mix ratio. This should be poured in around the liner from the top of the stack.

Cutting and handling the Liner

We recommend cutting the liner with a hacksaw. At all times extreme care must be taken when cutting the liner and strong industrial gloves plus long sleeved overalls should be worn as cut edges are very sharp. In addition, any tape secured to the ends of the liner, which is provided for safe handling prior to installation, must be removed before completion of the full system.

MI-Flues System 35 Flexible Flue Liner

Cleaning / Maintenance

Adequate provision should be made for inspecting and cleaning the chimney system. Cleaning/Inspection access should be provided 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. In addition it is essential that no type of chemical cleaners are used. 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.

Chimney Plate

The chimney plate provides information regarding the Manufacturer, designation, nominal size, distance to combustibles, Installer name, installation date, chimney location and thermal distance.

It is to 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 or hearth or next to the water supply stop cock.

Storage

System 35 comes in cut lengths and is packaged in large plastic packs, or in large boxes if coils (30/40 mtr) are ordered. They should be stored in a dry suitable storage location.

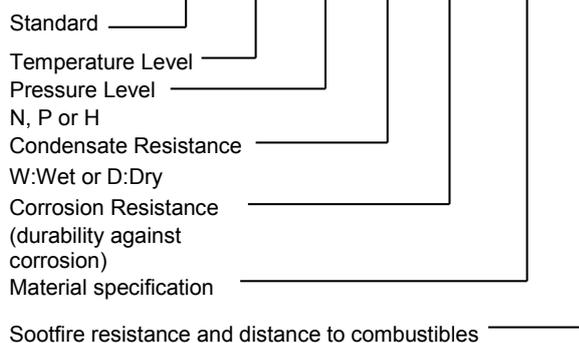
Components are individually boxed, packaged or labelled.

Life Expectancy

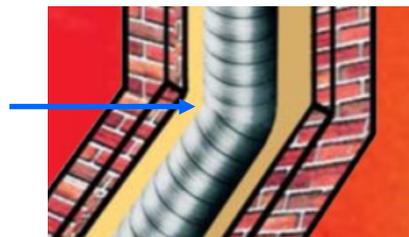
Under normal operating conditions, and providing the system is installed and maintained correctly, Mi-Flues System 35 should provide many years service and is provided with a 5 year Manufacturers conditional warranty, 10 year in the case of 904L grade.

PRODUCT DESIGNATION

Sys 35 (316L)	EN1856-2	T600	N1	W	V2	L50012	G
Sys 35 (904L)	EN1856-2	T600	N1	W	V2	L70012	G



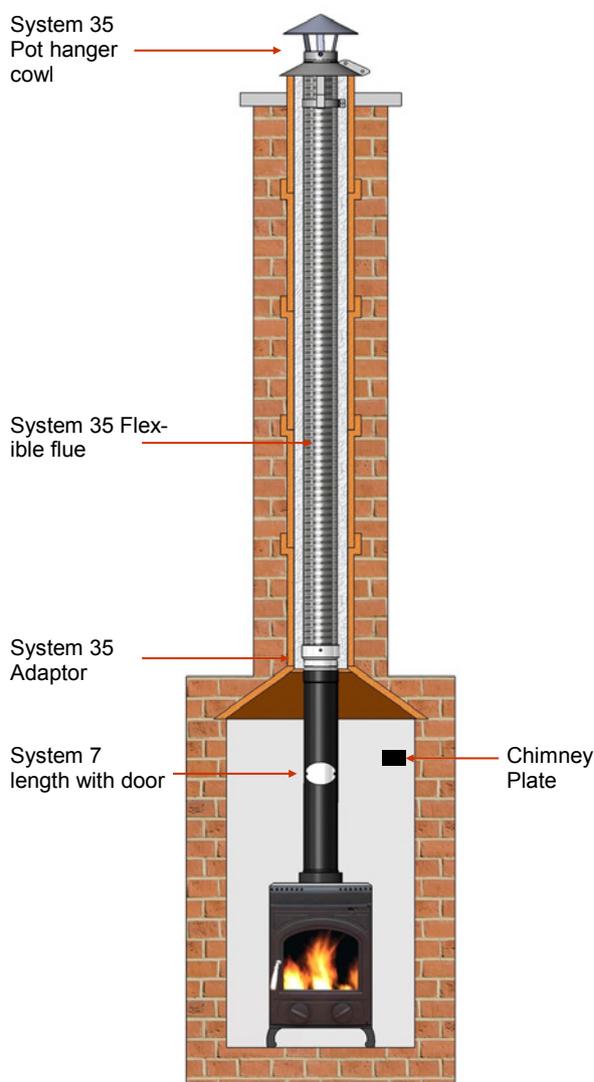
It is recommended that the flexible bending angle does not exceed 45 degrees.



Technical Data

Fuel	Solid Fuel, Oil, Gas
Material (316L)	2 x layers .12mm 316L stainless steel
Material (904L)	2 x layers .12mm 316L stainless steel outer, 904L stainless steel inner

Typical Installation



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. For updates please check our website.