

# **Mounting and User Instructions**

## **Lotus M Series Stoves**

(Lotus M1, M2, M3, M4 and M2ST)

Version 3, 23/08-2014





## **Introduction**

### ***Congratulations on your new Lotus Wood Stove***

We sincerely trust that your Lotus Wood Stove will bring many happy hours for you. However, to benefit fully from your investment, you should read these instructions thoroughly. They contain some specific advice on how to benefit fully from your stove – now, and in the years ahead. So, like all other directions for use, keeping them in a safe place would be a good idea.

Lotus Wood Stoves are based on a long tradition; the first productions were way back in 1979. Our production is now run in Langeskov on Funen in Denmark, and is exported to a great many European markets. Our stoves are produced to sound Danish tradition, and have given their owners good and reliable service for years. So, once again, congratulations on your new Lotus wood stove. We feel certain that putting your Lotus wood stove in operation will inaugurate a warm and cosy beginning of a new home life for you.

The stove is intended for "intermittent combustion", a process achieved by following the instructions of the guide below under "Use of Stove".

### **Mounting of Stove**

Before your new stove will be ready to exude warmth and cosiness, you should read these pages thoroughly. Pages reviewing the requirements for the mounting and for the surroundings. Reference is also made to the fact that local regulations, including those referring to national and European standards, applying at all times must be met for the installation of your wood stove.

A warning should also be issued against any unauthorized change of your wood stove. It should be added that the surfaces of your wood stove will become hot.

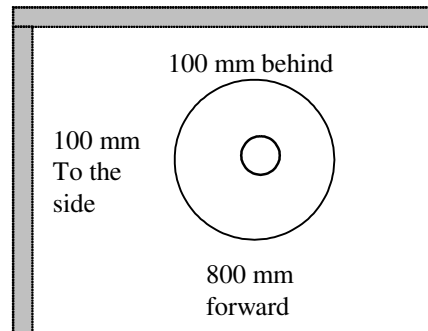
Lotus recommends that your stove be mounted by an authorized Lotus distributor or by a fireplace service man recommended by an authorized Lotus distributor.

NOTE: Your stove may not be put into use until the installation has been approved by the local chimney sweep.

Further, please note that any air grates are to be placed so as not to block.

### ***Distance to Combustible Material***

For combustible material, such as combustible walls, furniture, etc., for reasons of safety a number of minimum distances apply. **The following minimum distances apply to the Lotus M series:**



### ***Distance to non-combustible material***

To non-combustible material, there should be a distance of 80-10 mm in order that the stove may release and distribute the heat while you may clean on and around the stove.

### ***Technical Specifications***

<b>Model</b>	<b>Height</b>	<b>Width</b>	<b>Depth</b>	<b>Weight</b>
<b>M1</b>	114 cm	57 cm	57 cm	435 kg
<b>M2</b>	145 cm	57 cm	57 cm	545 kg
<b>M2ST</b>	141 cm	56 cm	56 cm	465 kg
<b>M3/M4</b>	176 cm	57 cm	57 cm	655 kg

### ***Mean Values at testing to ES/EN 13240:***

Flue Gas Temperature:	300 C
Flue Gas Mass Flow:	6,2 g/s
Rate of Efficiency:	81,5%
Rated Output:	6.4 Kw
Flue:	12 pa

### ***Chimney***

A good draught in your chimney is paramount to how well a stove will burn. Note that there should be access to cleaning doors.

The effective height of your chimney should typically range between 3.5 and 4.5 metres. Effective height is to be understood as the distance from the stove

top to the top of the chimney. The inside diameter of the chimney should be min. 150 mm (inside dimension) in steel chimneys and min. 175-180 mm in brick chimneys or chimneys of ceramic elements as their inside surfaces will frequently be rough and offer resistance.

All joints and connection points shall, of course, be tight, and the chimney shall be able to provide a draught of a min. 1.2 mm water column (12 Pa).

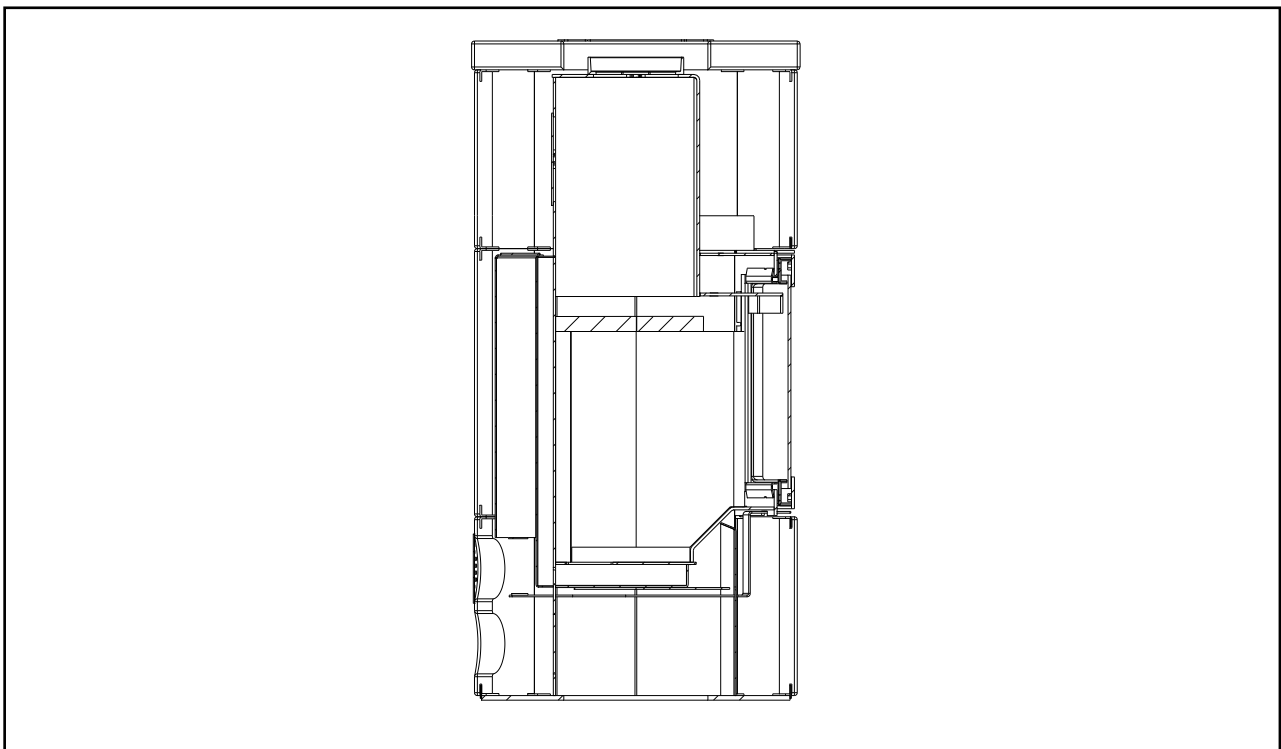
The wood stove may be connected to chimneys which are also used for other purposes. To this end, the specific local conditions shall be assessed by a fitter and/or chimney sweep.

### ***Register***

If your chimney has a register, it should have a forced aperture of min. 20 cm<sup>2</sup>.

### ***Mounting of Smoke Baffle Plates***

Below, it has been shown how the smoke baffle plates (the hatched plate in the middle of the stove) are to be placed when viewing a section in the stove from the side. The smoke baffle plate is pushed all the way back towards the stove rear.



It is a two-part smoke baffle plate. Both parts are removed by lifting up at one side after which the part may come clear at the other side and be taken down

into the combustion chamber and out of the door. Similarly, they are put in place by leading them up slanting-wise at one side, and then at the other side, and they are then put into place in the middle.

### ***Combustion Air Supply***

It is important for good and clean burning that adequate air be supplied to the fire. To allow for this, it is, however a condition that air be supplied to the room in which the stove has been set up.

Certainly most rooms will have sufficient air, not least if some of the doors between the rooms of the house are open. In special cases, an air valve may have to be put in the exterior wall of the room in which the stove has been put up.

### ***Floor***

Note that it is a matter of a heavy stove, and it should be ensured that the floor has the carrying capacity required.

When placing your new Lotus stove on the floor, it should be put on a non-combustible plate, for instance of steel or stone material. The plate should be so large that it will reach a minimum of 30 cm in front of the stove, and 15 cm at each side of the fireplace opening.

### ***Chimney Sweep***

When your new stove has been mounted, do remember to report the installation to the chimney sweep. For one thing, the installation will have to be inspected, and the chimney should also be cleaned by the chimney sweep in the time ahead.

### ***Use of Stove***

Below, the procedure applied at the stove testing by Teknologisk Institut – The Technological Institute – has been reviewed. This is the procedure generating optimal combustion on the particular chimney. Wood quantity and register setting may be varied as individually required for heating and the draught of the particular chimney.

The stove has been tested with birch wood of a humidity of appr. 18%.

### ***Convection Register***

Using the register to the right under the door allows for limiting the convection air quantity. When the register has been pushed in, the convection air will be

limited, and the heat will mainly be transferred to the soapstones (slow heat distribution). Pulling the register out will open completely for the convection air and the heat distribution from the stove (quicker heat distribution).

### ***Kindling and Current Stoking at DS testing***

1. Put about 2 kg kindling wood into the bottom of the stove, stacked crisscross like a log house. Put 2 fire-lighters in the middle, and ignite them.
2. Close the door ajar, leaving an aperture of appr. 2 cm. Open the register to the left under the door completely (pull the handle out to the stop). Leave the stove like this for about 8-10 minutes before closing the door completely and turning the handle into locked position.
3. The register is damped as required during the kindling (by pushing it further towards the left).
4. When the fire has burned down to embers (no more flames), open the door gently so as not to whirl out the embers. Spread out the embers cautiously using a poker so as to leave them in an even layer.
5. Put two pieces of wood into the stove, totally about 1.8 kg. One piece is usually put at the bottom, and the other slanting on top of it. The pieces will ignite best if they have a split side facing the door, and one down in the embers. Close the door immediately and completely.
6. Open the register completely, and after about two minutes set the register so as to be about half open. Just how open the register should be may vary with the draught of the particular chimney but the flames should now stabilize into a "calmly burning fire".
7. When the wood has burned down to embers (after about one hour), start all over from item 5.

### **Slow Combustion**

On a proper layer of embers feed a fair quantity of wood (3.0 – 3.5 kg distributed on 3-5 pieces of wood – not one or two big logs). When the fire has caught on well, adjust the air down. Never adjust down more than still leaving clear, lasting flames. When this fire has burned down, the period up to the next stoking may be stretched further by closing the register entirely so that cold air will not be pulled through the stove.

Adjusting the air supply down too early, or if it is generally too small, will cause a poor rate of efficiency and a too high emission level to the detriment of the environment.

## ***Ashes***

Ashes may be discarded in the waste bin for refuse collection. The ashes should always have cooled for 24 to 48 hours before being thrown into the waste bin as there may otherwise still be embers that may ignite waste or the waste bag.

## **Sound Advice**

### ***Kindling after a protracted interval***

If your stove has not been used for some considerable time, the chimney should be inspected for blocking prior to rekindling.

### ***Cleaning of Stove***

All Lotus stoves have been factory surface treated with original Senotherm lacquer in “coke” or “grey” colour. Due to this treatment, the stove will, during the first kindlings, exude a special odour but that will vanish after a few times. Good airing to be provided.

The painted surface is maintained by brushing it using a soft, long-haired auto brush or by using the vacuum cleaner with a brush.

The soapstones may be cleaned – not using rough detergents – but a little spray for window cleaning. Any small scratch may be cautiously polished down using very fine sandpaper.

Your stove should also be cleaned inside regularly. Ashes, soot, and any tar residues are to be removed from the pane and the combustion chamber. Smoke baffle plates should be dismantled regularly to remove soot and dirt which will frequently settle behind the plates. Check at the same time whether there is free passage to the chimney. The ash pan should also be emptied regularly as required. The ashes from the wood stove may contain embers long after the stove was used last time so always put the ashes in a fireproof bucket prior to removal. Do remember that your stove should be cleaned in cold condition only.

### ***Chimney Fire***

In case of a chimney fire, doors and register should be shut so as to cut off the oxygen supply. Relevant authorities etc. may be called if necessary.



## ***Stove Maintenance – use original spare parts only***

**Packings** may seem to look nice; they will, however, collapse in the heat, thereby losing their ability to keep your stove tight. Packings should be replaced as required as it is essential to good combustion and to a clean pane that your stove is tight.

**The combustion chamber covering** may break or become worn. The panels are made of Schamotte, an insulation material. When worn, the material is to be replaced not later than when the panels have a thickness of appr. 1.5-2.0 cm. The material is slightly porous. To prevent breaking of the panels it should be ensured that the wood is not thrown but laid in the middle of the combustion chamber. If you happen to break a Shamotte panel, this will not have any impact on the insulating effect of the panel.

**Painting** of your stove using Senotherm spray may cover stains or small scratches from kettles or other. Heavy damage to be ground with fine steel wool, vacuum cleaned, and then sprayed. Shake the spray can very heavily, and spray on at a distance of 15-20 cm. It is most important that your stove will be out of operation and quite cold before you use your spray, otherwise heavy damage may be inflicted on account of fire risk.

## ***Kindling Wood***

Kindling wood is the designation for finely split small wood/sticks some 20 cm long and having a diameter of 2-3 cm.

## ***Wood***

Birch, beech, oak, ash, elm, as well as fruit trees are all suitable for being chopped into firewood.

Pressure impregnated wood, chipboard, coloured leaflets or glazed paper are, however, not suitable in a stove. They will develop hydrochlorid acid or heavy metals much to the detriment of your stove and to the environment.

Wood for your Lotus stove should have a diameter of 7-9 cm and be max. appr. 30 cm long as it will otherwise come too close to the stove sides (at the DS testing 25 cm long wood has been used). The most important aspect of good combustion is that your wood will be appropriately dry (of a humidity of 15-20%). If your wood is too wet, making it burn will be hard, the chimney draught will not occur, there will be a lot of smoke, and utilization will be low as water will need to evaporate first. This is certainly harmful to the

environment and will cause a high level of emission. Further, it may cause damage to your stove and chimney by way of shining soot and tar coverings. “Worst Case” would be a chimney fire. If your wood is far too dry, it will burn too quickly. Frequently the gases in the wood will be released quicker than they will burn, and some part of these will go up the chimney unburned. Thus yielding a lower rate of utilization and harming the environment.

So it is a matter of a balance which is, however, reasonably easy to find with a little practice.

Also please refer to the comments below under Storage.

### ***Storage of Wood***

The best storage of the wood is under roof though still with good airing, for instance in a car port or under a shed roof. Preferably put your wood on a wooden pallet or similar, clear of the ground. Fresh wood, sawn and chopped, should preferably be left in this manner for one or two years depending on the species of wood.

### ***Items available in stove***

In the stove, the present mounting and user instructions are available, as well as a glove good for stoking.

### **Operating Trouble**

If case of any operating trouble with your Lotus stove, you may find the cause of that below. If not, please do not hesitate to contact your Lotus distributor.

#### **Stove hard to control – burning too quickly**

If your stove is new, check our guide.

If your stove is more than one year old, or if it has been used heavily, the packings may have to be replaced. If the packings are on for too long, the heat will cause the packings to lose their ability to keep your stove tight.

### **Stove drawing badly after installation**

Check that the mounting instructions have been followed. In particular, conditions around the chimney may cause trouble. Are the diameter and the length OK, is it tight, are the flue pipes and the transitions tight? A chimney sweep may have to be contacted to remedy the problem as the chimney may be clogged.

### **Smelling of Smoke and Soot**

This may be due to wind down draught in the chimney and will mostly occur in certain wind directions. The chimney may be too short in relation to the roof ridge, or trees may have grown up and may be causing turbulence.

### **Your stove is hard to make burn and may go out**

There may be a number of reasons for this. The most typical ones are:

The register is not open enough.

The wood is too wet.

The chimney draught is too small; it may be clogged or leaky.

The layer of embers was too small/no longer glowing and did not produce heat enough to kindle the pieces of wood.

Depending on the type of problem you may have to contact your Lotus distributor or a chimney sweep.

# WARRANTY

## Lotus Wood Stove – 10-Year Warranty

From 1 September 2014, Lotus is offering a 10-year warranty instead of a five-year warranty. This warranty applies to stoves which are supplied by Lotus after this date.

This warranty covers Lotus Wood Stove model \_\_\_\_\_ production no. \_\_\_\_\_ purchased on the \_\_\_\_\_.

This warranty covers normal firing – i.e. using ordinary chopped wood and pressed wood briquettes, and only provided the stove is otherwise operated to the specifications of the directions for use.

This warranty covers the faultless function of the stove, and does not cover overheating damage, damage to lacquer, wearing parts and movable parts such as glass, Skamol, stones, shaker grate, smoke baffle plates, packings, slide gate, and closing gear.

This warranty shall lapse if this stove is not operated so as to comply with the directions for use, and if deficiencies or similar are aimed to be/are remedied by a person not authorized by Lotus Heating Systems A/S. This warranty does not cover damage caused by inappropriate, non-expert/incompetent use of the stove.

If a product is returned to Lotus Heating Systems A/S, and the damage subsequently turns out not to be covered by this warranty, any costs incurred shall be incumbent on the customer.

For any warranty repair, the warranty period for the repair carried out shall not be extended but shall continue to follow the original warranty period.

This warranty shall be valid only if duly completed and subject to simultaneous presentation of distributor's original invoice. The warranty period shall follow the invoice date.

Congratulations on your new Lotus Wood Stove.

Yours Sincerely,



Distributor:

Johnny Ebstrup  
**Lotus Heating Systems A/S**