

# **morsø**

By appointment to  the Royal Danish Court

## **Assembly and User Instructions**

**morsø 1400 series**

**morsø 2100 series**

**morsø 3100 series**

**morsø 3400 series**

**morsø 3600 series**

**morsø 4600 series**

**morsø 1630**

**morsø 5010**

**MORSØ JERNSTØBERI A/S . DK-7900 NYKØBING MORS**  
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## **Congratulations on the purchase of your new Morsø stove!**

Morsø, which is the largest supplier for the Danish market, has manufactured stoves of the highest quality since 1853. By following the instructions overleaf, we are sure that you will enjoy the use and the benefits of your stove for many years to come.

### **Optional Accessories**

A wide range of accessories (such as handling gloves, fireside tools, glass cleaner and heatproof paint) are available for use with your morsø stove. They help with day-to-day running and maintenance. Contact your morsø dealer for more information.

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## 1.0 Installation of your Morsø stove

### 1.1 Unpacking your stove

After unpacking, the fire chamber should be unscrewed (where applicable) from the wooden pallet and laid down carefully on its back. In order to avoid the stove and the floor from being scratched, the cardboard wrapping may be used as a base. The legs that come with the stove should be unpacked and screwed tightly onto the cast base with the accompanying bolts (where applicable).

Carefully move the stove into position.

Because the stove is heavy, we recommend that this lifting is undertaken by two people.

### 1.2 Building regulations

The stove installation and chimney construction must comply with the relevant regulations as laid out in the current edition of Building Regulations.

Installing your stove is not normally a 'do-it-yourself' procedure. A fully competent fitter should be consulted at all stages.

The following section contains the essential points.

### 1.3 Chimney sweep

It is always recommended that you consult a local chimney sweep prior to any installation to ensure that the chimney is in sound and clean condition. If the chimney has not been in use for some time, it will need to be checked for cracks, birds' nests etc before it is put back into service.

### 1.4 The stove's position/clearance requirements

A clearance requirement is only necessary when the stove is placed near combustible materials (wallpaper & plasterboard are considered as combustible surfaces). When the walls are made of combustible material you must adhere to the clearance chart below.

<b>Stove type</b>	<b>Back of stove (A)</b>	<b>Sides of stove (B)</b>	<b>Distance to Furniture</b>
Morsø 1410	150 mm	500 mm	850 mm
Morsø 1430	150 mm	500 mm	850 mm
Morsø 1440	150 mm	200 mm	800 mm
Morsø 1630	350 mm	600 mm	800 mm
Morsø 3110	400 mm	600 mm	800 mm
Morsø 3140	400 mm	450 mm	800 mm

<b>Stove type</b>	<b>Back of stove (A)</b>	<b>Sides of stove (B)</b>	<b>Distance to Furniture</b>
Morsø 2110	150 mm	500 mm	850 mm
Morsø 2130	150 mm	500 mm	850 mm
Morsø 2140	150 mm	200 mm	800 mm
Morsø 3410	350 mm	600 mm	800 mm
Morsø 3440	350 mm	300 mm	800 mm
Morsø 3450	350 mm	600 mm	800 mm
Morsø 3610	350 mm	600 mm	800 mm
Morsø 4600	150 mm	250 mm	800 mm
Morsø 4640	150 mm	250 mm	800 mm
Morsø 5010	350 mm	600 mm	800 mm

In brick-recess situations we recommend that the stove be fitted with a gap all around of between 10-15 cm to allow for heat circulation purposes. It also makes for easier maintenance of the external parts.

### **Hearth Requirements**

Please refer to Building Regulations regarding thickness and area of the hearth required.

### **Clearances to Furniture**

The clearance to any furniture should be minimum of 80 cm, however, it is also necessary to assess whether the furniture or anything else close by will be effected by the warmth i.e. dried out.

The distance to any combustible material in front of the stove is minimum 60cm.

## **1.5 The chimney**

The stove must never be connected to a chimney that is shared with another appliance. A modern and efficient stove makes a lot of demands on a chimney. Ask the chimney sweep to assess the chimney.

The chimney's internal diameter must be minimum 175 cm<sup>2</sup> (150 mm in diameter) and preferably not larger. A chimney with an excessively large area may struggle to establish a good draught. If the chimney is of a masonry construction with a larger internal diameter it is recommended that a chimney liner be fitted. In this way the flue is reduced and an increased draught is achieved increasing fuel efficiency.

## **1.6 Stovepipe connection**

The standard stove is fitted with a reversible flue collar (3). If a rear flue outlet is required simply fit the supplied cast iron blanking plate onto the top outlet, fitting the flue collar onto the back. For a top flue outlet, simply reverse the procedure.

## **Fresh air supply**

Every stove needs air for combustion. In order to determine the correct amount of ventilation required you should consult the current issue of Building Regulations. Additional ventilation may also be required where the house or room is particularly 'tight' or where an extraction hood has been fitted. If insufficient combustion air is provided, the chimney draught will be too weak, and this will prevent the stove from burning adequately causing smoke spillage into the room especially when the fire door is opened.

### **1.7 Chimney draught**

Poor chimney draught is evident when it is hard to establish a bright fire or if there is evidence of smoke spillage. For this type of stove a chimney draught of at least 0.6wg is required in order to give satisfactory combustion. However, there is also a risk of smoke leakage if the stove door is opened too quickly whilst the fire is burning strongly.

Poor chimney draught can be caused by any of the following:

- Excessively cold chimney.
- Blocked flue-ways in either the stove or the chimney.
- Insufficient room air for combustion.
- Insufficient chimney height or termination point.
- Downdraught.
- Cracks in the chimney dilute the draught.
- The cross-sectional area of the flue is too great.

## 2.0 Lighting technique/using your stove

Your stove is built with up to three separate combustion air inlets;

- A **primary air** supply where the air is passes through the grate system. This is operated either via the left handle under the ashlip or by controlling an 'air spinner' located on the stove door.
- A pre-heated **secondary air** supply is also fitted for speed of combustion 'Airwash' and is controlled either by using the handle on the right under the ashlip or by using the air slide control above the stove door.
- A **tertiary air** supply is fitted to some models (3400 series) where a constant supply of pre-heated air is introduced into the firebox via the unique baffle system. This air supply helps to establish an even more complete combustion process of both fuel and gases. Control of this is factory fixed and cannot be adjusted by the user.

In most cases the stove is equipped with a detachable stainless steel handle that ensures the handle does not get too hot. When the handle is detached, the stove is also more childproof. In cases where the handle is fixed, the stove glove should be used to open the door

### Before you light up

The first fires from new should be low in intensity as to enable the heat-resistant paint coating to 'cure' completely. During the 'curing' process, it is expected that the paint coating will smoke and give-off an unpleasant, acrid smell. You will notice a blue haze in the atmosphere also, enough to set-off any smoke alarms in the vicinity. This is quite normal. During this period, open an outside window to ensure adequate ventilation.

Setting the air supply, the lighting method and the refueling intervals are dependent upon chimney draught, wind, weather conditions, temperature requirements and fuel. It can take some time before you become familiar with the stove's optimum settings under given conditions.

Even though it is possible to burn most types of solid fuel in your Morsø stove, you should not burn wet or unseasoned wood. Wood should be stored under cover in an airy environment for at least one year but preferably two.

Never use driftwood because as a rule it has a high salt content and therefore will cause damage to both the stove and the chimney. Chipboard, impregnated and painted wood emit poisonous smoke and fumes and therefore must NEVER be used as fuel.

Logs with a diameter greater than 10 cm should always be split and should be short enough to lie flat (side to side) over the embers within the stove's firebox with a 25mm gap at each end.

## 2.1 Kindling and lighting intervals

Kindling requires a large volume of air. If you start with a completely cold stove, it will help if you keep the door ajar for the first 5 minutes as well as fully opening the primary and secondary air supplies.

1. An ember layer is quickly established by using 2-4 firelighters or 7-10 crumpled-up pages of newspaper lit beneath approximately 1-2 kg dry kindling sticks.
2. You should completely open the primary & secondary air intakes.
3. After the paper/firelighters have ignited, the door should be kept ajar. To provide sufficient chimney draught quickly an opening of approximately 2 cm is probably required.
4. After the chimney has warmed sufficiently (5-10 minutes) a good draught should now be established and the door should now be closed completely. If all the conditions are fulfilled, after a further 15-20 min (approx.) a good ember base will have formed in the firebox and more fuel can be gradually added.

Under normal circumstances, when refuelling, the stove door should be opened carefully for the first 2-3 centimetres. This will allow the pressure within the flue to balance and prevent any smoke spillage into the room. The stove door ought not to be opened whilst the fire is in normal use.

5. Normally refuelling should be done whilst there are still plenty of glowing embers left in the firebox. Use a poker to spread the embers along the bottom, pulling most to the front of stove.
6. Gradually add small amounts fresh fuel to the fire, allowing for plenty of gaps for oxygen to circulate.
7. When the primary and secondary air supplies have been opened to the maximum setting and the door is closed, the new supply of fuel will ignite fairly quickly.
8. Once the fire has taken adjust the air to the required output position.

A gentle fire can be achieved by filling with smaller amounts of fuel and turning down the air supplies, but remember it is most important to maintain a good bed of glowing embers.

Main rules for regulating heat are:

A LITTLE HEAT – A LITTE FUEL – A LITTLE AIR

A LOT OF HEAT – A LOT OF FUEL - A LOT OF AIR

For overnight burning, you should put a lot of fuel in the stove and reduce the air intake.

Lighting in the summer when the heat requirement is low, a small bright fire should be established. Prolonged 'idling' fires or fires using wet or 'green' wood will result in poor combustion and will therefore create a higher risk of soot and tar formation within the flue. Allowed to build-up these deposits can potentially lead to a chimney fire.

## **2.2 Other types of fuel**

Your Morsø stove is DS approved for burning with wood, but of course it is also possible to burn it with other types of fuel, depending on how frequently you want to use your stove.

Briquettes of brown coal and wood are suitable as supplementary fuel. They are easy to light and ideal for night burning since they smoulder for a long time.

Coke and other manufactured smokeless coals are also suitable and are ideal for over night burning. They do however require larger amounts of combustion air than wood fires.

High sulphur content fuels like bituminous house coal is not recommended and if used will reduce the life of the internal cast parts.



## 3.0 Maintenance of stove, pipe and chimney

In time the paint surface of the stove may become grey. This is usually attributed to the stove being run 'too hot'; but the stove may be freshened up by using a Morsø Dark Grey spray paint which can be purchased from your approved Morsø dealer in either aerosol or brush-on cans.

### 3.1. Exterior maintenance

The stove's surface is painted with heat-resistant senotherm coating. It will retain its optimum condition if it is just vacuumed with a soft brush attachment or wiped with a dry dust-free cloth.

The chimney and stovepipe must be supplied with a soot door to allow for chimney inspection and sweeping. The size of the soot door in the chimney must correspond to at least the area of the internal diameter of the chimney.

### 3.2 Interior maintenance

#### Glass

When the fire is lit correctly, there will be little or no soot on the ceramic glass. It is however quite normal for the glass to become 'hazy' during a long low fire (overnight). Revitalising the fire to burn brightly will soon burn off any residue and the glass will again become clear. If soot forms, due to misuse or poor flue draught, this can be easily removed using Morsø glass-cleaner. The glass must however be cold when cleaning.

Causes of sooty glass:

- Firewood too wet.
- Logs are too big/not split.
- Combustion temperature too low.
- Too much air through botto m-grate.
- Poor chimney Draught

#### Inner Iron parts/wearable parts

The grate system, front grate and baffle plates are all in direct contact with the fire. They are therefore potentially vulnerable to being burnt through even though they are manufactured in chrome-iron. Used correctly these parts will last many years. If however the fire is used too hot and over-firing occurs, these components will have a higher risk of burning through or warping. It is easy in this instance to replace these parts. If the baffle plate becomes damaged and is not replaced in time, there would be a risk that further damage could be inflicted on the stove's top. The top plate will be exposed to too much heat and will cause early wear and tear of the interior parts.

Causes of early wear and tear of interior parts:

- fire too hot. Too much air through the bottom-grate. Use of too much dry wood (wood from discarded furniture).
- Too much soot above on top of the baffle (see section on cleaning).
- Too much ash in the pan (see section on ash).

### **Dormant periods of use**

During long periods where the stove is not in use it is essential that all of the air intakes on the stoves are fully opened and that the door(s) are kept ajar. This will help vent the stove and chimney and prevent condensation and the resulting corrosion from occurring within the stove.

### **Gaskets**

In the course of time, the gaskets to the doors and in the lid will wear and in order to maintain control of the stove, they ought to be replaced where necessary. Only use Morsø gasket kit.

Note: Normal wear and tear is not covered by Morsø's product guarantee.

Maintenance kits (Spare parts, Glass cleaner, Paint, Gasket kit etc) can all be obtained from your local Morsø dealer.

## **3.3 Cleaning your stove**

Layers of ash and soot can form on top of the baffle plate, not only after sweeping but also as a result of poor flue draught during general use. The accumulated ash will have an insulating effect on the baffle and could accelerate burn-through of the plate itself, therefore regular cleaning is essential. Most chimney sweeps will perform this procedure during the annual/bi-annual chimney sweep.

### **Ash**

For wood burning only, a 1-2 cm layers of ash should be established in the bottom of the firebox in order to achieve a high combustion temperature. When the layer of ash is too thick, you should push & pull the shaking lever to clear some ash into the ash pan below.

Empty the pan before it is completely full in order that the ash does not insulate around the grating since this can accelerate burn-through of the grate.

Normally, the ash should be disposed of into a metal bin where it can cool down ready for disposal with your refuse. Ash from a woodburning stove is of no benefit as fertiliser for your garden. If coloured brochures, painted and impregnated wood or anything similar have been burnt in the stove, you should not pour the ash onto the ground as it may contain heavy metals.

For Coal-burning, combustion air needs to flow through the grate constantly and therefore, in this case, the ash needs to be cleared several times a day. Again be sure to empty the ash pan regularly so as not to overheat the grate.

**Recommended maintenance products:**

62902300 - 400 ml. senotherm spray paint dark grey

62904300 - door sealing rope with adhesive

62903800 - adhesive fibre for glass

**Wearable parts:**

Riddling grate

Base/grate frame

Smoke ducting plate cast iron

Cleaning valve with smoke ducting plate

Smoke ducting plate rust free

Glass

Side brick front

Side brick back

Back brick

Brick securing bracket

