

EARTH  FIRES
The Soul of Outdoor Fires

User's Manual



Milano & Milano Grande
Pizza Oven

————— www.earthfires.co.uk —————

Already smelling the freshly cooked dough? It won't be long before you are the pizzaiolo (pizza maker). Please read these instructions carefully before use to learn how to care for your Earth Fires Milano Pizza Oven and of course to create the best wood-fired pizzas!

Our pizza ovens are made from fireclay bricks in both the hearth and the dome. The fireclay bricks are essential as they can withstand the very high temperatures required for cooking pizza and also retain this heat without letting it dissipate. The ideal temperature for a pizza is 370°C far exceeding the temperature of a conventional oven.



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A

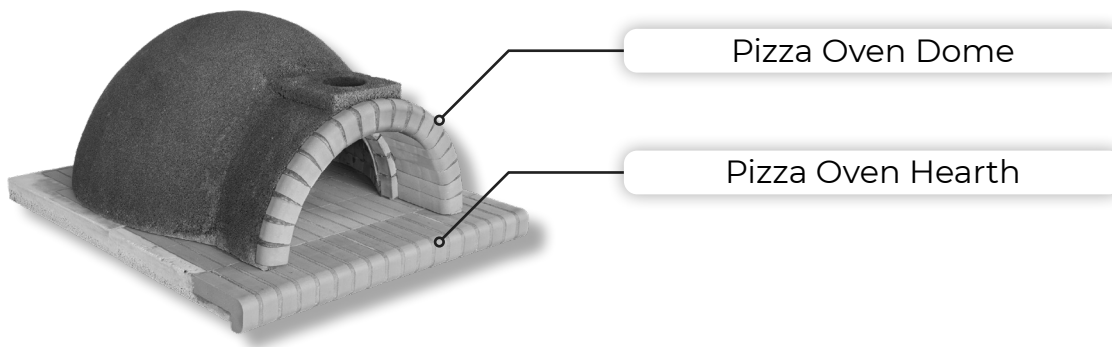
Parts

Included with your oven

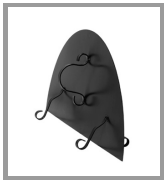
1. Pizza Oven Hearth (Milano – 1pc, Milano Grande – 2pcs)
2. Pizza Oven Dome
3. Pizza Oven Door
4. Waterproof Cover (Milano only) and Minor Crack Repair Kit

Optional Extras

5. Brass Oven Brush
6. Pizza Peel
7. Door Thermometer
8. Enamel Flue Pipe (with damper) and Rain Cap
9. Enamel Flue Pipe (no damper) and Rain Cap
10. Fire blanket, mesh and calcium aluminate cement & fire clay mix



Accessories Pizza Ovens



Pizza Oven Door
(included with oven)



Brass Oven Brush



Pizza Peel
12 x 12" blade 35" long overall



Door Thermometer

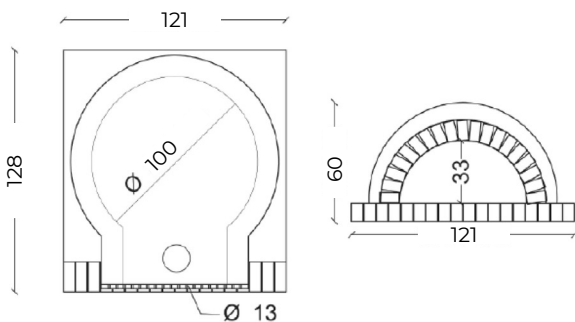


Flue Pipe & Rain Cap
(available with and without a damper)

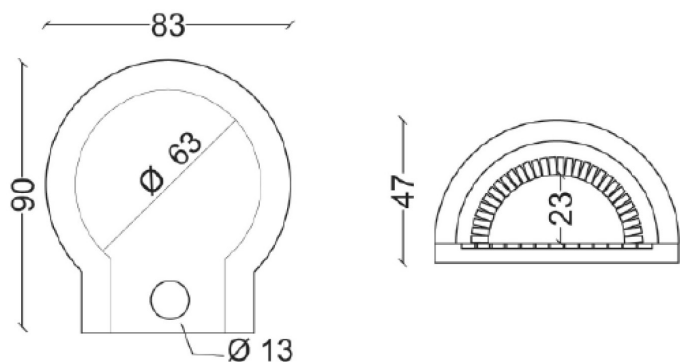


Waterproof Cover
(included with Milano oven only)

Milano 830mm Dimensions



Milano Grande 1210mm Dimensions



*Measurements shown in cm

B**How to Install the Pizza Oven**

1. Identify a suitable location for your pizza oven which is clear from overhead branches, not next to doors and windows, is in an aesthetically pleasing location, and is easily accessible for installation.
2. You may want to shelter your pizza oven with a roof or pergola to protect from the rain and sun. If you decide against building a roof it is **essential that the pizza oven is kept covered** with the cover provided (when not in use). This will prolong the life of your pizza oven. Remember when rain water freezes or evaporates it expands and will crack the pizza oven wall.
(Please note a cover comes with the Milano pizza oven, but not for the Milano Grande oven which must be sheltered with a roof or pergola.)
3. Build the oven base out of bricks or blocks so it fits into the aesthetics of your garden or patio area. This base is not included with your pizza oven. (See appendix 'K. Pizza Oven Base and Foundation').
4. Create a level surface for your pizza oven hearth and dome. Using a spirit level when building the blocks/bricks is very important as an uneven surface can lead to the oven hearth cracking.
5. Place the oven hearth on the base that you have built. Then place the dome on the hearth. Your pizza oven is very heavy. All care must be taken to ensure the safety of those installing the oven. We recommend 3 people to lift the Milano and 5 people to lift the Milano Grande. You may want to hire a small crane for installation, particularly of the Milano Grande.
 - Milano 180kg (2 pieces)
 - Milano Grande 520kg (3 pieces)

Tip: When installing the dome it may help to use 2 wooden poles (e.g. a brush shaft, with the brush head removed). This will allow you to roll the dome backwards without scraping the hearth, and at the same time taking the weight. The poles can then be removed, one at a time, by tilting the dome forward or backward.

6. Are you an occasional user (up to 15 times per year) or a frequent user (more than 15 times per year)?
 - Occasional user – no need to add additional insulation.
 - Frequent user – for frequent users we strongly recommend further insulation. A fire blanket should be used to cover the outside of the dome, then covered by wire mesh, which in turn is covered with a calcium aluminate cement and fire clay mix. This will help retain heat even better and prolong the life of your pizza oven. Some users may wish to add a further aesthetic brick or tile layer on top.
7. Seal the gap between the dome and hearth using fire cement or a very high heat sealant.
8. If further insulation has been used per step 6 above, allow the building material to fully cure and dry. This will take about a week in dry weather.
9. The flue pipe draws the flue gases above head level and away from the user.
 - If your pizza oven is not being placed under a roof, then you can use the flue pipe and rain cap (also available from your local Earth Fires stockist). We recommend the flue pipe with the damper as this gives you greater control over the pizza oven temperature.
 - If you have built a roof or pergola above your pizza oven you will need to install an insulated chimney that safely carries the flue gases through the roof. It is important to follow the chimney manufacturer's distance combustible guidelines to avoid the roof going on fire. Your Earth Fires retailers will also be able to provide this chimney system, based on the lengths you require.



How To Cure a Pizza Oven

(for the first use or after a long period when the oven has not been used)

1. Before you fire your pizza oven for the first time, it is vital to ensure that all construction materials have dried completely. For example if you have added an extra layer of insulation per section B, step 6, this will take about a week to dry. The longer period you give for the concrete to dry, the stronger and more resilient it becomes.
2. After allowing to dry there will still be a small amount of water in the oven walls and other construction material. This water will turn to steam and attempt to escape when the first fire is lit. The oven is prone to cracking at this stage. For this reason, it is imperative that the oven is then cured by heating it gradually (even if no further insulation has been added). **This is essential.**
3. Using dry wood make small fires inside the oven to cure the walls slowly. This should be done over a period of five days to reduce the likelihood of cracking:
Day 1 – 30minutes. Small fire (kindling only)
Day 2 – 1 hour. Small fire (kindling only)
Day 3 – 1 hour 30min. Medium fire
Day 4 – 2 hours. Medium fire
Day 5 – 3 hours. Larger fire
4. Once you have allowed the heat to dissipate overnight, the oven should be carefully inspected for signs of cracks and weaknesses, and the necessary repairs should be performed using the Minor Crack Repair Kit provided.

D**How to Prepare a Pizza Oven Fire**

1. Always use dry wood to make the fire in your oven (see section 'H. Recommended Fuel'). Initially, the oven will smoke. This will diminish as the heat builds.
2. We recommend using eco firelighters (wood wool), 2 medium logs and about 6 pieces of kindling. Place the 2 medium logs on the hearth in the middle of the oven, arrange 4 pieces of kindling on top and then place the firelighter on top of the kindling. (You can use the lattice arrangement shown below to allow plenty of air between the wood). Place the remaining 2 pieces of kindling on top and light the firelighter.



3. Gradually increase the size of the wood pieces to the fire.
4. Burn the fire within the oven until the desired temperature has been reached. We recommend the Earth Fires Door Thermometer (see section 'A. Parts & Optional Accessories') or a high temperature infrared thermometer.
5. Push the burning wood and embers to the back of the oven out of the way. The Earth Fires Brass Oven Brush (scraper side) is recommended (see section 'A. Parts & Optional Accessories').
6. Brush the hearth to remove ash using the brush side of the Earth Fires Brass Oven Brush.
7. Monitor the oven and the temperature. When cooking pizza the door is generally open and a fire maintained with fuel. For other foods the fire is smothered and the door closed, while the hot embers remain inside the oven.

E

How to Cook a Pizza in a Wood-fired Oven

1. Build a fire in the middle of the oven and heat it to around 370°C (700°F) for pizzas.
2. Create your pizza dough.
3. Prepare your pizza toppings; generally this entails a Napoli sauce, basil, olives, pepperoni, mozzarella.
4. Move the fire to the back of the oven and clean the hearth of ash. The Earth Fires Brass Oven Brush is recommended for this (see section A).
5. Close the oven door for 2 minutes to allow the temperature of the oven to stabilise and distribute evenly. The door can then be left open when cooking pizza.
6. Sprinkle flour on your pizza peel. The Earth Fires Pizza Peel is recommended for this (see section A).
7. Slide the pizza onto the peel and then slide the pizza off onto the hearth.
8. Depending on the temperature of the oven, the pizza will cook from anywhere between 90 to 120 seconds.
9. Keep an eye on the pizza to be sure it does not overcook or burn on one side. Rotate with the peel if necessary.
10. Remove the pizza with the peel. Allow to cool slightly before consuming.

APPENDICES

F

Healthy and Safety

1. Your Milano Pizza Oven will be extremely hot when in use. Do not touch your oven until it has completely cooled down.
2. Your oven should not be operated by children.
3. Your oven should not be operated by a person under the influence of alcohol or drugs that may impair the user's ability to operate it safely.
4. Never leave your pizza oven unattended. Particular caution should be taken when children or pets are present.
5. Do not clean out the ashes until the pizza oven has cooled completely.
6. Scrape the cool ashes from your oven using your Brass Oven Brush (see section 'A. Parts & Optional Accessories').
7. Your Milano and Milano Grande pizza ovens are very heavy and we recommend 3/5 (Milano/Milano Grande) people lifting in an appropriate manner. You may want to hire a small crane for installation, particularly of the Milano Grande.
8. Use long oven gloves for protecting hands and arms while handling pots, or working with oven fires. Wooden handled pizza peels and brushes are recommended as they are cool to touch (see section 'A. Parts & Optional Accessories').
9. Don't use liquid fuel such as petrol or lighter fluid when starting a fire in the oven. The process may be dangerous and may lead to strong flavours being absorbed into the surrounding brick
10. Allow the oven to cool naturally, do not douse with water. This will cause water vapour and quick cooling will damage your oven.

G

Minimising Minor Cracks

Heat expansion

When the pizza oven heats up, the dome will naturally expand. This expansion can lead to hairline cracks which is a common occurrence during the normal heating and cooling process of the pizza oven, and therefore should not be a cause for concern. The cracks can be filled with a calcium aluminate cement and fire clay mix, along with cement dye (to help colour match the cement/fire clay mix to the dome).

Larger tears in the dome or the pizza oven walls are generally as a result of severe heat, not curing the oven and/or not allowing a complete dry before firing the oven. Frequent users are reminded that a ceramic fire blanket can be used for this purpose to add extra layers of heat-resistant insulation on top of the oven dome to increase cooking time potential and minimise cracks (see section B. (6) Frequent Users).

H

Recommended Fuel

- Different woods will produce different flavours. Oak is considered the best all round wood, but Ash is also popular and fruitwoods such as Maple can be mixed with these to add fruity flavours.
- Avoid burning treated woods as these will produce harsh chemical tastes and may be a danger to your health.
- Only use seasoned or kiln dried wood with moisture content of less than 20%.

I

Maintenance

- Your Milano wood-fired oven needs regular cleaning. Once the oven is cold, you can use the Brash Oven Brush to clean the ash accumulated at the centre or the sides, and carefully sweep it out of the oven.
- The chimney of the oven also needs regular cleaning and might need to be checked for nests or other items that may be hindering the passage of the flue gases.
- Remember it is essential to cover your pizza oven if it is not under a roof. A cover is provided with Milano oven. Simply remove the flue pipe and place the cover on top. There are 4 zipped bags that can be filled with sand and placed in the pockets to ensure the cover does not blow away.

J

Common Problems

Without proper care a number of problems can occur. Possible issues which should be taken into consideration by owners are:

- Maintaining the correct temperature. (If temperatures go very high the dome will crack)
- Preventing and fixing cracks as they form.
- Protection from the elements of nature, especially water. It is essential your pizza oven is kept covered (by a roof or by using the waterproof cover provided with the Milano oven) when not in use. Remember to cure your pizza oven the first time you light it and also after periods of not being used (see section C).
- To prevent burnt crusts, rotate the pizza in the oven using your pizza peel.
- To prevent an overly smoky flavour use woods like Oak, Ash or Maple.
- To prevent soggy pizza bases or overly smoky flavours only use seasoned or kiln dried wood with moisture content of less than 20%.

K

Pizza Oven Base & Foundation

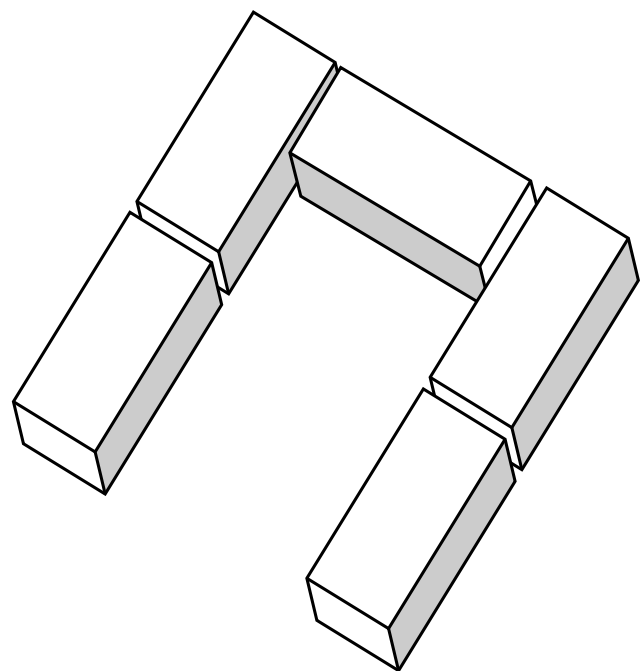
To begin the construction of the pizza oven foundation you first need to establish a solid flat surface. If you are building on an existing structure you will need to ensure it can safely support the weight of the pizza oven foundation and the pizza oven itself. A layer of stones and pouring a concrete slab may be required if the existing surface is not solid. It is important that a competent fitter installs the oven.

Once a suitable surface has been prepared you may begin construction of the foundation. Ideally you want the hearth to be high enough that viewing within the oven does not require extensive bending, however not so high that placing of pizzas or cleaning is difficult.

You can make the base with bricks or concrete blocks. We have suggested a number of options with concrete blocks (which can then be plastered with sand and cement).

1. Milano (no shelf)

Using 440 x 215 x 100mm concrete blocks laid on the 'flat' side. Laying on the 'flat' side will provide you with a much stronger base when installing the oven hearth and dome on top, and also allows for the curve on the oven hearth. You will need approximately 35 blocks (exc. waste) using this method. It is very important that the surface the hearth is placed onto is flat, otherwise the hearth could crack. Use a spirit level when building and smooth off the final layer with mortar if any area is not flat. Allow to dry before placing the hearth on top.



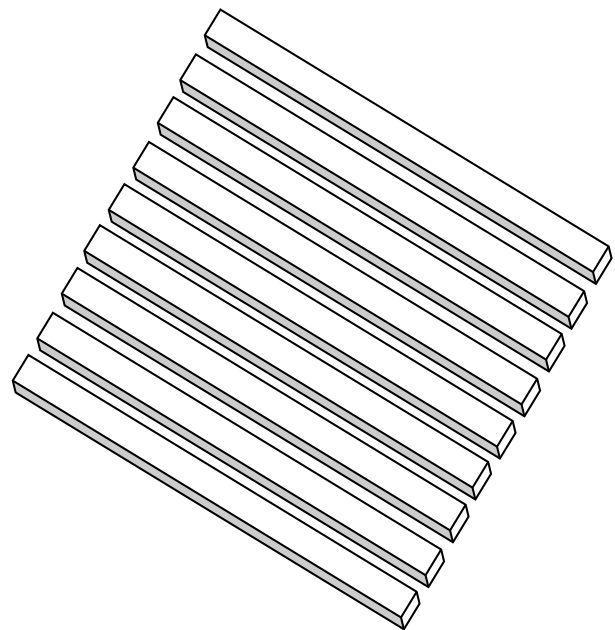
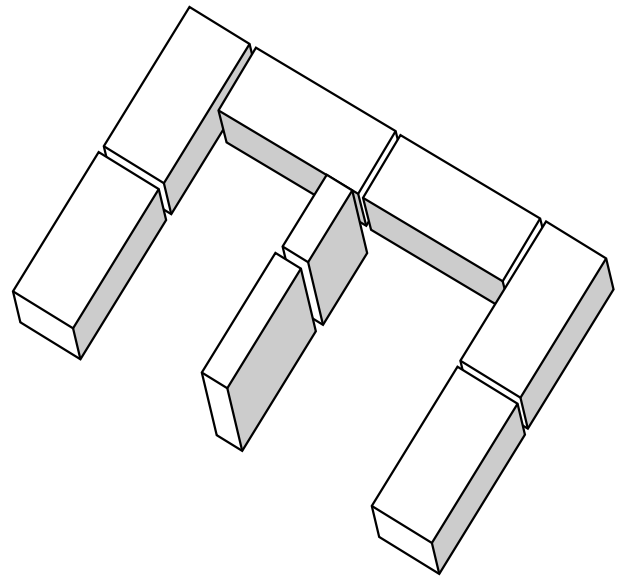
(7 courses)

2. Milano (with shelf)

Using 440 x 215 x 100mm concrete blocks laid on the 'flat' side. Laying on the 'flat' side will provide you with a much stronger base when installing the oven hearth and dome on top. You will also need a middle supporting wall which can be built using the blocks laid either way. You will need approximately 50 blocks (exc. waste) using this method.

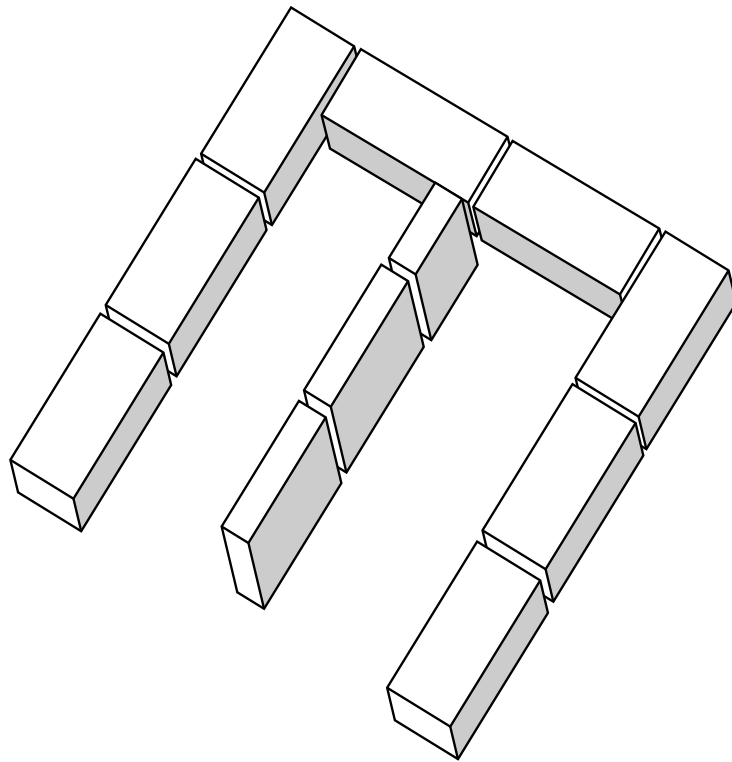
Pre-stressed concrete heads – 100 x 65 x 1350mm are readily available at your local building merchant and can act as a shelf for food preparation. First build the base using the concrete blocks, apply a layer of mortar on the top course and then bed the concrete heads into the mortar. A final layer of mortar on top of the concrete heads is likely to be needed to ensure a flat surface. Allow to dry before installing the hearth and dome.

(7 courses)



3. Milano Grande

Using 440 x 215 x 100mm concrete blocks laid on the 'flat' side. Laying on the 'flat' side will provide you with a much stronger base when installing the oven hearth and dome on top. You will also need a middle supporting wall which can be built using the blocks laid either way. You will need approximately 68 blocks (exc. waste) using this method. (Some adjustment to the blocks will be needed).



The Milano Grande hearth comes in 2 pieces (front and back). It is important the top surface is level to easily remove the pizzas from the oven. If the hearths are not level you will need to remove one part of the hearth, apply extra mortar to the base and replace the hearth.

(7 courses)

EARTH FIRES

For more information see
www.earthfires.co.uk