

Selecting the right kiln for you

Selecting and purchasing a kiln can sometimes be a daunting task.

To help alleviate fears and worries about ending up with the wrong kiln, here is a step by step guide to assist you in selecting a kiln that will suit your needs.

Of course, if you have further questions or concerns or need additional advice, please feel free to contact us as we are always happy to help.

Step 1: Electric or gas?

Electric kilns are much easier to operate and control compared to gas kilns. They are easier to install and can usually be placed in a location that would be unsuitable for gas kilns, given the emissions from gas burning kilns. There is no need for certification by a specialist gas fitter/plumber. Consequentially more potters, glass studios, jewellers, dental technicians and small industrial companies use electric kilns.

Gas kilns are more flexible in terms of controlling the kiln atmosphere; you can decide on oxidation versus reduction firing (we never advise reduction firing in an electric kiln). They are also ideal for raku. Another benefit of gas kilns is that they are better suited to high temperature applications eg. porcelain (temperatures in excess of 1300c).

Step 2: How much power do I have available?

A key factor that is sometimes overlooked when deciding on a kiln is the power available to operate the kiln you are considering. Typically, most Australian homes are supplied with single phase 240V 60A electricity. The standard household power point is rated to 10A only. As a result only our smallest top-loader (FTS1.0) is able to be plugged directly into a standard power point. All other kilns will require either an upgraded power point, or alternatively be wired direct to your household power. This work must be undertaken by a registered electrician, and we always advise you seek the advice of an electrician so you can budget on the cost of providing appropriate power to your kiln.

In general kilns larger than 6 cubic foot in volume will require the provision of three phase power.

Please ensure you check the specification of the kiln you are considering and check to see whether single or three phase power is needed to run the kiln of your choice, and be aware of the current that the kiln will draw.

Step 3: Front-loading or top-loading?

You should decide the type of work you intend to use the kiln for and the size of the products you wish to manufacture.

Consideration should also be given to what quantities you would like to make for each firing and how often you plan to fire your kiln.

The most common types of kilns are front-loading kilns and top-loading kilns - both have pros and cons. Here are a few points for each;

Front-Loading kilns

Front-loading kilns are generally of sturdier construction than top-loaders, and they tend to be more durable and resistant to everyday knocks.

These kilns are usually easier to load – there is no need to bend over to pack them as they are fitted with a front-opening door. Most are placed on a stand to bring them to a suitable height (or alternatively placed on a sturdy bench). Their main disadvantage is that they are more expensive to build and lack the portability of top-loaders.



Top-Loading kilns

The conventional top loading kiln usually has a cylindrical firing chamber. They are often suited to smaller work areas as no space is lost when the lid is opened as opposed to front-loaders. All of our top-loading kilns are fitted with wheels to allow for easy movement – this can be useful if they need to be moved to a storage area when not in use.

Top loaders are also cheaper to manufacture and easier to transport.

A few of the cons of the top loaders is that;

- they are loaded through the lid and so each shelf must be filled before the next shelf is positioned,
- because they are low to the floor one needs to bend to load and unload them,
- as they are not contained in a complete metal casing they depend upon the internal insulating bricks for their rigidity. As a result they should be treated with care (as should front-loaders for that matter!)



Step 4: What is the right size for me?

The right size of kiln, is the kiln that will suit your needs. When deciding on this don't forget to make allowances for any planned increase in output as well as possible changes in the type of ceramics you are making. Here are a few things to consider:

- Our best-selling front-loading kiln, is the FFL3.4,
- Our best-selling top-loading kiln, is the FTS3.7,
- The only kiln we supply that will run from a standard power point is the FTS1.0 (10A).

To determine which size best suits you, consider the following:

- What type of products/art would you like to produce? Vases? Bowls? Plates?
- If you have large pieces, do you do this on the odd occasion, and could you fire them off site?
- Consider the quantities you wish to load in each firing.
- You will usually want to fire a fully loaded kiln to get maximum efficiency. Think about how long it would take you to fill your kiln.



Step 5: How do I control the firing?

Controllers are the easiest way to manage the firing of your kiln. All of our kilns are fitted with a VT36 programmable controller that allows you to adjust your firing pattern to suit your needs. The controller allows you to choose;

- Multiple Set Temperature Points
- Multiple Ramp Up Rates
- Multiple Soak Times
- Multiple Ramp Down Rates
- Delayed Start Time
- Helpful Error and Warning Indicators

If the thought of programming a controller doesn't excite, there is the option to choose one of twelve pre-set firing programs! (Check out the manual for a list of the programs)

Always remember though, the controller measures temperature, not heat work. It is always a good idea to use pyrometric cones to assist you in measuring heat work as well as working out if there are hot or cold spots in your kiln.





Step 6: What kiln furniture will I need?

The number of shelves and props needed to hold your wares must also be considered. The size of your products and how you intend to pack your kiln will determine how many shelves and props you will need for your kiln. Don't forget to allow for these in your budgeting. We supply furniture kits suited to each of our kilns. We can adjust the kits to our client's specific requirements and individual items can be purchased separately.

Step 7: Time to choose the kiln for you!

Now it's all up to you (and your finances of course!)

And remember, we are always happy to help and provide advice.

Cheers

Antony

If you are after more information on all aspects of electric kilns, I would highly recommend you get a copy of "The Electric Kiln" by Harry Fraser (A&C Black Publishers, London 1994). It is out of print but copies usually turn up in second hand bookshops.