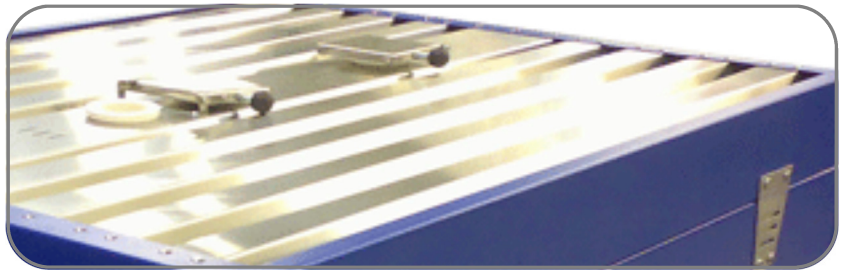
FK Range
Instruction manual.

2022

KILNcare

KILNcare



FK range Instructions

Thank you for choosing to purchase one of the FK family of kilns for your glasswork.

We hope you will have many years happy use out of your kiln.

This family of kilns has undergone more than a decade of progression which has led it to where it is today, one of the best performing and reliable fusing kilns in the world.

Please read this manual fully to get to know your kiln before use.

Index

Safety notices

Your FK kiln is designed and built to meet all European Directives and British Standards.
However, as with all kilns, there are certain measures that you must take to achieve optimum safety.

European Declaration of Conformity.

Kilncare Limited, The Kiln Works, 907 Leek New Road, Baddeley Green, Stoke on Trent, Staffordshire, United Kingdom, ST2 7HQ.

We declare that the equipment described below was manufactured ourselves to comply with directives listed.
We do not give any assurance that the equipment is suitable for any purpose other than that listed below and must be operated and maintained in accordance with our operating instructions.

Products.
FK range.

Directives.
LVD - Low Voltage Directive 2006/95/EC.
EMC - Electromagnetic Compatibility Directive 2004/108/EC#
#The equipment is intended for use only in premises having a service current capacity of 100 A per phase, supplied from a distribution network having a nominal voltage of 400/230 V,
The user should determine in consultation with the supply authority, if necessary, that the service current capacity at the interface point is sufficient for the equipment.

Harmonized Standards.
BS EN 1088:1995+A2:2008, BS EN 55014-1:2006, BS EN 55014-2:1997.

Description.
Glass fusing and slumping Kiln.

Purpose of use.
Glass fusing, slumping and colouring up to the maximum temperature stated on the kiln data plate.

Product serial number.
As per affixed data plate.

Manufacture year.
2022

Technical documentation is held for this product.

Lee Sherwin,
Director,

Electricity
The FK meets all Electrical Safety Directives, including a lid safety switch. However, the kilns are electric and as such certain measures should be taken. Keep the kiln dry.

Never attempt to remove any of the kiln covers or do any repair work when the kiln is plugged into, or connected to the mains electricity supply.

Never use the kiln if external cables are damaged.

Have the kiln tested by a competent person at least every 12 months.

Hot Surfaces
The kiln will have hot surfaces. Do not touch the kiln when it has been on for any period of time as the case temperatures will rise with time.

KEEP PETS AND CHILDREN AWAY FROM THE KILN DURING ITS FULL CYCLE AND UNTIL COOL.

Keep the kiln clear of flammable items such as curtains etc.

Safe loading
Never attempt to load the kiln until the lid is in the fully open position.

On larger models (FK6 and above) there is a safety arm that must be swung upwards and located into the safety cup fixed to the side of the kiln chamber. The safety arm and cup are mounted on the right hand side of the kiln. We recommend that this safety arm is used whenever the chamber is in the open position. To lower the chamber swing the safety arm down to its rest position. On models at the top of the range there may be a safety arm fitted to both the left and right hand side of the kiln. Always use both.

Never attempt to over reach when loading larger pieces of glass, always request assistance.

Remember, check before fully closing the chamber that the glass or any other medium is clear of the door seal as it closes. Stay within the groove guide in the brickwork around the perimeter on the bed.

Always ensure that the work and any associated moulds or firing apparatus are not taller than the height from the bed to the bottom of the elements or element tube breakage way result on closing the lid.

Your new arrival

For your records
Date of purchase. _____

Company purchased from _____

First date of use _____

Unpacking your kiln
Once unpacked please show consideration to the environment when disposing of your kiln packaging.

Where to install your kiln
Position the kiln allowing a minimum of 30cm clearance around both sides. The kiln casing will get hot and so any combustible material must be kept at a safe distance. Never leave combustible materials on the kiln lid or touching the kiln during a firing.

Do not site the kiln close to flammable items such as curtains etc.

The floor must be capable of carrying the weight of the kiln. #

Consideration must also be given to the ceiling area above the kiln as heat will radiate upwards from the kiln.

I**MPORTANT**. The top of the lid and the side cover box of the FK will see high temperatures so careful consideration must be given to siting with regard to the safety of children and pets. It is advised that the kiln is left untouched until the kiln has finished it's given program and fully cooled. Remember, whilst the kiln is cooling it may be possible that the external case temperature actually increases.

Do not site the kiln outside.

It is advised to site the kiln in a room that has ventilation.
After the first couple of firings there is almost no emissions from the kiln but there will always be vapour etc released by whatever you are firing in the kiln, especially stains so room ventilation is always advisable.
The type of room venting required depends on many factors and so it is best to contact a ventilation specialist if in any doubt.

Notes

Splitting instructions

The FK kilns can be split to enable the kilns to be installed into rooms and studios with limited access.

Splitting instructions FK4—FK8

To split the kiln down the first and most important part of the process is to remove the gas struts. This MUST be done with the kiln lid in the fully open position. 1 person (more on larger models) will need to hold the kiln lid in the fully open position whilst another removes the gas springs.

EXTREME CARE MUST BE TAKEN to ensure that once the gas struts are removed that the lid does not try to snap the kiln shut by flipping up the front of the bed. Once you are happy that the necessary precautions have been taken to ensure safety during this process then the clips can be removed that hold the gas struts on.

The bottom section of the gas strut attaches to the kiln via a ball joint type fitting. Around the bottom or “knuckle” of the gas strut there is a small clip that recesses around the collar of the knuckle. Unclip then remove the clip. Using a suitable implement apply a slight leverage between the knuckle and the kiln bed as close to the ball joint as possible. The gas spring will free itself. Then do the other side.

Refit the clips into the knuckle for safekeeping.

Gently and carefully lower the kiln chamber until it is seated safely on the kiln bed in its closed position.

Now remove the hinges. Simply loosen all the screws and remove them.

Disconnect the earth bonding wires between the bed and the chamber. These are attached to the hinge strengthening box sections at the rear of the kiln.

Unplug the thermocouple at the connector at the rear.

The lower main electric box is fixed with 4 pins that screw into the back of the box from under the kiln floor . Place or temporarily attach the electric box somewhere safe on the kiln chamber for safe keeping whilst in transit.

Unplug the thermocouple at the connector at the rear.

The chamber can now be lifted clear of the bed. Take care not to damage the seal. REMEMBER, the rods that carry the elements are of Quartz composition and as such, severe shocks to the chamber must be avoided.
The chamber will carry vertical or horizontal.

The kiln bed will also carry horizontal or vertical although in the vertical position the bricks are liable to shift as they are not cemented together.

Once in position the kiln can be re-assembled in reverse. THE GAS SPRINGS MUST BE FITTED LAST. Care must be taken to ensure that the safety retention clip is correctly fitted so guarding against accidental gas spring dislocation. Check that the hinges are fitted with all the pins prior to re-fitting of the gas springs.

It is important that the earth bonding wires are re-fitted correctly and soundly. Before final connecting it is advised that all electrical connections are checked and re-tightened by a competent person.

Splitting instructions FK9—FK10

To split the kiln down the first and most important part of the process is to remove the gas struts. This MUST be done with the kiln lid in the fully open position. The lid/ chamber of the FK9/10 is heavy and it will require at least 3 people to take the weight. EXTREME CARE MUST BE TAKEN to ensure that once the gas struts are removed that the lid does not try to snap the kiln shut by flipping up the front of the bed. Once you are happy that the necessary precautions have been taken to ensure safety during this process then the clips can be removed that hold the gas struts on.

The bottom section of the gas strut attaches to the kiln via a ball joint type fitting. Around the bottom or “knuckle” of the gas strut there is a small clip that recesses around the collar of the knuckle. Unclip then remove the clip. Using a suitable implement apply a slight leverage between the knuckle and the kiln bed as close to the ball joint as possible. The gas spring will free itself. Then do the other side.

Refit the clips into the knuckle for safe keeping.

Gently and carefully lower the kiln chamber until it is seated safely on the kiln bed in its closed position.

Now remove the hinge pins. Firstly straighten then remove each hinge pins cotter pin. The hinges and hinge pins are heavy duty and generally a tight fit. The hinge pins may well require knocking out. If this is the case then try to keep the shock to the kiln to a minimum. The kiln is robust enough to take the shock required to remove the hinge pins but is not indestructible so unnecessary force should be avoided. There is approximately a 5 mm gap at the rear of the FK9/10 where the chamber and the base meet. It is advisable to block this gap with a crow bar or similar type tool whilst removing the hinge pins. This will keep the weight of the kiln of the hinge pins and ease resistance on them. Once all the hinge pins are out, the kiln chamber can be lowered to the kiln bed.

Disconnect the earth bonding wires between the bed and the chamber. These are attached to the hinge strengthening box sections at the rear of the kiln.

Unplug the thermocouple at the connector at the rear.

Back up

We pride ourselves on our back up and after sales service and so in the unlikely event of any problems please do not hesitate to call our staff for friendly help and advise.

Contact us

Kilncare ltd,
The Kiln Works, 907
Leek New Road,
Baddeley Green,
Stoke on Trent,
Staffordshire,
United Kingdom
ST2 7HQ,

Tel +44 1782 535915 / 535338,
E-mail sales@kilncare.co.uk,
Web www.kilncare.co.uk

On larger kilns it will be necessary to make other arrangements to hold the lid raised such as block and tackle. NEVER ATTEMPT TO REMOVE A GAS SPRING WHILST THE LID IS IN THE CLOSED POSITION.

Remove the clip that is inserted around and through the knuckle joint at either end of the spring. Keep the clip safe in case you loose one of the new ones.
Also remove the clips from the new gas spring and keep it safe.
By applying gentle pressure to the knuckle clip it off the shoulder joint that is bolted to the kiln bed. Do not apply pressure to the spring shaft or main cylinder.
A large screw driver works well for getting behind the knuckle then gently prizing off.

Now do the same at the top of the spring and the gas spring will be free.

Offer the new spring to the top knuckle and tap it on, again, only tapping the shoulder joint. The fatter cylinder of the tube always fits at the top.

Refit the knuckle clip to the top.

Offer up the bottom knuckle to the bottom shoulder and repeat the process.
If the gas spring is now secured in place then the assistance to hold the lid raised can now be removed.
The gas spring will now need to be pressurised.
Where the top knuckle joins to the top of the main cylinder there is a small Allen key valve.
Using the Allen key provided, release pressure from the valve. It is recommended that this is done in small quarter turns and each turn lasting a second or less before being closed again,

After each couple of releases try to close the lid.

As you get nearer to having a balanced close, shorten the time the valve is released for.
ONCE TOO MUCH PRESSURE IS LET OUT IT CANNOT BE REPLACED.

When you are happy that the gas springs are applying equal pressure ensure that the valve it tightly closed.

The lower main electric box is fixed to a blue plate. Remove this plate with the electric box attached to it from its fixings to the kiln floor and rear leg upright. Place or temporarily attach the electric box somewhere safe on the kiln chamber for safe keeping whilst in transit.

The chamber can now be lifted clear of the bed and legs. Take care not to damage the seal.

The chamber will carry horizontal or vertical. REMEMBER, the rods that carry the elements are of Quartz composition and as such severe shocks to the chamber must be avoided.

The kiln bed will also carry horizontal or vertical although in the vertical position the bricks are liable to shift as they are not cemented together.

Once in position the kiln can be re-assembled in reverse. THE GAS SPRINGS MUST BE FITTED LAST. Care must be taken to ensure that the safety retention clip is correctly fitted so guarding against accidental gas spring dislocation. Check that the hinges are fitted with all the pins prior to re-fitting of the gas springs.

It is important that the earth bonding wires are re-fitted correctly and soundly. Before final connecting it is advised that all electrical connections are checked and re-tightened by a competent person.

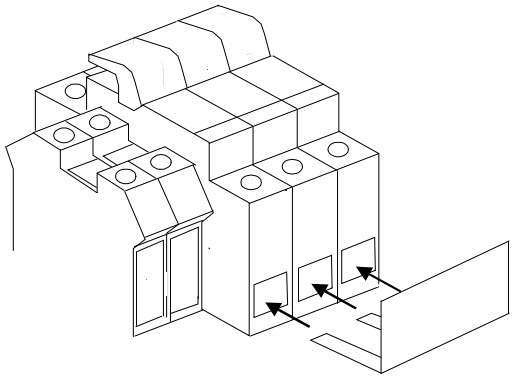
Electrical connection

All FK kilns will require connection to a suitable electrical supply.

If the kiln is to be used on a 3-phase supply a neutral must also be supplied.

The electrical supply MUST have a sound earth connection.

Diagram 1.4



Your FK range kiln is supplied ready for connection to a 3-phase supply. If your supply is single phase then use the connection link fixed to the door of your connection panel.

The link fits across the 3 fused terminals as shown in diagram 1.4. Make sure to tighten all 3 screws.
We recommend that the centre terminal is then used to make your live connection with the wire sitting under the fork rather than on top of it.
The terminals are for use with cable of a size up to 10mm.
REMEMBER that if the kiln is then re-connected to a 3-phase supply then the link MUST be removed.
The black and green terminals are for Neutral and Protective Earth respectively. As always we recommend that the connections are done by a qualified electrician**.**

Portable Appliance Testing
It is possible, depending on the type of establishment that the kiln is to be used in, that the kiln may be required to be Portable Appliance Tested along with other electrical items.
It is important that the controller is disconnected before testing or there is a risk of the high voltage associated with the test effecting the controller permanently.

On initial testing, the kiln may show a low insulation resistance reading, this is normal and will improve as the kiln dries.
Kilns are porous by nature and will absorb moisture from the atmosphere, especial if the kiln is new or has had a period of inactivity.

Periods of testing will be stipulated by the testing body.

KILNS AND R.C.D. "TRIPS"
Due to the reasons stated above and to insulation material properties, a certain amount of leakage to earth will probably be evident, therefore the fitting of a 30ma R.C.D. in the circuit can create a fault condition at low temperatures if the kiln is damp, at higher temperatures as the kiln insulation heats up, when first fired or used after a long period of inactivity.

This problem is relatively rare but can be solved by the fitting of a 100ma R.C.D.

Consult us or a fully qualified electrician for advise.

0 Looking after your kiln

A well-built kiln requires very little maintenance. Certain common sense tasks will certainly help its life such as cleanliness and careful use.

a special attachment which is available from most tool shops or a spanner can be used.

Raise the lid and carefully remove the stainless retaining frame.

The seal comprises of non-ceramic fibre strips. Remove the damaged strip. The strips are not fixed into place by any adhesive but are simply compressed into position by the retaining frame. The seal strip will remove easily.
Offer the new strip to its position and tuck the ends behind the insulation boards, use the remaining strips as a guide.

The retaining frame can now be refitted either by offering it up to the open lid or by lying the frame on the bed and carefully lowering the lid down onto it.

Uneven heating
Check that all the elements are working, there are no power failures, the main fuses, the lid safety switch, the condition of the cabling and mains isolator.
9 times out of 10 an uneven kiln is caused by a kiln power failure leading to a section of the elements not running correctly.
The above checks will need to be made by a competent kiln engineer.

Check the condition of the lid seal.

Check that the lid is sitting evenly to the bed and that the clamp is still working effectively.

Check that the elements are still in good condition and that the coils have even spacing's between them and are not bunching to one side.

Kiln lid sits high on one side or the lid is now heavy to lift.
Check around the lower sections of the gas spring lifters on each side of the kiln for oil.
It is normal to have a small amount of lubrication around the bottom, thinner shaft of the gas springs. If there is a problem it will very often start to drip oil onto the floor directly below the gas spring.
If this is the case the gas spring will need replacing.
The faulty gas spring will be on the side that is lowest when the kiln lid is shut.

Gas spring replacement
To replace the gas spring raise the kiln to it's highest position.
On smaller kilns a second person can be used to hold the lid in it's up position whilst one of the springs is removed.

damage.

Check that the controller is securely plugged into the kiln.
With the mains turned off, a competent person should be used to check the condition of the internal wiring and electrical contact points.
If there is no obvious damage, then the kiln will need to be checked over with an electrical meter.

Check that the lid is fully closed.

Get the kiln checked by a competent kiln engineer.

KCR32C shows an ERROR message.
Consult the controller manual and contact Kilncare.

The Safety Contactor is double or treble clicking.
This should not be deemed a fault but is caused by the swinging pendulum lid safety switch. However this should only happen whilst the kiln lid is in motion. Once the lid is fully raised of closed the contactor should revert to normal operation.

A crackling noise can be heard when the kiln is firing.
This will be a loose connection and needs to be fixed immediately by a competent person.
Continued use will almost certainly result in the connection failing.

Kiln is not reaching temperature or is slow.
This could be either an element failure, a burnt connection a loss of supplied power or a component failure.
Get the kiln checked by a competent kiln engineer.

Damaged seal.
The seal of on any FK can be replaced if it is damaged to the extent that it starts to cause firing errors.

To replace the seal,

Lower the kiln and close the lid clamp.

Now undo the tec screws around the lower section of the chamber that hold the stainless seal retaining frame on. The tec screws can be removed with a drill and

Keep the area of the door seal clear of any separating material or any other objects as once damaged the seal will need to be repaired or replaced.

Regular inspections of the gas springs that assist with the lifting of the Chamber is essential.

Check that the fixing points are still tight and are sitting level,
Check that the heads of the gas springs are still in line and are also tight.
Check that there is not an excessive amount of oil around the shaft/rod of the spring. A small amount of lubricating oil on the shaft is usual.
The gas spring inspections should be carried out weekly.
If there are any doubts over the condition of the gas springs then do not use the kiln and immediately contact Kilncare.

Keep the kiln dry and away from sources of water. REMEMBER, the kiln is for fusing and slumping and will also fire stained glass colours. IT IS NOT A MOULD DRYER. Moulds used for slumping contain a huge amount of water, it is recommended that the mould is thoroughly dried prior to insertion in the kiln. The kiln will operate with a wet mould in it but the kiln was not designed to expel large quantities of water vapour from its chamber even though the top and sides have moisture removing features. Continued use of wet moulds in the kiln chamber could result in premature deterioration of the kiln structure.

Care must be taken not to load the kiln to a height that will result in the elements being closed on to the load. This invariably results in broken element tubes. The same applies to the thermocouple and heat fuse that stick through the back wall and right side wall into the chamber.
When shutting the kiln lid, gently operation will also prevent accidents, even though the lid operation is dampened by the gas dampers.

Depending on use it advisable to check all electrical connections are tight every 6 months or so and that no cables are discolouring due to heat.

Initial firing

Before using the kiln it is advisable to fire the kiln empty to a temperature of 600 degrees centigrade at a rate of around 200 degrees per hour.
Leave the top bung out of the top vent.
This will dry and “settle” the kiln.

On the first firings, a slight odour will be emitted, this is the remnants of binding resins in the boards and should stop after two or three firings depending on temperature of the firings.

For this initial firing we recommend that the kiln is in a well ventilated area.

We suggest that prior to the initial firing, that you read this instruction manual, and the controller manual to ensure you are familiar with all aspects of the kiln and usage of the kiln controller.
We also recommend that the kiln controller is set to fire the kiln at full power to a low temperature and then end, say 50 degrees, whilst being monitored to ensure that it is switching off the kiln and that no problems have occurred during
transport.
At such low temperatures the kiln will overshoot the set point temperature by some amount.
This is normal as the controller is set to full and not a controlled rate of climb.
It may also cause the controller to show an Error message or code, again, this is normal as the controller may believe that the overshoot is caused by the kiln having a fault.
This test is to ensure that the controller shuts the kiln power off, whether it be due to the correct temperature being reached or by it going into fault mode.

Control
The controller provided with the kiln will be the controller that the kiln was test fired with at our factory and so has already done a successful firing before you receive the kiln.
The controller plugs into the kiln at a socket at the rear of the kiln on the under-side of the main electrics box.
The plug and socket are sided and so will only fit one way.
Only plug in the controller when the mains is turned off.

Please read the instructions on control before starting to use your FK.

Operation

The vents
There are vents on the top, front and possibly the sides of your kiln.
The positioning and the amount of vents will vary depending on the model.

The vents are opened and closed manually via a vent flap. These flaps are filled with a non– dust dropping high temperature insulation pads, they removes the hazard of dust dropping whilst ceramic are inserted into the vents.

The vents on the vertical sides of the kiln are spring loaded.

The vents can be used in any combination of ways and at any kiln temperature.

The stainless steel body of the vent flap will get very hot so only open and close the vents by holding the thermoplastic handles.
Loading

"down" keys. Press the "start" key once and the new value will be stored and the kiln will continue to fire.

Example program
If you require the kiln to start a 7am, fire as fast as it can to 800c then hold for 10 hours. It would be programmed like so. We will presume that it is being programmed at 5pm the evening before. We will make this program 4.
Press "step". Use "up" or "down" to select 4 in the top display.
Press "step" Use "up" or "down" keys to select a delay time of "14.00" hours.
Press "step". Use "up" or "down" keys to enter "FULL" for ramp rate.
Press "step". Use "up" or "down" keys to enter "800" for temperature.
Press "step". Use "up" or "down" keys to select a dwell time of "10.00" hours.
Press "start" twice. Top display will flash program number then"14.00" with a flashing dot. The bottom window will show"- -" and the delay triangle will flash.

Trouble shooting

KCR32C has no lights
If the "mains on" light is not illuminated on the kiln :-
Check that the KCR32C power switch is in the ON position.
Check that the socket outlet that the kiln is plugged into is turned on or that the mains isolator is turned on.

With the kiln unplugged or turned off, check the cable from the kiln to the controller for damage.

Check the mains fuses.

Check the condition of the mains cabling and the mains isolator/socket.

If the "mains on" light is illuminated:-
Check that the controller is securely plugged into the kiln.

With the mains turned off, a competent person should be used to check the condition of the two glass 1 amp fuses in the rear power box at low level at the rear of the kiln. Access to these fuses is by using the door key provided.

If the above appear correct contact Kilncare.

KCR32C is working correctly, is showing that the kiln is receiving power but the kiln is not heating up.
With the kiln unplugged, check the cable from the kiln to the controller for

have programmed all you require, select “END” at the start of the following segment.
Press “start” and the controller will display kiln temperature again.

To run a program

Press ”step” bottom display will show “Pn” and the top display will show the program number. Use the “up” or “down” keys to select the program number required.

Press “start” the top display will show kiln temperature and the bottom display will go blank.
Press “start” again and the top display will briefly display the Program number then it will begin the program. Depending on the program contents the delay triangle or the ramp triangle will flash and the segment number will be displayed in the bottom display.
If a delay has been set the delay triangle will flash and the top display will act as a count down timer showing the hours and minutes remaining before the kiln starts to fire.
As the kiln fires the top display will show the kiln temperature and the bottom display will show the segment number. If the kiln is climbing the upward facing ramp triangle will flash. When the kiln is holding temperature the dwell light will flash.

To stop a program

Press “start”.

To pause a program

Press and hold the “down" button. The top display will alternate between the current temperature and
“ - - “. This temperature will be held indefinitely or until the pause button is pressed again. When the pause is stopped the kiln will continue through the program from where it was paused.

To forward a program

At any time the controller can be made to skip to the next segment. To do this, press the “up” key. This can be useful if the pause button is used. It may be that at the end of the manual pause you do not require the kiln to finish the rest of that section and so the program can be moved on to the next section or end using this key.

To view entered program data

This can be done whether the kiln is firing or not. Press the step key, each press will forward the display to the next section. Once viewed, press the “start” key once to return the control display to kiln temperature.

To alter program data while the kiln is firing

Press the “step” key until the desired value is displayed. Alter it using the “up” or

As mentioned earlier in the safety section, always ensure the safety arm that is located on the side of the kiln bed is fully located into the safety cup on the side of the kiln lid before entering the chamber area (FK6 and above).

Load the kiln with the glass items that are to be fired. Stay within the guides.

Remember glass will stick to the bricks so a separating medium must be used. This can take many forms including fibre paper or a refractory batt (shelf) or bats covered with batt wash.
It is not necessary that a kiln shelf is used and the work can be placed straight on the kiln floor if a separator is used, such as fibre paper etc to keep the glass from sticking to the kiln floor bricks when hot.
If a kiln shelf is to be used, it does not need to be raised from the kiln floor and the batt does not need to have a separator between itself and the kiln floor bricks.
Some users however do prefer to raise the shelves from the floor to allow a circulation of heat to the under side of the shelf.
The glass will need a separator between itself and the batt for the same reasons as it need to be separated from the brick.

The kiln bricks do not need to be painted with battwash, just protect the area where the glass can touch the bricks with a separator.

Once the kiln has been loaded with the glass to be fired, lower the lid and clamp shut the clasp/s to ensure the lid seal remains tight throughout the firing.

Turn on the electrical supply. A click will be heard from the rear of the kiln, this is the safety circuit contactor and is normal.

If no display is illuminated on the controller then the controller may be fitted with its own power on/off switch, consult your controller manual and turn the control on.

Enter the firing cycle and start the controller.

What to expect on the initial firing

Once the controller has been stated and it begins to power the kiln a clicking will be heard from the rear of the kiln as the heat is regulated. This click can sound more like a small thud on larger kilns as the contactor size increases.
As mentioned on previous pages, a slight odour will be released a the insulation binders burn out.

Safety contactor circuit

All kilns are fitted with a safety contactor and heat fuse as secondary back up against any failure or incorrect setting of the controller.
FK kilns use an internal protection circuit inside the controller to determine over temperature conditions and so safely shut the kiln power off.
Such protection will protect the kiln, it will not protect the medium being fired from the effects of reaching the pre-set protection temperature.

The Safety Contactor Circuit is used by the lid safety switch which is ensured power to the elements is removed as the lid opens.
This switch is a pendulum style switch located in the element connection panel of the kiln. Under certain circumstances the safety contactor may click quickly a number of times when the lid is opened with the elements firing. This is normal.

Also, jolts to the kiln may cause the safety contactor to click a number of times. This is just the pendulum moving and should settle after a second or so. Obviously it is unlikely that the kiln will receive any jolts once the glass is firing but we need to point it out.

KCR32C instructions

The power switch for the KCR32C is located on the top side of the controller.
On power up controller will go into test mode then after a few seconds will settle down and show kiln temperature in the top display.
Before starting, make sure that only the top display is illuminated, if any other lights are lit press the “start” key to extinguish them.

Buttons index

Start / stop 

Step 

Back 

Up 

Down 

Pause Hold  for 4 seconds. To un-pause hold again for 4 seconds.

Energy used  **and**  when not in programming mode.

To set a program
If whilst in programming mode no buttons are pressed for a few seconds the controller will time out and go back to kiln display.
The KCR32C has 32 settable programs. Each program has 32 segments.

Press the step key. The top display shows the program number, for instance 1 . The bottom display shows “Pn”. Use the up or the down keys to select the program required.

Press “step” again and the top display will show a time, for instance “0.10” or “PASS”. The bottom display will show “ - - “ and the delay triangle will light. Delay is the time in hours and minutes before the kiln will actually start. Set the desired time using the “up“ and the “down“ keys. If no delay is required hold the down key until the display shows “PASS”. Pass is below 0.00.

Press “step”. Top display will show a ramp rate, for instance “85”, “FULL” or “END”. The bottom display will show 1, this is segment 1. 2 triangles will illuminate above ramp. This segment is how fast you would like the kiln to reach its first temperature in degrees per hour. A slow firing might require the first temperature to be reached “50” degrees per hour. Whilst a fast firing would be set to reach temperature as quickly as possible so the rate required would be “FULL”.

Press “step” and the top display will show a temperature for instance “600”. The bottom display will still show 1 and a light will illuminate above temperature. This temperature is in Celsius. This temperature is your first temperature. Use the “up” or “down” keys to select the desired temperature.
Press “step”. The top display will show a time, for instance “0.30” or “PASS”. The bottom display, again will show “1” and the triangle above dwell will illuminate. Dwell is the time in hours and minutes that you require the kiln to hold the first temperature.

Press “step”. Top display will show a time, for instance “85”, “FULL” or “END”. The bottom display will show 2, this is segment 2. 2 triangles will illuminate above ramp. This segment is how fast you would like the kiln to reach its second temperature. At this point, if the kiln is required to finish, press the ”down” key until “END” is shown in the top display. End is below 00. All the above is segment 1, the controller has 9 segments and so for more complicated firings carry on as above by setting the next time, temperature and dwell. When you