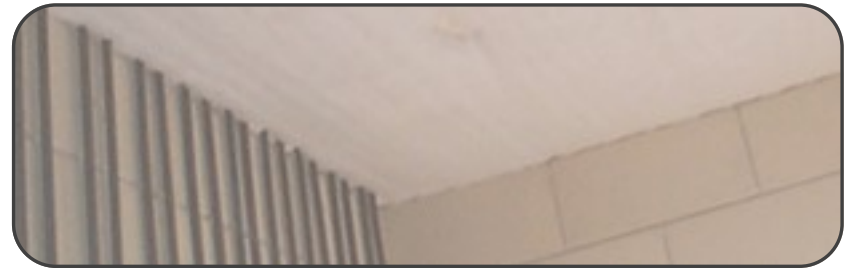




LK Range
Instruction manual.

2026

KILNcare®



LK Range Instructions



Thank you for choosing to purchase one of the LK range of Lehrs for your glass work.

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

The LK range is very much a tried and tested formula. One that has seen this range of Lehrs provide reliable service in both educational and studio use for over 2 decades.

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

Index

Page	
2	Safety notices
3	For your records / Where to site your lehr
4	Electrical connection
6	Initial firing
7	Loading the rack / Care
8	Roof Vent/ Controller basic instructions
12	Trouble shooting
14	Contact us / Notes
17	CE Certificate

Safety notices

Your LK is designed and built to meet all European Directives and British Standards.

However, as with all lehrs, there are certain measures that you must take to achieve optimum safety.

Electricity

The LK range meets all Electrical Safety Directives, However, the lehrs are electric and as such certain measures should be taken.

Keep the lehr dry.



European Declaration of Conformity.

Kilncare Limited, The Kiln Works, 907 Leek New Road, Baddeley Green, Stoke on Trent, Staffordshire, England, 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.

LK range of lehrs.

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 annealing kiln

Purpose of use.

For the annealing of glass items to the maximum temperature shown..

Product serial number.

As per affixed data plate.

Manufacture year.

2026.

Technical documentation is held for this product.

Lee Sherwin,
Director,

LK Range Manual

Page 3

If in any doubt use a vented canopy or some other form of heat protection for the room ceiling.

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

Do not site the lehr outside.

It is advised to site the lehr in a room that has ventilation.

After the first couple of firings there are almost no emissions from the *lehr* other than those creative by the items in the *lehr*.

The type of room venting required depends on many factors and so it is best to contact a ventilation specialist if in any doubt.

Electrical connection

LK lehrs will require connection to a suitable electrical supply.

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

The electrical supply **MUST** have a sound earth connection.

Your LK range lehr 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 opposite 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 lehr 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.

#Not all LK lehrs can be converted to single phase. Please check.

[illegible]

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.

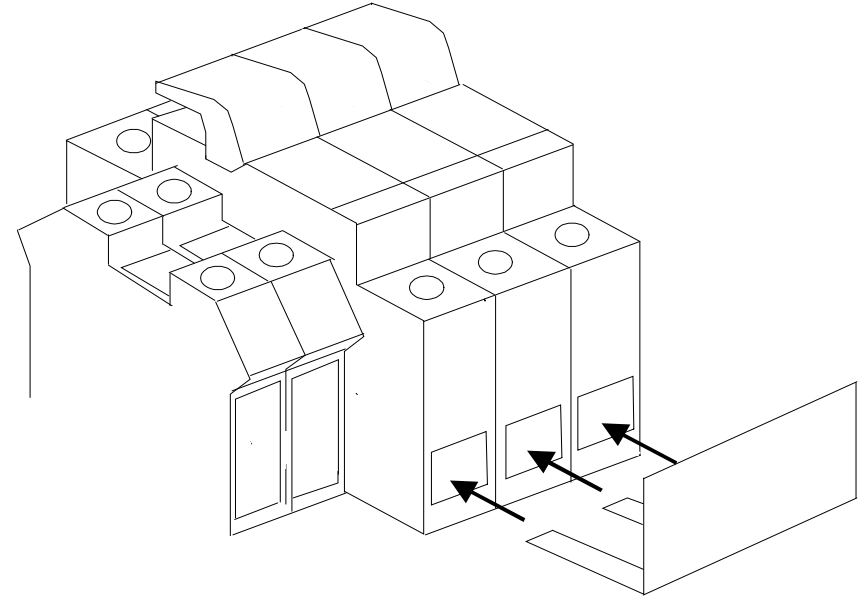
Contact us

Kilncare Ltd,
The Kiln Works,
907 Leek New Road,
Baddeley Green,
Stoke on Trent,
Staffordshire,
United Kingdom
ST2 7HQ,
Tel 0044 1782 535915, ,

E-mail sales@kilncare.co.uk, Web www.kilncare.co.uk

Notes

Diagram 1.4



Connecting the controller

The controller supplied with your lehr will be fitted with a connecting plug. It will mate to a matching socket fitted to the lehr wall mounted power box. The socket is sided and so will only allow the plug to be inserted in the correct manner.

Once the plug is inserted, lock it into place using the securing clamp. Always ensure the mains power to the lehr is turned off before fitting or removing the plug.

Initial firing

Before using the lehr it is advisable to fire it with the rack in, to a temperature of 500 degrees centigrade at a rate of around 100 degrees per hour. This will dry and “settle” the lehr.

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

For this initial firing we recommend that the lehr area is well ventilated. 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 lehr and usage of the controller.

We also recommend that the controller is set to fire at full power to a low temperature and then end, say 50 degrees, whilst being monitored to ensure that it is switching off the lehr and that no problems have occurred during transport.

At such low temperatures the lehr 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 lehr having a fault.

This test is to ensure that the controller shuts the lehr power off, whether it be due to the correct temperature being reached or by it going into fault mode.

This is best done prior to the initial firing.

Control

The controller supplied with this lehr has already been set and the characteristics of the lehr have been entered in to it.

The lehr and the controller will have already been put through a test firing at the factory.

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

Loading the rack and shelves

Before loading the rack into the lehr it is advisable to turn the lehr off at the mains supply, even though your safety is ensured by the type of elements used.

When loading the rack be careful, remember, the rack is harder than the brick

The control is working correctly, is showing that the lehr is receiving power but the kiln is not heating up.

With the lehr unplugged or mains power turned off, check the cable from the wall mounted power box to the controller for damage.

Check that the controller is securely plugged into the wall mounted power box..

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 lehr will need to be checked over with an electrical meter.

The control is working correctly, is showing that the kiln is receiving power but the kiln is not heating up.

Check the thermocouple can still be seen to be protruding into the lehr chamber , if there is another ceramic tube protruding, this is the heat fuse. Both should be visible by 25-40mm.

Controller shows an ERROR message.

Consult the controller manual and contact Kilncare.

A crackling noise can be heard when the lehr 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.

Lehr 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 lehr checked by a competent kiln engineer.

Cracks in the brickwork.

Minor cracking is to be expected, see page 7 of this manual.

Press "step". Use "up" or "down" to select 4 in the top display.
 Press "step". (Segment 1) Use "up" or "down" keys to enter "FULL" for ramp rate.
 Press and hold "Event" to select damper closed, light illuminated.
 Press "step". Use "up" or "down" keys to enter "520" for temperature.
 Press "step". Use "up" or "down" keys to select a dwell time of "10.00" hours.
 Press and hold "Event" to select damper closed, light illuminated.
 Press "step". (Segment 2) Use "up" or "down" keys to enter "FULL" for ramp rate.
 Press and hold "Event" to select damper closed, light illuminated.
 Press "step". Use "up" or "down" keys to enter "520" for temperature.
 Press "step". Use "up" or "down" keys to select a dwell time of "2.00" hours.
 Press and hold "Event" to select damper closed, light illuminated.
 Press "start" twice. The display will show 00.00. Enter 14.00hrs.
 Top display will show "14.00" with a flashing dot. The lehr will start.

Trouble shooting

Control has no lights

If the "mains on" light is not illuminated on the wall mounted power box:-

Check that the socket outlet that the lehr is plugged into is turned on or that the mains isolator is turned on.

Check that the controller is securely plugged into the wall mounted power box.

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

If the "mains on" light is illuminated:-

Check that the controller is securely plugged into the wall mounted power box.

With the mains turned off a competent person should be used to check the condition of the 2 glass 1 amp fuse in the wall mounted power panel.

If the above appear correct contact Kilncare.

wall and fibre roof of the lehr.

Take care to load the rack slowly and ensure it is sitting centrally and is not forced back against the rear elements if rear elements are fitted.

For obvious reasons, care must always be taken when loading the rack into the lehr to avoid back strain and lifting related injuries.

Once the rack is inserted the shelves can be loaded to heights that suit your work.

Depending on the model, your shelves may have loose mesh on them. Take extra care to ensure the mesh does not become dislodged which could potentially cause injury.

Unused shelves can be stored on the shelf storage angles that are under the lehr.

What to expect on the initial firing

Once the power is turned onto the lehr, the controller should illuminate as should a red light on the wall mounted power box..

If there is no display on the controller at this point check that the on-off button on the controller is in the "on" position (where fitted).

Once the controller has been programmed and started, a click will be heard and the orange "heat on" light will illuminate. This click and the orange light will simultaneously go on and off as the controller operates the lehr.
 The lehr is now firing, ensure that the door clamps are fully closed.

As mentioned earlier there may be odours from the lehr.

Brickwork cracking.

After the initial few firings cracks may appear at various points in the lehr brickwork. This is normal and is due to expansion and contraction of the bricks. After only a few firings the cracking will stop.
 Please don't hesitate to call of if you have any concerns about this.

Looking after your lehr

LK lehrs are designed to be extremely robust. Certain common sense measures will ensure a long life for you lehr.

When loading and unloading, avoid impact to the brickwork.

When closing the door, be gentle.

As always when working with refractory materials, wear protective clothing and use a suitable dust mask.

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

It is advisable to have the lehr periodically checked by a qualified person to ensure all electrical components are in a healthy condition.

Roof vent

The vent in the roof can be opened at any time but its primary function is to aid the lehr in reaching a temperature that is sensible for unloading. LK lehrs can be slow to lose the last few degrees if the vent is left closed.

Do not use the vent during the annealing process.

Safety contactor

All lehrs are fitted with a safety contactor and overfire protection in the controller as back up against any failure or incorrect setting of the controller.

Kiln control instructions

The power switch for the KCR32C/KCR32Z is located on the under 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.

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 "Function" key then press key.

The top display will alternate between the current temperature and " - - ". This temperature will be held indefinitely or until the pause key is pressed again. A warning reminder will be sounded every 10 seconds during the pause. When the pause is stopped the kiln will continue through the program from where it was paused.

To forward a program

Once the lehr is loaded at the end of the day, the controller can be forwarded to begin the annealing process.

To do this, hold the "Function" key and press This can be useful if the pause button is used.

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

"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 at 7am, fire as fast as it can to 510c with the dampers closed, then hold for 10 hours with the dampers closed. 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.

“END”. The bottom display will show 1, this is segment 1. 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”.

If the roof vents are required to be closed during this first ramp, hold the Function key and press the Event key. The event light should illuminate to show the roof vents will be closed. When the event light is not illuminated the dampers will remain open.

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.

Again, choose by holding the Function Key and pressing the Event key whether your roof vents will be open or closed during this soak period.

Press “step”. Top display will show a time, for instance “85”, “FULL” or “END”. The bottom display will show 2, this is segment 2. . This segment is how fast you would like the kiln to reach its second temperature.

Again, choose by holding the Function Key and pressing the Event key whether your roof vents will be open or closed during this ramp period.

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 32 segments and so for more complicated firings carry on as above by setting the next time, temperature and dwell. When you 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

Buttons index

Start / stop 

Step 

Back 

Up 

Down 

Advance 

Pause 

Information 

Event 

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/KCR32Z 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