Instruction Manual

Electric Top Loading Kilns For Ceramics up to 1320°C

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1. PREFACE

Congratulations! You have opted for a ROHDE kiln – a high-quality product for highest requirements. This top loader is the result of our intense research in the improvement of small to medium sized ceramic kilns. It is suitable for firing glass and ceramics up to 1320°C^{*} and is equipped with reduction resistant lining.

This instruction manual will make it easy for you to get familiar with your new ROHDE top loader. We have compiled a collection of important information and guidelines in order to make operating your ROHDE kiln as safe and simple as possible.

Please read the instruction manual carefully, before the first operation of your ROHDE top loader. Become familiar with the features and functions of the top loader and the controller.

*Attention: Different Tmax for TE 50, TE 50 MCC $\!\oplus$ and TE 60 MCC.

2. PRODUCT FAMILY

Model series top loader TE - MCC and TE - MCC⊕

Mod	lel	Tmax	Internal Dime	ensions	Exter	nal Dime	nsions	Output	Supply I	Required	Wall-	Bats	Weight
			(mm)			(mm)			1	A	socket		Netto
Capa	acity	°C	w d	h	W	D	Н	kW	3 PH+N 400 V	1 PH+N 230 V	Plug	mm	kg
TE	20 MCC⊕	1320	ø330	225	560	560	520	3,0	-	13	Schuko	ø310	42
TE	50 MCC	1200	ø400	380	650	700	725	3,0	-	13	Schuko	ø350	58
TE	50 MCC⊕	1300	ø400	380	650	700	725	3,6	-	16	Schuko	ø350	70
TE	60 MCC	1230	ø400	450	650	700	740	3,6	-	16	Schuko	ø350	60
TE	60 MCC⊕	1300	ø400	450	650	700	740	3,6	-	16	Schuko	ø350	70
TE	75 MCC⊕	1320	ø470	450	720	740	800	6,0	13	26	CEE 16 / 32	ø420	82
ZWR	75 MCC⊕		ø470	230	650	700	230	3,0	-	-	-	-	20
TE	110 MCC⊕	1320	ø470	680	720	740	1030	9,0	13	39	CEE 16 / 63	ø420	105
TE	100 MCC⊕	1320	ø520	450	800	830	800	7,0	15	31	CEE 16 / 32	ø480	89
ZWR	100 MCC⊕		ø520	230	800	830	230	3,5	-	-	-	-	25
TE	150 MCC⊕	1320	ø520	680	800	830	1030	10,5	15	46	CEE 16 / 63	ø480	109
TE	120 MCC⊕	1320	ø580	450	830	880	800	7,3	16	32	CEE 16 / 32	ø550	106
ZWR	120 MCC⊕		ø580	230	830	880	230	3,7	-	-	-	-	35
TE	180 MCC⊕	1320	ø580	680	830	880	1030	11,0	16	48	CEE 16 / 63	ø550	125
TE	200 MCC⊕	1320	ø740	450	1000	1050	800	9,2	20	40	CEE 32 / 63	special	130
ZWR	200 MCC⊕		ø740	230	1000	1050	230	4,6	-	-	-	-	40
TE	300 MCC⊕	1320	ø740	680	1000	1050	1030	13,8	20	60	CEE 32 / 63	special	170

Model series top loader TE-S

Mod	el	Tmax	Intern	al Dime	nsions	Exter	nal Dimer	nsions	Output	Supply I	Required	Wall-	Bats	Weight
				(mm)			(mm)				A	socket		Netto
Сара	city	°C	W	d	h	W	D	Н	kW	3 PH+N 400 V	1 PH+N 230 V	Plug	mm	kg
TE	30 S	1320	ø 4(00	230	650	700	560	3,6	-	16	Schuko	ø350	49
TE	43 S	1320	ø 4(00	340	650	700	620	3,6	-	16	Schuko	ø350	59
TE	50 S	1320	ø 4(00	380	650	700	740	4,5	6	20	CEE 16	ø350	64
TE	60 S	1320	ø 4(00	450	650	700	740	5,0	11	22	CEE 16	ø350	68
TE	80 S	1320	ø4	50	460	770	780	780	6,0	13	26	CEE 16	ø420	99
ZWR	80 S		ø4	50	150	770	780	150	3,0	-	-	-	-	20
TE	100 S	1320	ø4	50	610	770	780	930	9,0	13	40	CEE 16	ø420	117
TE	95 S	1320	ø 52	20	460	850	800	775	7,0	16	31	CEE 16	ø480	113
ZWR	95 S		ø 52	20	230	850	800	230	3,5	-	-	-	-	20
TE	145 S	1320	ø 52	20	690	850	800	1000	10,5	16	46	CEE 16	ø480	142
TE	130 S	1320	ø63	10	460	950	950	770	8,8	19	38	CEE 32	ø550	130
ZWR	130 S		ø63	10	230	950	950	230	4,4	-	-	-	-	30
TE	200 S	1320	ø63	10	690	950	950	1000	13,2	19	58	CEE 32	ø550	166
TE	165 S	1320	730	630	460	1050	950	790	10,0	22	44	CEE 32	special	144
ZWR	165 S		730	630	230	1050	950	230	5,0	-	-	-		30
TE	250 S	1320	730	630	690	1050	950	1020	15,0	22	-	CEE 32	special	180
TE	300 S	1320	830	630	690	1160	950	1020	15,0	22	-	CEE 32	special	204

*ZWR = Supplementary ring for extensions

special voltages for all EU networks on request

3. OVERVIEW



4. IMPORTANT SAFETY INSTRUCTIONS

4.1. General information

Please make sure that you understand both the safety instructions and the safety icons, in order to eliminate potential endangering. It is in your own interest to read through the following safety instructions very carefully before you start operating your kiln.

Always keep your instruction manual in a safe place. Use to your own safety only ROHDE spare parts!

4.2. Safety instructions



Caution: surface, do not open while the kiln is hot!



Caution: Warning before dangerous electric current !



Caution: Disconnect power plug before opening the switch box ! (BGV A8)



This product series was granted the GS safety certificate (BGV A8) by the German trade association.



The CE icon confirms that the conformity to EC standards has been tested.

4.3. Safety instructions for operation

A safe operation of a ROHDE kiln will only be possible by adhering to the following safety instructions:

- For industrial use a qualified electrician must check if both kiln and controller are in proper and perfect condition prior to first operation and in periods of 4 years (BGV A3 inspection).
- Repair and maintenance of electric components must be carried out by a qualified electrician.
- For safety reasons the power plug must be disconnected before carrying out maintenance or repair work.
- Do not use extension cords!

5. INITIAL OPERATION

5.1. Delivery / unpacking of kiln

If the ROHDE top loader is delivered on pallet by freight forwarding, please check the delivery immediately for damages. Should you find any damages on the packing, unpack the pallet together with the driver and check the product for any damages. Write down any damages found on the delivery note and do not forget to have the note countersigned by the driver. Keep a copy of the damage complaint. Notify the forwarding agent immediately about the damage. We regret that later claims cannot be accepted.

5.2. Dispose of packing material

Please contribute to a clean environment by disposing of the wood, cardboard and plastic packing material in your nearest waste disposal plant.

For further information on the disposal of packing material please contact your retailer or community council.

5.3. Kiln environment / place of operation

When you choose a suitable place for your kiln, please take note of the following guidelines and prepare the kiln environment accordingly:

- Place the kiln on an even surface.
- The distance to the walls should be at least 25 cm on each side.
- Floor, insulations of the ceiling, walls, dividing walls, panellings, etc have to be made of material which is not easily flammable.
- Make sure that the environment of the kiln can be aired properly. If this is not the case a ventilation system has to be installed. Please consult a qualified ventilation specialist to find out if a ventilation system is necessary.

5.4. Assembly of kiln



At first you should check the enclosed accessories (picture 1) :

- 3 cordierite blocks (6 blocks on TE 165/250 and TE 300)
- 1 ceramic tube for exhaust fumes
- 2 sealing plugs
- 1 chrome caps for the stand
- 1 spare plastic leg and
- 1 exhaust fume socket

picture 1



picture 2



picture 3

You will also find enclosed the two instruction manuals for the controller and the kiln as well as the controller itself. Now take the ceramic tube (picture 2) out of the box and plug it onto the exhaust fume opening on the left side of the kiln (picture 3).

5.5. Installation of exhaust fume system

Caution: The exhaust socket has been designed to prevent the emitted heat from radiating against walls, surfaces or objects. If you attach the exhaust socket onto the kiln, the exhaust opening cannot be closed. If you wish to close the exhaust opening during firing you should not attach the socket.

Screw the enclosed exhaust fume socket (picture 4) in the supplied drill hole on the left side of the kiln. The location of the opening has been chosen in a way that will allow for the vapour and gasses to be released through an exhaust fume tube (optional accessory). Please plug the exhaust fume tube into the exhaust fume socket (picture 5) and fix it to the socket with fixing screw.



picture 4



picture 5

picture 6



5.6. Air supply slide

All models of ROHDE top loader are equipped with an air supply slide (picture 6) near the floor. The air supply is closed when the slide is in its left position. When the slide points to the right the air supply is open.

You can significantly increase the service life of the heating elements by opening the air supply up to a temperature of 600 – 700°C.

5.7. Mains supply / connect controller

The kiln is equipped with a mains supply cord. The properties of the supply are stated on the type plate. The power supply has to be suitable for the requirements of the kiln and the plug must be located next to the kiln. Do not use extension cords! The mains supply cord may not make contact with the hot kiln!

Regional voltage fluctuations are possible and will lead to fluctuations in the nominal output. If the voltage drops from 230 to 210 under load, the output of the kiln will be reduced by 16%.

The controller (picture 7) is connected to the kiln with a 14pin plug-and-screw connection. You will find the black plug (picture 8) for this connection next to the electric connection on the side of the switch box. Please plug in the black plug of the controller.

You might need to turn it a little bit until it locks in place. Then turn the screw connection ring, in order to protect the connection.

All extendable kilns of the TE - MCC series the connection possibilities required for the extensions (picture 9) are already installed. For extendable kilns of the TE-S series connections are optional available (picture 10).



picture 7



picture 8



picture 9

picture 10

5.8. Mounting the controller on the wall

Choose a safe and easily accessible place on the wall beside the kiln. Pull out the fixation bar on the back of the TR controller. If you have a TC model please detach the wall fixation element. Mount the fixation elements with two wall plugs and two screws onto the wall. Now you can push the controller from above into the fixation bars.

5.9. Burn-in of kiln and furniture

CAUTION: Please remove the protection foil from the entire kiln first (bottom, rings and lid)!!!

Before you start using your kiln for regular service you should run a firing with the empty kiln. For this purpose please do not close the exhaust fume opening on the side of the kiln. The "burning-in" is necessary to eliminate the remaining moisture from the kiln walls and to produce a protective oxide layer on the heating elements, which will significantly increase their service life.

Power settings for the process of "burning-in":

- heat up with 100°C/h
- end temperature 1050°C
- dwell time 1 hour 30 minutes

Please note that the service life of the heating elements will be prolonged significantly, when you do not close the exhaust fume opening up until 600–700°C, in the first as well as in future firing processes.

While firing the kiln you can also burn-in the wood stilts and additional shelves (optional accessories). For further information please read point 7.3.

It is essential to retighten the belts around the lid and the main ring after the first firing. For further information please see point 8.0.

6. GENERAL INFORMATION FOR USE

6.1. Operation of controller

Please read the applicable instructions for your controller carefully first! After connecting the mains supply cord as well as the controller the kiln is ready for operation.

Example for a typical firing cycle with a TR 305 controller



firing	R1-°C/h	T1 - °C	R2 - °C/h	T2 - °C	t2 - h./min.	R3 - °C/h	T3 - °C
biscuit firing	100	600	250	900	00:10	Pass	—
gloss firing	150	300	350	1150	00:20	Pass	—

6.2. Instructions for correct firing

- Do not place flammable objects near the kiln.
- The kiln may be placed and operated only in well aired rooms. To guarantee a reliable operation, the kiln may be operated only up to a surroundings temperature from 40°C.
- The kiln may not make contact with any other objects. Make sure that the heat release is not blocked. Do not place objects on top of or around the kiln.
- Never open the kiln during operation or before it has entirely cooled down. Heat released from the kiln might cause damage and injuries and leads to premature wear of the kiln. The manufacturer does not assume liability in this case.
- When firing materials which release hazardous gases and fumes it is essential that you install an exhaust fume system which directs the exhausts into the open air.
- Never place flammable materials or food in the kiln.

7. FURTHER FEATURES

7.1. Transport and delivery

In order to move the kiln to its final place of operation it might be necessary to dismantle the kiln. This is usually not the case with smaller models. The models from TE 60 onwards, however, are easier to transport when the lid, rings and bottom are disassembled. Only use the designated handles or the stand for transportation.

7.1.1. Remove the lid

Open the kiln lid. Use a screwdriver to push the metal sleeve at the head of the spring up (picture 11) until you can pull away the gas operated compression spring from the ball-shaped head (picture 12). Let another person hold the lid to prevent it from falling onto the main ring.







picture 11

picture 12

picture 13

Now loosen the two hexagon socket screws (picture 13) with a no. 8 allen key and remove both screws. You can lift the lid now. Lay it flat on an even and smooth surface. Do not lean it vertically on the rim!

7.1.2. Remove the main ring

From model TE 60 onwards the main ring can be detached from the bottom. For transportation the catch is protected with a pin. In order to remove the main ring the protection pin has to be removed. Bend the protection pin (picture 14) into a straight horizontal position and pull it out of the catch.



picture 14

7.1.3. Remove supplementary ring

If your kiln is equipped with a supplementary ring you have to remove it for transportation. Disconnect the electric connection from the switch box and proceed like explained in 7.1.2. Lay down main and supplementary ring on an even and flat surface, unless the fire bricks might be damaged! Do not lean the rings vertically on the rims!

7.1.4. Remove kiln stand

If necessary you can also remove the kiln stand from the bottom:

For this purpose the supporting screws on the front (picture 15) and back (picture 16) have to be loosened. Now you can lift the bottom and lay it down horizontally on an even surface. Do not lean it vertically on the rim!



We designed a turnable kiln stand (picture 17) that will enable you to adjust its height to your personal requirements:

At first you have to detach the castors (only for models up to TE 75 MCC) (picture 18).

Now loosen the black plastic feet and remove them from the kiln stand (picture 19).

Finally remove the chrome caps (picture 20) from the upper part of the kiln stand.

Now you can turn the kiln stand into the suitable position. Change the respective components to the opposing fastening devices.

picture 19

picture 17

picture 15



picture 18

picture 16



picture 20

7.3. Examples for setting

Place the enclosed 3 small cordierite blocks (picture 21) on the bottom of the kiln, then place a first shelve (optional equipment/accessory) on top (picture 22). Please note that all shelves and posts have to be burnt-in (see 5.9)! Do not place the shelves to close to the heating elements as this might cause cracks in the shelf. The distance to the heating spiral should be at least 20 mm.

We advise you to support the furniture plates in 3 points (picture 23) – for 2-piece furniture plates 3 stilts per plate – and to position the stilts one above the other for each layer, unless the setting shelves might suffer from deformation or cracking.



picture 21



picture 22



picture 23

8. MAINTENANCE AND CLEANING

As the fire bricks give off moisture during the first operations the circumference of the kiln might change slightly. It is therefore essential to readjust the tensioning belts of the stainless steel casing of the lid (picture 24) and main ring (picture 25) after the first firings (not applicable for Quattro and square or rectangular top loading kilns).





picture 24

picture 25

Please take care that no clays or glazings make contact with the heating elements. This would result in the failure of the elements during the next firing. Should nevertheless the heating elements be stained by any substance please clean them immediately, as burned-in glazings etc. will damage the heating elements and bricks. In the case of substantial damage please contact us or your retailer.

Heating elements are subject to wear. Their resistance (0hm) increases with every firing. In the course of time this will lead to delay in the firing cycle due to a drop in output, especially in the upper temperature range. In the case of excessive wear we recommend to replace all, rather than only individual heating elements, as individually replaced elements might lead to differences in temperature within the kiln.

Consult a qualified electrician for the replacement of the heating elements!

A tip for the firing professional: Store a complete set of additional heating elements! In case of an emergency this will spare you unnecessary delay and will enable you to continue firing as quickly as possible.

Remove clay and stone dust regularly using a broom and a vacuum cleaner. This will also increase the service life of your heating elements.

If possible refrain from reduction gloss firing, as it contributes to the decomposition of the oxidation layer and which will reduce the service life of the heating elements significantly.

9. TIPS FOR TROUBLE SHOOTING

The controller cannot be switched on.

- Check if the controller has been connected to the switch box of the kiln.
- Check if the kiln is connected to the mains supply.
- Check the micro-fuse on the switch box of the kiln. It is fused with T 2A.
- Have your house mains supplies (plugs), fuses and the current consumption of your kiln checked by a qualified electrician.

The controller displays an error message.

You will find the respective approach described in your users manual for the controller.

The firing chamber does not heat. Check if the lid switch is working. Probably the lid switch is not working and thus it cannot operate the safety contactor.

The kiln heats very slowly. The kiln does not reach the chosen temperature. The controller displays an error message. Check the heating elements for visible damage.

Each ROHDE kiln is switched on and checked for functional problems before it leaves our factory!

10. GUARANTEE REGULATIONS

We guarantee the faultless workmanship and function of the delivered kiln and grant a 36-month guarantee.

Along with the heating elements (subject to wear and tear) the following instances are excluded from the guarantee:

- Damages which have been caused by the customer.
- Damages which have been caused by kiln firing, e.g. due to exceeded temperature limits.
- Damage caused by inappropriate transport(s).
- Damages due to chemical reactions during firing for which the kiln is not designed (e.g. salt glazed ceramics)
- The manufacturer is not liable for any damage caused by inappropriate operation and resulting damages.

Important: Please fill in the GUARANTEE CARD and send it back **immediately**! Please note: If you do not send back the Guarantee Card, we will not be able support you quickly and free of charge in an event of damage.

Caution: The fire bricks of the lining are exposed to heavy temperature fluctuations. This can cause crazings in the firebrick lining. This process is normal and does not affect the functions of the kiln. It therefore cannot be a reason for reclamation.

What to do in the event of guarantee/damage:

Please notify your retailer - before any costs arise. Your retailer will then talk to us, the manufacturer, how to proceed.

In the case of a reclamation, please state the **kiln type**, the **product number** and the date of purchase or the **year of construction** (see type plate on the kiln side).

RO	HDE	Contraction and Researchers an	ESE Gunteri Maschanen ER STITL R9 UTTING
Model	TE 43 S	Leistung Load	3,6 kW
Serial No.	19131	Stromaulnahme Supply	16 A
Spannung Electricity	1N/PEAC 230V	Baujahr Y.O.M	03/2006
(6	Maximum ope	Maximaltemperature erating temperature	1320°C

11. INDUSTRIAL PROPERTY RIGHTS / TRADE NAMES / DISCLAIMER

The content of the instruction manual are purely informative. It may be changed without prior notice and may not be seen as a liability of Helmut Rohde GmbH. We do not guarantee or take over responsibility for the correctness or precision of the contents in this instruction manual.

We mention names, trade names, product identifications etc. without special identification, as they are commonly known. Those names and identifications, however, may be the property of companies or institutes.

12. CERTIFICATE OF INSPECTION / DECLARATION OF CONFORMITY

		Hauptverband der gewerblicher
		Berufsgenossenschaften
Translation	GS Test Certificate	06005
Name and address of the holder of the certificate: (customer)	Heimut Rohde GmbH Rosenheimer Str. 89 D-83134 Portling	no. of certificate
Name and address of the manufacturer:	see above	
Ref. of customer: TE-front-loading kiln	Ref. of Testing and Certification Body: FA 612.18 * F 505 KnWe	Date of Issue: 18.04.2006
Product designation:	Electrical powerd kiln for ceramics	
Туре:	TE 10Q, 35Q, 50Q/S, 70Q/S, 20, 30, 40, 43, 50, 60, 7 165, 180, 200, 250, 300	75, 80, 95, 100, 130, 145, 150,
Intended purpose:	Electrical powerd kin for firing ceramic products up to 1.	.320°C / 1.280°C.
Testing based on:	DIN EN 60335-1/VDE 0700-1 Household and similar ele General requirements 2006 DIN VDE 0700-244 Household and similar electrical app annealing fumace and burning ovens 1967	ectrical appliances - Safety - Part bliances - Safety - Part 244:
Testing based on: Test report:	DIN EN 60335-1/VDE 0700-1 Household and similar ele General requirements 2006 DIN VDE 0700-244 Household and similar electrical app annealing fumace and burning ovens 1967	ectrical appliances - Safety - Part bliances - Safety - Part 244:
Testing based on: Test report: Remarka:	DIN EN 60335-1/VDE 0700-1 Household and similar ele General requirements 2006 DIN VDE 0700-244 Household and similar electrical app annealing furnace and burning ovens 1987 Following document for STE/GK 01009	ectrical appliances - Safety - Part bliances - Safety - Part 244:
Testing based on: Test report: Remarka: The type tested meets the r Thus, the type tested also amended by the directive 9 The holder of the certifical type tested. At that, the hol The present certificate inclu	DIN EN 60335-1/VDE 0700-1 Household and similar ele General requirements 2006 DIN VDE 0700-244 Household and similar electrical app annealing furnace and burning ovens 1987 Following document for STE/GK 01009 requirements specified in article 4 para. 1 of the German Equipm complex with the provisions laid down in the directive 73/23/6 G/68/EEC. te is entitled to affix the GS mark shown overleaf to the product der of the certificate shall observe the conditions specified overle uding the right to affix the GS mark will become invalid at the late	ectrical appliances - Safety - Part : bliances - Safety - Part 244: rent and Product Safety Act. EEC (Electrical Equipment), ts complying with the saf, at on:
Testing based on: Test report: Remarka: The type tested meets the Thus, the type tested also amended by the directive 9 The holder of the certificat type tested. At that, the hol The present certificate inclu	DIN EN 60335-1/VDE 0700-1 Household and similar ele General requirements 2006 DIN VDE 0700-244 Household and similar electrical app annealing furnace and burning ovens 1987 Following document for STE/GK 01009 requirements specified in article 4 para. 1 of the German Equipm complies with the provisions laid down in the directive 73/23/5 G/68/EEC. te is entitled to affix the GS mark shown overleaf to the product der of the certificate shall observe the conditions specified overle ading the right to affix the GS mark will become invalid at the later 31.12.2011	ectrical appliances - Safety - Part - bliances - Safety - Part 244: eent and Product Safety Act. EEC (Electrical Equipment), ts complying with the saf, at on:
Testing based on: Test report: Remarka: The type tested meets the r Thus, the type tested also amended by the directive 9 The holder of the certificat type tested. At that, the hol The present certificate inclu Further provisions concern Procedure for Testing and	DIN EN 60335-1/VDE 0700-1 Household and similar ele General requirements 2006 DIN VDE 0700-244 Household and similar electrical app annealing furnace and burning ovens 1987 Following document for STE/GK 01009 requirements specified in article 4 para. 1 of the German Equipm complies with the provisions laid down in the directive 73/23/6 G/68/EEC. te is entitled to affix the GS mark shown overleaf to the product der of the certificate shall observe the conditions specified overle ading the right to affix the GS mark will become invalid at the later 31.12.2011 ing the validity, the extension of the validity and other conditions of Certification of April 2004.	ectrical appliances - Safety - Part - bliances - Safety - Part 244: eent and Product Safety Act. EEC (Electrical Equipment), ts complying with the sef, at on: are laid down in the Rules of
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13. CONNECTING DIAGRAM / CIRCUIT DIAGRAM

13.1. Connecting diagram controller





13.2. Circuit diagram top loading kiln



13.3. Circuit diagram top loader "S" with floor heating



13.4. Circuit diagram top loader "MCC⊕" with lid heating

14. KILN PASSPORT / SPARE PARTS

On the last pages of this instruction manual you will find the kiln passport for your purchased kiln. This kiln passport displays all the relevant data which will ensure the quick and precise ordering of spare parts.

When ordering spare parts please have your kiln passport and your invoice of purchase ready to hand at any time.

15. SERVICE ADDRESSES

Should you have any questions regarding your kiln, spare parts or additional equipment please contact your retailer.

We hope you will enjoy working with your new ROHDE kiln and wish you much success and excellent firing results at all times! Your ROHDE team

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