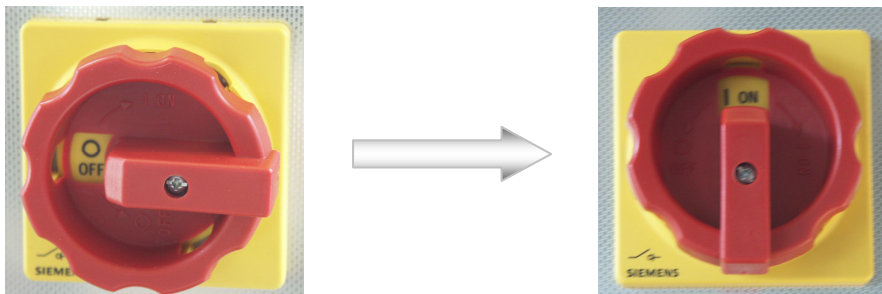## 1. Activate the furnace

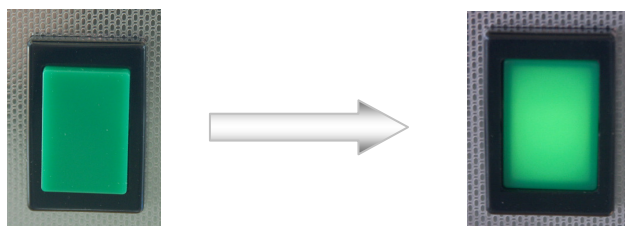Turn the main switch from „0 OFF" to „1 ON"

Then select the requested program; program 1 is pre-selected. (To continue with the previously used program, skip this step).

To select a program use the pushbutton ↺ to access the program selection. Press the button several times, until the display resembles the picture below (picture on the left shows that program 1 has been selected).

Now use the up ▲ and down ▼ buttons, to select the requested program. Use the pushbutton ↺ to go back to the initial level.

To start the furnace with the selected program, press the green switch. If the furnace is working, the green button is illuminated and the display shows the message "ZIRKONZAHN - Programm 1 running" (e.g. if program 1 has been selected.) Furthermore, on the bottom of the display an orange RUN – message is illuminated, indicating that the program is running.

2. Notes controller

Zr Zirkon zahn ®
Zirconium

Dokumenten - Nr.: MG_DKA50001
Änderungsindex: 00
Freigabedatum: 07.04.2005

User Manual „Keramikofen 1500"

To pause the program, press both arrow keys simultaneously: The orange RUN message starts blinking, the temperature inside the furnace remains at the value indicated. To restart the program, simply press again both arrow keys simultaneously.

To stop the programme, press both arrow keys simultaneously for more than 1 sec. The orange RUN message disappears.

3. Deactivate the furnace
Switch off the furnace in reverse order to the starting method.

4. Programme
The controller has been coded to reflect the following programs

Programmnummer	1	2	3	4	5
Final Temperature [°C]	1500	1500	1500	1500	/
Heating Period [h] (von RT)	~3h (~ 8°C/min)	~2h (~ 12°C/min)	~1,8h (~ 14°C/min)	~3h (~ 8°C/min)	/
Dwell Time	2:00:00	2:00:00	1:00:00	2:00:00	/
Cool down Time	not defined	not defined	not defined.	4°C/min down to 800°C- not defined below this value	/

5. Advice when using the furnace:
- Lock the furnace door always by using the bolting device
- Never open the furnace door during operation (Danger of burning, heating rods can be damaged)
- Do not open the furnace door prior to complete cooling down (wait for message "Timer End" in the display)
- Always close the furnace door with caution.
- When removing a shelf, always use the substitution stopper delivered with the unit.
- Heating rods and temperature sensors are very sensitive items and consequently have to be handled with care. I.e. they should never come in contact with the material to be burnt neither should they be touched directly.
- Given that this furnace is a high-temperature kiln with a very compact assembly, even the external walls will heat up (heat radiates especially to the top). Consequently, there is a risk of burning.

6. Error messages / Solutions

Error Message	Possible cause	Solution
„High Temperature OFF"	Connecting plug between thermo element and controller has been removed during operation.	Reconnect the plug and delete error message (press the two left buttons on the controller simultaniously)
Sintertime too long, Error message 5,bs	- Wires on the thermo element are broken, check by carefully pulling - Contacts on the square ceramic clamp next to the thermo element are loose - Contacts inside of the thermo element's plug are loose (grey plug with two copper pins) - The plug of the thermo element has been pushed by force into the wrong position - Defective display	- Change thermo element - Tighten contacts carefully with a screw driver - Open cover of the plug and tigten contact with a screwdriver - Move plug into right position - Change display

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