

# MTI Furnace Quick Test Instruction

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**⚠ ATTENTION:** MTI always do quality inspection and run a test program before shipping. Once receiving the furnace, we strongly recommend our customer **FIRSTLY** reading the handbook and then following the instructions below to perform a quick test to ensure the furnace works properly.

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## ■ Power connection:

Right connect the power cord. (Please refer to the instruction in the operation manual and ask a licensed electrician to do the connection).

## ■ Insert the thermocouple:

Slightly insert thermocouple into the hole from the right side of the furnace till the probe reach right under the sample holder.

**⚠ CAUTION:** Bad thermocouple insertion may lead to inaccurate temperature measurement and cause terrible damage to the furnace.

## ■ Assemble your own cooling system

**⚠ ATTENTION:** Water cooling jacket is built in the flange. Please turn on the cooling system before heat up the furnace. 30 PSI tape water or chilling water circulator will be needed.

## ■ Main Power Switch:

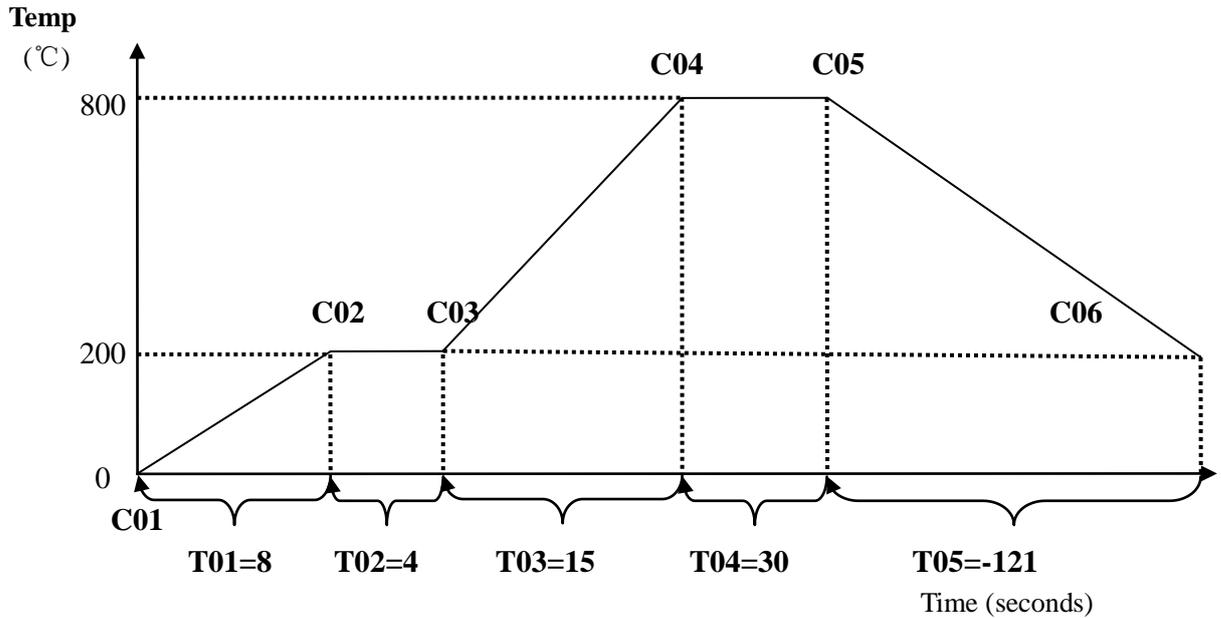
Switch the lock knob to the right to power on the main circuit.



■ **Proceed the Quick Test Program:**

MTI's Engineer has already set up a quick test heating program in terms of the curve below. In order to run the test program, please follow these steps:

- a) Press green button 'Turn-on'.
- b) Press down  and hold for 3 seconds to start running the program.
- c) Wait until the program finishes and check whether it is working properly, contact us if not.



| Prompt | Input Data  | Description  |
|--------|-------------|--|
| C 01   | 0           | Initial Temperature  |
| T 01   | 8           | 8 seconds from C01 to C02, heating rate 25 °C/second   |
| C 02   | 200         | Temperature in first inflexion (target temperature in this segment and initial temperature in next segment)  |
| T 02   | 4           | 4 seconds from C02 to C03, remain the temp.  |
| C 03   | 200         | Temperature in second inflexion (target temperature in this segment and initial temperature in next segment) |
| T 03   | 15          | 15 seconds from C03 to C04, heating rate 40 °C/min   |
| C 04   | 800         | Temperature in third inflexion (target temperature in this segment and initial temperature in next segment)  |
| T 04   | 8           | 8 seconds from C04 to C05, remain the temp   |
| C 05   | 800         | Temperature in fourth inflexion (target temperature in this segment and initial temperature in next segment) |
| T 05   | <b>-121</b> | Program finished, stop it, and cool the tube naturally   |

■ **ATTENTIONS during and after the quick test program:**

- i. OPL (Please refer to the parameter setting details of the handbook) value will limit maximum output current when the temperature is below 200°C.
- ii. It is also normal if there is a little gap between the values on PV screen and SV Screen. (Normally, PV value will follow the SV value.)
- iii. In the case that you find temperature controller is not stable during the test, you shall use “*Auto-Tune*” function to achieve the best setting result, please refer to the manual for the details of auto-tune. (Note: It is not recommended to use “*Auto-Tune*” function if you are not familiar with the parameter setting.)
- iv. Cooling system (at the back side of the furnace) must work on at least 15 minutes after shut down the Furnace.