

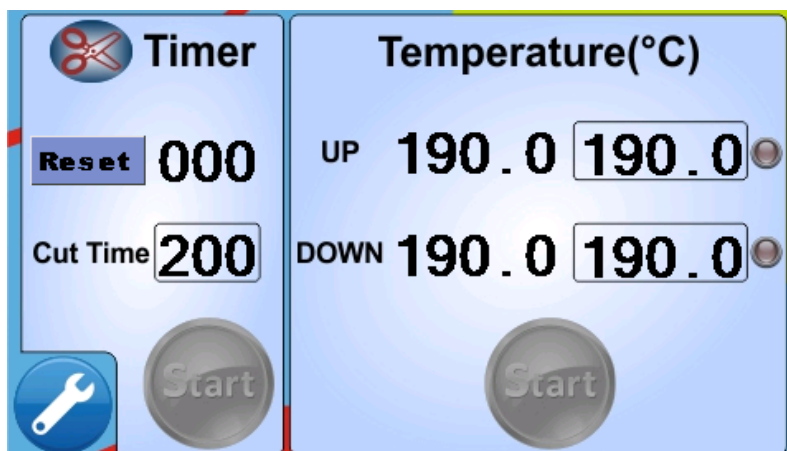
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## MFR Instructions

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Connect the device to the power supply and press the power switch. The front panel of the device lights up, and the operating system starts running.

Once the operating system has fully booted and the system is ready for use, the following screen is displayed.



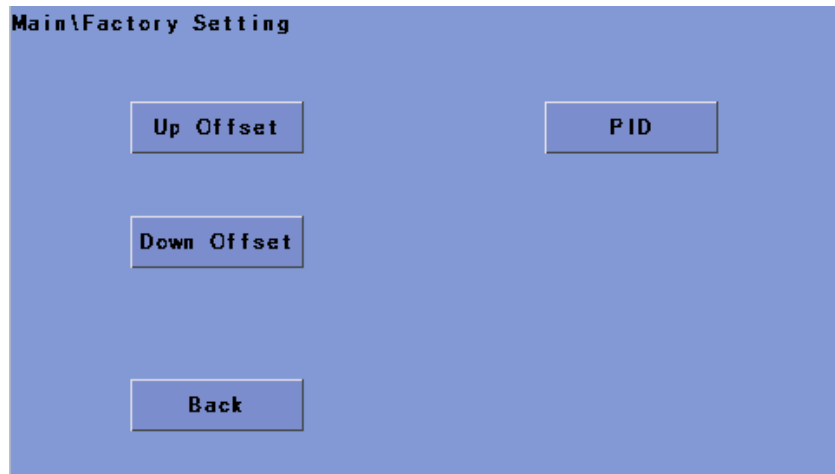
The main screen is divided into two sections: Temperature and Timer.

1- **Temperature:** This section pertains to temperature settings, where temperatures of 190 and 230 degrees Celsius can be adjusted for the upper and lower elements respectively. By pressing the **Start** button in this section, the elements begin heating up to reach the temperature set by the user.

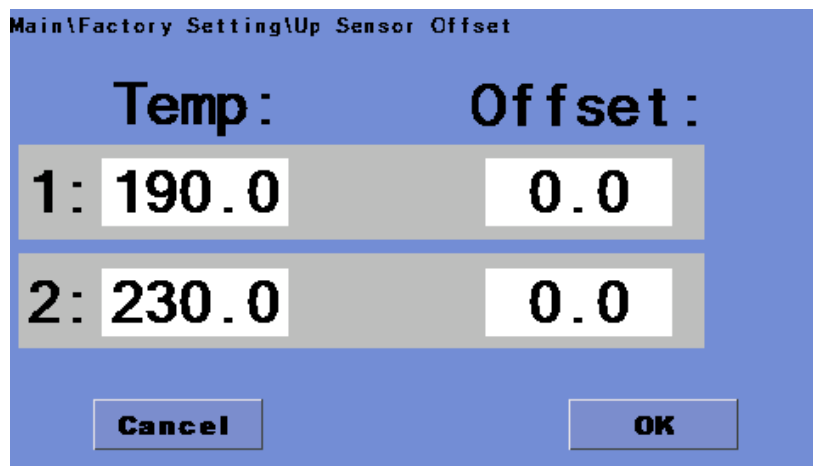
2- **Timer:** This section is related to setting the time for automatic or manually cutting the sample.

In this section, pressing **Reset** on the timer resets it to zero and starts counting from the beginning. There is a scissors icon for manual cutting of the sample. By tapping the **Start** button in this section, the timer will begin, and upon reaching the time set in seconds by the user in the **Cut Time** box, the cut will occur.

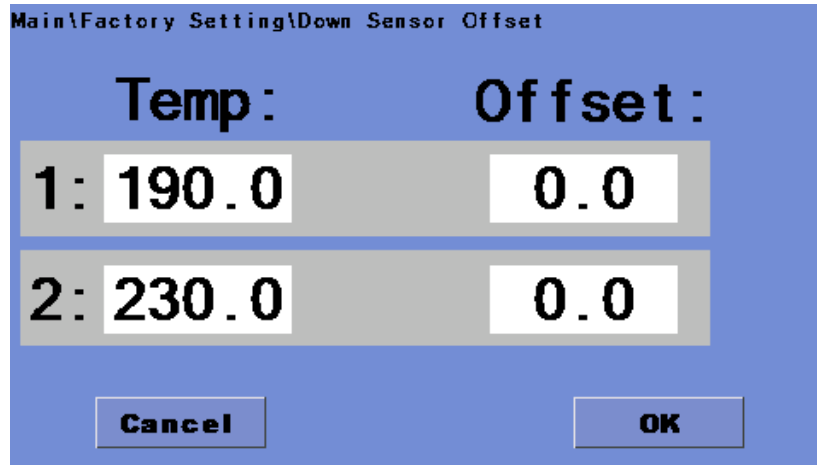
To access the settings menu, press the wrench icon at the bottom left of the panel, which includes 3 sections of settings.



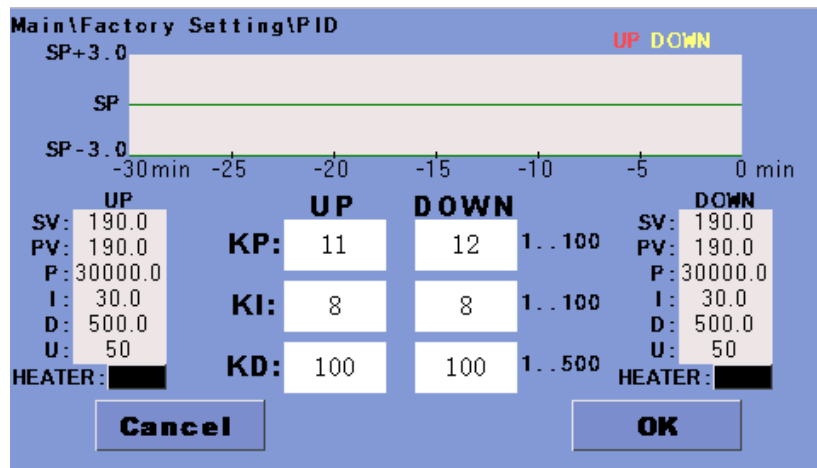
- 1- **Up Offset:** This section allows adjustment of the temperature for the upper element at two temperatures: 190 and 230 degrees Celsius. It enables us to minimize the device temperature error to match the actual temperature.



- 2- **Down Offset:** This section allows adjustment of the temperature for the lower element at two temperatures: 190 and 230 degrees Celsius. It enables us to minimize the device temperature error to match the actual temperature.



- 3- **PID:** This section pertains to the temperature controller of the device, which is adjusted solely by the manufacturer based on the structure and elements of the device.



**Note:** The password to access the device menu is 1253.

### Test Procedure:

1. Turn on the device.
2. Set the desired temperature.
3. Place the piston inside the cylinder so that as the cylinder heats up, the piston will also reach the same temperature.
4. Once the device reaches the desired temperature, it will start alarming.
5. Then, according to the standard, pour 3 to 5 grams of the sample in granular form into the device. Place the piston inside the cylinder and allow approximately 5 to 10 minutes for the sample to melt after reaching the desired temperature.
6. Add the respective weights to the system, turn on the automatic cutter, and collect 5 samples sequentially.

7. Weigh the samples and calculate the average.
8. According to standard 1-6980, use the relevant formula to calculate the MFR percentage.
9. After finishing the test, clean the cylinder.
10. Turn off the device.
11. Pull out the shaft next to the device to move the die holder aside.
12. Press down on the materials along with the piston to eject the die and materials from the cylinder.
13. Retract the piston and thoroughly clean the cylinder using a cleaning shaft and non-flammable cloth until the cylinder becomes smooth and shiny.

**Note:** The device operates at very high temperatures. To prevent burns, perform the above operations with utmost caution.