



# THERMAL ANNEALING SETUP



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## 1. General instructions

- (PV, SV)=(present value, set value) as shown in Figure 1: Front panel



*Figure 1: Front panel*

- Changing the value in display
  1. Press right arrow to change the digit
  2. Press up and down to change the values
- Press SET to go for next option
- To RUN the program press UP button
- To RESET the program press SET+UP button together
- To FREEZ program press DOWN button

### 1.1 Procedure to start the pump with chamber

- Open the exhaust pipe outlet end (white pipe)
- Close the chamber right valve and vent valve
- Turn on the digital phirani gauge
- Switch on the pump switch
- Open the Chamber right valve (180° rotation)
- Avoid leakage at joint clamps (Tight the joint clamps if you notice any leakage)
- Close the exhaust pipe outlet end (Should close) after your work

### 1.2 How to set temperature 500°C

- Turn on the power switch
- Turn on the main switch on front panel
- Display will show present value (room temperature) on PV and zero on SV as shown in Figure 2: Room temperature on PV display



*Figure 2: Room temperature on PV display*

- Press SET you will get (PV, SV)=(OUTL, 99.9)
- Press SET you will get (PV, SV)=(AT, no) as shown in Figure 3: Display setting



*Figure 3: Display setting*

- Press SET you will get (PV, SV)=(AL1, 510), If temperature exceeds  $\geq 510$  alarm get start
- Press SET you will get (PV, SV)=(PTN, 1)
- Press SET you will get (PV, SV)=(SEG, 1)
- Press SET you will get (PV, SV)=(ti, 0) as shown in Figure 4: Display setting



*Figure 4: Display setting*

- This has 8 segments
- Press SET you will get (PV, SV)=SEG 1, 500), you can change as per your requirement but not  $> 500$  as shown in Figure 5: Setting temperature value in segment 1

- Press SET you will get (PV, SV)=(TIME, 00.30), it takes 30minute for 500°C as shown in Figure 6: Setting time for segment 1 temperature



Figure 5: Setting temperature value in segment 1



Figure 6: Setting time for segment 1 temperature

- Press SET you will get (PV, SV)=(OUT 1, 100), **Segment 1 is completed**
- Press SET you will get (PV, SV)=(SEG 2, 500) as shown in figure 7(a)
- Press SET you will get (PV, SV)=(TIME, 00.30), this will maintain 500°C for 30min as shown in figure 7(b)



7(a): Setting temperature in segment 2



7(b): Setting time in segment 2

- Press SET you will get (PV, SV)=(OUT 2, 100)
- Press SET you will get (PV, SV)=(SEG 3, 40)
- Press SET you will get (PV, SV)=(TIME, 00.30), this will decrease 500°C to 40°C in 30min
- Press SET you will get (PV, SV)=(OUT 3, 100)
- Don't need to fill all segments, but you need to complete 8 segments to run the program
- After getting (PV, SV)=(SEG 8, 100)
- Press SET, display will show present value (room temperature) on PV and zero on SV

### 1.3 How to turn on the heater

- After the completion of 8 segments, you will get digital display as shown in Figure 7: Turn on the heater
- Turn on the heater as shown in Figure 7: Turn on the heater
- To RUN the program press UP button

- Out1 and pro indicators and red light will blink while the heater is on (observe) as shown in Figure 1: Front panel



*Figure 7: Turn on the heater*

- Only pro indicator will show while decreasing the temperature

#### 1.4 Turn off procedure

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