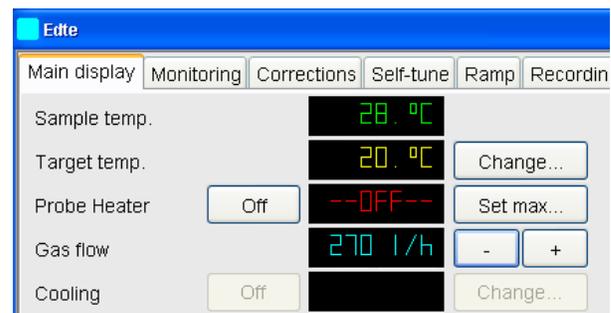


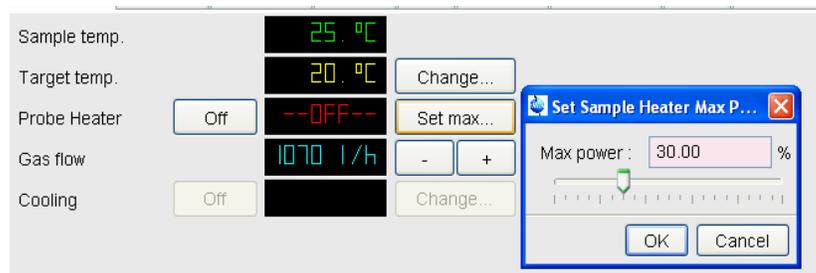
High temperature (Variable temperature VT) procedure

A day before your VT, give staff the VT high temperature request form and reserve desirable hours plus one hour for setup and cool down. No VT can be carried out on weekends.

- a) Am400: max temperature is 60C. BBI probe.
 - b) 500: max 100°C. BBO probe.
 - c) 600: max 60°C. BBI probe.
 - a. 80°C for BBO probe.
 - b. 110°C for C13 probe.
- 1) Carry out your VT:
 - 2) Eject any sample inside the magnet.
 - 3) Install your sample with the ceramic spinner, labeled for the specific spectrometer. Don't use ceramic spinner from other spectrometer. Don't insert your sample till you set up the VT controller.
 - 4) Setting up the VT controller: using 60°C in this example.
 - a. Type "edte" and the standby settings should be as shown. Probe Heater should be OFF.



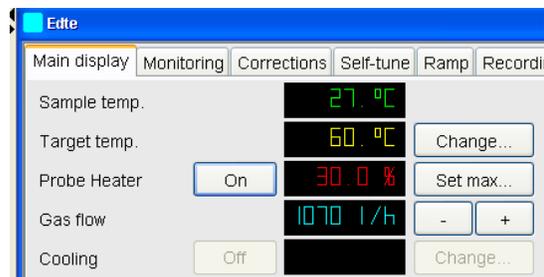
- b. Increase Gas flow to 1070 and set Probe heater max to 30%. (40% for higher temperature).



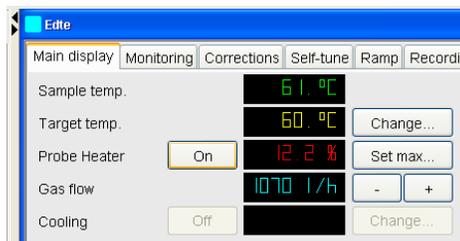
- c. Click "Change" and set Target temp. to 60°C (in this example).



- d. Finally, click Probe Heater from “off” to “on”. Note: double click will turn it off.

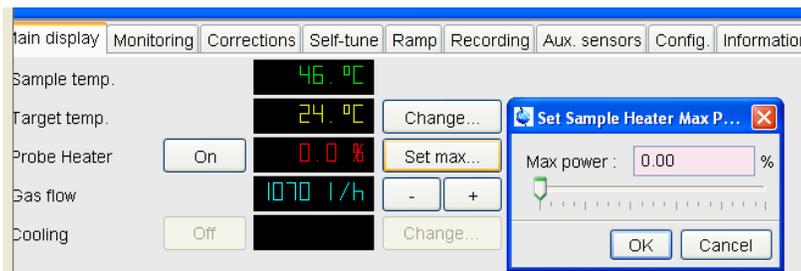


- e. Check the Sample temp. display, the actual temperature should increase gradually. **Caution:** if the temperature indicator doesn't show any change within one minute, shut down the Probe heater "off" and notify staff right away.



- 5) Insert your sample and wait for at least 10 minutes before starting your adjustments (such as tuning and shimming).
- 6) After your experiment, please reset the VT controller back to the standby state, by reversing the steps as list in step 4.

Tips: for a rapid cool down, adjust the setting as follows: change Target temperature to 24, set Probe heater back to zero. Leave Gas flow at 1070. Leave Probe Heater “on” for 15 mins. Then turn it “off”. And reduce the Glass flow to 270 to save nitrogen gas.



- 7) Eject your sample, don't insert any standby sample into the magnet.
- 8) Kindly leave a note to remind the next user that you just finish a high temperature run.

