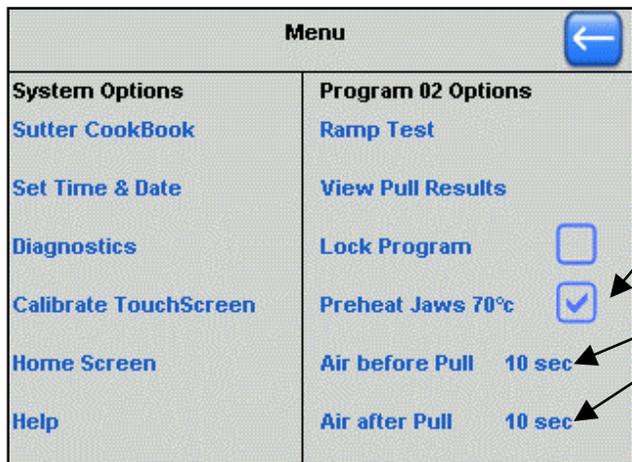


P-1000 **NEW FEATURE:** THERMLOCK™ PRE-HEAT MODE OPERATION INSTRUCTIONS (REV. 1.04 (20101201))

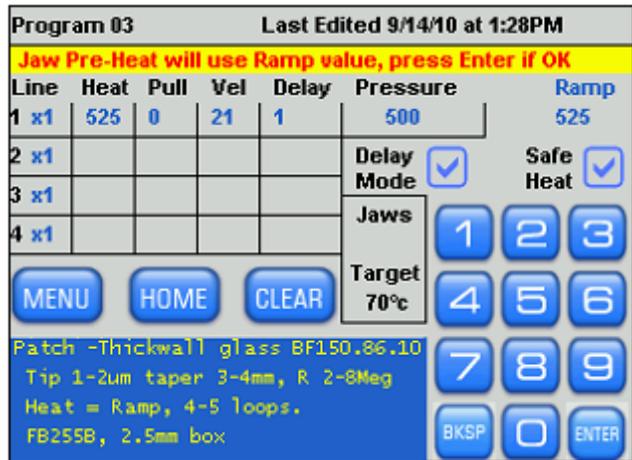
When pulling pipettes where the pull occurs in multiple stages (i.e., patch pipette programs), the temperature of the jaws that hold the filament can range from 23°C to 85°C. This variation in jaw temperature can sometimes create instability in the program and lead to inconsistency in the tip size, taper length, and cone angle of the resulting pipette. To further regulate the pulling conditions, the new Thermolock™ feature can be used to pre-heat and maintain the jaw temperature at 70°C.

If the “mid-point velocity” for writing a stable patch pipette program (Pipette Cookbook, Pg. 30) has been previously established, the shift and rise in jaw temperature is less likely to introduce variability. However, if a program remains unstable where the first few pipettes pulled are not ideal and later pulls provide better electrodes, the Pre-Heat mode for regulating the jaw temperature can make your program more stable and improve the outcome of resulting pipettes.



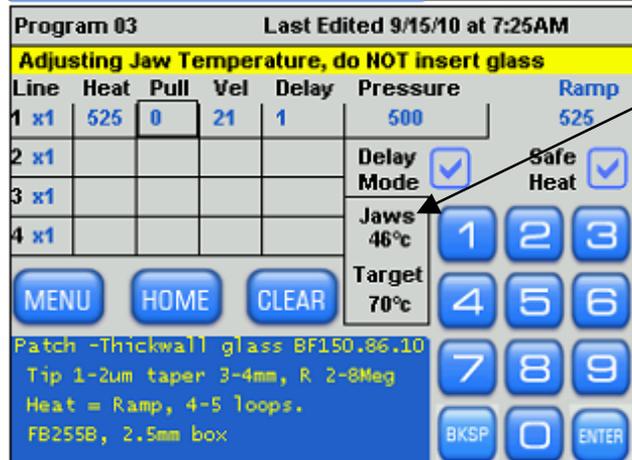
To activate the Pre-Heat mode in your program, press <MENU> and then select the box to “Pre-Heat Jaws 70°C”.

When using the Pre-Heat mode, air flush durations before and after the pull are increased to 10 sec.



A caution is displayed indicating that the filament will light up and pre-heat. This yellow message bar is displayed when powering up and entering a Pre-Heat program; when waking from sleep; and when going from a non-Pre-Heat program into a Pre-Heat program.

During Sleep mode, the pre-heating is suspended. Upon waking from Sleep, the yellow message bar is displayed.



The initial pre-heating of the jaws will take a few minutes, during which the jaw temperature is continuously displayed.

The user can load the glass at any time, but if the glass is loaded before the jaws reach 70°C, the Pre-Heat mode might not function as intended.

Program 03 Last Edited 9/14/10 at 1:28PM

Press PULL Now

Line	Heat	Pull	Vel	Delay	Pressure	Ramp	
1	x1	525	0	21	1	500	525
2	x1						
3	x1						
4	x1						

Delay Mode Safe Heat

Jaws 71°C

Target 70°C

MENU HOME CLEAR

Patch -Thickwall glass BF150.86.10
Tip 1-2um taper 3-4mm, R 2-8Meg
Heat = Ramp, 4-5 loops.
FB255B, 2.5mm box

When the jaw temperature reaches 70°C, a green message bar is displayed indicating that it is okay to install the glass and pull a pipette.

Program 03 Last Edited 9/14/10 at 1:28PM

Press PULL Now

Line	Heat	Pull	Vel	Delay	Pressure	Ramp	
1	x1	525	0	21	1	500	525
2	x1						
3	x1						
4	x1						

Delay Mode Safe Heat

Jaws 71°C

Target 70°C

MENU HOME CLEAR

Patch -Thickwall glass BF150.86.10
Tip 1-2um taper 3-4mm, R 2-8Meg
Heat = Ramp, 4-5 loops.
FB255B, 2.5mm box

When the capillary glass is inserted, even if the Pre-Heat temperature has not been reached, the filament heat is turned off to prevent the glass from melting and/or sticking to the filament.

Program 03 Last Edited 9/15/10 at 7:25AM

Line	Heat	Pull	Vel	Delay	Pressure	Ramp	
1	x1	525	0	21	1	500	525
2	x1						
3	x1						
4	x1						

Delay Mode Safe Heat

Jaws 74°C

Target 70°C

MENU HOME CLEAR

Pull Progress
Waiting for Jaws to cool
Pull will occur automatically

If the jaw temperature is above 70°C when <PULL> is pressed, the air flush occurs, but the pull cycle is delayed until the jaws cool down to 70°C.

If the jaw temperature has dropped to 70°C after the air flush, the pull cycle will begin immediately.

Program 03 Last Edited 9/14/10 at 1:28PM

Remove glass to allow Jaw Pre-Heat

Line	Heat	Pull	Vel	Delay	Pressure	Ramp	
1	x1	525	0	21	1	500	525
2	x1						
3	x1						
4	x1						

Delay Mode Safe Heat

Jaws

Target 70°C

MENU HOME CLEAR

Patch -Thickwall glass BF150.86.10
Tip 1-2um taper 3-4mm, R 2-8Meg
Heat = Ramp, 4-5 loops.
FB255B, 2.5mm box

If a program is opened with the glass already installed, the user is requested to remove the glass to allow the Pre-Heat to continue.

If the glass is inserted when the display is in the Sleep mode, this message is also displayed upon waking from Sleep.