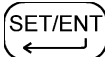
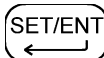
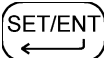
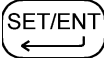

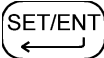


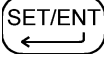
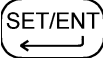


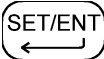
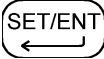
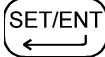
Subject: LBB Control Parameters

DES2000 Controller

1. If oven is not heating, first check the **OUT LED**. The LED should be ON for the oven to heat up. If LED is not on or blinking, you will need to verify the parameters.



2. Press  key for three (3) seconds.
3. The **CtL** parameter should be displayed. Press one of the arrow keys once and **PID** should be displayed, if it reads anything else, then it needs to be changed to **PID**.
4. If the value does not change when pressing the arrow key, then the parameters are locked.
5. Press and release the  key several times until **LOC** is displayed. Press the down arrow keys and change the parameter to 0 (zero).
6. Press the  key several times to enter the value and return to **LOC**.
7. Press the  key once so **CtL** is displayed again. Press one of the arrow keys until **PID** is displayed.
8. Once the parameter **PID** is displayed, Press the  key several times to go back to **CtL**.
9. Press the  key once to go to the next parameter. See Operating and Setup Parameter Table listed below. The parameters are listed in order as they appear on the control.
10. If the **P** is not displayed, the Control Mode (**CtL**) must be first set to **PID**.

11. Once you have verified each of the parameters, go to the **LOC** parameter and change the value to 1 (one) to lock the parameters, but still allows the set point to be changed.
12. Press the  key once to enter the value.
13. Press and hold the  key for three (3) seconds until the temperature (PV) is displayed.
14. If the PV reading is not the correct temperature, re-enter the parameter mode by Pressing  key for three (3) seconds.
15. Press and release the  key several times until **LOC** is displayed.
16. If the parameter is not already 0 (zero), press the down arrow keys and change it to 0 and then Press the  key once.
17. Press the down arrow keys and change the parameter to -1 (minus one).
18. Press the  key once so **In** is displayed. Press one of the arrow keys once and 5 should be displayed for Centigrade or 35 for Fahrenheit. To change from C to F or F to C, please refer to the DES2000 controller manual.
19. Press  key for three (3) seconds until the temperature (PV) is displayed.
20. If you changed the **In** parameter, you will need to go back to Step 1 to verify all the parameters again.

Operating Parameter Outline

Code	Name	Settings
CtL	Control Mode	PID
At	Auto-tuning	OFF
P *	Proportional Band	5 **
I	Integral Time	15
d	Derivative Time	OFF
Ct	Cycle Time	1
FL	Input Filter	2
bS	PV Bias (Offset)	0
LoC	Key Lock	0



* If P is not displayed the Control Mode (CtL) must be first set to PID.

** For F change to value 13.

L91 Hi-limit

1. If the DES2000 Output LED is ON and the oven is still not heating, is the **OP1** LED ON?. If it is, then the hi-limit is tripped and needs to be reset or the parameters need to be verified.



2. Press **RESET** key for several seconds until the **LOCK** LED goes out.
3. If the **OP1** LED is still on, press  key for several seconds to enter the parameter mode.
4. The **INPT** parameter should be displayed and alternating with **J_T/C**. If this parameter is reading anything else other than **J_T/C**, press the down arrow until it does.
5. Press  to go to the next parameter. Check all parameters against table below.

Code	Name	Settings
inPt	Input Type	J_tC
Unit	Process Units	C or F
rESo	Resolution	No.dP
SHif	PV Shift value (calibration value)	0
Filt	PV filter	OFF
Out1	Output 1 function	Hi
O1.Hy	Output 1 Hysteresis	2
HSP.L	Lower setpoint limit	0 C or 32 F
HSP.H	High setpoint limit	204 C or 410 F

6. Press **RESET** key to exit setup and return to temperature (PV).
7. The PV reading is the actual oven temperature and HSP1 is the hi-limit alarm temperature set point. This must be set 10 degrees greater than the DES2000 set point (SP) value.