LA-306 / LA-309P Quick Guide

Figure 1-1 LA-306 Control Console

Prepare furnace

a. Verify white Main power light is ON.

b. Start gas flowing. Verify flowmeter settings for profile you are running.

c. Make sure all Energize Lamps switches are properly ON or OFF per process requirements.

c. Verify Edge Heater settings (LA-309P only).

d. Press green Controls ON button.

Figure 1-2 Energize Lamps

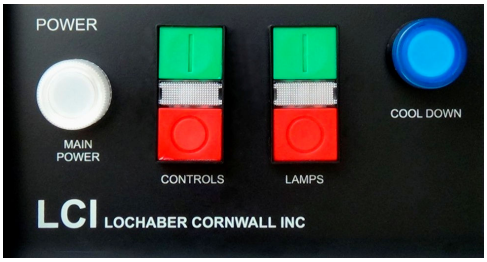

Figure 1-3 Controls and Lamps buttons

Verify or adjust zone temperature settings for profile you are running. To adjust:

a. On each controller, press Up or Down button until green SV displays correct setpoint temperature.

b. Press Set button.

Verify or adjust belt speed

a. Before lamps are turned ON, set the control system to Manual by pressing CALIBRATE button for 5 seconds.

b. Adjust SPEED ADJUST knob until proper belt speed is displayed.

c. Display will fluctuate, press CLEAR button immediately when desired speed is displayed to lock in the value.

d. Let the belt speed settle 2-3 minutes before pressing Lamps ON button.

Figure 1-4 Temperature controller

Start furnace lamps

a. Press green Lamps ON button.

b. Wait until green Status Ready lamp is lit.

c. Place product on belt..

Note: For best results, after Ready light turns ON, allow furnace to run for 30 minutes at process temperatures before inserting product.

Figure 1-5 Speed Adjust

Flowmeter Notes

SEALS. For furnaces equipped with a SEALS flowmeter, to prevent damage to the element seals and avoid premature lamp failure:

a. When operating at 400 °C or below, set the SEALS flowmeter to at least 12 L/min.

b. When operating above 400 °C, increase flow a minimum of 2.5 L/min for each 100°C the furnace is operated above 400 °C.

COOLING. To prevent damage to the CACT aluminum heat exchanger:

a. When operating at 200 °C or below, set the COOLING to suit process parts cooling requirements.

b. When operating above 200 °C, set COOLING to a minimum of 8 L/m (for 200°C in Zone 3) plus 2.5 L/min per 100°C above 200°C to protect CACT or higher to suit process parts cooling requirements.

NITROGEN FIRING. When firing in nitrogen, make sure to allow adequate time for furnace to purge oxygen from internals.

a. If furnace has been operating on nitrogen, you can start processing almost immediately after temperatures have settled and green Ready lamp is lit.

Figure 1-6 Status Ready

b. If furnace has been operating on CDA, allow at least 30 minutes after green Ready lamp is lit.

c. If furnace has been exposed to wet gas or a humid environment, flow dry gas through the furnace to dry it while operating at 600 °C or more. You can start with dry air (CDA) and finish with Nitrogen if desired. If the furnace has been exposed to moisture, it may take several hours to several days to dry it for suitable processing in a log oxygen (below100 ppmv) environment.

Note: To further reduce oxygen concentrations in furnace increase gas flow to Zone 1 and Zone 2-3 rather than increasing flow to baffles. Also decreasing flow slightly to Stack flowmeter can often lower O_2 concentrations.

Furnace Shutdown

a. Press Cooldown button. Lamps shut off.

b. Press red Controls OFF button. Furnace belt and fans will operate until all zones are below 100C for 2 minutes.

c. After belt has stopped, turn OFF process gas valve.

Please refer to the furnace manual, Controlled Atmosphere IR Belt Furnace Operation & Theory, for detailed operating calibration and maintenance instructions for the furnace and equipment options.