

## ◆ LCC2-14 and LCD2-14 Clean Process Ovens

**Stainless steel interior and exterior**



Despatch's LCC/LCD 2-14 clean process ovens are designed to meet the demands of production and large scale R&D environments. A variety of tailored options are available to meet your specific needs. Typical applications for these ovens include die-bond curing and other semiconductor packaging processes, depyrogenation, sterilization and drying for life sciences. The ovens are CE compliant for universal acceptance, configured for 50/60 Hz and available in all voltages used around the world.

Where minimal contamination is essential, the LCC /LCD2-14 Series ovens offer the highest standards in HEPA filtration. Re-circulated airflow is 100% HEPA filtered for operation at ISO Class 5 (Class 100) or better within the oven chamber. Also available in a non-HEPA filter option LLC/LLD2-14.

### FEATURES AT A GLANCE

- ◆ Available in 3 atmosphere configurations:
  - Air atmosphere:** Includes a forced exhaust fan for rapid cooling.
  - Class A atmosphere:** Meets NFPA 86 requirements for processing flammable solvents. Includes a pressure relief panel, purge timer, and forced exhaust fan.
  - Nitrogen atmosphere:** Lowers oxygen to below 100ppm to prevent oxidation. Includes water cooling coil and programmable control of the nitrogen and water.
- ◆ Lockable disconnect switch on the control panel for easy servicing.
- ◆ Protocol Plus™ programmable microprocessor control with real time clock makes oven operation simple and flexible.
- ◆ Programmable door lock with electronic release prevents operators from opening oven door when cycle is in process.
- ◆ Stainless steel interior and exterior with all interior seams continuously welded on the insulation side to protect the work chamber from contamination.
- ◆ HEPA filtration– Recirculated airflow is 100% HEPA (High Efficiency Particulate Air) filtered for operation at ISO Class 5 (Class 100) throughout the cycle. Magnehelic™ gauge monitors the HEPA filter pressure drop so you know when it is time to replace the filter.
- ◆ UL & C-UL listed open control panel.
- ◆ CE compliant.

### MODEL OPTIONS

- ◆ Maximum temperature of 260°C (500°F) with LCC/LLC2-14 or 350°C (662°F) with LCD/LLD2-14
- ◆ With HEPA filtration (LCC/LCD2-14) Non-HEPA option (LLC/LLD2-14)
- ◆ Air, Class A or Nitrogen atmosphere configurations
- ◆ Pass-through door model *(Air atmosphere only)*



**LCC/LCD/LLC/LLD****2-14****PHYSICAL SPECIFICATIONS**

Chamber size (width x depth x height) <i>* Clear opening width is reduced by 1.5 in. (3.8 cm) due to 3/4 in. (1.9 cm) shelf supports on each side.</i>	25.5* x 26 x 37 in. 64* x 66 x 94 cm
Capacity in cubic feet (liters)	14 (396)
Overall size (width x depth x height)	47.5 x 41.5 x 71 in. 121 x 105 x 180 cm
Electrical: Three phase 50/60 HZ, 208 volts	Heater: 16 kW
Electrical: Three phase 50/60 HZ, 240 volts	Heater: 16 kW
Electrical: Three phase 50 HZ, 380 volts	Heater: 16 kW
Electrical: Three phase 50 HZ, 415 volts	Heater: 16 kW
Electrical: Three phase 60 HZ, 480 volts	Heater: 16 kW
Number of shelves provided	2
Maximum number of shelves	11 on 3" (7.62 cm) centers
Approximate net weight	955 lbs (434 kg)
Approximate shipping weight	1050 lbs (477 kg)

**FUNCTIONAL SPECIFICATIONS**

Time to temperature with no load (50°C to 100°C)	3 minutes
Time to temperature with no load (50°C to 200°C)	9 minutes
Time to temperature with no load (50°C to 260°C)	15 minutes
Time to temperature with no load (50°C to 350°C) <i>* For LCD and LLD only, LCC and LLC max temp is 260°C</i>	35 minutes
Cooling time to temperature with no load (100°C to 65°C) <i>* Based on cooling water supplied at 3 GPM (11.4 lpm), 13°C</i>	41 minutes (air atmos.) 15 minutes (nitrogen atmos.)*
Cooling time to temperature with no load (175°C to 65°C) <i>* Based on cooling water supplied at 3 GPM (11.4 lpm), 13°C</i>	82 minutes (air atmos.) 20 minutes (nitrogen atmos.)*
Cooling time to temperature with no load (260°C to 65°C) <i>* Based on cooling water supplied at 3 GPM (11.4 lpm), 13°C</i>	95 minutes (air atmos.) 25 minutes (nitrogen atmos.)*
Cooling time to temperature with no load (350°C to 65°C) <i>(For LCD and LLD only, LCC and LLC max temp is 260°C)</i> <i>* Based on cooling water supplied at 3 GPM (11.4 lpm), 13°C</i>	116 minutes (air atmos.) 30 minutes (nitrogen atmos.)*
Temperature uniformity at 100°C	+/- 1°C
Temperature uniformity at 175°C	+/- 2°C
Temperature uniformity at 260°C	+/- 3°C
Temperature uniformity at 350°C <i>(For LCD and LLD only)</i>	+/- 3.5°C
Control stability	+/- 0.5°C
LCD/LLD operating range with 20°C ambient - air atmosphere (nitrogen atmosphere)	50°C-350°C (30°C-350°C)
LCC/LLC operating range with 20°C ambient - air atmosphere (nitrogen atmosphere)	50°C-260°C (30°C-260°C)
Maximum load capacity	400 lbs (181 kg)
Maximum shelf capacity	50 lbs (23 kg)
1.5 HP recirculating fan	950 CFM (448 liter/sec)

**OPTIONS**

- ◆ Silicone-free construction
- ◆ PC interface for remote input, monitoring and recording (RS485/422/232)
- ◆ Door interlock switch turns off heater and fan when door is opened
- ◆ Cleaning and triple bagging in clean room prior to shipment
- ◆ End of cycle and high limit audible and visual alarms
- ◆ Process control interlock systems
- ◆ Oxygen concentration monitor system
- ◆ Chart recorders
- ◆ IQ/OQ protocol
- ◆ Three color process stack light
- ◆ Teflon™ shelf supports (LLC and LCC only)
- ◆ Pass through doors
- ◆ Stacking hardware
- ◆ Skirted stands
- ◆ Extra shelves
- ◆ Data acquisition software
- ◆ Non-HEPA filtration model (LLC/LLD)
- ◆ Customization available

**Notes:**

*Uniformity figures are based on a nine-point test conducted in an empty oven after stabilization period. Uniformity can vary slightly depending on unit and operating conditions.*

*Class 100 HEPA filtration will limit ramp rates.*

*Minimum operating temperature and cooling times are based on 20°C ambient temperature measured at the fresh air inlet.*

*Specifications are subject to change without notice. If the existing specifications differ from yours, ask about our customizing capabilities.*

**SERVICE AND TECHNICAL SUPPORT**

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