LCI Furnaces DIVISION OF LOCHABER CORNWALL INC CONTINUOUS BELT IR FURNACE	EQUIPMENT SPECIFICATIONS	DOC NBR: STD - 802-101401-309 | R1 MODEL: LA-309 STANDARD LABORATORY FURNACE SERIAL NBR: ALL SIXE A SHT 1 OF 1

Equipment Model

Model	Base Equipment	Control Zones	Furnace Heated Length	Nominal Furnace Belt Width
LA-309	Continuous Belt Controlled Atmosphere Furnace	3	30 in 762 mm	9.5 in 241 mm

Equipment Arrangement

Phase	Process	Max	Length	Process Gas	Temperature (typ)
Phase 1	IR Furnace, 3 Zones	1000 °C	30 in 762 mm	CDA, N2, FG	450-950 C
Phase 2	Gas Convective Cooling, Exterior Fan Heat Removal (includes transition tunnel)		45 in 1143 mm	CDA or N2	350-40 C

Process Sections

Function	Name	Location	Length	Process Gas	Temperature (typ)
Product Load	Load Station	Entrance load area	15 in 381 mm	none	ambient
IR Furnace	Entr Baffle/Entrance Eductor	Entrance barrier	15 in 381 mm	CDA or N2	80-250 C
	Zone 1	Heating chamber 1	7.5 in 191 mm	N2 or FG	80-975 C
	Zone 2	Heating chamber 1	15 in 381 mm	N2 or FG	80-975 C
	Zone 3	Heating chamber 1	7.5 in 191 mm	N2 or FG	80-975 C
Cooling Section	Transition Tunnel			CDA or N2	80-450 C
	Gas Convection Cooling	Cooling section	30 in 762 mm	CDA or N2	55-360 C
Product Unload	Unload Station	Exit unload area	15 in 381 mm	none	ambient
	Frame Adjustment		2 in 41 mm		
	Total		122 in 3090 mm		

Process Gas

(If Single Gas combine GAS1 & GAS2. Dual Gas: GAS 2 = CDA, N2 or FG to furnace heating zones, GAS1=N2 or CDA to all except zones)

	Actual Conditons		Typical 425 C CDA operation		Typical 850 C, low O2 operation		Max (all flowmeters open)	
Furnace Replenishment Rate			2.0 rep/min		3.0 rep/min		7.3 rep/min	
	Temp °C	Press psi	Typical scfh	Min Flow sL/m	Typical scfh	Typical sL/m	scfh	Max Compressor sL/m
Gas1 Supply	21	70	212	100	203	96	1,715	809
Gas2 Supply	21	70			146	69	833	393
TOTAL PROCESS GAS			212	100	349	165	2,548	1 202

Exhaust Gas

	Temp °C	Press in H_2O	Typical scfh	Min Flow sL/m	Typical scfh	Typical sL/m	scfh	Max Compressor sL/m
GAS 1 & 2, MIX	200	6	212	100	243	115	6,954	3 282

Cabinet Ventilation

Cabinet Ventilation Fans (vent to room or exhaust system)	Flowrate	1100 cfm	1870 m3/h	1100 cfm	1870 m3/h
	Temperature	<86°F	<30°C	<122°F	<50°C
Control Cabinet Ventilation Fans (vents to room)	Flowrate	0 cfm	0 m3/h	0 cfm	0 m3/h
	Temperature	<86°F	<30°C	<104°F	<40°C

Transport System

Belt width	9.5 in 241.3 mm	Belt Edge Heater(s): 30 Pair	
Belt type	Balanced spiral weave		
Product height	2 in (50.8 mm) above belt level.	Baffle plate clearance: 0.5" above belt	
Belt speed range	1-20 ipm	25-500 mm/m	
Conveyor height	36.0 in +/- 1.5 in adjustable	914.4 mm +/-38.1 mm	adjustable

Electrical System

Voltage (as configured)	240 Vac	208 Vac	220 Vac	380 Vac	400 Vac	415 Vac	480 Vac	500 Vac
Frequency, Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Phase	1	3	3	3	3	3	3	3
Power, maximum, kW	27.6	25.7	27.3	19.4	21.0	22.3	25.5	26.2
Current, maximum, A	114.9	71.3	71.6	29.5	30.4	31.0	30.6	30.3
Power,kW, operating @ 850 C	14.1	13.1	13.9	10.0	10.8	11.4	13.0	13.4
Current, A, operating @ 850 C	58.6	36.4	36.5	15.2	15.6	15.9	15.6	15.4

Materials of Construction

Heating Chamber	304 Stainless steel	Cooling	Aluminum, aircraft	Belt	Nichrome V, 80%Ni,20%Cr, <1% Fe
Baffle & Eductor	304 Stainless steel	Belt support	Quartz rod, Quartz tube	Frame	Steel, epoxy or powder coated
Heating element	Quartz, near infrared	Belt Return	UHMW-PE	Cover Panels	18GA steel, epoxy coated

Furnace Dimensions

	Length	Width	Height (floor to stack)	Furnace Sect	Coolg Sectn	Total Net Wt
U.S.	122 in	37 in	80 in +/- 1.5 in	1600 LB	none	1600 LB
Metric	3.1 m	94 cm	203 cm +/- 3.8 cm	730 kg	none	730 kg

Standard Conditions	Pressure	14.7 psia	101.3 kPa	Temperature	70 °F	21 °C