LCI Furnaces
DIVISION OF LOCHABER CORNWALL INC
CONTINUOUS BELT IR FURNACE

EQUIPMENT SPECIFICATIONS

DOC NBR: STD - 802-101401-02 | R2
MODEL: RTC LA-306 STD POWER
SERIAL NBR: ALL | SIZE A | SHT 1 OF 1

Equipment Model

Model	Base Equipment	Control Zones	Furnace Heated Length	Nominal Furnace Belt Width
RTC LA-306	Continuous Belt Controlled Atmosphere Furnace	3	28 in 699 mm	6.0 in 152 mm

Equipment Arrangement

Phase	Process	Max	Length	Process Gas	Temperature (typ)
Phase 1	IR Furnace, 3 Zones	1000 °C	28 in 699 mm	CDA, N2, FG	450-950 C
Phase 2	Gas Convective Cooling, Exterior Fan Heat Removal (includes transition tunnel)		6 in 159 mm	CDA or N2	350-40 C

Process Sections

Function	Name	Location	Length	Process Gas	Temperature (typ)
Product Load	Load Station	Entrance load area	9.5 in 241 mm	none	ambient
IR Furnace	Entr Baffle/Entrance Stack with Educt	Entrance barrier	6.25 in 159 mm	CDA or N2	80-250 C
	Zone 1	Furnace chamber 1	6.6 in 168 mm	N2 or FG	80-975 C
	Zone 2	Furnace chamber 1	14.3 in 363 mm	N2 or FG	80-975 C
	Zone 3	Furnace chamber 1	6.6 in 168 mm	N2 or FG	80-975 C
Cooling Section	Trans Tunnel	Heat/cool barrier	6 in 159 mm	none	360 °C
	Gas Convection Cooling	Cooling section	40 in 1016 mm	N2	55-360 C
Product Unload	Unload Station	Exit unload area	9.5 in 241 mm	none	ambient
	Frame Adjustment		3.0 in 76 mm		
	Total		102.0 in 2591 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 950 C, low O2 operation		Max (all flowmeters open)	
Furnace Replenishment Rate			2.0 rep/min		3.7 rep/min		3.9 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	138	65	238	113	838	395
Gas2 Supply	21	70	32	15	70	33	375	177
TOTAL PROCESS GAS			170	80	308	146	1,213	572

Exhaust Gas

	Temp °C	Press in H_2O	Typical scfh	Min Flow sL/m	Typical scfh	Typical sL/m	scfh	Maximum Exhaust sL/m
GAS 1 & 2, MIX	200	6	170	80	202	95	348	164

Cabinet Ventilation

Cabinet Ventilation Fans (vent to room or exhaust system)	Flowrate	550 cfm	930 m3/h	550 cfm	930 m3/h
	Temperature	<86°F	<30°C	<122°F	<50°C
Control Cabinet Ventilation Fans (vents to room)	Flowrate	212 cfm	360 m3/h	212 cfm	360 m3/h
	Temperature	<86°F	<30°C	<104°F	<40°C

Transport System

Belt width	6.0 in 152.4 mm	Belt Edge Heater(s):	none	
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 or 2-40 ipm		25-500 mm/m or 50-500 mm/min	
Conveyor height	36.0 in +/- 1.5 in adjustable		914.4 mm +/-38.1 mm	adjustable

Electrical System

	Single Phase				3-Phase			
Voltage (as configured)	208 Vac	220 Vac	230 Vac	240 Vac	208 Vac	220 Vac	380 Vac	415 Vac
Frequency, Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Power, maximum, kW	14.0	14.3	14.6	15.0	14.0	14.3	14.3	15.0
Current, maximum, A	67.3	65.2	63.7	62.3	38.9	37.7	37.7	36.0
Power, kW @ 425 C	6.3	6.5	6.6	6.7	6.3	6.5	6.5	6.7
Current, A @ 425 C	30.4	29.5	28.7	28.1	17.6	17.0	17.0	16.2
Power, kW @ 950 C	8.3	8.6	8.7	8.9	8.3	8.6	8.6	8.9
Current, A @ 950 C	40.1	38.9	37.9	37.1	23.2	22.4	22.4	21.4

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.	102 in	18 in	80 in +/- 1.5 in	800 LB	none	800 LB
Metric	2.6 m	46 cm	203 cm +/- 3.8 cm	370 kg	none	370 kg

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