

 LCI Furnaces DIVISION OF LOCHABER CORNWALL INC CONTINUOUS BELT IR FURNACE	EQUIPMENT SPECIFICATIONS	DOC NBR: 13-005 - 802-101401 R2
		MODEL: RTC LA-306 CUSTOMER:
		SERIAL NBR: 850012 SHT 1 OF 1 PRNT 12/12/23

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) Annealing zones	1000 °C	28 in 711 mm	N2	50-1000 C
Phase 2	Rapid Cool Transition Tunnel	850 °C	6 in 152 mm	N2	460-630 C
	Gas Convective Cooling, Diffusion Chamber	460 °C	40 in 1016 mm	N2	35-460 C

Process Sections

Function	Name	Location	Length	Process Gas	Avg Temp Range (typ)	
Product Load	Load Station	Entrance load area	9.5 in 241 mm	none	ambient	
	IR Furnace	Entr Baffle	Entrance barrier	6.25 in 159 mm	Gas1	50-350 C
		Zone 1	Furnace chamber 1	6.6 in 168 mm	Gas2	600-950 C
		Zone 2	Furnace chamber 1	14.3 in 363 mm	Gas2	800-950 C
Cooling	Zone 3	Furnace chamber 1	6.6 in 168 mm	Gas2	850-950 C	
	Trans Tunnel	Heat/cool barrier	6.25 in 159 mm	Gas1	630-460 C	
Product Unload	Gas Convection Cooling	Cooling section	40.0 in 1016 mm	Gas1	240 °C	
	Unload Station	Exit unload area	9.5 in 241 mm	none	ambient	
Frame Adjustment	Frame Adjustment		2.5 in 64 mm			
	Total		101.5 in 2578 mm			

Process Gas

Gas1=Air or Nitrogen, Gas2=Air, Nitrogen or FG (non-flammable Forming Gas)							
Actual Conditions		Typical		Typical (Low O2)		Max (all flowmeters open)	
Furnace Replenishment Rate		2.0 rep/min		4.3 rep/min		6.5 rep/min	
	Temp °C	Press psi	Min Flow scfh	Min Flow sL/m	Typical scfh	Typical sL/m	Max Compressor sL/m
Gas2	21	70	43	20.2	210	99	190
Gas1	21	70	143	67	175	83	379
TOTAL PROCESS GAS			185	88	385	182	569

Exhaust Gas

	Temp °C	Press in H ₂ O	Min Flow scfh	Min Flow sL/m	Typical scfh	Typical sL/m	Maximum Exhaust sL/m
N2 & FG mix	200	6	93	44	173	82	164

Cabinet Ventilation

Cabinet Ventilation Fans (vent to room or exhaust system)	Flowrate	550 cfm 930 m3/h
	Temperature	<86°F <30°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 above belt level.	Baffle plate clearance: 0.5" above belt
Belt speed range	1-20 ipm	50-1000 mm/m
Conveyor height	36.0 in +/- 1.5 in adjustable	914.4 +/-0 adjustable

Electrical System

required	208 Vac, 60 Hz, 1 Ph
Maximum power required	13.8 kW, 66.6 A
Typical (operating) power required	7.4 kW, 35.6 A

Materials of Construction

Heating Chamber	Aluminum, aircraft	Cooling	Aluminum, aircraft	Belt	Nichrome V, 80%Ni, 20%Cr, 51%Fe
Baffle & Eductor	Aluminum, aircraft	Belt support	Quartz rod, Quartz tube	Frame	Steel, 2-prt urethane or powder coated
Heating element	Quartz, near infrared	Belt Return	UHMW-PE	Cover Panels	18GA Steel, urethane or powder 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
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