

 LCI Furnaces DIVISION OF LOCHABER CORNWALL INC CONTINUOUS BELT IR FURNACE	EQUIPMENT SPECIFICATIONS	DOC NBR: 25-003 - 802-101401 R1		
		MODEL: RTC LA-306		Released 10/14/25
		SERIAL NBR: 840081	SHT 1 OF 1	PRNT 10/14/25

Equipment Model		Application: Low O2 Glass Plate		
Model	Base Equipment	Control Zones	Furnace Heated Length	Nominal Furnace Belt Width
RTC LA-306	Continuous Belt Controlled Atmosphere Furnace	3	28 in 70 cm	6.0 in 15 cm

Equipment Arrangement					
Phase	Process	Max	Length	Process Gas	Temperature (range)
Phase 1	IR Furnace, 3 Zones	1000 °C	28 in 70 cm	N2	100-960 C
Phase 2	Transition Tunnel		15 in 38 cm	N2	100-850 C
	Gas Convective Cooling, Exterior Fan Heat Removal		30 in 76 cm	N2	25-360 C

Process Sections					
Function	Name	Location	Length	Process Gas	Temperature (typ)
	Load Station	Entrance load area	9.5 in 24 cm		ambient
IR Furnace	ENTRANCE BAFFLE	Entrance barrier	6.3 in 16 cm	N2	338 °C
	ZONE 1	Heating chamber 1	6.6 in 17 cm	N2	650 °C
	Z2&Z3	Heating chamber 1	20.9 in 53 cm	CDA	780 °C
Cooling	TRANS TUNNEL, NO ED	Heat/cool barrier	6.3 in 16 cm	N2	700 °C
	CACT-COOLING TUNNEL	Cooling section	40.0 in 102 cm	N2	350 °C
Product Unload	Unload Station	Exit station	9.5 in 24 cm		ambient
	Unload Table Extension	Exit unload extension	30.0 in 76 cm		ambient
	Frame Adjustment		3.0 in 8 cm		
	Total		132.0 in 335 cm		

Process Gas							
	Actual Condions		Typical	Typ Brazing (Low O2)		Max (all flowmeters open)	
Furnace Replenishment Rate			2.0 rep/min	2.4 rep/min		9.5 rep/min	
	Temp °C	Press psi	Min Flow scfh	Min Flow sL/m	Typical scfh	Typical sL/m	Max Compressor sL/m
N2 Supply	21	70	163	77	282	133	730
TOTAL PROCESS GAS			163	77	282	133	730

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 & none mix	200	6	17	8	31	15	1 436

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 15.2 cm	Belt Edge Heater(s): none	
Belt type	Balanced spiral weave	Motor: Bodine 1/50 HP	
Product height	2 in (5.1 cm) above belt level.	Baffle plate clearance: 0.25" above belt	
Belt speed range	1 - 20 inches per minute	2.54 - 50.8 cm per minute	
Conveyor height	36.0 in +/- 1.5 in adjustable	91.4 cm	+/- 3.8 cm adjustable

Electrical System	
Voltage required	208 Vac, 60 Hz, 3 Ph
Maximum power required	13.9 kW, 38.5 A
Typical (operating) power required	7 kW, 19.4 A

Materials of Construction					
Heating Chamber	Aluminum, aircraft	Cooling	Aluminum, aircraft	Belt	Nichrome V, 80%Ni,20%Cr, <1% 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
Furnace, English	Net	132 in	18 in	65 in +/- 1.5 in		
On Skid, English	Shock-mount	142 in	36 in	75 in		
Crate, English	Shock-mount Base	144 in	38 in	81 in		

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

 LCI Furnaces DIVISION OF LOCHABER CORNWALL INC	DATA SHEET		DOC NBR: 25-003	802-101501	R0
	IR FURNACE SYSTEM POWER & CURRENT		MODEL: RTC LA-306	APVL: SLB	3/30/16
			SERIAL NBR: 840081	CONF: JMC	4/18/25
STANDARD POWER			PRINT: 10/14/25	SHT 1	of 1

INPUT TABLE	Entry OK?	VALID
Enter Line Voltage: (208,220,380,400,415,480)	208	Vac TRUE
Limit Lamps to Max Rating? (Y/N)	Y	TRUE
Line Frequency (50/60)	60	Hz TRUE
Number of Phases:	3	Φ TRUE
Lamp Length (6, 9, 15, 24, 36)	6	inches TRUE
Typical Operating %	49	% TRUE

SUMMARY OF RESULTS	
Max Power:	13.8 kW
Max Current:	38.4 A
Typical Power:	7.0 kW
Typical Current:	19.4 A

HARDWARE	
Lamps: 28	SCRs: 3
EMs: 12 LEDs	TCs: 3
EM IDC5: n/a	
Nbr strings 12	
Nbr Lamps in 10" zone: 4	AOV-25: none AITM: none

CONFIGURATION	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	Zone 10	Zone 11	Zone 12	Totals
Length (6,6,7,5,10,14,3,15,20,30) in.	6.6	14.3	6.6										28 in.
Length Entry OK?	TRUE	TRUE	TRUE										
(F)urn., Furn. (1) SCR-Zn, (D)ryer	1	1	1										3
Zone Type OK?	TRUE	TRUE	TRUE										
No. Lamps in Series/String (1-5)	2	3	2										
Lamps/String OK?	TRUE	TRUE	TRUE										
No. Lamps in Top/Bottom Power	4/4	6/6	4/4										Plenum: 110
	F	H	F										
SCR PHASE	Zone Entry OK?	VALID	VALID	VALID									Lamp Balance (kW)
Top Lamp Phase (1/2/3):	1	2	3										Phase 1: 4.8 Phase 2: 3.9 Phase 3: 4.8 ← Vrms
SCR POWER													
Rated Lamp Voltage	104	104	104										
Max. Lamp Wired Voltage	104	69	104										
50% Power SCR Cal Span Setting	147	147	147										
Max. Lamp Wired Power (W)	600	321	600										
No. Strings per SCR	4	4	4										
Max. Current per String (A)	5.8	4.6	5.8										
No. Lamps in Zone	8	12	8										28
No. SCRs in Zone	1	1	1										3
No. Strings in Furnace Zones	4	4	4										12
													Nbr. lamp strings per element monitor: 4
Top Lamp Power (kW)	4.8	3.9	4.8										
Bottom Lamp Power (kW)													
Total Power/Zone (kW)	4.8	3.9	4.8										13.5
Current Required Top SCR (A)	23.1	18.5	23.1										
Current Required Bottom SCR (A)													
Color Temp (K) (nominal: 2500K)	2500	2152	2500										
Peak Wavelength (μm)	1.16	1.35	1.16										
Estimated Lamp Life (hrs)	6000 hr	Long	6000 hr										
Lumen Output vs. Rated (%)	100	27	100										

Furnace Total	Number of Item?	Voltage (Vac)	Current (Amps)	Power (kW) Max	Power (kW) Typical	Phase Assigned	EH in EM? (y/n)	Other Items
Lamps	28	208	as above	13.5	6.6	as above	N	10" Cabinet or CACT Fans, 117 Vac, 0.30/029 A for 50/60 Hz
PC, Monitor	0	117	1.3			1	TRUE	4" Box (Muffin) Fans, product cooling, 117 Vac, 0.16 A
Belt, Opto22, EM	1	117	2.1	0.2	0.2	1		Cross-flow Fans, product cooling, 230 Vac, 1.27 A max
UC (Pump & Gen)		117	10.0					Lower Cabinet Blowers (Impellers), 230 Vac, 0.72 A max
UC (Tank Heater)		117	8.4					H2 Igniters, 120 Vac, 5 A 24 Vdc PS, 120 Vac, 2 A
UCD (Blower)		117	2.0					No more than 8 SCRs/phase per TRx xfmr 24 Vac secondary
UCD (Heater)		208	6.9					TR1: 1 TR2: 1 TR3: 1
Edg Htr 1 Length								EH1 Ω: Current: Cal Span:
Edg Htr 2 Length								EH2 Ω: Current: Cal Span:
Edg Htr 3 Length								EH3 Ω: Current: Cal Span:
Cabinet Vent Fan 10"	1	117	0.29	0.0	0.0	1	OK	Cabinet/CACT/Control Box Fans: 1.25 A
CACT Fans 10"	0	117	0.29					
CACT Fans 4"	4	117	0.16	0.1	0.1	1	OK	
Control Box Fans 4"	2	117	0.16	0.0	0.0	1	OK	
Prod Cooling fans		117	0.16					
Furnace Totals:				13.8	7.0			

PHASE	PHASE BALANCING			TOTAL
	1	2	3	
LAMP PWR, kW	4.8	3.9	4.8	13.5
EH/OTHER	0.4	0.0	0.0	0.4
TOTAL	5.2	3.9	4.8	13.8

 LCI Furnaces DIVISION OF LOCHABER CORNWALL INC	FLOWMETER SETTINGS			DOC NBR: 25-003 - 802-101460-01	R0
				MODEL: RTC LA-306	DWN: SLB 03/31/16
				SERIAL NBR: 840081	ENGR: JMC 10/14/25
				PRINT: 14Oct25	PM: JMC 10/14/25

PROCESS GAS

GAS1 Nitrogen
 GAS2 none

SETTINGS FOR STANDARD FLOW: SINGLE GAS MODEL

Replenish Rate is the number of times/minute that the furnace (or a section of the furnace) evacuates its gas

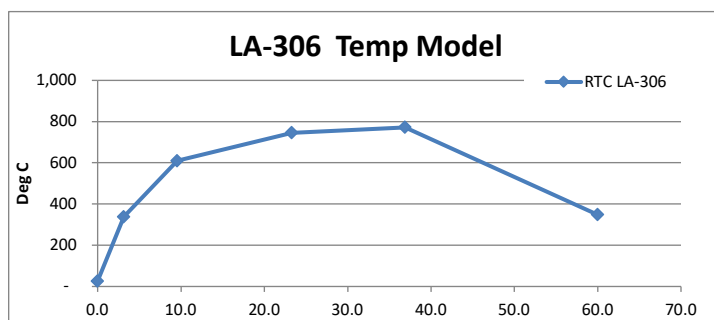
Replenish Rate	Furnace or Section Replenishes/Hour	Time to Refresh Furnace or Section
1 times/minute	60 times/hour	60 seconds
2 times/minute	120 times/hour	30 seconds
3 times/minute	180 times/hour	20 seconds
4 times/minute	240 times/hour	15 seconds

Different sections of the furnace can be replenished at different rates, if required

Flowmeters graduated in: sL/m (lg=RMC flowmeters, sm=small RMA flowmeters)

BALANCE					1 per Minute		2			
60.0 scfh difference => Positive pressure in furnace to purge O2					Replenish Rate Flow		Desired Replenish Rate per Minute		Initial Flowmeter Setting	Initial Flowmeter Setting
28 sL/m grad 79.4% incr (decr) of inflows over outflows					Setting		Rate per Minute		scfh grad	sL/m grad
No.	Location	Label	deg C	Metered Gas	Flowmeter Size L/m	Setting sL/m grad			scfh grad	sL/m grad
1	BESE Entrance barrier	ENTRANCE BAFFLE		N2	100	2.1	2.0		8.7	4
2	Z1 Heating chamber 1	ZONE 1	650	N2	100	2.2	9.2		42.3	20
3	Z2-3 Heating chamber 1	ZONES 2 & 3	780	N2	100	6.1	3.3		42.3	20
4	TT Heat/cool barrier	TRANS TUNNEL, NO ED	700	N2	100	1.3	2.0		5.5	3
5	CACT Cooling section	COOLING		N2	100	10.4	2.2		48.8	23
6	HC Heat chamber sides	LAMP SEALS		N2	100	12.5	1.8		47.0	22
						22	3.2		147.6	70

EXHAUST						distr %	scfh grad	sL/m grad
7	EEBE Entrance Stack	ENTRANCE STACK		N2	100	100%	2.6	1.2
						100%	2.6	1.2



Furnace Balance			scfh	sL/m
Gas Inflow to furnace			160	76
Gas to Eductors			3	1
Total Gas Required			163	77
- Stack Exhaust Flow			36	17
Net inflow			127	60
			cu ft	L
Furnace internal volume			2	65

PROCESS GAS SUPPLY REQUIREMENTS			Temp °C	Press psi	Gas	scfh	sL/m
1	Gas 1	All furnace areas except CDA Mix	21	70	N2	201	95
2	Gas 2	Z2 & 3	21	70	none	0	0
			STP = 21C, 1 atm		Total	201	95

 LCI Furnaces DIVISION OF LOCHABER CORNWALL INC	FLOWMETER SETTINGS			DOC NBR: 25-003 - 802-101460-02	R0
				MODEL: RTC LA-306	DWN: SLB 03/31/16
				SERIAL NBR: 840081	ENGR: JMC 10/14/25
				PRINT: 14Oct25	PM: JMC 10/14/25

PROCESS GAS

GAS1 Nitrogen
 GAS2 none

SETTINGS FOR STANDARD FLOW: SINGLE GAS MODEL
Silver Allow SS Brazing

Replenish Rate is the number of times/minute that the furnace (or a section of the furnace) evacuates its gas

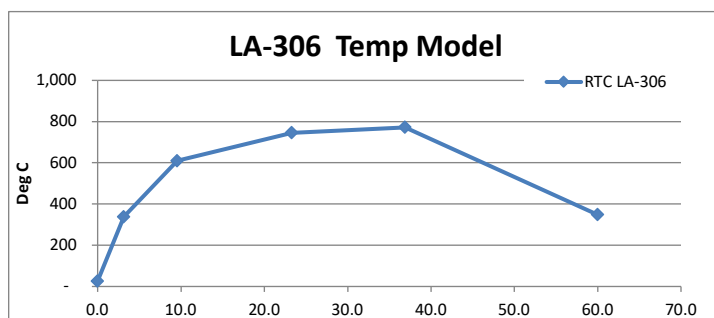
Replenish Rate	Furnace or Section Replenishes/Hour	Time to Refresh Furnace or Section
1 times/minute	60 times/hour	60 seconds
2 times/minute	120 times/hour	30 seconds
3 times/minute	180 times/hour	20 seconds
4 times/minute	240 times/hour	15 seconds

Different sections of the furnace can be replenished at different rates, if required

Flowmeters graduated in: sL/m (lg=RMC flowmeters, sm=small RMA flowmeters)

BALANCE						1 per Minute				
185 scfh difference => Positive pressure in furnace to purge O2						Replenish				
87 sL/m grad 140.2% incr (decr) of inflows over outflows						Rate Flow		Desired Replenish		
No.	Location		Label	deg C	Metered Gas	Size L/m	Setting sL/m grad	Rate per Minute	Initial Flowmeter Setting scfh grad	Initial Flowmeter Setting sL/m grad
1	BESE	Entrance barrier	ENTRANCE BAFFLE		N2	100	2.1	1.0	4.2	2
2	Z1	Heating chamber 1	ZONE 1	650	N2	100	2.2	23.0	106.0	50
3	Z2-3	Heating chamber 1	ZONES 2 & 3	780	N2	100	6.1	8.3	106.0	50
4	TT	Heat/cool barrier	TRANS TUNNEL, NO ED	700	N2	100	1.3	0.8	2.2	1
5	CACT	Cooling section	COOLING		N2	100	10.4	2.2	48.8	23
6	HC	Heat chamber sides	LAMP SEALS		N2	100	12.5	1.8	47.0	22
							22	5.7	267.1	126

EXHAUST						distr %	scfh grad	sL/m grad
7	EEBE Entrance Stack	ENTRANCE STACK		N2	100	100%	2.2	1.0
						100%	2.2	1.0



Furnace Balance			scfh	sL/m
Gas Inflow to furnace			280	132
Gas to Eductors			2	1
Total Gas Required			282	133
- Stack Exhaust Flow			31	15
Net inflow			251	118
Furnace internal volume			cu ft	L
			2	65

PROCESS GAS SUPPLY REQUIREMENTS				Temp °C	Press psi	Gas	scfh	sL/m
1	Gas 1	All furnace areas except CDA Mix		21	70	N2	201	95
2	Gas 2	Z2 & 3		21	70	none	0	0
				STP = 21C, 1 atm		Total	201	95