

# Stein GYRoCOMPACT® II-600 Oven

Specifications



# Stein GYRoCOMPACT® II-600 Oven

The Stein GYRoCOMPACT II Oven represents a new generation of spiral ovens. It has been redesigned from the ground up, keeping in mind the products of today while providing the tools that will accommodate those of tomorrow.



## Improved Product Yield

- Better oven steam containment combined with high circulation fan speeds to maintain higher moisture content in spiral stack
- Improved annular flow through the stack to produce even product cross-belt temperature
- Right Process (heat transfer mechanism) at the Right Time ensures the shortest cook time; thereby improving yields



## Enhanced and Uniform Color Development

- Automatic selectable up-flow, down-flow or Dynamic Airflow Control (DAC™) airflow patterns in the belt stack
- Variable mesh belt to ensure uniform cook and color development
- Higher available airflow volumes ensure optimum color development and higher throughput capacities



## Reliability and Cost of Ownership

- Up to 30% reduction in maintenance expenses over previous models
- Improved drive mechanism with redesigned chain and lubrication system
- Longer glidestrip and rail life
- Reduced oil consumption in comparison to previous models
- Simpler and robust steam control mechanism with the new Humitrol® III
- Redesigned heat exchangers withstand the harshest of processing conditions



## Hygiene and Food Safety

- Minimal use of hollow structural members in the product zone
- Sloped oven roof prevents standing water
- Self-stacking belt eliminates need for supporting structural members thereby ensuring comprehensive CIP without manual intervention
- Improved CIP system with dedicated zone for filthier zones inside the oven with lower water usage and shorter CIP cycles
- Newly designed belt washing system with two step cleaning for efficient residue removal
- Wider footprint featuring extra space inside oven enclosure to allow access to all oven areas
- Premium access enclosure option with multiple doors facilitate access and inspection for cleaning and maintenance personnel
- Finless heat exchangers offers high hygiene standard and stay clean preserving cooking performance



## Versatility

- Tiered offering allows oven to be configured to specific customer needs and available budget
- Available with Indirect Gas or Thermal Fluid heat sources. Electric heat source available upon request
- Pre-plan your future capacity needs, expand your production output and variety without expanding your plant
- Available in a range of tier heights from 12 to 20 tiers
- Pre-wired oven with built-in controls reduces installation time and costs

# GYRoCOMPACT II-600 Thermal Fluid (TF) Specifications

Maximum Steam in Oven Box					
	3,000 lb/hr	1,360 kg/hr			
Cold Water Requirement					
Operational	Door Cooling	Single Door Enclosure Multiple Door Enclosure		Min. 0.33 GPM Min. 1 GPM	1.25 l/min 3.8 l/min
	Cool Down Bar for Heat Exchanger			Min. 2 GPM for 0.5 hour after production	7.6 l/min for 0.5 hour after production
	Ball Rinse			2 - 4 GPM for 0.5 hour during CIP	7.6 - 15.2 l/min for 0.5 hour during CIP
CIP	Main Oven Cabinet	2 fills of min. 400 Gallon ea. @ 140GPM	2 fills of min. 1,520 liter ea. @529 l/min	800 Gallon	3,040 liter
Hot Water Requirement					
Intermittent	For High Pressure Touchless Belt Washing System			17 GPM @ 160°F	64 l/min @71°C
	For Low Pressure Brushes			3 GPM @ 160°F	11.3 l/min @71°C
Utility Piping Requirements					
Thermal Fluid Conn. Oven	3 in ips sch 40 supply 3 in ips sch 40 return				
Oven Box Steam Line	Ø 3 in ips Supply (Recom- mended) with Ø 2 in ips Drop @ The Oven	Saturated Steam @ 3000 lb/h	Saturated Steam @ 1361 kg/h	60 - 80 PSI	4.1 - 5.5 bar
Water Line Pressure (Door Cooling/Cool Down/Ball Rinse)	Ø 0.75 in ips Drop	Cold Water		40 PSI	2.8 bar
Water Line (High Pressure Belt Wash)	Ø 1.5 in ips Drop	Hot Water		40 PSI	2.8 bar
Water Line (Low Pressure Belt Wash)	Ø 1 in ips Drop	Hot Water		40 PSI	2.8 bar
Water Line (CIP Fill)	Ø 2 in ips sch 40 Reduced to Ø 1.5 in ips at CIP Tank Solenoid Valve	Cold Water		40 PSI	2.8 bar
Air Supply Main (Steam Valve and Humitrol)	Ø 0.5 in Supply to Ø 0.25 in Connections	Filtered Air Required - 2.25 SCFM	Filtered Air Required - 3.82 m³/h	80 PSI	5.5 bar
Air Supply (Thermal Valve - Optional)	Ø 0.5 in Supply to Ø 0.25 in Connections	Filtered Air Required - 2 SCFM	Filtered Air Required - 3.4 m³/h	80 PSI	5.5 bar
Air Supply (Fat Rendering System - Optional)	Ø 0.5 in supply to Ø 0.25 in connections	Filtered Air Required - 4 SCFM	Filtered Air Required - 6.8 m³/h	60 PSI	4.1 bar
Air Supply (Lecithin Applicator - Optional)	Ø 0.75 in Supply to Ø 0.25 in Connections	Filtered Air Required - 16 SCFM	Filtered Air Required - 127.2 m³/h	60 PSI	5.5 bar
Exhaust Vent Requirements					
Exhaust Duct Size - Infeed	Ø 12 in	Ø 305 mm		3,000 CFM	85.0 m³/min
Exhaust Fan Inlet Connection - Infeed	Ø 13.50 in	Ø 343 mm			
Exhaust Fan Discharge Connection - Infeed	13.63 in x 9.38 in Rectangle	346 mm x 238 mm Rectangle			
Exhaust Duct Size - Discharge	Ø 12 in	Ø 305 mm		3,000 CFM	85.0 m³/min
Exhaust Fan Inlet Connection - Discharge	Ø 13.50 in	Ø 343 mm			
Exhaust Fan Discharge Connection - Discharge	13.63 in x 9.38 in Rectangle	346 mm x 238 mm Rectangle			

# GYRoCOMPACT II-600 Thermal Fluid (TF) Specifications

Model		GCO II-600 TF	
		Oven Cabinet	
Oven Heating Capacity - 2.1MBTU/hr - Optional	Heat Exchanger Capacity at 572°F (300°C) Thermal Fluid Temperature	2,060,000 BTU/hr 615 kW-hour	
	Thermal Fluid Flow Rate	200 GPM	757 l/min
	Thermal Fluid Minimum Pressure	35 PSI	2.4 bar
Oven Heating Capacity - 1.7MBTU/hr - Optional	Heat Exchanger Capacity at 572°F (300°C) Thermal Fluid Temperature	1,700,000 BTU/hr 498 kW-hour	
	Thermal Fluid Flow Rate	200 GPM	757 l/min
	Thermal Fluid Minimum Pressure	35 PSI	2.4 bar
Oven Heating Capacity - 1.1MBTU/hr - Optional	Heat Exchanger Capacity at 572°F (300°C) Thermal Fluid Temperature	1,120,000 BTU/hr 328.2 kW-hour	
	Thermal Fluid Flow Rate	100 GPM	378.5 l/min
	Thermal Fluid Minimum Pressure	35 PSI	2.4 bar
Number of Tiers	100 mm Link Height	12 Tiers	
	100 mm Link Height	16 Tiers	
	80 mm Link Height	15 Tiers	
	80 mm Link Height	20 Tiers	
Max Usable Product Height	100 mm Link	3.35 in	85 mm
	80 mm Link	2.56 in	65 mm
Belt Specification	Variable Mesh 80 or 100 mm Link Height	M9/M13 w/ Big Foot FRIGoBELT	
Max Usable Belt Width		24.4 in	620 mm
Belt Length		23.0 ft per tier	7 m per tier
Cooking Modes		Upflow	
		Downflow	
		Dynamic Airflow Control (DAC)	
Belt Speed		6.5 - 75 ft/min	2 - 23 meters/min.
Maximum Air Temperature		450°F	232°C
Humidity Range		20% to 85% MV	

Model		GCO II-600 TF				
Electrical Service • Main Oven Cabinet			380 - 415V@50 Hz	380V@60 Hz	460V@60 Hz	575V@60 Hz
CIP Pump	30 HP	22.5 kW	41.5A	45.0A	40.0A	32.0A
Belt Wash Pump	10/15 HP	7.5/11.2 kW	20.5A - 15 HP	16.0A - 10 HP	14.0A - 10 HP	17.0A - 15 HP
Circulation Fan 40 in - Optional	40 HP - Optional	30 kW - Optional	54.6A	60.0A	52.0A	41.0A
Circulation Fan 33 in - Optional	30 HP - Optional	22.5 kW - Optional	43.5A	45.0A	40.0A	32.0A
Conveyor Drive Inner	1.5 HP	1.1 kW	3.3A	2.9A	3.0A	2.4A
Conveyor Drive Outer	3 HP	2.2 kW	5.0A	5.2A	4.8A	3.9A
Exhaust Fan 3000 CFM (85.0 m³/min) (2 required)	3 HP	2.2 kW	6.0A	5.5A	5.5A	4.5A
Take-off Conveyor Motor	0.50 HP	0.375 kW	1.3A	1.2A	1.1A	0.9A
Transfer Conveyor - Optional	1 HP	0.8 kW	2.3A	2.1A	2.1A	1.7A
	220V Controls		220V Controls	220V Controls	220V Controls	220V Controls
Actuator DAC	1/4 turn		0.9A	0.9A	0.9A	0.9A

# GYRoCOMPACT II-600 Indirect Gas (IG) Specifications

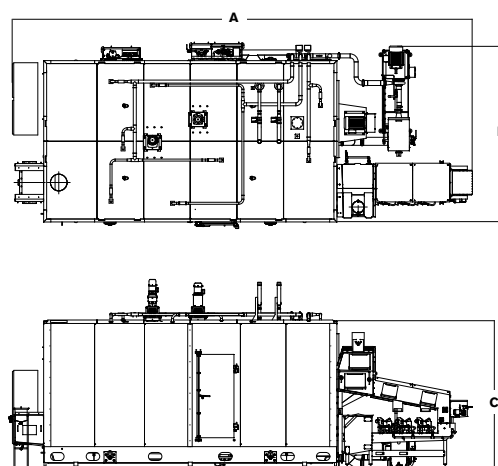
Model		GCO II-600 IG			
Maximum Steam in Oven Box					
All oven modes	3,000 lb/hr	1,360 kg/hr			
Cold Water Requirement					
Operational	Door Cooling	Single Door Enclosure Multiple Door Enclosure		Min. 0.33 GPM Min. 1 GPM	1.25 l/min 3.8 l/min
	Cool Down Bar for Heat Exchanger			Min. 2 GPM for 0.5 hour after production	Min. 7.6 l/min for 0.5 hour after production
	Ball Rinse			2 - 4 GPM for 0.5 hour during CIP	7.6 - 15.2 l/min for 0.5 hour during CIP
CIP	Main Oven Cabinet	2 fills of min. 400 Gallon ea. @140GPM	2 fills of min. 1,520 liter ea. @529 l/min	800 Gallon	3,040 liter
Hot Water Requirement					
Intermittent	For High Pressure Touchless Belt Washing System			17 GPM @160°F	64 l/min @71°C
	For Low Pressure Brushes			3 GPM @160°F	11.3 l/min @71°C
Utility Piping Requirements					
Natural Gas Connection to Oven	Supply - Ø 2 in ips sch 40 Reduced to Ø 1.5 in ips at Gas Train Cabinet			7.5 to 10 PSI	
	Gas Line Vent to Atmosphere - 1.5 in ips sch 40 Vent Thru Roof				
	Non-powered Gas Line Vent - 0.75 in ips sch 40 Vent Thru Roof				
Oven Box Steam Line	Ø 3 in ips Supply (Recommended) with Ø 2 in ips Drop @ The Oven	Saturated Steam @3000 lb/h	Saturated Steam @1361 kg/h	60 - 80 PSI	4.1 - 5.5 bar
Water Line Pressure (Door Cooling/Cool Down/Ball Rinse)	Ø 0.75 in ips Drop	Cold Water		40 PSI	2.8 bar
Water Line (High Pressure Belt Wash)	Ø 1.5 in ips Drop	Hot Water		40 PSI	2.8 bar
Water Line (Low Pressure Belt Wash)	Ø 1 in ips Drop	Hot Water		40 PSI	2.8 bar
Water Line (CIP Fill)	Ø 2 in ips sch 40 Reduced to Ø 1.5 in ips at CIP Tank Solenoid Valve	Cold Water		40 PSI	2.8 bar
Air Supply Main (Steam Valve and Humitrol)	Ø 0.5 in Supply to Ø 0.25 in Connections	Filtered Air Required - 2.25 SCFM	Filtered Air Required - 3.82 m³/h	80 PSI	5.5 bar
Air Supply (Thermal Valve - Optional)	Ø 0.5 in Supply to Ø 0.25 in Connections	Filtered Air Required - 2 SCFM	Filtered Air Required - 3.4 m³/h	80 PSI	5.5 bar
Air Supply (Fat Rendering System - Optional)	Ø 0.5 in Supply to Ø 0.25 in Connections	Filtered Air Required - 4 SCFM	Filtered Air Required - 6.8 m³/h	60 PSI	4.1 bar
Air Supply (Lecithin Applicator - Optional)	Ø 0.75 in Supply to Ø 0.25 in Connections	Filtered Air Required - 16 SCFM	Filtered Air Required - 27.2 m³/h	60 PSI	5.5 bar
Exhaust Vent Requirements					
Exhaust Duct Size - Infeed	Ø 12 in	Ø 305 mm		3,000 CFM	85.0 m³/min
Exhaust Fan Inlet Connection - Infeed	Ø 13.50 in	Ø 343 mm			
Exhaust Fan Discharge Connection - Infeed	13.63 in x 9.38 in Rectangle	346 mm x 238 mm Rectangle			
Exhaust Duct Size - Discharge	Ø 12 in	Ø 305 mm		3,000 CFM	85.0 m³/min
Exhaust Fan Inlet Connection - Discharge	Ø 13.50 in	Ø 343 mm			
Exhaust Fan Discharge Connection - Discharge	13.63 in x 9.38 in Rectangle	346 mm x 238 mm Rectangle			
Exhaust Duct Size - Combustion	Minimum Two Ø 6 in with Transition to One Ø 16 in	Minimum Two Ø 152 mm with Transition to One Ø 406 mm		3,000 CFM	85.0 m³/min
Exhaust Fan Inlet Connection - Combustion	Ø 16.50 in	Ø 419.1 mm			
Exhaust Fan Discharge Connection - Combustion	13.63 in X 9.38 in Rectangle	346.2 mm X 238.3 mm Rectangle			

# GYRoCOMPACT II-600 Indirect Gas (IG) Specifications

Model	GCO II-600 IG					
				Oven Cabinet		
Oven Heating Capacity - 2.7MBTU/hr	Natural Gas @ 7.5 to 10 PSI			2,700,000 BTU/hr (input gas) 2,100,000 BTU/hr (oven)	791 kW-hour (input gas) 615 kW-hour (oven)	
Number of Tiers	100 mm Link Height			12 Tiers		
	100 mm Link Height			16 Tiers		
	80 mm Link Height			15 Tiers		
	80 mm Link Height			20 Tiers		
Max Usable Product Height	100 mm Link			3.35 in	85 mm	
	80 mm Link			2.56 in	65 mm	
Belt Specification	Variable Mesh 80 or 100 mm Link Height			M9/M13 w/ Big Foot FRIGoBELT		
Max Usable Belt Width				24.4 in	620 mm	
Belt Length				23 ft per tier	7 m per tier	
Cooking Modes				Upflow		
				Downflow		
				Dynamic Airflow Control (DAC)		
Belt Speed				6.5 - 75 ft/min	2 - 23 meters/min	
Maximum Air Temperature				450°F	232°C	
Humidity Range				20% to 85% MV		
Electrical Service • Main Oven Cabinet			380 - 415V@50 Hz	380V@60 Hz	460V@60 Hz	575V@60 Hz
CIP Pump	30 HP	22.5 kW	41.5A	45.0A	40.0A	32.0A
Belt Wash Pump	10/15 HP	7.5/11.2 kW	20.5A - 15 HP	16.0A - 10 HP	14.0A - 10 HP	17.0A - 15 HP
Circulation Fan 40 in - Optional	40 HP - Optional	30 kW - Optional	54.6A	60.0A	52.0A	41.0A
Exhaust Fan - Combustion 3000 CFM (85.0 m³/min)	3 HP	2.2 kW	6.0A	5.5A	5.5A	4.5A
Combustion Blower	3 HP	2.2 kW	5.0A	5.2A	4.8A	3.9A
Conveyor Drive inner	1.5 HP	1.1 kW	3.3A	2.9A	3.0A	2.4A
Conveyor Drive outer	3 HP	2.2 kW	5.0A	5.2A	4.8A	3.9A
Exhaust Fan 3000 CFM (85.0 m³/min) (2 required)	3 HP	2.2 kW	6.0A	5.5A	5.5A	4.5A
Take-off Conveyor Motor	.50 HP	.375 kW	1.3A	1.2A	1.1A	0.9A
Transfer Conveyor - Optional	1 HP	0.8 kW	2.3A	2.1A	2.1A	1.7A
	220V Controls		220V Controls	220V Controls	220V Controls	220V Controls
Actuator DAC	1/4 turn		0.9A	0.9A	0.9A	0.9A

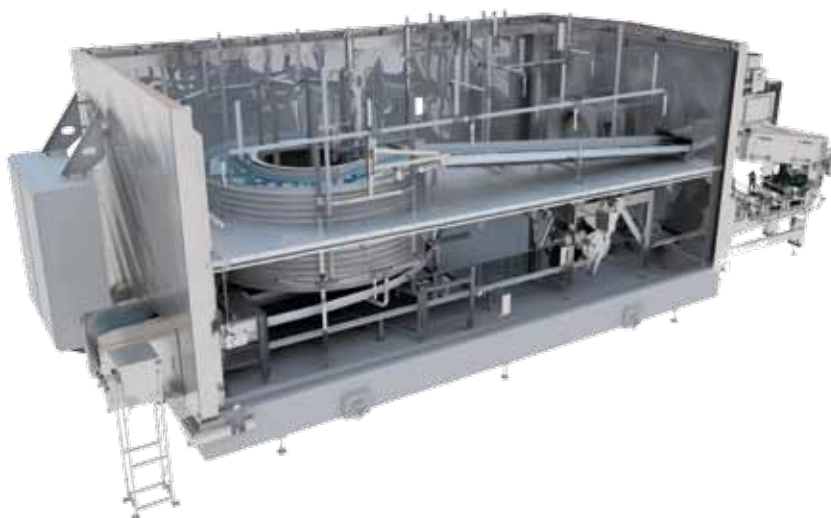
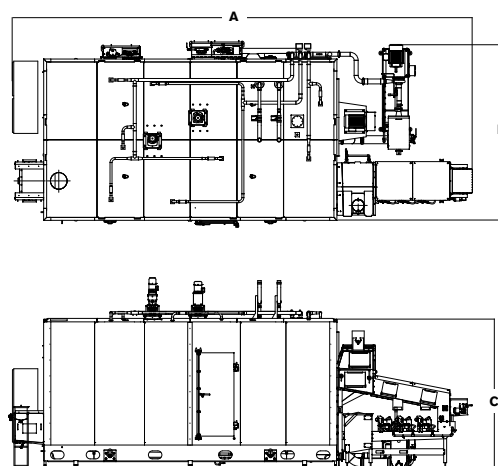
# GYRoCOMPACT II-600 Thermal Fluid (TF) Dimensions

Model GCO II-600 TF		
External Dimensions		Standard Box
Enclosure Height (C)	12 ft - 5.59 in	3,800 mm
Enclosure Width (B)	13 ft - 4.92 in	4,808 mm
Enclosure Height Installed	15 ft - 10.08 in	4,828 mm
Enclosure Width w/ Door Swing	18 ft - 5.5 in	5,626 mm
Oven Length (A)	38 ft - 2.58 in	11,648 mm
Product Infeed Height	3 ft - 8.85 in	1,139 mm
Product Discharge Height	5 ft - 3.47±2 in	1,612±51 mm
Make Up Air Requirement	4,000 CFM	6,800 m³/hr
Noise Level	max 90 dbA	



# GYRoCOMPACT II-600 Indirect Gas (IG) Dimensions

Model GCO II-600 IG		
External Dimensions		Standard Box
Enclosure Height (C)	12 ft - 5.59 in	3,800 mm
Enclosure Width (B)	13 ft - 4.92 in	4,808 mm
Enclosure Height Installed	16 ft - 6.86 in	5,000 mm
Enclosure Width w/ Door Swing	18 ft - 5.5 in	5,626 mm
Enclosure Width w/ Door Swing and gas train cabinet	20 ft - 11.92 in	6,399 mm
Oven Length (A)	38 ft - 2.58 in	11,648 mm
Product Infeed Height	3 ft - 8.85 in	1,139 mm
Product Discharge Height	5 ft - 3.47±2 in	1,612±51 mm
Make Up Air Requirement	6,780 CFM	11,519 m³/hr
Noise Level	max 90 dbA	





## We are your single source for profitable processing solutions

JBT FoodTech can provide you with portioners, freezers, and everything in between – including process control, food product development assistance, operator training and a full range of customer support alternatives.

Our Food Technology Centers have served leading processors in the development of many of the world's most popular food brands. Learn how to increase your processing potential by contacting your JBT FoodTech representative or by visiting our website.

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