SGO Series

SHEL LAB Gravity Convection Laboratory Ovens

SGO1 • SGO3 • SGO5

SHEL LAB®

Ideal for Industrial, Analytical, and General Laboratory Applications

SHEL LAB Gravity Convention Laboratory Ovens are recommended for critical scientific and analytical use in laboratory and pilot plant product research. Typical applications include aging, curing, drying, baking, pre-heating, conditioning and life cycle testing. Choose from three cabinet sizes, each with forced-air circulation and reserve heating power for quick recovery after door openings.

SGO Series Features and Benefits

SGO units are engineered for safe, accurate, and uniform performance in demanding laboratory environments.

SGO5

Fast ramp-up to 306°C for faster cycle times.

Temperature range approximately 20°C above ambient to 306°C for multiple applications.

1 Advanced PID temperature control system for sensitive response.

2 Built-in digital timer for automatic operation following manual start.

3 Independent overtemperature set-point and operational control override for additional safety.

4 Stainless steel interior construction for long life operation, easy cleaning.

5 Forced-air circulation to assure maximum temperature uniformity.

6 Triple-wall construction to minimize external surface temperature.

7 Stainless steel shelves are adjustable on 0.5" (12.7mm) centers to provide flexible inventory options.

8 Rear access port, 1.75" diameter (44mm) for independent cables, instrumentation.

9 Exhaust port, 1.75" diameter (44mm), adjustable, with external connection to customer-supplied vent for effluent exhaust if required.

Internationally certified CAN/CSA, UL, EN, IEC 61010, and compliant with CE.

SHEL LAB®

High Temperature Performance
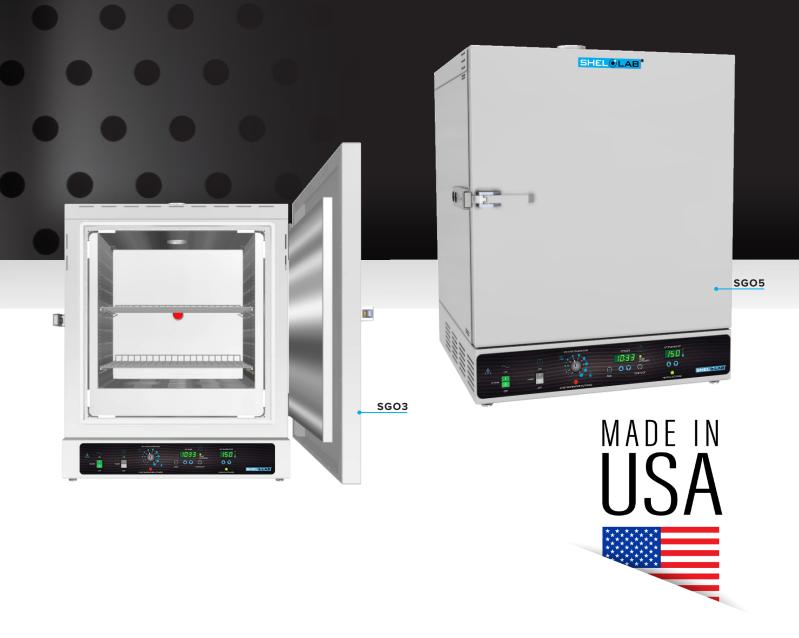
SGO Series ovens are available in 110-120v, 220-240V, 50/60Hz configurations and achieve temperatures up to 306°C with fast ramp-up and recovery times.

Heat-Up Rapid heat-up times to 306°C depend on voltage selected. Published heat-up performance is based on a standard cabinet under controlled testing at a 20°C ambient temperature, line voltage ±10% of specified voltage.

Recovery Upper vents are closed when recovery times following door openings are tested. Published recovery performance is based on a standard cabinet under controlled testing at a (22 ± 3)°C ambient temperature, line voltage ±10% of specified voltage.

Applications:

• Aging

• Burn-in

• Drying

• Asphalt Testing

• Baking and Curing

• Moisture and Stability Testing

• ASTM, UL, and Life Testing

SGO5

SGO3

MADE IN
USA
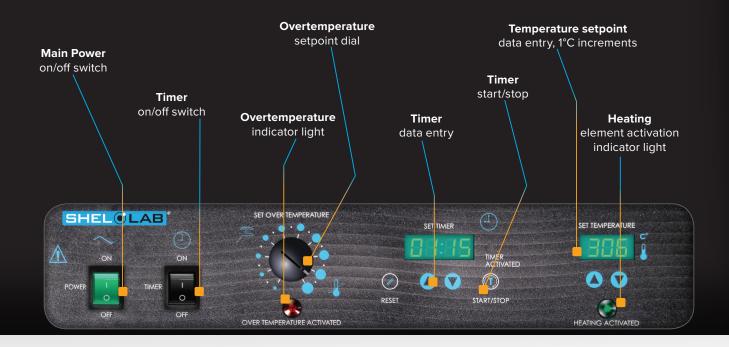
SHELLAB

Control, Timer Program, and Monitoring

The advanced loop PID (proportional, integral, derivative) controller commands proportional power to the heating element to provide the most accurate and responsive control. Each controller is matched to the oven size to assure faster response to setpoint without overshoot, and quicker recovery following door openings. The on-board timer permits programmed dwell cycles with automatic shut-off for custom applications. Indicator lights are included for visual status feedback on critical functions.

Integrated Control Panel

All controls are centrally located on the main panel including manual power and timer on/off switches, independent overtemperature control, digital temperature and timer setpoint adjustments, and indicator lights for all functions.

Main Power on/off switch

Timer on/off switch

Overtemperature setpoint dial

Overtemperature indicator light

Timer data entry

Timer start/stop

Temperature setpoint data entry, 1°C increments

Heating element activation indicator light

SGO Oven Specification Chart

	SGO1	SGO3	SGO5
Interior Volume, Nominal	1.4 cu.ft (39.4 L)	3.0 cu.ft. (85 L)	4.9 cu.ft. (138 L)
Interior Dimensions W x D x H	12.1" x 13.7" x 14.5" 307 mm x 349 mm x 368 mm	16.5" x 19.5" x 16.2" 419 mm x 495 mm x 412 mm	21" x 19.4" x 20.7" 533 mm x 494 mm x 527 mm
Exterior Dimensions W x D x H	22.7" x 23.5" x 31.5" 577 mm x 596 mm x 800 mm	26.9" x 28.6" x 34" 684 mm x 727 mm x 840 mm	31.4" x 28.1" x 38.1" 798 mm x 714 mm x 986 mm
Interior Construction	430 series stainless steel	430 series stainless steel	430 series stainless steel
Exterior Construction	20 gauge steel, powder coated	20 gauge steel, powder coated	20 gauge steel, powder coated
Shelves (See Accessories)*	2 (max of 6)	3 (max of 7)	3 (max of 9)
Maximum Weight Per Shelf*	50 lbs (22.6kg)	50 lbs (22.6kg)	50 lbs (22.6kg)
Permitted Total Load	100 lbs (45.3kg)	200 lbs (91kg)	200 lbs (91kg)

*Extra standard and reinforced shelves available. See Accessories.

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SGO Oven Selection Chart

Order Part ID*, Voltage Specific	SGO1		SGO3		SGO5	
	SLG122	SLG122-EA	SLG322	SLG322-EA	SLG522	SLG522-EA
Electrical, 50/60Hz, AC, 1Ø						
Voltage	110V-120V	220V-240V	110V-120V	220V-240V	110V-120V	220V-240V
Full Load Amps	12	8	14	10	14	10
Nominal Power (watts @150°C)	864	1152	1008	1440	1008	1440
NEMA Plug Supplied	5-15P	6-15P**	5-15P	6-15P**	5-15P	6-15P**
Energy Consumption (kWh/day)						
At 80°C	11.7	15.6	13.6	19.5	13.6	19.5
At 150°C	20.1	23.8	23.4	33.5	23.4	33.5
At 306°C	31.8	42.5	37.1	53.1	37.1	53.1
Temperature Range 20°C above ambient to 306°C						
Heat-Up to Ambient — Minutes to 80°C	5	5	7	7	18	18
Heat-Up to Ambient — Minutes to 150°C	7	7	23	23	30	30
Heat-Up to Ambient — Minutes to 306°C	68	68	95	95	120	120
Recovery after Door Opening (30 sec.) — Minutes to 80°C	2.5	2.5	3	3	4	4
Recovery after Door Opening (30 sec.) — Minutes to 150°C	3.5	3.5	4	4	8	8
Recovery after Door Opening (30 sec.) — Minutes to 306°C	18	18	24	23	35	36
Recovery after Door Opening (60 sec.) — Minutes to 80°C	3	3	5	5	5	5
Recovery after Door Opening (60 sec.) — Minutes to 150°C	4	4	5.5	5.5	15	15
Recovery after Door Opening (60 sec.) — Minutes to 306°C	22	22	37	37	68	68
Temperature Uniformity						
At 80°C	2.5	2.5	2.5	2.5	2.5	2.5
At 150°C	3.5	3.5	3.5	3.5	3.5	3.5
At 306°C	4.0	4.0	4.0	4.0	4.5	4.5
Ventilation						
Air Changes/Hr @80°C	330	330	225	225	180	180
Velocity	5.6 cfm	5.6 cfm	11.3 cfm	11.3 cfm	15.2 cfm	15.2 cfm

*Part ID for these units have changed, model number is the same.
**Both NEMA 6-15P, 2.5M and CEE7/7 (EU1-16P), 2.5M are supplied with 220V-240V models.

DIN 12880 Compliance

SHEL LAB SGO Series ovens are designed to meet or exceed the performance criteria established through DIN 12880:2007:05 and ASTM E145-94 (Reapproved 2006.) These criteria set common standards for laboratory oven performance in heat-up, temperature uniformity and door-open recovery time. Confirmation of temporal and spatial performance is achieved by testing with multi-point temperature probes strategically positioned throughout the oven chamber interior, including center point positions where stability, equilibrium, and setpoint control are required.

Note: DIN 12880 is an international standard for measuring the performance of electrical laboratory ovens and incubators based on Deutsches Institut Fur Normung E.V. (German National Standard), 05/01/2007.

Site Preparation and Installation Guides

	SGO1	SGO3	SGO5
Door Swing Clearance (Nominal)	23" (585mm)	27" (686mm)	32" (813mm)
Wall Clearance, Sides	6" (152mm)	6" (152mm)	6" (152mm)
Wall Clearance, Rear	12" (305mm)	12" (305mm)	12" (305mm)
Exhaust Duct (Outer Diameter)	1.75" (44mm)	1.75" (44mm)	1.75" (44mm)
Unit Weight Empty	126.5 lbs (57.4kg)	170.5 lbs (77.3kg)	208 lbs (94.3kg)
Shipping Weight	167 lbs (77kg)	216 lbs (98kg)	258 lbs (117kg)

SGO Oven Options and Accessories

	SGO1	SGO3	SGO5
Reverse Door	Contact a Sheldon Representative for More Details		
3" Access Port	Contact a Sheldon Representative for More Details		
Caster Platform	N/A	90000597	9000594
Extra Wire Rack, 50 lbs (22kg); Includes Brackets	9751316	9751317	9751318

Options must be specified when ordering. Contact Sheldon Manufacturing for additional information.

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SHEL LAB SGO Ovens are tested for use within an ambient air pressure range of 22.14 – 31.3 inHg (75 – 106 kPa), with no flammable, volatile or combustible materials being heated. Specifications subject to change without notice. Sheldon Manufacturing P/N 0740581 Made in USA. Rev. Date 4/18