



SGO3

Gravity Convection Laboratory Oven

SHELDON
MANUFACTURING, INC.

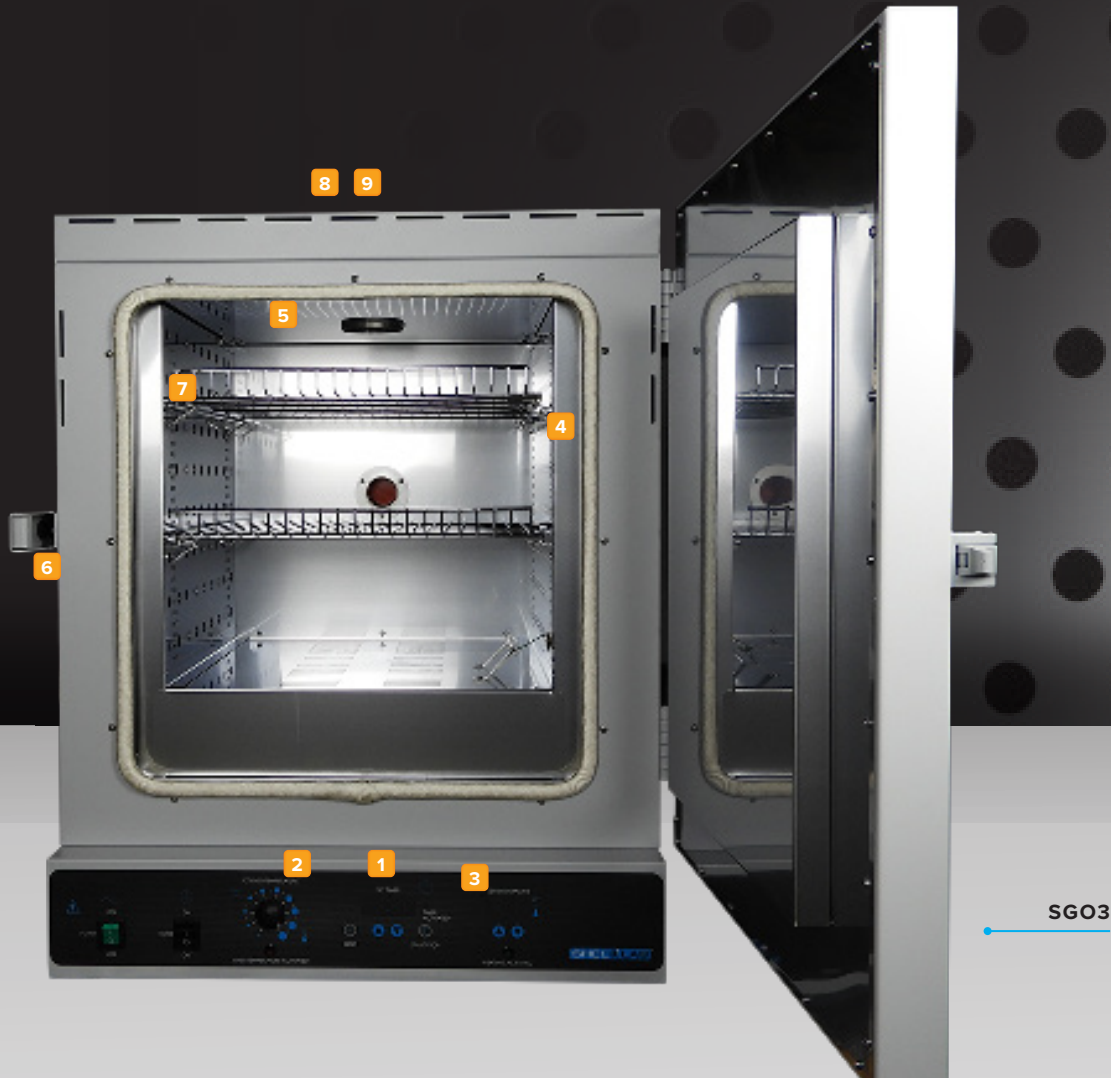


Ideal for Industrial, Analytical, and General Laboratory Applications

SHEL LAB Gravity Convection 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 gravity convection 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.



SGO3

- +** 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** Gravity Convection to provide gentle airflow and not disrupt delicate samples
- 6** Triple-wall construction to minimize external surface temperature.
- 7** Stainless steel shelves are adjustable on 0.5" (12.7 mm) centers to provide flexible inventory options.
- 8** Rear access port, 1.75" diameter (44mm) for independent cables, instrumentation.
- 9** Exhaust port, 3" 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.

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

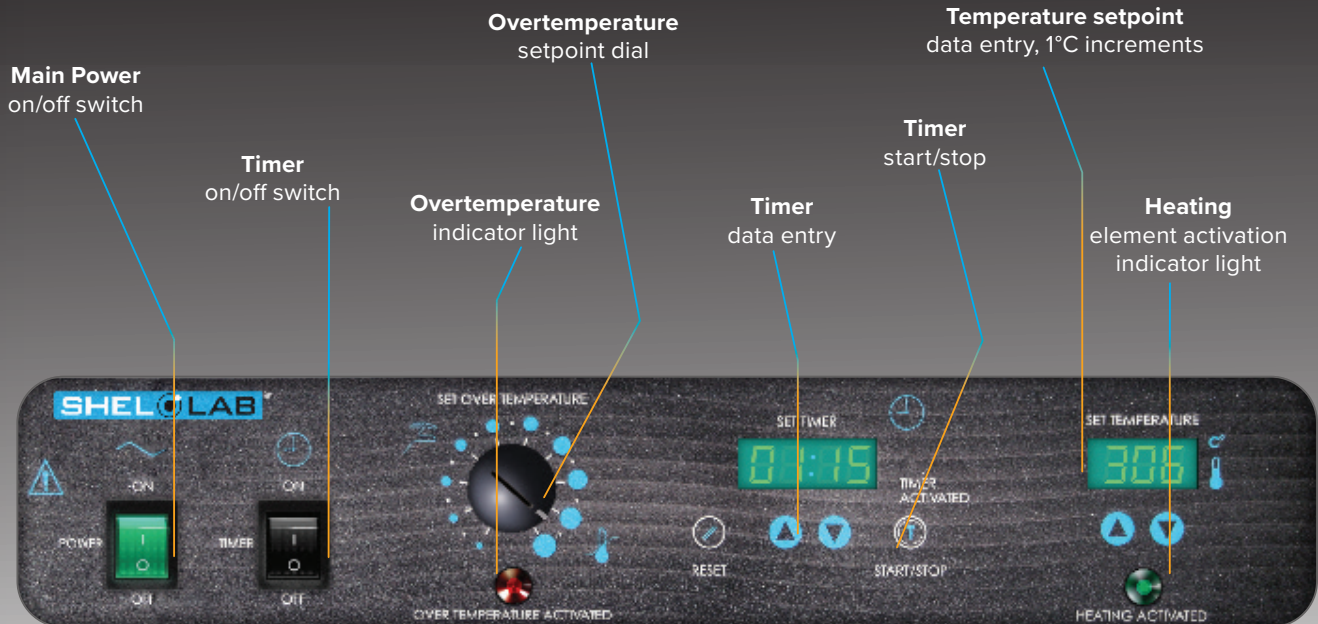


Control, Timer Program, and Monitoring

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.



SGO Oven Selection Chart

Order Part ID*, Voltage Specific	SGO3	
	SLG322	SLG322-EA
Electrical, 50/60Hz, AC, 1Ø		
Voltage	110V-120V	220V-240V
Full Load Amps	14	10
Nominal Power (watts @150°C)	1008	1440
NEMA Plug Supplied	5-15P	6-15P**
Energy Consumption (kWh/day)		
At 80°C	13.6	19.5
At 150°C	23.4	33.5
At 306°C	37.1	53.1
Temperature Range 20°C above ambient to 306°C		
Heat-Up to Ambient — Minutes to 80°C	7	7
Heat-Up to Ambient — Minutes to 150°C	23	23
Heat-Up to Ambient — Minutes to 306°C	95	95
Recovery after Door Opening (30 sec.) — Minutes to 80°C	3	3
Recovery after Door Opening (30 sec.) — Minutes to 150°C	4	4
Recovery after Door Opening (30 sec.) — Minutes to 306°C	24	23
Recovery after Door Opening (60 sec.) — Minutes to 80°C	5	5
Recovery after Door Opening (60 sec.) — Minutes to 150°C	5.5	5.5
Recovery after Door Opening (60 sec.) — Minutes to 306°C	37	37
Temperature Uniformity		
At 80°C	2.5	2.5
At 150°C	3.5	3.5
At 306°C	4.0	4.0

*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.

We Reserve the Right to Alter Specifications at Any Time

Site Preparation & Installation Guides

	SGO3
Door Swing Clearance (Nominal)	27" (686 mm)
Wall Clearance, Sides	6" (152 mm)
Wall Clearance, Rear	12" (305 mm)
Exhaust Duct (Outer Diameter)	1.75" (44 mm)
Unit Weight Empty	170.5 lb (77.3 kg)
Shipping Weight	216 lb (98 kg)

SGO Oven Specification Chart

	SGO3
Interior Volume, Nominal	3.0 cu.ft. (85 L)
Interior Dimensions W x D x H	16.5" x 19.5" x 16.2" 419 mm x 495 mm x 412 mm
Exterior Dimensions W x D x H	26.9" x 28.6" x 34" 684 mm x 727 mm x 840 mm
Interior Construction	430 series stainless steel
Exterior Construction	20 gauge steel, powder coated
Shelves (See Accessories)*	3 (max of 7)
Maximum Weight Per Shelf*	50 lb (22.6 kg)
Permitted Total Load	200 lb (91 kg)

*Extra standard and reinforced shelves available. See Accessories.

SGO Oven Options & Accessories

	SGO3
Reverse Door	Contact a Sheldon Sales for More Details
3" Access Port	Contact a Sheldon Sales for More Details
Caster Platform	90000597
Extra Wire Rack, 50 lbs (22kg); Includes Brackets	9751317

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

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.



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