



SMO-HP Series

SHEL LAB High-Performance Mechanical Ovens

SMO5HP-2 • SMO10HP-2 • SMO14HP-2 • SMO28HP-2 • SMO38HP-2



Ideal for Industrial, Analytical, and General Laboratory Applications

SHEL LAB High-Performance Ovens are recommended for critical scientific research, analytical, and laboratory use. Typical applications include aging, curing, drying, baking, pre-heating, conditioning, and life cycle testing. Each oven is equipped with forced-air circulation and reserve heating power for quick recovery after door openings.

Features and Benefits

The SMOHP ovens are engineered for safe, accurate, and uniform performance in demanding laboratory environments.



- + Fast ramp-up to 306°C* for faster cycle times.
- + Temperature range approximately 15°C above ambient to 306°C* for multiple applications.
- 1 Advanced PID temperature control system for sensitive response.
- 2 Built-in Watlow control panel.
- 3 Independent overtemperature set point and operational control override for additional safety.
- 4 Stainless steel interior construction for long life operation, easy cleaning.
- 5 High-Performance forced-air circulation to assure maximum temperature uniformity.
- 6 Double-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 Intake and exhaust ports, 3.0" diameter (76mm), adjustable, with external connections to customer-supplied vent for effluent exhaust if required.
- + Internationally certified CAN/CSA, UL, EN, IEC 61010, and compliant with CE.
- + Two year warranty.

*260°C for SMO14HP-2 and SMO38HP-2

**no access ports in SMO14HP-2 and SMO38HP-2

High Temperature Performance

SHEL LAB High-Performance Ovens are available in 220-240V, 50/60Hz configurations with fast ramp-up and recovery times.

Heat-Up - Rapid heat-up times to 306°C or 260°C depending on model. Published heat-up performance is based on a standard cabinet under controlled testing at a $22 \pm 3^\circ\text{C}$ ambient temperature, line voltage $\pm 10\%$ of specified voltage.

Recovery - After a standard door opening, the SMOHP series has rapid recovery times to setpoint. Optimized air flow and heating elements allow your product to return to temperature setpoint quickly.

Applications:

- Asphalt Testing
- ASTM, UL and Life Testing
- Baking, Conditioning, Curing
- Moisture and Stability Testing
- Drying
- Burn-In
- Aging



SMO14HP-2



SMO5HP-2



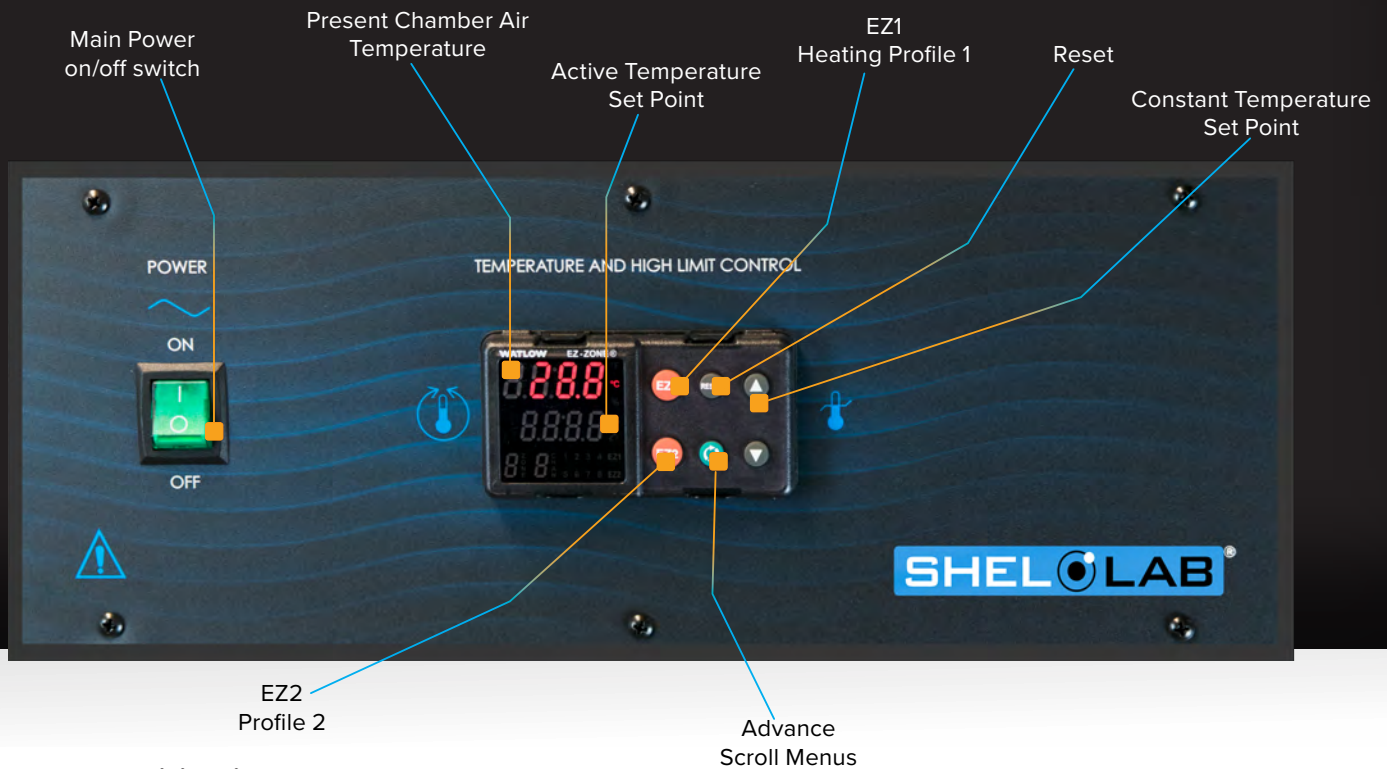
SMO10HP-2

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 tuned to the oven size to assure fast heating to your desired temperature without overshoot, and quicker recovery following door openings. The ramp-and-soak capabilities of the controller permit programmed temperature cycles with automatic shut-off for custom applications. Indicator lights are included for visual status feedback on critical functions.

Integrated Watlow Control Panel

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



SMOHP Specification Chart

	SMO5HP-2	SMO10HP-2	SMO14HP-2
Part ID / SKU	SLFHP522-H	SLFHP1022-H	SLFHP1422-H
Interior Volume, Nominal	4.9 cu.ft. (139 liters)	10.6 cu.ft. (301 liters)	14.6 cu.ft. (413 liters)
Exterior Dimensions W x D x H	35.0" x 30.0" x 37.6" 889 x 747 x 955 mm	44.1" x 29.9" x 56.7" 1121 x 760 x 1440 mm	"59.0 x 28.0" x 57.0" 1499 x 711 x 1448 mm
Interior Dimensions W x D x H	20.5" x 20.7" x 20.0" 520 x 527 x 508 mm	29.8" x 20.6" x 30.0" 757 x 524 x 762 mm	"44.0 x 20.8" x 30.0" 1117 x 528 x 762 mm
Interior Construction	300 series stainless steel	300 series stainless steel	300 series stainless steel
Exterior Construction	20 gauge steel, powder coated	20 gauge steel, powder coated	20 gauge steel, powder coated
Shelves*	2 standard, 4 total	3 standard, 8 total	6 standard, 14 total
Maximum Weight Per Shelf	50 lb / 22.7 kg	75 lb / 34 kg	75 lb / 34 kg
Permitted Total Load	75 lb / 34 kg	225 lb / 102 kg	450 lb / 204 kg

*Extra shelves available. See Accessories.



SMOHP Large Capacity Specification Chart

	SMO28HP-2	SMO38HP-2
Part ID / SKU	SLFHP2822-H	SLFHP3822-H
Interior Volume, Nominal	28 cu.ft. (792 liters)	38 cu.ft. (1083 liters)
Exterior Dimensions W x D x H	42.5" x 34.1" x 85.9" 1080 x 866 x 2182 mm	68.0" x 33.3" x 79.4" 1728 x 846 x 2017 mm
Interior Dimensions W x D x H	31.7" x 26.0" x 60.9" 805 x 660 x 1546 mm	47.8" x 27.8" x 54.1" 1214 x 706 x 1372 mm
Interior Construction	300 series stainless steel	300 series stainless steel
Exterior Construction	20 gauge steel, powder coated	20 gauge steel, powder coated
Shelves*	6 standard, 12 total	12 standard, 20 total
Maximum Weight Per Shelf	75 lb / 34 kg	75 lb / 34 kg
Permitted Total Load	450 lb / 204 kg	900 lb / 408 kg

*Extra shelves available. See Accessories.

*24 Month
Limited
Warranty*



SMO38HP-2



SMO28HP-2

**MADE IN
USA**





SMOHP TEMPERATURE SPECS

	Temperature Uniformity	Operating Range	Stability
SMO5HP-2	3.5 at 306°C	Ambient 15-40°C	0.4 at 306°C
SMO10HP-2	5.5 at 306°C	Ambient 15-40°C	0.4 at 306°C
SMO14HP-2	5.5 at 260°C	Ambient 15-40°C	0.4 at 260°C
SMO28HP-2	5.5 at 306°C	Ambient 15-40°C	0.4 at 306°C
SMO38HP-2	5.5 at 260°C	Ambient 15-40°C	0.4 at 260°C

DIN 12880 Compliance

SHEL LAB SMOHP 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 set point 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.

We reserve the right to alter specifications at any time.

Site Preparation and Installation Guides

	SMO5HP-2	SMO10HP-2	SMO14HP-2	SMO28HP-2	SMO38HP-2
Wall Clearance, Sides	6.0" (152 mm)	6.0" (152 mm)	6.0" (152 mm)	6.0" (152 mm)	6.0" (152 mm)
Wall Clearance, Rear	12.0" (305 mm)	12.0" (305 mm)	12.0" (305 mm)	12.0" (305 mm)	12.0" (305 mm)
Unit Weight Empty	325 lb (147 kg)	357 lb (163 kg)	449 lb (203.7 kg)	569.4 lb (258.3 kg)	595 lb (270 kg)
Shipping Weight	412 lb (187 kg)	450 lb (204 kg)	563 lb (255 kg)	694 lb (315 kg)	1078 lb (489 kg)

Accessories

	SMO5HP-2	SMO10HP-2	SMO14HP-2	SMO28HP-2	SMO38HP-2
Caster Platform	9000584	9000542	9000541	9000539	9000540
Power Exhaust Blower, 230V	9990741	9990741	9990741	9990741	9990741
RS485 USB Converter Cable	9490586	9490586	9490586	9490586	9490586
Extra Shelf, Slides*, Clips	9751249	9751248	9751247	9751245	9751246
Extended Warranty - 1 Year	SMO5HP-2EXT1	SMO10HP-2EXT1	SMO14HP-2EXT1	SMO28HP-2EXT1	SMO38HP-2EXT1
Extended Warranty - 2 Year	SMO5HP-2EXT2	SMO10HP-2EXT2	SMO14HP-2EXT2	SMO28HP-2EXT2	SMO38HP-2EXT2
Extended Warranty - 3 Year	SMO5HP-2EXT3	SMO10HP-2EXT3	SMO14HP-2EXT3	SMO28HP-2EXT3	SMO38HP-2EXT3

*Slides for SMO5HP-2 only

Contact SHEL LAB for additional information.



Sheldon Manufacturing, Inc.

300 N. 26th Avenue • PO Box 627 • Cornelius, OR 97113 USA
+1-503-640-3000 • sheldonmfg.com • sales@sheldonmfg.com