



BENCH OVEN SERIES, MODEL SELECTION GUIDE



Bench Ovens

High-temperature
applications

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Bench Oven Series

Investing in an oven means investing in the success and growth of your business. We designed our bench oven series to provide a reliable and durable unit that's trusted to perform to the highest standards.

Deliver perfectly baked, cured, or dried materials with precise temperature controls, heavy-duty construction, and safety features that reduce downtime and maintenance costs.



Multiple Applications

Our Bench Ovens, combining ample working space and excellent portability, are your perfect partner to deliver a consistent and accurate distribution of heat across multiple applications, including:

- Adhesive Bonding
- Annealing
- Baking
- Curing
- Dehydrating
- Evaporating
- Gravimetric Analysis
- Heat Treatment
- Sterilization
- Thermoforming



Industry Usage

Designed to meet the diverse needs of numerous industries, our bench ovens have found their place in a multitude of sectors. Each sector benefits from their exceptional versatility and functionality, making them an invaluable asset.

Explore the extensive range of applications below and experience the transformative power of our bench ovens in your industry today.

- Aerospace
- Agriculture
- Automotive
- Construction
- Education
- Electronics
- Engineering
- Government
- Manufacturing
- Medicine
- Military
- Petrochemical



Superior Durability

We designed our Bench Ovens to be robust and reliable partners capable of performing under the most strenuous conditions.

Eco-Friendly Mineral Wool Insulation

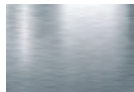
Our choice of mineral wool insulation greatly reduces thermal conductivity transfer in our ovens. That translates to:

- Greater affordability
- Increased energy efficiency
- Lower exterior wall temperatures

High Quality Steel



An aluminized steel interior comes standard.



A stainless steel interior is optional for more aggressive applications.

High Temperature Door Seal

We use a tightly woven stainless steel and fiberglass seal to keep the heat inside the oven where it belongs.

- Won't smolder or burn
- Maintains its size and shape
- Resists corrosive elements



Thermoplastic Door Handles

Our door handles are sturdy enough to thrive in an industrial environment and resist heat to protect your hands.

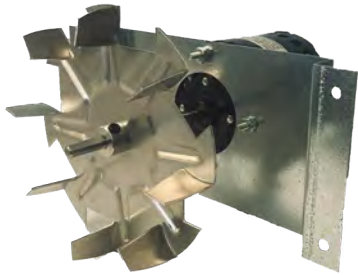


Powder-Coated Paint

This lasting, textured finish protects your investment by resisting everything from chemicals and chipping to fingerprints and fading.

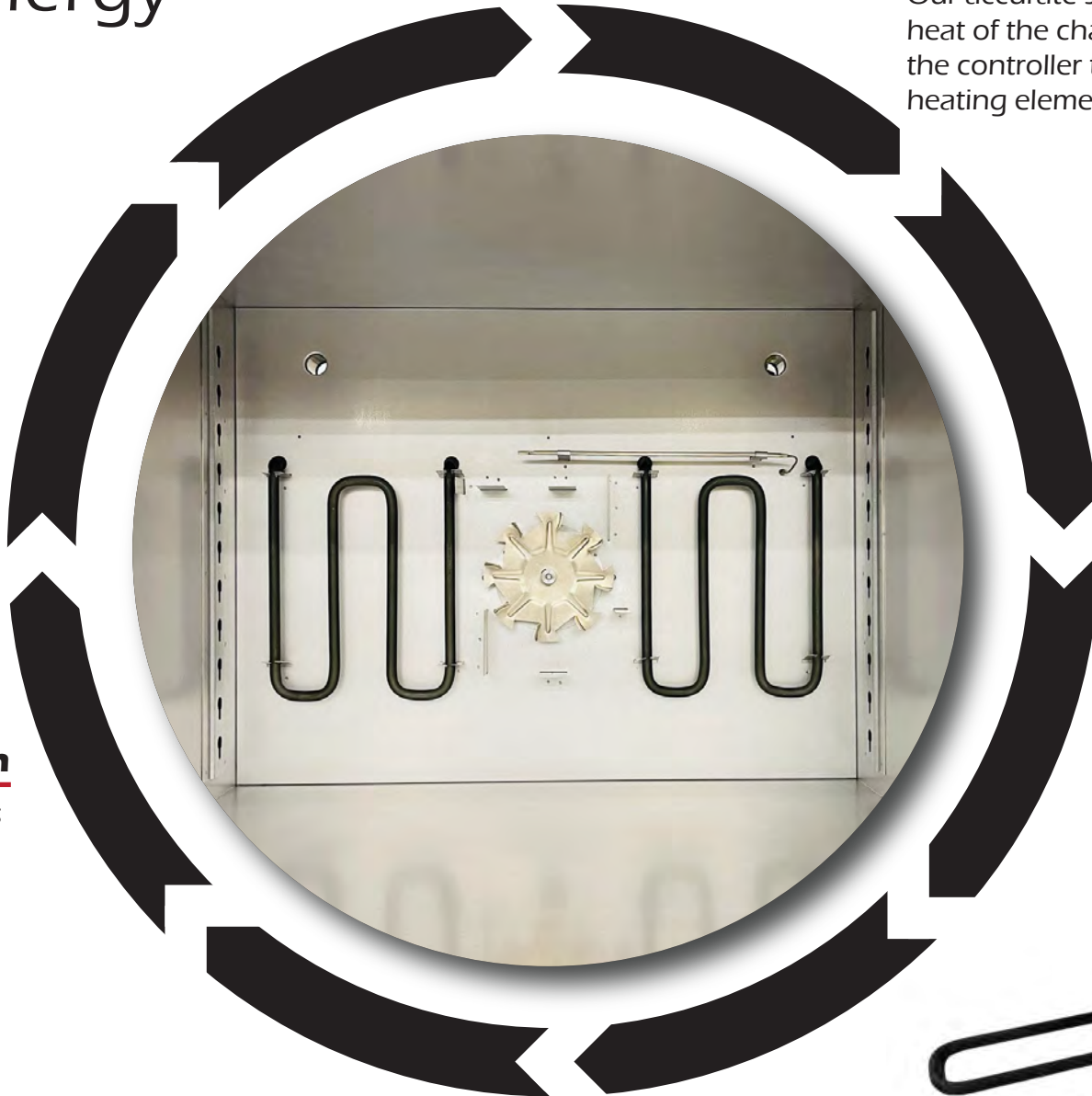


Perfect Synergy



Uniform Distribution

Our powerful blower helps distribute heat evenly throughout the chamber.



Reliable Temperature

Our accurate sensors detect the heat of the chamber and signal the controller to engage the heating elements.



Dependable Heat

Our corrosion resistant element coils generate reliable heat that lasts a lifetime.



Take Control



Hydraulic Thermostat

Our reliable, cost-effective thermostats recover temperature quickly after loading and unloading contents, allowing you to continue building, testing, and working without limitations.



Digital Controller

You now have the ability to control every aspect of time and temperature inside your chamber.

With five ramp and soak programs and a countdown timer, our digital controller is the most accurate, convenient, and reliable way to control your environment.



Safety & Protection



Manual Reset “Snap Disc”

To protect your contents and work space, our thermal sensor “snap disc” cuts power to the unit in the event of an overtemperature condition.



Digital Controller High-limit Alarm

In addition to the standard snap disc, our digital bench ovens have another layer of protection within the controller: a high-limit alarm that shuts off the heating elements in the event of an overtemperature condition.

Additional high-limit backup options are available, refer to oven options on page 17.

Shelves

To ensure uniform heat distribution with long-lasting durability, we use nickel-plated, chemical resistant, heavy gauge wire shelves that allow hot air to circulate around the chamber contents.



Each shelf can easily support up to 80 lbs. of material, with a maximum combined weight of 240 lbs.

Our 21 series accommodates up to 11 shelves, while the 31 series accommodates up to 17 shelves.

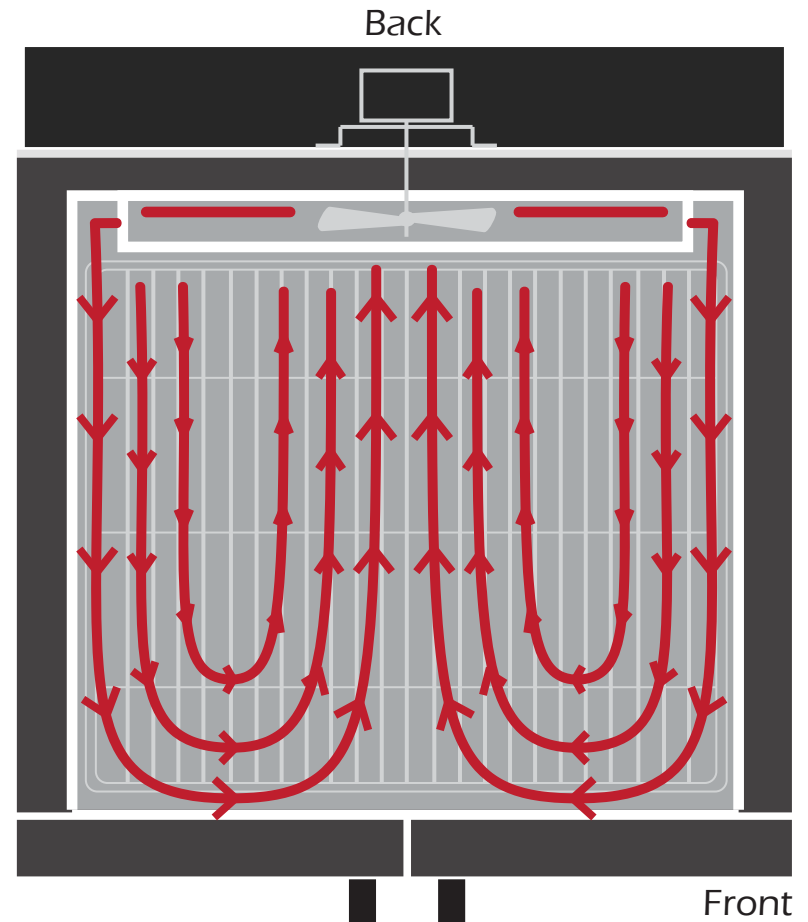


Heat Distribution

Dual elements coils in the back of our bench ovens generate heat that a fan blows forward along the sides of the unit.

The hot air circulates back in the center of the chamber with a consistent, horizontal airflow that applies heat evenly.

This design gives you better uniformity throughout the oven, resulting in greater control over the contents inside.



Model Selection

You're in control

Choose the model that meets your unique size, temperature, and precision needs.

From our rugged and affordable analog units to our extremely accurate, convenient, and reliable digital ovens, Quincy is your partner to **control your environment.**



Digital Bench Ovens



Models

- ▶ 21-250ER
- ▶ 31-250ER
- ▶ 51-550ER
- ▶ 21-350ER
- ▶ 31-350ER

Capacity

- ▶ Model 21 - 7.0 Cubic Feet / 198 Liters
- ▶ Model 31 - 10.6 Cubic Feet / 300 Liters
- ▶ Model 51 - 6.6 Cubic Feet / 187 Liters

Temperature

- ▶ 250ER Series
Ambient +25°F minimum to a maximum of 300°F, (149°C).
- ▶ 350ER Series
Ambient +25°F minimum to a maximum of 450°F, (232°C).
- ▶ 550ER Series (230V only)
Ambient +25°F minimum to a maximum of 550°F, (287°C).



Aluminized steel comes standard
Includes (2) nickel plated wire shelves
Models are available in optional 230 volts.





Specifications

Digital Bench Oven Series

Capacity		Temperature Range			Temperature Control	
21 Series -	7.0 Cubic Feet / 198 Liters	Models 250ER- Ambient +25°F to 300°F (149°C)			Digital P.I.D controller	
31 Series -	10.6 Cubic Feet / 300 Liters	Models 350ER - Ambient +25°F to 450°F (232°C)				
51 Series -	6.6 Cubic Feet / 187 Liters	Models 550ER - Ambient +25°F to 550°F (287°C)				
		Model 21-250ER	Model 21-350ER	Model 31-250ER	Model 31-350ER	Model 51-550ER
INTERIOR DIMENSIONS						
Inches W x H x D		25.5x19.7x24	25.5x19.7x24	25.5x29.7x24	25.5x29.7x24	25.5x19.7x22.5
(cm) W x H x D		64x49.5x60	64x49.5x60	64x75.5x60	64x75.5x60	64x49.5x57
EXTERIOR DIMENSIONS						
Inches W x H x D		33x24x35.5	33x24x35.5	33x34x35.5	33x34x35.5	33x24x35.5
(cm) W x H x D		83x60x90	83x60x90	83x86x90	83x86x90	83x60x90
WEIGHT						
Shipping		185	185	225	225	195
Stand Alone		165	165	200	200	170
ELECTRICAL						
Volts / Amps		120 / 8.75	120 / 16.3	115 / 9.1	120 / 16.3	230 / 12.4
Watts		1050	1950	1050	1950	2850
Frequency (Hz)		50/60Hz.	50/60Hz.	50/60Hz.	50/60Hz.	50/60Hz.
Plug Type		5-15P	5-20P	5-15P	5-20P	6-20P
PERFORMANCE*						
Control Stability @ 100°C		± 0.5°C	±0.5°C	±0.5°C	± 0.5°C	± 0.5°C
Control Stability @ 200°C		± 0.5°C	±0.5°C	±0.5°C	± 0.5°C	± 0.5°C
Time to temp. Ambient to 150°C		≈ 20 min	≈ 23 min	≈ 21 min	≈ 19 min	≈ 16 min
Time to temp. Ambient to Max		≈ 38 min	≈ 32 min	≈ 32 min	≈ 38 min	≈ 45 min
Recovery time, door open 15 sec.		≈ 5 min	≈ 3 min	N/A	≈ 4 min	≈ 2 min
Recovery time, door open 30 sec.		≈ 6 min	≈ 4 min	N/A	≈ 5 min	≈ 3 min
Repeatability @ 150°C (set-point drift)**		±0.5°C	±0.5°C	N/A	±0.5°C	±0.8°C
Max. Chamber Air Velocity		1.68m/s (5.5 ft/s)	1.68m/s (5.5 ft/s)	1.68m/s (5.5 ft/s)	1.68m/s (5.5 ft/s)	1.68m/s (5.5 ft/s)
Air changes max. per hour		18	18	14	14	18
Exhaust (CFM)		2.30	2.30	2.30	2.30	2.30
Evaporation Rate (per ASTM C88) @ 110°C ±5° (230°F ±9°)		30-35 g/h	30-35 g/h	30-35 g/h	30-35 g/h	30-35 g/h

*Performance characteristics for standard voltage models, alternate voltage models may vary. All test were conducted under controlled laboratory conditions
**Repeatability or set point drift measured for 24hrs. with controlled lab ambient temperatures not varying more than 2°C & supplied voltage by no more than 2%.

Analog Bench Ovens



Models

- ▶ 21-250
- ▶ 31-250
- ▶ 51-550
- ▶ 21-350
- ▶ 31-350

Capacity

- ▶ Model 21 - 7.0 Cubic Feet / 198 Liters
- ▶ Model 31 - 10.6 Cubic Feet / 300 Liters
- ▶ Model 51 - 6.6 Cubic Feet / 187 Liters

Temperature

- ▶ 250 Series
Ambient +25°F minimum to a maximum of 300°F, (149°C).
- ▶ 350 Series
Ambient +25°F minimum to a maximum of 450°F, (232°C).
- ▶ 550 Series (230V only)
Ambient +25°F minimum to a maximum of 550°F, (287°C).



Aluminized steel comes standard
Includes (2) nickel plated wire shelves
Models are available in optional 230 volts.





Specifications

Analog Bench Oven Series

Capacity		Temperature Range			Temperature Control	
21 Series -	7.0 Cubic Feet / 198 Liters	Models 250 - Ambient +25°F to 300°F (149°C)			Automatic Hydraulic Thermostat	
31 Series -	10.6 Cubic Feet / 300 Liters	Models 350 - Ambient +25°F to 450°F (232°C)				
51 Series -	6.6 Cubic Feet / 187 Liters	Models 550 - Ambient +25°F to 550°F (287°C)				
		Model 21-250	Model 21-350	Model 31-250	Model 31-350	Model 51-550
INTERIOR DIMENSIONS						
Inches W x H x D		25.5x19.7x24	25.5x19.7x24	25.5x29.7x24	25.5x29.7x24	25.5x19.7x22.5
(cm) W x H x D		64x49.5x60	64x49.5x60	64x75.5x60	64x75.5x60	64x49.5x57
EXTERIOR DIMENSIONS						
Inches W x H x D		33x24x35.5	33x24x35.5	33x34x35.5	33x34x35.5	33x24x35.5
(cm) W x H x D		83x60x90	83x60x90	83x86x90	83x86x90	83x60x90
WEIGHT						
Shipping		185	185	225	225	195
Stand Alone		165	165	200	200	170
ELECTRICAL						
Volts / Amps		120 / 8.75	120 / 16.3	115 / 9.1	120 / 16.3	230 / 12.4
Watts		1050	1950	1050	1950	2850
Frequency (Hz)		50/60Hz.	50/60Hz.	50/60Hz.	50/60Hz.	50/60Hz.
Plug Type		5-15P	5-20P	5-15P	5-20P	6-20P
PERFORMANCE*						
Control Stability @ 100°C		± 2.0°C	±2.0°C	±2.0°C	± 2.5°C	± 3.0°C
Control Stability @ 200°C		N/A	±2.5°C	N/A	± 3.0°C	± 3.5°C
Time to temp. Ambient to 150°C		≈ 15 min	≈ 16 min	≈ 15 min	≈ 9 min	≈ 13 min
Time to temp. Ambient to Max		≈ 36 min	≈ 30 min	≈ 32 min	≈ 35 min	≈ 40 min
Recovery time, door open 15 sec.		≈ 4 min	≈ 8 min	N/A	≈ 3 min	≈ 1 min
Recovery time, door open 30 sec.		≈ 5 min	≈ 6 min	N/A	≈ 4 min	≈ 2 min
Repeatability @ 150°C (set-point drift)**		±2.0°C	±1.0°C	±1.5°C	±1.5°C	±2.0°C
Max. Chamber Air Velocity		1.68m/s (5.5 ft/s)	1.68m/s (5.5 ft/s)	1.68m/s (5.5 ft/s)	1.68m/s (5.5 ft/s)	1.68m/s (5.5 ft/s)
Air changes max. per hour		18	18	14	14	18
Exhaust (CFM)		2.30	2.30	2.30	2.30	2.30
Evaporation Rate (per ASTM C88) @ 110°C ±5° (230°F ±9°)		30-35 g/h	30-35 g/h	30-35 g/h	30-35 g/h	30-35 g/h

*Performance characteristics for standard voltage models, alternate voltage models may vary. All test were conducted under controlled laboratory conditions
 **Repeatability or set point drift measured for 24hrs. with controlled lab ambient temperatures not varying more than 2°C & supplied voltage by no more than 2%.



Options & Accessories

Oven Options



Single Window in Door

Continuously monitor your contents without letting any of the heat out.



Access Porthole

Insert pipes, wiring, or other components into the chamber through a custom access hole.



Chamber Light

Perfect for low-light environments, and especially useful when paired with a window.



Oven Options



High-Limit Analog Back Up

This factory installed high-limit back up is an additional analog controller that gives you peace of mind by enabling heat control if the main controller fails.



High-Limit Digital Back Up

This factory installed high-limit back up is an additional digital controller that gives you peace of mind by enabling heat control if the main controller fails.



In-door Dial Thermometer

Our rugged dial thermometer provides you with an easy-to-read visual of the chamber temperature. It is available installed from our factory or private installation.



Oven Options



Auto Shut-Off Timer

This timer is installed at our factory and allows you to easily program your oven to automatically shut off after extended heating applications, for up to 999 hours.



Programmable 7 Day ON/OFF

Our seven day timer is factory installed and allows you to conveniently set your oven to automatically turn on and off every day, giving you the proper heat when you need it most.



Free Software



USB Adaptor Included



RS485 Communication

Unlock advanced capabilities with RS485 communication, featuring free FieldChart software for real-time monitoring and QuickTune for effortless configuration—premium features beyond the standard controller option, delivering superior control and precision.

Accessories



Storage Cabinet

Our cabinet serves as an oven stand and an attractive storage space for implements and tools.



Bench Oven Stand

A sturdy, easy-to-assemble platform and shelf for your oven and essentials.



Exhaust Chamber Adapter

Our robust adapter to 3" pipe delivers long-lasting performance and reliable operation, allowing you to vent fumes, smells, and exhaust outside your facility.



Accessories



TempAssure Chamber Monitor

Calibrate chambers and monitor internal temperatures with ease.



Additional Shelves

Enhance your oven's versatility with additional shelves to maximize space and easily accommodate more samples or specimens.

Additional support rails set (Part #301-5001) required, Sold separately.



Quincy Lab, Inc., with over half a century of innovation, is committed to delivering superior, cost-effective solutions that cater to your unique needs, enhancing operations and driving breakthroughs. Choosing Quincy Lab means investing in more than just a product - you're partnering with a company dedicated to your success.

Contact Us

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To see our complete product line visit us on the web at:
www.quincylab.com

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