

# Thermal Cyclers

AMPLITRON™ II

**Thermolyne**

Amplitron II



## EASY TO OPERATE!

- — In-situ adapter available
- — Calibrated to NIST standards
- — Compact design uses minimal bench space.
- ★ — 36 Month Compressor Warranty



## PRODUCT SPECIFICATIONS

Model #	Overall Dimensions Inches (cm)			Tube Size (ml)	Shipping Weight Lb. (kg)
	W	H	D		
DB80235	15 (38.1)	10 (25.4)	22 (55.9)	0.5	75 (34)
DB80245	15 (38.1)	10 (25.4)	22 (55.9)	0.2	75 (34)

## PRODUCT DESCRIPTION

- Heated lid for oil-free operation standard on the 96 well unit.
- Superior thermal characteristics with a  $\pm 0.4^{\circ}\text{C}$  uniformity and  $\pm 0.3^{\circ}\text{C}$  stability.
- Auto  $4^{\circ}\text{C}$  chill function keeps your samples fresh until you return.
- Intuitive software easily guides you through complex protocols without touching a manual.
- Auto-temperature function allows automatic temperature decrements for step down PCR.
- Auto-time function allows automatic time increases with each subsequent cycle for complex PCR protocols.
- Large memory will hold a total of 90 programs. Link as many as 65 programs with 20 steps and 999 cycles to simplify demanding PCR protocols. Up to 25 linking programs can be stored in a separate expanded memory.
- JumpStart™ feature to virtually eliminate misprinting.
- Secret identification number protects programs being accidentally erased.
- Power failure mode indicates power source interruption.
- Temperature range 0 -  $100^{\circ}\text{C}$ . Maximum heat rate:  $0.9^{\circ}\text{C}/\text{sec}$ . Maximum cool rate:  $1.6^{\circ}\text{C}/\text{sec}$ .

**48 Hour or Sooner  
Express Shipping  
Guaranteed!\***

\*see inside front cover for details

## ORDERING INFORMATION

Model #	# of Wells	Volts	Watts	Tube Size	Heated Lid	US List Price
DB80225	48	120	600	0.5	No	\$4674.00
DB80220-33	48	230	—	0.5	No	\$4631.00
DB80235	48	120	600	0.5	Yes	\$5055.00
DB80230-33	48	230	—	0.5	Yes	\$4997.00
DB80245	96	120	600	0.2	Yes	\$5430.00
DB80240-33	96	230	—	0.2	Yes	\$5358.00

-33 Models CE Marked

## ACCESSORIES

Model #	Description	US List Price
AY802X2	In situ slide-plate for 48 well (0.5 ml)	\$375.25
AY802X3	In situ slide-plate for 96 well (0.2 ml)	\$375.25
AY669X8	Temperature Verification Kit 0.5 ml tube (thermocouple with NIST verified pyrometer)	\$473.00
AY802X19	Temperature Verification Kit 0.2 ml tube	\$473.00
AY669X1A	Printer, 120V	\$632.00
AY802X4	96 Well thin wall microtiter plate (10/case)	\$145.90
AY802X5	Tube thin wall 0.2 ml asst. colors (1000/bag)	\$151.60
AY802X6	Tube thin wall 0.2 ml asst. colors (900/bag)	\$151.60
AY802X7	Tube thin wall 0.6 ml colorless (500/bag)	\$58.30
AY802X8	Tube thin wall 0.6 ml asst. colors (450/bag)	\$58.30
AY802X9	Tube 0.2 ml 12T/STP colorless (80 strip tubes/bag)	\$197.20
AY802X10	Tube 0.2 ml 12T/STP asst. colors (78 strip tubes/bag)	\$217.30
AY802X11	Caps for AY802X9 (80 strip caps/bag)	\$48.80
AY802X12	Caps for AY802X10 (78 strip caps/bag)	\$80.60
AY802X13	Tube 0.2 ml 8T/STP colorless (120 strip caps/bag)	\$197.20
AY802X14	Tube 0.2 ml 8T/STP asst. colors (120 strip tubes/bag)	\$217.30
AY802X15	Caps for AY802X13 (120 strip tubes/bag)	\$48.80
AY802X16	Caps for AY802X12 (120 strip caps/bag)	\$80.60

# Thermal Cyclers

PROGRAMMABLE THERMAL BLOK

Lab-Line

Model 212



## OUR FLEXIBLE MODULAR THERMAL CYCLERS!

- — Unique adjustable lock down heated lid
- — User-friendly programming—100 program capacity
- ★ — 24 Month Warranty

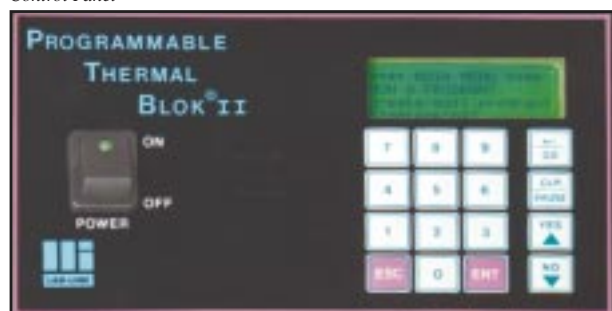


## PRODUCT DESCRIPTION

- Sturdy one-piece molded polymer exterior body construction is easy to clean, and will withstand a wide range of temperatures.
- Compact size conserves valuable bench top space.
- Sample modules are constructed from aluminum alloy for durability and excellent thermal characteristics.
- Each unit is self contained—no peripherals, separate power supplies, or hose connection required.
- Efficient thermoelectric Peltier heat pumps provide accurate, uniform heating and cooling throughout the entire temperature range.
- As research needs change, programmable Thermal Bloks can easily be modified to accommodate new requirements. Interchangeable modules available for 0.5 ml and 0.2 ml tubes, 96 well microtiter plate, 8 tube strips (0.2 ml) and glass slides.
- Microprocessor-based PID control provides minimal overshoot and precise temperature control.
- Controlled ramp rate up to 3°C per second for speed and repeatability.

- Menu-driven, user-friendly programming software is simple and easy to learn.
- Large keypad and LCD display screen provide all necessary information to operate the unit.
- Continual four line (20 characters each.)
- Programs are easy to develop and edit—just answer YES, NO or enter a value at each step of the menu sequence.
- Programmable pre-heat start up feature warms the unit to selected temperature and soak time, then sounds alarm to notify researcher to load samples.
- Additional option screens allow advanced users to take full advantage of the unit's potential.
- Automatic self-diagnostics run each time the unit is turned on.
- Software allows connection to a PC-compatible computer for data storage, display, and retrieval as well as full-color graphic real-time display or actual program runs.

Control Panel



# Thermal Cyclers

PROGRAMMABLE THERMAL BLOK

Lab-Line

## ORDERING INFORMATION

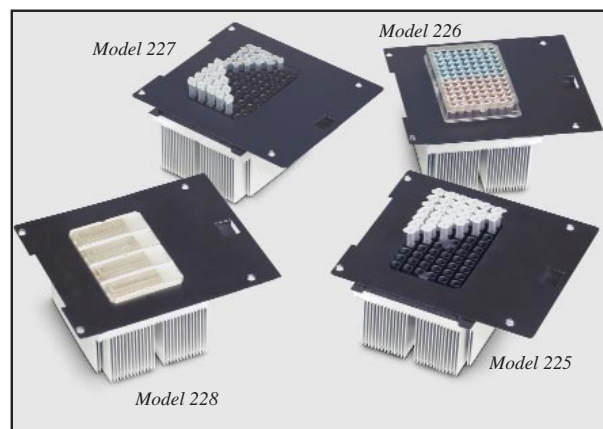
Model #	Description	Capacity	Volts	Amps	Watts	Dimensions Inches (cm)			Shipping Weight Lb. (kg)	US List Price
						W	H	D		
210	0.5 ml Tubes	60	120	2.5	300	10 (25.4)	7.5 (19.1)	16 (40.7)	20(9)	\$5179.00
210-1	0.5 ml tubes	60	240	1.3	300	70 (25.4)	7.5 (19.01)	16 (40.7)	20(9)	\$5179.00
212	96 well microtiter or 0.2 ml tubes or 8 tube (0.2 ml) strips	1. 96 12	120	2.5	300	10 (25.4)	7.5 (19.1)	16 (40.7)	20(9)	\$5247.00
212-1	96 well microtiter or 0.2 ml tubes or 8 tube (0.2 ml) strips	1 96 12	240	1.3	300	10 (25.4)	7.5 (19.1)	16 (40.7)	20(9)	\$5247.00
214	0.5 ml tubes, 0.2 ml tubes	30 48	120	2.5	300	10 (25.4)	7.5 (19.1)	16 (40.7)	20(9)	\$5205.00
214-1	0.5 ml tubes, 0.2 ml tubes	30 48	120	2.5	300	10 (25.4)	7.5 (19.1)	16 (40.7)	20(9)	\$5205.00
216	"In situ" glass slides	4	120	2.5	300	10 (25.4)	7.5 (19.1)	16 (40.7)	20(9)	\$5195.00
216-1	"In situ" glass slides	4	240	1.3	300	10 (25.4)	7.5 (19.1)	16 (40.7)	20(9)	\$5195.00

## PROGRAMMING CAPABILITIES

<b>Capacity:</b>	100; up to 99 programs can be stored
<b>Total Segments:</b>	900 (9 segments per program)
<b>Cycles:</b>	999 (any program may be repeated up to 999 times)
<b>Links:</b>	Unlimited (any program may be linked to any other)
<b>Loops:</b>	999 (a "go to" loop from one segment to another may be repeated up to 999 times) There may be multiple nested loops within the same program
<b>Quick Start:</b>	20 popular programs can be installed, can be edited
<b>Expand Time/Temperature:</b>	Time or temperature automatically increments after each loop—time expands from 1 to 999 seconds per loop; temperature from 0.1°C to 8.0°C per loop
<b>Hold:</b>	Maintain pre-programmed temperature indefinitely at end of run until researcher terminates program
<b>Copy:</b>	Modify an existing program and store it under a new name
<b>Manual Set Point:</b>	Allows researchers to use the thermal cycler at a single set point from 0°C to 105°C and select a time or run continuously
<b>Ramp/Soak:</b>	Ramp speeds from 3°C/sec.; soak time from 1 sec. to 100 hours; adjustable in 1 second increments
<b>Pause:</b>	Interrupts a running program. If unit is in the middle of ramping it will continue to the new set point but then hold that specific temperature until "GO" is selected

## ACCESSORIES

Model #	Description	Capacity	Shipping		US List Price
			Weight Lb. (kg)		
225	0.5 ml microtube module	60	5 (2.3)		\$1628.00
226	0.2 ml microtube or 96 well microplate module	96/1	5 (2.3)		\$1690.00
227	0.2 ml/0.5 ml tube module (48-0.2 ml, 30-0.5 ml)	78	5 (2.3)		\$1664.00
228	"In situ" glass slide module	4	5 (2.3)		\$1654.00



# Viscosimeter

## SAYBOLT VISCOSIMETER

**Lab-Line**

Model 4510



### THE STANDARD FOR TESTING PETROLEUM-BASED SAMPLES!

- — Temperature control from 60°F to 220°F as specified by ASTM D-88
- — Three heaters for full temperature
- — Durable stainless steel bath is welded securely to stainless steel draft shield and base
- ★ — 24 Month Warranty

### ORDERING INFORMATION

Model #	Volts	Temperature Range °F (°C)	Tube Capacity	W	Overall Dimensions Inches (cm)			Shipping Weight Lb. (kg)	US List Price
					H	D			
4510	120	60°-220°F (15.6°-104°C)	2	14 (35.6)	18 (45.7)	16 (40.6)	100 (45.4)	\$3614.00	
4512	120	60°-220°F (15.6°-104°C)	4	14 (35.6)	18 (45.7)	16 (40.6)	100 (45.4)	\$3900.00	

### ACCESSORIES

Model #	Description	US List Price
4511	Saybolt Oil—Low temperature, gallon	\$115.00
4520	Saybolt Viscosity Tube; brass with stainless steel universal orifice, meets A.S.T.M. requirements	\$489.00
4521	Saybolt Viscosity Tube; brass with stainless steel furoil orifice	\$489.00
4522	Saybolt Viscosity Tube; Brass with stainless steel universal and furoil orifices	\$593.00
4523	Saybolt Viscosity Tube; brass without orifice	\$385.00
4524	Saybolt Viscosity Tube; stainless steel with stainless steel universal orifice	\$915.00
4525	Saybolt Viscosity Tube; stainless steel with stainless steel furoil orifice	\$915.00
4526	Saybolt Viscosity Tube; stainless steel with stainless steel universal and furoil orifices	\$1019.00
4527	Saybolt Viscosity Tube; stainless steel without orifice	\$816.00
4528	Stainless Steel Universal Orifice	\$106.00
4529	Stainless steel Furoil Orifice	\$106.00
4530	Road oil Orifice	\$395.00
4531	Orifice Wrench	\$113.00
4532	Tube Wrench	\$98.00
4533	Saybolt Viscosity Tube; brass with stainless steel universal and furoil orifice and orifice wrench	\$686.00
4534	Saybolt Viscosity Tube; stainless steel with stainless steel universal and furoil orifice and orifice wrench	\$1076.00

### PRODUCT DESCRIPTION

- Bath temperature controlled by mercury-type thermoregulator.
- Electronic relay circuit prevents thermoregulator from carrying the heater load.
- Three heaters for full temperature—75 watts continuous, 75 watts controlled by main switch, 660 watts for quick heat
- Externally mounted induction motor drives stainless steel propeller stirrer for thorough circulation of oil without excessive agitation.
- Copper cooling coil can be used when operating conditions approach ambient to achieve below-ambient conditions.
- Each unit comes with a Saybolt viscosity tube cleaner, bulb pipette to adjust sample level, corks with pull chains and oil strainer.
- Models 4510 and 4512 provided with 3 gallons of Saybolt Oil.