

## Lab-Line Shakers



# Incubated and Refrigerated Shakers



MaxQ 4000 Shaker

**For a complete system order:  
1. Shaker 2. Platform 3. Clamps**

### Product Description

- Choose from three temperature ranges to fulfill a variety of molecular biology, cell and insect culture, and entomology studies.
- Clear lid allows you to view samples without disturbing internal temperature.

### Operation

- Shakers feature a triple eccentric drive that handles heavy workloads, provides uniform agitation and enables continuous 24-hour operation even at high speeds.
- Precisely monitor and control chamber temperature over complete range with  $\pm 0.1^\circ\text{C}$  accuracy at  $37^\circ\text{C}$  with PID temperature controller.

### Analog Operating System

- DC motor and variable speed control from 40 to 400 rpm, controlled by a rotary dial.
- Integrated tachometer monitors and displays speed in rpm to guarantee an accurate setting.
- Easy-to-read LED digital display shows temperature.
- Operate shaker in continuous mode or set timer from 1 to 60 minutes for time studies.

## Max<sup>Q</sup> 4000 Combines Incubated/Refrigerated Temperatures with Orbital Shaker

- Choose between analog and digital operating systems.
- 5 year warranty on parts, one year labor and *LIFETIME* on mechanism.



### Digital Operating System

- Solid state DC brushless motor, variable speed control from 15 to 500 rpm, and continuous and timed operation from 0.1 hour up to 99.9 hours or 0.1 minute to 99.9 minutes.
- Displayed time counts up during continuous operation and down during timed runs.
- View speed, operating time and temperature simultaneously on 3 individual LED displays which helps minimize errors in establishing running conditions.
- Visual/audible signals alert you to temperature deviations. Heat turns off if temperature deviates  $\pm 1^\circ\text{C}$  of set point.
- Shaker shut down and audible/visual alarms signal if unit operates  $\pm 10\%$  of set speed preventing shaker from walking.
- User adjustable speed calibration can be performed using a digital hand held tachometer where verification is required and protocols can be standardized.
- Unbalanced load sensor stops platform motion when excess vibration is detected due to an unbalanced load. Visual/audible alarm signal until condition is corrected.
- Soft start feature eliminates splashing of vessel contents, wetting of flask closure, and helps prevent sudden starts and stops.
- Set point retention retains parameters during power failure and restarts unit automatically after power is restored.
- RS232 interface allows remote monitoring of speed, time and temperature.
- Monitor temperature with built-in recorder jack for output to chart recorders for a permanent record.

## Lab-Line Shakers



### Safety

- Over temperature safety feature with independent thermostat provides additional backup by controlling heat if main temperature controller fails.
- Safety interlock stops platform motion when the lid is open.

### Applications

- Cell cultures
- Extraction procedures
- General mixing
- Staining & de-staining
- Hybridizations
- Solubility studies
- Diagnostic tests
- Bacterial suspensions
- Washing procedures

### ORDERING INFORMATION

Model #	Speed Range (rpm)	Orbit Diameter Inches (cm)	Maximum Load Lbs (kg)	Temperature Range and Accuracy	Overall Dimensions Inches (cm)			Power	Shipping Weight Lbs (kg)	US List Price
					L	W	H			
<b>Bench Top Incubated Shaker - Analog</b>										
SHKA4000 <sup>1,3</sup>	40 to 400	0.75 (1.9)	50 (22.7)	5°C above ambient to 60°C; +/-0.1°C at 37°C in flask	32 (81.3)	22.5 (57.2)	22 (55.9)	120V, 50/60 Hz	167 (75.8)	\$4,898.00
SHKA4000-1CE <sup>1,2,3</sup>	40 to 400	0.75 (1.9)	50 (22.7)	5°C above ambient to 60°C; +/-0.1°C at 37°C in flask	32 (81.3)	22.5 (57.2)	22 (55.9)	240V, 50/60 Hz	167 (75.8)	\$4,898.00
<b>Bench Top High Temperature Incubated Shaker - Analog</b>										
SHKA4000-5	40 to 400	0.75 (1.9)	50 (22.7)	5°C above ambient to 80°C; +/-0.1°C at 37°C in flask	32 (81.3)	22.5 (57.2)	22 (55.9)	120V, 50/60 Hz	167 (75.8)	\$5,150.00
SHKA4000-6CE	40 to 400	0.75 (1.9)	50 (22.7)	5°C above ambient to 80°C; +/-0.1°C at 37°C in flask	32 (81.3)	22.5 (57.2)	22 (55.9)	240V, 50/60 Hz	167 (75.8)	\$5,150.00
<b>Bench Top Refrigerated Shaker - Analog</b>										
SHKA4000-7	40 to 400	0.75 (1.9)	50 (22.7)	15°C below ambient to 60°C; +/-0.1°C at 37°C in flask	34 (86.4)	22.5 (57.2)	22 (55.9)	120V, 50/60 Hz	212 (96.2)	\$6,475.00
SHKA4000-8CE	40 to 400	0.75 (1.9)	50 (22.7)	15°C below ambient to 60°C; +/-0.1°C at 37°C in flask	34(86.4)	22.5 (57.2)	22 (55.9)	240V, 50/60 Hz	212 (96.2)	\$6,475.00
<b>Bench Top Incubated Shaker - Digital</b>										
SHKE4000 <sup>1,3</sup>	15 to 500 +/- 1 rpm	0.75 (1.9)	50 (22.7)	5°C above ambient to 60°C; +/-0.1°C at 37°C in flask	32 (81.3)	22.5 (57.2)	22 (55.9)	120V, 50/60 Hz	167 (75.8)	\$5,560.00
SHKE4000-1CE <sup>1,2,3</sup>	15 to 500 +/- 1 rpm	0.75 (1.9)	50 (22.7)	5°C above ambient to 60°C; +/-0.1°C at 37°C in flask	32 (81.3)	22.5 (57.2)	22 (55.9)	240V, 50/60 Hz	167 (75.8)	\$5,560.00
<b>Bench Top High Temperature Incubated Shaker - Digital</b>										
SHKE4000-5	15 to 500 +/- 1 rpm	0.75 (1.9)	50 (22.7)	5°C above ambient to 80°C; +/-0.1°C at 37°C in flask	32(81.3)	22.5 (57.2)	22 (55.9)	120V, 50/60 Hz	167 (75.8)	\$5,975.00
SHKE4000-6CE	15 to 500 +/- 1 rpm	0.75 (1.9)	50 (22.7)	5°C above ambient to 80°C; +/-0.1°C at 37°C in flask	32 (81.3)	22.5 (57.2)	22 (55.9)	240V, 50/60 Hz	167 (75.8)	\$5,975.00
<b>Bench Top Refrigerated Shaker - Digital</b>										
SHKE4000-7	15 to 500 +/- 1 rpm	0.75 (1.9)	50 (22.7)	15°C below ambient to 60°C; +/-0.1°C at 37°C in flask	34 (86.4)	22.5 (57.2)	22 (55.9)	120V, 50/60 Hz	212 (96.2)	\$6,795.00
SHKE4000-8CE	15 to 500 +/- 1 rpm	0.75 (1.9)	50 (22.7)	15°C below ambient to 60°C; +/-0.1°C at 37°C in flask	34 (86.4)	22.5 (57.2)	22 (55.9)	240V, 50/60 Hz	212 (96.2)	\$6,795.00

<sup>1</sup> CUL, <sup>2</sup> CE, <sup>3</sup> UL

### ACCESSORIES

Universal Platform		US List Price	Clamps for Universal Platform			
Model #	Description		Model #	Vessel Size	Maximum number of vessels per platform size 18" x 18" (45.7 x 45.7 cm)	US List Price
30110	Universal 18" x 18" (45.7 x 45.7 cm) Platform	\$214.00	30175	Microplate/ Deep Well Plate	10	\$18.00
<p><b>More universal clamps are available along with dedicated platforms and clamps. See catalog pages 246-249 for additional information on these platforms.</b></p>			30150	10 ml Flask	113	\$16.00
			30151	25 ml Flask	64	\$16.00
			30152	50 ml Flask	32	\$18.00
			30153	125 ml Flask	32	\$18.00
			30154	250 ml Flask	16	\$21.00
			30155	300 ml Flask	16	\$21.00
			30156	500 ml Flask	16	\$24.00
			30157	1 Liter Flask	5	\$33.00
			30158	2 Liter Flask	4	\$43.00