

# Benchtop or Stackable Incubator Shakers: Innova®

Our most versatile benchtop incubator shaker, Model 4230 includes refrigeration for near- and sub-ambient work. Optional photosynthetic light bank is also available. When refrigeration is not needed, Model 4200 does the job. These multi-purpose instruments have the same size shaker platform as Innova 40/40R, but accept flasks to 6 Liters, and have two stationary shelves for added incubating or storing capability. With a front-opening door, they can be used on the bench, or floor-stacked two high for space savings.

- **Temperature Range:**  
Innova 4200: 5°C above ambient to 80°C.  
Innova 4230: 20°C below ambient to 80°C.  
(75°C max. in 50 Hz. models. Min. setpoint 4°C.)
- **Agitation:** 25 - 400 rpm, ± 1 rpm.
- **Two Adjustable-Height, Stationary Shelves** add storage for incubating plates and other samples.
- **Use On the Bench or Stacked\* Two High** on the floor for space savings. (\* Requires stacking kit.)
- **Large Viewing Window & Internal Light Provide Clear Chamber Visibility**, minimizing the need to open the door. Rapid air circulation produces quick temperature equilibration and recovery.
- **In-Chamber, Moisture-Proof Receptacle Provides Power for an Accessory Instrument** such as rocker, roller, or second shaker.
- **Keyed Door Lock** adds security.
- **Interchangeable Accessory Platforms Accept Glassware Up to 6 L.**

## Options

- **Orbit:**  $\frac{3}{4}$ " (1.9 cm) or 1" (2.54 cm) diameter orbit.
- **5-Port Gassing Manifold** permits direct gassing into flasks for anaerobic cultures.



Front-loading Innova 4200 & 4230 shakers accept a wide variety of interchangeable 18" x 18" (46 x 46 cm) accessory platforms for glassware up to 6 liters. Two stationary shelves are included for incubating or refrigerating added samples.

- **Programmable Timer Automates Switching Between Two Temperatures, and Cycling Agitation On or Off.** Limits metabolic activity in studies that end overnight, saving a return trip to the lab. Facilitates heat inductions. Model 4230 only.
- **Photosynthetic Light Bank** with external manual on-off switch enables culturing plant cells. Model 4230 only.



Space saving, stackable design.

# 4200 & 4230 with Added Refrigeration

Specifications *		Innova 4200	Innova 4230
Temperature	Range ∞	5°C above ambient to 80°C	20°C below ambient to 80°C. Min. setpoint is 4°C
	Accuracy	± 0.1°C with a nominal uniformity of ± 0.25°C at 37°C	
	Refrigeration	Model 4230 only: Hermetically-sealed compressor uses CFC-free refrigerant	
	Heaters	Low watt-density, resistance-type heaters with high-temperature safety thermostat cut off	
	Optional Programming	Model 4230 only, optional programmable timer can switch between two temperatures and turn agitation on or off. Enables incubating and agitating samples at one temperature for a period of time and then switching to a lower temperature and shutting agitation off to limit metabolic activity. 7-day 24 hr clock timer, programs up to 24 events	
Shaking	Range §	25 to 400 rpm or 25 - 300 when stacking two units, with 3/4" (1.9 cm) or 1" (2.54) orbit	
	Control		
	Drive Mechanism	Triple-eccentric counterbalanced drive in cast-iron housing with 9 permanently lubricated ball bearings. Solid-state brushless D.C. motor	
	Timer	Programmable shaking periods from 0.1 hr. to 99.9 hrs. Triggers audible alarm and energizes status light at end of period. Can be deactivated for continuous operation	
Alarms	Audible & Visible	Indicate when speed deviates more than 5 rpm or temperature more than 1°C from setpoints, and when timer operation has expired. Alarm may be muted	
LED Display		Indicates speed, temperature, running time and alarm conditions. Character height: 9/16" (1.4 cm)	
Safety		Safety stops shaker when door is opened; and shuts off temperature when high-temperature limit is exceeded	
Recorder Output		0 - 5 volt output for tracking temperature and speed with external recorder	
Setpoint Retention		Setpoints and operating status retained by non-volatile memory. Automatic restart after power is restored (indicated by flashing display)	
Electric	Service	120V 50/60 Hz; 220/230V 50/60 Hz; 240V 50/60 Hz; 100V 50/60 Hz	
	Power	600VA	1,000VA
Internal Electric Receptacle		200 Watt moisture-proof internal electric outlet installed in chamber for optional magnetic stirrers, rocker, roller, portable shaker, etc.	
Illumination	Chamber	13 Watt fluorescent light illuminates chamber with external on-off switch	
	Photo-synthetic	Optional for Model 4230 only. Photosynthetic Light Bank with (6) 15-Watt Gro-Lux lights and an external on-off switch	
Dimensions	Platform **	18" Wide x 18" Deep (46 x 46 cm)	
	Overall	24.4" Wide x 28.7" Deep x 36.4" High (62 x 73 x 92.5 cm) With door open: 51.2" [130 cm] Deep. Height stacked: 71" High (180 cm) †	
	Chamber	20.5" Wide x 20.5" Deep x 24.8" High from shaker platform (52 x 52 x 63 cm)	
	Viewing Window	11.4" Wide x 19.25" High (29 x 49 cm) double-pane insulated window	
Weight	Net	270 lbs. (123 kg)	300 lbs (137 kg)
Ambient Conditions		Temperature: 0°C - 40°C for Model 4200 and 15°C - 35°C for Model 4230 Humidity: 20% to 80% non-condensing.	
Warranty		Comprehensive warranty – two years on labor, three years on parts	

\* Specifications subject to change without notice. ∞ 50 Hz models to 75°C.

§ Speed range based on shaking a typical workload. Baffled flasks can significantly reduce maximum speed.

† Requires a stacking kit.

\*\* Platforms ordered separately. See page 22.

Ordering Information **	Catalog No.	Catalog No.
Innova 4200 Shaker 120 V 60 Hz	3/4" orbit: M1233-0004	1" orbit: M1233-0014
Innova 4200 Shaker 100 V 60 Hz	3/4" orbit: M1233-0005	1" orbit: M1233-0015
Innova 4200 Shaker 230 V 50 Hz	3/4" orbit: M1233-0006	1" orbit: M1233-0016
Innova 4200 Shaker 100 V 50 Hz	3/4" orbit: M1233-0007	1" orbit: M1233-0017
Innova 4230 Shaker 120 V 60 Hz	3/4" orbit: M1233-0000	1" orbit: M1233-0010
Innova 4230 Shaker 100 V 60 Hz	3/4" orbit: M1233-0001	1" orbit: M1233-0011
Innova 4230 Shaker 230 V 50 Hz	3/4" orbit: M1233-0002	1" orbit: M1233-0012
Innova 4230 Shaker 100 V 50 Hz	3/4" orbit: M1233-0003	1" orbit: M1233-0013
5-Port Gas Manifold, factory installed M1233-0291		
Programmable Temp./Agitation Controller, Model 4230 only, factory-installed M1233-6011		

More Options		
Photosyn. Lights	120 V 60 Hz	M1233-9940
Photosyn. Lights	100 V 60 Hz	M1233-9941
Photosyn. Lights	220 V 60 Hz	M1233-9942
Photosyn. Lights	100 V 50 Hz	M1233-9944
Photosyn. Lights	220 V 50 Hz	M1233-9945
Photosyn. Lights	240 V 50 Hz	M1233-9946
Stacking Kit		M1233-9992
Additional Shelf & Brackets		M1233-9996
Spare Parts Kit	120 V 50/60Hz	M233-6002

Photosynthetic Lighting available for Model 4230 only.

\*\* Shaker platforms sold separately. See page 22. For capacity information, see page 9.