

6 APPENDIX

This section contains additional information of interest, but not essential to the operation or care of your Innova shaker.

6.1 Specifications

SHAKING	
Speed	25-500 RPM
Motion	¾ inch (19 mm) diameter circular orbit
Indication	LED digital electric display, 1 RPM increments
Setpoint & Control	Digital adjustment with PI microprocessor control and instantaneous visual feedback
Accuracy	± 1 RPM
DRIVE	
Triple eccentric counterbalanced ball bearing drive	
TEMPERATURE	
Range	5°C above ambient to 60.0°C (Innova 4000) 5°C above ambient to 80.0°C (Innova 4080)
Range with Cooling	5°C above coolant using cooling coil accessory (option)
Control Stability	± 0.1°C by use of PI microprocessor controller and pulse width modulation of heater
Setpoint	Digital adjustment increments within 0.1°C instantaneous visual feedback
Accuracy	± 0.1° @ 30-40°C range
Uniformity	± 0.5° for remaining range
Safety	Better than 0.5°C Heater shuts off if temperature exceeds operating range
Heater	Low watt density resistance heater with high temperature safety thermostat
TIMER	
<ul style="list-style-type: none"> • Programmable shaking periods from 0.1 to 99.9 hours by a digital timer that shuts off at the end of period and energizes status light. • Timer counts down and digital display indicates remaining time. • Can be deactivated for continuous operation. • Additionally, unit will display total accumulated running time for service information. 	
OPERATING AMBIENT ENVIRONMENT	
0° - 40°C, 90% humidity, non-condensing.	

SELF-DIAGNOSTIC STATUS	
Warning signal (audible and visible) indicates when shaking speed deviates more than 5 RPM or the temperature deviates more than 1.0°C from set point and when timer operation has expired. Audible alarm can be deactivated/activated by the operator.	
REMOTE MONITORING	
Chart recorder outputs for speed and temperature (0-5V). 1V per 100 RPM; 1V per 20°C, accuracy ± 25 mV.	
AUTOMATIC RESTART	
Unit will automatically restart after undesired power interruption. Setpoints are maintained by non-volatile memory. Interruption is indicated by a flashing display.	
MOTOR	
1/15 HP, 3 phase brushless ball bearing DC motor.	
ELECTRICAL SERVICE	
Voltage	<ul style="list-style-type: none"> • 100V, 50/60 Hz • 120V, 50/60 Hz • 220V, 50/60 Hz • 240V, 50/60 Hz
VA Requirements	600 VA for Innova 4000 900 VA for Innova 4080
Universal power entry system adapts to US or International requirements.	
DIMENSIONS	
Width	21 inches (53.4 cm)
Depth	27½ inches (69.9 cm)
Height	19¾ inches (50 cm)
CONSTRUCTION	
Heavy gauge steel, phosphate-coated and texture painted cabinet. See-through plastic cover.	
WEIGHT	
Net	150 lbs (68 kg)
Gross	200 lbs (91 kg)
PLATFORM DIMENSIONS	
18 inches X 18 inches (46 cm x 46 cm), Phenolic composite.	
CHAMBER DIMENSIONS (interior)	
Width	19¾ inches (50.2 cm)
Depth	19 inches (48.3 cm)
Height	13¼ inches (33.6 cm) above the platform