

9 Technical data

9.1 Weight/dimensions

9.1.1 Device Dimensions

Height	36.8 cm (17 in)
Width	43.2 cm (19.5 in)
Depth	69.9 cm (27.5 in)

9.1.2 Platform dimensions

Platform dimensions	30.5 cm (12 in)x 42.4 cm (16.5 in)
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9.1.3 Weight

Net weight	47.6 kg (105 lb)
Gross weight	63.5 kg (140 lb)

9.2 Application Parameters

9.2.1 Speed

Speed	25-400 rpm
Motion	12.7 mm (0.5 in) diameter circular orbit
Indication	LED digital electric display, 1 rpm increments
Setpoint and control	Digital adjustment with PI microprocessor control and instantaneous visual feedback
Accuracy	± 1 rpm
Drive	Triple eccentric counterbalanced ball bearing drive
Motor	1 / 15 HP, 3-phase brushless ball bearing DC motor

9.2.2 Temperature

Range	5 °C above ambient temperature to 80 °C
Range with cooling option	5 °C above coolant temperature to 80 °C
Accuracy	± 0.1 at 30 - 40 °C ± 0.5 °C for remaining range
Control stability	± 0.1 °C by use of PI microprocessor controller and pulse width modulation of heater
Uniformity	Better than 0.5 °C
Setpoint	Digital adjustment increments (0.1 °C increments) with instantaneous visual feedback
Safety	Heater shuts off if temperature exceeds operating range. Two safeties provided
Heater	Low watt density resistance mat heater
Ambient operating environment	0 - 40 °C, 90 % humidity, non-condensing

9.2.3 Altitude Limit

Altitude limit	2000 m (2187.23 yd)
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9.2.4 Timer (Shaker)

Programmable shaking periods from 0.1 hour 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, the device will display total accumulated running time for service information

9.2.5 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 setpoint and when timer operation has expired. The audible alarm can be deactivated/activated by the operator

9.2.6 Remote Monitoring

Chart recorder outputs for speed and temperature (0 - 5 V)

1 V per 100 rpm; 1 V per 20 °C, accuracy ± 25 mV

9.2.7 Automatic Restart

Device will automatically restart after undesired power interruption

Setpoints are maintained by non-volatile memory

Interruption is indicated by a flashing display

9.2.8 Construction

Heavy gauge steel, phosphate-coated and texture-painted cabinet

Seamless stainless steel water bath

All metal parts in contact with water are stainless steel

9.3 Power supply

Innova 3100

100 V, 50 / 60 Hz
120 V, 50 / 60 Hz
220 - 230 V, 50 / 60 Hz
240 V, 50 / 60 Hz

1100 VA Universal power entry
system adapts to U.S. or
International requirements

9.3.1 Electrical Protection

Circuit breaker for main power

Control circuits provided with separate fuse
