



# Open Air Shakers



*Light Duty Orbital Shakers  
Extreme Environment Shakers  
Heavy Duty Orbital Shakers  
Rocking & Waving Shakers  
Reciprocating Shakers*



***Ingeniously Practical***

# Open Air Shakers Selection Guide



Product Family	Light Duty Orbital Shaker			
Model	SHLD0415AL	SHLD0403DG	SHLD0415DG	SHLDMP03DG
Speed Range	40 to 300 rpm	100 to 1200 rpm	40 to 300 rpm	100 to 1200 rpm
Timer	N/A	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours
Motion	Orbital	Orbital	Orbital	Orbital
Orbit	15 mm	3 mm	15 mm	3 mm
Max Weight Capacity	8 lbs	8 lbs	8 lbs	4 microplates / 2 micro-tube racks
Audible Alarm	—	●	●	●
Load Sensor	—	—	—	—
Motor Type	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
CO <sub>2</sub> Environment	●	●	●	●
Overload Protection	—	●	●	●
User Calibration (Speed)	—	—	—	—
RS232 Interface	—	—	—	—
Included Tray (L x W)	11.75 x 8.75"	11.75 x 8.75"	11.75 x 8.75"	11 x 7.75"
Tray / Platform Options (L x W)	N/A	Adjustable Platform	Adjustable Platform	N/A



Product Family	Extreme Environment Shakers	Heavy Duty Shaker	Heavy Duty Shaker	Heavy Duty Shaker
Model	SHEX1619DG	SHHD1619AL	SHHD1619DG	SHHD2325AL
Speed Range	15 to 500 rpm	25 to 500 rpm	15 to 500 rpm	25 to 500 rpm
Timer	1 second to 160 hours	1 to 120 minutes	1 second to 160 hours	1 to 120 minutes
Motion	Orbital	Orbital	Orbital	Orbital
Orbit	19 mm	19 mm	19 mm	25 mm
Max Weight Capacity	35 lbs	35 lbs	35 lbs	50 lbs
Audible Alarm	●	—	●	—
Load Sensor	●	—	●	—
Motor Type	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
CO <sub>2</sub> Environment	●	●	●	●
Overload Protection	●	—	●	—
User Calibration (Speed)	●	—	●	—
RS232 Interface	●	—	●	—
Included Tray (L x W)	11 x 13"	11 x 13"	11 x 13"	18 x 24"
Tray / Platform Options (L x W)	11 x 13", 13 x 13", 18 x 18", 18 x 24" Adjustable Platform Separatory Funnel Platform	11 x 13", 13 x 13", 18 x 18", 18 x 24" Adjustable Platform Separatory Funnel Platform	11 x 13", 13 x 13", 18 x 18", 18 x 24" Adjustable Platform Separatory Funnel Platform	18 x 24", 18 x 30" Adjustable Platform Large Vessel Carrier Platform

● Yes

# Open Air Shakers



Product Family	Heavy Duty Orbital Shaker	Heavy Duty Orbital Shaker	Heavy Duty Orbital Shaker	Heavy Duty Orbital Shaker	Heavy Duty Orbital Shaker
Model	SHHD2325DG	SHHD4525DG	SHHD4550DG	SHHD6825DG	SHHD6850DG
Speed Range	20 to 500 rpm	15 to 500 rpm	15 to 300 rpm	15 to 500 rpm	15 to 300 rpm
Timer	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours
Motion	Orbital	Orbital	Orbital	Orbital	Orbital
Orbit	25 mm	25 mm	51 mm	25 mm	51 mm
Max Weight Capacity	50 lbs	100 lbs	100 lbs	150 lbs	150 lbs
Audible Alarm	●	●	●	●	●
Load Sensor	●	●	●	●	●
Motor Type	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
CO <sub>2</sub> Environment	●	●	●	●	●
Overload Protection	●	●	●	●	●
User Calibration (Speed)	●	●	●	●	●
RS232 Interface	●	●	●	●	●
Included Tray (L x W)	18 x 24"	24 x 24"	24 x 24"	24 x 36"	24 x 36"
Tray / Platform Options (L x W)	18 x 24", 18 x 30" Adjustable Platform Large Vessel Carrier Platform	24 x 24" Large Vessel Carrier Platform	24 x 24" Large Vessel Carrier Platform	24 x 36" Large Vessel Carrier Platform	24 x 36" Large Vessel Carrier Platform



Product Family	Rocking Shaker	Rocking Shaker	Waving Shaker	Waving Shaker	Reciprocating Shaker
Model	SHRK04DG	SHRK07AL1	SHWV02DG	SHWV02AL	SHRC0719DG
Speed Range	1 to 50 rpm*	1 to 75 rpm*	1 to 30 rpm*	1 to 75 rpm*	20 to 300 rpm
Timer	1 second to 160 hours	1 minute to 120 minutes	1 second to 160 hours	1 minute to 120 minutes	1 second to 160 hours
Motion	Rocking	Rocking	Waving	Waving	Reciprocating
Orbit	Tilt Angle: 0 to 15°	Tilt Angle: 0 to 15°	Tilt Angle: 0 to 20° *	Tilt Angle: 0 to 16°	Stroke: 19 mm
Max Weight Capacity	10 lbs**	16 lbs**	5 lbs**	5 lbs**	15 lbs
Audible Alarm	●	—	●	—	●
Load Sensor	—	—	—	—	●
Motor Type	Stepper Motor	Stepper Motor	Stepper Motor	Stepper Motor	Brushless DC Motor
CO <sub>2</sub> Environment	●	—	●	—	●
Overload Protection	●	—	●	—	●
User Calibration (Speed)	—	—	—	—	●
RS232 Interface	—	—	—	—	●
Included Tray (L x W)	12.75 x 10"	14 x 11"	11.75 x 8.75"	14 x 11"	11 x 13"
Tray / Platform Options (L x W)	Stacking Tray	Stacking Tray	Stacking Tray	—	11 x 13", 13 x 13", 18 x 18", 18 x 24" Separatory Funnel Platform

● Yes \* Maximum speed/tilt angle may vary with heavy or unbalanced loads. \*\* Centered on tray.

# Light Duty Orbital Shakers



Light Duty Shakers are designed for applications with loads under 8 lb. Choose from two orbits and speed ranges to optimize your sample mix. Microprocessor-controlled and available as an analog model with basic speed control, two digital models which include a non-slip mat that can be removed to mount flask clamps and tube racks directly onto the tray, and a digital Microplate Shaker model which can hold up to 4 microplates or 2 microtube racks.

- Microprocessor-Controlled for Consistent Shaking Action
- Triple Eccentric Drive Provides Reliable Service and Continuous Duty Operation
- Safety Features Include Speed Ramping and Overload Protection

## Light Duty Orbital Shakers

- Variable speed microprocessor control
- Low profile design
- 15 mm orbit

The OHAUS Light Duty Analog Shaker is an economical shaker designed for educational labs or basic shaking applications.

### Operating Features:

**Low Profile Design:** Takes up less space and easily fits into most hoods and incubators.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**Adjustment Knob:** Basic speed knob with dial settings from 1 to 10.

### Safety Features:

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from 0 to 40°C (32 to 104°F), maximum 80% relative humidity, non-condensing.

### Applications:

Blotting techniques, staining/destaining, and general shaking procedures.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with an 11.75 × 8.75" (29.9 × 22.2 cm) non-skid rubber mat.



Specifications	
Speed Range	40 to 300 rpm
Orbit	15 mm (0.6")
Maximum Weight Capacity	8 lbs (3.6 kg)
Tray Material	Aluminum
Tray Dimensions (L × W)	11.75 × 8.75" (29.9 × 22.2 cm)
Overall Dimensions (L × W × H)	16.3 × 10.0 × 4.0" (41.3 × 25.4 × 10.2 cm)
Ship Weight	25 lbs (11.3 kg)

Description	Model	Item Number
Analog Light Duty Orbital Shaker	SHLD0415AL	30391891

# Open Air Shakers

## Light Duty Orbital Shakers

- General purpose shaker
- LED displays for speed and time
- 3 mm or 15 mm orbit

The OHAUS Digital Light Duty Orbital Shaker is ideal for a wide variety of shaking applications. Tray includes a non-skid rubber mat. Remove the mat to mount a variety of optional flask clamps or test tube racks directly onto the tray.

### Operating Features:

**Low Profile Design:** Takes up less space and easily fits into most hoods and incubators.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. Microprocessor will display last set-point and will restart if power is interrupted.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and time allow operator to view both settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

### Safety Features:

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Units can be run in cold rooms, incubators, and CO<sub>2</sub> environments.

SHLD0403DG: -10 to 60°C (14 to 140°F)

SHLD0415DG: -10 to 40°C (14 to 104°F)

Maximum 80% relative humidity, non-condensing.

### Applications:

Cell cultures, immunoassays, and protein studies.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with an 11.75 × 8.75" (29.9 × 22.2 cm) non-skid rubber mat.



Specifications		
Speed Range	SHLD0403DG SHLD0415DG	100 to 1200 rpm 40 to 300 rpm
Speed Accuracy		+/-2% above 100 rpm +/-2 rpm below 100 rpm
Timer		1 second to 160 hours
Orbit	SHLD0403DG SHLD0415DG	3 mm (0.12") 15 mm (0.6")
Maximum Weight Capacity		8 lbs (3.6 kg)
Tray Material		Aluminum
Tray Dimensions (L × W)		11.75 × 8.75" (29.9 × 22.2 cm)
Overall Dimensions (L × W × H)		16.3 × 10.0 × 4.0" (41.3 × 25.4 × 10.2 cm)
Ship Weight		25 lbs (11.3 kg)

Description	Model	Item Number
Digital Light Duty Orbital Shaker 3 mm Orbit	SHLD0403DG	30391898
Digital Light Duty Orbital Shaker 15 mm Orbit	SHLD0415DG	30391912



## Light Duty Orbital Shakers

- Holds up to 4 microplates or 2 micro-tube racks
- Accepts deep well plates
- Timer with audible alarm

The OHAUS Microplate Shaker is ideal for immunoassays and general microplate shaking, and is designed to be used in a variety of environmental conditions.

### Operating Features:

**Low Profile Design:** Takes up less space and easily fits into most hoods and incubators. Base offers durability and added stability.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. Microprocessor will display last set-point and will restart if power is interrupted.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and time allow operator to view all settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

### Safety Features:

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

ELISA assays and DNA studies.

### Ordering Information:

Units include a detachable, 3-wire cord and plug.



Specifications	
Speed Range	100 to 1200 rpm
Speed Accuracy	± 2%
Timer	1 second to 160 hours
Orbit	3 mm (0.12")
Maximum Weight Capacity	4 microplates or 2 micro-tube racks
Tray Material	Aluminum
Tray Dimensions (L x W)	11 x 7.75" (27.9 x 19.7 cm)
Overall Dimensions (L x W x H)	16.3 x 10.0 x 4.0" (41.3 x 25.4 x 10.2 cm)
Ship Weight	25 lbs (11.3 kg)

Description	Model	Item Number
Light Duty Microplate Shaker	SHLDMP03DG	30391905

# Extreme Environment Shakers



Ideal for applications that require CO<sub>2</sub> and humidity for optimal cell growth, our Extreme Environment Shakers are designed for use in extreme environments such as CO<sub>2</sub> incubators. A remote controller (that magnetically attaches to the outside of most incubators) allows for external control of settings, and the shaker base is placed inside of the incubator. Microprocessor control ensures consistent shaking while safely ramping to the set speed.

- Patented Accu-Drive Shaking System Ensures Accuracy and Speed Control
- Control Settings Externally without Disturbing the Incubator Atmosphere
- Touchpad Control With Independent LED Displays for Speed and Time

## Extreme Environment Shakers

- Designed for use in CO<sub>2</sub> Incubators
- Can withstand extreme environments up to 100% humidity
- Remote controller magnetically attaches to most incubators

The OHAUS Extreme Environment Orbital Shaker is designed for a wide range of applications including cell cultures that require CO<sub>2</sub> and humidity for optimal cell growth. The microprocessor control provides consistent uniform shaking while safely ramping to the set speed.

### Operating Features:

**Accu-Drive Shaking System:** The exclusive patented Accu-Drive Shaking System delivers exceptional speed control, accuracy, and durability. The shaking system continuously monitors shaking speed and maintains set-point, even under changing loads. When unit is set to a speed above 100 rpm, the speed accuracy is ± 1% of set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. Microprocessor will display last set-point and will restart if power is interrupted.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**Remote Controller:** The control module is designed to sit outside of the incubator. Settings can be easily viewed or changed from outside of the incubator without disturbing the incubator's atmosphere. The thin ribbon cable is 5.5 feet long and easily passes underneath an incubator door via incubator's utility port. Controller magnetically attaches to most incubator doors or can sit on a lab bench.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and time allow operator to view both settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

**RS232 Interface:** Provides two-way communication for data logging and unit control.

**Speed Calibration Mode:** Allows user to automatically recalibrate speed display.

### Safety Features:

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero. Alarm has optional mute function which can be set from the touch pad control.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), up to 100% humidity.

### Applications:

Cell cultures, solubility studies, and extraction procedures.

### Ordering Information:

Unit includes a detachable, 3-wire cord and plug. Unit is also supplied with an 11 × 13" (27.9 × 33 cm) non-skid rubber mat.



Specifications		
Speed Range	15 to 500 rpm	
Speed Accuracy	above 100 rpm ± 1% of set speed below 100 rpm ± 1 rpm	
Timer	1 second to 160 hours	
Orbit	0.75" (19 mm)	
Maximum Weight Capacity	35 lbs (16 kg)	
Tray Material	Aluminum	
Tray Dimensions (L × W)	11 × 13" (27.9 × 33 cm)	
Overall Dimensions (L × W × H)	Shaker	11.6 × 14.0 × 5.9" (29.4 × 35.5 × 14.9 cm)
	Remote	5.5 × 14.0 × 4.4" (15.0 × 35.6 × 11.2 cm)
Ship Weight	49 lbs (22.2 kg)	

Description	Model	Item Number
Extreme Environment Shaker	SHEX1619DG	30391809

# Heavy Duty Orbital Shakers



With load capacities from 35 to 150 lb and over 70 accessory options, OHAUS Heavy Duty Shakers are designed to handle a range of applications. Available as analog or digital models with microprocessor control to provide variable speed and consistent shaking, while ramping to the set speed. Microprocessor displays the last set-point and will restart if power is interrupted. Built-in tray and non-slip rubber mat included with all models.

- Patented Accu-Drive Shaking System Ensures Accuracy and Speed Control
- Touchpad Control With Independent LED Displays for Speed/Time on Digital Models
- Safety Features Include Speed Ramping and Load Sensor

## Heavy Duty Orbital Shaker

- Microprocessor controls
- Continuous or timed operation
- 35 lb weight capacity

The OHAUS 16 kg Capacity Analog Heavy Duty Orbital Shaker is designed for a wide range of applications that require basic shaking control. Shaker provides reproducible motion that is evenly distributed throughout the entire surface of the tray.

### Operating Features:

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. The shaker will automatically restart after a power interruption.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**Adjustment Knobs:** Basic speed and time knobs with dial settings from 1 to 10.

### Safety Features:

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from 0 to 40°C (32 to 104°F), maximum 80% relative humidity, non-condensing.

### Applications:

Bacterial suspensions, staining/destaining, and general mixing.

### Ordering Information:

Unit includes a detachable, 3-wire cord and plug. Unit is also supplied with an 11 × 13" (27.9 × 33 cm) non-skid rubber mat.



Specifications	
Speed Range	25 to 500 rpm
Timer	1 minute to 120 minutes
Orbit	19 mm (0.75")
Maximum Weight Capacity	35 lbs (16 kg)
Tray Material	Aluminum
Tray Dimensions (L × W)	11 × 13" (27.9 × 33 cm)
Overall Dimensions (L × W × H)	16.3 × 14.0 × 5.9" (41.3 × 35.5 × 14.9 cm)
Ship Weight	49 lbs (22.2 kg)

Description	Model	Item Number
16 kg Capacity Analog Heavy Duty Orbital Shaker	SHHD1619AL	30391307

# Open Air Shakers

## Heavy Duty Orbital Shaker

- Exceptional speed control, accuracy and durability
- LED displays for speed and time
- Calibration mode for speed

The OHAUS 16 kg Capacity Digital Heavy Duty Orbital Shaker is designed for a wide range of applications, including cell cultures, that require accurate and repeatable results. The microprocessor control provides consistent uniform shaking while safely ramping to the set speed.

### Operating Features:

**Accu-Drive Shaking System:** The exclusive patented Accu-Drive Shaking System delivers exceptional speed control, accuracy, and durability. The shaking system continuously monitors shaking speed and maintains set-point, even under changing loads. When unit is set to a speed above 100 rpm, the speed accuracy is  $\pm 1\%$  of set speed. When set under 100 rpm, speed accuracy is  $\pm 1$  rpm.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. Microprocessor will display last set-point and will restart if power is interrupted.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and time allow operator to view both settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

**RS232 Interface:** Provides two-way communication for data logging and unit control.

**Speed Calibration Mode:** Allows user to automatically recalibrate speed display.

### Safety Features:

**Load Sensor:** A built-in load sensor detects unbalanced conditions and automatically reduces rpm to a safe speed to protect samples.

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero. Alarm has optional mute function which can be set from the touch pad control.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Cell cultures, solubility studies, and extraction procedures.

### Ordering Information:

Unit includes a detachable, 3-wire cord and plug. Unit is also supplied with an 11 x 13" (27.9 x 33 cm) non-skid rubber mat.



Specifications	
Speed Range	15 to 500 rpm
Speed Accuracy	above 100 rpm $\pm 1\%$ of set speed below 100 rpm $\pm 1$ rpm
Timer	1 second to 160 hours
Motion	Advanced 3500, orbital 19 mm (0.75") orbit Advanced 3750, reciprocating 19 mm (0.75") stroke
Maximum Weight Capacity	Advanced 3500 35 lbs (16 kg)
Tray Material	Aluminum
Tray Dimensions (L x W)	11 x 13" (27.9 x 33 cm)
Overall Dimensions (L x W x H)	16.3 x 14.0 x 5.9" (41.3 x 35.5 x 14.9 cm)
Ship Weight	49 lbs (22.2 kg)

Description	Model	Item Number
16 kg Capacity Digital Heavy Duty Orbital	SHHD1619DG	30391807



## Heavy Duty Orbital Shaker

- Microprocessor controls
- Continuous or timed operation
- 50 lb weight capacity

The OHAUS Analog 23 kg Capacity Heavy Duty Orbital Shaker is designed for applications with heavy duty loads. Shaker provides reproducible motion that is evenly distributed throughout the entire surface of the tray.

### Operating Features:

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. The shaker will automatically restart after a power interruption.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**Adjustment Knobs:** Basic speed and time knobs with dial settings from 1 to 10.

### Safety Features:

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from 0 to 40°C (32 to 104°F), maximum 80% relative humidity, non-condensing.

### Applications:

Bacterial suspensions, staining/destaining, and general mixing.

### Ordering Information:

Units include a 3-wire cord and plug. Units are also supplied with an 18 × 24" (45.7 × 61 cm) non-skid rubber mat.



Specifications	
Speed Range	25 to 500 rpm
Timer	1 minute to 120 minutes
Orbit	25 mm (1")
Maximum Weight Capacity	50 lbs (22.7 kg)
Tray Material	Aluminum
Tray Dimensions	18 × 24" (45.7 × 61 cm)
Overall Dimensions (L × W × H)	24.0 × 26.7 × 5.9" (61.0 × 67.8 × 14.9 cm)
Ship Weight	109 lbs (49.5 kg)

Description	Model	Item Number
23 kg Capacity Analog Heavy Duty Orbital Shaker	SHHD2325AL	30391835

# Open Air Shakers

## Heavy Duty Orbital Shaker

- Patented Accu-Drive Shaking System
- LED displays for speed and time
- 50 lb weight capacity



The OHAUS Digital 23 kg Capacity Heavy Duty Orbital Shaker is designed for a wide range of applications with larger or heavier loads that require accurate and repeatable results.

### Operating Features:

**Accu-Drive Shaking System:** The exclusive patented Accu-Drive Shaking System delivers exceptional speed control, accuracy, and durability. The shaking system continuously monitors shaking speed and maintains set-point, even under changing loads. When unit is set to a speed above 100 rpm, the speed accuracy is  $\pm 1\%$  of set speed. When set under 100 rpm, speed accuracy is  $\pm 1$  rpm.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. Microprocessor will display last set-point and will restart if power is interrupted.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and time allow operator to view both settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

**RS232 Interface:** Provides two-way communication for data logging and unit control.

**Speed Calibration Mode:** Allows user to automatically recalibrate speed display.

### Safety Features:

**Load Sensor:** A built-in load sensor detects unbalanced conditions and automatically reduces rpm to a safe speed to protect samples.

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero. Alarm has optional mute function which can be set from the touch pad control.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Cell cultures, solubility studies, and extraction procedures.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with an 18 x 24" (45.7 x 61 cm) non-skid rubber mat.



Specifications	
Speed Range	20 to 500 rpm
Speed Accuracy	above 100 rpm $\pm 1\%$ of set speed below 100 rpm $\pm 1$ rpm
Timer	1 second to 160 hours
Orbit	25 mm (1")
Maximum Weight Capacity	50 lbs (22.7 kg)
Tray Material	Aluminum
Tray Dimensions	18 x 24" (45.7 x 61 cm)
Overall Dimensions (L x W x H)	24.0 x 26.7 x 5.9" (61.0 x 67.8 x 14.9 cm)
Ship Weight	109 lbs (49.5 kg)

Description	Model	Item Number
23 kg Capacity Digital Heavy Duty Orbital Shaker	SHHD2325DG	30391842



## Heavy Duty Orbital Shaker

- Patented Accu-Drive Shaking System
- 100 lb weight capacity
- Available with either 1" or 2" orbit

The OHAUS Digital 45 kg Capacity Orbital Shaker is a large capacity shaker. They have a more powerful drive mechanism and larger orbits for optimal shaking of large vessels.

### Operating Features:

**Accu-Drive Shaking System:** The exclusive patented Shaking System delivers exceptional speed control, accuracy, and durability. The shaking system continuously monitors shaking speed and maintains set-point, even under changing loads. When unit is set to a speed above 100 rpm, the speed accuracy is  $\pm 1\%$  of set speed. When set under 100 rpm, speed accuracy is  $\pm 1$  rpm.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. Microprocessor will display last set-point and will restart if power is interrupted.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and time allow operator to view both settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

**RS232 Interface:** Provides two-way communication for data logging and unit control.

**Speed Calibration Mode:** Allows user to automatically recalibrate speed display.

### Safety Features:

**Load Sensor:** A built-in load sensor detects unbalanced conditions and automatically reduces rpm to a safe speed to protect samples.

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero. Alarm has optional mute function which can be set from the touch pad control.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Units can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Cell cultures, solubility studies, and extraction procedures.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with a 24 x 24" (61 x 61 cm) non-skid rubber mat.



Specifications		
Speed Range	SHHD4525DG SHHD4550DG	15 to 500 rpm 15 to 300 rpm
Speed Accuracy		above 100 rpm $\pm 1\%$ of set speed below 100 rpm $\pm 1$ rpm
Timer		1 second to 160 hours
Orbit	SHHD4525DG SHHD4550DG	25 mm (1") 51 mm (2")
Maximum Weight Capacity		100 lbs (45.4 kg)
Tray Material		Aluminum
Tray Dimensions (L x W)		24 x 24" (61 x 61 cm)
Overall Dimensions (L x W x H)		28.7 x 26.7 x 6.7" (72.9 x 67.8 x 17.0 cm)
Ship Weight		200 lbs (90.8 kg)

Description	Model	Item Number
45 kg Capacity Digital Heavy Duty Orbital Shaker 1" Orbit	SHHD4525DG	30391863
45 kg Capacity Digital Heavy Duty Orbital Shaker 2" Orbit	SHHD4550DG	30391870

# Open Air Shakers

## Heavy Duty Orbital Shaker

- Patented Accu-Drive Shaking System
- Available with either 1" or 2" orbit
- Calibration mode for speed



The OHAUS Digital 68 kg Capacity Orbital Shakers is the largest capacity shakers designed for the heaviest of loads. They have the most powerful drive mechanism of all the shakers and large orbits for optimal shaking of larger vessels.

### Operating Features:

**Accu-Drive Shaking System:** The exclusive patented Accu-Drive Shaking System delivers exceptional speed control, accuracy, and durability. The system continuously monitors shaking speed and maintains set-point, even under changing loads. When unit is set to a speed above 100 rpm, the speed accuracy is  $\pm 1\%$  of set speed. When set under 100 rpm, speed accuracy is  $\pm 1$  rpm.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. Microprocessor will display last set-point and will restart if power is interrupted.

**Triple Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and time allow operator to view both settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

**RS232 Interface:** Provides two-way communication for data logging and unit control.

**Speed Calibration Mode:** Allows user to automatically recalibrate speed display.

### Safety Features:

**Load Sensor:** A built-in load sensor detects unbalanced conditions and automatically reduces rpm to a safe speed to protect samples.

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero. Alarm has optional mute function which can be set from the touch pad control.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Units can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Cell cultures, solubility studies, and extraction procedures.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with a 24 x 36" (61 x 91 cm) non-skid rubber mat.



Specifications		
Speed Range	SHHD6825DG	15 to 500 rpm
	SHHD6850DG	15 to 300 rpm
Speed Accuracy		above 100 rpm $\pm 1\%$ of set speed below 100 rpm $\pm 1$ rpm
Timer		1 second to 160 hours
Orbit	SHHD6825DG	25 mm (1")
	SHHD6850DG	51 mm (2")
Maximum Weight Capacity		150 lbs (68 kg)
Tray Material		Aluminum
Tray Dimensions (L x W)		24 x 36" (61 x 91 cm)
Overall Dimensions (L x W x H)		29.3 x 36.0 x 6.7" (74.4 x 91.4 x 17.0 cm)
Ship Weight		230 lbs (104.4 kg)

Description	Model	Item Number
68 kg Capacity Digital Heavy Duty Orbital Shaker 1" Orbit	SHHD6825DG	30391877
68 kg Capacity Digital Heavy Duty Orbital Shaker 2" Orbit	SHHD6850DG	30391884

# Rocking & Waving Shakers



OHAUS Rocking and Waving Shakers are designed for use in a range of lab applications in a variety of environmental conditions. Rocking Shakers provide a seesaw-like motion, while Waving Shakers offer a smooth, low-foaming, 3D wave motion for precise speed control. Available in microprocessor-controlled digital models and more economical analog models. All models include a non-slip mat, and most models are available with a stacking tray option.

- Microprocessor Control Provides Precise Control
- Tilt Angle and Speed Adjustments Can Be Made While Unit Is Running
- Safety Features Include Speed Ramping and Overload Protection

# Open Air Shakers

## Rocking & Waving Shakers

- Variable control for speed, tilt and time
- 16 lb capacity
- Two-tier model doubles workable capacity

The OHAUS Analog Rocking Shaker is an easy and economical option for all of your rocking needs. The Rocking Shaker is ideal for cell culture and blotting applications and is designed to be used in a variety of environmental conditions. Rocker is supplied with an 14 × 11" (35.6 × 27.9 cm) non-skid rubber mat.

### Operating Features:

**Low Profile Design:** Takes up less bench space and fits into most hoods and incubators. Two-tier option increases the capacity with the same footprint and provides a 3.5" (8.9 cm) clearance between platforms. Cast aluminum base offers durability and added stability

**Microprocessor Control:** The microprocessor control provides tilt adjustment which allows user to easily adjust rocking angle from 0 to 15° while unit is operating. Smooth speed control with low speed rocking motion.

**Independent Control Knobs:** Independent control knobs for speed, tilt, and time, allow for easy adjustments.

### Safety Features:

**Overload Protection:** Audible signal will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Timer:** Timer will automatically stop rocking motion when timer reaches zero.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

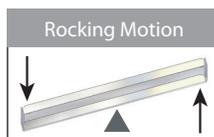
Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Staining and destaining gels, hybridization procedures, hematology, and blotting techniques.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with a 14 × 11" (35.6 × 27.9 cm) non-skid rubber mat. Two-tier models include a 2<sup>nd</sup> tray, non-skid mat and hardware.



Specifications		
Speed Range	1 to 75 rpm*	
Tilt Angle	0 to 15°*	
Timer	1 minute to 120 minutes	
Maximum Weight Capacity	16 lbs (7.3 kg)**	
Tray Material	Aluminum	
Tray Dimensions (L × W)	14 × 11" (35.6 × 27.9 cm)	
Overall Dimensions (L × W × H)	1 Tier	16.8 × 11.0 × 5.5" (42.5 27.9 14.0 cm)
	2 Tier	16.8 × 11.0 × 9.5" (42.5 × 27.9 × 24.1 cm)
Ship Weight	15.5 lbs (7 kg)	

\* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

\*\* Centered on tray.

Description	Model	Item Number
Analog Rocking Shaker 1 Tier	SHRK07AL1	30391959
Analog Rocking Shaker 2 Tier	SHRK07AL2	30391966

## Rocking & Waving Shakers

- Electronic tilt adjustment from 0 to 15° while unit is operating
- Displays for speed, tilt angle and time
- Timer with audible alarm

The OHAUS Digital Rocking Shaker is ideal for cell culture work and is designed to be used in a variety of environmental conditions.

### Operating Features:

**Low Profile Design:** Takes up less space and easily fits into most hoods and incubators. Cast aluminum base offers durability and added stability.

**Microprocessor Control:** The microprocessor control provides electronic tilt angle adjustment which allows user to easily adjust rocking angle from 0 to 15° while unit is operating. Precise speed control provides smooth, low-speed rocking motion down to 1 rpm.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and tilt angle, and time allow operator to view all settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

### Safety Features:

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

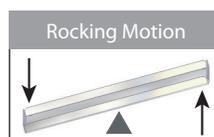
Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Staining and destaining gels, hybridization procedures, hematology, and blotting techniques.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with a 12.75 × 10" (32.4 × 25.4 cm) non-skid rubber mat.



Specifications	
Speed Range	1 to 50 rpm*
Speed Accuracy	± 1 rpm
Tilt Angle	0 to 15°*
Timer	1 second to 160 hours
Maximum Weight Capacity	10 lbs (4.5 kg)**
Tray Material	Aluminum
Tray Dimensions (L × W)	12.75 × 10" (32.4 × 25.4 cm)
Overall Dimensions (L × W × H)	16.8 × 10.0 × 5.5" (42.5 × 25.4 × 14.0 cm)
Ship Weight	15.5 lbs (7 kg)

\* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

\*\* Centered on tray.

Description	Model	Item Number
Digital Rocking Shaker 1 Tier	SHRK04DG	30391994

# Open Air Shakers

## Rocking & Waving Shakers

- Variable control for speed, tilt and time
- 5 lb capacity
- Large 14 × 11" tray

The OHAUS Analog Waving Shakers are an easy and economical option for all of your waving needs. Ideal for cell culture and blotting applications, and is designed to be used in a variety of environmental conditions.

### Operating Features:

**Low Profile Design:** Takes up less space and easily fits into most hoods and incubators. Cast aluminum base offers durability and added stability.

**Microprocessor Control:** Provides tilt adjustment which allows user to easily adjust waving angle from 0 to 16° while unit is operating. Smooth speed control with low speed waving motion.

**Independent Control Knobs:** Independent control knobs for speed, tilt and time allow for easy adjustments.

### Safety Features:

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Timer:** Timer, if engaged, will automatically stop waving motion when timer reaches zero.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Staining and destaining gels, hybridization procedures, hematology, and blotting techniques.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with a 14 × 11" (35.6 × 27.9 cm) non-skid rubber mat.



Specifications	
Speed Range	1 to 75 rpm*
Tilt Angle	0 to 16°*
Timer	1 minute to 120 minutes
Maximum Weight Capacity	5 lbs (2.3 kg)**
Tray Material	Aluminum
Tray Dimensions (L × W)	14 × 11" (35.6 × 27.9 cm)
Overall Dimensions (L × W × H)	16.8 × 11 × 6.5" (42.5 × 27.9 × 16.5 cm)
Ship Weight	15.5 lbs (7 kg)

\* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

\*\* Centered on tray.

Description	Model	Item Number
Analog Waving Shaker	SHWV02AL	30391973

## Rocking & Waving Shakers

- Electronic tilt adjustment from 0 to 20° while unit is operating
- Displays for speed and tilt angle, and time
- Timer with audible alarm

The OHAUS Digital Waving Shaker provides precise speed control and a smooth, low foaming, three dimensional, "wave" motion. Ideal for use in a wide range of laboratory applications and designed to be used in a variety of environmental conditions. Tray includes a non-skid rubber mat that is suitable for holding Petri dishes.

### Operating Features:

**Low Profile Design:** Takes up less space and easily fits into most hoods and incubators. Cast aluminum base offers durability and added stability.

**Microprocessor Control:** The microprocessor control provides electronic tilt angle adjustment which allows user to easily adjust waving angle from 0 to 20° while unit is operating. Precise speed control provides smooth, low-speed waving motion down to 1 rpm.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and tilt angle, and time allow operator to view all settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last settings, even after power has been turned off.

### Safety Features:

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Blood samples, DNA extractions, blotting techniques, and general mixing of various size tubes.

### Ordering Information:

Units include a detachable, 3-wire cord and plug. Units are also supplied with an 11.75 × 8.75" (29.9 × 22.2 cm) non-skid rubber mat.

Description	Model	Item Number
Digital Waving Shaker	SHWV02DG	30391947



Specifications	
Speed Range	1 to 30 rpm*
Speed Accuracy	± 1 rpm
Tilt Angle	0 to 20°*
Timer	1 second to 160 hours
Maximum Weight Capacity	5 lbs (2.3 kg)**
Tray Material	Aluminum
Tray Dimensions (L × W)	11.75 × 8.75" (29.9 × 22.2 cm)
Overall Dimensions (L × W × H)	16.3 × 10.0 × 6.5" (41.3 × 25.4 × 16.5 cm)
Ship Weight	16 lbs (7.3 kg)

\* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

\*\* Centered on tray.

# Reciprocating Shakers



OHAUS Reciprocating Shakers are designed for a range of applications including cell cultures and extraction procedures that require accurate, repeatable results. Our shakers are microprocessor-controlled to provide consistent, uniform shaking action. The back-and-forth reciprocating motion has a 19 mm stroke length. Permanently lubricated ball bearings & maintenance-free, brushless DC motor provide reliable service and continuous duty operation.

- Touchpad Control With Independent LED Displays for Speed and Time
- Safety Features Include Speed Ramping and Load Sensor
- Overload Protection System Detects Obstructions and Tray Overloading

## Reciprocating Shakers

- Exceptional speed control, accuracy and durability
- LED displays for speed and time
- Calibration mode for speed

The OHAUS Digital Reciprocating Shakers are designed for a wide range of applications, including cell cultures, that require accurate and repeatable results. The microprocessor control provides consistent uniform shaking while safely ramping to the set speed.

### Operating Features:

The shaking system in both models continuously monitors shaking speed and maintains set-point, even under changing loads. When unit is set to a speed above 100 rpm, the speed accuracy is  $\pm 1\%$  of set speed. When set under 100 rpm, speed accuracy is  $\pm 1$  rpm.

**Microprocessor Control:** The variable speed microprocessor control provides consistent uniform shaking action. Microprocessor will display last set-point and will restart if power is interrupted.

**Single Eccentric Drive:** Permanently lubricated ball bearings and maintenance free, brushless DC motor provide reliable service and continuous duty operation.

**LED Display:** Touch pad controls with easy-to-read, independent LED displays for speed and time allow operator to view both settings at once. Provides repeatable and accurate results every time and is easily visible across lab benches. Timer will display elapsed time or, when programmed to user defined limit, will shut off unit when time reaches zero. Display will show last used settings, even after power has been turned off.

**RS232 Interface:** Provides two-way communication for data logging and unit control.

**Speed Calibration Mode:** Allows user to automatically recalibrate speed display.

### Safety Features:

**Load Sensor:** A built-in load sensor detects unbalanced conditions and automatically reduces rpm to a safe speed to protect samples.

**Overload Protection:** Audible and visual signals will activate when system detects an obstruction or overload of the tray.

**Speed Ramping Feature:** Slowly increases speed to desired set-point to avoid splashing.

**Audible Alarm:** In timed mode, alarm will sound when the time reaches zero. Alarm has optional mute function which can be set from the touch pad control.

**Spill-Resistant Design:** Channels fluids away from internal components.

### Operating Conditions:

Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C (14 to 140°F), maximum 80% relative humidity, non-condensing.

### Applications:

Cell cultures, solubility studies, and extraction procedures.

### Ordering Information:

Unit includes a detachable, 3-wire cord and plug. Unit is also supplied with an 11 x 13" (27.9 x 33 cm) non-skid rubber mat.



Specifications	
Speed Range	20 to 300 rpm
Speed Accuracy	above 100 rpm $\pm 1\%$ of set speed below 100 rpm $\pm 1$ rpm
Timer	1 second to 160 hours
Stroke	19 mm (0.75")
Maximum Weight Capacity	15 lbs (6.8 kg)
Tray Material	Aluminum
Tray Dimensions (L x W)	11 x 13" (27.9 x 33 cm)
Overall Dimensions (L x W x H)	16.3 x 14.0 x 5.8" (41.3 x 35.5 x 14.6 cm)
Ship Weight	49 lbs (22.2 kg)

Description	Model	Item Number
Digital Reciprocating Shaker	SHRC0719DG	30391828

## Open Air and Incubating & Incubating Cooling Shakers Accessories

### Universal Platforms

Allows for mounting of flask clamps, test tube racks, and bottle clamps. Platform slides over top of included tray and is tightened with adjustment screws. Optional accessories screw directly into mounting point openings. The two-tier braces allow stacking of platforms with a 10" clearance (available for select sizes). An optional non-skid rubber mat can be placed on the platform for an added non-slip surface. The platform is constructed of type 304 stainless steel.



Description	Used on Shakers	Item Number
11 × 13" (27.9 × 33 cm) Universal Platform	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400052
13 × 13" (33 × 33 cm) Universal Platform	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400053
18 × 18" (45.7 × 45.7 cm) Universal Platform*	Analog/Digital 16 kg Shakers and Reciprocating Shakers**	30400054
18 × 24" (45.7 × 61 cm) Universal Platform*	Analog/Digital 16 kg & 23 kg Shakers and Reciprocating Shakers**	30400056
24 × 24" (61 × 61 cm) Universal Platform	Digital 45 kg Shakers	30400057
18 × 30" (45.7 × 76.2 cm) Universal Platform*	Analog/Digital 23 kg Shakers	30400058
24 × 36" (61 × 91.4 cm) Universal Platform	Digital 68 kg Shakers	30400059
Two-Tier Braces (set of 4)	Analog/Digital 16 kg & 23 kg Shakers	30400051

### Rubber Mats

Description	Used on Shakers	Item Number
11 × 13" (27.9 × 33 cm) Rubber Mat	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400060
13 × 13" (33 × 33 cm) Rubber Mat	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400061
18 × 18" (45.7 × 45.7 cm) Rubber Mat	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400062
18 × 24" (45.7 × 61 cm) Rubber Mat	Analog/Digital 16 kg Shakers, Reciprocating Shakers and Analog Digital 23kg Shakers	30400063
24 × 24" (61 × 61 cm) Rubber Mat	Digital 45 kg Shakers	30400064
24 × 36" (61 × 91.4 cm) Rubber Mat	Digital 68 kg Shakers	30400065

### Culture Platforms

Ideal for slow speed applications; Petri dishes, culture flasks, and other flat bottom, low profile vessels. The two-tier braces (available for both sizes) allow stacking of platforms with a 10" clearance. The platform is constructed of type 304 stainless steel. The platform has a non-skid rubber surface.



Description	Used on Shakers	Item Number
18 × 18" (45.7 × 45.7 cm) Culture Platform*	Analog/ Digital 16 kg Shakers* and Reciprocating Shakers**	30400066
18 × 24" (45.7 × 61 cm) Culture Platform*	Analog/ Digital 16 kg* & 23 kg Shakers and Reciprocating Shakers**	30400067
Two-Tier Braces (set of 4)	Analog/ Digital 16 kg & 23 kg shakers	30400051

\*Two-tier ready

\*\*Stacking of platforms is not recommended for Reciprocating Shaker

# Open Air and Incubating & Incubating Cooling Shakers Accessories

## Dedicated Platforms

Pre-mounted flask clamps for maximum utilization of platform space for flasks of all one size. The two-tier braces allow stacking of platforms with a clearance (available for select sizes). Platform is constructed of type 304 stainless steel. Flask clamps are constructed of PVC. Ideal for polycarbonate flasks.



Description	Flask Capacity	Used on Shakers	Item Number
13 × 13" (33 × 33 cm) Dedicated Platform / 125 mL Flask Clamp	16	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400075
13 × 13" (33 × 33 cm) Dedicated Platform / 250 mL Flask Clamp	12	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400076
13 × 13" (33 × 33 cm) Dedicated Platform / 500 mL Flask Clamp	8	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400077
13 × 13" (33 × 33 cm) Dedicated Platform / 1 L Flask Clamp	4	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400078
18 × 18" (45.7 × 45.7 cm) Dedicated Platform / 125 mL Flask Clamp*	27	Analog/Digital 16 kg Shakers and Reciprocating Shakers**	30400079
18 × 18" (45.7 × 45.7 cm) Dedicated Platform / 250 mL Flask Clamp*	20	Analog/Digital 16 kg Shakers and Reciprocating Shakers**	30400080
18 × 18" (45.7 × 45.7 cm) Dedicated Platform / 500 mL Flask Clamp*	13	Analog/Digital 16 kg Shakers and Reciprocating Shakers**	30400081
18 × 18" (45.7 × 45.7 cm) Dedicated Platform / 1 L Flask Clamp	9	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400081
Two-Tier Braces (set of 4)		Analog/Digital 16 kg Shakers	30400082

## Adjustable Platforms

Adjustable clamping bars accommodate various vessel types. Constructed of stainless steel. The base tray has a non-skid rubber surface.



Description	Bar Size	Overall Dimensions	Used on Shakers	Item Number
2-bar Adjustable Platform	8.6" (21.8 cm)	8.6 × 11.7" (21.8 × 29.7 cm)	Digital 4 kg Shakers	30400121
4-bar Adjustable Platform	18" (45.7 cm)	18 × 18" (45.7 × 45.7 cm)	Analog/Digital 16 kg Shakers	30400068
4-bar Adjustable Platform	18" (45.7 cm)	18 × 24" (45.7 × 61 cm)	Analog/Digital 23 kg Shakers	30400069

## Replacement Parts

Description	Used with Platforms	Item Number
8.6" (21.8 cm) Adjustable Bar (with Mounting Hardware)	30400121	30400122
18" (45.7 cm) Adjustable Bar (with Mounting Hardware)	30400068 & 3040069	30400073

\* Two-tier ready

\*\* Stacking of platforms is not recommended for Reciprocating Shaker

## Open Air and Incubating & Incubating Cooling Shakers Accessories

### Large Vessel Carrier Platforms

Ideal for large sample containers like carboys, jugs and bottles. The platform's high side walls secure samples, has a heavy-duty design and is constructed of stainless steel. The base tray has a non-skid rubber surface.



Description	Bar Size	Overall Dimensions (L x W x H)	Used on Shakers	Item Number
4-bar Large Vessel Carrier Platform	18" (45.7 cm)	30.1 x 18.1 x 13.9" (76.4 x 45.9 x 35.3 cm)	Analog/Digital 23 kg Shakers	30400070
4-bar Large Vessel Carrier Platform	24" (61 cm)	24.4 x 24.3 x 14.2" (61.9 x 61.7 x 36.0 cm)	Digital 45 kg Shakers	30400071
5-bar Large Vessel Carrier Platform	24" (61 cm)	36.9 x 24.3 x 14.2" (93.7 x 61.7 x 36.0 cm)	Digital 68 kg Shakers	30400072

Replacement Part	Used with Carrier	Item Number
18" (45.7 cm) Adjustable Bar (with Mounting Hardware)	30400070	30400073
24" (61 cm) Adjustable Bar (with Mounting Hardware)	30400071 & 30400072	30400074

### Separatory Funnel Platform

Holds 3 funnels at once on an 18 x 18" (45.7 x 45.7 cm) platform. Platform can accommodate 500 mL to 2 L separatory funnels and is constructed of stainless steel. Includes platform, clamps and hardware to secure 3 funnels.



Description	Used on Shakers	Item Number
18" (45.7 cm) Adjustable Bar (with Mounting Hardware)	Analog/Digital 16 kg Shakers and Reciprocating Shakers	30400083

### Microplate Clamp

Can hold one standard microplate or deep-well plate. Constructed of type 304 stainless steel.

Platform Capacities for Microplate Clamps		
Platform Size	Platform Item Number	Microplate Clamps
11 x 13	30400052	4
13 x 13	30400053	6
18 x 18	30400054	12
18 x 24	30400056	18
18 x 30	30400057	21
24 x 24	30400058	24
24 x 36	30400059	36



Description	Used on Shakers	Item Number
Microplate Clamp	Analog/Digital 16 kg, 23 kg, 45 kg, & 68 kg Shakers	30400104

# Open Air and Incubating & Incubating Cooling Shakers Accessories

## Universal Harness

Attaches to tray to secure low-profile plates.

Description	Used on Shakers	Item Number
Universal Harness	Digital 4 kg Open Air Orbital Shakers	30400123



## Dimpled Mat

Designed to hold centrifuge tubes, vials, culture tubes, and micro-tubes securely in place. Mat can easily be removed for cleaning and transporting of tubes from bench to tray.

Description	Used on Shakers	Item Number
Dimpled Mat, 12.75 × 10" (32.4 × 25.4 cm)	Digital Rocking Shaker	30400140
Dimpled Mat, 11.75 × 8.75" (29.9 × 22.2 cm)	Digital Waving Shaker	30400142
Dimpled Mat, 10 × 7.5" (25.4 × 19.1 cm)	Incubating Rocking Shaker	30400141
Dimpled Mat, 9.25 × 7.25" (23.5 × 18.4 cm)	Incubating Waving Shaker	30400143
Dimpled Mat, 11.75 × 8.75" (29.9 × 22.2 cm)	Open Air 4 kg Orbital Shaker	30400124
Dimpled Mat, 14 × 11" (35.6 × 27.9 cm)	Analog Rocking & Waving Shaker	30400144



## Stacking Tray

Easily attaches to the units' included tray to add a second tier for higher capacity applications. Second tier tray mounts 3.5" (8.9 cm) above lower tray. The tray includes hardware and a rubber mat.

Description	Used on Shakers	Item Number
Stacking Tray, 12.75 × 10" (32.4 × 25.4 cm)	Digital Rocking Shaker	30400137
Stacking Tray, 11.75 × 8.75" (29.9 × 22.2 cm)	Digital Waving Shaker	30400138
Stacking Tray, 14 × 11" (35.6 × 27.9 cm)	Analog Rocking Shaker	30400139



## Dilution Cup Tray

Constructed of type 304 stainless steel. Holds 24 × 28 mm dilution vials.

Description	Used on Unit	Item Number
1.5 to 2 mL Micro-Tube Rack	Digital 4 kg Open Air Orbital Shakers	30400125



## Micro-Tube Rack

Optional 1.5 to 2 mL Micro-Tube Rack attaches to tray to hold up to 70 × 1.5 mL or 2 mL micro-tubes. Tray can accommodate up to 2 micro-tube racks.

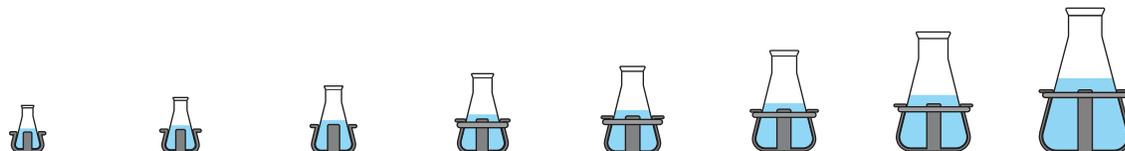
Description	Used on Unit	Item Number
Stacking Tray, 12.75 × 10" (32.4 × 25.4 cm)	Digital Open Air and Incubating Microplate Shaker	30400114



## Open Air and Incubating & Incubating Cooling Shakers Accessories

### Stainless Steel Flask Clamps

Designed to hold Erlenmeyer flasks from 10 mL to 6 L. Constructed of type 302 and 304 stainless steel. Includes hardware for easy attachment to platforms. Flask clamps 50 mL and higher are supplied with a spring to hold the flask in place. The 2.8 L clamp is designed to hold a Fernbach flask. Media bottle clamps feature the same details as flask clamps.



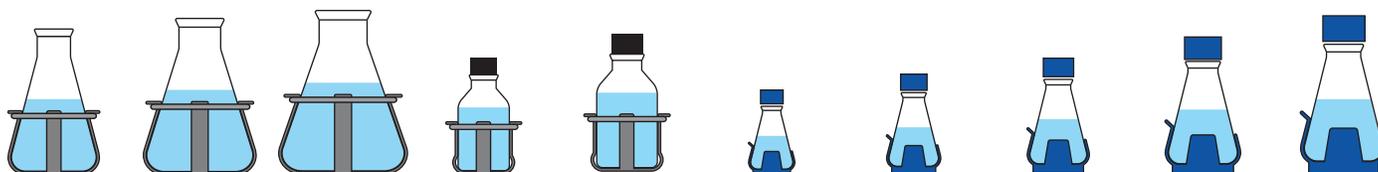
Clamp Style	10 mL Erlenmeyer Flask Clamp	25 mL Erlenmeyer Flask Clamp	50 mL Erlenmeyer Flask Clamp	125 mL Erlenmeyer Flask Clamp	250 mL Erlenmeyer Flask Clamp	500 mL Erlenmeyer Flask Clamp	1 L Erlenmeyer Flask Clamp	2 L Erlenmeyer Flask Clamp
Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Item Number	30400084	30400085	30400086	30400087	30400088	30400089	30400090	30400091
Tray or Platform	Number of Flask Clamps per Tray or Platform							
11.75 × 8.75" (29.9 × 22.2 cm) Open Air Digital 4 kg Shakers	35	20	15	12	6	4	N/A	N/A
11 × 7.75" (27.9 × 19.7 cm) Incubating 4 kg Shakers	35	20	12	8	5	N/A	N/A	N/A
11 × 13" (27.9 × 33 cm) Analog/Digital 16 kg Shakers	60	25	13	10	9	7	4	N/A
Digital Reciprocating Shakers	60	25	13	10	9	7	4	N/A
13 × 13" (33 × 33 cm) Analog/Digital 16 kg Shakers	60	30	15	12	12	8	4	3
Digital Reciprocating Shakers	60	30	15	12	12	8	4	3
18 × 18" (45.7 × 45.7 cm) Analog/Digital 16 kg Shakers	113	64	32	20	20	13	8	5
Digital Reciprocating Shakers	113	64	32	20	20	13	8	5
18 × 24" (45.7 × 61 cm) Analog/Digital 16 kg Shakers	158	88	44	28	28	20	12	6
Digital Reciprocating Shakers	158	88	44	28	28	20	12	6
Analog/Digital 23 kg Shakers	158	88	44	28	28	20	12	6
18 × 30" (45.7 × 76.2 cm) Analog/Digital 23 kg Shakers	203	112	56	36	36	26	15	8
24 × 24" (61 × 61 cm) Digital 45 kg Shakers	221	121	61	41	41	25	16	9
24 × 36" (61 × 91.4 cm) Digital 63 kg Shakers	336	160	94	61	64	40	24	14

\*All units require a universal platform for mounting flask clamps or test tube racks with the exception of the digital open air and incubating 4 kg shakers

# Open Air and Incubating & Incubating Cooling Shakers Accessories

## PVC Flask Clamps

Constructed of one piece, molded PVC. Autoclavable. Will not scratch or mark flask like other clamps. Includes hardware for easy attachment to universal platforms. The attachment and removal of flasks is quick and easy. Ideal for polycarbonate flasks.



2.8 L & 3 L Fernbach Flask Clamp	4 L Erlenmeyer Flask Clamp	5 L & 6 L Erlenmeyer Flask Clamp	500 mL Media Bottle Clamp	1 L Media Bottle Clamp	125 mL Erlenmeyer Flask Clamp	250 mL Erlenmeyer Flask Clamp	500 mL Erlenmeyer Flask Clamp	1 L Erlenmeyer Flask Clamp	2 L Erlenmeyer Flask Clamp
Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	PVC	PVC	PVC	PVC	PVC
2.8L-30400092 3L-30400093	30400094	5 L-30400095 6 L-30400096	30400097	30400098	30400099	30400100	30400101	30400102	30400103
Number of Flask Clamps per Tray or Platform									
N/A	N/A	N/A	3	N/A	12	6	4	N/A	N/A
N/A	N/A	N/A	N/A	N/A	8	4	N/A	N/A	N/A
N/A	N/A	N/A	5	2	10	8	5	2	N/A
N/A	N/A	N/A	5	2	10	8	5	2	N/A
1	1	1	6	5	12	10	6	4	3
1	1	1	6	5	12	10	6	4	3
2	4	2	16	10	20	18	12	8	4
2	4	2	16	10	20	18	12	8	4
3	4	3	20	13	28	25	16	10	6
3	4	3	20	13	28	25	16	10	6
3	4	3	20	13	28	25	16	10	6
3	6	4	28	18	36	33	20	14	8
5	5	5	25	18	41	35	24	13	9
7	9	7	40	30	61	55	38	22	13

## Open Air and Incubating & Incubating Cooling Shakers Accessories

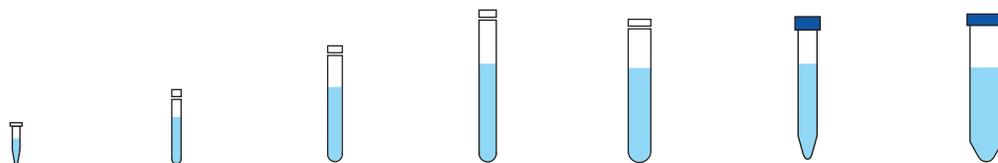
### Test Tube Racks

#### Half Size, Stationary

Racks constructed of PVC coated steel. Includes hardware for easy attachment to platforms.

#### Dimensions:

5 L x 7 W x 4" H (12.7 x 17.8 x 10.2 cm) / Micro-Tube Rack: 1.7" H (4.3 cm).



Test Tube Style	1.5 to 2 mL Micro-Tube Rack Half Size, Stationary	10 to 13 mm Test Tube Rack Half Size, Stationary	14 to 16 mm Test Tube Rack Half Size, Stationary	18 to 20 mm Test Tube Rack Half Size, Stationary	22 to 25 mm Test Tube Rack Half Size, Stationary	15 mL Centrifuge Tube Rack Half Size, Stationary	50 mL Centrifuge Tube Rack Half Size, Stationary
Tube Capacity	70	63	48	35	24	35	12
Item Number	30400114	30400115	30400116	30400117	30400118	30400119	30400120
Tray or Platform	Number of Test Tube Racks per Tray or Platform						
11.75 x 8.75" (29.9 x 22.2 cm) Digital Open Air 4 kg Shakers	2	2	2	2	2	2	2
11 x 7.75" (27.9 x 19.7 cm)							
Incubating 4 kg Shakers	2	1	1	N/A	N/A	1	1
Digital Open Air 4 kg Shakers	2	N/A	N/A	N/A	N/A	N/A	N/A
Incubating Microplate Shakers	2	N/A	N/A	N/A	N/A	N/A	N/A
11 x 13" (27.9 x 33 cm)							
Analog/Digital 16 kg Shakers	2	2	2	2	2	2	2
Digital Reciprocating Shakers	2	2	2	2	2	2	2
13 x 13" (33 cm x 33 cm)							
Analog/Digital 16 kg Shakers	2	2	2	2	2	2	2
Digital Reciprocating Shakers	2	2	2	2	2	2	2
18 x 18" (45.7 x 45.7 cm)							
Analog/Digital 16 kg Shaker	4	4	4	4	4	4	4
Digital Reciprocating Shakers	4	4	4	4	4	4	4
18 x 24" (45.7 x 61 cm)							
Analog/Digital 16 kg Shakers	6	6	6	6	6	6	6
Digital Reciprocating Shakers	6	6	6	6	6	6	6
Analog/Digital 23 kg Shakers	6	6	6	6	6	6	6
18 x 30" (45.7 x 76.2 cm)							
Analog/Digital 23 kg Shakers	8	8	8	8	8	8	8
24 x 24" (61 x 61 cm)							
Digital 45 kg Shakers	8	8	8	8	8	8	8
24 x 36" (61 x 91.4 cm)							
Digital 63 kg Shakers	7	7	7	7	7	7	7

\* All units require a universal platform for mounting flask clamps or test tube racks with the exception of the digital open air and incubating 4 kg shakers

# Open Air and Incubating & Incubating Cooling Shakers

## Accessories

### Test Tube Racks

#### Full Size, Stationary

Racks constructed of PVC coated steel. Includes hardware for easy attachment to platforms.

#### Dimensions

3.75 L x 16.5 W x 4" H (9.5 x 41.9 x 10.2 cm)

#### Full Size, Pivoting

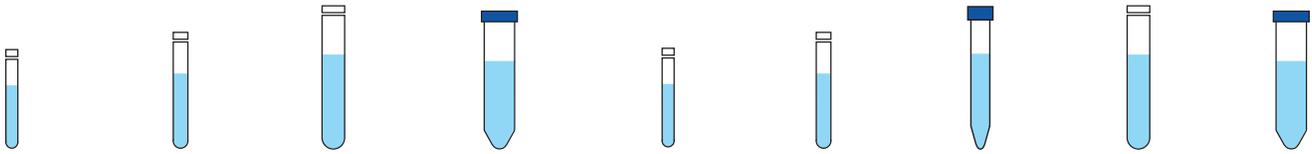
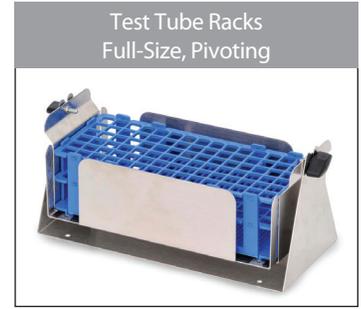
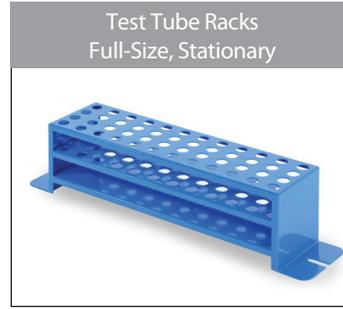
Has adjustable angle, custom tilt. Stainless steel holder includes removable plastic rack. Rack is easily removed to transport from work area to shaker.

#### Inside pivoting rack dimensions:

5.1 x 10.8 x 3.9" (12.9 x 27.4 x 9.9 cm)

#### Outside stationary rack dimensions:

5.0 x 10.9 x 5" (12.7 x 27.6 x 12.7 cm)



10 to 14 mm Test Tube Rack Full Size, Stationary	16 to 20 mm Test Tube Rack Full Size, Stationary	21 to 25 mm Test Tube Rack Full Size Stationary	50 mL Centrifuge Tube Rack Full Size, Stationary	13 mm Test Tube Rack Full Size, Pivoting	16 mm Test Tube Rack Full Size, Pivoting	20 mm Test Tube Rack Full Size, Pivoting	25 mm Tube Rack Full Size, Pivoting	30 mm Tube Rack Full Size, Pivoting
48	33	21	17	90	60	40	24	21
30400110	30400111	30400112	30400113	30400105	30400106	30400107	30400108	30400109

Number of Test Tube Racks per Tray or Platform

N/A								
N/A								
N/A								
N/A	N/A	N/A	N/A	1	1	1	1	1
N/A	N/A	N/A	N/A	1	1	1	1	1
N/A								
N/A								
N/A								
5	5	5	5	3	3	3	3	3
5	5	5	5	3	3	3	3	3
5	5	5	5	3	3	3	3	3
6	6	6	6	4	4	4	4	4
7	7	7	7	4	4	4	4	4
5	5	5	5	6	6	6	6	6



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