



# Open Air Shakers



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



***Ingeniously Practical***

***EMEA***

# 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	3.6 kg	3.6 kg	3.6 kg	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 × W)	29.9 × 22.2 cm	29.9 × 22.2 cm	29.9 × 22.2 cm	27.9 × 19.7 cm
Tray / Platform Options (L × W)	N/A	Adjustable Platform	Adjustable Platform	N/A



Product Family	Extreme Environment Shaker	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	16 kg	16 kg	16 kg	22.7 kg
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 × W)	27.9 × 33 cm	27.9 × 33 cm	27.9 × 33 cm	45.7 × 61 cm
Tray / Platform Options (L × W)	27.9 × 33 cm, 33 × 33 cm, 45.7 × 45.7 cm, 45.7 × 61 cm Adjustable Platform Separatory Funnel Platform	27.9 × 33 cm, 33 × 33 cm, 45.7 × 45.7 cm, 45.7 × 61 cm Adjustable Platform Separatory Funnel Platform	27.9 × 33 cm, 33 × 33 cm, 45.7 × 45.7 cm, 45.7 × 61 cm Adjustable Platform Separatory Funnel Platform	45.7 × 61 cm, 45.7 × 76.2 cm 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	22.7 kg	45.4 kg	45.4 kg	68 kg	68 kg
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 × W)	45.7 × 61 cm	61 × 61 cm	61 × 61 cm	61 × 91 cm	61 × 91 cm
Tray / Platform Options (L × W)	45.7 × 61 cm, 45.7 × 76.2 cm Adjustable Platform Large Vessel Carrier Platform	61 × 61 cm Large Vessel Carrier Platform	61 × 61 cm Large Vessel Carrier Platform	61 × 91 cm Large Vessel Carrier Platform	61 × 91 cm 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	4.5 kg**	7.3 kg**	2.3 kg**	2.3 kg**	6.8 kg
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 × W)	32.4 × 25.4 cm	35.6 × 27.9 cm	29.9 × 22.2 cm	35.6 × 27.9 cm	27.9 × 33 cm
Tray / Platform Options (L × W)	Stacking Tray	Stacking Tray	Stacking Tray	—	27.9 × 33 cm, 33 × 33 cm, 45.7 × 45.7 cm, 45.7 × 61 cm 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 3.6 kg. 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, 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 29.9 × 22.2 cm non-skid rubber mat.



Specifications	
Speed Range	40 to 300 rpm
Orbit	15 mm
Maximum Weight Capacity	3.6 kg
Tray Material	Aluminum
Tray Dimensions (L × W)	29.9 × 22.2 cm
Overall Dimensions (L × W × H)	41.3 × 254 × 10.2 cm
Ship Weight	11.3 kg

Description	Model	Item Number
Analog Light Duty Orbital Shaker	SHLD0415AL	30391893

# 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

SHLD0415DG: -10 to 40°C

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 29.9 × 22.2 cm non-skid rubber mat.



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

Description	Model	Item Number
Digital Light Duty Orbital Shaker 3 mm Orbit	SHLD0403DG	30391900
Digital Light Duty Orbital Shaker 15 mm Orbit	SHLD0415DG	30391914

## 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, 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
Maximum Weight Capacity	4 microplates or 2 micro-tube racks
Tray Material	Aluminum
Tray Dimensions (L × W)	27.9 × 19.7 cm
Overall Dimensions (L × W × H)	41.3 × 25.4 × 10.2 cm
Ship Weight	11.3 kg

Description	Model	Item Number
Light Duty Microplate Shaker	SHLDMP03DG	30391907

# 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 1.68 m 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, 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 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	19 mm	
Maximum Weight Capacity	16 kg	
Tray Material	Aluminum	
Tray Dimensions (L × W)	27.9 × 33 cm	
Overall Dimensions (L × W × H)	Shaker	29.4 × 35.5 × 14.9 cm
	Remote	15.0 × 35.6 × 11.2 cm
Ship Weight	22.2 kg	

Description	Model	Item Number
Extreme Environment Shaker	SHEX1619DG	30391816

# Heavy Duty Orbital Shakers



With load capacities from 16 to 68 kg 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
- 16 kg 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, 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 27.9 × 33 cm non-skid rubber mat.



Specifications	
Speed Range	25 to 500 rpm
Timer	1 minute to 120 minutes
Orbit	19 mm
Maximum Weight Capacity	16 kg
Tray Material	Aluminum
Tray Dimensions (L × W)	27.9 × 33 cm
Overall Dimensions (L × W × H)	41.3 × 35.5 × 14.9 cm
Ship Weight	22.2 kg

Description	Model	Item Number
16 kg Capacity Analog Heavy Duty Orbital Shaker	SHHD1619AL	30391802

# 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, 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 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
Orbit	19 mm orbit
Maximum Weight Capacity	16 kg
Tray Material	Aluminum
Tray Dimensions (L x W)	27.9 x 33 cm
Overall Dimensions (L x W x H)	41.3 x 35.5 x 14.9 cm
Ship Weight	22.2 kg

Description	Model	Item Number
16 kg Capacity Digital Heavy Duty Orbital	SHHD1619DG	30391811

## Heavy Duty Orbital Shaker

- Microprocessor controls
- Continuous or timed operation
- 22.7 kg 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, 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 45.7 × 61 cm non-skid rubber mat.



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

Description	Model	Item Number
23 kg Capacity Analog Heavy Duty Orbital Shaker	SHHD2325AL	30391837

# Open Air Shakers

## Heavy Duty Orbital Shaker

- Patented Accu-Drive Shaking System
- LED displays for speed and time
- 22.7 kg 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, 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 45.7 × 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
Maximum Weight Capacity	22.7 kg
Tray Material	Aluminum
Tray Dimensions	45.7 × 61 cm
Overall Dimensions (L × W × H)	61.0 × 67.8 × 14.9 cm
Ship Weight	49.5 kg

Description	Model	Item Number
23 kg Capacity Digital Heavy Duty Orbital Shaker	SHHD2325DG	30391844

## Heavy Duty Orbital Shaker

- Patented Accu-Drive Shaking System
- 45.4 kg weight capacity
- Available with either 25 mm or 51 mm 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, 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 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 51 mm
Maximum Weight Capacity		45.4 kg
Tray Material		Aluminum
Tray Dimensions (L x W)		61 x 61 cm
Overall Dimensions (L x W x H)		72.9 x 67.8 x 17.0 cm
Ship Weight		90.8 kg

Description	Model	Item Number
45 kg Capacity Digital Heavy Duty Orbital Shaker 25 mm Orbit	SHHD4525DG	30391865
45 kg Capacity Digital Heavy Duty Orbital Shaker 51 mm Orbit	SHHD4550DG	30391872

# Open Air Shakers

## Heavy Duty Orbital Shaker

- Patented Accu-Drive Shaking System
- Available with either 25 mm or 51 mm 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, 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 61 x 91 cm non-skid rubber mat.



Specifications		
Speed Range	SHHD6825DG SHHD6850DG	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	SHHD6825DG SHHD6850DG	25 mm 51 mm
Maximum Weight Capacity		68 kg
Tray Material		Aluminum
Tray Dimensions (L x W)		61 x 91 cm
Overall Dimensions (L x W x H)		74.4 x 91.4 x 17.0 cm
Ship Weight		104.4 kg

Description	Model	Item Number
68 kg Capacity Digital Heavy Duty Orbital Shaker 25 mm Orbit	SHHD6825DG	30391879
68 kg Capacity Digital Heavy Duty Orbital Shaker 51 mm Orbit	SHHD6850DG	30391886

# 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
- 7.3 kg 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 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 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:

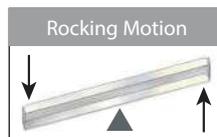
Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C, maximum 80% relative humidity, non-condensing.

### 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 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	7.3 kg**	
Tray Material	Aluminum	
Tray Dimensions (L × W)	35.6 × 27.9 cm	
Overall Dimensions (L × W × H)	1 Tier	42.5 27.9 14.0 cm
	2 Tier	42.5 × 27.9 × 24.1 cm
Ship Weight	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	30391954
Analog Rocking Shaker 2 Tier	SHRK07AL2	30391961

## 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:

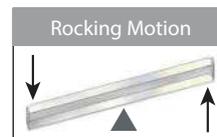
Unit can be run in cold rooms, incubators, and CO<sub>2</sub> environments from -10 to 60°C, maximum 80% relative humidity, non-condensing.

### 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 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	4.5 kg**
Tray Material	Aluminum
Tray Dimensions (L × W)	32.4 × 25.4 cm
Overall Dimensions (L × W × H)	42.5 × 25.4 × 14.0 cm
Ship Weight	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	30391989

# Open Air Shakers

## Rocking & Waving Shakers

- Variable control for speed, tilt and time
- 2.3 kg capacity
- Large 35.6 × 27.9 cm 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, 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 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	2.3 kg**
Tray Material	Aluminum
Tray Dimensions (L × W)	35.6 × 27.9 cm
Overall Dimensions (L × W × H)	42.5 × 27.9 × 16.5 cm
Ship Weight	7 kg

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

\*\* Centered on tray.

Description	Model	Item Number
Analog Waving Shaker	SHWV02AL	30391968

## 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°, 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 29.9 × 22.2 cm non-skid rubber mat.



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	2.3 kg**
Tray Material	Aluminum
Tray Dimensions (L × W)	29.9 × 22.2 cm
Overall Dimensions (L × W × H)	41.3 × 25.4 × 16.5 cm
Ship Weight	7.3 kg

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

\*\* Centered on tray.

Description	Model	Item Number
Digital Waving Shaker	SHWV02DG	30391949

# 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, 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 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
Maximum Weight Capacity	6.8 kg
Tray Material	Aluminum
Tray Dimensions (L x W)	27.9 x 33 cm
Overall Dimensions (L x W x H)	41.3 x 35.5 x 14.6 cm
Ship Weight	22.2 kg

Description	Model	Item Number
Digital Reciprocating Shaker	SHRC0719DG	30391830



## OHAUS Corporation

Headquartered in Parsippany, NJ, OHAUS Corporation manufactures an extensive line of high-precision electronic and mechanical balances and scales that meet the weighing needs of virtually every industry. We are a global leader in the laboratory, industrial, and education channels as well as a host of specialty markets, including the food preparation, pharmacy and jewelry industries. An ISO 9001:2008 manufacturer, OHAUS products are precise, reliable and affordable, and are backed by industry-leading customer support. For additional information, contact OHAUS Corporation or visit [www.ohaus.com](http://www.ohaus.com).



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