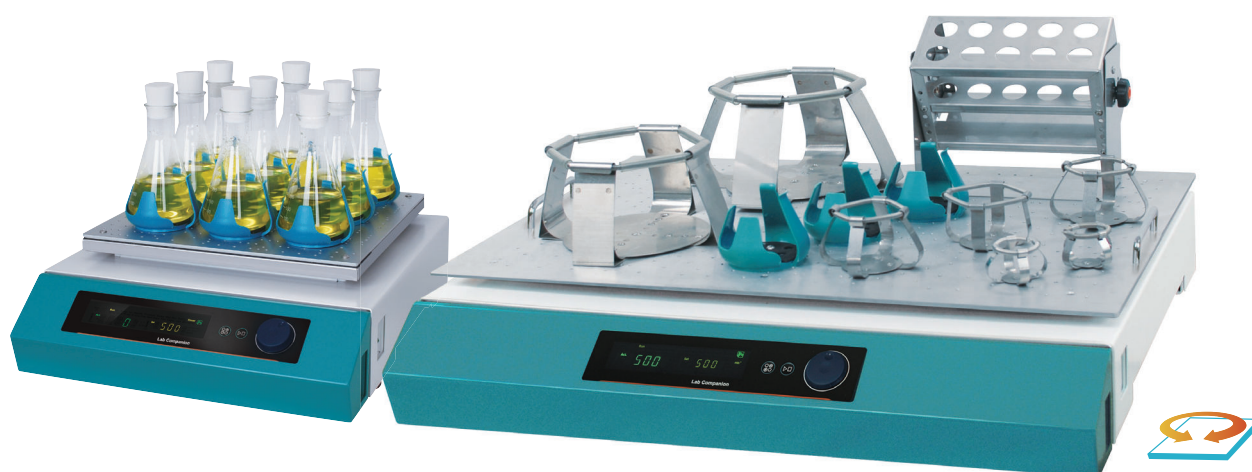


Open-air Shakers (General)

Powerful driving system with a durable body structure increases shaking capacity.

Suitable for larger or heavier workloads requiring accurate and reproducible results.



OS-4000 / OS-7100

with optional accessories

Optional accessories
see page 150-151

- Dedicated platforms, Universal platforms
- Flask clamps, Test tube racks



Various accessories installable



Control panel



Computer interface



Performance

- Microprocessor PID control.
 - Intelligent speed controller enables reproducible results.
- Shaking speed calibration enables matching the displayed rpm to the reference point.
- Competitive high shaking speed up to 500 rpm.
- Orbital shaking motion in various diameter.
 - 19.1mm or 25.4mm for OS-4000
 - 25.4mm for OS-7100
 - 50.8mm for OS-7200
- Wide speed range even with heavy workload.
 - Ideal DD(Direct Drive) Brushless Motor and triple cam system support heavy load, quiet, maintenance free operation and deliver high torque at high speeds and smooth rotation. (for OS-7100/7200)
 - Equipped with a maintenance-free BLDC motor to generate smooth, quiet, uniform, and yet powerful shaking motion. (for OS-4000)
- Best effort run function intelligently manages its rpm to keep shaking even workload is out of its capacity.
 - Automatic shaking speed adjustment in case of excessive workload such as unbalanced load placement, unusual vibrations caused from unstable floor or external shock.
- Pleasant test environment by the smooth acceleration and deceleration control.
 - Smooth start and smooth stop function prevent chemical spills from flasks or test tubes.
- Low-profile design minimizes vibration or sliding caused by the high speed shaking motion.

Convenience

- User friendly control panel.
 - Lab Companion's unique VFD-bright, clear, easy to read.
 - Durable membrane touch switch and control knob.
- Easy-set digital timer. (1 min. to 999 hr. 59 min.)
- Repetitive task can be easily performed as the platform stops where it starts.
 - Stopping the shaking platform always at the same position is highly beneficial for automated dosing or sampling process.
- Speed is basically set and displayed in increments of 1 rpm. Also speed increment interval can be set among 1, 5, 10 rpm according to users preference.
- Built-in RS-232 port and USB port for external control and data collection.
- Variety of accessories are available to meet application demands.

Safety

- Automatic run after power interruption.
- Shaking speed deviation alarm.
- Over-current protection, Stalled platform check. (stalled platform check is for OS-4000)

| Model | | OS-4000 | | OS-7100 | OS-7200 |
|---|--------------------------------------|--|--|--|--|
| Control system | | PID feedback control | | | |
| Display | | VFD | | | |
| Shaking system | Motion type | Orbital | | | |
| | Amplitude size (mm / inch, dia.) | 19.1 / 0.75 (standard) | 25.4 / 1 (adjustable) | 25.4 / 1 | 50.8 / 2 |
| | Speed range ²⁾ (rpm) | 20 to 500 | 20 to 450 | 30 to 500 | 30 to 300 |
| | Accuracy | ±1% of set speed (≥100rpm) / ±1 (≤100rpm) | | | |
| | Timer | 1 min. to 999 hr. 59 min. | | | |
| Max. load (kg / lbs) | | 14 / 30.9 at 500 rpm 21 / 46.3 at 400 rpm | 10 / 22.0 at 450 rpm 21 / 46.3 at 300 rpm | 10 / 22.0 at 500 rpm 25 / 55.1 at 400 rpm | 23 / 50.7 at 300 rpm 35 / 77.2 at 200 rpm |
| Dimension | Platform (WxD) (mm / inch) | 450×450 / 17.7×17.7 | | 755×520 / 29.6×20.5 | |
| | Body ¹⁾ (WxDxH) (mm/inch) | 510×632×156 / 20.1×24.9×6.1 | | 755×627×151 / 29.7×24.7×5.9 | |
| | Net weight (Kg / lbs) | 43 / 94.8 | | 117 / 257.9 | |
| Electrical requirements (230V, 50 / 60Hz) | | 0.3A | | 0.4A | |
| Cat. No. | | AAH3D1315K | | AAH3D1415K | AAH3D1515K |
| Electrical requirements (120V, 50 / 60Hz) | | 0.6A | | 0.8A | |
| Cat. No. | | AAH3D1365U | | AAH3D1465U | AAH3D1565U |

1) Main body dimension without accessories.

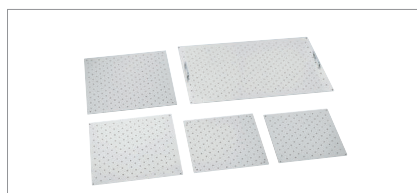
2) In case of operating at high speed (350 to 500 rpm), it is recommended to use optional attachments to be fixed on the working surface.

* Permissible environmental conditions: temperature (5-40°C) and relative humidity (up to 80%).

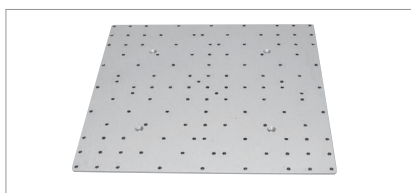
* CSA for OS-4000. * FDA establishment registered company. FDA listed products.

Accessories & Options

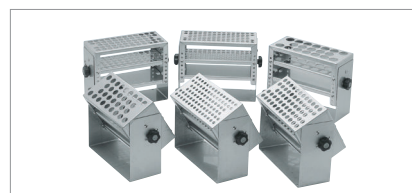
for Open-air Shakers (OS models) / Mini Shaker



Universal platforms (OS models)



Universal platform (CMS-350)



Test tube racks



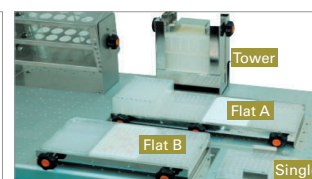
Flask clamps (stainless steel)



Flask clamps (plastic)



Funnel clamps



Microplate holders

| Description | | OS-2000 | OS-3000 | OS-4000 | OS-7100 OS-7200 | CMS-350 |
|-------------|--------------------------|-----------------------------------|-------------|-------------|--------------------|----------|
| Cat.No. | Universal platform | AAA3A501-V2 | AAA23501-V3 | AAA23502-V3 | AAA23503-V3 | AAA3B501 |
| - | Erlenmeyer flask size | Max. mountable flask clamps | | | | |
| AAA23550 | for 50 ml | 20 | 36 | 49 | 88 | 16 |
| AAA23551 | for 100 ml | 16 | 28 | 39 | 68 | 9 |
| AAA23552 | for 250 ml | 8 | 14 | 24 | 39 | 9 |
| AAA23556 | for 300 ml | 8 | 14 | 24 | 39 | 9 |
| AAA23553 | for 500 ml | 6 | 10 | 16 | 28 | 5 |
| AAA23554 | for 1L | 3 | 6 | 9 | 18 | 4 |
| AAA23555 | for 2L | - | 4 | 6 | 11 | 1 |
| AAA23557 | for 2.8L | - | 3 | 5 | 8 | - |
| AAA23558 | for 4L | - | 1 | 4 | 6 | - |
| AAA23559 | for 6L | - | 1 | 3 | 5 | - |
| - | Erlenmeyer flask size | Max. mountable flask clamps | | | | |
| AAA30570 | for 50 ml | 20 | 36 | 49 | 88 | 16 |
| AAA30571 | for 100 ~ 125 ml | 12 | 19 | 29 | 48 | 9 |
| AAA30572 | for 200 ml | 8 | 13 | 21 | 35 | 9 |
| AAA30573 | for 250 ml | 8 | 13 | 19 | 35 | 9 |
| AAA30574 | for 300 ml | 6 | 12 | 19 | 35 | 9 |
| AAA30575 | for 500 ml | 6 | 9 | 12 | 24 | 5 |
| AAA30576 | for 1L | 3 | 5 | 9 | 12 | 4 |
| AAA30577 | for 2L | - | 4 | 5 | 8 | 1 |
| - | Separating funnel size | Max. mountable funnel clamps | | | | |
| AAA23562 | for 250 ml | 4 | 4 | 6 | 15 | 3 |
| AAA23563 | for 500 ml | 3 | 3 | 4 | 10 | 2 |
| AAA23564 | for 1L | 3 | 3 | 3 | 7 | 2 |
| AAA23565 | for 2L | - | 2 | 2 | 5 | - |
| - | Test tube size | Mountable capacity of racks | | | | |
| AAA23581 | for 86 test tubes, ø8mm | 2 | 2 | 4 | 7 | 2 |
| AAA23582 | for 86 test tubes, ø10mm | | | | | |
| AAA23583 | for 58 test tubes, ø12mm | | | | | |
| AAA23584 | for 58 test tubes, ø14mm | | | | | |
| AAA23585 | for 32 test tubes, ø17mm | | | | | |
| AAA23586 | for 19 test tubes, ø25mm | | | | | |
| AAA23587 | for 10 test tubes, ø30mm | | | | | |
| AAA23594 | for 10 test tubes, ø35mm | | | | | |
| AAA23593 | for 4 test tubes, ø50mm | | | | | |
| - | | Max. mountable microplate holders | | | | |
| AAA23654 | Single | 6 | 8 | 15 | 25 | 6 |
| AAA23651 | Tower | 4 | 6 | 10 | 21 | 6 |
| AAA23652 | Flat A (large) | - | - | 2 | 4 | - |
| AAA23653 | Flat B (small) | 1 | 2 | 3 | 6 | - |

1) No declination.

* Above accessories need to be mounted on a universal platform which is sold separately.

for Open-air Shakers (OS models) / Mini Shaker



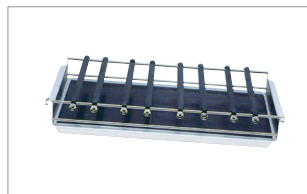
Dedicated platform



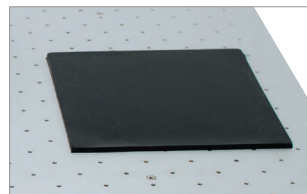
Spring wire racks



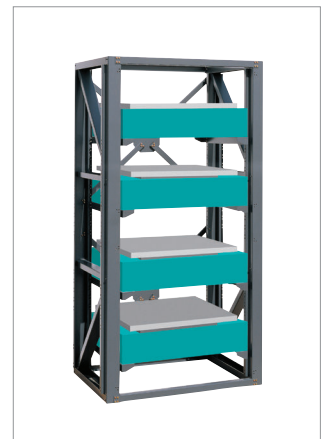
Rubber mats (SK, SKF)



Universal attachment



Lab sticker (200x200, mm)



Stage rack (OS models)



Rubber mat (CMS-350)



Dual stacking tray



Large tray

| Description | | OS-3000 | OS-4000 | OS-7100 OS-7200 |
|--------------------|---|-------------|-------------|--------------------|
| Dedicated platform | Universal platform +250ml flask clamps | AAA23611-V1 | AAA23621-V1 | AAA23634 |
| | No. of flask clamps | 14 | 24 | 39 |
| | Universal platform +500ml flask clamps | AAA23613-V1 | AAA23622-V1 | AAA23635 |
| | No. of flask clamps | 10 | 16 | 28 |

* A dedicated platform is sold with setting each max. mountable amount of flask clamps on.

| Description | | OS-2000 | OS-3000 | OS-4000 | OS-7100 OS-7200 | CMS-350 |
|-----------------------|-----------------------|-----------------------|-------------|-------------|--------------------|----------|
| Spring wire racks | - | AAA3A521 | AAA31521-V1 | AAA31522-V1 | AAA23514 | AAA3B511 |
| | Erlenmeyer flask size | Max. inserting flasks | | | | |
| | for 50 ml | 15 | 16 | 25 | 45 | 15 |
| | for 100 ml | 9 | 9 | 16 | 28 | 9 |
| | for 250 ml | 4 | 4 | 9 | 18 | 4 |
| | for 300 ml | 4 | 4 | 9 | 18 | 4 |
| | for 500 ml | 4 | 4 | 5 | 15 | 4 |
| | for 1L | 2 | 2 | 4 | 10 | 2 |
| for 2L | - | 1 | 2 | 6 | - | |
| for 2.8L | - | 1 | 2 | 4 | - | |
| Rubber mat | | AAA3A531-V1 | AAA31531 | AAA31532 | AAA23534 | AAA38501 |
| Universal attachments | | AAA3A511-V1 | AAA23511-V1 | AAA23512-V1 | AAA23505 | AAA3B521 |
| Lab sticker | | AAA30551 | | | | |
| Dimpled mat | | AAA3A532 | - | - | - | AAA38502 |
| Microplate tray | Dual stacking | AAA3A541 | - | - | - | AAA3B531 |
| | Large tray | AAA3A542 | - | - | - | AAA3B532 |
| Stage racks | 4 stage rack | - | AAA31541-V1 | AAA31542-V1 | AAA31702-V1 | - |
| | 3 stage rack | - | - | - | AAA31703-V1 | - |