

Shaker

Dual action / General type

Optimal model configuration with powerful performance

Structural Functional Features

- World Class, up to 500rpm.
- **OS-2000, 3000, and 4000 models**
Application of BLDC motor & belt system selectable orbital/reciprocal motion.
Compact and powerful shaking.
- **OS-7000 model**
Application of DD motor & triple cam system stable shaking ability. (registration KR 10-1678160)
- Stable shaking with low center of gravity structure.
- Powder coating applied to outer surface for reinforced corrosion resistance.
- Structure prevents the sample from flowing into the inside.
- Applied a direct drive motor that has outstanding durability, a 5-year warranty for the motor.

Use Convenience Features

- Accurate shaking with PID feedback control.
- Precision control with rpm calibration function.
- Stable control system even at low-speed agitation.
- Count-down timer. (up to 999 hours and 59 minutes)
- Intuitive and useful real-time rpm changes.
- Soft start and stop shaking function.
- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)
- The user can select a clockwise / counterclockwise rotation
- Usable when ambient temperature is at least 4°C.
- Various accessories depending on sample containers.
- Possible to stop the equipment at the same position.

Smart Self-diagnosis

- Real-time self-diagnostics to check equipment for abnormal conditions.
- Alarm from monitoring actual rpm error relative to the set rpm.
- When device instability occurs. (high rpm, overload, weight imbalance, etc.)
- Detects abnormal conditions relating to the platform on which the sample is placed and stops the operation. (except for OS-7000 series)
- Automatic restart in the event of sudden power loss.

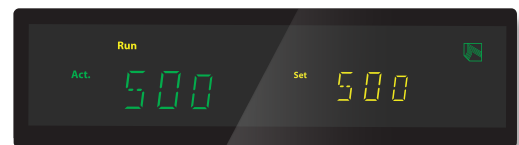
Optimized Rational Model Configuration

- Wide range of models from small to large type.
- 10 - 500 rpm for all applications.
- Applies four different shaking diameters. (amplitudes)
- Provides four sizes of platform models.
- Dual Action model. (orbital/reciprocal motion)
- Accessories for shared use.



OS-3000

with Universal Platform, Flask Clamp (option)



- Displays sets rpm and actual rpm simultaneously.
- Provides all information on equipment operation.
- Convenient operation with shaking start/stop button.
- Convenient operation by changing rpm with control knob.
- Clear display. (clear VFD)



Remote control and monitoring via mobile app.



Heavy Duty Holder (Option) for large capacity shaking

- Shaking up to 50L carboy on OS-7100 / 7200 models.
- Select 20L / 50L Holder Sponge depending on the amount of shaking.

Controllable rpm according to water weight

| Model | Holder sponge | Water weight (L) | | | | | |
|---------------|---------------|------------------|-----|-----|-----|-----|-----|
| | | 0 | 10 | 20 | 30 | 40 | 50 |
| OS-7100 (rpm) | 20L x 2 | 300 | 280 | 180 | 160 | 160 | - |
| | 50L x 1 | 300 | 190 | 150 | 130 | 130 | 130 |
| OS-7200 (rpm) | 20L x 2 | 210 | 180 | 160 | 150 | 150 | - |
| | 50L x 1 | 210 | 140 | 120 | 110 | 100 | 100 |

| Cat.No | Description |
|----------|--|
| AAA3D501 | Heavy duty holder for OS-7000 series |
| AAA3D502 | Heavy duty holder sponge (Φ376mm x 1hole) for 50L Carboy |
| AAA3D503 | Heavy duty holder sponge (Φ290mm x 2hole) for 20L Carboy |
| AAAJ3031 | 20L Carboy (260 x 317 x 539mm) |



OS-7100

with Heavy duty holder (option) +
1 hole-Heavy duty holder sponge (option)



OS-7100

with Heavy duty holder (option) +
2-hole Heavy duty holder sponge (option)

Specification

| Model | OS-2000 | OS-3000 | OS-4000 | OS-7100 | OS-7200 |
|---|--|--|--|--|--|
| Shaking system | | | | | |
| Motion type | Dual Action (Orbital/Reciprocal) | Dual Action (Orbital/Reciprocal) | Dual Action (Orbital/Reciprocal) | Orbital | Orbital |
| Speed range (rpm) | 20 to 500 | 20 to 500 | 20 to 500 (Orbital) / 20 to 450 (Reciprocal) | 30 to 500 | 30 to 300 |
| Max. speed per permissible load ¹⁾ | 500rpm (max. 10 kg) 300rpm (max. 16 kg) | 500rpm (max. 10 kg) 300rpm (max. 18 kg) | Orbital: 500 (max. 14kg), 400 (max. 10kg) Recipro.: 450 (max. 10kg), 300 (max. 21 kg) | 500rpm (max. 10 kg) 400rpm (max. 30 kg) | 300rpm (max. 23 kg) 250rpm (max. 35 kg) |
| Amplitude size (mm / inch, dia.) | 19.1 / 0.8 (12.7 / 0.5 available) | 19.1 / 0.8 (25.4 / 1 available) | 19.1 / 0.75 (default) 25.4 / 1 (available) | 25.4 / 1 | 50.8 / 2 |
| Speed stability ²⁾ (rpm, %) | ±1 | ±1 | ±1 | ±1 | ±1 |
| Timer (count-down) | 999hr 59min | 999hr 59min | 999hr 59min | 999hr 59min | 999hr 59min |
| Dimension | | | | | |
| Platform (W x D, mm / inch) | 320 x 260 / 12.6 x 10.2 | 350 x 350 / 13.8 x 13.8 | 450 x 450 / 17.7 x 17.7 | 755 x 520 / 29.6 x 20.5 | |
| Body (W x D x H, mm/inch) | 354 x 388 x 146 / 13.9 x 15.3 x 5.7 | 409 x 508 x 141 / 16.1 x 20 x 5.6 | 510 x 632 x 156 / 20.1 x 24.9 x 6.1 | 755 x 627 x 151 / 29.7 x 24.7 x 5.9 | |
| Net weight (Kg / lbs) | 22 / 48.5 | 28 / 61.7 | 43 / 94.8 | 117 / 257.9 | |
| Electrical requirements (230V, 50/60Hz, A) | | | | | |
| Cat. No. | AAH3D1115K | AAH3D1215K | AAH3D1315K | AAH3D1415K | AAH3D1515K |
| Electrical requirements (120V, 60Hz, A) | | | | | |
| Cat. No. | AAH3D1165U | AAH3D1265U | AAH3D1365U | AAH3D1465U | AAH3D1565U |

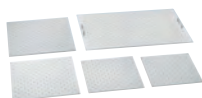
1) In Orbital Shaking mode, Regarding the maximum controllable rpm and amplitude by weight, the measurement is performed based on the default value.
2) Actual rpm allowable error for set rpm (1rpm if setting is less than 100rpm, ±1% if setting is higher than 100rpm)

Accessories Page 124

Universal Platform, Spring Wire Rack, Dedicated Platforms, Rubber Mat, Universal Attachment, Lab Sticker, Microplate Tray, Stage Rack, Flask Clamp, Funnel Clamp, Test Tube Rack, Microplate Holder, LC Green Box

Accessories for Shaker

Universal Platform



Universal Platform
Basic accessories required to use separated funnels, erlenmeyer flask, test tube, etc.



Dual Universal Platform
Maximum sample loading possible with two-stage structure.
(SKC-7000 series model exclusively)

Accessories for Universal Platform



Flask Clamp (STS / Plastic)
Erlenmeyer flask mounting (50ml – 6L)
High-strength spring maintains excellent clamping.



Starter Kit
Consisting of plastic clamps that are commonly used on Universal Platforms.
50ml, 100ml, 250ml, 500ml, 1L, 2L.



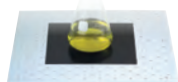
Funnel Clamp
Separated funnel mounting (250ml - 2L)
Easy detachment and stable clamping.



Test Tube Rack
Test tube mounting (Ø8 mm - Ø35 mm)
Easily adjustable angle.



Microplate Holder
Various configurations for microplate
Single, Tower, Flat A (Large), Flat B (Small)



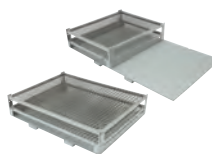
Lab Sticker
Excellent adhesion at 200mm x 200mm size,
applied to petri dishes, culture bottles, etc.
Temp. Range (°C): 15-60 Max. Speed (rpm): 250

LC Connected



LC GreenBox
Real-time monitoring of device operation via mobile app.
Up to 4 devices can be connected.

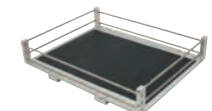
Set Accessories



Spring Wire Rack, Half Spring Wire Rack
Available to load various sample container shapes.
For SKC-7000, half type can be used that providing both a universal platform and spring wire rack.



Dedicated Platform
Accessories (250 ml, 500 ml) installed on platform with maximum quantity of flask clamps.



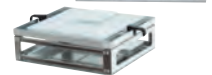
Rubber Mat
Convenient for use with culture bottles and petri dishes with rubber plate to prevent slipping on the floor.



Universal Attachment
Floor rubber plate and adjustable clamping rod make it a convenient structure for a wide range of applications.



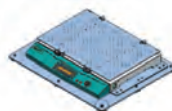
Microplate Tray (Dual Stacking Tray)
Dual stacking structure for microplate allows for excellent space utilization.



Microplate Tray (Large Tray)
The tray for microplates with anti-slip rubber plate on the bottom. (OS-2000, CMS-350)



Stage Rack
The rack maximizes space efficiency by stacking up to four shakers.
(OS-2000/4000/7000)



Weight Increaser
Accessories allowing for use of SKC series shaker up to 500rpm.

Starter Kit

| Description | Composition of Clamp | Cat. No. |
|-----------------------|---|-----------------|
| Starter Kit I | 50 ml (2), 100 ml (2), 250 ml (4), 500 ml (4), 1L (2), 2L (2) | AAA30581 |
| Starter Kit II | 50 ml (3), 100 ml (3), 250 ml (6), 500 ml (6) | AAA30582 |

| Description | OS-2000 | OS-3000 | OS-4000 | OS-7000 Series | SKC-6000 Series | SKC-7000 Series | CMS-350 |
|-------------------------------------|---------------|-------------|-------------|----------------|---|---|----------|
| Spring Wire Rack (Half) | - | - | - | - | - | AAA30525 ¹⁾ AAA30526 ²⁾ | - |
| Dedicated Platforms (250 mL) | - | AAA23611-V1 | AAA23621-V1 | AAA23634 | - | - | - |
| Dedicated Platforms (500 mL) | - | AAA23613-V1 | AAA23622-V1 | AAA23635 | - | - | - |
| Rubber Mat | AAA3A531-V1 | AAA23531-V1 | AAA23532-V1 | AAA23534 | AAA30531 ¹⁾ AAA30532 ²⁾ | AAA30533 ¹⁾ AAA30534 ²⁾ | AAA38501 |
| Universal Attachment | AAA3A511-V1 | AAA23511-V1 | AAA23512-V1 | AAA23505 | AAA30511 ¹⁾ AAA30512 ²⁾ | AAA30513 ¹⁾ AAA30514 ²⁾ | AAA3B521 |
| Lab Sticker | AAA30551 | AAA30551 | AAA30551 | AAA30551 | AAA30551 | AAA30551 | AAA30551 |
| Microplate Tray | Dual Stacking | AAA3A541 | - | - | - | - | AAA3B531 |
| | Large Tray | AAA3A542 | - | - | - | - | AAA3B532 |
| Stage Rack | 4 Stages | - | AAA31541-V1 | AAA31542-V1 | AAA31702-V1 | - | - |
| | 3 Stages | - | - | - | AAA31703-V1 | - | - |
| Weight Increaser | - | - | - | - | AAA30562 | AAA30562 AAA30561 | - |

1) Small Size
2) Large Size

| Description | Model | OS-2000 | OS-3000 | OS-4000 | OS-7000 Series | SKC-6000 Series | | SKC-7000 series | | CMS-350 | |
|--|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---------------------------------|-------------------------------|--|--|-------------------------|----|
| | Platform Size (mm / inch) | 320 x 260 / 13.8 x 10.2 | 350 x 350 / 13.8 x 13.8 | 450 x 450 / 17.7 x 17.7 | 755 x 520 / 29.7 x 20.5 | 580 x 520 / 22.8 x 20.5 (Small) | 660 x 520 / 25 x 20.5 (Large) | 755 x 520 / 29.7 x 20.5 (Small) | 885 x 520 / 34.8 x 20.5 (Large) | 276 x 276 / 10.9 x 10.9 | |
| Universal Platform | Cat. No. | AAA3A501-V2 | AAA23501-V3 | AAA23502-V3 | AAA23503-V3 | AAA30501 | AAA30503 | AAA30502¹⁾ AAA30541²⁾ | AAA30504¹⁾ AAA30542²⁾ | AAA3B501 | |
| Flask Clamp for Erlenmeyer Flask (Stainless steel)⁴⁾ | 50 mL | AAA23550 | 20 | 36 | 49 | 88 | 84 | 96 | 108 (216) ³⁾ | 126 (252) ³⁾ | 16 |
| | 100 mL | AAA23551 | 16 | 28 | 39 | 68 | 54 | 66 | 72 (144) ³⁾ | 84 (168) ³⁾ | 9 |
| | 250 mL | AAA23552 | 8 | 14 | 24 | 39 | 33 | 39 | 42 (84) ³⁾ | 51 (102) ³⁾ | 9 |
| | 300 mL | AAA23556 | 8 | 14 | 24 | 39 | 28 | 32 | 36 | 40 | 9 |
| | 500 mL | AAA23553 | 6 | 10 | 16 | 28 | 20 | 24 | 27 | 30 | 5 |
| | 1 L | AAA23554 | 3 | 6 | 9 | 18 | 14 | 16 | 18 | 20 | 4 |
| | 2 L | AAA23555 | - | 4 | 6 | 11 | 8 | 11 | 12 | 13 | 1 |
| | 2.8 L | AAA23557 | - | 3 | 5 | 8 | 6 | 7 | 9 | 11 | - |
| | 4 L | AAA23558 | - | 1 | 4 | 6 | 4 | 6 | 8 | 9 | - |
| 6 L | AAA23559 | - | 1 | 3 | 5 | 3 | 4 | 6 | 7 | - | |
| Flask Clamp for Erlenmeyer Flask (Plastic)⁵⁾ | 50 mL | AAA30570 | 20 | 36 | 49 | 88 | 56 | 64 | 72 | 80 | 16 |
| | 100~125 mL | AAA30571 | 12 | 19 | 29 | 48 | 42 | 48 | 54 | 60 | 9 |
| | 200 mL | AAA30572 | 8 | 13 | 21 | 35 | 25 | 39 | 30 | 32 | 9 |
| | 250 mL | AAA30573 | 8 | 13 | 19 | 35 | 25 | 30 | 30 | 32 | 9 |
| | 300 mL | AAA30574 | 6 | 12 | 19 | 35 | 25 | 30 | 30 | 32 | 9 |
| | 500 mL ⁶⁾ | AAA30575 | 6 | 9 | 12 | 24 | 20 | 20 | 24 | 28 | 5 |
| | 1 L ⁶⁾ | AAA30576 | 3 | 5 | 9 | 12 | 10 | 12 | 12 | 15 | 4 |
| 2 L ⁶⁾ | AAA30577 | - | 4 | 5 | 8 | 6 | 6 | 6 | 9 | 1 | |
| Funnel Clamp | 250 mL | AAA23562 | 4 | 4 | 6 | 15 | 14 | 16 | 18 | 20 | 3 |
| | 500 mL | AAA23563 | 3 | 3 | 4 | 10 | 9 | 10 | 11 | 14 | 2 |
| | 1 L | AAA23564 | 3 | 3 | 3 | 7 | 7 | 8 | 9 | 12 | 2 |
| | 2 L | AAA23565 | - | 2 | 2 | 5 | 5 | 6 | 7 | 8 | - |
| Test Tube Rack⁴⁾ | Ø8 mm (86ea) | AAA23581 | 2 | 2 | 4 | 7 | 8 | 9 | 9 | 12 | 2 |
| | Ø10 mm (86ea) | AAA23582 | 2 | 2 | 4 | 7 | 8 | 9 | 9 | 12 | 2 |
| | Ø12 mm (58ea) | AAA23583 | 2 | 2 | 4 | 7 | 8 | 9 | 9 | 12 | 2 |
| | Ø14 mm (58ea) | AAA23584 | 2 | 2 | 4 | 7 | 8 | 9 | 9 | 12 | 2 |
| | Ø17 mm (32ea) | AAA23585 | 2 | 2 | 4 | 7 | 8 | 9 | 9 | 12 | 2 |
| | Ø25 mm (19ea) | AAA23586 | 2 | 2 | 4 | 7 | 8 | 9 | 9 | 12 | 2 |
| | Ø35 mm (10ea) | AAA23594 | 2 | 2 | 4 | 7 | 8 | 9 | 9 | 12 | 2 |
| Microplate Holder⁴⁾ | Single | AAA23654 | 6 | 8 | 15 | 25 | 20 | 23 | 25 | 28 | 6 |
| | Tower | AAA23651 | 4 | 6 | 10 | 21 | 16 | 19 | 22 | 25 | 6 |
| | Flat A (Large) | AAA23652 | - | - | 2 | 4 | 3 | 4 | 4 | 5 | - |
| | Flat B (Small) | AAA23653 | 1 | 2 | 3 | 6 | 4 | 5 | 6 | 7 | - |

1) Single platform installed in SKC-7000

2) Dual platform installed in SKC-7000, only flasks less than 250ml can be installed on the lower platform. (Height of lower platform is about 175mm)

3) The numbers in parentheses indicate the maximum number of 250ml flasks that can be installed when Dual Platform is mounted.

4) Maximum quantity that can be mounted on each platform (For test tube rack, it is the maximum quantity when the rack is not to be tilted)

5) In the case of plastic flask clamps mounting, deformation may occur at temperatures over 40°C. Stainless steel flask clamps are recommended when using in a high temperature environment.

6) Possible to use under 300rpm

| Spring Wire Rack | OS-2000 | OS-3000 | OS-4000 | OS-7000 Series | SKC-6000 Series | | SKC-7000 Series | | CMS-350 | |
|-------------------------------------|-----------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----|
| | | | | | Small | Large | Small | Large | | |
| Spring Wire Rack (Cat. No.) | AAA3A521 | AAA31521-V1 | AAA31522-V1 | AAA23514 | AAA30521 | AAA30522 | AAA30523 | AAA30524 | AAA3B511 | |
| Quantity of Erlenmeyer Flask | 50 mL | 15 | 16 | 25 | 45 | 30 | 35 | 45 | 50 | 15 |
| | 100 mL | 9 | 9 | 16 | 28 | 20 | 24 | 28 | 32 | 9 |
| | 250 mL | 4 | 4 | 9 | 18 | 12 | 15 | 18 | 21 | 4 |
| | 300 mL | 4 | 4 | 9 | 18 | 12 | 15 | 18 | 21 | 4 |
| | 500 mL | 4 | 4 | 5 | 15 | 9 | 12 | 15 | 18 | 4 |
| | 1 L | 2 | 2 | 4 | 10 | 6 | 8 | 10 | 12 | 2 |
| | 2 L | - | 1 | 2 | 6 | 4 | 5 | 6 | 7 | - |
| 2.8 L | - | 1 | 2 | 4 | 3 | 3 | 4 | 5 | - | |

LC GreenBox

| Description | OS-2000 | OS-3000 | OS-4000 | OS-7000 Series |
|-------------|-----------|-----------|-----------|----------------|
| LC GreenBox | AAHQ1011K | AAHQ1011K | AAHQ1011K | AAHQ1011K |