



Lab shakers

Solaris Orbital Shakers

Intelligent simplicity









A new standard for reliability and technical innovation

As your sample preparation demands accelerate, you expect more from your lab equipment. Exceptional reliability is a top priority for orbital shakers—followed by flexible features with advanced programming that save you time and allow you to focus on your work. Thermo Scientific™ Solaris™ 2000 and Thermo Scientific™ Solaris™ 4000 Orbital Shakers accelerate the evolution of shaking by bringing it all together:

- · Exceptional reliability with heavy-duty drive mechanism
- Cleanroom-compatible design offering key features that enhance particle and contamination control
- User programmability for easy setup and reproducibility
- · Compact footprint designed to fit on your benchtop
- · Connectivity for easy monitoring
- The ability to create, download, and share programs across multiple units
- · Industry-leading warranty for peace of mind

Solaris Orbital Shakers help make life in the lab a little smoother each day.

Raising the bar in shaker performance

Solaris Orbital Shakers set a new standard for reliability and technical innovation

Ruggedly built for demanding applications in busy research and GLP/GMP labs, they combine a new ergonomic design with key feature enhancements that help save you time, protect your process, and drive your science forward.

Solaris Orbital Shakers offer a variety of platforms plus associated flask clamps and tube racks to support virtually any capacity you require. Solaris open air shakers come in two sizes and can operate in microbiological incubators, environmental chambers, or refrigerators to meet a wide range of application requirements. Solaris temperature-controlled benchtop orbital shakers are available in both small and large footprints with incubation and optional energy efficient Peltier chillers. They also offer ergonomic design features for easier usability with a touchscreen and lid.





Solaris 2000 Open Air Shaker



Solaris 4000 Open Air Shaker



Solaris 2000 I Incubated Shaker



Solaris 2000 R Incubated and Refrigerated Shaker



Solaris 4000 I Incubated Shaker



Solaris 4000 R Incubated and Refrigerated Shaker



Efficient operation

Advanced user interface and programming capabilities for fast and secure storage of protocols and setpoints

Programs can be downloaded, uploaded, or shared across other Solaris shakers in your laboratory, allowing for better reproducibility and efficiency. Access controls cater to processes with restricted access requirements, eliminating non-authorized changes to your Solaris shaker's settings.

- The best-in-class touchscreen is easy to read and simple to operate; its multilanguage system accommodates user preference to help avoid errors.
- The full-color display allows you to clearly view speed and run times concurrently, even from a distance. View historical monitoring of alerts, alarms, and interaction logs for greater security and reproducibility.
- Set, run, and monitor vital statistics at your fingertips; graphing capabilities allow you to monitor the history of your run.

Solaris Orbital Shakers include a built-in orbital calculator that gives you the ability to convert protocols designed with different orbits and estimate the set speed needed to obtain similar results.



The large, bright user interface lets you easily monitor set points and status conditions from across the lab.



Designed for easy maintenance

Solaris Orbital Shakers offer easy-to-remove platforms that make cleaning fast and simple

The shakers have rounded corners and removable platforms, so you can clean the unit quickly and completely with confidence. A sealed motor and shaker housing protects the drive mechanism from damaging spills, simplifies cleaning, and controls contamination. The sleek and thoughtful design results in a low-maintenance shaker with a longer service life.

Solaris Orbital Shakers feature a small footprint that helps save valuable benchtop space. Engineered to perform with a reduced noise level in a wide range of environments, the units operate in a temperature range of 5°C to 40°C and humidity conditions from 20% to 80% noncondensing.



Energy-optimized with Peltier technology



Green benefits

- Energy efficient: uses 58% less energy than prior model
- Less hazardous: uses refrigerant-free cooling system

The refrigerant-free cooling system of Solaris Incubated and Refrigerated Benchtop Shakers uses solid-state Peltier elements that maintain temperature conditions by heating and cooling as necessary for your protocol. By applying the correct current for the temperature selected, the Peltier elements generate precise temperatures for consistent results.

A refrigerant-free cooling system is more efficient than the traditional compressor-based heating and cooling system.

Traditional systems rely on constantly switching between full power heating and cooling to continually adjust the interior environment, resulting in higher energy consumption. Peltier elements also eliminate the noisy moving parts associated with loud compressor systems, resulting in units that operate quietly in the lab.

The perfect fit for your applications

Solaris Orbital Shakers offer critical flexibility to meet virtually any application requirement. They have also high compatibility with GLP/GMP operations. The Solaris Open Air models are specially engineered to support operation inside a range of lab equipment, including environmental chambers, incubators, and lab refrigerators for added flexibility.*

Cell and gene therapy

Solaris Incubated and Refrigerated Benchtop Shakers allow for the precise temperature control necessary for vector construction and plasmid production procedures. Password-protected protocols, data monitoring alerts, and audible alarms offer a security-conscious choice for sensitive applications.



Molecular biology/cloning and biochemistry applications

eccentric drive mechanism that can operate across many applications, including mixing, staining, hybridization, and washing.



Bioprocessing

Solaris Open Air Shakers are GLP/GMP-compatible with an ergonomic design, along with sealed electronics to protect from accidental spills and help protect against contamination. They are equipped with a heavy-duty tribalanced drive mechanism to handle heavy loads, and are protected by an overload sensor that turns the unit off if weight capacity is exceeded.



^{*} User is responsible for safe operation of Solaris shakers in combination with any lab equipment.

Specification and ordering tables

Open Air Shaker specifications

		Orbit	Max.	Overall dimensions in. (cm) without platform					
Model	diam Speed range* in. (ci		load* lb (kg)	L	W	Н	Electrical requirements	Regulatory certifications	Cat. No.
Solaris 2000	15-525 ± 1 rpm	1 (2.54)	55 (25)	18.5 (46.9)	14.3 (36.4)	5.5 (14.1)	100-240 V ± 10%, 50/60 Hz	CE Cert, UL (Canada/US) File E311968, UK Mark	76311-660
Solaris 4000	15-525 ± 1 rpm	1 (2.54)	95 (43)	25.5 (64.8)	22.6 (57.3)	7 (17.7)	100-240 V ± 10%, 50/60 Hz	CE Cert, UL (Canada/US) File E311968, UK Mark	76311-662

^{*} Maximum speed is dependent on load and platform. Please see the manual for maximum speed by weight information, and for additional information on speed and load limitation for dual stack platforms.

Temperature Controlled Benchtop Shaker specifications

		Orbit	Max.	Temperature	Overall dimensions in. (cm)			Height with lid			
Model	Speed range*	diameter in. (cm)	load* lb (kg)	setting range (°C)	L	W	Н	open in. (cm)	Electrical requirements	Regulatory certifications	Cat. No.
Solaris 2000 I	15-525 ± 1 rpm	1 (2.54)	35 (16)	30 to 60	27.6 (70)	14.2 (36)	18.1 (46)	30.8 (79)	100-120, 200-240 V ± 10%, 50/60 Hz	CE Cert, UL (Canada/US) File E311968, UK Mark	76632-994
Solaris 2000 R	15-525 ± 1 rpm	1 (2.54)	35 (16)	5 to 60	27.6 (70)	14.2 (36)	18.1 (46)	30.8 (79)	100-240 V ± 10%, 50/60 Hz	CE Cert, UL (Canada/US) File E311968, UK Mark	76633-000
Solaris 4000 I	15-525 ± 1 rpm	1 (2.54)	70.5 (32)	30 to 60	30.3 (77)	22.4 (57)	21.7 (55)	36.7 (94)	100–120, 200–240 V ± 10%, 50/60 Hz	CE Cert, UL (Canada/US) File E311968, UK Mark	76633-006
Solaris 4000 R	15-525 ± 1 rpm	1 (2.54)	70.5 (32)	4 to 60	30.3 (77)	22.4 (57)	21.7 (55)	36.7 (94)	100-240 V ± 10%, 50/60 Hz	CE Cert, UL (Canada/US) File E311968, UK Mark	76633-012

^{*} Maximum speed is dependent on load and platform. Please see the manual for maximum speed by weight information, and for additional information on speed and load limitation for dual stack platforms.

Ordering information

Shakers

Description	Model	Cat. No.
Small Open Air Shaker with 12" x 14" platform	Solaris 2000	76311-660
Large Open Air Shaker with 18" x 30" platform	Solaris 4000	76311-662
Incubated Benchtop Shaker with 11" x 14" platform	Solaris 2000 I	76632-994
Incubated and Refrigerated Benchtop Shaker with 11" x 14" platform	Solaris 2000 R	76633-012
Incubated Benchtop Shaker with 18" x 18" platform	Solaris 4000 I	76633-006
Incubated and Refrigerated Benchtop Shaker with 18" x 18" platform	Solaris 4000 R	76633-012

Shaker and accessory bundles

Model	Cat. No.
Solaris 2000	Call to request
Solaris 4000	Call to request
Solaris 2000 I	76632-996
Solaris 2000 I	76632-998
Solaris 2000 R	76633-002
Solaris 2000 R	76633-004
Solaris 4000 I	76633-008
Solaris 4000 I	76633-010
Solaris 4000 R	76633-014
Solaris 4000 R	76633-016
	Solaris 2000 Solaris 4000 Solaris 2000 I Solaris 2000 I Solaris 2000 R Solaris 2000 R Solaris 4000 I Solaris 4000 I Solaris 4000 R

 $^{^{\}star\star}$ Bundles with adhesive mats include 1 pack each of Cat. No. 75002127 and Cat. No. 75004111.



Optional platforms

Description	Compatible model	Cat. No.
Solaris 11" x 14" Universal Platform for Solaris Temperature Controlled SK2001 and SK2002 Shakers	Solaris 2000 I 2000 R	Call to request
Solaris 12" x 14" Universal Platform	Solaris 2000	76311-664
Solaris 12" x 14" Dual Stack Universal Platform	Solaris 2000	76311-666
Solaris 12" x 14" Dual Stack Universal Platform—upgrade kit (one 12 x 14 platform, screws, supporting rods)	Solaris 2000	76311-668
Solaris 18" x 18" Universal Platform for SK2000, SK4001, and SK4002	Solaris 2000 4000 I 4000 R	76311-670
Solaris 18" x 18" Dual Stack Universal Platform	Solaris 2000	76311-672
Solaris 18" x 18" Dual Stack Universal Platform—upgrade kit (one 18 x 18 platform, screws, supporting rods)	Solaris 2000	76311-674
Solaris 18" x 24" Universal Platform	Solaris 2000	76311-676
Solaris 18" x 30" Universal Platform	Solaris 4000	76311-678
Solaris 18" x 30" Dual Stack Universal Platform	Solaris 4000	76311-680
Solaris 18" x 30" Dual Stack Universal Platform—upgrade kit (one 18 x 30 platform, screws, supporting rods)	Solaris 4000	76311-682
Solaris 36" x 24" Universal Platform	Solaris 4000	76311-684

Accessories for Solaris Orbital Shakers

Solaris Orbital Shakers are compatible with a wide variety of platforms, clamps, and racks. Mix and match accessories to meet your application needs. Clamps are purchased separately. We are continuously expanding our line of clamps and accessory offerings.

Miscellaneous accessories-spare parts and trays

Description	Compatible model	Cat. No.
Clamp screw kit (screws)	Solaris Shakers	76311-686
Screwdriver for accessories	Solaris Shakers	76632-990
Platform spare part kit for SK2000 (platform screws, tool, and threadlocker)	Solaris 2000	76311-688
Platform spare part kit for SK4000 (platform screws, tool, and threadlocker)	Solaris 4000	76311-690
Adhesive mat applicator	Solaris Shakers	76632-978
Spare part set of o-rings	Solaris Shakers	76632-992
Utility tray for Solaris Shaker 11" x 14" or 12" x 14" platforms	Solaris Shakers	76632-976
Utility tray for Solaris Shaker 18" x 18", 18" x 24", 18" x 30", and 36" x 24" platforms	Solaris Shakers	76632-974
Gassing manifold	Solaris 2000 I 2000 R	Call to request
Gassing manifold	Solaris 4000 I 4000 R	Call to request

Accessories—adhesive mats

Description	Maximum rpm*	Cat. No.
High adhesion sticky mat, 200 mm x 200 mm	400	76632-982
High adhesion sticky mat, 280 mm x 170 mm	400	76632-984
Low adhesion sticky mat, 200 mm x 200 mm	200	76632-952
Low adhesion sticky mat, 280 mm x 170 mm	200	76632-964
Sticky mat, 140 mm x 140 mm	225	10753-678
Sticky mat, 230 mm x 230 mm	250	97007-248

^{*} See Manual for suitability of your labware material at maximum shaking speed.



Specification and ordering tables

Accessories-shaker flask clamps and fit recommendations

Description	12" x 14" SK1214	18" x 18" SK1818	18" x 24" SK1824	18" x 30" SK1830	36" x 24" SK3624	12" x 14" DS SK1214D	18" x 18" DS SK1818D	18" x 30" DS SK1830D	11" x 14" SK1114 [†]	18" x 18" SK1818†	Cat. No.
10 mL Erlenmeyer flask clamp	72	113	157	203	187	140	226	402	59	113	57019-670
25 mL Erlenmeyer flask clamp	42	64	80	112	187	80	124	220	35	64	57019-672
50 mL Erlenmeyer flask clamp	42	64	80	112	187	80	124	220	35	64	57019-674
125 mL Erlenmeyer flask clamp	15	32	40	46	83	30	62	92	15	32	57019-676
250 mL Erlenmeyer flask clamp	9	16	24	34	40	16	32	68	7	16	57019-678
300 mL Erlenmeyer flask clamp	9	16	20	28	40	16	32	56	7	16	57019-680
500 mL Erlenmeyer flask clamp	9	16	20	28	40	16	32	56	7	16	57019-682
1 L Erlenmeyer flask clamp	4	9	11	14	20	8	16	28	4	9	57019-684
2 L Erlenmeyer flask clamp	3	5	6	8	11	NA	NA	16	2	6	57019-686
4 L Erlenmeyer flask clamp	1	4	4	6	8	NA	NA	NA	NA	NA	57019-688
5 L Erlenmeyer flask clamp	1	2	4	5	8	NA	NA	NA	NA	NA	76498-948
6 L Erlenmeyer flask clamp	1	2	2	3	6	NA	NA	NA	NA	NA	57019-690
2,800 mL Fernbach flask clamp	1	4	4	6	8	NA	NA	12	1	4	57019-696
2.5 L Low Form Culture flask clamp	1	2	2	3	6	NA	NA	6	1	1	57019-692

[†] Platform fit recommendations are specific to Solaris Temperature Controlled Shaker models.

Accessories—square media bottle clamps and fit recommendations

Description	12" x 14" SK1214	18" x 18" SK1818	18" x 24" SK1824	18" x 30" SK1830	36" x 24" SK3624	12" x 14" DS SK1214D	18" x 18" DS SK1818D	18" x 30" DS SK1830D	11" x 14" SK1114 [†]	18" x 18" SK1818 [†]	Cat. No.
125 mL square media bottle clamp	12	16	24	28	54	21	32	56	9	16	76632-942
250 mL square media bottle clamp	9	16	22	28	52	18	32	56	7	16	76632-944
500 mL square media bottle clamp	6	9	12	15	24	11	18	30	3	9	76632-946
1,000 mL square media bottle clamp	4	9	12	15	24	8	18	28	2	9	76632-948

[†] Platform fit recommendations are specific to Solaris Temperature Controlled Shaker models.

Accessories-test tube racks and fit recommendations

Description	12" x 14" SK1214	18" x 18" SK1818	18" x 24" SK1824	18" x 30" SK1830	36" x 24" SK3624	12" x 14" DS SK1214D	18" x 18" DS SK1818D	18" x 30" DS SK1830D	11" x 14" SK1114 [†]	18" x 18" SK1818 [†]	Cat. No.
10-13 mm 6 x 12 array test tube racks (full)	3	7	9	12	20	6	13	24	3	7	80080-552
14-16 mm 6 x 12 array test tube racks (full)	3	4	6	9	12	6	8	16	2	4	80080-556
17-20 mm 4 x 10 array test tube racks (full)	3	5	7	9	15	6	8	18	2	5	80080-560
21–25 mm 4 x 10 array test tube racks (full)	2	3	5	6	9	4	6	12	1	3	80080-564
26-30 mm 3 x 8 array test tube racks (full)	3	4	5	7	10	5	8	13	2	4	80080-568
1.5 mL MCT 8 x 12 array tube racks (full)	3	4	7	9	12	6	8	17	2	5	80080-572
10-13 mm 6 x 6 array test tube racks (half)	8	12	15	21	32	14	22	40	6	12	80080-554
14–16 mm 6 x 6 array test tube racks (half)	5	9	11	13	20	9	16	24	2	8	80080-558
17–20 mm 4 x 5 array test tube racks (half)	7	11	14	18	20	12	20	34	4	10	80080-562
21–25 mm 4 x 4 array test tube racks (half)	6	9	11	14	22	10	16	26	2	8	80080-566
26-30 mm 3 x 3 array test tube racks (half)	6	9	12	15	24	11	17	30	4	9	80080-570
1.5 mL MCT 4 x 6 array tube racks (half)	6	10	13	18	24	11	19	34	3	8	80080-574
10-13 mm 72 place adjustable tube rack	3	4	6	7	14	6	8	14	2	4	76632-926
16-20 mm 40 place adjustable tube rack	3	4	6	7	14	5	8	14	2	3	76632-928
21–25 mm 40 place adjustable tube rack	3	3	4	5	9	5	6	10	1	3	76632-930
26-30 mm 24 place adjustable tube rack	3	3	4	6	9	5	6	12	1	3	76632-932

[†] Platform fit recommendations are specific to Solaris Temperature Controlled Shaker models.



Accessories—beaker racks and fit recommendations

Description	12" x 14" SK1214	18" x 18" SK1818	18" x 24" SK1824	18" x 30" SK1830	36" x 24" SK3624	12" x 14" DS SK1214D	18" x 18" DS SK1818D	18" x 30" DS SK1830D	11" x 14" SK1114 [†]	18" x 18" SK1818†	Cat. No.
30 mL - 36 position - 11" x 14" rack	1	NA	NA	NA	NA	2	NA	NA	1	NA	76632-962
50 mL - 28 position - 11" x 14" rack	1	NA	NA	NA	NA	2	NA	NA	1	NA	76632-930
100 mL - 16 position - 11" x 14" rack	1	NA	NA	NA	NA	2	NA	NA	1	NA	76632-966
250 mL - 9 position - 11" x 14" rack	1	NA	NA	NA	NA	2	NA	NA	1	NA	76632-968
400 mL - 8 position - 11" x 14" rack	1	NA	NA	NA	NA	2	NA	NA	1	NA	76632-970
600 mL - 5 position - 11" x 14" rack	1	NA	NA	NA	NA	2	NA	NA	1	NA	76632-972
30 mL - 32 position - 9" x 18" rack	NA	2	2	3	4	NA	4	6	NA	2	76632-950
50 mL - 24 position - 9" x 18" rack	NA	2	2	3	4	NA	4	6	NA	2	76632-986
100 mL - 15 position - 9" x 18" rack	NA	2	2	3	4	NA	4	6	NA	2	76632-954
250 mL - 8 position - 9" x 18" rack	NA	2	2	3	4	NA	4	6	NA	2	76632-956
400 mL - 6 position - 9" x 18" rack	NA	2	2	3	4	NA	4	6	NA	2	76632-958
600 mL - 4 position - 9" x 18" rack	NA	2	2	3	4	NA	4	6	NA	2	76632-960

[†] Platform fit recommendations are specific to Solaris Temperature Controlled Shaker models.

Accessories—vessel clamps and fit recommendations

Description	12" x 14" SK1214	18" x 18" SK1818	18" x 24" SK1824	18" x 30" SK1830	36" x 24" SK3624	12" x 14" DS SK1214D	18" x 18" DS SK1818D	18" x 30" DS SK1830D	11" x 14" SK1114 [†]	18" x 18" SK1818 [†]	Cat. No.
Single height adjustable clamp 11" x 14"	NA	NA	NA	NA	NA	NA	NA	NA	1	NA	76632-940
Dual height adjustable clamp 12" x 14"	1	1	1	2	2	NA	2	4	NA	1	76632-936
Dual height adjustable clamp 18" x 18"	NA	1	1	1	2	NA	NA	2	NA	1	76632-938
Single vessel adjustable clamp	4	4	6	8	12	6	8	16	2	4	76632-934
Separatory funnel—horizontal	2	3	4	5	7	2	5	9	NA	NA	76632-980
Separatory funnel-vertical mount	4	4	6	8	12	NA	NA	NA	NA	NA	76632-980

[†] Platform fit recommendations are specific to Solaris Temperature Controlled Shaker models.

Accessories—plate rack and fit recommendations

Description	12" x 14" SK1214	18" x 18" SK1818	18" x 24" SK1824	18" x 30" SK1830	36" x 24" SK3624	12" x 14" DS SK1214D	18" x 18" DS SK1818D	18" x 30" DS SK1830D	11" x 14" SK1114 [†]	18" x 18" SK1818 [†]	Cat. No.
Microplate/Deep-well Plate	7	12	16	23	36	14	24	42	6	10	490014-162

[†] Platform fit recommendations are specific to Solaris Temperature Controlled Shaker models.



thermo scientific



Service plans

	Warı	ranty	Post-warranty				
	Factory warranty	Total Care warranty	T&M (not a contract)	Tech Direct	Total Care	Extended warranty	
Preventive maintenance		•	Fixed price	•	•		
Corrective maintenance	•	•	Hourly rate	Discount rate	•	•	
Basic technical support	•	•	•	•	•	•	
Priority enhanced technical support	•	•		•	•	•	
On-site response commitment				3 days	2 days		
Repair warranty	Instrument warranty	Instrument warranty	90 days	1 year	1 year	Extended warranty	
Loaner ^{††}		•		•	•		
Compliance services (optional)		10%		10%	10%		

Service plans are currently available in the United States and Europe. Service coverage may vary in certain regions. Please contact your sales representative for more information about services in your location.

Ordering information

Compliance services

Description	Model	VWR Cat. No.
Includes on-site installation and operational qualification service (documentation included)	Solaris Open Air	Call to request
Includes on-site installation and operational qualification service (documentation included)	Solaris Temperature Controlled	Call to request
Includes on-site installation, operational qualification service, and temperature mapping (documentation included)	Solaris Temperature Controlled	Call to request
Includes on-site temperature mapping (documentation included)	Solaris Temperature Controlled	Call to request



VWR.COM

Prices, product, and/or services details are current when published and subject to change without notice. | Certain products or services may be limited by federal, state, provincial, or local regulations. | VWR, part of Avantor, makes no claims or warranties concerning sustainable/green products. Any claims concerning sustainable/green products are the sole claims of the manufacturer and not those of VWR International, LLC and/or Avantor, Inc. or affiliates. All prices are in US dallars unless otherwise noted. Offers valid in US and Canada unless otherwise noted, void where prohibited by law or company policy, while supplies last. | Trademarks are owned by Avantor, Inc. or its affiliates, unless otherwise noted. | Visit www.com to view our privacy policy, trademark owners, and additional disclaimers. © 2023 Avantor, Inc. All rights reserved.

^{††} Guaranteed response time begins once a PO is received and is applicable in the US and Europe. Access restrictions to geographical location, building, or room may invalidate on-site response time commitment. Availability in the US is limited to selected locations (subject to change): Ann Arbor; Atlanta; Austin; Baltimore; Boston; Chicago; Cincinnati; Cleveland; Columbus; Dallas; Denver; Des Moines; Detroit; East Bay; El Paso; Hartford; Houston; Indianapolis; Jacksonville; Kansas City; Los Angeles; Madison; Memphis; Miami; Minneapolis/St. Paul; Nashville; New Brunswick, NJ; New York; Orange County, CA; Philadelphia; Phoenix; Pittsburgh; Portland, OR; Raleigh; Richmond; Rochester; Salt Lake City; San Antonio; San Diego; San Francisco; Seattle; St. Louis; Tampa; Washington, D.C. Please contact your sales representative for more information about services in your location.