



Thermo Scientific Forma Benchtop and Floor Orbital Shakers



Built to Last - Easy to Use

Thermo Scientific Forma Orbital Shakers

We have the solution when you are searching for an orbital shaker that will run 24/7 and for years without problems; as well as for culturing sensitive cells that need protection from contamination. These sturdy units also will provide a good “hard shake” for bacteria. Our Forma® shakers are both easy to use and program, including a function that restricts unauthorized or inadvertent changes to key functions. And our platforms and clamps are compatible with other shakers.



Benchtop Orbital Shakers Model 416 and 430

provide the largest platforms for maximum capacity and a better value, a superior balancing mechanism for vibration-free shaking, and durable components for long life.



Benchtop Incubated Orbital Shakers Model 420

include class-leading temperature uniformity for optimum growth, the highest large-flask capacity for the best value, and durable components for long life.



Floor Incubated and Refrigerated Orbital Shakers Model 435 (436) and 480 (481)

provide HEPA filtration for maximum protection from contamination, a directed airflow system for optimum temperature uniformity and ideal growth conditions—even when the units are full, and an ergonomic design for easy access to your product.

Thermo Scientific Forma Benchtop Orbital Shakers Model 416 and 430

Steady Benchtop Performers

Our two benchtops are used for a variety of applications and are designed to operate in reach-in incubators, environmental rooms, or on lab benches. They perform continuously, even in temperatures from 4°C to 40°C (39.2°F to 104°F) and in the following humidity conditions: 80% RH at or below 31°C (87.8°F), decreasing linearly to 50% RH at 40°C (104°F).



Model 416



Model 430

Largest Platforms For Maximum Capacity And A Better Value

Our optional platforms are constructed of 5/16", heavyduty, brushed anodized aluminium for durability and easy cleaning. They are the largest on the market to meet your highest capacity requirements.

Superior Balancing Mechanism For Vibration-Free Shaking

- Triple counter-balanced mechanism provides optimum handling of full or unbalanced loads, regardless of flask placement, and completely eliminates "walking."
- Over-sized, adjustable, suction cup style, rubber feet minimize vibration. The rubber feet also provide maximum stability, even with heavy or unbalanced loads.

Durable Components For Long Life

- Triple counter-balanced mechanism (U.S. Patent 5,558,437) includes a unit production lifetime warranty (parts only).
- Heavy-duty, triple counter-balanced eccentric drive allows extended speed ranges of 25 to 525 RPM.
- Low-heat 24V DC motor with moisture-resistant electronics provides continuous maintenance-free shaker operation on the benchtop or in a chamber.
- Heavy-duty, permanently lubricated bearings ensure long life, minimizing the risk of downtime.

Sealed Mini Orbital Shaker (Cat. No. 194134)

Shaker is convenient for use in cell culture incubators, biosafety cabinets, and lab refrigerators. Cool-operating motor does not cause temperature deviations in your equipment. Rubber feet eliminate unwanted movement and vibration. Adjustable tilt platform (via a brass wheel) and smooth motion are ideal for applications such as gel staining; western blotting; rinsing membranes; or mixing small tubes, vials and blood samples. Mat (Cat. No. 194135) to hold small test tubes/vials is available.

RPM Speed Range/Motion 0-60 RPM/0.8" (2.0cm)

Platform

Size 7.0" x 7.0" (17.8 x 17.8cm)

Construction Solid 0.25" (0.6cm) clear acrylic with non-skid rubber mat

Exterior Dimensions

8.0"W x 4.8"H x 8/0"F-B

(20.3cm x 12.2cm x 20.3cm)

Electrical

90-240V, 50/60 Hz, 0.1 FLA or less on 115V and 0.05 FLA or less on 230V

Ambient Operating Conditions

0°C to 60°C (32°F to 140°F)

Net/Shipping Weight

5.0 lbs. (2.3kg)/6.5 lbs. (3.0kg)

Warranty

1 year parts and labor

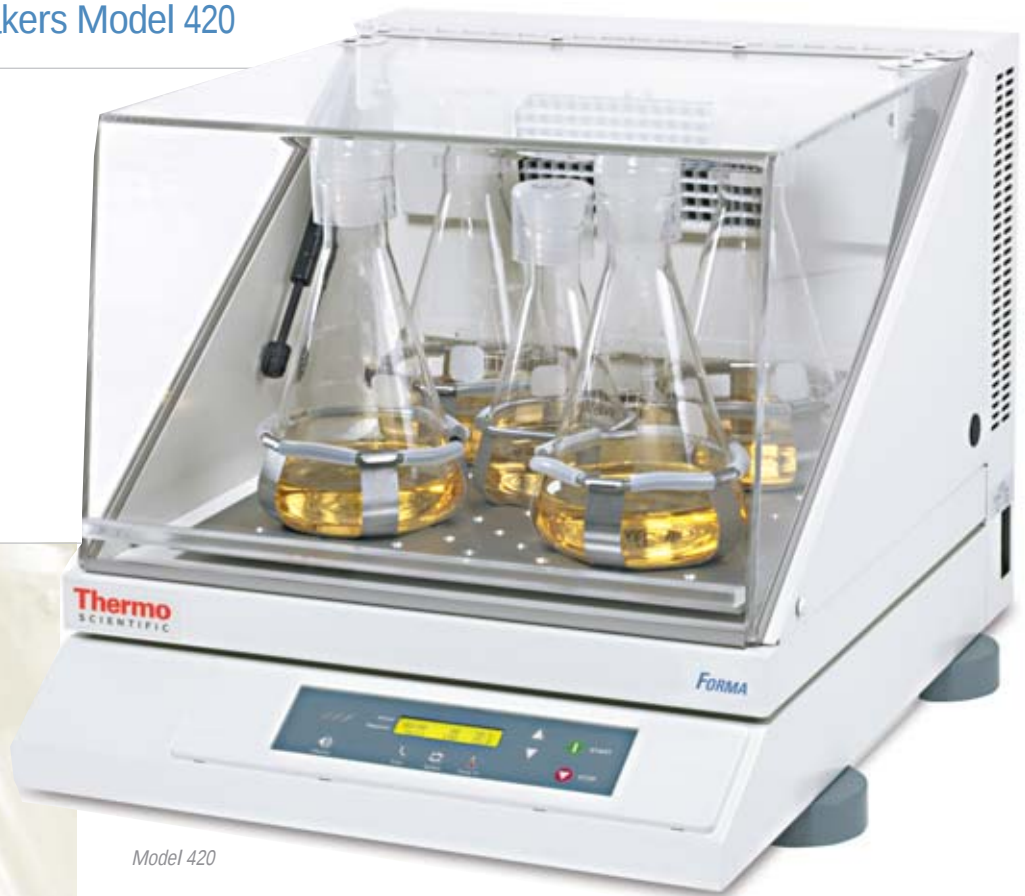
Model	Platform 1		Platform 2	
	inch	cm	inch	cm
416	18 x 18	45.7 x 45.7	24 x 18	61 x 45.7
430	29.5 x 18	74.9 x 45.7	36 x 24	91.4 x 61
194134	7 x 7	17.8 x 17.8		



Sealed Mini Orbital Shaker

Thermo Scientific Forma Incubated Benchtop Orbital Shakers Model 420

This model performs over a temperature range of 5°C above ambient to 80°C (176°F) with control of $\pm 0.1^\circ\text{C}$, providing the widest temperature range in the industry and ensuring flexibility for a broad range of applications.



Model 420

Class-Leading Temperature Uniformity For Optimum Growth

- Double-wall, insulated chamber contributes to optimum, controlled uniformity.
- Twin blowers ensure temperature uniformity of $\pm 0.3^\circ\text{C}$ (in the flask), creating an ideal environment for temperature-sensitive cultures and heavy product loads.
- Microprocessor functions are calibrated easily through the keypad. Audible/visual over and under-temperature tracking alarms ensure product protection.

Highest Large-Flask Capacity for the Best Value

The 18.0" x 18.0" (45.7cm x 45.7cm) platform easily accommodates six 2 liter flasks or four 2800ml Fernbach flasks. Greater capacity equals a better value!

Durable Components for Long Life

- Triple counter-balanced mechanism includes a unit production lifetime warranty (parts only).
- Durable, molded, clear acrylic lid with triple-point reinforced hinges withstands years of use without cracking or discoloring.
- Spill tray, sealed mechanism and control panel, and outside-the-chamber location of electronics ensure that shaker components are not damaged by spills, contributing to long unit life.

Thermo Scientific Forma Benchtop Orbital Shaker Specifications

Cat. No.	416	430	420
Speed Range	25 to 525 RPM ¹	25 to 525 RPM ¹	25 to 525 RPM ¹
Accuracy	±1 RPM	±1 RPM	±1 RPM
Orbital Size	1.0 inch (2.5cm)	1.0 inch (2.5cm)	1.0 inch (2.5cm)
LCD Indicator	1 RPM increments	1 RPM increments	1 RPM increments
Setability	1 RPM increments	1 RPM increments	1 RPM increments
Time			
Range	Continuous operation (hold) or timed operation from 1 minute up to 199 hours and 59 minutes		
LCD Indicator	Readable in 1 minute increments, 0.1°C increments counts up for continuous operation or counts down for timed operation		
Temperature			
Range	Optional Temperature Monitoring Kit	Optional Temperature Monitoring Kit	5°C above ambient to 80°C (176°F)
Setability	0.1°C increments	0.1°C increments	0.1°C increments
Control	—	—	±0.1°C
Uniformity	—	—	±0.3°C at 37°C (in flask)
	—	—	±0.6°C at 60°C (in flask)
	—	—	±1.0°C at 80°C (in flask)
Dimensions			
Platform Sizes L x W	18 x 18 inch	29.5 x 18 inch	18 x 18 inch
	47.5 x 47.5cm	74.9 x 45.7cm	47.5 x 47.5cm
	24 x 18 inch	36 x 24 inch ¹	—
	61 x 45.7cm	91.4 x 61cm	—
Exterior Dimensions ² W x D x H	24.3 x 26.0 x 7.8 inch	30.5 x 26.0 x 7.8 inch	24.3 x 29.0 x 20.9 inch
	W x D x H	61.7 x 66.0 x 19.8cm	61.7 x 73.7 x 53.1cm
Interior Dimensions W x D x H	—	—	21.4 x 21.2 x 12.6 inch
	—	—	54.4 x 53.8 x 32.0cm
Electrical			
Selector Switch	115V, 50/60 Hz	115V, 50/60 Hz	115V, 50/60 Hz
	1.0 FLA	1.0 FLA	6.5 FLA
	230V, 50/60 Hz	230V, 50/60 Hz	230V, 50/60 Hz
	0.5 FLA	0.5 FLA	3.2 FLA
Operating Range	90-126V	90-126V	90-126V
	80-253V	180-253V	207-253V
Plug	115V: NEMA 5-15P	115V: NEMA 5-15P	115V: NEMA 5-15P
	230V: CEE 7/7	230V: CEE 7/7	230V: CEE 7/7
Ambient Operating Conditions			
Temperature	4°C to 40°C	4°C to 40°C	10°C to 40°C
	(39°F to 104°F)	(39°F to 104°F)	(50°F to 104°F)
Weight			
Net	138 lbs (62.7 kg)	138 lbs (62.7 kg)	185 lbs (83.9 kg)
Shipping (Motor)	234 lbs (106 kg)	234 lbs (106 kg)	250 lbs (113.4)

Specifications are based on nominal voltages of 115V or 230V in ambients of 22°C to 25°C (71.6°F to 77°F). Performance is plus or minus the least significant digit unless specified otherwise. All units are UL listed to Canadian requirements and bear the CE mark.

¹ Maximum 400 RPM for 24" x 18" (61cm x 45.7cm) and 36" x 24" (91.4cm x 61cm) platforms

² Must purchase Counterbalance Assembly No. 194012 for first time installation

³ Dimensions for Model 416 with the 18" x 18" (45.7cm x 45.7cm) platform and Model 430 with the 29.5" x 18" (74.9cm x 45.7cm) platform.



Thermo Scientific Forma Incubated and Refrigerated Benchtop Orbital Shakers Models 435 (436) and 480 (481)

*Solutions for High-
Capacity Requirements*



HEPA Filtration For Maximum Protection From Contamination

- HEPA filter rated a minimum 95% efficient at 0.3 microns for entrapment of extraneous airborne particulates provides continuous contamination control, protecting your slower growing cultures from airborne contamination.
- Patented horizontal HEPA Filter Airflow design reduces the risk of cross contamination.
- Crevice-free, stainless steel interior has coved corners for easy cleaning, saving time and minimizing contamination risk.
- Convenient front location of drain system with valve makes it easy to eliminate liquid, reducing the risk of waterborne contamination.

Directed Airflow System For Optimum Temperature Uniformity And Ideal Growth Conditions

Unlike some designs, our Forma Incubator and Incubator/Refrigerator Orbital Shakers feature directed laminar airflow across the chamber, aiding temperature uniformity and contributing to a quality culture environment.

Low-end temperature is achieved efficiently and effectively by the filtered, front-to-back refrigeration system airflow. This design outperforms side-to-back and back-to-back airflow designs in high ambients. These floor models meet the specified performance of 4°C to 60°C (39.2°F to 140°F) in 0.1°C increments with control of $\pm 0.1^\circ\text{C}$, even in challenging environments.

Ergonomic Design for Easy Access to Your Product

- Lid can be opened by hand or by depressing the convenient foot pedal. It's easy to open the shaker, even when carrying a full load of flasks.

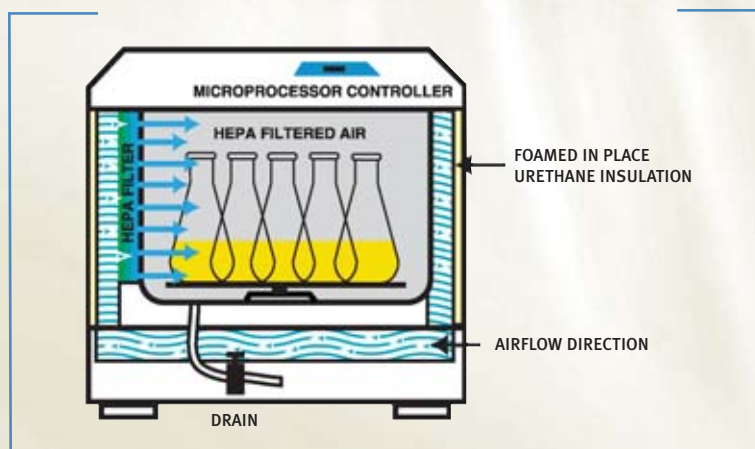
- Angled sides, lower front, and convenient platform height ensure a comfortable reach into the chamber. You experience less bending and stretching.
- Thermal pane window provides a large 2.75 sq. ft. (0.3 sq. m) viewing area. You can check your product without opening the lid.
- Microprocessor Control/Monitoring System is positioned at an angle on the lid for convenient programming and at-a-glance monitoring of time, speed, and temperature.
- Access port (back of cabinet wall) allows you to insert probes, a CO₂ gassing manifold, or other equipment into the shaker.
- Optional shelf provides additional storage and convenience when switching flasks.

Floor Model Shaker Specifications

Cat. No.	435/436 (Incubated)	480/481 (Refrigerated)
Speed Range	25-525 RPM ¹	25-525 RPM ¹
Accuracy	±1 RPM	±1 RPM
Orbital Size	1.0 inch (2.5cm)	1.0 inch (2.5cm)
LCD Indicator	1 RPM increments	1 RPM increments
Setability	1 RPM increments	1 RPM increments
Time		
Range	Continuous operation (hold) or timed operation from 1 minute up to 199 hours and 59 minutes	
LCD Indicator	Readable in 1 minute increments, counts up for continuous operation (hold) or counts down for timed operation	
Temperature		
Range	5°C above ambient to 60°C (140°F)	4°C to 60°C (140°F)
Setability	0.1°C increments	0.1°C increments
Control	±0.1°C	±0.1°C
Uniformity	0.2°C at 37°C (in flask)	0.2°C at 37°C (in flask)
LCD Indicator	Readable in 0.1°C increments	Readable in 0.1°C increments
Dimensions		
Platform Sizes L x W	29.5 x 18 inch (74.9 x 45.7cm)	29.5 x 18 inch (74.9 x 45.7cm)
Exterior Dimensions W x D x H	45.0 x 30.0 x 40.4 inch 114.3 x 76.2 x 102.6cm	45.0 x 30.0 x 40.4 inch 114.3 x 76.2 x 102.6cm
Interior Dimensions W x D x H	34.3 x 21.1 x 18.5 inch 87.1 x 53.6 x 47.0cm	34.3 x 21.1 x 18.5 inch 87.1 x 53.6 x 47.0cm
Electrical		
	435 = 120V, 60 Hz, 8.6 FLA	480 = 120 V, 60 Hz, 15.6 FLA
	436 = 230V, 50/60 Hz, 3.5 FLA	481 = 230V, 50/60 Hz, 8.0 FLA
Plug	435 = 115V: NEMA 5-15P 436 = 230V: CEE 7/7	480 = 115V: NEMA 5-15P 481 = 230V: CEE 7/7
Ambient Operating Conditions		
Temperature	15°C to 32°C (59°F to 89.6°F)	15°C to 32°C (59°F to 89.6°F)
RH	80% RH at or below 31°C (87.8°F), decreasing linearly to 50% RH at 40°C (104°F)	80% RH at or below 31°C (87.8°F), decreasing linearly to 50% RH at 40°C (104°F)
Weight		
Net	580 lbs (263.1kg)	635 lbs (288kg)
Shipping (Motor)	610 lbs (277kg)	665 lbs (302kg)

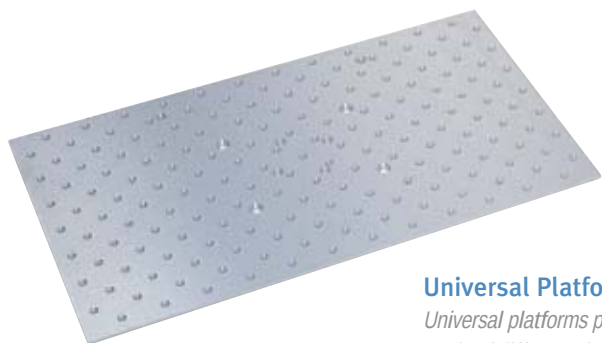
Specifications are based on nominal voltages of 120V or 230V in ambients of 22°C to 25°C (71.6°F to 77°F). Performance is plus or minus the least significant digit unless specified otherwise. All units are UL listed to Canadian requirements and bear the CE mark.

¹ Maximum 400 RPM for 24" x 18" (61cm x 45.7cm) and 36" x 24" (91.4cm x 61cm) platforms



Thermo Scientific Forma Orbital Shakers Accessories

Our Forma Orbital Shakers Accessories offer a wide variety of accessories to increase your shakers' versatility and usefulness. Tailor equipment to your needs by taking advantage of accessories, such as the wide range of platforms, dual stack benchtop shaker kit, quick change platform adapters, gassing manifolds, floor shelves, and chart recorders. Custom accessories are available; contact your sales representative for details. Accessories are customer installed unless indicated otherwise.



Universal Platform

Universal platforms provide maximum flexibility for using a mix of different size labware on a single platform. Our platforms come with numerous mounting holes to allow you to add and interchange clamps and racks at your discretion.

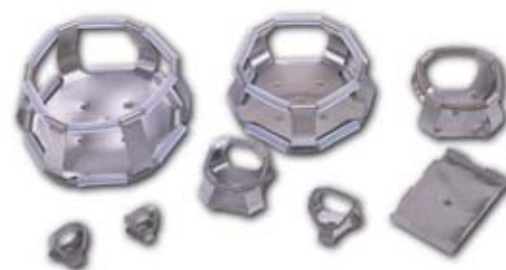


Universal Platforms (Without Clamps¹)

Cat. No.	Model	Platform Size	25ml	50ml	125ml	250/300ml	500ml	1L	2L	4L	5L	6L	2800ml	Microplate ²
238000	416	18" x 18"	49	49	25	18	16	8	6	4	4	2	4	10
238008	416	24" x 18"	80	80	40	25	20	12	8	5	4	4	5	16
238000	420	18" x 18"	49	49	25	18	16	8	6	—	—	—	4	10
238002	430 ³	36" x 24"	150	150	75	55	30	24	15	11	8	8	11	31
238001	430	29.5" x 18"	91	91	39	30	24	12	11	6	6	4	6	18
238001	435/436/480/481	29.5" x 18"	91	91	39	30	24	12	11	6	5	4	6	18

Clamps for Platforms

Cat. No.	Description
236010	25ml Erlenmeyer Flask Clamp
236011	50ml Erlenmeyer Flask Clamp
236012	125ml Erlenmeyer Flask Clamp
236013	250/300ml Erlenmeyer Flask Clamp
236014	500ml Erlenmeyer Flask Clamp
236015	1L Erlenmeyer Flask Clamp
236016	2L Erlenmeyer Flask Clamp
236017	4L Erlenmeyer Flask Clamp
236028	5L Erlenmeyer Flask Clamp
236099	Flask Clamp Starter Kit includes two 25ml, two 50ml, two 125ml, four 250/300ml, four 500ml, two 1L, two 2L and one replacement screw set
236018	6L Erlenmeyer Flask Clamp
236019	2800ml Fernbach Flask Clamp
236025	Microplate Clamp
300349	Cleanable Adhesive Flask Mat, one 9" x 9" (23cm x 23cm) square
194046	Replacement Screws: (50) #10-24 x 5/16" Countersink Phillips Head Screws for Clamp and (12) 1/4-20 x 3/4" Countersink Flat Head Socket Screws for Platforms



¹ These platforms also accommodate clamps and accessories manufactured by other companies.

² Microplates can be stacked for greater capacity.

³ 36" x 24" (91.4cm x 61cm) platform requires purchase of Counterbalance Assembly No. 194012 for first-time installation.

Dedicated Platforms With Clamps for Models 420 and 416: 18" x 18" (45.7cm x 45.7cm)

Cat. No.	No. of Clamps	Size of Glassware
238010	49	25ml Erlenmeyer Flask
238011	49	50ml Erlenmeyer Flask
238012	25	125ml Erlenmeyer Flask
238049	36	125ml Erlenmeyer Flask ¹
238013	18	250/300ml Erlenmeyer Flask
238050	25	250/300ml Erlenmeyer Flask ¹
238014	16	500ml Erlenmeyer Flask
238015	8	1L Erlenmeyer Flask
238016	6	2L Erlenmeyer Flask
238046	4	4L Erlenmeyer Flask ²
238053	4	5L Erlenmeyer Flask ²
238047	2	6L Erlenmeyer Flask ²
238048	4	2800ml Fernbach Flask



Dedicated Platforms With Clamps for Models 430, 435/436 and 480/481: 29.5" x 18" (74.9cm x 45.7cm)

Cat. No.	No. of Clamps	Size of Glassware
238017	91	25ml Erlenmeyer Flask
238018	91	50ml Erlenmeyer Flask
238019	61	125ml Erlenmeyer Flask
238051	30	250/300ml Erlenmeyer Flask
238020	40	250/300ml Erlenmeyer Flask ¹
238021	24	500ml Erlenmeyer Flask ¹
238022	15	1L Erlenmeyer Flask
238023	12	2L Erlenmeyer Flask
238024	6	4L Erlenmeyer Flask
238054	6	5L Erlenmeyer Flask
238025	4	6L Erlenmeyer Flask
238026	6	2800ml Fernbach Flask

Dedicated Platforms

If using a single vessel size only, such as a flask, these platforms provide maximum capacity and come with clamps installed.

Dedicated Platforms With Clamps for Models 416: 24" x 18" (61cm x 45.7cm) Max. 400 RPM

Cat. No.	No. of Clamps	Size of Glassware
238036	80	25ml Erlenmeyer Flask
238037	80	50ml Erlenmeyer Flask
238038	40	125ml Erlenmeyer Flask
238052	25	250/300ml Erlenmeyer Flask
238039	35	250/300ml Erlenmeyer Flask ¹
238040	20	500ml Erlenmeyer Flask
238041	12	1L Erlenmeyer Flask
238042	8	2L Erlenmeyer Flask
238043	5	4L Erlenmeyer Flask
238055	4	5L Erlenmeyer Flask
238044	4	6L Erlenmeyer Flask
238045	5	2800ml Fernbach Flask

Dedicated Platforms With Clamps for Models 430: 36" x 24" (91.4cm x 61cm)³ Max. 400 RPM

Cat. No.	No. of Clamps	Size of Glassware
238057	150	25ml Erlenmeyer Flask
238058	150	50ml Erlenmeyer Flask
238027	96	125ml Erlenmeyer Flask
238028	70	250/300ml Erlenmeyer Flask ¹
238029	30	500ml Erlenmeyer Flask
238030	24	1L Erlenmeyer Flask
238031	15	2L Erlenmeyer Flask
238032	11	4L Erlenmeyer Flask
238056	8	5L Erlenmeyer Flask
238033	8	6L Erlenmeyer Flask
238034	11	2800ml Fernbach Flask



¹ Increased capacity design does not allow the use of flasks greater than 500ml.

² Except model 420

³ 36.0" x 24.0" (91.4 x 61.0 cm) platform requires purchase of Counterbalance Assembly No. 194012 for first time installation.

Test Tube Rack Holders and Test Tube Racks for Platforms

Two styles of test tube rack holders are available: universal and dedicated.
Both styles can be adjusted to six different angles.



Universal Test Tube Rack Holder
and Test Tube Racks

The universal test tube rack holder can be adjusted to fit any of the four available test tube rack sizes. Universal design requires the separate purchase of a test tube rack.

Universal Test Tube Rack Holders and Test Tube Racks

Cat. No.	Description
600088	Universal adjustable angle test tube rack holder
950040	Test tube rack ¹ for 10-13mm (3-7ml) tubes
950060	Test tube rack ¹ for 16-20mm (10-20ml) tubes
600074	Test tube rack ¹ for 21-25mm (30ml) tubes
600075	Test tube rack ¹ for 26-30mm (50ml) tubes
194024	Replacement screws (50) #10-24 x 3/8" pan head Phillips screws for mounting tube holders to platforms

¹ Requires the universal test tube rack holder or a dedicated adjustable angle test tube rack holder of the corresponding size.



Dedicated Test Tube Rack Holders
and Test Tube Racks

Dedicated test tube rack holders can be used only with their corresponding rack size. This design includes one test tube rack each.

Dedicated Test Tube Rack Holders and Test Tube Racks

Cat. No.	Description
600076	Adjustable angle test tube rack holder with test tube rack, 72 place, 10-13mm (3-7ml)
600077	Adjustable angle test tube rack holder with test tube rack, 40 place, 16-22mm (10-20ml)
600078	Adjustable angle test tube rack holder with test tube rack, 40 place, 21-25mm (30ml)
600079	Adjustable angle test tube rack holder with test tube rack, 24 place, 26-30mm (50ml)
194024	Replacement screws (50) #10-24 x 3/8" pan head Phillips screws for mounting tube holders to platforms



Vial/Tube Inserts for 1 Liter Flask Clamps

Flexible, reusable, closed-cell foam Vial/Tube Inserts are ideal for shaking a mix of tube and vial sizes in temperature ranges up to 70°C (158°F). The insert fits snugly into a 1 liter flask clamp, repels spills, and is easy to clean.



Microplate Rack Inserts

Our Microplate Rack Inserts are available for the Dedicated Adjustable Angle Test Tube Rack Holder (50ml)-No. 600079-and the Universal Adjustable Angle Test Tube Rack Holder-No. 600088. You can increase your microplate shaking capacity, shake deep-well format plates at an angle, and remove many plates from the shaker at once for quick and easy transport to your benchtop.

Microplate Rack Inserts, Vial/Tube Inserts

Cat. No.	Description	18" x 18"	29.5" x 18"	36" x 24"
236025	Fixed angle Microplate clamp (1 plate)	10 clamps, 10 plates ³	18 clamps, 18 plates ³	31 clamps, 31 plates ³
600090	Microplate rack insert for standard plates (3 shelves)	4 racks, 36 plates	7 racks, 63 plates	8 racks, 72 plates
600089	Microplate rack insert for deep-well plates (2 shelves)	3 racks, 18 plates ⁴	5 racks, 30 plates ⁴	7 racks, 42 plates ⁴
161033	Pack of 5 vial/tube inserts, perforated for three 50ml tubes, three 20ml tubes and eight 1.5-2ml vials			

³ Shaken upright

⁴ Shaken at a 15 degree angle



Utility Tray

Utility trays shown with optional Pyrex® dishes, a microplate and flasks.

Utility Trays for Platforms

Cat. No.	Description
236026	9.0" x 18.0" (22.9 x 45.7 cm) Utility tray with 0.5" (1.3 cm) thick rubber pad
236027	18.0" x 18.0" (45.7 x 45.7 cm) Utility tray with 0.5" (1.3 cm) thick rubber pad

Thermo Scientific Forma Orbital Shakers Accessories

Dual Stack Benchtop Shaker Kit, Kneewell Slide Mount, and Shaker Stand - designed for our benchtop orbital shakers.

The Kit provides floor capacity within a benchtop-sized footprint. With the Kneewell Slide Mount, previously wasted laboratory floor space becomes useful and benchtop space is saved. When minimal floor space is available, the heavy-duty Orbital Shaker Stand creates a new "benchtop" area to hold shakers, freeing up countertop space and moving shakers from the floor to a more ergonomic position.



Gassing manifold



Dual stack tabletop shaker kit shown with optional shakers



Heavy-duty orbital shaker stand shown with optional drawers and roller base, and the Model 420 Incubator Shaker



Kneewell slide mount shown extended with the optional Model 420 Incubator Shaker

Cat. No.	Description
452000	Dual-stack benchtop shaker kit, includes kneewell side mount and orbital shaker stand for model 420
452002	Kneewell slide mount, shaker slides out on rails for easy access: 26.6"W x 22.2"H x 33"D (67.6cm x 56.4cm x 83.8cm) For model 420
452001	Orbital shaker stand, uses 33.5"W x 37.3"H x 35.3"D of floor space (85.1cm x 94.7cm x 89.7cm) for model 420
191494	Four drawer assembly, dimensions: 9"W x 18"H x 21.5"D (22.9cm x 45.7cm x 54.6cm)
191591	Roller base for drawer assembly, adds 3" (7.6cm) to height: 9.4"W x 3.6"H x 21.9"D (23.9cm x 9.1cm x 55.6cm)
194044	Temperature monitoring kit, factory installed. For models 416 and 430
194045	Gassing manifold (one gas). For model 420
201126	Free-standing 0-100°C, 6", seven day chart recorder, 115V, 60 Hz. For model 420
201127	Free-standing 0-100°C, 6", seven day chart recorder, 220V, 50 Hz. For model 420
197075	Replacement chart paper, 50 per box. For model 420
194033	Removable shelf for models 435/436 and 480/481
194041	Platform adapter for NBS 30" x 18" (76.2cm x 45.7cm) platform. For models 435/436 and 480/481
194045	Gassing manifold (one gas). For models 435/436 and 480/481
201113	0-60°C, 6", seven day chart recorder, 115V, 50/60 Hz. For models 435/436 and 480/481
180006	Replacement chart paper, 50 per box. For models 435/436 and 480/481
760164	HEPA filter replacement. For models 435/436 and 480/481
194040	Quick change platform adapter
194139	MagNote wipe-off magnet and pen kit (floor models only)
194140	MagNote wipe-off magnet and pen kit (benchtop models only)
400047	Four-channel Sensaphone® telephone dialing system
400134	Eight-channel Sensaphone telephone dialing system
1535	Model 1535 monitor/alarm system interfaces with as many as 24 products/channels monitoring conditions up to 2000 ft away (609.6 m)

Warranty

We back our orbital shaker with a two year or 12,000 hour use warranty whichever comes later on the entire unit including parts and labor. The shaker mechanism, parts only, has a unit production lifetime warranty. Customers outside the US should contact their distributor for warranty details.

North America: USA/Canada +1 866 984 3766

Europe: Austria +43 1 801 40 0, Belgium +32 2 482 30 30, Finland +358 9 329 100, France +33 2 2803 2000, Germany national toll free 08001-536 376, Germany international +49 6184 90 6940, Italy +39 02 95059 1, Netherlands +31 76 571 4440, Russia/CIS +7 (812) 703 42 15, Spain/Portugal +34 93 223 09 18, Switzerland +41 44 454 12 12, UK/Ireland +44 870 609 9203
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