



Hotplate & Magnetic Stirrer

Safe Hotplate & Magnetic Stirrer Proven durability and useful safety features

- > **Variety of products optimized for purpose of use**

11 models available depending on the size and shape of the top plate, control method, and whether stirring is present.

- > **Corrosion-resistant hotplates with white ceramic coating**

The white upper hotplate, which makes it easy to observe samples, is ceramic coated and has excellent corrosion resistance. (except for MS-MH)

- > **Top plate with excellent heat transfer and durability**

Excellent durability and heat transfer ability as the heater is embedded in the top plate made of aluminum. (except for MS-MH)

- > **Safety with spill-proof design**

Improved safety with structural design that prevents solution from flowing into the equipment.

- > **Multiple overheating protection devices**

Equipment breakdown is prevented in advance with overheating prevention device for top plate, and main parts of the inside of the body, etc.

- > **BLDC motor with excellent durability**

Excellent durability even for long-term use with BLDC motor. (except for T-series)

- > **Maintains stirring ability even at high temperatures**

Using special permanent magnets that maintain strong magnetic force even at high temperatures. (except for T-Series)

- > **Safety function of displaying top plate overheating**

A warning is displayed when the top plate is over 50°C even when the power is switched off. (except for MS-MH)



Digital feedback control. (left)
Analog type scale control. (right)



Top plate with excellent heat transfer.



Top plate overheating indicator light.



Stable & Powerful Magnetic Stirrer

Stable Stirring with Differentiated Controllability

> Variety of products optimized for purpose of use

11 different models provided depending on the size and shape of the top plate, control method, and color, etc.

> BLDC motor with excellent durability

Excellent durability even during long-term repeated use with BLDC motor.

> Special magnet for maintaining stirring ability

Using a special permanent magnet to maintain powerful magnetic coupling.

> Safety with spill-proof design

Improved safety with structural design that prevents solution from flowing into the equipment.

> Slip prevention for glassware

Silicone top plate cover prevents accidents caused by slipping of glassware.

> Top plate cover for easy sample observation

White and black cover provided as standard makes it very convenient to observe changes according to the sample.

> Fast stirring speed control with real time response

Quick control of stirring speed (MS-B/T model) according to adjust with the of control knobs.

> Smooth and precise speed control

Smooth stirring control up to the settings values. Accurate feedback control. (MS-G/M model)

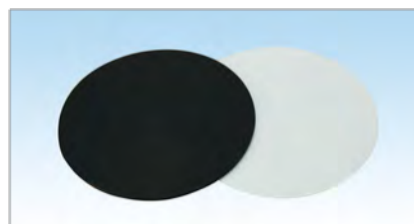
※ Some of the above contents are limited to specific models.



Silicone cover prevents slippage of glassware.



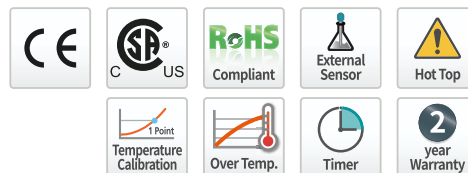
Easy to choose from various model configurations.



Selection of white or black cover according to sample.

Hotplate & Magnetic Stirrer

Digital type



Precise control based on sample temperature

Structural Functional Features

- Includes temperature probe (B class) as standard.
- Displays external temperature sensor errors.
- Top plate coated with white ceramic for excellent corrosion resistance.
- Excellent heat transfer and durability due to heater-integrated structure.
- Using special permanent magnets for maintaining stirring ability.

Use Convenience Features

- Precise temperature/stirring control with PID feedback control.
- Temperature control mode selection function. (Optimal/Fast/Slow/User/Point)
- Includes temperature auto-tuning and calibration functions.
- Count-down timer provided. (up to 99 hours and 59 minutes)
- Clamp Rod (option) can be added to the main body fix other experiment equipment.
- Convenient experiment observation with removable transparent shield. (option)
- Silicone Cover protects from the dust and overflow of samples. (TS/TM/T)



TS-18QG

with 3 Prong Clamp,
Clamp Rod, Magnetic Bar (option)

Outstanding Safety

- Spill-proof design minimizes inflow solution into device.
- Safety ensured by BLDC motor that does not generate sparks.
- Preventing equipment failure with multiple over temperature prevention devices.
- Warning displayed when top plate is 50°C or more.
- Prevents sample run-off thanks to smooth stirring start.
- The heating bath (option) is combined with the top plate to ensure safety. (except TS-QG)



TS-17SG



Specification

Model		TS-14SG	TS-17SG	TS-18QG
Heating	Temperature range (°C / °F)	Top plate, Max, 350 / 662	Top plate, Max, 350 / 662	Top plate, Max, 350 / 662
	Control mode	PID Feedback (optimal, fast, slow)	PID Feedback (optimal, fast, slow)	PID Feedback (optimal, fast, slow)
	Display resolution (°C / °F)	0.1 / 32.18	0.1 / 32.18	0.1 / 32.18
Stirring	Speed range (rpm)	30 to 2000	30 to 2000	30 to 2000
	Capacity (L / cu ft, H ₂ O)	20 / 0.71	20 / 0.71	20 / 0.71
	Magnetic bar, Max. (L x Ø, mm / inch)	40 x 8 / 0.31 x 1.57	40 x 8 / 0.31 x 1.57	40 x 8 / 0.31 x 1.57
Material	Top plate	White ceramic coated aluminum alloy	White ceramic coated aluminum alloy	White ceramic coated aluminum alloy
	Body	Powder coated aluminum alloy	Powder coated aluminum alloy	Powder coated aluminum alloy
	Motor type	BLDC (Brushless Direct Current)	BLDC (Brushless Direct Current)	BLDC (Brushless Direct Current)
	Temperature probe	PT 100 (B class, Max. 250°C, 482°F)	PT 100 (B class, Max. 250°C, 482°F)	PT 100 (B class, Max. 250°C, 482°F)
Dimensions	Top plate (Ø or W x D, mm / inch)	140 / 5.51	170 / 6.69	180 x 180 / 7.08 x 7.08
	Exterior (W x D x H, mm / inch)	161 x 290 x 100 / 6.34 x 11.42 x 3.94	191 x 330 x 101 / 7.52 x 12.99 x 3.98	209 x 326 x 102 / 8.22 x 12.83 x 4.0
	Net weight (kg / lbs)	2.8 / 6.17	3.5 / 7.71	3.8 / 8.36
Timer (Heating and/or Stirring)		Max. 99 hrs 59 min.	Max. 99 hrs 59 min.	Max. 99 hrs 59 min.
Electrical requirements (230V, 50/60Hz, A)		3.0	4.0	4.0
Cat. No.		AAH34445K	AAH34475K	AAH34485K
Electrical requirements (120V/60Hz, A)		5.0	6.7	6.7
Cat. No.		AAH34443U	AAH34473U	AAH34483U

※ Except TS-18QG CSA certification

Accessories Page 152 Temperature Probe, Heating Bath, Clamp Rod, Clamp, Transparent Shield, Silicone Cover

Hotplate & Magnetic Stirrer

Analog type



Easy to use with excellent durability

Structural Functional Features

- Three models provided according to the size and shape of hot plate.
- Top plate coated with white ceramic for excellent corrosion resistance.
- Excellent heat transfer and durability due to heater-integrated structure.
- Using special permanent magnets for maintaining stirring ability.

Use Convenience Features

- Easy adjustment of heating rate and stirring speed with individual control knobs.
- Maintains a constant stirring speed even when sample viscosity changes.
- Rapid stirring and stop function according to the user's needs.
- Clamp Rod (option) can be added to the main body to fix other experiment equipment.
- Convenient experiment observation with removable transparent shield. (option)
- Silicone Cover protects from the dust and overflow of samples. (TS/TM/T)



TM-14SG

with Heating Bath, Clamp Holder, 3 Prong Clamp, Clamp Rod (option)



Outstanding Safety

- Spill-proof design minimizes inflow solution into device.
- Safety ensured by BLDC motor that does not generate sparks.
- Preventing equipment failure with multiple over temperature prevention devices.
- Warning displayed when top plate is 50°C or more.
- Prevents sample run-off thanks to smooth stirring start.
- The heating bath (option) is combined with the top plate to ensure safety. (except TM-QG)



TM-18QG



Specification

Model		TM-14SG	TM-17SG	TM-18QG
Heating	Temperature range (°C / °F)	Top plate, Max, 350 / 662	Top plate, Max, 350 / 662	Top plate, Max, 350 / 662
	Control mode	Scale	Scale	Scale
	Heating rate	0 ~ 100% by 1%	0 ~ 100% by 1%	0 ~ 100% by 1%
Stirring	Speed range (rpm)	Max. 2000	Max. 2000	Max. 2000
	Capacity (L / cu ft, H ₂ O)	20 / 0.71	20 / 0.71	20 / 0.71
	Magnetic bar , Max. (L x Ø, mm / inch)	40 x 8 / 0.31 x 1.57	40 x 8 / 0.31 x 1.57	40 x 8 / 0.31 x 1.57
Material	Top plate	White ceramic coated aluminum alloy	White ceramic coated aluminum alloy	White ceramic coated aluminum alloy
	Body	Powder coated aluminum alloy	Powder coated aluminum alloy	Powder coated aluminum alloy
	Motor type	BLDC (Brushless Direct Current)	BLDC (Brushless Direct Current)	BLDC (Brushless Direct Current)
Dimensions	Top plate (Ø or W x D, mm / inch)	140 / 5.51	170 / 6.69	180 x 180 / 7.08 x 7.08
	Exterior (W x D x H, mm / inch)	161 x 290 x 100 / 6.34 x 11.42 x 3.94	191 x 330 x 101 / 7.52 x 12.99 x 3.98	209 x 326 x 102 / 8.22 x 12.83 x 4.0
	Net weight (kg / lbs)	2.8 / 6.17	3.5 / 7.72	3.8 / 8.37
Body Shape		Straight body	Straight body	Straight body
Electrical requirements (230V, 50/60Hz, A)		3.0	4.0	4.0
Cat. No.		AAH34245K	AAH34275K	AAH34285K
Electrical requirements (120V, 60Hz, A)		5.0	6.7	6.7
Cat. No.		AAH34243U	AAH34273U	AAH34283U

※ Except TM-18QG CSA certification

Accessories Page 152 Heating Bath, Clamp Rod, Clamp, Transparent Shield, Silicone Cover

Hotplate & Magnetic Stirrer

Multi type



Differentiated multi-stirrer with temperature control

Structural Functional Features

- Integrated design with top plate and heater for fast heat transfer and excellent durability.
- Using special permanent magnets for maintaining stirring ability.
- Control by All/Column/Row/Point with four stirring control methods and timer function.

Use Convenience Features

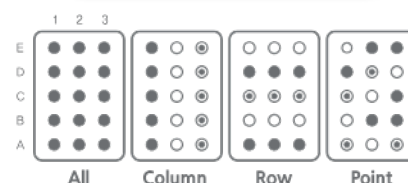
- Separate heater knobs and operation LED display.
- Maintains accurate speed with feedback control even when sample viscosity and amount change.
- Count-down timer provided. (up to 99 hours and 59 minutes)
- Rapid stirring and stop function according to the user's needs.
- VFD display with excellent visual perception.



MS-53MH

Outstanding Safety

- The upper part of the top plate is composed of silicon pads, allowing for prevention of slippage of glassware and display of stirring point.
- Spill-proof design minimizes inflow solution into device.
- Safety ensured by BLDC motor that does not generate sparks.
- Safe by automatically shutting down the heater power when overheated.
- Prevents sample run-off thanks to smooth stirring start.



Specification

Model		MS-33MH	MS-53MH
Heating	Temperature range (°C / °F) ¹⁾	Top plate, Max, 120 / 248	Top plate, Max, 120 / 248
	Control mode	Scale	Scale
	Heating Power (W)	600	1000
Stirring	Speed range (rpm)	30 to 2000	30 to 2000
	Capacity per point at 2,000rpm (H ₂ O, mL / cu ft)	250 / 0.008	250 / 0.008
	Operating mode	4 (All, Column, Row, Point)	4 (All, Column, Row, Point)
	Position (Row x Column)	9 (3 x 3)	15 (5 x 3)
	Point distance (W x D, mm / inch)	117 x 90 / 4.61 x 3.54	117 x 90 / 4.61 x 3.54
	Magnetic bar, Max. (L x Ø, mm / inch)	30 x 8 / 1.18 x 0.31	30 x 8 / 1.18 x 0.31
	Load, Max (kg / lbs)	30 / 66.14	30 / 66.14
Material	Top plate	Aluminum	Aluminum
	Body	Powder coated steel	Powder coated steel
	Motor type	BLDC (Brushless Direct Current)	BLDC (Brushless Direct Current)
Dimensions	Top plate (W x D, mm / inch)	385 x 328 / 15.16 x 12.91	385 x 493 / 15.16 x 19.41
	Exterior (W x D x H, mm / inch)	395 x 450 x 104 / 15.55 x 17.72 x 4.09	395 x 614 x 104 / 15.55 x 24.17 x 4.09
	Net weight (kg / lbs)	10 / 22.05	15 / 33.06
Timer (Stirring)		Max. 99 hrs 59 min.	Max. 99 hrs 59 min.
Electrical requirements (230V, 50/60Hz, A)		4.1	5.8
Cat. No.		AAHK34015K	AAHK34025K
Electrical requirements (120V, 60Hz, A)		8.0	11.2
Cat. No.		AAHK34013U	AAHK34023U

1) This refers to the maximum temperature of the top plate. The temperature of the actual specimen may be reduced depending on the conditions of the experiment.

Accessories **Page 152** Magnetic Bar, Magnetic Retriever

Hotplate Digital type



Precise hotplate using digital method

Structural Functional Features

- Three models provided according to the size and shape of hot plate.
- Top plate coated with white ceramic for excellent corrosion resistance.
- Excellent heat transfer and durability due to heater-integrated structure.
- Possible to set the upper and lower limit of temperature control range.

Use Convenience Features

- Temperature control by adjustment of heating rate.
- Temperature control mode selection function. (Optimal/Fast/Slow/User/Point)
- Includes temperature auto-tuning and calibration functions.
- Count-down timer provided. (up to 99 hours and 59 minutes)
- Clamp Rod (option) can be added to the main body to fix other experiment equipment.
- Convenient experiment observation with removable transparent shield. (option)
- Silicone Cover protects from the dust and overflow of samples. (TS/TM/T)

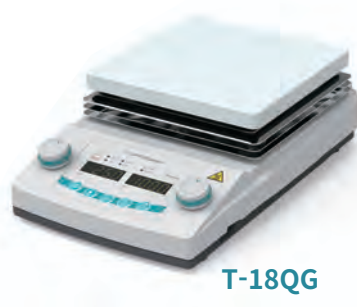


T-14SG

with Clamp Holder, 3 Prong Clamp, Clamp Rod (option)

Outstanding Safety

- Spill-proof design minimizes inflow solution into device.
- Preventing equipment failure with multiple over temperature prevention devices.
- Separate buttons for safe operating.
- Warning displayed when top plate is 50°C or more.
- Malfunction prevented by controller lock function.
- The heating bath (option) is combined with the top plate to ensure safety. (except T-QG)



T-18QG



Specification

Model		T-14SG	T-17SG	T-18QG
Heating	Temperature range (°C / °F)	Top plate, Max, 350 / 662	Top plate, Max, 350 / 662	Top plate, Max, 350 / 662
	Control mode	PID Feedback (optional, fast, slow)	PID Feedback (optional, fast, slow)	PID Feedback (optional, fast, slow)
	Display resolution (°C / °F)	0.1 / 32.18	0.1 / 32.18	0.1 / 32.18
Material	Top plate	White ceramic coated aluminum alloy	White ceramic coated aluminum alloy	White ceramic coated aluminum alloy
	Body	Powder coated aluminium alloy	Powder coated aluminium alloy	Powder coated aluminium alloy
Dimensions	Top plate (Ø or W x D, mm / inch)	140 / 5.51	170 / 6.69	180 x 180 / 7.09 x 7.09
	Exterior (W x D x H, mm / inch)	161 x 290 x 100 / 6.34 x 11.41 x 3.94	191 x 330 x 101 / 7.52 x 12.99 x 3.98	209 x 326 x 102 / 8.23 x 12.83 x 4.01
	Net weight (kg / lbs)	2.2 / 4.85	2.9 / 6.39	3.4 / 7.49
Timer		Max. 99 hrs 59 min.	Max. 99 hrs 59 min.	Max. 99 hrs 59 min.
Electrical requirements (230V, 50/60Hz, A)		3.0	4.0	4.0
Cat. No.		AAH35045K	AAH35075K	AAH35085K
Electrical requirements (120V, 60Hz, A)		5.0	6.7	6.7
Cat. No.		AAH35043U	AAH35073U	AAH35083U

※Except T-18QG CSA certification

Heating Block for Round Flask and Vial

A safe solution to replace oil bath and heating mantle when heating the contents over 100°C

Using with Hotplate

- The heating block is mounted on a hotplate or hotplate magnetic stirrer to heat safely the contents of the 25ml - 2000ml round flask and vial.
- Excellent compatibility with various brands of hotplates. (flask dia. 135/140, Vial-135/180/150 x 150/180 x 180 (mm))
- Combination of inserts (option) allows the use of flasks of various capacities.

Excellent Safety Standards

- No risk of burns or noxious fumes due to heated oil that may occur when using an oil bath.
- Hot spots do not occur even when heated up to 300°C, resulting in excellent temperature accuracy and prevention of damage to glassware.

Use Convenience Features

- Economical and eco-friendly by eliminating the need to purchase and dispose of oil separately.
- Since oil is not used, it is easy to clean glassware and the product.



Convenient maintenance by an excellent durability.

Hard anodized surface is treated on aluminum block body to improve durability such as wear and corrosion resistance. Also cleaning is convenient.



Excellent thermal conductivity makes rapid heating.

Design to contact closely flask to the surface, no crack on a glassware and improve the thermal delivery.



Precise temperature control

Holes for a temperature probe make control the temperature precisely. (4 holes on a plate for a round flask, and 3 holes on an insert for the vial.)



Various sizes

4 kinds of round flask plate for 100ml to 2L flask and its insert, and a vial plate available to place its insert up to 4.



Good compatibility with hotplate

Possible to use not only a round hotplate that has 135 or 140mm diameter but also a square or round hotplate that has 170mm. (when removes support.)



Stable structure fixing the bottom

Fixing support designed fitting to a plate size of round and square hotplate to use in a stable. (Round flask plate is able to fix only for Φ135 / Φ140 hotplate.)



Selection guide

For Round flask

Plate					
100 ml (RBP-100)		500 ml (RBP-500)		1000 ml (RBP-1000)	2000 ml (RBP-2000)
					
Insert					
25 ml (RBI-25)	50 ml (RBI-50)	100 ml (RBI-100)	250 ml (RBI-250)	500 ml (RBI-500)	1000 ml (RBI-1000)
					

For Vial

Plate					
190 x 190 x 20 mm (VBP)					
					
Insert (Max. 4 inserts on the plate.)					
4 ml (1 dram) Φ15 x 17 mm, 16 holes (VBI-1D)	8 ml (2 dram) Φ17 x 23 mm, 16 holes (VBI-2D)	15 ml (4 dram) Φ21 x 30 mm, 9 holes (VBI-4D)	20 ml Φ28 x 22 mm, 4 holes (VBI-20S)	30 ml Φ28 x 32 mm, 4 holes (VBI-30S)	40 ml Φ28 x 42 mm, 4 holes (VBI-40S)
					