

Hotplates & Stirrers

SELECTION GUIDE

Hotplates

Hotplate Stirrers

Magnetic Stirrers

Overhead Stirrers

Hotplates & Hotplate Stirrers

Description		Temperature Range (°C/°F)	Speed Range (RPM)	Stirring Capacity, Max. (L / cu ft, H ₂ O)	Positions	Page
Hotplates	T-14S/R ¹⁾	Max. 350 / 662	-	-	Single	154
	T-17S/R ¹⁾					
	T-18Q ²⁾					
Hotplate Stirrers (Basic)	TM-14SB/RB ¹⁾	Max. 350 / 662	50 to 2,000	20 / 0.7	Single	155
	TM-17SB/RB ¹⁾					
	TM-18Q ²⁾					
Hotplate Stirrers (Advanced)	TS-14S ¹⁾	Max. 350 / 662	30 to 2,000	20 / 0.7	Single	156
	TS-17S ¹⁾					
	TS-18Q ²⁾					
Hotplate Stirrers (Multi-position)	MS-33MH	Max. 120 / 248	30 to 2,000	2.25*	9	157
	MS-53MH			3.75*	15	

1) Round type top plate 2) Square type top plate.

Magnetic Stirrers

Description		Speed Range (RPM)	Stirring Capacity, Max. (L, H ₂ O)	Positions	Page
Magnetic Stirrers (Scale)	MS-12B/T ⁽¹⁾	150 to 2,500	2	Single	158
	MS-17B/T ⁽¹⁾		4		
	MS-22B		5		
Magnetic Stirrers (Digital)	MS-17G	30 to 2,000	4	Single	
	MS-22G		5		
Magnetic Stirrers (Multi-position)	MS-23M	30 to 2,000	1.5*	6	
	MS-32M		1.5*	6	
	MS-33M		2.25*	9	
	MS-51M		1.25*	5	
	MS-52M		2.5*	10	
	MS-53M		3.75*	15	

1) B Models: round type body, T Models: triangle type body.

* Erlenmeyer flask: usable under 250ml in case full positions.

Overhead Stirrers

Description		Speed Range (RPM)	Stirring Capacity, Max. (L, H ₂ O)	Page
Overhead Stirrers (Economy)	MSE-1	up to 1,400	20	160
	MSE-2	up to 1,200	30	
	MSE-3	up to 900	50	
Overhead Stirrers (Analog)	MSM-1	50 to 1,400	20	
	MSM-2	50 to 1,200	30	
	MSM-3	50 to 900	50	
Overhead Stirrers (Digital)	MSP-1	50 to 1,400	20	161
	MSP-2	50 to 1,200	30	
	MSP-3	50 to 900	50	
Overhead Stirrers (Advanced)	MSH-0512	50 to 1,200	20	161

Accessories & Options

Description	Page
for Hotplates & Hotplate Stirrers	162-163
for Magnetic Stirrers	
for Overhead Stirrers	164-165





GENERAL APPLICATIONS

Hotplates

Acid and base digestions, trace metal analysis, sample drying, general reagent heating, heating TLC plates, evaporation, etc.

Hotplate Stirrers

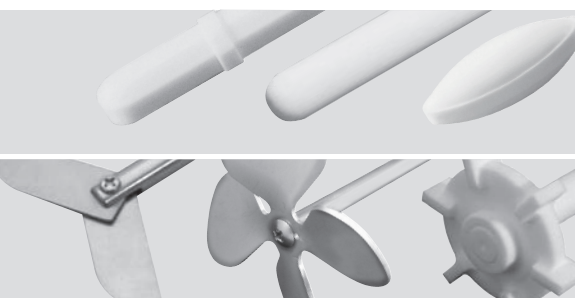
Various heating and mixing applications that require accuracy, stability, and repeatability.

Magnetic Stirrers

Crystallization, solvent evaporation, chemical reactions, titration, distillation, media dissolution, food processing, etc.

Overhead Stirrers

Chemical and petrochemical applications, beverage production, dairy production, food processing, sugar and candy production, ceramic applications, water treatment, cosmetics production, colorant and paint production, paper production, etc.



TECHNICAL BENEFITS

Hotplates & Hotplate Stirrers

- 1) Two different shapes of top plate are available (Round type / Square type)
- 2) Virtually no decoupling of stir bars. (only for Hotplate Stirrers)
- 3) Fast and precise stirring speed even at high temperatures. (only for Hotplate Stirrers)
- 4) High heat transfer rate.
- 5) Non-slip heating bath preventing accidental spills. (optional)
- 6) Hot top warning indicator and multiple overheat prevention features.
- 7) Smooth start and quick stop.
- 8) Bright digital display panel. (except for TM-SB/RB models)
- 9) Separate heater ON/OFF button. (except for TM-SB/RB models)

Magnetic Stirrers

- 1) Easy to use.
- 2) Microprocessor PID controls. (MS-G/M Models only)
- 3) Equipped with a durable and silent BLDC motor.
- 4) Wide speed range.
- 5) Accurate speed control regardless of the sample weight.
- 6) Safe control even at low speed.
- 7) Quick real-time start of the stirring action. (MS-B/T Models only)

Overhead Stirrers

- 1) Powerful torque capable of handling high viscosity tasks.
- 2) Maintenance of constant motor speed by PID feedback control system even under conditions of changing viscosity. (MSP / MSH Models only)
- 3) Wide speed range with silent operation.
- 4) Compact and slim head design.
- 5) Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.
- 6) Best effort function automatically adjusts stirring speed to prevent sample's damage. (MSH Model only)
- 7) Selectable stirring directions to suit each different impeller's shape. (MSH Model only)

Superior temperature control with various safety functions.
Two different shapes of top plate are available for your optimum use.



T-17S/14R

Optional Accessories

➔ see page 162-163

T-18Q

- Heating Bath (only for T-S/R)
- Transparent Shield (only for T-S/R)
- Support Rod

Operating Features

- Microprocessor PID temperature control.
- Precise temperature is set by digital display and optimum heating level is adjustable.
- Auto-tuning and temperature calibration functions.
- Multi-functional temperature control modes.
(Optimal Mode / Fast Mode / Slow Mode / User Mode / Point Mode)
- Two user-selectable timer activation modes.
- Hot top warning indicator for preventing accidental injuries.
- Built in thermal shutdown and current limit protection.
- Upper and lower temperature limit setting for users' convenience and safety.
- Separate operation RUN/STOP button.
- Keypad lock function prevents accidental changes during operation.

Constructional Features

- Integrated design of the heater and the top plate provides exceptional heat transfer rate and quick heat up capability.
- Non-slip heating bath with concavo-convex bottom prevents unintentional slips of the bath. (optional)
- A transparent safety shield protects users from liquid splashes. (optional)
- Support rod allows for diverse flexibility in configuring other test equipment and accessories. (optional)



Specification & Ordering Information

Model			T-14S	T-14R	T-17S	T-17R	T-18Q
Technical Data	Heating	Temperature Range (°C / °F)	Max. 350 / 662				
		Control	Feedback Control with PID				
		Display	LED digital (0.1 °C resolution)				
		Heating Power (W)	600				800
	Safety	Hot Top Indicator (°C / °F)	Warning lamp (50 / 122)				
		Over Temp.	Top plate / Main body / PCB				
		Over Current	Current limit protection				
Timer	2 type, 1min to 99 hrs 59 min						
Load, Max (kg / lbs)	25 / 55.1						
General Data	Top Plate	Shape	Round Type				Square type
		Material	Ceramic coated aluminum				
		Dimension (Ø or WxD, mm / Inch)	140 / 5.5		170 / 6.7		180x180 / 7.08x7.08
	Body	Shape	Straight body	Round handles	Straight body	Round handles	Straight body
		Material	Aluminum				
		Dimension (WxDxH, mm / Inch)	161x290x100 / 6.34x11.42x3.94	210x294x99 / 8.27x11.57x3.90	191x330x101 / 7.52x12.99x3.98	240x324x100 / 9.45x12.76x3.94	209x326x102 / 8.22x12.83x4.0
	Net Weight (kg / lbs)	2.2 / 4.9	2.4 / 5.3	2.9 / 6.4	3 / 6.6	3.8 / 8.37	
Electrical Requirements (230V,50Hz / 60Hz)		3.0 A		4.0 A			
Cat. No.		AAH35015K	AAH35115K	AAH35025K	AAH35125K	AAH35035K	
Electrical Requirements (120V,60Hz)		5.0 A		6.7 A			
Cat. No.		AAH35013U	AAH35113U	AAH35023U	AAH35123U	AAH35033U	

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

Hotplates & Stirrers

Hotplate Stirrers (Basic Models)

Easy to control with simple dial knobs for general lab heating and stirring applications.

Operating Features

- Fast and precise stirring operations are enabled by BLDC motor and special magnet with extremely strong magnetic coupling power.
- Smooth-start mechanism provides virtually no decoupling of stir bars even with viscous media.
- Instant halt of the stirring operation due to the exceptionally fast response characteristics of the BLDC motor.
- Hot Top warning Indicator for preventing accidental injuries.
- Built in thermal shutdown and current limit protection.
- Large stirring capacity up to 20 liter in case of water.



Constructional Features

- Integrated design of the heater and the top plate provides exceptional heat transfer rate and quick heat up capability.
- Non-slip heating bath with concavo-convex bottom prevents unintentional slips of the bath. (optional)
- A transparent safety shield protects users from liquid splashes. (optional)
- Support rod allows for diverse flexibility in configuring other test equipment and accessories. (optional)



TM-14RB/17SB TM-18Q

Optional Accessories

see page 162-163

- Heating Bath (only for TM-SB/RB)
- Transparent Shield (only for TM-SB/RB)
- Support Rod

Specification & Ordering Information



RoHS / CSA except for TM-18Q

Model ¹⁾		TM-14SB	TM-14RB	TM-17SB	TM-17RB	TM-18Q
Technical Data	Heating	Temperature Range (°C / °F)	Max. 350 / 662			
		Control	Scale			
		Heating Power (W)	600			
	Stirring	Speed Range (RPM)	50 to 2,000			
		Capacity (L / cu ft, H ₂ O)	20 / 0.71			
		Magnetic Bar, Max. (ØxL, mm / Inch)	8 x 40 / 0.31 x 1.57			
	Safety	Hot Top Indicator (°C / °F)	Warning lamp (50 / 122)			
		Over Temp.	Top plate / Main body / PCB			
		Over Current	Current limit protection			
General Data	Motor		BLDC motor			
	Load, Max (kg / lbs)		25 / 55.12			
	Top plate	Shape	Round Type			Square type
		Material	Ceramic coated aluminum			
		Dimension (Ø or WxD, mm / Inch)	140 / 5.51			180x180 / 7.08x7.08
	Body	Shape	Straight body	Round handles	Straight body	Round handles
		Material	Aluminum			
		Dimension (WxDxH, mm / Inch)	161x290x100 / 6.34x11.42x3.94	210x294x99 / 8.27x11.57x3.9	191x330x101 / 7.52x12.99x3.98	240x324x100 / 9.45x12.76x3.94
Electrical Requirements (230V,50Hz/60Hz)	Net Weight (kg / lbs)		2.8 / 6.17	3 / 6.61	3.5 / 7.72	3.6 / 7.94
			4.0 A			
	Cat. No.		AAH34215K	AAH34315K	AAH34225K	AAH34325K
	Electrical Requirements (120V,60Hz)		5.0 A			
	Cat. No.		AAH34213U	AAH34313U	AAH34223U	AAH34323U

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

Hotplates & Stirrers

Hotplate Stirrers (Advanced Models)

Digital heating and stirring control with high advanced features such as auto-tuning and various control modes.



TS-17S

Included Accessories

see page 162-163

TS-18Q

- Temperature Probe (PT100, Max. 250 °C)

Operating Features

- Feedback control allows constant stirring speed.
- Fast and precise stirring operations are enabled by BLDC motor and special magnet with extremely strong magnetic coupling power.
- Smooth-start mechanism provides virtually no decoupling of stir bars even with viscous media.
- Instant halt of the stirring operation.
- Microprocessor PID temperature control.
- Precise temperature is set by digital display and optimum heating level is adjustable.
- Auto-tuning and temperature calibration functions.
- Multi-functional temperature control modes. (Optimal Mode / Fast Mode / Slow Mode / User Mode / Point Mode)
- Two user-selectable timer activation modes.
- Hot Top warning Indicator, built in thermal shutdown, current limit protection.
- Upper and lower temperature limit setting for users' convenience and safety.
- Separate operation RUN/STOP button.

Constructional Features

- Integrated design of the heater and the top plate provides exceptional heat transfer rate and quick heat up capability.
- The provided temperature probe detects the actual temperature of media in real time. (PT100, Max. 250 °C, SN-8-4 connector sensor)



RoHS / CSA except for TS-18Q

Specification & Ordering Information

Model ¹⁾		TS-14S	TS-17S	TS-18Q	
Technical Data	Heating	Temperature Range (°C / °F)	Max. 350 / 662		
		Control	Feedback Control with PID		
		Display	LED digital (0.1 °C resolution)		
	Stirring	Heating Power (W)	600	800	800
		Speed Range (RPM)	30 to 2,000		
		Capacity (L / cu ft, H ₂ O)	20 / 0.71		
	Safety	Magnetic Bar, Max. (ØxL, mm / Inch)	8 x 40 / 0.31 x 1.57		
		Hot Top Indicator (°C / °F)	Warning lamp (60 / 122)		
		Over Temp.	Top plate / Main body / PCB		
	Motor	Over Current	Current limit protection		
Timer		BLDC motor			
Load, Max (kg / lbs)		2 type, 1min. to 99 hours 59 min.			
General Data	Top plate	Shape	Round Type	Square type	
		Material	Ceramic coated aluminum		
		Dimension (Ø or WxD, mm / Inch)	140 / 5.51	170 / 6.69	180x180 / 7.08x7.08
	Body	Shape	Straight body		
		Material	Aluminum		
		Dimension (WxDxH, mm / Inch)	161x290x100 / 6.34x11.42x3.94	191x330x101 / 7.52x12.99x3.98	209x326x102 / 8.22x12.83x4.0
Net Weight (kg / lbs)		2.8 / 6.17	3.5 / 7.72	3.8 / 8.37	
Electrical Requirements (230V, 50Hz / 60Hz)		3.0 A	4.0 A		
Cat. No.		AAH34415K	AAH34425K	AAH34435K	
Electrical Requirements (120V, 60Hz)		5.0 A	6.7 A		
Cat. No.		AAH34413U	AAH34423U	AAH34433U	

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

Hotplates & Stirrers

Hotplate Stirrers (Multi-position Model)

Simultaneous stirring is available at max. 15 points with stable heating.

► Operating Features

- Ideal for the multiple sample testing under the same condition.
 - Maximum 15 independently controlled stirring positions on one heated top plate.
- Fast and precise stirring operations are enabled by BLDC motor and special magnet with extremely strong magnetic coupling power.
- Various stirring control modes are available.
 - All Mode / Column Mode / Row Mode / Point Mode
- Timer set for each stirring mode is available for the unattended operation.
- Smooth-start mechanism provides virtually no decoupling of stir bars even with viscous media.
- Instant halt of the stirring operation.
- Built in thermal shutdown and current limit protection.



► Constructional Features

- Integrated design of the heater and the top plate provides exceptional heat transfer rate and quick heat up capability.
- Easy-to-read VFD and intuitive control panel.
- Bright and vivid LED stirring position indicating lamps and heating operation lamp for stable operations.
- High heat transfer aluminum top-plate.
- Unit is safely designed to protect internal components from accidental spills.
- Non-slip silicon plate mat is attached on the top plate to prevent unintended slips

MS-33MH / MS-53MH

- Optional Accessories**
- Magnetic Stirring Bars
 - Plastic Retrievers

🔍 see page 162-163

► Specification & Ordering Information



Model		MS-33MH		MS-53MH	
Technical Data	Heating	Temperature Range (°C / °F)	Max. 120 / 248		
		Control	Scale		
	Stirring	Heating Power (W)	600	1000	
		Speed Range (RPM)	30 to 2,000		
		Control	Feedback control with PID		
		Stirring Positions	9	15	
		Stirring Point Distance (WxD, mm / inch)	117x90 / 4.61x3.54		
		Timer	1min. to 99 hours 59 min.		
		Motor	BLDC motor		
		Motor Rating Input / Output (w) per each point	2.9/1.6		
		Magnetic Bar, Max. (ØxL, mm / Inch)	8x30 / 0.31x1.18		
	Safety	Over Temp.	Top plate		
Over Current		Current limit protection			
General Data	Load, Max (kg / lbs)	30 / 66.14			
	Top plate	Material	Aluminum		
		Dimension (WxD, mm / Inch)	385x328 / 15.16x12.91	385x493 / 15.16x19.41	
	Body	Material	Powder coated steel		
		Dimension (WxDxH, mm / Inch)	395x450x104 / 15.55x17.72x4.09	395x614x104 / 15.55x24.17x4.09	
Net Weight (kg / lbs)		10 / 22.05		15 / 33.06	
Electrical Requirements (230V, 50Hz / 60Hz)		4.1 A		5.8 A	
Cat. No.		AAHK34015K		AAHK34025K	
Electrical Requirements (120V, 60Hz)		8.0 A		11.2 A	
Cat. No.		AAHK34013U		AAHK34023U	

Hotplates & Stirrers

Magnetic Stirrers (Scale & Digital & Multi-position Models)

Powerful magnets and motors guarantee a high-speed and a good-management of the devices.



MS-B / T with the included Plate Covers



MS-G with the included Plate Covers



MS-M with an optional Plate Mats

Common Features (MS-B/T, MS-G, MS-M)

- Best-in-the-class with broad speed range and suitable for high-speed rotation experimental environment.
- Ergonomic designed, lightweight, easy to operate, and low profile.
- Wide top plate.
- Two non-slip silicon plate covers (white & black) provided for MS-B, T, G Models.
- Non-slip strength rubber feet.
- Sparkless, silent and durable BLDC motor.
- Built-in thermal shutdown and current limit protection.

Additional Features

Digital Models - MS-G

- Digital PID feedback control for reproducible stirring results.
- Bright and vivid VFD and responsive touch buttons.
- Gradual start-up to protect users against splashing of samples.
- M10 threaded hole to hold a support rod.
- Digital timer range: 1 min to 99hr 59min.
- Convenient program control.

Multi-position Models - MS-M

- Digital PID feedback control for every single point, separately.
- User-friendly operation and time setting modes allowing various ways of multi-position stirring to meet users' demands: single point, multiple point, whole row, whole column, etc.
- Easy-to-read VFD and intuitive control panel.
- Bright and vivid LED position indicating lamps.
- Non-slip see-through silicon plate mat. (optional)
- Chemical-resistant #304 grade stainless steel top-plate.

Included Accessories (without MS-M Models)

- Plate Covers (white & black)
- Magnetic Stirring Bar

Optional Accessories

- Silicone Plate Mats
- Plastic Retrievers

➔ see page 162-163

Hotplates & Stirrers

Magnetic Stirrers (Scale & Digital & Multi-position Models)

Specifications & Ordering Information



Model ¹⁾		MS-12B	MS-12T	MS-17B	MS-17T	MS-22B
Technical Data	Speed Control	Electronic speed control				
	Stirring Capacity (Liter, H ₂ O)	2		4		5
	Speed Range (RPM)	150 ~ 2,500				
	Speed Display	None				
	Motor Rating Input / Output (W)	2.9 / 1.6				
Top Plate	Magnetic Bar (ØxL, mm / Inch), Max.	8x30 / 0.31x1.18	8x30 / 0.31x1.18	8x40 / 0.31x1.57	8x30 / 0.31x1.18	10x50 / 0.39x1.97
	Load, Max (kg / lbs)	15 / 33.07	10 / 22.05	20 / 44.09	20 / 44.09	25 / 55.12
	Material	Polypropylene with non-slip silicon cover				
General Data	Dimension (mm / inch, Ø)	120 / 4.72	115 / 4.53	170 / 6.69	165 / 6.5	220 / 8.66
	Body Material	Poly propylene				
	Dimension (mm / inch, WxDxH)	130x130x65 / 5.12x5.12x2.56	181x176x57 / 7.13x6.93x2.24	185x185x65 / 7.28x7.28x2.56	246x243x57 / 9.69x9.57x2.24	230x230x65 / 9.06x9.06x2.56
	Weight (kg / lbs)	0.6 / 1.32		0.9 / 1.98		1.1 / 2.43
	Electrical Requirements	AC 100 ~ 240V, 50 / 60Hz with power adapter				
Cat. No.	Power Consumption (W)	5				
	Protection Class (DIN EN 60529)	IP42				
	Persian Blue	KR plug	AAH330115BK	AAH333115BK	AAH330215BK	AAH333215BK
		US plug	AAH330115BU	AAH333115BU	AAH330215BU	AAH333215BU
	Yellow	KR plug	AAH330115YK	-	AAH330215YK	-
		US plug	AAH330115YU	-	AAH330215YU	-
	Orange	KR plug	-	AAH333115RK	-	AAH333215RK
		US plug	-	AAH333116RU	-	AAH333216RU

1) B-models: round type body, T-models; triangle type body.

Specifications & Ordering Information



Model		MS-17G	MS-22G
Technical Data	Speed Control	Feedback control with PID	
	Stirring Capacity (Liter, H ₂ O)	4	5
	Speed Range (RPM)	30 to 2,000	
	Speed Display	VFD	
	Motor Rating Input / Output (W)	2.9 / 1.6	
Top Plate	Magnetic Bar (ØxL, mm / Inch), Max.	8x40 / 0.31x1.57	10x50 / 0.39x1.97
	Load, Max (kg / lbs)	20 / 44.09	25 / 55.12
	Material	Polypropylene with non-slip silicon cover	
General Data	Dimension (mm / inch, Ø)	170 / 6.69	220 / 8.66
	Body Material	Poly propylene	
	Dimension (mm / inch, WxDxH)	210x280x72 / 8.27x11.02x2.82	260x360x72 / 10.24x14.17x2.82
	Weight (kg / lbs)	1.35 / 2.98	1.75 / 3.86
	Electrical Requirements	AC 100 ~ 240V, 50 / 60Hz	
Cat. No.	Power Consumption (W)	6	
	Protection Class (DIN EN 60529)	IP42	
	Persian Blue	KR plug	AAH331215BK
		US plug	AAH331215BU
	Yellow	KR plug	AAH331215YK
		US plug	AAH331215YU

Specifications & Ordering Information



Model		MS-23M	MS-32M	MS-33M	MS-51M	MS-52M	MS-53M
Technical Data	Speed Control	Feedback control with PID					
	Stirring	Positions	6	9	5	10	15
		Speed Range (RPM)	30 to 2,000				
	Stirring Point Distance (mm / inch, WxD)	117x170 / 4.6x6.69	117x90 / 4.6x3.54	117x90 / 4.6x3.54	90 / 3.54	117x90 / 4.6x3.54	
	Timer	1 min. to 99 hours 59 min.					
General Data	Speed Display	VFD					
	Motor Rating Input / Output (W) per each point	2.9 / 1.6					
	Load, Max (kg / lbs)	30 / 66.14					
	Dimension (mm / inch, WxDxH)	377x434x81 / 14.84x17.09x3.19	254x434x81 / 10x17.09x3.19	377x434x81 / 14.84x17.09x3.19	130x591x75 / 5.12x23.27x2.95	251x591x75 / 9.88x23.27x2.95	378x591x75 / 14.89x23.27x2.95
	Weight (kg / lbs)	6 / 13.23	5 / 11.02	7 / 15.43	4 / 8.82	8 / 17.64	11 / 24.25
Cat. No.	Electrical Requirements	AC 100 ~ 240V, 50 / 60Hz					
	Power Consumption (W)	45	45	54	45	85	135
	Protection Class (DIN EN 60529)	IP 21					
	KR plug	AAH332115K	AAH332215K	AAH332315K	AAH332415K	AAH332515K	AAH332615K
	US plug	AAH332115U	AAH332215U	AAH332315U	AAH332415U	AAH332515U	AAH332615U

Hotplates & Stirrers

Overhead Stirrers (Economy & Analog & Digital Models)

Different types of overhead stirrers are available, offering you the best solutions in various stirring and mixing applications.



MSE / MSM / MSP Models

Optional Accessories

- Impellers
- Stands, Support Rods
- Clamps, Stirring seals

➔ see page 164-165

Common Features (MSE / MSM / MSP)

- Compact and slim head design.
- Powerful torque capable of handling high viscosity tasks.
- Safety features against overload and overheating.
- High speed, vibration-free, and silent operation.
- Separated adapter from the main body minimizes the risks of electrical hazards to the users.
- Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.

Additional Features

Analog Models - MSM

- Well illuminated digital display panel with sensitive touch buttons.
- RPM, power ratio (%) visible together on one screen.
- Convenient emergency stop feature.

Digital Models - MSP

- Digital PID control, guaranteeing constant shaking speed, even under the varying viscosity.
- Well illuminated digital display panel with sensitive touch buttons.
- Selectable display modes: rpm, power ratio (%), motor temp, and run time.
- Convenient emergency stop feature.
- Prevention of accidental spills or splashes thanks to micro-processor controlled smooth start and stop functions.
- keypad lock function prevents accidental changes during operation.
- Built-in USB port for external control and data collection.
(Lab Companion software required)



Computer Interface is only for MSP Models

Specifications & Ordering Information

Complete technical data for Motor Model										
	Model	MSE-1	MSE-2	MSE-3	MSM-1	MSM-2	MSM-3	MSP-1	MSP-2	MSP-3
Technical Data	Speed Control	Scale						PID feedback control		
	Speed Range (rpm)	Up to 1,400	Up to 1,200	Up to 900	50 to 1,400	50 to 1,200	50 to 900	50 to 1,400	50 to 1,200	50 to 900
	Display	None			Digital-FND					
	Stirring Capacity (L, H ₂ O)	20	30	50	20	30	50	20	30	50
	Torque, Max. (N·cm)	15	27	53	15	27	53	15	27	53
	Motor Rating Output (W)	15	20.4	31.2	15	20.4	31.2	15	20.4	31.2
General Data	Body Material	Aluminum, PP								
	Dimension (mm / inch, WxDxH)	65x135x190 / 2.56x5.31x7.48	70x150x200 / 2.76x5.91x7.87	70x150x215 / 2.76x5.91x8.46	65x135x190 / 2.56x5.31x7.48	70x150x200 / 2.76x5.91x7.87	70x150x215 / 2.76x5.91x8.46	65x135x190 / 2.56x5.31x7.48	70x150x200 / 2.76x5.91x7.87	70x150x215 / 2.76x5.91x8.46
	Net Weight (Kg / lbs)	2 / 4.41	2.5 / 5.51	3 / 6.61	2 / 4.41	2.5 / 5.51	3 / 6.61	2 / 4.41	2.5 / 5.51	3 / 6.61
	Electrical Requirements	AC 100 ~ 240V, 50/60Hz								
	Safety Device	Thermal protection, Current protection, Emergency stop (MSM)						Thermal protection, Current protection, Emergency stop, Automatic speed-down (MSP)		
	Shaft Dia, Max (mm / Inch)	3 ~ 10 / 0.12 ~ 0.39								
	Protection Class (DIN EN 60529)	IP20								
Cat. No.	KR plug	AAH372115K	AAH372215K	AAH372315K	AAH370115K	AAH370215K	AAH370315K	AAH371115K	AAH371215K	AAH371315K
	US plug	AAH372115U	AAH372215U	AAH372315U	AAH370115U	AAH370215U	AAH370315U	AAH371115U	AAH371215U	AAH371315U

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

* Protection class according to DIN EN 60529: waterproof, Dust production index based on the test level.

* Above specifications can be changed without prior notice.

Hotplates & Stirrers

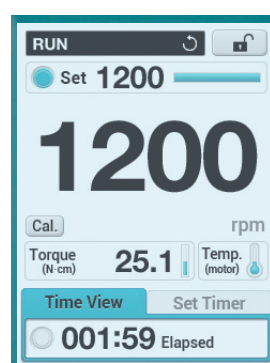
Overhead Stirrers (Advanced Model)

Ideally perform your professional stirring tasks requiring high functionality, safety, and longevity.

Intelligent speed controller enables reproducible results under varying viscosity condition. your high standard sitring needs can be met by our considerate design and safety features.

► Features

- Years of vibration-free and silent operation.
 - Equipped with a maintenance-free BLDC motor to generate smooth, quiet, and yet powerful stirring.
- Maintenance of constant motor speed by PID feedback control system even under conditions of changing viscosity.
- Powerful torque capable of handling high viscosity tasks. In addition, the varying motor torque is indicated on display in real time.
- Motor temperature condition is indicated on display by three different colors to protect motor.
- Stirring directions are selectable depending on each impeller's shape and the set direction is visible on display.
- Screen lock function prevents accidental changes during operation.
- Best effort function intelligently manages its stirring speed to keep stirring even workload is out of its capacity.
- Safety features against overload and overheating.
 - When it comes to heavy workload, it tries to activate best effort function. But if it determines that performing the work is harmful for it, than it stops stirring.
 - Equipped with a mini fan inside to minimize overheating of the motor.
- Prevention of accidental spills or splashes thanks to micro-processor controlled smooth start and stop functions.
- Separated adapter from the main body minimizes the risks of electrical hazards to the users.
- Built-in USB port for external control and data collection. (Lab Companion software required)



Touch type LCD controller

Various essential information visible at once.

- RPM, rotation direction
- Motor torque, motor temp.
- Run time



MSH-0512

Optional Accessories

► see page 164-165

- Impellers
- Stands, Support Rods
- Clamps, Stirring seals

► Specifications & Ordering Information



Model		MSH-0512
Technical Data	Speed Control	PID feedback control
	Speed Range (rpm)	50 to 1,200
	Display	Digital-LCD
	Stirring Capacity, Max. (L, H ₂ O)	20
	Torque, Max. (N-cm)	41.6
	Motor Rating Output (W)	50
General Data	Body Material	Aluminum, PP
	Dimension (mm / inch, WxDxH)	80x181x235 / 3.14x7.13x9.25
	Net Weight (Kg / lbs)	3.1 / 6.83
	Electrical Requirements	AC 100 ~ 240V, 50 / 60Hz
	Safety Device	Thermal protection, Current protection, Emergency stop, Automatic speed control
	Shaft Die, Max (mm / Inch)	3 ~ 10 / 0.12 ~ 0.39
Cat. No.	Protection Class (DIN EN 60529)	IP20
	KR plug	AAH371415K
	US plug	AAH371415U

※ Permissible environmental conditions: temperature (5-40℃) and relative humidity (up to 80%).

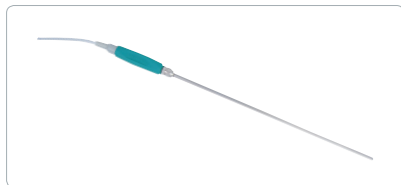
※ Protection class according to DIN EN 60529: waterproof, Duet production index based on the test level.

※ Above specifications can be changed without prior notice.

Hotplates & Stirrers

Accessories & Options

for Hotplates & Hotplate Stirrers



Temperature Probe



Heating Bath



Transparent Safety Shield

Cat. No.	Description	Suitable for
AAA34501	Temperature Probe (PT 100, Max. 250°C, SN-8-4 connector sensor)	TS series
AAA34502	Temperature Probe (PT 100, Max. 350°C, SN-8-4 connector sensor)	
HPS0012	Heating Bath	T-14S/R, TM-14SB/RB, TS-14S
HPS0015	Heating Bath	T-17S/R, TM-17SB/RB, TS-14S
HPS0059	Transparent Safety Shield (PC)	T-14S/R, TM-14SB/RB, TS-14S
HPS0039	Transparent Safety Shield (PC)	T-14S/R, TM-14SB/RB, TS-14S
MTT0132	Support Rod, M10 (Ø12mmx400mm / Ø0.47"x15.74")	All models
HPS0137	Sensor Holder (PP body)	All models



Clamp Holder (C-10)



Clamp Holder (C-7)



Clamp Holder (C-5)

Cat. No.	Description	Suitable for
AAA37512	Clamp Holder, C-10 (Al body, Ø17mm / Ø0.66")	All models
AAA37513	Clamp Holder, C-7 (Al body, Ø12mm / Ø0.47")	
AAA37514	Clamp Holder, C-5 (PP body, Ø12mm / Ø0.47")	
BEA1000014	2 Prong Clamp (60mm / 2.36" grip)	

for Magnetic Stirrers



Plate Covers (Black & White)



Silicone Pad



Power Divider(5 channels*)

Cat. No.	Description	Suitable for
MTT0144	Plate cover (White color, Silicone Ø115mm / Ø4.53")	MS-12T
MTT0146	Plate cover (White color, Silicone Ø165mm / Ø6.49")	MS-17T
MTT0002	Plate cover (White color, Silicone Ø120mm / Ø4.72")	MS-12B
MTT0003	Plate cover (White color, Silicone Ø170mm / Ø6.69")	MS-17B/G
MTT0004	Plate cover (White color, Silicone Ø220mm / Ø8.66")	MS-22B/G
MTT0143	Plate cover (Black color, Silicone Ø115mm / Ø4.53")	MS-12T
MTT0145	Plate cover (Black color, Silicone Ø165mm / Ø6.49")	MS-17T
MTT0005	Plate cover (Black color, Silicone Ø120mm / Ø4.72")	MS-12B
MTT0006	Plate cover (Black color, Silicone Ø170mm / Ø6.69")	MS-17B/G
MTT0007	Plate cover (Black color, Silicone Ø220mm / Ø8.66")	MS-22B/G

Cat. No.	Description	Suitable for
MTS0015	Silicone pad (355x475x1mm / 13.98x18.70x0.04")	MS-53M
MTS0016	Silicone pad (235x475x1mm / 9.25x18.70x0.04")	MS-52M
MTS0017	Silicone pad (115x475x1mm / 4.53x18.70x0.04")	MS-51M
MTS0041	Silicone pad (235x310x1mm / 9.25x12.20x0.04")	MS-32M
MTS0042	Silicone pad (355x310x1mm / 13.98x12.20x0.04")	MS-23M/33M
MTT0001	Power Adapter (100~240V, 50/60Hz)	MS-12B/T, MS-17B/T
AAH33501	Power Divider(5 channels*) with M10 rod, adapter(100~240V, 50/60Hz), five DC plugs	
MTT0132	Support Rod (M10, Ø12x400mm / Ø0.47x15.75")	MS-17G/22G

* Power supply to max. five units at the same time.

Hotplates & Stirrers

Accessories & Options

for Hotplates Stirrers & Magnetic Stirrers

► Magnetic Stirring Bars



✦ Octahedral Magnetic Stirring Bars

Cat. No.	Ø (mm / inch)	L (mm / inch)
BCW1513	8 / 0.31	13 / 0.51
BCW1515	8 / 0.31	15 / 0.59
BCW1522	8 / 0.31	22 / 0.86
BCW1525	8 / 0.31	25 / 0.98
BCW1528	8 / 0.31	28 / 0.10
BCW1538	8 / 0.31	38 / 1.49
BCW1541	8 / 0.31	41 / 1.61
BCW1551	8 / 0.31	51 / 2.00
BCW155110	10 / 0.39	51 / 2.00



✦ Cylindrical Magnetic Stirring Bars

Cat. No.	Ø (mm / inch)	L (mm / inch)
BCW11138	8 / 0.31	13 / 0.51
BCW11156	6 / 0.23	15 / 0.59
BCW11208	8 / 0.31	20 / 0.78
BCW11258	8 / 0.31	25 / 0.98
BCW11308	8 / 0.31	30 / 1.18
BCW1140	8 / 0.31	40 / 1.57
BCW1150	8 / 0.31	50 / 1.96



✦ Oval Magnetic Stirring Bars

Cat. No.	Ø (mm / inch)	L (mm / inch)
BCW1610	5 / 0.19	10 / 0.39
BCW1615	6 / 0.23	15 / 0.59
BCW1620	10 / 0.39	20 / 0.78
BCW162510	10 / 0.39	25 / 0.98
BCW1630	16 / 0.63	30 / 1.18
BCW1635	16 / 0.63	35 / 1.38
BCW1640	20 / 0.78	40 / 1.57
BCW1650	20 / 0.78	50 / 1.96

► Plastic Retrievers



✦ Plastic Retrievers (PP)

Cat. No.	Ø (mm / inch)	L (mm / inch)
BCW41300	10 / 0.39	300 / 11.81
BCW41350	10 / 0.39	350 / 13.77
BCW41450	10 / 0.39	450 / 17.71



✦ Plastic Retrievers (PTFE)

Cat. No.	Ø (mm / inch)	L (mm / inch)
BCW4150	10 / 0.39	150 / 5.90
BCW4250	10 / 0.39	250 / 9.84
BCW4350	10 / 0.39	350 / 13.77
BCW4450	10 / 0.39	450 / 17.71

for Overhead Stirrers

Impellers

Propeller Impellers

Standard grade stainless steel with Teflon shaft produces an axial flow stir between the bottom and top levels of a sample with local shearing force. Used at medium or high speeds for mixing normal range level viscosity samples.

Turbine Impellers

A radial flowing stir from the top and bottom levels of a sample with a powerful, high shearing turbulent force. Used ideally for the gassing of liquids and mixing medium to high range level viscosity samples.

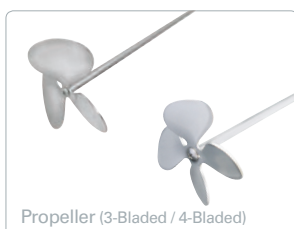
Half-Moon Impellers Centrifugal Impellers

Tiltable moon-shaped and blade shaft produces a normal axial flow percentage mixing of samples. Used with round bottom shaped containers, medium mixing speed, and samples ranging from low to medium viscosity levels.

Anchor Impellers Paddle Impellers

An anchored shaft that produces a strong tangential flow with a high shearing percentage force on samples with medium to high viscosity level with speed setting in the low to medium range.

Stainless Steel Impellers



Propeller (3-Bladed / 4-Bladed)



Turbine / Dissolver



Half-Moon / Centrifugal

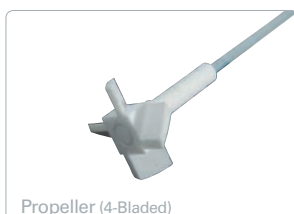


Anchor / Paddle

Cat. No.	Blade, WxH (mm / inch)	Shaft Ø (mm / inch)	Length (mm / inch)
3-Bladed Propeller			
AAA37521	50 / 1.97	8 / 0.31	400 / 15.75
AAA37522	70 / 2.76	8 / 0.31	400 / 15.75
AAA37523	100 / 3.94	8 / 0.31	400 / 15.75
4-Bladed Propeller			
AAA37531	50 / 1.97	8 / 0.31	400 / 15.75
AAA37532	70 / 2.76	8 / 0.31	400 / 15.75
AAA37533	100 / 3.94	8 / 0.31	400 / 15.75
Turbine			
AAA37561	40 / 1.57	8 / 0.31	500 / 19.69
AAA37562	70 / 2.76	8 / 0.31	500 / 19.69
Dissolver			
BEA0570031	55 / 2.17	8 / 0.31	350 / 13.78
BEA0570032	75 / 2.95	8 / 0.31	350 / 13.78

Cat. No.	Blade, WxH (mm / inch)	Shaft Ø (mm / inch)	Length (mm / inch)
Half-Moon			
AAA37541	65x20 / 2.56x0.79	8 / 0.31	300 / 11.81
AAA37542	90x25 / 3.54x0.98	8 / 0.31	500 / 19.69
Centrifugal			
AAA37551	50x15 / 1.97x0.59	8 / 0.31	500 / 19.69
AAA37552	80x15 / 3.15x0.59	8 / 0.31	500 / 19.69
Anchor			
AAA37571	45x45 / 1.77x1.77	8 / 0.31	300 / 11.81
AAA37572	60x60 / 2.36x2.36	8 / 0.31	500 / 19.69
Paddle A			
AAA37581	70x70 / 2.76x2.76	8 / 0.31	500 / 19.69

PTFE Coated Impellers



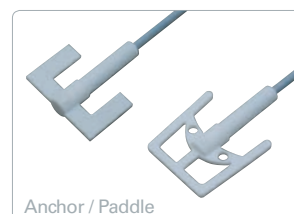
Propeller (4-Bladed)



Turbine



Half-Moon / Centrifugal



Anchor / Paddle

Cat. No.	Blade, WxH (mm / inch)	Shaft Ø (mm / inch)	Length (mm / inch)
4-Bladed Propeller			
BEA0570081	50 / 1.97	8 / 0.31	500 / 19.69
BEA0570082	70 / 2.76	8 / 0.31	500 / 19.69
Turbine			
BEA0570131	70 / 2.76	8 / 0.31	500 / 19.69

Cat. No.	Blade, WxH (mm / inch)	Shaft Ø (mm / inch)	Length (mm / inch)
Half-Moon			
BEA0570091	60x18 / 2.36x0.71	8 / 0.31	500 / 19.69
Centrifugal			
BEA0570101	76x17 / 2.99x0.67	8 / 0.31	500 / 19.69
Anchor			
BEA0570111	80x50 / 3.15x1.97	8 / 0.31	500 / 19.69
BEA0570121	80x40 / 3.15x1.57	8 / 0.31	500 / 19.69
Paddle			
BEA0570141	70 / 2.76	8 / 0.31	500 / 19.69
Paddle A			
BEA0570151	78x80 / 3.07x3.15	8 / 0.31	500 / 19.69

Hotplates & Stirrers

Accessories & Options

for Overhead Stirrers

► Stands & Support Rods



⚙️ Dial Stand with two optional support rods



⚙️ Basic Stand 1 with two optional support rods



⚙️ Basic Stand 2



⚙️ Basic Stand 3

Cat. No.	Description
AAA37501	Dial Stand (WxDxH, 400x400x700 / 15.75x15.75x27.56)
AAA37502	Basic Stand 1 (WxDxH, 400x400x700 / 15.75x15.75x27.56)
AAA37503	Basic Stand 2 (WxDxH, 300x400x700 / 11.81x15.75x27.56)
AAA37504	Basic Stand 3 (WxDxH, 250x350x700 / 9.84x13.78x27.56)

Cat. No.	Description
MSS0051	Ø15mm (Ø0.59") Support Rod, 500mm (19.68"), M14 Nut
MSS0052	Ø18mm (Ø0.71") Support Rod, 500mm (19.68"), M14 Nut
MSS0053	Ø20mm (Ø0.79") Support Rod, 500mm (19.68"), M14 Nut

► Clamps & Others



Utility Clamp 3 Prong



Utility Clamp Plat



3 Prong Clamp



2 Prong Clamp



Fixing Clamp



Clamp Holder (C-10)



Clamp Holder (C-20)



Flexible Coupling



PTFE Stirring seals

Cat. No.	Description
BEA1000001	Utility Clamp 3 Prong
BEA1000002	Utility Clamp Plat
BEA1000011	3 Prong Clamp (80mm / 3.15" grip)
BEA1000012	3 Prong Clamp (60mm / 2.36" grip)
BEA1000013	3 Prong Clamp (20mm / 0.79" grip)
BEA1000014	2 Prong Clamp (60mm / 2.36" grip)
BEA0570181	Fixing Clamp

Cat. No.	Description
AAA37512	Clamp Holder, C-10 (Al body, Ø17mm / 0.67")
AAA37511	Clamp Holder, C-20 (Al body, Ø27mm / 1.06")
BEA0570191	Flexible Coupling
BEA0570161	PTFE Stirring Seals (24 / 40)
BEA0570162	PTFE Stirring Seals (29 / 42)
BEA0570163	PTFE Stirring Seals (34 / 45)