

Hotplates & Stirrers

Hotplates

Hotplate Stirrers

Magnetic Stirrers

Overhead Stirrers

» General Applications

Hotplates

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

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

Overhead Stirrers

Chemical and petrochemical applications, beverage production, dairy production, food processing, sugar and candy production



Product Name		Hotplates		Hotplate Stirrers (Basic)		Hotplate Stirrers (Advanced)	
		T-S, R	T-Q	TM-SB, RB	TM-Q	TS-S	TS-Q
Model		T-S, R	T-Q	TM-SB, RB	TM-Q	TS-S	TS-Q
Top plate	Material	Ceramic coated aluminum		Ceramic coated aluminum		Ceramic coated aluminum	
	Dimension (Ø or WxD, mm)	140, 170 Round top	180x180 Square top	140, 170 Round top	180x180 Square top	140, 170 Round top	180x180 Square top
Temp. Control	Max. temp. (°C/°F)	350 / 662		350 / 662		350 / 662	
	Heating power (W)	600	800	600	800	600	800
Speed control	Speed range (rpm)	-		50 to 2000		30 to 2000	
	Stirring position (250ml flask)	-		1		1	
	Capacity (L, H ₂ O)	-		20		20	
Control	Display & Control interface	LED digital (0.1°C resolution)		Analog-knob		LED digital (0.1°C resolution)	
	PID feedback control	0		-		0	
	Timer	Wait on/off		-		Wait on/off	
	Auto-tuning	0		-		0	
	External temperature probe	-		-		0 (PT100, max.250°C)	
Safety	Over temp. limit	0		0		0	
	Over current limit	0		0		0	
	Hot top warning lamp at 50°C	0		0		0	
	High/Low temperature limit	0		-		0	
	Protection class (DIN EN 60529)	-		-		-	

Product Name		Overhead Stirrers (Analog)	Overhead Stirrers (Digital)	Overhead Stirrers (Advanced)	
Model		MSA	MSD	MSH	
Speed control	Speed range (rpm)	80 to 2000	80 to 2000	50 to 1200	50 to 2000
	Stirring capacity, Max. (L, H ₂ O)	20	20	100	60
	Torque, Max. (N-cm)	19	19	41.6	20.8
	Motor rating output (W)	40	40	48	
	Viscosity, Max. (cP) <small>(using 3-bladed propeller impeller, Ø50)</small>	5,000 (~2000 rpm) 10,000 (~1200 rpm) 30,000 (~300 rpm) 50,000 (~200 rpm)	5,000 (~2000 rpm) 10,000 (~1200 rpm) 30,000 (~300 rpm) 50,000 (~200 rpm)	5,000 (~1200 rpm) 10,000 (~1200 rpm) 30,000 (~1200 rpm) 50,000 (~700 rpm)	5,000 (~2000 rpm) 10,000 (~1600 rpm) 30,000 (~600 rpm) 50,000 (~300 rpm)
	Chuck range (mm)	3 to 10	3 to 10	3 to 10	
Control	Display & Control interface	Touch FND, Analog knob	Touch FND, Digital knob	Touch LCD, knob	
	PID feedback control	0	0	0	
	Timer	-	Wait off	Wait off	
	External controller	-	-	0	
	Computer interface	-	USB port	USB port	
Safety	Over temp. limit	0	0	0	
	Over current limit	0	0	0	
	Motor temp. warning	-	0	0	
	Best effort run	-	0	0	
	Protection class (DIN EN 60529)	IP 30	IP 30	IP 30	

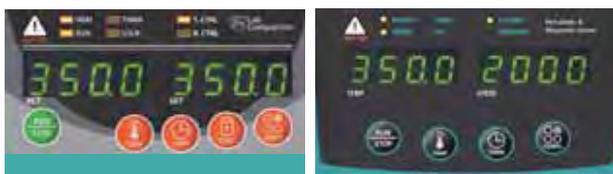
Hotplate Stirrers (Multi-position)		Magnetic Stirrers (Scale)		Magnetic Stirrers (Digital)	Magnetic Stirrers (Multi-position)
MS-33MH	MS-53MH	MS-B	MS-T	MS-G	MS-M
Aluminum		Polypropylene with non-slip silicon cover		Polypropylene with non-slip silicon cover	Aluminum
385x328	385x493	120, 170, 200	115, 165	170, 220	-
120 / 248		-		-	-
600	1000	-		-	-
30 to 2000		150 to 2500		30 to 2000	30 to 2000
9	15	1		1	2x3, 3x2, 3x3, 5x1, 5x2, 5x3
0.5 per each point		2, 4, 5		4, 5	250ml per each point
VFD, LED position indicator, Knob		No display, Knob		VFD, Touch buttons, Knob	VFD, LED position indicator, Touch buttons, Knob
0		-		0	0
Wait off		-		Wait off	Wait off
-		-		-	-
-		-		-	-
0		-		-	-
0		0		0	0
-		-		-	-
-		-		-	-
-		IP42		IP42	IP 21

Hotplates



Superior temperature control with various safety functions.

Two different shapes of top plate are available for your optimum use



T-17S/14R

T-18Q

Optional accessories see page 166-167

- Heating bath (for T-S/R)
- Transparent shield (for T-S/R)
- Support rods, Magnetic stirring bars

Performance & Convenience

- Microprocessor PID temperature control.
- Auto-tuning and temperature calibration functions.
- Multi-functional temperature control modes. (optimal / fast / slow / user / point)
- Optimum heating level is adjustable from 0 to 100%.
- Integrated design of the heater and the top plate provides exceptional heat transfer rate and quick heat up capability.
- Precise temperature is set by digital display and optimum heating level is adjustable.
- Advanced dual wait on/off timer modes.
 - User can set timer to starts immediately after the timer setting or only after reaching the set temp.
- Separate operation RUN/STOP button.
- 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)

Safety

- Built in thermal shut off and current limit protection.
- High and low temperature limit setting for user convenience and safety.
- Hot top warning indicator for preventing accidental injuries.
- Keypad lock function prevents accidental changes during operation.

Model	T-14S	T-14R	T-17S	T-17R	T-18Q	
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 hr. 59 min.					
Load, Max. (kg / lbs)	25 / 55.1					
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, 50/60Hz)	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%).
 * CSA except for T-18Q. * RoHS for T-14S.



Performance & Convenience

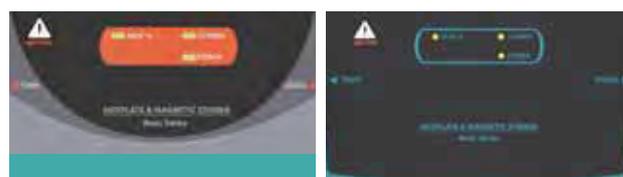
- Integrated design of the heater and the top plate provides exceptional heat transfer rate and quick heat up capability.
- Fast and precise stirring operations are enabled by BLDC motor and special magnet with extremely strong magnetic coupling power.
- Instant halt of the stirring operation due to the exceptionally fast response characteristics.
- Smooth-start mechanism provides virtually no decoupling of stir bars even with viscous media.
- Large stirring capacity up to 20 liter in case of water.
- 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)

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



Safety

- Built in thermal shutdown and current limit protection.
- Hot top warning Indicator for preventing accidental injuries.



TM-14RB/17SB TM-18Q

Optional accessories
see page 166-167

- Heating bath (for TM-SB/RB)
- Transparent shield (for TM-SB/RB)
- Support rods, Magnetic stirring bars

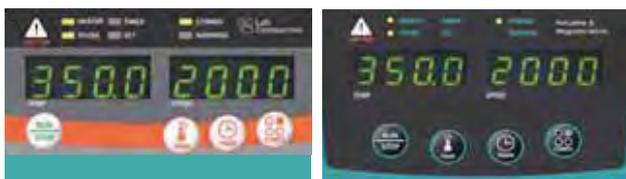
Model ¹⁾		TM-14SB	TM-14RB	TM-17SB	TM-17RB	TM-18Q
Heating	Temperature range (°C / °F)	Max. 350 / 662				
	Control	Scale				
	Heating power (W)	600		800		
Stirring	Speed range (rpm)	50 to 2,000				
	Capacity (L / cu ft, H ₂ O)	20 / 0.71				
	Magnetic bar, Max. (ØxL, mm / Inch)	8 x 40 / 0.31 x 1.57				
Safety	Hot top indicator (°C / °F)	Warning lamp (50 / 122)				
	Over temp.	Top plate / Main body / PCB				
	Over current	Current limit protection				
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		170 / 6.69		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 / 8.27x11.57x3.9	191x330x101 / 7.52x12.99x3.98	240x324x100 / 9.45x12.76x3.94	209x326x102 / 8.22x12.83x4.0
Net weight (kg / lbs)		2.8 / 6.17	3 / 6.61	3.5 / 7.72	3.6 / 7.94	3.8 / 8.37
Electrical requirements (230V, 50/60Hz)		3.0 A			4.0 A	
Cat. No.		AAH34215K	AAH34315K	AAH34225K	AAH34325K	AAH34235K
Electrical requirements (120V, 60Hz)		5.0 A			6.7A	
Cat. No.		AAH34213U	AAH34313U	AAH34223U	AAH34323U	AAH34233U

* Permissible environmental conditions: temperature (5-40°C) and relative humidity (up to 80%).
* CSA except for TM-18Q. * RoHS for TM-14SB.

Hotplate Stirrers (Advanced)



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



Performance & Convenience

- Microprocessor PID temperature control.
- Feedback control allows constant stirring speed.
- Auto-tuning and temperature calibration functions.
- Multi-functional temperature control modes. (optimal / fast / slow / user / point)
- Optimum heating level is adjustable from 0 to 100%.
- Integrated design of the heater and the top plate provides exceptional heat transfer rate and quick heat up capability.
- 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.
- Precise temperature is set by digital display and optimum heating level is adjustable.
- Advanced dual wait on/off timer modes.
 - User can set timer to starts immediately after the timer setting or only after reaching the set temp.
- Separate operation RUN/STOP button.
- Provided temperature probe detects the actual temperature of media in real time. (PT100, max. 250 °C, SN-8-4 connector sensor)

TS-17S

TS-18Q

Standard accessories see page 166-167

- Temperature probe (PT100, max.250 °C)

Safety

- Hot top warning Indicator, built in thermal shut off, current limit protection.
- High and low temperature limit setting for user convenience and safety.

Model ¹⁾		TS-14S	TS-17S	TS-18Q
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	800
Stirring	Speed range (rpm)	30 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		
Motor	BLDC motor			
Timer	2 type, 1min. to 99 hr. 59 min.			
Load, Max (kg / lbs)	25 / 55.1			
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, 50/60Hz)	3.0 A		4.0 A	
Cat. No.	AAH34415K		AAH34425K	AAH34435K
Electrical requirements (120V, 60Hz)	5.0 A		6.7A	
Cat. No.	AAH34413U		AAH34423U	AAH34433U

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

* CSA except for TS-18Q.

* RoHS except for TS-17S, 18Q.



Performance & Convenience

- Ideal for the multiple sample testing under the same condition.
- Maximum 15 independently controlled stirring positions on one heated top plate.
- 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.
- Integrated design of the heater and the top plate provides exceptional heat transfer rate and quick heat up capability.
- 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.
- 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.

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



Safety

- 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
- Built in thermal shut off and current limit protection.

MS-33MH / MS-53MH

Optional accessories
see page 166-167

- Magnetic stirring bars
- Plastic retrievers

Model		MS-33MH	MS-53MH
Heating	Temperature range (°C / °F)	Max. 120 / 248	
	Control	Scale	
	Heating power (W)	600	1000
Stirring	Speed range (rpm)	30 to 2,000	
	Control	Feedback control with PID	
	Stirring position	9	15
	Stirring point distance (WxD, mm / inch)	117x90 / 4.61x3.54	
	Timer	1min. to 99 hr. 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	
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, 50/60Hz)	4.1 A		5.8 A
Cat. No.	AAHK34015K		AAHK34025K
Electrical requirements (120V, 60Hz)	8.0 A		11.2 A
Cat. No.	AAHK34013U		AAHK34023U

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



MS-B / T



MS-G



MS-M with optional plate mat

All models (MS-B/T, MS-G, MS-M)

- Ergonomic designed, lightweight, easy to operate, and low profile.
- Best-in-the-class with broad speed range and suitable for high-speed rotation experimental environment.
- Spark-less, silent and durable BLDC motor.
- Wide top plate.
- Two non-slip silicon plate covers (white & black) provided for MS-B, T, G.
- Non-slip strength rubber feet.
- Strong magnetic coupling to ensure constant stirring.

Digital models (MS-G)

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

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.

Safety

- Unit is safely designed to protect internal components from accidental spills.
- Built-in thermal shutdown and current limit protection.

Standard accessories (except for MS-M)

- Plate covers(white & black)
- Magnetic stirring bar

Optional accessories see page 166-167

- Silicone plate mats
- Plastic retrievers



Model		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 to 2,500					
	Speed display	None					
	Motor rating input / output (W)	2.9 / 1.6					
	Magnetic bar, Max. (ØxL) (mm / inch)	8x30 / 0.31x1.18	8x30 / 0.31x1.18	8x40 / 0.31x1.57	8x30 / 0.31x1.18	10x50 / 0.39x1.97	
Top plate	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 (Ø, mm / inch)	120 / 4.72	115 / 4.53	170 / 6.69	165 / 6.5	220 / 8.66	
	Body shape	Round type	Triangle type	Round type	Triangle type	Round type	
	Body material	Polypropylene					
	Dimension (WxDxH) (mm / inch)	130x133x65 / 5.1x5.2x2.56	181x176x64 / 7.1x6.9x2.5	180x186x65 / 7.1x7.3x2.6	246x243x64 / 9.7x9.6x2.5	230x235x65 / 9.1x9.3x2.6	
	Net 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			6		
	Protection class (DIN EN 60529)	IP42					
	Persian blue	KR plug	AAH330115BK	AAH333115BK	AAH330215BK	AAH333215BK	AAH330315BK
		US plug	AAH330115BU	AAH333116BU	AAH330215BU	AAH33326BU	AAH330315BU
Yellow	KR plug	AAH330115YK	-	AAH330215YK	-	AAH330315YK	
	US plug	AAH330115YU	-	AAH330215YU	-	AAH330315YU	
Orange	KR plug	-	AAH333115RK	-	AAH333215RK	-	
	US plug	-	AAH33316RU	-	AAH33326RU	-	

* RoHS except for MS-T.



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		
	Magnetic bar, Max. (ØxL) (mm / inch)	8x40 / 0.31x1.57	10x50 / 0.39x1.97	
Top plate	Load, Max (kg / lbs)	20 / 44.09	25 / 55.12	
	Material	Polypropylene with non-slip silicon cover		
General data	Dimension (Ø, mm / inch)	170 / 6.69	220 / 8.66	
	Body material	Polypropylene		
	Dimension (WxDxH) (mm / inch)	210x280x72 / 8.3x11x2.8	260x355x72 / 10.2x14x2.8	
	Net weight (kg / lbs)	1.35 / 2.98	1.75 / 3.86	
	Electrical requirements	AC 100 ~ 240V, 50 / 60Hz		
	Power consumption (W)	6		
Cat. No.	Protection class (DIN EN 60529)	IP42		
	Persian blue	KR plug	AAH331215BK	AAH331315BK
		US plug	AAH331215BU	AAH331315BU
	Yellow	KR plug	AAH331215YK	AAH331315YK
US plug		AAH331215YU	AAH331315YU	



Model		MS-23M	MS-32M	MS-33M	MS-51M	MS-52M	MS-53M
Technical data	Speed control	Feedback control with PID					
	Stirring	Position	6	9	5	10	15
		Speed range (rpm)	30 to 2,000				
	Stirring point distance (WxD) (mm / inch)	117x170 / 4.6x6.69	117x90 / 4.6x3.54	117x90 / 4.6x3.54	90 / 3.54	117x90 / 4.6x3.54	
	Timer	1 min. to 99 hr. 59 min.					
	Speed display	VFD					
	Motor rating input / output (W) per each point	2.9 / 1.6					
	Load, Max (kg / lbs)	30 / 66.14					
General data	Dimension (WxDxH) (mm / inch)	377x434x81 / 14.8x17.1x3.2	254x434x81 / 10x17.1x3.2	377x434x81 / 14.8x17.1x3.2	130x591x75 / 5.1x23.3x2.9	251x591x75 / 9.88x23.27x2.9	378x591x75 / 14.9x23.3x2.9
	Weight (kg / lbs)	6 / 13.23	5 / 11.02	7 / 15.43	4 / 8.82	8 / 17.64	11 / 24.25
	Electrical requirements	AC 100 ~ 240V, 50 / 60Hz					
	Power consumption (W)	45	45	54	45	85	135
Cat. No.	Protection class (DIN EN 60529)	IP 21					
	KR plug	AAH332115K	AAH332215K	AAH332315K	AAH332415K	AAH332515K	AAH332615K
	US plug	AAH332115U	AAH332215U	AAH332315U	AAH332415U	AAH332515U	AAH332615U

Accessories & Options

Magnetic stirring bars



Octahedral magnetic stirring bar



Cylindrical magnetic stirring bar



Oval magnetic stirring bar

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

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

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 retriever (PP)



Plastic retriever (PTFE)



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

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

Support rod / Clamp holders



Support rod (M10)



Clamp holder (C-10)



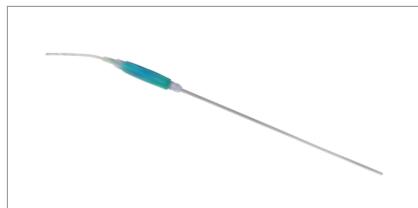
Clamp holder (C-7)



Clamp holder (C-5)

Cat. No.	Description
MTT0132	Support rod, M10 (Ø12x400mm / Ø0.47x15.75")
AAA37512	Clamp holder, C-10 (Al body, Ø17mm / Ø0.66")
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 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-17S/R, TM-17SB/RB, TS-17S
HPS0137	Sensor Holder (PP body, Hole 1: Ø11mm / Ø0.43", Hole 2: Ø10mm / Ø0.39", Hole 3: Ø4.2mm / Ø0.16")	TS series

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
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) ¹⁾ with M10 rod, adapter(100-240V, 50/60Hz), five DC plugs	

1) Power supply to max. five units at the same time.

Overhead Stirrers (Analog)



Powerful stirring and simple operation with sustainable economic benefits.



Performance & Convenience

- Years of vibration-free and silent operation.
 - Equipped with a maintenance-free BLDC motor to generate smooth, quiet, and yet powerful stirring.
- Powerful torque capable of handling high viscosity tasks.
- Maintenance of constant motor speed by PID feedback control system even under conditions of changing viscosity.
- Prevention of accidental spills or splashes thanks to micro-processor controlled smooth start and stop functions.
- Designed for simple and quick operation.
- Well illuminated digital display panel with sensitive touch buttons.
 - Set/present rpm, power ratio (%) are visible together on one screen.
- Compact and slim head design for diverse flexibility in configuring other test equipment and accessories. (optional)

Safety

- Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.
- Safety features against overload and overheating for continuous operation.

MSA-0420

Optional accessories
see page 172-173

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

Model		MSA-0420
Speed control		PID feedback control
Speed range (rpm)		80 to 2,000
Chuck range (mm / inch, dia)		3 to 10 / 0.1 to 0.4
Stirring capacity, Max. (L, H ₂ O)		20
Viscosity, Max. (cP) ¹⁾		5,000 (~2,000rpm) / 10,000 (~1,200rpm) / 30,000 (~300rpm) / 50,000 (~200rpm)
Torque, Max. (N-cm)		19
Motor rating input / output (W)		70 / 40
Material	Body / Cover / Motor	Powder coated aluminum / Polypropylene / BLDC
Dimension	Overall (WxDxH) (mm / inch)	75x215x150/ 2.9x8.5x5.9
	Net weight (Kg / lbs)	2.8 / 6.2
Protection class (DIN EN 60529)		IP30
Electrical requirements (230V 50/60Hz)		0.5A
Cat. No.		AAH373325K
Electrical requirements (120V 60Hz)		0.5A
Cat. No.		AAH373325U

1) Silicone oil with using 3-bladed propeller impeller(Ø50) under room temperature of 26°C, 60%RH, no load.

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

* Main body comes together with chuck handle and attaching rod.

* Above specifications can be changed without prior notice.



Performance & Convenience

- Years of vibration-free and silent operation.
 - Equipped with a maintenance-free BLDC motor to generate smooth, quiet, and yet powerful stirring.
- Powerful torque capable of handling high viscosity tasks.
- Maintenance of constant motor speed by PID feedback control system even under conditions of changing viscosity.
- Best effort function intelligently manages its stirring speed to keep stirring even workload is out of its capacity.
- Prevention of accidental spills or splashes thanks to micro-processor controlled smooth start and stop functions.
- Well illuminated digital display panel with sensitive touch buttons.
 - Set/present rpm, power ratio (%) and run time are visible together on one screen.
- Stirring directions are selectable depending on each impeller's shape.
- Built-in USB port for external control and data collection.
 - Lab Companion software and USB cable are provided.
- Compact and slim head design for diverse flexibility in configuring other test equipment and accessories. (optional)

Safety

- Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.
- Safety features against overload and overheating for continuous operation.
- Keypad lock function prevents accidental changes.

Ideal for digital controlled high performance stirring task.

Intelligent speed controller enables reproducible results under varying viscosity condition.



MSD-0420

Optional accessories
see page 172-173

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

Model		MSD-0420
Speed control		PID feedback control
Speed range (rpm)		80 to 2,000
Chuck range (mm / inch, dia)		3 to 10 / 0.1 to 0.4
Stirring capacity, Max. (L, H ₂ O)		20
Viscosity, Max. (cP) ¹⁾		5,000 (~2,000rpm) / 10,000 (~1,200rpm) / 30,000 (~300rpm) / 50,000 (~200rpm)
Torque, Max. (N-cm)		19
Motor rating input / output (W)		70 / 40
Material	Body / Cover / Motor	Powder coated aluminum / Polypropylene / BLDC
Dimension	Overall (WxDxH) (mm / inch)	75x215x150 / 2.9x8.5x5.9
	Net weight (Kg / lbs)	2.8 / 6.2
Protection class (DIN EN 60529)		IP30
Electrical requirements (230V 50/60Hz)		0.5A
Cat. No.		AAH373225K
Electrical requirements (120V 60Hz)		0.5A
Cat. No.		AAH373225U

1) Silicone oil with using 3-bladed propeller impeller(Ø50) under room temperature of 26°C, 60%RH, no load.
 * Permissible environmental conditions: temperature (5-40°C) and relative humidity (up to 80%).
 * Main body comes together with chuck handle and attaching rod.
 * Above specifications can be changed without prior notice.

Overhead Stirrers (Advanced)

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

Prestige touch LCD controller and practical external controller add it's superiority.



MSH-0512 with optional external controller

Optional accessories
see page 172-173

- External controller (cable type)
- Impellers, Stands, Support rods
- Clamps, Stirring seals



Performance

- Years of vibration-free and silent operation.
 - Equipped with a maintenance-free BLDC motor to generate smooth, quiet, and yet powerful stirring.
- Powerful torque capable of handling high viscosity tasks.
- Maintenance of constant motor speed by PID feedback control system even under conditions of changing viscosity.
- Best effort function intelligently manages its stirring speed to keep stirring even workload is out of its capacity.
- Prevention of accidental spills or splashes thanks to micro-processor controlled smooth start and stop functions.

Convenience

- Touch type LCD controller.
 - Various essential information are visible at once and intuitively controlled.
 - Set/present rpm and run time view, simple timer set. (max. 99 hr. 59 min.)
 - 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.
- Built-in USB port for external control and data collection.
 - Useful for PC control and data management task.
 - Lab Companion software and USB cable are provided as standard.

- Practical external controller.
 - Intuitive and easy control with color touch LCD.
 - It enables convenient and safe external control without opening the sash of the fume hood or safety cabinet.
- Compact and slim head design for diverse flexibility in configuring other test equipment and accessories. (optional)

Safety

- Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.
- Safety features against overload and overheating for continuous operation.
 - 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.
- Separated adapter from the main body minimizes the risks of electrical hazards to the users.
- Screen lock function prevents accidental changes during operation.

Model		MSH-0512	MSH-0520
Speed control		PID feedback control	
Speed range (rpm)		50 to 1,200	50 to 2,000
Chuck range (mm / inch, dia)		3 to 10 / 0.1 to 0.4	
Stirring capacity, Max. (L, H ₂ O)		100	60
Viscosity, Max. (cP) ¹⁾		5,000 (~1,200rpm) 10,000 (~1,200rpm) 30,000 (~1,200rpm) 50,000 (~700rpm)	5,000 (~2,000rpm) 10,000 (~1,600rpm) 30,000 (~600rpm) 50,000 (~300rpm)
Torque, Max. (N-cm)		41.6	20.8
Motor rating input / output (W)		71 / 48	
Material	Body / Cover / Motor	Powder coated aluminum / Polypropylene / BLDC	
Dimension	Overall (WxDxH) (mm / inch)	80x185x235 / 3.1x7.3x9.3	
	Net weight (Kg / lbs)	3.1 / 6.8	
Protection class (DIN EN 60529)		IP30	
Electrical requirements		AC 100 to 240V, 50/60Hz with power adapter	
Power consumption (W)		5.0 A	5.0 A
Cat. No.	KR Plug	AAH371415K	AAH371515K
	US Plug	AAH371415U	AAH371515U

1) Silicone oil with using 3-bladed propeller impeller(Ø50) under room temperature of 26°C, 60%RH, no load.

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

* Main body comes together with chuck handle and attaching rod.

* Above specifications can be changed without prior notice.

Accessories & Options

Impellers

Propeller impellers

Standard grade stainless steel with Teflon shaft produces an-axial flow stir between the bot-tom 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 bo-ttom shaped containers, medium mixing speed, and samples ranging from low to medium visco-sity 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



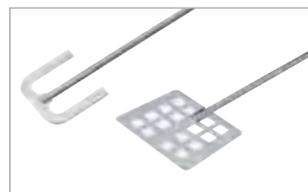
Propeller (3-bladed / 4-bladed)



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



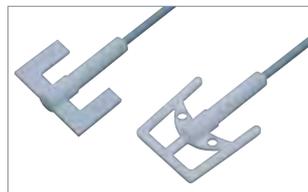
Propeller (4-bladed)



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

External controller for MSH



External controller for practical external control.

Real time external monitor and control of the current operating condition without opening the door of the enclosure.

Cat. No.	Description
AAA37591	External controller (3m cable) (WxDxH, 60x16x120 / 2.4x0.6x4.7")

Stands / Support rods



Dial stand / 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")
MSS0051	Support Rod, M14 (Ø15x500mm / Ø0.59x19.68")
MSS0052	Support Rod, M14 (Ø18x500mm / Ø0.71x19.68")
MSS0053	Support Rod, M14 (Ø20x500mm / Ø0.79x19.68")

Clamps / Others



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)