



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)

Ideal for digital controlled high performance stirring task.

Intelligent speed controller enables reproducible results under varying viscosity condition.



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.

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.

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.

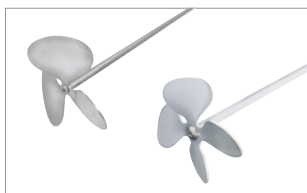
Half-moon impellers / Centrifugal impellers

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



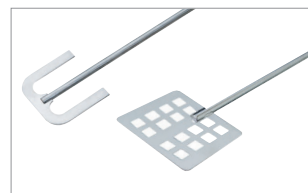
Propeller (3-bladed / 4-bladed)



Turbine / Dissolver



Half-moon / Centrifugal

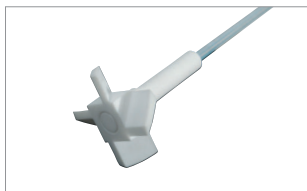


Anchor / Paddle

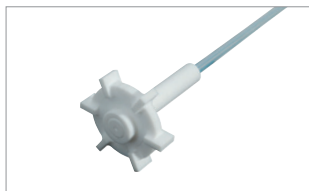
Cat. No.	Blade (WxH, mm / inch)	Shaft (Ø, mm / inch)	Length (mm / inch)
3-bladed propeller			
AAA37521	50 / 1.97	8 / 0.31	400 / 15.75
AAA37522	70 / 2.76	8 / 0.31	400 / 15.75
AAA37523	100 / 3.94	8 / 0.31	400 / 15.75
4-bladed propeller			
AAA37531	50 / 1.97	8 / 0.31	400 / 15.75
AAA37532	70 / 2.76	8 / 0.31	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

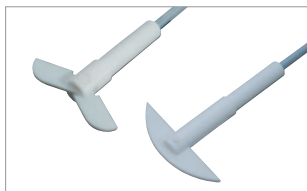
PTFE coated impellers



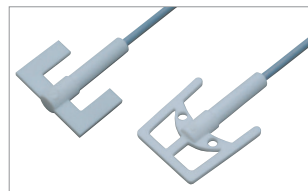
Propeller (4-bladed)



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

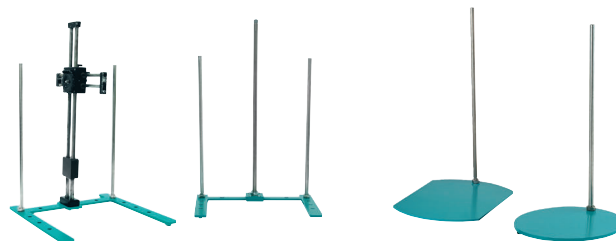


External controller for practical external control.

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



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)