

# 15. MIXER & MINI CENTRIFUGES

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# Tube Revolvers



<TR-01>



<TR-02U>



• Rotation Speed

- Small footprint, "Plug and Play" operation
- Includes five different interchangeable rotisseries
- Rotation direction can be changed by slightly touching the rotisseries
- Paddle angle is adjustable for different mixing purposes
- High quality, maintenance-free motor with quiet operation
- Temperature range 4~60°C suitable for refrigerator and incubator

Model	TR-01	TR-02U
Product Name	Fix Speed Tube Revolver	Variable Speed Tube Revolver with Digital Display
Rotation Speed	16rpm	10~40rpm
Capacity	84x0.5ml tubes, 60x1.5ml/2.0ml tubes, 28x5ml/7ml tubes, 24x10ml tubes, 6x50ml tubes	
Ambient	4~60°C	
Dimension External (WxDxH)	225x148x195mm / 8.86x5.83x7.68"	260x148x195mm / 10.24x5.83x7.68"
Power	4W	10W
Power Supply	220V, 60Hz	
Weight	0.8 kg	1 kg

• Standard Accessory

(Holder for Tubes): TRA01x2, TRA02x2, TRA03x2, TRA04x2, TRA05x1

## Accessories



Name	Part Number	PCS/Pack
Rotisserie Paddles for 10ml/15ml Tubes	TRA01	2



Name	Part Number	PCS/Pack
Rotisserie Paddles for 5ml/7ml Tubes	TRA02	2



Name	Part Number	PCS/Pack
Rotisserie Paddles for 1.5ml/2ml Tubes	TRA03	2



Name	Part Number	PCS/Pack
Rotisserie Paddles for 0.5ml/0.8ml Tubes	TRA04	2



Name	Part Number	PCS/Pack
Rotisserie Paddles for 50ml Tubes	TRA05	1



Name	Part Number	PCS/Pack
Magnetic Platform	TRA07	1



Name	Part Number	PCS/Pack
Metal Strip for Liquid Mixing in Bag	TRA08	4

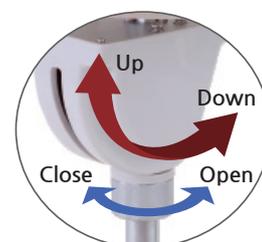
# Tube Rotator

The tube rotator is an ideal instrument for numerous applications where high efficiency and consistent mixing are needed. A common place for this instrument is clinical, research and teaching laboratories. This instrument is available in an economical fixed speed model and a variable speed model with timer.

- Circular rotating action, gives gentle but effective mixing
- Designed with a small footprint
- Temperature range 5~40°C suitable for refrigerator and incubator
- Various types of tube holders are available to meet the needs of every customer
- Cold room and incubator compatible



<TR-03>



- Easy to adjust angle



<TR-04U>

Model	TR-03	TR-04U
Product Name	Standard Tube Rotator	Digital Tube Rotator
Speed Range	20rpm	2~80rpm
Speed Accuracy	N/A	±1rpm
Tilt Angle	90°~180°	
Timer Range	N/A	0~99h59min
Carousel Diameter	φ250mm	15x50ml Tube carousel Diameter: φ290mm
Carousel Capacity	12x50ml/18x15ml/48x2ml/9x50ml & 9x15ml & 12x2ml	
Display	N/A	LCD
Ambient Temperature	5°C~40°C	
Relative Humidity	≤80%	
Power Supply	AC220V, 50Hz	
Max. Power	11W	6W
Dimension External (W×D×H)	334x215x405mm / 13.15x8.46x15.94"	
Net Weight	3.5kg	4kg
Protection Level	IP21	

# 15. Mixer & Mini Centrifuges

The high profile tube rotator is a versatile instrument able to accommodate a wide range of tube sizes, mixing speeds & angles to accomplish many mixing applications.

- Digital microprocessor control;
- Temperature range 5~40°C suitable for refrigerator and incubator
- Adjustable speed provides gentle or vigorous mixing action;
- Adjustable angled head offers mixing angles from 95~180°;
- Timer features both time up and time down counting modes;
- Continue to run by last set speed and the remaining time when the power recovered;
- Audible and visual alarm: In timed mode, alarm will sound 5 times and then the time window shows "End" and flicker 5 times when the time reaches zero, then alarm stops.



Note: Lift the black handle and turn the angle.

<TR-05U>

Model	TR-05U
Product Name	High Profile Tube Rotator
Speed Range	5~80rpm
Speed Accuracy	±1rpm
Tilt Angle	95°~180° Six steps : 95°, 112°, 129°, 146°, 163°, 180°
Timer Range	0~99h59min
Carousel Diameter	15x50ml Tube carousel Diameter: φ290mm
Carousel Capacity	50x9~11mm Tube (1.5/2ml), 30x14~18mm Tube (15ml) 15x27~34mm Tube (50ml) 、 10x10~15ml, 20x5~7ml Tube 64x18.5mm Drum Carousel, 64x14mm Drum Carousel
Display	LED
Ambient Temperature	5°C~40°C
Relative Humidity	≤80%
Power Supply	AC100~240V, 50/60Hz
Max. Power	8W
Dimension External (W×D×H)	440x296x466mm / 17.32x11.65x18.35"
Net Weight	8.1kg
Protection Level	IP21

• Standard Accessory



<TRA22>  
For TR-03/04U  
Capacity: 12X50ml

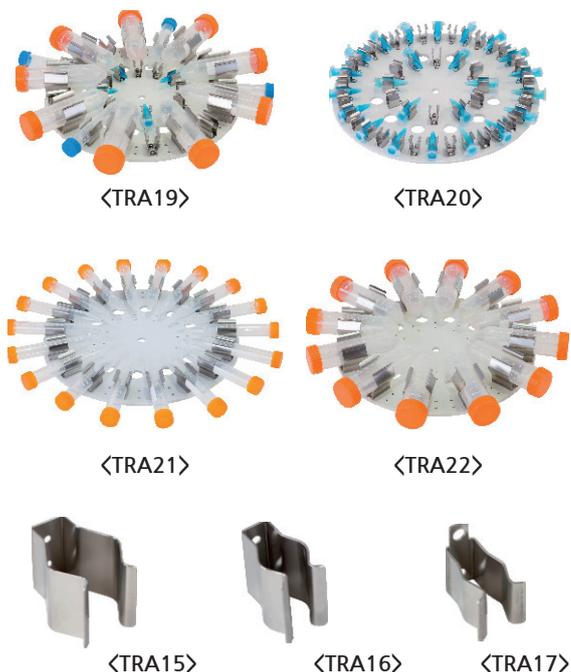


<TRA25>  
For TR-05U  
Capacity: 15X50ml

\*Please refer to page 179 for accessories.

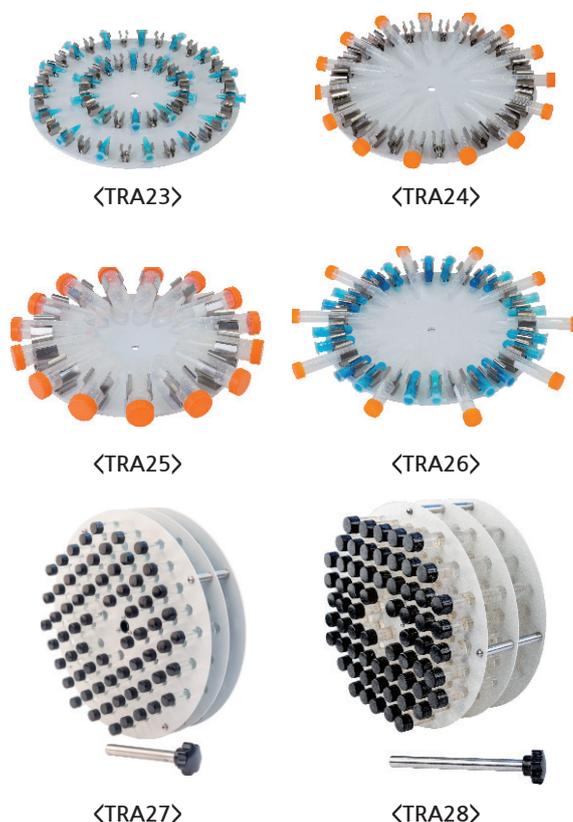
## Accessories for Standard Tube Rotator & Digital Tube Rotator (TR-03 & TR-04U)

Name	Part Number	Capacity
Working Plate for Multi-Tubes (Φ250mm / Φ9.84")	TRA19	9x50ml / 9x15ml / 12x2ml
Working Plate for 2ml Tubes (Φ250mm / Φ9.84")	TRA20	48x2ml
Working Plate for 50ml Tubes (Φ250mm / Φ9.84")	TRA22	12x50ml
Tube Holders for 50ml Tubes (Φ250mm / Φ9.84")	TRA15	N/A
Tube Holders for 15ml Tubes (Φ250mm / Φ9.84")	TRA16	N/A
Tube Holders for 2ml Tubes (Φ250mm / Φ9.84")	TRA17	N/A



## Accessories for High Profile Tube Rotator (TR-05U)

Name	Part Number	Capacity
1.5/2.0ml rotator assembly	TRA23	50x1.5ml / 50x2ml
15ml rotator assembly	TRA24	30x15ml
50ml rotator assembly	TRA25	15x50ml
10/15ml + 5/7ml assembly	TRA26	10x10ml / 10x15ml + 20x5ml / 20x7ml
Drum for 14mm culture tubes Dia. 14mm	TRA27	64x14ml
Drum for 18.5mm culture tubes Dia. 18.5mm	TRA28	64x18.5ml



# Mini Roller



<Standard Mini Roller MR-02U>



<Stackable Mini Roller MR-01U>

- Variable speed to accommodate numerous applications
- Anti-corrosive and wear-resistant construction for use in humid and CO<sub>2</sub> environments
- Easy to add or remove rolls to fit different sized tubes or bottles
- Stackable mechanism allows two units to be stacked for space savings
- Remote control box makes it easy to operate the unit while it is in an incubator
- Temperature range 5~40°C suitable for refrigerator and incubator

Horizontal Line  
18mm  
(0.7")  
Swing Dimensions



<MR-03U(MR-03U Combining both rolling and swinging motion)>

Model	MR-01U	MR-02U	MR-03U
Product Name	Stackable Mini Roller	Standard Mini Roller	3D Mini Roller
Roller Bars	MRA01x6 bars (Optional 11)	MRA02x20, MRA03x20	MRA07x11bars MRA02x20, MRA03x20
Roller Speed	0.5~80rpm		
Operating Mode	Way forward		
Roller Dimensions(DxL)	Φ28mmx259mm / 1.10x10.20"		
Swing of Roller Bars	N/A	18mm / 0.71"	
Available Tubes or Bottles	≤Φ120 Max. Ø120mm bottles; tubes		
Positions	3 standard 1500ml flaks, or tubes in any position when see fit		
Max.Load	6.5kg		
Ambient	5°C~60°C		
Relative Humidity	≤95%		
Display	LED		
Timer (Control Box)	0~999min or continuous		
Dimension External (W×D×H)	378x360x72mm / 378x360x72"		
Power	10W		
Power Supply	220V, 60Hz		
Weight	6.5kg		
Stacking	Optional	N/A	Optional

## Accessories



Name	Part Number	Note
Roller	MRA01	N/A



Name	Part Number	Note
3D Rocker Roller	MRA07	N/A



Name	Part Number	Note
O Ring	MRA02	1 Set 20PCS 23.5x3.6



Name	Part Number	Note
O Ring	MRA03	1 Set 20PCS 13.2x2.7



Name	Part Number	Note
Bar for Stacking	MRA04	1 Set 4PCS



Name	Part Number	Note
Control Box	MRA05	1PCS

# Vortex Mixers



<VM-01U>

Vortex Mixer with Digital Controller  
Timer and Analog Adjusted Speed



<VM-02U>

Vortex Mixer with Digital Controlled  
Timer and Speed



Vortex Mixers are essential research lab instruments used for mixing & stirring in a variety of applications. Our strict quality control and manufacturing processes ensure every vortex mixer is precise, accurate and easy to use. These mixers conform to international design specifications and safety regulations to protect the user and environment.

- Ergonomically designed
- Brushless DC motor drive for long life
- Three operation modes: touch control, timed, or continuous mode
- Constant torque within full range of speed
- Counter balance design for minimal body vibration
- Universal Head for a wide variety of mixing applications
- Temperature range 5~40°C suitable for refrigerator and Incubator

Model	VM-01U	VM-02U
Operation Mode	Touch Control, Timed or Continuous Run	
Orbital Diameter	Circular Orbit, 4.5mm Dia.	
Stirring Speed	200~3000rpm	
Speed Display	Panel Marker	LED Digital Display
Timing Display	LED	
Dimension of Standard Platform	Φ76mm / 2.99"	
Max. Load	0.5 kg	
Ambient	5~40°C	
Relative Humidity	<80%	
Dimensions(WxDxH)	205x155x108mm / 8.07x6.10x4.25"	
Power	24W	
Power Supply	220V, 60Hz	
Weight	4 kg	

• **Standard Accessory**

VMA01x1, VMA02x1, VMA04x1, VMA05x1

## Accessories



Name	Part Number	Dimensions	Description
Head for Single Tube	VMA01	Φ82x16.5mm 3.23x0.65"	Concave shape prevents tube from slipping out.



Name	Part Number	Dimensions	Description
Adaptor	VMA02	Φ82x19mm 3.23x0.75"	It is used for listed accessories to be adapted so that multi-tubes can be stirred.



Name	Part Number	Dimensions	Description
Shim Clamps	VMA03	97x85x32mm 3.82x3.35x1.26"	Used with EVA shims in big size.



Name	Part Number	Dimensions	Description
Multi-Tube Platform	VMA04	Φ87.5x30mm 3.44x1.18"	Used with VMA02 accessory, it can hold 7 tubes (12mm diameter).



Name	Part Number	Dimensions	Description
Multi-Tube Platform	VMA05	Φ87.5x30mm 3.44x1.18"	Form block for customer to drill holes of desired diameters.



Name	Part Number	Dimensions	Description
Microplate Holder	VMA06	136x92x15mm 5.35x3.62x0.59"	Holds microplate.



Name	Part Number	Dimensions	Description
Shim Clamps	VMA07	160x120x40mm 6.30x4.72x1.57"	Mounted on shim clamps to hold elisa plate.



Name	Part Number	Dimensions	Description
Combinational shims	VMA08	Φ140x40mm Φ5.51x1.57"	Mounted on shim clamps; available tube in varied.



Name	Part Number	Dimensions	Description
PCR Shims	VMA09	130x85x22mm 5.12x3.35x0.87"	Used on PCR, with shim clamps and elisa plate shim.

• Customized tube holders are available according customer's specification.

# Vortex Mixers



<VM-03U>



<VM-03RU>



<VM-03GU>



<VM-03PU>

- Extremely compact and easy operation
- Powerful vortexing for tubes up to 30mm
- Head is made of durable material to ensure long life
- Refined steel base is designed to ensure product stability
- Choice of different colored working head

Model	VM-03U	VM-03RU	VM-03GU	VM-03PU
Product Name	Mini Vortex Mixer			
Color	Blue	Red	Green	Purple
Oscillation Mode	Circumference Oscillation			
Orbital Diameter	Φ4.5mm / Φ0.18"			
Max. Capacity	80ml			
Max. Tube Diameter	Φ30mm / Φ1.18"			
Speed	3000rpm			
IP rating(DINEN 60529)	IP40			
Ambient	5~40°C			
Dimension External (ΦxH)	96x85mm / 3.78x3.35"			
Power	5W			
Power Supply	220V, 60Hz			
Weight	0.55 kg			

## Accessories



Name	Part Number
Red Cap	VMA11



Name	Part Number
Green Cap	VMA13



Name	Part Number
Blue Cap	VMA12



Name	Part Number
Purple Cap	VMA14

## 3D Nutating Shaker



The 3D nutating shaker product is an economical mini 3D shaker for mixing samples with the combined motions of an orbital shaker and a rocker. This provides a gentle yet thorough mixing of the sample.

- Small footprint and an elegant design;
- 3D motion generates thorough and gentle mixing;
- Dimpled non-skid mat holds tubes firmly in place
- Temperature range 5~40°C suitable for refrigerator and Incubator

Model	NS-01
Speed	20rpm
Tilt Angle	20°
Max. Load	0.8 kg
Ambient	5°C~40°C
Relative Humidity	≤80%
Platform Dimensions	260x260mm / 10.24x10.24"
Dimension External (LxWxH)	260x260x190mm / 10.24x10.24x7.48"
Max. Power	20W
Power Supply	220V, 60Hz
Weight	1.8 kg

### • Standard Accessory

NSA01x6

## Accessories

### <Rubber Strips>



Part Number	Specifications
NSA01	WxD: 180x7mm / 7.09x0.28"

# 20° 3D Digital Nutating Mixer



20° Digital Nutating Mixer variable speed Nutating shaker/mixer is well suited for many routine laboratory applications including gentle mixing of western blots.

- Variable speed from 2~60rpm offers gentle continuous mixing of samples
- Low-profile, compact design enables placement at every workstation 327x289mm, platform accommodates a variety of tubes and vessels
- Operating Ambient temperature range up to 40°C; Continuous or timed operation with automatic switch-off
- Audible and visual alarm: In timed mode, alarm will sound 5 times and then the time window shows "End" and flicker 5 times when the time reaches zero
- Quiet operation
- Temperature range 5~40°C suitable for refrigerator and incubator

Model	NS-11U
Speed Range	2~60rpm
Speed Accuracy	1rpm
Tilt Angle	20°
Timer	0~99h 59min
Platform Dimensions	307x267mm / 12.09x10.51"
Display	LED
Dimension External (LxWxH)	440x296x255mm / 17.32x11.65x10.04"
Max. Load	0.8kg
Power Supply	220V, 60Hz
Weight	7.4 kg

- **Standard Accessory**  
NSA01x6, NSA02x1

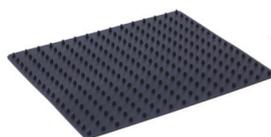
## Accessories

### <Rubber Strips>



Part Number	Specifications
NSA01	WxD: 180x7mm / 7.09x0.28"

### <Dimpled Rubber Mat>



Part Number	Specifications
NSA02	WxD: 298x258mm / 11.73x10.16"

# 20° 3D Nutating Mixer



The Nutating mixer is an economical choice for many routine laboratory applications that require gentle yet thorough mixing.

- Compact; fits on any flat surface or benchtop
- Temperature range 5~40°C suitable for refrigerator and incubator
- Load capacity: 0.8kg
- Tubes can be placed on dimpled rubber mat without additional strapping
- Rubber mat is removable for easy cleaning
- Maintenance-free
- Very quiet

Model	NS-10
Speed Range	20rpm
Speed Accuracy	1rpm
Tilt Angle	20°
Timer	0~99h59min
Platform Dimensions	307x267mm / 12.09x10.51"
Display	LED
Dimension External (LxWxH)	440x296x261mm / 17.32x11.65x10.28"
Max. Load	0.8kg
Power Supply	220V, 60Hz
Weight	5.9 kg

• **Standard Accessory**  
NSA01x6, NSA02x1

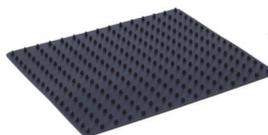
## Accessories

### <Rubber Strips>



Part Number	Specifications
NSA01	WxD: 180x7mm / 7.09x0.28"

### <Dimpled Rubber Mat>



Part Number	Specifications
NSA02	WxD: 298x258mm / 11.73x10.16"

# 7° 3D Digital Nutating Mixer



The 7° Digital Nutating Mixer has an expanded speed range and low tilt angle to meet any labs most demanding mixing applications.

- Variable speed: 2~80rpm
- The adjustable and gentle motion is ideal for many staining applications
- Includes a large platform and non-slip mat
- Low voltage power supply provides safe cold room operation and low energy consumption
- Temperature range 5~40°C suitable for refrigerator and Incubator
- Continuous or timed operation with automatic switch-off
- Continue to run by last set speed and the remaining time when the power recovered
- Audible and visual alarm: In timed mode, alarm will sound 5 times and then the time window shows
- "End" and flicker 5 times when the time reaches zero

Model	NS-12U
Speed Range	2~80rpm
Speed Accuracy	1rpm
Tilt Angle	7°
Timer	0~99h 59min
Platform Dimensions	307x267mm / 12.09x10.51"
Display	LED
Dimension External (LxWxH)	440x296x189mm / 17.32x11.65x7.44"
Max. Load	0.8kg
Power Supply	220V, 60Hz
Weight	7.3 kg

• Standard Accessory  
NSA01x6

## Accessories

<Rubber Strips>



Part Number	Specifications
NSA01	WxD: 180x7mm / 7.09x0.28"

# Multi Modes Nutating Mixer



Multi Modes Nutating Mixer with the greatest speed range and additional features such as reciprocal motion mode & vibration modes to achieve the utmost of sample mixing.

- Variable speed: 5~100rpm
- Reciprocal rotation: 0°~360° turning angle for long and medium way motion
- Vibration: 0°~ 5° turning angle, programmable in bursts of 0 to 5 seconds, for short wave motion
- Temperature range 5~40°C suitable for refrigerator and Incubator
- Continuous or timed operation with automatic switch-off
- Continue to run by last set speed and the remaining time when the power recovered
- Audible and visual alarm: In timed mode, alarm will sound 5 times and then the time window shows "End" and flicker 5 times when the time reaches zero, then alarm stops

Model	NS-13U
Speed Range	5~100rpm
Speed Accuracy	1rpm
Turning Angle(reciprocal mode)	0~360°
Turning Angle(vibration mode)	0~5°
Tilt Angle	7°
Timer (orbital/360° vertical or reciprocal mode)	0~250 sec
Timer (vibration mode)	0~5 sec
Time of cycles	0~250sec
Ambient	5°C~40°C
Platform Dimensions	307x267mm / 12.09x10.51"
Display	LED
Dimension External (LxWxH)	440x296x226mm / 17.32x11.65x8.90"
Max. Load	1 kg
Power Supply	220V, 60Hz
Weight	6.7 kg

• **Standard Accessory**  
NSA01x6, NSA02x1

## Accessories

### <Rubber Strips>



Part Number	Specifications
NSA01	WxD: 180x7mm / 7.09x0.28"

### <Dimpled Rubber Mat>



Part Number	Specifications
NSA02	WxD: 298x258mm / 11.73x10.16"

# 3D Adjustable Rocker



Adjustable rockers are a popular laboratory instrument capable for gently mixing solutions, blotting, staining applications.

- Variable speed: 1~50rpm; Adjustable tilt angle: 1~15°
- Automatic load balancing system
- Continuous or timed operation with automatic switch-off
- Easy to read LED display
- Simple set up and easy to operate
- Continue to run by last set speed and the remaining time when the power recovered
- Temperature range 5~40°C suitable for refrigerator and incubator

Model	NS-14U
Speed Range	1~50rpm
Speed Accuracy	1rpm
Tilt Angle	1~15° (adjustable in 1° increments)
Timer	1s~9999min
Platform Dimensions	307x297mm / 12.09x11.69"
Display	LED
Dimension External (WxDxH)	440x296x209mm / 17.32x11.65x8.23"
Max. Load	4.5 kg
Power Supply	220V, 60Hz
Weight	11 kg

- **Standard Accessory**  
NSA01x6, NSA02x1

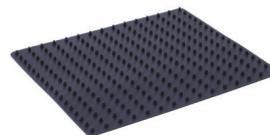
## Accessories

### <Rubber Strips>



Part Number	Specifications
NSA01	WxD: 180x7mm / 7.09x0.28"

### <Dimpled Rubber Mat>



Part Number	Specifications
NSA02	WxD: 298x258mm / 11.73x10.16"

### <Stacking Tray Assembly>



Part Number	Specifications
NSA04 (Optional)	WxD: 307x267x109mm / 12.08x10.51x4.29"

## 2D Rocker



The 2D Rocker is excellent for gentle mixing of samples, solutions, reagents and especially western blots. It has a high quality quality motor for durability and ultra quiet operation. Space saving design and simple to use operation make this a popular item for any laboratory.

- Compact shape, simple operation
- Large platform included to accommodate many applications
- Available with variable speed, timer & LED display functions
- Ultra quiet operation
- Temperature range 5~40°C suitable for refrigertator and Incubator

Model	NS-04	NS-05U
Speed	20rpm	2~80rpm
Speed Control	N/A	1rpm
Tilt Angle	±10°	
Platform Dimensions	307x297mm / 12.09x11.69"	
Ambient	5°C~40°C	
Time Range	N/A	0~99h 59min
Display	N/A	LED
Dimension External (W×D×H)	355x240x123mm / 13.98X9.45X4.84"	
Max. Power	4W	10W
Weight	4.5 kg	6 kg

• Standard Accessory  
NSA01x6, NSA02x1

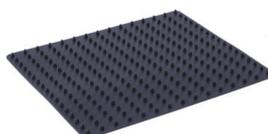
## Accessories

### <Rubber Strips>



Part Number	Specifications
NSA01	WxD: 180x7mm / 7.09x0.28"

### <Dimpled Rubber Mat>



Part Number	Specifications
NSA02	WxD: 298x258mm / 11.73x10.16"

# Magnetic Stirrer (Motorless Driven Mechanism)



<MS-01U>

• Key pad Magnetic Stirrer



0001~0005

• Selectable 5 levels per viscosity



<MS-01TU>

• Touch-pad Magnetic Stirrer



0001~0005

• Selectable 5 levels per viscosity

The MS1 series of Magnetic Stirrers are available with either an LED keypad or LCD touchpad control. The rotating magnetic field of these stirrers is generated by a wear-free magnetic driver with no moving parts for a reliable, durable, and maintenance-free operation. Each stirrer has a wide range of speed and magnetic strengths which are adjustable to meet the demands of stirring solutions with different volume and viscosities.

- Elegant design with digital control and display
- Motorless driven mechanism for quiet and maintenance-free operation
- Five power levels for mixing liquids with high viscosities
- Constructed of corrosive resistant materials for easy clean-up and long operational life
- Temperature range 5~40°C suitable for refrigerator and Incubator

Model	MS-01U	MS-01TU
Stirring Speed	80~2000rpm	
Speed Resolution	10rpm	
Display Screen	LED	LCD Touch Screen
Number of Stirring Positions	1	
Maximum Capacity	2000ml	
Standard Stirring Bar	Φ12x30mm / Φ0.47x1.18"	
Max. Length for Stir Bar	≤50mm	
Ambient	5°C~40°C	
Platform Dimensions	140x140mm / 5.51x5.51"	
Outside Dimensions(WxDxH)	160x200x48mm / 6.30x7.87x1.89"	
Max. Power	10W	
Power Supply	220V, 60Hz	
Weight	1 kg	

• Standard Accessory  
MSA04x1

## Accessories

<Stirrer Bar>



Name	Part Number	Specifications
MSA04	Stirrer Bar	Φ12x30mm / 0.47x1.18"

# Low profile Magnetic Stirrer

## (Motorless Driven Mechanism)



This product can be used in medical, biotechnology, chemistry and other research fields. It is designed with small size and high grade of waterproofing.

- High level of waterproofing protection
- Motorless driven mechanism for quiet and maintenance-free operation
- Sleek low profile design
- Temperature range 5~40°C suitable for refrigerator and Incubator

Model	MS-01FU
Speed	15~1500rpm
Max.Capacity	500ml
Max. Length of Stir Bar	≤30mm
Platform Dimensions	110x110mm / 4.33x4.33"
Max.Load	2 kg
IP rating(DIN EN 60529)	IP45(EN60529)
Ambient	5~40°C
Relative Humidity	≤80%
Dimension External (W×D×H)	175x125x20.5mm / 6.89x4.92x0.81"
Max. Power	6W
Power Supply	220V, 60Hz
Weight	0.3 kg

- Standard Accessory  
MSA05x1

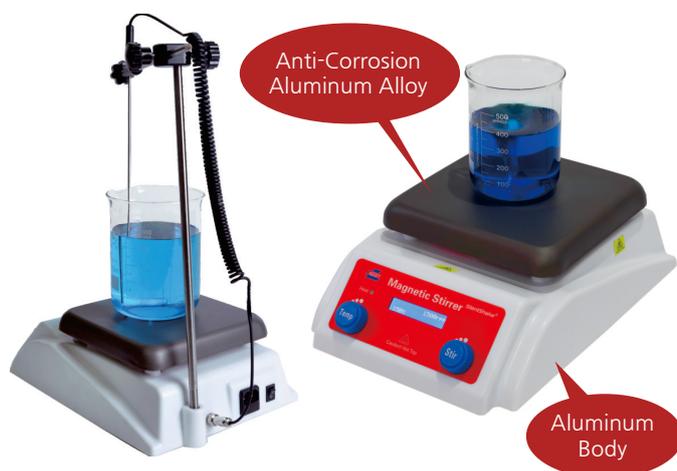
## Accessories

<Stirrer Bar>



Name	Part Number	Specifications
MSA05	Stirrer Bar	Φ7x20mm / 0.28x0.79"

# Digital Controlled Stirring Hotplates



This product is ideal for general lab applications such as mixing reagents, stirring bacteriological cultures. Its hot plate is made of high grade aluminum alloy with an anodized surface which is resistant to corrosion. The aluminum body and brushless motor provide maintenance free operation.

- It takes only 8 minutes to raise the plate's temperature from ambient to 300°C
- Brushless DC motor provides accurate stirring speed and maintenance free operation
- Strong magnets prevent loss of stirring speed
- Warning light flashes when plate is hot
- Automatic shut off while plate's temperature exceeds 350°C or no indication of temperature rise after 30 seconds of heating
- Anodized plate surface keeps it resistant to corrosive

Model	MS-01H
Stirring Speed	80~1500rpm
Speed Resolution	10rpm
Display	LCD
Speed Accuracy	1rpm
Maximum Capacity(Water)	10 L
Max. Length for Stir Bar	≤80mm
Plate Temp.	Ambient +5°C~300°C
Temperature Deviation	@100°C:≤±10°C
Temperature Fluctuation	@100°C:≤±5°C
Temperature Resolution	5°C
Shut off Temperature	360°C
Platform Dimensions	175x175mm / 6.89x6.89"
Ambient	5°C~40°C
Dimension External (WxD×H)	355x240x121mm / 13.98x9.45x4.76"
Max. Power	1000W
Power Supply	220V, 60Hz
Weight	4.5 kg

## • Standard Accessory

MSA15x1

## Accessories

### <Stirrer Bar>



Name	Part Number	Specifications
MSA15	Stirrer Bar	Φ12x50mm / 0.47x1.97"

# Economical Magnetic Stirrers



- Max. stirring quantity 10L
- Variable speed adjustment. MS-01DU includes timing function
- DC motor provides accurate and stable stirring speed
- Previous setting will be automatically saved when restarting the unit
- ABS plastic working plate with excellent durability and chemical resistance
- Exterior specifically designed to prevent leaking

Model	MS-01AU	MS-01DU
Stirring Speed	0~1500rpm	80~1500rpm
Speed Accuracy	1rpm	
Maximum Capacity(Water)	10 L	
Stir Bar in Standard Package	≤80mm	
Max. Length for Stir Bar	≤80mm	
Platform Dimensions	175x175mm / 6.89x6.89"	
Display	N/A	LCD
Timer	N/A	0~99h59min
IP rating (DIN En60529)	IP21 (DINEN60529)	
Ambient	5°C~40°C	
Dimension External (W×D×H)	355x240x121mm / 13.98x9.45x4.76"	
Max. Power	7.5W	12W
Power Supply	220V, 60Hz	
Weight	2.5 kg	3 kg

• Standard Accessory  
MSA15x1

## Accessories

<Stirrer Bar>



Name	Part Number	Specifications
MSA15	Stirrer Bar	φ12x50mm / 0.47x1.97"

# Position Magnetic Stirrer

## (Motorless Driven Mechanism)



<MS-05H>



<MS-10H>



<MS-15H>

195

Our Multi-Position Hot Plate Stirrers have an elegant space saving design. Simple to use right out of the box with variable speed and temperature. Ideal for any laboratory that uses stirring, mixing & temperature controlled applications.

- Utilizing electric film provides fast heating speed & temperature uniformity
- Heat and stir a variety of beaker or flask sizes
- High quality brushless DC motor provides excellent durability & quiet operation
- The exterior is made of aluminum alloy which has high temperature resistance, corrosion protection and good insulation properties
- Elegant working plate is made of pyroceram
- Using SCM to control motor speed which is smooth at low speed and strong at high speed
- Built-in electronic voltage regulator circuit, using silicon controlled to regulate heating

Model	MS-05H	MS-10H	MS-15H
Stirring Speed	0rpm, 100~1200rpm		
Temp. Range	Ambient +5°C~120°C		
Max. Capacity (water)	500ml		
Standard Stir Bar	Φ12x30mm(1 pcs) / Φ0.47x1.18"		
Platform Dimensions	475x95mm 18.70x3.74"	475x190mm 18.70x7.48"	475x285mm 18.70x11.22"
Platform Material	Black glass-ceramic		
Number of Stirring Positions	5	10	15
Distance between stirring positions	95mm / 3.74"		
Max. Length for Stir Bar	≤50mm		
Max. Power	220W	450W	660W
Ambient	5°C~40°C		
Humidity	<90%		
Weight	4.5kg	7.1kg	10kg
Dimension External (WxDxH)	130x612x78mm 5.12x24.09x3.07"	214x612x78mm 8.43x24.09x3.07"	310x612x78mm 12.20x24.09x3.07"

### • Standard Accessory

MS-05H : MSA04x5    MS-10H : MSA04x10    MS-15H : MSA04x15

## Accessories

### <Stir Bar Retrievers>

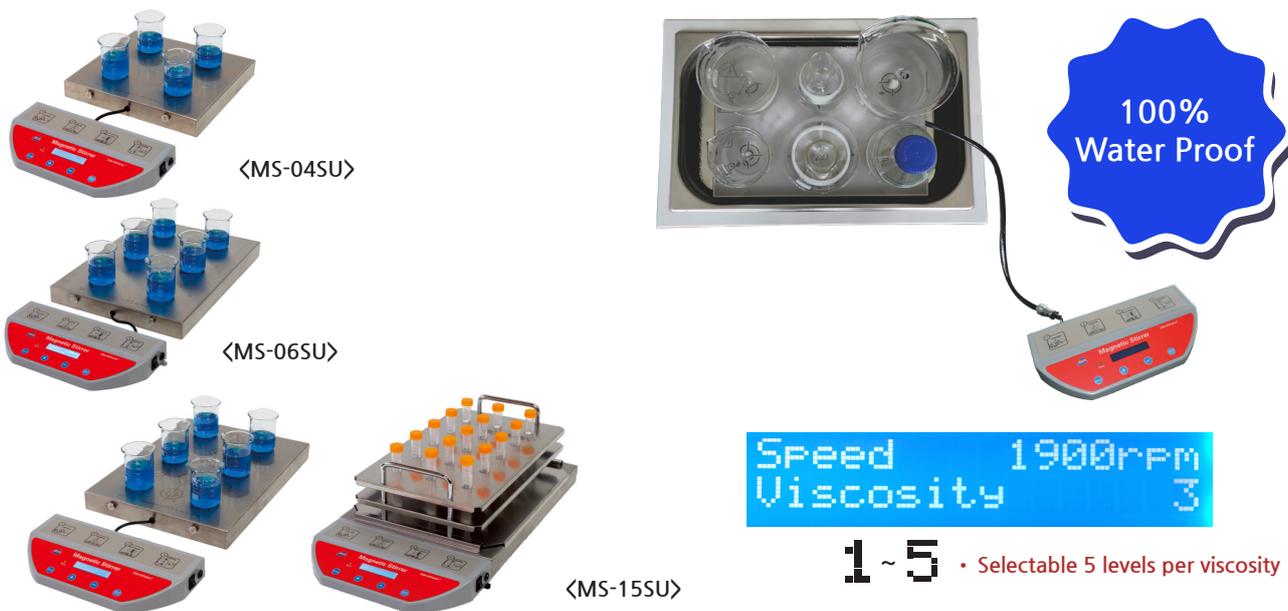


### <Stirrer Bar>



Name	Part Number	Specifications
MSA01	Stir Bar Retriever	Φ7x300mm / 0.28x11.81"
MSA02	Stir Bar	Φ8x50mm / 0.31x1.97"
MSA03		Φ10x40mm / 0.39x1.57"
MSA04		Φ12x30mm / 0.47x1.18"
MSA05		Φ7x20mm / 0.28x0.79"
MSA06		Φ6x15mm / 0.24x0.59"
MSA15		Φ12x50mm / 0.47x1.97"

# Position Magnetic Stirrer



This multi-position magnetic stirrer is designed for the parallel and series experiment. The front control panel has the ability to detach from the main unit. This unique feature allows the main stirring based to be placed & operated in a water bath. An ideal and versatile instrument for many lab applications.

- Super-flat stainless steel plate protects against intrusion and guarantees reliability
- Fully closed body is able to stir in a water bath
- Magnetic coils drive mechanism provides long & quiet operation
- Five levels of stirring power provide excellent mixing capability, including liquids with high viscosity
- Previous setting will be automatically saved when restarting the unit
- Exterior is specifically designed to prevent leaking

Model	MS-04SU	MS-06SU	MS-15SU
Stirring Speed	80~2000rpm		
Number of Stirring Positions	4	6	15
Distance between stirring positions	128mm / 5.04"		64mm / 2.52"
Maximum Capacity(Water)	1000ml		500mlx8, 200mlx15
Standard Stirring Bar	Φ12x30mm(1 pcs) / Φ0.47x1.18"		Φ6x15mm(1 pcs) / Φ0.25x0.59"
Max. Length for Stir Bar	≤50mm		≤20mm
Viscosity Level	5		
Platform Dimensions	250X270mm / 9.84x10.63"	385X270mm / 15.16x10.63"	
Platform Material	SUS304 Stainless steel		
IP rating(DINEN60529)	IP21(Line of Control), IP68S(Host Module)		
Ambient	5℃~50℃ (Water), 5℃~40℃ (Air)		
Dimension External (W×D×H)	280X398X40mm / 11.02x15.67x1.57"	280X528X40mm / 11.02x20.79x1.57"	
Max. Power	30W	45W	
Power Supply	220V, 60Hz		
Weight	6.5 kg	10 kg	

• Standard Accessory  
MSA04x1

## Accessories

Name	Part Number	Note
 Ø25 Hole Tube Rack for MS-15SU	MSA10	15xΦ30hole

Name	Part Number	Note
 Ø20 Hole Tube Rack for MS-15SU	MSA11	15xΦ20hole

Name	Part Number	Note
 Ø16 Hole Tube Rack for MS-15SU	MSA12	15xΦ16hole

- MS-04SU, MS-06SU speed parameters to Ø 12×30 stirring in an aqueous solution containing the full scale of 1L beaker to work as a standard, MS-15SU speed parameters to 5×15 stirring in an aqueous solution containing 100ml beaker full scale to work as a standard.

# Mini Centrifuges



<MLX-104>



<MLX-106>



<MLX-110>

Our mini centrifuges are essential laboratory equipment used in clinical, environmental and industrial research. These personal centrifuges are ideal for quick spins, microfiltration of samples, cell separations and many other routine laboratory procedures.

- Ergonomically designed with a small footprint
- High grade plastic cover for clear visibility; Smooth and quiet operation
- Automatic stop when lid is opened
- Digital control delivers precise speed
- Fit a variety of tubes with included accessories

Model	MLX-104	MLX-106	MLX-110
Rotating Speed	4000rpm	6000rpm	10000rpm
G-force(RCF)	900g	2000g	5000g
Noise Level	≤60dB	≤60dB	≤60dB
Shell color	Pink	Milky white	Blue
Safety Features	Stop at Opening		
Ambient	5~40°C		
Relative Humidity	≤80%		
Dimension External (W×D×H)	155x140x115mm / 6.10x5.51x4.53"		
Power Supply	220V, 60Hz		
Weight	1 kg		

## • Standard Accessory

Heads 0.2ml 8-Place PCR Strip Rotator

## Accessories



Name	Part Number
Adaptor for 0.5ml Centrifuge Tube	MLXF 1



Name	Part Number
Adaptor for 0.2ml Centrifuge Tube	MLXF 2



Name	Part Number
0.2ml 8-Place PCR Strip Rotator	MLXF 3



Name	Part Number
1.5ml 6-Place Rotator	MLXF 7

# Mini Centrifuges



The unit comes with three rotors and switchable dual speeds. It can operate in one of three different modes ( timed, touch control and continuous ). Its LED ring indicates operation status. The LED ring color can be selected or turned off by a switch underneath the unit.

- Elegant design and contemporary appearance
- Switchable dual speeds: 6000~9200rpm
- Multi rotors provided for different centrifuge tube
- Three operation modes are selectable
- Automatical locking mechanism for safe operation
- Wide voltage range (100-240 VAC)
- Color LED ring illuminates while unit is active

Model		MLX-200F		
Rotating Speed		6000rpm		9200rpm
Rotor	G-force(RCF)	5ml	2414g	5677g
		1.5ml	2012g	4731g
		0.2ml	1509g	3549g
Operation Mode		Touch control or continuous or timer (0~15minute)		
LED Color Selection		Green, Blue, Red or Off		
Safety Feature		Stop at Opening		
Noise Level		≤60dB		
Ambient		5℃~40℃		
Relative Humidity		≤80%		
Dimension External (W×D×H)		187x240x139mm / 7.36x9.45x5.47"		
Power Supply		220V, 60Hz		
Weight		1.8 kg		

**Standard Accessory**

Rotators 4x5ml/8x1.5ml/16x0.2ml(0.2ml 8-Place PCR Strip Rotator)

## Accessories

Name	Part Number
0.2ml 8-Place PCR Strip Rotator	MLXF-6



Name	Part Number
8x1.5ml Roter	MLXF-4



Name	Part Number	Outer Dimensions of Tube
4x5ml Roter	MLXF-5	φ14.5mm~φ15.5mm / φ0.57~φ0.61"
4x5ml Roter	MLXF-8	φ16.3mm~φ16.7mm / φ0.64~0.66"