

# Intelli-Stirrer MSH-300i, Magnetic Stirrer with hot plate

## DESCRIPTION

**Intelli-Stirrer MSH-300i** is magnetic stirrer of the new generation. Enclosures of stirrers are made of metal painted with powder enamel chemically resistant to acids and alkali. The stirrers are equipped with a detachable stand for supporting various sensor elements (temperature, pH and others) inside the stirred liquid.

The stirrers are supplied with a cylinder-shape magnetic stirring bar (6 × 25 mm) for universal use covered with Teflon.

Units are equipped with the overheat protection providing an automatic switch-off of the device when overheating for the set temperature difference occurs.

Magnetic stirrers with heating can be used for laboratory operations such as organic synthesis, extraction, analysis of oil products, pH-measurements, dialysis, soil suspending, preparing buffer solutions, etc.

Additional protection disables the heating, if the temperature of plate exceeds the set temperature for 30°C.

Operation temperature range +4°C to +40°C (from cold rooms to incubators) at maximal relative humidity 80%.

**Intelli-Stirrer MSH-300i** is a digital version of magnetic stirrer with heating; it is designed for laboratories with higher requirements. It offers digital setting and control of temperature and rotation speed.

A powerful magnet allows mixing solutions with glycerine viscosity level. Maximum volume of stirred liquid (water) is 20 litres.

An external probe provides direct control of the stirred liquids temperature.



## CAT. NUMBER

BS-010309-AAA	230VAC 50/60Hz Euro plug
BS-010309-AAB	230VAC 50/60Hz UK plug
BS-010309-AA3	230VAC 50/60Hz AU plug
BS-010309-AAC	100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010309-DK	IQ OQ document
BS-010309-EK	PQ document

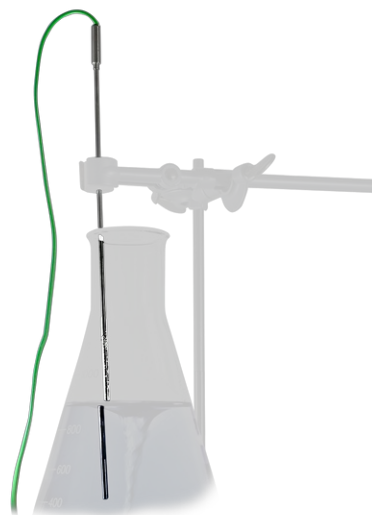
## SPECIFICATIONS

Speed control range	100-1250 RPM (10 rpm increment)
Max. stirring volume (water)	20 litres
Plate temperature regulation range	+30°C...+330°C (1°C increment)
Temperature control range with external probe	+20°C...+150°C
Temperature uniformity on the plate	±3°C
Display	LCD
Working plate heating time till 330°C	11 min
Maximum continuous operation time	168 h
Diameter of working plate	160 mm
Working surface material	Aluminium alloy
SR-1, attachable stand size	Ø 8 × 320 mm
Length of magnetic stirring element	20–70 mm
Max. stirring liquid viscosity	up to 1170 mPa.s
Fault indication	Outputs an error code on the display, turns off the heating
Overall dimensions (W×D×H)	190x270x100 mm
Weight	3.2 kg
Power consumption (Stirring)	8.5 W
Power consumption (Heating)	550 W
Nominal operating voltage	230 V; 50/60 Hz or 120 V; 50/60 Hz
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External temperature probe	->
Probe type	Thermocouple
Connection	type K
A cable is covered with Teflon, mechanically strong, elastic and chemically stable against oils, acids, aggressive reagents and liquids	+
Cable length	1 m
Operation temperature range	–50°C to +250°C



**HTP-1**  
BS-010309-FK  
holder

HTP-1, holder for temperature probe



**External temperature probe**  
BS-010309-BK

An external probe provides direct control of the stirred liquids temperature.

The cable is covered with Teflon, mechanically strong, elastic and chemically stable against oils, acids, aggressive reagents and liquids

# MM-1000, Overhead Stirrer Multi Mixer

## DESCRIPTION

Overhead Stirrer Multi Mixer **MM-1000** is designed for stirring liquids up to 20 litres. Quiet and reliable mixer that can provide stable continuous mixing up to 7 days. It can realize three types of motion:

1. Rotational
2. Reciprocal
3. Vibration

**MM-1000** performs separate (mono-) (1; 2; 3), consecutive binary cycles (c)  $(1-2) \times c$ ;  $(1-3) \times c$  and  $(2-3) \times c$  and complex tri-cycles  $(1-2-3) \times c$ .

Speed, angle and time of stirrer rotation is under microprocessor control.

Multi-mixer can be used for stirring solutions up to the "medium viscosity" range (from 1,000 to 10,000 mPa.s). It is an ideal instrument for biotechnology, organic synthesis, analytical laboratories.

The innovative combination of three motion types provides high level of homogeneity due to consecutive combination of laminar and turbulent flows that cause substances to dissolve faster.

Electrically safe and energy efficient — powered by 12 V external power supply.



## SPECIFICATIONS

Rotation - Speed control range	40–1000 rpm
Rotation - Time	0–250 s
Reciprocal motion - Turning angle	0°–360° (increment 30°)
Reciprocal motion - Time	0–250 s
Vibro motion - Turning angle	0°–5° (increment 1°)
Vibro motion - Time	0–5 s
Timer sound signal	+
Max. stirring volume (water)	20 litres
Digital time setting	1 min–96 hrs / non-stop (increment 1 min)
Overall dimensions (W×D×H)	140x135x250 mm
Weight	2.4 kg
Input current/power consumption	12 V, 700 mA / 8.4 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

## CAT. NUMBER

Without stirrer	Without stirrer, stand, double clamp
BS-010306-AAH	230VAC 50/60Hz Euro plug
BS-010306-AAK	100–240VAC 50/60Hz Multi plug (EU, UK, AU, US)
BS-010306-FK	IQ OQ document
BS-010306-GK	PQ document



**MP-1**  
BS-010306-AK

Paddle stirrer (70 x 70 mm)



**MP-2**  
BS-010306-BK

Propeller stirrer 2 folded blades  
( $\varnothing$  60mm)



**MP-3**  
BS-010306-CK

Propeller stirrer 3 folded blades  
( $\varnothing$  50mm)



**MA-1**  
BS-010306-DK

Anchor stirrer ( $\varnothing$ . 90 mm, height  
48 mm)



**MC-1**  
BS-010306-EK

Centrifugal stirrer ( $\varnothing$  60 mm)



**Double clamp for MM-1000**  
BS-010306-LK

For device mounting



**SRB**  
BS-010306-KK  
Support rod and base

Support rod and base for  
device mounting

# MMS-3000, High speed magnetic stirrer

## DESCRIPTION

**MMS-3000** are compact magnetic stirrers with stainless steel working surface. Units provide stirring of liquids with rotation speed of magnetic element up to 3000 rpm. Up to date it is the highest value of the maximal speed for magnetic stirrers of global producers.

Strong magnets hold the driven magnetic element firmly in the magnetic clutch. Stirring is performed without undesirable heating and noise.

The stirrers are supplied with a cylinder-shape magnetic stirring bar (6 × 25 mm) encapsulated in PTFE for universal use.

**MMS-3000** is equipped with a detachable stand for supporting various sensor elements (temperature, pH and others) inside the stirred liquid.

Magnetic stirrers are ideal laboratory instruments for PH-metering, extraction and dialysing with the small quantities of substances.

Operation temperature range +4°C to +40°C (from cold rooms to incubators) at maximal relative humidity 80%.



## SPECIFICATIONS

Speed control range	0-3000 RPM
Max. stirring volume (water)	20 litres
Max. length of magnetic stirring element (bar)	70 mm
Stirring liquid viscosity	up to 1170 mPa.s
Maximum continuous operation time	24 hrs
Operation in closed laboratory rooms	at ambient temperature from +4°C to +40°C
Working plate size	Ø 160 mm
Working surface material	Stainless steel
SR-1, attachable stand size	Ø8 × 320 mm
Overall dimensions (W×D×H)	185x230x75 mm
Weight	1.5 kg
Input current/power consumption	12 V, 250 mA / 3 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

## CAT. NUMBER

BS-010305-AAF	230VAC 50/60Hz Euro plug
BS-010305-AAK	100-240VAC 50/60Hz Multi plug (EU, UK, AU, US)
BS-010305-AK	IQ OQ document
BS-010305-BK	PQ document



**HTP-1**  
BS-010309-FK  
holder

HTP-1, holder for temperature  
probe

# MS-3000, High speed magnetic stirrer

## DESCRIPTION

**MS-3000** is compact magnetic stirrer with stainless steel working surface. Units provide stirring of liquids with rotation speed of magnetic element up to 3000 rpm. Currently it is the highest maximal speed for magnetic stirrers of global producers.

Strong magnets hold the driven magnetic element firmly in the magnetic clutch. Stirring is performed without undesirable heating and noise.

Enclosures of stirrer **MS-3000** are made of strong steel and painted with powder enamel, which is chemically resistant to acids and alkali.

The stirrers are supplied with a cylinder-shape magnetic stirring bar (6 × 25 mm) encapsulated in PTFE for universal use.

Magnetic stirrers are ideal laboratory instruments for PH-metering, extraction and dialysing with the small quantities of substances.

Operation temperature range +4°C to +40°C (from cold rooms to incubators) at maximal relative humidity 80%.

Special colors can be ordered on request.

## SPECIFICATIONS

Speed control range	0-3000 RPM
Max. stirring volume (water)	5 litres
Max. length of magnetic stirring element (bar)	50 mm
Stirring liquid viscosity	up to 1170 mPa.s
Maximum continuous operation time	24 hrs
Operation in closed laboratory rooms	at ambient temperature from +4°C to +40°C
Working plate size	110×110 mm
Working surface material	Stainless steel
Overall dimensions (W×D×H)	120×150×65 mm
Weight	0.8 kg
Input current/power consumption	12 V, 220 mA / 2.6 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V



## CAT. NUMBER

BS-010301-AAF	230VAC 50/60Hz Euro plug
BS-010301-AAK	100-240VAC 50/60Hz Multi plug (EU, UK, AU, US)
BS-010301-AK	IQ OQ document
BS-010301-BK	PQ document



# MSH-300, Magnetic Stirrer with hot plate

## DESCRIPTION

**MSH-300** is magnetic stirrer of the new generation. Enclosures of stirrers are made of metal painted with powder enamel chemically resistant to acids and alkali. The stirrers are equipped with a detachable stand for supporting various sensor elements (temperature, pH and others) inside the stirred liquid.

The stirrers are supplied with a cylinder-shape magnetic stirring bar (6 × 25 mm) for universal use covered with Teflon.

Units are equipped with the overheat protection providing an automatic switch-off of the device when overheating for the set temperature difference occurs.

Magnetic stirrers with heating can be used for laboratory operations such as organic synthesis, extraction, analysis of oil products, pH-measurements, dialysis, soil suspending, preparing buffer solutions, etc.

Additional protection disables the heating, if the temperature of plate exceeds the set temperature for 30°C.

Operation temperature range +4°C to +40°C (from cold rooms to incubators) at maximal relative humidity 80%.



## SPECIFICATIONS

Speed control range	250-1250 RPM
Max. stirring volume (water)	15 litres
Plate temperature regulation range	+30°C...+330°C
Temperature uniformity on the plate	±3°C
Working plate heating time till 330°C	15 min
Maximum continuous operation time	168 h
Diameter of working plate	160 mm
Working surface material	Aluminium alloy
SR-1, attachable stand size	Ø 8 × 320 mm
Length of magnetic stirring element	10–50 mm
Max. stirring liquid viscosity	up to 1170 mPa.s
Fault indication	Outputs sound signal and turns off the heating
Overall dimensions (W×D×H)	190x270x100 mm
Weight	2.9 kg
Power consumption (Stirring)	8.5 W
Power consumption (Heating)	550 W
Nominal operating voltage	230 V; 50/60 Hz or 120 V; 50/60 Hz

## CAT. NUMBER

BS-010302-OAA	230VAC 50/60Hz Euro plug
BS-010302-OAB	230VAC 50/60Hz UK plug
BS-010302-OA3	230VAC 50/60Hz AU plug
BS-010302-OAC	100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010302-BK	IQ OQ document
BS-010302-CK	PQ document



**HTP-1**  
BS-010309-FK  
holder

HTP-1, holder for temperature  
probe