



# Stirring & Heating



Labfirst Scientific Instruments (Shanghai) Co., Ltd.

## HS-5

LCD Digital Magnetic Hotplate Stirrer

Three heating models for selecting (fast heating, standard heating and stable heating)

## HS-5+

LCD Digital Magnetic Hotplate Stirrer

## HS-5T

LCD Digital Magnetic Hotplate Stirrer with Timer

## HS-5S

Analog Magnetic Hotplate stirrer



## Features >>>

- Brushless DC motor is maintenance free and explosion-proof
- Digital temperature control up to 340°C
- Digital speed control up to 1500rpm
- Maximum stirring quantity of H<sub>2</sub>O is 20L
- Safety circuits provide overheating protection
- "HOT" warning flashes if plate temperature is above 50°C even when hotplate is turned off
- Wide range timer function from 1 min to 99h 59min (HS-5T only)
- High-resolution LCD display shows actual temperatures and speed (HS-5T displays the time)
- External temperature control is possible by connecting the temperature sensor (PT 1000) with accuracy at ±0.2°C
- Work plate with ceramic coating provides good chemical-resistant performance
- Remote function provides PC control and data transmission
- Wide variety of accessories available to choose

## Security >>>

- International safety certification: CE, CTÜVuS, FCC and other product safety cert, certifications issued by TUV Rheinland
- Safety circuits provide overheating protection
- "HOT" warning flashes if the work plate temperature is above 50°C
- Brushless DC motor is maintenance free and explosion-proof
- Fully enclosed aluminum alloy housing with good heat dissipation performance and reliable protection capability



External sensor



RS232 connector



Wide range of accessories













Chemical resistance



Brushless DC motor

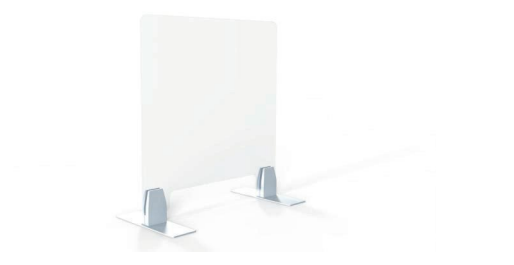
Specifications	HS-5	HS-5+	HS-5T	HS-5S	HS-5 basic 2	HS-5 basic
Work plate Dimension [W x D]	Ø135mm (5 inch)	Ø135mm (5 inch)	Ø135mm (5 inch)	Ø135mm (5 inch)	140x140mm	Ø135mm (5 inch)
Work plate material	Aluminum cover with ceramic coating	stainless steel cover with ceramic coating	stainless steel cover with ceramic coating	stainless steel cover with ceramic coating	Aluminum cover with ceramic coating	stainless steel cover with ceramic coating
Motor type	Brushless DC motor	Brushless DC motor	Brushless DC motor	Brushless DC motor	Brushless DC motor	Brushless DC motor
Stirring positions	1	1	1	1	1	1
Max. stirring quantity, [H <sub>2</sub> O]	20L	20L	20L	20L	5L	3L
Max. magnetic bar[length]	80mm	80mm	80mm	80mm	50mm	50mm
Speed range	100–1500rpm resolution ±1rpm	100–1500rpm resolution ±1rpm	100–1500rpm resolution ±1rpm	0–1500rpm	200–1500rpm	200–1500rpm
Speed display	LCD	LCD	LCD	Scale	LCD	LED
Temperature display	LCD	LCD	LCD	Scale	LCD	LED
Heating temperature range	Room temp.–340°C, increment 1°C	Room Temp.–340°C, increment 1°C	Room Temp.–340°C, increment 1°C	Room Temp.–340°C	Room Temp–380°C	Room Temp–280°C
Heating liquid temperature control accuracy	±1°C(<100°C) ±1%(>100°C)	±1°C(<100°C) ±1%(>100°C)	±1°C(<100°C) ±1%(>100°C)	–	±1°C(<100°C) ±1%(>100°C)	±1 °C (<100 °C) ±1% (>100 °C)
Overheating temperature protection	420°C	420°C	420°C	420°C	420°C	320°C
Temperature display accuracy	±0.1°C	±0.1°C	±0.1°C	–	±0.1°C	±1°C
External temperature sensor	PT1000 ( accuracy±0.2°C )	PT1000 ( accuracy±0.2°C )	PT1000 (accuracy ±0.2°C)	–	PT1000 ( accuracy±0.2°C )	PT1000 ( accuracy±0.2°C )
"Hot" warning	50°C	50°C	50°C	–	–	50°C
Data connector	RS232	RS232	RS232	–	–	–
Protection class	IP21	IP21	IP21	IP21	IP21	IP42
Timer function	–	–	1min to 99h59min	–	–	–
Motor rating input	18W	18W	18W	18W	2.4W	5W
Motor rating output	10W	10W	10W	10W	1.8W	3W
Power	650W	550W	550W	530W	510W	515W
Heating output	600W	500W	500W	500W	500W	500W
Voltage,Frequency	100–120/200–240V, 50/60Hz	100–120/200–240V, 50/60Hz	100–120/200–240V, 50/60Hz	100–120/200–240V, 50/60Hz	100–120/200–240V, 50/60Hz	100–120/200–240V, 50/60Hz
Dimension [WxDxH]	280x160x100mm	160x280x100mm	160x280x100mm	160x280x100mm	320x180x108mm	150x260x100mm
Weight	2.8kg	2.8kg	2.8kg	2.8kg	2.2kg	1.8kg
Permissible ambient temperature and humidity	5–40°C,80%RH	5–40°C,80%RH	5–40°C,80%RH	5–40°C,80%RH	5–40°C,80%RH	5–40°C,80%RH



Cat.NO.	Picture	Name of stirrer bars	Size [mm]
920604		Stirrer bar, cross	Ø5 X 10
920605		Stirrer bar, cross	Ø10 X 20
920606		Stirrer bar, cross	Ø9 X 25
920607		Stirrer bar, cross	Ø10 X 30
920608		Stirrer bar, cross	Ø11 X 38
920609		Stirrer bar, cross	Ø20 X 65
920610		Stirrer bar, Triangular prism	Ø14 X 25
920611		Stirrer bar, Triangular prism	Ø14 X 50
920612		Stirrer bar, Triangular prism	Ø9 X 35
920613		Stirrer bar, Triangular prism	Ø14 X 80
920614		Stirrer bar, Gear shape	Ø8 X 30
920615		Stirrer bar, Gear shape	Ø8 X 38
920616		Stirrer bar, Gear shape	Ø10 X 50
920617		Stirrer bar, ellipse	Ø10 X 20
920618		Stirrer bar, ellipse	Ø12 X 25
920619		Stirrer bar, ellipse	Ø11X 30
920620		Stirrer bar, ellipse	Ø15X 35
920621		Stirrer bar, ellipse	Ø20 X 40
920622		Stirrer bar, ellipse	Ø20 X 50
920623		Stirrer bar, ellipse	Ø22 X 70
920624		Stirrer bar, slide round	Ø6 X 25
920625		Stirrer bar, slide round	Ø6 X 30
920626		Stirrer bar, slide round	Ø8 X 40
920627		Stirrer bar, slide round	Ø8 X 50
920628		Stirrer bar, slide round	Ø10 X 60
920629		Stirrer bar, slide round	Ø13 X 80
920630		Stirrer bar, slide round	Ø24 X 159
920631		Stirrer bar, Eight prism	Ø8 X 20
920632		Stirrer bar, Eight prism	Ø10 X 30
920633		Stirrer bar, Eight prism	Ø8 X 40
920634		Stirrer bar, Eight prism	Ø8 X 50
920635		Stirrer bar, Eight prism	Ø9 X 90
920636		Stirrer bar, round	Ø27X57
920637		Stirrer bar, round	Ø27X108
920638		Stirrer bar, round	Ø27X159
920016		Stirrer bar, round	Ø6 X 10
920017		Stirrer bar, round	Ø8 X 15
920018		Stirrer bar, round	Ø8 X 20
920019		Stirrer bar, round	Ø8 X 25
920020		Stirrer bar, round	Ø6X 30
920021		Stirrer bar, round	Ø8 X 40
920022		Stirrer bar, round	Ø8 X 50
920216		Stirrer bar, round	Ø8X 65
920217		Stirrer bar, round	Ø13X 80
920639		Stirrer bar, crown	Ø9X6
920024		Stirrer bar remover	length of 30cm
920023		Stirrer bar remover	length of 25cm



920222 7 inch Magnetic Stirrer transparent safety shield



920221 5 inch Magnetic Stirrer transparent safety shield











920223 10 inch Magnetic Stirrer transparent safety shield

Cat.NO./Picture	RS 1 Set of magnetic stirring bars	Cat.NO./Picture	RS 2 Set of magnetic stirring bars
 920601	Stirrer bar, round, Ø6X10, 2	 920603	Stirrer bar, round, Ø8X40, 2
	Stirrer bar, round, Ø6X15, 2		Stirrer bar, Eight prism, Ø8 X 40, 2
	Stirrer bar, round, Ø8X20, 2		Stirrer bar, Gear shape, Ø8 X 30, 2
	Stirrer bar, round, Ø8X25, 2		Stirrer bar, slide round, Ø8 X 40, 2
	Stirrer bar, round, Ø6X30, 2		Stirrer bar, ellipse, Ø20 X 40, 2
	Stirrer bar, round, Ø8X40, 2		Stirrer bar, cross, Ø9 X 25, 2
	Stirrer bar, round, Ø8X50, 2		Stirrer bar, crown, Ø9X6, 2
	Stirrer bar, round, Ø10X80, 2		Stirrer bar, round, Ø8X50, 2
	Stirrer bar, Triangular prism, Ø14 X 25, 2		Stirrer bar, Triangular prism, Ø9 X 35, 2
	Stirrer bar, Triangular prism, Ø14 X 50, 2		

Cat. No.	Description	Super HS-10Pro	Super HS-7Pro Super HS-7	HS-5 HS-5T	Multi-point HS-4	HS-5S	HS-5 basic	HS-5 basic 2
 920201	Blue carrying plate, use with color quarter pies			■	■	■	■	
 920202	Blue Fixed ring, use with color quarter pies			■	■	■	■	
 920203	Red quarter pie, 11 holes, 4 mL reaction vessel, Ø15.2mm, 20mm depth	■	■	■	■	■	■	■
 920204	Purple quarter pie, 4 holes, 20 mL reaction vessel, Ø28mm, 24mm depth	■	■	■	■	■	■	■
 920205	Blue quarter pie, 4 holes, 30mL reaction vessel, Ø28mm, 30mm depth	■	■	■	■	■	■	■
 920206	Black quarter pie, 4 holes, 40 mL reaction vessel, Ø28mm, 43mm depth	■	■	■	■	■	■	■
 920207	Green quarter pie, 6 holes, 8 mL reaction vessel, Ø17.8mm, 26mm depth	■	■	■	■	■	■	■
 920208	Golden quarter pie, 4 holes, 16 mL reaction vessel, Ø21.6mm, 31.7mm depth	■	■	■	■	■	■	■
 920008	Reaction block for 50mL round bottom flask (one flask capacity)			■	■	■	■	
 920011	Reaction block for 100 mL round bottom flask (one flask capacity)			■	■	■	■	
 920012	Reaction block for 250mL round bottom flask (one flask capacity)			■	■	■	■	
 920013	Reaction block for 500mL round bottom flask (one flask capacity)			■	■	■	■	
 920220	F101 protective cover, temperature resistance of 135°C			■		■	■	
 920002	PT1000-A, length of 230mm	■	■	■	■		■	■
 920003	PT1000-B, temperature sensor with glass coated, length of 230mm	■	■	■	■		■	■
 920218	Support clamp of PT1000 Vertical bar length: 45cm, stents length: 25cm, Stem diameter:10cm	■	■	■				
 920005	Support clamp of PT1000 Vertical bar length: 35cm, stents length: 18cm, Stem diameter:10cm				■		■	■

Magnetic hotplate stirrers are used for low viscosity liquids or solid mixing, chemical synthesis, physical and chemical analysis, bio-pharmaceuticals etc. Lab1st provides different series, heating range covers from 120°C–550°C:

### Magnetic Hotplate Stirrers:




Series	Model	Image	Stirring Position	Display	Work plate Size	Max. Heating Temp.	Max. stirring quantity(H <sub>2</sub> O)
<b>Super HS series</b>	Super HS-10Pro		1	LCD	254X254mm	500°C	30L
	Super HS-7Pro		1	LCD	184x184mm	550°C	20L
	Super HS-7		1	LED	184x184mm	550°C	10L
<b>HS series</b>	HS-5		1	LCD	Ø135mm	340°C	20L
	HS-5+		1	LCD	Ø135mm	340°C	20L
	HS-5T		1	LCD	Ø135mm	340°C	20L
	HS-5S		1	Scale	Ø135mm	340°C	20L
<b>Basic IHSI series</b>	HS-5 basic 2		1	LCD	140x140mm	380°C	5L
	HS-5 basic		1	LED	Ø135mm	280°C	3L
<b>Multi-point series</b>	Multi-point HS-4		4	LCD	Ø135mm	340°C	3Lx4
	Multi-point HS-10		10	Scale	180x450mm	120°C	0.4Lx10



**Magnetic Stirrers:**

Image	Model	Stirring Position	Display	Work plate Size	Max. stirring quantity(H.0)
	Super MS-7S	1	Scale	184x184mm	10L
	MS-5S	1	Scale	Ø135mm	20L
	MS-5 basic 2	1	LCD	140x140mm	5L
	MS-5 basic	1	LED	Ø135mm	3L
	MS-5 basic B	1	Scale	Ø135mm	3L
	MiStir Square	1	Scale	120x115mm	1.5L
	MiStir	1	Scale	Ø120mm	1.5L
	MinThi	1	-	Ø90mm	0.8L
	Multi-point RO-15**	15	LCD	460x304mm	0.4Lx15
	Multi-point RO-10	10	Scale	180x450mm	0.4Lx10

**Hotplate:**

Image	Model	Display	Work plate Size	Max. Heating Temp.
	Super HP-10 Pro	LCD	254x254mm	500°C
	Super HP-7	LED	184x184mm	550°C
	HP-5 basic 2	LCD	140x140mm	380°C

\*\*Coming soon

**Application guidance:**

**Notice:** HS-5 basic 2, HP-5 basic 2 & HS-5 basic are not available for chemical fields.

Fields		Super HS-10Pro/ Super HS-7Pro/ Super HS-7/ Super HP-10Pro/ Super HP-7	HS-5/ HS-5T/ HS-5+/ HS-5S/ Multi-point HS-4	HS-5 basic 2/ HP-5 basic 2	HS-5 basic	Multi-point HS-10	Magnetic Stirrers (none heating models)
<b>Pharmaceutical</b>	Chemical Synthesis	■	■				
	Biochemical Drugs	■	■				
	Medicine Testing	■	■				
	Drug Formulation	■	■				
<b>Chemical Industry</b>	Petrochemical Industry	■	■				
	Inorganic Chemical Synthesis	■	■				
	Organic Chemical Synthesis	■	■				
	Daily Use Chemical Industry	■	■				
	Painting/Rubber/Plastic	■	■				
	Fertilizer/Pesticide	■	■				
<b>Environmental</b>	Water Quality Analysis				■	■	■
	Pesticide Residue Testing				■	■	■
	Chemical Pollution Analysis				■	■	■
<b>Research &amp; Education</b>	Basic Chemical Experiments	■	■		■	■	■
	Material Analysis			■	■	■	■
	Liquid Mixing			■	■	■	■
	Chemical Synthesis	■	■				
<b>Food Industry</b>	Food Additive	■	■	■	■		
	Dairy Products	■	■	■	■		
	Nutrition Analysis	■	■	■	■		
<b>Biological Engineering</b>	Cell Culture						
	Biological Reagents		■	■	■	■	
	Biochemistry		■	■	■	■	



Overhead stirrers are used for middle or high viscosity samples mixing, widely used in chemical synthesis, pharmaceutical synthesis, physical and chemical analysis, petrochemical industries etc.

### Overhead stirrers:

<b>Models</b>					
<b>Models</b>	MICROSTIR 20Pro	MICROSTIR 20	MICROSTIR 40Pro	MICROSTIR 40	MICROSTIR 70Pro
<b>Max. Stirring Quantity(H<sub>2</sub>O)</b>	20L	20L	40L	40L	70L
<b>Constant Speed</b>	YES	NO	YES	NO	YES
<b>Display</b>	LCD	LED	LCD	LED	LCD
<b>Speed Range</b>	50–2200rpm	50–2200rpm	50–2200rpm	50–2200rpm	50–1100rpm
<b>Max. Torque</b>	40N · cm	40N · cm	60N · cm	60N · cm	300N · cm
<b>Viscosity Max.</b>	10000mPa · s	10000mPa · s	50000mPa · s	50000mPa · s	100000mPa · s