



# Stirring & Heating

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Labfirst Scientific Instruments (Shanghai) Co., Ltd.



# MICROSTIR 20/ MICROSTIR 40

LED Overhead Stirrer

## Features >>>

- High reliability and outstanding performance
- Wide range of speed from 50 to 2200rpm
- Brushless DC motor for long life, maintenance free and explosion proof
- LED screen for monitoring actual speed
- Safety circuits allow for safe stop function in anti-stall or overload conditions
- Large chuck diameter for many shaft types

### Set of Overhead Stirrer tools

Cat.No. 920821



Contains one vertical rod, six stirring blades, Such as Propeller stirrer, Paddle stirrer, Centrifugal stirrer, Flat-blade stirrer, Radial-flow stirrer, Anchor stirrer and Disassembling tool

| Specifications                               | MICROSTIR 20       | MICROSTIR 40       |
|----------------------------------------------|--------------------|--------------------|
| Max. stirring quantity[H <sub>2</sub> O]     | 20L                | 40L                |
| Speed range                                  | 50~2200rpm         | 50~2200rpm         |
| Max. torque                                  | 40N·cm             | 60N·cm             |
| Viscosity max.                               | 10000mPa·s         | 50000mPa·s         |
| Motor type                                   | Brushless DC motor | Brushless DC motor |
| Speed display                                | LED                | LED                |
| Overload protection display                  | LED                | LED                |
| Chuck range diameter                         | 0.5~10mm           | 0.5~10mm           |
| Motor input power                            | 60W                | 120W               |
| Motor output power                           | 50W                | 100W               |
| Power                                        | 70W                | 130W               |
| Voltage,Frequency                            | 100~240V, 50/60 Hz | 100~240V, 50/60 Hz |
| Dimension[WxHxD]                             | 83 x 220 x 186mm   | 83 x 220 x 186mm   |
| Protection class                             | IP21               | IP21               |
| Weight                                       | 2.8kg              | 2.8kg              |
| Permissible ambient temperature and humidity | 5~40°C,80%RH       | 5~40°C,80%RH       |

## Plate Stands >>>

### Universal Plate Stand (for MICROSTIR 20/40/70)

Cat. No.920803



Dimension [W x D x H] :  
20x31x78cm  
Material: cast iron

### Grand Plate Stand (for MICROSTIR 70)

Cat. No.920801













Dimension [W x D x H] :  
33.5x46.3x78cm  
Material: cast iron

Lab1st overhead Stirrer provides a variety of stirring tools, such as impellers, paddles and blades:

|                                                                                                                                                                                                                                                                                                                                                                                          |                        |                                                                                                                                                                                                                                                                                                                                                                                                        |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <p><b>Propeller stirrer</b></p> <p>Shaft length: 40cm<br/>Stirrer diameter: 5cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Standard stirring applications at medium and high speed</p>                                                                                             | <p>Cat. No.920804</p>  | <p><b>Paddle stirrer</b></p> <p>Shaft length: 40cm<br/>Stirrer diameter: 6.8cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>For gentle mixing at low and medium speeds</p>                                                                                                                       | <p>Cat. No.920806</p>  |
| <p><b>Straight stirrer</b></p> <p>Shaft length: 40cm<br/>Stirrer diameter: 6cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>For low viscosity media at medium and high speeds</p>                                                                                                    | <p>Cat. No.920805</p>  | <p><b>Centrifugal stirrer</b></p> <p>Shaft length: 40cm<br/>Stirrer diameter: 9cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Blades open while speeding.<br/>For narrow neck vessels at medium to high speed.</p>                                                                              | <p>Cat. No.920807</p>  |
| <p><b>Propeller stirrer</b></p> <p>Shaft length: 35cm<br/>Stirrer diameter: 6.5cm<br/>Shaft diameter: Ø8mm<br/>Material: PTFE coated<br/>Standard stirring applications at medium and high speed</p>                                                                                                    | <p>Cat. No.920812</p>  | <p><b>Paddle stirrer</b></p> <p>Shaft length: 35cm<br/>Stirrer diameter: 6.8cm<br/>Shaft diameter: Ø8mm<br/>Material: PTFE coated<br/>For gentle mixing at low and medium speeds</p>                                                                                                                                | <p>Cat. No.920814</p>  |
| <p><b>Straight stirrer</b></p> <p>Shaft length: 35cm<br/>Stirrer diameter: 7cm<br/>Shaft diameter: Ø8mm<br/>Material: PTFE coated<br/>For low viscosity media at medium and high speeds</p>                                                                                                           | <p>Cat. No.920813</p>  | <p><b>Centrifugal stirrer</b></p> <p>Shaft length: 35cm<br/>Stirrer diameter: 8.5cm<br/>Shaft diameter: Ø8mm<br/>Material: PTFE coated<br/>Blades open while speeding.<br/>For narrow neck vessels at medium to high speed.</p>                                                                                   | <p>Cat. No.920815</p>  |
| <p><b>Grand propeller stirrer</b></p> <p>Shaft length: 60cm<br/>Stirrer diameter: 10cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Standard stirring</p>                                                                                                                          | <p>Cat. No. 920808</p> | <p><b>Grand paddle stirrer</b></p> <p>Shaft length: 60cm<br/>Stirrer diameter: 10cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Gentle mixing for those stratify easily or sensitive to shear</p>                                                                                             | <p>Cat. No.920810</p>  |
| <p><b>Grand anchor stirrer</b></p> <p>Shaft length: 60cm<br/>Stirrer diameter: 10cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Standard stirring or for those easily precipitate</p>                                                                                             | <p>Cat. No. 920809</p> | <p><b>Grand dissolving stirrer</b></p> <p>Shaft length: 60cm<br/>Stirrer diameter: 10cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Breaking down granules in the mixture with strong shear</p>                                                                                               | <p>Cat. No.920811</p>  |
| <p><b>Flat-blade stirrer</b></p> <p>Shaft length: 40cm<br/>Stirrer diameter: 6cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Suitable for medium speed stirring, low viscosity and medium viscosity materials</p>                                                                 | <p>Cat. No. 920817</p> | <p><b>Anchor stirrer</b></p> <p>Shaft length: 40cm<br/>Stirrer diameter: 6cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Suitable for low speed stirring, medium viscosity and high viscosity materials</p>                                                                                   | <p>Cat. No.920819</p>  |
| <p><b>Radial-flow stirrer</b></p> <p>Shaft length: 40cm<br/>Stirrer diameter: 5cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Suitable for medium speed or high speed agitation, low viscosity or medium viscosity materials, recommended for the treatment of gas in liquid</p>  | <p>Cat. No. 920818</p> | <p><b>Spiral stirrer</b></p> <p>Shaft length: 40cm<br/>Stirrer diameter: 5cm<br/>Shaft diameter: Ø8mm<br/>Material: 316L stainless steel<br/>Suitable for medium speed or high speed agitation, medium viscosity and high viscosity materials, recommended for liquid homogenization or suspension treatment</p>  | <p>Cat. No. 920820</p> |

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/<br>Super HS-7Pro/<br>Super HS-7/<br>Super HP-10Pro/<br>Super HP-7 | HS-5/<br>HS-5T/<br>HS-5+/<br>HS-5S/<br>Multi-point HS-4 | HS-5 basic 2/<br>HP-5 basic 2 | HS-5 basic | Multi-point HS-10 | Magnetic<br>Stirrers<br>(none heating<br>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                                                                       |