

SM / SMH

## Magnetic Stirrer / hot plate



CE



### Features

Magnetic stirrer suitable for routine laboratory operation with new stirring technology. Heavy duty instrument and easy operation. Available as a classic version or high advanced PC controlled. Wide range of selection to meet your requirement. With or without heating, Stainless steel or ceramic plate surface. LCD, LED or analogue display.

#### Model SM – SMH -series ( Classic )

- Speed range of 0-1500 rpm
- Max. Stirring quantity 20L
- Stainless steel and ceramic coated work plates
- Motor with electronic speed control, constant speed even during changes in load
- High magnetic adhesion, prevent the stirrer bar escape
- Enclosed assembly with protection class IP42 and
- DC brushless motor guarantees long service
- Separated safety circuit, automatically stop heating when temperature over 350°C
- Analogue or LCD Display

#### Model SM - SMH – dp ( Advanced )

- Advanced magnetic hotplate stirrers with LCD digital display
- PID temperature technology precise controls heating process, rapidly reaches target temperature with high control accuracy, heating temperature up to 340°C.

## Specifications

Model	SMH-1dp SMH-2dp	SMH-1a / SMH-2a SMH-1d / SMH-2d	SM-1a / SM-2a SM-1d / SM-2d
Dimension of work plate	Ø135 mm (5 inch)	Ø135 mm (5 inch)	Ø135 mm (5 inch)
Work plate material	Stainless steel [1] Ceramic coated [2]	Stainless steel [1] Ceramic coated [2]	Stainless steel [1] Ceramic coated [2]
Motor type	DC brushless motor	DC brushless motor	DC brushless motor
Motor rating input	18 W	18 W	18 W
Motor rating output [W]	10 W	10 W	10 W
Power	550 W	530 W	30 W
Voltage	200-240 VAC	200-240 VAC	100-240 VAC
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Stirring positions	1	1	1
Max. stirring quantity	20 L [H <sub>2</sub> O]	20 L [H <sub>2</sub> O]	20 L [H <sub>2</sub> O]
Max. magnetic bar	80 mm (L x Ø)	80 mm (L x Ø)	80 mm (L x Ø)
Speed range	0-1500 rpm	0-1500 rpm	0-1500 rpm
Speed display	LCD	Scale [a] LCD [d]	Scale [a] LCD [d]
Speed display resolution	±1	-	-
Heating output	500 W	500 W	-
Heating temperature range	RT-340 °C, increment 1	RT-340 °C	-
Control accuracy of work plate	±1 (<100 °C) ±1% (>100 °C)	-	-
Safety temperature	360 °C	350 °C	-
Temperature display	LCD	Scale [a] LCD [d]	-
Temperature display accuracy	±0.1 °C	-	-
External temperature sensor	PT1000	N/A	-
Control accuracy with external temperature sensor PT1000	±0.2 °C	-	-
Heating warning [°C]	50 °C	N/A	-
Remote control (RS232 interface)	Yes	N/A	N/A
Protection class according to DIN EN60529	IP42	IP42	IP42
Dimension [W x D x H]	160×280×85 mm	160×280×85 mm	160×280×85 mm
Weight	2,8 kg	2,8 kg	2,8 kg
Permissible ambient temperature	5-40 °C	5-40 °C	5-40 °C
Permissible relative humidity	80%	80%	80%

### Order Informations

Analog / Stainless Steel surface			SMH-1a	0.562.005	SM-1a	0.562.001
Analog / Ceramic surface			SMH-2a	0.562.006	SM-2a	0.562.002
Digital / Stainless Steel surface	SMH-1dp	0.562.009	SMH-1d	0.562.007	SM-1d	0.562.003
Digital / Ceramic surface	SMH-2dp	0.562.010	SMH-2d	0.562.008	SM-2d	0.562.004



SM-2a Magnetic Stirrer  
Analog with ceramic plate



SM-2a Magnetic Stirrer  
Digital with ceramic plate



SMH-1a Magnetic Stirrer  
Hotplate, Analog with SS plate



SM-1a Magnetic Stirrer  
Analog with SS plate

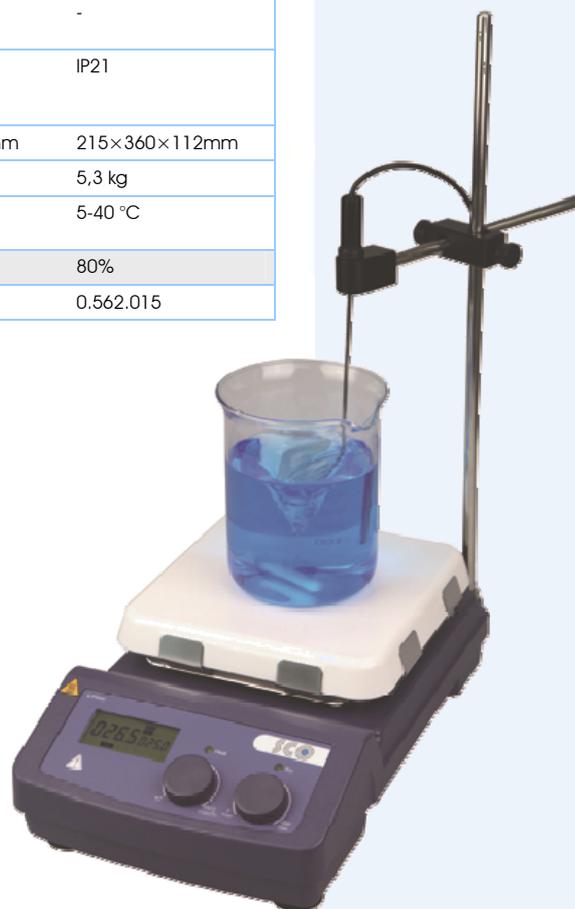


SM-2dp Digital Magnetic  
Stirrer / Hotplate  
with ceramic plate



## Specifications

Model	SMH-184d	SMH-184d (LED)	SM-184d
Dimension of work plate	184x184 mm (7 inch)	184x184 mm (7 inch)	184x184 mm (7 inch)
Work plate material	Glass ceramic	Glass ceramic	Glass ceramic
Motor type	DC brushless motor	Shaded pole motor	DC brushless motor
Motor rating input	18 W	15 W	18 W
Motor rating output	10 W	1,5 W	10 W
Power	1050 W	1030 W	50 W
Voltage	100-120/200-240 VAC	100-120/200-240 VAC	200-240 VAC
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Stirring positions	1	1	1
Max. stirring quantity	20 L [H <sub>2</sub> O]	10 L [H <sub>2</sub> O]	20 L [H <sub>2</sub> O]
Max. magnetic bar	80 mm (L x Ø)	80 mm (L x Ø)	80 mm (L x Ø)
Speed range	100-1500 rpm	0-1500 rpm	100-1500 rpm
Speed display	LCD	Scale	LCD
Speed display resolution	±1 rpm	-	±1
Heating output	1000 W	1000 W	-
Heating temperature range	RT-550°C, increment 1	RT-550°C, increment 5	-
Control accuracy of work plate	±1 (<100 °C) ±1% (>100 °C)	±10	-
Safety temperature	580 °C	580 °C	-
Temperature display	LCD	LED	-
Temperature display accuracy	±0.1 °C	±1 °C	-
External temperature sensor	PT1000	PT1000	-
Control accuracy with external temperature sensor PT1000	±0.2 °C	±0.5 °C	-
Heating warning	50 °C	50 °C	-
Remote control (RS232 interface)	Yes	N/A	-
Protection class according to DIN EN60529	IP21	IP21	IP21
Dimension [W x D x H]	215x360x112 mm	215x360x112 mm	215x360x112mm
Weight	5,3 kg	4,5 kg	5,3 kg
Permissible ambient temperature	5-40 °C	5-40 °C	5-40 °C
Permissible relative humidity	80%	80%	80%
<b>Order Informations:</b>	0.562.016	0.562.017	0.562.015



SM / SMH

## Digital Magnetic Stirrer / hot plate



CE



Comfortable Magnetic stirrer / Hotplate Stirrer, easy to use. Plastic, Stainless steel or ceramic coated surface. suitable for applications for physical - chemical analysis and biotech labs.

### Features

#### Model SM

- Speed range of 100-1500 rpm
- Max. stirring quantity 3L
- Analogue control or with LED display
- Microprocessor control technology guarantees speed control accuracy
- ABS casing with fire retardant material, chemical resistance [Model SM ]

#### Model SMH

- Stainless steel with corrosion-resistant coated or ceramic coated hotplate [ Model SMH ]
- Heating temperature up to 280°C
- External temperature sensor PT1000 is available and control accuracy of  $\pm 1^\circ\text{C}$ , real-time control medium temperature.
- LED display temperature and speed.
- 50°C HOT warning indicates residual hotplate temperature.
- ABS casing with fire retardant material, resistance of weak acid and alkali

 TECHNOLOGY  
 FOR  
 FUTURE

Model	SMH-1L SMH-2L	SM-3L SM-4L
Dimension of work plate	Ø135 mm (5 inch)	Ø135 mm (5 inch)
Work plate material	Stainless steel [1] Ceramic coated [2]	Stainless steel [1] Ceramic coated [2]
Motor type	DC motor	DC motor
Motor rating input	5 W	5 W
Motor rating output [W]	3 W	3 W
Power	490 W	10 W
Voltage	100-120/200-240 VAC	100-240 VAC
Frequency	50/60 Hz	50/60 Hz
Stirring positions	1	1
Max. stirring quantity	3 L [H <sub>2</sub> O]	3 L [H <sub>2</sub> O]
Max. magnetic bar	50 mm (L x Ø)	50 mm (L x Ø)
Speed range	100-1500 rpm	0-1500 rpm
Speed display	LED	LED / Scale
Speed display resolution	-	-
Heating output	500 W	-
Heating temperature range	RT-280 °C, increment 1	-
Control accuracy of work plate	±1 (<100 °C) ±1% (>100 °C)	-
Safety temperature	320 °C	-
Temperature display	LED	-
Temperature display accuracy	±0.1 °C	-
External temperature sensor	PT1000	-
Control accuracy with external temperature sensor PT1000	±0.5 °C	-
Heating warning [°C]	50 °C	-
Remote control (RS232 interface)	N/A	-
Protection class according to DIN EN60529	IP21	IP42
Dimension [W x D x H]	150×260×80 mm	150×260×80 mm
Weight	1,8 kg	1,8 kg
Permissible ambient temperature	5-40 °C	5-40 °C
Permissible relative humidity	80%	80%

### Order Informations

Article No.	Type	Description
0.562.011	SMH-1L	Double LED Digital Hotplate Magnetic Stirrer, SS surface Ø 135mm, 220V - 50/60Hz
0.562.012	SMH-1L	Double LED Digital Hotplate Magnetic Stirrer, Ceramic surface Ø 135mm, 220V - 50/60Hz
0.562.013	SM-3L	LED Digital Magnetic Stirrer, plastic plate, 220V, 50/60Hz
0.562.014	SM-4L	Analog Magnetic Stirrer, plastic plate, 220V, 50/60Hz



SM-3L / 4L

SMH-1L / 2L



Analogue multi-point magnetic stirrer / hot plate with a high quality stirring drive, heavy duty and easy to operate.

**Features**

- High-performance multi-position magnetic stirrer with 10 stirring position
- Individually controlled stirring for consistency with various samples
- Stepless speed regulation. Variable speed range: 0-1100 rpm
- External rotor brushless motor reduces operating noises and increases motor life
- Electronic speed control motor provides constant speed during changes in load
- Inner set temperature control panel, uniform temperature distribution (MSH-10)
- Stainless steel plate with silicone films, anti-slip and anti-corrosion

**Specifications**

Model	SMH-10	SM-10
Dimension of work plate	180×450 mm	180×450 mm
Work plate material	Stainless steel with silicone Film	Stainless steel with silicone Film
Motor type	DC motor	DC motor
Motor rating input	12 W	12 W
Motor rating output	4 W	4 W
Power	490 W	20 W
Voltage	200-240 VAC	200-240 VAC
Frequency	50/60 Hz	50/60 Hz
Stirring positions	10	10
Max. stirring quantity	0.4 L [H <sub>2</sub> O] (each stirring position)	0.4 L [H <sub>2</sub> O] (each stirring position)
Max. magnetic bar	40 mm (L x Ø)	40 mm (L x Ø)
Speed range	0-1100 rpm	0-1100 rpm
Speed display	Scale	Scale
Heating output	470 W	-
Heating temperature range	RT-120°C	-
Safety temperature	140 °C	-
Temperature display	Scale	-
Protection class	IP42	IP42
Dimension [W x D x H]	182×552×65 mm	182×552×65 mm
Weight	3,2 kg	3,2 kg
Permissible ambient temp	5-40 °C	5-40 °C
Permissible relative humidity	80%	80%
<b>Order Informations</b>	<b>0.562.018</b>	<b>0.562.019</b>



## Accessories

Model	F101	PT1000-A	PT1000-B	PT-H1	PT-H2
	Protective cover up to 135°C, for models MSH (Ø135mm)	Temperature sensor for digital hotplate models L= 230mm	Temperature sensor galls coated for digital hotplate, L= 230mm	Support clamp of PT1000	Support clamp of PT1000 for Model SMH-L
MSH-180d / (LED)		o	o	o	
MSH- dp	o	o	o	o	
MSH- a/d	o				o
MSH- L		o	o		o
<b>Order No.</b>	18900119	18900116	18900136	18900117	18900148

### Stirring bar:

18900006	SBAR-10	Stirrer bar (10mm x 6mm)
18900007	SBAR-15	Stirrer bar (15mm x 8mm)
18900008	SBAR-20	Stirrer bar (20mm x 8mm)
18900009	SBAR-25	Stirrer bar (25mm x 8mm)
12500005	SBAR-30	Stirrer bar (30mm x 6mm)
18900011	SBAR-40	Stirrer bar (40mm x 8mm)
12500004	SBAR-51	Stirrer bar (51mm x 8mm)
18900013	SBAR-65	Stirrer bar (65mm x 8mm)
18900014	SBAR-80	Stirrer bar (80mm x 13mm)
18900015	SBAR-r	Bar removal



### Additional Accessories:

Magnetic hotplate stirrers are available to hold quarter colour pies (volume range from 4ml to 16ml) and reaction blocks (volume range from 50ml to 500ml), which ensure uniform heating distribution and excellent resistance to chemicals. The colour pies and blocks with aluminium material which are easy to clean and safety for lab.

					
<b>S-PL1</b>	<b>S-PL2</b>	<b>S-PIE1</b>	<b>S-PIE2</b>	<b>S-PIE3</b>	<b>S-PIE4</b>
Blue carrying plate, use with colour quarter pies	Blue Fixed ring, use with colour quarter pies	Red quarter pie, 11 holes, 4 ml reaction vessel, Ø15.2mm, 20mm depth	Purple quarter pie, 4 holes, 20 ml reaction vessel, Ø28mm, 24mm depth	Blue quarter pie, 4 holes, 30 ml reaction vessel, Ø28mm, 30mm depth	Black quarter pie, 4 holes, 40 ml reaction vessel, Ø28mm, 43mm depth
18900001	18900065	18900002	18900003	18900004	18900005

					
<b>S-PIE5</b>	<b>S-PIE6</b>	<b>S-BL1</b>	<b>S-BL2</b>	<b>S-BL3</b>	<b>S-BL4</b>
Green quarter pie, 6 holes, 8ml reaction vessel, Ø17.8mm, 26mm depth	Golden quarter pie, 4 holes, 16ml reaction vessel, Ø21.6mm, 31.7mm depth	Reaction block for 50ml round bottom flask (one flask capacity)	Reaction block for 100ml round bottom flask (one flask capacity)	Reaction block for 250ml round bottom flask (one flask capacity)	Reaction block for 500ml round bottom flask (one flask capacity)
18900048	18900049	18900080	18900081	18900082	18900083

## Order Informations :



Address. S C O - T e c h  
Auf der Heide 15  
D-37351 Dingelstädt  
Federal Republic of Germany

Phon: +49 (0) 36075 / 43930-6  
Fax: +49 (0) 36075 / 43930-8  
E-mail: sco@sco-tech.com  
Internet: www.sco-tech.com

Contact