

# Hotplates and stirrers:

## Attractive design for the laboratory with glass ceramic heating surface

### Perfect function, exclusive design

The laboratory hotplates and stirrers from SCHOTT Instruments demonstrate the kind of creative design that results when practical laboratory experience is paired with the most advanced materials know-how. The perfectly nonporous surface of the unique Ceran glass ceramic material makes the surface nearly indestructible. And the touch control panel gives the laboratory hotplates a truly exclusive touch. But you will hardly even notice that anymore once you have experienced how eminently practical they are.

### Our know-how – your benefit

Both laboratory hotplates SLK 1 and SLK 2 enable speedy heating up. The laboratory stirrer (SLR) is the optimum solution for a careful to intense mixing of liquids. It can also be used for speedy heating up or controlled temperature adaptation.

Both product families have the benefits of the glass ceramic heating surface which has proven in millions of households. Chemical resistance, a high surface quality, and a resistance to temperature shocks of more than 700 °C provide the user with maximum benefits compared to conventional heating surface materials. The poreless smooth surface enables even most stubborn dirt to be easily removed. The high infrared permeability ensures that the heating energy is transferred quickly and with a low loss rate, i.e. it heats liquids faster than other heating surface materials, and thus saves time and energy.

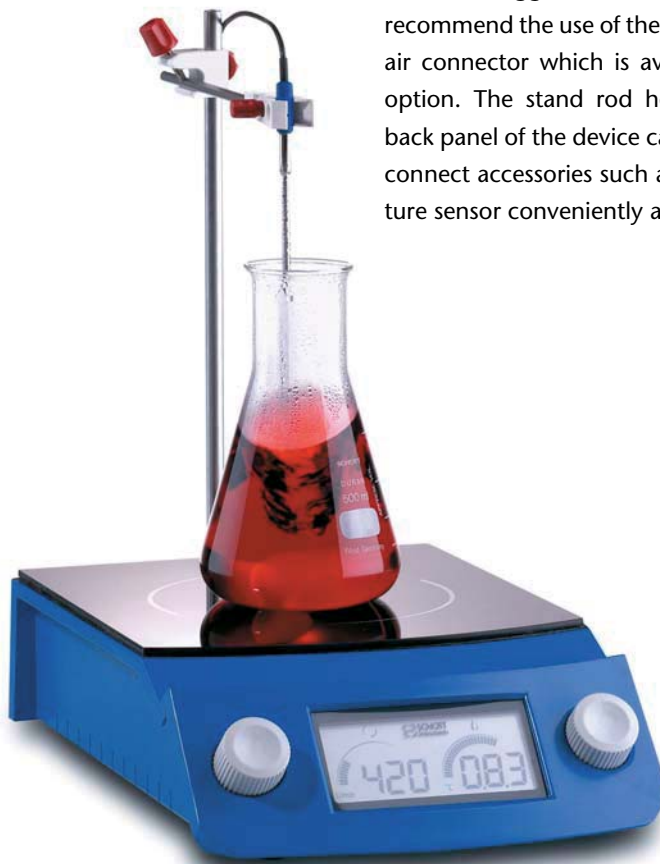
### Quality and safety

As a matter of course, our laboratory hotplates and laboratory stirrers bear the CE sign and are developed and produced according to high international quality standards.

A residual-heat display protects the user from the hazard of injuries (burning).

The corrosion-resistant, solid, casing with a hermetically sealed, non-inflammable top made of duroplastic in the case of the laboratory hotplates and of coated die-cast aluminium in the case of the laboratory stirrer ensure a long and trouble-free use of the devices.

If the laboratory hotplates are to be used in an aggressive environment, we recommend the use of the compressed-air connector which is available as an option. The stand rod holder on the back panel of the device can be used to connect accessories such as a temperature sensor conveniently and securely.



### Overview of features

Hotplate / stirrer	SLK1	SLK2	SLR
Glass ceramic	■	■	■
Heating	■	■	■
Number of heating plates	1	1	1
Temperature control	-	-	■
Stirring	-	-	■
Touch control	■	■	-
Control knobs	-	-	■

# Fast heating using the SLK 1 and SLK 2

To heat up liquids, the SLK 1 and SLK 2 laboratory hotplates from SCHOTT Instruments are the optimum solution. The heating power of the infrared radiation heating element can be adjusted in nine steps, with an average heating output of 1.2 kW or 1.8 kW, respectively, on step 9. During the heating process, the temperature distribution across the hotplates surface is almost homogenous.

Technical data	SLK 1	SLK 2
<b>Heating function</b>		
heating power (kW)	1.2	1.8
heated zone (mm)	Ø 165	Ø 200
max. hot plates temperature (°C)	approx. 600	approx. 600
min. time to boiling point 1 l H <sub>2</sub> O* (min)	approx. 10	approx. 7
hot plate material	glass ceramic	glass ceramic
hot plates area (mm)	280 x 280	280 x 280
<b>General data</b>		
dimensions (L x W x H in mm)	395 x 295 x 110	395 x 295 x 110
weight (kg)	approx. 3.6	approx. 3.6
max. load (kg)	25	25
admissible ambient temperature (°C)	10 - 40	10 - 40
admissible air humidity (%)	85	85
protection type	IP 20	IP 20
protection class	1	1
housing material	SMC	SMC
thread for stand attachment	M 8	M 8
cable connector socket	cold appliances	cold appliances
mains connection (V/Hz)	230 V, 50/60 or 115 V, 50/60	230 V, 50/60 or 115 V, 50/60
<b>Order No. 230 V</b>	28 541 6316	28 541 6324
<b>Order No. 115 V***</b>	28 541 6213	28 541 6221

\* measured in 3 l glass beaker at 25 °C ambient temperature and 1 bar air pressure  
 \*\* depending on liquid quantity, heat capacity, and ambient temperature  
 \*\*\* the above measurement values may deviate slightly when using the 115 V version  
 • CE sign  
 Council Directive 89/336/EMC (electromagnetic compatibility)  
 Council Directive 73/23/EMC (low-voltage directive), last modified by the  
 Council Directive 93/68/EMC



# Stirring, heating and controlling using the SLR

In addition to fast or temperature-controlled heating, a lot of applications also require liquids to be stirred. Using our laboratory stirrer SLR with heating, the process of mixing liquids can be selected from careful to intense, and the device can also be used for speedy heating up or controlled temperature adaptation.

All functions can be viewed and monitored on the large and clear LCD display. The stirrer and heating are controlled separately by convenient turning knobs.

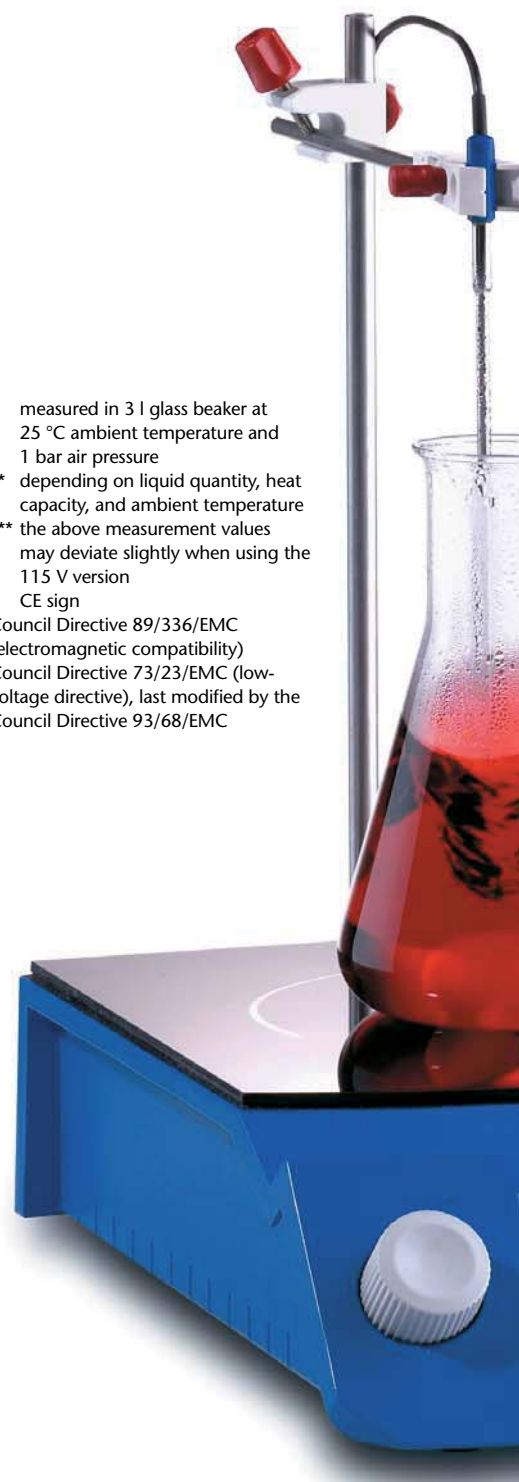
The rpm range of the stirrer stretches from 100 to 1100 min<sup>-1</sup> and can be set in steps of 10 min<sup>-1</sup>. The mean rpm is also indicated in the form of a bar graph.

ph. Even in the lower rpm range, the smooth-running properties of the device are excellent.

The heating power can be set in 24 steps and reaches an average heating output of 0.9 kW at step 24. If a Pt 1000 temperature sensor (optional) is connected, temperature-controlled work with fluctuations of ± 2 °C to 5 °C as a function of liquid volume, heat capacity, and ambient temperature is possible between 25 °C and 200 °C. The display will inform the user at intervals of 5 s alternately about the set and the actual temperature. In this case, too, the mean rpm is indicated in the form of a bar graph.

Technical data	SLR
<b>Heating function</b>	
heating power (kW)	0.9
heated zone (mm)	Ø 155
max. hot plates temperature (°C)	approx. 550
min. time to boiling point 1 l H <sub>2</sub> O* (min)	approx. 15
temperature sensor connector	yes, Pt 1000
setting accuracy with temperature sensor (°C)	1
controlling accuracy with temperature sensor** (°C)	± 2 ... 5
hot plate material	glass ceramic
hot plates area (mm)	235 x 235
digital set/actual temperature display (temperature sensor connector)	yes
<b>Stirring function</b>	
max. rpm (min <sup>-1</sup> )	100 - 1100
setting accuracy rpm (min <sup>-1</sup> )	10
max. stirring volume (l H <sub>2</sub> O)	10
digital set/actual rpm display	yes
<b>General data</b>	
dimensions (L x W x H in mm)	370 x 240 x 85
weight (kg)	approx. 3.8
max. load (kg)	25
admissible ambient temperature (°C)	10 - 40
admissible air humidity (%)	85
protection type	IP 20
protection class	1
housing material	die-cast
cable connector	fixed cable
mains connection (V/Hz)	230 V, 50/60 or 115 V, 50/60
Order No. 230 V	28 541 6373
Order No. 115 V***	28 541 6279

- \* measured in 3 l glass beaker at 25 °C ambient temperature and 1 bar air pressure
- \*\* depending on liquid quantity, heat capacity, and ambient temperature
- \*\*\* the above measurement values may deviate slightly when using the 115 V version
- CE sign  
Council Directive 89/336/EMC (electromagnetic compatibility)  
Council Directive 73/23/EMC (low-voltage directive), last modified by the Council Directive 93/68/EMC



# Accessories

Description	Type No.	Order No.
Temperature sensor stainless steel shaft (V4A), Pt 1000 sensor, 1 m fixed cable with 2 x 4 mm banana plug, length 170 mm, Ø 4 mm, -30 ...+ 200 °C	W5791NNHT	28 510 5308
Temperature sensor glass shaft, Sensor Pt 1000, 1 m fixed cable with 2 x 4 mm banana plug, length 250 mm, Ø 6 mm, -30 ...+ 200 °C	W5780NNHT	28 510 5238
Stand rod with fixing nut (M8) stainless steel, Ø 10 mm, length 450 mm	Z 601	28 541 6492
Temperature sensor holder clamp with extension rod made of stainless steel, connector	Z 602	28 541 6505
Magnetic stirrer rod set for standard applications AlNiCo5, circular cross-section, PTFE coated, 1 piece 15, 20, 30, 40, 50, 60, 70, 80 mm each	Z 603	28 541 6554
Magnetic stirrer ripe for medium volumes SmCo, circular cross-section, PTFE coated, 5 pieces 9 x 15 mm each	Z 604	28 541 6562
Magnetic stirrer for large volumes SmCo, elliptic cross-section, PTFE coated, 1 piece 19 x 75 mm each	Z 605	28 541 6579
Compressed-air connector (only SLK) for use in an aggressive environment (subsequent installation only by manufacturer)	Z 607	28 541 6595
Compressed-air connector set (only SLK)	Z 608	28 541 6608

