

TECHNICAL DATA SHEET

ALab™ DMS4-550 Magnetic Hotplate Stirrer

4-inch magnetic hotplate stirrer · hotplate range to 550 °C · 50–1500 rpm · 10 L H₂O



ACS Material ALab™ DMS4-550 Magnetic Hotplate Stirrer

CONTENTS

- 01 Product Overview
- 02 Core Advantages
- 03 Specifications
- 04 Applications

ACS MATERIAL, LLC

959 E Walnut St., Suite 100
Pasadena, CA 91106, USA
Phone +1 (866) 227-0656
Fax +1 (781) 518-0284
contact@acsmaterial.com
Revision Date **09/11/2026**

SECTION I

Product Overview

The ALab™ DMS4-550 Magnetic Hotplate Stirrer heats and stirs on a 100 × 100 mm glass-ceramic plate. The hotplate heats from room temperature to 550 °C in 1 °C increments, with overheating protection at 580 °C, and it stirs from 50 to 1500 rpm in 1 rpm steps. Liquid temperature control accuracy is ±1 °C below 100 °C and ±1% above 100 °C, taken through the external PT1000 sensor, which is accurate to ±0.2 °C. Maximum stirring volume is 10 L of water and maximum stirrer bar length is 40 mm. Set and real-time speed, temperature and time are shown together on the LCD, and the timer runs from 1 min to 99 h 59 min. See the specification note for what these figures cover.

SECTION II

Core Advantages

- **Hotplate range to 550 °C** — room temperature to 550 °C in 1 °C increments, with overheating protection at 580 °C
- **±1 °C control on the medium** — liquid control accuracy ±1 °C below 100 °C and ±1% above 100 °C; external PT1000 sensor listed at ±0.2 °C
- **1 rpm and 1 °C resolution** — 50–1500 rpm in 1 rpm steps, temperature in 1 °C increments, set and real-time values both displayed
- **Timer to 99 h 59 min** — at the end of the countdown heating stops and stirring continues, so the sample is not heat-damaged once the run has finished

SECTION III

Specifications

Technical data

Specifications	
Working Plate	100 × 100 mm (4 inch), glass ceramic
Drive	Brushless DC motor · 1 stirring position
Max. Stirring Volume [H ₂ O]	10 L
Max. Stirrer Bar Length	40 mm
Speed Range · Display	50–1500 rpm, step 1 rpm · LCD, set and real-time speed and temperature
Heating Temperature Range	Room temperature – 550 °C, increment 1 °C
Temperature Control Accuracy	±1 °C (<100 °C) · ±1% (>100 °C), for the heating liquid
Temperature Measurement	Display accuracy 0.1 °C · external PT1000 sensor, accuracy ±0.2 °C
Thermal Safety	Overheating protection 580 °C · residual-heat warning above 50 °C
Connection · Protection Class	RS232 · IP21
Timer Function	1 min – 99 h 59 min
Power Requirements	100–120 / 200–240 V, 50/60 Hz · 460 W total · 410 W heating · 10 W motor
Dimensions [L×W×H] · Weight	270 × 175 × 108 mm · 2.2 kg

Specifications

Permissible Ambient Conditions

5–40 °C, 80% RH

Eight groups of values are combined into single rows for layout only — Working Plate, Drive, Speed/Display, Temperature Measurement, Thermal Safety, Connection/Protection, Power Requirements and Dimensions/Weight; no figure is lost. The heating range is a hotplate range; the temperature your medium reaches depends on vessel and load. Liquid control accuracy applies to the medium with the external sensor immersed in it, not to the plate surface. Maximum stirring volume is stated for water; maximum bar length is a separate limit. There is no fixed viscosity or load derating — viscous media will not reach the 10 L water figure, so match the bar to the vessel and confirm by trial. The external sensor type is PT1000; confirm the scope of delivery for your order at quotation. The supply is two separate bands, 100–120 and 200–240 V, rather than a continuous universal input, so order the instrument configured for your mains.

Scope of delivery

- Instrument: DMS4-550 magnetic hotplate stirrer
- Shown: support rod with clamp
- Accessory part numbers: confirmed at quotation
- Shown: external temperature sensor
- Included accessories and quantities: confirm at quotation
- Supply: 100–120 / 200–240 V, 50/60 Hz

SECTION IV

Applications

Typical applications for the ALab™ DMS4-550 Magnetic Hotplate Stirrer include:

- **Heating and stirring** — within the hotplate range of room temperature to 550 °C, set in 1 °C increments
- **Stirring 50–1500 rpm** — in 1 rpm steps; maximum stirring volume 10 L H₂O, maximum bar length 40 mm
- **Liquid temperature control** — accuracy ±1 °C below 100 °C and ±1% above 100 °C, taken through the external PT1000 sensor
- **Timed procedures** — 1 min to 99 h 59 min, heating stopping at the end of the countdown

Product value: a hotplate range to 550 °C and 50–1500 rpm from a 100 × 100 mm glass-ceramic plate, with 1 °C and 1 rpm setting resolution and a timer to 99 h 59 min. Confirm operating conditions and accessory requirements for the intended application.

Revision Date: 09/11/2026

DISCLAIMER

ALab™ is a trademark of ACS Material, LLC. ACS Material, LLC believes that the information in this Technical Data Sheet is accurate and represents the best and most current information available to us, but makes no representations or warranties, either express or implied, regarding the suitability of the equipment for any application. Specifications are current at the date of issue and may be improved without notice; confirm product details, accessory inclusion and application suitability with ACS Material at the time of quotation. Performance in use depends on vessel, load and method. Accordingly, ACS Material will not be responsible for damages resulting from use of or reliance upon this information.