OHAUS®

GUARDIAN™ SERIES
Hotplate Stirrers

Think Safer.
Think SMART.

Modernize your lab with the
Guardian Series Hotplate Stirrers
designed with outstanding safety and
superior performance in mind.

Ingeniously Practical

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Think Safer. Think SMART.

Modernize Your Lab with the Guardian Series Hotplate Stirrers

Featuring OHAUS SMART technology, the Guardian Series protects the lab with advanced safety features designed to reduce the chance of accidents. Designed with superior heating and stirring performance, the Guardian 7000, 5000, 3000 and 2000 Series Hotplate Stirrers combine durability and affordability to reduce the high costs of doing business in science labs.

Modernize your lab with OHAUS SMART technology including ***SmartPresence™, *SmartLink™, *SmartRate™, *SmartHeat™, SafetyHeat™,** and ****SmartHousing™**. The bright LCD screen displays temperature, speed and *time, and a green indicator lights when the unit is heating and stirring.

(*in the Guardian 7000 Series only,
**in the Guardian 5000/7000 Series only)

GUARDIAN 7000

Durable Hotplate Stirrers with Superior Safety Features and Intelligent Performance

OHAUS Guardian 7000 Hotplate Stirrers are designed with outstanding safety features and superior heating and mixing performance.
The SmartHousing is chemical resistant with an innovative, easy-to-clean design that channels spills away from internal components and the angled glass control panel. The bright LCD display includes intuitive icons, temperature, speed and time settings - all designed to monitor performance from across the lab.

SmartPresence

SmartLink

SmartHeat

SmartHousing

SafetyHeat

SmartRate

Model e-G71HS07C

Unique Features

SmartPresence and SmartLink Technologies Ensure Supervised Operation

Protect your lab with patented SmartPresence and SmartLink technologies. These exclusive features automatically shut off the heater if no one is detected after a user set "time out" period has passed or the *Bluetooth® link between a paired mobile device is broken.

SafetyHeat System Protects the Lab

An industry-leading early detection system that uses two independent safety controls to continuously monitor the electronics and shut off heating before an overtemperature condition occurs.

Powerful, Consistent Stirring Performance

Precise stirring from 60 to 1600 rpm is made possible by the design of a powerful motor, strong magnet and software controlled ramp rate, ensuring secure magnetic coupling for viscous applications.

Customized Performance for Precise Applications

SmartHeat allows you to set the maximum temperature of the unit and SmartRate enables fast or slow temperature and speed ramp rates. The programming feature allows storage of 5 multi-step programs.

Model No.	e-G71HS07C	e-G71HS10C	e-G71HSRDM
Top Plate Size	17.8 x 17.8 cm (Square)	25.4 x 25.4 cm (Square)	13.5 cm diameter (round)
Capacity	15 l	18 l	20 l
Function	Heating and Stirring		
Top Plate Material	Ceramic		Aluminum
Speed Range	60 rpm to 1600 rpm		
Temperature Range	Ambient + 5 °C – 500 °C		Ambient + 5 °C – 380 °C

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GUARDIAN 5000

Reliable Hotplate Stirrers with Exceptional Safety Features for Everyday Use

OHAUS Guardian 5000 Hotplates Stirrers are designed for safety and simplicity in all research, academia and industrial applications. The design ensures proper mixing and temperature control of the top plate or your sample when using the optional temperature probe. Heating models include a Single Point Calibration feature for multiple setpoints. Select from five models with three plate sizes for your everyday heating and stirring applications.

SafetyHeat

SmartHousing

Model e-G51HSRDM

Unique Features

SafetyHeat System Protects the Lab

An industry-leading early detection system that uses two independent safety controls to continuously monitor the electronics and shut off heating before an overtemperature condition occurs.

Powerful, Consistent Stirring Performance

Precise stirring from 60 to 1600 rpm is made possible by the design of a powerful motor, strong magnet and software controlled ramp rate, ensuring secure magnetic coupling for viscous applications.

Easy to Read LCD Display With Everything You Need to Know

The bright LCD display includes large temperature and speed settings, intuitive icons and a prominent hot top indicator - all designed to quickly and easily monitor performance from across the lab.

Designed for Durability and Reliability with the Exclusive SmartHousing

The SmartHousing is chemical resistant with an innovative, easy-to-clean design that channels spills away from internal components and the angled control panel.

Model No.	e-G51ST07R	e-G51HP07C	e-G51HS07C	e-G51HS10C	e-G51HSRDM
Top Plate Size	17.8 x 17.8 cm (Square)			25.4 x 25.4 cm (Square)	13.5 cm diameter (Round)
Capacity	15 l			18 l	20 l
Function	Stirring	Heating	Heating and Stirring		
Top Plate Material	Resin	Ceramic			Aluminum
Speed Range	60 rpm to 1600 rpm	--	+/-2 %	60 rpm to 1600 rpm	
Temperature Range	--	Ambient + 5 °C – 500 °C			Ambient + 5 °C – 380 °C

GUARDIAN 3000

Affordable. Dependable. Essential.

The OHAUS Guardian 3000 Hotplate Stirrers carry the everyday load from classroom to lab.

Protect your lab and classroom with the affordable Guardian 3000 Series Hotplate Stirrers that deliver dependable performance with fast heating, and reliable stirring in everyday applications. The design ensures temperature control of the top plate or your sample when using the optional temperature probe and has a Single Point Calibration feature. All Guardian 3000 Series models offer a bright LCD display that features easy-to-read temperature and speed settings, and intuitive icons.

SafetyHeat

Model e-G31HSRDS

Unique Features

Never Compromise on Safety

Industry-leading safety at affordable prices. Guardian 3000 units offer safety, controlled heating and powerful stirring for general laboratory use – all at a competitive price point.

SafetyHeat System Protects the Lab

SafetyHeat™ protects the lab. An industry-leading early detection system uses two independent safety controls to monitor electronics and stop heating before overheating occurs.

Reliable and Durable for Every Lab

Designed to last: the rugged metal housing has a spill-resistant design for long life in the lab under harsh conditions. The smooth, chemical-resistant ceramic top makes for easy clean-ups.

Designed to be Safe

Consistently safe to use at high temperature settings with a spill-resistant design that features a rugged metal housing that delivers durability in the lab under harsh conditions. The chemical-resistant ceramic top plate is designed for easy clean-up.

Model No.	e-G31HS04C	e-G31HS07C	e-G31HSRDS
Top Plate Size	10.2 x 10.2 cm (Square)	17.8 x 17.8 cm (Square)	13.5 cm diameter (Round)
Capacity	15 l		
Function	Heating and Stirring		
Top Plate Material	Ceramic		Ceramic Coated Stainless Steel
Speed Range	80 rpm to 1600 rpm		
Temperature Range	Ambient + 5°C – 500°C		Ambient + 5°C – 380°C

GUARDIAN 2000

Rugged and Reliable Analog Hotplates and Stirrers for General Purpose Heating and Stirring

Dependable OHAUS Guardian™ 2000 Hotplates and Stirrers are ideal for education and other lab environments that require affordable, everyday fast heating and reliable stirring up to 15l. All three sizes offer simple knob control to easily adjust the heating and stirring functions. The durable housing includes a built-in support rod holder which accepts the optional support rod. Stirring models include PTFE-coated stir bars.

Model e-G21HS07C

Unique Features

Consistent, Dependable Stirring and Heating

Powerful stirring and fast heating at an economical price. Safely heat up to 500°C and stir up to 15l with an easy-to-use knob control for simple and reliable everyday heating and stirring in the lab.

Designed for Reliability and Durability in Every Lab

Designed to last - the rugged metal housing has a spill-resistant design for long life in the lab, under harsh conditions. The smooth, chemical-resistant ceramic top plate is perfect for easy clean up.

Designed for User Safety

Safety is of utmost importance - the prominent hot top indicator light illuminates when the heater is above 40°C, keeping the end user safe during all heating applications.

Choose From 9 Models to Suit Your Unique Application

The Guardian 2000 Series is available in three top plate sizes: 17.8 x 17.8 cm, 10.2 x 10.2 cm and round top (13.5 cm diameter). Each size features three models - dual function hotplate-stirrer, and single function hotplate or stirrer.

Model No.	e-G21ST04R	e-G21HP04C	e-G21HS04C	e-G21ST07R	e-G21HP07C	e-G21HS07C	e-G21STRDS	e-G21HPRDS	e-G21HSRDS
Top Plate Size	10.2 x 10.2 cm (Square)			17.8 x 17.8 cm (Square)			13.5 cm diameter (Round)		
Capacity	15 l								
Function	Stirring	Heating	Heating and Stirring	Stirring	Heating	Heating and Stirring	Stirring	Heating	Heating and Stirring
Top Plate Material	Resin	Ceramic		Resin	Ceramic		Ceramic Coated Stainless Steel		
Speed Range	200 - 1600 rpm	–	200 - 1600 rpm	200 - 1600 rpm	–	200 - 1600 rpm	200 - 1600 rpm	–	200 - 1600 rpm
Temperature Range	–	70°C - 500°C		–	70°C - 500°C		–	50°C - 380°C	

GUARDIAN SERIES

Frequently Asked Questions

What differentiates the Guardian 7000 Hotplate Stirrers?

SmartLink – provides long-range user detection for improving safety when using the heating function.

SmartPresence – detects when a user is nearby and safely turns off the heating function when no one is detected.

SmartHeat – allows users to control the maximum temperature, preventing overheating of sensitive samples.

SafetyHeat – our industry leading internal protection system assures safety in heating applications with dual-monitoring of system health.

SmartRate – allows users to safeguard sensitive applications with precise control of temperature and speed ramp rates.

SmartHousing – ensures that every Guardian hotplate stirrer is consistently safe to use at high temperature settings by remaining cool to the touch. The innovative design is easy to clean and channels spills away from the internal components, as well as being constructed from a chemical resistant material for long-term use in the lab.

How can the Guardian 7000 safeguard sensitive applications?

For precise sample control with the Guardian 7000, use the included temperature probe and enable **SmartRate** to select fast or slow temperature and speed ramp rates.

SmartHeat allows lab users to limit the maximum temperature of the hotplate stirrer preventing overheating of sensitive samples -- keeping the user and samples safe.

What are the benefits of using the Guardian Series Hotplate Stirrers with round top plates?

The Guardian round top models are ideal for biochemistry and chemistry labs that carry out complex heating and stirring applications and increase productivity by utilizing multiple positions to perform experiments in parallel. Round top models save valuable bench space and accept a wide range of aluminum block accessories that can accommodate standard vials and test tubes.

What type of Guardian top plate material best suits the lab? Ceramic, Ceramic Coated Steel, Aluminum, or Resin

Ceramic, ceramic-coated steel, aluminum and resin top plates are all suitable for lab use and each material has its benefits.

Ceramic top plates are chemical-resistant and safer if working with corrosive chemicals that may splash onto the plate surface. They can withstand higher temperatures up to 500 °C, and can be wiped clean.

The white surface of a ceramic or ceramic-coated steel top plate is preferable for quantitative chemical analysis or other work where clear visibility of the sample color is required.

The edges of a ceramic top plate may not be as hot as the center. This may not be suitable if uniform heating over the entire plate surface is needed for the application.

Aluminum top plates offer more uniform temperature over the entire heating surface, and will not crack or chip, and will withstand accidental handling. Ceramic-coated steel also provides more uniform temperature across the heating surface with a white surface to easily view the sample. These materials have a lower maximum temperature than the full ceramic top plates.

The durable, chemical-resistant resin top plate on stir only models provides a bright white surface for clear visibility. This long-lasting resin material will not chip or crack if mishandled.

To avoid thermal shock, glassware should be used on ceramic top plates and heating of metallic vessels should be avoided. Ceramic top plate units are also not suitable for sandbaths or any vessel that may reflect heat back onto the surface which may cause thermal shock.

Which safety features are built into the Guardian Series for use in academic settings?

All Guardian heating models feature a prominent 13 mm Hot Top Indicator Light to alert the end user that the top plate surface is hot and not safe to the touch. This hot top light stays on even when the power switch is turned off. This important feature will help prevent accidents in all settings and especially academic labs where students are using hotplates and hotplate stirrers.

The Guardian 2000 models feature simple overheat protection where the unit will turn off the heating function if the temperature exceeds the upper limit.

Guardian 3000, 5000 and 7000 Series heating models feature **SafetyHeat™**; an industry-leading early detection system that uses two independent safety controls to monitor the electronics and stop heating before an overtemperature condition occurs. This important feature protects the sample, the user, and the lab by preventing accidents that occur due to overheating samples.

The digital control Guardian 3000, 5000 and 7000 models are designed so the user must press the knob to start the heating and stirring function. This knob press is also needed to change a setting. This secondary step provides an additional layer of safety by making the user acknowledge the setting. The analog control Guardian 2000 are simple knob control and easy to use where turning the knob starts the function or adjusts the current setting.

All Guardian Series models have chemical-resistant housings, and feature an easy-to-clean design that channels spills away from internal components, and the front panel which protects the unit. The Guardian 5000/7000 Series models are constructed with the **SmartHousing™** that remains cool to the touch at all temperature settings. The Guardian 2000/3000 Series feature a rugged metal housing that will withstand harsh conditions in the lab.

GUARDIAN SERIES

Comparison Chart

Features	**GUARDIAN 7000**	**GUARDIAN 5000**	**GUARDIAN 3000**	**GUARDIAN 2000**
Functions	Hotplate-Stirrer	Hotplate-Stirrer; Hotplate; Stirrer	Hotplate-Stirrer	Hotplate-Stirrer; Hotplate; Stirrer
Sizes	7x7, 10x10, Round		4x4, 7x7, Round	
Top Plate Dimensions	17.8 x 17.8 cm 25.4 x 25.4 cm Round 13.5 cm diameter		10.2 x 10.2 cm 17.8 x 17.8 cm Round 13.5 cm diameter	
Top Plate Material	Ceramic = 7x7 and 10x10; Aluminum = Round	Ceramic = 7x7 and 10x10; Resin = 7x7 Stirrer; Aluminum = Round	Ceramic = 4x4 and 7x7; Ceramic Coated Steel = Round	Ceramic = 4x4 and 7x7; Resin = 4x4 and 7x7 Stirrer; Ceramic Coated Steel = Round
Housing	SmartHousing		Painted Aluminum	
Hot Top Indicator	Triangle and Bar	Triangle Only		
SmartLink™	Yes	–		
SmartPresence™	Yes	–		
SmartRate™	Yes - Temp and Speed	–		
SmartHeat™	Yes	–		
SafetyHeat™	Yes			–
Programmability	Yes	–		
LCD - Display	10.9 x 3.3 cm		7.4 x 2.0 cm	No Display
LCD - Timer	Yes	–		
LCD - Temperature	Set and Actual	Toggle to see Set and Actual		No Display
LCD - Speed	Set and Actual	Set		No Display
Front Panel Material	Glass	Polycarbonate	PET	
Temperature Range	Ambient +5° - 500°C (ceramic) Ambient +5° - 380°C (round)			up to 500°C (ceramic) up to 380°C (round)
Temperature Stability - plate	+/- 1% >100°C +/- 1°C < 100°C	+/- 3% >100°C +/- 2°C < 100°C		–
Temperature Stability - probe	+/- 0.5% >100°C +/- 1°C < 100°C	+/- 1% >100°C +/- 1°C < 100°C	+/- 2% >100°C +/- 2°C < 100°C	No Probe Connector
Temperature Accuracy - probe	+/- 0.5°C (@100°C after SPC)	–		No Probe Connector
Temperature Readability	0.1°C	1°C		–
Temperature Calibration - plate	5 points	3 points	1 point	–
Temperature Calibration - probe	5 points	3 points	1 point	–
Stir Capacity	7x7 = 15 l / 10x10 = 18 l / Round = 20 l		All Models = 15 l	
Speed Range	60 - 1600 rpm		80 - 1600 rpm	200 to 1600 rpm
Speed Stability	+/- 2%			–
IP Rating	IP21			
Footprint	7x7 = 30.9 x 22.3 cm 10x10 = 41.5 x 28.6 cm Round = 26.7 x 17.3 cm		4x4 = 26.4 x 16.3 cm 7x7 = 31.8 x 22.3 cm Round = 26.4 x 16.3 cm	

GUARDIAN SERIES

*Accessories**

Vial and Test Tube Blocks

Base Plate and Handles

Temperature Probe

Spin Bars

Ultra Flex Support Kit

In Use Cover

Support Rod and Clamp Kit

Vessel Clamps

*40 accessories available for Guardian Series

GUARDIAN 7000

GUARDIAN 5000

GUARDIAN 3000

GUARDIAN 2000

OHAUS Corporation

Headquartered in Parsippany, NJ, OHAUS Corporation manufactures an extensive line of balances and scales, lab equipment and lab instruments that meet the weighing, sample processing and measurement needs of multiple industries. We are a global leader in the laboratory, industrial and education markets, as well as a host of specialty markets, including the food preparation, pharmacy and jewelry industries. An ISO 9001:2015 manufacturer, OHAUS lab balances, industrial scales, lab equipment and lab instruments are precise, reliable and affordable, and backed by industry-leading customer support.

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The management system governing the manufacture of this product is ISO 9001: 2015 certified.