Hei-Control Software

With the Hei-Control software, Hei-Connect magnetic stirrers and Hei-TORQUE Ultimate overhead stirrers can be actuated simultaneously to automate and to reproduce their processes. It enables the programming and visualization of process parameters as well as the export of captured data.

Use the free software to

- Program process parameters and ramps
- Read out process sequences in the software and save them
- Reload saved settings for reproducible results
- Control up to 4 devices simultaneously

Compatible with the Hei-Connect magnetic stirrer and Hei-TORQUE Ultimate overhead stirrer models





Download the Hei-Control software free of charge from www.heidolph.com

Hei-PLATE Magnetic Stirrer Homogeneous Stirring





Leading Safety Standards

- Multiple independent safety mechanisms monitor the ongoing process. In the event of an error, the heating plate is switched off automatically
- If combined with Heat-On blocks, there is no need to use oil
- All models are equipped with a visual residual heat indicator to prevent burns
- For safety reasons, the relevant functions are switched off completely in the event of a short-circuit, temperature sensor break, defective motor and in case of a processor fault
- Unwanted heating is prevented by separate activation of the heating function. The activated heating function can be clearly identified by the illumination of the button or the rotary knob (depending on the model)
- To prevent any splashing, the rotation speed ramps up slowly until it has reached the desired value
- Damage to the device is impossible even at the highest temperatures – all models are equipped with a fire-resistant die-cast housing
- The integrated PID controller ensures precise reaching of the target temperature









Superior ease of use

- The unique Kera-Disk[®] coating is extremely resistant to chemicals and scratches. The plate is therefore easy-care and dirt can be removed easily
- The powerful stirring magnet allows the stirring rod to be safely entrained even with larger quantities of up to 20 l
- If the hotplate fails, the stirring process is not interrupted. This prevents the sample from overheating
- Efficient (low temperature) thermal insulation prevents condensation in the housing and thus the contact between condensation water and electronic components
- On devices with a display, all parameters can be read from the large, illuminated display, even from a greater distance



MADE IN **GERMANY**

All Benefits at a Glance

3-year warranty on all devices and an average operational lifespan of 10 years

With the free Hei-Control software for the Hei-Connect, process parameters can be controlled and stored via a PC

The closed housing protects the electronic and mechanical components of the magnetic stirrer from aggressive media and fumes

Multiple independent safety mechanisms monitor the ongoing process and switch off the heating plate in the event of an error or fault

In the event of a short-circuit, sensor break of the temperature sensor and a processor fault, the device completely switches off the relevant functions

housing

A heating power of 800 watt means significantly faster heating times compared to magnetic stirrers with 600 watt.

Reduced Cost of Ownership

- Clearly shorter process times. The high heating power of 800 watts enables significantly faster heating times in comparison to conventional magnetic stirrers with 600 watts
- Thanks to its aluminum core, the patented Kera-Disk[®] heating plate ensures the fastest heating up times. Due to the resistant ceramic coating, the plate is chemical-resistant and scratch-proof
- Corrosion-protected electronics add many years to the operational lifespan and reduce expenditure for new purchases
- Wear´and maintenance-free motors save repair and spare part costs
- The average use period is over 10 years and therefore makes its acquisition a worthwhile investment
- A high IP protection class and a closed housing ensure a long life with low repair susceptibility



Safe Heating and Mixing

The patented Kera-Disk[®] heating plate ensures the fastest heating times; an extremely thin ceramic coating makes the plate chemical-resistant

In the event of a heating plate failure, the stirring process is NOT interrupted; this prevents overheating of the sample

Damage to the device is excluded, even at the highest temperatures the models have a fireproof die-cast

A separate On/Off button for the heating function prevents unwanted heating. The activated heating function is clearly detectable. In addition, a residual heat indicator effectively protects against burns after the heating function has been switched off

Magnetic stirrers

The Hei-PLATE series

Whether with or without a heating function, all our magnetic stirrers have one thing in common: A gentle and yet powerful stirring function, which enables up to 20 liters of low-viscosity media to be mixed.





Hei-PLATE Mix 20 l

For large stirring tasks

- Due to the Kera-Disk[®] ceramic coating, the top plate is chemical-resistant and scratch-proof
- In order to handle the sample gently, following a soft start, the speed is slowly increased to the required value
- Ideal for applications up to 20 l, as the diameter of the plate is 145 mm and the speed range extends from 100 to 1,400 rpm

Model	P/N
Hei-Mix S	503-02000-00
Hei-PLATE Mix 20 l	506-54100-00

- Absolutely robust and durable
- Leading safety standards and superior ease of use
- Top chemical resistance and fastest heating times due to the patented Kera-Disk[®] plate

Hei-Mix S

For biology and biochemistry stirring tasks

- With space-saving polyamide housing
- The white PVDF top plate is ideally suited for titration and has a diameter of 104 mm
- The speed range of up to 2,200 rpm is sufficient for applications up to 5 l



Magnetic stirrer with heating function

Hei-PLATE Mix 'n' Heat Core

For easy and safe entry level

Innovative product design: Underside with grip; flattened edges, which discharge liquids from the device; enlarged safety distance of the control elements from the heating plate, enclosure tested to IP 42 Two rotary knobs with scale make adjustment of the speed between 100 and 1,400 rpm easier, with a speed accuracy of $\pm 2\%$ and the max. temperature of 300 °C • A separate button for the heating function prevents unwanted heating. The button illumination indicates the activated heating function Flashing of the heating button signals residual heat and thus also effectively warns to protect against burns even after the NEW heating function is switched off

Model	Heating plate	P/N
Hei-PLATE Mix 'n' Heat Core	Ø 145 mm	506-11100-00

Combinable with the Hei-Con electronic contact thermometer (optional) for even more precision when setting the values.

Hei-PLATE Mix 'n' Heat Core+

For academic standards with temperature sensor

Precise setting options and monitoring of the device parameters via the digital display and connection for the external Pt 1000 temperature sensor.

- Fast access and activation of the heating and stirring function due to the separate rotary-pressure controller for intuitive setting of the parameters - precise or large jumps between 100 and 1,400 rpm and the maximum temperature of 300 °C
- The controller's locking function protects against accidental adjustment
- The values in the illuminated display are easy to read even from a distance. Activated functions are easily detectable due to the LED rings
- Flashing of the orange LED ring signals residual heat and thus also effectively warns to protect against burns even after the heating function is switched off
- Fast and precise temperature control via the connection of an optional external temperature sensor and two selectable heating modes (FAST and PRECISE)
- To protect the sample, the external sensor monitoring switches off the heating automatically if the temperature sensor is no longer immersed in the medium

NEW

Model	Heating plate	P/N
Hei-PLATE Mix 'n' Heat Core	e+ Ø 135 mm	506-22100-00
Hei-PLATE Mix 'n' Heat Core	e+ Ø 145 mm	506-21100-00

Precise values without temperature fluctuations are achieved with the optional Pt 1000 temperature sensor.







Hei-Connect

For comprehensive process documentation and reproducible results

For exact process documentation with precise setting option and monitoring of the device parameters via the digital display and connection for the Pt 1000 temperature sensor.

- With connection for the optional Pt 1000 temperature sensor for precise values without temperature fluctuations
- All values can be easily read on the illuminated display even from a distance
- Illuminated buttons indicate activated functions
- The speed can be set precisely via the rotary knob from 100 to 1,400 rpm with a speed accuracy of ±2% and a max. temperature of 300°C
- An independent safety circuit switches off the heating to protect against overheating if the set temperature is exceeded by 25 °C
- To protect the sample, the external sensor monitoring switches off the heating automatically if the temperature sensor is not immersed in the medium
- With the timer function, process times for the heating and rotation functions can be defined separately; an acoustic signal sounds at the end of the process
- Residual heat indicator effectively protects from burns



Model		P/N
Hei-Connect		505-40000-00
Hei-Connect	with Pt 1000 temperature sensor	505-40081-00





Reproducible results through

directly on the PC.

programming of ramps and interval

processes. With RS 232 interface for detailed process documentation



The Hei-Control software is included in the scope of supply and is available to download for free at www.heidolph.com

Technical Specifications

Magnetic stirrers

Model	Hei-Mix S	Hei-PLATE Mix 20 L
Speed range	0–2.200 rpm	
Speed accuracy	±5 %	±2%
Drive	Shaded pole motor	EC motor, left-handed
Overheat protection	-	
Operating mode	Continuous operation	Continuous operation
Power input	7 W	20 W
Connection	L+N+PE	L+N+PE
Sound pressure level IEC 61010	<70 dB (A)	<50 dB (A)
Display	-	_
Analog/digital interface	-	-
Heating power	-	-
Heating temperature range	-	-
Heating control	-	
Accuracy temperature setting	-	-
Sensor connection	-	-
Control accuracy hotplate	-	-
Residual heat indicator	-	-
Timer	-	-
Max. stirring capacity H ₂ O	51	20 l
Max. load	6 kg	 25 kg
Usable area of heating plate Ø	104 mm	 145 mm
Top plate material	PVDF	Kera-Disk [®] aluminum alloy, coated
Weight	1.1 kg	3.0 kg
Dimensions w/d/h	126×140×80mm	168×299×101mm
Maximum height above sea level	up to 2,000 mamsl	up to 2,000 mamsl
Admissible permissible ambient conditions	5–31°C at up to 80% rel. humidity, 32–40°C at up to 50% rel. humidity (linearly reducing)	5–31°C at up to 80% rel. humidity, 32–40°C at up to 50% rel. humidity (linearly reducing)
EMC class		B, Group 1
Overvoltage category		
Protection class IEC 61140		I
Degree of protection IEC 60529	IP 21	IP 42

Technical Specifications

Magnetic stirrers with heating function

Hei-PLATE Mix 'n' Heat Core	Hei-PLATE Mix 'n' Heat Core+	Hei-Connect
100–1.400 rpm		
±2 %	±2 %	±2 %
EC motor, left-handed	EC motor, left-handed	EC motor
-	-	no, but error message
Continuous operation	Continuous operation	Continuous operation
825 W	825 W	825 W
L+N+PE	L+N+PE	L+N+PE
<50 dB (A)	<50 dB (A)	<70 dB (A)
-	LCD display	digital
_	-	digital (RS 232)
800 W	800 W	800 W
20-300 °C	20-300 °C	20-300 °C
PID	PID	Micro controller
-	±1 K	±1K with sensor
EKT Hei-Con	Pt 1000	Pt 1000
±5℃	±5 °C	±5 ℃
yes	yes	yes
-	-	yes
20 l	20 l	20 l
25 kg	25 kg	25 kg
145 mm	135 /145 mm	145 mm
Kera-Disk [®] aluminum alloy, coated	Kera-Disk [®] aluminum alloy, coated	Kera-Disk [®] aluminum alloy, coated
3.0 kg	3.0 kg	2.9 kg
168×299×101mm	168×299×101mm	173×277×94 mm
up to 2,000 mamsl	up to 2,000 mamsl	up to 2,000 mamsl
5–31°C at up to 80% rel. humidity, 32–40°C at up to 50% rel. humidity (linearly reducing)	5–31°C at up to 80% rel. humidity, 32–40°C at up to 50% rel. humidity (linearly reducing)	5–31°C at up to 80% rel. humidity, 32–40°C at up to 50% rel. humidity (linearly reducing)
B, Group 1	B, Group 1	
I	I	
I	I	
IP 42	IP 42	IP 32

Standard supply voltage: 230 V. Other supply voltages on request.

Standard supply voltage: 230 V. Other supply voltages on request.

Accessories for Magnetic Stirrers











Heating bath¹

11	PTFE coated
21	PTFE coated
41	PTFE coated

Heating bath for oil¹

11	max. temperature 250 °C	504-93000-00
21	max. temperature 250 °C	504-92000-00
41	max. temperature 250 °C	504-91000-00

Concave block adapter¹

For 1 l round-bottom flasks

Magnetic stirring bars

PTFE coated		
cylindrical 25, 40, 50 mm Cross shape 16.5 mm	·	509-56000-00
For 25–50 ml flask		509-58500-00
Evaluation kit for round-bottom flash cross-shaped 10 and 16.5 mm, elliptical 25 mm,		
oval 40 and 50 mm	2 pieces each	509-58300-00
oval 15 × 6 mm for round-bottom flask 10 ml	Pack of 3	509-53000-00
oval 25×10 mm for round-bottom flask 25–50 ml	Pack of 3	509-54000-00
oval 30×10 mm for round-bottom flask 100–250 ml	Pack of 3	509-55000-00

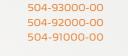
Silicone protective cover

Protects magnetic stirrers from splashing and dripping water

For Hei-Connect	23-07-06-05-59
For Hei-PLATE Mix 201	23-07-06-05-77
For Hei-PLATE Mix 'n' Heat models	23-07-06-05-76

¹ For magnetic stirrers with plate Ø 145 mm. An adapter plate is available for models with Ø 135 mm.

504-93100-00
504-92100-00
504-91100-00



504-94000-00











Adapter plate

For use of accessories for Ø 145 mm heating plate with Ø 135 mm models

P/N 505-99000-01

Pt 1000 temperature sensor

For Hei-PLATE Mix 'n' Heat Core+

V4A Glass-coated

509-67910-00 509-67920-00

Pt 1000 clamping system

With support rod and clamping device with cable routing

P/N 509-63100-00

Pt 1000 clamping system for large attachments (3–5 l)

With support rod and clamping device with cable routing

For Hei-Connect For Hei-Plate Mix'n'Heat models

509-63200-00 509-63300-00

Hei-Con electronic contact thermometer

For Hei-PLATE Mix 'n' Heat Core+

V4A Glass-coated 509-88000-00 509-88100-00

RS 232 cable

9-pin, for Hei-Connect P/N 14-007-040-72

Heating bath liquid

Heating bath liquid (5 kg) up to 170 °C up to 220 °C

515-31000-00 569-00600-00

Air instead of water. The Findenser[™] – the green alternative

More safety in the laboratory

The Findenser[™] is a high performance condenser and replaces the need for watercooled condensers in over 95 % of all common chemistry applications. The finned aluminum jacket provides excellent heat transfer.

Leading safety standards No danger due to leakages and flooding in the laboratory – for unlimited continuous operation

Superior ease of use Easy handling, no tubing – more space in the laboratory

Reduced cost of ownership No water consumption – resource friendly and cost-effective

- Immediate use
- Absolutely flexible use no water connection necessary
- Large cooling surface
- No running costs
- No performance difference compared to conventional reflux condensers



Aluminum cooling fins

Excellent thermal conductivity and chemical-resistant, anodized surface

Easy fixing

With standard laboratory clamps or with the Findenser™ attachment kit

> Findenser NS24 Cone Findenser NS29 Cone Findenser NS19 Cone Findenser Mini NS24 Cone Findenser Mini NS19 Cone Findenser Mini NS14 Cone

-20-15-

Attachment kit: 2× retort clamp, 2× boss head, support rod



Ground class cones/sockets

The upper ground sleeve and lower ground core are available in different sizes



Patented design

Encapsulated thermofluid for maximum heat transfer

Prisma design

No rolling away due to flattened edges. Risk of damage is minimized

400 mm 400 mm 400 mm 275 mm 275 mm 275 mm

505-81700-00 505-81710-00 505-81720-00 505-81800-00 505-81810-00 505-81820-00

11-300-008-23

NS24 Socket

NS24 Socket

NS19 Socket

NS24 Socket

NS19 Socket

NS14 Socket

The Buyer's Guide provides answers to the most important questions on the advantages and disadvantages of a reflux cooler and what must be noted when purchasing.



Heat-On Blocks

Safe, fast and efficient

Replace oil baths and heating mantles in your lab and reduce the risk of fire. Heat-On blocks are the safest, fastest and most efficient method for heating and stirring in round-bottom flasks from 10 ml to 5 l.

Heat-On Attachments



1.600-4

Leading Safety Standards

Increased occupational safety and fire protection: The elimination of oil baths prevents accidents, fires and contamination. The unique design prevents glass breakage and therefore minimizes the risk of cut injuries and leaking liquids. The high temperature accuracy offers leading safety standards for applications up to 260 °C.

Superior Ease of Use

The temperature can be measured conveniently and precisely, in the medium or directly on the reaction attachment. Oil is no longer necessary as a heat conductor, as the attachments enclose the flask with a precise fit. The cleaning effort is minimized. The PTFE coating offers the highest chemical resistance and corresponding use for many years.

Reduced Cost of Ownership

Thanks to the simplified handling, process times are minimized and the sample throughput is increased: 150 ml of water are brought to the boil in less than 11 minutes. In addition, the 66 % faster heating times compared to conventional oil baths save on energy costs.



Flask size	Liquid capacity	Hotplate temperature	Time to boiling point
10 ml	6 ml	300 °C	6.8 min
25 ml	15 ml	300 °C	8.0 min
50 ml	30 ml	300 °C	8.5 min
100 ml	60 ml	300 °C	8.8 min
150 ml	100 ml	300 °C	10.0 min
250 ml	150 ml	300 °C	10.8 min
500 ml	300 ml	300 °C	16.4 min
1000 ml	600 ml	300 °C	21.1 min
2000 ml	1200 ml	300 °C	35.1 min
3000 ml	1800 ml	300 °C	47.3 min
4000 ml	2400 ml	300 °C	51.0 min
5000 ml	3000 ml	300 °C	75.5 min







Heat-On blocks

Block with lateral cut-outs	100 ml	505-80066-00
Block	250 ml	505-80067-00
Block with lateral cut-outs	250 ml	505-80067-01
Block	500 ml 1l 2l 3l 4l 5l	505-80069-00 505-80071-00 505-80073-00 505-80075-00 505-80078-00 505-80076-00

Heat-On attachments

Clamping system for 3-5 lattachments	509-63200-00
Retort clamp	505-81075-00
Boss head	570-31100-00
Attachment kit for flasks Support rod for large attachments and holding device with cable routing, retort clamp, boss head	
for Hei-Connect	505-81400-00
for Hei-PLATE Mix 'n' Heat Core/Core+	509-63400-00

Multi-Well inserts and clamping system

10 ml	505-80061-00
25 ml	505-80062-00
50 ml	505-80063-00
00 ml	505-80064-00
150 ml	505-80065-00
	505-80060-00
	505-80077-00
	25 ml 50 ml 00 ml

Safety covers

For Heat-On Multi-Well holder For Heat-On 200–300-ml Block For Heat-On 500 ml Block For Heat-On 11 Block

505-80080-00 505-80081-00 505-80082-00 505-80083-00

Heat-On Multi-Well packages

Package Heat-On Multi-Well Basic Includes 1 multi-well holder and 3 inserts 505-81300-00 (for 25-ml, 50-ml and 100-ml flasks)

Package Heat-On Multi-Well Includes 1 multi-well clamping system and 6 inserts (for 2 × 25, 2 × 50 and 2 × 100 ml flasks)

505-81200-00

For magnetic stirrers with plate Ø 145 mm. An adapter plate is available for models with Ø 135 mm.

Space-saving Working

With the StarFish workstation. Simply combine available round-bottom flasks and other vessels with the suitable StarFish attachments.



StarFish Workstation

Process a large number of reactions in a space-saving and time-saving way

- into a multiple, efficiency-increasing reaction system for a maximum of 45 samples simultaneously
- and extractions with vacuum and inert gas
- Simply work with the existing round-bottom flasks and combine them with the matching StarFish attachments
- up to five individual PolyBlocks in different sizes or a MonoBlock with uniform insert sizes



StarFish Accessories















To the configuration overview of StarFish workstation

Base plate

The baseplate fits exactly on the heating plate of the magnetic stirrer and ensures very good contact with the heated surface.

StarFish base plate	145 mm Ø	505-81000-00
StarFish safety handles	Pack of 2	505-81001-00

MonoBlocks

MonoBlocks consist of one block with several inserts of the same size and are ideal for applications with identical vessels.

MonoBlock for flasks	5×250 ml	505-80001-00
Flask insert	150 ml	505-80040-00
	100 ml	505-80041-00
	50 ml	505-80042-00
	25 ml	505-80043-00
	10 ml	505-80044-00
	5 ml	505-80045-00
MonoBlock for		
test tubes	16 × 25 mm Ø	505-80002-00
	16 × 24 mm Ø	505-80003-00
	40×16 mm Ø	505-80004-00
	40×12 mm Ø	505-80005-00
MonoBlock for cylindrical		
reagent vials	16 × 28 mm Ø	505-80006-00
	20×21 mm Ø	505-80007-00
	40×17 mm Ø	505-80008-00
	40 × 15 mm Ø	505-80009-00
	40 × 12 mm Ø	505-80010-00

PolyBlocks

PolyBlocks are made from narrow segments (five per baseplate), which can be combined suitably to match the vessel size; ideal for use of different vessel types and sizes.

PolyBlock for flasks	1×250 ml	505-80020-00
	3×25 ml	505-80021-00
	3×24 ml	505-80022-00
	9×16 ml	505-80023-00
	9×12 ml	505-80024-00
PolyBlock for		
reagent vials	3×28 ml	505-80025-00
	3×21 ml	505-80026-00
	7×17 ml	505-80027-00
	9×15 ml	505-80028-00
	9×12 ml	505-80029-00

For magnetic stirrers with plate Ø 145 mm. An adapter plate is available for models with Ø 135 mm.







Universal 5-way clamp

The StarFish clamp enables different size glassware sets to be fixed and is optionally available with a silicone or Velcro[®] strap.

Each clamp is made up of five telescopic arms, which can be extended as required and can therefore be fixed securely around the vessel. Application example for the use of both clamps: The silicone strap holds the vessels securely, lift the samples with a handle if necessary, while the Velcro[®] strap enables the cooler to slip through.

5-way clamp with Velcro® strap 5-way clamp with silicone strap 505-81010-00 505-81020-00

Water manifold

Distributes water evenly from one output source to up to five condensers.

Two water manifolds are always used in the set-up. One to distribute the water and a second one to collect the water again. Either for further use or to remove it completely. Each of the five connections has a leakproof cut-off valve.

Water manifold with connections

505-81030-00

Gas/vacuum manifold

Distributes inert gas or vacuum from an output source uniformly to five different stations or vessels. Regulating the gas or vacuum is not possible. Each of the five connections has a leakproof cut-off valve.

Gas/vacuum manifold 505-81040-00 with connections Replacement Velcro® pads 200 mm (pack of 10) 505-81070-00 for telescopic arms Replacement Velcro® straps 200 mm (pack of 5) 505-81080-00 Replacement spare silicone 200 mm (pack of 5) 505-81090-00 strips Support rod 650 mm 505-81050-00 505-81060-00 Support rod, separable 650 mm



Hei-PLATE sensor packages

Hei-PLATE reflux packages

HEI-PLATE SENSOR ADVANCED PACKAGE CORE+

- Hei-PLATE Mix 'n' Heat Core+ Pt 1000 temperature sensor
- Clamping system for Pt 1000 (includes support rod and attachment with cable conduit)
- Silicone protective cover

Ø 135 mm

Ø 145 mm P/N 506-21151-00





- Hei-Connect
- Pt 1000 temperature sensor (V4A)
- Clamping system for Pt 1000 (includes support rod and attachment with cable conduit)
- Interface cable RS 232

P/N 505-40080-00

HEI-PLATE SENSOR ADVANCED PACKAGE CORE

Hei-PLATE Mix 'n' Heat Core

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- Hei-Con contact thermometer incl. clamping system
- Silicone protective cover

P/N 506-11157-00

HEI-PLATE SENSOR BASIC PACKAGE CORE+

- Hei-PLATE Mix 'n' Heat Core+
- Pt 1000 temperature sensor (V4A)
- Clamping system for Pt 1000 (includes support rod and attachment with cable conduit)

Ø 135 mm P/N 506-22150-00

Ø 145 mm P/N 506-21150-00

HEI-PLATE **REFLUX PACKAGE CORE+ MINI**

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- Hei-PLATE Mix 'n' Heat Core+
- Pt 1000 temperature sensor
- Heat-On block 250 ml
- Findenser Mini NS24/24
- Attachment kit

P/N 506-21155-00

HEI-PLATE **REFLUX PACKAGE** CONNECT

- Hei-Connect
- Pt 1000 temperature sensor
- Heat-On block 1 l
- Findenser NS29/24
- Attachment kit

P/N 505-40715-00



HEI-PLATE REFLUX PACKAGE CORE+

- Hei-PLATE Mix 'n' Heat Core+
- Pt 1000 temperature sensor
- Heat-On block 1 l
- Findenser NS29/24
- Attachment kit

HEI-PLATE REFLUX PACKAGE CONNECT MINI

- Hei-Connect
- Pt 1000 temperature sensor
- Heat-On block 250 ml
- Findenser Mini NS24/24
- Attachment kit

P/N 505-40732-00